



NATA LIGHTING CO.,LTD.
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NATA

Client:

LumCAT: 1687-M

Luminaire: 92.70.127.00

Report No: nt0100

Test No: GC2020011016

LampCAT: LUMINUS CLM-9-AA40

Lamp flux(lm): 1442.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.6000

Current(A): 0.3490

Power (W): 12.0800

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1320.57, Efficiency(%): 91.58% , Luminous Efficacy(lm/W): 109.32

Central intensity(cd): 3260.391, Maximum intensity(cd): 3260.391

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=27.2

[C90/270]Total=27.2

Field angle(10%Imax): [C0/180]Total=81.0

[C90/270]Total=81.0

Maximum s/h(1/2): C0_180=0.46 C90_270=0.46

Maximum s/h(1/4): C0_180=0.46 C90_270=0.46

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.58%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.735%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/10
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 3260.391 | 0.000 | 0 | .000% | .000% |
| 1.0 | 3252.164 | 3.116 | 3.116 | .216% | .236% |
| 2.0 | 3226.008 | 9.298 | 12.414 | .645% | .940% |
| 3.0 | 3185.438 | 15.334 | 27.748 | 1.063% | 2.101% |
| 4.0 | 3128.766 | 21.136 | 48.884 | 1.466% | 3.702% |
| 5.0 | 3037.641 | 26.528 | 75.412 | 1.840% | 5.711% |
| 6.0 | 2931.961 | 31.372 | 106.783 | 2.176% | 8.086% |
| 7.0 | 2797.383 | 35.562 | 142.345 | 2.466% | 10.779% |
| 8.0 | 2649.586 | 38.983 | 181.328 | 2.703% | 13.731% |
| 9.0 | 2483.719 | 41.603 | 222.931 | 2.885% | 16.881% |
| 10.0 | 2310.398 | 43.385 | 266.316 | 3.009% | 20.167% |
| 11.0 | 2126.883 | 44.338 | 310.653 | 3.075% | 23.524% |
| 12.0 | 1941.539 | 44.474 | 355.127 | 3.084% | 26.892% |
| 13.0 | 1760.344 | 43.932 | 399.059 | 3.047% | 30.219% |
| 14.0 | 1558.758 | 42.484 | 441.543 | 2.946% | 33.436% |
| 15.0 | 1358.930 | 40.055 | 481.599 | 2.778% | 36.469% |
| 16.0 | 1204.109 | 37.556 | 519.154 | 2.604% | 39.313% |
| 17.0 | 1059.462 | 35.250 | 554.404 | 2.445% | 41.982% |
| 18.0 | 936.802 | 32.914 | 587.318 | 2.283% | 44.475% |
| 19.0 | 840.073 | 30.914 | 618.232 | 2.144% | 46.816% |
| 20.0 | 749.053 | 29.085 | 647.318 | 2.017% | 49.018% |
| 21.0 | 680.963 | 27.459 | 674.777 | 1.904% | 51.097% |
| 22.0 | 635.386 | 26.453 | 701.229 | 1.834% | 53.101% |
| 23.0 | 598.352 | 25.887 | 727.117 | 1.795% | 55.061% |
| 24.0 | 570.016 | 25.545 | 752.661 | 1.771% | 56.995% |
| 25.0 | 548.775 | 25.439 | 778.1 | 1.764% | 58.922% |
| 26.0 | 531.710 | 25.505 | 803.605 | 1.769% | 60.853% |
| 27.0 | 516.811 | 25.652 | 829.257 | 1.779% | 62.796% |
| 28.0 | 504.612 | 25.860 | 855.118 | 1.793% | 64.754% |
| 29.0 | 493.530 | 26.114 | 881.232 | 1.811% | 66.731% |
| 30.0 | 483.384 | 26.377 | 907.608 | 1.829% | 68.729% |
| 31.0 | 474.328 | 26.652 | 934.26 | 1.848% | 70.747% |
| 32.0 | 465.216 | 26.917 | 961.177 | 1.867% | 72.785% |
| 33.0 | 457.088 | 27.171 | 988.348 | 1.884% | 74.843% |
| 34.0 | 449.648 | 27.441 | 1015.789 | 1.903% | 76.921% |
| 35.0 | 441.162 | 27.665 | 1043.454 | 1.919% | 79.016% |
| 36.0 | 431.789 | 27.795 | 1071.249 | 1.928% | 81.120% |
| 37.0 | 420.511 | 27.797 | 1099.046 | 1.928% | 83.225% |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0 | 400.155 | 27.393 | 1126.439 | 1.900% | 85.300% |
| 39.0 | 371.911 | 26.353 | 1152.792 | 1.828% | 87.295% |
| 40.0 | 341.986 | 24.898 | 1177.69 | 1.727% | 89.181% |
| 41.0 | 307.828 | 23.140 | 1200.83 | 1.605% | 90.933% |
| 42.0 | 265.345 | 20.824 | 1221.654 | 1.444% | 92.510% |
| 43.0 | 229.057 | 18.314 | 1239.968 | 1.270% | 93.897% |
| 44.0 | 188.276 | 15.751 | 1255.719 | 1.092% | 95.089% |
| 45.0 | 145.547 | 12.829 | 1268.549 | .890% | 96.061% |
| 46.0 | 111.298 | 10.045 | 1278.593 | .697% | 96.821% |
| 47.0 | 76.655 | 7.475 | 1286.069 | .518% | 97.388% |
| 48.0 | 49.542 | 5.102 | 1291.17 | .354% | 97.774% |
| 49.0 | 30.157 | 3.273 | 1294.443 | .227% | 98.022% |
| 50.0 | 18.745 | 2.039 | 1296.482 | .141% | 98.176% |
| 51.0 | 13.809 | 1.377 | 1297.859 | .096% | 98.280% |
| 52.0 | 11.074 | 1.068 | 1298.927 | .074% | 98.361% |
| 53.0 | 8.684 | 0.859 | 1299.786 | .060% | 98.426% |
| 54.0 | 7.327 | 0.706 | 1300.492 | .049% | 98.480% |
| 55.0 | 6.609 | 0.622 | 1301.114 | .043% | 98.527% |
| 56.0 | 6.138 | 0.576 | 1301.69 | .040% | 98.570% |
| 57.0 | 5.948 | 0.553 | 1302.243 | .038% | 98.612% |
| 58.0 | 5.801 | 0.543 | 1302.786 | .038% | 98.653% |
| 59.0 | 5.723 | 0.539 | 1303.325 | .037% | 98.694% |
| 60.0 | 5.653 | 0.537 | 1303.862 | .037% | 98.735% |
| 61.0 | 5.583 | 0.536 | 1304.399 | .037% | 98.776% |
| 62.0 | 5.548 | 0.536 | 1304.935 | .037% | 98.816% |
| 63.0 | 5.498 | 0.537 | 1305.472 | .037% | 98.857% |
| 64.0 | 5.470 | 0.538 | 1306.01 | .037% | 98.898% |
| 65.0 | 5.421 | 0.539 | 1306.549 | .037% | 98.938% |
| 66.0 | 5.414 | 0.541 | 1307.09 | .037% | 98.979% |
| 67.0 | 5.386 | 0.543 | 1307.633 | .038% | 99.020% |
| 68.0 | 5.379 | 0.545 | 1308.178 | .038% | 99.062% |
| 69.0 | 5.351 | 0.547 | 1308.726 | .038% | 99.103% |
| 70.0 | 5.337 | 0.549 | 1309.275 | .038% | 99.145% |
| 71.0 | 5.302 | 0.550 | 1309.824 | .038% | 99.186% |
| 72.0 | 5.309 | 0.552 | 1310.376 | .038% | 99.228% |
| 73.0 | 5.295 | 0.554 | 1310.931 | .038% | 99.270% |
| 74.0 | 5.295 | 0.557 | 1311.487 | .039% | 99.312% |
| 75.0 | 5.295 | 0.559 | 1312.047 | .039% | 99.355% |

