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## NATA

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Client:

LumCAT: 2-2644-L

Luminaire: 92.70.412.00

Report No: 20231008-B004

Ballast type: AC

Test No: 20231008-C004

Voltage(V): 35.960

LampCAT: CITIZEN CLU038 LES14.5

Current(A): 0.540

Lamp flux(lm): 2889.2

Power (W): 19.418

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): 2625.43, Efficiency(%): 90.87% , Luminous Efficacy(lm/W): 135.21

Central intensity(cd): 8868.837, Maximum intensity(cd): 8868.837

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

Beam Angle(50%Imax): [C0/180]Total=26.0

[C90/270]Total=26.0

Field angle(10%Imax): [C0/180]Total=56.4

[C90/270]Total=56.4

Maximum s/h(1/2): C0\_180=0.44 C90\_270=0.44

Maximum s/h(1/4): C0\_180=0.47 C90\_270=0.47

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.87%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.881%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 8868.837      | 0.000       | 0         | 0.00%       | 0.00%      |
| 1.0                | 8833.203      | 8.470       | 8.47      | 0.29%       | 0.32%      |
| 2.0                | 8715.507      | 25.188      | 33.658    | 0.87%       | 1.28%      |
| 3.0                | 8551.038      | 41.296      | 74.954    | 1.43%       | 2.85%      |
| 4.0                | 8298.972      | 56.402      | 131.356   | 1.95%       | 5.00%      |
| 5.0                | 8006.843      | 70.147      | 201.503   | 2.43%       | 7.68%      |
| 6.0                | 7658.184      | 82.324      | 283.827   | 2.85%       | 10.81%     |
| 7.0                | 7259.984      | 92.597      | 376.423   | 3.20%       | 14.34%     |
| 8.0                | 6831.548      | 100.850     | 477.274   | 3.49%       | 18.18%     |
| 9.0                | 6327.415      | 106.646     | 583.92    | 3.69%       | 22.24%     |
| 10.0               | 5831.170      | 110.031     | 693.951   | 3.81%       | 26.43%     |
| 11.0               | 5360.111      | 111.824     | 805.775   | 3.87%       | 30.69%     |
| 12.0               | 4876.597      | 111.902     | 917.677   | 3.87%       | 34.95%     |
| 13.0               | 4421.037      | 110.339     | 1028.016  | 3.82%       | 39.16%     |
| 14.0               | 4009.898      | 107.915     | 1135.931  | 3.74%       | 43.27%     |
| 15.0               | 3650.861      | 105.170     | 1241.102  | 3.64%       | 47.27%     |
| 16.0               | 3298.189      | 101.823     | 1342.925  | 3.52%       | 51.15%     |
| 17.0               | 2988.831      | 97.906      | 1440.83   | 3.39%       | 54.88%     |
| 18.0               | 2705.905      | 93.894      | 1534.724  | 3.25%       | 58.46%     |
| 19.0               | 2451.417      | 89.727      | 1624.451  | 3.11%       | 61.87%     |
| 20.0               | 2197.206      | 85.083      | 1709.534  | 2.94%       | 65.11%     |
| 21.0               | 1988.938      | 80.382      | 1789.916  | 2.78%       | 68.18%     |
| 22.0               | 1791.326      | 75.966      | 1865.882  | 2.63%       | 71.07%     |
| 23.0               | 1604.853      | 71.261      | 1937.143  | 2.47%       | 73.78%     |
| 24.0               | 1401.899      | 65.738      | 2002.882  | 2.28%       | 76.29%     |
| 25.0               | 1273.686      | 60.837      | 2063.719  | 2.11%       | 78.60%     |
| 26.0               | 1138.790      | 56.947      | 2120.665  | 1.97%       | 80.77%     |
| 27.0               | 1036.835      | 53.227      | 2173.892  | 1.84%       | 82.80%     |
| 28.0               | 910.864       | 49.312      | 2223.204  | 1.71%       | 84.68%     |
| 29.0               | 788.235       | 44.453      | 2267.657  | 1.54%       | 86.37%     |
| 30.0               | 670.616       | 39.389      | 2307.046  | 1.36%       | 87.87%     |
| 31.0               | 551.792       | 34.018      | 2341.064  | 1.18%       | 89.17%     |
| 32.0               | 449.713       | 28.692      | 2369.756  | 0.99%       | 90.26%     |
| 33.0               | 353.204       | 23.654      | 2393.41   | 0.82%       | 91.16%     |
| 34.0               | 282.130       | 19.227      | 2412.637  | 0.67%       | 91.89%     |
| 35.0               | 240.449       | 16.229      | 2428.867  | 0.56%       | 92.51%     |
| 36.0               | 197.564       | 13.946      | 2442.813  | 0.48%       | 93.04%     |
| 37.0               | 154.360       | 11.478      | 2454.291  | 0.40%       | 93.48%     |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 137.858       | 9.754       | 2464.045  | 0.34%       | 93.85%     |
| 39.0               | 123.390       | 8.917       | 2472.962  | 0.31%       | 94.19%     |
| 40.0               | 111.164       | 8.180       | 2481.142  | 0.28%       | 94.50%     |
| 41.0               | 100.501       | 7.537       | 2488.679  | 0.26%       | 94.79%     |
| 42.0               | 90.558        | 6.942       | 2495.621  | 0.24%       | 95.06%     |
| 43.0               | 82.477        | 6.410       | 2502.031  | 0.22%       | 95.30%     |
| 44.0               | 74.990        | 5.943       | 2507.974  | 0.21%       | 95.53%     |
| 45.0               | 68.666        | 5.521       | 2513.495  | 0.19%       | 95.74%     |
| 46.0               | 63.345        | 5.163       | 2518.658  | 0.18%       | 95.93%     |
| 47.0               | 58.045        | 4.828       | 2523.486  | 0.17%       | 96.12%     |
| 48.0               | 54.046        | 4.531       | 2528.017  | 0.16%       | 96.29%     |
| 49.0               | 50.476        | 4.292       | 2532.309  | 0.15%       | 96.45%     |
| 50.0               | 47.154        | 4.071       | 2536.38   | 0.14%       | 96.61%     |
| 51.0               | 44.414        | 3.874       | 2540.254  | 0.13%       | 96.76%     |
| 52.0               | 42.013        | 3.709       | 2543.962  | 0.13%       | 96.90%     |
| 53.0               | 39.938        | 3.565       | 2547.527  | 0.12%       | 97.03%     |
| 54.0               | 38.215        | 3.445       | 2550.972  | 0.12%       | 97.16%     |
| 55.0               | 36.762        | 3.347       | 2554.319  | 0.12%       | 97.29%     |
| 56.0               | 35.392        | 3.260       | 2557.579  | 0.11%       | 97.42%     |
| 57.0               | 34.112        | 3.178       | 2560.757  | 0.11%       | 97.54%     |
| 58.0               | 32.832        | 3.096       | 2563.853  | 0.11%       | 97.65%     |
| 59.0               | 31.628        | 3.014       | 2566.866  | 0.10%       | 97.77%     |
| 60.0               | 30.251        | 2.923       | 2569.79   | 0.10%       | 97.88%     |
| 61.0               | 28.908        | 2.823       | 2572.613  | 0.10%       | 97.99%     |
| 62.0               | 27.663        | 2.726       | 2575.339  | 0.09%       | 98.09%     |
| 63.0               | 26.424        | 2.631       | 2577.969  | 0.09%       | 98.19%     |
| 64.0               | 25.283        | 2.537       | 2580.506  | 0.09%       | 98.29%     |
| 65.0               | 24.314        | 2.455       | 2582.961  | 0.08%       | 98.38%     |
| 66.0               | 23.366        | 2.379       | 2585.34   | 0.08%       | 98.47%     |
| 67.0               | 22.494        | 2.306       | 2587.646  | 0.08%       | 98.56%     |
| 68.0               | 21.657        | 2.237       | 2589.882  | 0.08%       | 98.65%     |
| 69.0               | 20.917        | 2.172       | 2592.054  | 0.08%       | 98.73%     |
| 70.0               | 20.135        | 2.108       | 2594.163  | 0.07%       | 98.81%     |
| 71.0               | 19.381        | 2.042       | 2596.205  | 0.07%       | 98.89%     |
| 72.0               | 18.654        | 1.978       | 2598.183  | 0.07%       | 98.96%     |
| 73.0               | 18.018        | 1.918       | 2600.1    | 0.07%       | 99.04%     |
| 74.0               | 17.409        | 1.862       | 2601.963  | 0.06%       | 99.11%     |
| 75.0               | 16.821        | 1.809       | 2603.771  | 0.06%       | 99.18%     |

