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NT

Client: NT

LumCAT: 1-1739-LM

Luminaire: 92.70.481.00 LED HOLDER

Report No: 20251224-B002

Ballast type: AC

Test No: 20251224-C002

Voltage(V): 36.070

LampCAT: PHILIPS SLM 1203 L09 1313 G8N

Current(A): 0.360

Lamp flux(lm): 1901.8

Power (W): 12.985

Number of Lamps: 1

PF: 0.000

Length(mm): 45

Width(mm): 45

Phm Type: C

Height(mm): 19

#### Photometric Results

Lumens(lm): 1829.38, Efficiency(%): 96.19% , Luminous Efficacy(lm/W): 140.88

Central intensity(cd): 7246.491, Maximum intensity(cd): 7246.491

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=20.6

[C90/270]Total=20.6

Field angle(10%Imax): [C0/180]Total=45.8

[C90/270]Total=45.8

Maximum s/h(1/2): C0\_180=0.35 C90\_270=0.35

Maximum s/h(1/4): C0\_180=0.34 C90\_270=0.34

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 96.19%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.512%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 7246.491      | 0.000       | 0         | 0.00%       | 0.00%      |
| 1.0                | 7213.163      | 6.919       | 6.919     | 0.36%       | 0.38%      |
| 2.0                | 7146.366      | 20.610      | 27.529    | 1.08%       | 1.50%      |
| 3.0                | 7022.194      | 33.887      | 61.415    | 1.78%       | 3.36%      |
| 4.0                | 6868.350      | 46.496      | 107.911   | 2.44%       | 5.90%      |
| 5.0                | 6570.155      | 57.812      | 165.723   | 3.04%       | 9.06%      |
| 6.0                | 6176.405      | 66.987      | 232.71    | 3.52%       | 12.72%     |
| 7.0                | 5711.709      | 73.789      | 306.499   | 3.88%       | 16.75%     |
| 8.0                | 5123.123      | 77.543      | 384.042   | 4.08%       | 20.99%     |
| 9.0                | 4504.514      | 78.027      | 462.069   | 4.10%       | 25.26%     |
| 10.0               | 3803.358      | 75.183      | 537.252   | 3.95%       | 29.37%     |
| 11.0               | 3140.733      | 69.386      | 606.638   | 3.65%       | 33.16%     |
| 12.0               | 2588.288      | 62.626      | 669.264   | 3.29%       | 36.58%     |
| 13.0               | 2112.483      | 55.786      | 725.05    | 2.93%       | 39.63%     |
| 14.0               | 1752.061      | 49.466      | 774.516   | 2.60%       | 42.34%     |
| 15.0               | 1449.422      | 43.951      | 818.468   | 2.31%       | 44.74%     |
| 16.0               | 1229.906      | 39.260      | 857.727   | 2.06%       | 46.89%     |
| 17.0               | 1148.555      | 37.039      | 894.766   | 1.95%       | 48.91%     |
| 18.0               | 1041.687      | 36.112      | 930.879   | 1.90%       | 50.88%     |
| 19.0               | 943.439       | 34.537      | 965.416   | 1.82%       | 52.77%     |
| 20.0               | 868.458       | 33.163      | 998.578   | 1.74%       | 54.59%     |
| 21.0               | 806.885       | 32.170      | 1030.748  | 1.69%       | 56.34%     |
| 22.0               | 752.618       | 31.339      | 1062.087  | 1.65%       | 58.06%     |
| 23.0               | 720.239       | 30.905      | 1092.992  | 1.62%       | 59.75%     |
| 24.0               | 690.054       | 30.834      | 1123.826  | 1.62%       | 61.43%     |
| 25.0               | 667.266       | 30.862      | 1154.688  | 1.62%       | 63.12%     |
| 26.0               | 651.713       | 31.135      | 1185.823  | 1.64%       | 64.82%     |
| 27.0               | 637.973       | 31.552      | 1217.375  | 1.66%       | 66.55%     |
| 28.0               | 626.963       | 32.025      | 1249.401  | 1.68%       | 68.30%     |
| 29.0               | 617.175       | 32.550      | 1281.951  | 1.71%       | 70.08%     |
| 30.0               | 609.209       | 33.112      | 1315.063  | 1.74%       | 71.89%     |
| 31.0               | 601.263       | 33.686      | 1348.749  | 1.77%       | 73.73%     |
| 32.0               | 591.855       | 34.181      | 1382.93   | 1.80%       | 75.60%     |
| 33.0               | 579.516       | 34.509      | 1417.439  | 1.81%       | 77.48%     |
| 34.0               | 567.007       | 34.697      | 1452.136  | 1.82%       | 79.38%     |
| 35.0               | 552.340       | 34.763      | 1486.899  | 1.83%       | 81.28%     |
| 36.0               | 538.545       | 34.734      | 1521.633  | 1.83%       | 83.18%     |
| 37.0               | 514.561       | 34.346      | 1555.98   | 1.81%       | 85.06%     |

