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## NATA

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LumCAT: 3-1566-M  
Luminaire: BJB 47.319.2135  
Report No: NATA0100  
Test No: GC2019012101  
LampCAT: PHILIPS Certaflux slm 1205  
Lamp flux(lm): 2360.0  
Number of Lamps: 1  
Length(mm): 70  
Phm Type: C

Voltage(V): 36.7600  
Current(A): 0.5000  
Power (W): 18.3800  
PF: 0.0000  
Ballast type: DC  
Width(mm): 70  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 2145.23  
Efficiency(%): 90.90%  
Lumens(lm)/Power(W): 116.82  
Central intensity(cd): 8551.547  
Maximum intensity(cd): 8551.547  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=14.5  
                                  [C90/270]Total=14.5  
Field angle(10%Imax): [C0/180]Total=66.5  
                                  [C90/270]Total=66.5  
Maximum s/h(1/2): C0\_180=0.25 C90\_270=0.25  
Maximum s/h(1/4): C0\_180=0.35 C90\_270=0.35  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 90.98%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.634%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 8551.547      | 2.046       | 2.046     | .087%       | .095%      |
| 1.0                | 8463.234      | 16.197      | 18.243    | .686%       | .850%      |
| 2.0                | 8232.117      | 31.505      | 49.748    | 1.335%      | 2.319%     |
| 3.0                | 7786.055      | 44.686      | 94.434    | 1.893%      | 4.402%     |
| 4.0                | 7050.938      | 53.937      | 148.371   | 2.285%      | 6.916%     |
| 5.0                | 6229.055      | 59.535      | 207.905   | 2.523%      | 9.692%     |
| 6.0                | 5304.305      | 60.802      | 268.707   | 2.576%      | 12.526%    |
| 7.0                | 4447.688      | 59.440      | 328.147   | 2.519%      | 15.297%    |
| 8.0                | 3796.313      | 57.939      | 386.086   | 2.455%      | 17.997%    |
| 9.0                | 3251.250      | 55.774      | 441.86    | 2.363%      | 20.597%    |
| 10.0               | 2934.563      | 55.881      | 497.741   | 2.368%      | 23.202%    |
| 11.0               | 2727.984      | 57.081      | 554.823   | 2.419%      | 25.863%    |
| 12.0               | 2578.570      | 58.791      | 613.613   | 2.491%      | 28.604%    |
| 13.0               | 2454.328      | 60.544      | 674.158   | 2.565%      | 31.426%    |
| 14.0               | 2344.641      | 62.202      | 736.359   | 2.636%      | 34.325%    |
| 15.0               | 2231.016      | 63.321      | 799.681   | 2.683%      | 37.277%    |
| 16.0               | 2119.500      | 64.065      | 863.746   | 2.715%      | 40.264%    |
| 17.0               | 2007.000      | 64.348      | 928.094   | 2.727%      | 43.263%    |
| 18.0               | 1887.258      | 63.954      | 992.048   | 2.710%      | 46.244%    |
| 19.0               | 1779.750      | 63.541      | 1055.589  | 2.692%      | 49.206%    |
| 20.0               | 1682.297      | 63.097      | 1118.685  | 2.674%      | 52.148%    |
| 21.0               | 1584.070      | 62.252      | 1180.937  | 2.638%      | 55.049%    |
| 22.0               | 1498.500      | 61.558      | 1242.495  | 2.608%      | 57.919%    |
| 23.0               | 1422.422      | 60.948      | 1303.443  | 2.583%      | 60.760%    |
| 24.0               | 1349.086      | 60.173      | 1363.617  | 2.550%      | 63.565%    |
| 25.0               | 1283.625      | 59.489      | 1423.106  | 2.521%      | 66.338%    |
| 26.0               | 1222.523      | 58.769      | 1481.875  | 2.490%      | 69.078%    |
| 27.0               | 1160.494      | 57.775      | 1539.65   | 2.448%      | 71.771%    |
| 28.0               | 1106.388      | 56.960      | 1596.61   | 2.414%      | 74.426%    |
| 29.0               | 1056.298      | 56.158      | 1652.768  | 2.380%      | 77.044%    |
| 30.0               | 1007.430      | 55.238      | 1708.006  | 2.341%      | 79.619%    |
| 31.0               | 962.030       | 54.335      | 1762.341  | 2.302%      | 82.152%    |
| 32.0               | 920.299       | 53.480      | 1815.821  | 2.266%      | 84.644%    |
| 33.0               | 873.056       | 52.144      | 1867.964  | 2.209%      | 87.075%    |
| 34.0               | 800.241       | 49.072      | 1917.036  | 2.079%      | 89.363%    |
| 35.0               | 699.652       | 44.007      | 1961.044  | 1.865%      | 91.414%    |
| 36.0               | 593.958       | 38.285      | 1999.328  | 1.622%      | 93.199%    |
| 37.0               | 484.805       | 31.995      | 2031.323  | 1.356%      | 94.690%    |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 367.594       | 24.818      | 2056.141  | 1.052%      | 95.847%    |
| 39.0               | 276.638       | 19.091      | 2075.232  | .809%       | 96.737%    |
| 40.0               | 172.737       | 12.176      | 2087.408  | .516%       | 97.305%    |
| 41.0               | 92.391        | 6.647       | 2094.055  | .282%       | 97.614%    |
| 42.0               | 45.605        | 3.346       | 2097.402  | .142%       | 97.770%    |
| 43.0               | 29.693        | 2.221       | 2099.622  | .094%       | 97.874%    |
| 44.0               | 24.975        | 1.903       | 2101.525  | .081%       | 97.963%    |
| 45.0               | 21.621        | 1.677       | 2103.201  | .071%       | 98.041%    |
| 46.0               | 18.619        | 1.469       | 2104.67   | .062%       | 98.109%    |
| 47.0               | 16.045        | 1.287       | 2105.957  | .055%       | 98.169%    |
| 48.0               | 14.147        | 1.153       | 2107.11   | .049%       | 98.223%    |
| 49.0               | 12.572        | 1.040       | 2108.15   | .044%       | 98.271%    |
| 50.0               | 11.510        | 0.967       | 2109.117  | .041%       | 98.317%    |
| 51.0               | 10.856        | 0.925       | 2110.042  | .039%       | 98.360%    |
| 52.0               | 10.329        | 0.893       | 2110.935  | .038%       | 98.401%    |
| 53.0               | 9.921         | 0.869       | 2111.804  | .037%       | 98.442%    |
| 54.0               | 9.745         | 0.865       | 2112.668  | .037%       | 98.482%    |
| 55.0               | 9.633         | 0.865       | 2113.534  | .037%       | 98.522%    |
| 56.0               | 9.478         | 0.862       | 2114.395  | .037%       | 98.563%    |
| 57.0               | 9.373         | 0.862       | 2115.257  | .037%       | 98.603%    |
| 58.0               | 9.288         | 0.864       | 2116.121  | .037%       | 98.643%    |
| 59.0               | 9.225         | 0.867       | 2116.988  | .037%       | 98.683%    |
| 60.0               | 9.148         | 0.869       | 2117.857  | .037%       | 98.724%    |
| 61.0               | 9.091         | 0.872       | 2118.729  | .037%       | 98.765%    |
| 62.0               | 9.049         | 0.876       | 2119.605  | .037%       | 98.805%    |
| 63.0               | 9.014         | 0.881       | 2120.486  | .037%       | 98.846%    |
| 64.0               | 8.986         | 0.886       | 2121.372  | .038%       | 98.888%    |
| 65.0               | 8.958         | 0.890       | 2122.262  | .038%       | 98.929%    |
| 66.0               | 8.937         | 0.895       | 2123.157  | .038%       | 98.971%    |
| 67.0               | 8.909         | 0.899       | 2124.057  | .038%       | 99.013%    |
| 68.0               | 8.880         | 0.903       | 2124.959  | .038%       | 99.055%    |
| 69.0               | 8.873         | 0.908       | 2125.868  | .038%       | 99.097%    |
| 70.0               | 8.866         | 0.914       | 2126.782  | .039%       | 99.140%    |
| 71.0               | 8.852         | 0.918       | 2127.699  | .039%       | 99.183%    |
| 72.0               | 8.838         | 0.922       | 2128.621  | .039%       | 99.226%    |
| 73.0               | 8.838         | 0.927       | 2129.548  | .039%       | 99.269%    |
| 74.0               | 8.824         | 0.930       | 2130.478  | .039%       | 99.312%    |
| 75.0               | 8.817         | 0.934       | 2131.412  | .040%       | 99.356%    |

