

|                 |   |                                |              |   |          |
|-----------------|---|--------------------------------|--------------|---|----------|
| Report No       | : |                                | Voltage      | : | V        |
| Test No         | : | A2401351A001                   | Current      | : | A        |
| LumCAT          | : | LIT by CARDI                   | Power        | : | 23.000 W |
| Luminaire       | : | 0028320197 23W 4000K 3220lm PF |              | : |          |
| LampCAT         | : |                                | Ballast type | : |          |
| Lamp flux       | : | 3220.0 lm                      | Width        | : | 595 mm   |
| Number of Lamps | : | 1                              | Length       | : | 595 mm   |
| Phm Type        | : | C                              | Height       | : | 0 mm     |

### Photometric Results

|                                          |   |                                        |                            |   |                       |
|------------------------------------------|---|----------------------------------------|----------------------------|---|-----------------------|
| Lumens(lm)                               | : | 3220.00                                | Central intensity(cd)      | : | 1977.113              |
| Efficiency(%)                            | : | 100.00%                                | Maximum intensity(cd)      | : | 2069.342              |
| Luminous Efficacy(lm/W)                  | : | 140.00                                 | Angle of maximum intensity | : | C=30.0 $\gamma$ =19.0 |
| Beam Angle(50%Imax)                      | : | [C0/180]Total=78.7 [C90/270]Total=78.9 |                            |   |                       |
| Field angle(10%Imax)                     | : | [C0/180]Total=99.6 [C90/270]Total=99.5 |                            |   |                       |
| Maximum s/h(1/2)                         | : | C0_180=1.22 C90_270=1.25               |                            |   |                       |
| Maximum s/h(1/4)                         | : | C0_180=1.13 C90_270=1.14               |                            |   |                       |
| Up flux rate of lamp(%)                  | : | 0.00%                                  |                            |   |                       |
| Down flux rate of lamp(%)                | : | 100.00%                                |                            |   |                       |
| Up flux rate of LUM(%)                   | : | --                                     |                            |   |                       |
| Down flux rate of LUM(%)                 | : | 100.00%                                |                            |   |                       |
| CIE Type                                 | : | Direct lighting                        |                            |   |                       |
| Output flux ratio in $\pi$ solid angle : | : | 98.349%                                |                            |   |                       |

## Zonal flux distribution table

Appendix Page: 2 Total:21

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 1977.113      | 0.000       | 0         | 0.00%       | 0.00%      |
| 0.5                | 1977.524      | 0.473       | 0.473     | 0.01%       | 0.01%      |
| 1.0                | 1977.216      | 1.419       | 1.892     | 0.04%       | 0.06%      |
| 1.5                | 1976.658      | 2.365       | 4.257     | 0.07%       | 0.13%      |
| 2.0                | 1975.979      | 3.309       | 7.566     | 0.10%       | 0.23%      |
| 2.5                | 1975.466      | 4.253       | 11.819    | 0.13%       | 0.37%      |
| 3.0                | 1975.075      | 5.196       | 17.016    | 0.16%       | 0.53%      |
| 3.5                | 1974.383      | 6.138       | 23.154    | 0.19%       | 0.72%      |
| 4.0                | 1973.793      | 7.079       | 30.233    | 0.22%       | 0.94%      |
| 4.5                | 1973.049      | 8.019       | 38.252    | 0.25%       | 1.19%      |
| 5.0                | 1972.460      | 8.957       | 47.209    | 0.28%       | 1.47%      |
| 5.5                | 1972.556      | 9.896       | 57.106    | 0.31%       | 1.77%      |
| 6.0                | 1972.607      | 10.836      | 67.942    | 0.34%       | 2.11%      |
| 6.5                | 1973.408      | 11.777      | 79.719    | 0.37%       | 2.48%      |
| 7.0                | 1974.472      | 12.721      | 92.441    | 0.40%       | 2.87%      |
| 7.5                | 1975.831      | 13.667      | 106.108   | 0.42%       | 3.30%      |
| 8.0                | 1977.434      | 14.615      | 120.723   | 0.45%       | 3.75%      |
| 8.5                | 1979.376      | 15.566      | 136.289   | 0.48%       | 4.23%      |
| 9.0                | 1981.504      | 16.519      | 152.808   | 0.51%       | 4.75%      |
| 9.5                | 1983.594      | 17.474      | 170.282   | 0.54%       | 5.29%      |
| 10.0               | 1985.581      | 18.428      | 188.71    | 0.57%       | 5.86%      |
| 10.5               | 1987.773      | 19.384      | 208.093   | 0.60%       | 6.46%      |
| 11.0               | 1990.331      | 20.343      | 228.436   | 0.63%       | 7.09%      |
| 11.5               | 1992.536      | 21.302      | 249.738   | 0.66%       | 7.76%      |
| 12.0               | 1994.818      | 22.261      | 271.999   | 0.69%       | 8.45%      |
| 12.5               | 1996.940      | 23.220      | 295.219   | 0.72%       | 9.17%      |
| 13.0               | 1998.908      | 24.177      | 319.396   | 0.75%       | 9.92%      |
| 13.5               | 2000.658      | 25.132      | 344.528   | 0.78%       | 10.70%     |
| 14.0               | 2002.331      | 26.085      | 370.613   | 0.81%       | 11.51%     |
| 14.5               | 2003.568      | 27.033      | 397.646   | 0.84%       | 12.35%     |
| 15.0               | 2004.305      | 27.975      | 425.621   | 0.87%       | 13.22%     |
| 15.5               | 2004.985      | 28.911      | 454.533   | 0.90%       | 14.12%     |
| 16.0               | 2005.510      | 29.845      | 484.378   | 0.93%       | 15.04%     |
| 16.5               | 2005.818      | 30.773      | 515.151   | 0.96%       | 16.00%     |
| 17.0               | 2005.908      | 31.697      | 546.848   | 0.98%       | 16.98%     |
| 17.5               | 2005.433      | 32.612      | 579.459   | 1.01%       | 18.00%     |
| 18.0               | 2004.222      | 33.513      | 612.972   | 1.04%       | 19.04%     |
| 18.5               | 2003.029      | 34.404      | 647.376   | 1.07%       | 20.10%     |

Equipment: GMS1800  
Temperature( $^{\circ}\text{C}$ ): 25

Date:  
Humidity(%): 55%

Operator: CWR

## Zonal flux distribution table

Appendix Page: 3 Total:21

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 19.0               | 2001.600      | 35.290      | 682.667   | 1.10%       | 21.20%     |
| 19.5               | 1999.280      | 36.162      | 718.829   | 1.12%       | 22.32%     |
| 20.0               | 1996.940      | 37.022      | 755.851   | 1.15%       | 23.47%     |
| 20.5               | 1993.984      | 37.870      | 793.721   | 1.18%       | 24.65%     |
| 21.0               | 1990.805      | 38.704      | 832.425   | 1.20%       | 25.85%     |
| 21.5               | 1987.536      | 39.530      | 871.956   | 1.23%       | 27.08%     |
| 22.0               | 1983.549      | 40.342      | 912.298   | 1.25%       | 28.33%     |
| 22.5               | 1979.453      | 41.139      | 953.437   | 1.28%       | 29.61%     |
| 23.0               | 1974.569      | 41.920      | 995.357   | 1.30%       | 30.91%     |
| 23.5               | 1969.395      | 42.682      | 1038.039  | 1.33%       | 32.24%     |
| 24.0               | 1963.550      | 43.426      | 1081.465  | 1.35%       | 33.59%     |
| 24.5               | 1957.351      | 44.150      | 1125.614  | 1.37%       | 34.96%     |
| 25.0               | 1949.966      | 44.847      | 1170.461  | 1.39%       | 36.35%     |
| 25.5               | 1941.749      | 45.512      | 1215.973  | 1.41%       | 37.76%     |
| 26.0               | 1932.986      | 46.150      | 1262.124  | 1.43%       | 39.20%     |
| 26.5               | 1923.108      | 46.757      | 1308.881  | 1.45%       | 40.65%     |
| 27.0               | 1912.486      | 47.330      | 1356.211  | 1.47%       | 42.12%     |
| 27.5               | 1900.641      | 47.866      | 1404.076  | 1.49%       | 43.60%     |
| 28.0               | 1887.211      | 48.352      | 1452.428  | 1.50%       | 45.11%     |
| 28.5               | 1872.981      | 48.793      | 1501.222  | 1.52%       | 46.62%     |
| 29.0               | 1856.994      | 49.185      | 1550.407  | 1.53%       | 48.15%     |
| 29.5               | 1839.590      | 49.519      | 1599.926  | 1.54%       | 49.69%     |
| 30.0               | 1819.738      | 49.782      | 1649.707  | 1.55%       | 51.23%     |
| 30.5               | 1798.764      | 49.976      | 1699.683  | 1.55%       | 52.79%     |
| 31.0               | 1775.688      | 50.104      | 1749.788  | 1.56%       | 54.34%     |
| 31.5               | 1750.464      | 50.150      | 1799.938  | 1.56%       | 55.90%     |
| 32.0               | 1723.035      | 50.110      | 1850.048  | 1.56%       | 57.45%     |
| 32.5               | 1693.478      | 49.981      | 1900.029  | 1.55%       | 59.01%     |
| 33.0               | 1661.959      | 49.765      | 1949.794  | 1.55%       | 60.55%     |
| 33.5               | 1628.127      | 49.456      | 1999.25   | 1.54%       | 62.09%     |
| 34.0               | 1592.422      | 49.053      | 2048.303  | 1.52%       | 63.61%     |
| 34.5               | 1554.833      | 48.561      | 2096.864  | 1.51%       | 65.12%     |
| 35.0               | 1514.886      | 47.970      | 2144.833  | 1.49%       | 66.61%     |
| 35.5               | 1473.380      | 47.282      | 2192.116  | 1.47%       | 68.08%     |
| 36.0               | 1430.592      | 46.514      | 2238.63   | 1.44%       | 69.52%     |
| 36.5               | 1386.548      | 45.669      | 2284.299  | 1.42%       | 70.94%     |
| 37.0               | 1340.979      | 44.741      | 2329.039  | 1.39%       | 72.33%     |
| 37.5               | 1294.755      | 43.738      | 2372.778  | 1.36%       | 73.69%     |

Equipment: GMS1800  
Temperature( $^{\circ}\text{C}$ ): 25

Date:  
Humidity(%): 55%

Operator: CWR

## Zonal flux distribution table

Appendix Page: 4 Total:21

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 1248.974      | 42.695      | 2415.472  | 1.33%       | 75.01%     |
| 38.5               | 1201.437      | 41.590      | 2457.063  | 1.29%       | 76.31%     |
| 39.0               | 1154.162      | 40.422      | 2497.485  | 1.26%       | 77.56%     |
| 39.5               | 1106.279      | 39.209      | 2536.694  | 1.22%       | 78.78%     |
| 40.0               | 1058.748      | 37.954      | 2574.648  | 1.18%       | 79.96%     |
| 40.5               | 1012.325      | 36.687      | 2611.335  | 1.14%       | 81.10%     |
| 41.0               | 966.365       | 35.410      | 2646.745  | 1.10%       | 82.20%     |
| 41.5               | 919.853       | 34.096      | 2680.841  | 1.06%       | 83.26%     |
| 42.0               | 874.778       | 32.762      | 2713.602  | 1.02%       | 84.27%     |
| 42.5               | 830.124       | 31.427      | 2745.029  | 0.98%       | 85.25%     |
| 43.0               | 785.524       | 30.067      | 2775.096  | 0.93%       | 86.18%     |
| 43.5               | 740.842       | 28.672      | 2803.768  | 0.89%       | 87.07%     |
| 44.0               | 696.607       | 27.251      | 2831.02   | 0.85%       | 87.92%     |
| 44.5               | 652.596       | 25.811      | 2856.83   | 0.80%       | 88.72%     |
| 45.0               | 610.253       | 24.374      | 2881.204  | 0.76%       | 89.48%     |
| 45.5               | 569.307       | 22.966      | 2904.17   | 0.71%       | 90.19%     |
| 46.0               | 530.344       | 21.595      | 2925.765  | 0.67%       | 90.86%     |
| 46.5               | 494.224       | 20.291      | 2946.056  | 0.63%       | 91.49%     |
| 47.0               | 458.776       | 19.030      | 2965.086  | 0.59%       | 92.08%     |
| 47.5               | 425.067       | 17.793      | 2982.879  | 0.55%       | 92.64%     |
| 48.0               | 391.954       | 16.580      | 2999.459  | 0.51%       | 93.15%     |
| 48.5               | 359.103       | 15.362      | 3014.821  | 0.48%       | 93.63%     |
| 49.0               | 327.741       | 14.157      | 3028.978  | 0.44%       | 94.07%     |
| 49.5               | 298.242       | 13.001      | 3041.979  | 0.40%       | 94.47%     |
| 50.0               | 271.588       | 11.923      | 3053.903  | 0.37%       | 94.84%     |
| 50.5               | 247.259       | 10.936      | 3064.839  | 0.34%       | 95.18%     |
| 51.0               | 225.500       | 10.037      | 3074.876  | 0.31%       | 95.49%     |
| 51.5               | 206.380       | 9.234       | 3084.11   | 0.29%       | 95.78%     |
| 52.0               | 189.606       | 8.526       | 3092.635  | 0.26%       | 96.04%     |
| 52.5               | 174.584       | 7.895       | 3100.53   | 0.25%       | 96.29%     |
| 53.0               | 160.652       | 7.316       | 3107.846  | 0.23%       | 96.52%     |
| 53.5               | 147.576       | 6.771       | 3114.617  | 0.21%       | 96.73%     |
| 54.0               | 135.481       | 6.258       | 3120.875  | 0.19%       | 96.92%     |
| 54.5               | 124.181       | 5.777       | 3126.652  | 0.18%       | 97.10%     |
| 55.0               | 113.597       | 5.324       | 3131.976  | 0.17%       | 97.27%     |
| 55.5               | 103.701       | 4.895       | 3136.87   | 0.15%       | 97.42%     |
| 56.0               | 94.593        | 4.494       | 3141.364  | 0.14%       | 97.56%     |
| 56.5               | 86.357        | 4.125       | 3145.489  | 0.13%       | 97.69%     |

