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## Nata

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Client: NT

LumCAT: 2-2969-LM2

Luminaire: 92.70.121.00

Report No: 20260630-B003

Ballast type: DC

Test No: 20260630-C003

LampCAT: CITIZEN CLU038

Lamp flux(lm): 3547.0

Number of Lamps: 1

Length(mm): 75

Phm Type: C

Voltage(V): 36.990

Current(A): 0.723

Power (W): 26.743

PF: 0.000

Width(mm): 75

Height(mm): 43

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## Photometric Results

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Lumens(lm): 3497.28, Efficiency(%): 98.60% , Luminous Efficacy(lm/W): 130.77

Central intensity(cd): 12147.310, Maximum intensity(cd): 12147.310

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

Beam Angle(50%Imax): [C0/180]Total=25.6

[C90/270]Total=25.6

Field angle(10%Imax): [C0/180]Total=60.0

[C90/270]Total=60.0

Maximum s/h(1/2): C0\_180=0.43 C90\_270=0.43

Maximum s/h(1/4): C0\_180=0.44 C90\_270=0.44

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 98.60%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.220%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 12147.307     | 0.000       | 0         | 0.00%       | 0.00%      |
| 1.0                | 12106.089     | 11.605      | 11.605    | 0.33%       | 0.33%      |
| 2.0                | 11972.574     | 34.560      | 46.165    | 0.97%       | 1.32%      |
| 3.0                | 11716.452     | 56.656      | 102.821   | 1.60%       | 2.94%      |
| 4.0                | 11418.902     | 77.441      | 180.263   | 2.18%       | 5.15%      |
| 5.0                | 11015.631     | 96.512      | 276.775   | 2.72%       | 7.91%      |
| 6.0                | 10497.828     | 113.059     | 389.834   | 3.19%       | 11.15%     |
| 7.0                | 9946.254      | 126.896     | 516.73    | 3.58%       | 14.78%     |
| 8.0                | 9315.913      | 137.856     | 654.585   | 3.89%       | 18.72%     |
| 9.0                | 8692.075      | 145.945     | 800.53    | 4.11%       | 22.89%     |
| 10.0               | 7965.347      | 150.744     | 951.274   | 4.25%       | 27.20%     |
| 11.0               | 7273.965      | 152.272     | 1103.546  | 4.29%       | 31.55%     |
| 12.0               | 6548.392      | 151.098     | 1254.644  | 4.26%       | 35.87%     |
| 13.0               | 5917.317      | 147.937     | 1402.581  | 4.17%       | 40.10%     |
| 14.0               | 5246.282      | 142.893     | 1545.474  | 4.03%       | 44.19%     |
| 15.0               | 4666.704      | 136.090     | 1681.563  | 3.84%       | 48.08%     |
| 16.0               | 4134.323      | 128.960     | 1810.523  | 3.64%       | 51.77%     |
| 17.0               | 3631.518      | 120.935     | 1931.458  | 3.41%       | 55.23%     |
| 18.0               | 3212.357      | 112.841     | 2044.299  | 3.18%       | 58.45%     |
| 19.0               | 2859.429      | 105.637     | 2149.935  | 2.98%       | 61.47%     |
| 20.0               | 2555.324      | 99.105      | 2249.04   | 2.79%       | 64.31%     |
| 21.0               | 2319.235      | 93.601      | 2342.642  | 2.64%       | 66.98%     |
| 22.0               | 2095.574      | 88.717      | 2431.359  | 2.50%       | 69.52%     |
| 23.0               | 1938.303      | 84.642      | 2516.001  | 2.39%       | 71.94%     |
| 24.0               | 1760.969      | 80.879      | 2596.88   | 2.28%       | 74.25%     |
| 25.0               | 1643.344      | 77.407      | 2674.287  | 2.18%       | 76.47%     |
| 26.0               | 1564.630      | 75.725      | 2750.011  | 2.13%       | 78.63%     |
| 27.0               | 1478.207      | 74.444      | 2824.455  | 2.10%       | 80.76%     |
| 28.0               | 1393.945      | 72.717      | 2897.172  | 2.05%       | 82.84%     |
| 29.0               | 1310.931      | 70.767      | 2967.939  | 2.00%       | 84.86%     |
| 30.0               | 1220.134      | 68.338      | 3036.277  | 1.93%       | 86.82%     |
| 31.0               | 1109.043      | 64.818      | 3101.095  | 1.83%       | 88.67%     |
| 32.0               | 990.978       | 60.163      | 3161.258  | 1.70%       | 90.39%     |
| 33.0               | 872.031       | 54.885      | 3216.143  | 1.55%       | 91.96%     |
| 34.0               | 742.386       | 48.857      | 3265      | 1.38%       | 93.36%     |
| 35.0               | 613.885       | 42.121      | 3307.121  | 1.19%       | 94.56%     |
| 36.0               | 495.620       | 35.327      | 3342.448  | 1.00%       | 95.57%     |
| 37.0               | 394.367       | 29.026      | 3371.474  | 0.82%       | 96.40%     |