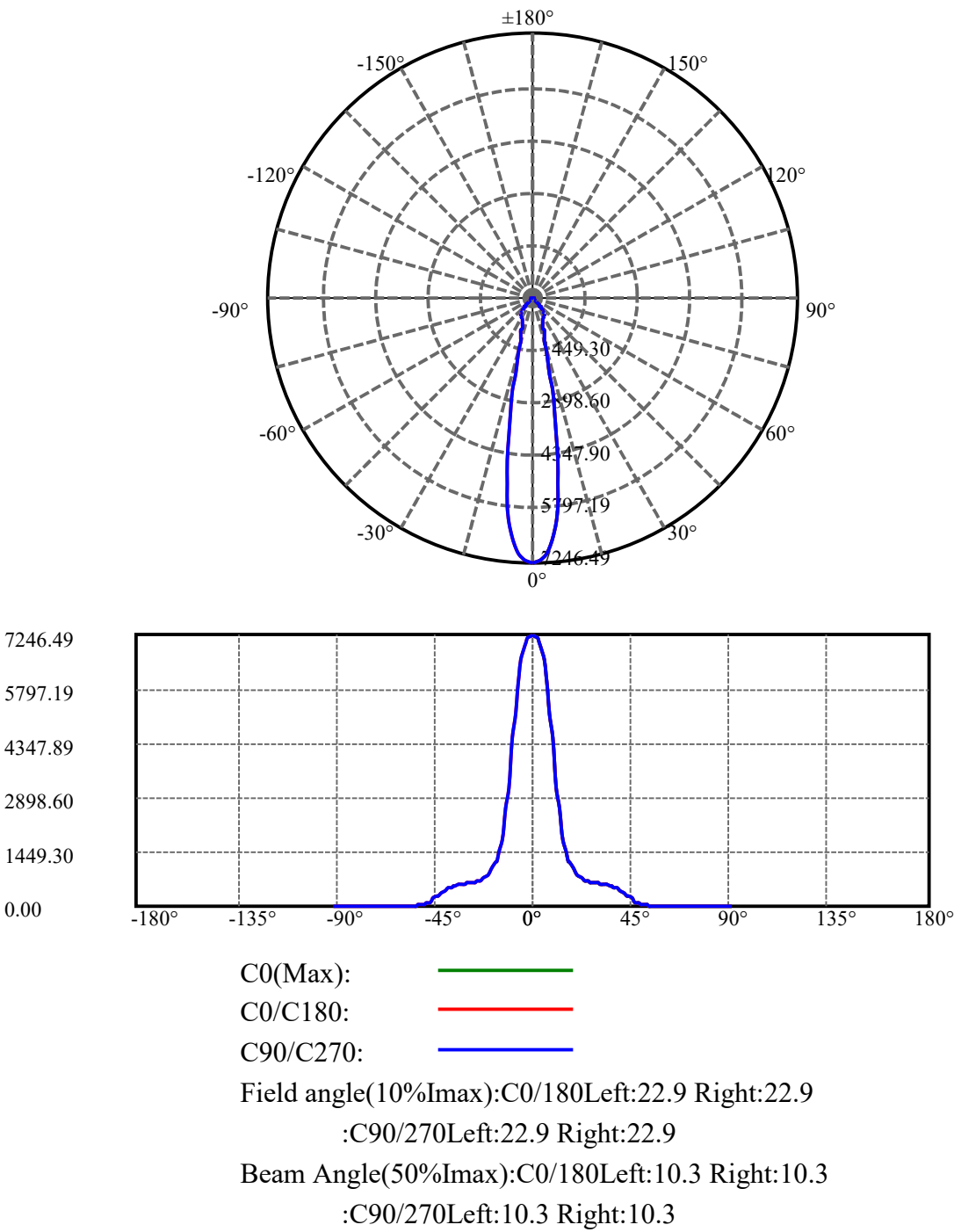
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 486.267       | 33.406      | 1589.386  | 1.76%       | 86.88%     |
| 39.0               | 452.264       | 32.035      | 1621.421  | 1.68%       | 88.63%     |
| 40.0               | 411.722       | 30.133      | 1651.553  | 1.58%       | 90.28%     |
| 41.0               | 371.658       | 27.896      | 1679.449  | 1.47%       | 91.80%     |
| 42.0               | 325.709       | 25.337      | 1704.786  | 1.33%       | 93.19%     |
| 43.0               | 285.258       | 22.632      | 1727.418  | 1.19%       | 94.43%     |
| 44.0               | 257.175       | 20.473      | 1747.891  | 1.08%       | 95.55%     |
| 45.0               | 213.504       | 18.089      | 1765.979  | 0.95%       | 96.53%     |
| 46.0               | 148.978       | 14.176      | 1780.155  | 0.75%       | 97.31%     |
| 47.0               | 108.162       | 10.227      | 1790.382  | 0.54%       | 97.87%     |
| 48.0               | 75.178        | 7.412       | 1797.794  | 0.39%       | 98.27%     |
| 49.0               | 52.657        | 5.250       | 1803.043  | 0.28%       | 98.56%     |
| 50.0               | 35.030        | 3.656       | 1806.699  | 0.19%       | 98.76%     |
| 51.0               | 27.176        | 2.632       | 1809.331  | 0.14%       | 98.90%     |
| 52.0               | 23.231        | 2.163       | 1811.494  | 0.11%       | 99.02%     |
| 53.0               | 19.856        | 1.874       | 1813.369  | 0.10%       | 99.12%     |
| 54.0               | 16.741        | 1.613       | 1814.982  | 0.08%       | 99.21%     |
| 55.0               | 13.725        | 1.360       | 1816.342  | 0.07%       | 99.29%     |
| 56.0               | 10.962        | 1.116       | 1817.457  | 0.06%       | 99.35%     |
| 57.0               | 9.309         | 0.927       | 1818.384  | 0.05%       | 99.40%     |
| 58.0               | 7.601         | 0.782       | 1819.166  | 0.04%       | 99.44%     |
| 59.0               | 6.834         | 0.675       | 1819.841  | 0.04%       | 99.48%     |
| 60.0               | 6.166         | 0.614       | 1820.455  | 0.03%       | 99.51%     |
| 61.0               | 5.639         | 0.563       | 1821.018  | 0.03%       | 99.54%     |
| 62.0               | 5.259         | 0.525       | 1821.544  | 0.03%       | 99.57%     |
| 63.0               | 4.908         | 0.494       | 1822.038  | 0.03%       | 99.60%     |
| 64.0               | 4.620         | 0.468       | 1822.505  | 0.02%       | 99.62%     |
| 65.0               | 4.409         | 0.447       | 1822.952  | 0.02%       | 99.65%     |
| 66.0               | 4.198         | 0.429       | 1823.382  | 0.02%       | 99.67%     |
| 67.0               | 3.973         | 0.411       | 1823.793  | 0.02%       | 99.69%     |
| 68.0               | 3.832         | 0.395       | 1824.188  | 0.02%       | 99.72%     |
| 69.0               | 3.748         | 0.387       | 1824.575  | 0.02%       | 99.74%     |
| 70.0               | 3.614         | 0.378       | 1824.953  | 0.02%       | 99.76%     |
| 71.0               | 3.495         | 0.367       | 1825.32   | 0.02%       | 99.78%     |
| 72.0               | 3.333         | 0.355       | 1825.675  | 0.02%       | 99.80%     |
| 73.0               | 3.101         | 0.336       | 1826.011  | 0.02%       | 99.82%     |
| 74.0               | 2.911         | 0.316       | 1826.328  | 0.02%       | 99.83%     |
| 75.0               | 2.637         | 0.293       | 1826.621  | 0.02%       | 99.85%     |

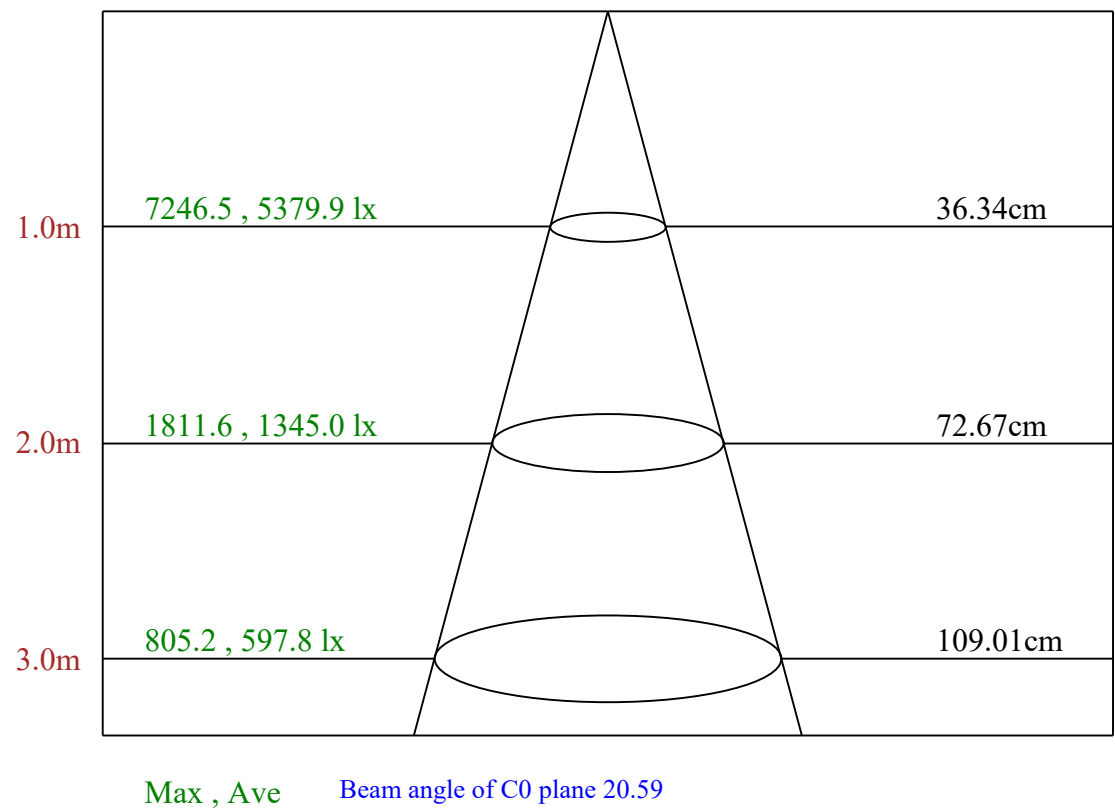
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 2.391         | 0.267       | 1826.888  | 0.01%       | 99.86%     |
| 77.0               | 2.236         | 0.247       | 1827.134  | 0.01%       | 99.88%     |
| 78.0               | 2.102         | 0.232       | 1827.366  | 0.01%       | 99.89%     |
| 79.0               | 2.025         | 0.222       | 1827.588  | 0.01%       | 99.90%     |
| 80.0               | 1.927         | 0.213       | 1827.801  | 0.01%       | 99.91%     |
| 81.0               | 1.800         | 0.202       | 1828.003  | 0.01%       | 99.92%     |
| 82.0               | 1.730         | 0.191       | 1828.194  | 0.01%       | 99.94%     |
| 83.0               | 1.610         | 0.182       | 1828.376  | 0.01%       | 99.95%     |
| 84.0               | 1.505         | 0.170       | 1828.545  | 0.01%       | 99.95%     |
| 85.0               | 1.392         | 0.158       | 1828.704  | 0.01%       | 99.96%     |
| 86.0               | 1.273         | 0.146       | 1828.849  | 0.01%       | 99.97%     |
| 87.0               | 1.230         | 0.137       | 1828.986  | 0.01%       | 99.98%     |
| 88.0               | 1.209         | 0.134       | 1829.12   | 0.01%       | 99.99%     |
| 89.0               | 1.188         | 0.131       | 1829.251  | 0.01%       | 99.99%     |
| 90.0               | 1.139         | 0.128       | 1829.379  | 0.01%       | 100.00%    |

