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## Nata

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Client: NT

LumCAT: 2-2881-L2 & 92.70.398.00

Luminaire: 92.70.411.00LED HOLDER

Report No: 20250112-B027

Ballast type: AC

Test No: 20250112-C027

Voltage(V): 36.570

LampCAT: LUMILEDS 1208 LES15

Current(A): 0.897

Lamp flux(lm): 4053.0

Power (W): 32.800

Number of Lamps: 1

PF: 0.000

Length(mm): 75

Width(mm): 75

Phm Type: C

Height(mm): 52

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## Photometric Results

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Lumens(lm): 3738.87, Efficiency(%): 92.25% , Luminous Efficacy(lm/W): 113.99

Central intensity(cd): 17613.880, Maximum intensity(cd): 17613.880

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

Beam Angle(50%Imax): [C0/180]Total=20.4

[C90/270]Total=20.4

Field angle(10%Imax): [C0/180]Total=49.6

[C90/270]Total=49.6

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

Maximum s/h(1/4): C0\_180=0.37 C90\_270=0.37

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.25%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.149%

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Equipment: GMS 1800  
Temperature(°C): 25.0

Date: 2025/01/12  
Humidity(%): 60.0%

Operator: NT07  
Distance(m): 7.25

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 17613.879     | 0.000       | 0         | 0.00%       | 0.00%      |
| 1.0                | 17491.998     | 16.798      | 16.798    | 0.41%       | 0.45%      |
| 2.0                | 17130.539     | 49.694      | 66.491    | 1.23%       | 1.78%      |
| 3.0                | 16542.035     | 80.534      | 147.025   | 1.99%       | 3.93%      |
| 4.0                | 15563.066     | 107.466     | 254.491   | 2.65%       | 6.81%      |
| 5.0                | 14674.182     | 130.079     | 384.57    | 3.21%       | 10.29%     |
| 6.0                | 13610.869     | 148.645     | 533.215   | 3.67%       | 14.26%     |
| 7.0                | 12542.930     | 162.336     | 695.552   | 4.01%       | 18.60%     |
| 8.0                | 10973.197     | 168.300     | 863.852   | 4.15%       | 23.10%     |
| 9.0                | 10000.870     | 169.983     | 1033.835  | 4.19%       | 27.65%     |
| 10.0               | 9003.555      | 171.983     | 1205.818  | 4.24%       | 32.25%     |
| 11.0               | 7947.246      | 169.373     | 1375.192  | 4.18%       | 36.78%     |
| 12.0               | 6925.201      | 162.577     | 1537.769  | 4.01%       | 41.13%     |
| 13.0               | 6067.526      | 154.191     | 1691.96   | 3.80%       | 45.25%     |
| 14.0               | 5313.543      | 145.677     | 1837.636  | 3.59%       | 49.15%     |
| 15.0               | 4688.266      | 137.309     | 1974.946  | 3.39%       | 52.82%     |
| 16.0               | 4207.017      | 130.341     | 2105.287  | 3.22%       | 56.31%     |
| 17.0               | 3741.918      | 123.786     | 2229.073  | 3.05%       | 59.62%     |
| 18.0               | 3412.850      | 117.967     | 2347.039  | 2.91%       | 62.77%     |
| 19.0               | 3087.469      | 113.092     | 2460.132  | 2.79%       | 65.80%     |
| 20.0               | 2856.174      | 108.785     | 2568.917  | 2.68%       | 68.71%     |
| 21.0               | 2604.754      | 104.861     | 2673.778  | 2.59%       | 71.51%     |
| 22.0               | 2367.474      | 99.919      | 2773.697  | 2.47%       | 74.19%     |
| 23.0               | 2154.675      | 94.887      | 2868.584  | 2.34%       | 76.72%     |
| 24.0               | 1941.311      | 89.553      | 2958.137  | 2.21%       | 79.12%     |
| 25.0               | 1714.937      | 83.135      | 3041.272  | 2.05%       | 81.34%     |
| 26.0               | 1561.087      | 77.331      | 3118.603  | 1.91%       | 83.41%     |
| 27.0               | 1363.327      | 71.546      | 3190.149  | 1.77%       | 85.32%     |
| 28.0               | 1202.906      | 64.972      | 3255.121  | 1.60%       | 87.06%     |
| 29.0               | 1049.180      | 58.921      | 3314.041  | 1.45%       | 88.64%     |
| 30.0               | 928.431       | 53.395      | 3367.437  | 1.32%       | 90.07%     |
| 31.0               | 795.389       | 47.971      | 3415.408  | 1.18%       | 91.35%     |
| 32.0               | 669.791       | 41.976      | 3457.384  | 1.04%       | 92.47%     |
| 33.0               | 565.106       | 36.381      | 3493.764  | 0.90%       | 93.44%     |
| 34.0               | 465.796       | 31.198      | 3524.962  | 0.77%       | 94.28%     |
| 35.0               | 378.345       | 26.216      | 3551.178  | 0.65%       | 94.98%     |
| 36.0               | 326.788       | 22.452      | 3573.63   | 0.55%       | 95.58%     |
| 37.0               | 263.200       | 19.242      | 3592.872  | 0.47%       | 96.10%     |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 209.961       | 15.793      | 3608.665  | 0.39%       | 96.52%     |
| 39.0               | 164.862       | 12.794      | 3621.459  | 0.32%       | 96.86%     |
| 40.0               | 140.848       | 10.662      | 3632.121  | 0.26%       | 97.14%     |
| 41.0               | 106.288       | 8.800       | 3640.922  | 0.22%       | 97.38%     |
| 42.0               | 87.707        | 7.048       | 3647.97   | 0.17%       | 97.57%     |
| 43.0               | 74.685        | 6.015       | 3653.985  | 0.15%       | 97.73%     |
| 44.0               | 64.468        | 5.252       | 3659.237  | 0.13%       | 97.87%     |
| 45.0               | 57.129        | 4.673       | 3663.91   | 0.12%       | 98.00%     |
| 46.0               | 51.038        | 4.230       | 3668.141  | 0.10%       | 98.11%     |
| 47.0               | 46.124        | 3.864       | 3672.005  | 0.10%       | 98.21%     |
| 48.0               | 42.549        | 3.585       | 3675.59   | 0.09%       | 98.31%     |
| 49.0               | 38.975        | 3.348       | 3678.937  | 0.08%       | 98.40%     |
| 50.0               | 36.321        | 3.139       | 3682.077  | 0.08%       | 98.48%     |
| 51.0               | 33.850        | 2.969       | 3685.046  | 0.07%       | 98.56%     |
| 52.0               | 31.741        | 2.815       | 3687.86   | 0.07%       | 98.64%     |
| 53.0               | 29.947        | 2.683       | 3690.544  | 0.07%       | 98.71%     |
| 54.0               | 28.522        | 2.577       | 3693.121  | 0.06%       | 98.78%     |
| 55.0               | 27.135        | 2.484       | 3695.605  | 0.06%       | 98.84%     |
| 56.0               | 25.913        | 2.397       | 3698.002  | 0.06%       | 98.91%     |
| 57.0               | 25.046        | 2.330       | 3700.332  | 0.06%       | 98.97%     |
| 58.0               | 24.120        | 2.274       | 3702.606  | 0.06%       | 99.03%     |
| 59.0               | 23.647        | 2.233       | 3704.839  | 0.06%       | 99.09%     |
| 60.0               | 23.233        | 2.215       | 3707.054  | 0.05%       | 99.15%     |
| 61.0               | 22.766        | 2.195       | 3709.249  | 0.05%       | 99.21%     |
| 62.0               | 22.273        | 2.170       | 3711.419  | 0.05%       | 99.27%     |
| 63.0               | 21.715        | 2.139       | 3713.558  | 0.05%       | 99.32%     |
| 64.0               | 20.966        | 2.094       | 3715.653  | 0.05%       | 99.38%     |
| 65.0               | 19.928        | 2.024       | 3717.677  | 0.05%       | 99.43%     |
| 66.0               | 18.837        | 1.934       | 3719.611  | 0.05%       | 99.48%     |
| 67.0               | 17.385        | 1.821       | 3721.432  | 0.04%       | 99.53%     |
| 68.0               | 16.156        | 1.699       | 3723.131  | 0.04%       | 99.58%     |
| 69.0               | 14.901        | 1.584       | 3724.716  | 0.04%       | 99.62%     |
| 70.0               | 13.489        | 1.458       | 3726.174  | 0.04%       | 99.66%     |
| 71.0               | 12.503        | 1.343       | 3727.517  | 0.03%       | 99.70%     |
| 72.0               | 11.478        | 1.247       | 3728.764  | 0.03%       | 99.73%     |
| 73.0               | 10.480        | 1.148       | 3729.912  | 0.03%       | 99.76%     |
| 74.0               | 9.507         | 1.051       | 3730.963  | 0.03%       | 99.79%     |
| 75.0               | 8.548         | 0.954       | 3731.917  | 0.02%       | 99.81%     |