Equipment: GMS1800  
Temperature( $^{\circ}\text{C}$ ): 25

Date:  
Humidity(%): 55%

Operator: CWR

## Zonal flux distribution table

Appendix Page: 5 Total:21

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 57.0               | 78.899        | 3.789       | 3149.278  | 0.12%       | 97.80%     |
| 57.5               | 72.186        | 3.484       | 3152.761  | 0.11%       | 97.91%     |
| 58.0               | 66.441        | 3.214       | 3155.976  | 0.10%       | 98.01%     |
| 58.5               | 61.562        | 2.984       | 3158.96   | 0.09%       | 98.10%     |
| 59.0               | 57.404        | 2.788       | 3161.748  | 0.09%       | 98.19%     |
| 59.5               | 53.803        | 2.620       | 3164.368  | 0.08%       | 98.27%     |
| 60.0               | 50.704        | 2.475       | 3166.843  | 0.08%       | 98.35%     |
| 60.5               | 48.084        | 2.351       | 3169.195  | 0.07%       | 98.42%     |
| 61.0               | 45.707        | 2.243       | 3171.438  | 0.07%       | 98.49%     |
| 61.5               | 43.562        | 2.146       | 3173.584  | 0.07%       | 98.56%     |
| 62.0               | 41.621        | 2.057       | 3175.641  | 0.06%       | 98.62%     |
| 62.5               | 39.815        | 1.976       | 3177.617  | 0.06%       | 98.68%     |
| 63.0               | 38.121        | 1.900       | 3179.516  | 0.06%       | 98.74%     |
| 63.5               | 36.533        | 1.828       | 3181.344  | 0.06%       | 98.80%     |
| 64.0               | 35.044        | 1.760       | 3183.104  | 0.05%       | 98.85%     |
| 64.5               | 33.675        | 1.697       | 3184.801  | 0.05%       | 98.91%     |
| 65.0               | 32.458        | 1.640       | 3186.44   | 0.05%       | 98.96%     |
| 65.5               | 31.397        | 1.590       | 3188.03   | 0.05%       | 99.01%     |
| 66.0               | 30.459        | 1.546       | 3189.576  | 0.05%       | 99.06%     |
| 66.5               | 29.566        | 1.506       | 3191.083  | 0.05%       | 99.10%     |
| 67.0               | 28.722        | 1.468       | 3192.551  | 0.05%       | 99.15%     |
| 67.5               | 27.889        | 1.431       | 3193.982  | 0.04%       | 99.19%     |
| 68.0               | 27.057        | 1.394       | 3195.376  | 0.04%       | 99.24%     |
| 68.5               | 26.226        | 1.357       | 3196.733  | 0.04%       | 99.28%     |
| 69.0               | 25.391        | 1.319       | 3198.052  | 0.04%       | 99.32%     |
| 69.5               | 24.544        | 1.280       | 3199.332  | 0.04%       | 99.36%     |
| 70.0               | 23.693        | 1.241       | 3200.573  | 0.04%       | 99.40%     |
| 70.5               | 22.857        | 1.201       | 3201.774  | 0.04%       | 99.43%     |
| 71.0               | 21.995        | 1.161       | 3202.935  | 0.04%       | 99.47%     |
| 71.5               | 21.102        | 1.119       | 3204.054  | 0.03%       | 99.50%     |
| 72.0               | 20.210        | 1.076       | 3205.129  | 0.03%       | 99.54%     |
| 72.5               | 19.321        | 1.032       | 3206.162  | 0.03%       | 99.57%     |
| 73.0               | 18.432        | 0.988       | 3207.15   | 0.03%       | 99.60%     |
| 73.5               | 17.561        | 0.945       | 3208.095  | 0.03%       | 99.63%     |
| 74.0               | 16.701        | 0.902       | 3208.997  | 0.03%       | 99.66%     |
| 74.5               | 15.856        | 0.859       | 3209.856  | 0.03%       | 99.68%     |
| 75.0               | 15.019        | 0.817       | 3210.672  | 0.03%       | 99.71%     |
| 75.5               | 14.212        | 0.775       | 3211.447  | 0.02%       | 99.73%     |

Equipment: GMS1800  
Temperature( $^{\circ}\text{C}$ ): 25

Date:  
Humidity(%): 55%

Operator: CWR

# Zonal flux distribution table

Appendix Page: 6 Total:21

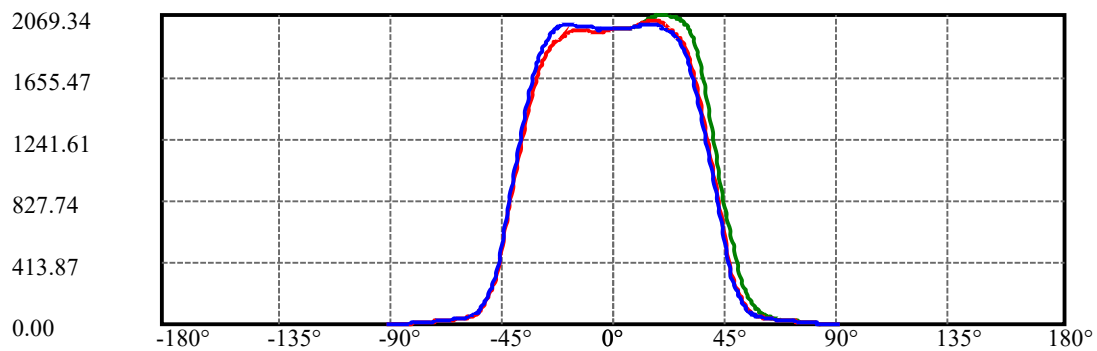
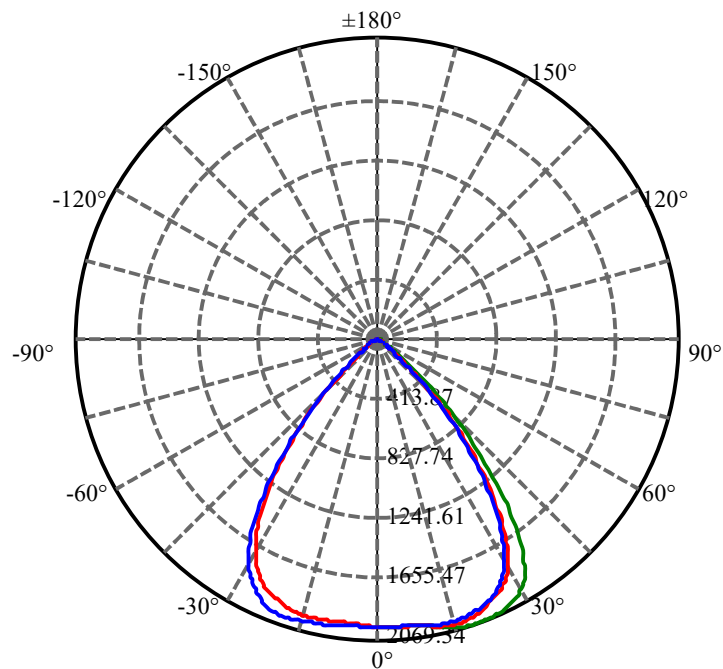
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 13.422        | 0.734       | 3212.182  | 0.02%       | 99.76%     |
| 76.5               | 12.649        | 0.694       | 3212.876  | 0.02%       | 99.78%     |
| 77.0               | 11.893        | 0.655       | 3213.531  | 0.02%       | 99.80%     |
| 77.5               | 11.151        | 0.616       | 3214.147  | 0.02%       | 99.82%     |
| 78.0               | 10.442        | 0.579       | 3214.726  | 0.02%       | 99.84%     |
| 78.5               | 9.756         | 0.542       | 3215.268  | 0.02%       | 99.85%     |
| 79.0               | 9.092         | 0.507       | 3215.775  | 0.02%       | 99.87%     |
| 79.5               | 8.442         | 0.472       | 3216.247  | 0.01%       | 99.88%     |
| 80.0               | 7.808         | 0.438       | 3216.685  | 0.01%       | 99.90%     |
| 80.5               | 7.196         | 0.405       | 3217.091  | 0.01%       | 99.91%     |
| 81.0               | 6.606         | 0.373       | 3217.464  | 0.01%       | 99.92%     |
| 81.5               | 6.031         | 0.342       | 3217.806  | 0.01%       | 99.93%     |
| 82.0               | 5.472         | 0.312       | 3218.119  | 0.01%       | 99.94%     |
| 82.5               | 4.935         | 0.283       | 3218.401  | 0.01%       | 99.95%     |
| 83.0               | 4.416         | 0.254       | 3218.656  | 0.01%       | 99.96%     |
| 83.5               | 3.922         | 0.227       | 3218.883  | 0.01%       | 99.97%     |
| 84.0               | 3.457         | 0.201       | 3219.084  | 0.01%       | 99.97%     |
| 84.5               | 3.021         | 0.177       | 3219.26   | 0.01%       | 99.98%     |
| 85.0               | 2.623         | 0.154       | 3219.414  | 0.00%       | 99.98%     |
| 85.5               | 2.249         | 0.133       | 3219.548  | 0.00%       | 99.99%     |
| 86.0               | 1.881         | 0.113       | 3219.66   | 0.00%       | 99.99%     |
| 86.5               | 1.558         | 0.094       | 3219.755  | 0.00%       | 99.99%     |
| 87.0               | 1.252         | 0.077       | 3219.831  | 0.00%       | 99.99%     |
| 87.5               | 0.962         | 0.061       | 3219.892  | 0.00%       | 100.00%    |
| 88.0               | 0.695         | 0.045       | 3219.937  | 0.00%       | 100.00%    |
| 88.5               | 0.452         | 0.031       | 3219.969  | 0.00%       | 100.00%    |
| 89.0               | 0.230         | 0.019       | 3219.988  | 0.00%       | 100.00%    |
| 89.5               | 0.090         | 0.009       | 3219.996  | 0.00%       | 100.00%    |
| 90.0               | 0.042         | 0.004       | 3220      | 0.00%       | 100.00%    |

## ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp   | %Fixt   |
|---------|---------|---------|---------|
| 0-30    | 1649.71 | 51.23%  | 51.23%  |
| 0-40    | 2574.65 | 79.96%  | 79.96%  |
| 0-60    | 3166.84 | 98.35%  | 98.35%  |
| 0-90    | 3220.00 | 100.00% | 100.00% |
| 0-120   | 3220.00 | 100.00% | 100.00% |
| 0-180   | 3220.00 | 100.00% | 100.00% |
| 60-90   | 53.15   | 1.65%   | 1.65%   |
| 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%   |
| 0-40.02 | 2576.00 | 80.00%  | 80.00%  |

