

# **Vabi Elements Koellast**

## **RVB**

Projectnummer 23037  
RVB-KMAR IJmuiden

Berekend op 20-9-2023 16:16:55

**Gemaakt met:**  
Vabi Elements 3.10.0.107  
Vabi rekenkern Koellast versie 2.09



## Projectgegevens

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|                      |                   |
|----------------------|-------------------|
| <i>Projectnaam</i>   | RVB               |
| <i>Projectnummer</i> | 23037             |
| <i>Bestandsnaam</i>  | RVB.vp            |
| <i>Omschrijving</i>  | RVB-KMAR IJmuiden |
| <i>Adres</i>         |                   |

## Gebouwgegevens

|  |                       |
|--|-----------------------|
| <i>Type gebouw</i>                       | utiliteitsgebouw      |
| <i>Vloeroppervlakte gebouw (gekoeld)</i> | 1348.5 m <sup>2</sup> |
| <i>Inhoud gebouw (gekoeld)</i>           | 3489.6 m <sup>3</sup> |

## Uitgangspunten

|  |                                   |
|--|-----------------------------------|
| <i>Ontwerpbuitentemperatuur</i>                | NEN 5060:2008 ref TO1 zeer streng |
| <i>Rekenen met zomertijd</i>                   | ja                                |
| <i>Absolute vochtigheid buiten</i>             | 11.8 gr/kg                        |
| <i>Gerekend met beschaduwing</i>               | ja                                |
| - <i>Beschaduwing door eigen gebouw</i>        | ja                                |
| - <i>Beschaduwing door gebouwdelen</i>         | ja                                |
| - <i>Beschaduwing door verzonken ramen</i>     | ja                                |
| - <i>Beschaduwing door omliggende gebouwen</i> | ja                                |
| <i>Gerekend met zondoorstraling</i>            | nee                               |
| <i>Schakelniveau automatische zonwering</i>    | 250.0 W/m <sup>2</sup>            |



## Totalen

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### Maximale koellast gebouw

In maand augustus in tijdvak 19 treedt de maximale koellast op.

| <i>NrRuimte</i>          | <i>Voelbaar<br/>[W]</i> | <i>Latent<br/>[W]</i> | <i>Koellast<br/>[W]</i> |
|--------------------------|-------------------------|-----------------------|-------------------------|
| 0.02 Aangiftepost        | 1326                    | 114                   | 1441                    |
| 0.03 Wachtgebied         | 4472                    | 2976                  | 7448                    |
| 0.03a Balie              | 481                     | 182                   | 663                     |
| 0.04 *Aangifte KMar      | 731                     | 114                   | 846                     |
| 0.05 Aangifte politie    | 723                     | 114                   | 838                     |
| 0.22 Balie               | 322                     | 57                    | 379                     |
| 0.23 Entree              | 278                     | 0                     | 278                     |
| 0.24 Spreekkamer         | 615                     | 172                   | 786                     |
| 0.25 Ophoudruimte        | 130                     | 57                    | 187                     |
| 0.26 Spreekkamer         | 658                     | 172                   | 829                     |
| 0.27 Ophoudruimte        | 104                     | 57                    | 161                     |
| 0.28 Moeder-kindr.       | 530                     | 114                   | 645                     |
| 0.32a Woonkamer          | 1536                    | 572                   | 2109                    |
| 0.42 Aanlandplekken      | 2414                    | 572                   | 2986                    |
| 0.43 Commandokamer       | 673                     | 172                   | 845                     |
| 0.44 Operationele intell | 1433                    | 343                   | 1776                    |
| 0.46 Werkplekken         | 2862                    | 572                   | 3434                    |
| 0.47 Briefing            | 1440                    | 572                   | 2012                    |
| 1.02 Brigade adjudant    | 1569                    | 286                   | 1855                    |
| 1.12 Support kantoor     | 495                     | 57                    | 552                     |
| 1.14 Support 1 ima       | 1985                    | 458                   | 2443                    |
| 1.15 SOO                 | 1849                    | 343                   | 2192                    |
| 1.17 Support P&A         | 1604                    | 229                   | 1833                    |
| 1.18 Administratie       | 1841                    | 458                   | 2299                    |
| 1.20 Recherche           | 1998                    | 458                   | 2456                    |
| 1.21 *Leslokaal          | 1977                    | 572                   | 2549                    |
| 1.22 Overlegruimte       | 972                     | 229                   | 1201                    |
| 1.23 *TVO                | 1724                    | 343                   | 2067                    |
| 1.25 Pantry & MFK        | 619                     | 114                   | 734                     |
| 1.26 Overlegruimte       | 1631                    | 916                   | 2547                    |
| 1.27 Overlegruimte       | 907                     | 343                   | 1250                    |
| 1.28 Staf                | 1403                    | 229                   | 1632                    |
| 1.29 Teamleiders         | 1830                    | 343                   | 2173                    |
| 1.30 Plv. brigade comm.  | 996                     | 286                   | 1283                    |
| 1.31 Man.ass.            | 789                     | 114                   | 904                     |
| 1.32 Brigade comm.       | 1353                    | 286                   | 1639                    |
| 2.01a Huiskamer          | 1227                    | 286                   | 1513                    |
| 2.02 MFK                 | 1740                    | 572                   | 2313                    |
| 2.18 Lokers              | 1457                    | 572                   | 2029                    |
| 2.20 Lokers              | 1772                    | 572                   | 2344                    |
| 2.21 Lokers              | 1368                    | 572                   | 1941                    |



| <i>NrRuimte</i> | <i>Voelbaar<br/>[W]</i> | <i>Latent<br/>[W]</i> | <i>Koellast<br/>[W]</i> |
|-----------------|-------------------------|-----------------------|-------------------------|
| 2.23 Kantine    | 7738                    | 4350                  | 12088                   |
| 2.24 Briefing   | 2115                    | 1202                  | 3316                    |
| 2.26 *Overleg   | 748                     | 343                   | 1092                    |
| 2.27 Kantoor    | 1183                    | 343                   | 1526                    |
| <b>Totaal</b>   | <b>65616</b>            | <b>21816</b>          | <b>87432</b>            |

## Maximale koellast per ruimte

| <i>NrRuimte</i>          | <i>Type<br/>ruimte</i> | <i>Temp<br/>[°C]</i> | <i>Temp<br/>stijging<br/>[K]</i> | <i>Voelbare<br/>koellast<br/>[W]</i> | <i>Latente<br/>koellast<br/>[W]</i> | <i>Totale<br/>koellast<br/>[W]</i> | <i>[W/m<sup>2</sup>]</i> | <i>[W/m<sup>3</sup>]</i> | <i>Maand<br/>max</i> | <i>Tijd<br/>vak<br/>max</i> |
|--------------------------|------------------------|----------------------|----------------------------------|--------------------------------------|-------------------------------------|------------------------------------|--------------------------|--------------------------|----------------------|-----------------------------|
| 0.02 Aangiftepost        | VR                     | 25.0                 |                                  | 1326                                 | 114                                 | <b>1441</b>                        | 90                       | 35                       | augustus             | 19                          |
| 0.03 Wachtgebied         | VR                     | 25.0                 |                                  | 4472                                 | 2976                                | <b>7448</b>                        | 157                      | 60                       | augustus             | 19                          |
| 0.03 a Balie             | VR                     | 25.0                 |                                  | 481                                  | 182                                 | <b>663</b>                         | 55                       | 21                       | mei                  | 20                          |
| 0.04 *Aangifte KMar      | VR                     | 25.0                 |                                  | 775                                  | 114                                 | <b>889</b>                         | 66                       | 26                       | juli                 | 14                          |
| 0.05 Aangifte politie    | VR                     | 25.0                 |                                  | 763                                  | 114                                 | <b>878</b>                         | 68                       | 26                       | juli                 | 14                          |
| 0.22 Balie               | VR                     | 25.0                 |                                  | 322                                  | 57                                  | <b>379</b>                         | 44                       | 17                       | mei                  | 20                          |
| 0.23 Entree              | VKR                    | 25.0                 |                                  | 322                                  | 0                                   | <b>322</b>                         | 11                       | 4                        | juli                 | 14                          |
| 0.24 Spreekkamer         | VR                     | 25.0                 |                                  | 615                                  | 172                                 | <b>787</b>                         | 54                       | 21                       | mei                  | 20                          |
| 0.25 Ophoudruimte        | VR                     | 25.0                 |                                  | 130                                  | 57                                  | <b>187</b>                         | 24                       | 9                        | mei                  | 20                          |
| 0.26 Spreekkamer         | VR                     | 25.0                 |                                  | 658                                  | 172                                 | <b>829</b>                         | 52                       | 20                       | mei                  | 20                          |
| 0.27 Ophoudruimte        | VR                     | 25.0                 |                                  | 104                                  | 57                                  | <b>161</b>                         | 21                       | 8                        | mei                  | 20                          |
| 0.28 Moeder-kindr.       | VR                     | 25.0                 |                                  | 572                                  | 114                                 | <b>686</b>                         | 38                       | 15                       | juli                 | 14                          |
| 0.32 a Woonkamer         | VR                     | 25.0                 |                                  | 1714                                 | 572                                 | <b>2287</b>                        | 91                       | 35                       | juli                 | 14                          |
| 0.42 Aanlandplekken      | VR                     | 25.0                 |                                  | 2523                                 | 572                                 | <b>3095</b>                        | 56                       | 22                       | juni                 | 20                          |
| 0.43 Commandokamer       | VR                     | 25.0                 |                                  | 716                                  | 172                                 | <b>888</b>                         | 71                       | 28                       | juni                 | 20                          |
| 0.44 Operationele intell | VR                     | 25.0                 |                                  | 1480                                 | 343                                 | <b>1823</b>                        | 58                       | 22                       | juni                 | 20                          |
| 0.46 Werkplekken         | VR                     | 25.0                 |                                  | 2924                                 | 572                                 | <b>3497</b>                        | 55                       | 21                       | augustus             | 18                          |
| 0.47 Briefing            | VR                     | 25.0                 |                                  | 1555                                 | 572                                 | <b>2128</b>                        | 97                       | 37                       | augustus             | 18                          |
| 1.02 Brigade adjudant    | VR                     | 25.0                 |                                  | 1740                                 | 286                                 | <b>2026</b>                        | 90                       | 35                       | juli                 | 14                          |
| 1.12 Support kantoor     | VR                     | 25.0                 |                                  | 495                                  | 57                                  | <b>552</b>                         | 53                       | 21                       | mei                  | 20                          |
| 1.14 Support 1 ima       | VR                     | 25.0                 |                                  | 2169                                 | 458                                 | <b>2627</b>                        | 70                       | 27                       | juli                 | 14                          |
| 1.15 SOO                 | VR                     | 25.0                 |                                  | 2300                                 | 343                                 | <b>2644</b>                        | 72                       | 28                       | juli                 | 14                          |
| 1.17 Support P&A         | VR                     | 25.0                 |                                  | 1632                                 | 229                                 | <b>1861</b>                        | 54                       | 21                       | juli                 | 14                          |
| 1.18 Administratie       | VR                     | 25.0                 |                                  | 1886                                 | 458                                 | <b>2344</b>                        | 65                       | 25                       | juli                 | 14                          |
| 1.20 Recherche           | VR                     | 25.0                 |                                  | 2403                                 | 458                                 | <b>2861</b>                        | 76                       | 30                       | juli                 | 14                          |
| 1.21 *Leslokaal          | VR                     | 25.0                 |                                  | 2025                                 | 572                                 | <b>2597</b>                        | 71                       | 27                       | juli                 | 14                          |
| 1.22 Overlegruimte       | VR                     | 25.0                 |                                  | 972                                  | 229                                 | <b>1201</b>                        | 58                       | 22                       | augustus             | 19                          |
| 1.23 *TVO                | VR                     | 25.0                 |                                  | 1724                                 | 343                                 | <b>2067</b>                        | 89                       | 34                       | augustus             | 19                          |
| 1.25 Pantry & MFK        | VR                     | 25.0                 |                                  | 632                                  | 114                                 | <b>746</b>                         | 42                       | 16                       | juli                 | 14                          |
| 1.26 Overlegruimte       | VR                     | 25.0                 |                                  | 1678                                 | 916                                 | <b>2594</b>                        | 112                      | 43                       | augustus             | 18                          |
| 1.27 Overlegruimte       | VR                     | 25.0                 |                                  | 995                                  | 343                                 | <b>1339</b>                        | 113                      | 44                       | augustus             | 18                          |
| 1.28 Staf                | VR                     | 25.0                 |                                  | 1520                                 | 229                                 | <b>1749</b>                        | 89                       | 34                       | augustus             | 18                          |
| 1.29 Teamleiders         | VR                     | 25.0                 |                                  | 1887                                 | 343                                 | <b>2230</b>                        | 54                       | 21                       | juni                 | 20                          |
| 1.30 Plv. brigade comm.  | VR                     | 25.0                 |                                  | 1040                                 | 286                                 | <b>1326</b>                        | 73                       | 28                       | juni                 | 20                          |
| 1.31 Man.ass.            | VR                     | 25.0                 |                                  | 833                                  | 114                                 | <b>948</b>                         | 53                       | 20                       | juni                 | 20                          |
| 1.32 Brigade comm.       | VR                     | 25.0                 |                                  | 1399                                 | 286                                 | <b>1685</b>                        | 67                       | 26                       | juni                 | 20                          |
| 2.01 Huiskamer           | VR                     | 25.0                 |                                  | 1401                                 | 286                                 | <b>1687</b>                        | 75                       | 29                       | juli                 | 14                          |



| NrRuimte      | Type ruimte | Temp [°C] | Temp stijging [K] | Voelbare koellast [W] | Latente koellast [W] | Totale koellast [W] | [W/m <sup>2</sup> ] | [W/m <sup>3</sup> ] | Maand max | Tijd vak max |
|---------------|-------------|-----------|-------------------|-----------------------|----------------------|---------------------|---------------------|---------------------|-----------|--------------|
| a             |             |           |                   |                       |                      |                     |                     |                     |           |              |
| 2.02 MFK      | VR          | 25.0      |                   | 1768                  | 572                  | <b>2341</b>         | 52                  | 20                  | juli      | 14           |
| 2.18 Lokers   | OV          | 25.0      |                   | 1486                  | 572                  | <b>2058</b>         | 28                  | 11                  | juli      | 14           |
| 2.20 Lokers   | OV          | 25.0      |                   | 2128                  | 572                  | <b>2700</b>         | 27                  | 10                  | juli      | 14           |
| 2.21 Lokers   | OV          | 25.0      |                   | 1368                  | 572                  | <b>1941</b>         | 44                  | 17                  | augustus  | 19           |
| 2.23 Kantine  | VR          | 25.0      |                   | 7862                  | 4350                 | <b>12212</b>        | 113                 | 44                  | augustus  | 18           |
| 2.24 Briefing | VR          | 25.0      |                   | 2166                  | 1202                 | <b>3368</b>         | 91                  | 35                  | juli      | 20           |
| 2.26 *Overleg | VR          | 25.0      |                   | 828                   | 343                  | <b>1171</b>         | 86                  | 34                  | augustus  | 18           |
| 2.27 Kantoor  | VR          | 25.0      |                   | 1221                  | 343                  | <b>1565</b>         | 85                  | 33                  | augustus  | 18           |

## Maanduitvoer koellast gebouw

| Tijd vak   | Mei       | Juni      | Juli      | Augustus  | September | Max               |
|------------|-----------|-----------|-----------|-----------|-----------|-------------------|
| 8          | 74994     | 76920     | 78001     | 76453     | 72434     | juli              |
| 9          | 76132     | 79012     | 79228     | 78102     | 74699     | juli              |
| 10         | 76946     | 79696     | 80612     | 79222     | 75475     | juli              |
| 11         | 78654     | 80924     | 81562     | 80518     | 76881     | juli              |
| 12         | 80686     | 82386     | 82751     | 82148     | 78392     | juli              |
| 13         | 81950     | 83408     | 83650     | 83364     | 79830     | juli              |
| 14         | 84880     | 86186     | 86657     | 86344     | 82562     | juli              |
| 15         | 82626     | 84169     | 84719     | 84523     | 81084     | juli              |
| 16         | 82463     | 84508     | 84931     | 84476     | 81003     | juli              |
| 17         | 82562     | 84387     | 85214     | 84615     | 81020     | juli              |
| 18         | 85082     | 86566     | 87219     | 87176     | 80462     | juli              |
| 19         | 84434     | 87171     | 87079     | 87432     | 83043     | augustus          |
| 20         | 82490     | 85338     | 85703     | 84561     | 80203     | juli              |
|            |           |           |           |           |           | <b>augustus</b>   |
| <b>Max</b> | <b>18</b> | <b>19</b> | <b>18</b> | <b>19</b> | <b>19</b> | <b>tijdvak 19</b> |

## Daguitvoer maximale koellast gebouw

maand augustus

| Tijd-vak | Temp buiten [°C] | Max temp binnen [°C] | Interne koellast [W] | Externe koellast [W] | Reductie temp stijging [W] | Totale voelbare koellast [W] | Totale latente koellast [W] | Totale koellast [W] |
|----------|------------------|----------------------|----------------------|----------------------|----------------------------|------------------------------|-----------------------------|---------------------|
| 8        | 20.8             | 25.0                 | 52100                | 2538                 | 0                          | 54638                        | 21816                       | 76453               |
| 9        | 22.5             | 25.0                 | 52106                | 4181                 | 0                          | 56286                        | 21816                       | 78102               |
| 10       | 24.9             | 25.0                 | 52111                | 5295                 | 0                          | 57407                        | 21816                       | 79222               |
| 11       | 25.9             | 25.0                 | 52117                | 6586                 | 0                          | 58702                        | 21816                       | 80518               |
| 12       | 27.6             | 25.0                 | 52122                | 8210                 | 0                          | 60333                        | 21816                       | 82148               |
| 13       | 28.9             | 25.0                 | 52128                | 9421                 | 0                          | 61549                        | 21816                       | 83364               |
| 14       | 29.6             | 25.0                 | 52133                | 12396                | 0                          | 64529                        | 21816                       | 86344               |
| 15       | 30.4             | 25.0                 | 52138                | 10569                | 0                          | 62707                        | 21816                       | 84523               |
| 16       | 30.6             | 25.0                 | 52143                | 10517                | 0                          | 62660                        | 21816                       | 84476               |
| 17       | 30.9             | 25.0                 | 52148                | 10651                | 0                          | 62799                        | 21816                       | 84615               |
| 18       | 31.2             | 25.0                 | 52153                | 13207                | 0                          | 65361                        | 21816                       | 87176               |
| 19       | 30.8             | 25.0                 | 52158                | 13459                | 0                          | 65616                        | 21816                       | 87432               |



| <i>Tijd-<br/>vak</i> | <i>Temp<br/>buiten<br/>[°C]</i> | <i>Max temp<br/>binnen<br/>[°C]</i> | <i>Interne<br/>koellast<br/>[W]</i> | <i>Externe<br/>koellast<br/>[W]</i> | <i>Reductie temp<br/>stijging<br/>[W]</i> | <i>Totale<br/>voelbare koellast<br/>[W]</i> | <i>Totale<br/>latente koellast<br/>[W]</i> | <i>Totale koellast<br/>[W]</i> |
|----------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---|---|--|--------------------------------|
| 20                   | 29.4                            | 25.0                                | 52162                               | 10583                               | 0   | 62745                                       | 21816                                      | 84561                          |



## Resultaten ruimte 0.02 Aangiftepost

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 15.98 m <sup>2</sup>     |
| Volume                    | 41.56 m <sup>3</sup>     |
| Vertrekmasa               | 1377.5 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 19            |
| <b>Maximale koellast</b>      | <b>1441 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 550                        | 50                         | 0               | 599             | 114           | 714           |
| 9            | 22.5                   | 25.0                   | 550                        | 134                        | 0               | 684             | 114           | 798           |
| 10           | 24.9                   | 25.0                   | 550                        | 154                        | 0               | 704             | 114           | 819           |
| 11           | 25.9                   | 25.0                   | 550                        | 227                        | 0               | 777             | 114           | 891           |
| 12           | 27.6                   | 25.0                   | 550                        | 318                        | 0               | 868             | 114           | 982           |
| 13           | 28.9                   | 25.0                   | 550                        | 389                        | 0               | 940             | 114           | 1054          |
| 14           | 29.6                   | 25.0                   | 550                        | 437                        | 0               | 987             | 114           | 1101          |
| 15           | 30.4                   | 25.0                   | 550                        | 360                        | 0               | 910             | 114           | 1025          |
| 16           | 30.6                   | 25.0                   | 550                        | 396                        | 0               | 946             | 114           | 1061          |
| 17           | 30.9                   | 25.0                   | 551                        | 425                        | 0               | 976             | 114           | 1090          |
| 18           | 31.2                   | 25.0                   | 551                        | 431                        | 0               | 982             | 114           | 1096          |
| <b>19</b>    | <b>30.8</b>            | <b>25.0</b>            | <b>551</b>                 | <b>776</b>                 | <b>0</b>        | <b>1326</b>     | <b>114</b>    | <b>1441</b>   |
| 20           | 29.4                   | 25.0                   | 551                        | 529                        | 0               | 1079            | 114           | 1194          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 138         | 91          | 331        | -10               | -123        | -2                | 174         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 9                   | 138         | 91          | 331        | -10               | -73         | -2                | 208         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 10                  | 138         | 91          | 331        | -10               | -3          | -1                | 156         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 11                  | 138         | 91          | 331        | -10               | 26          | -0                | 197         | 4                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 12                  | 138         | 92          | 331        | -10               | 75          | 1                 | 235         | 7                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 13                  | 138         | 92          | 331        | -10               | 112         | 2                 | 266         | 10                | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 14                  | 138         | 92          | 331        | -10               | 132         | 2                 | 290         | 13                | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |



| Int Warmteproductie |            |           |            | Transmissie |            |             | Zon        |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|-----------|------------|-------------|------------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]  | App [W]    | Bi wand [W] | Glas [W]   | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 138        | 92        | 331        | -10         | 151        | 3           | 190        | 16          | 0                | 0        | 0                | 0                | 114        | 0        | 0                |
| 16                  | 138        | 92        | 331        | -10         | 157        | 4           | 216        | 19          | 0                | 0        | 0                | 0                | 114        | 0        | 0                |
| 17                  | 138        | 92        | 331        | -10         | 165        | 4           | 232        | 23          | 0                | 0        | 0                | 0                | 114        | 0        | 0                |
| 18                  | 138        | 92        | 331        | -10         | 174        | 5           | 227        | 26          | 0                | 0        | 0                | 0                | 114        | 0        | 0                |
| <b>19</b>           | <b>138</b> | <b>92</b> | <b>331</b> | <b>-10</b>  | <b>167</b> | <b>5</b>    | <b>576</b> | <b>27</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>114</b> | <b>0</b> | <b>0</b>         |
| 20                  | 138        | 92        | 331        | -10         | 126        | 6           | 373        | 24          | 0                | 0        | 0                | 0                | 114        | 0        | 0                |

## Interne warmteproducties

| Personen             | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 2 pers.              | 2.00 personen | 252                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m2 | 331.0 W       | 331                     |                  |                 | 1.00   | 1           |
| Verlichting          |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2               | 99.3 W        | 99                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving      | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|-------------------|------------|---------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer       | 1          | plafond |         |         | 0ruimte   |                 | 15.98    |                 | 1.41           |         |
| 2  | Tussenwand 220mm  | 7          | wand    | 10      |         | 90ruimte  |                 | 10.29    |                 | 1.47           |         |
| 3  | Tussenwand        | 2          | wand    | 190     |         | 90ruimte  | 28.0            | 0.52     |                 | 0.58           |         |
| 4  | Tussenwand        | 2          | wand    | 100     |         | 90ruimte  | 28.0            | 5.91     |                 | 0.58           |         |
| 5  | Tussenwand        | 2          | wand    | 100     |         | 90ruimte  |                 | 5.08     |                 | 0.58           |         |
| 6  | BG vloer Rc=3,70  | 3          | vloer   |         |         | grond     | 15.0            | 15.98    |                 | 0.13           |         |
| 7  | Gevel HSB Rc=4,70 | 4          | wand    | 280 W   |         | 90buiten  |                 | 1.95     | 6.35            | 0.20           |         |
| 8  | Raam+bu.zw.       | 6          | kozijn  | 280 W   |         | 90buiten  |                 | 1.34     |                 | 1.65           |         |
| 9  | Raam+bu.zw.       | 5          | glas    | 280 W   |         | 90buiten  |                 | 7.57     |                 | 1.65           | 0.29    |
| 10 | Gevel HSB Rc=4,70 | 4          | wand    | 190 Z   |         | 90buiten  |                 | 1.01     | 4.91            | 0.20           |         |
| 11 | Raam+bu.zw.       | 6          | kozijn  | 190 Z   |         | 90buiten  |                 | 1.34     |                 | 1.65           |         |
| 12 | Raam+bu.zw.       | 5          | glas    | 190 Z   |         | 90buiten  |                 | 7.57     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

# 8 9 10 11 12 13 14 15 16 17 18 19 20



[illegible]



## Resultaten ruimte 0.03 Wachtgebied

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 47.53 m <sup>2</sup>     |
| Volume                    | 123.45 m <sup>3</sup>    |
| Vertrekmasse              | 1376.5 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 19            |
| <b>Maximale koellast</b>      | <b>7448 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 4126                       | 15                         | 0               | 4141            | 2976          | 7117          |
| 9            | 22.5                   | 25.0                   | 4126                       | 44                         | 0               | 4170            | 2976          | 7146          |
| 10           | 24.9                   | 25.0                   | 4126                       | 24                         | 0               | 4150            | 2976          | 7126          |
| 11           | 25.9                   | 25.0                   | 4126                       | 51                         | 0               | 4178            | 2976          | 7154          |
| 12           | 27.6                   | 25.0                   | 4127                       | 85                         | 0               | 4212            | 2976          | 7188          |
| 13           | 28.9                   | 25.0                   | 4127                       | 112                        | 0               | 4239            | 2976          | 7215          |
| 14           | 29.6                   | 25.0                   | 4127                       | 130                        | 0               | 4257            | 2976          | 7233          |
| 15           | 30.4                   | 25.0                   | 4127                       | 143                        | 0               | 4270            | 2976          | 7247          |
| 16           | 30.6                   | 25.0                   | 4127                       | 145                        | 0               | 4273            | 2976          | 7249          |
| 17           | 30.9                   | 25.0                   | 4127                       | 141                        | 0               | 4268            | 2976          | 7244          |
| 18           | 31.2                   | 25.0                   | 4128                       | 129                        | 0               | 4257            | 2976          | 7233          |
| <b>19</b>    | <b>30.8</b>            | <b>25.0</b>            | <b>4128</b>                | <b>344</b>                 | <b>0</b>        | <b>4472</b>     | <b>2976</b>   | <b>7448</b>   |
| 20           | 29.4                   | 25.0                   | 4128                       | 203                        | 0               | 4331            | 2976          | 7307          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 3576        | 261         | 239        | 50                | -32         | -2                | 49          | 0                 | 0                       | 0           | 0                       | 0                       | 2976        | 0          | 0                       |
| 9                   | 3576        | 261         | 239        | 50                | -19         | -2                | 64          | 1                 | 0                       | 0           | 0                       | 0                       | 2976        | 0          | 0                       |
| 10                  | 3576        | 261         | 239        | 50                | -1          | -1                | 24          | 2                 | 0                       | 0           | 0                       | 0                       | 2976        | 0          | 0                       |
| 11                  | 3576        | 261         | 239        | 50                | 6           | -0                | 42          | 3                 | 0                       | 0           | 0                       | 0                       | 2976        | 0          | 0                       |
| 12                  | 3576        | 261         | 239        | 50                | 19          | 1                 | 60          | 6                 | 0                       | 0           | 0                       | 0                       | 2976        | 0          | 0                       |
| 13                  | 3576        | 262         | 239        | 50                | 28          | 2                 | 74          | 8                 | 0                       | 0           | 0                       | 0                       | 2976        | 0          | 0                       |
| 14                  | 3576        | 262         | 239        | 50                | 33          | 3                 | 83          | 11                | 0                       | 0           | 0                       | 0                       | 2976        | 0          | 0                       |



| Int Warmteproductie |             |            |            | Transmissie |           |             | Zon        |             |                  | Reductie |                  |                  | Latent      |          |                  |
|---------------------|-------------|------------|------------|-------------|-----------|-------------|------------|-------------|------------------|----------|------------------|------------------|-------------|----------|------------------|
| Tijd vak            | Pers [W]    | Verl [W]   | App [W]    | Bi wand [W] | Glas [W]  | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]    | App [W]  | Infil-tratie [W] |
| 15                  | 3576        | 262        | 239        | 50          | 39        | 3           | 88         | 13          | 0                | 0        | 0                | 0                | 2976        | 0        | 0                |
| 16                  | 3576        | 262        | 239        | 50          | 40        | 4           | 85         | 15          | 0                | 0        | 0                | 0                | 2976        | 0        | 0                |
| 17                  | 3576        | 262        | 239        | 50          | 43        | 5           | 77         | 16          | 0                | 0        | 0                | 0                | 2976        | 0        | 0                |
| 18                  | 3576        | 262        | 239        | 50          | 45        | 5           | 63         | 16          | 0                | 0        | 0                | 0                | 2976        | 0        | 0                |
| <b>19</b>           | <b>3576</b> | <b>263</b> | <b>239</b> | <b>50</b>   | <b>44</b> | <b>6</b>    | <b>279</b> | <b>15</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>2976</b> | <b>0</b> | <b>0</b>         |
| 20                  | 3576        | 263        | 239        | 50          | 33        | 6           | 155        | 8           | 0                | 0        | 0                | 0                | 2976        | 0        | 0                |

## Interne warmteproducties

| Personen                        | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|---------------------------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 52 pers.                        | 52.00 personen | 6552                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>5 W/m <sup>2</sup> | 238.9 W        | 239                     |                  |                 | 1.00   | 1           |
| Verlichting                     |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>              | 286.6 W        | 287                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|------------------|------------|---------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   | 28.0            | 7.89                  |                              | 1.41                        |         |
| 2  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 2.71                  |                              | 1.41                        |         |
| 3  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 9.45                  |                              | 1.41                        |         |
| 4  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 11.20                 |                              | 1.41                        |         |
| 5  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 16.34                 |                              | 1.41                        |         |
| 6  | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  |                 | 11.44                 |                              | 0.58                        |         |
| 7  | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  |                 | 7.04                  |                              | 0.58                        |         |
| 8  | Tussenwand 250mm | 8          | wand    | 10      |         | 90ruimte  |                 | 1.27                  |                              | 0.57                        |         |
| 9  | Tussenwand 250mm | 8          | wand    | 10      |         | 90ruimte  |                 | 2.55                  |                              | 0.57                        |         |
| 10 | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  |                 | 9.28                  |                              | 0.58                        |         |
| 11 | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  |                 | 10.23                 |                              | 0.58                        |         |
| 12 | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  |                 | 5.53                  |                              | 0.58                        |         |
| 13 | Tussenwand       | 2          | wand    | 190     |         | 90ruimte  | 28.0            | 8.53                  |                              | 0.58                        |         |
| 14 | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  | 28.0            | 5.91                  |                              | 0.58                        |         |
| 15 | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  | 28.0            | 10.86                 |                              | 0.58                        |         |
| 16 | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  | 28.0            | 5.70                  |                              | 0.58                        |         |
| 17 | Beton 220mm      | 9          | wand    | 10      |         | 90ruimte  | 28.0            | 1.66                  |                              | 2.73                        |         |
| 18 | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  | 28.0            | 6.88                  |                              | 0.58                        |         |

| #  | Omschrijving         | Constr<br>Ref | Type   | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|----------------------|---------------|--------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 19 | BG vloer Rc=3,70     | 3             | vloer  |            |            | grond     | 15.0                  | 47.53       |                    | 0.13              |            |
| 20 | Gevel HSB<br>Rc=4,70 | 4             | wand   | 190 Z      | 90         | buiten    |                       | 3.26        | 5.73               | 0.20              |            |
| 21 | Raam+bu.zw.          | 6             | kozijn | 190 Z      | 90         | buiten    |                       | 0.69        |                    | 1.65              |            |
| 22 | Raam+bu.zw.          | 5             | glas   | 190 Z      | 90         | buiten    |                       | 3.90        |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

[illegible]