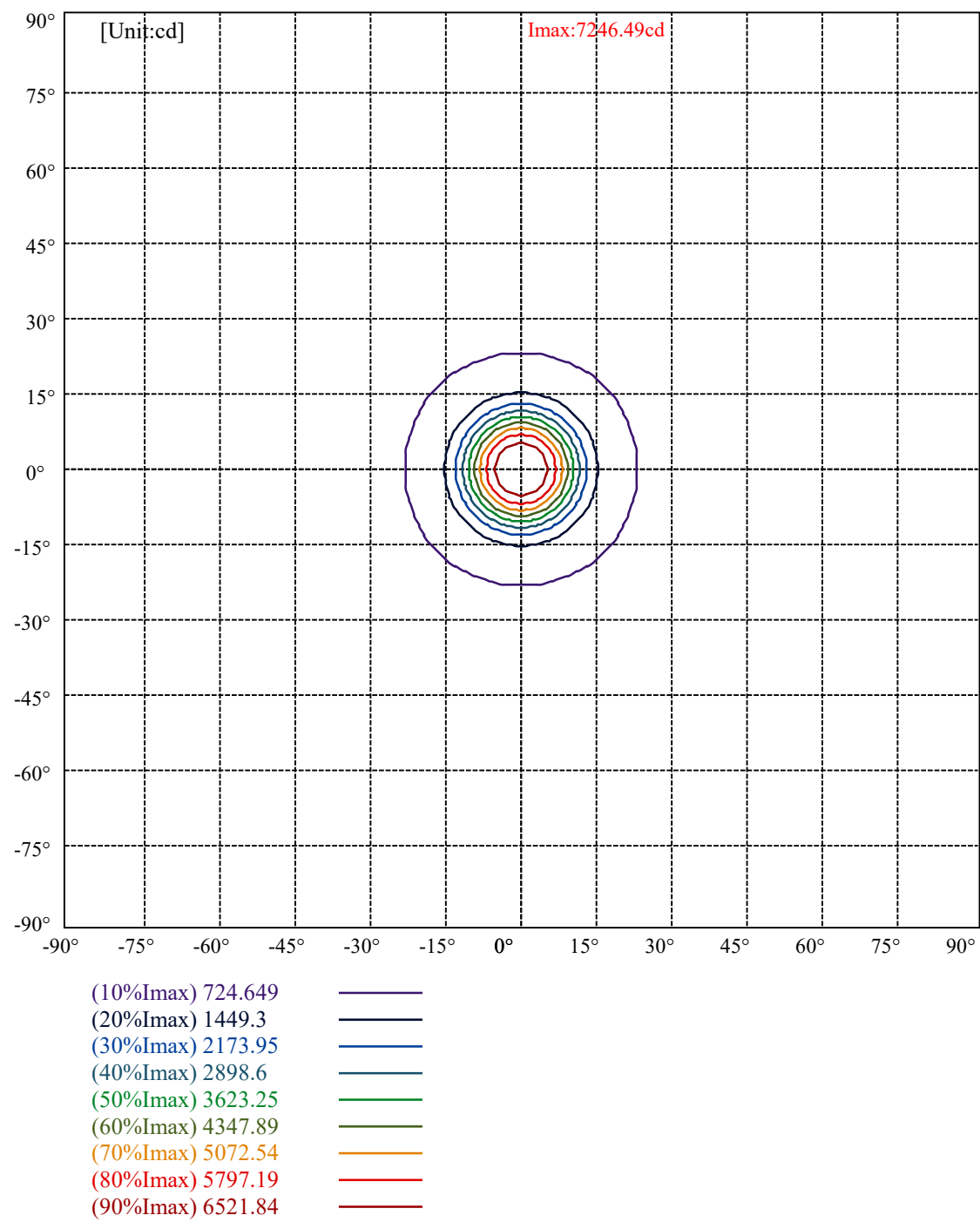
| ZONAL LUMEN SUMMARY |         |        |         |
|---------------------|---------|--------|---------|
| Zone                | Lumens  | %Lamp  | %Fixt   |
| 0-30                | 1315.06 | 69.15% | 71.89%  |
| 0-40                | 1651.55 | 86.84% | 90.28%  |
| 0-60                | 1820.45 | 95.72% | 99.51%  |
| 0-90                | 1829.25 | 96.18% | 99.99%  |
| 0-120               | 1829.25 | 96.18% | 99.99%  |
| 0-180               | 1829.38 | 96.19% | 100.00% |
| 60-90               | 8.80    | 0.46%  | 0.48%   |
| 90-120              | 0.00    | 0.00%  | 0.00%   |
| 90-130              | 0.00    | 0.00%  | 0.00%   |
| 90-150              | 0.00    | 0.00%  | 0.00%   |
| 90-180              | 0.00    | 0.00%  | 0.00%   |
| 0-34.33             | 1463.50 | 76.95% | 80.00%  |