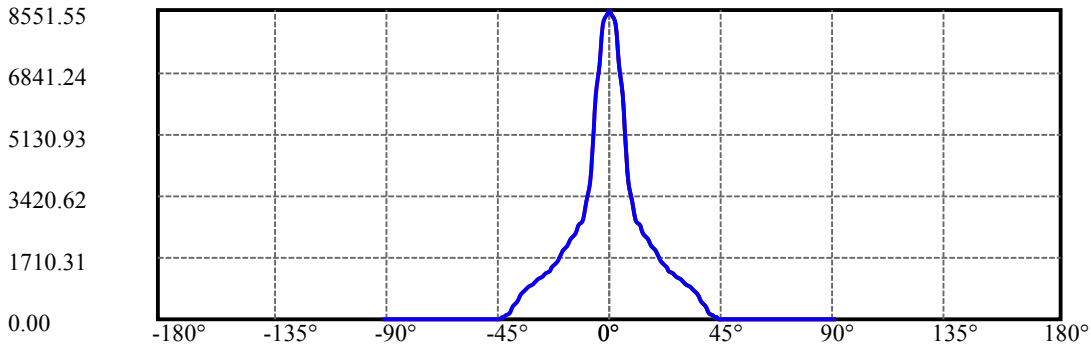
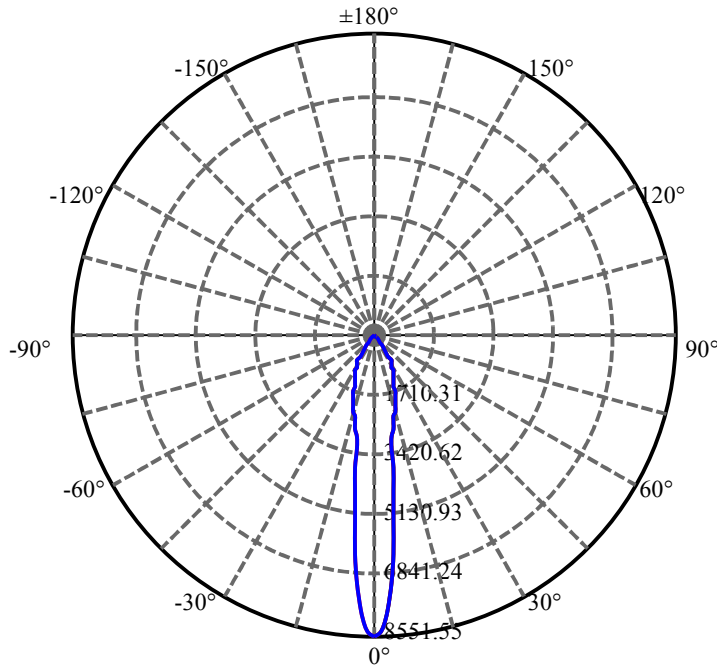
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 8.803         | 0.937       | 2132.349  | .040%       | 99.399%    |
| 77.0               | 8.803         | 0.941       | 2133.29   | .040%       | 99.443%    |
| 78.0               | 8.796         | 0.944       | 2134.233  | .040%       | 99.487%    |
| 79.0               | 8.789         | 0.946       | 2135.179  | .040%       | 99.531%    |
| 80.0               | 8.796         | 0.950       | 2136.129  | .040%       | 99.576%    |
| 81.0               | 8.789         | 0.952       | 2137.081  | .040%       | 99.620%    |
| 82.0               | 8.796         | 0.955       | 2138.036  | .040%       | 99.665%    |
| 83.0               | 8.775         | 0.955       | 2138.991  | .040%       | 99.709%    |
| 84.0               | 8.775         | 0.957       | 2139.948  | .041%       | 99.754%    |
| 85.0               | 8.782         | 0.959       | 2140.908  | .041%       | 99.798%    |
| 86.0               | 8.768         | 0.959       | 2141.867  | .041%       | 99.843%    |
| 87.0               | 8.775         | 0.961       | 2142.828  | .041%       | 99.888%    |
| 88.0               | 8.775         | 0.962       | 2143.79   | .041%       | 99.933%    |
| 89.0               | 8.775         | 0.962       | 2144.752  | .041%       | 99.978%    |
| 90.0               | 8.754         | 0.480       | 2145.232  | .020%       | 100.000%   |

ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 1708.01 | 72.37% | 79.62%  |
| 0-40    | 2087.41 | 88.45% | 97.30%  |
| 0-60    | 2117.86 | 89.74% | 98.72%  |
| 0-90    | 2144.75 | 90.88% | 99.98%  |
| 0-120   | 2144.75 | 90.88% | 99.98%  |
| 0-180   | 2145.23 | 90.90% | 100.00% |
| 60-90   | 27.76   | 1.18%  | 1.29%   |
| 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%   |
| 0-30.15 | 1716.19 | 72.72% | 80.00%  |

ZONAL LUMEN SUMMARY

|         |        |
|---------|--------|
| 0-10    | 497.74 |
| 10-20   | 620.94 |
| 20-30   | 589.32 |
| 30-40   | 379.40 |
| 40-50   | 21.71  |
| 50-60   | 8.74   |
| 60-70   | 8.92   |
| 70-80   | 9.35   |
| 80-90   | 8.62   |
| 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): —————

