



Shenzhen Belling Efficiency Testing Laboratory Co.,Ltd.  
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Client:

LumCAT:

Luminaire:

Report No:

Ballast type:

Test No:

Voltage(V): 120.11

LampCAT:

Current(A): 0.0430

Lamp flux(lm): -1.0

Power (W): 4.97

Number of Lamps: 1

PF: 0.9583

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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### Photometric Results

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Lumens(lm): 281.98, Efficiency(%): 0.00% , Luminous Efficacy(lm/W): 56.74

Central intensity(cd): 101.168, Maximum intensity(cd): 104.588

Angle of maximum intensity: C=90.0  $\gamma$ =5.0

Beam Angle(50%Imax): [C0/180]Total=106.7

[C90/270]Total=112.5

Field angle(10%Imax): [C0/180]Total=155.4

[C90/270]Total=160.2

Maximum s/h(1/2): C0\_180=1.16 C90\_270=1.30

Maximum s/h(1/4): C0\_180=1.29 C90\_270=1.40

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 1.35%

Down flux rate of LUM(%): 98.65%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 79.322%

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Equipment: GMS-3000  
Temperature(°C): 25

Date:  
Humidity(%): 58%

Operator: Tester

## Zonal flux distribution table

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| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 101.168       | 0.000       | 0         | 0.00%       | 0.00%      |
| 5.0                | 100.779       | 2.414       | 2.414     | 0.00%       | 0.86%      |
| 10.0               | 99.361        | 7.160       | 9.574     | 0.00%       | 3.40%      |
| 15.0               | 96.930        | 11.644      | 21.218    | 0.00%       | 7.52%      |
| 20.0               | 93.689        | 15.710      | 36.927    | 0.00%       | 13.10%     |
| 25.0               | 89.583        | 19.222      | 56.149    | 0.00%       | 19.91%     |
| 30.0               | 84.599        | 22.043      | 78.192    | 0.00%       | 27.73%     |
| 35.0               | 79.116        | 24.108      | 102.3     | 0.00%       | 36.28%     |
| 40.0               | 72.755        | 25.338      | 127.639   | 0.00%       | 45.27%     |
| 45.0               | 65.881        | 25.669      | 153.308   | 0.00%       | 54.37%     |
| 50.0               | 58.479        | 25.129      | 178.437   | 0.00%       | 63.28%     |
| 55.0               | 50.700        | 23.739      | 202.176   | 0.00%       | 71.70%     |
| 60.0               | 42.300        | 21.497      | 223.673   | 0.00%       | 79.32%     |
| 65.0               | 33.602        | 18.452      | 242.124   | 0.00%       | 85.87%     |
| 70.0               | 24.797        | 14.787      | 256.911   | 0.00%       | 91.11%     |
| 75.0               | 16.193        | 10.714      | 267.625   | 0.00%       | 94.91%     |
| 80.0               | 8.306         | 6.555       | 274.181   | 0.00%       | 97.23%     |
| 85.0               | 2.782         | 3.013       | 277.193   | 0.00%       | 98.30%     |
| 90.0               | 0.770         | 0.972       | 278.166   | 0.00%       | 98.65%     |
| 95.0               | 0.486         | 0.344       | 278.51    | 0.00%       | 98.77%     |
| 100.0              | 0.419         | 0.246       | 278.756   | 0.00%       | 98.86%     |
| 105.0              | 0.459         | 0.235       | 278.99    | 0.00%       | 98.94%     |
| 110.0              | 0.473         | 0.243       | 279.234   | 0.00%       | 99.03%     |
| 115.0              | 0.527         | 0.253       | 279.487   | 0.00%       | 99.12%     |
| 120.0              | 0.567         | 0.266       | 279.753   | 0.00%       | 99.21%     |
| 125.0              | 0.635         | 0.278       | 280.03    | 0.00%       | 99.31%     |
| 130.0              | 0.675         | 0.285       | 280.315   | 0.00%       | 99.41%     |
| 135.0              | 0.662         | 0.270       | 280.585   | 0.00%       | 99.51%     |
| 140.0              | 0.756         | 0.262       | 280.848   | 0.00%       | 99.60%     |
| 145.0              | 0.729         | 0.248       | 281.095   | 0.00%       | 99.69%     |
| 150.0              | 0.743         | 0.217       | 281.312   | 0.00%       | 99.76%     |
| 155.0              | 0.756         | 0.190       | 281.502   | 0.00%       | 99.83%     |
| 160.0              | 0.810         | 0.164       | 281.666   | 0.00%       | 99.89%     |
| 165.0              | 0.824         | 0.135       | 281.801   | 0.00%       | 99.94%     |
| 170.0              | 0.837         | 0.099       | 281.899   | 0.00%       | 99.97%     |
| 175.0              | 0.824         | 0.059       | 281.959   | 0.00%       | 99.99%     |
| 180.0              | 0.902         | 0.021       | 281.979   | 0.00%       | 100.00%    |