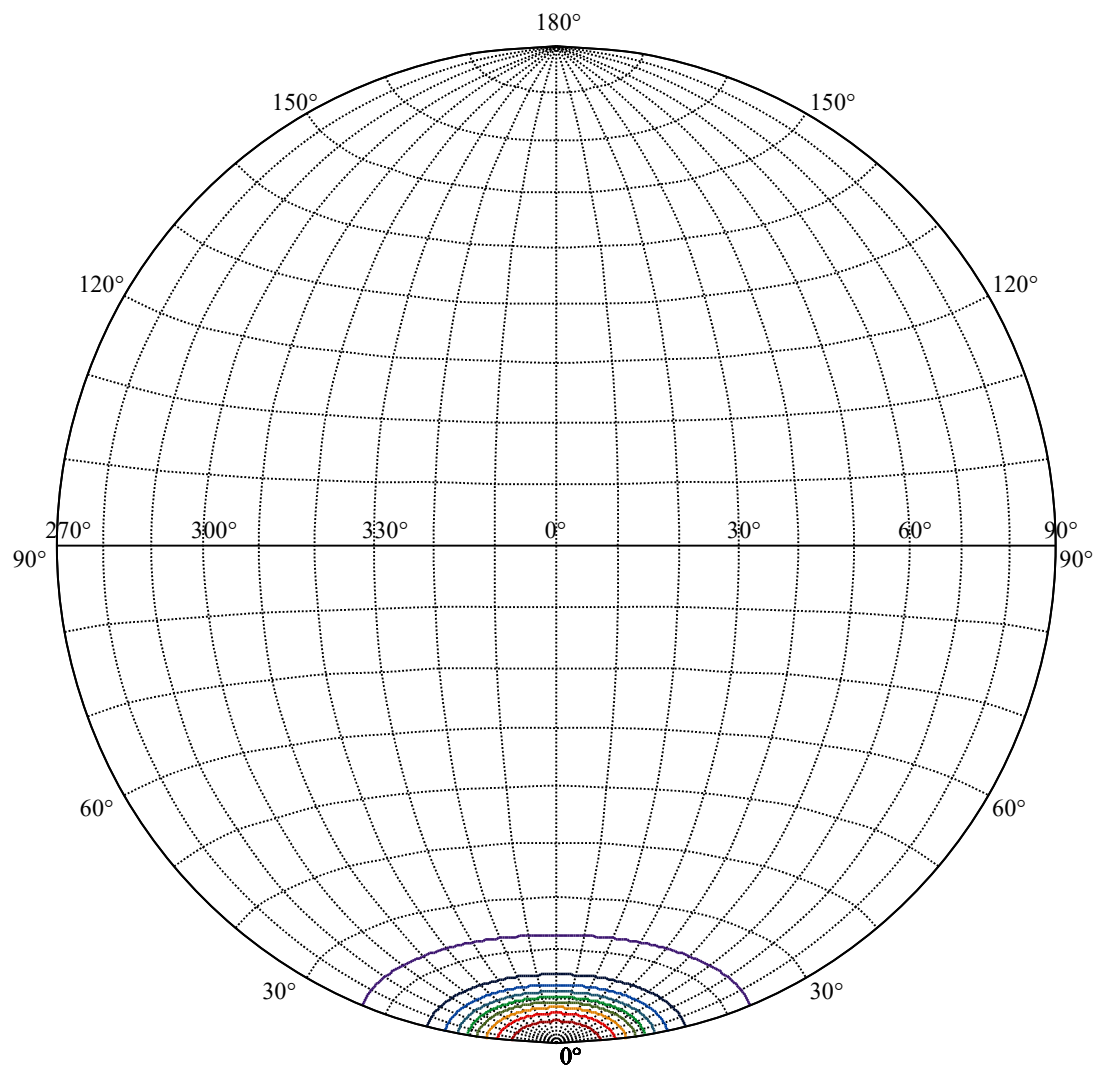
ZONAL LUMEN SUMMARY

|         |        |
|---------|--------|
| 0-10    | 537.25 |
| 10-20   | 461.33 |
| 20-30   | 316.48 |
| 30-40   | 336.49 |
| 40-50   | 155.15 |
| 50-60   | 13.76  |
| 60-70   | 4.50   |
| 70-80   | 2.85   |
| 80-90   | 1.45   |
| 90-100  | 0.00   |
| 100-110 | 0.00   |
| 110-120 | 0.00   |
| 120-130 | 0.00   |
| 130-140 | 0.00   |
| 140-150 | 0.00   |
| 150-160 | 0.00   |
| 160-170 | 0.00   |
| 170-180 | 0.00   |







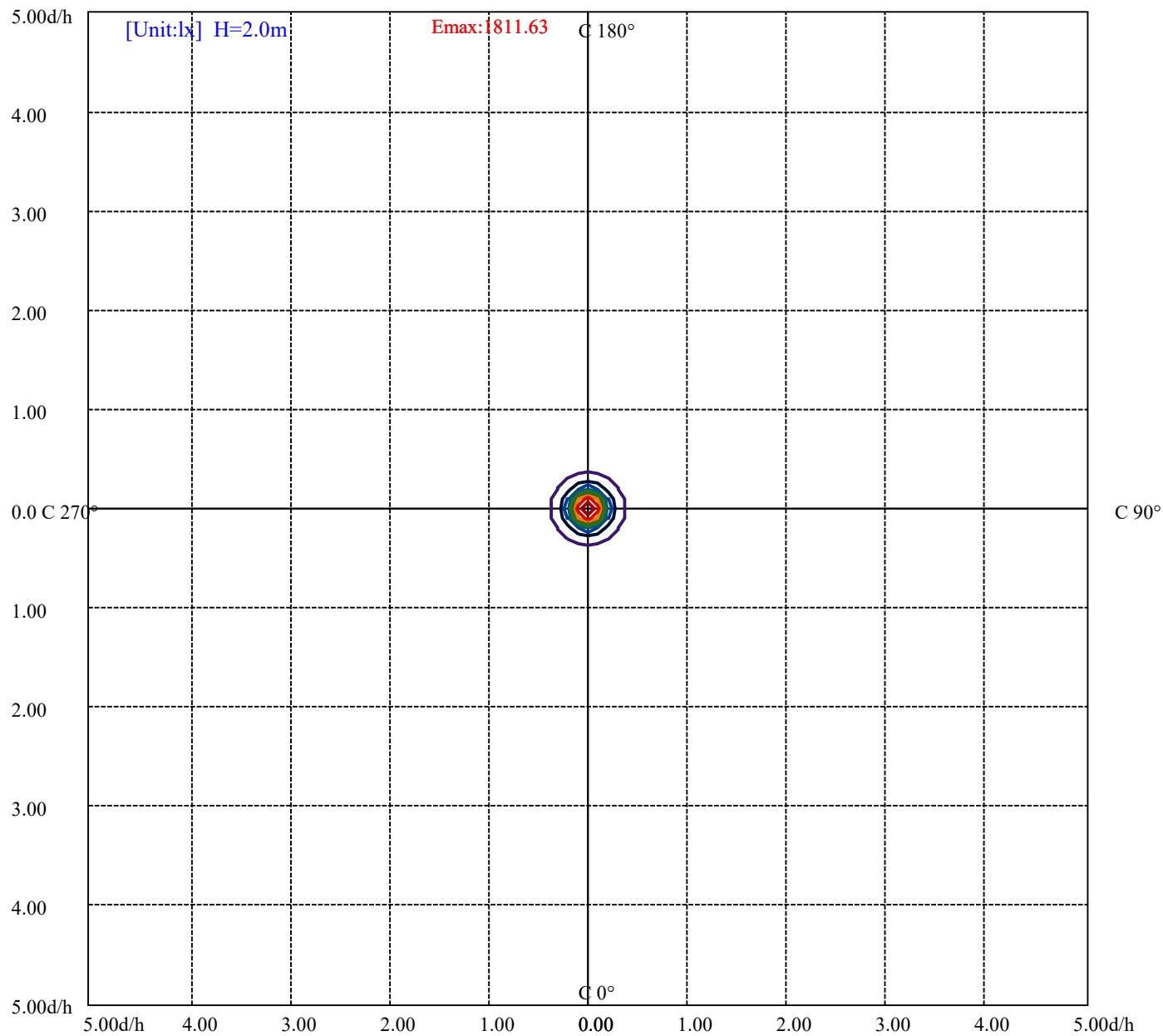


House

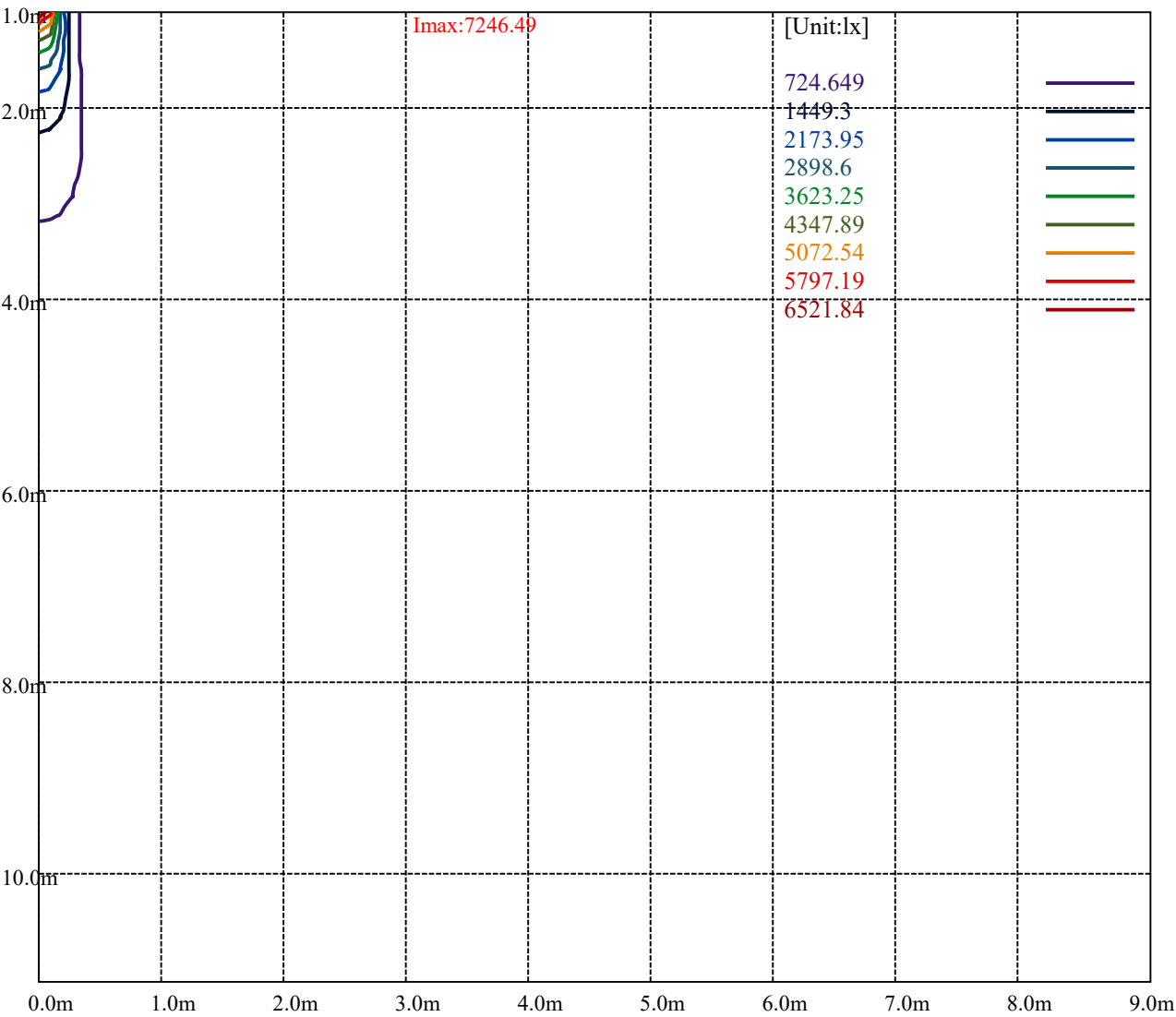
[Unit:cd]

