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## NATA

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Client:

LumCAT: 1-1377-L

Luminaire: 92.70.410.00

Report No: 2023629-B011

Ballast type: AC

Test No: 2023629-C011

Voltage(V): 34.730

LampCAT: FORTIMO SLM C 1204

Current(A): 0.301

Lamp flux(lm): 1660.3

Power (W): 10.453

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1572.32, Efficiency(%): 94.70% , Luminous Efficacy(lm/W): 150.42

Central intensity(cd): 7025.285, Maximum intensity(cd): 7025.285

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

Beam Angle(50%Imax): [C0/180]Total=20.8

[C90/270]Total=20.8

Field angle(10%Imax): [C0/180]Total=51.4

[C90/270]Total=51.4

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

Maximum s/h(1/4): C0\_180=0.38 C90\_270=0.38

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 94.70%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.228%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 7025.285      | 0.000       | 0         | 0.00%       | 0.00%      |
| 1.0                | 6988.544      | 6.705       | 6.705     | 0.40%       | 0.43%      |
| 2.0                | 6904.338      | 19.940      | 26.646    | 1.20%       | 1.69%      |
| 3.0                | 6748.725      | 32.654      | 59.299    | 1.97%       | 3.77%      |
| 4.0                | 6495.966      | 44.334      | 103.634   | 2.67%       | 6.59%      |
| 5.0                | 6146.201      | 54.386      | 158.02    | 3.28%       | 10.05%     |
| 6.0                | 5730.288      | 62.414      | 220.434   | 3.76%       | 14.02%     |
| 7.0                | 5255.423      | 68.188      | 288.622   | 4.11%       | 18.36%     |
| 8.0                | 4699.189      | 71.243      | 359.865   | 4.29%       | 22.89%     |
| 9.0                | 4173.053      | 71.905      | 431.77    | 4.33%       | 27.46%     |
| 10.0               | 3672.656      | 71.001      | 502.77    | 4.28%       | 31.98%     |
| 11.0               | 3234.394      | 69.016      | 571.786   | 4.16%       | 36.37%     |
| 12.0               | 2819.519      | 66.178      | 637.964   | 3.99%       | 40.57%     |
| 13.0               | 2477.641      | 62.864      | 700.828   | 3.79%       | 44.57%     |
| 14.0               | 2202.464      | 59.905      | 760.733   | 3.61%       | 48.38%     |
| 15.0               | 1971.156      | 57.297      | 818.03    | 3.45%       | 52.03%     |
| 16.0               | 1767.662      | 54.784      | 872.814   | 3.30%       | 55.51%     |
| 17.0               | 1590.530      | 52.296      | 925.11    | 3.15%       | 58.84%     |
| 18.0               | 1420.885      | 49.652      | 974.762   | 2.99%       | 62.00%     |
| 19.0               | 1281.090      | 47.009      | 1021.771  | 2.83%       | 64.99%     |
| 20.0               | 1186.069      | 45.156      | 1066.927  | 2.72%       | 67.86%     |
| 21.0               | 1102.374      | 43.943      | 1110.87   | 2.65%       | 70.65%     |
| 22.0               | 1006.169      | 42.372      | 1153.242  | 2.55%       | 73.35%     |
| 23.0               | 926.495       | 40.553      | 1193.794  | 2.44%       | 75.93%     |
| 24.0               | 846.723       | 38.769      | 1232.563  | 2.34%       | 78.39%     |
| 25.0               | 761.721       | 36.572      | 1269.136  | 2.20%       | 80.72%     |
| 26.0               | 676.061       | 33.939      | 1303.075  | 2.04%       | 82.88%     |
| 27.0               | 597.044       | 31.147      | 1334.221  | 1.88%       | 84.86%     |
| 28.0               | 521.216       | 28.312      | 1362.533  | 1.71%       | 86.66%     |
| 29.0               | 441.611       | 25.190      | 1387.724  | 1.52%       | 88.26%     |
| 30.0               | 368.385       | 21.870      | 1409.593  | 1.32%       | 89.65%     |
| 31.0               | 304.113       | 18.715      | 1428.308  | 1.13%       | 90.84%     |
| 32.0               | 252.177       | 15.937      | 1444.245  | 0.96%       | 91.85%     |
| 33.0               | 210.835       | 13.641      | 1457.886  | 0.82%       | 92.72%     |
| 34.0               | 166.857       | 11.430      | 1469.316  | 0.69%       | 93.45%     |
| 35.0               | 123.342       | 9.012       | 1478.328  | 0.54%       | 94.02%     |
| 36.0               | 97.395        | 7.028       | 1485.356  | 0.42%       | 94.47%     |
| 37.0               | 84.449        | 5.931       | 1491.287  | 0.36%       | 94.85%     |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 74.105        | 5.292       | 1496.579  | 0.32%       | 95.18%     |
| 39.0               | 64.874        | 4.744       | 1501.323  | 0.29%       | 95.48%     |
| 40.0               | 57.568        | 4.270       | 1505.593  | 0.26%       | 95.76%     |
| 41.0               | 50.455        | 3.847       | 1509.44   | 0.23%       | 96.00%     |
| 42.0               | 44.276        | 3.442       | 1512.882  | 0.21%       | 96.22%     |
| 43.0               | 38.664        | 3.072       | 1515.954  | 0.19%       | 96.42%     |
| 44.0               | 34.382        | 2.757       | 1518.711  | 0.17%       | 96.59%     |
| 45.0               | 30.666        | 2.500       | 1521.211  | 0.15%       | 96.75%     |
| 46.0               | 27.421        | 2.272       | 1523.483  | 0.14%       | 96.89%     |
| 47.0               | 24.729        | 2.074       | 1525.557  | 0.12%       | 97.03%     |
| 48.0               | 22.591        | 1.913       | 1527.47   | 0.12%       | 97.15%     |
| 49.0               | 20.882        | 1.785       | 1529.255  | 0.11%       | 97.26%     |
| 50.0               | 19.311        | 1.676       | 1530.931  | 0.10%       | 97.37%     |
| 51.0               | 18.087        | 1.582       | 1532.513  | 0.10%       | 97.47%     |
| 52.0               | 17.056        | 1.508       | 1534.021  | 0.09%       | 97.56%     |
| 53.0               | 16.205        | 1.447       | 1535.468  | 0.09%       | 97.66%     |
| 54.0               | 15.430        | 1.394       | 1536.862  | 0.08%       | 97.74%     |
| 55.0               | 14.717        | 1.346       | 1538.208  | 0.08%       | 97.83%     |
| 56.0               | 14.191        | 1.306       | 1539.514  | 0.08%       | 97.91%     |
| 57.0               | 13.700        | 1.275       | 1540.789  | 0.08%       | 97.99%     |
| 58.0               | 13.278        | 1.248       | 1542.037  | 0.08%       | 98.07%     |
| 59.0               | 12.890        | 1.223       | 1543.26   | 0.07%       | 98.15%     |
| 60.0               | 12.572        | 1.203       | 1544.463  | 0.07%       | 98.23%     |
| 61.0               | 12.316        | 1.188       | 1545.651  | 0.07%       | 98.30%     |
| 62.0               | 12.012        | 1.172       | 1546.823  | 0.07%       | 98.38%     |
| 63.0               | 11.776        | 1.157       | 1547.98   | 0.07%       | 98.45%     |
| 64.0               | 11.520        | 1.143       | 1549.123  | 0.07%       | 98.52%     |
| 65.0               | 11.258        | 1.127       | 1550.251  | 0.07%       | 98.60%     |
| 66.0               | 10.995        | 1.110       | 1551.361  | 0.07%       | 98.67%     |
| 67.0               | 10.676        | 1.090       | 1552.451  | 0.07%       | 98.74%     |
| 68.0               | 10.365        | 1.066       | 1553.516  | 0.06%       | 98.80%     |
| 69.0               | 10.054        | 1.042       | 1554.558  | 0.06%       | 98.87%     |
| 70.0               | 9.791         | 1.019       | 1555.577  | 0.06%       | 98.94%     |
| 71.0               | 9.459         | 0.995       | 1556.572  | 0.06%       | 99.00%     |
| 72.0               | 9.175         | 0.969       | 1557.541  | 0.06%       | 99.06%     |
| 73.0               | 8.940         | 0.947       | 1558.488  | 0.06%       | 99.12%     |
| 74.0               | 8.732         | 0.929       | 1559.417  | 0.06%       | 99.18%     |
| 75.0               | 8.511         | 0.911       | 1560.328  | 0.05%       | 99.24%     |