[illegible]



| Int Warmteproductie |            |           |            | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|-----------|------------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]  | App [W]    | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 138        | 70        | 248        | 25          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 182        | 0        | 0                |
| 16                  | 138        | 70        | 248        | 25          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 182        | 0        | 0                |
| 17                  | 138        | 70        | 248        | 25          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 182        | 0        | 0                |
| 18                  | 138        | 70        | 248        | 25          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 182        | 0        | 0                |
| 19                  | 138        | 70        | 248        | 25          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 182        | 0        | 0                |
| <b>20</b>           | <b>138</b> | <b>70</b> | <b>248</b> | <b>25</b>   | <b>0</b> | <b>0</b>    | <b>0</b> | <b>0</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>182</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen        | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-----------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 2 pers. (balie) | 2.00 personen | 320                     | 1.00             | 1.52            | 0.43   | 1           |
| Apparaten       |               |                         |                  |                 |  |             |
| 20 W/m2         | 248.3 W       | 248                     |                  |                 | 1.00   | 1           |
| Verlichting     |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2          | 74.5 W        | 74                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| # | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|---|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1 | Tussenvloer      | 1          | plafond |         | 0ruimte            | 28.0            | 4.35     |                 | 1.41           |         |
| 2 | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 7.76     |                 | 1.41           |         |
| 3 | Tussenwand 250mm | 8          | wand    | 10      | 90ruimte           | 28.0            | 4.54     |                 | 0.57           |         |
| 4 | Tussenwand       | 2          | wand    | 100     | 90ruimte           | 28.0            | 6.75     |                 | 0.58           |         |
| 5 | Tussenwand 250mm | 8          | wand    | 10      | 90ruimte           |                 | 8.52     |                 | 0.57           |         |
| 6 | Tussenwand       | 2          | wand    | 190     | 90ruimte           |                 | 11.51    |                 | 0.58           |         |
| 7 | Tussenwand       | 2          | wand    | 280     | 90ruimte           |                 | 6.75     |                 | 0.58           |         |
| 8 | Tussenwand       | 2          | wand    | 190     | 90ruimte           | 28.0            | 1.55     |                 | 0.58           |         |
| 9 | BG vloer Rc=3,70 | 3          | vloer   |         | grond              | 15.0            | 12.09    |                 | 0.13           |         |

## Schaduwfracties ramen



## Resultaten ruimte 0.04 \*Aangifte KMar

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 13.43 m <sup>2</sup>     |
| Volume                    | 34.85 m <sup>3</sup>     |
| Vertrekmasa               | 1420.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | juli         |
| Tijdvak met maximale koellast | 14           |
| <b>Maximale koellast</b>      | <b>889 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 489                        | 52                         | 0               | 541             | 114           | 655           |
| 9            | 23.4                   | 25.0                   | 489                        | 101                        | 0               | 590             | 114           | 705           |
| 10           | 25.7                   | 25.0                   | 489                        | 156                        | 0               | 645             | 114           | 760           |
| 11           | 27.1                   | 25.0                   | 489                        | 197                        | 0               | 686             | 114           | 801           |
| 12           | 28.1                   | 25.0                   | 489                        | 231                        | 0               | 720             | 114           | 835           |
| 13           | 28.9                   | 25.0                   | 489                        | 260                        | 0               | 749             | 114           | 863           |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>489</b>                 | <b>286</b>                 | <b>0</b>        | <b>775</b>      | <b>114</b>    | <b>889</b>    |
| 15           | 30.4                   | 25.0                   | 489                        | 141                        | 0               | 630             | 114           | 744           |
| 16           | 31.0                   | 25.0                   | 489                        | 184                        | 0               | 673             | 114           | 787           |
| 17           | 31.5                   | 25.0                   | 489                        | 227                        | 0               | 717             | 114           | 831           |
| 18           | 31.4                   | 25.0                   | 489                        | 251                        | 0               | 740             | 114           | 855           |
| 19           | 31.0                   | 25.0                   | 489                        | 253                        | 0               | 743             | 114           | 857           |
| 20           | 30.3                   | 25.0                   | 489                        | 231                        | 0               | 720             | 114           | 835           |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 138         | 82          | 287        | -18               | -51         | 0                 | 102         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 9                   | 138         | 82          | 287        | -18               | -24         | 0                 | 124         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 10                  | 138         | 82          | 287        | -18               | 10          | 0                 | 145         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 11                  | 138         | 82          | 287        | -18               | 31          | 0                 | 166         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 12                  | 138         | 82          | 287        | -18               | 46          | 0                 | 185         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 13                  | 138         | 82          | 287        | -18               | 57          | 0                 | 201         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| <b>14</b>           | <b>138</b>  | <b>82</b>   | <b>287</b> | <b>-18</b>        | <b>68</b>   | <b>0</b>          | <b>217</b>  | <b>1</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>114</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 138      | 82       | 287     | -18         | 76       | 0           | 63       | 1           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 16                  | 138      | 82       | 287     | -18         | 84       | 0           | 98       | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 17                  | 138      | 82       | 287     | -18         | 91       | 0           | 134      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 18                  | 138      | 82       | 287     | -18         | 90       | 0           | 159      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 19                  | 138      | 83       | 287     | -18         | 84       | 0           | 167      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 20                  | 138      | 83       | 287     | -18         | 74       | 0           | 155      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |

## Interne warmteproducties

| Personen                         | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 2 pers.                          | 2.00 personen | 252                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m <sup>2</sup> | 287.0 W       | 287                     |                  |                 | 1.00   | 1           |
| Verlichting                      |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>               | 86.1 W        | 86                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| # | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|---|------------------|------------|---------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1 | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 13.43                 |                              | 1.41                        |         |
| 2 | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  |                 | 9.84                  |                              | 0.58                        |         |
| 3 | Tussenwand 220mm | 7          | wand    | 190     |         | 90ruimte  |                 | 9.84                  |                              | 1.47                        |         |
| 4 | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  |                 | 9.34                  |                              | 0.58                        |         |
| 5 | BG vloer Rc=3,70 | 3          | vloer   |         |         | grond     | 15.0            | 13.43                 |                              | 0.13                        |         |
| 6 | Gevel Rc=4,70    | 10         | wand    | 280 W   |         | 90buiten  |                 | 0.43                  | 3.55                         | 0.21                        |         |
| 7 | Raam+bu.zw.      | 6          | kozijn  | 280 W   |         | 90buiten  |                 | 1.34                  |                              | 1.65                        |         |
| 8 | Raam+bu.zw.      | 5          | glas    | 280 W   |         | 90buiten  |                 | 7.57                  |                              | 1.65                        | 0.29    |

## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 566 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.253 | 0.126 | 0.095 | 0.035 | 0.038 | 0.020 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 566 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |





## Resultaten ruimte 0.05 Aangifte politie

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 12.92 m <sup>2</sup>     |
| Volume                    | 33.50 m <sup>3</sup>     |
| Vertrekmasa               | 1415.8 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | juli         |
| Tijdvak met maximale koellast | 14           |
| <b>Maximale koellast</b>      | <b>878 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 477                        | 52                         | 0               | 529             | 114           | 644           |
| 9            | 23.4                   | 25.0                   | 477                        | 101                        | 0               | 578             | 114           | 693           |
| 10           | 25.7                   | 25.0                   | 478                        | 156                        | 0               | 634             | 114           | 748           |
| 11           | 27.1                   | 25.0                   | 478                        | 197                        | 0               | 675             | 114           | 789           |
| 12           | 28.1                   | 25.0                   | 478                        | 231                        | 0               | 708             | 114           | 823           |
| 13           | 28.9                   | 25.0                   | 478                        | 259                        | 0               | 737             | 114           | 851           |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>478</b>                 | <b>285</b>                 | <b>0</b>        | <b>763</b>      | <b>114</b>    | <b>878</b>    |
| 15           | 30.4                   | 25.0                   | 478                        | 146                        | 0               | 624             | 114           | 739           |
| 16           | 31.0                   | 25.0                   | 478                        | 193                        | 0               | 671             | 114           | 785           |
| 17           | 31.5                   | 25.0                   | 478                        | 239                        | 0               | 717             | 114           | 831           |
| 18           | 31.4                   | 25.0                   | 478                        | 258                        | 0               | 736             | 114           | 851           |
| 19           | 31.0                   | 25.0                   | 478                        | 258                        | 0               | 736             | 114           | 851           |
| 20           | 30.3                   | 25.0                   | 478                        | 234                        | 0               | 712             | 114           | 826           |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 138         | 79          | 278        | -17               | -51         | 0                 | 103         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 9                   | 138         | 79          | 278        | -17               | -24         | 0                 | 124         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 10                  | 138         | 80          | 278        | -17               | 10          | 0                 | 145         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 11                  | 138         | 80          | 278        | -17               | 31          | 0                 | 166         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 12                  | 138         | 80          | 278        | -17               | 46          | 0                 | 185         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 13                  | 138         | 80          | 278        | -17               | 57          | 0                 | 201         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| <b>14</b>           | <b>138</b>  | <b>80</b>   | <b>278</b> | <b>-17</b>        | <b>68</b>   | <b>0</b>          | <b>217</b>  | <b>1</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>114</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 138      | 80       | 278     | -17         | 76       | 0           | 70       | 1           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 16                  | 138      | 80       | 278     | -17         | 84       | 0           | 108      | 1           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 17                  | 138      | 80       | 278     | -17         | 91       | 0           | 146      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 18                  | 138      | 80       | 278     | -17         | 90       | 0           | 167      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 19                  | 138      | 80       | 278     | -17         | 84       | 0           | 173      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 20                  | 138      | 80       | 278     | -17         | 74       | 0           | 158      | 2           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 2 pers.     | 2.00 personen | 252                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten   |               |                         |                  |                 |  |             |
| 20 W/m2     | 277.5 W       | 278                     |                  |                 | 1.00   | 1           |
| Verlichting |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 83.3 W        | 83                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| # | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|---|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1 | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 12.92    |                 | 1.41           |         |
| 2 | Tussenwand 250mm | 8          | wand    | 10      | 90ruimte           |                 | 6.41     |                 | 0.57           |         |
| 3 | Tussenwand 250mm | 8          | wand    | 10      | 90ruimte           |                 | 3.90     |                 | 0.57           |         |
| 4 | Tussenwand       | 2          | wand    | 190     | 90ruimte           |                 | 9.84     |                 | 0.58           |         |
| 5 | Tussenwand       | 2          | wand    | 100     | 90ruimte           |                 | 8.99     |                 | 0.58           |         |
| 6 | BG vloer Rc=3,70 | 3          | vloer   |         | grond              | 15.0            | 12.92    |                 | 0.13           |         |
| 7 | Gevel Rc=4,70    | 10         | wand    | 280 W   | 90buiten           |                 | 0.08     | 3.15            | 0.21           |         |
| 8 | Raam+bu.zw.      | 6          | kozijn  | 280 W   | 90buiten           |                 | 1.34     |                 | 1.65           |         |
| 9 | Raam+bu.zw.      | 5          | glas    | 280 W   | 90buiten           |                 | 7.57     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 549 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 549 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |

## Resultaten ruimte 0.22 Balie

|                           |                 |
|---------------------------|-----------------|
| Type ruimte               | verblijfsruimte |
| Ontwerptemperatuur        | 25.0 °C         |
| Toegelaten stijging       | 0.0 K           |
| Overschrijdingsduur (Tod) | 0.0 uur         |
| Vloeroppervlakte          | 8.62 m²         |
| Volume                    | 22.36 m³        |
| Vertrekmasa               | 1549.3 kg/m²    |
| Vocht binnen              | 14.0 gr/kg      |
| Infiltratiedebiet         | 0.00000 1/h     |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | mei          |
| Tijdvak met maximale koellast | 20           |
| <b>Maximale koellast</b>      | <b>379 W</b> |

## Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 18.3                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 9            | 19.6                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 10           | 21.5                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 11           | 23.2                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 12           | 25.6                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 13           | 27.0                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 14           | 27.5                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 15           | 27.7                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 16           | 27.7                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 17           | 27.9                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 18           | 28.4                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 19           | 27.6                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |
| 20           | 26.6                   | 25.0                   | 322                        | 0                          | 0               | 322             | 57            | 379           |

## Deelresultaten

[illegible]



| Int Warmteproductie |           |           |            | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent    |          |                  |
|---------------------|-----------|-----------|------------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|-----------|----------|------------------|
| Tijd vak            | Pers [W]  | Verl [W]  | App [W]    | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]  | App [W]  | Infil-tratie [W] |
| 15                  | 69        | 46        | 172        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 16                  | 69        | 46        | 172        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 17                  | 69        | 46        | 172        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 18                  | 69        | 46        | 172        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 19                  | 69        | 46        | 172        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| <b>20</b>           | <b>69</b> | <b>46</b> | <b>172</b> | <b>34</b>   | <b>0</b> | <b>0</b>    | <b>0</b> | <b>0</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>57</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 1 pers.     | 1.00 personen | 126                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten   |               |                         |                  |                 |  |             |
| 20 W/m2     | 172.1 W       | 172                     |                  |                 | 1.00   | 1           |
| Verlichting |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 51.6 W        | 52                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         | 0ruimte            | 28.0            | 3.96     |                 | 1.41           |         |
| 2  | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 0.70     |                 | 1.41           |         |
| 3  | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 3.98     |                 | 1.41           |         |
| 4  | Tussenwand       | 2          | wand    | 190     | 90ruimte           |                 | 7.28     |                 | 0.58           |         |
| 5  | Tussenwand       | 2          | wand    | 100     | 90ruimte           | 28.0            | 6.01     |                 | 0.58           |         |
| 6  | Tussenwand       | 2          | wand    | 10      | 90ruimte           | 28.0            | 5.88     |                 | 0.58           |         |
| 7  | Tussenwand       | 2          | wand    | 190     | 90ruimte           | 25.0            | 3.64     |                 | 0.58           |         |
| 8  | Tussenwand       | 2          | wand    | 280     | 90ruimte           | 25.0            | 6.01     |                 | 0.58           |         |
| 9  | Tussenwand       | 2          | wand    | 10      | 90ruimte           | 28.0            | 4.80     |                 | 0.58           |         |
| 10 | BG vloer Rc=3,70 | 3          | vloer   |         | grond              | 15.0            | 8.62     |                 | 0.13           |         |

## Schaduwfracties ramen

|             | Int Warmteproductie |             |            | Transmissie       |             | Zon               |             |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|-------------|---------------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak | Pers<br>[W]         | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8           | 0                   | 169         | 0          | 1                 | -24         | 7                 | 44          | 2                 | 0                       | 0           | 0                       | 0                       | 0           | 0          | 0                       |
| 9           | 0                   | 170         | 0          | 1                 | -11         | 7                 | 56          | 2                 | 0                       | 0           | 0                       | 0                       | 0           | 0          | 0                       |
| 10          | 0                   | 170         | 0          | 1                 | 5           | 7                 | 69          | 2                 | 0                       | 0           | 0                       | 0                       | 0           | 0          | 0                       |
| 11          | 0                   | 170         | 0          | 1                 | 15          | 7                 | 80          | 2                 | 0                       | 0           | 0                       | 0                       | 0           | 0          | 0                       |
| 12          | 0                   | 170         | 0          | 1                 | 22          | 7                 | 91          | 2                 | 0                       | 0           | 0                       | 0                       | 0           | 0          | 0                       |
| 13          | 0                   | 170         | 0          | 1                 | 27          | 7                 | 100         | 2                 | 0                       | 0           | 0                       | 0                       | 0           | 0          | 0                       |
| 14          | 0                   | 170         | 0          | 1                 | 32          | 7                 | 109         | 3                 | 0                       | 0           | 0                       | 0                       | 0           | 0          | 0                       |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 0        | 170      | 0       | 1           | 36       | 7           | 23       | 4           | 0                | 0        | 0                | 0                | 0        | 0       | 0                |
| 16                  | 0        | 170      | 0       | 1           | 40       | 7           | 24       | 6           | 0                | 0        | 0                | 0                | 0        | 0       | 0                |
| 17                  | 0        | 170      | 0       | 1           | 43       | 7           | 25       | 6           | 0                | 0        | 0                | 0                | 0        | 0       | 0                |
| 18                  | 0        | 171      | 0       | 1           | 42       | 7           | 33       | 7           | 0                | 0        | 0                | 0                | 0        | 0       | 0                |
| 19                  | 0        | 171      | 0       | 1           | 40       | 7           | 48       | 7           | 0                | 0        | 0                | 0                | 0        | 0       | 0                |
| 20                  | 0        | 171      | 0       | 1           | 35       | 7           | 59       | 7           | 0                | 0        | 0                | 0                | 0        | 0       | 0                |

## Interne warmteproducties

| Verlichting |         |     | Convectie factor | Reductie factor | Eigenschappen                                |   |
|-------------|---------|-----|------------------|-----------------|--|---|
| 6 W/m2      | 183.8 W | 184 | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1 |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 6.48     |                 | 1.41           |         |
| 2  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 23.11    |                 | 1.41           |         |
| 3  | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  |                 | 11.40    |                 | 0.58           |         |
| 4  | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  |                 | 3.32     |                 | 0.58           |         |
| 5  | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  |                 | 6.75     |                 | 0.58           |         |
| 6  | Tussenwand       | 2          | wand    | 190     |         | 90ruimte  | 28.0            | 1.75     |                 | 0.58           |         |
| 7  | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  | 28.0            | 1.53     |                 | 0.58           |         |
| 8  | Tussenwand       | 2          | wand    | 190     |         | 90ruimte  | 28.0            | 5.98     |                 | 0.58           |         |
| 9  | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  | 28.0            | 5.10     |                 | 0.58           |         |
| 10 | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  |                 | 9.51     |                 | 0.58           |         |
| 11 | Tussenwand       | 2          | wand    | 190     |         | 90ruimte  |                 | 4.83     |                 | 0.58           |         |
| 12 | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  |                 | 3.67     |                 | 0.58           |         |
| 13 | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  |                 | 6.31     |                 | 0.58           |         |
| 14 | Gevel Rc=4,70    | 10         | wand    | 280 W   |         | 90buiten  |                 | 11.65    | 13.17           | 0.21           |         |
| 15 | Raam+bu.zw.      | 6          | kozijn  | 280 W   |         | 90buiten  |                 | 0.63     |                 | 1.65           |         |
| 16 | Raam+bu.zw.      | 5          | glas    | 280 W   |         | 90buiten  |                 | 3.58     |                 | 1.65           | 0.29    |
| 17 | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  | 28.0            | 8.76     |                 | 0.58           |         |
| 18 | BG vloer Rc=3,70 | 3          | vloer   |         |         | grond     | 15.0            | 29.55    |                 | 0.13           |         |

## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 546 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.982 | 0.982 | 0.994 | 0.773 | 0.450 | 0.195 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 546 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



**Vabi Elements Koellast 3.10.0.107**

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## Resultaten ruimte 0.24 Spreekkamer

|                           |                 |
|---------------------------|-----------------|
| Type ruimte               | verblijfsruimte |
| Ontwerptemperatuur        | 25.0 °C         |
| Toegelaten stijging       | 0.0 K           |
| Overschrijdingsduur (Tod) | 0.0 uur         |
| Vloeroppervlakte          | 14.64 m²        |
| Volume                    | 38.00 m³        |
| Vertrekmasa               | 1530.8 kg/m²    |
| Vocht binnen              | 14.0 gr/kg      |
| Infiltratiedebiet         | 0.00000 1/h     |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | mei          |
| Tijdvak met maximale koellast | 20           |
| <b>Maximale koellast</b>      | <b>787 W</b> |

## Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 18.3                   | 25.0                   | 614                        | 0                          | 0               | 614             | 172           | 786           |
| 9            | 19.6                   | 25.0                   | 614                        | 0                          | 0               | 614             | 172           | 786           |
| 10           | 21.5                   | 25.0                   | 614                        | 0                          | 0               | 614             | 172           | 786           |
| 11           | 23.2                   | 25.0                   | 614                        | 0                          | 0               | 614             | 172           | 786           |
| 12           | 25.6                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 13           | 27.0                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 14           | 27.5                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 15           | 27.7                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 16           | 27.7                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 17           | 27.9                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 18           | 28.4                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 19           | 27.6                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 786           |
| 20           | 26.6                   | 25.0                   | 615                        | 0                          | 0               | 615             | 172           | 787           |

## Deelresultaten

[illegible]





| Int Warmteproductie |            |           |            | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|-----------|------------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]  | App [W]    | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 206        | 80        | 292        | 36          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 16                  | 206        | 80        | 292        | 36          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 17                  | 206        | 80        | 292        | 36          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 18                  | 206        | 80        | 292        | 36          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 19                  | 206        | 80        | 292        | 36          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| <b>20</b>           | <b>206</b> | <b>80</b> | <b>292</b> | <b>36</b>   | <b>0</b> | <b>0</b>    | <b>0</b> | <b>0</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>172</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen             | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 3 pers.              | 3.00 personen | 378                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m2 | 292.4 W       | 292                     |                  |                 | 1.00   | 1           |
| Verlichting          |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2               | 87.7 W        | 88                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| # | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|---|------------------|------------|---------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1 | Tussenvloer      | 1          | plafond |         |         | 0ruimte   | 28.0            | 7.38     |                 | 1.41           |         |
| 2 | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 5.60     |                 | 1.41           |         |
| 3 | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 1.67     |                 | 1.41           |         |
| 4 | Tussenwand       | 2          | wand    | 190     |         | 90ruimte  |                 | 9.52     |                 | 0.58           |         |
| 5 | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  | 28.0            | 2.75     |                 | 0.58           |         |
| 6 | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  | 28.0            | 11.12    |                 | 0.58           |         |
| 7 | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  | 25.0            | 11.12    |                 | 0.58           |         |
| 8 | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  |                 | 7.28     |                 | 0.58           |         |
| 9 | BG vloer Rc=3,70 | 3          | vloer   |         |         | grond     | 15.0            | 14.64    |                 | 0.13           |         |

## Schaduwfracties ramen

## Resultaten ruimte 0.25 Ophoudruimte

|                           |                 |
|---------------------------|-----------------|
| Type ruimte               | verblijfsruimte |
| Ontwerptemperatuur        | 25.0 °C         |
| Toegelaten stijging       | 0.0 K           |
| Overschrijdingsduur (Tod) | 0.0 uur         |
| Vloeroppervlakte          | 7.87 m²         |
| Volume                    | 20.42 m³        |
| Vertrekmasa               | 1546.7 kg/m²    |
| Vocht binnen              | 14.0 gr/kg      |
| Infiltratiedebiet         | 0.00000 1/h     |

|                                      |              |
|--------------------------------------|--------------|
| <i>Maand met maximale koellast</i>   | mei          |
| <i>Tijdvak met maximale koellast</i> | 20           |
| <b>Maximale koellast</b>             | <b>187 W</b> |

## Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 18.3                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 9            | 19.6                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 10           | 21.5                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 11           | 23.2                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 12           | 25.6                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 13           | 27.0                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 14           | 27.5                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 15           | 27.7                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 16           | 27.7                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 17           | 27.9                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 18           | 28.4                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 19           | 27.6                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |
| 20           | 26.6                   | 25.0                   | 130                        | 0                          | 0               | 130             | 57            | 187           |

## Deelresultaten

[illegible]



| Int Warmteproductie |           |           |          | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent    |          |                  |
|---------------------|-----------|-----------|----------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|-----------|----------|------------------|
| Tijd vak            | Pers [W]  | Verl [W]  | App [W]  | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]  | App [W]  | Infil-tratie [W] |
| 15                  | 69        | 44        | 0        | 17          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 16                  | 69        | 44        | 0        | 17          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 17                  | 69        | 44        | 0        | 17          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 18                  | 69        | 44        | 0        | 17          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 19                  | 69        | 44        | 0        | 17          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| <b>20</b>           | <b>69</b> | <b>44</b> | <b>0</b> | <b>17</b>   | <b>0</b> | <b>0</b>    | <b>0</b> | <b>0</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>57</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 1 pers.     | 1.00 personen | 126                     | 0.70             | 1.20            | 0.55   | 1           |
| Verlichting |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 47.1 W        | 47                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| # | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|---|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1 | Tussenvloer      | 1          | plafond |         | 0ruimte            | 28.0            | 3.98     |                 | 1.41           |         |
| 2 | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 0.90     |                 | 1.41           |         |
| 3 | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 3.01     |                 | 1.41           |         |
| 4 | Tussenwand       | 2          | wand    | 100     | 90ruimte           | 28.0            | 6.03     |                 | 0.58           |         |
| 5 | Tussenwand       | 2          | wand    | 10      | 90ruimte           |                 | 9.52     |                 | 0.58           |         |
| 6 | Tussenwand       | 2          | wand    | 190     | 90ruimte           |                 | 9.52     |                 | 0.58           |         |
| 7 | Tussenwand       | 2          | wand    | 280     | 90ruimte           | 25.0            | 6.03     |                 | 0.58           |         |
| 8 | BG vloer Rc=3,70 | 3          | vloer   |         | grond              | 15.0            | 7.87     |                 | 0.13           |         |

## Schaduwfracties ramen

[illegible]



| Int Warmteproductie |            |           |            | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|-----------|------------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]  | App [W]    | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 206        | 91        | 326        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 16                  | 206        | 91        | 326        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 17                  | 206        | 91        | 326        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 18                  | 206        | 91        | 326        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| 19                  | 206        | 91        | 326        | 34          | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 172        | 0        | 0                |
| <b>20</b>           | <b>206</b> | <b>91</b> | <b>326</b> | <b>34</b>   | <b>0</b> | <b>0</b>    | <b>0</b> | <b>0</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>172</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen             | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 3 pers.              | 3.00 personen | 378                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m2 | 325.7 W       | 326                     |                  |                 | 1.00   | 1           |
| Verlichting          |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2               | 97.7 W        | 98                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         | 0ruimte            | 28.0            | 8.11     |                 | 1.41           |         |
| 2  | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 1.84     |                 | 1.41           |         |
| 3  | Tussenvloer      | 1          | plafond |         | 0ruimte            |                 | 6.15     |                 | 1.41           |         |
| 4  | Tussenwand       | 2          | wand    | 100     | 90ruimte           | 28.0            | 12.16    |                 | 0.58           |         |
| 5  | Tussenwand 250mm | 8          | wand    | 190     | 90ruimte           |                 | 8.52     |                 | 0.57           |         |
| 6  | Tussenwand       | 2          | wand    | 10      | 90ruimte           |                 | 9.52     |                 | 0.58           |         |
| 7  | Tussenwand       | 2          | wand    | 280     | 90ruimte           |                 | 9.25     |                 | 0.58           |         |
| 8  | Tussenwand       | 2          | wand    | 280     | 90ruimte           | 25.0            | 3.32     |                 | 0.58           |         |
| 9  | Tussenwand 250mm | 8          | wand    | 190     | 90ruimte           |                 | 1.27     |                 | 0.57           |         |
| 10 | BG vloer Rc=3,70 | 3          | vloer   |         | grond              | 15.0            | 16.05    |                 | 0.13           |         |

## Schaduwfracties ramen

[illegible]



| Int Warmteproductie |           |           |          | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent    |          |                  |
|---------------------|-----------|-----------|----------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|-----------|----------|------------------|
| Tijd vak            | Pers [W]  | Verl [W]  | App [W]  | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]  | App [W]  | Infil-tratie [W] |
| 15                  | 69        | 46        | 0        | -10         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 16                  | 69        | 46        | 0        | -10         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 17                  | 69        | 46        | 0        | -10         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 18                  | 69        | 46        | 0        | -10         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 19                  | 69        | 46        | 0        | -10         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| <b>20</b>           | <b>69</b> | <b>46</b> | <b>0</b> | <b>-10</b>  | <b>0</b> | <b>0</b>    | <b>0</b> | <b>0</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>57</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 1 pers.     | 1.00 personen | 126                     | 0.70             | 1.20            | 0.55   | 1           |
| Verlichting |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 47.8 W        | 48                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| # | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|---|------------------|------------|---------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1 | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 7.83     |                 | 1.41           |         |
| 2 | Tussenwand       | 2          | wand    | 100     |         | 90ruimte  |                 | 8.96     |                 | 0.58           |         |
| 3 | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  |                 | 1.35     |                 | 0.58           |         |
| 4 | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  |                 | 8.96     |                 | 0.58           |         |
| 5 | Tussenwand       | 2          | wand    | 10      |         | 90ruimte  | 25.0            | 5.10     |                 | 0.58           |         |
| 6 | Tussenwand 250mm | 8          | wand    | 190     |         | 90ruimte  |                 | 3.90     |                 | 0.57           |         |
| 7 | Tussenwand 250mm | 8          | wand    | 190     |         | 90ruimte  |                 | 2.55     |                 | 0.57           |         |
| 8 | BG vloer Rc=3,70 | 3          | vloer   |         |         | grond     | 15.0            | 7.83     |                 | 0.13           |         |

## Schaduwfracties ramen



## Resultaten ruimte 0.28 Moeder-kindr.

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 17.90 m <sup>2</sup>     |
| Volume                    | 46.55 m <sup>3</sup>     |
| Vertrekmasse              | 1666.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | juli         |
| Tijdvak met maximale koellast | 14           |
| <b>Maximale koellast</b>      | <b>686 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 233                        | 62                         | 0               | 295             | 114           | 410           |
| 9            | 23.4                   | 25.0                   | 233                        | 121                        | 0               | 354             | 114           | 469           |
| 10           | 25.7                   | 25.0                   | 234                        | 186                        | 0               | 420             | 114           | 534           |
| 11           | 27.1                   | 25.0                   | 234                        | 235                        | 0               | 469             | 114           | 583           |
| 12           | 28.1                   | 25.0                   | 234                        | 274                        | 0               | 508             | 114           | 623           |
| 13           | 28.9                   | 25.0                   | 234                        | 308                        | 0               | 541             | 114           | 656           |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>234</b>                 | <b>338</b>                 | <b>0</b>        | <b>572</b>      | <b>114</b>    | <b>686</b>    |
| 15           | 30.4                   | 25.0                   | 234                        | 179                        | 0               | 413             | 114           | 528           |
| 16           | 31.0                   | 25.0                   | 234                        | 236                        | 0               | 470             | 114           | 585           |
| 17           | 31.5                   | 25.0                   | 234                        | 291                        | 0               | 525             | 114           | 639           |
| 18           | 31.4                   | 25.0                   | 234                        | 313                        | 0               | 547             | 114           | 662           |
| 19           | 31.0                   | 25.0                   | 234                        | 313                        | 0               | 547             | 114           | 661           |
| 20           | 30.3                   | 25.0                   | 234                        | 282                        | 0               | 516             | 114           | 630           |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 138         | 106         | 0          | -10               | -61         | 5                 | 115         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 9                   | 138         | 106         | 0          | -10               | -28         | 5                 | 141         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 10                  | 138         | 106         | 0          | -10               | 12          | 5                 | 167         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 11                  | 138         | 106         | 0          | -10               | 36          | 5                 | 191         | 3                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 12                  | 138         | 106         | 0          | -10               | 54          | 5                 | 213         | 3                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 13                  | 138         | 106         | 0          | -10               | 68          | 5                 | 233         | 3                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| <b>14</b>           | <b>138</b>  | <b>106</b>  | <b>0</b>   | <b>-10</b>        | <b>80</b>   | <b>5</b>          | <b>251</b>  | <b>3</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>114</b>  | <b>0</b>   | <b>0</b>                |





| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 138      | 106      | 0       | -10         | 89       | 5           | 81       | 5           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 16                  | 138      | 107      | 0       | -10         | 99       | 5           | 126      | 6           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 17                  | 138      | 107      | 0       | -10         | 107      | 5           | 172      | 7           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 18                  | 138      | 107      | 0       | -10         | 106      | 5           | 196      | 7           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 19                  | 138      | 107      | 0       | -10         | 99       | 5           | 202      | 7           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 20                  | 138      | 107      | 0       | -10         | 88       | 5           | 182      | 7           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 2 pers.     | 2.00 personen | 252                     | 0.70             | 1.20            | 0.55   | 1           |
| Verlichting |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 117.1 W       | 117                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 17.90    |                 | 1.41           |         |
| 2  | Tussenwand       | 2          | wand    | 10      | 90      | ruimte    | 28.0            | 2.11     |                 | 0.58           |         |
| 3  | Tussenwand       | 2          | wand    | 10      | 90      | ruimte    | 28.0            | 5.65     |                 | 0.58           |         |
| 4  | Tussenwand       | 2          | wand    | 190     | 90      | ruimte    |                 | 1.37     |                 | 0.58           |         |
| 5  | Tussenwand       | 2          | wand    | 100     | 90      | ruimte    |                 | 9.25     |                 | 0.58           |         |
| 6  | Tussenwand       | 2          | wand    | 100     | 90      | ruimte    | 25.0            | 9.23     |                 | 0.58           |         |
| 7  | Tussenwand 250mm | 8          | wand    | 190     | 90      | ruimte    |                 | 6.06     |                 | 0.57           |         |
| 8  | BG vloer Rc=3,70 | 3          | vloer   |         |         | grond     | 15.0            | 17.90    |                 | 0.13           |         |
| 9  | Gevel Rc=4,70    | 10         | wand    | 280 W   | 90      | buiten    |                 | 7.85     | 13.62           | 0.21           |         |
| 10 | Raam+bu.zw.      | 6          | kozijn  | 280 W   | 90      | buiten    |                 | 0.79     |                 | 1.65           |         |
| 11 | Raam+bu.zw.      | 5          | glas    | 280 W   | 90      | buiten    |                 | 4.46     |                 | 1.65           | 0.29    |
| 12 | Raam+bu.zw.      | 6          | kozijn  | 280 W   | 90      | buiten    |                 | 0.79     |                 | 1.65           |         |
| 13 | Raam+bu.zw.      | 5          | glas    | 280 W   | 90      | buiten    |                 | 4.46     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

|          | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties | 570 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fracties | 568 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|          | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |



|           | #   | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15   | 16   | 17   | 18   | 19   | 20   |
|-----------|-----|----|----|----|----|----|----|----|------|------|------|------|------|------|
| Zonwering | 570 | op | op | op | op | op | op | op | neer | neer | neer | neer | neer | neer |
| Zonwering | 568 | op | op | op | op | op | op | op | neer | neer | neer | neer | neer | neer |