Equipment: GMS-3000  
Temperature( $^{\circ}\text{C}$ ): 25

Date:  
Humidity(%): 58%

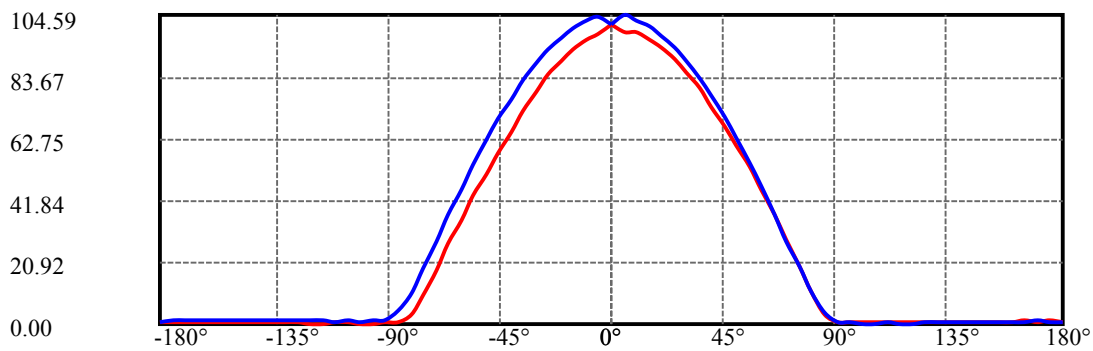
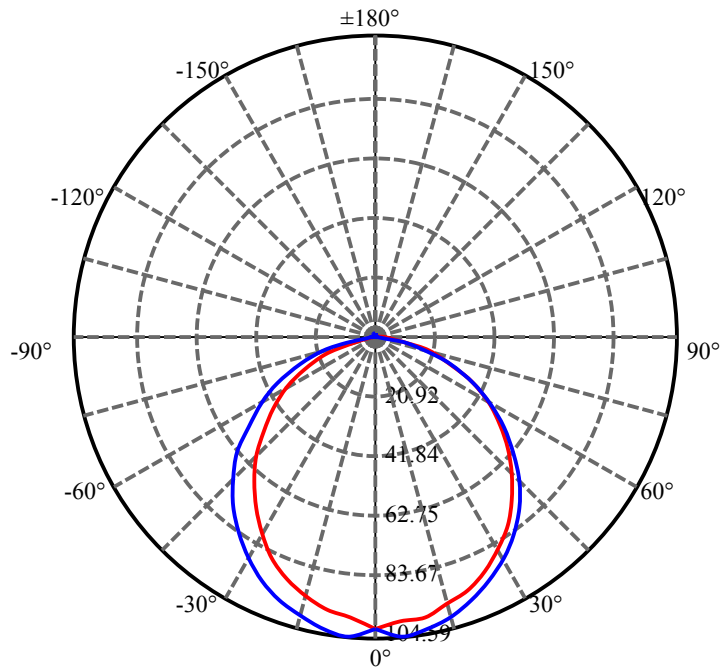
Operator: Tester