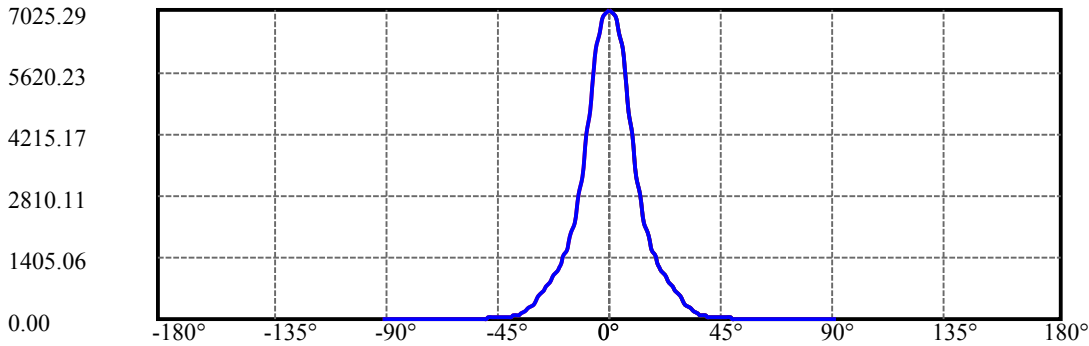
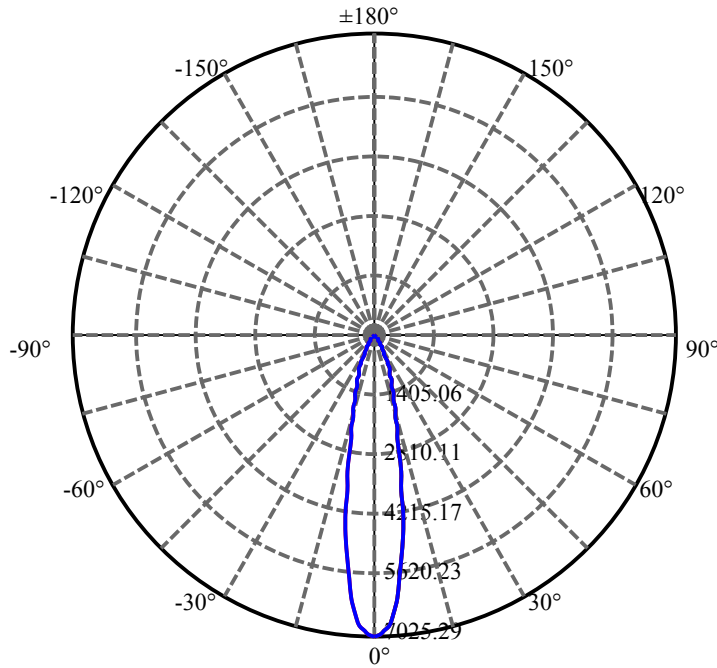
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 8.310         | 0.893       | 1561.221  | 0.05%       | 99.29%     |
| 77.0               | 8.130         | 0.877       | 1562.098  | 0.05%       | 99.35%     |
| 78.0               | 7.964         | 0.862       | 1562.959  | 0.05%       | 99.40%     |
| 79.0               | 7.791         | 0.847       | 1563.806  | 0.05%       | 99.46%     |
| 80.0               | 7.639         | 0.832       | 1564.638  | 0.05%       | 99.51%     |
| 81.0               | 7.493         | 0.818       | 1565.456  | 0.05%       | 99.56%     |
| 82.0               | 7.362         | 0.806       | 1566.262  | 0.05%       | 99.61%     |
| 83.0               | 7.231         | 0.793       | 1567.055  | 0.05%       | 99.67%     |
| 84.0               | 7.120         | 0.782       | 1567.837  | 0.05%       | 99.71%     |
| 85.0               | 7.016         | 0.772       | 1568.608  | 0.05%       | 99.76%     |
| 86.0               | 6.898         | 0.761       | 1569.369  | 0.05%       | 99.81%     |
| 87.0               | 6.815         | 0.751       | 1570.119  | 0.05%       | 99.86%     |
| 88.0               | 6.705         | 0.741       | 1570.86   | 0.04%       | 99.91%     |
| 89.0               | 6.649         | 0.732       | 1571.592  | 0.04%       | 99.95%     |
| 90.0               | 6.594         | 0.726       | 1572.318  | 0.04%       | 100.00%    |

ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 1409.59 | 84.90% | 89.65%  |
| 0-40    | 1505.59 | 90.68% | 95.76%  |
| 0-60    | 1544.46 | 93.02% | 98.23%  |
| 0-90    | 1571.59 | 94.66% | 99.95%  |
| 0-120   | 1571.59 | 94.66% | 99.95%  |
| 0-180   | 1572.32 | 94.70% | 100.00% |
| 60-90   | 27.13   | 1.63%  | 1.73%   |
| 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%   |
| 0-24.69 | 1257.85 | 75.76% | 80.00%  |

ZONAL LUMEN SUMMARY

|         |        |
|---------|--------|
| 0-10    | 502.77 |
| 10-20   | 564.16 |
| 20-30   | 342.67 |
| 30-40   | 96.00  |
| 40-50   | 25.34  |
| 50-60   | 13.53  |
| 60-70   | 11.11  |
| 70-80   | 9.06   |
| 80-90   | 6.95   |
| 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   |