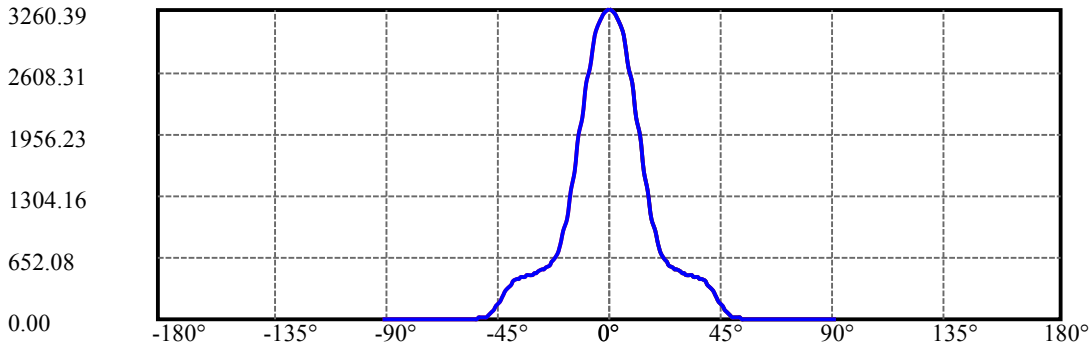
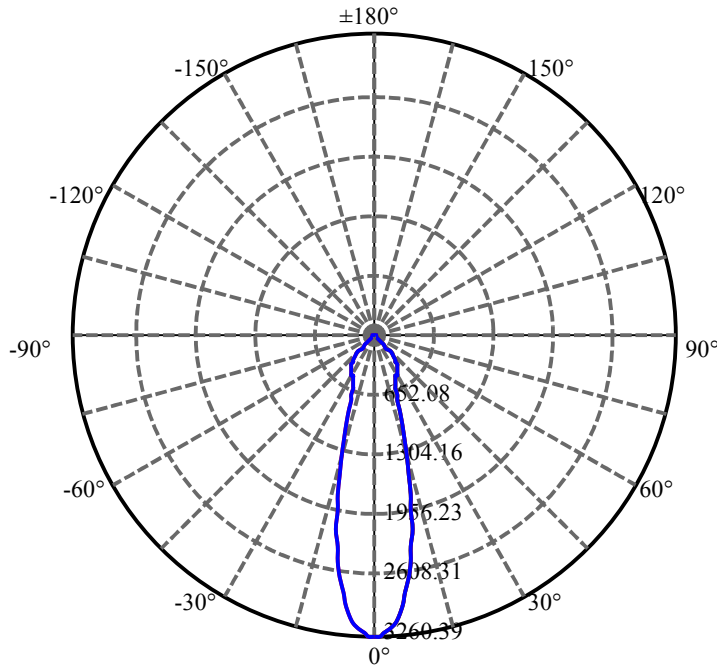
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0 | 5.280 | 0.561 | 1312.608 | .039% | 99.397% |
| 77.0 | 5.273 | 0.563 | 1313.171 | .039% | 99.440% |
| 78.0 | 5.259 | 0.564 | 1313.735 | .039% | 99.483% |
| 79.0 | 5.259 | 0.565 | 1314.3 | .039% | 99.525% |
| 80.0 | 5.238 | 0.566 | 1314.866 | .039% | 99.568% |
| 81.0 | 5.245 | 0.567 | 1315.433 | .039% | 99.611% |
| 82.0 | 5.238 | 0.569 | 1316.001 | .039% | 99.654% |
| 83.0 | 5.231 | 0.569 | 1316.57 | .039% | 99.697% |
| 84.0 | 5.231 | 0.570 | 1317.14 | .040% | 99.740% |
| 85.0 | 5.231 | 0.571 | 1317.711 | .040% | 99.784% |
| 86.0 | 5.224 | 0.572 | 1318.283 | .040% | 99.827% |
| 87.0 | 5.217 | 0.571 | 1318.854 | .040% | 99.870% |
| 88.0 | 5.210 | 0.571 | 1319.426 | .040% | 99.913% |
| 89.0 | 5.210 | 0.571 | 1319.997 | .040% | 99.957% |
| 90.0 | 5.210 | 0.571 | 1320.568 | .040% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 907.61 | 62.94% | 68.73% |
| 0-40 | 1177.69 | 81.67% | 89.18% |
| 0-60 | 1303.86 | 90.42% | 98.73% |
| 0-90 | 1320.00 | 91.54% | 99.96% |
| 0-120 | 1320.00 | 91.54% | 99.96% |
| 0-180 | 1320.57 | 91.58% | 100.00% |
| 60-90 | 16.67 | 1.16% | 1.26% |
| 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% |
| 0-35.47 | 1056.45 | 73.26% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|--------|
| 0-10 | 266.32 |
| 10-20 | 381.00 |
| 20-30 | 260.29 |
| 30-40 | 270.08 |
| 40-50 | 118.79 |
| 50-60 | 7.38 |
| 60-70 | 5.41 |
| 70-80 | 5.59 |
| 80-90 | 5.13 |
| 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: —————