## ZONAL LUMEN SUMMARY

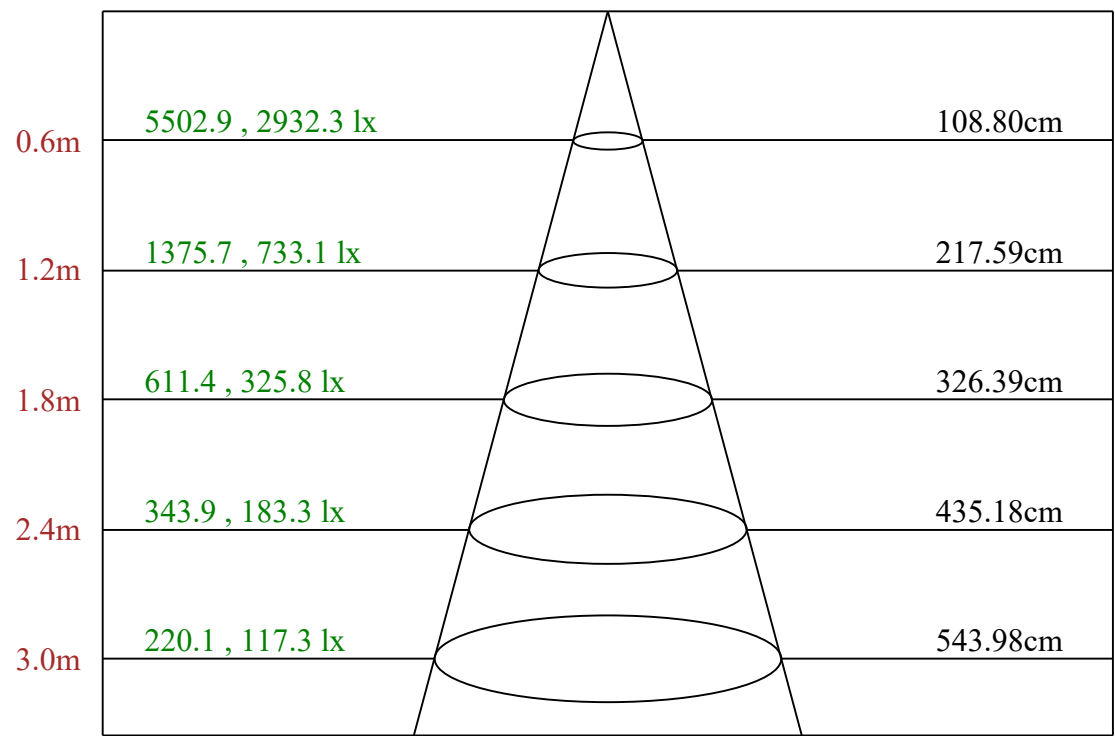
|         |        |
|---------|--------|
| 0-10    | 188.71 |
| 10-20   | 567.14 |
| 20-30   | 893.86 |
| 30-40   | 924.94 |
| 40-50   | 479.25 |
| 50-60   | 112.94 |
| 60-70   | 33.73  |
| 70-80   | 16.11  |
| 80-90   | 3.31   |
| 90-100  | 0.00   |
| 100-110 | 0.00   |
| 110-120 | 0.00   |
| 120-130 | 0.00   |
| 130-140 | 0.00   |
| 140-150 | 0.00   |
| 150-160 | 0.00   |
| 160-170 | 0.00   |
| 170-180 | 0.00   |



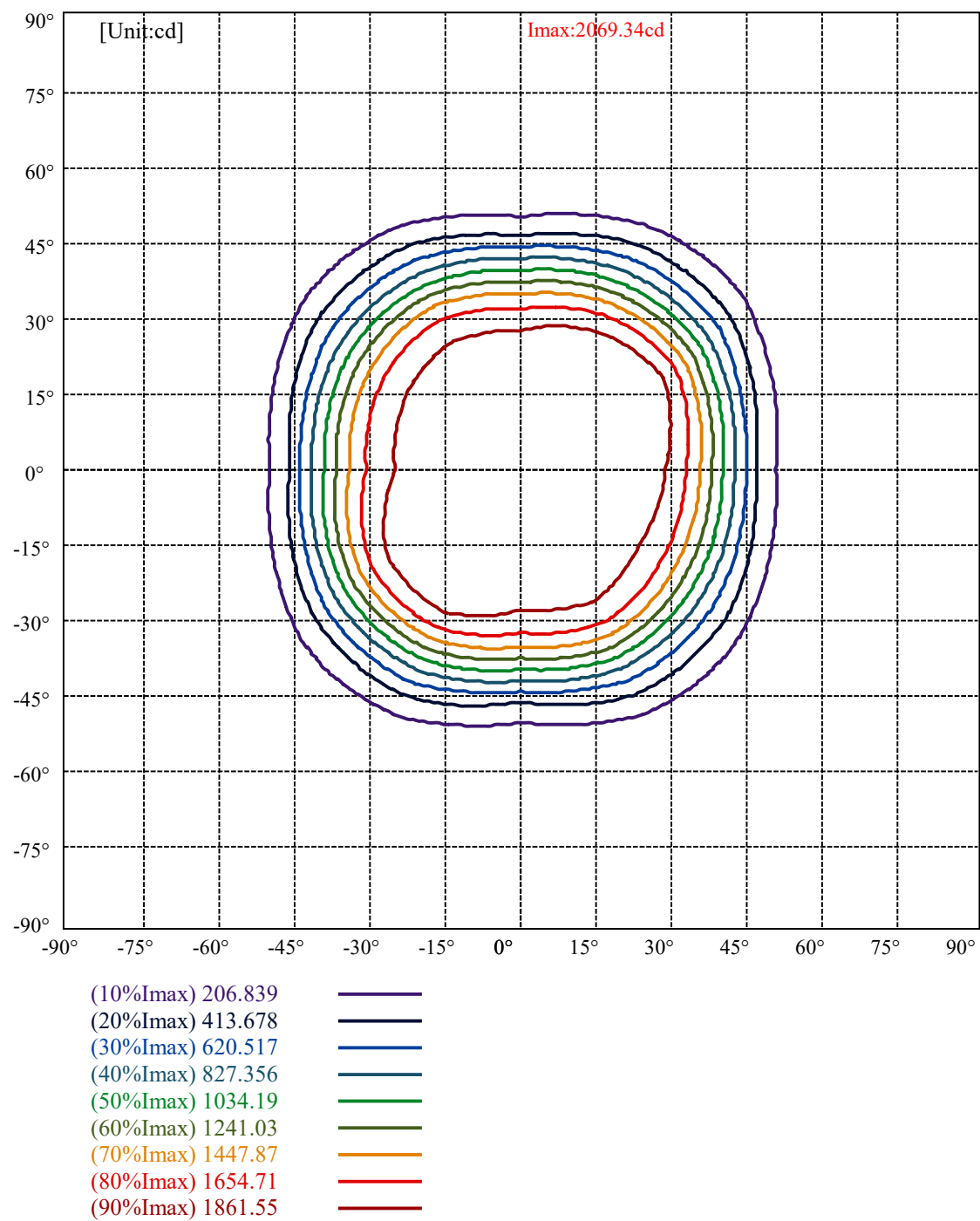
C30(Max): —————  
C0/C180: —————  
C90/C270: —————

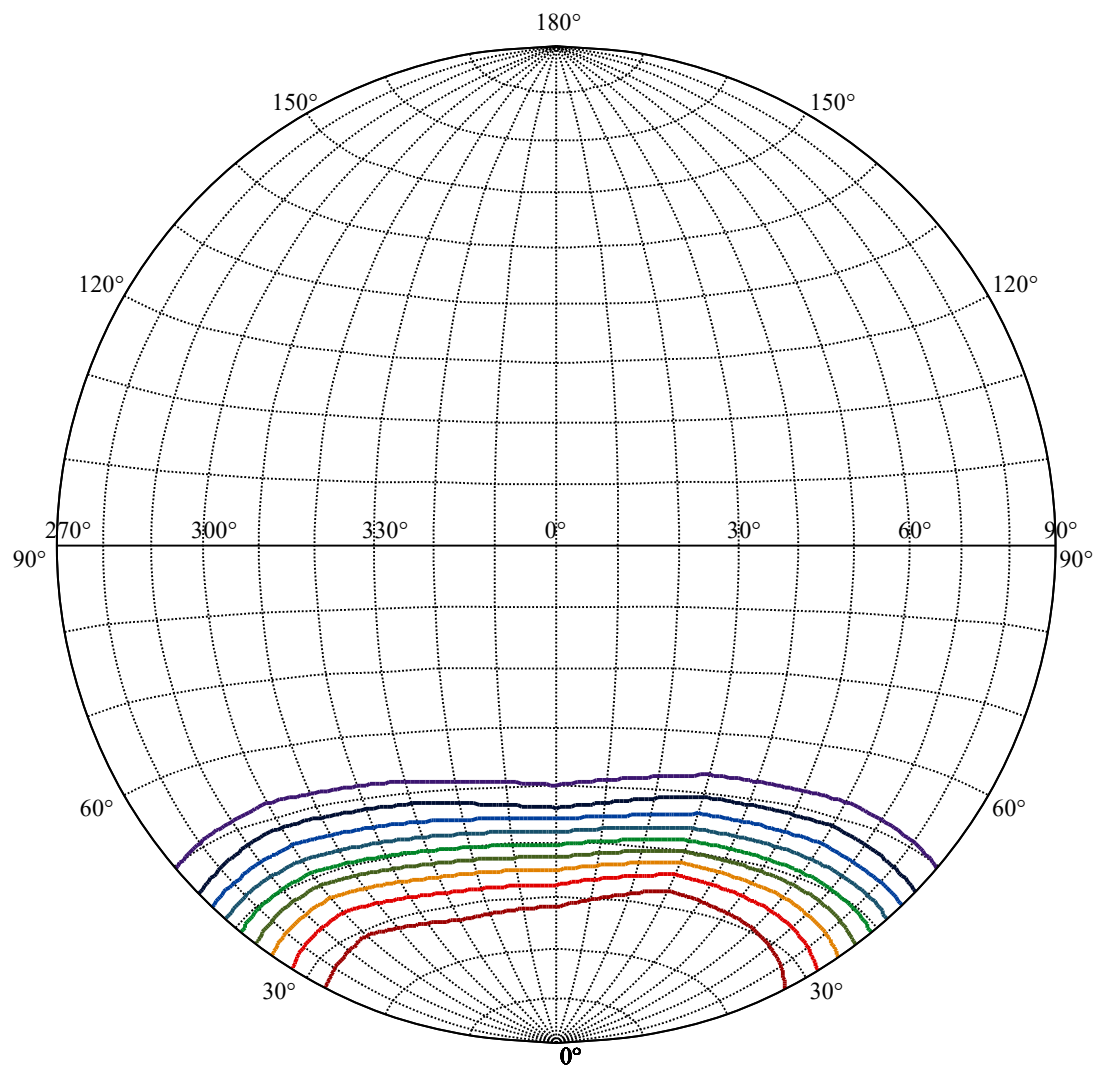
Field angle(10%Imax):C0/180Left:65.3 Right:34.3  
:C90/270Left:30.7 Right:68.8