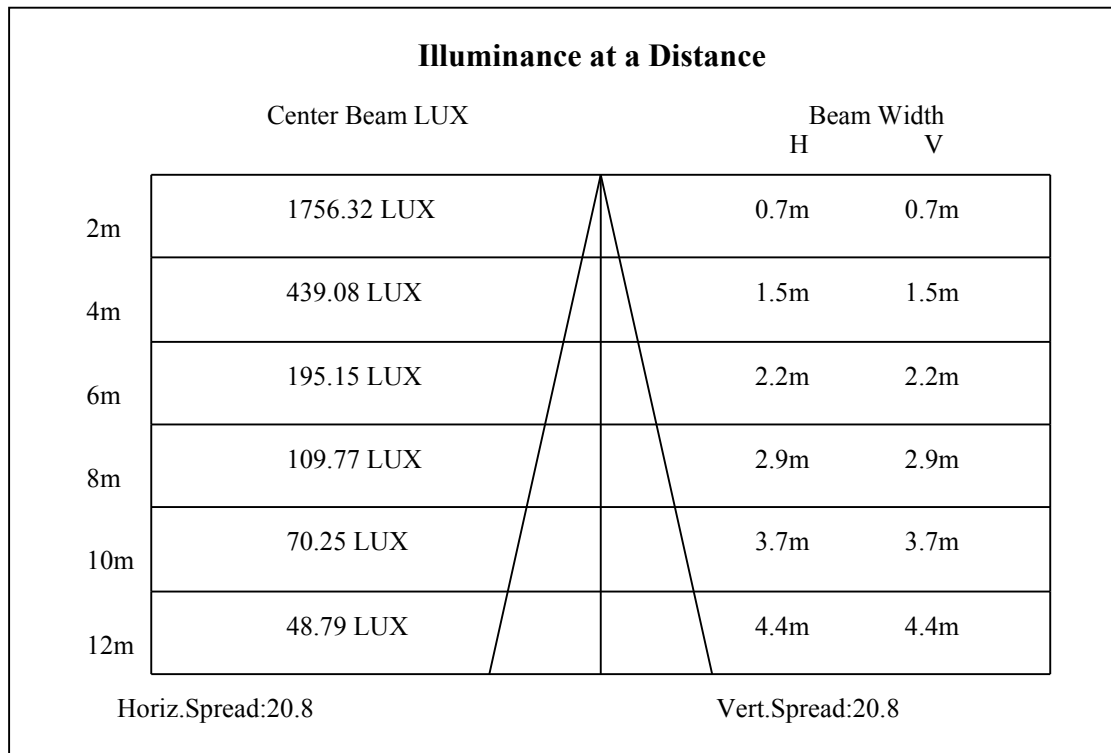
C0(Max): —————

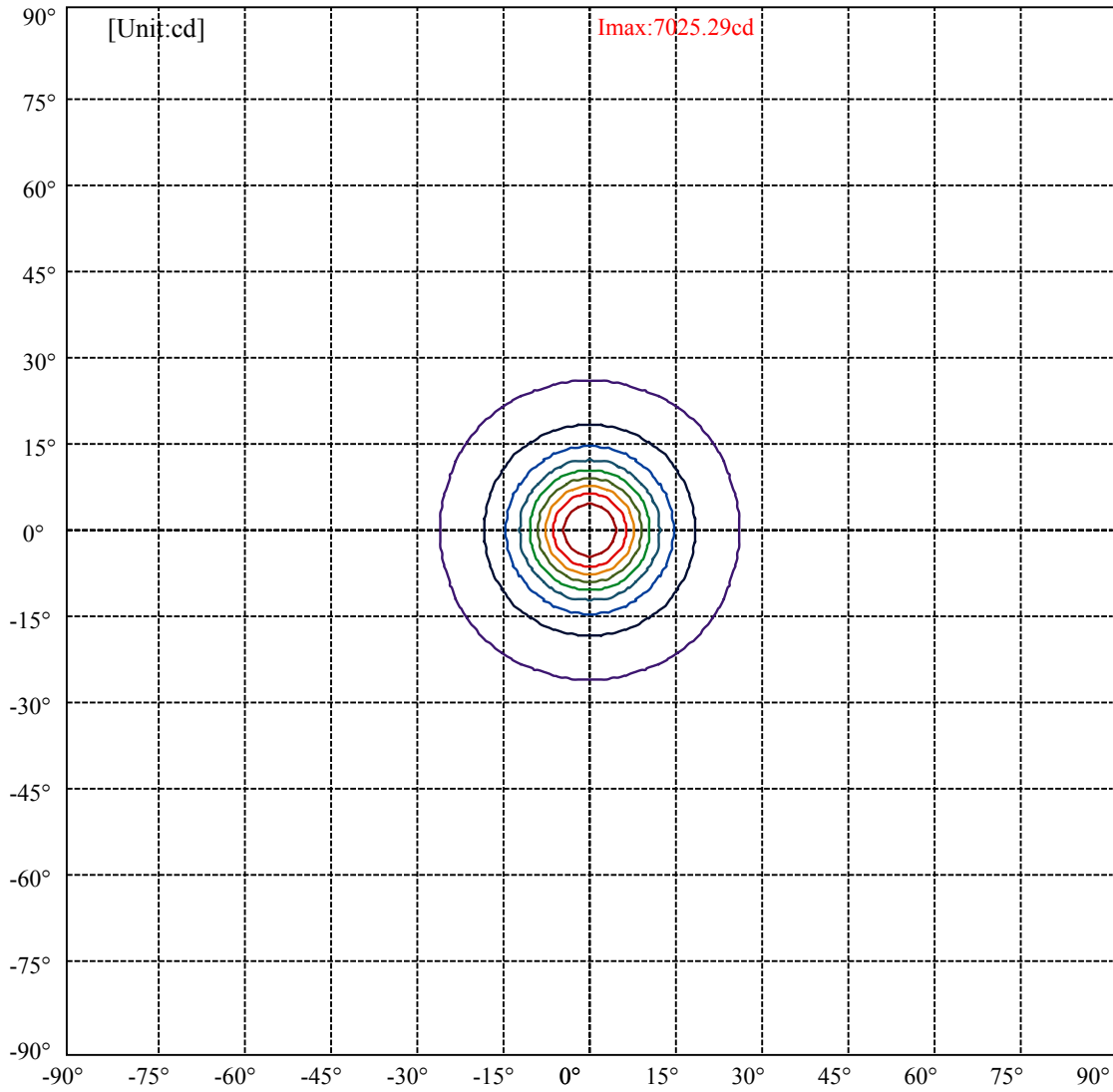
C0/C180: —————

C90/C270: —————

Field angle(10%Imax):C0/180Left:25.7 Right:25.7  
:C90/270Left:25.7 Right:25.7

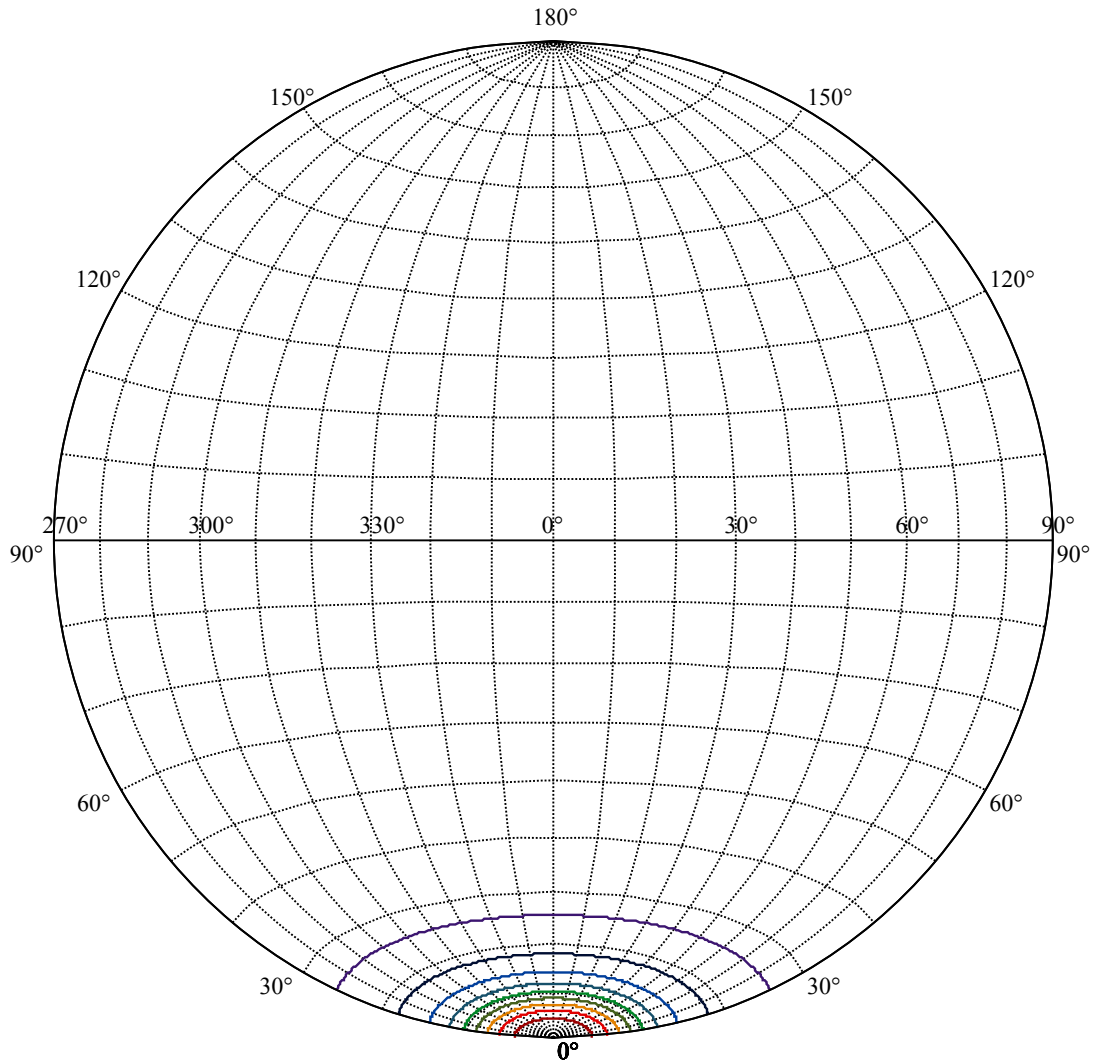
Beam Angle(50%Imax):C0/180Left:10.4 Right:10.4  
:C90/270Left:10.4 Right:10.4