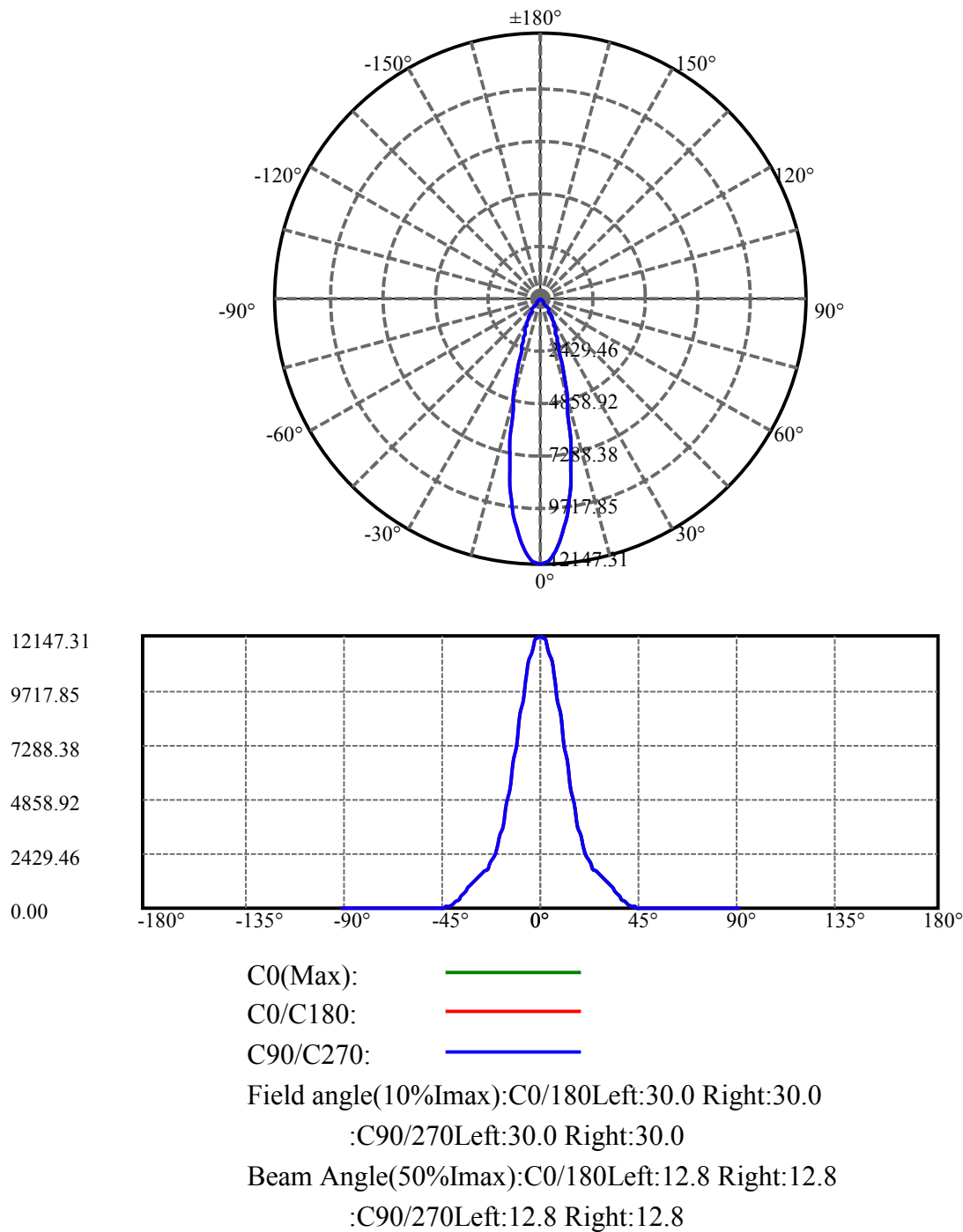
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 291.782       | 22.903      | 3394.377  | 0.65%       | 97.06%     |
| 39.0               | 234.034       | 17.948      | 3412.324  | 0.51%       | 97.57%     |
| 40.0               | 140.563       | 13.065      | 3425.389  | 0.37%       | 97.94%     |
| 41.0               | 92.307        | 8.292       | 3433.681  | 0.23%       | 98.18%     |
| 42.0               | 60.171        | 5.540       | 3439.221  | 0.16%       | 98.34%     |
| 43.0               | 45.173        | 3.902       | 3443.123  | 0.11%       | 98.45%     |
| 44.0               | 35.796        | 3.056       | 3446.179  | 0.09%       | 98.54%     |
| 45.0               | 29.860        | 2.523       | 3448.702  | 0.07%       | 98.61%     |
| 46.0               | 25.717        | 2.173       | 3450.876  | 0.06%       | 98.67%     |
| 47.0               | 22.843        | 1.931       | 3452.807  | 0.05%       | 98.73%     |
| 48.0               | 20.284        | 1.743       | 3454.551  | 0.05%       | 98.78%     |
| 49.0               | 18.659        | 1.599       | 3456.15   | 0.05%       | 98.82%     |
| 50.0               | 17.347        | 1.501       | 3457.651  | 0.04%       | 98.87%     |
| 51.0               | 16.309        | 1.424       | 3459.075  | 0.04%       | 98.91%     |
| 52.0               | 15.302        | 1.356       | 3460.432  | 0.04%       | 98.95%     |
| 53.0               | 14.568        | 1.299       | 3461.731  | 0.04%       | 98.98%     |
| 54.0               | 13.991        | 1.259       | 3462.99   | 0.04%       | 99.02%     |
| 55.0               | 13.477        | 1.226       | 3464.216  | 0.03%       | 99.05%     |
| 56.0               | 13.047        | 1.199       | 3465.414  | 0.03%       | 99.09%     |
| 57.0               | 12.628        | 1.174       | 3466.588  | 0.03%       | 99.12%     |
| 58.0               | 12.334        | 1.154       | 3467.743  | 0.03%       | 99.16%     |
| 59.0               | 12.030        | 1.139       | 3468.882  | 0.03%       | 99.19%     |
| 60.0               | 11.726        | 1.122       | 3470.004  | 0.03%       | 99.22%     |
| 61.0               | 11.506        | 1.109       | 3471.113  | 0.03%       | 99.25%     |
| 62.0               | 11.233        | 1.096       | 3472.208  | 0.03%       | 99.28%     |
| 63.0               | 10.950        | 1.079       | 3473.287  | 0.03%       | 99.31%     |
| 64.0               | 10.740        | 1.064       | 3474.352  | 0.03%       | 99.34%     |
| 65.0               | 10.499        | 1.051       | 3475.403  | 0.03%       | 99.37%     |
| 66.0               | 10.257        | 1.036       | 3476.438  | 0.03%       | 99.40%     |
| 67.0               | 10.037        | 1.020       | 3477.459  | 0.03%       | 99.43%     |
| 68.0               | 9.775         | 1.004       | 3478.462  | 0.03%       | 99.46%     |
| 69.0               | 9.534         | 0.985       | 3479.447  | 0.03%       | 99.49%     |
| 70.0               | 9.303         | 0.967       | 3480.415  | 0.03%       | 99.52%     |
| 71.0               | 9.030         | 0.948       | 3481.362  | 0.03%       | 99.54%     |
| 72.0               | 8.842         | 0.929       | 3482.292  | 0.03%       | 99.57%     |
| 73.0               | 8.642         | 0.914       | 3483.206  | 0.03%       | 99.60%     |
| 74.0               | 8.453         | 0.899       | 3484.105  | 0.03%       | 99.62%     |
| 75.0               | 8.328         | 0.887       | 3484.991  | 0.02%       | 99.65%     |

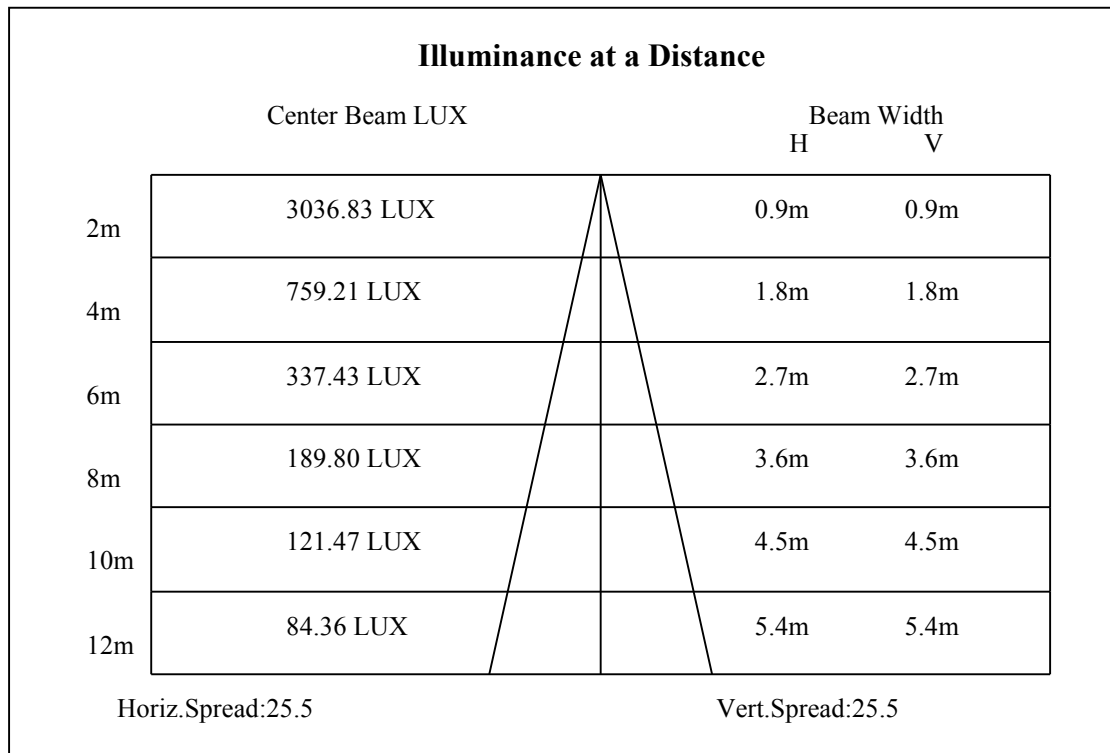
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 8.233         | 0.879       | 3485.87   | 0.02%       | 99.67%     |
| 77.0               | 8.139         | 0.873       | 3486.743  | 0.02%       | 99.70%     |
| 78.0               | 8.065         | 0.867       | 3487.611  | 0.02%       | 99.72%     |
| 79.0               | 7.982         | 0.862       | 3488.473  | 0.02%       | 99.75%     |
| 80.0               | 7.919         | 0.857       | 3489.33   | 0.02%       | 99.77%     |
| 81.0               | 7.803         | 0.850       | 3490.18   | 0.02%       | 99.80%     |
| 82.0               | 7.751         | 0.843       | 3491.024  | 0.02%       | 99.82%     |
| 83.0               | 7.635         | 0.836       | 3491.86   | 0.02%       | 99.85%     |
| 84.0               | 7.457         | 0.822       | 3492.682  | 0.02%       | 99.87%     |
| 85.0               | 7.279         | 0.804       | 3493.487  | 0.02%       | 99.89%     |
| 86.0               | 7.090         | 0.785       | 3494.272  | 0.02%       | 99.91%     |
| 87.0               | 6.954         | 0.769       | 3495.041  | 0.02%       | 99.94%     |
| 88.0               | 6.828         | 0.755       | 3495.796  | 0.02%       | 99.96%     |
| 89.0               | 6.733         | 0.743       | 3496.539  | 0.02%       | 99.98%     |
| 90.0               | 6.691         | 0.736       | 3497.275  | 0.02%       | 100.00%    |