Road

|                     |   |
|---------------------|---|
| <b>Imax:7246.49</b> |   |
| (10%Imax) 724.649   | — |
| (20%Imax) 1449.3    | — |
| (30%Imax) 2173.95   | — |
| (40%Imax) 2898.6    | — |
| (50%Imax) 3623.25   | — |
| (60%Imax) 4347.89   | — |
| (70%Imax) 5072.54   | — |
| (80%Imax) 5797.19   | — |
| (90%Imax) 6521.84   | — |



|           |          |  |
|-----------|----------|--|
| (10%Emax) | 181.1622 |  |
| (20%Emax) | 362.325  |  |
| (30%Emax) | 543.4875 |  |
| (40%Emax) | 724.6475 |  |
| (50%Emax) | 905.81   |  |
| (60%Emax) | 1086.973 |  |
| (70%Emax) | 1268.135 |  |
| (80%Emax) | 1449.297 |  |
| (90%Emax) | 1630.46  |  |



Luminance Table

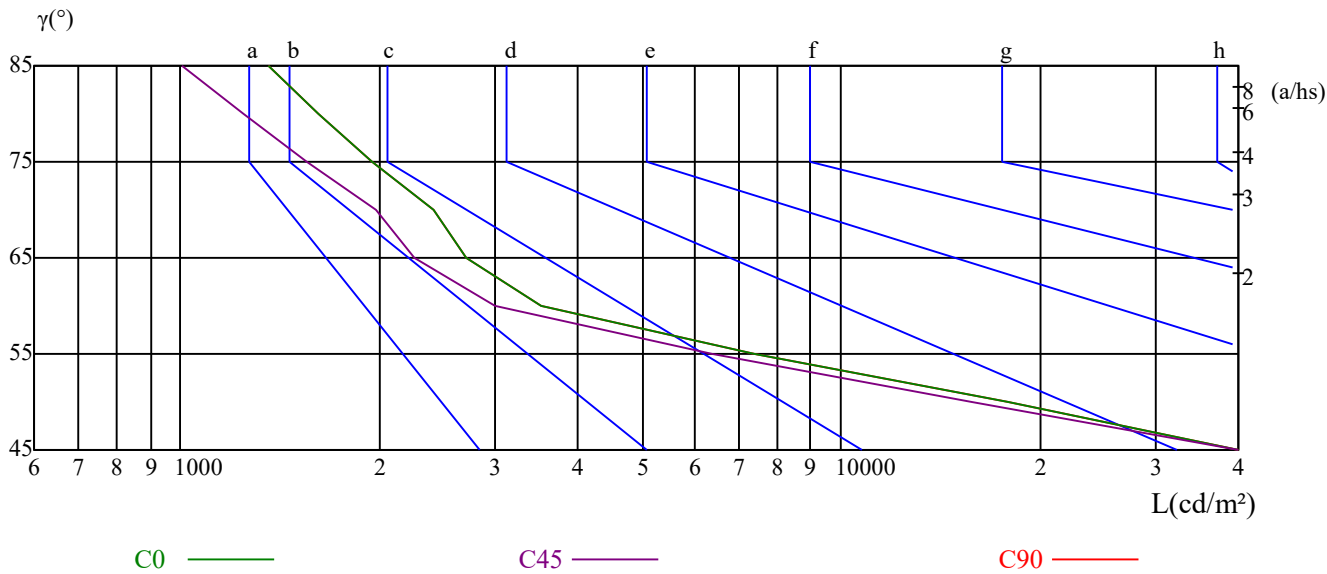
| $\gamma$ | 45     | 50    | 55   | 60   | 65   | 70   | 75   | 80   | 85   |
|----------|--------|-------|------|------|------|------|------|------|------|
| C0       | 104840 | 17903 | 7372 | 3518 | 2704 | 2416 | 1953 | 1614 | 1354 |
| C45      | 93360  | 15723 | 6378 | 2994 | 2259 | 1976 | 1558 | 1249 | 1008 |
| C90      | 104840 | 17903 | 7372 | 3518 | 2704 | 2416 | 1953 | 1614 | 1354 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 5151       | 5151       | 5151    | 5031       | 5031       | 5031    | 7888       | 7888       | 7888    |

Glare Table

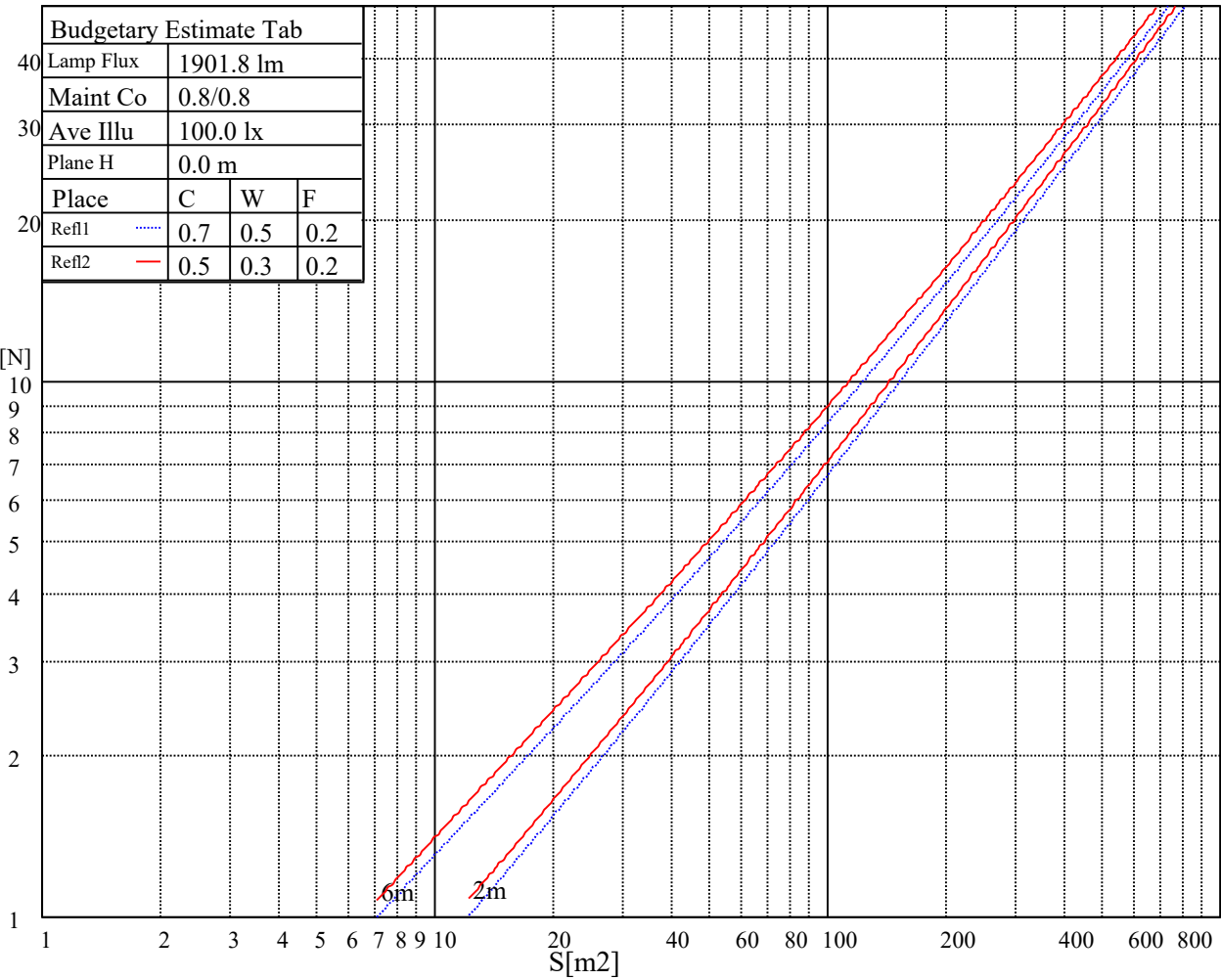
| Glare | Quality | Service Values Illuminance(lx) |      |      |            |            |            |            |            |
|-------|---------|--------------------------------|------|------|------------|------------|------------|------------|------------|
| 1.15  | A       | 2000                           | 1000 | 500  | $\leq 300$ |            |            |            |            |
| 1.5   | B       |                                | 2000 | 1000 | 500        | $\leq 300$ |            |            |            |
| 1.85  | C       |                                |      | 2000 | 1000       | 500        | $\leq 300$ |            |            |
| 2.2   | D       |                                |      |      | 2000       | 1000       | 500        | $\leq 300$ |            |
| 2.55  | E       |                                |      |      |            | 2000       | 1000       | 500        | $\leq 300$ |
|       |         | a                              | b    | c    | d          | e          | f          | g          | h          |