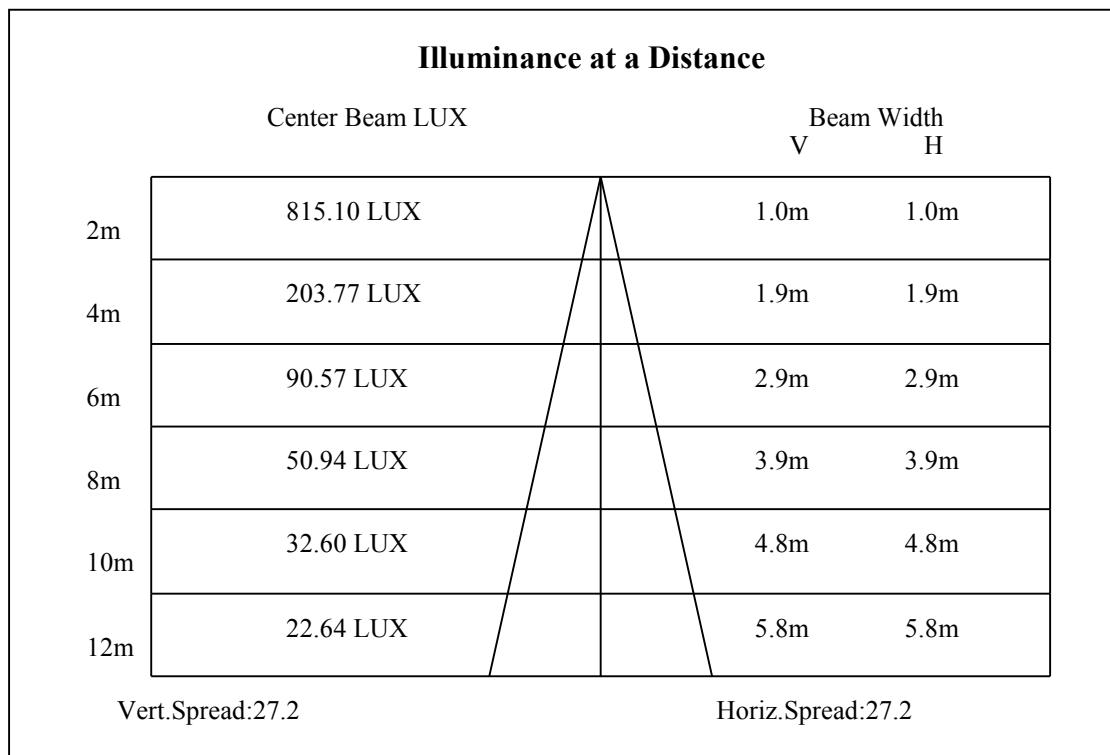
C90/C270: —————

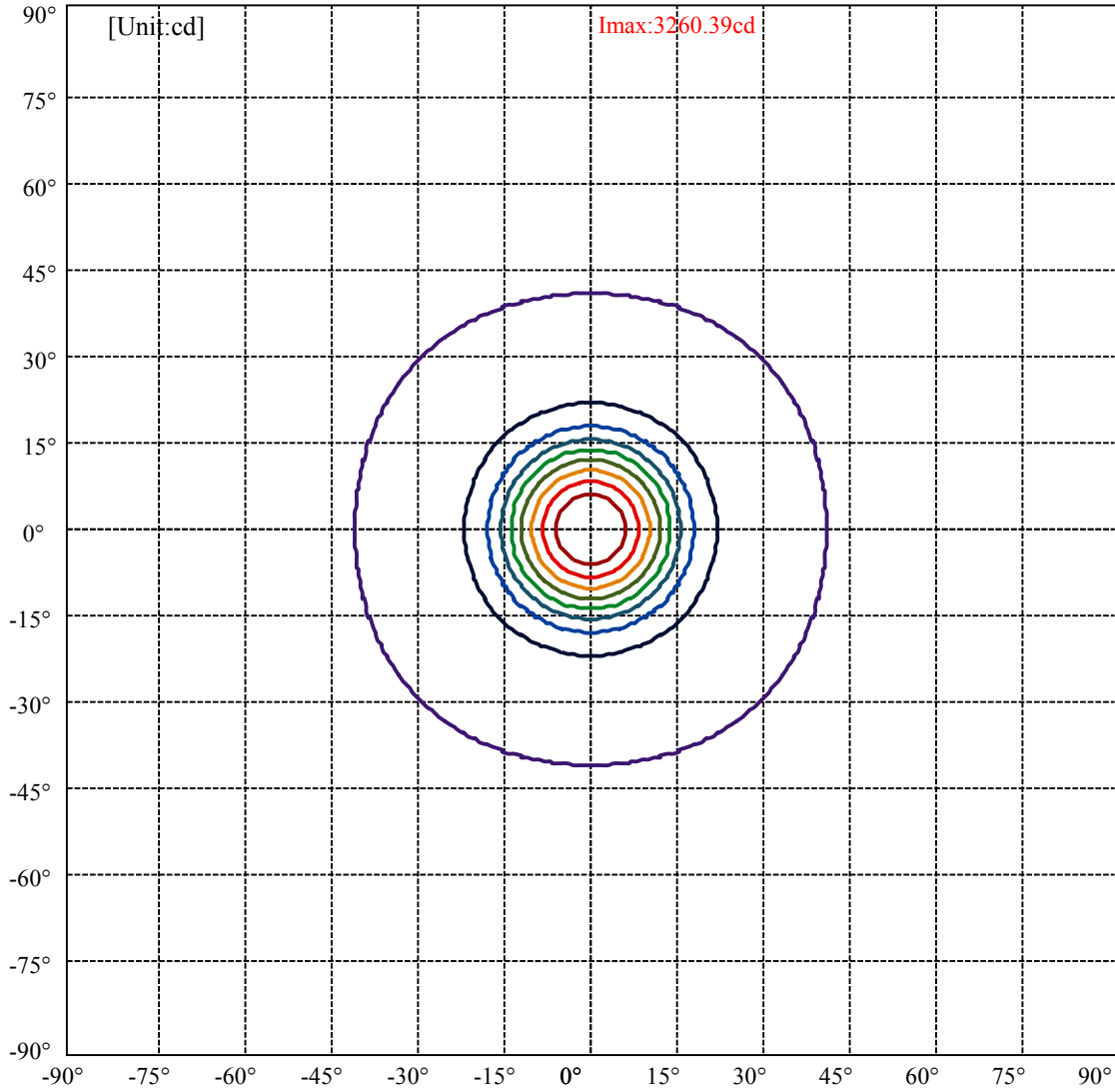
Field angle(10%Imax):C0/180Left:40.5 Right:40.5

:C90/270Left:40.5 Right:40.5

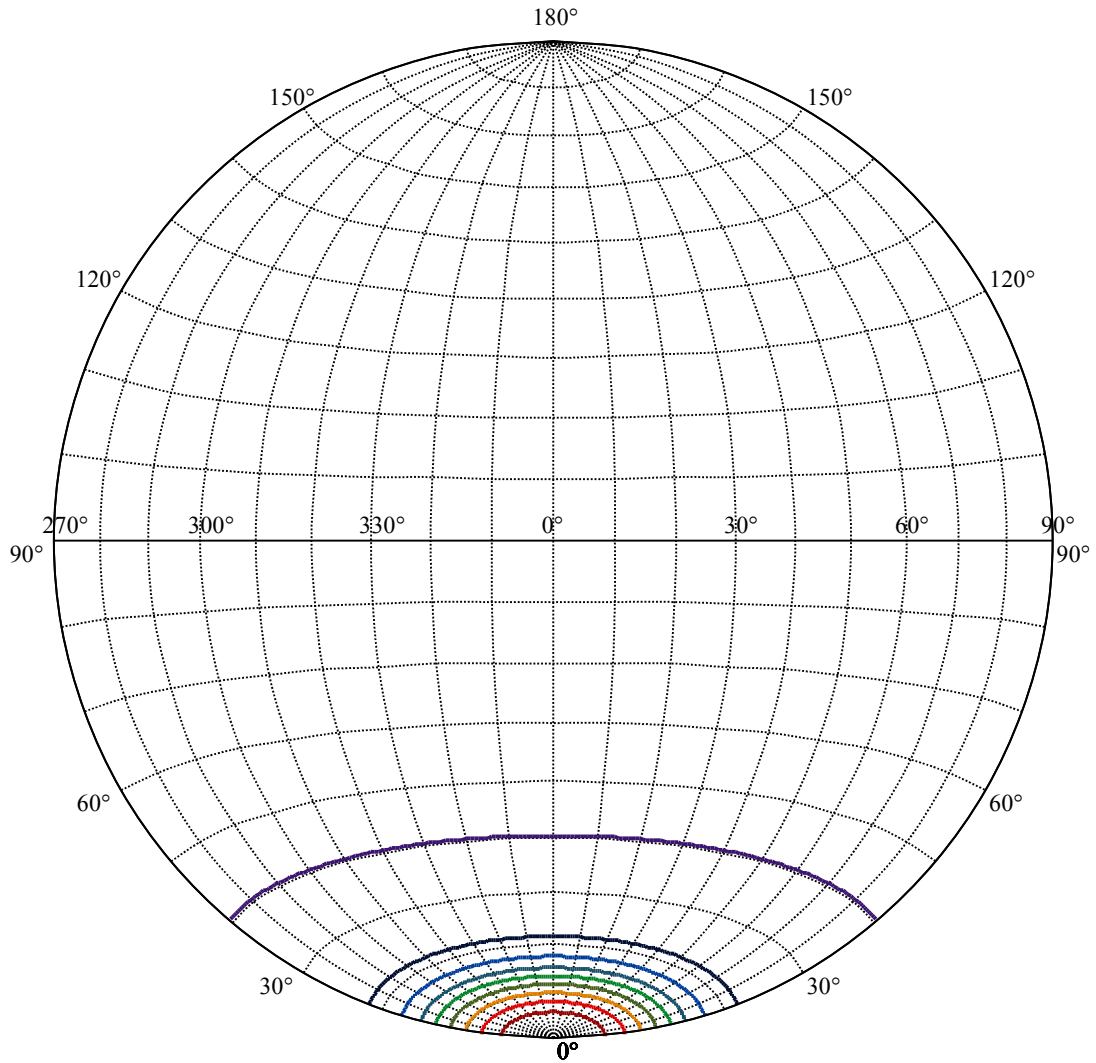
Beam Angle(50%Imax):C0/180Left:13.6 Right:13.6