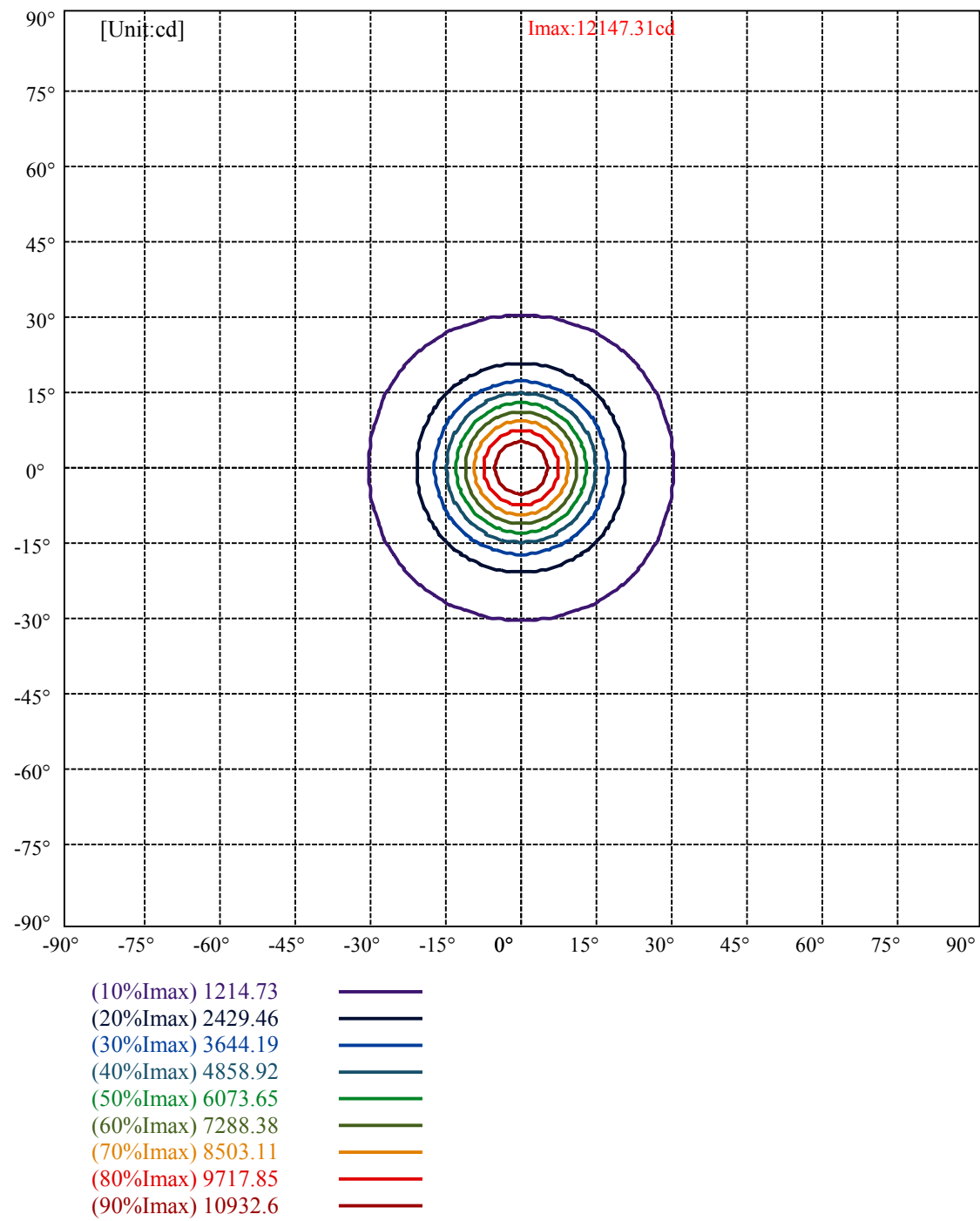
| ZONAL LUMEN SUMMARY |         |        |         |
|---------------------|---------|--------|---------|
| Zone                | Lumens  | %Lamp  | %Fixt   |
| 0-30                | 3036.28 | 85.60% | 86.82%  |
| 0-40                | 3425.39 | 96.57% | 97.94%  |
| 0-60                | 3470.00 | 97.83% | 99.22%  |
| 0-90                | 3496.54 | 98.58% | 99.98%  |
| 0-120               | 3496.54 | 98.58% | 99.98%  |
| 0-180               | 3497.28 | 98.60% | 100.00% |
| 60-90               | 26.53   | 0.75%  | 0.76%   |
| 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%   |
| 0-26.64             | 2797.82 | 78.88% | 80.00%  |

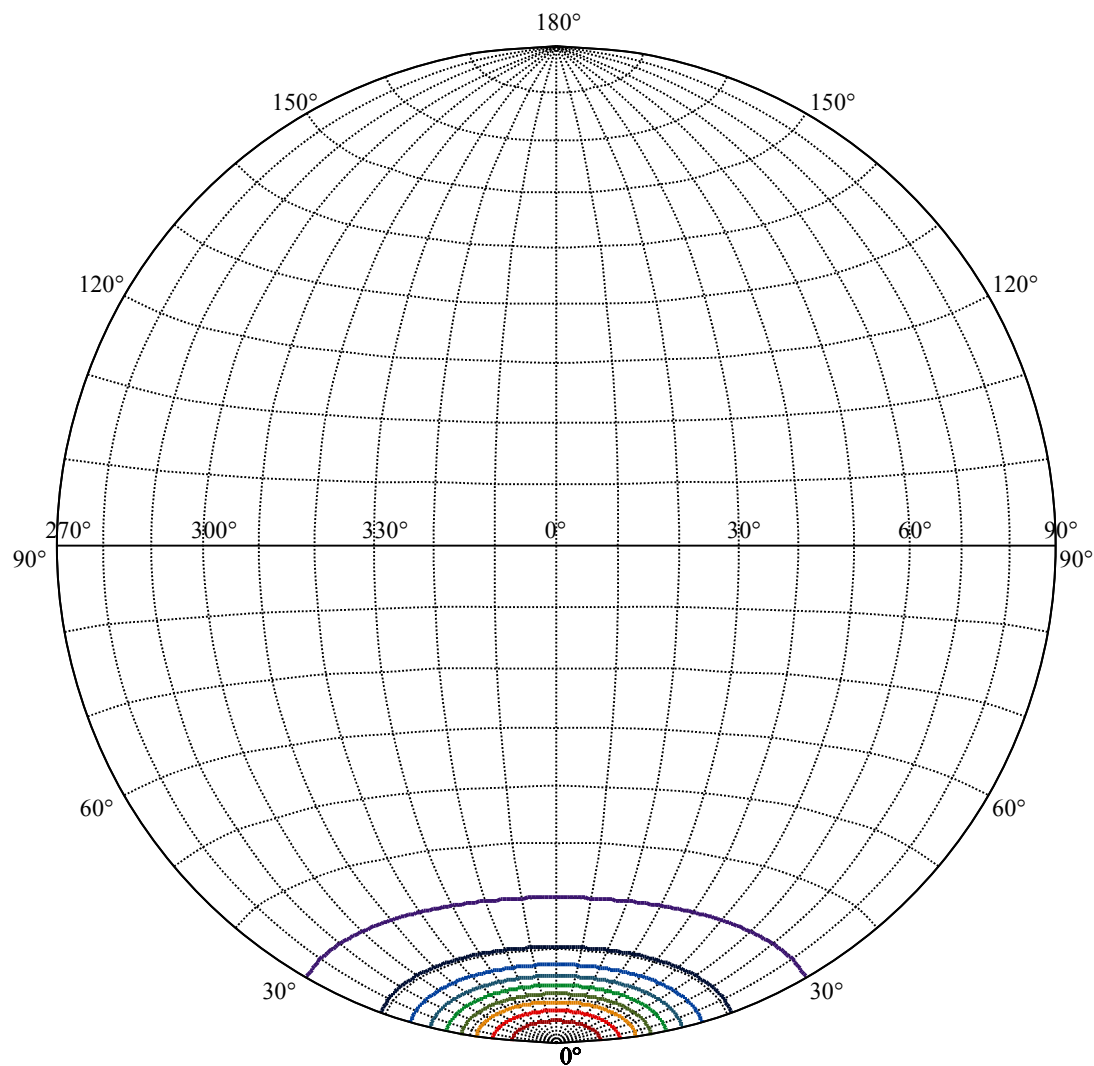
ZONAL LUMEN SUMMARY

|         |         |
|---------|---------|
| 0-10    | 951.27  |
| 10-20   | 1297.77 |
| 20-30   | 787.24  |
| 30-40   | 389.11  |
| 40-50   | 32.26   |
| 50-60   | 12.35   |
| 60-70   | 10.41   |
| 70-80   | 8.92    |
| 80-90   | 7.21    |
| 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    |







