

**Table 5.16(j)** Solar cooling loads for fast-response building with single clear glazing: Norwich (52.7°N); unshaded type 1 glazing

| Date     | Orientation | Solar cooling load at stated sun time / W·m <sup>-2</sup> |       |       |       |       |       |       |       |       |       | Orientation |       |
|----------|-------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|-------|
|          |             | 07:30   | 08:30 | 09:30 | 10:30 | 11:30 | 12:30 | 13:30 | 14:30 | 15:30 | 16:30 |             | 17:30 |
| January  | N           | 7   | 8     | 20    | 42    | 35    | 44    | 42    | 38    | 29    | 25    | 14          | N     |
|          | NE          | 7   | 8     | 19    | 42    | 36    | 44    | 42    | 38    | 30    | 27    | 14          | NE    |
|          | E           | 20  | 21    | 57    | 320   | 190   | 96    | 56    | 52    | 43    | 38    | 27          | E     |
|          | SE          | 52  | 53    | 101   | 541   | 476   | 486   | 246   | 175   | 116   | 68    | 60          | SE    |
|          | S           | 66  | 67    | 108   | 461   | 485   | 591   | 359   | 332   | 372   | 84    | 73          | S     |
|          | SW          | 41  | 42    | 58    | 114   | 201   | 345   | 273   | 299   | 399   | 62    | 49          | SW    |
|          | W           | 14  | 15    | 29    | 50    | 43    | 53    | 65    | 121   | 210   | 32    | 22          | W     |
|          | NW          | 7   | 8     | 23    | 42    | 35    | 44    | 42    | 38    | 29    | 22    | 14          | NW    |
| Horiz.   | 19          | 23  | 42    | 113   | 124   | 161   | 130   | 114   | 87    | 47    | 32    | Horiz.      |       |
| February | N           | 12  | 21    | 34    | 47    | 58    | 63    | 70    | 59    | 59    | 48    | 29          | N     |
|          | NE          | 13  | 28    | 62    | 48    | 59    | 63    | 71    | 60    | 60    | 49    | 32          | NE    |
|          | E           | 37  | 76    | 416   | 354   | 254   | 123   | 96    | 85    | 84    | 73    | 56          | E     |
|          | SE          | 74  | 115   | 531   | 558   | 554   | 451   | 414   | 249   | 157   | 110   | 91          | SE    |
|          | S           | 97  | 126   | 363   | 464   | 549   | 542   | 624   | 505   | 544   | 435   | 114         | S     |
|          | SW          | 72  | 81    | 95    | 122   | 231   | 335   | 483   | 476   | 621   | 596   | 91          | SW    |
|          | W           | 35  | 46    | 57    | 70    | 81    | 87    | 107   | 200   | 366   | 436   | 54          | W     |
|          | NW          | 12  | 23    | 34    | 48    | 58    | 63    | 71    | 60    | 61    | 54    | 29          | NW    |
| Horiz.   | 36          | 53  | 87    | 150   | 210   | 234   | 264   | 210   | 187   | 119   | 58    | Horiz.      |       |
| March    | N           | 29  | 45    | 59    | 68    | 76    | 78    | 79    | 74    | 67    | 57    | 43          | N     |
|          | NE          | 42  | 135   | 96    | 65    | 79    | 82    | 82    | 78    | 71    | 61    | 47          | NE    |
|          | E           | 80  | 310   | 435   | 408   | 284   | 145   | 111   | 107   | 100   | 89    | 76          | E     |
|          | SE          | 112   | 329   | 520   | 598   | 579   | 520   | 403   | 261   | 137   | 124   | 110         | SE    |
|          | S           | 124   | 208   | 348   | 480   | 565   | 625   | 627   | 593   | 511   | 403   | 274         | S     |
|          | SW          | 105   | 121   | 135   | 153   | 253   | 397   | 517   | 604   | 636   | 624   | 546         | SW    |
|          | W           | 71  | 85    | 99    | 108   | 116   | 121   | 140   | 280   | 421   | 514   | 526         | W     |