:C90/270Left:13.6 Right:13.6





| | |
|-------------------|---|
| (10%Imax) 326.039 | — |
| (20%Imax) 652.078 | — |
| (30%Imax) 978.117 | — |
| (40%Imax) 1304.16 | — |
| (50%Imax) 1630.2 | — |
| (60%Imax) 1956.23 | — |
| (70%Imax) 2282.27 | — |
| (80%Imax) 2608.31 | — |
| (90%Imax) 2934.35 | — |



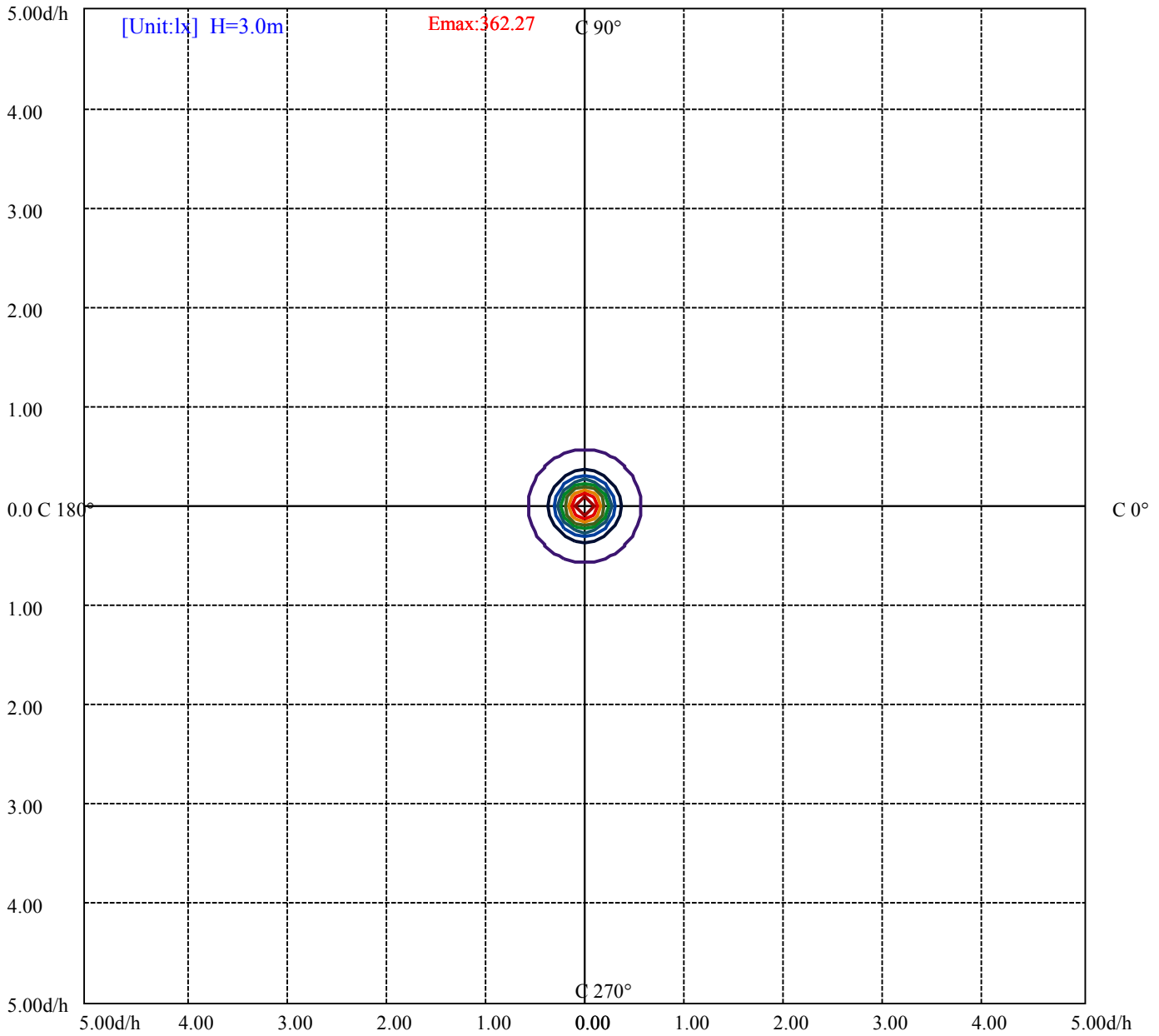
House

[Unit:cd]

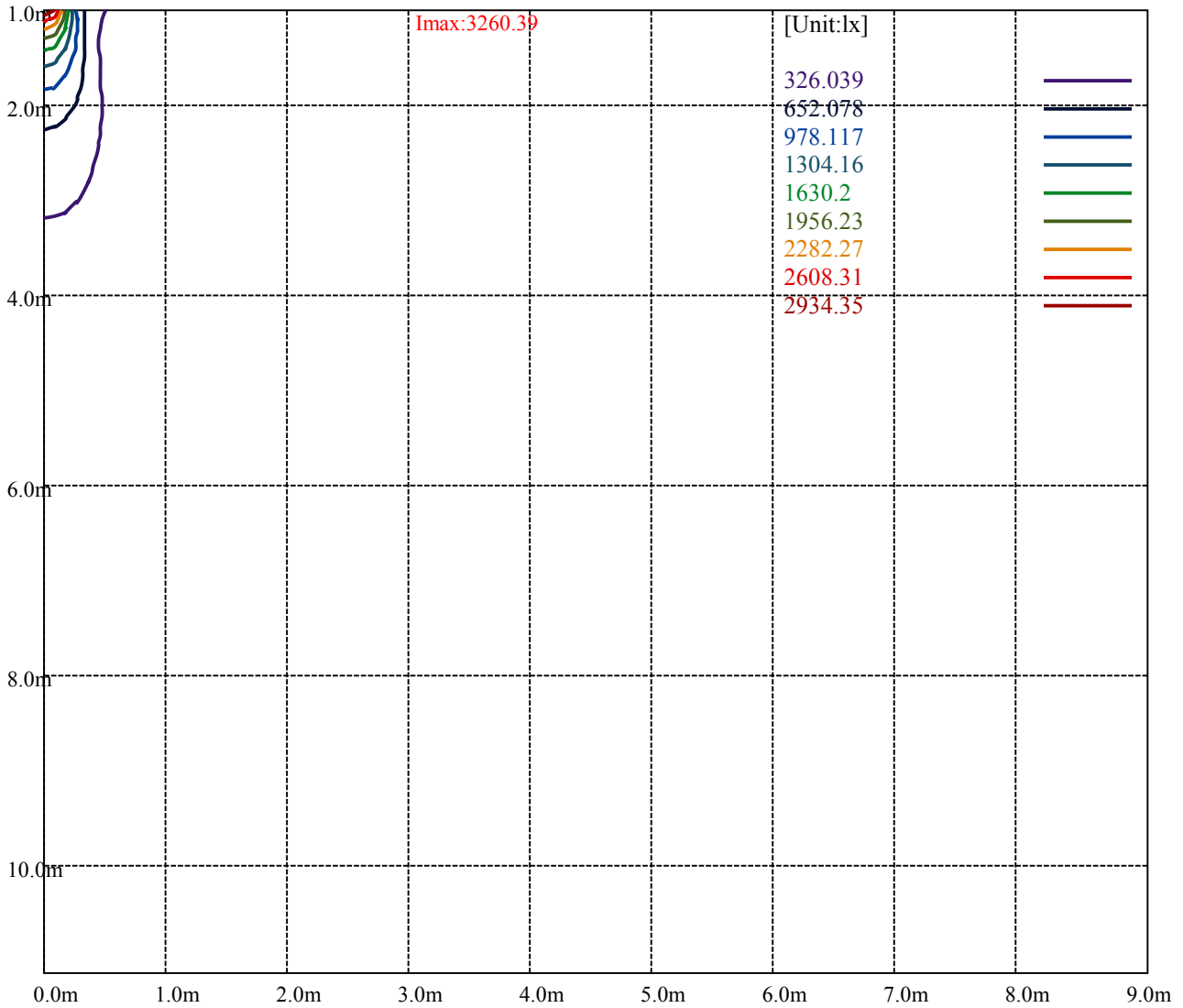
Road

Imax:3260.39

| | | |
|-----------|---------|---|
| (10%Imax) | 326.039 | — |
| (20%Imax) | 652.078 | — |
| (30%Imax) | 978.117 | — |
| (40%Imax) | 1304.16 | — |
| (50%Imax) | 1630.2 | — |
| (60%Imax) | 1956.23 | — |
| (70%Imax) | 2282.27 | — |
| (80%Imax) | 2608.31 | — |
| (90%Imax) | 2934.35 | — |