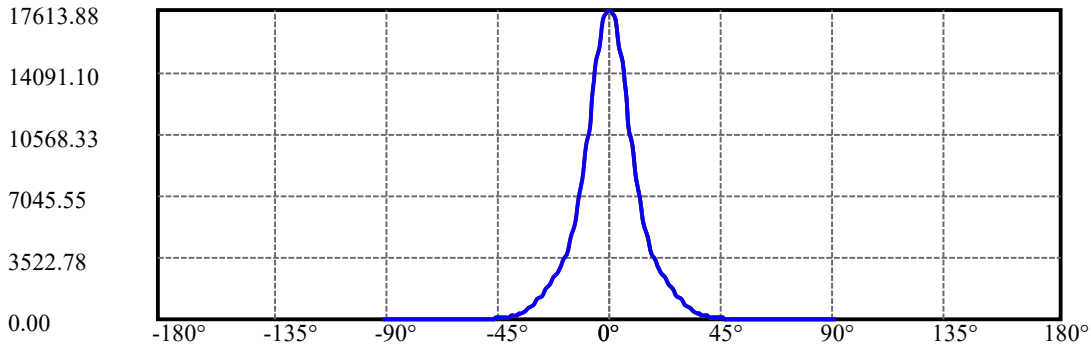
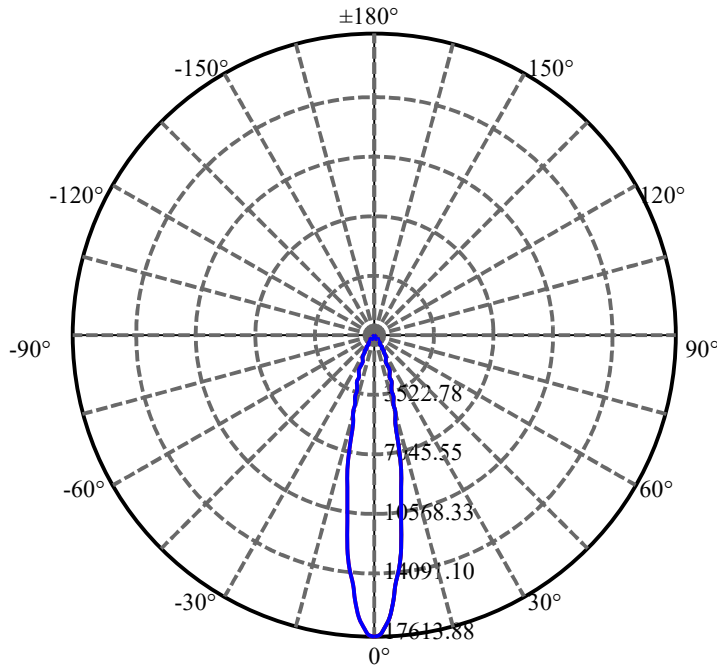
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 7.714         | 0.863       | 3732.78   | 0.02%       | 99.84%     |
| 77.0               | 6.958         | 0.782       | 3733.562  | 0.02%       | 99.86%     |
| 78.0               | 6.340         | 0.712       | 3734.274  | 0.02%       | 99.88%     |
| 79.0               | 5.703         | 0.647       | 3734.921  | 0.02%       | 99.89%     |
| 80.0               | 5.191         | 0.587       | 3735.509  | 0.01%       | 99.91%     |
| 81.0               | 4.704         | 0.535       | 3736.044  | 0.01%       | 99.92%     |
| 82.0               | 4.231         | 0.485       | 3736.528  | 0.01%       | 99.94%     |
| 83.0               | 3.745         | 0.434       | 3736.962  | 0.01%       | 99.95%     |
| 84.0               | 3.357         | 0.387       | 3737.349  | 0.01%       | 99.96%     |
| 85.0               | 2.911         | 0.342       | 3737.691  | 0.01%       | 99.97%     |
| 86.0               | 2.576         | 0.300       | 3737.991  | 0.01%       | 99.98%     |
| 87.0               | 2.240         | 0.264       | 3738.254  | 0.01%       | 99.98%     |
| 88.0               | 1.951         | 0.230       | 3738.484  | 0.01%       | 99.99%     |
| 89.0               | 1.735         | 0.202       | 3738.686  | 0.00%       | 100.00%    |
| 90.0               | 1.583         | 0.182       | 3738.868  | 0.00%       | 100.00%    |

ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 3367.44 | 83.09% | 90.07%  |
| 0-40    | 3632.12 | 89.62% | 97.14%  |
| 0-60    | 3707.05 | 91.46% | 99.15%  |
| 0-90    | 3738.69 | 92.24% | 100.00% |
| 0-120   | 3738.69 | 92.24% | 100.00% |
| 0-180   | 3738.87 | 92.25% | 100.00% |
| 60-90   | 31.63   | 0.78%  | 0.85%   |
| 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%   |
| 0-24.40 | 2991.09 | 73.80% | 80.00%  |