|                   |   |
|-------------------|---|
| (10%Imax) 702.529 | — |
| (20%Imax) 1405.06 | — |
| (30%Imax) 2107.59 | — |
| (40%Imax) 2810.11 | — |
| (50%Imax) 3512.64 | — |
| (60%Imax) 4215.17 | — |
| (70%Imax) 4917.7  | — |
| (80%Imax) 5620.23 | — |
| (90%Imax) 6322.76 | — |





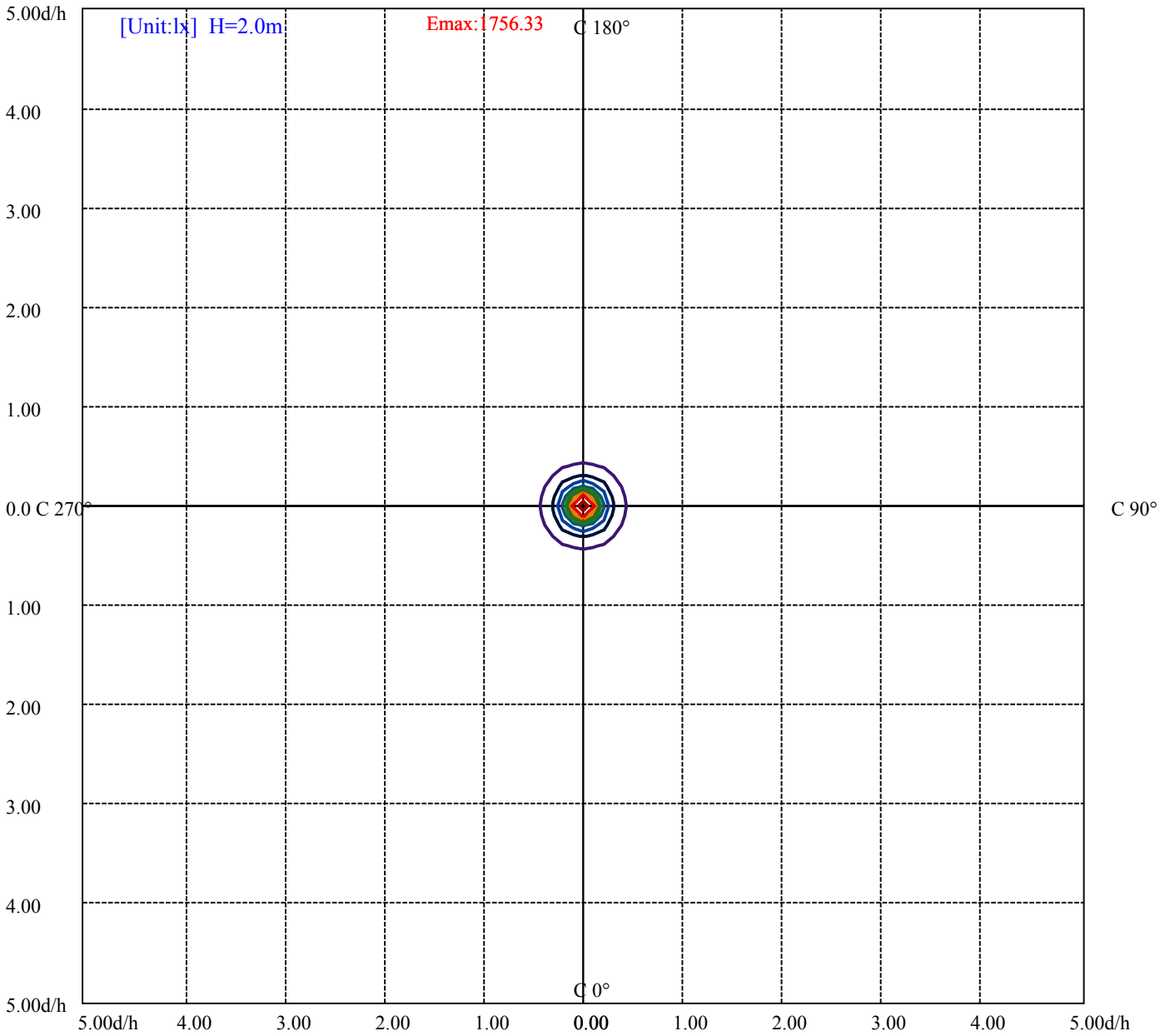
House

[Unit:cd]