- (10%Emax) 36.22655
- (20%Emax) 72.45311
- (30%Emax) 108.6797
- (40%Emax) 144.9067
- (50%Emax) 181.1322
- (60%Emax) 217.3589
- (70%Emax) 253.5856
- (80%Emax) 289.8122
- (90%Emax) 326.0389



Luminance Table

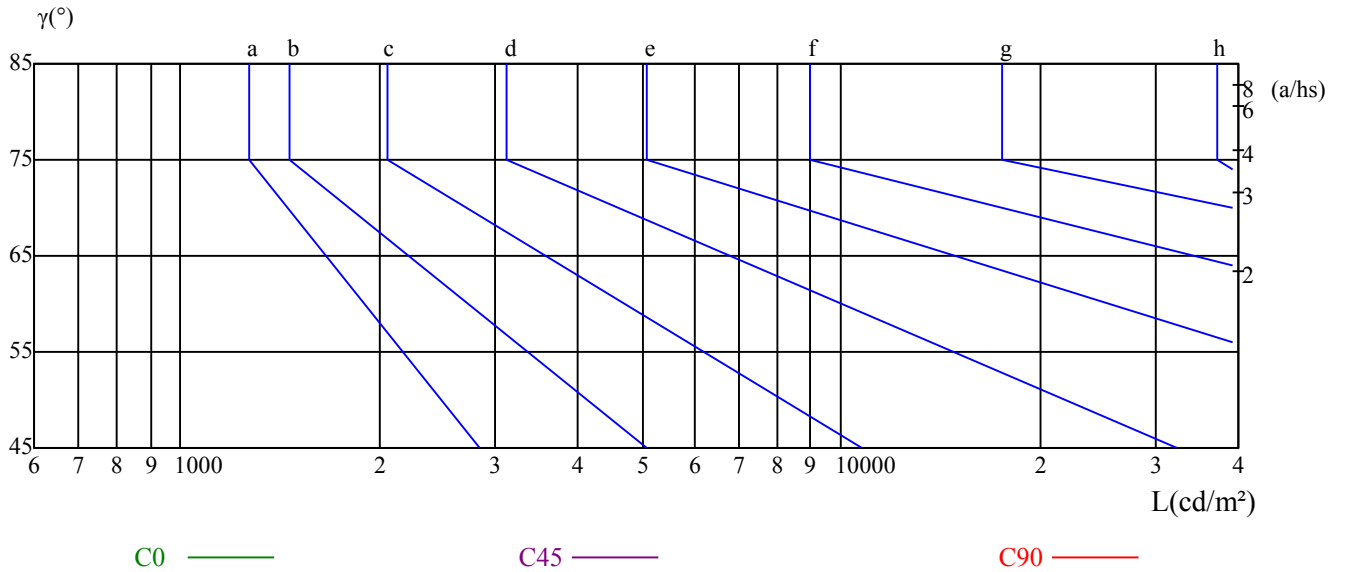
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

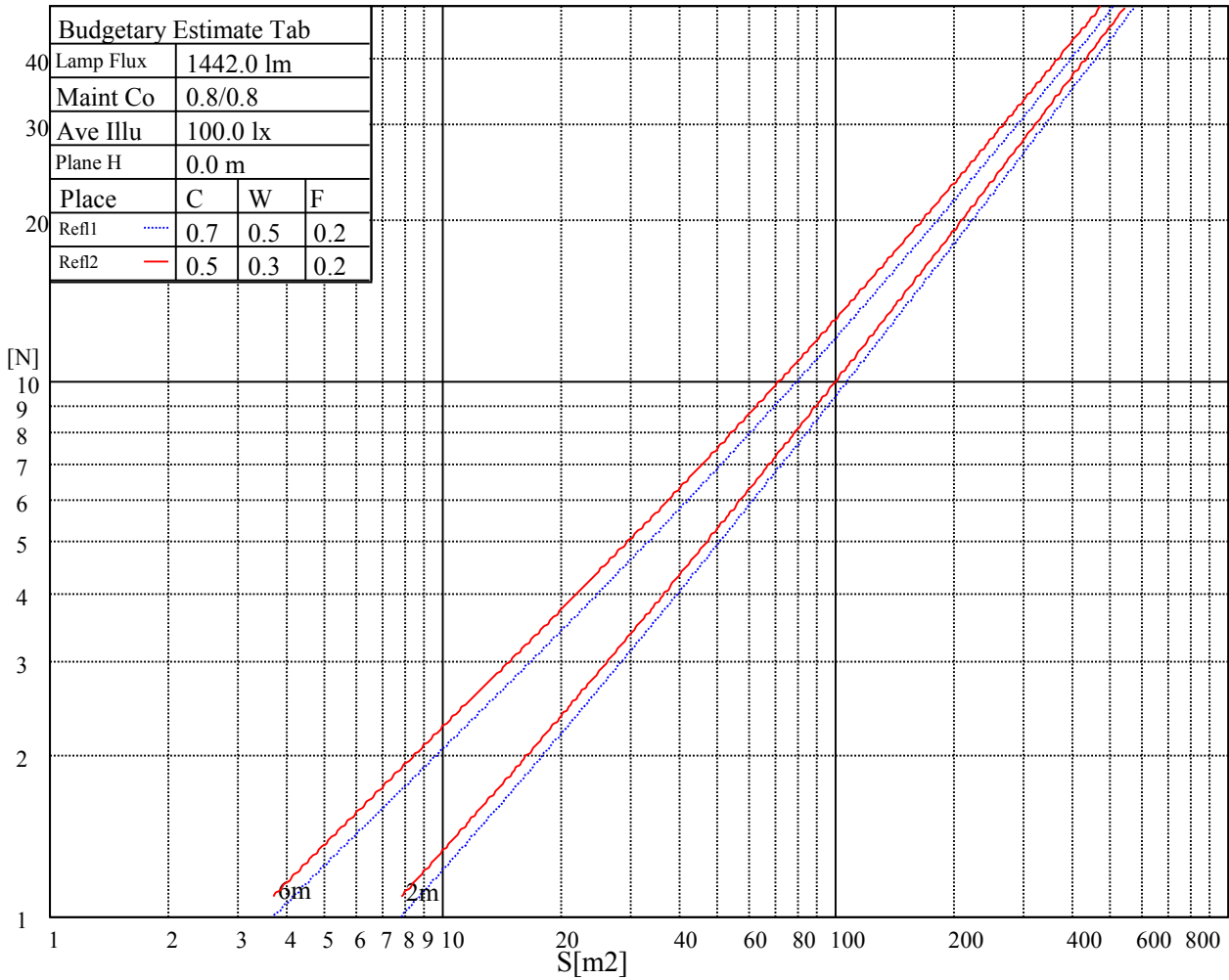
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Glare Table