ZONAL LUMEN SUMMARY

| Zone    | Lumens | %Lamp | %Fixt   |
|---------|--------|-------|---------|
| 0-30    | 78.19  | N.A.  | 27.73%  |
| 0-40    | 127.64 | N.A.  | 45.27%  |
| 0-60    | 223.67 | N.A.  | 79.32%  |
| 0-90    | 278.17 | N.A.  | 98.65%  |
| 0-120   | 279.75 | N.A.  | 99.21%  |
| 0-180   | 281.98 | N.A.  | 100.00% |
| 60-90   | 54.49  | N.A.  | 19.33%  |
| 90-120  | 1.59   | N.A.  | 0.56%   |
| 90-130  | 2.15   | N.A.  | 0.76%   |
| 90-150  | 3.15   | N.A.  | 1.12%   |
| 90-180  | 3.79   | N.A.  | 1.34%   |
| 0-60.52 | 225.58 | N.A.  | 80.00%  |

ZONAL LUMEN SUMMARY

|         |       |
|---------|-------|
| 0-10    | 9.57  |
| 10-20   | 27.35 |
| 20-30   | 41.26 |
| 30-40   | 49.45 |
| 40-50   | 50.80 |
| 50-60   | 45.24 |
| 60-70   | 33.24 |
| 70-80   | 17.27 |
| 80-90   | 3.99  |
| 90-100  | 0.59  |
| 100-110 | 0.48  |
| 110-120 | 0.52  |
| 120-130 | 0.56  |
| 130-140 | 0.53  |
| 140-150 | 0.46  |
| 150-160 | 0.35  |
| 160-170 | 0.23  |
| 170-180 | 0.06  |