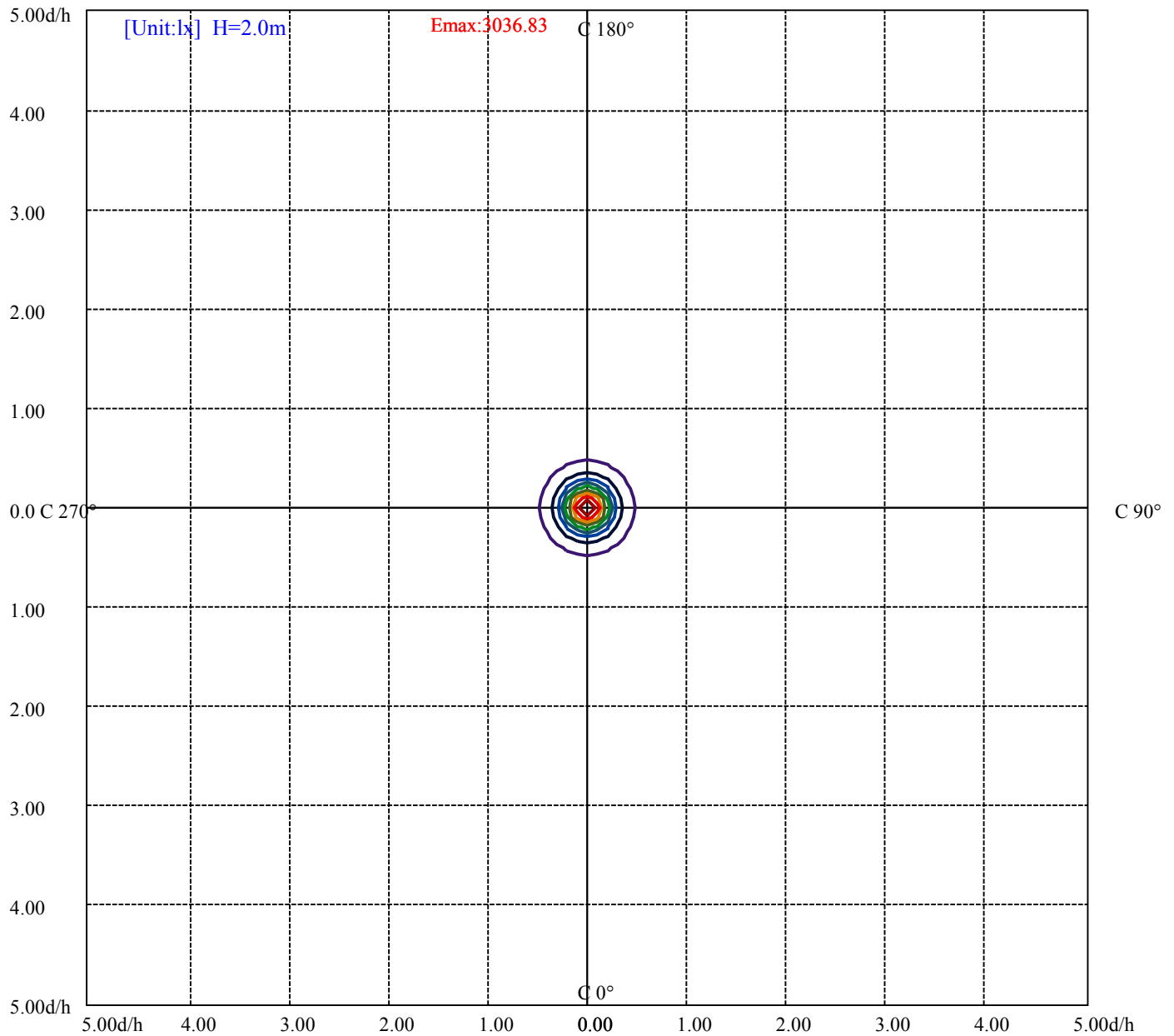


House

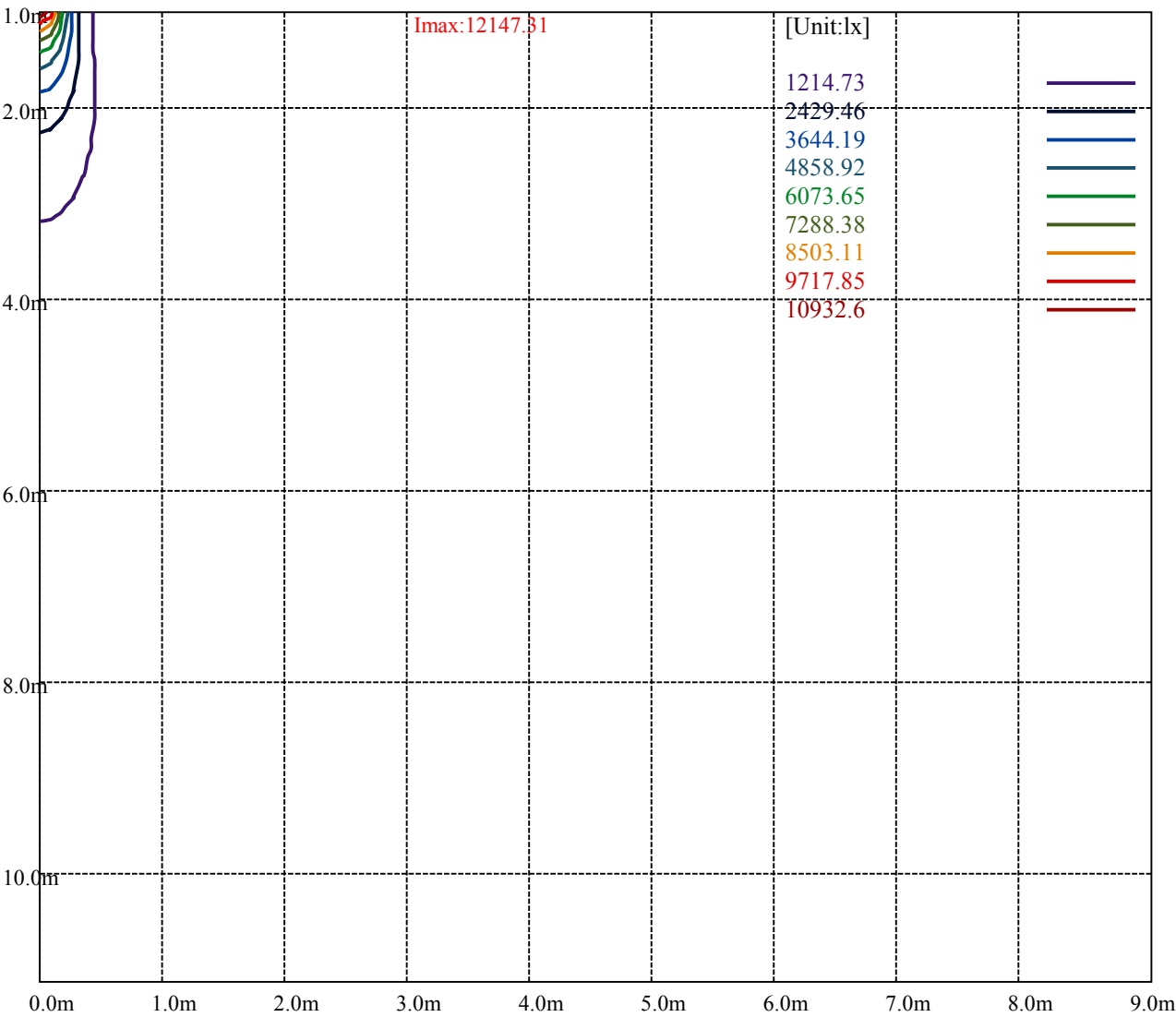
[Unit:cd]

Road

|                                |   |
|--------------------------------|---|
| I <sub>max</sub> :12147.31     |   |
| (10%I <sub>max</sub> ) 1214.73 | — |
| (20%I <sub>max</sub> ) 2429.46 | — |
| (30%I <sub>max</sub> ) 3644.19 | — |
| (40%I <sub>max</sub> ) 4858.92 | — |
| (50%I <sub>max</sub> ) 6073.65 | — |
| (60%I <sub>max</sub> ) 7288.38 | — |
| (70%I <sub>max</sub> ) 8503.11 | — |
| (80%I <sub>max</sub> ) 9717.85 | — |
| (90%I <sub>max</sub> ) 10932.6 | — |



|           |          |   |
|-----------|----------|---|
| (10%Emax) | 303.6825 | — |
| (20%Emax) | 607.365  | — |
| (30%Emax) | 911.0475 | — |
| (40%Emax) | 1214.73  | — |
| (50%Emax) | 1518.412 | — |
| (60%Emax) | 1822.095 | — |
| (70%Emax) | 2125.778 | — |
| (80%Emax) | 2429.46  | — |
| (90%Emax) | 2733.15  | — |