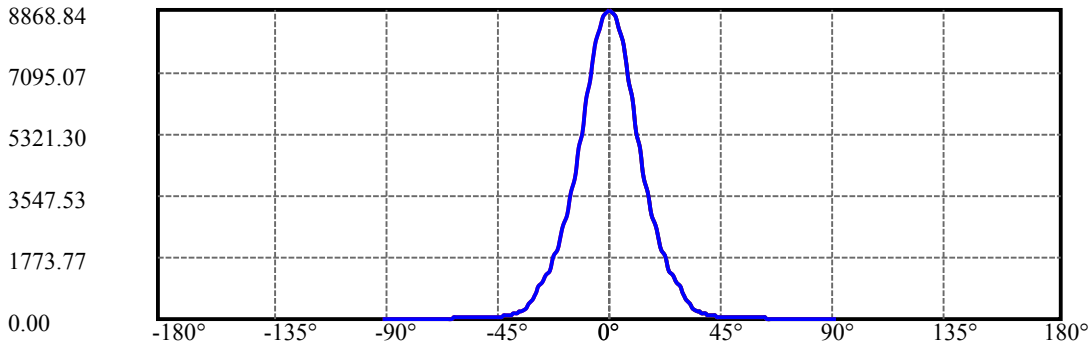
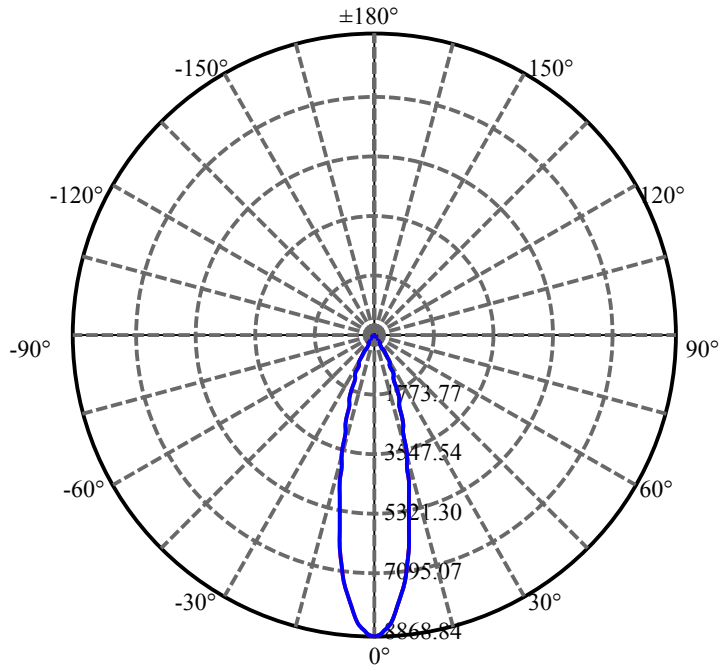
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 16.309        | 1.759       | 2605.53   | 0.06%       | 99.24%     |
| 77.0               | 15.783        | 1.711       | 2607.241  | 0.06%       | 99.31%     |
| 78.0               | 15.264        | 1.662       | 2608.903  | 0.06%       | 99.37%     |
| 79.0               | 14.759        | 1.613       | 2610.516  | 0.06%       | 99.43%     |
| 80.0               | 14.295        | 1.566       | 2612.082  | 0.05%       | 99.49%     |
| 81.0               | 13.845        | 1.522       | 2613.604  | 0.05%       | 99.55%     |
| 82.0               | 13.375        | 1.476       | 2615.08   | 0.05%       | 99.61%     |
| 83.0               | 12.967        | 1.432       | 2616.512  | 0.05%       | 99.66%     |
| 84.0               | 12.551        | 1.390       | 2617.902  | 0.05%       | 99.71%     |
| 85.0               | 12.088        | 1.345       | 2619.247  | 0.05%       | 99.76%     |
| 86.0               | 11.652        | 1.298       | 2620.545  | 0.04%       | 99.81%     |
| 87.0               | 11.334        | 1.258       | 2621.803  | 0.04%       | 99.86%     |
| 88.0               | 11.071        | 1.227       | 2623.03   | 0.04%       | 99.91%     |
| 89.0               | 10.932        | 1.206       | 2624.236  | 0.04%       | 99.95%     |
| 90.0               | 10.835        | 1.193       | 2625.43   | 0.04%       | 100.00%    |

ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 2307.05 | 79.85% | 87.87%  |
| 0-40    | 2481.14 | 85.88% | 94.50%  |
| 0-60    | 2569.79 | 88.94% | 97.88%  |
| 0-90    | 2624.24 | 90.83% | 99.95%  |
| 0-120   | 2624.24 | 90.83% | 99.95%  |
| 0-180   | 2625.43 | 90.87% | 100.00% |
| 60-90   | 54.45   | 1.88%  | 2.07%   |
| 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%   |
| 0-25.64 | 2100.34 | 72.70% | 80.00%  |

ZONAL LUMEN SUMMARY

|         |         |
|---------|---------|
| 0-10    | 693.95  |
| 10-20   | 1015.58 |
| 20-30   | 597.51  |
| 30-40   | 174.10  |
| 40-50   | 55.24   |
| 50-60   | 33.41   |
| 60-70   | 24.37   |
| 70-80   | 17.92   |
| 80-90   | 12.15   |
| 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: —————