## Resultaten ruimte 0.32a Woonkamer

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 25.08 m <sup>2</sup>     |
| Volume                    | 65.14 m <sup>3</sup>     |
| Vertrekmasse              | 1303.3 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2287 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 935                        | 284                        | 0               | 1218            | 572           | 1791          |
| 9            | 23.4                   | 25.0                   | 935                        | 305                        | 0               | 1240            | 572           | 1812          |
| 10           | 25.7                   | 25.0                   | 935                        | 407                        | 0               | 1342            | 572           | 1914          |
| 11           | 27.1                   | 25.0                   | 935                        | 482                        | 0               | 1417            | 572           | 1989          |
| 12           | 28.1                   | 25.0                   | 935                        | 535                        | 0               | 1470            | 572           | 2042          |
| 13           | 28.9                   | 25.0                   | 935                        | 566                        | 0               | 1501            | 572           | 2073          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>935</b>                 | <b>779</b>                 | <b>0</b>        | <b>1714</b>     | <b>572</b>    | <b>2287</b>   |
| 15           | 30.4                   | 25.0                   | 935                        | 734                        | 0               | 1670            | 572           | 2242          |
| 16           | 31.0                   | 25.0                   | 935                        | 721                        | 0               | 1656            | 572           | 2229          |
| 17           | 31.5                   | 25.0                   | 935                        | 721                        | 0               | 1656            | 572           | 2228          |
| 18           | 31.4                   | 25.0                   | 935                        | 689                        | 0               | 1625            | 572           | 2197          |
| 19           | 31.0                   | 25.0                   | 936                        | 667                        | 0               | 1602            | 572           | 2175          |
| 20           | 30.3                   | 25.0                   | 936                        | 683                        | 0               | 1618            | 572           | 2191          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 136         | 128        | -17               | -133        | -3                | 414         | 7                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 136         | 128        | -17               | -61         | -3                | 360         | 10                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 136         | 128        | -17               | 27          | -2                | 370         | 13                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 136         | 128        | -17               | 80          | -0                | 387         | 16                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 136         | 128        | -17               | 118         | 2                 | 398         | 18                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 136         | 128        | -17               | 148         | 3                 | 395         | 19                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 137         | 128        | -17               | 178         | 5                 | 582         | 14                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 688         | 137         | 128        | -17               | 209         | 7                 | 507         | 12                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 16                  | 688         | 137         | 128        | -17               | 232         | 8                 | 470         | 11                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 17                  | 688         | 137         | 128        | -17               | 251         | 9                 | 449         | 11                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 18                  | 688         | 137         | 128        | -17               | 247         | 10                | 421         | 11                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 19                  | 688         | 137         | 128        | -17               | 232         | 11                | 414         | 10                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 20                  | 688         | 137         | 128        | -17               | 205         | 11                | 456         | 10                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i>  | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|----------------|--|-----------------------------|----------------------------|---|------------------------|
| 10 pers.           | 10.00 personen | 1260                                   | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |                |  |                             |                            |   |                        |
| 5 W/m2             | 127.7 W        | 128                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |                |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 153.2 W        | 153                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving         | Constr<br>Ref | Type    | Ori<br>[°] | Hel<br>[°]<br>Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|----------------------|---------------|---------|------------|-------------------------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenvloer          | 1             | plafond |            | 0ruimte                 |                       | 22.70       |                    | 1.41              |            |
| 2  | Tussenvloer          | 1             | plafond |            | 0ruimte                 | 28.0                  | 2.41        |                    | 1.41              |            |
| 3  | Tussenwand           | 2             | wand    | 271        | 89ruimte                |                       | 8.52        |                    | 0.58              |            |
| 4  | Tussenwand           | 2             | wand    | 181        | 89ruimte                | 28.0                  | 8.40        |                    | 0.58              |            |
| 5  | Tussenwand           | 2             | wand    | 181        | 89ruimte                | 28.0                  | 12.49       |                    | 0.58              |            |
| 6  | BG vloer Rc=3,70     | 3             | vloer   |            | kruip                   | 15.0                  | 25.08       |                    | 0.25              |            |
| 7  | Gevel HSB<br>Rc=4,70 | 4             | wand    | 91 O       | 90buiten                |                       | 1.15        | 4.65               | 0.20              |            |
| 8  | Raam+bu.zw.          | 6             | kozijn  | 91 O       | 90buiten                |                       | 1.11        |                    | 1.65              |            |
| 9  | Raam+bu.zw.          | 5             | glas    | 91 O       | 90buiten                |                       | 6.27        |                    | 1.65              | 0.29       |
| 10 | Gevel HSB<br>Rc=4,70 | 4             | wand    | 1 N        | 89buiten                |                       | 4.34        | 10.96              | 0.20              |            |
| 11 | Raam                 | 13            | kozijn  | 1 N        | 89buiten                |                       | 2.41        |                    | 1.65              |            |
| 12 | Raam                 | 12            | glas    | 1 N        | 89buiten                |                       | 13.64       |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

[illegible]



|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 594 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 589 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |



## Resultaten ruimte 0.42 Aanlandplekken

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 55.09 m <sup>2</sup>     |
| Volume                    | 142.95 m <sup>3</sup>    |
| Vertrekmasa               | 1403.8 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juni          |
| Tijdvak met maximale koellast | 20            |
| <b>Maximale koellast</b>      | <b>3095 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 19.4                   | 25.0                   | 2015                       | 232                        | 0               | 2247            | 572           | 2819          |
| 9            | 22.4                   | 25.0                   | 2015                       | 263                        | 0               | 2278            | 572           | 2850          |
| 10           | 24.0                   | 25.0                   | 2015                       | 262                        | 0               | 2278            | 572           | 2850          |
| 11           | 26.1                   | 25.0                   | 2016                       | 309                        | 0               | 2325            | 572           | 2897          |
| 12           | 27.7                   | 25.0                   | 2016                       | 362                        | 0               | 2377            | 572           | 2950          |
| 13           | 28.7                   | 25.0                   | 2016                       | 406                        | 0               | 2422            | 572           | 2995          |
| 14           | 29.0                   | 25.0                   | 2016                       | 427                        | 0               | 2443            | 572           | 3016          |
| 15           | 29.7                   | 25.0                   | 2017                       | 448                        | 0               | 2465            | 572           | 3037          |
| 16           | 30.5                   | 25.0                   | 2017                       | 463                        | 0               | 2479            | 572           | 3052          |
| 17           | 30.3                   | 25.0                   | 2017                       | 446                        | 0               | 2463            | 572           | 3036          |
| 18           | 30.6                   | 25.0                   | 2017                       | 437                        | 0               | 2454            | 572           | 3026          |
| 19           | 31.2                   | 25.0                   | 2017                       | 474                        | 0               | 2491            | 572           | 3063          |
| <b>20</b>    | <b>29.4</b>            | <b>25.0</b>            | <b>2018</b>                | <b>505</b>                 | <b>0</b>        | <b>2523</b>     | <b>572</b>    | <b>3095</b>   |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 316         | 1140       | -128              | -129        | 4                 | 352         | 4                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 316         | 1140       | -128              | -60         | 4                 | 314         | 4                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 316         | 1140       | -128              | -23         | 4                 | 277         | 4                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 316         | 1140       | -128              | 25          | 4                 | 276         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 317         | 1140       | -128              | 62          | 4                 | 292         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 317         | 1140       | -128              | 85          | 4                 | 314         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 317         | 1140       | -128              | 92          | 4                 | 327         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |



| Int Warmteproductie |            |            |             | Transmissie |            |             | Zon        |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|------------|-------------|-------------|------------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]   | App [W]     | Bi wand [W] | Glas [W]   | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 688        | 317        | 1140        | -128        | 108        | 4           | 332        | 3           | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 16                  | 688        | 317        | 1140        | -128        | 127        | 4           | 328        | 3           | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 17                  | 688        | 318        | 1140        | -128        | 122        | 4           | 317        | 3           | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 18                  | 688        | 318        | 1140        | -128        | 129        | 4           | 300        | 3           | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 19                  | 688        | 318        | 1140        | -128        | 143        | 4           | 322        | 4           | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| <b>20</b>           | <b>688</b> | <b>318</b> | <b>1140</b> | <b>-128</b> | <b>101</b> | <b>4</b>    | <b>395</b> | <b>5</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>572</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen            | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|---------------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.            | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten           |                |                         |                  |                 |  |             |
| 20 W/m <sup>2</sup> | 1139.7 W       | 1140                    |                  |                 | 1.00   | 1           |
| Verlichting         |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>  | 341.9 W        | 342                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|------------------|------------|---------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 4.73                  |                              | 1.41                        |         |
| 2  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   | 28.0            | 0.19                  |                              | 1.41                        |         |
| 3  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 18.67                 |                              | 1.41                        |         |
| 4  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 13.18                 |                              | 1.41                        |         |
| 5  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 18.67                 |                              | 1.41                        |         |
| 6  | Tussenwand       | 2          | wand    | 271     |         | 90ruimte  |                 | 13.43                 |                              | 0.58                        |         |
| 7  | Tussenwand       | 2          | wand    | 91      |         | 90ruimte  |                 | 9.03                  |                              | 0.58                        |         |
| 8  | Tussenwand       | 2          | wand    | 1       |         | 89ruimte  |                 | 10.29                 |                              | 0.58                        |         |
| 9  | Tussenwand       | 2          | wand    | 181     |         | 90ruimte  |                 | 34.70                 |                              | 0.58                        |         |
| 10 | Tussenwand       | 2          | wand    | 91      |         | 90ruimte  | 28.0            | 4.53                  |                              | 0.58                        |         |
| 11 | Tussenwand       | 2          | wand    | 181     |         | 89ruimte  | 28.0            | 1.48                  |                              | 0.58                        |         |
| 12 | BG vloer Rc=3,70 | 3          | vloer   |         |         | kruip     | 15.0            | 55.09                 |                              | 0.25                        |         |
| 13 | Gevel Rc=4,70    | 10         | wand    | 1 N     |         | 90buiten  |                 | 11.27                 | 17.98                        | 0.21                        |         |
| 14 | Raam             | 13         | kozijn  | 1 N     |         | 90buiten  |                 | 0.52                  |                              | 1.65                        |         |
| 15 | Raam             | 12         | glas    | 1 N     |         | 90buiten  |                 | 2.96                  |                              | 1.65                        | 0.29    |
| 16 | Raam             | 13         | kozijn  | 1 N     |         | 90buiten  |                 | 0.79                  |                              | 1.65                        |         |
| 17 | Raam             | 12         | glas    | 1 N     |         | 90buiten  |                 | 4.46                  |                              | 1.65                        | 0.29    |
| 18 | Raam             | 13         | kozijn  | 1 N     |         | 90buiten  |                 | 0.79                  |                              | 1.65                        |         |
| 19 | Raam             | 12         | glas    | 1 N     |         | 90buiten  |                 | 4.46                  |                              | 1.65                        | 0.29    |







## Resultaten ruimte 0.43 Commandokamer

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 12.47 m <sup>2</sup>     |
| Volume                    | 32.25 m <sup>3</sup>     |
| Vertrekmasse              | 1573.3 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | juni         |
| Tijdvak met maximale koellast | 20           |
| <b>Maximale koellast</b>      | <b>888 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 19.4                   | 25.0                   | 516                        | 94                         | 0               | 611             | 172           | 782           |
| 9            | 22.4                   | 25.0                   | 517                        | 106                        | 0               | 622             | 172           | 794           |
| 10           | 24.0                   | 25.0                   | 517                        | 104                        | 0               | 621             | 172           | 793           |
| 11           | 26.1                   | 25.0                   | 517                        | 123                        | 0               | 639             | 172           | 811           |
| 12           | 27.7                   | 25.0                   | 517                        | 144                        | 0               | 661             | 172           | 832           |
| 13           | 28.7                   | 25.0                   | 517                        | 162                        | 0               | 679             | 172           | 850           |
| 14           | 29.0                   | 25.0                   | 517                        | 171                        | 0               | 688             | 172           | 859           |
| 15           | 29.7                   | 25.0                   | 517                        | 179                        | 0               | 696             | 172           | 868           |
| 16           | 30.5                   | 25.0                   | 517                        | 184                        | 0               | 701             | 172           | 873           |
| 17           | 30.3                   | 25.0                   | 517                        | 178                        | 0               | 694             | 172           | 866           |
| 18           | 30.6                   | 25.0                   | 517                        | 173                        | 0               | 690             | 172           | 862           |
| 19           | 31.2                   | 25.0                   | 517                        | 186                        | 0               | 703             | 172           | 874           |
| <b>20</b>    | <b>29.4</b>            | <b>25.0</b>            | <b>517</b>                 | <b>199</b>                 | <b>0</b>        | <b>716</b>      | <b>172</b>    | <b>888</b>    |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 206         | 75          | 264        | -28               | -49         | 2                 | 139         | 2                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 9                   | 206         | 75          | 264        | -28               | -23         | 2                 | 125         | 2                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 10                  | 206         | 75          | 264        | -28               | -9          | 2                 | 110         | 2                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 11                  | 206         | 75          | 264        | -28               | 10          | 2                 | 110         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 12                  | 206         | 75          | 264        | -28               | 23          | 2                 | 117         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 13                  | 206         | 75          | 264        | -28               | 32          | 2                 | 127         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 14                  | 206         | 75          | 264        | -28               | 35          | 2                 | 133         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 206         | 75          | 264        | -28               | 41          | 2                 | 135         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 16                  | 206         | 75          | 264        | -28               | 48          | 2                 | 133         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 17                  | 206         | 75          | 264        | -28               | 46          | 2                 | 128         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 18                  | 206         | 75          | 264        | -28               | 49          | 2                 | 121         | 1                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 19                  | 206         | 75          | 264        | -28               | 54          | 2                 | 128         | 2                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |
| 20                  | 206         | 75          | 264        | -28               | 38          | 2                 | 157         | 2                 | 0                       | 0           | 0                       | 0                       | 172         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 3 pers.            | 3.00 personen | 378                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 20 W/m2            | 263.8 W       | 264                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 79.1 W        | 79                                     | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|-------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         | 0ruimte           | 28.0            | 0.03     |                 | 1.41           |         |
| 2  | Tussenvloer      | 1          | plafond |         | 0ruimte           | 28.0            | 0.45     |                 | 1.41           |         |
| 3  | Tussenvloer      | 1          | plafond |         | 0ruimte           |                 | 12.15    |                 | 1.41           |         |
| 4  | Tussenwand       | 2          | wand    | 91      | 90ruimte          |                 | 8.43     |                 | 0.58           |         |
| 5  | Tussenwand       | 2          | wand    | 271     | 90ruimte          |                 | 8.75     |                 | 0.58           |         |
| 6  | Tussenwand       | 2          | wand    | 181     | 90ruimte          |                 | 10.01    |                 | 0.58           |         |
| 7  | Tussenwand       | 2          | wand    | 91      | 89ruimte          | 28.0            | 0.79     |                 | 0.58           |         |
| 8  | BG vloer Rc=3,70 | 3          | vloer   |         | kruip             | 15.0            | 12.47    |                 | 0.25           |         |
| 9  | Gevel Rc=4,70    | 10         | wand    | 1 N     | 89buiten          |                 | 4.75     | 7.55            | 0.21           |         |
| 10 | Raam             | 13         | kozijn  | 1 N     | 89buiten          |                 | 0.79     |                 | 1.65           |         |
| 11 | Raam             | 12         | glas    | 1 N     | 89buiten          |                 | 4.46     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

[illegible]



## Resultaten ruimte 0.44 Operationele intell

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 31.67 m <sup>2</sup>     |
| Volume                    | 82.44 m <sup>3</sup>     |
| Vertrekmasa               | 1736.7 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juni          |
| Tijdvak met maximale koellast | 20            |
| <b>Maximale koellast</b>      | <b>1823 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 19.4                   | 25.0                   | 1200                       | 101                        | 0               | 1300            | 343           | 1644          |
| 9            | 22.4                   | 25.0                   | 1200                       | 126                        | 0               | 1326            | 343           | 1669          |
| 10           | 24.0                   | 25.0                   | 1200                       | 133                        | 0               | 1333            | 343           | 1676          |
| 11           | 26.1                   | 25.0                   | 1200                       | 163                        | 0               | 1363            | 343           | 1706          |
| 12           | 27.7                   | 25.0                   | 1200                       | 193                        | 0               | 1393            | 343           | 1736          |
| 13           | 28.7                   | 25.0                   | 1200                       | 217                        | 0               | 1417            | 343           | 1761          |
| 14           | 29.0                   | 25.0                   | 1201                       | 231                        | 0               | 1431            | 343           | 1775          |
| 15           | 29.7                   | 25.0                   | 1201                       | 246                        | 0               | 1447            | 343           | 1790          |
| 16           | 30.5                   | 25.0                   | 1201                       | 257                        | 0               | 1458            | 343           | 1802          |
| 17           | 30.3                   | 25.0                   | 1201                       | 250                        | 0               | 1451            | 343           | 1794          |
| 18           | 30.6                   | 25.0                   | 1201                       | 247                        | 0               | 1449            | 343           | 1792          |
| 19           | 31.2                   | 25.0                   | 1201                       | 270                        | 0               | 1471            | 343           | 1815          |
| 20           | 29.4                   | 25.0                   | 1202                       | 278                        | 0               | 1480            | 343           | 1823          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 413         | 186         | 681        | -80               | -84         | 8                 | 170         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 9                   | 413         | 186         | 681        | -80               | -39         | 8                 | 150         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 10                  | 413         | 187         | 681        | -80               | -15         | 8                 | 133         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 11                  | 413         | 187         | 681        | -80               | 16          | 8                 | 132         | 6                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 12                  | 413         | 187         | 681        | -80               | 40          | 8                 | 138         | 6                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 13                  | 413         | 187         | 681        | -80               | 55          | 8                 | 147         | 6                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 14                  | 413         | 187         | 681        | -80               | 60          | 8                 | 153         | 10                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 413         | 187         | 681        | -80               | 70          | 8                 | 155         | 12                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 16                  | 413         | 188         | 681        | -80               | 82          | 8                 | 153         | 14                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 17                  | 413         | 188         | 681        | -80               | 79          | 8                 | 149         | 14                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 18                  | 413         | 188         | 681        | -80               | 84          | 8                 | 142         | 14                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 19                  | 413         | 188         | 681        | -80               | 93          | 8                 | 155         | 15                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 20                  | 413         | 188         | 681        | -80               | 66          | 8                 | 189         | 15                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 6 pers.            | 6.00 personen | 756                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 20 W/m2            | 680.9 W       | 681                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 204.3 W       | 204                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving     | Constr<br>Ref | Type    | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|------------------|---------------|---------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenvloer      | 1             | plafond |            |            | 0ruimte   |                       | 31.67       |                    | 1.41              |            |
| 2  | Tussenwand       | 2             | wand    | 181        |            | 90ruimte  |                       | 12.27       |                    | 0.58              |            |
| 3  | Tussenwand       | 2             | wand    | 91         |            | 90ruimte  |                       | 13.43       |                    | 0.58              |            |
| 4  | Tussenwand       | 2             | wand    | 181        |            | 90ruimte  |                       | 0.61        |                    | 0.58              |            |
| 5  | Tussenwand       | 2             | wand    | 91         |            | 90ruimte  |                       | 3.78        |                    | 0.58              |            |
| 6  | BG vloer Rc=3,70 | 3             | vloer   |            |            | kruip     | 15.0                  | 31.67       |                    | 0.25              |            |
| 7  | Gevel Rc=4,70    | 10            | wand    | 1 N        |            | 90buiten  |                       | 5.70        | 11.55              | 0.21              |            |
| 8  | Raam             | 13            | kozijn  | 1 N        |            | 90buiten  |                       | 0.27        |                    | 1.65              |            |
| 9  | Raam             | 12            | glas    | 1 N        |            | 90buiten  |                       | 1.51        |                    | 1.65              | 0.29       |
| 10 | Raam             | 13            | kozijn  | 1 N        |            | 90buiten  |                       | 0.79        |                    | 1.65              |            |
| 11 | Raam             | 12            | glas    | 1 N        |            | 90buiten  |                       | 4.46        |                    | 1.65              | 0.29       |
| 12 | Gevel Rc=4,70    | 10            | wand    | 271 W      |            | 90buiten  |                       | 15.06       | 22.16              | 0.21              |            |
| 13 | Deur             | 11            | deur    | 271 W      |            | 90buiten  |                       | 2.01        |                    | 1.67              |            |

## Schaduwfracties ramen

[illegible]



**Vabi Elements Koellast 3.10.0.107**

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## Resultaten ruimte 0.46 Werkplekken

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 63.52 m <sup>2</sup>     |
| Volume                    | 164.51 m <sup>3</sup>    |
| Vertrekmasse              | 1648.2 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 18            |
| <b>Maximale koellast</b>      | <b>3497 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 2352                       | 47                         | 0               | 2399            | 572           | 2971          |
| 9            | 22.5                   | 25.0                   | 2352                       | 103                        | 0               | 2455            | 572           | 3027          |
| 10           | 24.9                   | 25.0                   | 2352                       | 46                         | 0               | 2398            | 572           | 2971          |
| 11           | 25.9                   | 25.0                   | 2353                       | 67                         | 0               | 2420            | 572           | 2992          |
| 12           | 27.6                   | 25.0                   | 2353                       | 106                        | 0               | 2459            | 572           | 3032          |
| 13           | 28.9                   | 25.0                   | 2353                       | 138                        | 0               | 2491            | 572           | 3064          |
| 14           | 29.6                   | 25.0                   | 2353                       | 166                        | 0               | 2520            | 572           | 3092          |
| 15           | 30.4                   | 25.0                   | 2354                       | 189                        | 0               | 2543            | 572           | 3115          |
| 16           | 30.6                   | 25.0                   | 2354                       | 197                        | 0               | 2551            | 572           | 3124          |
| 17           | 30.9                   | 25.0                   | 2354                       | 199                        | 0               | 2553            | 572           | 3125          |
| <b>18</b>    | <b>31.2</b>            | <b>25.0</b>            | <b>2355</b>                | <b>570</b>                 | <b>0</b>        | <b>2924</b>     | <b>572</b>    | <b>3497</b>   |
| 19           | 30.8                   | 25.0                   | 2355                       | 507                        | 0               | 2862            | 572           | 3434          |
| 20           | 29.4                   | 25.0                   | 2355                       | 330                        | 0               | 2685            | 572           | 3257          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 350         | 1307       | 7                 | -62         | 9                 | 98          | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 351         | 1307       | 7                 | -37         | 9                 | 125         | 6                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 351         | 1307       | 7                 | -1          | 9                 | 30          | 8                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 351         | 1307       | 7                 | 13          | 9                 | 37          | 9                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 352         | 1307       | 7                 | 37          | 9                 | 52          | 9                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 352         | 1307       | 7                 | 55          | 9                 | 65          | 9                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 352         | 1307       | 7                 | 65          | 9                 | 83          | 10                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |



| Int Warmteproductie |            |            |             | Transmissie |           | Zon         |            |             | Reductie         |          |                  |                  | Latent     |          |                  |
|---------------------|------------|------------|-------------|-------------|-----------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]   | App [W]     | Bi wand [W] | Glas [W]  | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 688        | 352        | 1307        | 7           | 76        | 9           | 94         | 10          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 16                  | 688        | 353        | 1307        | 7           | 79        | 9           | 99         | 10          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 17                  | 688        | 353        | 1307        | 7           | 83        | 9           | 97         | 10          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| <b>18</b>           | <b>688</b> | <b>353</b> | <b>1307</b> | <b>7</b>    | <b>92</b> | <b>9</b>    | <b>459</b> | <b>10</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>572</b> | <b>0</b> | <b>0</b>         |
| 19                  | 688        | 353        | 1307        | 7           | 86        | 9           | 405        | 7           | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 20                  | 688        | 354        | 1307        | 7           | 65        | 9           | 251        | 5           | 0                | 0        | 0                | 0                | 572        | 0        | 0                |

## Interne warmteproducties

| Personen    | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.    | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten   |                |                         |                  |                 |  |             |
| 20 W/m2     | 1306.5 W       | 1307                    |                  |                 | 1.00   | 1           |
| Verlichting |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 392.0 W        | 392                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving  | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|---------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 18.31    |                 | 1.41           |         |
| 2  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 1.42     |                 | 1.41           |         |
| 3  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 5.17     |                 | 1.41           |         |
| 4  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 2.46     |                 | 1.41           |         |
| 5  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 24.25    |                 | 1.41           |         |
| 6  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 12.29    |                 | 1.41           |         |
| 7  | Tussenwand    | 2          | wand    | 181     | 89ruimte           |                 | 3.09     |                 | 0.58           |         |
| 8  | Tussenwand    | 2          | wand    | 271     | 90ruimte           |                 | 10.31    |                 | 0.58           |         |
| 9  | Tussenwand    | 2          | wand    | 1       | 90ruimte           |                 | 0.58     |                 | 0.58           |         |
| 10 | Tussenwand    | 2          | wand    | 271     | 90ruimte           |                 | 3.48     |                 | 0.58           |         |
| 11 | Tussenwand    | 2          | wand    | 1       | 89ruimte           |                 | 34.70    |                 | 0.58           |         |
| 12 | Beton 220mm   | 9          | wand    | 181     | 89ruimte           | 28.0            | 5.90     |                 | 2.73           |         |
| 13 | Tussenwand    | 2          | wand    | 181     | 89ruimte           | 28.0            | 3.91     |                 | 0.58           |         |
| 14 | Tussenwand    | 2          | wand    | 91      | 89ruimte           | 28.0            | 14.38    |                 | 0.58           |         |
| 15 | Gevel Rc=4,70 | 10         | wand    | 181 Z   | 89buiten           |                 | 16.53    | 18.02           | 0.21           |         |
| 16 | Raam+bu.zw.   | 6          | kozijn  | 181 Z   | 89buiten           |                 | 0.79     |                 | 1.65           |         |
| 17 | Raam+bu.zw.   | 5          | glas    | 181 Z   | 89buiten           |                 | 4.46     |                 | 1.65           | 0.29    |
| 18 | Raam+bu.zw.   | 6          | kozijn  | 181 Z   | 89buiten           |                 | 0.27     |                 | 1.65           |         |
| 19 | Raam+bu.zw.   | 5          | glas    | 181 Z   | 89buiten           |                 | 1.51     |                 | 1.65           | 0.29    |
| 20 | Raam+bu.zw.   | 6          | kozijn  | 181 Z   | 89buiten           |                 | 0.29     |                 | 1.65           |         |

| #  | Omschrijving     | Constr<br>Ref | Type  | Ori<br>[°] | Hel<br>[°]<br>Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|------------------|---------------|-------|------------|-------------------------|-----------------------|-------------|--------------------|-------------------|------------|
| 21 | Raam+bu.zw.      | 5             | glas  | 181 Z      | 89buiten                |                       | 1.66        |                    | 1.65              | 0.29       |
| 22 | BG vloer Rc=3,70 | 3             | vloer |            | kruip                   | 15.0                  | 63.52       |                    | 0.25              |            |

## Schaduwfracties ramen

[illegible]





## Resultaten ruimte 0.47 Briefing

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 21.86 m <sup>2</sup>     |
| Volume                    | 56.76 m <sup>3</sup>     |
| Vertrekmasa               | 1820.5 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 18            |
| <b>Maximale koellast</b>      | <b>2128 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 882                        | 50                         | 0               | 933             | 572           | 1505          |
| 9            | 22.5                   | 25.0                   | 883                        | 103                        | 0               | 985             | 572           | 1557          |
| 10           | 24.9                   | 25.0                   | 883                        | 46                         | 0               | 928             | 572           | 1501          |
| 11           | 25.9                   | 25.0                   | 883                        | 88                         | 0               | 971             | 572           | 1543          |
| 12           | 27.6                   | 25.0                   | 883                        | 158                        | 0               | 1041            | 572           | 1613          |
| 13           | 28.9                   | 25.0                   | 883                        | 212                        | 0               | 1095            | 572           | 1667          |
| 14           | 29.6                   | 25.0                   | 883                        | 242                        | 0               | 1125            | 572           | 1697          |
| 15           | 30.4                   | 25.0                   | 883                        | 256                        | 0               | 1139            | 572           | 1712          |
| 16           | 30.6                   | 25.0                   | 883                        | 250                        | 0               | 1134            | 572           | 1706          |
| 17           | 30.9                   | 25.0                   | 884                        | 235                        | 0               | 1118            | 572           | 1691          |
| <b>18</b>    | <b>31.2</b>            | <b>25.0</b>            | <b>884</b>                 | <b>672</b>                 | <b>0</b>        | <b>1555</b>     | <b>572</b>    | <b>2128</b>   |
| 19           | 30.8                   | 25.0                   | 884                        | 556                        | 0               | 1440            | 572           | 2012          |
| 20           | 29.4                   | 25.0                   | 884                        | 351                        | 0               | 1235            | 572           | 1807          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 131         | 119        | -55               | -60         | 9                 | 98          | 4                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 131         | 119        | -55               | -36         | 9                 | 123         | 7                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 131         | 119        | -55               | -1          | 9                 | 30          | 8                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 131         | 119        | -55               | 12          | 9                 | 58          | 9                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 131         | 119        | -55               | 36          | 9                 | 104         | 9                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 132         | 119        | -55               | 54          | 9                 | 140         | 9                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 132         | 119        | -55               | 63          | 9                 | 158         | 12                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |



| Int Warmteproductie |            |            |            | Transmissie |           |             | Zon        |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|------------|------------|-------------|-----------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]   | App [W]    | Bi wand [W] | Glas [W]  | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 688        | 132        | 119        | -55         | 74        | 9           | 160        | 14          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 16                  | 688        | 132        | 119        | -55         | 77        | 9           | 150        | 15          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 17                  | 688        | 132        | 119        | -55         | 81        | 9           | 130        | 15          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| <b>18</b>           | <b>688</b> | <b>132</b> | <b>119</b> | <b>-55</b>  | <b>89</b> | <b>9</b>    | <b>559</b> | <b>15</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>572</b> | <b>0</b> | <b>0</b>         |
| 19                  | 688        | 132        | 119        | -55         | 84        | 9           | 451        | 13          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 20                  | 688        | 132        | 119        | -55         | 63        | 9           | 267        | 11          | 0                | 0        | 0                | 0                | 572        | 0        | 0                |

## Interne warmteproducties

| Personen                        | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|---------------------------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.                        | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>5 W/m <sup>2</sup> | 119.2 W        | 119                     |                  |                 | 1.00   | 1           |
| Verlichting                     |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>              | 143.0 W        | 143                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|------------------|------------|---------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 20.01                 |                              | 1.41                        |         |
| 2  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   |                 | 2.00                  |                              | 1.41                        |         |
| 3  | Tussenwand       | 2          | wand    | 1       |         | 90ruimte  |                 | 12.62                 |                              | 0.58                        |         |
| 4  | Tussenwand       | 2          | wand    | 1       |         | 90ruimte  |                 | 3.07                  |                              | 0.58                        |         |
| 5  | Tussenwand       | 2          | wand    | 91      |         | 89ruimte  |                 | 10.04                 |                              | 0.58                        |         |
| 6  | BG vloer Rc=3,70 | 3          | vloer   |         |         | kruip     | 15.0            | 21.86                 |                              | 0.25                        |         |
| 7  | Gevel Rc=4,70    | 10         | wand    | 271 W   |         | 90buiten  |                 | 10.03                 | 14.77                        | 0.21                        |         |
| 8  | Gevel Rc=4,70    | 10         | wand    | 181 Z   |         | 89buiten  |                 | 6.49                  | 13.05                        | 0.21                        |         |
| 9  | Raam+bu.zw.      | 6          | kozijn  | 181 Z   |         | 89buiten  |                 | 0.79                  |                              | 1.65                        |         |
| 10 | Raam+bu.zw.      | 5          | glas    | 181 Z   |         | 89buiten  |                 | 4.46                  |                              | 1.65                        | 0.29    |
| 11 | Raam+bu.zw.      | 6          | kozijn  | 181 Z   |         | 89buiten  |                 | 0.52                  |                              | 1.65                        |         |
| 12 | Raam+bu.zw.      | 5          | glas    | 181 Z   |         | 89buiten  |                 | 2.95                  |                              | 1.65                        | 0.29    |

## Schaduwfracties ramen

|          | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties | 590 | 1.000 | 1.000 | 0.995 | 0.022 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties | 578 | 1.000 | 1.000 | 1.000 | 0.955 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
|          | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |