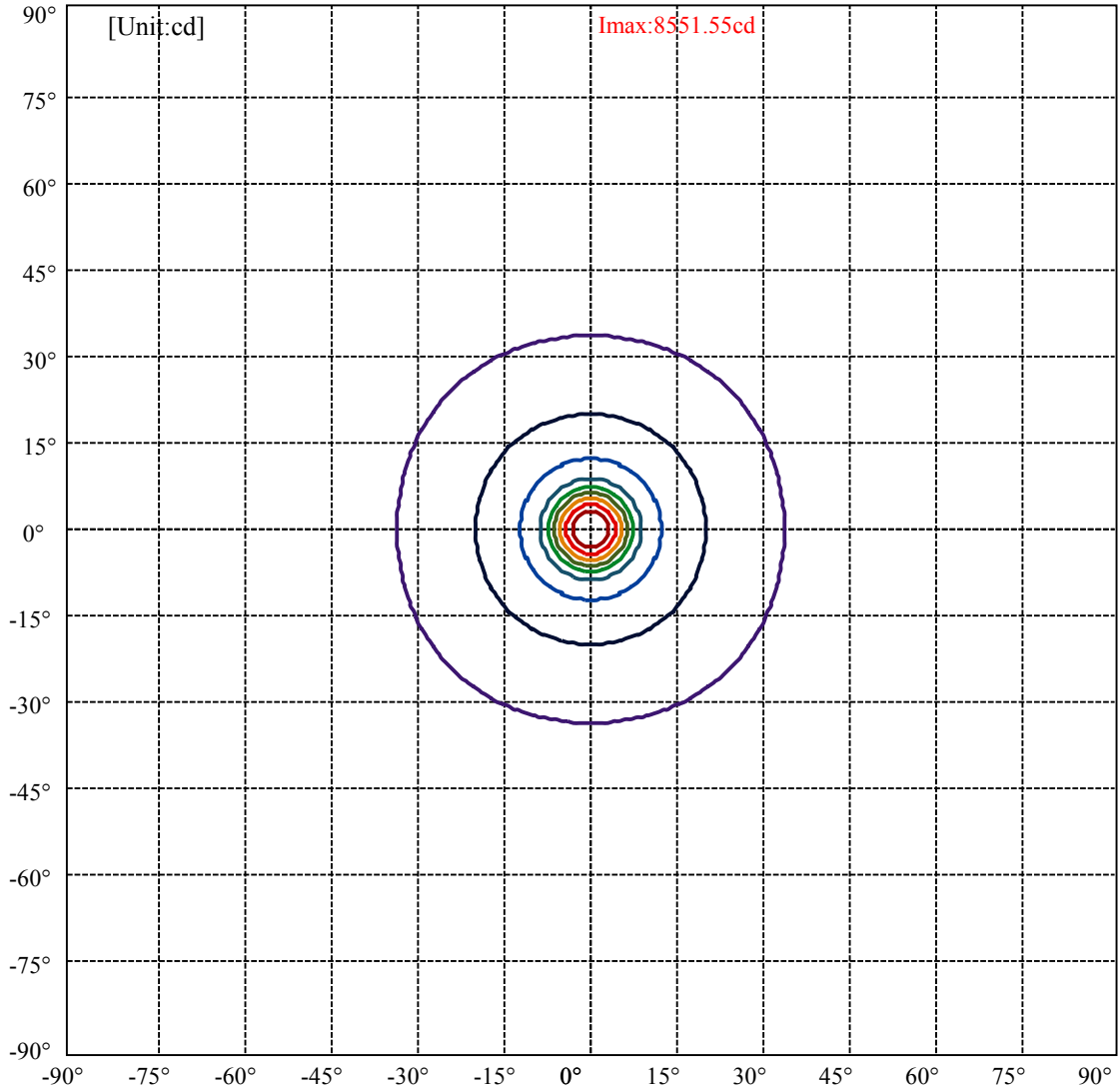
C0/C180: —————

C90/C270: —————

Field angle(10%Imax):C0/180Left:33.2 Right:33.2  
:C90/270Left:33.2 Right:33.2

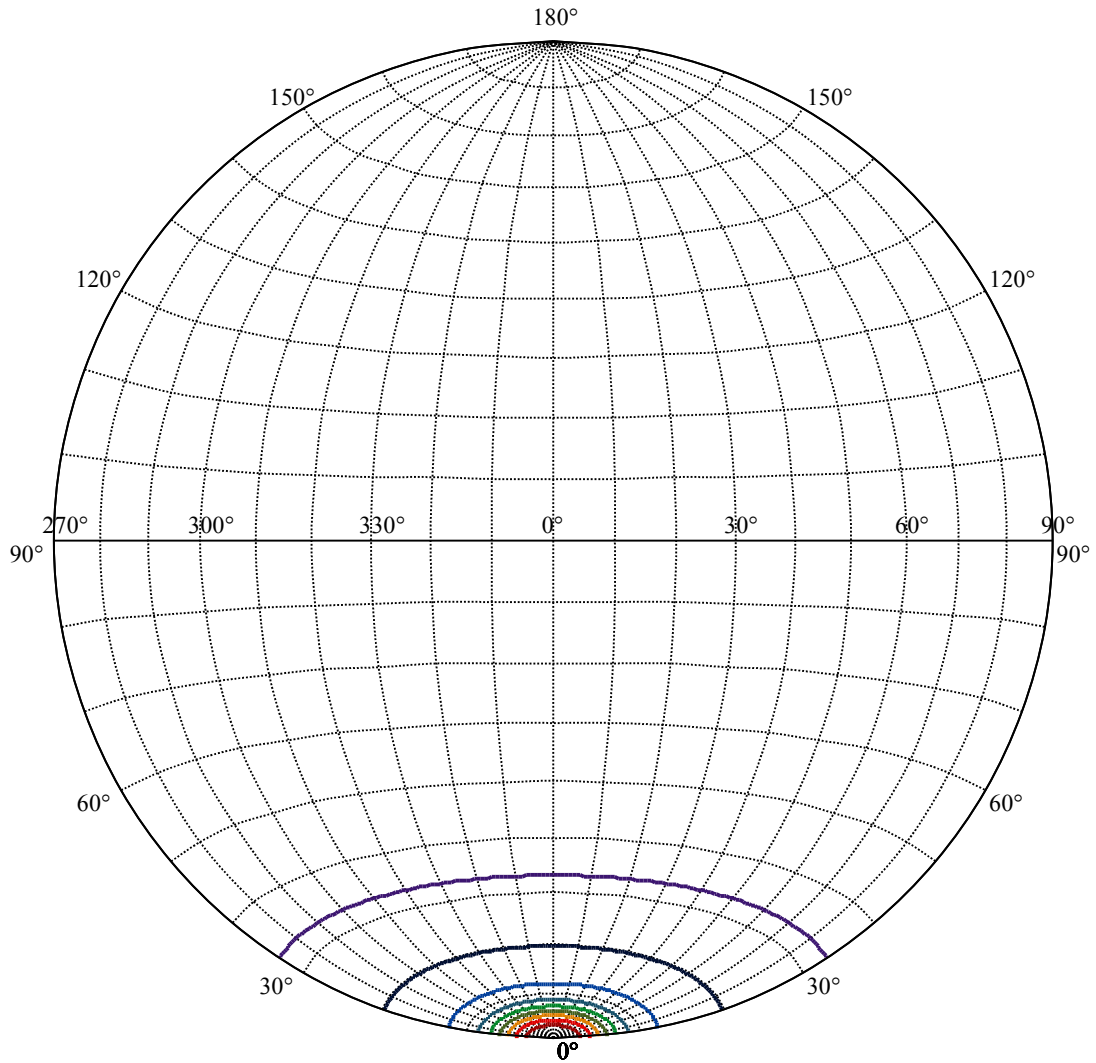
Beam Angle(50%Imax):C0/180Left:7.3 Right:7.3  
:C90/270Left:7.3 Right:7.3





|                   |   |
|-------------------|---|
| (10%Imax) 855.155 | — |
| (20%Imax) 1710.31 | — |
| (30%Imax) 2565.46 | — |
| (40%Imax) 3420.62 | — |
| (50%Imax) 4275.77 | — |
| (60%Imax) 5130.93 | — |
| (70%Imax) 5986.08 | — |
| (80%Imax) 6841.24 | — |
| (90%Imax) 7696.39 | — |