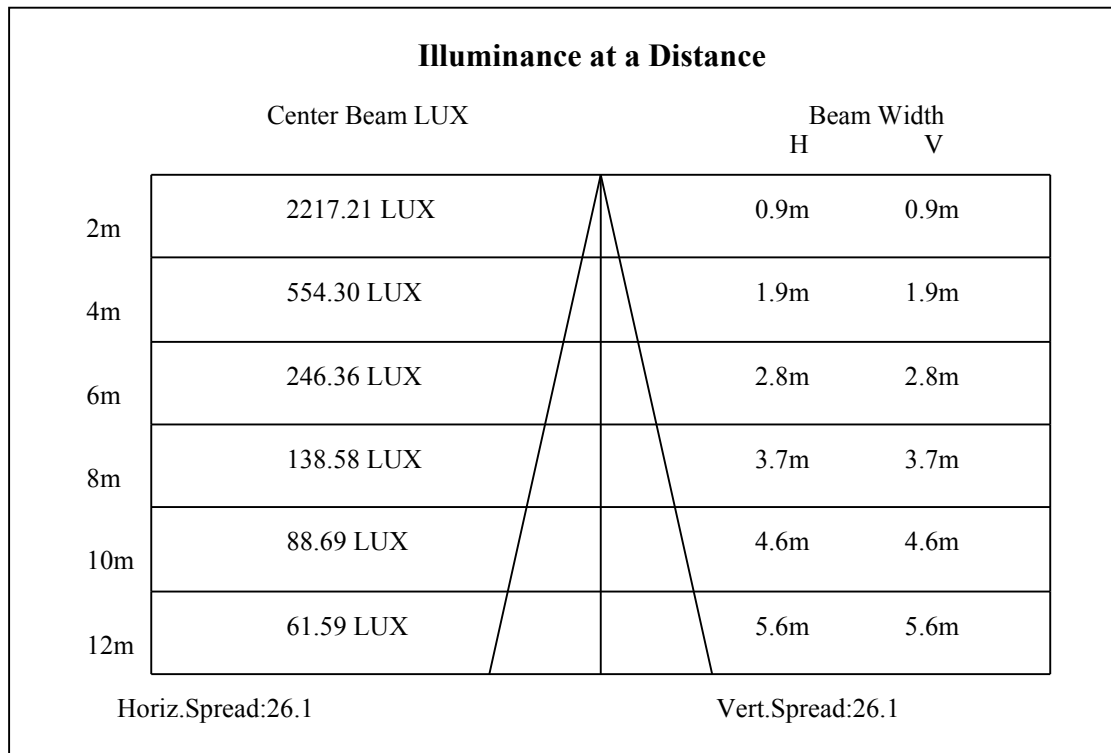
C90/C270: —————

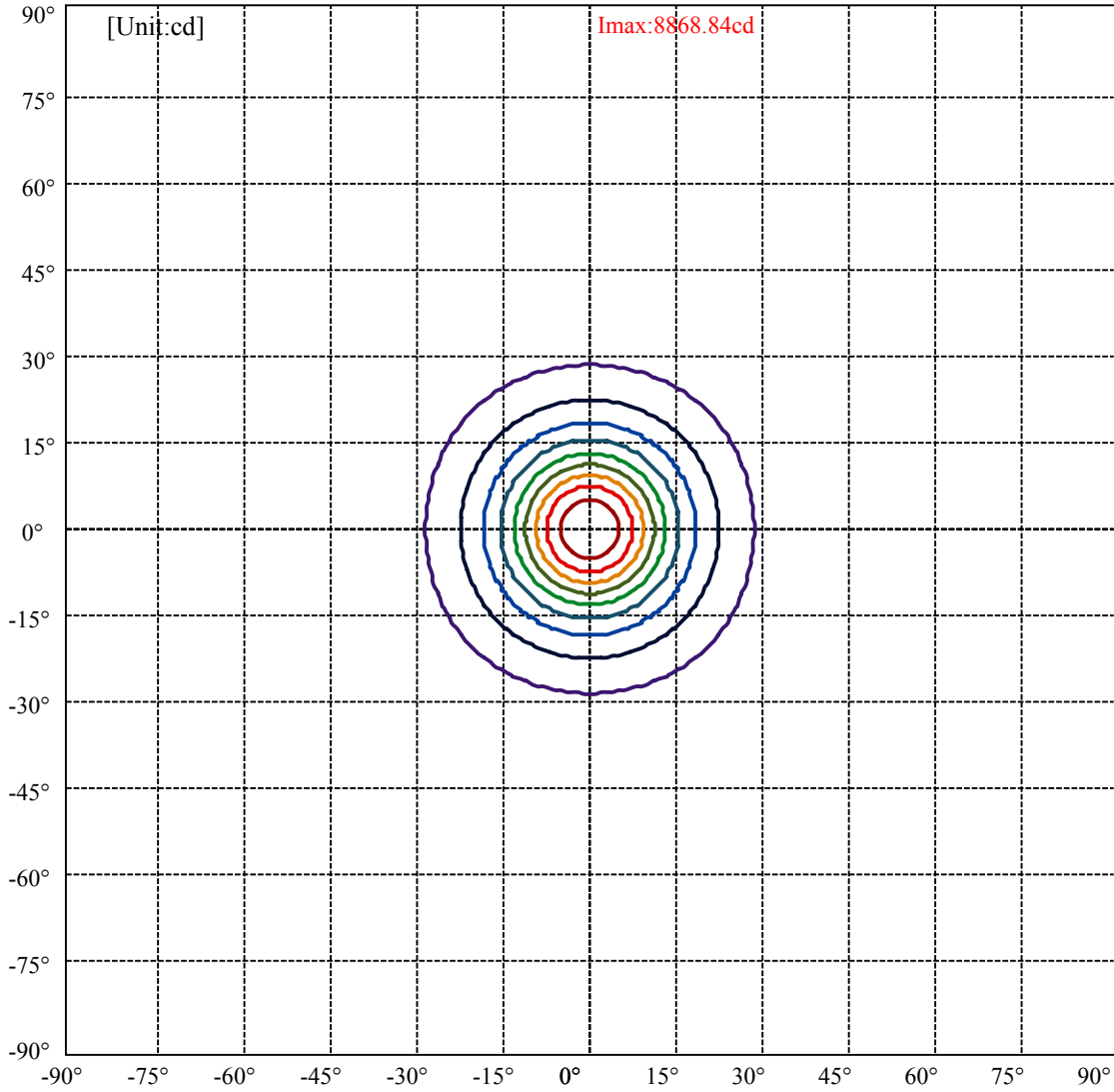
Field angle(10%Imax):C0/180Left:28.2 Right:28.2