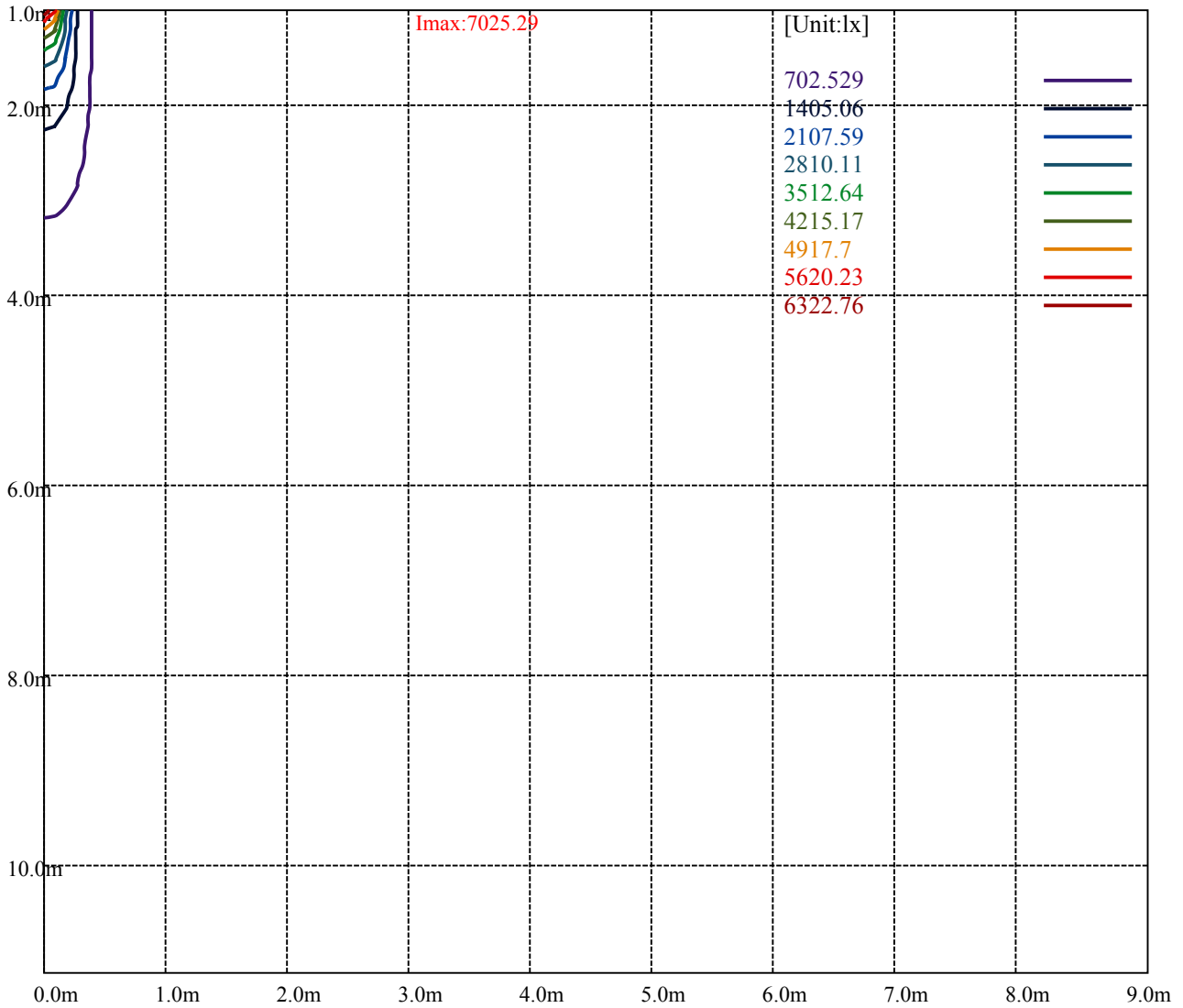
Road

**Imax:7025.29**

|                   |   |
|-------------------|---|
| (10%Imax) 702.529 | — |
| (20%Imax) 1405.06 | — |
| (30%Imax) 2107.59 | — |
| (40%Imax) 2810.11 | — |
| (50%Imax) 3512.64 | — |
| (60%Imax) 4215.17 | — |
| (70%Imax) 4917.7  | — |
| (80%Imax) 5620.23 | — |
| (90%Imax) 6322.76 | — |



|                    |   |
|--------------------|---|
| (10%Emax) 175.632  | — |
| (20%Emax) 351.265  | — |
| (30%Emax) 526.895  | — |
| (40%Emax) 702.5275 | — |
| (50%Emax) 878.16   | — |
| (60%Emax) 1053.792 | — |
| (70%Emax) 1229.425 | — |
| (80%Emax) 1405.055 | — |
| (90%Emax) 1580.688 | — |



Luminance Table

| $\gamma$ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C45      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C90      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0          | 0          | 0       | 0          | 0          | 0       | 0          | 0          | 0       |

Glare Table

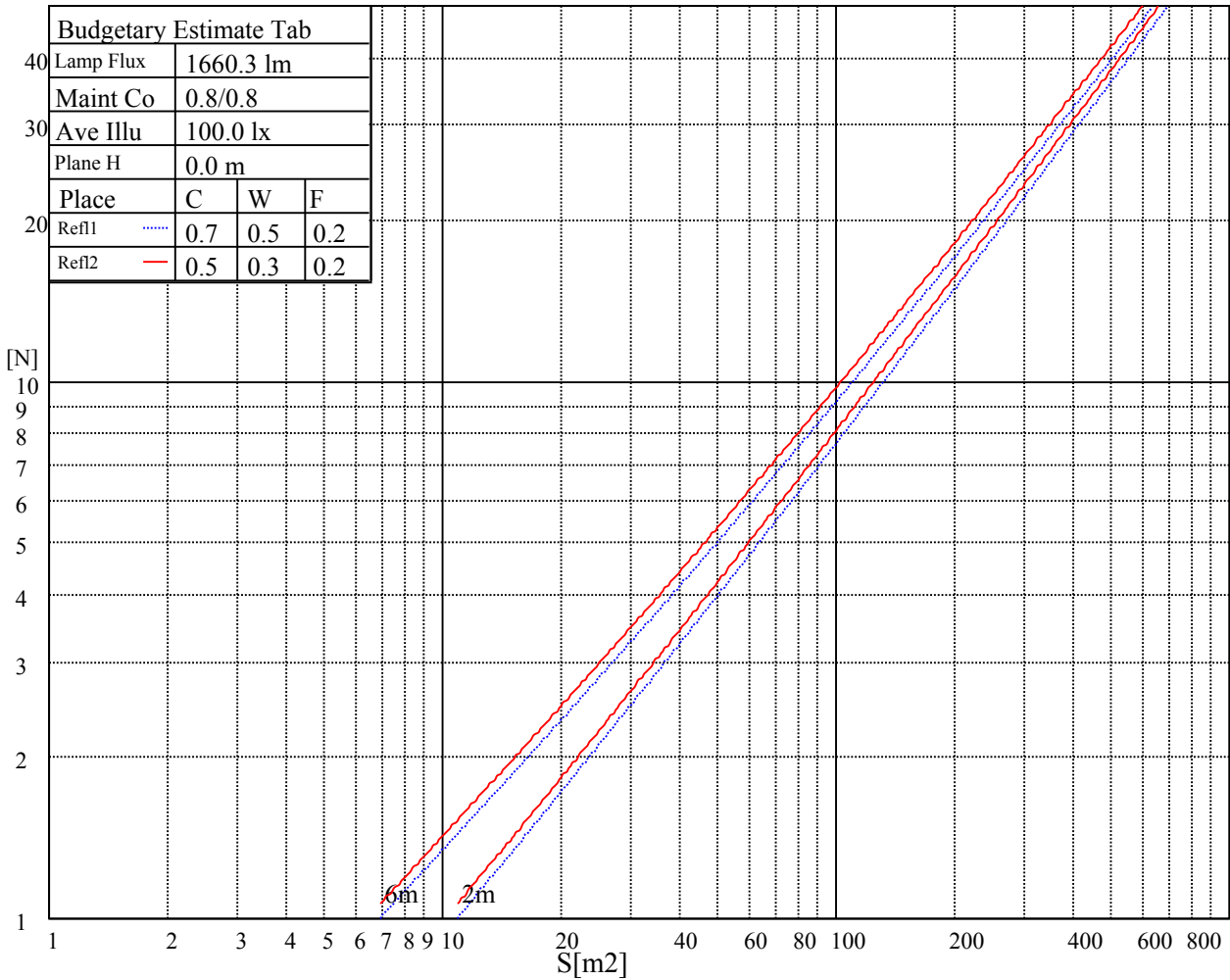
| Glare | Quality | Service Values Illuminance(lx) |      |      |       |       |       |       |       |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A       | 2000                           | 1000 | 500  | <=300 |       |    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