ZONAL LUMEN SUMMARY

|         |         |
|---------|---------|
| 0-10    | 1205.82 |
| 10-20   | 1363.10 |
| 20-30   | 798.52  |
| 30-40   | 264.68  |
| 40-50   | 49.96   |
| 50-60   | 24.98   |
| 60-70   | 19.12   |
| 70-80   | 9.34    |
| 80-90   | 3.18    |
| 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: —————

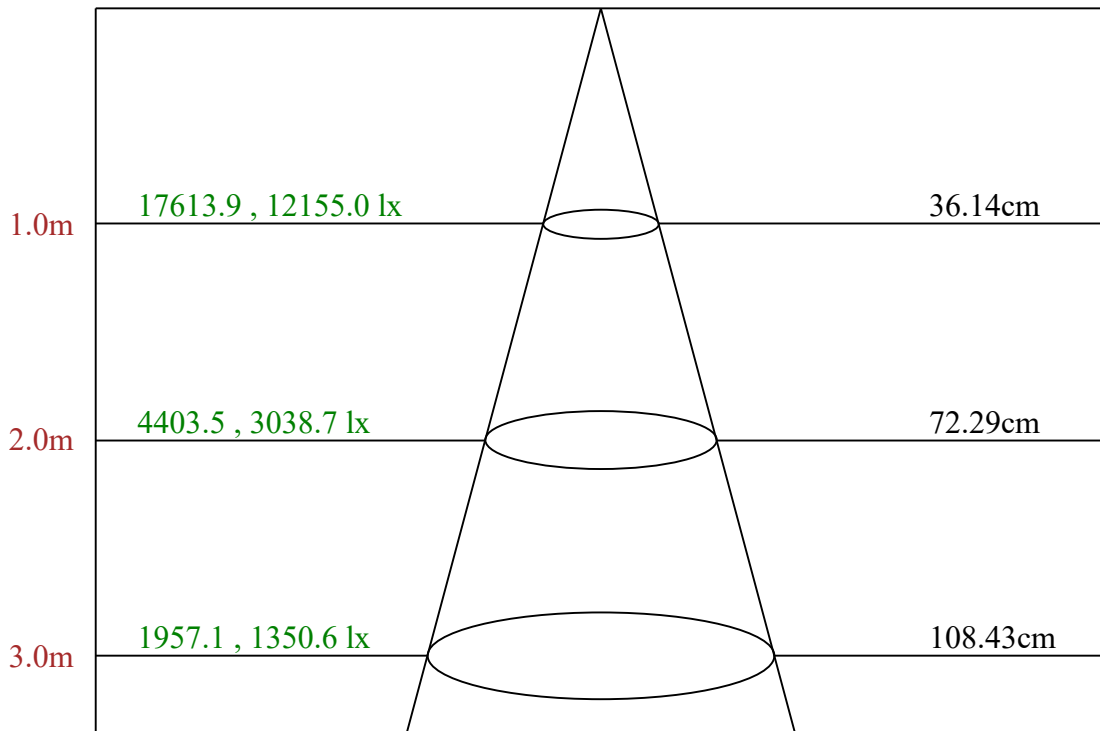
C90/C270: —————

Field angle(10%Imax):C0/180Left:24.8 Right:24.8

:C90/270Left:24.8 Right:24.8

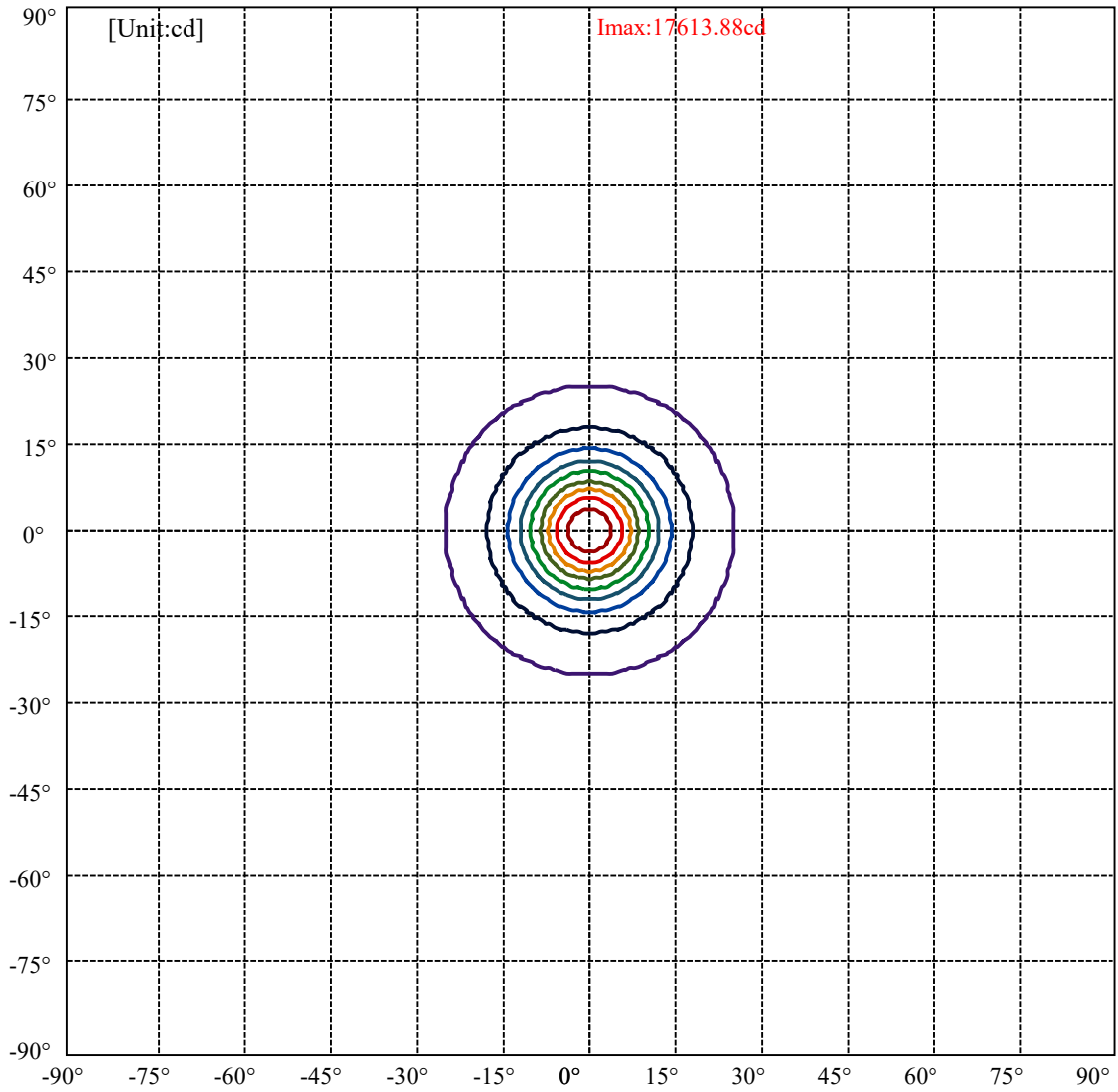
Beam Angle(50%Imax):C0/180Left:10.2 Right:10.2