:C90/270Left:28.2 Right:28.2

Beam Angle(50%Imax):C0/180Left:13.0 Right:13.0

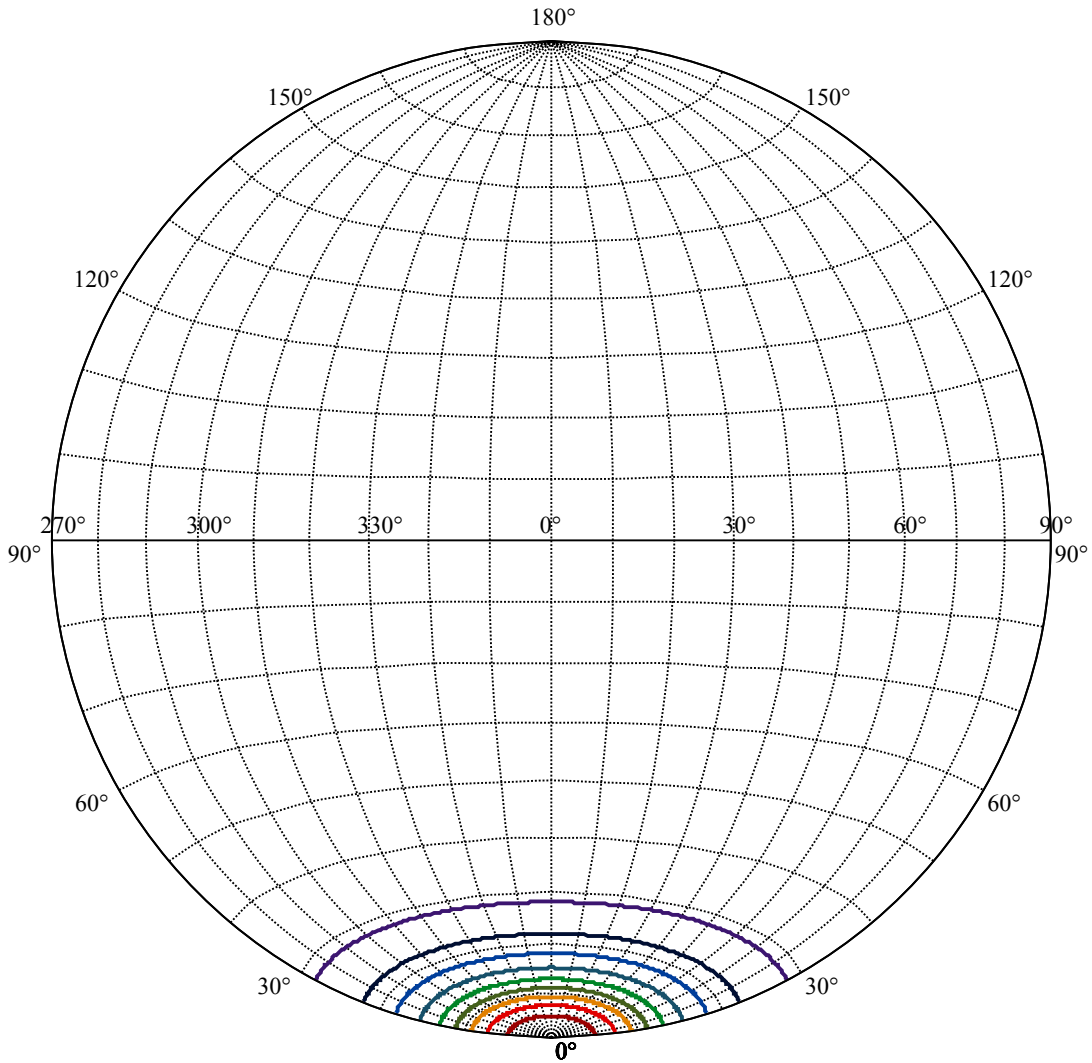
:C90/270Left:13.0 Right:13.0





|                   |   |
|-------------------|---|
| (10%Imax) 886.884 | — |
| (20%Imax) 1773.77 | — |
| (30%Imax) 2660.65 | — |
| (40%Imax) 3547.53 | — |
| (50%Imax) 4434.42 | — |
| (60%Imax) 5321.3  | — |
| (70%Imax) 6208.19 | — |
| (80%Imax) 7095.07 | — |
| (90%Imax) 7981.95 | — |





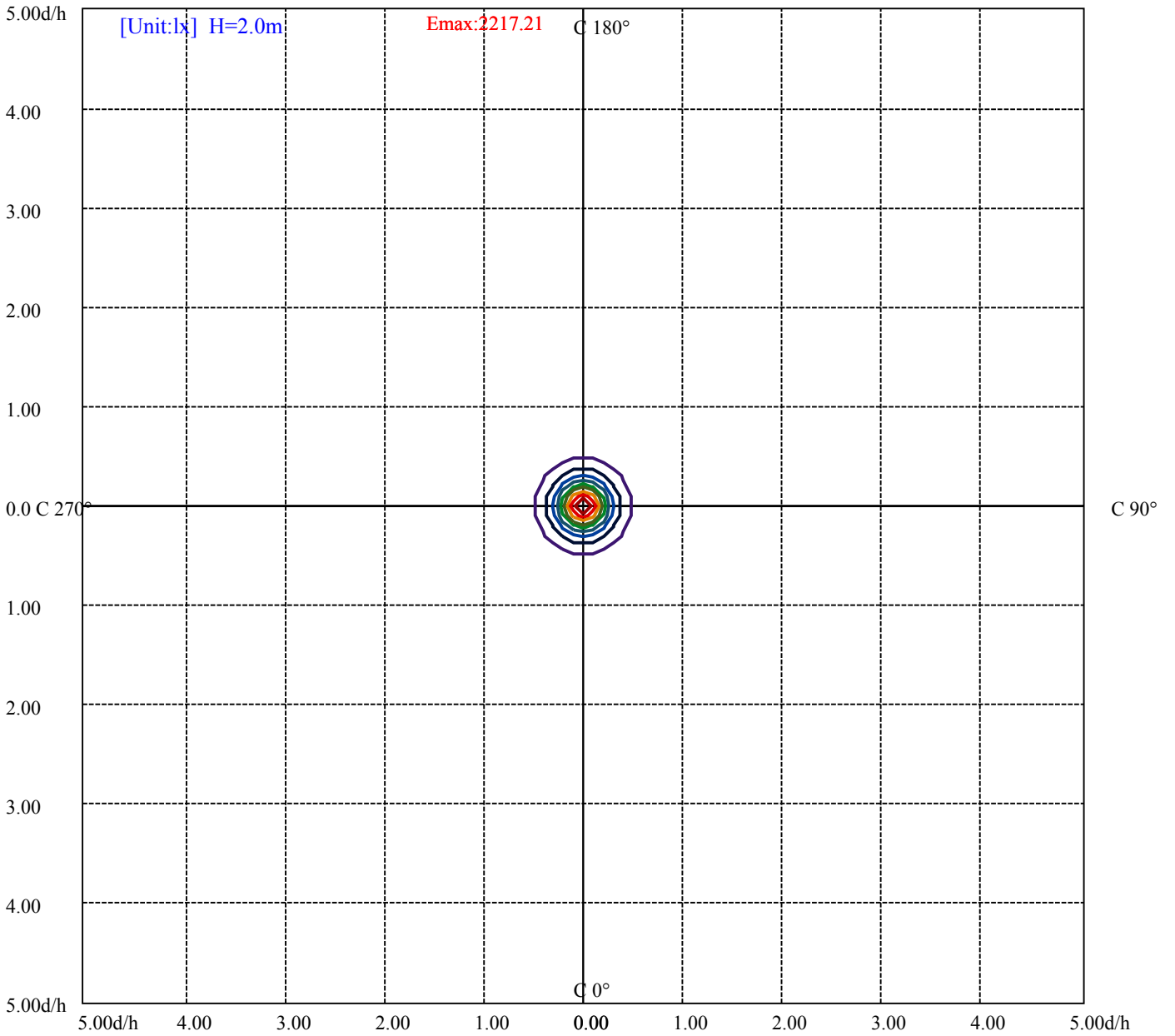
House

[Unit:cd]