Beam Angle(50%Imax):C0/180Left:54.8 Right:23.9  
:C90/270Left:20.4 Right:58.5



Max , Ave      Beam angle of C30 plane 84.39



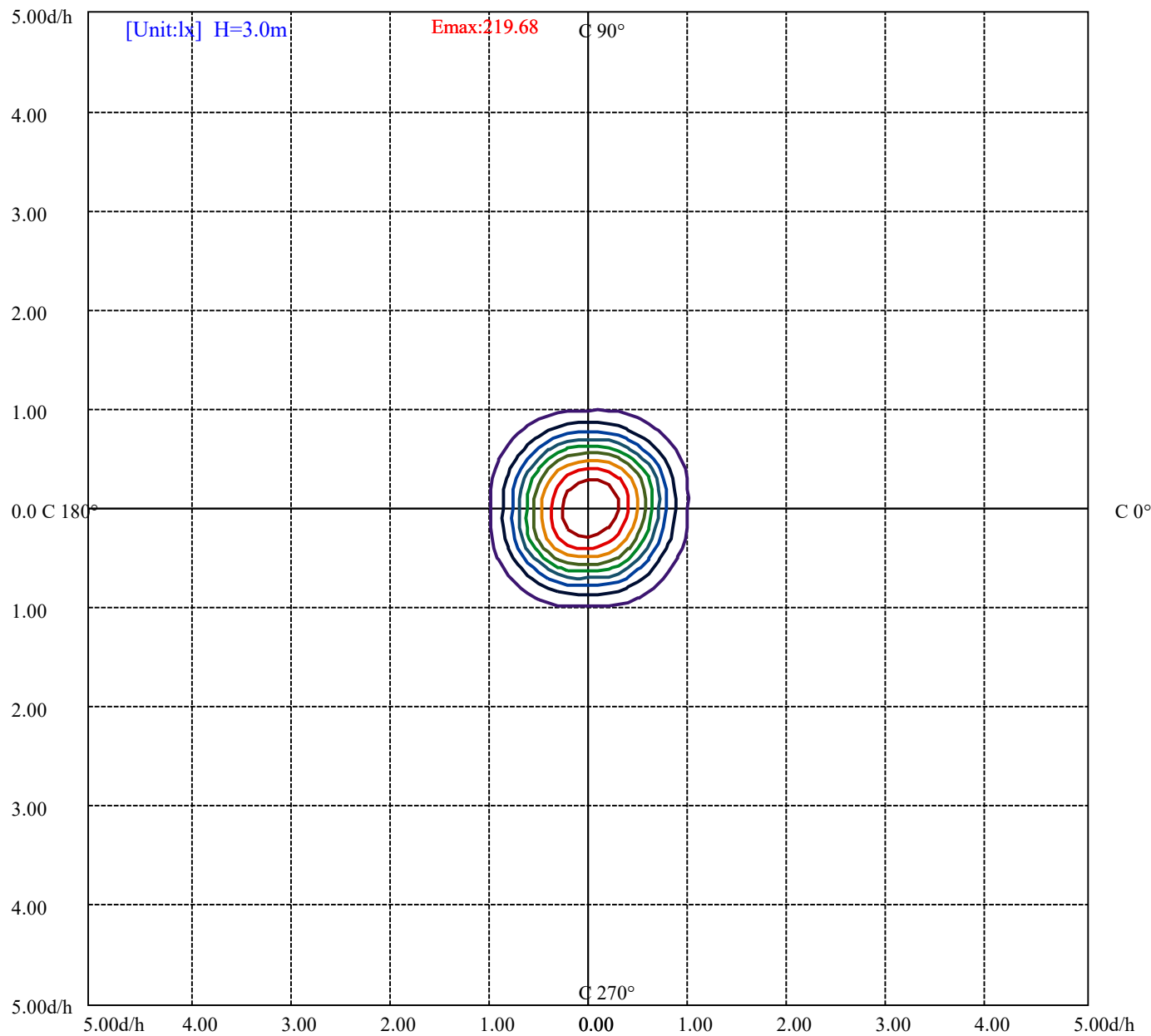


House

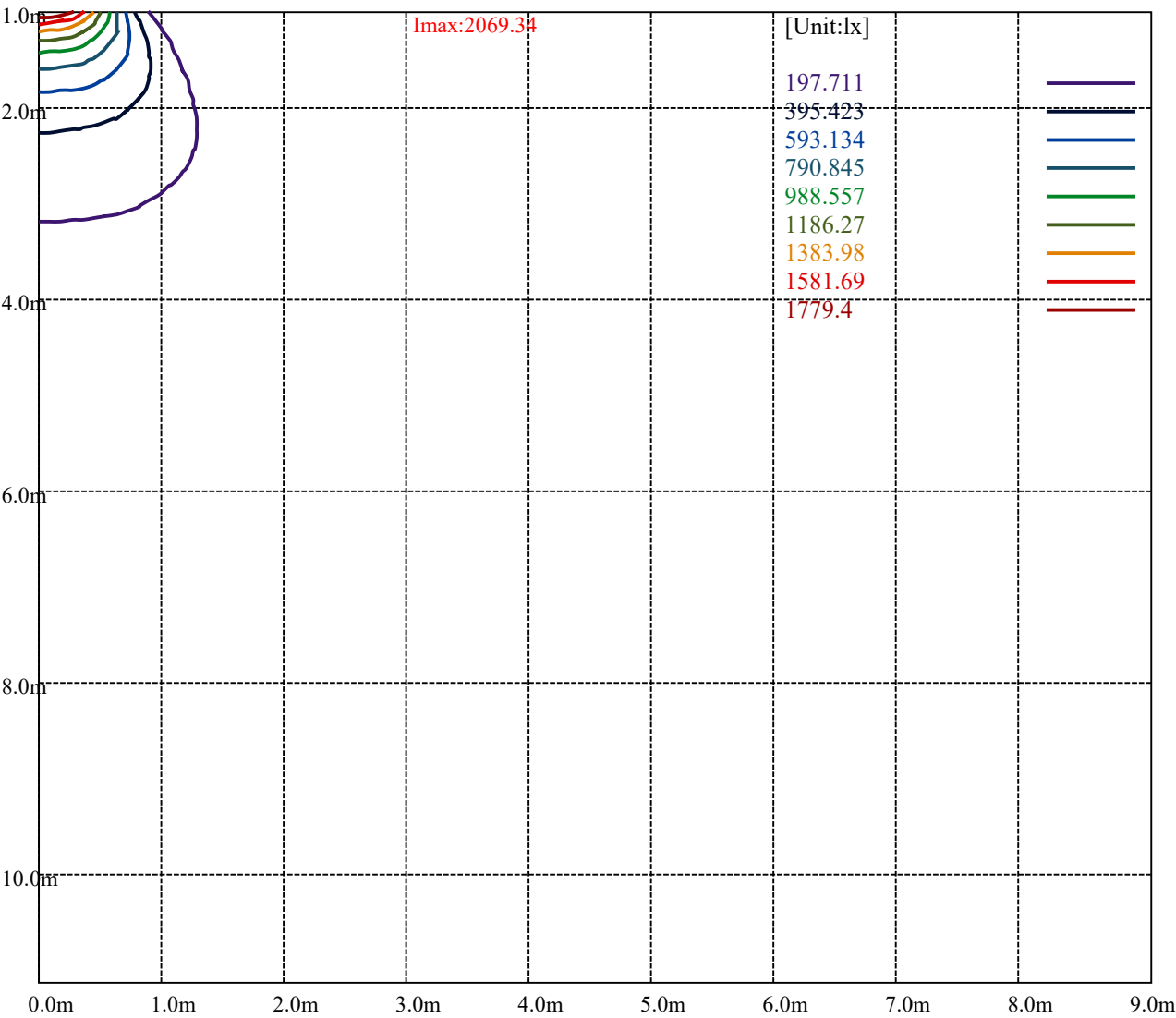
[Unit:cd]

Road

|                   |             |
|-------------------|-------------|
| Imax:2069.34      |             |
| (10%Imax) 206.934 | <div></div> |
| (20%Imax) 413.868 | <div></div> |
| (30%Imax) 620.803 | <div></div> |
| (40%Imax) 827.737 | <div></div> |
| (50%Imax) 1034.67 | <div></div> |
| (60%Imax) 1241.61 | <div></div> |
| (70%Imax) 1448.54 | <div></div> |
| (80%Imax) 1655.47 | <div></div> |
| (90%Imax) 1862.41 | <div></div> |



|           |          |             |
|-----------|----------|-------------|
| (10%Emax) | 21.96789 | <div></div> |
| (20%Emax) | 43.93589 | <div></div> |
| (30%Emax) | 65.90378 | <div></div> |
| (40%Emax) | 87.87167 | <div></div> |
| (50%Emax) | 109.8397 | <div></div> |
| (60%Emax) | 131.8078 | <div></div> |
| (70%Emax) | 153.7756 | <div></div> |
| (80%Emax) | 175.7433 | <div></div> |
| (90%Emax) | 197.7111 | <div></div> |



# Luminance Limiting Curve(no luminous side)

Appendix Page: 14 Total:21

Luminance Table

| $\gamma$ | 45   | 50  | 55  | 60  | 65  | 70  | 75  | 80  | 85  |
|----------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| C0       | 2165 | 935 | 378 | 246 | 213 | 199 | 171 | 138 | 100 |
| C45      | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| C90      | 2017 | 857 | 353 | 240 | 210 | 194 | 163 | 131 | 97  |

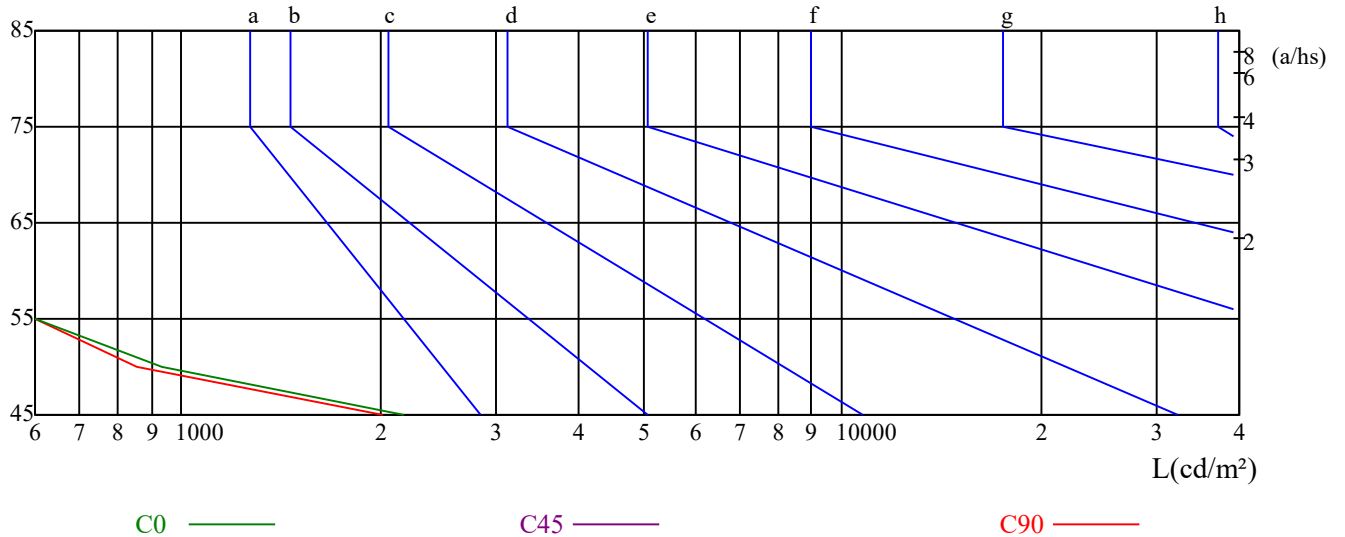
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 205        | 206        | 0       | 159        | 158        | 0       | 82         | 88         | 0       |