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## Resultaten ruimte 1.02 Brigade adjudant

|                           |                         |
|---------------------------|-------------------------|
| Type ruimte               | verblijfsruimte         |
| Ontwerptemperatuur        | 25.0 °C                 |
| Toegelaten stijging       | 0.0 K                   |
| Overschrijdingsduur (Tod) | 0.0 uur                 |
| Vloeroppervlakte          | 22.52 m <sup>2</sup>    |
| Volume                    | 58.52 m <sup>3</sup>    |
| Vertrekmasa               | 981.3 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg              |
| Infiltratiedebiet         | 0.00000 1/h             |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2026 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 975                        | 289                        | 0               | 1264            | 286           | 1550          |
| 9            | 23.4                   | 25.0                   | 975                        | 308                        | 0               | 1282            | 286           | 1569          |
| 10           | 25.7                   | 25.0                   | 975                        | 406                        | 0               | 1381            | 286           | 1668          |
| 11           | 27.1                   | 25.0                   | 975                        | 479                        | 0               | 1454            | 286           | 1740          |
| 12           | 28.1                   | 25.0                   | 975                        | 530                        | 0               | 1506            | 286           | 1792          |
| 13           | 28.9                   | 25.0                   | 975                        | 560                        | 0               | 1535            | 286           | 1821          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>975</b>                 | <b>765</b>                 | <b>0</b>        | <b>1740</b>     | <b>286</b>    | <b>2026</b>   |
| 15           | 30.4                   | 25.0                   | 975                        | 723                        | 0               | 1698            | 286           | 1984          |
| 16           | 31.0                   | 25.0                   | 975                        | 710                        | 0               | 1685            | 286           | 1971          |
| 17           | 31.5                   | 25.0                   | 975                        | 709                        | 0               | 1685            | 286           | 1971          |
| 18           | 31.4                   | 25.0                   | 976                        | 679                        | 0               | 1655            | 286           | 1941          |
| 19           | 31.0                   | 25.0                   | 976                        | 659                        | 0               | 1635            | 286           | 1921          |
| 20           | 30.3                   | 25.0                   | 976                        | 677                        | 0               | 1652            | 286           | 1939          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 344         | 125         | 459        | 47                | -132        | -2                | 417         | 6                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 9                   | 344         | 125         | 459        | 47                | -61         | -2                | 361         | 9                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 10                  | 344         | 125         | 459        | 47                | 26          | -1                | 369         | 12                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 11                  | 344         | 125         | 459        | 47                | 79          | -0                | 385         | 15                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 12                  | 344         | 125         | 459        | 47                | 117         | 1                 | 395         | 17                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 13                  | 344         | 125         | 459        | 47                | 148         | 2                 | 393         | 18                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 14                  | 344         | 125         | 459        | 47                | 177         | 3                 | 572         | 13                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |

|             | Int Warmteproductie |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|-------------|---------------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak | Pers<br>[W]         | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15          | 344                 | 126         | 459        | 47                | 207         | 4                 | 501         | 10                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 16          | 344                 | 126         | 459        | 47                | 230         | 5                 | 465         | 9                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 17          | 344                 | 126         | 459        | 47                | 250         | 6                 | 445         | 9                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 18          | 344                 | 126         | 459        | 47                | 246         | 6                 | 418         | 9                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 19          | 344                 | 126         | 459        | 47                | 230         | 7                 | 413         | 9                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 20          | 344                 | 126         | 459        | 47                | 204         | 7                 | 458         | 9                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 5 pers.            | 5.00 personen | 630                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 20 W/m2            | 458.7 W       | 459                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 137.6 W       | 138                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving         | Constr<br>Ref | Type    | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|----------------------|---------------|---------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenvloer          | 1             | plafond |            |            | 0ruimte   |                       | 22.52       |                    | 1.41              |            |
| 2  | Tussenwand           | 2             | wand    | 181        |            | 89ruimte  | 28.0                  | 12.49       |                    | 0.58              |            |
| 3  | Tussenwand           | 2             | wand    | 181        |            | 89ruimte  | 28.0                  | 6.03        |                    | 0.58              |            |
| 4  | Tussenwand           | 2             | wand    | 271        |            | 89ruimte  | 28.0                  | 8.52        |                    | 0.58              |            |
| 5  | Tussenvloer          | 1             | vloer   |            |            | ruimte    |                       | 22.52       |                    | 1.41              |            |
| 6  | Gevel HSB<br>Rc=4,70 | 4             | wand    | 91 O       |            | 90buiten  |                       | 1.30        | 4.80               | 0.20              |            |
| 7  | Raam+bu.zw.          | 6             | kozijn  | 91 O       |            | 90buiten  |                       | 1.08        |                    | 1.65              |            |
| 8  | Raam+bu.zw.          | 5             | glas    | 91 O       |            | 90buiten  |                       | 6.14        |                    | 1.65              | 0.29       |
| 9  | Gevel HSB<br>Rc=4,70 | 4             | wand    | 1 N        |            | 90buiten  |                       | 2.05        | 8.32               | 0.20              |            |
| 10 | Raam                 | 13            | kozijn  | 1 N        |            | 90buiten  |                       | 2.41        |                    | 1.65              |            |
| 11 | Raam                 | 12            | glas    | 1 N        |            | 90buiten  |                       | 13.64       |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

[illegible]



|           | #   | 8    | 9    | 10   | 11   | 12   | 13   | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-----------|-----|------|------|------|------|------|------|----|----|----|----|----|----|----|
| Zonwering | 610 | neer | neer | neer | neer | neer | neer | op | op | op | op | op | op | op |

[illegible]



| Int Warmteproductie |           |           |            | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent    |          |                  |
|---------------------|-----------|-----------|------------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|-----------|----------|------------------|
| Tijd vak            | Pers [W]  | Verl [W]  | App [W]    | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]  | App [W]  | Infil-tratie [W] |
| 15                  | 69        | 55        | 207        | 164         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 16                  | 69        | 55        | 207        | 164         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 17                  | 69        | 55        | 207        | 164         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 18                  | 69        | 55        | 207        | 164         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| 19                  | 69        | 55        | 207        | 164         | 0        | 0           | 0        | 0           | 0                | 0        | 0                | 0                | 57        | 0        | 0                |
| <b>20</b>           | <b>69</b> | <b>55</b> | <b>207</b> | <b>164</b>  | <b>0</b> | <b>0</b>    | <b>0</b> | <b>0</b>    | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>57</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen            | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|---------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 1 pers.             | 1.00 personen | 126                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten           |               |                         |                  |                 |  |             |
| 20 W/m <sup>2</sup> | 207.1 W       | 207                     |                  |                 | 1.00   | 1           |
| Verlichting         |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>  | 62.1 W        | 62                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|--------------|------------|---------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenvloer  | 1          | plafond |         |         | 0ruimte   | 28.0            | 3.42                  |                              | 1.41                        |         |
| 2  | Tussenvloer  | 1          | plafond |         |         | 0ruimte   | 28.0            | 6.89                  |                              | 1.41                        |         |
| 3  | Tussenwand   | 2          | wand    | 280     |         | 90ruimte  | 28.0            | 5.43                  |                              | 0.58                        |         |
| 4  | Tussenwand   | 2          | wand    | 10      |         | 90ruimte  | 28.0            | 4.80                  |                              | 0.58                        |         |
| 5  | Beton 220mm  | 9          | wand    | 280     |         | 90ruimte  | 28.0            | 4.48                  |                              | 2.73                        |         |
| 6  | Tussenwand   | 2          | wand    | 10      |         | 90ruimte  | 28.0            | 3.26                  |                              | 0.58                        |         |
| 7  | Tussenwand   | 2          | wand    | 190     |         | 90ruimte  |                 | 7.83                  |                              | 0.58                        |         |
| 8  | Tussenwand   | 2          | wand    | 100     |         | 89ruimte  | 28.0            | 9.48                  |                              | 0.58                        |         |
| 9  | Tussenvloer  | 1          | vloer   |         |         | ruimte    | 28.0            | 1.90                  |                              | 1.41                        |         |
| 10 | Tussenvloer  | 1          | vloer   |         |         | ruimte    | 28.0            | 2.87                  |                              | 1.41                        |         |
| 11 | Tussenvloer  | 1          | vloer   |         |         | ruimte    | 28.0            | 5.56                  |                              | 1.41                        |         |

## Schaduwfracties ramen





## Resultaten ruimte 1.14 Support 1 ima

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 37.60 m <sup>2</sup>     |
| Volume                    | 96.03 m <sup>3</sup>     |
| Vertrekmasse              | 2118.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2627 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1861                       | 52                         | 0               | 1913            | 458           | 2371          |
| 9            | 23.4                   | 25.0                   | 1861                       | 78                         | 0               | 1939            | 458           | 2397          |
| 10           | 25.7                   | 25.0                   | 1861                       | 100                        | 0               | 1961            | 458           | 2419          |
| 11           | 27.1                   | 25.0                   | 1861                       | 109                        | 0               | 1970            | 458           | 2428          |
| 12           | 28.1                   | 25.0                   | 1862                       | 109                        | 0               | 1971            | 458           | 2428          |
| 13           | 28.9                   | 25.0                   | 1862                       | 102                        | 0               | 1964            | 458           | 2422          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1862</b>                | <b>307</b>                 | <b>0</b>        | <b>2169</b>     | <b>458</b>    | <b>2627</b>   |
| 15           | 30.4                   | 25.0                   | 1862                       | 213                        | 0               | 2075            | 458           | 2533          |
| 16           | 31.0                   | 25.0                   | 1862                       | 168                        | 0               | 2030            | 458           | 2488          |
| 17           | 31.5                   | 25.0                   | 1862                       | 149                        | 0               | 2011            | 458           | 2469          |
| 18           | 31.4                   | 25.0                   | 1862                       | 141                        | 0               | 2003            | 458           | 2461          |
| 19           | 31.0                   | 25.0                   | 1863                       | 130                        | 0               | 1992            | 458           | 2450          |
| 20           | 30.3                   | 25.0                   | 1863                       | 115                        | 0               | 1978            | 458           | 2436          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 550         | 213         | 766        | 332               | -22         | 9                 | 54          | 10                | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 9                   | 550         | 213         | 766        | 332               | -10         | 9                 | 68          | 10                | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 10                  | 550         | 213         | 766        | 332               | 4           | 9                 | 76          | 11                | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 11                  | 550         | 214         | 766        | 332               | 13          | 9                 | 76          | 11                | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 12                  | 550         | 214         | 766        | 332               | 19          | 9                 | 70          | 11                | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 13                  | 550         | 214         | 766        | 332               | 24          | 9                 | 58          | 11                | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| <b>14</b>           | <b>550</b>  | <b>214</b>  | <b>766</b> | <b>332</b>        | <b>30</b>   | <b>9</b>          | <b>257</b>  | <b>11</b>         | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>458</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 550      | 214      | 766     | 332         | 35       | 9           | 162      | 8           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 16                  | 550      | 214      | 766     | 332         | 39       | 9           | 115      | 5           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 17                  | 550      | 215      | 766     | 332         | 42       | 9           | 93       | 4           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 18                  | 550      | 215      | 766     | 332         | 41       | 9           | 86       | 4           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 19                  | 550      | 215      | 766     | 332         | 39       | 9           | 77       | 4           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 20                  | 550      | 215      | 766     | 332         | 34       | 9           | 67       | 4           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 8 pers.     | 8.00 personen | 1008                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten   |               |                         |                  |                 |  |             |
| 20 W/m2     | 766.0 W       | 766                     |                  |                 | 1.00   | 1           |
| Verlichting |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 229.8 W       | 230                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving  | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|---------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 10.72    |                 | 1.41           |         |
| 2  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 17.32    |                 | 1.41           |         |
| 3  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 9.16     |                 | 1.41           |         |
| 4  | Tussenwand    | 2          | wand    | 280     | 90ruimte           | 28.0            | 18.73    |                 | 0.58           |         |
| 5  | Tussenwand    | 2          | wand    | 10      | 90ruimte           |                 | 8.10     |                 | 0.58           |         |
| 6  | Tussenwand    | 2          | wand    | 190     | 90ruimte           |                 | 13.42    |                 | 0.58           |         |
| 7  | Tussenwand    | 2          | wand    | 10      | 90ruimte           | 28.0            | 5.96     |                 | 0.58           |         |
| 8  | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 5.67     |                 | 1.41           |         |
| 9  | Tussenvloer   | 1          | vloer   |         | ruimte             | 28.0            | 3.94     |                 | 1.41           |         |
| 10 | Tussenvloer   | 1          | vloer   |         | ruimte             | 28.0            | 3.94     |                 | 1.41           |         |
| 11 | Tussenvloer   | 1          | vloer   |         | ruimte             | 28.0            | 8.25     |                 | 1.41           |         |
| 12 | Tussenvloer   | 1          | vloer   |         | ruimte             | 28.0            | 15.06    |                 | 1.41           |         |
| 13 | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 0.74     |                 | 1.41           |         |
| 14 | Gevel Rc=4,70 | 10         | wand    | 100 O   | 90buiten           |                 | 14.81    | 20.20           | 0.21           |         |
| 15 | Raam+bu.zw.   | 6          | kozijn  | 100 O   | 90buiten           |                 | 0.29     |                 | 1.65           |         |
| 16 | Raam+bu.zw.   | 5          | glas    | 100 O   | 90buiten           |                 | 1.66     |                 | 1.65           | 0.29    |
| 17 | Raam+bu.zw.   | 6          | kozijn  | 100 O   | 90buiten           |                 | 0.29     |                 | 1.65           |         |
| 18 | Raam+bu.zw.   | 5          | glas    | 100 O   | 90buiten           |                 | 1.66     |                 | 1.65           | 0.29    |



## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 597 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Fracties  | 587 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 597 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |
| Zonwering | 587 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |



## Resultaten ruimte 1.15 SOO

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 36.92 m <sup>2</sup>     |
| Volume                    | 95.14 m <sup>3</sup>     |
| Vertrekmasa               | 2009.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2644 W</b> |

## Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1544                       | 93                         | 0               | 1637            | 343           | 1980          |
| 9            | 23.4                   | 25.0                   | 1544                       | 158                        | 0               | 1702            | 343           | 2045          |
| 10           | 25.7                   | 25.0                   | 1544                       | 213                        | 0               | 1757            | 343           | 2101          |
| 11           | 27.1                   | 25.0                   | 1544                       | 237                        | 0               | 1781            | 343           | 2125          |
| 12           | 28.1                   | 25.0                   | 1544                       | 239                        | 0               | 1783            | 343           | 2127          |
| 13           | 28.9                   | 25.0                   | 1544                       | 225                        | 0               | 1769            | 343           | 2112          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1545</b>                | <b>756</b>                 | <b>0</b>        | <b>2300</b>     | <b>343</b>    | <b>2644</b>   |
| 15           | 30.4                   | 25.0                   | 1545                       | 527                        | 0               | 2072            | 343           | 2415          |
| 16           | 31.0                   | 25.0                   | 1545                       | 413                        | 0               | 1958            | 343           | 2301          |
| 17           | 31.5                   | 25.0                   | 1545                       | 364                        | 0               | 1909            | 343           | 2252          |
| 18           | 31.4                   | 25.0                   | 1545                       | 346                        | 0               | 1891            | 343           | 2235          |
| 19           | 31.0                   | 25.0                   | 1545                       | 320                        | 0               | 1865            | 343           | 2208          |
| 20           | 30.3                   | 25.0                   | 1545                       | 284                        | 0               | 1830            | 343           | 2173          |

## Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 413         | 216         | 767        | 148               | -58         | 5                 | 139         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 9                   | 413         | 216         | 767        | 148               | -26         | 5                 | 172         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 10                  | 413         | 216         | 767        | 148               | 12          | 5                 | 190         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 11                  | 413         | 216         | 767        | 148               | 35          | 5                 | 191         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 12                  | 413         | 217         | 767        | 148               | 51          | 5                 | 176         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 13                  | 413         | 217         | 767        | 148               | 64          | 5                 | 148         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| <b>14</b>           | <b>413</b>  | <b>217</b>  | <b>767</b> | <b>148</b>        | <b>80</b>   | <b>5</b>          | <b>664</b>  | <b>7</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>343</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 413      | 217      | 767     | 148         | 94       | 5           | 424      | 5           | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 16                  | 413      | 217      | 767     | 148         | 104      | 5           | 301      | 4           | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 17                  | 413      | 217      | 767     | 148         | 113      | 5           | 243      | 3           | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 18                  | 413      | 217      | 767     | 148         | 111      | 5           | 227      | 3           | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 19                  | 413      | 217      | 767     | 148         | 104      | 5           | 208      | 3           | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 20                  | 413      | 218      | 767     | 148         | 92       | 5           | 185      | 3           | 0                | 0        | 0                | 0                | 343      | 0       | 0                |

## Interne warmteproducties

| Personen             | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 6 pers.              | 6.00 personen | 756                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m2 | 766.8 W       | 767                     |                  |                 | 1.00   | 1           |
| Verlichting          |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2               | 230.1 W       | 230                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         | 0ruimte            | 25.0            | 36.61    |                 | 1.41           |         |
| 2  | Tussenwand       | 2          | wand    | 280     | 89ruimte           | 28.0            | 18.27    |                 | 0.58           |         |
| 3  | Tussenwand 250mm | 8          | wand    | 190     | 90ruimte           |                 | 13.42    |                 | 0.57           |         |
| 4  | Tussenwand       | 2          | wand    | 10      | 90ruimte           |                 | 13.42    |                 | 0.58           |         |
| 5  | Tussenvloer      | 1          | vloer   |         | ruimte             | 28.0            | 11.97    |                 | 1.41           |         |
| 6  | Tussenvloer      | 1          | vloer   |         | ruimte             | 28.0            | 7.76     |                 | 1.41           |         |
| 7  | Tussenvloer      | 1          | vloer   |         | ruimte             | 28.0            | 7.88     |                 | 1.41           |         |
| 8  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 6.22     |                 | 1.41           |         |
| 9  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 3.08     |                 | 1.41           |         |
| 10 | Gevel Rc=4,70    | 10         | wand    | 100 O   | 90buiten           |                 | 7.77     | 13.62           | 0.21           |         |
| 11 | Raam+bu.zw.      | 6          | kozijn  | 100 O   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 12 | Raam+bu.zw.      | 5          | glas    | 100 O   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |
| 13 | Raam+bu.zw.      | 6          | kozijn  | 100 O   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 14 | Raam+bu.zw.      | 5          | glas    | 100 O   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

# 8 9 10 11 12 13 14 15 16 17 18 19 20



|                  |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <i>Fracties</i>  | 598 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| <i>Fracties</i>  | 565 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
|                  | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |       |
| <i>Zonwering</i> | 598 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    | op    |
| <i>Zonwering</i> | 565 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    | op    |



## Resultaten ruimte 1.17 Support P&A

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 34.29 m <sup>2</sup>     |
| Volume                    | 88.42 m <sup>3</sup>     |
| Vertrekmasa               | 2055.4 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>1861 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1394                       | 50                         | 0               | 1444            | 229           | 1673          |
| 9            | 23.4                   | 25.0                   | 1394                       | 91                         | 0               | 1484            | 229           | 1713          |
| 10           | 25.7                   | 25.0                   | 1394                       | 135                        | 0               | 1529            | 229           | 1758          |
| 11           | 27.1                   | 25.0                   | 1394                       | 168                        | 0               | 1562            | 229           | 1791          |
| 12           | 28.1                   | 25.0                   | 1394                       | 195                        | 0               | 1589            | 229           | 1818          |
| 13           | 28.9                   | 25.0                   | 1394                       | 217                        | 0               | 1612            | 229           | 1841          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1394</b>                | <b>238</b>                 | <b>0</b>        | <b>1632</b>     | <b>229</b>    | <b>1861</b>   |
| 15           | 30.4                   | 25.0                   | 1395                       | 129                        | 0               | 1524            | 229           | 1752          |
| 16           | 31.0                   | 25.0                   | 1395                       | 169                        | 0               | 1563            | 229           | 1792          |
| 17           | 31.5                   | 25.0                   | 1395                       | 206                        | 0               | 1601            | 229           | 1830          |
| 18           | 31.4                   | 25.0                   | 1395                       | 221                        | 0               | 1616            | 229           | 1845          |
| 19           | 31.0                   | 25.0                   | 1395                       | 221                        | 0               | 1616            | 229           | 1845          |
| 20           | 30.3                   | 25.0                   | 1395                       | 199                        | 0               | 1594            | 229           | 1823          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 275         | 195         | 706        | 218               | -42         | 6                 | 83          | 3                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 9                   | 275         | 195         | 706        | 218               | -19         | 6                 | 101         | 3                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 10                  | 275         | 195         | 706        | 218               | 8           | 6                 | 118         | 3                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 11                  | 275         | 195         | 706        | 218               | 25          | 6                 | 134         | 3                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 12                  | 275         | 195         | 706        | 218               | 37          | 6                 | 149         | 3                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 13                  | 275         | 195         | 706        | 218               | 46          | 6                 | 162         | 3                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| <b>14</b>           | <b>275</b>  | <b>196</b>  | <b>706</b> | <b>218</b>        | <b>55</b>   | <b>6</b>          | <b>174</b>  | <b>3</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>229</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 275      | 196      | 706     | 218         | 61       | 6           | 56       | 5           | 0                | 0        | 0                | 0                | 229      | 0       | 0                |
| 16                  | 275      | 196      | 706     | 218         | 68       | 6           | 88       | 7           | 0                | 0        | 0                | 0                | 229      | 0       | 0                |
| 17                  | 275      | 196      | 706     | 218         | 74       | 6           | 119      | 8           | 0                | 0        | 0                | 0                | 229      | 0       | 0                |
| 18                  | 275      | 196      | 706     | 218         | 73       | 6           | 135      | 8           | 0                | 0        | 0                | 0                | 229      | 0       | 0                |
| 19                  | 275      | 196      | 706     | 218         | 68       | 6           | 138      | 8           | 0                | 0        | 0                | 0                | 229      | 0       | 0                |
| 20                  | 275      | 196      | 706     | 218         | 60       | 6           | 125      | 8           | 0                | 0        | 0                | 0                | 229      | 0       | 0                |

## Interne warmteproducties

| Personen                         | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 4 pers.                          | 4.00 personen | 504                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m <sup>2</sup> | 705.9 W       | 706                     |                  |                 | 1.00   | 1           |
| Verlichting                      |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>               | 211.8 W       | 212                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving  | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|---------------|------------|---------|---------|--------------------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 1.50                  |                              | 1.41                        |         |
| 2  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 16.84                 |                              | 1.41                        |         |
| 3  | Tussenvloer   | 1          | plafond |         | 0ruimte            | 28.0            | 15.81                 |                              | 1.41                        |         |
| 4  | Tussenwand    | 2          | wand    | 100     | 89ruimte           | 28.0            | 17.56                 |                              | 0.58                        |         |
| 5  | Tussenwand    | 2          | wand    | 190     | 90ruimte           |                 | 13.34                 |                              | 0.58                        |         |
| 6  | Tussenwand    | 2          | wand    | 10      | 90ruimte           | 28.0            | 13.32                 |                              | 0.58                        |         |
| 7  | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 1.70                  |                              | 1.41                        |         |
| 8  | Tussenvloer   | 1          | vloer   |         | ruimte             | 28.0            | 0.98                  |                              | 1.41                        |         |
| 9  | Tussenvloer   | 1          | vloer   |         | ruimte             | 28.0            | 3.77                  |                              | 1.41                        |         |
| 10 | Tussenvloer   | 1          | vloer   |         | ruimte             | 25.0            | 23.77                 |                              | 1.41                        |         |
| 11 | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 4.07                  |                              | 1.41                        |         |
| 12 | Gevel Rc=4,70 | 10         | wand    | 280 W   | 90buiten           |                 | 10.11                 | 15.27                        | 0.21                        |         |
| 13 | Raam+bu.zw.   | 6          | kozijn  | 280 W   | 90buiten           |                 | 0.29                  |                              | 1.65                        |         |
| 14 | Raam+bu.zw.   | 5          | glas    | 280 W   | 90buiten           |                 | 1.66                  |                              | 1.65                        | 0.29    |
| 15 | Raam+bu.zw.   | 6          | kozijn  | 280 W   | 90buiten           |                 | 0.79                  |                              | 1.65                        |         |
| 16 | Raam+bu.zw.   | 5          | glas    | 280 W   | 90buiten           |                 | 4.46                  |                              | 1.65                        | 0.29    |

## Schaduwfracties ramen





|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 596 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fracties  | 574 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 596 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |
| Zonwering | 574 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



## Resultaten ruimte 1.18 Administratie

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 36.30 m <sup>2</sup>     |
| Volume                    | 94.04 m <sup>3</sup>     |
| Vertrekmasa               | 1756.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2344 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1554                       | 75                         | 0               | 1629            | 458           | 2087          |
| 9            | 23.4                   | 25.0                   | 1555                       | 130                        | 0               | 1684            | 458           | 2142          |
| 10           | 25.7                   | 25.0                   | 1555                       | 191                        | 0               | 1746            | 458           | 2204          |
| 11           | 27.1                   | 25.0                   | 1555                       | 236                        | 0               | 1791            | 458           | 2249          |
| 12           | 28.1                   | 25.0                   | 1555                       | 272                        | 0               | 1827            | 458           | 2285          |
| 13           | 28.9                   | 25.0                   | 1555                       | 303                        | 0               | 1858            | 458           | 2316          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1555</b>                | <b>331</b>                 | <b>0</b>        | <b>1886</b>     | <b>458</b>    | <b>2344</b>   |
| 15           | 30.4                   | 25.0                   | 1555                       | 179                        | 0               | 1734            | 458           | 2192          |
| 16           | 31.0                   | 25.0                   | 1556                       | 233                        | 0               | 1788            | 458           | 2246          |
| 17           | 31.5                   | 25.0                   | 1556                       | 283                        | 0               | 1839            | 458           | 2297          |
| 18           | 31.4                   | 25.0                   | 1556                       | 303                        | 0               | 1858            | 458           | 2316          |
| 19           | 31.0                   | 25.0                   | 1556                       | 301                        | 0               | 1857            | 458           | 2315          |
| 20           | 30.3                   | 25.0                   | 1556                       | 272                        | 0               | 1828            | 458           | 2285          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 550         | 214         | 759        | 32                | -61         | 5                 | 128         | 2                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 9                   | 550         | 214         | 759        | 32                | -28         | 5                 | 150         | 2                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 10                  | 550         | 214         | 759        | 32                | 12          | 5                 | 172         | 2                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 11                  | 550         | 214         | 759        | 32                | 36          | 5                 | 192         | 3                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 12                  | 550         | 214         | 759        | 32                | 54          | 5                 | 211         | 3                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 13                  | 550         | 214         | 759        | 32                | 68          | 5                 | 228         | 3                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| <b>14</b>           | <b>550</b>  | <b>214</b>  | <b>759</b> | <b>32</b>         | <b>80</b>   | <b>5</b>          | <b>244</b>  | <b>3</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>458</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 550      | 215      | 759     | 32          | 89       | 5           | 80       | 5           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 16                  | 550      | 215      | 759     | 32          | 99       | 5           | 123      | 6           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 17                  | 550      | 215      | 759     | 32          | 107      | 5           | 164      | 7           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 18                  | 550      | 215      | 759     | 32          | 106      | 5           | 185      | 7           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 19                  | 550      | 215      | 759     | 32          | 99       | 5           | 190      | 7           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 20                  | 550      | 215      | 759     | 32          | 88       | 5           | 172      | 7           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 8 pers.     | 8.00 personen | 1008                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten   |               |                         |                  |                 |  |             |
| 20 W/m2     | 758.7 W       | 759                     |                  |                 | 1.00   | 1           |
| Verlichting |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 227.6 W       | 228                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         | 0ruimte            | 25.0            | 36.17    |                 | 1.41           |         |
| 2  | Tussenwand       | 2          | wand    | 100     | 89ruimte           | 28.0            | 18.27    |                 | 0.58           |         |
| 3  | Tussenwand 250mm | 8          | wand    | 190     | 90ruimte           |                 | 13.22    |                 | 0.57           |         |
| 4  | Tussenwand       | 2          | wand    | 10      | 90ruimte           |                 | 13.34    |                 | 0.58           |         |
| 5  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 1.87     |                 | 1.41           |         |
| 6  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 0.93     |                 | 1.41           |         |
| 7  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 18.32    |                 | 1.41           |         |
| 8  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 8.34     |                 | 1.41           |         |
| 9  | Tussenvloer      | 1          | vloer   |         | ruimte             | 25.0            | 6.84     |                 | 1.41           |         |
| 10 | Gevel Rc=4,70    | 10         | wand    | 280 W   | 90buiten           |                 | 7.85     | 13.62           | 0.21           |         |
| 11 | Raam+bu.zw.      | 6          | kozijn  | 280 W   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 12 | Raam+bu.zw.      | 5          | glas    | 280 W   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |
| 13 | Raam+bu.zw.      | 6          | kozijn  | 280 W   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 14 | Raam+bu.zw.      | 5          | glas    | 280 W   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

# 8 9 10 11 12 13 14 15 16 17 18 19 20



|                  |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <i>Fracties</i>  | 599 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| <i>Fracties</i>  | 593 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|                  | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |       |
| <i>Zonwering</i> | 599 | op    | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |
| <i>Zonwering</i> | 593 | op    | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



## Resultaten ruimte 1.20 Recherche

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 37.57 m <sup>2</sup>     |
| Volume                    | 95.94 m <sup>3</sup>     |
| Vertrekmasa               | 2018.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2861 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1701                       | 84                         | 0               | 1785            | 458           | 2243          |
| 9            | 23.4                   | 25.0                   | 1701                       | 143                        | 0               | 1845            | 458           | 2302          |
| 10           | 25.7                   | 25.0                   | 1702                       | 195                        | 0               | 1897            | 458           | 2355          |
| 11           | 27.1                   | 25.0                   | 1702                       | 218                        | 0               | 1920            | 458           | 2378          |
| 12           | 28.1                   | 25.0                   | 1702                       | 221                        | 0               | 1923            | 458           | 2381          |
| 13           | 28.9                   | 25.0                   | 1702                       | 211                        | 0               | 1913            | 458           | 2371          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1702</b>                | <b>701</b>                 | <b>0</b>        | <b>2403</b>     | <b>458</b>    | <b>2861</b>   |
| 15           | 30.4                   | 25.0                   | 1702                       | 499                        | 0               | 2201            | 458           | 2659          |
| 16           | 31.0                   | 25.0                   | 1703                       | 393                        | 0               | 2096            | 458           | 2553          |
| 17           | 31.5                   | 25.0                   | 1703                       | 346                        | 0               | 2049            | 458           | 2507          |
| 18           | 31.4                   | 25.0                   | 1703                       | 333                        | 0               | 2035            | 458           | 2493          |
| 19           | 31.0                   | 25.0                   | 1703                       | 310                        | 0               | 2013            | 458           | 2471          |
| 20           | 30.3                   | 25.0                   | 1703                       | 280                        | 0               | 1983            | 458           | 2441          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 550         | 213         | 779        | 159               | -58         | 5                 | 130         | 7                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 9                   | 550         | 213         | 779        | 159               | -26         | 5                 | 157         | 7                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 10                  | 550         | 214         | 779        | 159               | 12          | 5                 | 171         | 7                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 11                  | 550         | 214         | 779        | 159               | 35          | 5                 | 171         | 7                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 12                  | 550         | 214         | 779        | 159               | 51          | 5                 | 158         | 7                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| 13                  | 550         | 214         | 779        | 159               | 64          | 5                 | 134         | 8                 | 0                       | 0           | 0                       | 0                       | 458         | 0          | 0                       |
| <b>14</b>           | <b>550</b>  | <b>214</b>  | <b>779</b> | <b>159</b>        | <b>80</b>   | <b>5</b>          | <b>609</b>  | <b>8</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>458</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 550      | 214      | 779     | 159         | 94       | 5           | 395      | 5           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 16                  | 550      | 214      | 779     | 159         | 104      | 5           | 280      | 4           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 17                  | 550      | 215      | 779     | 159         | 113      | 5           | 226      | 3           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 18                  | 550      | 215      | 779     | 159         | 111      | 5           | 214      | 3           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 19                  | 550      | 215      | 779     | 159         | 104      | 5           | 198      | 3           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |
| 20                  | 550      | 215      | 779     | 159         | 92       | 5           | 180      | 3           | 0                | 0        | 0                | 0                | 458      | 0       | 0                |