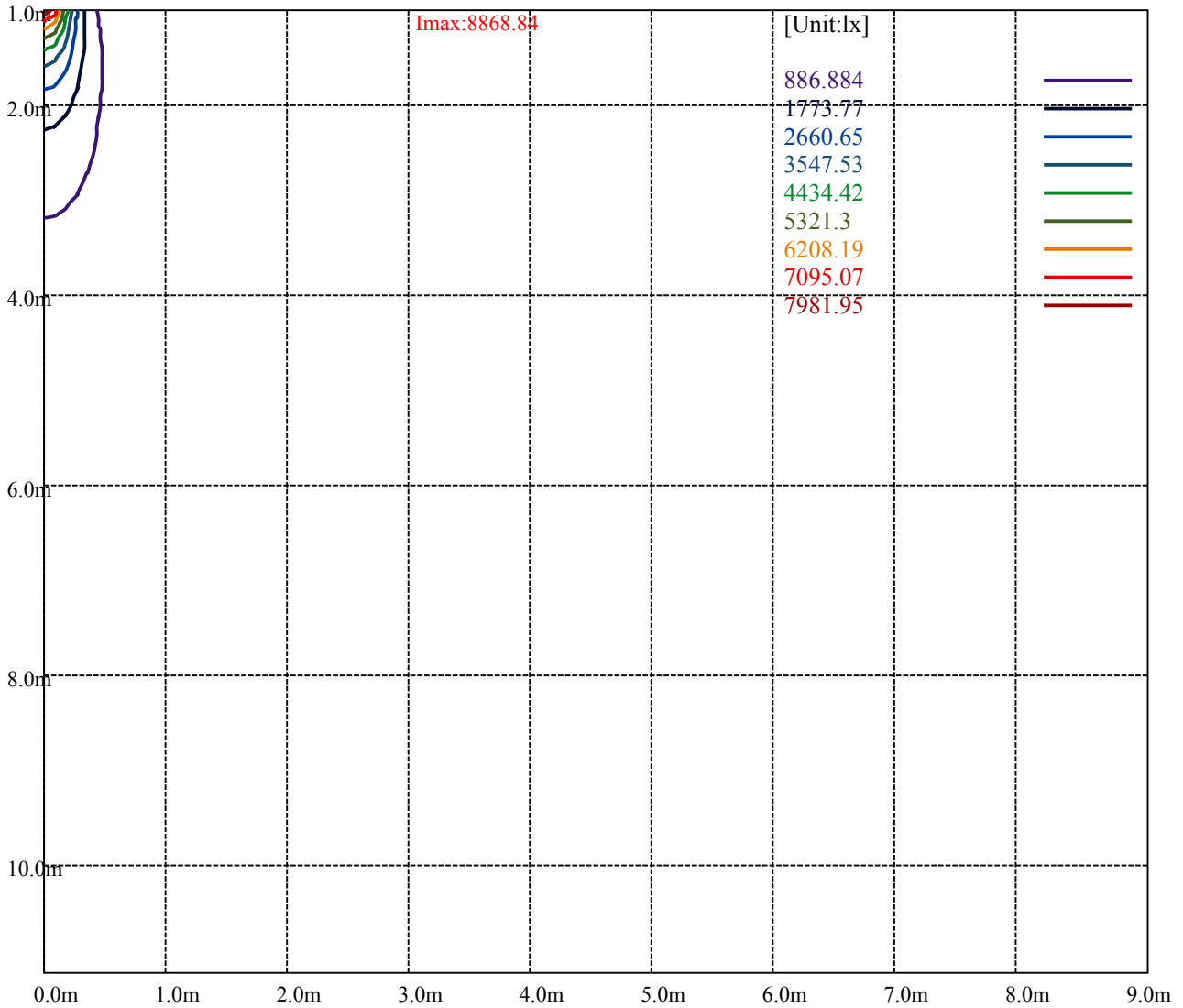
Road

Imax:8868.84

|           |         |   |
|-----------|---------|---|
| (10%Imax) | 886.884 | — |
| (20%Imax) | 1773.77 | — |
| (30%Imax) | 2660.65 | — |
| (40%Imax) | 3547.53 | — |
| (50%Imax) | 4434.42 | — |
| (60%Imax) | 5321.3  | — |
| (70%Imax) | 6208.19 | — |
| (80%Imax) | 7095.07 | — |
| (90%Imax) | 7981.95 | — |



- (10%Emax) 221.7207
- (20%Emax) 443.4425
- (30%Emax) 665.1625
- (40%Emax) 886.8825
- (50%Emax) 1108.605
- (60%Emax) 1330.325
- (70%Emax) 1552.045
- (80%Emax) 1773.765
- (90%Emax) 1995.488



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

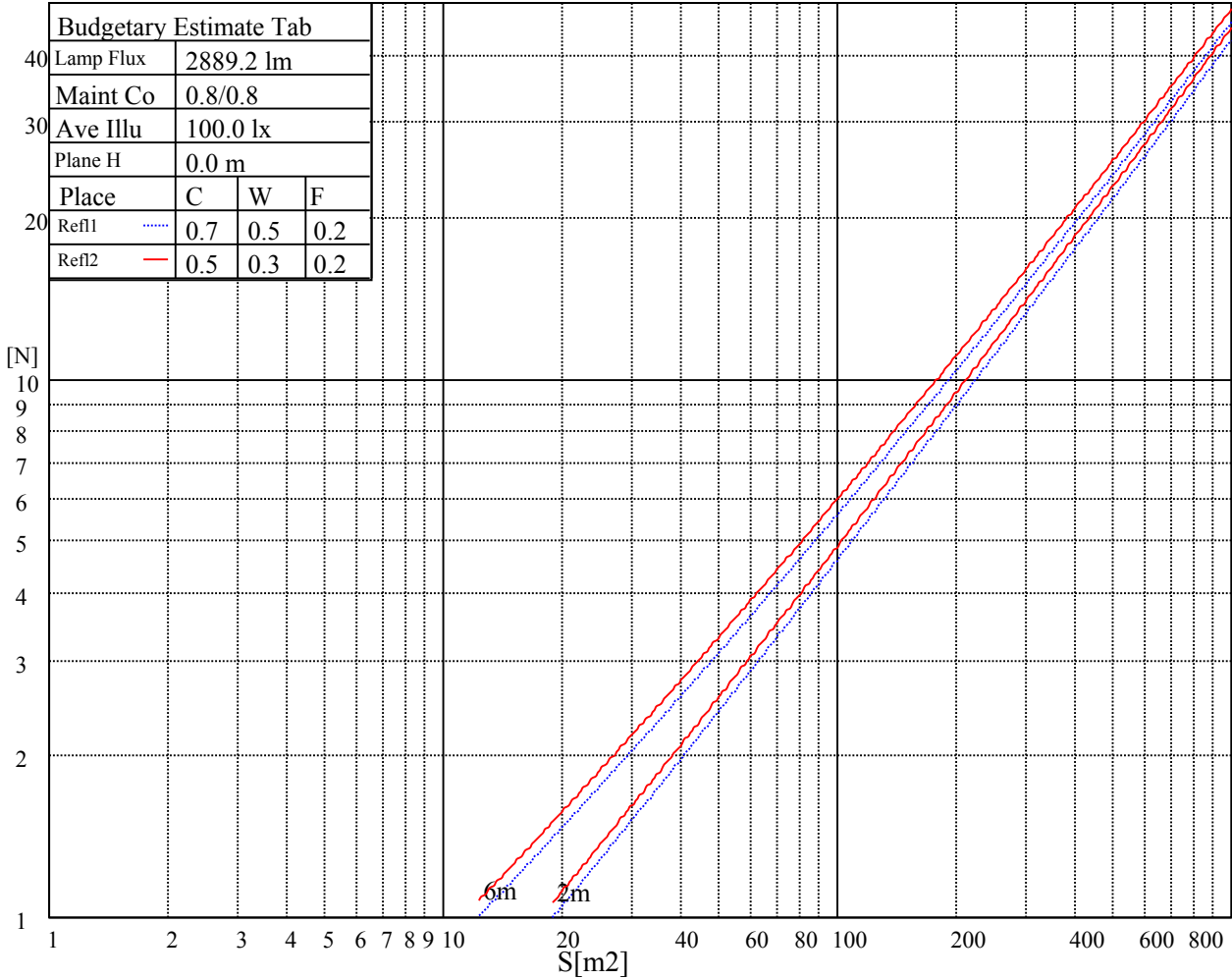
| Glare | Quality | Service Values Illuminance(lx) |      |      |       |       |       |       |       |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A       | 2000                           | 1000 | 500  | <=300 |       |       |       |       |
| 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