C0/C180: —

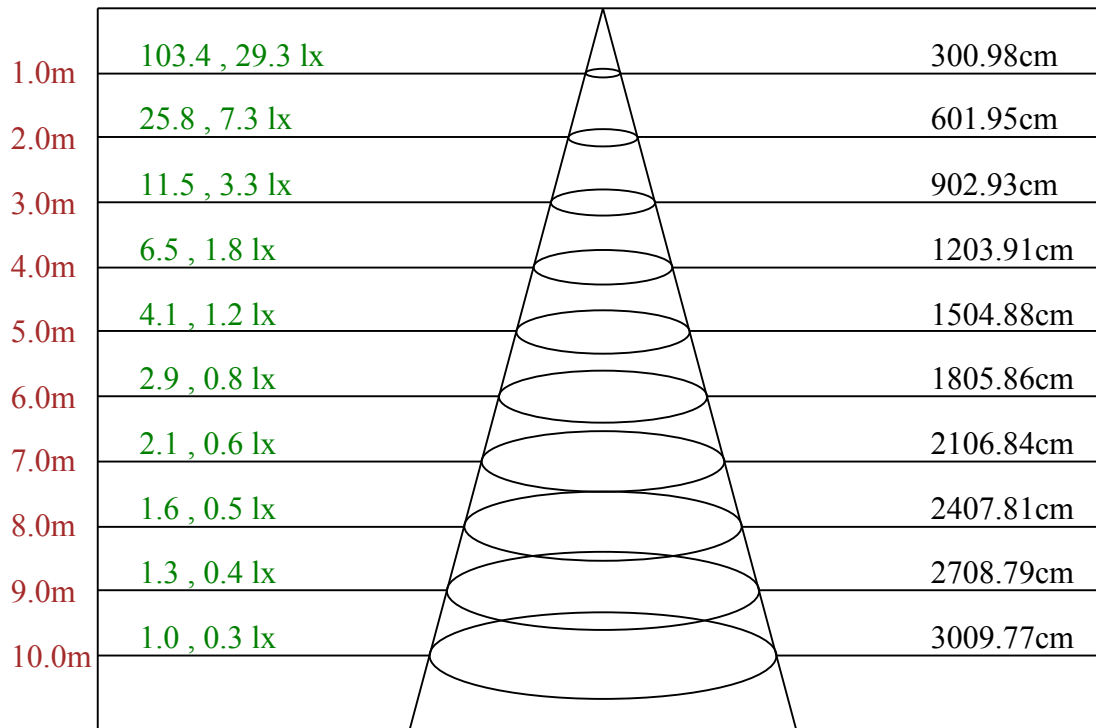
C90/C270: —

Field angle(10%Imax):C0/180Left:74.9 Right:80.5

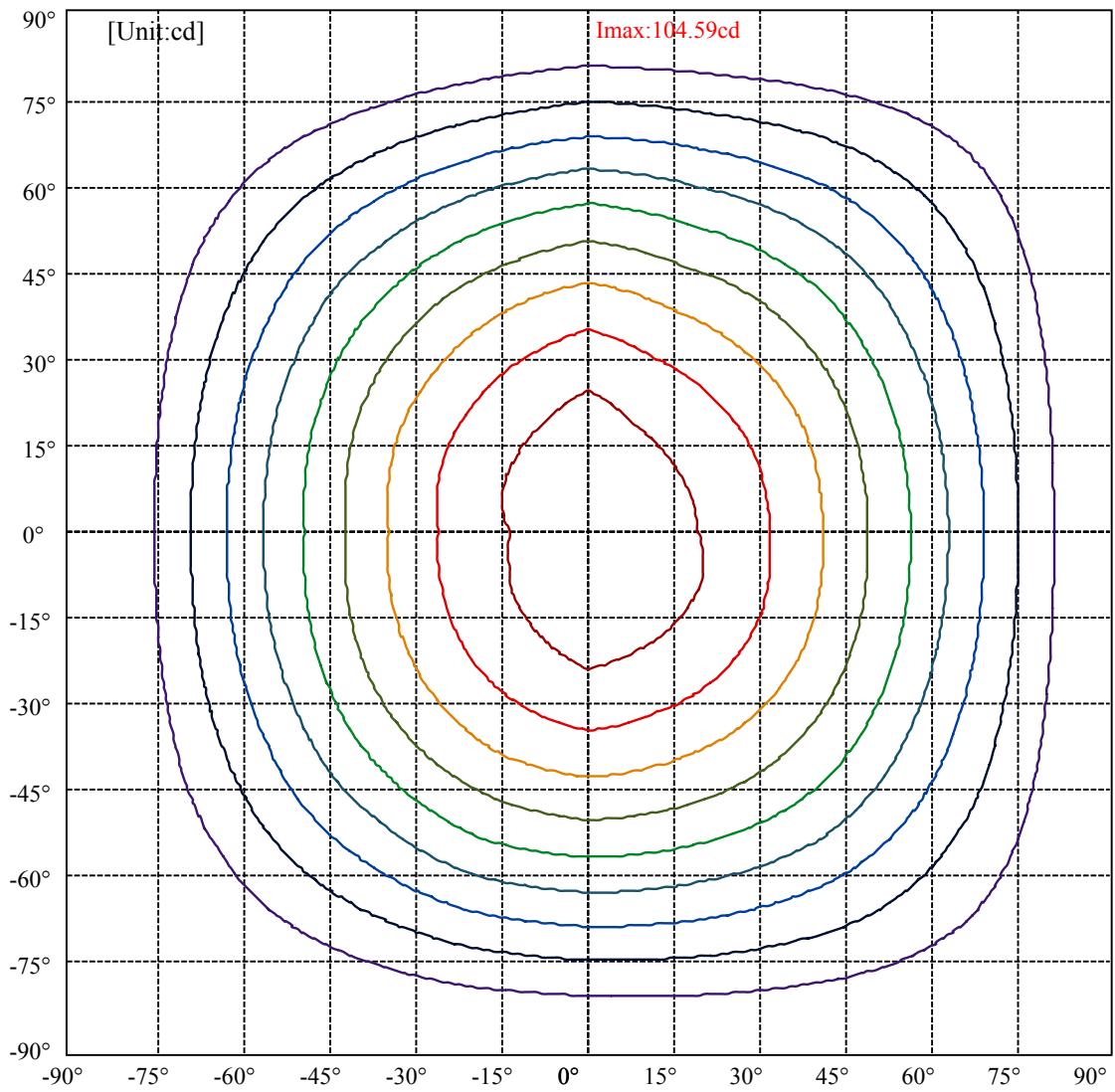
:C90/270Left:79.9 Right:80.3

Beam Angle(50%Imax):C0/180Left:50.0 Right:56.7

:C90/270Left:56.0 Right:56.5



Max , Ave      Beam angle of C90 plane 112.79