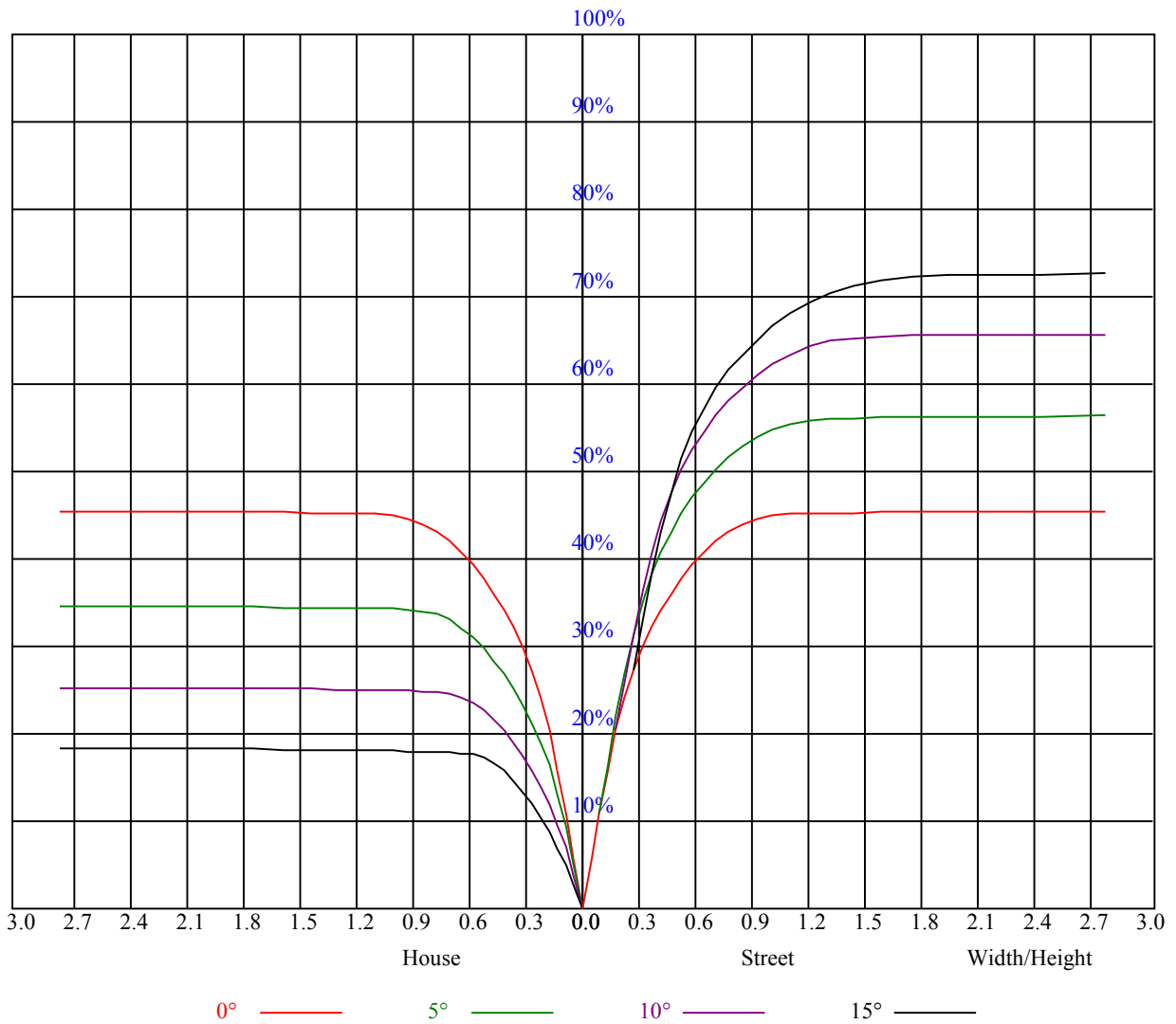
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 |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