|          | NW          | 35  | 50    | 64    | 73    | 80    | 83    | 83    | 79    | 76    | 88    | 175         | NW    |
| Horiz.   | 71          | 115   | 151   | 230   | 305   | 350   | 353   | 318   | 245   | 148   | 89    | Horiz.      |       |
| April    | N           | 59  | 75    | 86    | 91    | 95    | 98    | 96    | 92    | 85    | 76    | 65          | N     |
|          | NE          | 107   | 173   | 129   | 90    | 100   | 103   | 102   | 97    | 90    | 81    | 70          | NE    |
|          | E           | 157   | 321   | 428   | 412   | 293   | 150   | 128   | 124   | 117   | 107   | 96          | E     |
|          | SE          | 164   | 318   | 473   | 556   | 550   | 471   | 353   | 213   | 143   | 133   | 122         | SE    |
|          | S           | 130   | 196   | 304   | 426   | 521   | 565   | 571   | 528   | 444   | 330   | 206         | S     |
|          | SW          | 146   | 167   | 179   | 191   | 265   | 405   | 530   | 614   | 649   | 628   | 538         | SW    |
|          | W           | 130   | 151   | 163   | 168   | 172   | 179   | 201   | 357   | 508   | 598   | 598         | W     |
|          | NW          | 81  | 102   | 113   | 119   | 123   | 125   | 124   | 119   | 113   | 141   | 269         | NW    |
| Horiz.   | 137         | 182   | 217   | 312   | 403   | 453   | 459   | 415   | 325   | 199   | 132   | Horiz.      |       |
| May      | N           | 82  | 97    | 120   | 129   | 107   | 115   | 117   | 114   | 107   | 98    | 88          | N     |
|          | NE          | 411   | 304   | 184   | 165   | 136   | 143   | 146   | 143   | 136   | 127   | 116         | NE    |
|          | E           | 566   | 534   | 333   | 352   | 342   | 187   | 172   | 169   | 162   | 153   | 142         | E     |
|          | SE          | 411   | 454   | 333   | 405   | 560   | 447   | 317   | 193   | 165   | 156   | 145         | SE    |
|          | S           | 132   | 178   | 232   | 310   | 487   | 502   | 484   | 442   | 366   | 265   | 158         | S     |
|          | SW          | 178   | 195   | 218   | 232   | 260   | 392   | 498   | 575   | 612   | 602   | 544         | SW    |
|          | W           | 197   | 214   | 237   | 246   | 224   | 236   | 259   | 408   | 553   | 648   | 681         | W     |
|          | NW          | 145   | 162   | 185   | 194   | 172   | 179   | 182   | 178   | 176   | 207   | 364         | NW    |
| Horiz.   | 160         | 194   | 280   | 366   | 480   | 522   | 515   | 470   | 377   | 238   | 159   | Horiz.      |       |
| June     | N           | 102   | 106   | 119   | 115   | 122   | 125   | 124   | 120   | 115   | 104   | 94          | N     |
|          | NE          | 219   | 277   | 179   | 124   | 135   | 137   | 136   | 132   | 128   | 117   | 106         | NE    |
|          | E           | 283   | 459   | 435   | 454   | 316   | 183   | 163   | 159   | 154   | 143   | 133         | E     |
|          | SE          | 235   | 388   | 423   | 530   | 483   | 408   | 300   | 184   | 164   | 152   | 142         | SE    |
|          | S           | 135   | 162   | 240   | 349   | 411   | 446   | 447   | 412   | 339   | 249   | 149         | S     |
|          | SW          | 170   | 186   | 199   | 196   | 222   | 340   | 448   | 524   | 555   | 566   | 516         | SW    |
|          | W           | 180   | 196   | 209   | 205   | 212   | 218   | 232   | 369   | 503   | 610   | 649         | W     |
|          | NW          | 134   | 150   | 163   | 159   | 166   | 169   | 168   | 163   | 163   | 191   | 348         | NW    |
| Horiz.   | 204         | 226   | 286   | 381   | 477   | 528   | 532   | 489   | 397   | 254   | 171   | Horiz.      |       |