:C90/270Left:10.2 Right:10.2



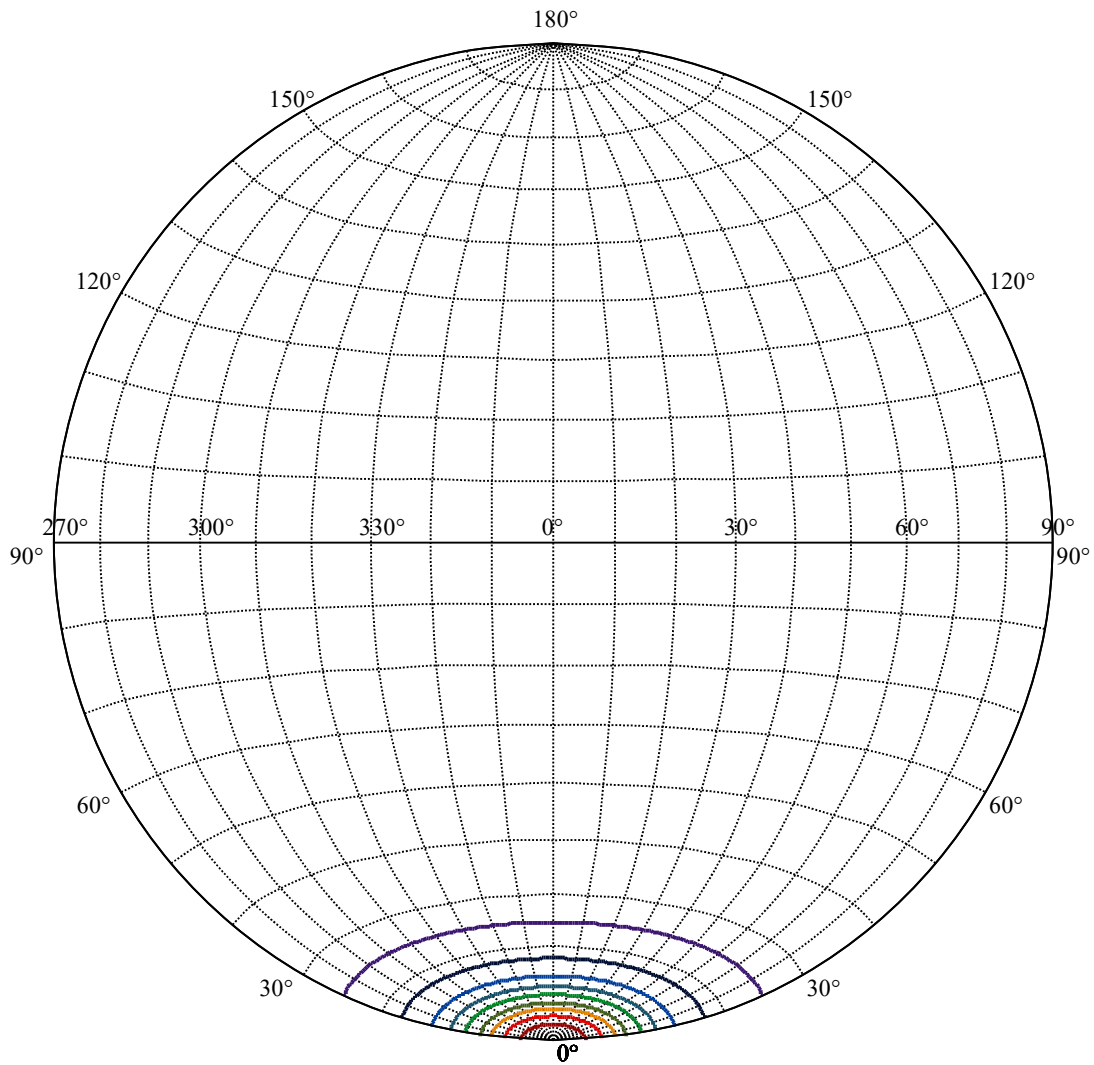
Max , Ave      Beam angle of C0 plane 20.49

ISO-Intensity(V-H)



|                   |   |
|-------------------|---|
| (10%Imax) 1761.39 | — |
| (20%Imax) 3522.78 | — |
| (30%Imax) 5284.16 | — |
| (40%Imax) 7045.55 | — |
| (50%Imax) 8806.94 | — |
| (60%Imax) 10568.3 | — |
| (70%Imax) 12329.7 | — |
| (80%Imax) 14091.1 | — |
| (90%Imax) 15852.5 | — |