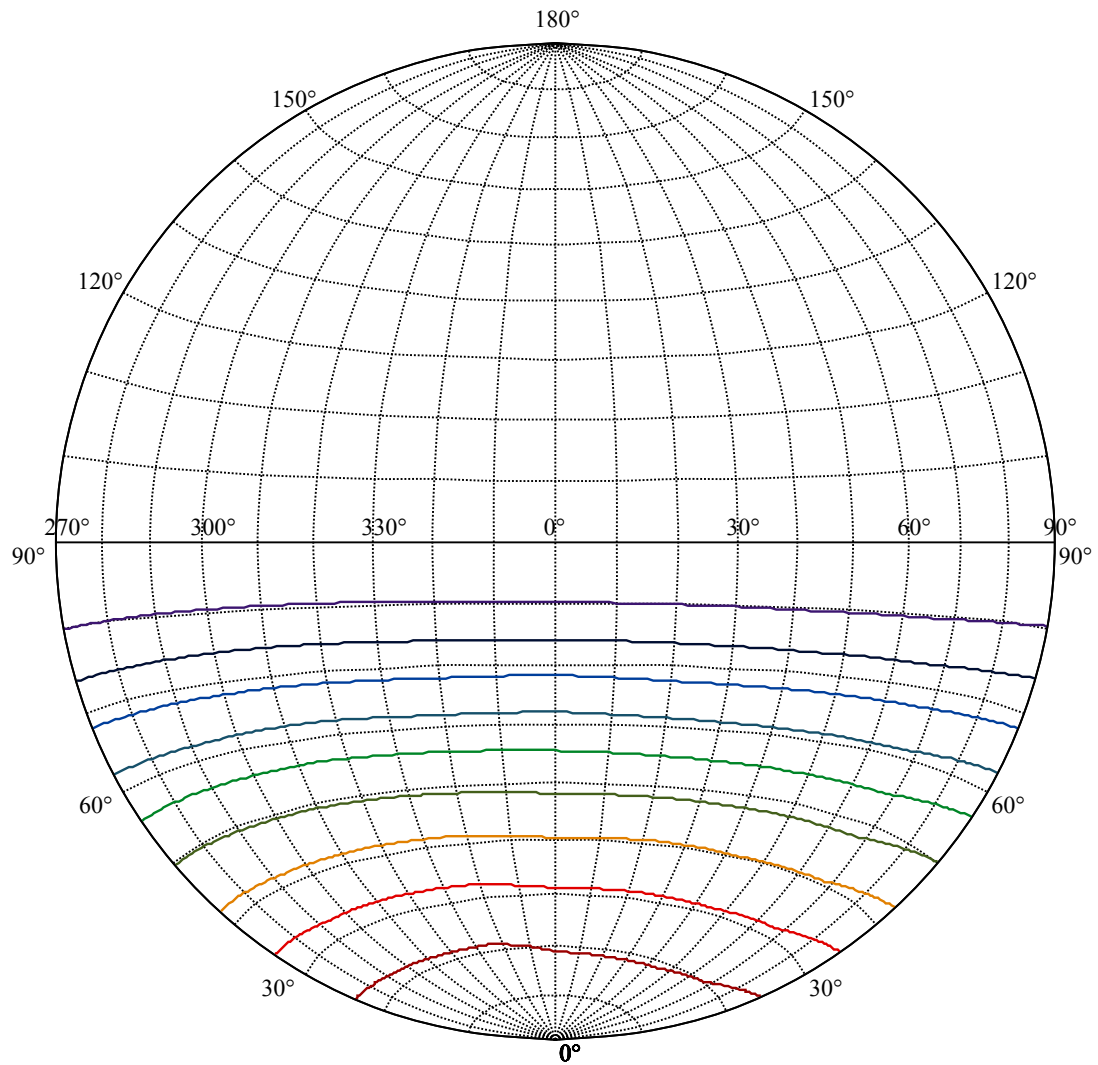


|                   |   |
|-------------------|---|
| (10%Imax) 10.4588 | — |
| (20%Imax) 20.9176 | — |
| (30%Imax) 31.3764 | — |
| (40%Imax) 41.8352 | — |
| (50%Imax) 52.294  | — |
| (60%Imax) 62.7528 | — |
| (70%Imax) 73.2116 | — |
| (80%Imax) 83.6704 | — |
| (90%Imax) 94.1292 | — |