| July     | N           | 91  | 99    | 115   | 121   | 128   | 131   | 132   | 127   | 116   | 104   | 91          | N     |
|          | NE          | 342   | 296   | 194   | 153   | 160   | 163   | 163   | 158   | 148   | 135   | 122         | NE    |
|          | E           | 455   | 494   | 460   | 437   | 328   | 213   | 192   | 187   | 176   | 164   | 151         | E     |
|          | SE          | 330   | 411   | 440   | 494   | 467   | 408   | 316   | 213   | 173   | 161   | 148         | SE    |
|          | S           | 127   | 161   | 243   | 332   | 393   | 428   | 429   | 404   | 353   | 270   | 168         | S     |
|          | SW          | 180   | 195   | 211   | 219   | 245   | 349   | 441   | 514   | 567   | 583   | 550         | SW    |
|          | W           | 207   | 222   | 238   | 245   | 252   | 257   | 268   | 383   | 516   | 624   | 682         | W     |
|          | NW          | 155   | 171   | 187   | 193   | 200   | 203   | 204   | 198   | 190   | 216   | 363         | NW    |
| Horiz.   | 169         | 202   | 259   | 353   | 434   | 478   | 481   | 449   | 374   | 242   | 157   | Horiz.      |       |
| August   | N           | 64  | 78    | 94    | 102   | 109   | 110   | 108   | 104   | 96    | 85    | 72          | N     |
|          | NE          | 196   | 188   | 140   | 109   | 118   | 119   | 117   | 113   | 105   | 94    | 81          | NE    |
|          | E           | 283   | 336   | 376   | 376   | 278   | 164   | 141   | 137   | 129   | 118   | 105         | E     |
|          | SE          | 244   | 322   | 407   | 486   | 472   | 424   | 330   | 213   | 147   | 137   | 124         | SE    |
|          | S           | 123   | 183   | 266   | 371   | 439   | 490   | 499   | 466   | 401   | 306   | 196         | S     |
|          | SW          | 142   | 161   | 177   | 190   | 246   | 360   | 466   | 538   | 574   | 562   | 482         | SW    |
|          | W           | 132   | 151   | 166   | 174   | 182   | 186   | 200   | 326   | 453   | 534   | 531         | W     |
|          | NW          | 87  | 107   | 122   | 130   | 137   | 138   | 136   | 132   | 122   | 147   | 254         | NW    |
| Horiz.   | 139         | 181   | 226   | 307   | 380   | 425   | 431   | 395   | 320   | 210   | 149   | Horiz.      |       |

Table continues

**Table 5.16(j)** Solar cooling loads for fast-response building with single clear glazing: Norwich (52.7°N); unshaded type 1 glazing — *continued*

| Date      | Orientation | Solar cooling load at stated sun time / W·m <sup>-2</sup> |       |       |       |       |       |       |       |       |       | Orientation |       |
|-----------|-------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|-------|
|           |             | 07:30   | 08:30 | 09:30 | 10:30 | 11:30 | 12:30 | 13:30 | 14:30 | 15:30 | 16:30 |             | 17:30 |
| September | N           | 36  | 50    | 64    | 76    | 87    | 92    | 83    | 77    | 67    | 54    | 41          | N     |
|           | NE          | 56  | 174   | 94    | 80    | 91    | 97    | 88    | 82    | 72    | 59    | 46          | NE    |
|           | E           | 99  | 441   | 433   | 358   | 229   | 138   | 115   | 109   | 99    | 86    | 73          | E     |
|           | SE          | 122   | 457   | 526   | 537   | 447   | 361   | 344   | 220   | 125   | 112   | 99          | SE    |
|           | S           | 126   | 251   | 363   | 452   | 459   | 447   | 566   | 538   | 477   | 386   | 273         | S     |
|           | SW          | 114   | 126   | 141   | 161   | 253   | 336   | 501   | 583   | 636   | 660   | 645         | SW    |
|           | W           | 87  | 97    | 111   | 122   | 133   | 144   | 162   | 302   | 449   | 575   | 659         | W     |