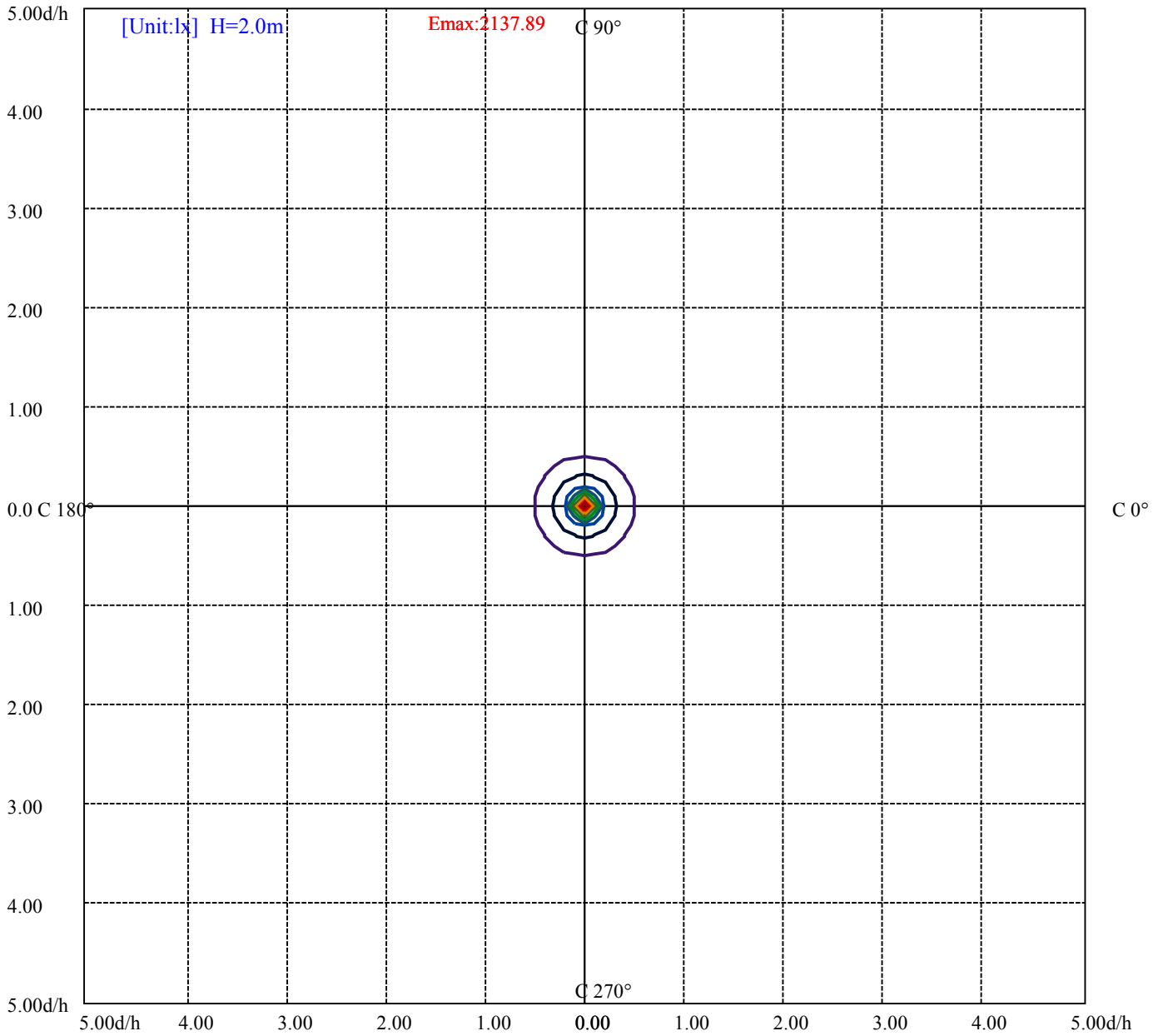
House

[Unit:cd]

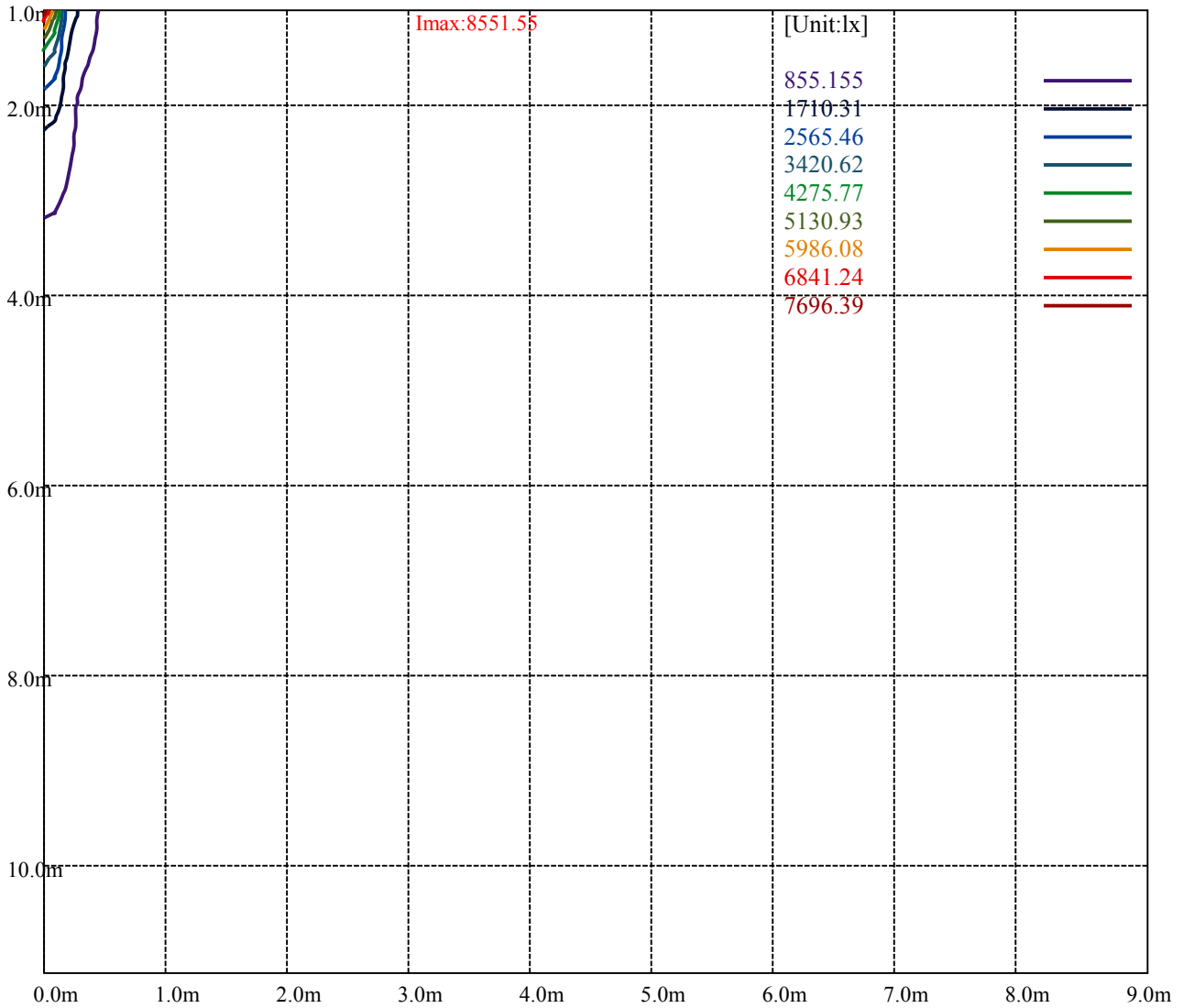
Road

**Imax:8551.55**

|                   |   |
|-------------------|---|
| (10%Imax) 855.155 | — |
| (20%Imax) 1710.31 | — |
| (30%Imax) 2565.46 | — |
| (40%Imax) 3420.62 | — |
| (50%Imax) 4275.77 | — |
| (60%Imax) 5130.93 | — |
| (70%Imax) 5986.08 | — |
| (80%Imax) 6841.24 | — |
| (90%Imax) 7696.39 | — |



- (10%Emax) 213.7883
- (20%Emax) 427.5775
- (30%Emax) 641.365
- (40%Emax) 855.1525
- (50%Emax) 1068.943
- (60%Emax) 1282.73
- (70%Emax) 1496.517
- (80%Emax) 1710.307
- (90%Emax) 1924.095