Luminance Limiting Curve



| Illumination assessment according UGR             |     |                  |       |       |       |       |                |       |       |       |       |
|---------------------------------------------------|-----|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Rf of Ceiling                                     |     | 70               | 70    | 50    | 50    | 30    | 70             | 70    | 50    | 50    | 30    |
| Rf of Wall                                        |     | 50               | 30    | 50    | 30    | 30    | 50             | 30    | 50    | 30    | 30    |
| Rf of Floor                                       |     | 20               | 20    | 20    | 20    | 20    | 20             | 20    | 20    | 20    | 20    |
| Room dimensions                                   |     | Viewed crosswise |       |       |       |       | Viewed endwise |       |       |       |       |
| X                                                 | Y   |                  |       |       |       |       |                |       |       |       |       |
| 2H                                                | 2H  | 22.70            | 23.71 | 23.06 | 24.02 | 24.34 | 22.50          | 23.51 | 22.87 | 23.82 | 24.14 |
|                                                   | 3H  | 22.51            | 23.40 | 22.90 | 23.74 | 24.09 | 22.31          | 23.20 | 22.70 | 23.54 | 23.89 |
|                                                   | 4H  | 22.41            | 23.24 | 22.81 | 23.59 | 23.96 | 22.21          | 23.04 | 22.61 | 23.39 | 23.76 |
|                                                   | 6H  | 22.33            | 23.08 | 22.75 | 23.46 | 23.86 | 22.13          | 22.88 | 22.54 | 23.26 | 23.65 |
|                                                   | 8H  | 22.26            | 22.98 | 22.68 | 23.36 | 23.77 | 22.05          | 22.77 | 22.47 | 23.16 | 23.56 |
|                                                   | 12H | 22.19            | 22.87 | 22.62 | 23.27 | 23.68 | 21.98          | 22.66 | 22.41 | 23.06 | 23.47 |
| 4H                                                | 2H  | 22.41            | 23.23 | 22.81 | 23.58 | 23.95 | 22.21          | 23.03 | 22.61 | 23.38 | 23.75 |
|                                                   | 3H  | 22.18            | 22.86 | 22.61 | 23.26 | 23.68 | 21.98          | 22.66 | 22.40 | 23.06 | 23.48 |
|                                                   | 4H  | 22.11            | 22.70 | 22.55 | 23.13 | 23.57 | 21.91          | 22.50 | 22.35 | 22.92 | 23.37 |
|                                                   | 6H  | 21.98            | 22.50 | 22.45 | 22.95 | 23.40 | 21.77          | 22.29 | 22.24 | 22.74 | 23.20 |
|                                                   | 8H  | 21.92            | 22.40 | 22.41 | 22.86 | 23.34 | 21.71          | 22.19 | 22.20 | 22.65 | 23.13 |
|                                                   | 12H | 21.88            | 22.32 | 22.37 | 22.77 | 23.29 | 21.66          | 22.11 | 22.15 | 22.56 | 23.08 |
| 8H                                                | 4H  | 21.91            | 22.39 | 22.40 | 22.85 | 23.33 | 21.71          | 22.19 | 22.20 | 22.65 | 23.12 |
|                                                   | 6H  | 21.77            | 22.16 | 22.27 | 22.64 | 23.15 | 21.56          | 21.95 | 22.07 | 22.43 | 22.95 |
|                                                   | 8H  | 21.76            | 22.09 | 22.29 | 22.61 | 23.11 | 21.55          | 21.88 | 22.08 | 22.40 | 22.90 |
|                                                   | 12H | 21.71            | 21.97 | 22.25 | 22.49 | 23.01 | 21.49          | 21.75 | 22.04 | 22.27 | 22.79 |
| 12H                                               | 4H  | 21.86            | 22.30 | 22.35 | 22.76 | 23.28 | 21.66          | 22.10 | 22.15 | 22.55 | 23.07 |
|                                                   | 6H  | 21.75            | 22.08 | 22.28 | 22.61 | 23.10 | 21.54          | 21.88 | 22.08 | 22.40 | 22.90 |
|                                                   | 8H  | 21.70            | 21.96 | 22.24 | 22.48 | 23.00 | 21.49          | 21.75 | 22.03 | 22.27 | 22.79 |
| Variation with the observer position at spacings: |     |                  |       |       |       |       |                |       |       |       |       |
| S = 1.0H                                          |     | 3.3/-13.8        |       |       |       |       | 3.3/-13.8      |       |       |       |       |
| S = 1.5H                                          |     | 5.3/-15.6        |       |       |       |       | 5.3/-15.6      |       |       |       |       |
| S = 2.0H                                          |     | 7.3/-15.3        |       |       |       |       | 7.3/-15.3      |       |       |       |       |
| Standard tables:                                  |     | BK0              |       |       |       |       | BK0            |       |       |       |       |
| Uncorrected UGR                                   |     | 3.6              |       |       |       |       | 3.6            |       |       |       |       |

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



| RHOCC | 80                                     |      |      | 70   |      |      | 50   |      |      | 30   |      |      | 10   |      |      | 0    |
|-------|----------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RHOW  | 50                                     | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 0    |
| RCR   | COEFFCIENTS OF UTILIZATION RHOFC=20 CU |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0     | 1.15                                   | 1.15 | 1.15 | 1.12 | 1.12 | 1.12 | 1.07 | 1.07 | 1.07 | 1.02 | 1.02 | 1.02 | 0.98 | 0.98 | 0.98 | 0.96 |
| 1     | 1.07                                   | 1.05 | 1.03 | 1.05 | 1.03 | 1.02 | 1.01 | 1.00 | 0.98 | 0.98 | 0.97 | 0.95 | 0.95 | 0.94 | 0.93 | 0.91 |
| 2     | 1.01                                   | 0.97 | 0.94 | 0.99 | 0.96 | 0.93 | 0.96 | 0.93 | 0.91 | 0.93 | 0.91 | 0.89 | 0.91 | 0.89 | 0.87 | 0.86 |
| 3     | 0.95                                   | 0.91 | 0.87 | 0.94 | 0.90 | 0.86 | 0.91 | 0.88 | 0.85 | 0.89 | 0.86 | 0.84 | 0.87 | 0.84 | 0.83 | 0.81 |
| 4     | 0.90                                   | 0.85 | 0.81 | 0.89 | 0.84 | 0.81 | 0.87 | 0.83 | 0.80 | 0.85 | 0.82 | 0.79 | 0.83 | 0.80 | 0.78 | 0.77 |
| 5     | 0.85                                   | 0.80 | 0.76 | 0.84 | 0.79 | 0.76 | 0.82 | 0.78 | 0.75 | 0.81 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.73 |
| 6     | 0.81                                   | 0.76 | 0.72 | 0.80 | 0.75 | 0.72 | 0.79 | 0.74 | 0.71 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.70 | 0.69 |
| 7     | 0.77                                   | 0.72 | 0.68 | 0.76 | 0.72 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.66 |
| 8     | 0.74                                   | 0.69 | 0.65 | 0.73 | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.64 | 0.70 | 0.67 | 0.64 | 0.63 |
| 9     | 0.71                                   | 0.66 | 0.62 | 0.70 | 0.65 | 0.62 | 0.69 | 0.65 | 0.62 | 0.68 | 0.65 | 0.62 | 0.68 | 0.64 | 0.62 | 0.60 |
| 10    | 0.68                                   | 0.63 | 0.60 | 0.67 | 0.63 | 0.60 | 0.67 | 0.62 | 0.60 | 0.66 | 0.62 | 0.59 | 0.65 | 0.62 | 0.59 | 0.58 |