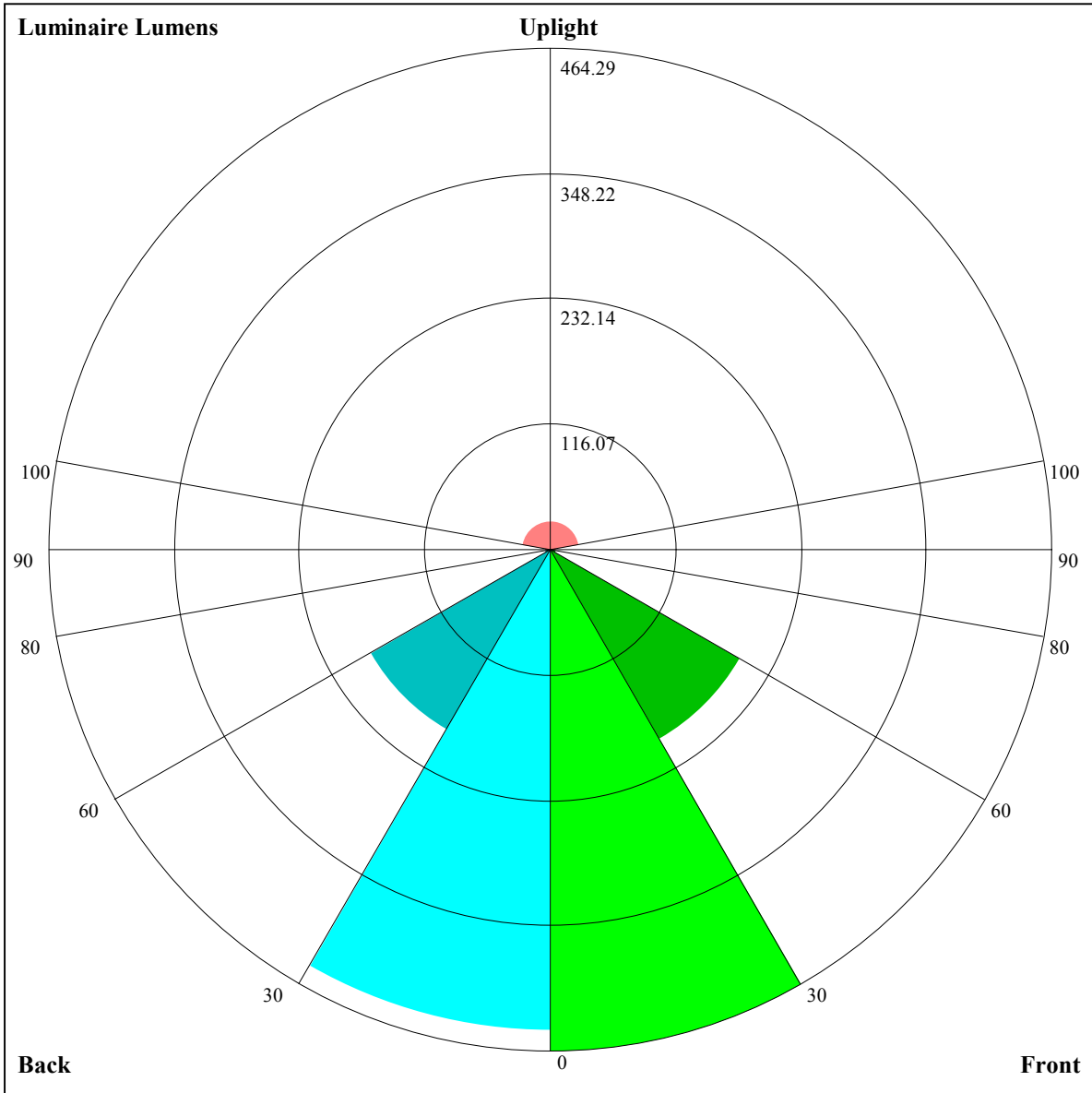
Luminance Limiting Curve





| 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 | 1.09 | 1.09 | 1.09 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.92 |
| 1 | 1.01 | 0.99 | 0.97 | 1.00 | 0.98 | 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 | 0.91 | 0.88 | 0.93 | 0.90 | 0.87 | 0.90 | 0.88 | 0.85 | 0.88 | 0.85 | 0.83 | 0.85 | 0.83 | 0.82 | 0.80 |
| 3 | 0.89 | 0.84 | 0.81 | 0.87 | 0.83 | 0.80 | 0.85 | 0.82 | 0.79 | 0.83 | 0.80 | 0.78 | 0.81 | 0.79 | 0.77 | 0.75 |
| 4 | 0.83 | 0.79 | 0.75 | 0.82 | 0.78 | 0.74 | 0.80 | 0.77 | 0.73 | 0.79 | 0.75 | 0.73 | 0.77 | 0.74 | 0.72 | 0.70 |
| 5 | 0.79 | 0.73 | 0.70 | 0.78 | 0.73 | 0.69 | 0.76 | 0.72 | 0.69 | 0.75 | 0.71 | 0.68 | 0.73 | 0.70 | 0.68 | 0.66 |
| 6 | 0.74 | 0.69 | 0.65 | 0.73 | 0.69 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.64 | 0.70 | 0.66 | 0.64 | 0.62 |
| 7 | 0.70 | 0.65 | 0.61 | 0.70 | 0.65 | 0.61 | 0.69 | 0.64 | 0.61 | 0.67 | 0.64 | 0.61 | 0.66 | 0.63 | 0.60 | 0.59 |
| 8 | 0.67 | 0.62 | 0.58 | 0.66 | 0.61 | 0.58 | 0.65 | 0.61 | 0.58 | 0.64 | 0.60 | 0.57 | 0.63 | 0.60 | 0.57 | 0.56 |
| 9 | 0.64 | 0.58 | 0.55 | 0.63 | 0.58 | 0.55 | 0.62 | 0.58 | 0.55 | 0.61 | 0.57 | 0.55 | 0.61 | 0.57 | 0.54 | 0.53 |
| 10 | 0.61 | 0.56 | 0.52 | 0.60 | 0.55 | 0.52 | 0.60 | 0.55 | 0.52 | 0.59 | 0.55 | 0.52 | 0.58 | 0.55 | 0.52 | 0.51 |





Luminaire Lumens:

FL=464.29,FM=202.19,FH=5.51,FVH=2.85

BL=446.24,BM=193.48,BH=5.5,BVH=2.85

UL=5.68,UH=27.05

BUG Rating:B1-U2-G0

NATA 1687-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 | 3256.31 | 3259.13 | 3238.88 | 3208.50 | 3169.69 | 3071.81 | 2976.19 | 2847.38 | 2714.63 |
| 45.0 | 3261.38 | 3246.19 | 3213.56 | 3165.19 | 3106.69 | 3016.13 | 2896.31 | 2767.50 | 2642.06 |
| 90.0 | 3247.31 | 3214.13 | 3164.63 | 3098.25 | 3016.13 | 2898.56 | 2773.69 | 2615.63 | 2442.94 |
| 135.0 | 3276.56 | 3254.06 | 3205.13 | 3153.38 | 3079.13 | 2957.06 | 2838.94 | 2700.56 | 2532.38 |
| 180.0 | 3256.31 | 3237.19 | 3202.31 | 3146.06 | 3070.69 | 2972.81 | 2838.94 | 2681.44 | 2529.00 |
| 225.0 | 3261.38 | 3257.44 | 3239.44 | 3207.38 | 3153.38 | 3079.13 | 2981.25 | 2830.50 | 2691.00 |
| 270.0 | 3247.31 | 3266.44 | 3271.50 | 3259.69 | 3229.88 | 3172.50 | 3103.88 | 3013.31 | 2886.75 |
| 315.0 | 3276.56 | 3282.75 | 3272.63 | 3245.06 | 3204.56 | 3133.13 | 3046.50 | 2922.75 | 2757.94 |
| 360.0 | 3256.31 | 3259.13 | 3238.88 | 3208.50 | 3169.69 | 3071.81 | 2976.19 | 2847.38 | 2714.63 |
| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
| 0.0 | 2549.81 | 2412.00 | 2206.69 | 2013.75 | 1860.19 | 1640.25 | 1467.56 | 1301.63 | 1116.00 |
| 45.0 | 2432.25 | 2270.25 | 2118.94 | 1900.69 | 1704.94 | 1553.06 | 1344.94 | 1175.63 | 1059.19 |
| 90.0 | 2282.63 | 2095.31 | 1903.50 | 1732.50 | 1563.75 | 1357.31 | 1111.78 | 1063.35 | 931.16 |
| 135.0 | 2352.94 | 2182.50 | 1980.56 | 1799.44 | 1597.50 | 1401.75 | 1237.50 | 1075.50 | 937.69 |
| 180.0 | 2345.63 | 2149.88 | 1969.88 | 1767.94 | 1591.88 | 1396.69 | 1110.09 | 1077.53 | 958.33 |
| 225.0 | 2538.56 | 2333.25 | 2161.13 | 1983.94 | 1802.81 | 1581.19 | 1411.31 | 1117.18 | 1083.26 |
| 270.0 | 2738.25 | 2589.19 | 2411.44 | 2245.50 | 2052.00 | 1850.06 | 1671.75 | 1472.06 | 1284.19 |
| 315.0 | 2629.69 | 2450.81 | 2262.94 | 2088.56 | 1909.69 | 1689.75 | 1516.50 | 1350.00 | 1105.88 |
| 360.0 | 2549.81 | 2412.00 | 2206.69 | 2013.75 | 1860.19 | 1640.25 | 1467.56 | 1301.63 | 1116.00 |
| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
| 0.0 | 988.88 | 894.94 | 774.56 | 707.63 | 656.44 | 613.69 | 583.31 | 563.06 | 544.50 |
| 45.0 | 912.38 | 815.63 | 738.56 | 664.31 | 619.31 | 586.13 | 557.44 | 538.88 | 524.81 |
| 90.0 | 820.18 | 740.64 | 671.91 | 622.35 | 590.79 | 565.37 | 546.98 | 529.71 | 515.36 |
| 135.0 | 833.06 | 749.81 | 668.81 | 622.13 | 589.50 | 561.38 | 541.13 | 525.94 | 512.44 |
| 180.0 | 832.11 | 751.56 | 688.50 | 631.13 | 599.23 | 574.31 | 551.31 | 531.90 | 517.44 |
| 225.0 | 945.96 | 846.00 | 756.11 | 686.81 | 640.18 | 601.88 | 576.56 | 553.89 | 535.73 |
| 270.0 | 1135.69 | 1006.88 | 871.88 | 784.69 | 716.06 | 655.88 | 611.44 | 581.06 | 555.75 |
| 315.0 | 1026.17 | 915.13 | 822.09 | 728.66 | 671.57 | 628.20 | 591.98 | 565.76 | 547.65 |
| 360.0 | 988.88 | 894.94 | 774.56 | 707.63 | 656.44 | 613.69 | 583.31 | 563.06 | 544.50 |
| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
| 0.0 | 529.31 | 518.06 | 506.81 | 497.25 | 487.13 | 477.56 | 470.25 | 462.94 | 453.38 |
| 45.0 | 508.50 | 498.38 | 487.69 | 477.56 | 468.00 | 460.69 | 452.25 | 444.94 | 437.06 |
| 90.0 | 503.72 | 492.75 | 481.16 | 472.56 | 464.34 | 454.56 | 447.08 | 438.69 | 429.58 |
| 135.0 | 500.63 | 491.06 | 481.50 | 473.63 | 464.63 | 456.75 | 450.00 | 443.25 | 433.69 |
| 180.0 | 503.89 | 490.56 | 480.09 | 469.52 | 460.63 | 451.18 | 441.23 | 434.53 | 426.32 |
| 225.0 | 522.11 | 508.50 | 496.69 | 487.58 | 478.91 | 468.56 | 460.35 | 452.36 | 443.70 |
| 270.0 | 535.50 | 520.88 | 508.50 | 496.13 | 486.00 | 477.00 | 469.13 | 461.81 | 454.50 |
| 315.0 | 530.83 | 516.71 | 505.80 | 492.86 | 484.99 | 475.43 | 466.43 | 458.66 | 451.07 |
| 360.0 | 529.31 | 518.06 | 506.81 | 497.25 | 487.13 | 477.56 | 470.25 | 462.94 | 453.38 |
| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
| 0.0 | 446.63 | 438.75 | 423.00 | 399.38 | 371.25 | 336.94 | 297.56 | 284.63 | 216.79 |
| 45.0 | 428.06 | 417.38 | 390.38 | 357.19 | 324.00 | 288.00 | 241.59 | 205.20 | 168.98 |
| 90.0 | 414.34 | 392.46 | 361.13 | 324.23 | 288.73 | 246.26 | 204.75 | 162.62 | 119.76 |
| 135.0 | 426.38 | 411.19 | 379.13 | 349.31 | 316.13 | 288.56 | 229.16 | 190.74 | 148.84 |
| 180.0 | 415.86 | 405.28 | 384.30 | 350.61 | 320.40 | 284.96 | 245.31 | 204.02 | 168.92 |
| 225.0 | 433.86 | 425.81 | 409.73 | 383.18 | 353.70 | 316.07 | 281.64 | 240.69 | 199.91 |
| 270.0 | 447.19 | 439.31 | 429.19 | 412.31 | 390.38 | 361.13 | 321.19 | 284.63 | 260.49 |
| 315.0 | 442.01 | 433.91 | 424.41 | 399.09 | 371.31 | 340.71 | 301.56 | 259.93 | 222.53 |
| 360.0 | 446.63 | 438.75 | 423.00 | 399.38 | 371.25 | 336.94 | 297.56 | 284.63 | 216.79 |