Glare Table

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

Luminance Limiting Curve

$\gamma(^{\circ})$



Equipment: GMS1800  
Temperature( $^{\circ}\text{C}$ ): 25

Date:  
Humidity(%): 55%

Operator: CWR

| 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  | 12.73            | 13.88 | 13.09 | 14.19 | 14.51 | 12.29          | 13.44 | 12.65 | 13.75 | 14.06 |
|                                                   | 3H  | 12.60            | 13.62 | 12.99 | 13.96 | 14.30 | 12.16          | 13.18 | 12.55 | 13.52 | 13.86 |
|                                                   | 4H  | 12.54            | 13.48 | 12.93 | 13.83 | 14.20 | 12.10          | 13.04 | 12.50 | 13.39 | 13.76 |
|                                                   | 6H  | 12.48            | 13.34 | 12.89 | 13.71 | 14.11 | 12.04          | 12.90 | 12.45 | 13.27 | 13.67 |
|                                                   | 8H  | 12.41            | 13.23 | 12.83 | 13.62 | 14.02 | 11.97          | 12.80 | 12.39 | 13.18 | 13.59 |
|                                                   | 12H | 12.35            | 13.13 | 12.77 | 13.52 | 13.94 | 11.91          | 12.69 | 12.33 | 13.08 | 13.50 |
| 4H                                                | 2H  | 12.51            | 13.45 | 12.91 | 13.81 | 14.17 | 12.08          | 13.02 | 12.48 | 13.38 | 13.74 |
|                                                   | 3H  | 12.38            | 13.15 | 12.80 | 13.55 | 13.96 | 11.95          | 12.73 | 12.37 | 13.12 | 13.53 |
|                                                   | 4H  | 12.35            | 13.02 | 12.79 | 13.44 | 13.89 | 11.93          | 12.60 | 12.36 | 13.02 | 13.47 |
|                                                   | 6H  | 12.25            | 12.84 | 12.72 | 13.29 | 13.74 | 11.82          | 12.42 | 12.30 | 12.87 | 13.32 |
|                                                   | 8H  | 12.20            | 12.75 | 12.69 | 13.21 | 13.68 | 11.78          | 12.33 | 12.26 | 12.79 | 13.26 |
|                                                   | 12H | 12.16            | 12.67 | 12.65 | 13.12 | 13.64 | 11.74          | 12.25 | 12.22 | 12.70 | 13.21 |
| 8H                                                | 4H  | 12.18            | 12.73 | 12.67 | 13.19 | 13.66 | 11.76          | 12.31 | 12.24 | 12.77 | 13.24 |
|                                                   | 6H  | 12.07            | 12.53 | 12.58 | 13.01 | 13.52 | 11.65          | 12.11 | 12.16 | 12.59 | 13.10 |
|                                                   | 8H  | 12.07            | 12.47 | 12.60 | 12.98 | 13.48 | 11.66          | 12.05 | 12.18 | 12.57 | 13.06 |
|                                                   | 12H | 12.03            | 12.34 | 12.57 | 12.86 | 13.38 | 11.61          | 11.93 | 12.15 | 12.44 | 12.96 |
| 12H                                               | 4H  | 12.14            | 12.65 | 12.62 | 13.10 | 13.61 | 11.72          | 12.23 | 12.20 | 12.67 | 13.19 |
|                                                   | 6H  | 12.06            | 12.45 | 12.59 | 12.97 | 13.47 | 11.64          | 12.03 | 12.17 | 12.55 | 13.05 |
|                                                   | 8H  | 12.02            | 12.34 | 12.56 | 12.86 | 13.38 | 11.61          | 11.92 | 12.14 | 12.44 | 12.96 |
| Variation with the observer position at spacings: |     |                  |       |       |       |       |                |       |       |       |       |
| S = 1.0H                                          |     | 2.8/-7.8         |       |       |       |       | 2.8/-7.8       |       |       |       |       |
| S = 1.5H                                          |     | 4.6/-9.4         |       |       |       |       | 4.5/-9.6       |       |       |       |       |
| S = 2.0H                                          |     | 6.6/-9.4         |       |       |       |       | 6.5/-9.7       |       |       |       |       |
| Standard tables:                                  |     | BK0              |       |       |       |       | BK0            |       |       |       |       |
| Uncorrected UGR                                   |     | -6.5             |       |       |       |       | -6.1           |       |       |       |       |

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

## Intensity data(cd)

Appendix Page: 16 Total:21

| C/γ(°) | 0.0     | 0.5     | 1.0     | 1.5     | 2.0     | 2.5     | 3.0     | 3.5     | 4.0     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 1977.11 | 1975.73 | 1976.73 | 1977.65 | 1978.27 | 1978.81 | 1977.73 | 1976.65 | 1978.04 |
| 30.0   | 1977.11 | 1975.81 | 1977.73 | 1979.50 | 1982.04 | 1983.11 | 1983.73 | 1983.65 | 1983.04 |
| 60.0   | 1977.11 | 1980.27 | 1981.11 | 1981.58 | 1982.81 | 1983.65 | 1984.96 | 1984.88 | 1984.42 |
| 90.0   | 1977.11 | 1979.42 | 1979.11 | 1978.88 | 1978.42 | 1977.96 | 1977.88 | 1977.11 | 1977.50 |
| 120.0  | 1977.11 | 1979.65 | 1978.65 | 1977.19 | 1974.50 | 1972.81 | 1971.96 | 1971.73 | 1969.42 |
| 150.0  | 1977.11 | 1977.50 | 1976.11 | 1973.65 | 1971.27 | 1969.58 | 1968.11 | 1966.58 | 1965.58 |
| 180.0  | 1977.11 | 1971.96 | 1970.81 | 1968.04 | 1966.34 | 1964.58 | 1963.27 | 1961.65 | 1959.81 |
| 210.0  | 1977.11 | 1970.73 | 1969.19 | 1967.96 | 1966.58 | 1964.34 | 1963.96 | 1962.58 | 1961.27 |
| 240.0  | 1977.11 | 1977.11 | 1975.96 | 1975.73 | 1974.34 | 1974.34 | 1973.27 | 1971.50 | 1969.73 |
| 270.0  | 1977.11 | 1979.81 | 1979.11 | 1977.50 | 1975.96 | 1975.96 | 1975.27 | 1974.96 | 1974.27 |
| 300.0  | 1977.11 | 1981.27 | 1981.50 | 1981.50 | 1981.11 | 1980.50 | 1980.04 | 1979.81 | 1980.65 |
| 330.0  | 1977.11 | 1981.04 | 1980.57 | 1980.73 | 1980.11 | 1979.96 | 1980.73 | 1981.50 | 1981.81 |
| 360.0  | 1977.11 | 1975.73 | 1976.73 | 1977.65 | 1978.27 | 1978.81 | 1977.73 | 1976.65 | 1978.04 |
| C/γ(°) | 4.5     | 5.0     | 5.5     | 6.0     | 6.5     | 7.0     | 7.5     | 8.0     | 8.5     |
| 0.0    | 1978.88 | 1979.04 | 1980.50 | 1981.65 | 1982.50 | 1983.50 | 1985.96 | 1988.65 | 1991.11 |
| 30.0   | 1982.11 | 1981.19 | 1980.19 | 1979.81 | 1980.81 | 1981.81 | 1983.34 | 1985.04 | 1987.81 |
| 60.0   | 1984.04 | 1982.65 | 1982.34 | 1982.34 | 1982.19 | 1983.27 | 1985.34 | 1990.11 | 1995.27 |
| 90.0   | 1977.34 | 1977.50 | 1977.81 | 1977.34 | 1978.04 | 1979.34 | 1981.27 | 1983.50 | 1986.11 |
| 120.0  | 1966.88 | 1964.04 | 1962.73 | 1961.27 | 1960.58 | 1960.11 | 1959.81 | 1960.04 | 1960.27 |
| 150.0  | 1964.27 | 1962.19 | 1960.58 | 1959.73 | 1959.96 | 1961.04 | 1960.58 | 1961.50 | 1962.50 |
| 180.0  | 1957.88 | 1956.50 | 1956.11 | 1956.04 | 1956.42 | 1955.96 | 1955.96 | 1955.65 | 1955.88 |
| 210.0  | 1960.11 | 1960.58 | 1960.58 | 1959.81 | 1960.19 | 1961.58 | 1962.58 | 1965.11 | 1966.73 |
| 240.0  | 1968.73 | 1969.58 | 1971.19 | 1972.65 | 1974.19 | 1976.42 | 1979.11 | 1981.27 | 1985.11 |
| 270.0  | 1973.73 | 1973.11 | 1972.88 | 1972.11 | 1974.42 | 1977.27 | 1980.42 | 1983.19 | 1985.96 |
| 300.0  | 1979.65 | 1979.19 | 1978.96 | 1979.27 | 1981.27 | 1983.42 | 1985.96 | 1986.73 | 1988.04 |
| 330.0  | 1982.96 | 1983.96 | 1986.81 | 1989.27 | 1990.34 | 1989.96 | 1989.65 | 1988.42 | 1987.73 |
| 360.0  | 1978.88 | 1979.04 | 1980.50 | 1981.65 | 1982.50 | 1983.50 | 1985.96 | 1988.65 | 1991.11 |
| C/γ(°) | 9.0     | 9.5     | 10.0    | 10.5    | 11.0    | 11.5    | 12.0    | 12.5    | 13.0    |
| 0.0    | 1993.88 | 1996.57 | 2000.57 | 2003.96 | 2008.96 | 2012.96 | 2015.11 | 2018.73 | 2021.65 |
| 30.0   | 1990.88 | 1994.57 | 1998.42 | 2002.27 | 2006.81 | 2012.19 | 2017.42 | 2022.65 | 2028.04 |
| 60.0   | 2000.81 | 2007.11 | 2013.88 | 2020.50 | 2027.11 | 2033.50 | 2038.73 | 2043.80 | 2046.65 |
| 90.0   | 1989.88 | 1992.57 | 1994.73 | 1996.81 | 1999.04 | 2001.57 | 2004.81 | 2006.65 | 2006.58 |
| 120.0  | 1961.65 | 1963.34 | 1964.96 | 1966.50 | 1969.34 | 1972.58 | 1976.11 | 1981.04 | 1985.11 |
| 150.0  | 1963.34 | 1964.11 | 1965.58 | 1966.19 | 1966.42 | 1966.11 | 1967.34 | 1966.58 | 1965.88 |
| 180.0  | 1957.96 | 1959.27 | 1960.19 | 1960.50 | 1960.81 | 1961.04 | 1962.81 | 1964.27 | 1965.04 |
| 210.0  | 1967.42 | 1968.88 | 1970.50 | 1973.27 | 1975.19 | 1977.73 | 1981.50 | 1984.73 | 1988.96 |
| 240.0  | 1988.11 | 1991.65 | 1994.34 | 1997.34 | 1999.65 | 2000.96 | 2001.50 | 2001.50 | 2002.50 |
| 270.0  | 1988.27 | 1989.81 | 1990.04 | 1991.19 | 1993.11 | 1993.19 | 1992.96 | 1992.73 | 1993.57 |
| 300.0  | 1989.58 | 1990.04 | 1989.96 | 1990.19 | 1989.88 | 1989.65 | 1989.73 | 1989.65 | 1989.96 |
| 330.0  | 1986.27 | 1985.19 | 1983.81 | 1984.58 | 1987.65 | 1988.96 | 1989.81 | 1990.96 | 1992.96 |
| 360.0  | 1993.88 | 1996.57 | 2000.57 | 2003.96 | 2008.96 | 2012.96 | 2015.11 | 2018.73 | 2021.65 |
| C/γ(°) | 13.5    | 14.0    | 14.5    | 15.0    | 15.5    | 16.0    | 16.5    | 17.0    | 17.5    |
| 0.0    | 2024.19 | 2026.27 | 2027.50 | 2028.50 | 2029.04 | 2030.19 | 2030.04 | 2028.80 | 2027.80 |
| 30.0   | 2033.04 | 2038.50 | 2042.42 | 2046.42 | 2050.57 | 2055.57 | 2059.80 | 2063.73 | 2065.73 |
| 60.0   | 2049.50 | 2052.19 | 2053.80 | 2053.88 | 2054.80 | 2055.73 | 2055.73 | 2056.34 | 2056.11 |
| 90.0   | 2006.42 | 2005.58 | 2006.58 | 2006.27 | 2005.73 | 2004.73 | 2003.65 | 2001.65 | 1999.65 |
| 120.0  | 1987.96 | 1990.27 | 1992.19 | 1993.34 | 1993.50 | 1993.11 | 1992.96 | 1992.34 | 1989.88 |
| 150.0  | 1963.81 | 1962.58 | 1961.11 | 1959.96 | 1957.96 | 1955.11 | 1952.81 | 1949.88 | 1947.65 |
| 180.0  | 1965.42 | 1966.19 | 1965.27 | 1964.11 | 1962.42 | 1960.27 | 1957.42 | 1954.88 | 1951.11 |
| 210.0  | 1992.88 | 1996.96 | 2000.04 | 2001.42 | 2004.81 | 2007.34 | 2008.42 | 2009.50 | 2009.81 |
| 240.0  | 2004.34 | 2005.58 | 2007.57 | 2009.73 | 2012.42 | 2015.50 | 2019.27 | 2022.73 | 2025.73 |
| 270.0  | 1994.34 | 1995.65 | 1997.50 | 1999.34 | 2001.57 | 2004.34 | 2006.34 | 2008.88 | 2010.27 |
| 300.0  | 1991.81 | 1993.65 | 1994.27 | 1993.88 | 1992.81 | 1991.73 | 1991.50 | 1990.34 | 1988.11 |
| 330.0  | 1994.19 | 1994.57 | 1994.57 | 1994.81 | 1994.19 | 1992.50 | 1991.88 | 1991.81 | 1993.34 |
| 360.0  | 2024.19 | 2026.27 | 2027.50 | 2028.50 | 2029.04 | 2030.19 | 2030.04 | 2028.80 | 2027.80 |