Luminance Table

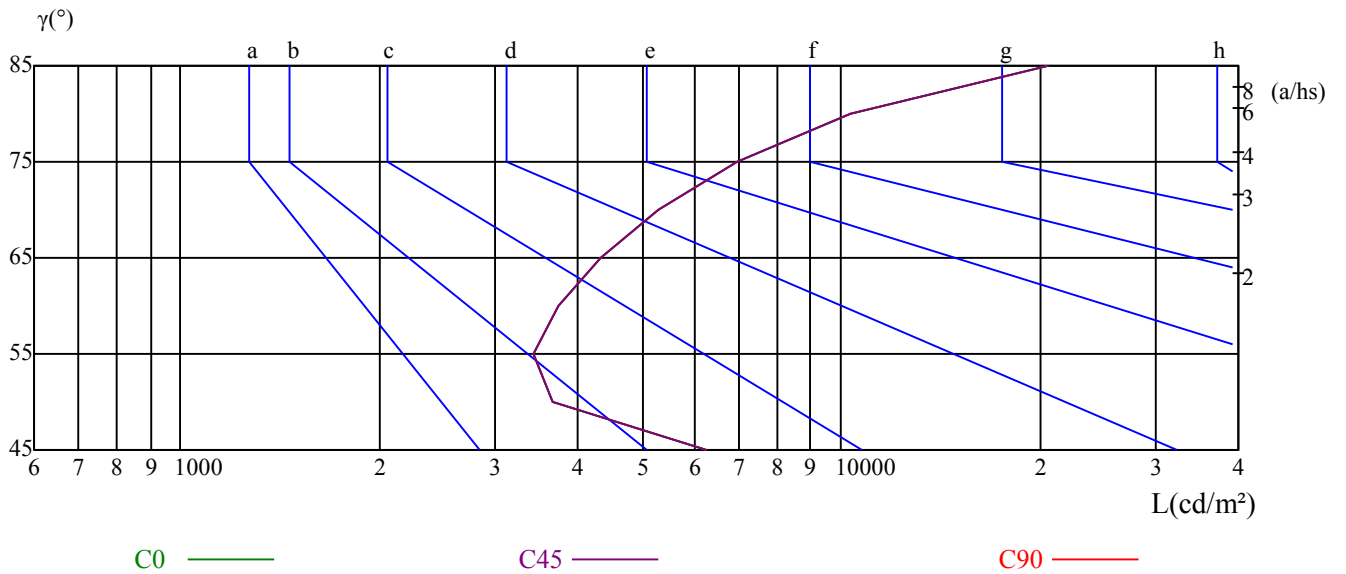
| $\gamma$ | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80    | 85    |
|----------|------|------|------|------|------|------|------|-------|-------|
| C0       | 6240 | 3654 | 3427 | 3734 | 4326 | 5291 | 6952 | 10338 | 20564 |
| C45      | 6240 | 3654 | 3427 | 3734 | 4326 | 5291 | 6952 | 10338 | 20564 |
| C90      | 6240 | 3654 | 3427 | 3734 | 4326 | 5291 | 6952 | 10338 | 20564 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 4326       | 4326       | 4326    | 6952       | 6952       | 6952    | 20564      | 20564      | 20564   |

