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Nata

Client:

LumCAT: LM01D03060AE

Luminaire:

Report No: GC2019091909

Voltage(V): 220.5000

Test No: NATA07

Current(A): 0.0440

LampCAT: BRIDGELUX V4-HD

Power (W): 8.8800

Lamp flux(lm): 656.0

PF: 0.9060

Number of Lamps: 1

Ballast type: AC

Length(mm): 30

Width(mm): 30

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 567.56, Efficiency(%): 86.52% , Luminous Efficacy(lm/W): 63.91

Central intensity(cd): 514.810, Maximum intensity(cd): 514.810

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=59.6

[C90/270]Total=59.6

Field angle(10%Imax): [C0/180]Total=96.8

[C90/270]Total=96.8

Maximum s/h(1/2): C0_180=0.94 C90_270=0.94

Maximum s/h(1/4): C0_180=0.90 C90_270=0.90

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 86.52%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 91.968%

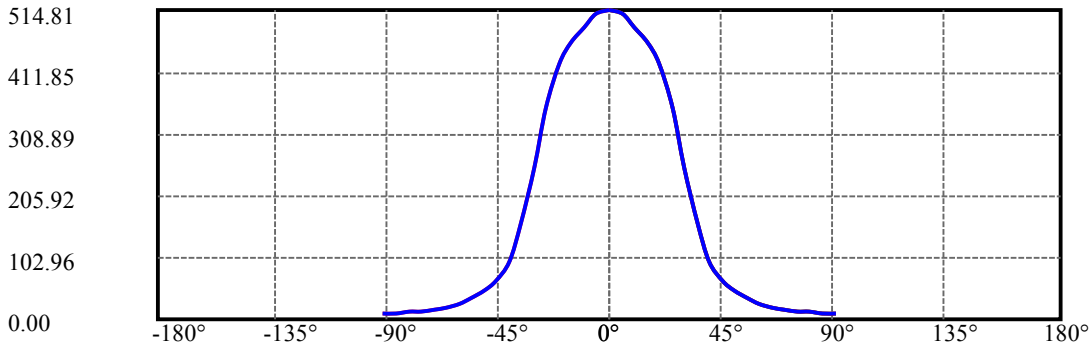
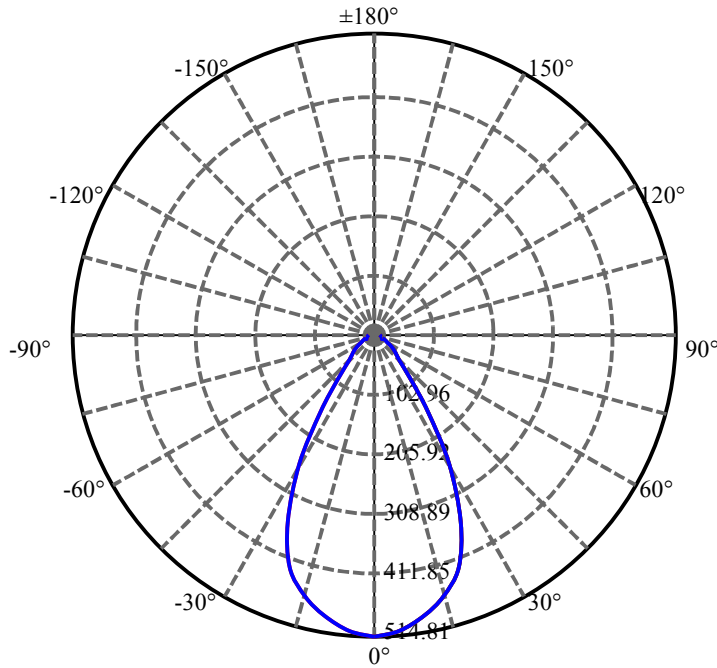
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 514.810 | 0.000 | 0 | .000% | .000% |
| 5.0 | 507.682 | 12.224 | 12.224 | 1.863% | 2.154% |
| 10.0 | 487.009 | 35.583 | 47.807 | 5.424% | 8.423% |
| 15.0 | 461.858 | 56.286 | 104.093 | 8.580% | 18.340% |
| 20.0 | 423.935 | 73.002 | 177.095 | 11.128% | 31.203% |
| 25.0 | 350.334 | 81.206 | 258.301 | 12.379% | 45.511% |
| 30.0 | 252.945 | 76.345 | 334.647 | 11.638% | 58.962% |
| 35.0 | 161.089 | 60.969 | 395.616 | 9.294% | 69.705% |
| 40.0 | 97.244 | 43.101 | 438.717 | 6.570% | 77.299% |
| 45.0 | 62.389 | 29.557 | 468.274 | 4.506% | 82.506% |
| 50.0 | 46.369 | 21.976 | 490.25 | 3.350% | 86.378% |
| 55.0 | 34.826 | 17.654 | 507.905 | 2.691% | 89.489% |
| 60.0 | 26.055 | 14.073 | 521.977 | 2.145% | 91.968% |
| 65.0 | 19.252 | 11.014 | 532.992 | 1.679% | 93.909% |
| 70.0 | 14.808 | 8.624 | 541.616 | 1.315% | 95.429% |
| 75.0 | 12.628 | 7.171 | 548.787 | 1.093% | 96.692% |
| 80.0 | 13.289 | 6.934 | 555.722 | 1.057% | 97.914% |
| 85.0 | 10.568 | 6.483 | 562.204 | .988% | 99.056% |
| 90.0 | 8.996 | 5.357 | 567.561 | .817% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|--------|---------|
| 0-30 | 334.65 | 51.01% | 58.96% |
| 0-40 | 438.72 | 66.88% | 77.30% |
| 0-60 | 521.98 | 79.57% | 91.97% |
| 0-90 | 562.20 | 85.70% | 99.06% |
| 0-120 | 562.20 | 85.70% | 99.06% |
| 0-180 | 567.56 | 86.52% | 100.00% |
| 60-90 | 54.30 | 8.28% | 9.57% |
| 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% |
| 0-42.59 | 454.05 | 69.21% | 80.00% |