Luminance Table

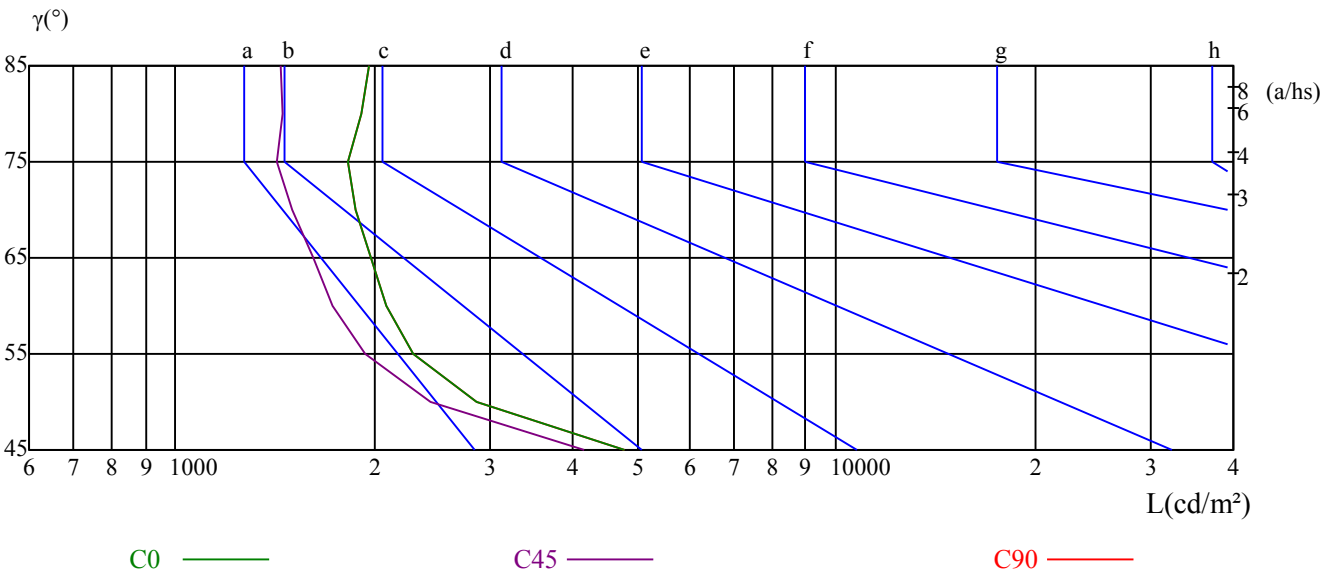
|          |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|
| $\gamma$ | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   |
| C0       | 4772 | 2850 | 2297 | 2092 | 1981 | 1878 | 1822 | 1907 | 1966 |
| C45      | 4146 | 2440 | 1936 | 1734 | 1613 | 1498 | 1421 | 1448 | 1446 |
| C90      | 4772 | 2850 | 2297 | 2092 | 1981 | 1878 | 1822 | 1907 | 1966 |

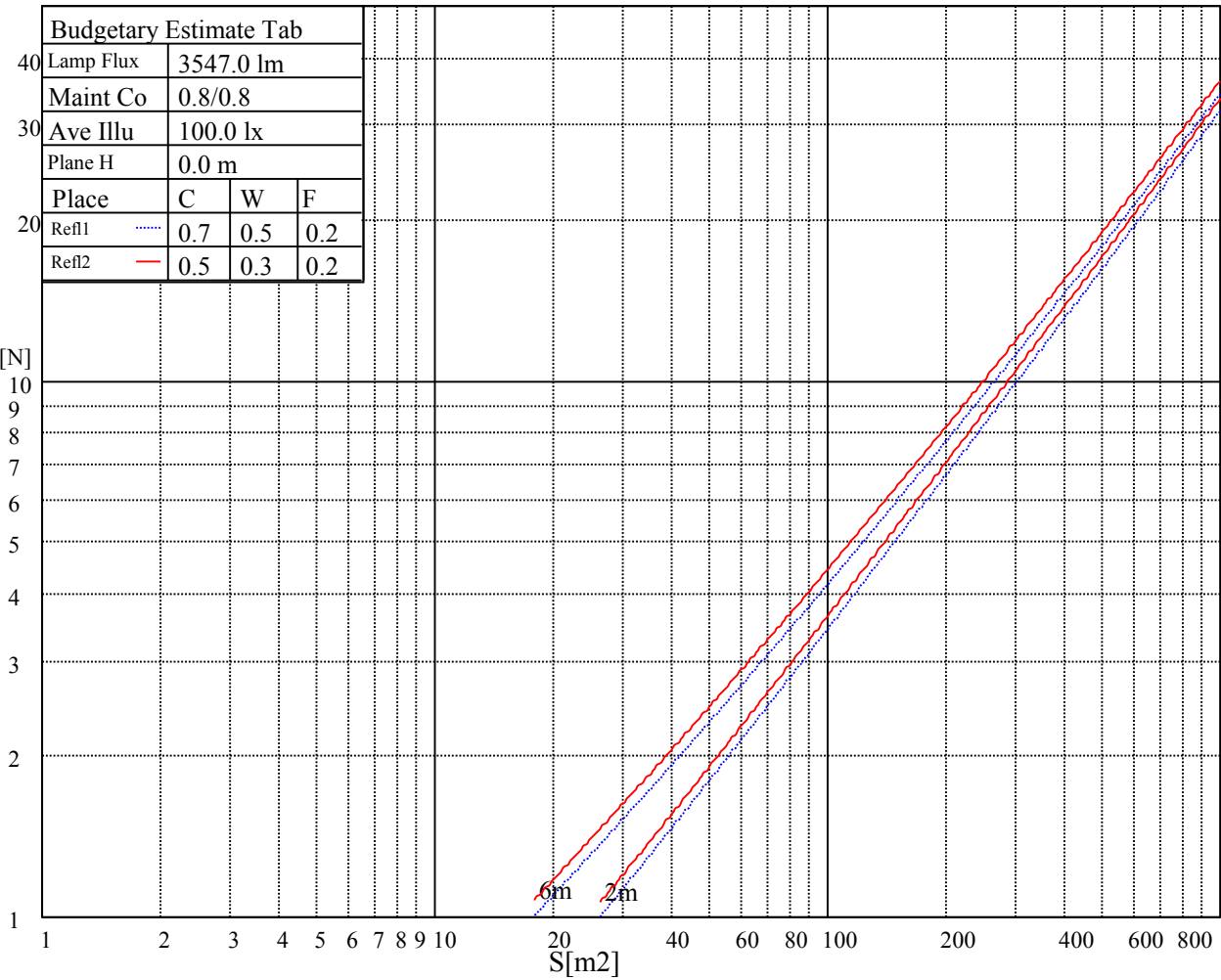
|            |            |         |            |            |         |            |            |         |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
| 4416       | 4416       | 4416    | 5720       | 5720       | 5720    | 14847      | 14847      | 14847   |