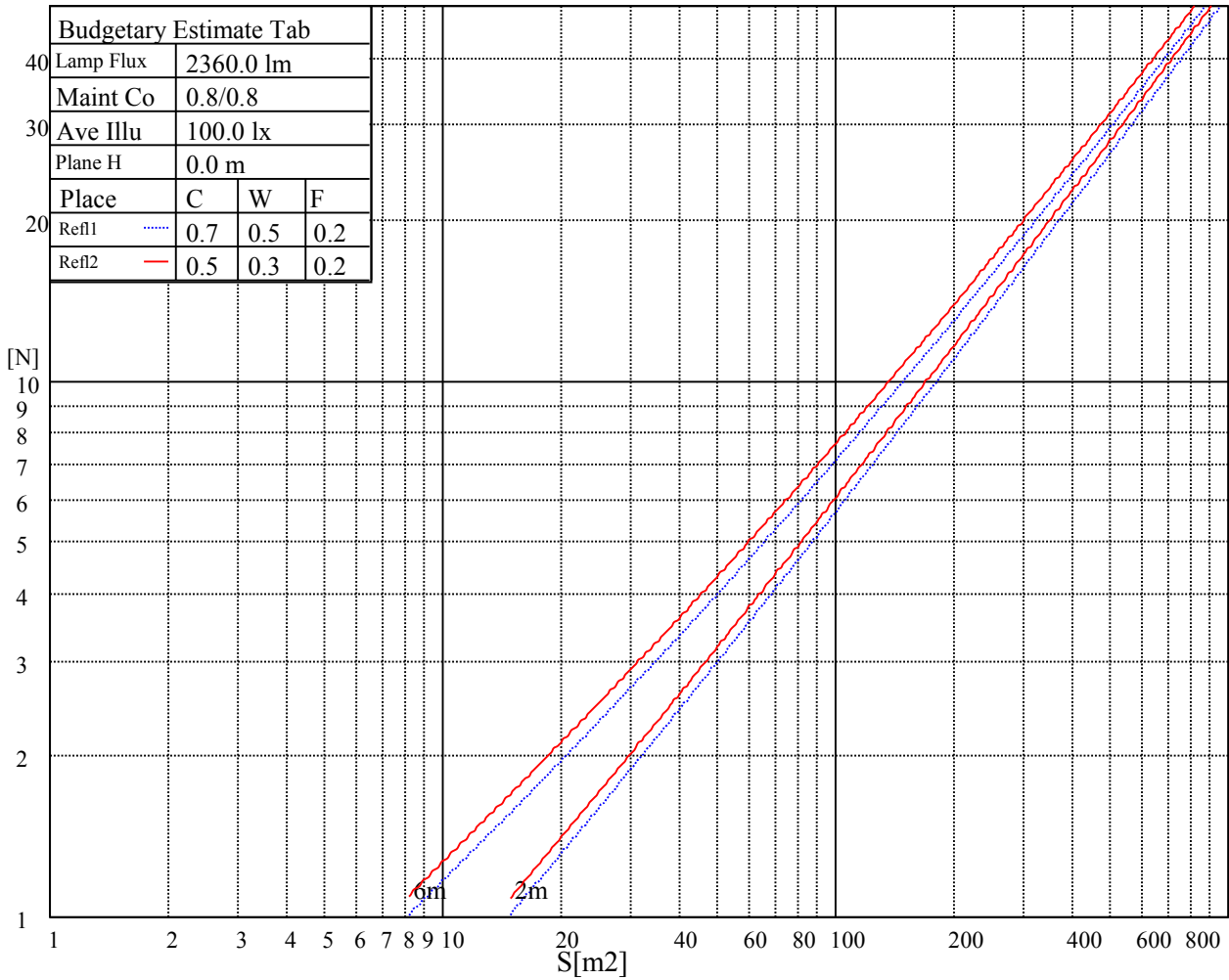
Glare Table

| 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     |

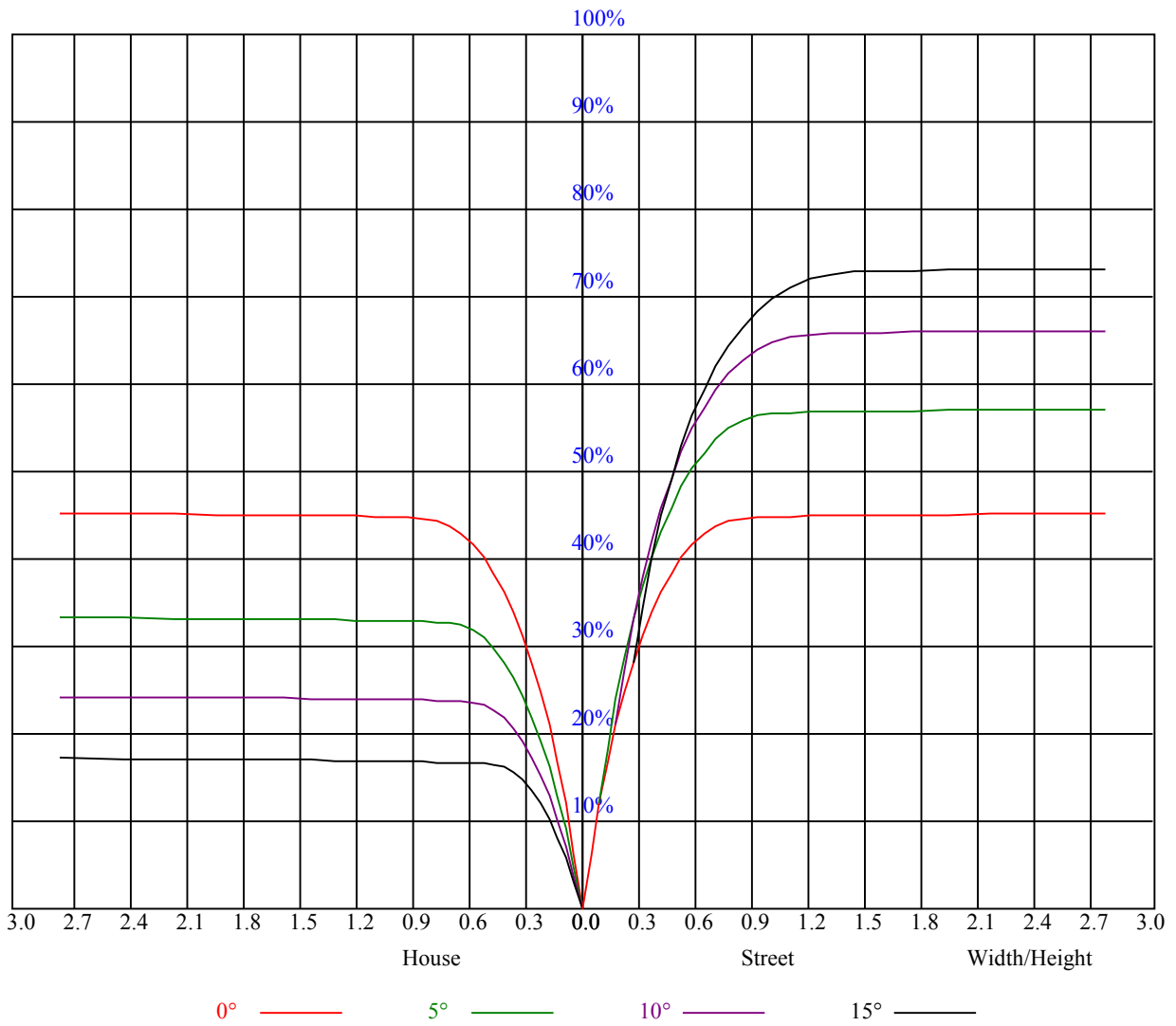
Luminance Limiting Curve



| 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       | 2.28             | 3.19  | 2.64  | 3.50  | 3.82     | 2.28           | 3.20  | 2.65  | 3.51  | 3.82  |
|   | 3H       | 5.55             | 6.35  | 5.93  | 6.69  | 7.06     | 5.53           | 6.34  | 5.92  | 6.67  | 7.04  |
|   | 4H       | 7.34             | 8.09  | 7.75  | 8.44  | 8.83     | 7.33           | 8.08  | 7.74  | 8.43  | 8.82  |
|   | 6H       | 9.36             | 10.04 | 9.78  | 10.42 | 10.82    | 9.36           | 10.04 | 9.78  | 10.42 | 10.82 |
|   | 8H       | 10.48            | 11.12 | 10.92 | 11.51 | 11.92    | 10.48          | 11.12 | 10.92 | 11.51 | 11.92 |
|   | 12H      | 12.28            | 12.89 | 12.72 | 13.27 | 13.71    | 12.28          | 12.89 | 12.72 | 13.27 | 13.71 |
| 4H  | 2H       | 3.19             | 3.94  | 3.60  | 4.29  | 4.68     | 3.20           | 3.94  | 3.61  | 4.30  | 4.69  |
|   | 3H       | 6.71             | 7.32  | 7.13  | 7.73  | 8.14     | 6.69           | 7.30  | 7.11  | 7.71  | 8.12  |
|   | 4H       | 8.67             | 9.22  | 9.11  | 9.64  | 10.09    | 8.66           | 9.21  | 9.10  | 9.64  | 10.08 |
|   | 6H       | 10.86            | 11.32 | 11.33 | 11.78 | 12.25    | 10.86          | 11.32 | 11.33 | 11.77 | 12.25 |
|   | 8H       | 12.07            | 12.50 | 12.55 | 12.96 | 13.43    | 12.07          | 12.50 | 12.55 | 12.95 | 13.43 |
| 8H  | 12H      | 13.76            | 14.13 | 14.25 | 14.62 | 15.10    | 13.76          | 14.13 | 14.25 | 14.62 | 15.10 |
|   | 4H       | 9.41             | 9.85  | 9.89  | 10.30 | 10.78    | 9.41           | 9.84  | 9.89  | 10.30 | 10.77 |
|   | 6H       | 11.87            | 12.21 | 12.38 | 12.72 | 13.20    | 11.87          | 12.21 | 12.38 | 12.72 | 13.20 |
|   | 8H       | 13.27            | 13.57 | 13.81 | 14.10 | 14.59    | 13.27          | 13.57 | 13.81 | 14.10 | 14.60 |
| 12H   | 12H      | 15.09            | 15.35 | 15.62 | 15.85 | 16.43    | 15.09          | 15.35 | 15.62 | 15.85 | 16.43 |
|   | 4H       | 9.63             | 10.00 | 10.12 | 10.49 | 10.97    | 9.63           | 10.00 | 10.12 | 10.49 | 10.97 |
|   | 6H       | 12.39            | 12.50 | 12.73 | 12.97 | 13.52    | 12.39          | 12.50 | 12.73 | 12.97 | 13.52 |
|   | 8H       | 13.73            | 13.98 | 14.25 | 14.48 | 15.07    | 13.73          | 13.99 | 14.25 | 14.48 | 15.07 |
| Variation with the observer position at spacings: |          |                  |       |       |       |          |                |       |       |       |       |
| S = 1.0H  | 5.6/-9.6 |                  |       |       |       | 5.6/-9.6 |                |       |       |       |       |
| S = 1.5H  | 8.1/-7.4 |                  |       |       |       | 8.1/-7.4 |                |       |       |       |       |
| S = 2.0H  | 9.6/-5.7 |                  |       |       |       | 9.6/-5.7 |                |       |       |       |       |
| Standard tables:                                  | BK1      |                  |       |       |       | BK1      |                |       |       |       |       |
| Uncorrected UGR                                   | 2.5      |                  |       |       |       | 2.5      |                |       |       |       |       |