## Interne warmteproducties

| Personen             | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 8 pers.              | 8.00 personen | 1008                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m2 | 779.3 W       | 779                     |                  |                 | 1.00   | 1           |
| Verlichting          |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2               | 233.8 W       | 234                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         |         | 0ruimte   | 25.0            | 36.91    |                 | 1.41           |         |
| 2  | Tussenwand       | 2          | wand    | 280     |         | 90ruimte  | 28.0            | 18.40    |                 | 0.58           |         |
| 3  | Tussenwand 250mm | 8          | wand    | 10      |         | 90ruimte  |                 | 13.42    |                 | 0.57           |         |
| 4  | Beton 220mm      | 9          | wand    | 190     |         | 90ruimte  | 28.0            | 5.87     |                 | 2.73           |         |
| 5  | Beton 220mm      | 9          | wand    | 190     |         | 90ruimte  |                 | 8.06     |                 | 2.73           |         |
| 6  | Tussenvloer      | 1          | vloer   |         |         | ruimte    | 28.0            | 5.87     |                 | 1.41           |         |
| 7  | Tussenvloer      | 1          | vloer   |         |         | ruimte    |                 | 7.93     |                 | 1.41           |         |
| 8  | Tussenvloer      | 1          | vloer   |         |         | ruimte    |                 | 11.06    |                 | 1.41           |         |
| 9  | Tussenvloer      | 1          | vloer   |         |         | ruimte    | 28.0            | 5.21     |                 | 1.41           |         |
| 10 | Tussenvloer      | 1          | vloer   |         |         | ruimte    | 28.0            | 7.49     |                 | 1.41           |         |
| 11 | Gevel Rc=4,70    | 10         | wand    | 100 O   |         | 90buiten  |                 | 7.85     | 14.02           | 0.21           |         |
| 12 | Raam+bu.zw.      | 6          | kozijn  | 100 O   |         | 90buiten  |                 | 0.79     |                 | 1.65           |         |
| 13 | Raam+bu.zw.      | 5          | glas    | 100 O   |         | 90buiten  |                 | 4.46     |                 | 1.65           | 0.29    |
| 14 | Raam+bu.zw.      | 6          | kozijn  | 100 O   |         | 90buiten  |                 | 0.79     |                 | 1.65           |         |
| 15 | Raam+bu.zw.      | 5          | glas    | 100 O   |         | 90buiten  |                 | 4.46     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen



|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 611 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Fracties  | 559 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 611 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |
| Zonwering | 559 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |



## Resultaten ruimte 1.21 \*Leslokaal

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 36.75 m <sup>2</sup>     |
| Volume                    | 94.85 m <sup>3</sup>     |
| Vertrekmasa               | 1757.1 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2597 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1708                       | 82                         | 0               | 1790            | 572           | 2362          |
| 9            | 23.4                   | 25.0                   | 1709                       | 132                        | 0               | 1841            | 572           | 2413          |
| 10           | 25.7                   | 25.0                   | 1709                       | 189                        | 0               | 1898            | 572           | 2470          |
| 11           | 27.1                   | 25.0                   | 1709                       | 230                        | 0               | 1939            | 572           | 2511          |
| 12           | 28.1                   | 25.0                   | 1709                       | 262                        | 0               | 1971            | 572           | 2544          |
| 13           | 28.9                   | 25.0                   | 1709                       | 290                        | 0               | 1999            | 572           | 2571          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1709</b>                | <b>315</b>                 | <b>0</b>        | <b>2025</b>     | <b>572</b>    | <b>2597</b>   |
| 15           | 30.4                   | 25.0                   | 1710                       | 170                        | 0               | 1880            | 572           | 2452          |
| 16           | 31.0                   | 25.0                   | 1710                       | 217                        | 0               | 1926            | 572           | 2499          |
| 17           | 31.5                   | 25.0                   | 1710                       | 263                        | 0               | 1973            | 572           | 2545          |
| 18           | 31.4                   | 25.0                   | 1710                       | 282                        | 0               | 1992            | 572           | 2564          |
| 19           | 31.0                   | 25.0                   | 1710                       | 281                        | 0               | 1991            | 572           | 2563          |
| 20           | 30.3                   | 25.0                   | 1710                       | 255                        | 0               | 1966            | 572           | 2538          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 217         | 772        | 32                | -61         | 5                 | 135         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 217         | 772        | 32                | -28         | 5                 | 152         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 217         | 772        | 32                | 12          | 5                 | 169         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 217         | 772        | 32                | 36          | 5                 | 186         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 218         | 772        | 32                | 54          | 5                 | 201         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 218         | 772        | 32                | 68          | 5                 | 215         | 3                 | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| <b>14</b>           | <b>688</b>  | <b>218</b>  | <b>772</b> | <b>32</b>         | <b>80</b>   | <b>5</b>          | <b>228</b>  | <b>3</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>572</b>  | <b>0</b>   | <b>0</b>                |





| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 688      | 218      | 772     | 32          | 89       | 5           | 71       | 5           | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 16                  | 688      | 218      | 772     | 32          | 99       | 5           | 106      | 6           | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 17                  | 688      | 218      | 772     | 32          | 107      | 5           | 144      | 7           | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 18                  | 688      | 218      | 772     | 32          | 106      | 5           | 164      | 7           | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 19                  | 688      | 219      | 772     | 32          | 99       | 5           | 170      | 7           | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 20                  | 688      | 219      | 772     | 32          | 88       | 5           | 156      | 7           | 0                | 0        | 0                | 0                | 572      | 0       | 0                |

## Interne warmteproducties

| Personen    | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.    | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten   |                |                         |                  |                 |  |             |
| 20 W/m2     | 771.7 W        | 772                     |                  |                 | 1.00   | 1           |
| Verlichting |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 231.5 W        | 232                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer      | 1          | plafond |         | 0ruimte            | 25.0            | 36.49    |                 | 1.41           |         |
| 2  | Tussenwand       | 2          | wand    | 100     | 90ruimte           | 28.0            | 18.40    |                 | 0.58           |         |
| 3  | Beton 220mm      | 9          | wand    | 190     | 90ruimte           |                 | 13.32    |                 | 2.73           |         |
| 4  | Tussenwand 250mm | 8          | wand    | 10      | 90ruimte           |                 | 13.22    |                 | 0.57           |         |
| 5  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 13.37    |                 | 1.41           |         |
| 6  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 13.93    |                 | 1.41           |         |
| 7  | Tussenvloer      | 1          | vloer   |         | ruimte             |                 | 9.45     |                 | 1.41           |         |
| 8  | Gevel Rc=4,70    | 10         | wand    | 280 W   | 90buiten           |                 | 7.90     | 14.02           | 0.21           |         |
| 9  | Raam+bu.zw.      | 6          | kozijn  | 280 W   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 10 | Raam+bu.zw.      | 5          | glas    | 280 W   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |
| 11 | Raam+bu.zw.      | 6          | kozijn  | 280 W   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 12 | Raam+bu.zw.      | 5          | glas    | 280 W   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

|          | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties | 612 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.192 | 0.120 | 0.047 | 0.029 | 0.021 | 0.011 |
| Fracties | 555 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.192 | 0.120 | 0.047 | 0.029 | 0.021 | 0.011 |



|           | #   | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15   | 16   | 17   | 18   | 19   | 20   |
|-----------|-----|----|----|----|----|----|----|----|------|------|------|------|------|------|
| Zonwering | 612 | op | op | op | op | op | op | op | neer | neer | neer | neer | neer | neer |
| Zonwering | 555 | op | op | op | op | op | op | op | neer | neer | neer | neer | neer | neer |



## Resultaten ruimte 1.22 Overlegkamer

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 20.68 m <sup>2</sup>     |
| Volume                    | 53.62 m <sup>3</sup>     |
| Vertrekmasse              | 1766.5 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 19            |
| <b>Maximale koellast</b>      | <b>1201 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 572                        | 21                         | 0               | 592             | 229           | 821           |
| 9            | 22.5                   | 25.0                   | 572                        | 50                         | 0               | 622             | 229           | 851           |
| 10           | 24.9                   | 25.0                   | 572                        | 29                         | 0               | 601             | 229           | 830           |
| 11           | 25.9                   | 25.0                   | 572                        | 61                         | 0               | 633             | 229           | 862           |
| 12           | 27.6                   | 25.0                   | 572                        | 99                         | 0               | 671             | 229           | 900           |
| 13           | 28.9                   | 25.0                   | 572                        | 130                        | 0               | 702             | 229           | 931           |
| 14           | 29.6                   | 25.0                   | 572                        | 152                        | 0               | 724             | 229           | 953           |
| 15           | 30.4                   | 25.0                   | 572                        | 169                        | 0               | 741             | 229           | 970           |
| 16           | 30.6                   | 25.0                   | 572                        | 174                        | 0               | 746             | 229           | 975           |
| 17           | 30.9                   | 25.0                   | 572                        | 171                        | 0               | 743             | 229           | 972           |
| 18           | 31.2                   | 25.0                   | 572                        | 161                        | 0               | 734             | 229           | 963           |
| <b>19</b>    | <b>30.8</b>            | <b>25.0</b>            | <b>572</b>                 | <b>399</b>                 | <b>0</b>        | <b>972</b>      | <b>229</b>    | <b>1201</b>   |
| 20           | 29.4                   | 25.0                   | 572                        | 246                        | 0               | 818             | 229           | 1047          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 275         | 116         | 105        | 75                | -36         | -4                | 61          | 1                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 9                   | 275         | 117         | 105        | 75                | -22         | -4                | 74          | 1                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 10                  | 275         | 117         | 105        | 75                | -1          | -2                | 30          | 3                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 11                  | 275         | 117         | 105        | 75                | 7           | -0                | 48          | 6                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 12                  | 275         | 117         | 105        | 75                | 21          | 2                 | 65          | 11                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 13                  | 275         | 117         | 105        | 75                | 32          | 4                 | 78          | 16                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 14                  | 275         | 117         | 105        | 75                | 38          | 6                 | 87          | 21                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 275         | 117         | 105        | 75                | 45          | 8                 | 91          | 26                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 16                  | 275         | 117         | 105        | 75                | 46          | 9                 | 89          | 29                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 17                  | 275         | 117         | 105        | 75                | 49          | 11                | 81          | 31                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 18                  | 275         | 117         | 105        | 75                | 51          | 12                | 68          | 30                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| <b>19</b>           | <b>275</b>  | <b>117</b>  | <b>105</b> | <b>75</b>         | <b>50</b>   | <b>13</b>         | <b>308</b>  | <b>28</b>         | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>229</b>  | <b>0</b>   | <b>0</b>                |
| 20                  | 275         | 117         | 105        | 75                | 38          | 14                | 178         | 16                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 4 pers.            | 4.00 personen | 504                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 5 W/m2             | 105.4 W       | 105                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 126.5 W       | 126                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving         | Constr<br>Ref | Type    | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|----------------------|---------------|---------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenvloer          | 1             | plafond |            |            | 0ruimte   | 25.0                  | 20.65       |                    | 1.41              |            |
| 2  | Beton 220mm          | 9             | wand    | 10         | 90         | ruimte    | 28.0                  | 4.64        |                    | 2.73              |            |
| 3  | Tussenwand           | 2             | wand    | 280        | 90         | ruimte    |                       | 11.24       |                    | 0.58              |            |
| 4  | Beton 220mm          | 9             | wand    | 10         | 90         | ruimte    |                       | 8.06        |                    | 2.73              |            |
| 5  | Tussenwand           | 2             | wand    | 100        | 90         | ruimte    | 28.0                  | 11.28       |                    | 0.58              |            |
| 6  | BG vloer Rc=3,70     | 3             | vloer   |            |            | buiten    |                       | 0.26        |                    | 0.26              |            |
| 7  | Tussenvloer          | 1             | vloer   |            |            | ruimte    | 28.0                  | 4.00        |                    | 1.41              |            |
| 8  | Tussenvloer          | 1             | vloer   |            |            | ruimte    |                       | 16.42       |                    | 1.41              |            |
| 9  | Gevel HSB<br>Rc=4,70 | 4             | wand    | 190 Z      | 90         | buiten    |                       | 7.19        | 10.97              | 0.20              |            |
| 10 | Raam+bu.zw.          | 6             | kozijn  | 190 Z      | 90         | buiten    |                       | 0.79        |                    | 1.65              |            |
| 11 | Raam+bu.zw.          | 5             | glas    | 190 Z      | 90         | buiten    |                       | 4.46        |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

[illegible]



**Vabi Elements Koellast 3.10.0.107**

RVB

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## Resultaten ruimte 1.23 \*TVO

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 23.20 m <sup>2</sup>     |
| Volume                    | 60.04 m <sup>3</sup>     |
| Vertrekmasa               | 1662.4 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 19            |
| <b>Maximale koellast</b>      | <b>2067 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 1040                       | 48                         | 0               | 1088            | 343           | 1431          |
| 9            | 22.5                   | 25.0                   | 1040                       | 110                        | 0               | 1150            | 343           | 1493          |
| 10           | 24.9                   | 25.0                   | 1040                       | 113                        | 0               | 1153            | 343           | 1496          |
| 11           | 25.9                   | 25.0                   | 1040                       | 172                        | 0               | 1212            | 343           | 1556          |
| 12           | 27.6                   | 25.0                   | 1040                       | 245                        | 0               | 1285            | 343           | 1629          |
| 13           | 28.9                   | 25.0                   | 1040                       | 304                        | 0               | 1344            | 343           | 1688          |
| 14           | 29.6                   | 25.0                   | 1040                       | 346                        | 0               | 1386            | 343           | 1729          |
| 15           | 30.4                   | 25.0                   | 1040                       | 301                        | 0               | 1341            | 343           | 1685          |
| 16           | 30.6                   | 25.0                   | 1040                       | 329                        | 0               | 1369            | 343           | 1712          |
| 17           | 30.9                   | 25.0                   | 1040                       | 351                        | 0               | 1392            | 343           | 1735          |
| 18           | 31.2                   | 25.0                   | 1041                       | 360                        | 0               | 1400            | 343           | 1744          |
| <b>19</b>    | <b>30.8</b>            | <b>25.0</b>            | <b>1041</b>                | <b>683</b>                 | <b>0</b>        | <b>1724</b>     | <b>343</b>    | <b>2067</b>   |
| 20           | 29.4                   | 25.0                   | 1041                       | 471                        | 0               | 1511            | 343           | 1855          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 413         | 137         | 475        | 15                | -86         | -7                | 141         | 1                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 9                   | 413         | 137         | 475        | 15                | -51         | -7                | 165         | 2                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 10                  | 413         | 138         | 475        | 15                | -2          | -4                | 114         | 5                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 11                  | 413         | 138         | 475        | 15                | 18          | -1                | 146         | 9                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 12                  | 413         | 138         | 475        | 15                | 52          | 3                 | 175         | 15                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 13                  | 413         | 138         | 475        | 15                | 78          | 7                 | 198         | 21                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 14                  | 413         | 138         | 475        | 15                | 92          | 10                | 216         | 28                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |



| Int Warmteproductie |            |            |            | Transmissie |            |             | Zon        |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|------------|------------|-------------|------------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]   | App [W]    | Bi wand [W] | Glas [W]   | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 413        | 138        | 475        | 15          | 106        | 14          | 147        | 34          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 16                  | 413        | 138        | 475        | 15          | 110        | 17          | 161        | 42          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 17                  | 413        | 138        | 475        | 15          | 116        | 19          | 168        | 48          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 18                  | 413        | 138        | 475        | 15          | 121        | 22          | 164        | 53          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| <b>19</b>           | <b>413</b> | <b>138</b> | <b>475</b> | <b>15</b>   | <b>117</b> | <b>23</b>   | <b>488</b> | <b>55</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>343</b> | <b>0</b> | <b>0</b>         |
| 20                  | 413        | 138        | 475        | 15          | 89         | 24          | 313        | 45          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |

## Interne warmteproducties

| Personen             | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|----------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 6 pers.              | 6.00 personen | 756                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>20 W/m2 | 475.2 W       | 475                     |                  |                 | 1.00   | 1           |
| Verlichting          |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2               | 142.6 W       | 143                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving      | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|-------------------|------------|---------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer       | 1          | plafond |         | 0ruimte            | 25.0            | 23.10    |                 | 1.41           |         |
| 2  | Beton 220mm       | 9          | wand    | 10      | 90ruimte           |                 | 13.80    |                 | 2.73           |         |
| 3  | Tussenwand        | 2          | wand    | 100     | 89ruimte           |                 | 11.24    |                 | 0.58           |         |
| 4  | BG vloer Rc=3,70  | 3          | vloer   |         | buiten             |                 | 0.30     |                 | 0.26           |         |
| 5  | Tussenvloer       | 1          | vloer   |         | ruimte             |                 | 16.81    |                 | 1.41           |         |
| 6  | Tussenvloer       | 1          | vloer   |         | ruimte             | 28.0            | 3.44     |                 | 1.41           |         |
| 7  | Tussenvloer       | 1          | vloer   |         | ruimte             |                 | 2.64     |                 | 1.41           |         |
| 8  | Gevel HSB Rc=4,70 | 4          | wand    | 190 Z   | 90buiten           |                 | 6.67     | 11.72           | 0.20           |         |
| 9  | Raam+bu.zw.       | 6          | kozijn  | 190 Z   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 10 | Raam+bu.zw.       | 5          | glas    | 190 Z   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |
| 11 | Raam+bu.zw.       | 6          | kozijn  | 190 Z   | 90buiten           |                 | 0.29     |                 | 1.65           |         |
| 12 | Raam+bu.zw.       | 5          | glas    | 190 Z   | 90buiten           |                 | 1.66     |                 | 1.65           | 0.29    |
| 13 | Gevel HSB Rc=4,70 | 4          | wand    | 280 W   | 90buiten           |                 | 6.03     | 10.67           | 0.20           |         |
| 14 | Raam+bu.zw.       | 6          | kozijn  | 280 W   | 90buiten           |                 | 0.79     |                 | 1.65           |         |
| 15 | Raam+bu.zw.       | 5          | glas    | 280 W   | 90buiten           |                 | 4.46     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen



|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 614 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties  | 563 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties  | 604 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.386 | 0.167 | 0.119 | 0.046 | 0.037 | 0.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 614 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    |
| Zonwering | 563 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    |
| Zonwering | 604 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |





## Resultaten ruimte 1.25 Pantry & MFK

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 17.69 m <sup>2</sup>     |
| Volume                    | 45.82 m <sup>3</sup>     |
| Vertrekmasse              | 1719.6 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | juli         |
| Tijdvak met maximale koellast | 14           |
| <b>Maximale koellast</b>      | <b>746 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 472                        | 28                         | 0               | 500             | 114           | 614           |
| 9            | 23.4                   | 25.0                   | 472                        | 55                         | 0               | 527             | 114           | 642           |
| 10           | 25.7                   | 25.0                   | 472                        | 86                         | 0               | 558             | 114           | 673           |
| 11           | 27.1                   | 25.0                   | 472                        | 109                        | 0               | 581             | 114           | 696           |
| 12           | 28.1                   | 25.0                   | 472                        | 128                        | 0               | 600             | 114           | 715           |
| 13           | 28.9                   | 25.0                   | 472                        | 144                        | 0               | 616             | 114           | 731           |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>472</b>                 | <b>160</b>                 | <b>0</b>        | <b>632</b>      | <b>114</b>    | <b>746</b>    |
| 15           | 30.4                   | 25.0                   | 472                        | 74                         | 0               | 546             | 114           | 660           |
| 16           | 31.0                   | 25.0                   | 472                        | 91                         | 0               | 563             | 114           | 678           |
| 17           | 31.5                   | 25.0                   | 472                        | 120                        | 0               | 592             | 114           | 706           |
| 18           | 31.4                   | 25.0                   | 472                        | 146                        | 0               | 619             | 114           | 733           |
| 19           | 31.0                   | 25.0                   | 472                        | 141                        | 0               | 614             | 114           | 728           |
| 20           | 30.3                   | 25.0                   | 472                        | 101                        | 0               | 574             | 114           | 688           |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 138         | 98          | 91         | 145               | -29         | -1                | 58          | 0                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 9                   | 138         | 98          | 91         | 145               | -13         | -1                | 69          | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 10                  | 138         | 98          | 91         | 145               | 6           | -1                | 80          | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 11                  | 138         | 98          | 91         | 145               | 18          | -0                | 90          | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 12                  | 138         | 98          | 91         | 145               | 26          | 1                 | 100         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 13                  | 138         | 99          | 91         | 145               | 33          | 1                 | 108         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| <b>14</b>           | <b>138</b>  | <b>99</b>   | <b>91</b>  | <b>145</b>        | <b>39</b>   | <b>2</b>          | <b>117</b>  | <b>2</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>114</b>  | <b>0</b>   | <b>0</b>                |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 138      | 99       | 91      | 145         | 43       | 2           | 25       | 3           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 16                  | 138      | 99       | 91      | 145         | 48       | 3           | 35       | 5           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 17                  | 138      | 99       | 91      | 145         | 52       | 3           | 57       | 7           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 18                  | 138      | 99       | 91      | 145         | 51       | 4           | 82       | 9           | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 19                  | 138      | 99       | 91      | 145         | 48       | 4           | 78       | 11          | 0                | 0        | 0                | 0                | 114      | 0       | 0                |
| 20                  | 138      | 99       | 91      | 145         | 42       | 4           | 43       | 12          | 0                | 0        | 0                | 0                | 114      | 0       | 0                |

## Interne warmteproducties

| Personen           | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|--------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 2 pers.            | 2.00 personen | 252                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten          |               |                         |                  |                 |  |             |
| 5 W/m <sup>2</sup> | 90.9 W        | 91                      |                  |                 | 1.00   | 1           |
| Verlichting        |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup> | 109.0 W       | 109                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving      | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|-------------------|------------|---------|---------|--------------------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenvloer       | 1          | plafond |         | 0ruimte            | 28.0            | 0.16                  |                              | 1.41                        |         |
| 2  | Tussenvloer       | 1          | plafond |         | 0ruimte            |                 | 17.51                 |                              | 1.41                        |         |
| 3  | Tussenwand        | 2          | wand    | 100     | 90ruimte           | 28.0            | 2.07                  |                              | 0.58                        |         |
| 4  | Tussenwand        | 2          | wand    | 190     | 90ruimte           | 28.0            | 4.77                  |                              | 0.58                        |         |
| 5  | Tussenwand        | 2          | wand    | 1       | 89ruimte           | 28.0            | 6.30                  |                              | 0.58                        |         |
| 6  | Tussenwand        | 2          | wand    | 100     | 90ruimte           | 28.0            | 16.83                 |                              | 0.58                        |         |
| 7  | Beton 220mm       | 9          | wand    | 1       | 90ruimte           |                 | 5.37                  |                              | 2.73                        |         |
| 8  | Beton 220mm       | 9          | wand    | 271     | 90ruimte           |                 | 9.98                  |                              | 2.73                        |         |
| 9  | Beton 220mm       | 9          | wand    | 190     | 90ruimte           | 28.0            | 4.59                  |                              | 2.73                        |         |
| 10 | Tussenwand        | 2          | wand    | 271     | 90ruimte           | 28.0            | 0.48                  |                              | 0.58                        |         |
| 11 | Tussenvloer       | 1          | vloer   |         | ruimte             | 28.0            | 5.32                  |                              | 1.41                        |         |
| 12 | Tussenvloer       | 1          | vloer   |         | ruimte             |                 | 4.96                  |                              | 1.41                        |         |
| 13 | Tussenvloer       | 1          | vloer   |         | ruimte             | 28.0            | 7.41                  |                              | 1.41                        |         |
| 14 | Gevel HSB Rc=4,70 | 4          | wand    | 271 W   | 90buiten           |                 | 2.00                  | 4.10                         | 0.20                        |         |
| 15 | Raam+bu.zw.       | 6          | kozijn  | 271 W   | 90buiten           |                 | 0.76                  |                              | 1.65                        |         |
| 16 | Raam+bu.zw.       | 5          | glas    | 271 W   | 90buiten           |                 | 4.32                  |                              | 1.65                        | 0.29    |

## Schaduwfracties ramen



|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 569 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.650 | 0.301 | 0.051 | 0.346 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 569 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



## Resultaten ruimte 1.26 Overlegkamer

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 23.20 m <sup>2</sup>     |
| Volume                    | 60.15 m <sup>3</sup>     |
| Vertrekmasse              | 1442.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 18            |
| <b>Maximale koellast</b>      | <b>2594 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 1391                       | 26                         | 0               | 1417            | 916           | 2332          |
| 9            | 22.5                   | 25.0                   | 1391                       | 49                         | 0               | 1439            | 916           | 2355          |
| 10           | 24.9                   | 25.0                   | 1391                       | 23                         | 0               | 1414            | 916           | 2330          |
| 11           | 25.9                   | 25.0                   | 1391                       | 32                         | 0               | 1423            | 916           | 2339          |
| 12           | 27.6                   | 25.0                   | 1391                       | 45                         | 0               | 1436            | 916           | 2351          |
| 13           | 28.9                   | 25.0                   | 1391                       | 66                         | 0               | 1457            | 916           | 2373          |
| 14           | 29.6                   | 25.0                   | 1391                       | 92                         | 0               | 1483            | 916           | 2399          |
| 15           | 30.4                   | 25.0                   | 1391                       | 107                        | 0               | 1498            | 916           | 2414          |
| 16           | 30.6                   | 25.0                   | 1391                       | 107                        | 0               | 1498            | 916           | 2414          |
| 17           | 30.9                   | 25.0                   | 1391                       | 101                        | 0               | 1492            | 916           | 2408          |
| <b>18</b>    | <b>31.2</b>            | <b>25.0</b>            | <b>1391</b>                | <b>286</b>                 | <b>0</b>        | <b>1678</b>     | <b>916</b>    | <b>2594</b>   |
| 19           | 30.8                   | 25.0                   | 1392                       | 240                        | 0               | 1631            | 916           | 2547          |
| 20           | 29.4                   | 25.0                   | 1392                       | 153                        | 0               | 1544            | 916           | 2460          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 1100        | 137         | 122        | 31                | -26         | 5                 | 45          | 2                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 9                   | 1100        | 137         | 122        | 31                | -15         | 5                 | 55          | 4                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 10                  | 1100        | 137         | 122        | 31                | -0          | 5                 | 13          | 6                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 11                  | 1100        | 137         | 122        | 31                | 5           | 5                 | 15          | 7                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 12                  | 1100        | 137         | 122        | 31                | 15          | 5                 | 18          | 7                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 13                  | 1100        | 138         | 122        | 31                | 23          | 5                 | 31          | 7                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 14                  | 1100        | 138         | 122        | 31                | 27          | 5                 | 53          | 7                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 1100        | 138         | 122        | 31                | 32          | 5                 | 63          | 7                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 16                  | 1100        | 138         | 122        | 31                | 33          | 5                 | 63          | 7                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 17                  | 1100        | 138         | 122        | 31                | 35          | 5                 | 54          | 7                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| <b>18</b>           | <b>1100</b> | <b>138</b>  | <b>122</b> | <b>31</b>         | <b>38</b>   | <b>5</b>          | <b>236</b>  | <b>7</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>916</b>  | <b>0</b>   | <b>0</b>                |
| 19                  | 1100        | 138         | 122        | 31                | 36          | 5                 | 194         | 5                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |
| 20                  | 1100        | 138         | 122        | 31                | 27          | 5                 | 118         | 3                 | 0                       | 0           | 0                       | 0                       | 916         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i>  | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|----------------|--|-----------------------------|----------------------------|---|------------------------|
| 16 pers.           | 16.00 personen | 2016                                   | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |                |  |                             |                            |   |                        |
| 5 W/m2             | 122.3 W        | 122                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |                |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 146.7 W        | 147                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving  | Constr Ref | Type    | Ori [°] | Hel [°]<br>Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|---------------|------------|---------|---------|----------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer   | 1          | plafond |         | 0ruimte              |                 | 23.19    |                 | 1.41           |         |
| 2  | Tussenwand    | 2          | wand    | 1       | 89ruimte             | 28.0            | 17.72    |                 | 0.58           |         |
| 3  | Beton 220mm   | 9          | wand    | 181     | 89ruimte             |                 | 5.29     |                 | 2.73           |         |
| 4  | Beton 220mm   | 9          | wand    | 91      | 89ruimte             |                 | 9.33     |                 | 2.73           |         |
| 5  | Tussenwand    | 2          | wand    | 271     | 90ruimte             |                 | 8.78     |                 | 0.58           |         |
| 6  | Tussenvloer   | 1          | vloer   |         | ruimte               |                 | 23.20    |                 | 1.41           |         |
| 7  | Gevel Rc=4,70 | 10         | wand    | 181 Z   | 89buiten             |                 | 9.10     | 12.64           | 0.21           |         |
| 8  | Raam+bu.zw.   | 6          | kozijn  | 181 Z   | 89buiten             |                 | 0.29     |                 | 1.65           |         |
| 9  | Raam+bu.zw.   | 5          | glas    | 181 Z   | 89buiten             |                 | 1.66     |                 | 1.65           | 0.29    |
| 10 | Raam+bu.zw.   | 6          | kozijn  | 181 Z   | 89buiten             |                 | 0.27     |                 | 1.65           |         |
| 11 | Raam+bu.zw.   | 5          | glas    | 181 Z   | 89buiten             |                 | 1.51     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 601 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.982 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties  | 567 | 1.000 | 1.000 | 1.000 | 1.000 | 0.956 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 601 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    |



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## Resultaten ruimte 1.27 Overlegkamer

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 11.83 m <sup>2</sup>     |
| Volume                    | 30.51 m <sup>3</sup>     |
| Vertrekmasse              | 1253.6 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 18            |
| <b>Maximale koellast</b>      | <b>1339 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 562                        | 25                         | 0               | 587             | 343           | 930           |
| 9            | 22.5                   | 25.0                   | 562                        | 60                         | 0               | 622             | 343           | 965           |
| 10           | 24.9                   | 25.0                   | 562                        | 26                         | 0               | 588             | 343           | 931           |
| 11           | 25.9                   | 25.0                   | 562                        | 47                         | 0               | 609             | 343           | 952           |
| 12           | 27.6                   | 25.0                   | 562                        | 91                         | 0               | 653             | 343           | 997           |
| 13           | 28.9                   | 25.0                   | 562                        | 129                        | 0               | 691             | 343           | 1035          |
| 14           | 29.6                   | 25.0                   | 562                        | 151                        | 0               | 713             | 343           | 1057          |
| 15           | 30.4                   | 25.0                   | 562                        | 160                        | 0               | 722             | 343           | 1066          |
| 16           | 30.6                   | 25.0                   | 562                        | 155                        | 0               | 717             | 343           | 1061          |
| 17           | 30.9                   | 25.0                   | 562                        | 143                        | 0               | 705             | 343           | 1049          |
| <b>18</b>    | <b>31.2</b>            | <b>25.0</b>            | <b>562</b>                 | <b>433</b>                 | <b>0</b>        | <b>995</b>      | <b>343</b>    | <b>1339</b>   |
| 19           | 30.8                   | 25.0                   | 562                        | 344                        | 0               | 907             | 343           | 1250          |
| 20           | 29.4                   | 25.0                   | 562                        | 207                        | 0               | 770             | 343           | 1113          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 413         | 71          | 62         | 16                | -36         | 2                 | 58          | 1                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 9                   | 413         | 71          | 62         | 16                | -22         | 2                 | 77          | 2                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 10                  | 413         | 71          | 62         | 16                | -1          | 2                 | 22          | 3                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 11                  | 413         | 71          | 62         | 16                | 7           | 2                 | 33          | 4                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 12                  | 413         | 71          | 62         | 16                | 21          | 2                 | 64          | 4                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 13                  | 413         | 71          | 62         | 16                | 32          | 2                 | 91          | 4                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 14                  | 413         | 71          | 62         | 16                | 38          | 2                 | 107         | 4                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 413         | 71          | 62         | 16                | 45          | 2                 | 110         | 4                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 16                  | 413         | 71          | 62         | 16                | 46          | 2                 | 103         | 4                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 17                  | 413         | 71          | 62         | 16                | 49          | 2                 | 88          | 4                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| <b>18</b>           | <b>413</b>  | <b>71</b>   | <b>62</b>  | <b>16</b>         | <b>54</b>   | <b>2</b>          | <b>373</b>  | <b>4</b>          | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>343</b>  | <b>0</b>   | <b>0</b>                |
| 19                  | 413         | 71          | 62         | 16                | 50          | 2                 | 289         | 3                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 20                  | 413         | 71          | 62         | 16                | 38          | 2                 | 165         | 2                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 6 pers.            | 6.00 personen | 756                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 5 W/m2             | 62.2 W        | 62                                     |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 74.7 W        | 75                                     | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving  | Constr<br>Ref | Type    | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|---------------|---------------|---------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenvloer   | 1             | plafond |            |            | 0ruimte   |                       | 4.30        |                    | 1.41              |            |
| 2  | Tussenvloer   | 1             | plafond |            |            | 0ruimte   |                       | 7.58        |                    | 1.41              |            |
| 3  | Tussenwand    | 2             | wand    | 1          |            | 89ruimte  | 28.0                  | 9.44        |                    | 0.58              |            |
| 4  | Tussenwand    | 2             | wand    | 271        |            | 90ruimte  |                       | 8.78        |                    | 0.58              |            |
| 5  | Tussenwand    | 2             | wand    | 91         |            | 89ruimte  |                       | 8.78        |                    | 0.58              |            |
| 6  | Tussenvloer   | 1             | vloer   |            |            | ruimte    |                       | 11.83       |                    | 1.41              |            |
| 7  | Gevel Rc=4,70 | 10            | wand    | 181 Z      |            | 89buiten  |                       | 4.06        | 6.82               | 0.21              |            |
| 8  | Raam+bu.zw.   | 6             | kozijn  | 181 Z      |            | 89buiten  |                       | 0.27        |                    | 1.65              |            |
| 9  | Raam+bu.zw.   | 5             | glas    | 181 Z      |            | 89buiten  |                       | 1.51        |                    | 1.65              | 0.29       |
| 10 | Raam+bu.zw.   | 6             | kozijn  | 181 Z      |            | 89buiten  |                       | 0.52        |                    | 1.65              |            |
| 11 | Raam+bu.zw.   | 5             | glas    | 181 Z      |            | 89buiten  |                       | 2.95        |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 607 | 1.000 | 1.000 | 0.483 | 0.079 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties  | 583 | 1.000 | 1.000 | 0.996 | 0.955 | 0.116 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 607 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    |