|           | NW          | 45  | 56    | 70    | 81    | 93    | 98    | 89    | 82    | 71    | 99    | 222         | NW    |
| Horiz.    | 75          | 114   | 155   | 233   | 284   | 306   | 336   | 302   | 235   | 137   | 77    | Horiz.      |       |
| October   | N           | 11  | 30    | 40    | 50    | 55    | 56    | 54    | 48    | 40    | 27    | 16          | N     |
|           | NE          | 11  | 32    | 49    | 50    | 55    | 57    | 54    | 48    | 41    | 28    | 17          | NE    |
|           | E           | 30  | 69    | 316   | 304   | 200   | 83    | 73    | 67    | 59    | 46    | 36          | E     |
|           | SE          | 69  | 114   | 447   | 544   | 546   | 482   | 369   | 228   | 103   | 86    | 74          | SE    |
|           | S           | 104   | 140   | 358   | 504   | 602   | 654   | 658   | 619   | 500   | 388   | 108         | S     |
|           | SW          | 84  | 103   | 118   | 164   | 298   | 446   | 565   | 646   | 627   | 593   | 90          | SW    |
|           | W           | 40  | 60    | 69    | 78    | 84    | 92    | 127   | 284   | 401   | 462   | 46          | W     |
|           | NW          | 12  | 32    | 41    | 50    | 55    | 57    | 54    | 49    | 45    | 41    | 16          | NW    |
| Horiz.    | 37          | 69  | 105   | 163   | 219   | 249   | 246   | 210   | 145   | 76    | 39    | Horiz.      |       |
| November  | N           | 6   | 10    | 24    | 30    | 37    | 40    | 39    | 33    | 25    | 24    | 6           | N     |
|           | NE          | 6   | 9     | 23    | 30    | 37    | 40    | 39    | 33    | 25    | 26    | 6           | NE    |
|           | E           | 16  | 20    | 52    | 240   | 151   | 60    | 48    | 43    | 34    | 34    | 16          | E     |
|           | SE          | 50  | 54    | 98    | 469   | 456   | 402   | 315   | 204   | 95    | 67    | 50          | SE    |
|           | S           | 76  | 80    | 121   | 442   | 511   | 545   | 549   | 524   | 444   | 95    | 76          | S     |
|           | SW          | 57  | 60    | 80    | 130   | 249   | 366   | 459   | 526   | 526   | 76    | 57          | SW    |
|           | W           | 20  | 24    | 38    | 44    | 51    | 59    | 91    | 212   | 299   | 38    | 20          | W     |
|           | NW          | 6   | 10    | 27    | 30    | 37    | 40    | 39    | 33    | 25    | 24    | 6           | NW    |
| Horiz.    | 19          | 25  | 49    | 93    | 131   | 152   | 149   | 122   | 77    | 47    | 20    | Horiz.      |       |
| December  | N           | 4   | 4     | 10    | 21    | 28    | 31    | 33    | 27    | 25    | 10    | 4           | N     |
|           | NE          | 4   | 4     | 10    | 21    | 28    | 32    | 33    | 28    | 27    | 11    | 4           | NE    |
|           | E           | 12  | 12    | 27    | 149   | 136   | 60    | 40    | 34    | 31    | 17    | 12          | E     |
|           | SE          | 43  | 43    | 64    | 289   | 390   | 390   | 362   | 217   | 60    | 48    | 43          | SE    |
|           | S           | 59  | 59    | 79    | 272   | 419   | 505   | 595   | 499   | 81    | 65    | 59          | S     |
|           | SW          | 40  | 40    | 49    | 88    | 193   | 319   | 471   | 472   | 63    | 46    | 40          | SW    |
|           | W           | 9   | 9     | 14    | 25    | 33    | 40    | 69    | 156   | 28    | 14    | 9           | W     |
|           | NW          | 4   | 4     | 10    | 21    | 28    | 31    | 33    | 27    | 22    | 9     | 4           | NW    |
| Horiz.    | 14          | 15  | 25    | 58    | 93    | 117   | 128   | 98    | 57    | 22    | 14    | Horiz.      |       |

Air node correction factor: 0.85 (fast response); 0.82 (slow response)