| RHOCC | 80                                      |      |      | 70   |      |      | 50   |      |      | 30   |      |      | 10   |      |      | 0    |
|-------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RHOW  | 50                                      | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 0    |
| RCR   | COEFFICIENTS OF UTILIZATION RHOFC=20 CU |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0     | 1.08                                    | 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 | 0.97 | 0.99 | 0.97 | 0.96 | 0.96 | 0.94 | 0.93 | 0.92 | 0.91 | 0.90 | 0.89 | 0.88 | 0.87 | 0.86 |
| 2     | 0.95                                    | 0.92 | 0.89 | 0.94 | 0.91 | 0.88 | 0.91 | 0.88 | 0.86 | 0.88 | 0.86 | 0.84 | 0.85 | 0.84 | 0.82 | 0.81 |
| 3     | 0.90                                    | 0.86 | 0.82 | 0.88 | 0.85 | 0.82 | 0.86 | 0.83 | 0.80 | 0.84 | 0.81 | 0.79 | 0.82 | 0.80 | 0.78 | 0.77 |
| 4     | 0.85                                    | 0.80 | 0.77 | 0.84 | 0.80 | 0.76 | 0.82 | 0.78 | 0.76 | 0.80 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.73 |
| 5     | 0.80                                    | 0.76 | 0.72 | 0.80 | 0.75 | 0.72 | 0.78 | 0.74 | 0.71 | 0.77 | 0.73 | 0.71 | 0.75 | 0.72 | 0.70 | 0.69 |
| 6     | 0.77                                    | 0.72 | 0.68 | 0.76 | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.66 |
| 7     | 0.73                                    | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.64 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.64 | 0.62 |
| 8     | 0.70                                    | 0.65 | 0.62 | 0.69 | 0.65 | 0.61 | 0.68 | 0.64 | 0.61 | 0.67 | 0.64 | 0.61 | 0.66 | 0.63 | 0.61 | 0.60 |
| 9     | 0.67                                    | 0.62 | 0.59 | 0.66 | 0.62 | 0.59 | 0.65 | 0.61 | 0.58 | 0.65 | 0.61 | 0.58 | 0.64 | 0.61 | 0.58 | 0.57 |
| 10    | 0.64                                    | 0.59 | 0.56 | 0.63 | 0.59 | 0.56 | 0.63 | 0.59 | 0.56 | 0.62 | 0.58 | 0.56 | 0.61 | 0.58 | 0.56 | 0.55 |





NATA 3-1566-M

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    | 8562.38 | 8434.13 | 8139.38 | 7636.50 | 6695.44 | 5805.00 | 4965.75 | 4090.50 | 3548.81 |
| 45.0   | 8566.88 | 8453.81 | 8178.19 | 7704.56 | 6829.88 | 5969.25 | 5119.31 | 4265.44 | 3597.19 |
| 90.0   | 8555.06 | 8412.75 | 8168.63 | 7678.13 | 6793.88 | 6028.88 | 5160.38 | 4204.69 | 3588.75 |
| 135.0  | 8521.88 | 8551.13 | 8419.50 | 8148.94 | 7660.13 | 6967.13 | 5996.81 | 5106.94 | 4321.13 |
| 180.0  | 8562.38 | 8537.06 | 8363.25 | 8001.56 | 7492.50 | 6753.38 | 5639.06 | 4777.88 | 4030.31 |
| 225.0  | 8566.88 | 8503.88 | 8324.44 | 7949.81 | 7318.69 | 6505.88 | 5524.88 | 4698.56 | 3919.50 |
| 270.0  | 8555.06 | 8494.88 | 8314.31 | 7903.13 | 7288.88 | 6357.94 | 5376.94 | 4595.63 | 4003.31 |
| 315.0  | 8521.88 | 8318.25 | 7949.25 | 7265.81 | 6328.13 | 5445.00 | 4651.31 | 3841.88 | 3361.50 |
| 360.0  | 8562.38 | 8434.13 | 8139.38 | 7636.50 | 6695.44 | 5805.00 | 4965.75 | 4090.50 | 3548.81 |
| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
| 0.0    | 3161.81 | 2858.06 | 2706.75 | 2583.56 | 2433.94 | 2326.50 | 2224.13 | 2102.63 | 1980.00 |
| 45.0   | 3170.25 | 2896.31 | 2687.63 | 2567.25 | 2438.44 | 2332.69 | 2221.88 | 2118.94 | 1998.56 |
| 90.0   | 3147.75 | 2840.06 | 2656.69 | 2536.88 | 2410.88 | 2293.31 | 2192.06 | 2073.38 | 1964.81 |
| 135.0  | 3538.13 | 3148.88 | 2828.81 | 2624.06 | 2507.06 | 2398.50 | 2283.19 | 2168.44 | 2079.56 |
| 180.0  | 3319.31 | 2948.63 | 2723.06 | 2561.63 | 2437.88 | 2333.81 | 2216.81 | 2113.31 | 1996.88 |
| 225.0  | 3328.31 | 2981.25 | 2768.63 | 2595.94 | 2487.94 | 2382.75 | 2247.75 | 2140.88 | 2033.44 |
| 270.0  | 3309.75 | 2994.75 | 2794.50 | 2619.00 | 2507.06 | 2394.00 | 2268.56 | 2153.25 | 2045.25 |
| 315.0  | 3034.69 | 2808.56 | 2657.81 | 2540.25 | 2411.44 | 2295.56 | 2193.75 | 2085.19 | 1957.50 |
| 360.0  | 3161.81 | 2858.06 | 2706.75 | 2583.56 | 2433.94 | 2326.50 | 2224.13 | 2102.63 | 1980.00 |
| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0    | 26.0    |
| 0.0    | 1874.81 | 1763.44 | 1671.19 | 1574.44 | 1485.00 | 1415.25 | 1340.44 | 1270.69 | 1209.38 |
| 45.0   | 1894.50 | 1780.31 | 1676.25 | 1582.88 | 1491.75 | 1407.94 | 1338.75 | 1272.94 | 1195.31 |
| 90.0   | 1842.75 | 1730.25 | 1639.13 | 1554.75 | 1455.75 | 1383.19 | 1320.19 | 1247.63 | 1191.94 |
| 135.0  | 1947.38 | 1845.56 | 1749.38 | 1630.13 | 1550.81 | 1459.13 | 1380.94 | 1319.06 | 1261.69 |
| 180.0  | 1881.56 | 1782.00 | 1680.19 | 1584.56 | 1507.50 | 1437.75 | 1355.06 | 1294.88 | 1239.75 |
| 225.0  | 1897.88 | 1792.13 | 1698.19 | 1591.31 | 1523.25 | 1442.25 | 1368.00 | 1308.38 | 1245.38 |
| 270.0  | 1923.75 | 1819.13 | 1711.13 | 1609.88 | 1526.63 | 1445.63 | 1371.94 | 1310.06 | 1247.63 |
| 315.0  | 1835.44 | 1725.19 | 1632.94 | 1544.63 | 1447.31 | 1388.25 | 1317.38 | 1245.38 | 1189.13 |
| 360.0  | 1874.81 | 1763.44 | 1671.19 | 1574.44 | 1485.00 | 1415.25 | 1340.44 | 1270.69 | 1209.38 |
| C/γ(°) | 27.0    | 28.0    | 29.0    | 30.0    | 31.0    | 32.0    | 33.0    | 34.0    | 35.0    |
| 0.0    | 1149.19 | 1085.63 | 1038.94 | 993.94  | 947.25  | 906.19  | 862.88  | 773.44  | 667.69  |
| 45.0   | 1138.50 | 1085.06 | 1020.38 | 972.00  | 927.00  | 878.63  | 822.38  | 742.50  | 639.00  |
| 90.0   | 1120.44 | 1082.98 | 1024.26 | 980.55  | 939.26  | 893.53  | 856.01  | 777.99  | 669.83  |
| 135.0  | 1198.69 | 1139.63 | 1089.56 | 1035.56 | 986.63  | 950.06  | 902.25  | 849.94  | 767.81  |
| 180.0  | 1188.56 | 1122.36 | 1073.36 | 1026.73 | 974.64  | 935.16  | 896.51  | 829.29  | 735.36  |
| 225.0  | 1185.75 | 1118.98 | 1084.39 | 1029.32 | 989.16  | 951.41  | 904.05  | 847.01  | 738.68  |
| 270.0  | 1182.38 | 1130.63 | 1087.88 | 1031.63 | 981.56  | 939.94  | 896.63  | 825.75  | 735.75  |
| 315.0  | 1120.44 | 1085.85 | 1031.63 | 989.72  | 950.74  | 907.48  | 843.75  | 756.00  | 643.11  |
| 360.0  | 1149.19 | 1085.63 | 1038.94 | 993.94  | 947.25  | 906.19  | 862.88  | 773.44  | 667.69  |
| C/γ(°) | 36.0    | 37.0    | 38.0    | 39.0    | 40.0    | 41.0    | 42.0    | 43.0    | 44.0    |
| 0.0    | 565.88  | 441.56  | 329.06  | 289.13  | 130.89  | 63.56   | 34.99   | 27.34   | 23.29   |
| 45.0   | 542.81  | 428.06  | 313.31  | 288.00  | 133.76  | 68.29   | 35.55   | 27.79   | 22.67   |
| 90.0   | 556.71  | 459.79  | 344.14  | 244.24  | 151.65  | 75.88   | 40.44   | 28.13   | 23.96   |
| 135.0  | 659.25  | 555.19  | 440.44  | 326.25  | 289.69  | 145.58  | 67.95   | 35.72   | 27.84   |
| 180.0  | 638.94  | 523.46  | 415.80  | 297.23  | 195.69  | 122.06  | 58.33   | 30.15   | 26.04   |
| 225.0  | 638.10  | 533.53  | 407.87  | 285.92  | 192.43  | 108.06  | 52.31   | 31.33   | 26.89   |
| 270.0  | 626.63  | 519.75  | 393.75  | 289.13  | 180.23  | 106.71  | 43.99   | 30.54   | 26.49   |
| 315.0  | 523.35  | 417.09  | 296.38  | 193.22  | 107.55  | 48.99   | 31.28   | 26.55   | 22.61   |
| 360.0  | 565.88  | 441.56  | 329.06  | 289.13  | 130.89  | 63.56   | 34.99   | 27.34   | 23.29   |