Luminance Limiting Curve

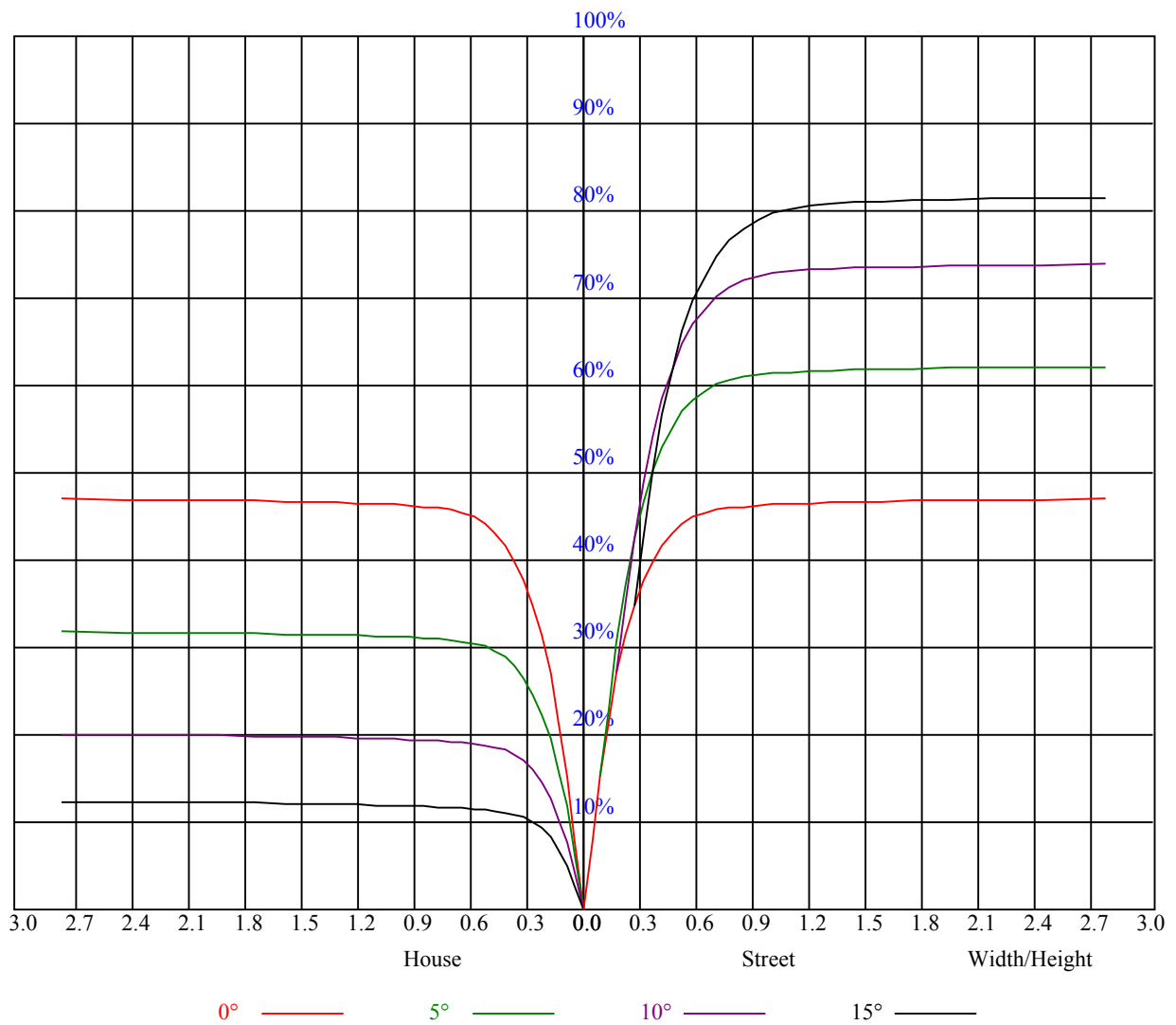


| Illumination assessment according UGR             |     |                  |     |     |     |     |                |     |     |     |  |
|---|-----|------------------|-----|-----|-----|-----|----------------|-----|-----|-----|--|
| Rf of Ceiling                                     | 70  | 70               | 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  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 3H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| 4H  | 12H | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 2H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 3H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| 8H  | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 12H | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| 12H   | 12H | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| Variation with the observer position at spacings: |     |                  |     |     |     |     |                |     |     |     |  |
| S = 1.0H  |     | 非数字/非数字          |     |     |     |     | 非数字/非数字        |     |     |     |  |
| S = 1.5H  |     | 非数字/非数字          |     |     |     |     | 非数字/非数字        |     |     |     |  |
| S = 2.0H  |     | 非数字/非数字          |     |     |     |     | 非数字/非数字        |     |     |     |  |
| Standard tables:                                  |     | BK0              |     |     |     |     | BK0            |     |     |     |  |
| Uncorrected UGR                                   |     | 负无穷大             |     |     |     |     | 负无穷大           |     |     |     |  |

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   | COEFFICIENTS OF UTILIZATION RHOF=20 CU |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0     | 1.13                                   | 1.13 | 1.13 | 1.10 | 1.10 | 1.10 | 1.05 | 1.05 | 1.05 | 1.01 | 1.01 | 1.01 | 0.97 | 0.97 | 0.97 | 0.95 |
| 1     | 1.06                                   | 1.04 | 1.02 | 1.04 | 1.02 | 1.01 | 1.00 | 0.99 | 0.97 | 0.97 | 0.96 | 0.95 | 0.94 | 0.93 | 0.92 | 0.90 |
| 2     | 1.00                                   | 0.97 | 0.95 | 0.99 | 0.96 | 0.93 | 0.96 | 0.93 | 0.91 | 0.93 | 0.91 | 0.90 | 0.90 | 0.89 | 0.88 | 0.86 |
| 3     | 0.95                                   | 0.92 | 0.89 | 0.94 | 0.91 | 0.88 | 0.92 | 0.89 | 0.87 | 0.90 | 0.87 | 0.85 | 0.88 | 0.86 | 0.84 | 0.83 |
| 4     | 0.91                                   | 0.87 | 0.84 | 0.90 | 0.86 | 0.83 | 0.88 | 0.85 | 0.82 | 0.86 | 0.84 | 0.81 | 0.85 | 0.82 | 0.81 | 0.79 |
| 5     | 0.87                                   | 0.83 | 0.80 | 0.87 | 0.82 | 0.79 | 0.85 | 0.81 | 0.79 | 0.83 | 0.80 | 0.78 | 0.82 | 0.80 | 0.77 | 0.76 |
| 6     | 0.84                                   | 0.79 | 0.76 | 0.83 | 0.79 | 0.76 | 0.82 | 0.78 | 0.76 | 0.81 | 0.78 | 0.75 | 0.80 | 0.77 | 0.75 | 0.74 |
| 7     | 0.81                                   | 0.76 | 0.73 | 0.80 | 0.76 | 0.73 | 0.79 | 0.75 | 0.73 | 0.78 | 0.75 | 0.72 | 0.77 | 0.74 | 0.72 | 0.71 |
| 8     | 0.78                                   | 0.74 | 0.71 | 0.77 | 0.73 | 0.70 | 0.77 | 0.73 | 0.70 | 0.76 | 0.72 | 0.70 | 0.75 | 0.72 | 0.70 | 0.69 |
| 9     | 0.75                                   | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.66 |
| 10    | 0.73                                   | 0.69 | 0.66 | 0.73 | 0.69 | 0.66 | 0.72 | 0.68 | 0.66 | 0.71 | 0.68 | 0.66 | 0.71 | 0.68 | 0.65 | 0.64 |