Glare Table

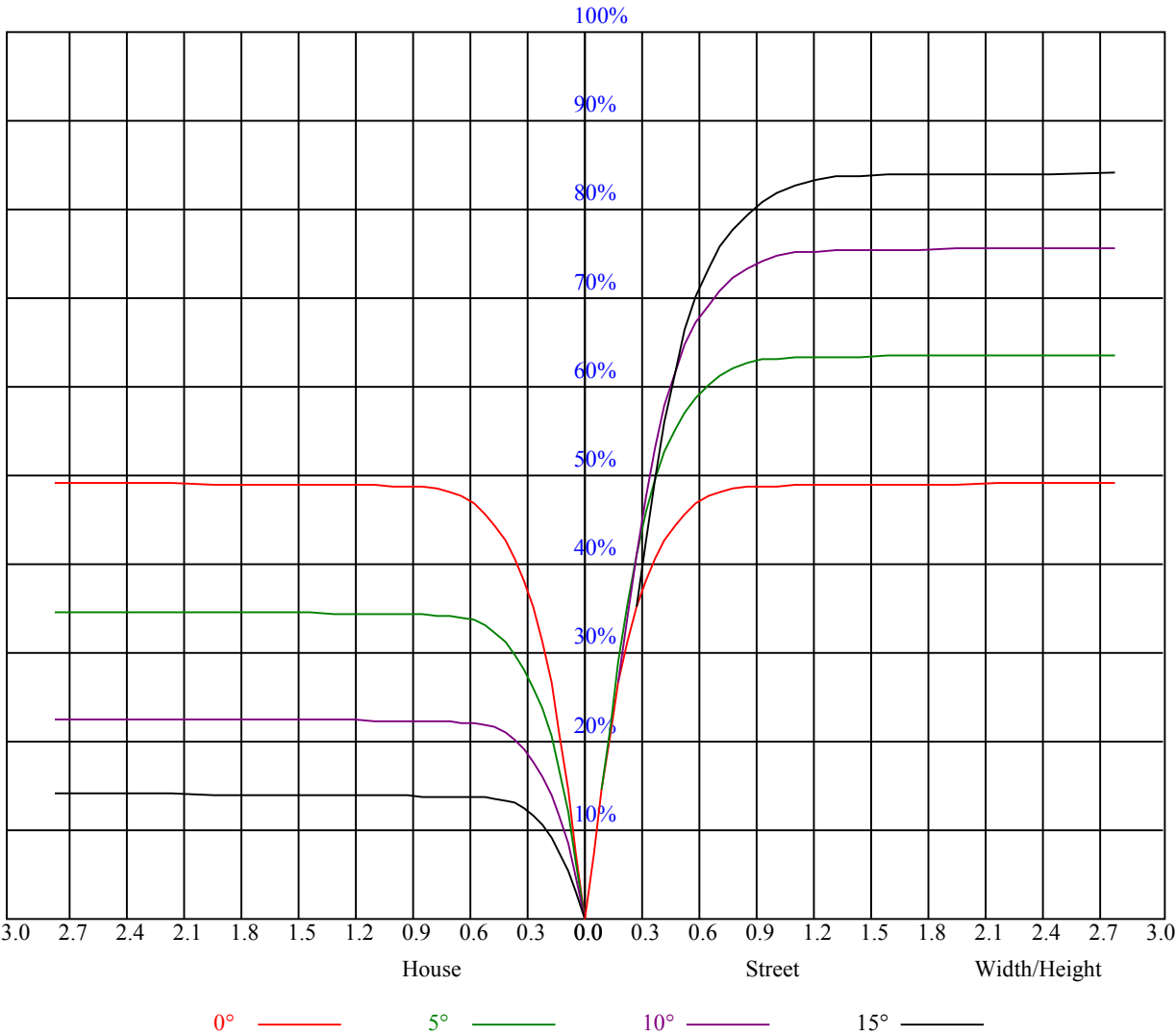
| Glare | Quality | Service Values Illuminance(lx) |      |      |       |       |       |       |       |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A       | 2000                           | 1000 | 500  | <=300 |       |    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

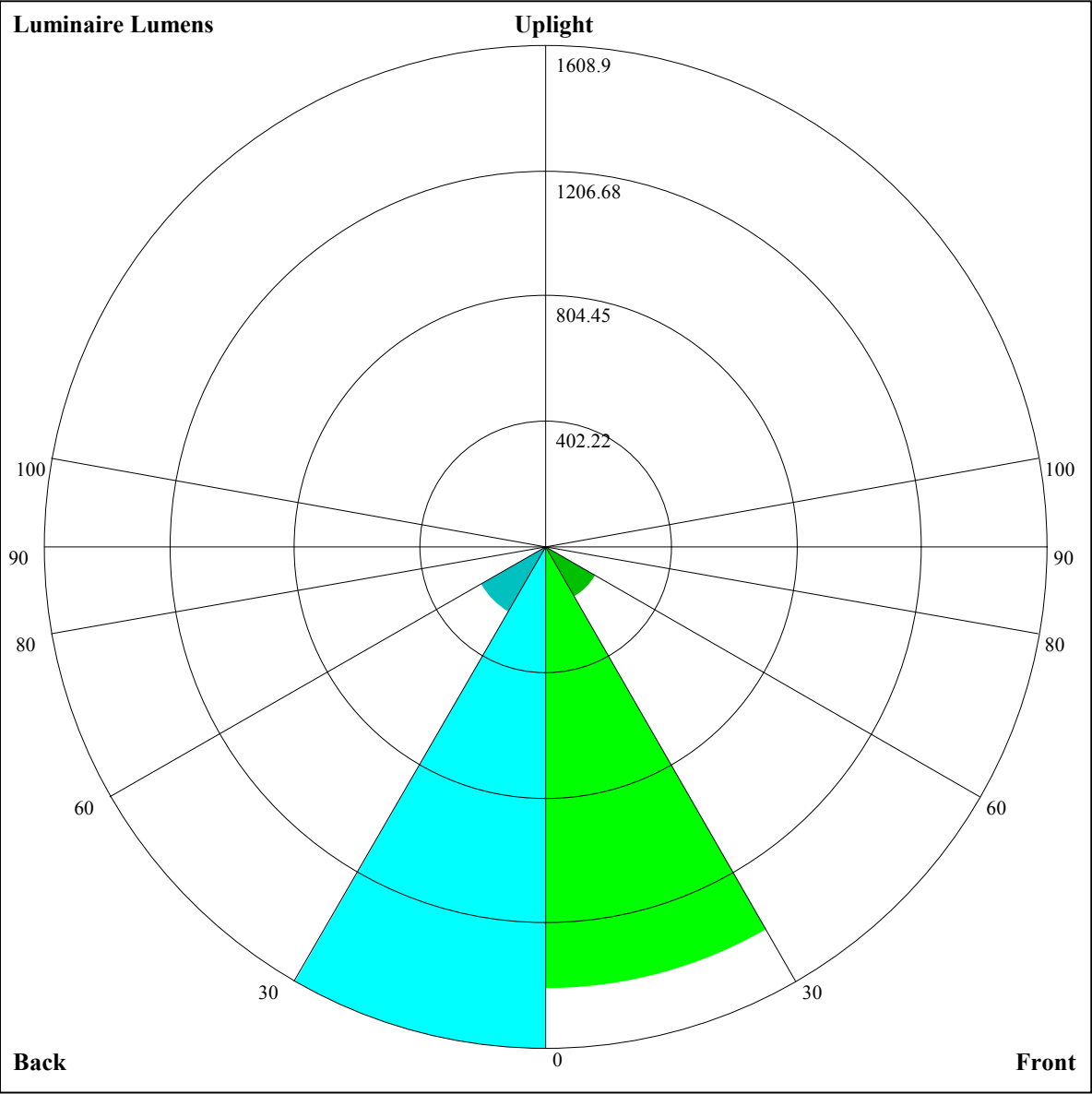
Luminance Limiting Curve





| 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   | COEFFCIENTS OF UTILIZATION RHOFC=20 CU |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0     | 1.17                                   | 1.17 | 1.17 | 1.15 | 1.15 | 1.15 | 1.10 | 1.10 | 1.10 | 1.05 | 1.05 | 1.05 | 1.01 | 1.01 | 1.01 | 0.99 |
| 1     | 1.10                                   | 1.08 | 1.06 | 1.08 | 1.06 | 1.05 | 1.04 | 1.03 | 1.02 | 1.01 | 1.00 | 0.99 | 0.97 | 0.97 | 0.96 | 0.94 |
| 2     | 1.04                                   | 1.01 | 0.98 | 1.03 | 1.00 | 0.97 | 1.00 | 0.97 | 0.95 | 0.97 | 0.95 | 0.93 | 0.94 | 0.93 | 0.91 | 0.90 |
| 3     | 0.99                                   | 0.95 | 0.92 | 0.98 | 0.94 | 0.91 | 0.95 | 0.92 | 0.90 | 0.93 | 0.90 | 0.88 | 0.91 | 0.89 | 0.87 | 0.86 |
| 4     | 0.94                                   | 0.90 | 0.87 | 0.93 | 0.89 | 0.86 | 0.91 | 0.88 | 0.85 | 0.89 | 0.87 | 0.84 | 0.88 | 0.85 | 0.83 | 0.82 |
| 5     | 0.90                                   | 0.86 | 0.82 | 0.89 | 0.85 | 0.82 | 0.88 | 0.84 | 0.81 | 0.86 | 0.83 | 0.80 | 0.85 | 0.82 | 0.80 | 0.78 |
| 6     | 0.86                                   | 0.82 | 0.78 | 0.86 | 0.81 | 0.78 | 0.84 | 0.80 | 0.77 | 0.83 | 0.80 | 0.77 | 0.82 | 0.79 | 0.76 | 0.75 |
| 7     | 0.83                                   | 0.78 | 0.75 | 0.82 | 0.78 | 0.75 | 0.81 | 0.77 | 0.74 | 0.80 | 0.76 | 0.74 | 0.79 | 0.76 | 0.73 | 0.72 |
| 8     | 0.80                                   | 0.75 | 0.72 | 0.79 | 0.75 | 0.72 | 0.78 | 0.74 | 0.71 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.71 | 0.70 |
| 9     | 0.77                                   | 0.72 | 0.69 | 0.76 | 0.72 | 0.69 | 0.75 | 0.71 | 0.69 | 0.75 | 0.71 | 0.68 | 0.74 | 0.71 | 0.68 | 0.67 |
| 10    | 0.74                                   | 0.69 | 0.66 | 0.74 | 0.69 | 0.66 | 0.73 | 0.69 | 0.66 | 0.72 | 0.68 | 0.66 | 0.71 | 0.68 | 0.66 | 0.65 |