## Intensity data(cd)

Appendix Page: 17 Total:21

| C/γ(°) | 18.0    | 18.5    | 19.0    | 19.5    | 20.0    | 20.5    | 21.0    | 21.5    | 22.0    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 2024.96 | 2022.11 | 2019.57 | 2015.50 | 2011.57 | 2007.04 | 1999.73 | 1992.27 | 1985.58 |
| 30.0   | 2067.19 | 2068.27 | 2069.34 | 2069.27 | 2068.80 | 2067.03 | 2066.27 | 2065.96 | 2064.65 |
| 60.0   | 2055.50 | 2053.96 | 2052.34 | 2049.73 | 2048.88 | 2047.73 | 2047.19 | 2044.73 | 2043.27 |
| 90.0   | 1995.34 | 1991.96 | 1988.88 | 1985.65 | 1982.04 | 1977.81 | 1973.50 | 1969.88 | 1965.34 |
| 120.0  | 1987.04 | 1983.96 | 1980.42 | 1976.04 | 1971.96 | 1966.19 | 1961.27 | 1956.42 | 1950.88 |
| 150.0  | 1944.88 | 1942.96 | 1941.11 | 1938.81 | 1936.19 | 1933.04 | 1929.58 | 1925.73 | 1922.35 |
| 180.0  | 1945.73 | 1941.04 | 1934.73 | 1928.35 | 1922.88 | 1917.50 | 1912.96 | 1907.73 | 1901.88 |
| 210.0  | 2008.73 | 2007.73 | 2006.11 | 2003.81 | 2001.50 | 1998.50 | 1995.73 | 1994.73 | 1993.65 |
| 240.0  | 2028.34 | 2031.73 | 2034.04 | 2034.50 | 2035.96 | 2038.04 | 2039.42 | 2041.11 | 2041.50 |
| 270.0  | 2011.11 | 2011.11 | 2011.27 | 2009.34 | 2006.50 | 2003.27 | 1999.19 | 1996.19 | 1990.73 |
| 300.0  | 1987.96 | 1987.34 | 1987.19 | 1986.73 | 1984.88 | 1981.65 | 1978.88 | 1975.27 | 1969.81 |
| 330.0  | 1993.88 | 1994.19 | 1994.19 | 1993.65 | 1992.11 | 1990.04 | 1985.96 | 1980.42 | 1972.96 |
| 360.0  | 2024.96 | 2022.11 | 2019.57 | 2015.50 | 2011.57 | 2007.04 | 1999.73 | 1992.27 | 1985.58 |
| C/γ(°) | 22.5    | 23.0    | 23.5    | 24.0    | 24.5    | 25.0    | 25.5    | 26.0    | 26.5    |
| 0.0    | 1976.57 | 1967.73 | 1960.50 | 1954.19 | 1946.19 | 1937.19 | 1929.19 | 1920.65 | 1910.65 |
| 30.0   | 2063.42 | 2062.80 | 2060.88 | 2057.65 | 2055.11 | 2051.11 | 2046.04 | 2042.57 | 2037.80 |
| 60.0   | 2041.34 | 2037.96 | 2033.50 | 2030.19 | 2025.80 | 2020.57 | 2015.27 | 2007.88 | 2000.19 |
| 90.0   | 1960.96 | 1954.42 | 1947.96 | 1940.35 | 1930.81 | 1920.58 | 1909.96 | 1897.42 | 1884.50 |
| 120.0  | 1944.58 | 1938.42 | 1933.19 | 1928.19 | 1923.42 | 1918.04 | 1911.81 | 1905.11 | 1896.19 |
| 150.0  | 1919.42 | 1914.96 | 1911.04 | 1905.88 | 1899.73 | 1891.88 | 1882.96 | 1873.42 | 1864.35 |
| 180.0  | 1897.19 | 1891.35 | 1883.50 | 1876.04 | 1866.81 | 1855.27 | 1842.27 | 1828.12 | 1813.58 |
| 210.0  | 1991.96 | 1991.58 | 1990.88 | 1988.65 | 1987.58 | 1985.27 | 1981.19 | 1976.81 | 1970.27 |
| 240.0  | 2042.19 | 2040.96 | 2038.50 | 2036.42 | 2032.50 | 2026.73 | 2020.19 | 2013.19 | 2005.42 |
| 270.0  | 1984.65 | 1976.96 | 1967.81 | 1957.04 | 1947.96 | 1936.27 | 1922.81 | 1908.50 | 1894.12 |
| 300.0  | 1964.73 | 1960.35 | 1955.65 | 1949.19 | 1944.11 | 1937.04 | 1931.81 | 1927.11 | 1918.50 |
| 330.0  | 1966.42 | 1957.35 | 1949.34 | 1938.81 | 1928.19 | 1919.65 | 1907.50 | 1895.04 | 1881.73 |
| 360.0  | 1976.57 | 1967.73 | 1960.50 | 1954.19 | 1946.19 | 1937.19 | 1929.19 | 1920.65 | 1910.65 |
| C/γ(°) | 27.0    | 27.5    | 28.0    | 28.5    | 29.0    | 29.5    | 30.0    | 30.5    | 31.0    |
| 0.0    | 1900.04 | 1888.04 | 1874.73 | 1857.89 | 1838.04 | 1817.73 | 1793.73 | 1770.12 | 1742.43 |
| 30.0   | 2032.42 | 2025.88 | 2019.19 | 2010.19 | 2001.04 | 1991.11 | 1978.11 | 1963.65 | 1949.11 |
| 60.0   | 1989.88 | 1977.19 | 1961.88 | 1947.73 | 1930.73 | 1912.96 | 1892.50 | 1869.42 | 1845.58 |
| 90.0   | 1870.27 | 1855.50 | 1837.65 | 1819.27 | 1797.27 | 1773.81 | 1748.58 | 1721.97 | 1692.20 |
| 120.0  | 1888.12 | 1879.42 | 1868.81 | 1857.50 | 1843.73 | 1829.66 | 1810.66 | 1791.35 | 1769.96 |
| 150.0  | 1852.81 | 1838.42 | 1823.27 | 1807.66 | 1791.12 | 1771.50 | 1749.81 | 1727.97 | 1702.66 |
| 180.0  | 1797.04 | 1779.27 | 1760.89 | 1741.35 | 1720.66 | 1696.81 | 1672.89 | 1647.58 | 1621.20 |
| 210.0  | 1963.19 | 1954.81 | 1943.65 | 1933.34 | 1921.19 | 1907.88 | 1893.04 | 1873.65 | 1855.04 |
| 240.0  | 1996.42 | 1987.19 | 1975.96 | 1963.73 | 1950.58 | 1936.50 | 1919.42 | 1901.96 | 1882.19 |
| 270.0  | 1879.73 | 1862.27 | 1845.19 | 1826.19 | 1808.50 | 1788.66 | 1765.96 | 1743.19 | 1717.04 |
| 300.0  | 1911.04 | 1902.81 | 1893.04 | 1882.65 | 1869.50 | 1855.27 | 1838.19 | 1822.12 | 1802.12 |
| 330.0  | 1868.89 | 1856.89 | 1842.27 | 1828.27 | 1811.58 | 1793.19 | 1773.96 | 1752.20 | 1728.73 |
| 360.0  | 1900.04 | 1888.04 | 1874.73 | 1857.89 | 1838.04 | 1817.73 | 1793.73 | 1770.12 | 1742.43 |
| C/γ(°) | 31.5    | 32.0    | 32.5    | 33.0    | 33.5    | 34.0    | 34.5    | 35.0    | 35.5    |
| 0.0    | 1713.66 | 1684.97 | 1649.81 | 1615.97 | 1580.51 | 1542.74 | 1502.58 | 1461.12 | 1417.59 |
| 30.0   | 1931.65 | 1910.35 | 1885.04 | 1856.50 | 1826.66 | 1794.19 | 1758.50 | 1720.50 | 1680.04 |
| 60.0   | 1819.50 | 1791.89 | 1761.27 | 1730.50 | 1695.66 | 1662.04 | 1625.97 | 1585.20 | 1542.81 |
| 90.0   | 1661.74 | 1627.66 | 1593.04 | 1557.43 | 1519.82 | 1482.43 | 1441.36 | 1400.97 | 1358.13 |
| 120.0  | 1746.50 | 1721.66 | 1692.50 | 1662.58 | 1630.74 | 1596.66 | 1560.74 | 1521.97 | 1480.89 |
| 150.0  | 1675.27 | 1647.58 | 1619.04 | 1588.81 | 1555.89 | 1520.82 | 1484.43 | 1446.12 | 1407.59 |
| 180.0  | 1591.89 | 1561.05 | 1529.89 | 1495.20 | 1458.74 | 1420.59 | 1383.05 | 1341.90 | 1299.59 |
| 210.0  | 1833.96 | 1808.81 | 1782.89 | 1754.43 | 1722.73 | 1688.04 | 1650.27 | 1613.81 | 1573.35 |
| 240.0  | 1858.42 | 1833.35 | 1805.73 | 1774.50 | 1740.20 | 1703.73 | 1667.27 | 1624.58 | 1582.43 |
| 270.0  | 1686.50 | 1653.35 | 1620.66 | 1585.35 | 1549.58 | 1509.66 | 1467.59 | 1424.36 | 1380.82 |
| 300.0  | 1780.73 | 1757.73 | 1730.89 | 1703.12 | 1671.43 | 1638.51 | 1603.43 | 1565.35 | 1524.20 |
| 330.0  | 1705.73 | 1678.04 | 1650.97 | 1619.12 | 1585.58 | 1549.66 | 1512.82 | 1472.74 | 1433.13 |
| 360.0  | 1713.66 | 1684.97 | 1649.81 | 1615.97 | 1580.51 | 1542.74 | 1502.58 | 1461.12 | 1417.59 |

## Intensity data(cd)

Appendix Page: 18 Total:21

| C/γ(°) | 36.0    | 36.5    | 37.0    | 37.5    | 38.0    | 38.5    | 39.0    | 39.5    | 40.0    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 1373.05 | 1326.74 | 1281.28 | 1236.74 | 1189.28 | 1143.44 | 1096.29 | 1049.52 | 1001.90 |
| 30.0   | 1636.51 | 1591.35 | 1541.89 | 1492.97 | 1445.74 | 1390.28 | 1338.97 | 1285.74 | 1233.28 |
| 60.0   | 1500.58 | 1458.36 | 1412.28 | 1365.97 | 1319.13 | 1269.36 | 1219.90 | 1171.67 | 1124.52 |
| 90.0   | 1313.67 | 1271.67 | 1224.74 | 1180.44 | 1136.52 | 1090.75 | 1048.90 | 1002.75 | 957.75  |
| 120.0  | 1439.20 | 1393.97 | 1349.28 | 1301.13 | 1254.36 | 1207.05 | 1158.75 | 1108.59 | 1058.59 |
| 150.0  | 1367.74 | 1326.51 | 1284.28 | 1240.13 | 1198.90 | 1155.82 | 1111.98 | 1068.06 | 1025.90 |
| 180.0  | 1257.51 | 1217.44 | 1172.52 | 1127.67 | 1085.06 | 1039.59 | 996.98  | 954.14  | 909.91  |
| 210.0  | 1530.58 | 1483.51 | 1436.36 | 1388.97 | 1341.43 | 1293.28 | 1242.28 | 1190.51 | 1138.67 |
| 240.0  | 1538.82 | 1493.35 | 1446.59 | 1397.05 | 1350.51 | 1300.28 | 1250.13 | 1202.05 | 1153.59 |
| 270.0  | 1333.67 | 1284.97 | 1238.05 | 1192.59 | 1143.05 | 1096.82 | 1048.90 | 1000.21 | 952.90  |
| 300.0  | 1484.43 | 1440.66 | 1396.82 | 1349.97 | 1305.59 | 1256.74 | 1207.90 | 1159.82 | 1110.29 |
| 330.0  | 1391.36 | 1350.05 | 1307.67 | 1263.44 | 1218.13 | 1173.82 | 1128.98 | 1082.29 | 1037.67 |
| 360.0  | 1373.05 | 1326.74 | 1281.28 | 1236.74 | 1189.28 | 1143.44 | 1096.29 | 1049.52 | 1001.90 |