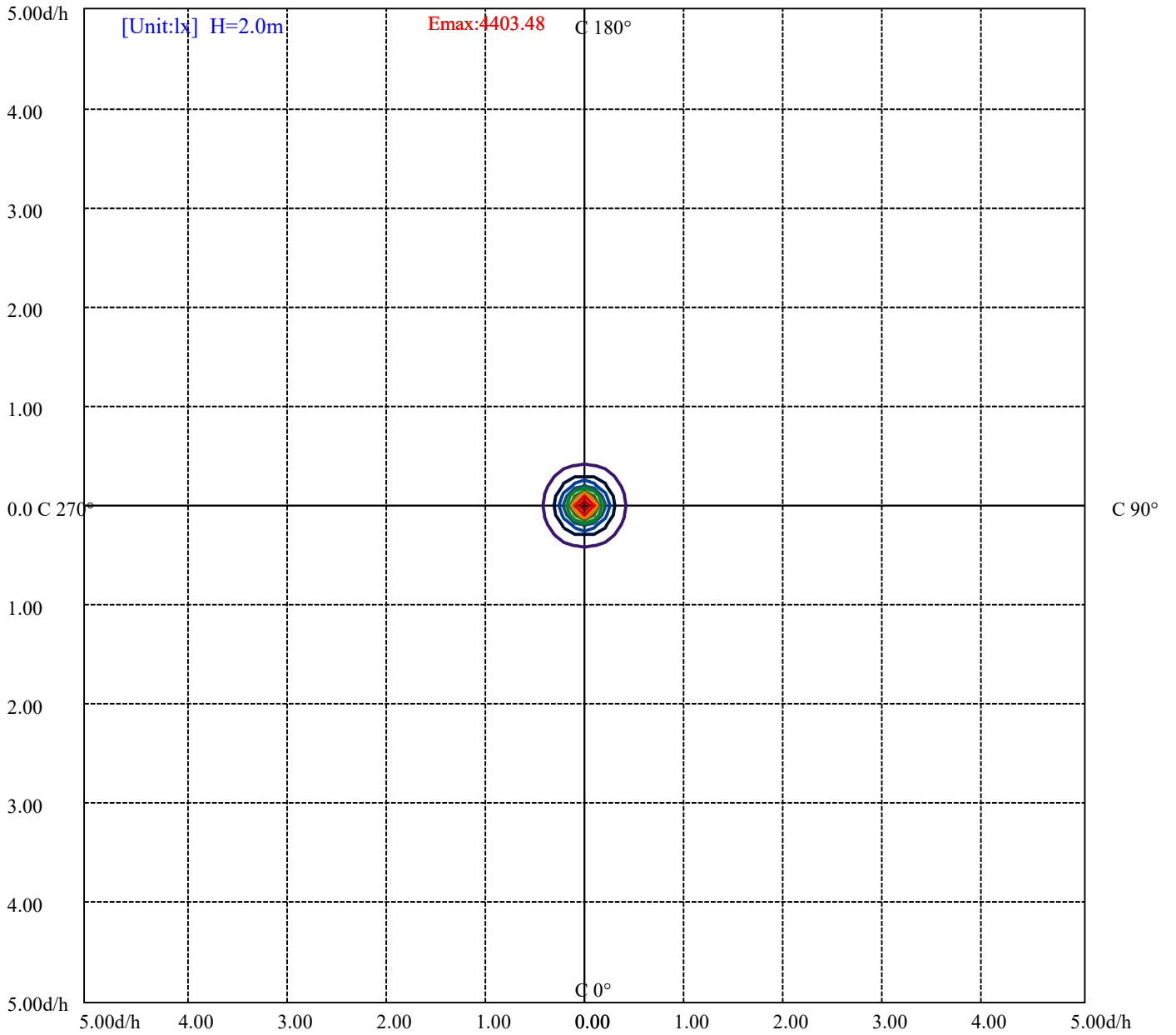
House

[Unit:cd]

Road

**Imax:17613.88**

|                   |   |
|-------------------|---|
| (10%Imax) 1761.39 | — |
| (20%Imax) 3522.78 | — |
| (30%Imax) 5284.16 | — |
| (40%Imax) 7045.55 | — |
| (50%Imax) 8806.94 | — |
| (60%Imax) 10568.3 | — |
| (70%Imax) 12329.7 | — |
| (80%Imax) 14091.1 | — |
| (90%Imax) 15852.5 | — |



- (10%Emax) 440.3475
- (20%Emax) 880.6925
- (30%Emax) 1321.04
- (40%Emax) 1761.385
- (50%Emax) 2201.732
- (60%Emax) 2642.075
- (70%Emax) 3082.425
- (80%Emax) 3522.775
- (90%Emax) 3963.125

Luminance Limiting Curve(no luminous side)

Luminance Table

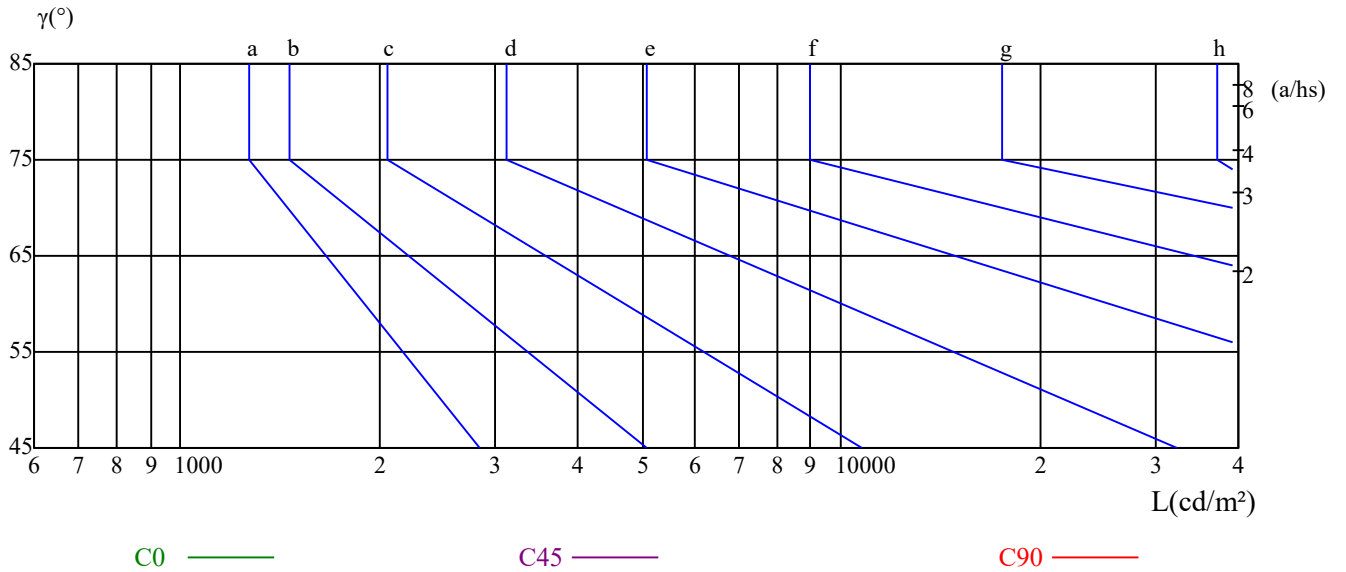
| $\gamma$ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C45      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C90      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