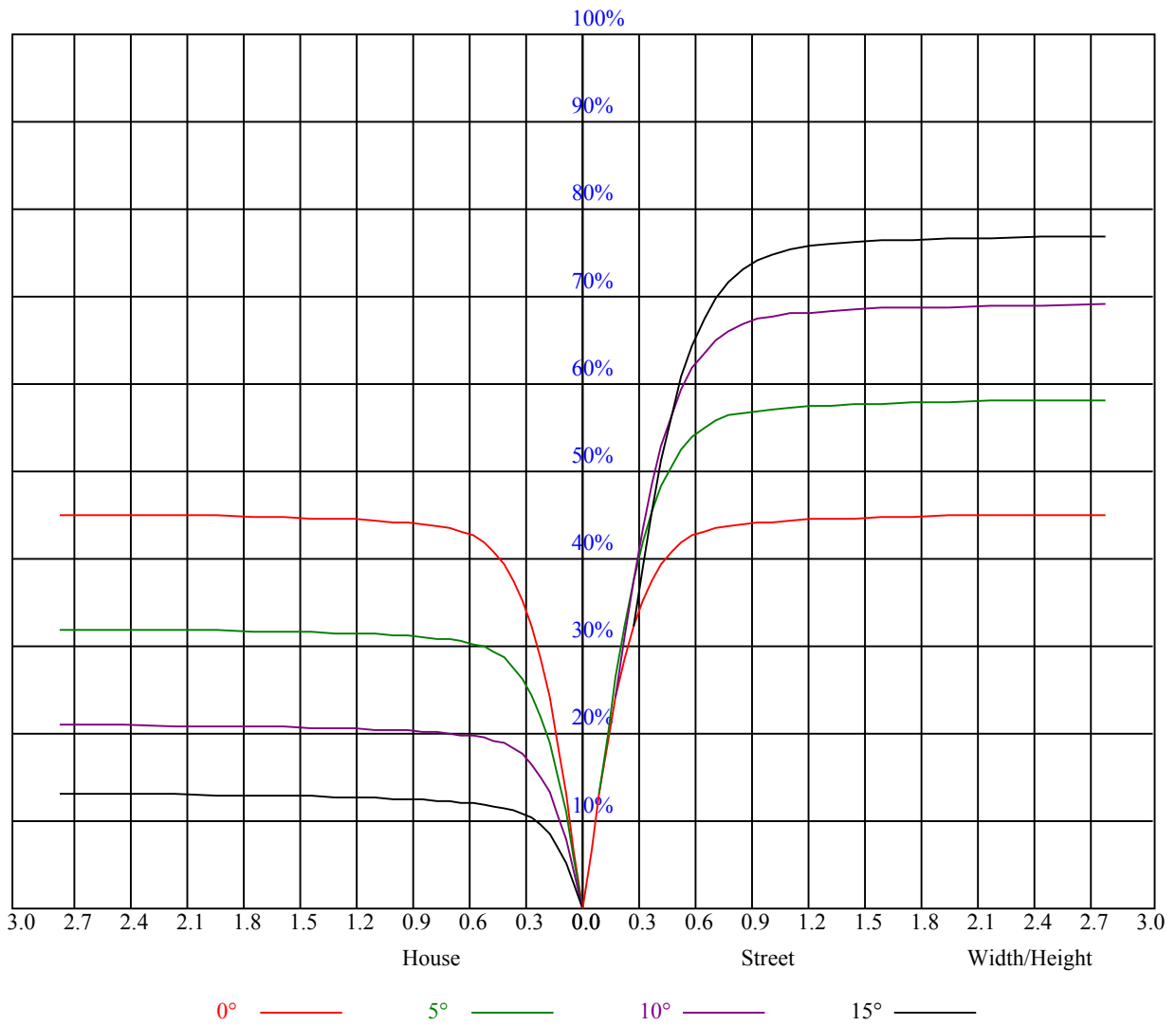


| Illumination assessment according UGR             |     |                  |     |     |     |     |                |     |     |     |  |
|---|-----|------------------|-----|-----|-----|-----|----------------|-----|-----|-----|--|
| Rf of Ceiling                                     | 70  | 70               | 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 |  |
|   | 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  | 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 |  |
| 8H  | 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     | 1.08                                   | 1.08 | 1.08 | 1.06 | 1.06 | 1.06 | 1.01 | 1.01 | 1.01 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.91 |
| 1     | 1.01                                   | 0.99 | 0.98 | 0.99 | 0.98 | 0.96 | 0.96 | 0.94 | 0.93 | 0.92 | 0.91 | 0.90 | 0.89 | 0.89 | 0.88 | 0.86 |
| 2     | 0.96                                   | 0.92 | 0.90 | 0.94 | 0.91 | 0.89 | 0.91 | 0.89 | 0.87 | 0.89 | 0.87 | 0.85 | 0.86 | 0.85 | 0.83 | 0.82 |
| 3     | 0.91                                   | 0.87 | 0.84 | 0.89 | 0.86 | 0.83 | 0.87 | 0.84 | 0.82 | 0.85 | 0.83 | 0.81 | 0.83 | 0.81 | 0.79 | 0.78 |
| 4     | 0.86                                   | 0.82 | 0.79 | 0.85 | 0.81 | 0.78 | 0.83 | 0.80 | 0.78 | 0.82 | 0.79 | 0.77 | 0.80 | 0.78 | 0.76 | 0.75 |
| 5     | 0.82                                   | 0.78 | 0.75 | 0.82 | 0.78 | 0.74 | 0.80 | 0.77 | 0.74 | 0.79 | 0.76 | 0.73 | 0.77 | 0.75 | 0.73 | 0.71 |
| 6     | 0.79                                   | 0.74 | 0.71 | 0.78 | 0.74 | 0.71 | 0.77 | 0.73 | 0.71 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.69 |
| 7     | 0.76                                   | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.66 |
| 8     | 0.73                                   | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.70 | 0.67 | 0.64 | 0.63 |
| 9     | 0.70                                   | 0.66 | 0.63 | 0.70 | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.68 | 0.65 | 0.62 | 0.68 | 0.64 | 0.62 | 0.61 |
| 10    | 0.68                                   | 0.63 | 0.61 | 0.67 | 0.63 | 0.61 | 0.67 | 0.63 | 0.60 | 0.66 | 0.63 | 0.60 | 0.65 | 0.62 | 0.60 | 0.59 |