| C/γ(°) | 40.5    | 41.0    | 41.5    | 42.0    | 42.5   | 43.0   | 43.5   | 44.0   | 44.5   |
|--------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| 0.0    | 957.60  | 913.14  | 868.60  | 825.75  | 783.68 | 741.36 | 699.16 | 653.04 | 599.22 |
| 30.0   | 1181.21 | 1129.44 | 1076.75 | 1024.21 | 974.75 | 926.06 | 878.67 | 830.91 | 786.98 |
| 60.0   | 1075.44 | 1027.06 | 979.60  | 931.98  | 885.91 | 839.75 | 797.68 | 755.31 | 715.39 |
| 90.0   | 913.60  | 871.91  | 830.29  | 789.22  | 745.00 | 700.95 | 652.43 | 601.84 | 549.47 |
| 120.0  | 1013.44 | 966.52  | 919.90  | 875.67  | 831.68 | 790.06 | 749.96 | 709.48 | 672.16 |
| 150.0  | 983.06  | 940.21  | 896.67  | 855.67  | 813.91 | 774.45 | 735.95 | 699.56 | 662.72 |
| 180.0  | 867.14  | 826.21  | 784.14  | 743.15  | 699.10 | 651.41 | 597.67 | 549.49 | 501.31 |
| 210.0  | 1088.75 | 1039.52 | 986.83  | 938.37  | 892.60 | 846.68 | 802.37 | 758.77 | 717.15 |
| 240.0  | 1103.52 | 1055.44 | 1005.52 | 956.44  | 911.75 | 866.98 | 822.91 | 780.45 | 739.18 |
| 270.0  | 908.37  | 864.75  | 819.52  | 775.14  | 729.02 | 681.39 | 628.96 | 576.22 | 521.97 |
| 300.0  | 1061.36 | 1011.67 | 963.67  | 916.75  | 869.98 | 824.52 | 781.14 | 739.73 | 699.12 |
| 330.0  | 994.44  | 950.52  | 906.75  | 864.98  | 824.14 | 782.68 | 743.21 | 704.50 | 666.49 |
| 360.0  | 957.60  | 913.14  | 868.60  | 825.75  | 783.68 | 741.36 | 699.16 | 653.04 | 599.22 |

| C/γ(°) | 45.0   | 45.5   | 46.0   | 46.5   | 47.0   | 47.5   | 48.0   | 48.5   | 49.0   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0    | 541.97 | 486.24 | 434.67 | 390.34 | 352.51 | 321.95 | 294.13 | 270.50 | 250.03 |
| 30.0   | 745.09 | 703.23 | 664.83 | 628.36 | 592.99 | 556.59 | 521.01 | 482.07 | 443.12 |
| 60.0   | 676.09 | 640.33 | 603.57 | 568.47 | 532.00 | 495.74 | 459.19 | 420.56 | 382.97 |
| 90.0   | 504.83 | 460.18 | 415.52 | 370.87 | 327.28 | 298.57 | 273.97 | 251.66 | 231.49 |
| 120.0  | 636.99 | 601.80 | 566.50 | 534.63 | 499.74 | 464.03 | 427.71 | 390.55 | 355.21 |
| 150.0  | 628.41 | 595.93 | 563.73 | 531.47 | 495.02 | 458.57 | 422.12 | 385.66 | 349.40 |
| 180.0  | 453.14 | 404.96 | 357.09 | 326.86 | 300.13 | 276.31 | 254.43 | 233.86 | 215.60 |
| 210.0  | 677.13 | 638.38 | 601.54 | 563.02 | 523.78 | 483.28 | 439.29 | 398.16 | 360.88 |
| 240.0  | 698.25 | 658.58 | 620.06 | 581.76 | 544.50 | 505.50 | 466.50 | 427.50 | 388.50 |
| 270.0  | 469.74 | 422.35 | 382.98 | 348.67 | 318.36 | 291.56 | 268.73 | 247.38 | 227.56 |
| 300.0  | 659.41 | 622.31 | 588.07 | 552.52 | 516.89 | 480.33 | 443.78 | 407.22 | 370.66 |
| 330.0  | 632.01 | 597.40 | 565.57 | 533.74 | 502.12 | 468.38 | 432.58 | 394.12 | 357.48 |
| 360.0  | 541.97 | 486.24 | 434.67 | 390.34 | 352.51 | 321.95 | 294.13 | 270.50 | 250.03 |

| C/γ(°) | 49.5   | 50.0   | 50.5   | 51.0   | 51.5   | 52.0   | 52.5   | 53.0   | 53.5   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0    | 230.29 | 212.71 | 195.27 | 177.83 | 160.39 | 142.94 | 128.03 | 114.76 | 102.74 |
| 30.0   | 404.18 | 365.23 | 326.59 | 296.16 | 270.30 | 248.70 | 229.58 | 213.10 | 198.10 |
| 60.0   | 348.97 | 316.24 | 287.73 | 262.09 | 240.66 | 221.70 | 206.39 | 191.20 | 176.02 |
| 90.0   | 212.83 | 195.13 | 177.07 | 160.40 | 144.52 | 130.39 | 116.74 | 104.49 | 94.14  |
| 120.0  | 322.23 | 293.24 | 267.03 | 244.70 | 225.47 | 210.87 | 196.32 | 181.77 | 167.21 |
| 150.0  | 317.21 | 288.68 | 263.83 | 242.18 | 223.23 | 206.76 | 192.19 | 178.30 | 165.55 |
| 180.0  | 197.41 | 179.57 | 162.44 | 146.24 | 130.98 | 116.71 | 104.39 | 93.63  | 84.37  |
| 210.0  | 328.68 | 300.61 | 276.49 | 254.93 | 236.26 | 219.23 | 204.32 | 189.52 | 174.71 |
| 240.0  | 350.01 | 320.09 | 293.26 | 267.72 | 246.27 | 227.50 | 210.80 | 195.17 | 180.10 |
| 270.0  | 209.42 | 191.34 | 173.26 | 155.17 | 139.39 | 124.11 | 110.57 | 98.84  | 89.18  |
| 300.0  | 334.26 | 303.93 | 277.38 | 254.27 | 234.17 | 216.55 | 200.70 | 186.90 | 173.47 |
| 330.0  | 323.42 | 292.29 | 266.77 | 244.32 | 224.92 | 209.81 | 194.98 | 180.15 | 165.33 |
| 360.0  | 230.29 | 212.71 | 195.27 | 177.83 | 160.39 | 142.94 | 128.03 | 114.76 | 102.74 |

## Intensity data(cd)

Appendix Page: 19 Total:21

| C/γ(°) | 54.0   | 54.5   | 55.0   | 55.5   | 56.0   | 56.5   | 57.0   | 57.5  | 58.0  |
|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| 0.0    | 92.46  | 83.90  | 76.69  | 70.73  | 65.56  | 61.43  | 57.94  | 54.91 | 52.30 |
| 30.0   | 184.09 | 169.80 | 156.46 | 143.17 | 130.39 | 118.36 | 107.04 | 96.52 | 87.43 |
| 60.0   | 160.84 | 147.92 | 135.37 | 123.18 | 111.84 | 101.51 | 91.91  | 83.12 | 75.60 |
| 90.0   | 85.32  | 78.02  | 71.72  | 66.52  | 62.21  | 58.68  | 55.66  | 52.90 | 50.38 |
| 120.0  | 154.53 | 141.91 | 129.76 | 118.00 | 106.73 | 96.68  | 87.61  | 79.79 | 73.03 |
| 150.0  | 153.17 | 140.77 | 128.81 | 116.87 | 106.12 | 96.14  | 87.54  | 78.94 | 71.86 |
| 180.0  | 76.40  | 69.86  | 64.56  | 60.08  | 56.19  | 52.95  | 50.18  | 47.77 | 45.61 |
| 210.0  | 159.91 | 145.61 | 131.79 | 119.01 | 107.37 | 96.94  | 87.68  | 79.73 | 72.80 |
| 240.0  | 165.21 | 151.03 | 137.28 | 124.43 | 112.26 | 101.12 | 91.04  | 82.24 | 74.50 |
| 270.0  | 80.55  | 72.90  | 66.85  | 62.08  | 58.11  | 54.72  | 51.80  | 49.26 | 47.05 |
| 300.0  | 160.17 | 147.65 | 134.72 | 122.64 | 111.10 | 100.71 | 90.91  | 81.93 | 74.44 |
| 330.0  | 153.14 | 140.82 | 129.17 | 117.74 | 107.23 | 97.06  | 87.47  | 79.13 | 72.30 |
| 360.0  | 92.46  | 83.90  | 76.69  | 70.73  | 65.56  | 61.43  | 57.94  | 54.91 | 52.30 |
| C/γ(°) | 58.5   | 59.0   | 59.5   | 60.0   | 60.5   | 61.0   | 61.5   | 62.0  | 62.5  |
| 0.0    | 49.83  | 47.57  | 45.46  | 43.56  | 41.84  | 40.19  | 38.81  | 37.58 | 36.45 |
| 30.0   | 79.54  | 72.94  | 67.54  | 62.69  | 58.74  | 55.27  | 52.07  | 49.27 | 46.71 |
| 60.0   | 69.49  | 64.32  | 59.71  | 56.06  | 53.04  | 50.23  | 47.76  | 45.52 | 43.42 |
| 90.0   | 48.18  | 46.15  | 44.27  | 42.47  | 40.92  | 39.45  | 38.14  | 36.99 | 35.91 |
| 120.0  | 67.29  | 62.48  | 58.50  | 55.01  | 51.95  | 49.18  | 46.75  | 44.45 | 42.24 |
| 150.0  | 65.95  | 61.34  | 57.19  | 53.68  | 50.71  | 48.06  | 45.59  | 43.41 | 41.35 |
| 180.0  | 43.60  | 41.78  | 40.19  | 38.74  | 37.52  | 36.36  | 35.30  | 34.43 | 33.57 |
| 210.0  | 67.25  | 62.33  | 57.91  | 54.19  | 51.01  | 48.07  | 45.27  | 42.69 | 40.32 |
| 240.0  | 68.11  | 62.88  | 58.33  | 54.35  | 51.04  | 48.12  | 45.49  | 43.06 | 40.78 |
| 270.0  | 45.03  | 43.18  | 41.50  | 39.97  | 38.60  | 37.36  | 36.27  | 35.29 | 34.37 |
| 300.0  | 68.17  | 62.84  | 58.31  | 54.51  | 51.41  | 48.57  | 46.00  | 43.68 | 41.57 |
| 330.0  | 66.30  | 61.04  | 56.72  | 53.22  | 50.23  | 47.63  | 45.30  | 43.09 | 41.10 |
| 360.0  | 49.83  | 47.57  | 45.46  | 43.56  | 41.84  | 40.19  | 38.81  | 37.58 | 36.45 |
| C/γ(°) | 63.0   | 63.5   | 64.0   | 64.5   | 65.0   | 65.5   | 66.0   | 66.5  | 67.0  |
| 0.0    | 35.44  | 34.54  | 33.66  | 32.77  | 31.92  | 31.08  | 30.30  | 29.49 | 28.72 |
| 30.0   | 44.29  | 42.00  | 39.88  | 37.82  | 35.90  | 34.27  | 32.94  | 31.78 | 30.85 |
| 60.0   | 41.40  | 39.56  | 37.79  | 36.09  | 34.66  | 33.32  | 32.22  | 31.21 | 30.25 |
| 90.0   | 34.91  | 34.00  | 33.13  | 32.25  | 31.37  | 30.55  | 29.74  | 28.95 | 28.17 |
| 120.0  | 40.23  | 38.32  | 36.52  | 34.88  | 33.45  | 32.24  | 31.16  | 30.20 | 29.28 |
| 150.0  | 39.32  | 37.45  | 35.77  | 34.21  | 32.90  | 31.79  | 30.86  | 29.99 | 29.12 |
| 180.0  | 32.75  | 31.93  | 31.09  | 30.32  | 29.54  | 28.79  | 28.03  | 27.28 | 26.60 |
| 210.0  | 38.14  | 36.08  | 34.25  | 32.78  | 31.54  | 30.59  | 29.68  | 28.80 | 27.93 |
| 240.0  | 38.74  | 36.82  | 35.07  | 33.60  | 32.34  | 31.27  | 30.39  | 29.50 | 28.60 |
| 270.0  | 33.50  | 32.65  | 31.79  | 30.98  | 30.20  | 29.42  | 28.66  | 27.92 | 27.22 |
| 300.0  | 39.49  | 37.64  | 35.86  | 34.28  | 32.96  | 31.81  | 30.85  | 29.94 | 29.03 |
| 330.0  | 39.23  | 37.42  | 35.71  | 34.12  | 32.74  | 31.63  | 30.67  | 29.75 | 28.90 |
| 360.0  | 35.44  | 34.54  | 33.66  | 32.77  | 31.92  | 31.08  | 30.30  | 29.49 | 28.72 |
| C/γ(°) | 67.5   | 68.0   | 68.5   | 69.0   | 69.5   | 70.0   | 70.5   | 71.0  | 71.5  |
| 0.0    | 27.99  | 27.27  | 26.57  | 25.85  | 25.02  | 24.13  | 23.26  | 22.38 | 21.48 |
| 30.0   | 29.94  | 29.03  | 28.13  | 27.25  | 26.37  | 25.52  | 24.66  | 23.80 | 22.96 |
| 60.0   | 29.32  | 28.40  | 27.51  | 26.64  | 25.78  | 24.93  | 24.11  | 23.30 | 22.41 |
| 90.0   | 27.42  | 26.67  | 25.94  | 25.17  | 24.33  | 23.47  | 22.58  | 21.71 | 20.79 |
| 120.0  | 28.36  | 27.45  | 26.56  | 25.68  | 24.85  | 24.00  | 23.20  | 22.33 | 21.43 |
| 150.0  | 28.23  | 27.32  | 26.47  | 25.63  | 24.79  | 23.95  | 23.15  | 22.30 | 21.36 |
| 180.0  | 25.90  | 25.15  | 24.32  | 23.45  | 22.57  | 21.68  | 20.79  | 19.92 | 19.06 |
| 210.0  | 27.09  | 26.25  | 25.39  | 24.57  | 23.73  | 22.92  | 22.08  | 21.16 | 20.24 |
| 240.0  | 27.71  | 26.86  | 26.01  | 25.15  | 24.30  | 23.48  | 22.66  | 21.77 | 20.84 |
| 270.0  | 26.51  | 25.76  | 24.95  | 24.09  | 23.23  | 22.33  | 21.45  | 20.56 | 19.70 |
| 300.0  | 28.16  | 27.31  | 26.48  | 25.65  | 24.82  | 23.98  | 23.19  | 22.35 | 21.48 |
| 330.0  | 28.05  | 27.23  | 26.40  | 25.57  | 24.75  | 23.92  | 23.17  | 22.36 | 21.49 |
| 360.0  | 27.99  | 27.27  | 26.57  | 25.85  | 25.02  | 24.13  | 23.26  | 22.38 | 21.48 |