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## Resultaten ruimte 1.28 Staf

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 19.63 m <sup>2</sup>     |
| Volume                    | 50.88 m <sup>3</sup>     |
| Vertrekmasa               | 1567.2 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 18            |
| <b>Maximale koellast</b>      | <b>1749 W</b> |

## Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 827                        | 55                         | 0               | 882             | 229           | 1111          |
| 9            | 22.5                   | 25.0                   | 827                        | 129                        | 0               | 956             | 229           | 1185          |
| 10           | 24.9                   | 25.0                   | 827                        | 68                         | 0               | 896             | 229           | 1125          |
| 11           | 25.9                   | 25.0                   | 827                        | 121                        | 0               | 948             | 229           | 1177          |
| 12           | 27.6                   | 25.0                   | 828                        | 178                        | 0               | 1005            | 229           | 1234          |
| 13           | 28.9                   | 25.0                   | 828                        | 220                        | 0               | 1047            | 229           | 1276          |
| 14           | 29.6                   | 25.0                   | 828                        | 244                        | 0               | 1072            | 229           | 1301          |
| 15           | 30.4                   | 25.0                   | 828                        | 259                        | 0               | 1087            | 229           | 1316          |
| 16           | 30.6                   | 25.0                   | 828                        | 253                        | 0               | 1081            | 229           | 1310          |
| 17           | 30.9                   | 25.0                   | 828                        | 237                        | 0               | 1065            | 229           | 1294          |
| <b>18</b>    | <b>31.2</b>            | <b>25.0</b>            | <b>828</b>                 | <b>692</b>                 | <b>0</b>        | <b>1520</b>     | <b>229</b>    | <b>1749</b>   |
| 19           | 30.8                   | 25.0                   | 828                        | 575                        | 0               | 1403            | 229           | 1632          |
| 20           | 29.4                   | 25.0                   | 828                        | 363                        | 0               | 1191            | 229           | 1420          |

## Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 275         | 122         | 430        | 0                 | -60         | 8                 | 103         | 4                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 9                   | 275         | 122         | 430        | 0                 | -36         | 8                 | 150         | 7                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 10                  | 275         | 122         | 430        | 0                 | -1          | 8                 | 53          | 8                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 11                  | 275         | 123         | 430        | 0                 | 12          | 8                 | 91          | 9                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 12                  | 275         | 123         | 430        | 0                 | 36          | 8                 | 125         | 9                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 13                  | 275         | 123         | 430        | 0                 | 54          | 8                 | 149         | 9                 | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |
| 14                  | 275         | 123         | 430        | 0                 | 63          | 8                 | 162         | 11                | 0                       | 0           | 0                       | 0                       | 229         | 0          | 0                       |

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 619 | 1.000 | 0.993 | 0.504 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties  | 609 | 1.000 | 0.414 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 619 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    |



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*Zonwering*



## Resultaten ruimte 1.29 Teamleiders

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 40.95 m <sup>2</sup>     |
| Volume                    | 105.16 m <sup>3</sup>    |
| Vertrekmasa               | 1380.2 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juni          |
| Tijdvak met maximale koellast | 20            |
| <b>Maximale koellast</b>      | <b>2230 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 19.4                   | 25.0                   | 1524                       | 150                        | 0               | 1674            | 343           | 2018          |
| 9            | 22.4                   | 25.0                   | 1524                       | 183                        | 0               | 1707            | 343           | 2051          |
| 10           | 24.0                   | 25.0                   | 1525                       | 191                        | 0               | 1715            | 343           | 2059          |
| 11           | 26.1                   | 25.0                   | 1525                       | 226                        | 0               | 1751            | 343           | 2094          |
| 12           | 27.7                   | 25.0                   | 1525                       | 262                        | 0               | 1787            | 343           | 2130          |
| 13           | 28.7                   | 25.0                   | 1525                       | 292                        | 0               | 1818            | 343           | 2161          |
| 14           | 29.0                   | 25.0                   | 1525                       | 323                        | 0               | 1848            | 343           | 2192          |
| 15           | 29.7                   | 25.0                   | 1526                       | 307                        | 0               | 1833            | 343           | 2176          |
| 16           | 30.5                   | 25.0                   | 1526                       | 327                        | 0               | 1853            | 343           | 2196          |
| 17           | 30.3                   | 25.0                   | 1526                       | 323                        | 0               | 1849            | 343           | 2192          |
| 18           | 30.6                   | 25.0                   | 1526                       | 323                        | 0               | 1849            | 343           | 2193          |
| 19           | 31.2                   | 25.0                   | 1526                       | 352                        | 0               | 1878            | 343           | 2221          |
| <b>20</b>    | <b>29.4</b>            | <b>25.0</b>            | <b>1527</b>                | <b>360</b>                 | <b>0</b>        | <b>1887</b>     | <b>343</b>    | <b>2230</b>   |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 413         | 243         | 861        | 8                 | -95         | 9                 | 229         | 8                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 9                   | 413         | 243         | 861        | 8                 | -44         | 9                 | 211         | 8                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 10                  | 413         | 243         | 861        | 8                 | -17         | 9                 | 192         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 11                  | 413         | 243         | 861        | 8                 | 19          | 9                 | 191         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 12                  | 413         | 243         | 861        | 8                 | 46          | 9                 | 200         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 13                  | 413         | 244         | 861        | 8                 | 63          | 9                 | 214         | 7                 | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 14                  | 413         | 244         | 861        | 8                 | 68          | 9                 | 235         | 11                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |



| Int Warmteproductie |            |            |            | Transmissie |           |             | Zon        |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|------------|------------|-------------|-----------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]   | App [W]    | Bi wand [W] | Glas [W]  | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 413        | 244        | 861        | 8           | 79        | 9           | 205        | 13          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 16                  | 413        | 244        | 861        | 8           | 93        | 9           | 210        | 15          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 17                  | 413        | 244        | 861        | 8           | 90        | 9           | 209        | 15          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 18                  | 413        | 245        | 861        | 8           | 95        | 9           | 205        | 15          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 19                  | 413        | 245        | 861        | 8           | 105       | 9           | 222        | 16          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| <b>20</b>           | <b>413</b> | <b>245</b> | <b>861</b> | <b>8</b>    | <b>74</b> | <b>9</b>    | <b>260</b> | <b>16</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>343</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen            | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|---------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 6 pers.             | 6.00 personen | 756                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten           |               |                         |                  |                 |  |             |
| 20 W/m <sup>2</sup> | 860.5 W       | 861                     |                  |                 | 1.00   | 1           |
| Verlichting         |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>  | 258.2 W       | 258                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving  | Constr Ref | Type    | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|---------------|------------|---------|---------|--------------------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 6.36                  |                              | 1.41                        |         |
| 2  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 0.96                  |                              | 1.41                        |         |
| 3  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 30.45                 |                              | 1.41                        |         |
| 4  | Tussenvloer   | 1          | plafond |         | 0ruimte            |                 | 2.95                  |                              | 1.41                        |         |
| 5  | Tussenwand    | 2          | wand    | 91      | 89ruimte           | 28.0            | 4.86                  |                              | 0.58                        |         |
| 6  | Tussenwand    | 2          | wand    | 181     | 90ruimte           |                 | 15.46                 |                              | 0.58                        |         |
| 7  | Tussenwand    | 2          | wand    | 91      | 89ruimte           |                 | 13.79                 |                              | 0.58                        |         |
| 8  | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 2.03                  |                              | 1.41                        |         |
| 9  | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 32.57                 |                              | 1.41                        |         |
| 10 | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 4.83                  |                              | 1.41                        |         |
| 11 | Tussenvloer   | 1          | vloer   |         | ruimte             |                 | 1.53                  |                              | 1.41                        |         |
| 12 | Gevel Rc=4,70 | 10         | wand    | 1 N     | 90buiten           |                 | 6.38                  | 13.04                        | 0.21                        |         |
| 13 | Raam          | 13         | kozijn  | 1 N     | 90buiten           |                 | 0.52                  |                              | 1.65                        |         |
| 14 | Raam          | 12         | glas    | 1 N     | 90buiten           |                 | 2.96                  |                              | 1.65                        | 0.29    |
| 15 | Raam          | 13         | kozijn  | 1 N     | 90buiten           |                 | 0.79                  |                              | 1.65                        |         |
| 16 | Raam          | 12         | glas    | 1 N     | 90buiten           |                 | 4.46                  |                              | 1.65                        | 0.29    |
| 17 | Gevel Rc=4,70 | 10         | wand    | 271 W   | 89buiten           |                 | 16.57                 | 23.87                        | 0.21                        |         |
| 18 | Raam+bu.zw.   | 6          | kozijn  | 271 W   | 89buiten           |                 | 0.24                  |                              | 1.65                        |         |
| 19 | Raam+bu.zw.   | 5          | glas    | 271 W   | 89buiten           |                 | 1.35                  |                              | 1.65                        | 0.29    |



## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 618 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 |
| Fracties  | 617 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 |
| Fracties  | 608 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 608 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



## Resultaten ruimte 1.30 Plv. brigade comm.

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 18.05 m <sup>2</sup>     |
| Volume                    | 46.77 m <sup>3</sup>     |
| Vertrekmasa               | 1159.6 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juni          |
| Tijdvak met maximale koellast | 20            |
| <b>Maximale koellast</b>      | <b>1326 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 19.4                   | 25.0                   | 842                        | 94                         | 0               | 936             | 286           | 1222          |
| 9            | 22.4                   | 25.0                   | 842                        | 105                        | 0               | 947             | 286           | 1233          |
| 10           | 24.0                   | 25.0                   | 842                        | 104                        | 0               | 946             | 286           | 1232          |
| 11           | 26.1                   | 25.0                   | 842                        | 122                        | 0               | 964             | 286           | 1250          |
| 12           | 27.7                   | 25.0                   | 842                        | 143                        | 0               | 984             | 286           | 1270          |
| 13           | 28.7                   | 25.0                   | 842                        | 160                        | 0               | 1002            | 286           | 1288          |
| 14           | 29.0                   | 25.0                   | 842                        | 168                        | 0               | 1010            | 286           | 1296          |
| 15           | 29.7                   | 25.0                   | 842                        | 176                        | 0               | 1018            | 286           | 1304          |
| 16           | 30.5                   | 25.0                   | 842                        | 182                        | 0               | 1024            | 286           | 1310          |
| 17           | 30.3                   | 25.0                   | 842                        | 175                        | 0               | 1017            | 286           | 1303          |
| 18           | 30.6                   | 25.0                   | 842                        | 171                        | 0               | 1013            | 286           | 1299          |
| 19           | 31.2                   | 25.0                   | 842                        | 184                        | 0               | 1026            | 286           | 1313          |
| <b>20</b>    | <b>29.4</b>            | <b>25.0</b>            | <b>842</b>                 | <b>198</b>                 | <b>0</b>        | <b>1040</b>     | <b>286</b>    | <b>1326</b>   |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 344         | 107         | 374        | 16                | -49         | 2                 | 140         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 9                   | 344         | 107         | 374        | 16                | -23         | 2                 | 125         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 10                  | 344         | 107         | 374        | 16                | -9          | 2                 | 110         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 11                  | 344         | 107         | 374        | 16                | 10          | 2                 | 110         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 12                  | 344         | 107         | 374        | 16                | 23          | 2                 | 116         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 13                  | 344         | 107         | 374        | 16                | 32          | 2                 | 125         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 14                  | 344         | 107         | 374        | 16                | 35          | 2                 | 131         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |



| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 344         | 107         | 374        | 16                | 41          | 2                 | 133         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 16                  | 344         | 107         | 374        | 16                | 48          | 2                 | 131         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 17                  | 344         | 107         | 374        | 16                | 46          | 2                 | 126         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 18                  | 344         | 107         | 374        | 16                | 49          | 2                 | 119         | 1                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 19                  | 344         | 108         | 374        | 16                | 54          | 2                 | 127         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 20                  | 344         | 108         | 374        | 16                | 38          | 2                 | 156         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 5 pers.            | 5.00 personen | 630                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 20 W/m2            | 374.3 W       | 374                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 112.3 W       | 112                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving  | Constr<br>Ref | Type    | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|---------------|---------------|---------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenvloer   | 1             | plafond |            |            | 0ruimte   |                       | 6.55        |                    | 1.41              |            |
| 2  | Tussenvloer   | 1             | plafond |            |            | 0ruimte   |                       | 11.59       |                    | 1.41              |            |
| 3  | Tussenwand    | 2             | wand    | 181        |            | 89ruimte  | 28.0                  | 9.44        |                    | 0.58              |            |
| 4  | Tussenwand    | 2             | wand    | 271        |            | 90ruimte  |                       | 13.43       |                    | 0.58              |            |
| 5  | Tussenwand    | 2             | wand    | 91         |            | 90ruimte  |                       | 13.43       |                    | 0.58              |            |
| 6  | Tussenvloer   | 1             | vloer   |            |            | ruimte    |                       | 18.05       |                    | 1.41              |            |
| 7  | Gevel Rc=4,70 | 10            | wand    | 1 N        |            | 90buiten  |                       | 4.19        | 6.81               | 0.21              |            |
| 8  | Raam          | 13            | kozijn  | 1 N        |            | 90buiten  |                       | 0.27        |                    | 1.65              |            |
| 9  | Raam          | 12            | glas    | 1 N        |            | 90buiten  |                       | 1.51        |                    | 1.65              | 0.29       |
| 10 | Raam          | 13            | kozijn  | 1 N        |            | 90buiten  |                       | 0.52        |                    | 1.65              |            |
| 11 | Raam          | 12            | glas    | 1 N        |            | 90buiten  |                       | 2.96        |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

[illegible]



## Resultaten ruimte 1.31 Man.ass.

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 18.04 m <sup>2</sup>     |
| Volume                    | 46.83 m <sup>3</sup>     |
| Vertrekmasa               | 1147.0 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |              |
|-------------------------------|--------------|
| Maand met maximale koellast   | juni         |
| Tijdvak met maximale koellast | 20           |
| <b>Maximale koellast</b>      | <b>948 W</b> |

## Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 19.4                   | 25.0                   | 635                        | 94                         | 0               | 729             | 114           | 843           |
| 9            | 22.4                   | 25.0                   | 635                        | 105                        | 0               | 740             | 114           | 855           |
| 10           | 24.0                   | 25.0                   | 635                        | 104                        | 0               | 739             | 114           | 853           |
| 11           | 26.1                   | 25.0                   | 635                        | 122                        | 0               | 757             | 114           | 871           |
| 12           | 27.7                   | 25.0                   | 635                        | 142                        | 0               | 777             | 114           | 892           |
| 13           | 28.7                   | 25.0                   | 635                        | 160                        | 0               | 795             | 114           | 909           |
| 14           | 29.0                   | 25.0                   | 635                        | 168                        | 0               | 803             | 114           | 918           |
| 15           | 29.7                   | 25.0                   | 635                        | 176                        | 0               | 811             | 114           | 926           |
| 16           | 30.5                   | 25.0                   | 635                        | 181                        | 0               | 817             | 114           | 931           |
| 17           | 30.3                   | 25.0                   | 635                        | 175                        | 0               | 810             | 114           | 925           |
| 18           | 30.6                   | 25.0                   | 635                        | 171                        | 0               | 806             | 114           | 920           |
| 19           | 31.2                   | 25.0                   | 635                        | 184                        | 0               | 819             | 114           | 934           |
| <b>20</b>    | <b>29.4</b>            | <b>25.0</b>            | <b>635</b>                 | <b>198</b>                 | <b>0</b>        | <b>833</b>      | <b>114</b>    | <b>948</b>    |

## Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 138         | 107         | 374        | 16                | -49         | 1                 | 140         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 9                   | 138         | 107         | 374        | 16                | -23         | 2                 | 125         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 10                  | 138         | 107         | 374        | 16                | -9          | 2                 | 110         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 11                  | 138         | 107         | 374        | 16                | 10          | 2                 | 110         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 12                  | 138         | 107         | 374        | 16                | 23          | 2                 | 116         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 13                  | 138         | 107         | 374        | 16                | 32          | 2                 | 125         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 14                  | 138         | 107         | 374        | 16                | 35          | 2                 | 131         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 138         | 107         | 374        | 16                | 41          | 2                 | 133         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 16                  | 138         | 107         | 374        | 16                | 48          | 2                 | 131         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 17                  | 138         | 107         | 374        | 16                | 46          | 2                 | 126         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 18                  | 138         | 107         | 374        | 16                | 49          | 2                 | 119         | 1                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 19                  | 138         | 108         | 374        | 16                | 54          | 2                 | 127         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |
| 20                  | 138         | 108         | 374        | 16                | 38          | 2                 | 156         | 2                 | 0                       | 0           | 0                       | 0                       | 114         | 0          | 0                       |

## Interne warmteproducties

| Personen    | Invoer        | Omgerekend<br>vermogen<br>[W] | Clo                 | MET                | Voelbaar<br>deel                                | Tijd<br>schema |
|-------------|---------------|-------------------------------|---------------------|--------------------|---|----------------|
| 2 pers.     | 2.00 personen | 252                           | 0.70                | 1.20               | 0.55  | 1              |
| Apparaten   |               |                               |                     |                    |   |                |
| 20 W/m2     | 374.1 W       | 374                           |                     |                    | 1.00  | 1              |
| Verlichting |               |                               | Convectie<br>factor | Reductie<br>factor | Eigenschappen                                   |                |
| 6 W/m2      | 112.2 W       | 112                           | 0.30                | 1.00               | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1              |

## Constructies

| #  | Omschrijving  | Constr Ref | Type    | Ori [°] | Hel [°]<br>Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|---------------|------------|---------|---------|----------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenvloer   | 1          | plafond |         | 0ruimte              |                 | 18.04    |                 | 1.41           |         |
| 2  | Tussenwand    | 2          | wand    | 181     | 89ruimte             | 28.0            | 9.21     |                 | 0.58           |         |
| 3  | Tussenwand    | 2          | wand    | 271     | 90ruimte             |                 | 13.43    |                 | 0.58           |         |
| 4  | Tussenwand    | 2          | wand    | 91      | 89ruimte             |                 | 13.43    |                 | 0.58           |         |
| 5  | Tussenvloer   | 1          | vloer   |         | ruimte               |                 | 18.04    |                 | 1.41           |         |
| 6  | Gevel Rc=4,70 | 10         | wand    | 1 N     | 90buiten             |                 | 3.95     | 6.81            | 0.21           |         |
| 7  | Raam          | 13         | kozijn  | 1 N     | 90buiten             |                 | 0.52     |                 | 1.65           |         |
| 8  | Raam          | 12         | glas    | 1 N     | 90buiten             |                 | 2.95     |                 | 1.65           | 0.29    |
| 9  | Raam          | 13         | kozijn  | 1 N     | 90buiten             |                 | 0.27     |                 | 1.65           |         |
| 10 | Raam          | 12         | glas    | 1 N     | 90buiten             |                 | 1.51     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

[illegible]



## Resultaten ruimte 1.32 Brigade comm.

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 25.16 m <sup>2</sup>     |
| Volume                    | 65.04 m <sup>3</sup>     |
| Vertrekmasa               | 1518.8 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juni          |
| Tijdvak met maximale koellast | 20            |
| <b>Maximale koellast</b>      | <b>1685 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 19.4                   | 25.0                   | 1168                       | 96                         | 0               | 1265            | 286           | 1551          |
| 9            | 22.4                   | 25.0                   | 1168                       | 114                        | 0               | 1282            | 286           | 1568          |
| 10           | 24.0                   | 25.0                   | 1168                       | 116                        | 0               | 1284            | 286           | 1570          |
| 11           | 26.1                   | 25.0                   | 1168                       | 138                        | 0               | 1306            | 286           | 1593          |
| 12           | 27.7                   | 25.0                   | 1169                       | 162                        | 0               | 1330            | 286           | 1616          |
| 13           | 28.7                   | 25.0                   | 1169                       | 182                        | 0               | 1350            | 286           | 1636          |
| 14           | 29.0                   | 25.0                   | 1169                       | 190                        | 0               | 1359            | 286           | 1645          |
| 15           | 29.7                   | 25.0                   | 1169                       | 201                        | 0               | 1369            | 286           | 1656          |
| 16           | 30.5                   | 25.0                   | 1169                       | 208                        | 0               | 1377            | 286           | 1664          |
| 17           | 30.3                   | 25.0                   | 1169                       | 202                        | 0               | 1371            | 286           | 1657          |
| 18           | 30.6                   | 25.0                   | 1169                       | 199                        | 0               | 1368            | 286           | 1655          |
| 19           | 31.2                   | 25.0                   | 1169                       | 219                        | 0               | 1388            | 286           | 1674          |
| <b>20</b>    | <b>29.4</b>            | <b>25.0</b>            | <b>1169</b>                | <b>230</b>                 | <b>0</b>        | <b>1399</b>     | <b>286</b>    | <b>1685</b>   |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 344         | 135         | 528        | 162               | -65         | 2                 | 157         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 9                   | 344         | 135         | 528        | 162               | -30         | 2                 | 140         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 10                  | 344         | 135         | 528        | 162               | -12         | 2                 | 123         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 11                  | 344         | 135         | 528        | 162               | 13          | 2                 | 121         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 12                  | 344         | 135         | 528        | 162               | 31          | 2                 | 126         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 13                  | 344         | 135         | 528        | 162               | 43          | 2                 | 135         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 14                  | 344         | 135         | 528        | 162               | 46          | 2                 | 140         | 2                 | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |

[illegible]



**Vabi Elements Koellast 3.10.0.107**

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## Resultaten ruimte 2.01a Huiskamer

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 22.52 m <sup>2</sup>     |
| Volume                    | 58.49 m <sup>3</sup>     |
| Vertrekmasa               | 1462.0 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>1687 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 623                        | 298                        | 0               | 920             | 286           | 1207          |
| 9            | 23.4                   | 25.0                   | 623                        | 319                        | 0               | 941             | 286           | 1228          |
| 10           | 25.7                   | 25.0                   | 623                        | 420                        | 0               | 1043            | 286           | 1329          |
| 11           | 27.1                   | 25.0                   | 623                        | 495                        | 0               | 1118            | 286           | 1404          |
| 12           | 28.1                   | 25.0                   | 623                        | 548                        | 0               | 1171            | 286           | 1457          |
| 13           | 28.9                   | 25.0                   | 623                        | 578                        | 0               | 1201            | 286           | 1487          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>623</b>                 | <b>778</b>                 | <b>0</b>        | <b>1401</b>     | <b>286</b>    | <b>1687</b>   |
| 15           | 30.4                   | 25.0                   | 623                        | 737                        | 0               | 1360            | 286           | 1646          |
| 16           | 31.0                   | 25.0                   | 623                        | 725                        | 0               | 1348            | 286           | 1634          |
| 17           | 31.5                   | 25.0                   | 623                        | 724                        | 0               | 1347            | 286           | 1633          |
| 18           | 31.4                   | 25.0                   | 623                        | 693                        | 0               | 1316            | 286           | 1602          |
| 19           | 31.0                   | 25.0                   | 623                        | 670                        | 0               | 1294            | 286           | 1580          |
| 20           | 30.3                   | 25.0                   | 623                        | 687                        | 0               | 1310            | 286           | 1596          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 344         | 127         | 115        | 37                | -132        | 6                 | 402         | 22                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 9                   | 344         | 127         | 115        | 37                | -61         | 7                 | 348         | 25                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 10                  | 344         | 127         | 115        | 37                | 26          | 7                 | 358         | 28                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 11                  | 344         | 127         | 115        | 37                | 79          | 8                 | 375         | 32                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 12                  | 344         | 127         | 115        | 37                | 117         | 9                 | 387         | 34                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 13                  | 344         | 127         | 115        | 37                | 148         | 10                | 385         | 35                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| <b>14</b>           | <b>344</b>  | <b>127</b>  | <b>115</b> | <b>37</b>         | <b>177</b>  | <b>11</b>         | <b>561</b>  | <b>30</b>         | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>286</b>  | <b>0</b>   | <b>0</b>                |

|             | Int Warmteproductie |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|-------------|---------------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak | Pers<br>[W]         | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15          | 344                 | 127         | 115        | 37                | 207         | 12                | 491         | 26                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 16          | 344                 | 127         | 115        | 37                | 230         | 13                | 456         | 25                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 17          | 344                 | 128         | 115        | 37                | 250         | 14                | 435         | 26                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 18          | 344                 | 128         | 115        | 37                | 246         | 15                | 407         | 25                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 19          | 344                 | 128         | 115        | 37                | 230         | 15                | 400         | 25                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |
| 20          | 344                 | 128         | 115        | 37                | 204         | 15                | 443         | 25                | 0                       | 0           | 0                       | 0                       | 286         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 5 pers.            | 5.00 personen | 630                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 5 W/m2             | 114.7 W       | 115                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 137.6 W       | 138                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving         | Constr<br>Ref | Type   | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|----------------------|---------------|--------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenwand           | 2             | wand   | 181        | 90         | ruimte    | 28.0                  | 12.67       |                    | 0.58              |            |
| 2  | Tussenwand           | 2             | wand   | 271        | 90         | ruimte    | 28.0                  | 8.60        |                    | 0.58              |            |
| 3  | Tussenwand           | 2             | wand   | 181        | 90         | ruimte    |                       | 6.22        |                    | 0.58              |            |
| 4  | Tussenvloer          | 1             | vloer  |            |            | ruimte    |                       | 22.52       |                    | 1.41              |            |
| 5  | Plat dak Rc=8,00     | 15            | dak    |            |            | 0buiten   |                       | 22.52       | 26.08              | 0.12              |            |
| 6  | Gevel HSB<br>Rc=4,70 | 4             | wand   | 91 O       | 89         | buiten    |                       | 1.38        | 5.66               | 0.20              |            |
| 7  | Raam+bu.zw.          | 6             | kozijn | 91 O       | 89         | buiten    |                       | 1.08        |                    | 1.65              |            |
| 8  | Raam+bu.zw.          | 5             | glas   | 91 O       | 89         | buiten    |                       | 6.14        |                    | 1.65              | 0.29       |
| 9  | Gevel HSB<br>Rc=4,70 | 4             | wand   | 1 N        | 90         | buiten    |                       | 2.14        | 10.06              | 0.20              |            |
| 10 | Raam                 | 13            | kozijn | 1 N        | 90         | buiten    |                       | 2.41        |                    | 1.65              |            |
| 11 | Raam                 | 12            | glas   | 1 N        | 90         | buiten    |                       | 13.64       |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

[illegible]





|           | #   | 8    | 9    | 10   | 11   | 12   | 13   | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-----------|-----|------|------|------|------|------|------|----|----|----|----|----|----|----|
| Zonwering | 637 | neer | neer | neer | neer | neer | neer | op | op | op | op | op | op | op |



## Resultaten ruimte 2.02 MFK

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 45.38 m <sup>2</sup>     |
| Volume                    | 117.66 m <sup>3</sup>    |
| Vertrekmasse              | 2231.5 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2341 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1559                       | 67                         | 0               | 1627            | 572           | 2199          |
| 9            | 23.4                   | 25.0                   | 1560                       | 93                         | 0               | 1653            | 572           | 2225          |
| 10           | 25.7                   | 25.0                   | 1560                       | 122                        | 0               | 1682            | 572           | 2254          |
| 11           | 27.1                   | 25.0                   | 1560                       | 144                        | 0               | 1704            | 572           | 2276          |
| 12           | 28.1                   | 25.0                   | 1560                       | 161                        | 0               | 1721            | 572           | 2294          |
| 13           | 28.9                   | 25.0                   | 1560                       | 176                        | 0               | 1737            | 572           | 2309          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1560</b>                | <b>208</b>                 | <b>0</b>        | <b>1768</b>     | <b>572</b>    | <b>2341</b>   |
| 15           | 30.4                   | 25.0                   | 1560                       | 126                        | 0               | 1686            | 572           | 2259          |
| 16           | 31.0                   | 25.0                   | 1560                       | 145                        | 0               | 1706            | 572           | 2278          |
| 17           | 31.5                   | 25.0                   | 1561                       | 166                        | 0               | 1727            | 572           | 2299          |
| 18           | 31.4                   | 25.0                   | 1561                       | 186                        | 0               | 1747            | 572           | 2319          |
| 19           | 31.0                   | 25.0                   | 1561                       | 192                        | 0               | 1753            | 572           | 2325          |
| 20           | 30.3                   | 25.0                   | 1561                       | 153                        | 0               | 1714            | 572           | 2286          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 246         | 233        | 393               | -29         | 16                | 54          | 27                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 246         | 233        | 393               | -13         | 16                | 63          | 27                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 246         | 233        | 393               | 6           | 16                | 73          | 28                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 246         | 233        | 393               | 18          | 17                | 81          | 28                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 246         | 233        | 393               | 26          | 17                | 90          | 28                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 246         | 233        | 393               | 33          | 18                | 97          | 29                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 246         | 233        | 393               | 39          | 18                | 122         | 29                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 688      | 246      | 233     | 393         | 43       | 19          | 34       | 30          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 16                  | 688      | 247      | 233     | 393         | 48       | 19          | 45       | 33          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 17                  | 688      | 247      | 233     | 393         | 52       | 20          | 59       | 35          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 18                  | 688      | 247      | 233     | 393         | 51       | 20          | 77       | 38          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 19                  | 688      | 247      | 233     | 393         | 48       | 21          | 82       | 41          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 20                  | 688      | 247      | 233     | 393         | 42       | 21          | 48       | 43          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |

## Interne warmteproducties

| Personen                        | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|---------------------------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.                        | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>5 W/m <sup>2</sup> | 233.3 W        | 233                     |                  |                 | 1.00   | 1           |
| Verlichting                     |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>              | 280.0 W        | 280                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving | Constr Ref | Type  | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|--------------|------------|-------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenwand   | 2          | wand  | 100     | 89      | ruimte    | 28.0            | 11.27                 |                              | 0.58                        |         |
| 2  | Beton 220mm  | 9          | wand  | 190     | 90      | ruimte    | 28.0            | 4.28                  |                              | 2.73                        |         |
| 3  | Tussenwand   | 2          | wand  | 100     | 90      | ruimte    | 28.0            | 2.43                  |                              | 0.58                        |         |
| 4  | Tussenwand   | 2          | wand  | 190     | 90      | ruimte    | 28.0            | 5.24                  |                              | 0.58                        |         |
| 5  | Tussenwand   | 2          | wand  | 279     | 89      | ruimte    | 28.0            | 2.43                  |                              | 0.58                        |         |
| 6  | Beton 220mm  | 9          | wand  | 100     | 90      | ruimte    | 28.0            | 4.13                  |                              | 2.73                        |         |
| 7  | Tussenwand   | 2          | wand  | 190     | 90      | ruimte    | 28.0            | 5.27                  |                              | 0.58                        |         |
| 8  | Tussenwand   | 2          | wand  | 1       | 89      | ruimte    |                 | 6.19                  |                              | 0.58                        |         |
| 9  | Tussenwand   | 2          | wand  | 1       | 89      | ruimte    | 28.0            | 2.61                  |                              | 0.58                        |         |
| 10 | Beton 220mm  | 9          | wand  | 271     | 89      | ruimte    |                 | 14.46                 |                              | 2.73                        |         |
| 11 | Beton 220mm  | 9          | wand  | 1       | 89      | ruimte    |                 | 5.47                  |                              | 2.73                        |         |
| 12 | Beton 220mm  | 9          | wand  | 271     | 90      | ruimte    |                 | 5.79                  |                              | 2.73                        |         |
| 13 | Beton 220mm  | 9          | wand  | 1       | 89      | ruimte    |                 | 4.67                  |                              | 2.73                        |         |
| 14 | Beton 220mm  | 9          | wand  | 100     | 90      | ruimte    | 28.0            | 7.96                  |                              | 2.73                        |         |
| 15 | Tussenwand   | 2          | wand  | 10      | 90      | ruimte    | 28.0            | 5.27                  |                              | 0.58                        |         |
| 16 | Beton 220mm  | 9          | wand  | 100     | 90      | ruimte    | 28.0            | 4.51                  |                              | 2.73                        |         |
| 17 | Tussenwand   | 2          | wand  | 100     | 90      | ruimte    | 28.0            | 3.32                  |                              | 0.58                        |         |
| 18 | Beton 220mm  | 9          | wand  | 190     | 90      | ruimte    | 28.0            | 4.68                  |                              | 2.73                        |         |
| 19 | Tussenwand   | 2          | wand  | 271     | 90      | ruimte    | 28.0            | 0.67                  |                              | 0.58                        |         |
| 20 | Tussenvloer  | 1          | vloer |         |         | ruimte    |                 | 17.85                 |                              | 1.41                        |         |



| #  | Omschrijving         | Constr<br>Ref | Type   | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|----------------------|---------------|--------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 21 | Tussenvloer          | 1             | vloer  |            |            | ruimte    | 28.0                  | 27.52       |                    | 1.41              |            |
| 22 | Plat dak Rc=8,00     | 15            | dak    |            |            | 0buiten   |                       | 45.35       | 49.22              | 0.12              |            |
| 23 | Gevel HSB<br>Rc=4,70 | 4             | wand   | 271 W      |            | 89buiten  |                       | 2.19        | 4.76               | 0.20              |            |
| 24 | Raam+bu.zw.          | 6             | kozijn | 271 W      |            | 89buiten  |                       | 0.76        |                    | 1.65              |            |
| 25 | Raam+bu.zw.          | 5             | glas   | 271 W      |            | 89buiten  |                       | 4.32        |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 630 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.500 | 0.495 | 0.445 | 0.272 | 0.048 | 0.038 | 0.870 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 630 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