ZONAL LUMEN SUMMARY

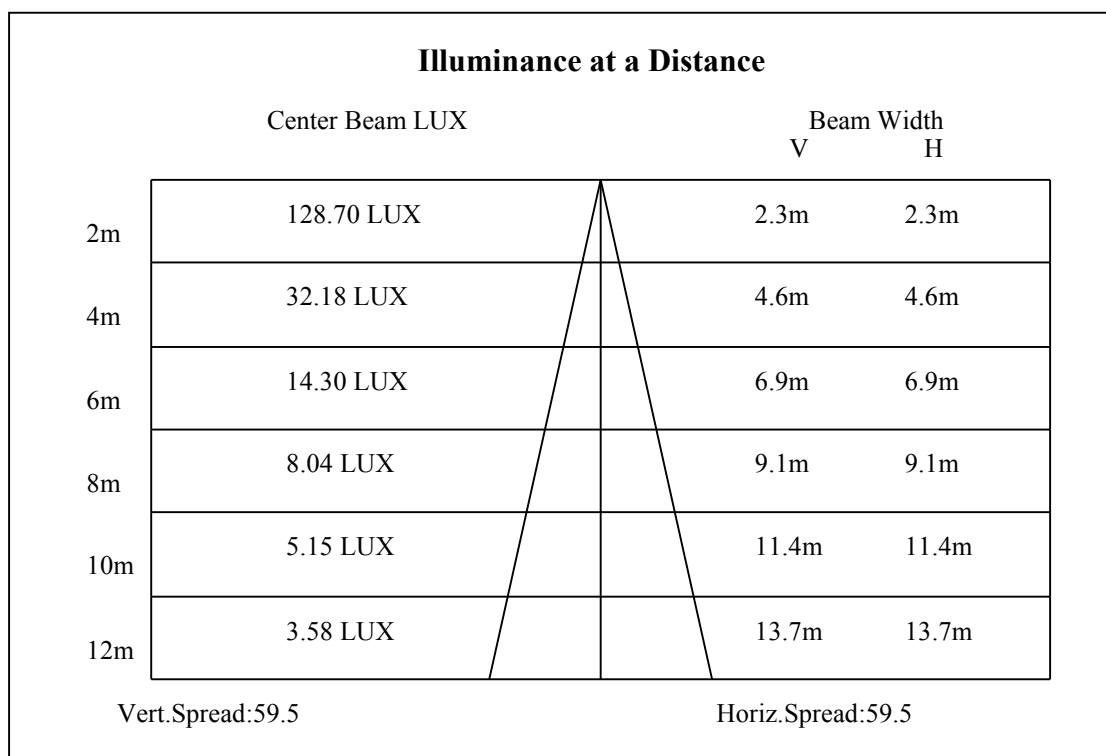
| | |
|---------|--------|
| 0-10 | 47.81 |
| 10-20 | 129.29 |
| 20-30 | 157.55 |
| 30-40 | 104.07 |
| 40-50 | 51.53 |
| 50-60 | 31.73 |
| 60-70 | 19.64 |
| 70-80 | 14.11 |
| 80-90 | 6.48 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