| Intensity data(cd) |       |       |       |       |       |       |       |       |       | Appendix Page: 20 Total:21 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------------|
| C/γ(°)             | 72.0  | 72.5  | 73.0  | 73.5  | 74.0  | 74.5  | 75.0  | 75.5  | 76.0  |                            |
| 0.0                | 20.61 | 19.77 | 18.91 | 18.08 | 17.26 | 16.47 | 15.68 | 14.87 | 14.09 |                            |
| 30.0               | 22.09 | 21.16 | 20.24 | 19.31 | 18.40 | 17.47 | 16.56 | 15.75 | 14.91 |                            |
| 60.0               | 21.48 | 20.55 | 19.62 | 18.73 | 17.84 | 16.97 | 16.14 | 15.28 | 14.44 |                            |
| 90.0               | 19.93 | 19.08 | 18.23 | 17.41 | 16.59 | 15.78 | 14.97 | 14.20 | 13.45 |                            |
| 120.0              | 20.51 | 19.60 | 18.70 | 17.82 | 16.97 | 16.12 | 15.26 | 14.43 | 13.62 |                            |
| 150.0              | 20.42 | 19.54 | 18.63 | 17.73 | 16.84 | 15.96 | 15.11 | 14.28 | 13.48 |                            |
| 180.0              | 18.22 | 17.37 | 16.53 | 15.74 | 14.96 | 14.15 | 13.38 | 12.64 | 11.92 |                            |
| 210.0              | 19.35 | 18.43 | 17.56 | 16.67 | 15.79 | 14.94 | 14.10 | 13.32 | 12.54 |                            |
| 240.0              | 19.90 | 18.97 | 18.05 | 17.13 | 16.28 | 15.39 | 14.53 | 13.69 | 12.88 |                            |
| 270.0              | 18.85 | 18.00 | 17.16 | 16.36 | 15.55 | 14.75 | 13.97 | 13.20 | 12.47 |                            |
| 300.0              | 20.56 | 19.66 | 18.74 | 17.83 | 16.94 | 16.09 | 15.22 | 14.38 | 13.56 |                            |
| 330.0              | 20.61 | 19.71 | 18.82 | 17.92 | 17.02 | 16.17 | 15.33 | 14.51 | 13.72 |                            |
| 360.0              | 20.61 | 19.77 | 18.91 | 18.08 | 17.26 | 16.47 | 15.68 | 14.87 | 14.09 |                            |
|                    |       |       |       |       |       |       |       |       |       |                            |
| C/γ(°)             | 76.5  | 77.0  | 77.5  | 78.0  | 78.5  | 79.0  | 79.5  | 80.0  | 80.5  |                            |
| 0.0                | 13.33 | 12.60 | 11.89 | 11.18 | 10.44 | 9.75  | 9.12  | 8.48  | 7.83  |                            |
| 30.0               | 14.06 | 13.24 | 12.43 | 11.67 | 10.94 | 10.24 | 9.57  | 8.91  | 8.26  |                            |
| 60.0               | 13.63 | 12.86 | 12.08 | 11.35 | 10.62 | 9.88  | 9.20  | 8.53  | 7.88  |                            |
| 90.0               | 12.70 | 11.97 | 11.24 | 10.57 | 9.92  | 9.31  | 8.67  | 8.05  | 7.46  |                            |
| 120.0              | 12.86 | 12.09 | 11.34 | 10.64 | 9.91  | 9.19  | 8.53  | 7.90  | 7.30  |                            |
| 150.0              | 12.70 | 11.90 | 11.15 | 10.42 | 9.75  | 9.12  | 8.46  | 7.82  | 7.20  |                            |
| 180.0              | 11.19 | 10.51 | 9.86  | 9.22  | 8.60  | 7.98  | 7.38  | 6.80  | 6.24  |                            |
| 210.0              | 11.79 | 11.04 | 10.30 | 9.59  | 8.94  | 8.28  | 7.62  | 6.98  | 6.40  |                            |
| 240.0              | 12.09 | 11.31 | 10.56 | 9.87  | 9.22  | 8.58  | 7.91  | 7.29  | 6.68  |                            |
| 270.0              | 11.74 | 11.04 | 10.34 | 9.66  | 8.99  | 8.35  | 7.75  | 7.14  | 6.56  |                            |
| 300.0              | 12.76 | 11.97 | 11.21 | 10.46 | 9.78  | 9.15  | 8.48  | 7.84  | 7.21  |                            |
| 330.0              | 12.96 | 12.19 | 11.41 | 10.67 | 9.97  | 9.29  | 8.62  | 7.96  | 7.34  |                            |
| 360.0              | 13.33 | 12.60 | 11.89 | 11.18 | 10.44 | 9.75  | 9.12  | 8.48  | 7.83  |                            |
|                    |       |       |       |       |       |       |       |       |       |                            |
| C/γ(°)             | 81.0  | 81.5  | 82.0  | 82.5  | 83.0  | 83.5  | 84.0  | 84.5  | 85.0  |                            |
| 0.0                | 7.17  | 6.55  | 5.93  | 5.38  | 4.84  | 4.34  | 3.89  | 3.46  | 3.07  |                            |
| 30.0               | 7.63  | 7.00  | 6.36  | 5.74  | 5.14  | 4.56  | 4.01  | 3.49  | 3.03  |                            |
| 60.0               | 7.29  | 6.72  | 6.15  | 5.60  | 5.08  | 4.60  | 4.13  | 3.65  | 3.23  |                            |
| 90.0               | 6.87  | 6.31  | 5.77  | 5.27  | 4.77  | 4.30  | 3.85  | 3.40  | 2.99  |                            |
| 120.0              | 6.71  | 6.15  | 5.61  | 5.10  | 4.61  | 4.13  | 3.67  | 3.25  | 2.85  |                            |
| 150.0              | 6.60  | 6.03  | 5.51  | 4.95  | 4.41  | 3.88  | 3.36  | 2.87  | 2.40  |                            |
| 180.0              | 5.68  | 5.10  | 4.55  | 4.02  | 3.53  | 3.07  | 2.66  | 2.30  | 1.99  |                            |
| 210.0              | 5.84  | 5.31  | 4.78  | 4.24  | 3.71  | 3.22  | 2.74  | 2.31  | 1.97  |                            |
| 240.0              | 6.10  | 5.55  | 5.02  | 4.52  | 4.03  | 3.57  | 3.14  | 2.73  | 2.33  |                            |
| 270.0              | 6.03  | 5.52  | 5.00  | 4.52  | 4.07  | 3.63  | 3.21  | 2.82  | 2.44  |                            |
| 300.0              | 6.62  | 6.04  | 5.50  | 4.97  | 4.47  | 3.98  | 3.54  | 3.10  | 2.69  |                            |
| 330.0              | 6.74  | 6.10  | 5.48  | 4.91  | 4.34  | 3.81  | 3.30  | 2.87  | 2.51  |                            |
| 360.0              | 7.17  | 6.55  | 5.93  | 5.38  | 4.84  | 4.34  | 3.89  | 3.46  | 3.07  |                            |
|                    |       |       |       |       |       |       |       |       |       |                            |
| C/γ(°)             | 85.5  | 86.0  | 86.5  | 87.0  | 87.5  | 88.0  | 88.5  | 89.0  | 89.5  |                            |
| 0.0                | 2.72  | 2.36  | 2.05  | 1.75  | 1.45  | 1.17  | 0.91  | 0.49  | 0.27  |                            |
| 30.0               | 2.59  | 2.18  | 1.85  | 1.53  | 1.24  | 0.99  | 0.75  | 0.47  | 0.24  |                            |
| 60.0               | 2.82  | 2.37  | 2.00  | 1.65  | 1.27  | 0.94  | 0.63  | 0.42  | 0.21  |                            |
| 90.0               | 2.59  | 2.22  | 1.89  | 1.57  | 1.25  | 0.94  | 0.66  | 0.38  | 0.16  |                            |
| 120.0              | 2.46  | 2.08  | 1.72  | 1.34  | 0.99  | 0.69  | 0.46  | 0.27  | 0.10  |                            |
| 150.0              | 2.02  | 1.66  | 1.36  | 1.08  | 0.83  | 0.61  | 0.40  | 0.14  | 0.03  |                            |
| 180.0              | 1.67  | 1.37  | 1.10  | 0.83  | 0.61  | 0.33  | 0.03  | 0.00  | 0.00  |                            |
| 210.0              | 1.64  | 1.34  | 1.07  | 0.83  | 0.62  | 0.42  | 0.18  | 0.04  | 0.00  |                            |
| 240.0              | 1.98  | 1.57  | 1.21  | 0.88  | 0.57  | 0.33  | 0.17  | 0.00  | 0.00  |                            |
| 270.0              | 2.12  | 1.78  | 1.46  | 1.17  | 0.91  | 0.64  | 0.41  | 0.17  | 0.00  |                            |
| 300.0              | 2.24  | 1.85  | 1.50  | 1.18  | 0.86  | 0.55  | 0.32  | 0.14  | 0.00  |                            |
| 330.0              | 2.15  | 1.78  | 1.48  | 1.21  | 0.95  | 0.74  | 0.51  | 0.25  | 0.08  |                            |
| 360.0              | 2.72  | 2.36  | 2.05  | 1.75  | 1.45  | 1.17  | 0.91  | 0.49  | 0.27  |                            |

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**Intensity data(cd)**

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|                                 |             |
|---------------------------------|-------------|
| <b>C/<math>\gamma</math>(°)</b> | <b>90.0</b> |
| <b>0.0</b>                      | <b>0.16</b> |
| <b>30.0</b>                     | <b>0.15</b> |
| <b>60.0</b>                     | <b>0.08</b> |
| <b>90.0</b>                     | <b>0.04</b> |
| <b>120.0</b>                    | <b>0.04</b> |
| <b>150.0</b>                    | <b>0.03</b> |
| <b>180.0</b>                    | <b>0.00</b> |
| <b>210.0</b>                    | <b>0.00</b> |
| <b>240.0</b>                    | <b>0.00</b> |
| <b>270.0</b>                    | <b>0.00</b> |
| <b>300.0</b>                    | <b>0.00</b> |
| <b>330.0</b>                    | <b>0.00</b> |
| <b>360.0</b>                    | <b>0.16</b> |