## Resultaten ruimte 2.18 Lokers

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | overige ruimte           |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 74.04 m <sup>2</sup>     |
| Volume                    | 192.22 m <sup>3</sup>    |
| Vertrekmasa               | 1833.8 kg/m <sup>2</sup> |
| Vocht binnen              | 8.0 gr/kg                |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2058 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1121                       | 142                        | 0               | 1263            | 572           | 1835          |
| 9            | 23.4                   | 25.0                   | 1121                       | 191                        | 0               | 1312            | 572           | 1884          |
| 10           | 25.7                   | 25.0                   | 1121                       | 244                        | 0               | 1366            | 572           | 1938          |
| 11           | 27.1                   | 25.0                   | 1122                       | 283                        | 0               | 1405            | 572           | 1977          |
| 12           | 28.1                   | 25.0                   | 1122                       | 314                        | 0               | 1436            | 572           | 2008          |
| 13           | 28.9                   | 25.0                   | 1123                       | 339                        | 0               | 1462            | 572           | 2034          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1123</b>                | <b>363</b>                 | <b>0</b>        | <b>1486</b>     | <b>572</b>    | <b>2058</b>   |
| 15           | 30.4                   | 25.0                   | 1123                       | 249                        | 0               | 1372            | 572           | 1944          |
| 16           | 31.0                   | 25.0                   | 1124                       | 298                        | 0               | 1422            | 572           | 1994          |
| 17           | 31.5                   | 25.0                   | 1124                       | 343                        | 0               | 1466            | 572           | 2039          |
| 18           | 31.4                   | 25.0                   | 1124                       | 359                        | 0               | 1483            | 572           | 2055          |
| 19           | 31.0                   | 25.0                   | 1124                       | 357                        | 0               | 1481            | 572           | 2054          |
| 20           | 30.3                   | 25.0                   | 1125                       | 331                        | 0               | 1456            | 572           | 2029          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 408         | 0          | 25                | -54         | 45                | 98          | 53                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 408         | 0          | 25                | -25         | 45                | 117         | 53                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 409         | 0          | 25                | 11          | 45                | 135         | 53                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 409         | 0          | 25                | 33          | 45                | 152         | 53                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 410         | 0          | 25                | 48          | 45                | 167         | 53                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 410         | 0          | 25                | 60          | 44                | 181         | 53                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 410         | 0          | 25                | 71          | 44                | 193         | 54                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |



| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 688      | 411      | 0       | 25          | 80       | 44          | 65       | 60          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 16                  | 688      | 411      | 0       | 25          | 89       | 44          | 101      | 65          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 17                  | 688      | 411      | 0       | 25          | 96       | 44          | 135      | 68          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 18                  | 688      | 412      | 0       | 25          | 95       | 44          | 152      | 68          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 19                  | 688      | 412      | 0       | 25          | 89       | 44          | 155      | 69          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 20                  | 688      | 412      | 0       | 25          | 78       | 44          | 138      | 71          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |

## Interne warmteproducties

| Personen    | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.    | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Verlichting |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 462.9 W        | 463                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type   | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|--------|---------|--------------------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenwand       | 2          | wand   | 10      | 90ruimte           | 28.0            | 3.16     |                 | 0.58           |         |
| 2  | Tussenwand       | 2          | wand   | 10      | 90ruimte           | 28.0            | 11.10    |                 | 0.58           |         |
| 3  | Tussenwand       | 2          | wand   | 100     | 90ruimte           | 25.0            | 37.39    |                 | 0.58           |         |
| 4  | Beton 220mm      | 9          | wand   | 190     | 90ruimte           | 25.0            | 13.49    |                 | 2.73           |         |
| 5  | Tussenvloer      | 1          | vloer  |         | ruimte             |                 | 37.19    |                 | 1.41           |         |
| 6  | Tussenvloer      | 1          | vloer  |         | ruimte             |                 | 36.86    |                 | 1.41           |         |
| 7  | Plat dak Rc=8,00 | 15         | dak    |         | 0buiten            |                 | 73.95    | 84.32           | 0.12           |         |
| 8  | Gevel Rc=4,70    | 10         | wand   | 280 W   | 90buiten           |                 | 28.00    | 42.73           | 0.21           |         |
| 9  | Raam+bu.zw.      | 6          | kozijn | 280 W   | 90buiten           |                 | 0.14     |                 | 1.65           |         |
| 10 | Raam+bu.zw.      | 5          | glas   | 280 W   | 90buiten           |                 | 0.79     |                 | 1.65           | 0.29    |
| 11 | Raam+bu.zw.      | 6          | kozijn | 280 W   | 90buiten           |                 | 0.38     |                 | 1.65           |         |
| 12 | Raam+bu.zw.      | 5          | glas   | 280 W   | 90buiten           |                 | 2.13     |                 | 1.65           | 0.29    |
| 13 | Raam+bu.zw.      | 6          | kozijn | 280 W   | 90buiten           |                 | 0.38     |                 | 1.65           |         |
| 14 | Raam+bu.zw.      | 5          | glas   | 280 W   | 90buiten           |                 | 2.13     |                 | 1.65           | 0.29    |
| 15 | Raam+bu.zw.      | 6          | kozijn | 280 W   | 90buiten           |                 | 0.14     |                 | 1.65           |         |
| 16 | Raam+bu.zw.      | 5          | glas   | 280 W   | 90buiten           |                 | 0.79     |                 | 1.65           | 0.29    |
| 17 | Raam+bu.zw.      | 6          | kozijn | 280 W   | 90buiten           |                 | 0.38     |                 | 1.65           |         |
| 18 | Raam+bu.zw.      | 5          | glas   | 280 W   | 90buiten           |                 | 2.13     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen



|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 625 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fracties  | 624 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fracties  | 623 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fracties  | 582 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Fracties  | 548 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 625 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |
| Zonwering | 624 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |
| Zonwering | 623 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |
| Zonwering | 582 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |
| Zonwering | 548 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



## Resultaten ruimte 2.20 Lokers

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | overige ruimte           |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 100.03 m <sup>2</sup>    |
| Volume                    | 259.39 m <sup>3</sup>    |
| Vertrekmasa               | 1869.9 kg/m <sup>2</sup> |
| Vocht binnen              | 8.0 gr/kg                |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 14            |
| <b>Maximale koellast</b>      | <b>2700 W</b> |

## Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1418                       | 198                        | 0               | 1616            | 572           | 2188          |
| 9            | 23.4                   | 25.0                   | 1418                       | 252                        | 0               | 1671            | 572           | 2243          |
| 10           | 25.7                   | 25.0                   | 1419                       | 299                        | 0               | 1718            | 572           | 2291          |
| 11           | 27.1                   | 25.0                   | 1419                       | 319                        | 0               | 1738            | 572           | 2311          |
| 12           | 28.1                   | 25.0                   | 1420                       | 320                        | 0               | 1740            | 572           | 2312          |
| 13           | 28.9                   | 25.0                   | 1420                       | 308                        | 0               | 1729            | 572           | 2301          |
| <b>14</b>    | <b>29.6</b>            | <b>25.0</b>            | <b>1421</b>                | <b>707</b>                 | <b>0</b>        | <b>2128</b>     | <b>572</b>    | <b>2700</b>   |
| 15           | 30.4                   | 25.0                   | 1421                       | 533                        | 0               | 1954            | 572           | 2526          |
| 16           | 31.0                   | 25.0                   | 1422                       | 446                        | 0               | 1868            | 572           | 2441          |
| 17           | 31.5                   | 25.0                   | 1422                       | 409                        | 0               | 1832            | 572           | 2404          |
| 18           | 31.4                   | 25.0                   | 1423                       | 396                        | 0               | 1818            | 572           | 2391          |
| 19           | 31.0                   | 25.0                   | 1423                       | 375                        | 0               | 1798            | 572           | 2371          |
| 20           | 30.3                   | 25.0                   | 1423                       | 348                        | 0               | 1771            | 572           | 2343          |

## Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 545         | 0          | 185               | -52         | 55                | 113         | 81                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 546         | 0          | 185               | -24         | 55                | 140         | 82                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 546         | 0          | 185               | 10          | 55                | 153         | 82                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 547         | 0          | 185               | 31          | 54                | 152         | 82                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 547         | 0          | 185               | 46          | 54                | 138         | 82                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 548         | 0          | 185               | 58          | 54                | 114         | 83                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 548         | 0          | 185               | 71          | 54                | 499         | 83                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |





| Int Warmteproductie |          |          |         | Transmissie |          |             | Zon      |             |                  | Reductie |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 15                  | 688      | 548      | 0       | 185         | 84       | 53          | 320      | 76          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 16                  | 688      | 549      | 0       | 185         | 93       | 53          | 229      | 72          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 17                  | 688      | 549      | 0       | 185         | 101      | 53          | 186      | 70          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 18                  | 688      | 550      | 0       | 185         | 99       | 53          | 173      | 71          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 19                  | 688      | 550      | 0       | 185         | 93       | 53          | 157      | 72          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |
| 20                  | 688      | 551      | 0       | 185         | 82       | 54          | 139      | 73          | 0                | 0        | 0                | 0                | 572      | 0       | 0                |

## Interne warmteproducties

| Personen    | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.    | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Verlichting |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 618.4 W        | 618                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type   | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|------------------|------------|--------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1  | Tussenwand       | 2          | wand   | 10      | 90      | ruimte    | 28.0            | 14.12    |                 | 0.58           |         |
| 2  | Tussenwand       | 2          | wand   | 10      | 90      | ruimte    | 28.0            | 4.83     |                 | 0.58           |         |
| 3  | Tussenwand       | 2          | wand   | 280     | 90      | ruimte    | 25.0            | 37.39    |                 | 0.58           |         |
| 4  | Beton 220mm      | 9          | wand   | 190     | 90      | ruimte    | 28.0            | 6.05     |                 | 2.73           |         |
| 5  | Beton 220mm      | 9          | wand   | 190     | 90      | ruimte    | 25.0            | 12.68    |                 | 2.73           |         |
| 6  | Tussenvloer      | 1          | vloer  |         |         | ruimte    | 28.0            | 12.20    |                 | 1.41           |         |
| 7  | Tussenvloer      | 1          | vloer  |         |         | ruimte    | 28.0            | 12.09    |                 | 1.41           |         |
| 8  | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 38.01    |                 | 1.41           |         |
| 9  | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 37.72    |                 | 1.41           |         |
| 10 | Plat dak Rc=8,00 | 15         | dak    |         |         | 0buiten   |                 | 99.80    | 110.45          | 0.12           |         |
| 11 | Gevel Rc=4,70    | 10         | wand   | 100 O   | 90      | buiten    |                 | 28.00    | 42.73           | 0.21           |         |
| 12 | Raam+bu.zw.      | 6          | kozijn | 100 O   | 90      | buiten    |                 | 0.14     |                 | 1.65           |         |
| 13 | Raam+bu.zw.      | 5          | glas   | 100 O   | 90      | buiten    |                 | 0.79     |                 | 1.65           | 0.29    |
| 14 | Raam+bu.zw.      | 6          | kozijn | 100 O   | 90      | buiten    |                 | 0.14     |                 | 1.65           |         |
| 15 | Raam+bu.zw.      | 5          | glas   | 100 O   | 90      | buiten    |                 | 0.79     |                 | 1.65           | 0.29    |
| 16 | Raam+bu.zw.      | 6          | kozijn | 100 O   | 90      | buiten    |                 | 0.38     |                 | 1.65           |         |
| 17 | Raam+bu.zw.      | 5          | glas   | 100 O   | 90      | buiten    |                 | 2.13     |                 | 1.65           | 0.29    |
| 18 | Raam+bu.zw.      | 6          | kozijn | 100 O   | 90      | buiten    |                 | 0.38     |                 | 1.65           |         |
| 19 | Raam+bu.zw.      | 5          | glas   | 100 O   | 90      | buiten    |                 | 2.13     |                 | 1.65           | 0.29    |
| 20 | Raam+bu.zw.      | 6          | kozijn | 100 O   | 90      | buiten    |                 | 0.38     |                 | 1.65           |         |
| 21 | Raam+bu.zw.      | 5          | glas   | 100 O   | 90      | buiten    |                 | 2.13     |                 | 1.65           | 0.29    |



## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 629 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Fracties  | 628 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Fracties  | 627 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Fracties  | 626 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Fracties  | 577 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 629 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |
| Zonwering | 628 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |
| Zonwering | 627 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |
| Zonwering | 626 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |
| Zonwering | 577 | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    | op    | op    | op    | op    |



## Resultaten ruimte 2.21 Lokers

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | overige ruimte           |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 44.24 m <sup>2</sup>     |
| Volume                    | 114.78 m <sup>3</sup>    |
| Vertrekmasa               | 1786.6 kg/m <sup>2</sup> |
| Vocht binnen              | 8.0 gr/kg                |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 19            |
| <b>Maximale koellast</b>      | <b>1941 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 941                        | 27                         | 0               | 968             | 572           | 1540          |
| 9            | 22.5                   | 25.0                   | 941                        | 53                         | 0               | 994             | 572           | 1566          |
| 10           | 24.9                   | 25.0                   | 941                        | 55                         | 0               | 996             | 572           | 1569          |
| 11           | 25.9                   | 25.0                   | 941                        | 91                         | 0               | 1033            | 572           | 1605          |
| 12           | 27.6                   | 25.0                   | 941                        | 136                        | 0               | 1078            | 572           | 1650          |
| 13           | 28.9                   | 25.0                   | 942                        | 178                        | 0               | 1119            | 572           | 1691          |
| 14           | 29.6                   | 25.0                   | 942                        | 213                        | 0               | 1155            | 572           | 1727          |
| 15           | 30.4                   | 25.0                   | 942                        | 246                        | 0               | 1188            | 572           | 1760          |
| 16           | 30.6                   | 25.0                   | 942                        | 270                        | 0               | 1212            | 572           | 1784          |
| 17           | 30.9                   | 25.0                   | 942                        | 287                        | 0               | 1229            | 572           | 1801          |
| 18           | 31.2                   | 25.0                   | 942                        | 294                        | 0               | 1236            | 572           | 1808          |
| <b>19</b>    | <b>30.8</b>            | <b>25.0</b>            | <b>942</b>                 | <b>426</b>                 | <b>0</b>        | <b>1368</b>     | <b>572</b>    | <b>1941</b>   |
| 20           | 29.4                   | 25.0                   | 942                        | 319                        | 0               | 1262            | 572           | 1834          |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 688         | 233         | 0          | 20                | -24         | -7                | 34          | 24                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 9                   | 688         | 233         | 0          | 20                | -14         | -4                | 41          | 30                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 10                  | 688         | 233         | 0          | 20                | -1          | 2                 | 17          | 36                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 11                  | 688         | 234         | 0          | 20                | 5           | 11                | 27          | 48                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 12                  | 688         | 234         | 0          | 20                | 14          | 22                | 37          | 64                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 13                  | 688         | 234         | 0          | 20                | 21          | 32                | 44          | 81                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |
| 14                  | 688         | 234         | 0          | 20                | 25          | 41                | 49          | 98                | 0                       | 0           | 0                       | 0                       | 572         | 0          | 0                       |



| Int Warmteproductie |            |            |          | Transmissie |           |             | Zon        |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|------------|----------|-------------|-----------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]   | App [W]  | Bi wand [W] | Glas [W]  | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 688        | 234        | 0        | 20          | 29        | 50          | 51         | 116         | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 16                  | 688        | 234        | 0        | 20          | 30        | 58          | 49         | 132         | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 17                  | 688        | 234        | 0        | 20          | 32        | 65          | 44         | 146         | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| 18                  | 688        | 234        | 0        | 20          | 34        | 71          | 37         | 153         | 0                | 0        | 0                | 0                | 572        | 0        | 0                |
| <b>19</b>           | <b>688</b> | <b>235</b> | <b>0</b> | <b>20</b>   | <b>33</b> | <b>76</b>   | <b>165</b> | <b>153</b>  | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>572</b> | <b>0</b> | <b>0</b>         |
| 20                  | 688        | 235        | 0        | 20          | 25        | 78          | 96         | 120         | 0                | 0        | 0                | 0                | 572        | 0        | 0                |

## Interne warmteproducties

| Personen    | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|-------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 10 pers.    | 10.00 personen | 1260                    | 0.70             | 1.20            | 0.55   | 1           |
| Verlichting |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m2      | 272.2 W        | 272                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving      | Constr Ref | Type   | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m²] | Opp buiten [m²] | U wrd [W/m².K] | ZTA [-] |
|----|-------------------|------------|--------|---------|---------|-----------|-----------------|----------|-----------------|----------------|---------|
| 1  | Beton 220mm       | 9          | wand   | 10      | 90      | ruimte    | 25.0            | 12.68    |                 | 2.73           |         |
| 2  | Beton 220mm       | 9          | wand   | 10      | 90      | ruimte    | 25.0            | 14.36    |                 | 2.73           |         |
| 3  | Tussenwand        | 2          | wand   | 100     | 90      | ruimte    | 28.0            | 11.45    |                 | 0.58           |         |
| 4  | Tussenvloer       | 1          | vloer  |         |         | ruimte    |                 | 23.35    |                 | 1.41           |         |
| 5  | Tussenvloer       | 1          | vloer  |         |         | ruimte    |                 | 20.89    |                 | 1.41           |         |
| 6  | Plat dak Rc=8,00  | 15         | dak    |         |         | 0buiten   |                 | 44.17    | 49.83           | 0.12           |         |
| 7  | Gevel HSB Rc=4,70 | 4          | wand   | 280 W   | 90      | buiten    |                 | 11.45    | 17.06           | 0.20           |         |
| 8  | Gevel HSB Rc=4,70 | 4          | wand   | 190 Z   | 90      | buiten    |                 | 22.98    | 34.22           | 0.20           |         |
| 9  | Raam+bu.zw.       | 6          | kozijn | 190 Z   | 90      | buiten    |                 | 0.38     |                 | 1.65           |         |
| 10 | Raam+bu.zw.       | 5          | glas   | 190 Z   | 90      | buiten    |                 | 2.13     |                 | 1.65           | 0.29    |
| 11 | Raam+bu.zw.       | 6          | kozijn | 190 Z   | 90      | buiten    |                 | 0.14     |                 | 1.65           |         |
| 12 | Raam+bu.zw.       | 5          | glas   | 190 Z   | 90      | buiten    |                 | 0.79     |                 | 1.65           | 0.29    |

## Schaduwfracties ramen

|          | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties | 621 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties | 620 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
|          | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |



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## Resultaten ruimte 2.23 Kantine

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 108.51 m <sup>2</sup>    |
| Volume                    | 279.90 m <sup>3</sup>    |
| Vertrekmasa               | 1730.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |                |
|-------------------------------|----------------|
| Maand met maximale koellast   | augustus       |
| Tijdvak met maximale koellast | 18             |
| <b>Maximale koellast</b>      | <b>12212 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 20.8                   | 25.0                   | 6565                       | 279                        | 0               | 6844            | 4350          | 11193         |
| 9            | 22.5                   | 25.0                   | 6566                       | 398                        | 0               | 6964            | 4350          | 11313         |
| 10           | 24.9                   | 25.0                   | 6566                       | 441                        | 0               | 7007            | 4350          | 11357         |
| 11           | 25.9                   | 25.0                   | 6567                       | 551                        | 0               | 7118            | 4350          | 11468         |
| 12           | 27.6                   | 25.0                   | 6567                       | 692                        | 0               | 7259            | 4350          | 11609         |
| 13           | 28.9                   | 25.0                   | 6568                       | 798                        | 0               | 7366            | 4350          | 11715         |
| 14           | 29.6                   | 25.0                   | 6568                       | 858                        | 0               | 7426            | 4350          | 11776         |
| 15           | 30.4                   | 25.0                   | 6569                       | 905                        | 0               | 7473            | 4350          | 11823         |
| 16           | 30.6                   | 25.0                   | 6569                       | 903                        | 0               | 7472            | 4350          | 11822         |
| 17           | 30.9                   | 25.0                   | 6570                       | 891                        | 0               | 7461            | 4350          | 11810         |
| <b>18</b>    | <b>31.2</b>            | <b>25.0</b>            | <b>6570</b>                | <b>1292</b>                | <b>0</b>        | <b>7862</b>     | <b>4350</b>   | <b>12212</b>  |
| 19           | 30.8                   | 25.0                   | 6571                       | 1168                       | 0               | 7738            | 4350          | 12088         |
| 20           | 29.4                   | 25.0                   | 6571                       | 936                        | 0               | 7507            | 4350          | 11857         |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             |                   | Zon         |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 5226        | 632         | 560        | 146               | -215        | 43                | 394         | 57                | 0                       | 0           | 0                       | 0                       | 4350        | 0          | 0                       |
| 9                   | 5226        | 633         | 560        | 146               | -128        | 43                | 416         | 67                | 0                       | 0           | 0                       | 0                       | 4350        | 0          | 0                       |
| 10                  | 5226        | 633         | 560        | 146               | -5          | 43                | 334         | 69                | 0                       | 0           | 0                       | 0                       | 4350        | 0          | 0                       |
| 11                  | 5226        | 634         | 560        | 146               | 45          | 43                | 393         | 70                | 0                       | 0           | 0                       | 0                       | 4350        | 0          | 0                       |
| 12                  | 5226        | 635         | 560        | 146               | 131         | 42                | 449         | 70                | 0                       | 0           | 0                       | 0                       | 4350        | 0          | 0                       |
| 13                  | 5226        | 635         | 560        | 146               | 196         | 42                | 489         | 70                | 0                       | 0           | 0                       | 0                       | 4350        | 0          | 0                       |
| 14                  | 5226        | 636         | 560        | 146               | 232         | 42                | 514         | 71                | 0                       | 0           | 0                       | 0                       | 4350        | 0          | 0                       |



| Int Warmteproductie |             |            |            | Transmissie |            |             | Zon        |             |                  | Reductie |                  |                  | Latent      |          |                  |
|---------------------|-------------|------------|------------|-------------|------------|-------------|------------|-------------|------------------|----------|------------------|------------------|-------------|----------|------------------|
| Tijd vak            | Pers [W]    | Verl [W]   | App [W]    | Bi wand [W] | Glas [W]   | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]    | App [W]  | Infil-tratie [W] |
| 15                  | 5226        | 636        | 560        | 146         | 272        | 41          | 520        | 71          | 0                | 0        | 0                | 0                | 4350        | 0        | 0                |
| 16                  | 5226        | 637        | 560        | 146         | 282        | 41          | 508        | 72          | 0                | 0        | 0                | 0                | 4350        | 0        | 0                |
| 17                  | 5226        | 637        | 560        | 146         | 297        | 41          | 481        | 72          | 0                | 0        | 0                | 0                | 4350        | 0        | 0                |
| <b>18</b>           | <b>5226</b> | <b>638</b> | <b>560</b> | <b>146</b>  | <b>317</b> | <b>41</b>   | <b>861</b> | <b>73</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>4350</b> | <b>0</b> | <b>0</b>         |
| 19                  | 5226        | 638        | 560        | 146         | 296        | 41          | 758        | 72          | 0                | 0        | 0                | 0                | 4350        | 0        | 0                |
| 20                  | 5226        | 638        | 560        | 146         | 225        | 42          | 599        | 71          | 0                | 0        | 0                | 0                | 4350        | 0        | 0                |

## Interne warmteproducties

| Personen           | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|--------------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 76 pers.           | 76.00 personen | 9576                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten          |                |                         |                  |                 |  |             |
| 5 W/m <sup>2</sup> | 560.3 W        | 560                     |                  |                 | 1.00   | 1           |
| Verlichting        |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup> | 672.4 W        | 672                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type   | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|------------------|------------|--------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenwand       | 2          | wand   | 271     | 90      | ruimte    |                 | 3.35                  |                              | 0.58                        |         |
| 2  | Tussenwand       | 2          | wand   | 181     | 89      | ruimte    |                 | 9.52                  |                              | 0.58                        |         |
| 3  | Tussenwand       | 2          | wand   | 271     | 90      | ruimte    |                 | 10.23                 |                              | 0.58                        |         |
| 4  | Tussenwand       | 2          | wand   | 271     | 90      | ruimte    |                 | 13.79                 |                              | 0.58                        |         |
| 5  | Tussenwand       | 2          | wand   | 1       | 90      | ruimte    |                 | 9.52                  |                              | 0.58                        |         |
| 6  | Beton 220mm      | 9          | wand   | 91      | 89      | ruimte    | 28.0            | 8.61                  |                              | 2.73                        |         |
| 7  | Beton 220mm      | 9          | wand   | 91      | 90      | ruimte    |                 | 14.46                 |                              | 2.73                        |         |
| 8  | Beton 220mm      | 9          | wand   | 181     | 90      | ruimte    |                 | 5.48                  |                              | 2.73                        |         |
| 9  | Beton 220mm      | 9          | wand   | 91      | 89      | ruimte    |                 | 5.50                  |                              | 2.73                        |         |
| 10 | Beton 220mm      | 9          | wand   | 181     | 90      | ruimte    |                 | 4.67                  |                              | 2.73                        |         |
| 11 | Tussenvloer      | 1          | vloer  |         |         | ruimte    | 28.0            | 17.89                 |                              | 1.41                        |         |
| 12 | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 2.72                  |                              | 1.41                        |         |
| 13 | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 23.78                 |                              | 1.41                        |         |
| 14 | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 7.75                  |                              | 1.41                        |         |
| 15 | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 11.76                 |                              | 1.41                        |         |
| 16 | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 25.52                 |                              | 1.41                        |         |
| 17 | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 19.09                 |                              | 1.41                        |         |
| 18 | Plat dak Rc=8,00 | 15         | dak    |         | 0       | buiten    |                 | 107.70                | 121.16                       | 0.12                        |         |
| 19 | Gevel Rc=4,70    | 10         | wand   | 1 N     | 90      | buiten    |                 | 6.75                  | 18.00                        | 0.21                        |         |
| 20 | Raam             | 13         | kozijn | 1 N     | 90      | buiten    |                 | 1.06                  |                              | 1.65                        |         |

| #  | Omschrijving  | Constr<br>Ref | Type   | Ori<br>[°] | Hel<br>[°] Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|---------------|---------------|--------|------------|----------------------|-----------------------|-------------|--------------------|-------------------|------------|
| 21 | Raam          | 12            | glas   | 1 N        | 90buiten             |                       | 6.02        |                    | 1.65              | 0.29       |
| 22 | Raam          | 13            | kozijn | 1 N        | 90buiten             |                       | 1.06        |                    | 1.65              |            |
| 23 | Raam          | 12            | glas   | 1 N        | 90buiten             |                       | 6.02        |                    | 1.65              | 0.29       |
| 24 | Raam          | 13            | kozijn | 1 N        | 90buiten             |                       | 1.06        |                    | 1.65              |            |
| 25 | Raam          | 12            | glas   | 1 N        | 90buiten             |                       | 6.02        |                    | 1.65              | 0.29       |
| 26 | Gevel Rc=4,70 | 10            | wand   | 181 Z      | 90buiten             |                       | 9.03        | 16.05              | 0.21              |            |
| 27 | Raam+bu.zw.   | 6             | kozijn | 181 Z      | 90buiten             |                       | 1.06        |                    | 1.65              |            |
| 28 | Raam+bu.zw.   | 5             | glas   | 181 Z      | 90buiten             |                       | 6.02        |                    | 1.65              | 0.29       |
| 29 | Raam+bu.zw.   | 6             | kozijn | 181 Z      | 90buiten             |                       | 0.40        |                    | 1.65              |            |
| 30 | Raam+bu.zw.   | 5             | glas   | 181 Z      | 90buiten             |                       | 2.24        |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 635 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 |
| Fracties  | 634 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 |
| Fracties  | 633 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 |
| Fracties  | 632 | 1.000 | 0.423 | 0.044 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties  | 631 | 1.000 | 0.962 | 0.690 | 0.284 | 0.000 | 0.026 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 632 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    |
| Zonwering | 631 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    |





## Resultaten ruimte 2.24 Briefing

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 36.90 m <sup>2</sup>     |
| Volume                    | 95.67 m <sup>3</sup>     |
| Vertrekmasa               | 1952.1 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | juli          |
| Tijdvak met maximale koellast | 20            |
| <b>Maximale koellast</b>      | <b>3368 W</b> |

### Koellast per uur

| Tijd-<br>vak | Buiten<br>temp<br>[°C] | Binnen<br>temp<br>[°C] | Interne<br>koellast<br>[W] | Externe<br>koellast<br>[W] | Reductie<br>[W] | Voelbaar<br>[W] | Latent<br>[W] | Totaal<br>[W] |
|--------------|------------------------|------------------------|----------------------------|----------------------------|-----------------|-----------------|---------------|---------------|
| 8            | 21.5                   | 25.0                   | 1863                       | 169                        | 0               | 2032            | 1202          | 3234          |
| 9            | 23.4                   | 25.0                   | 1863                       | 157                        | 0               | 2020            | 1202          | 3222          |
| 10           | 25.7                   | 25.0                   | 1864                       | 183                        | 0               | 2047            | 1202          | 3248          |
| 11           | 27.1                   | 25.0                   | 1864                       | 208                        | 0               | 2071            | 1202          | 3273          |
| 12           | 28.1                   | 25.0                   | 1864                       | 230                        | 0               | 2094            | 1202          | 3296          |
| 13           | 28.9                   | 25.0                   | 1864                       | 249                        | 0               | 2113            | 1202          | 3315          |
| 14           | 29.6                   | 25.0                   | 1864                       | 266                        | 0               | 2131            | 1202          | 3332          |
| 15           | 30.4                   | 25.0                   | 1864                       | 280                        | 0               | 2145            | 1202          | 3347          |
| 16           | 31.0                   | 25.0                   | 1865                       | 287                        | 0               | 2152            | 1202          | 3354          |
| 17           | 31.5                   | 25.0                   | 1865                       | 289                        | 0               | 2154            | 1202          | 3355          |
| 18           | 31.4                   | 25.0                   | 1865                       | 281                        | 0               | 2146            | 1202          | 3348          |
| 19           | 31.0                   | 25.0                   | 1865                       | 282                        | 0               | 2147            | 1202          | 3349          |
| <b>20</b>    | <b>30.3</b>            | <b>25.0</b>            | <b>1865</b>                | <b>301</b>                 | <b>0</b>        | <b>2166</b>     | <b>1202</b>   | <b>3368</b>   |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 1444        | 223         | 197        | 0                 | -41         | 29                | 148         | 33                | 0                       | 0           | 0                       | 0                       | 1202        | 0          | 0                       |
| 9                   | 1444        | 223         | 197        | 0                 | -19         | 29                | 114         | 32                | 0                       | 0           | 0                       | 0                       | 1202        | 0          | 0                       |
| 10                  | 1444        | 223         | 197        | 0                 | 8           | 29                | 114         | 32                | 0                       | 0           | 0                       | 0                       | 1202        | 0          | 0                       |
| 11                  | 1444        | 223         | 197        | 0                 | 25          | 29                | 122         | 32                | 0                       | 0           | 0                       | 0                       | 1202        | 0          | 0                       |
| 12                  | 1444        | 223         | 197        | 0                 | 36          | 29                | 133         | 32                | 0                       | 0           | 0                       | 0                       | 1202        | 0          | 0                       |
| 13                  | 1444        | 223         | 197        | 0                 | 46          | 29                | 142         | 32                | 0                       | 0           | 0                       | 0                       | 1202        | 0          | 0                       |
| 14                  | 1444        | 224         | 197        | 0                 | 54          | 29                | 148         | 35                | 0                       | 0           | 0                       | 0                       | 1202        | 0          | 0                       |



| Int Warmteproductie |             |            |            | Transmissie |           |             | Zon        |             |                  | Reductie |                  |                  | Latent      |          |                  |
|---------------------|-------------|------------|------------|-------------|-----------|-------------|------------|-------------|------------------|----------|------------------|------------------|-------------|----------|------------------|
| Tijd vak            | Pers [W]    | Verl [W]   | App [W]    | Bi wand [W] | Glas [W]  | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]    | App [W]  | Infil-tratie [W] |
| 15                  | 1444        | 224        | 197        | 0           | 63        | 29          | 151        | 38          | 0                | 0        | 0                | 0                | 1202        | 0        | 0                |
| 16                  | 1444        | 224        | 197        | 0           | 70        | 29          | 149        | 39          | 0                | 0        | 0                | 0                | 1202        | 0        | 0                |
| 17                  | 1444        | 224        | 197        | 0           | 76        | 29          | 144        | 40          | 0                | 0        | 0                | 0                | 1202        | 0        | 0                |
| 18                  | 1444        | 224        | 197        | 0           | 75        | 29          | 138        | 40          | 0                | 0        | 0                | 0                | 1202        | 0        | 0                |
| 19                  | 1444        | 225        | 197        | 0           | 70        | 29          | 142        | 41          | 0                | 0        | 0                | 0                | 1202        | 0        | 0                |
| <b>20</b>           | <b>1444</b> | <b>225</b> | <b>197</b> | <b>0</b>    | <b>62</b> | <b>29</b>   | <b>168</b> | <b>42</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>1202</b> | <b>0</b> | <b>0</b>         |