NATA 1687-M

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 | 176.06 | 139.95 | 101.42 | 71.78 | 41.79 | 21.71 | 16.31 | 13.56 | 9.96 |
| 45.0 | 126.00 | 92.08 | 61.71 | 35.55 | 19.86 | 15.69 | 12.60 | 10.01 | 7.76 |
| 90.0 | 87.75 | 59.63 | 32.57 | 20.14 | 15.86 | 12.15 | 9.51 | 7.65 | 6.98 |
| 135.0 | 108.68 | 77.29 | 46.18 | 27.11 | 17.72 | 13.95 | 10.63 | 8.04 | 6.47 |
| 180.0 | 130.28 | 97.31 | 65.48 | 38.59 | 22.78 | 16.43 | 12.38 | 9.51 | 7.65 |
| 225.0 | 163.58 | 127.74 | 85.56 | 55.24 | 32.68 | 18.56 | 15.02 | 11.64 | 8.72 |
| 270.0 | 192.60 | 155.08 | 117.84 | 80.55 | 49.89 | 29.25 | 17.66 | 14.63 | 11.19 |
| 315.0 | 179.44 | 141.30 | 102.49 | 67.39 | 40.67 | 22.22 | 16.37 | 13.56 | 10.74 |
| 360.0 | 176.06 | 139.95 | 101.42 | 71.78 | 41.79 | 21.71 | 16.31 | 13.56 | 9.96 |
| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
| 0.0 | 7.76 | 6.64 | 6.13 | 5.91 | 5.85 | 5.79 | 5.68 | 5.63 | 5.57 |
| 45.0 | 7.03 | 6.53 | 6.02 | 5.85 | 5.79 | 5.74 | 5.68 | 5.63 | 5.57 |
| 90.0 | 6.64 | 6.08 | 5.85 | 5.74 | 5.74 | 5.63 | 5.63 | 5.57 | 5.46 |
| 135.0 | 6.19 | 5.91 | 5.79 | 5.79 | 5.68 | 5.63 | 5.57 | 5.51 | 5.51 |
| 180.0 | 7.03 | 6.69 | 5.96 | 5.74 | 5.68 | 5.63 | 5.57 | 5.51 | 5.51 |
| 225.0 | 7.37 | 6.69 | 6.08 | 5.96 | 5.85 | 5.74 | 5.68 | 5.57 | 5.57 |
| 270.0 | 8.44 | 7.09 | 6.47 | 6.08 | 5.96 | 5.85 | 5.74 | 5.63 | 5.63 |
| 315.0 | 8.16 | 7.26 | 6.81 | 6.53 | 5.85 | 5.79 | 5.68 | 5.63 | 5.57 |
| 360.0 | 7.76 | 6.64 | 6.13 | 5.91 | 5.85 | 5.79 | 5.68 | 5.63 | 5.57 |
| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
| 0.0 | 5.51 | 5.46 | 5.40 | 5.40 | 5.34 | 5.34 | 5.34 | 5.34 | 5.29 |
| 45.0 | 5.51 | 5.51 | 5.46 | 5.46 | 5.40 | 5.40 | 5.34 | 5.34 | 5.34 |
| 90.0 | 5.46 | 5.46 | 5.40 | 5.40 | 5.40 | 5.34 | 5.34 | 5.34 | 5.29 |
| 135.0 | 5.46 | 5.46 | 5.40 | 5.40 | 5.34 | 5.40 | 5.34 | 5.34 | 5.29 |
| 180.0 | 5.46 | 5.40 | 5.40 | 5.40 | 5.40 | 5.34 | 5.34 | 5.34 | 5.29 |
| 225.0 | 5.51 | 5.51 | 5.40 | 5.40 | 5.40 | 5.40 | 5.34 | 5.34 | 5.29 |
| 270.0 | 5.57 | 5.51 | 5.51 | 5.46 | 5.40 | 5.40 | 5.40 | 5.34 | 5.34 |
| 315.0 | 5.51 | 5.46 | 5.40 | 5.40 | 5.40 | 5.40 | 5.34 | 5.29 | 5.29 |
| 360.0 | 5.51 | 5.46 | 5.40 | 5.40 | 5.34 | 5.34 | 5.34 | 5.34 | 5.29 |
| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
| 0.0 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.23 | 5.23 |
| 45.0 | 5.34 | 5.34 | 5.29 | 5.34 | 5.29 | 5.29 | 5.23 | 5.23 | 5.23 |
| 90.0 | 5.29 | 5.29 | 5.34 | 5.29 | 5.29 | 5.29 | 5.23 | 5.29 | 5.23 |
| 135.0 | 5.34 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.23 |
| 180.0 | 5.29 | 5.29 | 5.29 | 5.29 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 |
| 225.0 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.23 | 5.29 | 5.29 | 5.23 |
| 270.0 | 5.34 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.23 | 5.23 |
| 315.0 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.23 | 5.29 | 5.29 |
| 360.0 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.29 | 5.23 | 5.23 |
| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
| 0.0 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 | 5.23 |
| 45.0 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 | 5.18 | 5.18 |
| 90.0 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 |
| 135.0 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 | 5.18 | 5.23 | 5.23 | 5.23 |
| 180.0 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 |
| 225.0 | 5.29 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 | 5.23 | 5.23 |
| 270.0 | 5.29 | 5.29 | 5.23 | 5.23 | 5.29 | 5.23 | 5.23 | 5.23 | 5.23 |
| 315.0 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 | 5.23 |
| 360.0 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 | 5.18 | 5.23 |

Intensity data(cd)

| | |
|----------------------------|------|
| C/ γ ($^{\circ}$) | 90.0 |
| 0.0 | 5.18 |
| 45.0 | 5.23 |
| 90.0 | 5.18 |
| 135.0 | 5.23 |
| 180.0 | 5.18 |
| 225.0 | 5.23 |
| 270.0 | 5.23 |
| 315.0 | 5.23 |
| 360.0 | 5.18 |