Luminaire Lumens:  
FL=1420.14,FM=186.48,FH=9.61,FVH=3.96  
BL=1608.9,BM=243.92,BH=9.89,BVH=4  
UL=0,UH=0  
BUG Rating:B3-U0-G0

## 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    | 12294.77 | 12136.19 | 11920.55 | 11552.21 | 11160.37 | 10698.05 | 9988.21  | 9340.46  | 8677.60  |
| 45.0   | 12251.98 | 12268.76 | 12222.61 | 12033.83 | 11813.15 | 11511.09 | 11140.23 | 10558.76 | 10030.16 |
| 90.0   | 12189.89 | 12233.52 | 12161.36 | 12012.01 | 11789.66 | 11476.69 | 10985.84 | 10526.04 | 10014.22 |
| 135.0  | 11886.15 | 12112.70 | 12250.30 | 12303.16 | 12240.23 | 12103.47 | 11865.17 | 11478.37 | 11102.47 |
| 180.0  | 12294.77 | 12339.24 | 12311.55 | 12172.27 | 11957.47 | 11681.42 | 11318.95 | 10880.96 | 10230.69 |
| 225.0  | 12251.98 | 12166.40 | 11945.72 | 11688.97 | 11363.42 | 10845.72 | 10354.87 | 9799.42  | 9044.27  |
| 270.0  | 12189.89 | 12078.30 | 11879.44 | 11520.32 | 11155.33 | 10594.84 | 10048.62 | 9467.99  | 8677.60  |
| 315.0  | 11819.03 | 11513.61 | 11089.05 | 10448.85 | 9871.58  | 9213.76  | 8280.73  | 7518.03  | 6750.29  |
| 360.0  | 12294.77 | 12136.19 | 11920.55 | 11552.21 | 11160.37 | 10698.05 | 9988.21  | 9340.46  | 8677.60  |
| C/γ(°) | 9.0      | 10.0     | 11.0     | 12.0     | 13.0     | 14.0     | 15.0     | 16.0     | 17.0     |
| 0.0    | 7957.69  | 7063.26  | 6355.93  | 5657.00  | 5026.03  | 4304.44  | 3806.04  | 3368.89  | 2905.73  |
| 45.0   | 9463.80  | 8702.77  | 8064.25  | 7294.84  | 6657.15  | 6044.64  | 5481.64  | 4816.27  | 4339.68  |
| 90.0   | 9431.91  | 8665.85  | 8018.94  | 7192.47  | 6526.26  | 5875.99  | 5131.75  | 4576.30  | 4070.34  |
| 135.0  | 10649.38 | 10127.49 | 9386.60  | 8747.24  | 8051.67  | 7145.48  | 6402.92  | 5668.75  | 4799.48  |
| 180.0  | 9649.23  | 8990.57  | 8310.09  | 7433.28  | 6720.92  | 5862.57  | 5226.56  | 4633.35  | 3978.89  |
| 225.0  | 8420.85  | 7788.20  | 6996.97  | 6397.05  | 5809.71  | 5253.41  | 4637.55  | 4182.78  | 3772.48  |
| 270.0  | 7985.38  | 7294.00  | 6600.94  | 5770.27  | 5142.66  | 4574.62  | 4060.28  | 3503.14  | 3125.57  |
| 315.0  | 5978.36  | 5090.64  | 4457.99  | 3894.98  | 3404.13  | 2909.09  | 2586.89  | 2325.11  | 2059.97  |
| 360.0  | 7957.69  | 7063.26  | 6355.93  | 5657.00  | 5026.03  | 4304.44  | 3806.04  | 3368.89  | 2905.73  |
| C/γ(°) | 18.0     | 19.0     | 20.0     | 21.0     | 22.0     | 23.0     | 24.0     | 25.0     | 26.0     |
| 0.0    | 2608.71  | 2305.81  | 2109.47  | 1937.46  | 1654.79  | 1654.79  | 1563.50  | 1485.30  | 1400.47  |
| 45.0   | 3909.25  | 3521.60  | 3115.50  | 2829.38  | 2583.54  | 2370.42  | 2140.52  | 1984.45  | 1828.39  |
| 90.0   | 3620.61  | 3143.19  | 2817.63  | 2526.48  | 2291.55  | 2039.83  | 1673.41  | 1673.41  | 1620.80  |
| 135.0  | 4186.97  | 3652.49  | 3097.04  | 2740.44  | 2448.45  | 2210.16  | 1972.70  | 1829.23  | 1707.56  |
| 180.0  | 3512.37  | 3123.89  | 2712.75  | 2438.38  | 2205.12  | 2021.37  | 1869.50  | 1715.95  | 1619.46  |
| 225.0  | 3399.94  | 3007.26  | 2739.60  | 2511.38  | 2273.09  | 2106.11  | 1944.18  | 1663.43  | 1663.43  |
| 270.0  | 2792.46  | 2452.64  | 2231.13  | 2037.31  | 1842.65  | 1712.60  | 1583.38  | 1496.96  | 1420.61  |
| 315.0  | 1668.55  | 1668.55  | 1619.46  | 1533.04  | 1465.41  | 1391.15  | 1340.56  | 1298.02  | 1256.32  |
| 360.0  | 2608.71  | 2305.81  | 2109.47  | 1937.46  | 1654.79  | 1654.79  | 1563.50  | 1485.30  | 1400.47  |
| C/γ(°) | 27.0     | 28.0     | 29.0     | 30.0     | 31.0     | 32.0     | 33.0     | 34.0     | 35.0     |
| 0.0    | 1345.59  | 1288.20  | 1215.88  | 1087.50  | 972.21   | 851.81   | 722.76   | 569.22   | 445.20   |
| 45.0   | 1714.28  | 1612.75  | 1507.87  | 1419.77  | 1306.49  | 1153.79  | 1019.54  | 882.77   | 749.36   |
| 90.0   | 1499.23  | 1417.42  | 1326.80  | 1257.07  | 1175.43  | 1050.08  | 936.22   | 813.63   | 656.56   |
| 135.0  | 1608.55  | 1506.19  | 1442.42  | 1389.56  | 1324.95  | 1282.16  | 1224.27  | 1116.03  | 1012.82  |
| 180.0  | 1534.72  | 1447.46  | 1385.37  | 1329.15  | 1233.50  | 1137.00  | 1003.59  | 887.81   | 761.95   |
| 225.0  | 1596.30  | 1516.93  | 1424.47  | 1309.43  | 1155.21  | 1023.56  | 890.32   | 755.23   | 592.63   |
| 270.0  | 1354.32  | 1282.16  | 1210.84  | 1113.51  | 1006.95  | 861.79   | 739.29   | 615.95   | 490.09   |
| 315.0  | 1172.66  | 1080.45  | 973.81   | 855.08   | 697.59   | 567.62   | 440.25   | 298.45   | 202.46   |
| 360.0  | 1345.59  | 1288.20  | 1215.88  | 1087.50  | 972.21   | 851.81   | 722.76   | 569.22   | 445.20   |
| C/γ(°) | 36.0     | 37.0     | 38.0     | 39.0     | 40.0     | 41.0     | 42.0     | 43.0     | 44.0     |
| 0.0    | 304.66   | 206.58   | 129.05   | 66.37    | 47.66    | 40.53    | 32.72    | 24.67    | 20.47    |
| 45.0   | 584.91   | 459.89   | 428.00   | 428.00   | 147.09   | 86.25    | 68.30    | 55.88    | 46.48    |
| 90.0   | 532.55   | 415.67   | 308.02   | 196.00   | 127.03   | 83.15    | 62.51    | 51.01    | 42.62    |
| 135.0  | 897.03   | 740.13   | 608.40   | 475.83   | 444.78   | 297.53   | 137.35   | 78.96    | 51.60    |
| 180.0  | 637.77   | 487.58   | 430.52   | 430.52   | 167.31   | 81.14    | 53.03    | 43.21    | 35.58    |
| 225.0  | 469.28   | 352.15   | 222.43   | 143.98   | 95.15    | 72.41    | 62.34    | 52.02    | 41.45    |
| 270.0  | 428.84   | 428.84   | 163.28   | 93.55    | 66.20    | 54.12    | 46.06    | 38.34    | 32.05    |
| 315.0  | 109.92   | 64.10    | 44.55    | 38.01    | 29.28    | 23.33    | 19.05    | 17.28    | 16.11    |
| 360.0  | 304.66   | 206.58   | 129.05   | 66.37    | 47.66    | 40.53    | 32.72    | 24.67    | 20.47    |