Equipment: GMS-3000  
Temperature(°C): 25

Date:  
Humidity(%): 58%

Operator: Tester



House

[Unit:cd]

Road

|                                |   |
|--------------------------------|---|
| <b>I<sub>max</sub>:104.59</b>  | — |
| (10%I <sub>max</sub> ) 10.4588 | — |
| (20%I <sub>max</sub> ) 20.9176 | — |
| (30%I <sub>max</sub> ) 31.3764 | — |
| (40%I <sub>max</sub> ) 41.8352 | — |
| (50%I <sub>max</sub> ) 52.294  | — |
| (60%I <sub>max</sub> ) 62.7528 | — |
| (70%I <sub>max</sub> ) 73.2116 | — |
| (80%I <sub>max</sub> ) 83.6704 | — |
| (90%I <sub>max</sub> ) 94.1292 | — |

## Intensity data(cd)

|                 |        |        |        |        |       |       |       |       |       |
|-----------------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| C/ $\gamma$ (°) | 0.0    | 5.0    | 10.0   | 15.0   | 20.0  | 25.0  | 30.0  | 35.0  | 40.0  |
| 0.0             | 101.17 | 98.97  | 98.54  | 96.16  | 93.57 | 89.46 | 84.92 | 79.74 | 73.69 |
| 22.5            | 101.17 | 99.40  | 98.32  | 96.16  | 93.35 | 89.46 | 84.92 | 80.17 | 74.12 |
| 45.0            | 101.17 | 99.83  | 98.97  | 96.38  | 93.35 | 89.03 | 84.71 | 79.52 | 73.47 |
| 67.5            | 101.17 | 101.13 | 99.62  | 97.02  | 94.22 | 90.11 | 85.57 | 80.17 | 73.90 |
| 90.0            | 101.17 | 104.59 | 102.86 | 100.70 | 97.46 | 93.57 | 88.81 | 83.41 | 77.36 |
| 112.5           | 101.17 | 101.78 | 100.05 | 97.67  | 94.22 | 90.33 | 85.36 | 79.52 | 73.47 |
| 135.0           | 101.17 | 100.70 | 98.75  | 96.16  | 92.49 | 88.17 | 82.55 | 76.71 | 70.01 |
| 157.5           | 101.17 | 100.27 | 98.11  | 95.08  | 91.19 | 86.65 | 80.82 | 74.77 | 67.85 |
| 180.0           | 101.17 | 97.89  | 96.16  | 93.14  | 89.25 | 84.71 | 78.44 | 72.39 | 65.04 |
| 202.5           | 101.17 | 98.54  | 97.02  | 94.00  | 90.54 | 86.00 | 80.39 | 74.55 | 67.64 |
| 225.0           | 101.17 | 99.62  | 98.32  | 95.94  | 92.05 | 87.95 | 82.98 | 77.36 | 70.88 |
| 247.5           | 101.17 | 101.13 | 99.40  | 97.46  | 94.22 | 90.33 | 85.57 | 80.39 | 74.34 |
| 270.0           | 101.17 | 104.16 | 102.86 | 100.27 | 96.81 | 93.14 | 88.38 | 82.76 | 76.28 |
| 292.5           | 101.17 | 101.99 | 100.91 | 98.54  | 95.94 | 91.62 | 86.87 | 81.68 | 75.42 |
| 315.0           | 101.17 | 101.35 | 100.05 | 98.11  | 95.30 | 91.41 | 86.87 | 81.47 | 75.42 |
| 337.5           | 101.17 | 101.13 | 99.83  | 98.11  | 95.08 | 91.41 | 86.44 | 81.25 | 75.20 |
| 360.0           | 101.17 | 98.97  | 98.54  | 96.16  | 93.57 | 89.46 | 84.92 | 79.74 | 73.69 |
| C/ $\gamma$ (°) | 45.0   | 50.0   | 55.0   | 60.0   | 65.0  | 70.0  | 75.0  | 80.0  | 85.0  |
| 0.0             | 66.99  | 60.29  | 53.16  | 45.38  | 36.95 | 28.31 | 19.23 | 10.80 | 3.46  |
| 22.5            | 67.42  | 60.07  | 52.51  | 44.30  | 35.66 | 27.01 | 18.80 | 10.37 | 3.89  |
| 45.0            | 66.99  | 59.86  | 52.08  | 43.87  | 35.66 | 26.80 | 17.94 | 9.72  | 3.67  |
| 67.5            | 66.99  | 59.64  | 51.86  | 43.87  | 35.22 | 26.80 | 17.72 | 9.72  | 3.46  |