## Interne warmteproducties

| Personen                        | Invoer         | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|---------------------------------|----------------|-------------------------|------------------|-----------------|--|-------------|
| 21 pers.                        | 21.00 personen | 2646                    | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten<br>5 W/m <sup>2</sup> | 196.5 W        | 197                     |                  |                 | 1.00   | 1           |
| Verlichting                     |                |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup>              | 235.8 W        | 236                     | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type   | Ori [°] | Hel [°] | Keerzijde | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|------------------|------------|--------|---------|---------|-----------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenwand       | 2          | wand   | 181     | 89      | ruimte    |                 | 9.80                  |                              | 0.58                        |         |
| 2  | Tussenwand       | 2          | wand   | 91      | 89      | ruimte    |                 | 13.49                 |                              | 0.58                        |         |
| 3  | Tussenwand       | 2          | wand   | 181     | 89      | ruimte    |                 | 9.45                  |                              | 0.58                        |         |
| 4  | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 30.35                 |                              | 1.41                        |         |
| 5  | Tussenvloer      | 1          | vloer  |         |         | ruimte    |                 | 6.55                  |                              | 1.41                        |         |
| 6  | Plat dak Rc=8,00 | 15         | dak    |         |         | 0buiten   |                 | 36.79                 | 45.29                        | 0.12                        |         |
| 7  | Gevel Rc=4,70    | 10         | wand   | 1 N     | 90      | buiten    |                 | 11.45                 | 20.96                        | 0.21                        |         |
| 8  | Raam             | 13         | kozijn | 1 N     | 90      | buiten    |                 | 0.21                  |                              | 1.65                        |         |
| 9  | Raam             | 12         | glas   | 1 N     | 90      | buiten    |                 | 1.20                  |                              | 1.65                        | 0.29    |
| 10 | Raam             | 13         | kozijn | 1 N     | 90      | buiten    |                 | 0.21                  |                              | 1.65                        |         |
| 11 | Raam             | 12         | glas   | 1 N     | 90      | buiten    |                 | 1.20                  |                              | 1.65                        | 0.29    |
| 12 | Raam             | 13         | kozijn | 1 N     | 90      | buiten    |                 | 0.21                  |                              | 1.65                        |         |
| 13 | Raam             | 12         | glas   | 1 N     | 90      | buiten    |                 | 1.20                  |                              | 1.65                        | 0.29    |
| 14 | Raam             | 13         | kozijn | 1 N     | 90      | buiten    |                 | 0.21                  |                              | 1.65                        |         |
| 15 | Raam             | 12         | glas   | 1 N     | 90      | buiten    |                 | 1.20                  |                              | 1.65                        | 0.29    |
| 16 | Raam             | 13         | kozijn | 1 N     | 90      | buiten    |                 | 0.21                  |                              | 1.65                        |         |
| 17 | Raam             | 12         | glas   | 1 N     | 90      | buiten    |                 | 1.20                  |                              | 1.65                        | 0.29    |
| 18 | Gevel Rc=4,70    | 10         | wand   | 271 W   | 89      | buiten    |                 | 13.49                 | 20.87                        | 0.21                        |         |

## Schaduwfracties ramen

[illegible]



## Resultaten ruimte 2.26 \*Overleg

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 13.66 m <sup>2</sup>     |
| Volume                    | 34.87 m <sup>3</sup>     |
| Vertrekmasa               | 1737.6 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 18            |
| <b>Maximale koellast</b>      | <b>1171 W</b> |

### Koellast per uur

| Tijd-vak  | Buiten temp [°C] | Binnen temp [°C] | Interne koellast [W] | Externe koellast [W] | Reductie [W] | Voelbaar [W] | Latent [W] | Totaal [W]  |
|-----------|------------------|------------------|----------------------|----------------------|--------------|--------------|------------|-------------|
| 8         | 20.8             | 25.0             | 567                  | 30                   | 0            | 597          | 343        | 940         |
| 9         | 22.5             | 25.0             | 567                  | 60                   | 0            | 627          | 343        | 971         |
| 10        | 24.9             | 25.0             | 567                  | 38                   | 0            | 605          | 343        | 949         |
| 11        | 25.9             | 25.0             | 567                  | 61                   | 0            | 628          | 343        | 972         |
| 12        | 27.6             | 25.0             | 567                  | 91                   | 0            | 658          | 343        | 1002        |
| 13        | 28.9             | 25.0             | 567                  | 117                  | 0            | 684          | 343        | 1027        |
| 14        | 29.6             | 25.0             | 567                  | 133                  | 0            | 700          | 343        | 1043        |
| 15        | 30.4             | 25.0             | 567                  | 138                  | 0            | 705          | 343        | 1049        |
| 16        | 30.6             | 25.0             | 567                  | 130                  | 0            | 697          | 343        | 1041        |
| 17        | 30.9             | 25.0             | 567                  | 116                  | 0            | 684          | 343        | 1027        |
| <b>18</b> | <b>31.2</b>      | <b>25.0</b>      | <b>567</b>           | <b>261</b>           | <b>0</b>     | <b>828</b>   | <b>343</b> | <b>1171</b> |
| 19        | 30.8             | 25.0             | 567                  | 181                  | 0            | 748          | 343        | 1092        |
| 20        | 29.4             | 25.0             | 567                  | 133                  | 0            | 700          | 343        | 1044        |

### Deelresultaten

| Int Warmteproductie |          |          |         | Transmissie |          | Zon         |          |             | Reductie         |          |                  |                  | Latent   |         |                  |
|---------------------|----------|----------|---------|-------------|----------|-------------|----------|-------------|------------------|----------|------------------|------------------|----------|---------|------------------|
| Tijd vak            | Pers [W] | Verl [W] | App [W] | Bi wand [W] | Glas [W] | Bu wand [W] | Glas [W] | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W] | App [W] | Infil-tratie [W] |
| 8                   | 413      | 82       | 70      | 2           | -29      | 7           | 44       | 8           | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 9                   | 413      | 82       | 70      | 2           | -18      | 7           | 60       | 11          | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 10                  | 413      | 82       | 70      | 2           | -1       | 7           | 20       | 12          | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 11                  | 413      | 82       | 70      | 2           | 6        | 7           | 36       | 12          | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 12                  | 413      | 82       | 70      | 2           | 17       | 7           | 55       | 12          | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 13                  | 413      | 82       | 70      | 2           | 26       | 7           | 71       | 12          | 0                | 0        | 0                | 0                | 343      | 0       | 0                |
| 14                  | 413      | 82       | 70      | 2           | 31       | 7           | 83       | 13          | 0                | 0        | 0                | 0                | 343      | 0       | 0                |



| Int Warmteproductie |            |           |           | Transmissie |           |             | Zon        |             |                  | Reductie |                  |                  | Latent     |          |                  |
|---------------------|------------|-----------|-----------|-------------|-----------|-------------|------------|-------------|------------------|----------|------------------|------------------|------------|----------|------------------|
| Tijd vak            | Pers [W]   | Verl [W]  | App [W]   | Bi wand [W] | Glas [W]  | Bu wand [W] | Glas [W]   | Bu wand [W] | Infil-tratie [W] | Glas [W] | Accu-mulatie [W] | Infil-tratie [W] | Pers [W]   | App [W]  | Infil-tratie [W] |
| 15                  | 413        | 82        | 70        | 2           | 36        | 7           | 82         | 13          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 16                  | 413        | 82        | 70        | 2           | 37        | 7           | 73         | 13          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 17                  | 413        | 82        | 70        | 2           | 39        | 7           | 57         | 13          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| <b>18</b>           | <b>413</b> | <b>82</b> | <b>70</b> | <b>2</b>    | <b>43</b> | <b>7</b>    | <b>197</b> | <b>13</b>   | <b>0</b>         | <b>0</b> | <b>0</b>         | <b>0</b>         | <b>343</b> | <b>0</b> | <b>0</b>         |
| 19                  | 413        | 82        | 70        | 2           | 41        | 7           | 122        | 12          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |
| 20                  | 413        | 82        | 70        | 2           | 31        | 7           | 84         | 11          | 0                | 0        | 0                | 0                | 343        | 0        | 0                |

## Interne warmteproducties

| Personen           | Invoer        | Omgerekend vermogen [W] | Clo              | MET             | Voelbaar deel                                | Tijd schema |
|--------------------|---------------|-------------------------|------------------|-----------------|--|-------------|
| 6 pers.            | 6.00 personen | 756                     | 0.70             | 1.20            | 0.55   | 1           |
| Apparaten          |               |                         |                  |                 |  |             |
| 5 W/m <sup>2</sup> | 70.3 W        | 70                      |                  |                 | 1.00   | 1           |
| Verlichting        |               |                         | Convectie factor | Reductie factor | Eigenschappen                                |             |
| 6 W/m <sup>2</sup> | 84.3 W        | 84                      | 0.30             | 1.00            | inbouw,plafond niet verlicht,afzuiging geen, | 1           |

## Constructies

| #  | Omschrijving     | Constr Ref | Type   | Ori [°] | Hel. Keerzijde [°] | Aangr temp [°C] | Opp [m <sup>2</sup> ] | Opp buiten [m <sup>2</sup> ] | U wrd [W/m <sup>2</sup> .K] | ZTA [-] |
|----|------------------|------------|--------|---------|--------------------|-----------------|-----------------------|------------------------------|-----------------------------|---------|
| 1  | Tussenwand       | 2          | wand   | 271     | 90ruimte           |                 | 9.92                  |                              | 0.58                        |         |
| 2  | Tussenwand       | 2          | wand   | 1       | 90ruimte           |                 | 9.19                  |                              | 0.58                        |         |
| 3  | Tussenwand       | 2          | wand   | 91      | 89ruimte           |                 | 9.91                  |                              | 0.58                        |         |
| 4  | Tussenvloer      | 1          | vloer  |         | ruimte             | 28.0            | 0.54                  |                              | 1.41                        |         |
| 5  | Tussenvloer      | 1          | vloer  |         | ruimte             |                 | 7.75                  |                              | 1.41                        |         |
| 6  | Tussenvloer      | 1          | vloer  |         | ruimte             |                 | 0.96                  |                              | 1.41                        |         |
| 7  | Tussenvloer      | 1          | vloer  |         | ruimte             |                 | 4.41                  |                              | 1.41                        |         |
| 8  | Plat dak Rc=8,00 | 15         | dak    |         | 0buiten            |                 | 13.44                 | 16.20                        | 0.12                        |         |
| 9  | Gevel Rc=4,70    | 10         | wand   | 181 Z   | 89buiten           |                 | 4.94                  | 8.68                         | 0.21                        |         |
| 10 | Raam+bu.zw.      | 6          | kozijn | 181 Z   | 89buiten           |                 | 0.21                  |                              | 1.65                        |         |
| 11 | Raam+bu.zw.      | 5          | glas   | 181 Z   | 89buiten           |                 | 1.20                  |                              | 1.65                        | 0.29    |
| 12 | Raam+bu.zw.      | 6          | kozijn | 181 Z   | 89buiten           |                 | 0.21                  |                              | 1.65                        |         |
| 13 | Raam+bu.zw.      | 5          | glas   | 181 Z   | 89buiten           |                 | 1.20                  |                              | 1.65                        | 0.29    |
| 14 | Raam+bu.zw.      | 6          | kozijn | 181 Z   | 89buiten           |                 | 0.21                  |                              | 1.65                        |         |
| 15 | Raam+bu.zw.      | 5          | glas   | 181 Z   | 89buiten           |                 | 1.20                  |                              | 1.65                        | 0.29    |

## Schaduwfracties ramen

# 8 9 10 11 12 13 14 15 16 17 18 19 20



126/ 134

20-9-2023 16:16:55

[illegible]



## Resultaten ruimte 2.27 Kantoor

|                           |                          |
|---------------------------|--------------------------|
| Type ruimte               | verblijfsruimte          |
| Ontwerptemperatuur        | 25.0 °C                  |
| Toegelaten stijging       | 0.0 K                    |
| Overschrijdingsduur (Tod) | 0.0 uur                  |
| Vloeroppervlakte          | 18.40 m <sup>2</sup>     |
| Volume                    | 47.47 m <sup>3</sup>     |
| Vertrekmasa               | 2194.9 kg/m <sup>2</sup> |
| Vocht binnen              | 14.0 gr/kg               |
| Infiltratiedebiet         | 0.00000 1/h              |

|                               |               |
|-------------------------------|---------------|
| Maand met maximale koellast   | augustus      |
| Tijdvak met maximale koellast | 18            |
| <b>Maximale koellast</b>      | <b>1565 W</b> |

### Koellast per uur

| Tijd-vak  | Buiten temp [°C] | Binnen temp [°C] | Interne koellast [W] | Externe koellast [W] | Reductie [W] | Voelbaar [W] | Latent [W] | Totaal [W]  |
|-----------|------------------|------------------|----------------------|----------------------|--------------|--------------|------------|-------------|
| 8         | 20.8             | 25.0             | 927                  | 46                   | 0            | 972          | 343        | 1316        |
| 9         | 22.5             | 25.0             | 927                  | 91                   | 0            | 1017         | 343        | 1361        |
| 10        | 24.9             | 25.0             | 927                  | 78                   | 0            | 1004         | 343        | 1348        |
| 11        | 25.9             | 25.0             | 927                  | 99                   | 0            | 1026         | 343        | 1370        |
| 12        | 27.6             | 25.0             | 927                  | 123                  | 0            | 1050         | 343        | 1393        |
| 13        | 28.9             | 25.0             | 927                  | 142                  | 0            | 1069         | 343        | 1412        |
| 14        | 29.6             | 25.0             | 927                  | 167                  | 0            | 1094         | 343        | 1438        |
| 15        | 30.4             | 25.0             | 927                  | 145                  | 0            | 1072         | 343        | 1415        |
| 16        | 30.6             | 25.0             | 927                  | 151                  | 0            | 1079         | 343        | 1422        |
| 17        | 30.9             | 25.0             | 927                  | 153                  | 0            | 1080         | 343        | 1423        |
| <b>18</b> | <b>31.2</b>      | <b>25.0</b>      | <b>927</b>           | <b>294</b>           | <b>0</b>     | <b>1221</b>  | <b>343</b> | <b>1565</b> |
| 19        | 30.8             | 25.0             | 927                  | 255                  | 0            | 1183         | 343        | 1526        |
| 20        | 29.4             | 25.0             | 928                  | 182                  | 0            | 1110         | 343        | 1453        |

### Deelresultaten

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   |                         | Reductie    |                         |                         | Latent      |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 8                   | 413         | 113         | 400        | 0                 | -31         | 16                | 46          | 15                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 9                   | 413         | 114         | 400        | 0                 | -18         | 16                | 74          | 19                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 10                  | 413         | 114         | 400        | 0                 | -1          | 16                | 42          | 21                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 11                  | 413         | 114         | 400        | 0                 | 6           | 16                | 56          | 21                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 12                  | 413         | 114         | 400        | 0                 | 18          | 15                | 68          | 22                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 13                  | 413         | 114         | 400        | 0                 | 28          | 15                | 77          | 22                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 14                  | 413         | 114         | 400        | 0                 | 32          | 15                | 94          | 25                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |

| Int Warmteproductie |             |             |            | Transmissie       |             | Zon               |             |                   | Reductie                |             |                         | Latent                  |             |            |                         |
|---------------------|-------------|-------------|------------|-------------------|-------------|-------------------|-------------|-------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|------------|-------------------------|
| Tijd<br>vak         | Pers<br>[W] | Verl<br>[W] | App<br>[W] | Bi<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Glas<br>[W] | Bu<br>wand<br>[W] | Infil-<br>tratie<br>[W] | Glas<br>[W] | Accu-<br>mulatie<br>[W] | Infil-<br>tratie<br>[W] | Pers<br>[W] | App<br>[W] | Infil-<br>tratie<br>[W] |
| 15                  | 413         | 114         | 400        | 0                 | 37          | 15                | 65          | 27                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 16                  | 413         | 114         | 400        | 0                 | 39          | 15                | 69          | 29                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 17                  | 413         | 114         | 400        | 0                 | 41          | 15                | 67          | 29                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| <b>18</b>           | <b>413</b>  | <b>114</b>  | <b>400</b> | <b>0</b>          | <b>44</b>   | <b>15</b>         | <b>205</b>  | <b>29</b>         | <b>0</b>                | <b>0</b>    | <b>0</b>                | <b>0</b>                | <b>343</b>  | <b>0</b>   | <b>0</b>                |
| 19                  | 413         | 114         | 400        | 0                 | 42          | 15                | 171         | 27                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |
| 20                  | 413         | 114         | 400        | 0                 | 32          | 16                | 109         | 26                | 0                       | 0           | 0                       | 0                       | 343         | 0          | 0                       |

## Interne warmteproducties

| <i>Personen</i>    | <i>Invoer</i> | <i>Omgerekend<br/>vermogen<br/>[W]</i> | <i>Clo</i>                  | <i>MET</i>                 | <i>Voelbaar<br/>deel</i>                        | <i>Tijd<br/>schema</i> |
|--------------------|---------------|--|-----------------------------|----------------------------|---|------------------------|
| 6 pers.            | 6.00 personen | 756                                    | 0.70                        | 1.20                       | 0.55  | 1                      |
| <i>Apparaten</i>   |               |  |                             |                            |   |                        |
| 20 W/m2            | 400.5 W       | 400                                    |                             |                            | 1.00  | 1                      |
| <i>Verlichting</i> |               |  | <i>Convectie<br/>factor</i> | <i>Reductie<br/>factor</i> | <i>Eigenschappen</i>                            |                        |
| 6 W/m2             | 120.1 W       | 120                                    | 0.30                        | 1.00                       | inbouw,plafond niet<br>verlicht,afzuiging geen, | 1                      |

## Constructies

| #  | Omschrijving     | Constr<br>Ref | Type   | Ori<br>[°] | Hel<br>[°] | Keerzijde | Aangr<br>temp<br>[°C] | Opp<br>[m²] | Opp buiten<br>[m²] | U wrd<br>[W/m².K] | ZTA<br>[-] |
|----|------------------|---------------|--------|------------|------------|-----------|-----------------------|-------------|--------------------|-------------------|------------|
| 1  | Tussenwand       | 2             | wand   | 91         | 89         | ruimte    |                       | 10.22       |                    | 0.58              |            |
| 2  | Tussenwand       | 2             | wand   | 1          | 90         | ruimte    |                       | 9.33        |                    | 0.58              |            |
| 3  | Tussenwand       | 2             | wand   | 91         | 89         | ruimte    |                       | 3.72        |                    | 0.58              |            |
| 4  | Tussenvloer      | 1             | vloer  |            |            | ruimte    |                       | 12.20       |                    | 1.41              |            |
| 5  | Tussenvloer      | 1             | vloer  |            |            | ruimte    |                       | 6.20        |                    | 1.41              |            |
| 6  | Plat dak Rc=8,00 | 15            | dak    |            | 0          | buiten    |                       | 18.25       | 24.39              | 0.12              |            |
| 7  | Gevel Rc=4,70    | 10            | wand   | 181 Z      | 89         | buiten    |                       | 6.50        | 12.29              | 0.21              |            |
| 8  | Raam+bu.zw.      | 6             | kozijn | 181 Z      | 89         | buiten    |                       | 0.21        |                    | 1.65              |            |
| 9  | Raam+bu.zw.      | 5             | glas   | 181 Z      | 89         | buiten    |                       | 1.20        |                    | 1.65              | 0.29       |
| 10 | Raam+bu.zw.      | 6             | kozijn | 181 Z      | 89         | buiten    |                       | 0.21        |                    | 1.65              |            |
| 11 | Raam+bu.zw.      | 5             | glas   | 181 Z      | 89         | buiten    |                       | 1.20        |                    | 1.65              | 0.29       |
| 12 | Gevel Rc=4,70    | 10            | wand   | 271 W      | 89         | buiten    |                       | 11.75       | 19.28              | 0.21              |            |
| 13 | Raam+bu.zw.      | 6             | kozijn | 271 W      | 89         | buiten    |                       | 0.24        |                    | 1.65              |            |
| 14 | Raam+bu.zw.      | 5             | glas   | 271 W      | 89         | buiten    |                       | 1.35        |                    | 1.65              | 0.29       |

## Schaduwfracties ramen

[illegible]





|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Fracties  | 646 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| Fracties  | 645 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|           | #   | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
| Zonwering | 647 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    |
| Zonwering | 646 | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  | neer  | neer  | op    | op    | op    |
| Zonwering | 645 | op    | op    | op    | op    | op    | op    | op    | neer  | neer  | neer  | neer  | neer  | neer  |



## Invoer algemeen

### Tijdschema 1

Tijdschema 1

| Tijdvak | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Factor  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

## Overzicht van alle toegepaste constructies

### Constructies

| Ref | Omschrijving      | Type | Invoer               | Dikte | Rc waarde | Massa   | Bekleding | Absorptie [-] |      |      |
|-----|-------------------|------|----------------------|-------|-----------|---------|-----------|---------------|------|------|
|     |                   |      | Materiaal<br>lagen ? | [mm]  | [m².K/W]  | [kg/m²] | bu        | bi            | bu   | bi   |
| 1   | Tussenvloer       | vlak | Ja                   | 750   | 0.46      | 938.00  | 1         | 1             | 0.60 | 0.60 |
| 2   | Tussenwand        | vlak | Ja                   | 100   | 1.47      | 46.75   | 3         | 3             | 0.60 | 0.60 |
| 3   | BG vloer Rc=3,70  | vlak | Ja                   | 451   | 3.70      | 749.93  | 1         | 2             | 0.60 | 0.60 |
| 4   | Gevel HSB Rc=4,70 | vlak | Ja                   | 289   | 4.72      | 38.42   | 3         | 3             | 0.60 | 0.60 |
| 7   | Tussenwand 220mm  | vlak | Ja                   | 220   | 0.43      | 420.00  | 1         | 1             | 0.60 | 0.60 |
| 8   | Tussenwand 250mm  | vlak | Ja                   | 250   | 1.50      | 421.75  | 1         | 1             | 0.60 | 0.60 |
| 9   | Beton 220mm       | vlak | Ja                   | 220   | 0.12      | 550.00  | 1         | 1             | 0.60 | 0.60 |
| 10  | Gevel Rc=4,70     | vlak | Ja                   | 606   | 4.70      | 766.07  | 1         | 1             | 0.60 | 0.60 |
| 11  | Deur              | deur | Ja                   | 60    | 0.43      | 33.00   |           |               |      |      |
| 15  | Plat dak Rc=8.00  | vlak | Ja                   | 990   | 7.99      | 953.30  | 1         | 1             | 0.60 | 0.60 |

### Ramen

| Ref | Omschrijving | U glas<br>[W/m <sup>2</sup> .K] | Kozijn<br>Ref | U kozijn<br>[W/m <sup>2</sup> .K] | ZTA<br>[-] | CF<br>[-] | Zonwering | Schakeling  |
|-----|--------------|---------------------------------|---------------|-----------------------------------|------------|-----------|-----------|-------------|
| 5   | Raam+bu.zw.  | 1.65                            | 6             |                                   | 0.29       | 0.02      | buiten    | automatisch |
| 6   | Raam+bu.zw.  |                                 |               | 1.65                              |            |           |           |             |
| 12  | Raam         | 1.65                            | 13            |                                   | 0.29       | 0.02      |           |             |
| 13  | Raam         |                                 |               | 1.65                              |            |           |           |             |

### Materiaallagen 1, Tussenvloer

| Omschrijving              | Type      | Dikte<br>[mm] | Lambda<br>[W/m.K] | Dichtheid<br>[kg/m <sup>3</sup> ] | Soortelijke warmte<br>[J/(kg.K)] |
|---------------------------|-----------|---------------|-------------------|-----------------------------------|----------------------------------|
| Beton - Afwerklaag        | materiaal | 60            | 1.300             | 2000                              | 840                              |
| Beton - Verdicht gewapend | materiaal | 320           | 1.900             | 2500                              | 840                              |
| Spouw - Horizontaal       | spouw     | 350           | 0.160             |                                   |                                  |
| warmtestroom naar boven   |           |               |                   |                                   |                                  |



| <i>Omschrijving</i>               | <i>Type</i> | <i>Dikte</i><br>[mm] | <i>Lambda</i><br>[W/m.K] | <i>Dichtheid</i><br>[kg/m³] | <i>Soortelijke warmte</i><br>[J/(kg.K)] |
|-----------------------------------|-------------|----------------------|--------------------------|-----------------------------|---|
| ongeventileerd<br>Plaat - Plafond | materiaal   | 20                   | 0.230                    | 900                         | 840                                     |

### Materiaallagen 2, Tussenwand

| <i>Omschrijving</i>   | <i>Type</i> | <i>Dikte</i><br>[mm] | <i>Lambda</i><br>[W/m.K] | <i>Dichtheid</i><br>[kg/m³] | <i>Soortelijke warmte</i><br>[J/(kg.K)] |
|---|-------------|----------------------|--------------------------|-----------------------------|---|
| Plaat - Gipsplaat   | materiaal   | 25                   | 0.230                    | 900                         | 840                                     |
| Isolatie - Minerale<br>wol/vezelplaat<br>(glaswol/steenwol) | materiaal   | 50                   | 0.040                    | 35                          | 840                                     |
| Plaat - Gipsplaat   | materiaal   | 25                   | 0.230                    | 900                         | 840                                     |

### Materiaallagen 3, BG vloer Rc=3,70

| <i>Omschrijving</i>   | <i>Type</i> | <i>Dikte</i><br>[mm] | <i>Lambda</i><br>[W/m.K] | <i>Dichtheid</i><br>[kg/m³] | <i>Soortelijke warmte</i><br>[J/(kg.K)] |
|---|-------------|----------------------|--------------------------|-----------------------------|---|
| Beton - Afwerklaag  | materiaal   | 60                   | 1.300                    | 2000                        | 840                                     |
| Beton - Verdicht gewapend                                   | materiaal   | 250                  | 1.900                    | 2500                        | 840                                     |
| Isolatie - Minerale<br>wol/vezelplaat<br>(glaswol/steenwol) | materiaal   | 141                  | 0.040                    | 35                          | 840                                     |

### Materiaallagen 4, Gevel HSB Rc=4,70

| <i>Omschrijving</i>   | <i>Type</i> | <i>Dikte</i><br>[mm] | <i>Lambda</i><br>[W/m.K] | <i>Dichtheid</i><br>[kg/m³] | <i>Soortelijke warmte</i><br>[J/(kg.K)] |
|---|-------------|----------------------|--------------------------|-----------------------------|---|
| Hout - Naalddhout   | materiaal   | 18                   | 0.140                    | 550                         | 1880                                    |
| Spouw - Vertikaal niet<br>geventileerd                      | spouw       | 74                   | 0.180                    |                             |   |
| Isolatie - Minerale<br>wol/vezelplaat<br>(glaswol/steenwol) | materiaal   | 172                  | 0.040                    | 35                          | 840                                     |
| Plaat - Gipsplaat   | materiaal   | 25                   | 0.230                    | 900                         | 840                                     |

### Materiaallagen 7, Tussenwand 220mm

| <i>Omschrijving</i>                    | <i>Type</i> | <i>Dikte</i><br>[mm] | <i>Lambda</i><br>[W/m.K] | <i>Dichtheid</i><br>[kg/m³] | <i>Soortelijke warmte</i><br>[J/(kg.K)] |
|--|-------------|----------------------|--------------------------|-----------------------------|---|
| Metselstenen - Baksteen                | materiaal   | 100                  | 0.800                    | 2100                        | 840                                     |
| Spouw - Vertikaal niet<br>geventileerd | spouw       | 20                   | 0.180                    |                             |   |
| Metselstenen - Baksteen                | materiaal   | 100                  | 0.800                    | 2100                        | 840                                     |

### Materiaallagen 8, Tussenwand 250mm

| <i>Omschrijving</i> | <i>Type</i> | <i>Dikte</i> | <i>Lambda</i> | <i>Dichtheid</i> | <i>Soortelijke warmte</i> |
|---------------------|-------------|--------------|---------------|------------------|---------------------------|
|---------------------|-------------|--------------|---------------|------------------|---------------------------|



|   |           | <i>[mm]</i> | <i>[W/m.K]</i> | <i>[kg/m³]</i> | <i>[J/(kg.K)]</i> |
|---|-----------|-------------|----------------|----------------|-------------------|
| Metselstenen - Baksteen                                     | materiaal | 100         | 0.800          | 2100           | 840               |
| Isolatie - Minerale<br>wol/vezelplaat<br>(glaswol/steenwol) | materiaal | 50          | 0.040          | 35             | 840               |
| Metselstenen - Baksteen                                     | materiaal | 100         | 0.800          | 2100           | 840               |

**Materiaallagen 9, Beton 220mm**

| <i>Omschrijving</i>       | <i>Type</i> | <i>Dikte<br/>[mm]</i> | <i>Lambda<br/>[W/m.K]</i> | <i>Dichtheid<br/>[kg/m³]</i> | <i>Soortelijke warmte<br/>[J/(kg.K)]</i> |
|---------------------------|-------------|-----------------------|---------------------------|------------------------------|--|
| Beton - Verdicht gewapend | materiaal   | 220                   | 1.900                     | 2500                         | 840                                      |

**Materiaallagen 10, Gevel Rc=4,70**

| <i>Omschrijving</i>                                 | <i>Type</i> | <i>Dikte<br/>[mm]</i> | <i>Lambda<br/>[W/m.K]</i> | <i>Dichtheid<br/>[kg/m³]</i> | <i>Soortelijke warmte<br/>[J/(kg.K)]</i> |
|---|-------------|-----------------------|---------------------------|------------------------------|--|
| Plaat -<br>Houtwolcementplaat                       | materiaal   | 8                     | 0.090                     | 350                          | 1470                                     |
| Spouw - Vertikaal niet<br>geventileerd              | spouw       | 60                    | 0.180                     |                              |  |
| Isolatie - EPS (polystyreen<br>geëxpandeerd schuim) | materiaal   | 118                   | 0.052                     | 15                           | 1470                                     |
| Metselstenen - Baksteen                             | materiaal   | 100                   | 0.800                     | 2100                         | 840                                      |
| Isolatie - EPS (polystyreen<br>geëxpandeerd schuim) | materiaal   | 100                   | 0.052                     | 15                           | 1470                                     |
| Beton - Verdicht gewapend                           | materiaal   | 220                   | 1.900                     | 2500                         | 840                                      |

**Materiaallagen 11, Deur**

| <i>Omschrijving</i> | <i>Type</i> | <i>Dikte<br/>[mm]</i> | <i>Lambda<br/>[W/m.K]</i> | <i>Dichtheid<br/>[kg/m³]</i> | <i>Soortelijke warmte<br/>[J/(kg.K)]</i> |
|---------------------|-------------|-----------------------|---------------------------|------------------------------|--|
| Hout - Naaldbout    | materiaal   | 60                    | 0.140                     | 550                          | 1880                                     |

**Materiaallagen 15, Plat dak Rc=8,00**

| <i>Omschrijving</i>  | <i>Type</i> | <i>Dikte<br/>[mm]</i> | <i>Lambda<br/>[W/m.K]</i> | <i>Dichtheid<br/>[kg/m³]</i> | <i>Soortelijke warmte<br/>[J/(kg.K)]</i> |
|--|-------------|-----------------------|---------------------------|------------------------------|--|
| Dak - Dakleer  | materiaal   | 4                     | 0.170                     | 1200                         | 1470                                     |
| Isolatie - Minerale<br>wol/vezelplaat<br>(glaswol/steenwol)      | materiaal   | 300                   | 0.040                     | 35                           | 840                                      |
| Beton - Afwerklaag   | materiaal   | 60                    | 1.300                     | 2000                         | 840                                      |
| Beton - Verdicht gewapend  | materiaal   | 320                   | 1.900                     | 2500                         | 840                                      |
| Spouw - Horizontaal<br>warmtestroom naar boven<br>ongeventileerd | spouw       | 286                   | 0.160                     |                              |  |
| Plaat - Plafond  | materiaal   | 20                    | 0.230                     | 900                          | 840                                      |



## Toelichting gebruikte begrippen

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| Ref,# | Afkorting      | Omschrijving  |
|-------|----------------|---|
|       | Tijdvak        | De periode tusssen het gehele voorafgaande uur tot het gehele uur met het cijfer van het tijdvak.<br>Voorbeeld: Tijdvak 7 betreft van 06.00 uur tot 07.00 uur.  |
| 1     | Schaduwfractie | Beschaduwingfactor, belemmering of afscherming. Het oppervlaktedeel van een doorzichtig deel dat op een bepaald moment beschaduwd is. Op dit deel wordt geen invallende zonnewarmte berekend (0=onbeschaduwd, 1=volledig beschaduwd). |



## Foto's en tekeningen