| 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

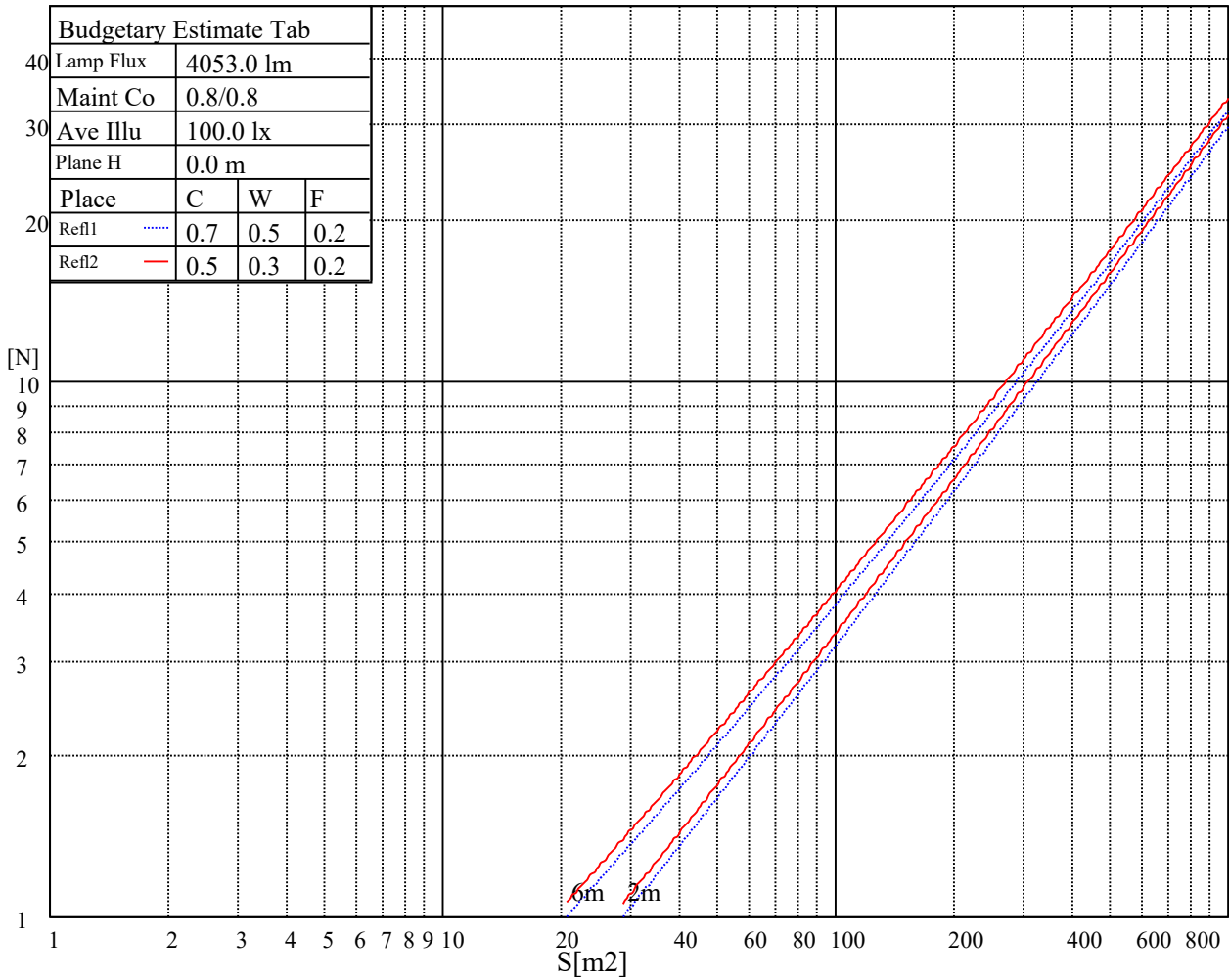
| Glare | Quality | Service Values Illuminance(lx) |      |      |       |       |       |       |       |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A       | 2000                           | 1000 | 500  | <=300 |       |       |       |       |
| 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 RHOFC=20 CU |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0     | 1.10                                    | 1.10 | 1.10 | 1.07 | 1.07 | 1.07 | 1.02 | 1.02 | 1.02 | 0.98 | 0.98 | 0.98 | 0.94 | 0.94 | 0.94 | 0.92 |
| 1     | 1.04                                    | 1.02 | 1.00 | 1.02 | 1.00 | 0.98 | 0.98 | 0.97 | 0.95 | 0.95 | 0.94 | 0.93 | 0.91 | 0.91 | 0.90 | 0.88 |
| 2     | 0.98                                    | 0.95 | 0.93 | 0.97 | 0.94 | 0.92 | 0.94 | 0.92 | 0.90 | 0.91 | 0.89 | 0.88 | 0.89 | 0.87 | 0.86 | 0.85 |
| 3     | 0.94                                    | 0.90 | 0.87 | 0.92 | 0.89 | 0.86 | 0.90 | 0.87 | 0.85 | 0.88 | 0.86 | 0.84 | 0.86 | 0.84 | 0.82 | 0.81 |
| 4     | 0.89                                    | 0.85 | 0.82 | 0.88 | 0.85 | 0.82 | 0.87 | 0.83 | 0.81 | 0.85 | 0.82 | 0.80 | 0.83 | 0.81 | 0.79 | 0.78 |
| 5     | 0.86                                    | 0.82 | 0.78 | 0.85 | 0.81 | 0.78 | 0.83 | 0.80 | 0.77 | 0.82 | 0.79 | 0.77 | 0.81 | 0.78 | 0.76 | 0.75 |
| 6     | 0.82                                    | 0.78 | 0.75 | 0.82 | 0.78 | 0.75 | 0.80 | 0.77 | 0.74 | 0.79 | 0.76 | 0.74 | 0.78 | 0.75 | 0.73 | 0.72 |
| 7     | 0.79                                    | 0.75 | 0.72 | 0.79 | 0.75 | 0.72 | 0.78 | 0.74 | 0.72 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.71 | 0.70 |
| 8     | 0.76                                    | 0.72 | 0.69 | 0.76 | 0.72 | 0.69 | 0.75 | 0.72 | 0.69 | 0.74 | 0.71 | 0.69 | 0.74 | 0.71 | 0.69 | 0.68 |
| 9     | 0.74                                    | 0.70 | 0.67 | 0.74 | 0.70 | 0.67 | 0.73 | 0.69 | 0.67 | 0.72 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.65 |
| 10    | 0.72                                    | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.71 | 0.67 | 0.65 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.64 | 0.63 |

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    | 17559.55 | 17175.11 | 16573.38 | 15776.63 | 14790.46 | 13620.42 | 11105.09 | 11105.09 | 10069.92 |
| 45.0   | 17815.85 | 17319.97 | 16617.95 | 15726.49 | 14667.88 | 13503.41 | 12244.22 | 10979.47 | 9714.71  |
| 90.0   | 17130.54 | 16227.94 | 15152.61 | 13938.00 | 10858.83 | 10344.56 | 10092.16 | 8869.76  | 7972.73  |
| 135.0  | 17949.57 | 17464.84 | 16757.24 | 15798.92 | 14718.03 | 13503.41 | 12238.65 | 10912.61 | 9631.13  |
| 180.0  | 17559.55 | 17682.13 | 17531.70 | 17136.11 | 16512.09 | 15603.91 | 14545.31 | 13358.55 | 12606.38 |
| 225.0  | 17815.85 | 18044.29 | 18005.28 | 17704.42 | 17258.69 | 16300.37 | 15486.91 | 14277.87 | 11042.70 |
| 270.0  | 17130.54 | 17838.14 | 18295.01 | 18506.73 | 18389.73 | 18155.72 | 17604.13 | 16434.09 | 15821.21 |
| 315.0  | 17949.57 | 18183.58 | 18111.15 | 17748.99 | 17308.83 | 16361.66 | 15570.48 | 14406.01 | 10926.80 |
| 360.0  | 17559.55 | 17175.11 | 16573.38 | 15776.63 | 14790.46 | 13620.42 | 11105.09 | 11105.09 | 10069.92 |