## Intensity data(cd)

Appendix Page: 16 Total:18

| C/γ(°) | 0.0     | 1.0     | 2.0     | 3.0     | 4.0     | 5.0     | 6.0     | 7.0     | 8.0     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 7265.19 | 7161.69 | 7117.26 | 6923.19 | 6778.63 | 6275.76 | 5690.76 | 5336.38 | 4684.44 |
| 45.0   | 7232.01 | 7245.51 | 7208.94 | 7115.57 | 6980.57 | 6769.07 | 6593.01 | 6136.82 | 5623.82 |
| 90.0   | 7260.69 | 7226.94 | 7092.51 | 6899.01 | 6744.32 | 6392.76 | 5948.94 | 5390.38 | 4579.82 |
| 135.0  | 7228.07 | 7238.19 | 7192.63 | 7106.57 | 7031.76 | 6793.26 | 6454.07 | 6015.32 | 5461.26 |
| 180.0  | 7265.19 | 7264.07 | 7250.01 | 7158.32 | 7035.69 | 6825.32 | 6500.19 | 6258.32 | 5636.19 |
| 225.0  | 7232.01 | 7154.94 | 7007.57 | 6902.94 | 6659.38 | 6306.13 | 5846.01 | 5141.19 | 4740.13 |
| 270.0  | 7260.69 | 7253.94 | 7209.51 | 7115.01 | 6965.94 | 6845.01 | 6474.88 | 6069.32 | 5558.01 |
| 315.0  | 7228.07 | 7160.01 | 7092.51 | 6956.94 | 6750.51 | 6353.94 | 5903.38 | 5345.94 | 4701.32 |
| 360.0  | 7265.19 | 7161.69 | 7117.26 | 6923.19 | 6778.63 | 6275.76 | 5690.76 | 5336.38 | 4684.44 |
|        |         |         |         |         |         |         |         |         |         |
| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
| 0.0    | 3971.76 | 3291.69 | 2586.32 | 2296.63 | 1895.57 | 1600.26 | 1271.19 | 1092.09 | 1092.09 |
| 45.0   | 5007.88 | 4172.01 | 3889.63 | 3072.88 | 2494.07 | 2031.69 | 1629.51 | 1399.44 | 1221.13 |
| 90.0   | 4136.57 | 3395.19 | 2732.57 | 2215.63 | 1748.76 | 1576.07 | 1092.21 | 1092.21 | 1068.58 |
| 135.0  | 5068.07 | 3916.07 | 3195.51 | 2802.32 | 2162.76 | 1775.76 | 1502.94 | 1305.51 | 1209.88 |
| 180.0  | 5018.01 | 4312.63 | 3463.26 | 2829.32 | 2305.07 | 1896.69 | 1702.63 | 1406.76 | 1225.07 |
| 225.0  | 4040.94 | 3354.69 | 2738.19 | 2140.26 | 1902.32 | 1598.57 | 1377.51 | 1074.77 | 1074.77 |
| 270.0  | 4928.01 | 4512.88 | 3656.19 | 2998.07 | 2441.76 | 1938.88 | 1630.63 | 1407.88 | 1236.32 |
| 315.0  | 3864.88 | 3471.69 | 2864.19 | 2351.19 | 1949.57 | 1598.57 | 1388.76 | 1060.59 | 1060.59 |
| 360.0  | 3971.76 | 3291.69 | 2586.32 | 2296.63 | 1895.57 | 1600.26 | 1271.19 | 1092.09 | 1092.09 |
|        |         |         |         |         |         |         |         |         |         |
| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0    | 26.0    |
| 0.0    | 988.54  | 890.33  | 850.89  | 797.12  | 735.08  | 718.59  | 695.53  | 677.14  | 662.40  |
| 45.0   | 1082.76 | 1013.01 | 898.26  | 823.44  | 763.82  | 718.26  | 679.44  | 654.69  | 633.88  |
| 90.0   | 962.89  | 878.06  | 799.20  | 751.39  | 714.26  | 685.86  | 660.99  | 651.21  | 637.14  |
| 135.0  | 1056.88 | 958.44  | 876.88  | 812.19  | 781.26  | 732.88  | 702.51  | 680.01  | 661.44  |
| 180.0  | 1082.19 | 968.57  | 912.32  | 821.76  | 745.82  | 721.63  | 682.26  | 656.38  | 638.94  |
| 225.0  | 967.05  | 866.14  | 797.29  | 764.38  | 705.88  | 668.93  | 655.14  | 636.41  | 620.78  |
| 270.0  | 1153.07 | 1021.44 | 932.01  | 860.57  | 803.76  | 777.32  | 732.88  | 697.44  | 685.63  |
| 315.0  | 1040.12 | 951.53  | 880.82  | 824.23  | 771.08  | 738.45  | 711.68  | 684.84  | 673.48  |
| 360.0  | 988.54  | 890.33  | 850.89  | 797.12  | 735.08  | 718.59  | 695.53  | 677.14  | 662.40  |
|        |         |         |         |         |         |         |         |         |         |
| C/γ(°) | 27.0    | 28.0    | 29.0    | 30.0    | 31.0    | 32.0    | 33.0    | 34.0    | 35.0    |
| 0.0    | 647.61  | 640.80  | 631.74  | 623.76  | 615.99  | 603.23  | 595.13  | 578.31  | 562.11  |
| 45.0   | 624.32  | 607.44  | 595.07  | 584.38  | 574.82  | 568.07  | 554.01  | 539.38  | 524.76  |
| 90.0   | 627.47  | 618.75  | 611.55  | 608.74  | 597.32  | 591.41  | 581.91  | 570.32  | 558.34  |
| 135.0  | 647.94  | 638.38  | 629.94  | 625.44  | 617.57  | 609.69  | 599.57  | 586.63  | 573.13  |
| 180.0  | 626.01  | 618.69  | 605.76  | 599.01  | 593.38  | 585.51  | 578.19  | 564.69  | 550.07  |
| 225.0  | 607.22  | 595.24  | 589.56  | 580.73  | 571.56  | 560.42  | 542.98  | 532.35  | 516.83  |
| 270.0  | 665.94  | 653.01  | 642.32  | 632.76  | 626.57  | 613.63  | 603.51  | 589.44  | 575.38  |
| 315.0  | 657.28  | 643.39  | 631.46  | 618.86  | 612.90  | 602.89  | 580.84  | 574.93  | 558.11  |
| 360.0  | 647.61  | 640.80  | 631.74  | 623.76  | 615.99  | 603.23  | 595.13  | 578.31  | 562.11  |
|        |         |         |         |         |         |         |         |         |         |
| C/γ(°) | 36.0    | 37.0    | 38.0    | 39.0    | 40.0    | 41.0    | 42.0    | 43.0    | 44.0    |
| 0.0    | 549.84  | 522.00  | 486.28  | 445.95  | 394.03  | 367.26  | 320.40  | 275.40  | 227.25  |
| 45.0   | 512.38  | 502.26  | 473.57  | 430.82  | 408.88  | 364.44  | 325.07  | 302.01  | 302.01  |
| 90.0   | 538.82  | 504.11  | 483.69  | 444.99  | 399.60  | 351.68  | 290.42  | 259.31  | 188.61  |
| 135.0  | 558.51  | 536.01  | 518.57  | 478.07  | 437.57  | 394.26  | 344.76  | 312.69  | 312.69  |
| 180.0  | 543.88  | 525.88  | 501.13  | 470.19  | 434.19  | 411.69  | 361.63  | 317.19  | 290.76  |
| 225.0  | 488.81  | 470.98  | 437.57  | 400.11  | 359.89  | 311.46  | 286.14  | 243.51  | 202.84  |
| 270.0  | 567.51  | 541.07  | 515.19  | 496.07  | 450.51  | 408.88  | 363.32  | 316.63  | 307.63  |
| 315.0  | 548.61  | 514.18  | 474.13  | 451.91  | 409.11  | 363.60  | 313.93  | 255.32  | 225.62  |
| 360.0  | 549.84  | 522.00  | 486.28  | 445.95  | 394.03  | 367.26  | 320.40  | 275.40  | 227.25  |