| 90.0            | 70.23  | 62.88  | 54.89  | 46.46  | 37.17 | 27.66 | 19.45 | 10.80 | 4.11  |
| 112.5           | 66.34  | 58.56  | 50.78  | 41.92  | 32.85 | 23.99 | 15.13 | 7.35  | 1.95  |
| 135.0           | 63.10  | 55.10  | 47.11  | 38.25  | 29.39 | 20.53 | 11.89 | 4.75  | 0.86  |
| 157.5           | 60.51  | 52.73  | 44.30  | 36.09  | 27.01 | 18.58 | 10.59 | 3.46  | 0.65  |
| 180.0           | 58.13  | 50.57  | 43.22  | 35.01  | 27.01 | 18.15 | 9.94  | 3.24  | 0.43  |
| 202.5           | 60.72  | 52.94  | 44.73  | 36.09  | 27.66 | 19.02 | 10.80 | 3.89  | 0.43  |
| 225.0           | 63.96  | 56.18  | 47.97  | 39.11  | 30.47 | 21.83 | 13.18 | 6.05  | 1.30  |
| 247.5           | 67.20  | 59.86  | 52.29  | 43.87  | 34.79 | 25.72 | 16.86 | 8.86  | 3.03  |
| 270.0           | 69.37  | 62.23  | 54.02  | 45.38  | 37.17 | 27.66 | 18.80 | 10.37 | 4.32  |
| 292.5           | 68.72  | 61.80  | 54.02  | 45.60  | 36.74 | 28.31 | 19.45 | 11.02 | 4.11  |
| 315.0           | 68.93  | 61.80  | 54.46  | 46.24  | 37.38 | 28.31 | 19.88 | 11.24 | 4.54  |
| 337.5           | 68.50  | 61.15  | 53.81  | 45.38  | 36.52 | 28.09 | 19.45 | 11.24 | 4.32  |
| 360.0           | 66.99  | 60.29  | 53.16  | 45.38  | 36.95 | 28.31 | 19.23 | 10.80 | 3.46  |
| C/ $\gamma$ (°) | 90.0   | 95.0   | 100.0  | 105.0  | 110.0 | 115.0 | 120.0 | 125.0 | 130.0 |
| 0.0             | 0.86   | 0.65   | 0.65   | 0.65   | 0.65  | 0.65  | 0.65  | 0.86  | 0.86  |
| 22.5            | 0.86   | 0.65   | 0.65   | 0.65   | 0.65  | 0.65  | 0.65  | 0.86  | 0.86  |
| 45.0            | 1.08   | 0.65   | 0.43   | 0.43   | 0.43  | 0.86  | 0.65  | 0.65  | 0.86  |
| 67.5            | 1.08   | 0.65   | 0.86   | 0.43   | 0.43  | 0.86  | 0.86  | 0.86  | 0.86  |
| 90.0            | 0.43   | 0.43   | 0.00   | 0.22   | 0.43  | 0.22  | 0.22  | 0.43  | 0.43  |
| 112.5           | 0.65   | 0.43   | 0.22   | 0.22   | 0.22  | 0.22  | 0.22  | 0.65  | 0.65  |
| 135.0           | 0.43   | 0.43   | 0.22   | 0.22   | 0.22  | 0.22  | 0.43  | 0.22  | 0.43  |
| 157.5           | 0.43   | 0.22   | 0.43   | 0.43   | 0.43  | 0.43  | 0.43  | 0.43  | 0.43  |
| 180.0           | 0.43   | 0.00   | 0.22   | 0.43   | 0.43  | 0.22  | 0.22  | 0.43  | 0.43  |
| 202.5           | 0.43   | 0.00   | 0.43   | 0.22   | 0.00  | 0.22  | 0.43  | 0.65  | 0.43  |
| 225.0           | 0.43   | 0.22   | 0.00   | 0.22   | 0.43  | 0.22  | 0.43  | 0.43  | 0.43  |
| 247.5           | 0.86   | 0.43   | 0.22   | 0.22   | 0.22  | 0.43  | 0.43  | 0.43  | 0.22  |
| 270.0           | 1.30   | 1.08   | 0.65   | 1.08   | 0.86  | 1.08  | 1.08  | 1.08  | 1.08  |
| 292.5           | 1.08   | 0.65   | 0.65   | 0.65   | 0.65  | 0.86  | 0.86  | 0.86  | 1.08  |
| 315.0           | 1.08   | 0.65   | 0.43   | 0.65   | 0.65  | 0.65  | 0.65  | 0.65  | 0.86  |
| 337.5           | 0.86   | 0.65   | 0.65   | 0.65   | 0.86  | 0.65  | 0.86  | 0.65  | 0.86  |
| 360.0           | 0.86   | 0.65   | 0.65   | 0.65   | 0.65  | 0.65  | 0.65  | 0.86  | 0.86  |