| C/γ(°) | 9.0      | 10.0     | 11.0     | 12.0     | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
|--------|----------|----------|----------|----------|---------|---------|---------|---------|---------|
| 0.0    | 8597.86  | 7686.90  | 6681.80  | 5831.02  | 5129.00 | 4555.12 | 4077.06 | 3694.83 | 3365.00 |
| 45.0   | 8527.95  | 7469.34  | 6527.74  | 5714.28  | 5040.11 | 4494.09 | 4042.79 | 3803.21 | 3324.05 |
| 90.0   | 6803.80  | 6109.02  | 5394.17  | 4691.05  | 4304.40 | 3889.84 | 3536.62 | 3227.39 | 2932.62 |
| 135.0  | 8455.52  | 7402.48  | 6460.88  | 5675.28  | 5028.97 | 4466.24 | 4020.51 | 3792.07 | 3324.05 |
| 180.0  | 11302.62 | 9508.56  | 8773.10  | 7625.35  | 6633.60 | 5781.14 | 5084.69 | 4499.67 | 4037.22 |
| 225.0  | 10763.54 | 10215.89 | 8886.48  | 7652.36  | 6590.97 | 5683.37 | 4937.30 | 4352.86 | 3901.56 |
| 270.0  | 14628.88 | 13258.26 | 11804.07 | 10388.87 | 9040.54 | 7770.21 | 6667.03 | 5742.14 | 4989.97 |
| 315.0  | 10926.80 | 10377.99 | 9049.74  | 7823.40  | 6772.63 | 5868.34 | 5140.14 | 4543.98 | 4060.87 |
| 360.0  | 8597.86  | 7686.90  | 6681.80  | 5831.02  | 5129.00 | 4555.12 | 4077.06 | 3694.83 | 3365.00 |

| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0    | 26.0    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 3069.12 | 2794.49 | 2541.50 | 2313.07 | 2116.95 | 1928.10 | 1749.23 | 1572.04 | 1404.89 |
| 45.0   | 3017.61 | 2839.32 | 2839.32 | 2341.50 | 2129.20 | 1930.31 | 1750.91 | 1573.14 | 1403.79 |
| 90.0   | 2669.12 | 2425.60 | 2209.99 | 2015.56 | 1830.59 | 1657.87 | 1482.37 | 1091.62 | 1059.77 |
| 135.0  | 3140.19 | 2844.89 | 2744.60 | 2544.87 | 2156.53 | 1959.85 | 1772.62 | 1595.43 | 1423.87 |
| 180.0  | 3663.92 | 3340.77 | 3039.90 | 2811.46 | 2811.46 | 2344.29 | 2055.67 | 1862.34 | 1754.80 |
| 225.0  | 3668.65 | 3185.60 | 2889.20 | 2721.48 | 2459.03 | 2226.71 | 2013.30 | 1816.67 | 1634.43 |
| 270.0  | 4404.95 | 3942.50 | 3563.63 | 3234.91 | 2950.75 | 2839.32 | 2574.93 | 2272.96 | 2060.13 |
| 315.0  | 3669.23 | 3326.58 | 3021.24 | 2855.20 | 2485.26 | 2350.96 | 2131.46 | 1935.30 | 1747.02 |
| 360.0  | 3069.12 | 2794.49 | 2541.50 | 2313.07 | 2116.95 | 1928.10 | 1749.23 | 1572.04 | 1404.89 |

| C/γ(°) | 27.0    | 28.0    | 29.0    | 30.0    | 31.0    | 32.0    | 33.0   | 34.0   | 35.0   |
|--------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 0.0    | 1019.61 | 1019.61 | 988.39  | 841.47  | 713.22  | 597.69  | 493.30 | 398.21 | 316.90 |
| 45.0   | 1238.32 | 1077.27 | 922.94  | 782.55  | 660.55  | 551.33  | 469.96 | 380.82 | 292.83 |
| 90.0   | 997.37  | 904.86  | 715.95  | 643.47  | 530.62  | 432.33  | 346.91 | 275.85 | 218.08 |
| 135.0  | 1257.82 | 1095.14 | 935.19  | 792.01  | 694.51  | 558.58  | 479.48 | 388.65 | 313.96 |
| 180.0  | 1506.86 | 1399.32 | 1232.17 | 1066.13 | 909.59  | 774.19  | 654.40 | 542.97 | 443.79 |
| 225.0  | 1453.35 | 1061.50 | 1061.50 | 941.66  | 810.51  | 696.19  | 589.07 | 489.72 | 401.68 |
| 270.0  | 1866.23 | 1677.37 | 1503.50 | 1326.36 | 1162.52 | 1000.95 | 853.88 | 725.15 | 611.51 |
| 315.0  | 1567.05 | 1388.18 | 1033.80 | 1033.80 | 881.58  | 747.07  | 633.85 | 524.99 | 428.02 |
| 360.0  | 1019.61 | 1019.61 | 988.39  | 841.47  | 713.22  | 597.69  | 493.30 | 398.21 | 316.90 |

| C/γ(°) | 36.0   | 37.0   | 38.0   | 39.0   | 40.0   | 41.0   | 42.0   | 43.0   | 44.0  |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 0.0    | 250.72 | 196.95 | 154.69 | 122.16 | 97.56  | 79.74  | 66.86  | 59.92  | 51.93 |
| 45.0   | 292.83 | 227.70 | 154.69 | 124.73 | 101.71 | 84.10  | 71.17  | 61.60  | 54.24 |
| 90.0   | 172.25 | 137.08 | 109.91 | 89.30  | 74.11  | 62.34  | 53.30  | 46.62  | 41.37 |
| 135.0  | 300.60 | 274.95 | 161.58 | 131.51 | 107.65 | 88.83  | 74.27  | 63.97  | 56.56 |
| 180.0  | 358.00 | 313.96 | 313.96 | 181.92 | 151.80 | 117.58 | 96.98  | 84.99  | 73.90 |
| 225.0  | 354.74 | 263.23 | 230.85 | 185.44 | 149.75 | 122.52 | 102.34 | 87.20  | 76.48 |
| 270.0  | 508.96 | 417.03 | 336.82 | 295.61 | 295.61 | 177.24 | 140.87 | 113.96 | 94.30 |
| 315.0  | 376.19 | 274.69 | 217.19 | 188.23 | 148.59 | 117.95 | 95.87  | 79.21  | 66.96 |
| 360.0  | 250.72 | 196.95 | 154.69 | 122.16 | 97.56  | 79.74  | 66.86  | 59.92  | 51.93 |