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    | 8824.97 | 8701.53 | 8523.29 | 8301.32 | 8016.81 | 7596.67 | 7205.32 | 6784.08 | 6319.67 |
| 45.0   | 8903.57 | 8848.22 | 8706.51 | 8535.47 | 8234.90 | 7931.01 | 7593.91 | 7198.68 | 6662.30 |
| 90.0   | 8838.81 | 8723.12 | 8493.40 | 8257.04 | 7865.69 | 7512.54 | 7115.10 | 6578.17 | 6123.16 |
| 135.0  | 8908.00 | 8843.79 | 8707.62 | 8545.99 | 8254.27 | 7970.31 | 7565.12 | 7170.45 | 6744.23 |
| 180.0  | 8824.97 | 8886.97 | 8855.41 | 8766.29 | 8567.02 | 8358.34 | 8030.09 | 7718.45 | 7353.67 |
| 225.0  | 8903.57 | 8865.93 | 8735.85 | 8558.72 | 8375.50 | 8110.35 | 7736.72 | 7369.72 | 6954.57 |
| 270.0  | 8838.81 | 8905.23 | 8905.79 | 8798.95 | 8640.09 | 8463.51 | 8210.54 | 7825.84 | 7464.93 |
| 315.0  | 8908.00 | 8890.84 | 8796.19 | 8644.52 | 8437.49 | 8112.01 | 7808.68 | 7434.49 | 7029.85 |
| 360.0  | 8824.97 | 8701.53 | 8523.29 | 8301.32 | 8016.81 | 7596.67 | 7205.32 | 6784.08 | 6319.67 |
| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
| 0.0    | 5713.54 | 5262.41 | 4817.92 | 4305.35 | 3941.67 | 3518.77 | 3212.67 | 2922.06 | 2602.67 |
| 45.0   | 6187.37 | 5724.06 | 5269.61 | 4723.27 | 4312.54 | 3939.46 | 3514.34 | 3193.29 | 2905.46 |
| 90.0   | 5656.53 | 5080.30 | 4650.20 | 4249.44 | 3884.66 | 3481.69 | 3172.81 | 2889.40 | 2636.44 |
| 135.0  | 6176.30 | 5721.85 | 5260.20 | 4711.64 | 4308.12 | 3937.25 | 3591.29 | 3199.94 | 2916.53 |
| 180.0  | 6850.51 | 6428.16 | 5964.30 | 5494.34 | 4921.99 | 4495.76 | 4104.41 | 3744.62 | 3328.91 |
| 225.0  | 6512.30 | 5934.96 | 5469.99 | 5012.77 | 4479.71 | 4093.34 | 3737.97 | 3337.77 | 3045.50 |
| 270.0  | 7070.81 | 6520.05 | 6055.63 | 5574.61 | 4992.29 | 4561.08 | 4173.61 | 3717.49 | 3390.35 |
| 315.0  | 6451.96 | 5977.58 | 5393.05 | 4941.36 | 4527.32 | 4051.83 | 3699.78 | 3380.94 | 3084.80 |
| 360.0  | 5713.54 | 5262.41 | 4817.92 | 4305.35 | 3941.67 | 3518.77 | 3212.67 | 2922.06 | 2602.67 |
| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0    | 26.0    |
| 0.0    | 2372.40 | 2154.86 | 1951.16 | 1714.80 | 1548.18 | 1406.48 | 1092.29 | 1092.29 | 1000.02 |
| 45.0   | 2591.05 | 2353.58 | 2093.42 | 1893.59 | 1711.48 | 1545.97 | 1379.36 | 1259.79 | 1130.82 |
| 90.0   | 2347.49 | 2135.49 | 1890.27 | 1707.05 | 1544.31 | 1380.46 | 1093.95 | 1093.95 | 969.13  |
| 135.0  | 2660.79 | 2422.77 | 2158.18 | 1967.77 | 1739.15 | 1569.22 | 1431.94 | 1276.95 | 1147.98 |
| 180.0  | 3058.78 | 2772.61 | 2467.61 | 2250.62 | 2048.58 | 1801.70 | 1615.72 | 1466.82 | 1311.82 |
| 225.0  | 2768.73 | 2463.18 | 2237.89 | 2030.87 | 1844.88 | 1621.81 | 1470.14 | 1254.26 | 1096.28 |
| 270.0  | 3109.16 | 2815.23 | 2514.66 | 2293.24 | 2079.58 | 1879.75 | 1645.05 | 1507.78 | 1372.71 |
| 315.0  | 2738.84 | 2493.62 | 2264.46 | 2053.56 | 1814.44 | 1633.43 | 1486.74 | 1237.65 | 1081.55 |
| 360.0  | 2372.40 | 2154.86 | 1951.16 | 1714.80 | 1548.18 | 1406.48 | 1092.29 | 1092.29 | 1000.02 |
| C/γ(°) | 27.0    | 28.0    | 29.0    | 30.0    | 31.0    | 32.0    | 33.0    | 34.0    | 35.0    |
| 0.0    | 876.41  | 758.18  | 616.20  | 510.30  | 390.30  | 307.38  | 243.11  | 189.81  | 166.50  |
| 45.0   | 1005.17 | 855.16  | 740.58  | 629.87  | 526.36  | 405.13  | 320.44  | 283.91  | 283.91  |
| 90.0   | 849.51  | 740.47  | 634.41  | 536.32  | 415.93  | 330.18  | 258.11  | 205.36  | 168.39  |
| 135.0  | 1019.56 | 897.78  | 756.07  | 649.80  | 547.39  | 448.31  | 337.60  | 280.03  | 280.03  |
| 180.0  | 1185.07 | 1067.72 | 947.60  | 804.79  | 689.65  | 577.84  | 472.66  | 354.76  | 294.98  |
| 225.0  | 1067.44 | 948.37  | 835.01  | 720.15  | 581.10  | 476.93  | 360.13  | 281.81  | 220.69  |
| 270.0  | 1209.97 | 1085.98 | 961.99  | 813.09  | 697.95  | 588.91  | 463.25  | 370.81  | 291.66  |
| 315.0  | 1081.55 | 933.26  | 814.03  | 700.61  | 565.66  | 463.03  | 370.32  | 290.55  | 217.43  |
| 360.0  | 876.41  | 758.18  | 616.20  | 510.30  | 390.30  | 307.38  | 243.11  | 189.81  | 166.50  |
| C/γ(°) | 36.0    | 37.0    | 38.0    | 39.0    | 40.0    | 41.0    | 42.0    | 43.0    | 44.0    |
| 0.0    | 150.45  | 136.50  | 120.67  | 109.82  | 100.02  | 91.33   | 81.59   | 74.78   | 68.86   |
| 45.0   | 163.79  | 148.18  | 130.97  | 118.90  | 108.22  | 96.54   | 88.23   | 80.71   | 74.17   |
| 90.0   | 151.00  | 136.45  | 121.06  | 110.38  | 98.20   | 89.84   | 82.20   | 75.39   | 68.03   |
| 135.0  | 171.54  | 149.95  | 135.23  | 122.11  | 108.38  | 98.97   | 88.57   | 81.04   | 74.51   |
| 180.0  | 294.98  | 169.82  | 151.45  | 133.24  | 119.79  | 108.55  | 96.15   | 87.46   | 79.65   |
| 225.0  | 173.26  | 152.72  | 136.94  | 119.34  | 107.55  | 97.15   | 88.07   | 78.33   | 71.74   |
| 270.0  | 291.66  | 177.13  | 158.26  | 142.65  | 128.59  | 113.81  | 103.62  | 94.60   | 84.69   |
| 315.0  | 183.83  | 164.12  | 148.29  | 130.69  | 118.57  | 107.83  | 96.04   | 87.51   | 78.27   |
| 360.0  | 150.45  | 136.50  | 120.67  | 109.82  | 100.02  | 91.33   | 81.59   | 74.78   | 68.86   |