## Intensity data(cd)

| C/ $\gamma$ (°) | 45.0  | 46.0  | 47.0  | 48.0  | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0             | 18.54 | 17.28 | 15.94 | 15.02 | 14.10 | 13.26 | 12.59 | 12.08 | 11.66 |
| 45.0            | 38.93 | 32.72 | 29.62 | 27.10 | 24.50 | 22.57 | 20.81 | 19.38 | 18.12 |
| 90.0            | 35.58 | 29.45 | 26.60 | 22.99 | 20.98 | 19.63 | 18.38 | 17.12 | 16.36 |
| 135.0           | 40.53 | 33.39 | 26.85 | 20.81 | 18.79 | 17.37 | 16.53 | 15.69 | 14.68 |
| 180.0           | 26.68 | 21.31 | 18.46 | 16.61 | 15.61 | 14.43 | 13.68 | 12.84 | 12.25 |
| 225.0           | 35.83 | 32.39 | 29.70 | 26.68 | 24.50 | 22.40 | 20.64 | 18.96 | 17.96 |
| 270.0           | 27.52 | 24.75 | 21.98 | 20.14 | 18.38 | 17.20 | 16.19 | 15.10 | 14.43 |
| 315.0           | 15.27 | 14.43 | 13.59 | 12.92 | 12.42 | 11.91 | 11.66 | 11.24 | 11.08 |
| 360.0           | 18.54 | 17.28 | 15.94 | 15.02 | 14.10 | 13.26 | 12.59 | 12.08 | 11.66 |
|                 |       |       |       |       |       |       |       |       |       |
| C/ $\gamma$ (°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0             | 11.41 | 11.16 | 10.91 | 10.74 | 10.57 | 10.40 | 10.24 | 10.15 | 10.07 |
| 45.0            | 17.37 | 16.61 | 16.03 | 15.27 | 14.77 | 14.10 | 13.59 | 13.26 | 12.67 |
| 90.0            | 15.77 | 15.27 | 14.68 | 14.26 | 13.93 | 13.59 | 13.26 | 13.01 | 12.59 |
| 135.0           | 13.93 | 13.34 | 12.92 | 12.42 | 12.17 | 11.91 | 11.66 | 11.41 | 11.24 |
| 180.0           | 11.75 | 11.50 | 11.24 | 11.08 | 10.82 | 10.74 | 10.57 | 10.49 | 10.32 |
| 225.0           | 17.03 | 16.11 | 15.35 | 14.68 | 14.18 | 13.68 | 13.09 | 12.67 | 12.25 |
| 270.0           | 13.84 | 13.26 | 12.84 | 12.33 | 12.08 | 11.83 | 11.58 | 11.33 | 11.08 |
| 315.0           | 10.82 | 10.57 | 10.40 | 10.24 | 10.15 | 9.98  | 9.82  | 9.73  | 9.65  |
| 360.0           | 11.41 | 11.16 | 10.91 | 10.74 | 10.57 | 10.40 | 10.24 | 10.15 | 10.07 |
|                 |       |       |       |       |       |       |       |       |       |
| C/ $\gamma$ (°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0             | 9.90  | 9.82  | 9.73  | 9.57  | 9.31  | 9.15  | 8.89  | 8.73  | 8.56  |
| 45.0            | 12.17 | 11.83 | 11.41 | 10.99 | 10.57 | 10.24 | 9.90  | 9.57  | 9.15  |
| 90.0            | 12.25 | 11.91 | 11.58 | 11.24 | 10.99 | 10.66 | 10.24 | 9.90  | 9.65  |
| 135.0           | 11.08 | 10.91 | 10.74 | 10.57 | 10.40 | 10.24 | 10.07 | 9.82  | 9.48  |
| 180.0           | 10.24 | 10.15 | 9.98  | 9.90  | 9.82  | 9.65  | 9.57  | 9.40  | 9.15  |
| 225.0           | 11.75 | 11.41 | 10.99 | 10.66 | 10.40 | 9.98  | 9.65  | 9.31  | 8.98  |
| 270.0           | 10.82 | 10.66 | 10.49 | 10.24 | 10.07 | 9.73  | 9.48  | 9.31  | 9.06  |
| 315.0           | 9.40  | 9.23  | 9.06  | 8.89  | 8.73  | 8.56  | 8.47  | 8.39  | 8.22  |
| 360.0           | 9.90  | 9.82  | 9.73  | 9.57  | 9.31  | 9.15  | 8.89  | 8.73  | 8.56  |
|                 |       |       |       |       |       |       |       |       |       |
| C/ $\gamma$ (°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0             | 8.39  | 8.22  | 8.14  | 8.05  | 8.05  | 7.97  | 7.89  | 7.80  | 7.72  |
| 45.0            | 8.89  | 8.64  | 8.39  | 8.22  | 8.14  | 8.05  | 7.97  | 7.89  | 7.80  |
| 90.0            | 9.31  | 9.06  | 8.89  | 8.73  | 8.56  | 8.47  | 8.39  | 8.39  | 8.31  |
| 135.0           | 9.31  | 9.15  | 8.81  | 8.64  | 8.47  | 8.31  | 8.22  | 8.14  | 8.05  |
| 180.0           | 9.06  | 8.81  | 8.64  | 8.47  | 8.31  | 8.22  | 8.14  | 8.05  | 7.97  |
| 225.0           | 8.73  | 8.47  | 8.22  | 8.14  | 8.05  | 7.89  | 7.89  | 7.72  | 7.72  |
| 270.0           | 8.89  | 8.73  | 8.56  | 8.47  | 8.47  | 8.39  | 8.31  | 8.14  | 8.05  |
| 315.0           | 8.14  | 8.05  | 7.97  | 7.89  | 7.80  | 7.80  | 7.72  | 7.72  | 7.72  |
| 360.0           | 8.39  | 8.22  | 8.14  | 8.05  | 8.05  | 7.97  | 7.89  | 7.80  | 7.72  |
|                 |       |       |       |       |       |       |       |       |       |
| C/ $\gamma$ (°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0             | 7.64  | 7.64  | 7.55  | 7.55  | 7.47  | 7.05  | 6.96  | 6.63  | 6.63  |
| 45.0            | 7.72  | 7.64  | 7.64  | 7.55  | 7.38  | 7.13  | 6.96  | 6.88  | 6.71  |
| 90.0            | 8.14  | 8.05  | 7.89  | 7.72  | 7.47  | 7.22  | 7.05  | 6.88  | 6.71  |
| 135.0           | 7.97  | 7.89  | 7.80  | 7.72  | 7.64  | 7.47  | 7.30  | 7.13  | 7.05  |
| 180.0           | 7.80  | 7.80  | 7.72  | 7.55  | 7.22  | 7.13  | 7.05  | 6.96  | 6.88  |
| 225.0           | 7.55  | 7.55  | 7.47  | 7.05  | 6.96  | 6.96  | 6.80  | 6.71  | 6.54  |
| 270.0           | 7.97  | 7.89  | 7.72  | 7.38  | 7.05  | 6.96  | 6.80  | 6.71  | 6.63  |
| 315.0           | 7.64  | 7.55  | 7.30  | 7.13  | 7.05  | 6.80  | 6.71  | 6.71  | 6.71  |
| 360.0           | 7.64  | 7.64  | 7.55  | 7.55  | 7.47  | 7.05  | 6.96  | 6.63  | 6.63  |

Intensity data(cd)

|                       |      |
|-----------------------|------|
| C/ $\gamma(^{\circ})$ | 90.0 |
| 0.0                   | 6.63 |
| 45.0                  | 6.54 |
| 90.0                  | 6.71 |
| 135.0                 | 7.05 |
| 180.0                 | 6.80 |
| 225.0                 | 6.54 |
| 270.0                 | 6.54 |
| 315.0                 | 6.71 |
| 360.0                 | 6.63 |