Intensity data(cd)

| C/γ(°) | 0.0     | 1.0     | 2.0     | 3.0     | 4.0     | 5.0     | 6.0     | 7.0     | 8.0     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 6947.37 | 6762.49 | 6559.90 | 6251.03 | 5745.65 | 5269.61 | 4769.76 | 4271.03 | 3666.01 |
| 45.0   | 7038.15 | 7015.46 | 6934.09 | 6797.37 | 6502.89 | 6163.57 | 5751.74 | 5266.29 | 4632.49 |
| 90.0   | 7073.58 | 7027.08 | 6924.68 | 6751.42 | 6506.21 | 6063.38 | 5612.25 | 5114.06 | 4458.12 |
| 135.0  | 7042.03 | 7081.33 | 7080.78 | 6998.85 | 6858.81 | 6582.59 | 6257.12 | 5848.61 | 5249.13 |
| 180.0  | 6947.37 | 7014.91 | 7047.01 | 7019.33 | 6943.50 | 6801.24 | 6513.96 | 6185.16 | 5763.92 |
| 225.0  | 7038.15 | 7013.25 | 6939.63 | 6766.37 | 6546.06 | 6222.24 | 5708.56 | 5218.13 | 4701.68 |
| 270.0  | 7073.58 | 7059.74 | 6983.35 | 6866.56 | 6642.93 | 6361.18 | 6007.47 | 5434.01 | 4926.97 |
| 315.0  | 7042.03 | 6934.09 | 6765.26 | 6538.87 | 6221.69 | 5705.79 | 5221.45 | 4706.11 | 4195.19 |
| 360.0  | 6947.37 | 6762.49 | 6559.90 | 6251.03 | 5745.65 | 5269.61 | 4769.76 | 4271.03 | 3666.01 |

| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 3239.24 | 2858.96 | 2540.12 | 2206.89 | 1992.12 | 1806.13 | 1607.41 | 1465.15 | 1322.34 |
| 45.0   | 4127.66 | 3656.05 | 3227.06 | 2768.18 | 2464.29 | 2147.66 | 1931.23 | 1749.67 | 1554.83 |
| 90.0   | 3943.89 | 3471.72 | 2957.49 | 2614.30 | 2329.22 | 2031.98 | 1833.81 | 1660.55 | 1511.65 |
| 135.0  | 4726.04 | 4206.82 | 3710.30 | 3165.06 | 2789.77 | 2473.14 | 2201.36 | 1920.16 | 1738.05 |
| 180.0  | 5279.57 | 4646.33 | 4122.68 | 3642.21 | 3098.64 | 2741.61 | 2441.04 | 2122.76 | 1914.07 |
| 225.0  | 4060.13 | 3573.02 | 3159.53 | 2803.60 | 2427.75 | 2183.64 | 1968.32 | 1785.65 | 1584.16 |
| 270.0  | 4419.93 | 3801.63 | 3356.03 | 2866.71 | 2545.10 | 2275.53 | 2048.03 | 1854.84 | 1650.04 |
| 315.0  | 3587.96 | 3166.72 | 2801.94 | 2489.20 | 2174.23 | 1960.02 | 1738.05 | 1582.50 | 1449.10 |
| 360.0  | 3239.24 | 2858.96 | 2540.12 | 2206.89 | 1992.12 | 1806.13 | 1607.41 | 1465.15 | 1322.34 |

| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0   | 25.0   | 26.0   |
|--------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 0.0    | 1099.93 | 1099.93 | 1039.26 | 945.22  | 867.83  | 786.19  | 702.11 | 601.92 | 524.92 |
| 45.0   | 1420.32 | 1303.52 | 1197.80 | 1083.77 | 1006.83 | 930.44  | 852.94 | 754.97 | 673.60 |
| 90.0   | 1352.23 | 1096.28 | 1096.28 | 1053.05 | 955.96  | 882.61  | 789.95 | 712.90 | 635.18 |
| 135.0  | 1578.08 | 1408.14 | 1288.58 | 1183.40 | 1072.14 | 989.67  | 914.94 | 825.27 | 748.33 |
| 180.0  | 1737.49 | 1536.01 | 1402.05 | 1289.68 | 1158.50 | 1061.63 | 990.22 | 913.28 | 829.70 |
| 225.0  | 1446.33 | 1324.00 | 1097.77 | 1097.77 | 999.35  | 924.46  | 851.06 | 774.67 | 677.25 |
| 270.0  | 1506.67 | 1376.59 | 1262.56 | 1143.55 | 1058.86 | 982.47  | 895.01 | 811.43 | 716.77 |
| 315.0  | 1226.03 | 1104.25 | 1104.25 | 1022.55 | 929.89  | 854.49  | 777.55 | 699.34 | 602.75 |
| 360.0  | 1099.93 | 1099.93 | 1039.26 | 945.22  | 867.83  | 786.19  | 702.11 | 601.92 | 524.92 |

| C/γ(°) | 27.0   | 28.0   | 29.0   | 30.0   | 31.0   | 32.0   | 33.0   | 34.0   | 35.0   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0    | 450.58 | 381.16 | 301.46 | 243.11 | 191.52 | 141.37 | 114.14 | 94.21  | 83.31  |
| 45.0   | 595.00 | 501.45 | 431.15 | 364.17 | 285.57 | 285.57 | 214.38 | 129.14 | 106.61 |
| 90.0   | 540.42 | 469.79 | 402.59 | 324.54 | 264.81 | 211.23 | 164.79 | 127.92 | 100.80 |
| 135.0  | 670.83 | 598.32 | 508.64 | 442.22 | 378.01 | 318.23 | 288.89 | 288.89 | 147.85 |
| 180.0  | 755.52 | 679.13 | 599.98 | 504.77 | 434.47 | 352.55 | 288.34 | 288.34 | 217.54 |
| 225.0  | 600.59 | 524.86 | 452.46 | 365.50 | 301.51 | 242.56 | 190.75 | 141.10 | 115.63 |
| 270.0  | 635.40 | 559.57 | 466.58 | 396.83 | 331.51 | 285.02 | 285.02 | 151.17 | 120.39 |
| 315.0  | 528.02 | 455.45 | 370.04 | 305.94 | 245.49 | 180.90 | 140.38 | 114.08 | 94.60  |
| 360.0  | 450.58 | 381.16 | 301.46 | 243.11 | 191.52 | 141.37 | 114.14 | 94.21  | 83.31  |

| C/γ(°) | 36.0   | 37.0   | 38.0  | 39.0  | 40.0  | 41.0  | 42.0  | 43.0  | 44.0  |
|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0.0    | 73.90  | 64.10  | 56.68 | 50.15 | 44.39 | 38.36 | 34.21 | 30.72 | 27.62 |
| 45.0   | 92.77  | 82.37  | 71.02 | 62.94 | 55.69 | 49.15 | 42.01 | 37.53 | 33.60 |
| 90.0   | 88.29  | 78.10  | 68.97 | 59.56 | 52.64 | 45.06 | 39.97 | 35.43 | 30.78 |
| 135.0  | 112.09 | 95.04  | 80.87 | 71.57 | 63.21 | 55.52 | 47.33 | 41.68 | 36.87 |
| 180.0  | 131.52 | 108.27 | 94.05 | 80.87 | 71.63 | 63.66 | 56.24 | 47.66 | 42.18 |
| 225.0  | 95.32  | 85.30  | 76.22 | 66.20 | 58.84 | 52.03 | 46.00 | 39.91 | 35.65 |
| 270.0  | 100.80 | 86.74  | 77.33 | 69.47 | 62.22 | 53.53 | 47.38 | 40.96 | 36.64 |
| 315.0  | 84.47  | 75.67  | 67.70 | 58.23 | 51.92 | 46.33 | 41.07 | 35.43 | 31.72 |
| 360.0  | 73.90  | 64.10  | 56.68 | 50.15 | 44.39 | 38.36 | 34.21 | 30.72 | 27.62 |