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    | 46.57 | 43.21 | 39.21 | 37.00 | 34.53 | 32.59 | 31.01 | 29.80 | 28.75 |
| 45.0   | 48.46 | 43.68 | 39.68 | 37.53 | 33.64 | 32.17 | 29.91 | 27.70 | 26.12 |
| 90.0   | 37.27 | 34.43 | 30.96 | 28.65 | 26.91 | 25.07 | 23.65 | 22.50 | 21.50 |
| 135.0  | 53.04 | 46.52 | 42.63 | 40.32 | 36.32 | 34.80 | 32.64 | 30.59 | 28.75 |
| 180.0  | 65.12 | 57.98 | 52.30 | 47.62 | 43.73 | 40.26 | 37.32 | 34.95 | 32.85 |
| 225.0  | 68.02 | 60.87 | 55.30 | 50.57 | 46.52 | 43.00 | 39.89 | 37.06 | 34.38 |
| 270.0  | 79.90 | 69.59 | 62.29 | 56.50 | 51.56 | 47.20 | 43.36 | 40.32 | 37.79 |
| 315.0  | 58.66 | 52.04 | 46.62 | 42.21 | 38.58 | 35.48 | 33.01 | 31.01 | 29.44 |
| 360.0  | 46.57 | 43.21 | 39.21 | 37.00 | 34.53 | 32.59 | 31.01 | 29.80 | 28.75 |
| C/γ(°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0    | 27.75 | 26.75 | 25.65 | 24.81 | 24.13 | 23.76 | 23.34 | 22.71 | 22.13 |
| 45.0   | 24.81 | 23.71 | 22.65 | 21.87 | 21.29 | 21.24 | 20.92 | 20.39 | 20.08 |
| 90.0   | 20.66 | 20.03 | 19.66 | 19.40 | 19.19 | 18.98 | 18.82 | 18.29 | 17.24 |
| 135.0  | 27.23 | 26.07 | 24.97 | 24.07 | 23.44 | 23.13 | 22.71 | 22.18 | 21.71 |
| 180.0  | 30.96 | 29.22 | 27.81 | 26.60 | 25.49 | 24.65 | 24.07 | 23.76 | 23.29 |
| 225.0  | 33.17 | 30.85 | 29.12 | 28.23 | 26.28 | 25.55 | 25.02 | 24.34 | 23.86 |
| 270.0  | 35.53 | 33.43 | 31.70 | 30.17 | 29.07 | 28.23 | 27.70 | 27.39 | 27.02 |
| 315.0  | 28.07 | 27.02 | 25.76 | 25.23 | 24.07 | 23.65 | 23.29 | 23.07 | 22.86 |
| 360.0  | 27.75 | 26.75 | 25.65 | 24.81 | 24.13 | 23.76 | 23.34 | 22.71 | 22.13 |
| C/γ(°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0    | 21.34 | 19.92 | 18.29 | 16.77 | 15.82 | 13.35 | 12.14 | 11.46 | 10.41 |
| 45.0   | 19.50 | 18.08 | 16.71 | 15.35 | 13.88 | 12.40 | 11.30 | 10.20 | 9.30  |
| 90.0   | 16.03 | 14.88 | 13.35 | 12.04 | 11.04 | 10.14 | 9.20  | 8.78  | 8.09  |
| 135.0  | 20.81 | 19.34 | 17.92 | 16.35 | 14.56 | 13.19 | 12.14 | 10.99 | 9.83  |
| 180.0  | 22.71 | 22.55 | 21.50 | 20.55 | 18.82 | 17.35 | 15.66 | 13.98 | 12.83 |
| 225.0  | 23.76 | 23.65 | 23.07 | 22.34 | 19.50 | 19.50 | 18.24 | 15.03 | 15.03 |
| 270.0  | 26.86 | 26.81 | 26.33 | 25.97 | 25.49 | 24.49 | 22.97 | 21.60 | 19.97 |
| 315.0  | 22.71 | 22.50 | 22.23 | 21.34 | 19.97 | 18.82 | 17.56 | 15.87 | 14.56 |
| 360.0  | 21.34 | 19.92 | 18.29 | 16.77 | 15.82 | 13.35 | 12.14 | 11.46 | 10.41 |
| C/γ(°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0    | 9.57  | 8.78  | 8.09  | 7.41  | 6.83  | 6.36  | 5.83  | 5.20  | 4.68  |
| 45.0   | 8.67  | 7.99  | 7.46  | 6.89  | 6.41  | 5.83  | 5.31  | 4.84  | 4.31  |
| 90.0   | 7.31  | 6.94  | 6.47  | 5.94  | 5.47  | 4.94  | 4.47  | 3.99  | 3.63  |
| 135.0  | 9.25  | 8.52  | 7.78  | 7.10  | 6.62  | 6.10  | 5.57  | 4.99  | 4.52  |
| 180.0  | 11.67 | 10.57 | 9.78  | 9.04  | 8.25  | 7.46  | 6.83  | 6.20  | 5.62  |
| 225.0  | 13.82 | 12.25 | 10.46 | 9.25  | 8.30  | 7.57  | 6.94  | 6.20  | 5.83  |
| 270.0  | 18.08 | 16.56 | 15.14 | 12.93 | 11.04 | 9.57  | 8.46  | 7.62  | 6.94  |
| 315.0  | 13.46 | 12.25 | 10.88 | 9.83  | 8.78  | 7.83  | 7.31  | 6.57  | 5.99  |
| 360.0  | 9.57  | 8.78  | 8.09  | 7.41  | 6.83  | 6.36  | 5.83  | 5.20  | 4.68  |
| C/γ(°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0    | 4.26  | 3.89  | 3.36  | 3.05  | 2.68  | 2.37  | 2.05  | 1.84  | 1.52  |
| 45.0   | 3.84  | 3.36  | 3.00  | 2.52  | 2.16  | 1.84  | 1.58  | 1.31  | 1.31  |
| 90.0   | 3.15  | 2.84  | 2.47  | 2.21  | 1.94  | 1.79  | 1.31  | 1.31  | 1.26  |
| 135.0  | 4.10  | 3.68  | 3.15  | 2.84  | 2.47  | 2.21  | 2.00  | 1.37  | 1.26  |
| 180.0  | 5.10  | 4.63  | 3.99  | 3.68  | 3.10  | 2.73  | 2.37  | 2.10  | 1.89  |
| 225.0  | 5.31  | 4.68  | 4.31  | 3.78  | 3.21  | 2.79  | 2.47  | 2.16  | 1.84  |
| 270.0  | 6.36  | 5.78  | 5.15  | 4.73  | 4.10  | 3.68  | 3.21  | 2.89  | 2.47  |
| 315.0  | 5.52  | 4.99  | 4.52  | 4.05  | 3.63  | 3.21  | 2.94  | 2.63  | 2.31  |
| 360.0  | 4.26  | 3.89  | 3.36  | 3.05  | 2.68  | 2.37  | 2.05  | 1.84  | 1.52  |



Intensity data(cd)

|        |      |
|--------|------|
| C/γ(°) | 90.0 |
| 0.0    | 1.47 |
| 45.0   | 1.26 |
| 90.0   | 1.31 |
| 135.0  | 1.26 |
| 180.0  | 1.52 |
| 225.0  | 1.58 |
| 270.0  | 2.16 |
| 315.0  | 2.10 |
| 360.0  | 1.47 |