## Intensity data(cd)

| C/ $\gamma$ (°) | 45.0   | 46.0   | 47.0   | 48.0   | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |
|-----------------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 0.0             | 172.52 | 147.54 | 92.14  | 54.79  | 42.30 | 29.36 | 26.16 | 23.51 | 18.68 |
| 45.0            | 286.26 | 168.13 | 131.68 | 112.16 | 75.26 | 53.33 | 38.42 | 30.83 | 27.39 |
| 90.0            | 134.55 | 110.48 | 73.74  | 46.58  | 30.26 | 21.26 | 19.58 | 16.54 | 14.06 |
| 135.0           | 192.83 | 165.60 | 115.14 | 81.62  | 54.34 | 36.45 | 29.87 | 26.21 | 23.96 |
| 180.0           | 290.76 | 174.88 | 131.79 | 91.46  | 71.38 | 41.40 | 28.01 | 23.40 | 19.80 |
| 225.0           | 164.31 | 119.70 | 88.48  | 60.86  | 40.89 | 35.10 | 29.87 | 24.13 | 18.45 |
| 270.0           | 287.94 | 171.62 | 145.46 | 97.59  | 65.19 | 41.51 | 27.79 | 24.53 | 21.66 |
| 315.0           | 178.88 | 133.88 | 86.85  | 56.36  | 41.63 | 21.83 | 17.72 | 16.71 | 14.85 |
| 360.0           | 172.52 | 147.54 | 92.14  | 54.79  | 42.30 | 29.36 | 26.16 | 23.51 | 18.68 |
| C/ $\gamma$ (°) | 54.0   | 55.0   | 56.0   | 57.0   | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0             | 16.14  | 12.26  | 9.28   | 7.20   | 5.79  | 5.46  | 5.18  | 4.89  | 4.78  |
| 45.0            | 20.36  | 15.53  | 11.76  | 8.89   | 7.37  | 6.92  | 6.13  | 6.02  | 5.68  |
| 90.0            | 11.70  | 9.00   | 7.76   | 6.30   | 5.57  | 5.46  | 5.23  | 5.01  | 4.84  |
| 135.0           | 23.06  | 21.38  | 18.62  | 16.20  | 12.94 | 11.03 | 8.49  | 7.09  | 5.96  |
| 180.0           | 17.55  | 12.99  | 9.06   | 7.88   | 5.91  | 4.95  | 4.67  | 4.39  | 4.28  |
| 225.0           | 12.94  | 11.03  | 8.44   | 6.75   | 5.68  | 5.23  | 5.06  | 4.67  | 4.39  |
| 270.0           | 19.01  | 16.26  | 13.22  | 12.32  | 9.23  | 7.65  | 6.98  | 6.02  | 5.40  |
| 315.0           | 13.16  | 11.36  | 9.56   | 8.94   | 8.33  | 7.99  | 7.59  | 7.03  | 6.75  |
| 360.0           | 16.14  | 12.26  | 9.28   | 7.20   | 5.79  | 5.46  | 5.18  | 4.89  | 4.78  |
| C/ $\gamma$ (°) | 63.0   | 64.0   | 65.0   | 66.0   | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0             | 4.56   | 4.44   | 4.39   | 4.28   | 4.28  | 4.16  | 4.05  | 4.05  | 3.88  |
| 45.0            | 5.40   | 5.12   | 5.01   | 4.89   | 4.67  | 4.39  | 4.22  | 4.16  | 3.94  |
| 90.0            | 4.73   | 4.56   | 4.33   | 4.11   | 3.77  | 3.43  | 3.26  | 3.04  | 2.87  |
| 135.0           | 5.29   | 4.95   | 4.50   | 4.05   | 3.66  | 3.32  | 3.21  | 2.98  | 2.93  |
| 180.0           | 4.05   | 3.83   | 3.77   | 3.77   | 3.77  | 4.11  | 4.39  | 4.33  | 4.28  |
| 225.0           | 4.28   | 4.16   | 3.83   | 3.60   | 3.26  | 3.43  | 3.54  | 3.49  | 3.60  |
| 270.0           | 5.06   | 4.84   | 4.67   | 4.50   | 4.33  | 4.16  | 3.94  | 3.66  | 3.49  |
| 315.0           | 5.91   | 5.06   | 4.78   | 4.39   | 4.05  | 3.66  | 3.38  | 3.21  | 2.98  |
| 360.0           | 4.56   | 4.44   | 4.39   | 4.28   | 4.28  | 4.16  | 4.05  | 4.05  | 3.88  |
| C/ $\gamma$ (°) | 72.0   | 73.0   | 74.0   | 75.0   | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0             | 3.77   | 3.38   | 3.21   | 2.87   | 2.53  | 2.36  | 2.36  | 2.25  | 2.25  |
| 45.0            | 3.88   | 3.71   | 3.60   | 3.32   | 3.15  | 2.87  | 2.76  | 2.64  | 2.48  |
| 90.0            | 2.64   | 2.53   | 2.31   | 2.03   | 1.74  | 1.74  | 1.58  | 1.46  | 1.46  |
| 135.0           | 2.87   | 2.64   | 2.53   | 2.31   | 2.08  | 1.97  | 1.74  | 1.69  | 1.63  |
| 180.0           | 3.71   | 3.15   | 2.87   | 2.76   | 2.53  | 2.25  | 1.97  | 1.91  | 1.80  |
| 225.0           | 3.60   | 3.60   | 3.49   | 2.87   | 2.70  | 2.53  | 2.42  | 2.25  | 2.03  |
| 270.0           | 3.32   | 3.21   | 2.93   | 2.70   | 2.42  | 2.19  | 2.08  | 2.03  | 2.03  |
| 315.0           | 2.87   | 2.59   | 2.36   | 2.25   | 1.97  | 1.97  | 1.91  | 1.97  | 1.74  |
| 360.0           | 3.77   | 3.38   | 3.21   | 2.87   | 2.53  | 2.36  | 2.36  | 2.25  | 2.25  |
| C/ $\gamma$ (°) | 81.0   | 82.0   | 83.0   | 84.0   | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0             | 2.25   | 2.08   | 2.08   | 1.91   | 1.74  | 1.69  | 1.63  | 1.69  | 1.63  |
| 45.0            | 2.25   | 2.14   | 1.97   | 1.80   | 1.63  | 1.41  | 1.29  | 1.18  | 1.13  |
| 90.0            | 1.35   | 1.35   | 1.29   | 1.24   | 1.18  | 1.07  | 1.07  | 1.07  | 1.07  |
| 135.0           | 1.46   | 1.46   | 1.41   | 1.35   | 1.24  | 1.18  | 1.18  | 1.24  | 1.29  |
| 180.0           | 1.69   | 1.69   | 1.58   | 1.52   | 1.46  | 1.35  | 1.35  | 1.29  | 1.35  |
| 225.0           | 1.91   | 1.86   | 1.69   | 1.52   | 1.41  | 1.18  | 1.07  | 0.96  | 0.79  |
| 270.0           | 2.03   | 1.91   | 1.63   | 1.46   | 1.29  | 1.18  | 1.13  | 1.07  | 1.01  |
| 315.0           | 1.46   | 1.35   | 1.24   | 1.24   | 1.18  | 1.13  | 1.13  | 1.18  | 1.24  |
| 360.0           | 2.25   | 2.08   | 2.08   | 1.91   | 1.74  | 1.69  | 1.63  | 1.69  | 1.63  |

Intensity data(cd)

|                       |      |
|-----------------------|------|
| C/ $\gamma(^{\circ})$ | 90.0 |
| 0.0                   | 1.63 |
| 45.0                  | 1.01 |
| 90.0                  | 1.07 |
| 135.0                 | 1.18 |
| 180.0                 | 1.24 |
| 225.0                 | 0.79 |
| 270.0                 | 0.96 |
| 315.0                 | 1.24 |
| 360.0                 | 1.63 |