Intensity data(cd)

|        |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C/γ(°) | 45.0  | 46.0  | 47.0  | 48.0  | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |
| 0.0    | 24.52 | 22.53 | 20.87 | 19.21 | 18.10 | 17.16 | 16.16 | 15.50 | 14.89 |
| 45.0   | 29.50 | 26.74 | 24.47 | 22.09 | 20.59 | 18.88 | 17.82 | 16.94 | 16.16 |
| 90.0   | 27.62 | 24.96 | 22.36 | 20.65 | 19.26 | 18.05 | 16.83 | 16.05 | 15.39 |
| 135.0  | 32.66 | 28.45 | 25.63 | 23.36 | 20.98 | 19.54 | 18.32 | 17.05 | 16.22 |
| 180.0  | 37.59 | 33.49 | 29.28 | 26.51 | 24.24 | 21.86 | 20.37 | 18.82 | 17.71 |
| 225.0  | 31.94 | 28.89 | 25.68 | 23.58 | 21.81 | 19.98 | 18.71 | 17.66 | 16.55 |
| 270.0  | 32.88 | 28.89 | 26.24 | 24.02 | 22.14 | 20.26 | 18.99 | 17.82 | 16.88 |
| 315.0  | 28.62 | 25.41 | 23.30 | 21.31 | 19.93 | 18.76 | 17.49 | 16.61 | 15.83 |
| 360.0  | 24.52 | 22.53 | 20.87 | 19.21 | 18.10 | 17.16 | 16.16 | 15.50 | 14.89 |
| C/γ(°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0    | 14.28 | 13.84 | 13.45 | 13.12 | 12.73 | 12.45 | 12.18 | 11.96 | 11.62 |
| 45.0   | 15.33 | 14.72 | 14.23 | 13.78 | 13.28 | 12.95 | 12.62 | 12.34 | 12.01 |
| 90.0   | 14.72 | 14.06 | 13.62 | 13.12 | 12.79 | 12.51 | 12.18 | 11.96 | 11.73 |
| 135.0  | 15.44 | 14.61 | 14.00 | 13.51 | 13.01 | 12.68 | 12.40 | 12.18 | 11.90 |
| 180.0  | 16.83 | 15.94 | 15.33 | 14.78 | 14.34 | 13.84 | 13.45 | 13.17 | 12.90 |
| 225.0  | 15.78 | 14.95 | 14.39 | 13.89 | 13.45 | 12.95 | 12.62 | 12.34 | 12.07 |
| 270.0  | 15.89 | 15.17 | 14.56 | 13.89 | 13.45 | 12.95 | 12.62 | 12.34 | 12.01 |
| 315.0  | 15.17 | 14.45 | 13.95 | 13.51 | 13.17 | 12.79 | 12.51 | 12.23 | 11.85 |
| 360.0  | 14.28 | 13.84 | 13.45 | 13.12 | 12.73 | 12.45 | 12.18 | 11.96 | 11.62 |
| C/γ(°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0    | 11.35 | 11.13 | 10.79 | 10.46 | 10.13 | 9.80  | 9.52  | 9.30  | 8.97  |
| 45.0   | 11.79 | 11.51 | 11.24 | 11.07 | 10.63 | 10.35 | 10.07 | 9.80  | 9.41  |
| 90.0   | 11.57 | 11.29 | 11.07 | 10.85 | 10.57 | 10.19 | 9.91  | 9.63  | 9.30  |
| 135.0  | 11.79 | 11.57 | 11.35 | 11.07 | 10.90 | 10.57 | 10.30 | 10.02 | 9.63  |
| 180.0  | 12.62 | 12.34 | 12.12 | 11.73 | 11.51 | 11.24 | 10.79 | 10.52 | 10.19 |
| 225.0  | 11.73 | 11.46 | 11.18 | 10.96 | 10.57 | 10.30 | 9.96  | 9.69  | 9.41  |
| 270.0  | 11.73 | 11.51 | 11.24 | 11.02 | 10.63 | 10.35 | 10.07 | 9.80  | 9.47  |
| 315.0  | 11.62 | 11.35 | 11.07 | 10.79 | 10.46 | 10.13 | 9.80  | 9.58  | 9.30  |
| 360.0  | 11.35 | 11.13 | 10.79 | 10.46 | 10.13 | 9.80  | 9.52  | 9.30  | 8.97  |
| C/γ(°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0    | 8.75  | 8.58  | 8.41  | 8.19  | 8.03  | 7.86  | 7.69  | 7.53  | 7.36  |
| 45.0   | 9.19  | 8.97  | 8.75  | 8.47  | 8.36  | 8.14  | 7.97  | 7.80  | 7.64  |
| 90.0   | 9.02  | 8.80  | 8.58  | 8.36  | 8.14  | 7.97  | 7.86  | 7.69  | 7.53  |
| 135.0  | 9.35  | 9.08  | 8.86  | 8.58  | 8.41  | 8.25  | 8.08  | 7.92  | 7.75  |
| 180.0  | 9.80  | 9.52  | 9.24  | 9.02  | 8.75  | 8.58  | 8.36  | 8.19  | 8.03  |
| 225.0  | 9.08  | 8.86  | 8.64  | 8.47  | 8.30  | 8.08  | 7.92  | 7.75  | 7.58  |
| 270.0  | 9.19  | 8.91  | 8.75  | 8.52  | 8.30  | 8.14  | 7.97  | 7.75  | 7.64  |
| 315.0  | 9.02  | 8.80  | 8.64  | 8.47  | 8.19  | 8.03  | 7.86  | 7.69  | 7.58  |
| 360.0  | 8.75  | 8.58  | 8.41  | 8.19  | 8.03  | 7.86  | 7.69  | 7.53  | 7.36  |
| C/γ(°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0    | 7.25  | 7.14  | 7.03  | 6.92  | 6.81  | 6.70  | 6.64  | 6.53  | 6.59  |
| 45.0   | 7.47  | 7.36  | 7.14  | 7.09  | 6.97  | 6.86  | 6.81  | 6.64  | 6.59  |
| 90.0   | 7.42  | 7.31  | 7.20  | 7.03  | 6.97  | 6.86  | 6.75  | 6.70  | 6.59  |
| 135.0  | 7.64  | 7.47  | 7.36  | 7.25  | 7.09  | 6.97  | 6.92  | 6.81  | 6.75  |
| 180.0  | 7.86  | 7.64  | 7.47  | 7.36  | 7.25  | 7.14  | 6.97  | 6.86  | 6.81  |
| 225.0  | 7.42  | 7.31  | 7.20  | 7.09  | 6.97  | 6.86  | 6.81  | 6.70  | 6.59  |
| 270.0  | 7.47  | 7.36  | 7.25  | 7.14  | 7.03  | 6.92  | 6.81  | 6.70  | 6.64  |
| 315.0  | 7.42  | 7.31  | 7.20  | 7.09  | 7.03  | 6.86  | 6.81  | 6.70  | 6.64  |
| 360.0  | 7.25  | 7.14  | 7.03  | 6.92  | 6.81  | 6.70  | 6.64  | 6.53  | 6.59  |

Intensity data(cd)

|        |      |
|--------|------|
| C/γ(°) | 90.0 |
| 0.0    | 6.59 |
| 45.0   | 6.53 |
| 90.0   | 6.53 |
| 135.0  | 6.64 |
| 180.0  | 6.70 |
| 225.0  | 6.53 |
| 270.0  | 6.59 |
| 315.0  | 6.64 |
| 360.0  | 6.59 |