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    | 20.31 | 17.38 | 15.02 | 13.39 | 12.09 | 11.08 | 10.52 | 10.13 | 9.90  |
| 45.0   | 19.80 | 17.33 | 14.85 | 13.16 | 12.09 | 11.31 | 10.74 | 10.29 | 9.84  |
| 90.0   | 20.98 | 18.34 | 15.58 | 13.78 | 12.32 | 11.36 | 10.69 | 10.18 | 9.90  |
| 135.0  | 23.23 | 20.14 | 17.55 | 15.19 | 13.28 | 12.09 | 11.25 | 10.63 | 10.07 |
| 180.0  | 22.89 | 19.29 | 16.88 | 14.85 | 12.88 | 11.81 | 11.14 | 10.46 | 10.01 |
| 225.0  | 23.40 | 19.97 | 17.04 | 14.96 | 13.28 | 11.81 | 11.14 | 10.52 | 10.01 |
| 270.0  | 22.73 | 19.52 | 17.04 | 14.96 | 12.88 | 11.76 | 11.08 | 10.46 | 9.96  |
| 315.0  | 19.63 | 16.99 | 14.40 | 12.88 | 11.76 | 10.86 | 10.29 | 9.96  | 9.68  |
| 360.0  | 20.31 | 17.38 | 15.02 | 13.39 | 12.09 | 11.08 | 10.52 | 10.13 | 9.90  |
| C/γ(°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0    | 9.68  | 9.62  | 9.45  | 9.34  | 9.28  | 9.23  | 9.11  | 9.11  | 9.06  |
| 45.0   | 9.73  | 9.62  | 9.45  | 9.39  | 9.28  | 9.23  | 9.17  | 9.11  | 9.06  |
| 90.0   | 9.73  | 9.62  | 9.45  | 9.34  | 9.28  | 9.23  | 9.11  | 9.11  | 9.00  |
| 135.0  | 9.84  | 9.73  | 9.56  | 9.45  | 9.34  | 9.28  | 9.23  | 9.11  | 9.11  |
| 180.0  | 9.84  | 9.73  | 9.56  | 9.45  | 9.34  | 9.28  | 9.23  | 9.11  | 9.11  |
| 225.0  | 9.79  | 9.68  | 9.51  | 9.39  | 9.34  | 9.23  | 9.17  | 9.11  | 9.06  |
| 270.0  | 9.79  | 9.62  | 9.51  | 9.34  | 9.28  | 9.23  | 9.11  | 9.06  | 9.00  |
| 315.0  | 9.56  | 9.45  | 9.34  | 9.28  | 9.17  | 9.11  | 9.06  | 9.00  | 9.00  |
| 360.0  | 9.68  | 9.62  | 9.45  | 9.34  | 9.28  | 9.23  | 9.11  | 9.11  | 9.06  |
| C/γ(°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0    | 9.00  | 9.00  | 8.94  | 8.94  | 8.89  | 8.89  | 8.89  | 8.83  | 8.83  |
| 45.0   | 9.06  | 9.00  | 9.00  | 9.00  | 8.94  | 8.89  | 8.89  | 8.89  | 8.89  |
| 90.0   | 9.00  | 9.00  | 8.94  | 8.89  | 8.89  | 8.83  | 8.89  | 8.89  | 8.83  |
| 135.0  | 9.06  | 9.00  | 9.00  | 8.94  | 8.94  | 8.94  | 8.89  | 8.89  | 8.89  |
| 180.0  | 9.06  | 9.00  | 9.00  | 8.94  | 8.89  | 8.89  | 8.89  | 8.83  | 8.89  |
| 225.0  | 9.00  | 9.00  | 8.94  | 8.94  | 8.89  | 8.89  | 8.89  | 8.89  | 8.83  |
| 270.0  | 9.00  | 8.94  | 8.94  | 8.89  | 8.89  | 8.89  | 8.83  | 8.89  | 8.83  |
| 315.0  | 8.94  | 8.94  | 8.89  | 8.89  | 8.89  | 8.83  | 8.83  | 8.83  | 8.83  |
| 360.0  | 9.00  | 9.00  | 8.94  | 8.94  | 8.89  | 8.89  | 8.89  | 8.83  | 8.83  |
| C/γ(°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0    | 8.83  | 8.83  | 8.83  | 8.83  | 8.78  | 8.83  | 8.83  | 8.78  | 8.78  |
| 45.0   | 8.89  | 8.89  | 8.83  | 8.83  | 8.83  | 8.83  | 8.83  | 8.83  | 8.78  |
| 90.0   | 8.83  | 8.83  | 8.83  | 8.78  | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  |
| 135.0  | 8.83  | 8.83  | 8.83  | 8.83  | 8.83  | 8.83  | 8.78  | 8.78  | 8.83  |
| 180.0  | 8.83  | 8.83  | 8.83  | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  | 8.83  |
| 225.0  | 8.83  | 8.83  | 8.83  | 8.83  | 8.83  | 8.83  | 8.83  | 8.78  | 8.78  |
| 270.0  | 8.83  | 8.83  | 8.83  | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  | 8.83  |
| 315.0  | 8.83  | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.83  | 8.78  |
| 360.0  | 8.83  | 8.83  | 8.83  | 8.83  | 8.78  | 8.83  | 8.83  | 8.78  | 8.78  |
| C/γ(°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0    | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  |
| 45.0   | 8.83  | 8.83  | 8.78  | 8.78  | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  |
| 90.0   | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  |
| 135.0  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  |
| 180.0  | 8.78  | 8.83  | 8.78  | 8.78  | 8.78  | 8.72  | 8.78  | 8.78  | 8.78  |
| 225.0  | 8.78  | 8.83  | 8.78  | 8.78  | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  |
| 270.0  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  |
| 315.0  | 8.78  | 8.78  | 8.78  | 8.78  | 8.72  | 8.78  | 8.78  | 8.78  | 8.78  |
| 360.0  | 8.83  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  | 8.78  |

Intensity data(cd)

|        |      |
|--------|------|
| C/γ(°) | 90.0 |
| 0.0    | 8.78 |
| 45.0   | 8.78 |
| 90.0   | 8.78 |
| 135.0  | 8.72 |
| 180.0  | 8.72 |
| 225.0  | 8.78 |
| 270.0  | 8.78 |
| 315.0  | 8.72 |
| 360.0  | 8.78 |