Intensity data(cd)

| C/γ(°) | 135.0 | 140.0 | 145.0 | 150.0 | 155.0 | 160.0 | 165.0 | 170.0 | 175.0 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0    | 0.65  | 0.86  | 0.65  | 0.86  | 0.65  | 0.86  | 1.08  | 0.86  | 1.08  |
| 22.5   | 0.86  | 0.65  | 0.65  | 0.86  | 0.65  | 0.86  | 0.86  | 0.86  | 0.86  |
| 45.0   | 0.86  | 1.08  | 0.86  | 0.86  | 0.86  | 0.86  | 0.65  | 0.86  | 0.86  |
| 67.5   | 0.65  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 1.08  | 0.65  | 0.86  |
| 90.0   | 0.65  | 0.65  | 0.65  | 0.65  | 0.86  | 0.86  | 0.65  | 1.08  | 0.86  |
| 112.5  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.86  | 0.65  | 0.65  | 0.65  |
| 135.0  | 0.43  | 0.43  | 0.43  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.86  |
| 157.5  | 0.43  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.86  | 0.65  | 0.65  |
| 180.0  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  |
| 202.5  | 0.43  | 0.65  | 0.65  | 0.43  | 0.86  | 0.65  | 0.86  | 0.86  | 0.65  |
| 225.0  | 0.43  | 0.65  | 0.43  | 0.65  | 0.43  | 0.86  | 0.65  | 0.86  | 0.65  |
| 247.5  | 0.43  | 0.43  | 0.65  | 0.43  | 0.65  | 0.86  | 0.65  | 0.65  | 0.86  |
| 270.0  | 1.30  | 1.30  | 1.30  | 1.30  | 1.30  | 1.30  | 1.30  | 1.51  | 1.08  |
| 292.5  | 0.86  | 1.08  | 0.86  | 0.65  | 0.65  | 0.86  | 0.86  | 0.86  | 0.86  |
| 315.0  | 0.86  | 0.65  | 0.86  | 0.86  | 0.86  | 0.65  | 0.86  | 0.86  | 0.86  |
| 337.5  | 0.43  | 0.86  | 0.86  | 0.86  | 0.86  | 0.65  | 0.86  | 0.86  | 0.86  |
| 360.0  | 0.65  | 0.86  | 0.65  | 0.86  | 0.65  | 0.86  | 1.08  | 0.86  | 1.08  |

| C/γ(°) | 180.0 |
|--------|-------|
| 0.0    | 0.90  |
| 22.5   | 0.90  |
| 45.0   | 0.90  |
| 67.5   | 0.90  |
| 90.0   | 0.90  |
| 112.5  | 0.90  |
| 135.0  | 0.90  |
| 157.5  | 0.90  |
| 180.0  | 0.90  |
| 202.5  | 0.90  |
| 225.0  | 0.90  |
| 247.5  | 0.90  |
| 270.0  | 0.90  |
| 292.5  | 0.90  |
| 315.0  | 0.90  |
| 337.5  | 0.90  |
| 360.0  | 0.90  |