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    | 62.22 | 57.68 | 52.81 | 49.54 | 46.50 | 43.40 | 41.29 | 39.58 | 38.03 |
| 45.0   | 66.98 | 62.05 | 57.46 | 53.53 | 49.26 | 46.22 | 43.73 | 41.02 | 39.08 |
| 90.0   | 62.88 | 58.40 | 54.47 | 50.21 | 47.16 | 44.67 | 42.51 | 39.97 | 38.42 |
| 135.0  | 68.75 | 62.49 | 58.07 | 54.08 | 50.76 | 47.00 | 44.45 | 42.35 | 39.97 |
| 180.0  | 72.79 | 67.03 | 60.78 | 56.63 | 52.81 | 49.65 | 46.11 | 43.51 | 40.91 |
| 225.0  | 65.93 | 60.94 | 55.69 | 51.98 | 48.66 | 45.17 | 42.73 | 40.19 | 38.47 |
| 270.0  | 77.83 | 71.85 | 65.04 | 60.34 | 56.24 | 51.87 | 48.71 | 45.94 | 43.01 |
| 315.0  | 71.96 | 66.31 | 60.06 | 56.07 | 52.42 | 49.26 | 45.78 | 43.56 | 41.63 |
| 360.0  | 62.22 | 57.68 | 52.81 | 49.54 | 46.50 | 43.40 | 41.29 | 39.58 | 38.03 |
| C/γ(°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0    | 36.53 | 35.15 | 34.21 | 33.05 | 31.39 | 30.11 | 29.01 | 27.40 | 26.29 |
| 45.0   | 37.31 | 36.15 | 34.76 | 33.71 | 32.44 | 31.22 | 29.84 | 28.73 | 27.23 |
| 90.0   | 36.59 | 35.20 | 33.93 | 32.55 | 31.16 | 29.84 | 28.29 | 27.12 | 26.02 |
| 135.0  | 38.42 | 37.14 | 35.32 | 34.04 | 32.94 | 31.33 | 29.89 | 28.56 | 27.12 |
| 180.0  | 39.02 | 37.42 | 35.92 | 34.65 | 33.49 | 32.55 | 31.00 | 29.84 | 28.62 |
| 225.0  | 36.92 | 35.76 | 34.37 | 33.21 | 32.27 | 31.27 | 29.84 | 28.67 | 27.57 |
| 270.0  | 41.07 | 39.25 | 37.92 | 36.26 | 34.93 | 33.88 | 32.71 | 31.05 | 29.84 |
| 315.0  | 39.85 | 38.03 | 36.70 | 35.43 | 34.04 | 32.82 | 31.44 | 29.89 | 28.62 |
| 360.0  | 36.53 | 35.15 | 34.21 | 33.05 | 31.39 | 30.11 | 29.01 | 27.40 | 26.29 |
| C/γ(°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0    | 25.30 | 24.13 | 23.25 | 22.47 | 21.53 | 20.76 | 20.04 | 19.37 | 18.54 |
| 45.0   | 26.13 | 25.19 | 24.02 | 23.19 | 22.47 | 21.59 | 20.92 | 20.26 | 19.48 |
| 90.0   | 25.08 | 23.91 | 23.03 | 22.25 | 21.48 | 20.54 | 19.82 | 19.15 | 18.27 |
| 135.0  | 25.91 | 25.08 | 24.13 | 23.03 | 22.25 | 21.53 | 20.76 | 19.82 | 19.10 |
| 180.0  | 27.18 | 25.91 | 24.91 | 24.02 | 22.92 | 22.09 | 21.37 | 20.48 | 19.82 |
| 225.0  | 26.13 | 25.08 | 24.19 | 23.14 | 22.31 | 21.59 | 20.76 | 20.04 | 19.37 |
| 270.0  | 28.34 | 27.01 | 25.96 | 24.74 | 23.80 | 22.92 | 22.20 | 21.26 | 20.48 |
| 315.0  | 27.34 | 25.96 | 25.02 | 24.08 | 23.19 | 22.25 | 21.48 | 20.70 | 19.98 |
| 360.0  | 25.30 | 24.13 | 23.25 | 22.47 | 21.53 | 20.76 | 20.04 | 19.37 | 18.54 |
| C/γ(°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0    | 17.88 | 17.33 | 16.88 | 16.27 | 15.89 | 15.33 | 14.89 | 14.50 | 14.00 |
| 45.0   | 18.88 | 18.32 | 17.77 | 17.27 | 16.88 | 16.44 | 15.83 | 15.33 | 14.89 |
| 90.0   | 17.71 | 16.99 | 16.44 | 16.00 | 15.50 | 14.95 | 14.50 | 14.12 | 13.67 |
| 135.0  | 18.27 | 17.66 | 17.10 | 16.38 | 15.89 | 15.44 | 15.00 | 14.39 | 13.95 |
| 180.0  | 18.93 | 18.32 | 17.71 | 17.16 | 16.44 | 16.00 | 15.50 | 15.00 | 14.45 |
| 225.0  | 18.71 | 17.99 | 17.38 | 16.83 | 16.33 | 15.72 | 15.22 | 14.67 | 14.28 |
| 270.0  | 19.76 | 19.10 | 18.21 | 17.60 | 17.05 | 16.38 | 15.83 | 15.22 | 14.78 |
| 315.0  | 19.10 | 18.43 | 17.77 | 17.05 | 16.50 | 16.00 | 15.33 | 14.83 | 14.34 |
| 360.0  | 17.88 | 17.33 | 16.88 | 16.27 | 15.89 | 15.33 | 14.89 | 14.50 | 14.00 |
| C/γ(°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0    | 13.62 | 13.12 | 12.79 | 12.29 | 11.62 | 11.35 | 11.13 | 10.85 | 10.90 |
| 45.0   | 14.28 | 13.84 | 13.17 | 12.79 | 12.12 | 11.51 | 11.24 | 11.02 | 10.74 |
| 90.0   | 13.23 | 12.84 | 12.45 | 12.18 | 11.62 | 11.29 | 11.07 | 10.85 | 10.85 |
| 135.0  | 13.62 | 13.06 | 12.68 | 12.29 | 11.96 | 11.51 | 11.24 | 11.02 | 10.68 |
| 180.0  | 14.00 | 13.51 | 13.12 | 12.68 | 12.29 | 11.96 | 11.68 | 11.24 | 11.07 |
| 225.0  | 13.89 | 13.51 | 13.12 | 12.68 | 12.29 | 11.85 | 11.40 | 11.13 | 11.07 |
| 270.0  | 14.34 | 13.84 | 13.40 | 13.01 | 12.57 | 12.12 | 11.57 | 11.35 | 11.07 |
| 315.0  | 13.78 | 13.28 | 13.01 | 12.51 | 12.23 | 11.62 | 11.35 | 11.13 | 11.07 |
| 360.0  | 13.62 | 13.12 | 12.79 | 12.29 | 11.62 | 11.35 | 11.13 | 10.85 | 10.90 |

Intensity data(cd)

|        |       |
|--------|-------|
| C/γ(°) | 90.0  |
| 0.0    | 10.96 |
| 45.0   | 10.85 |
| 90.0   | 10.85 |
| 135.0  | 10.79 |
| 180.0  | 10.79 |
| 225.0  | 10.79 |
| 270.0  | 10.90 |
| 315.0  | 10.74 |
| 360.0  | 10.96 |