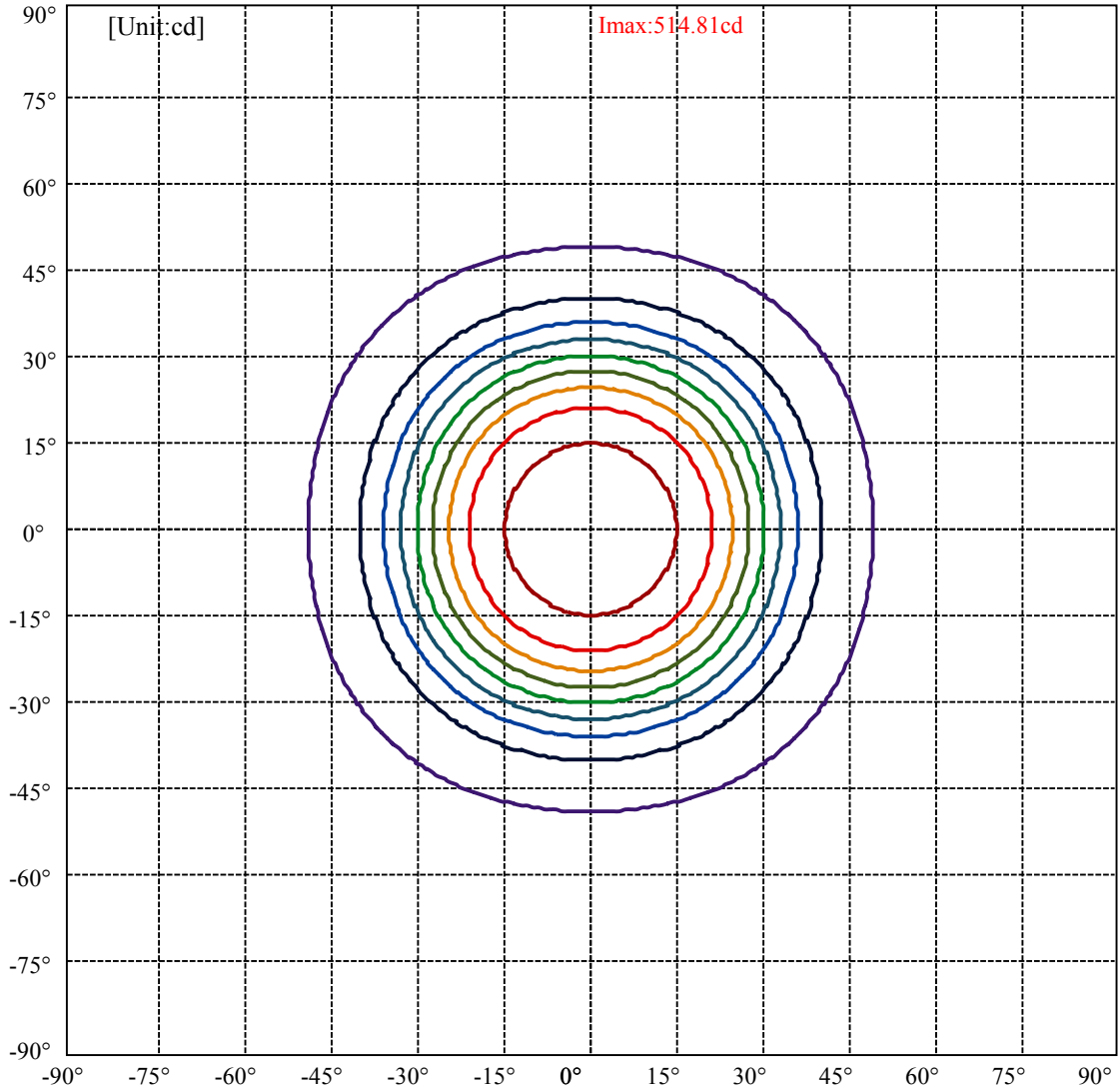


C0(Max): —
C0/C180: —
C90/C270: —

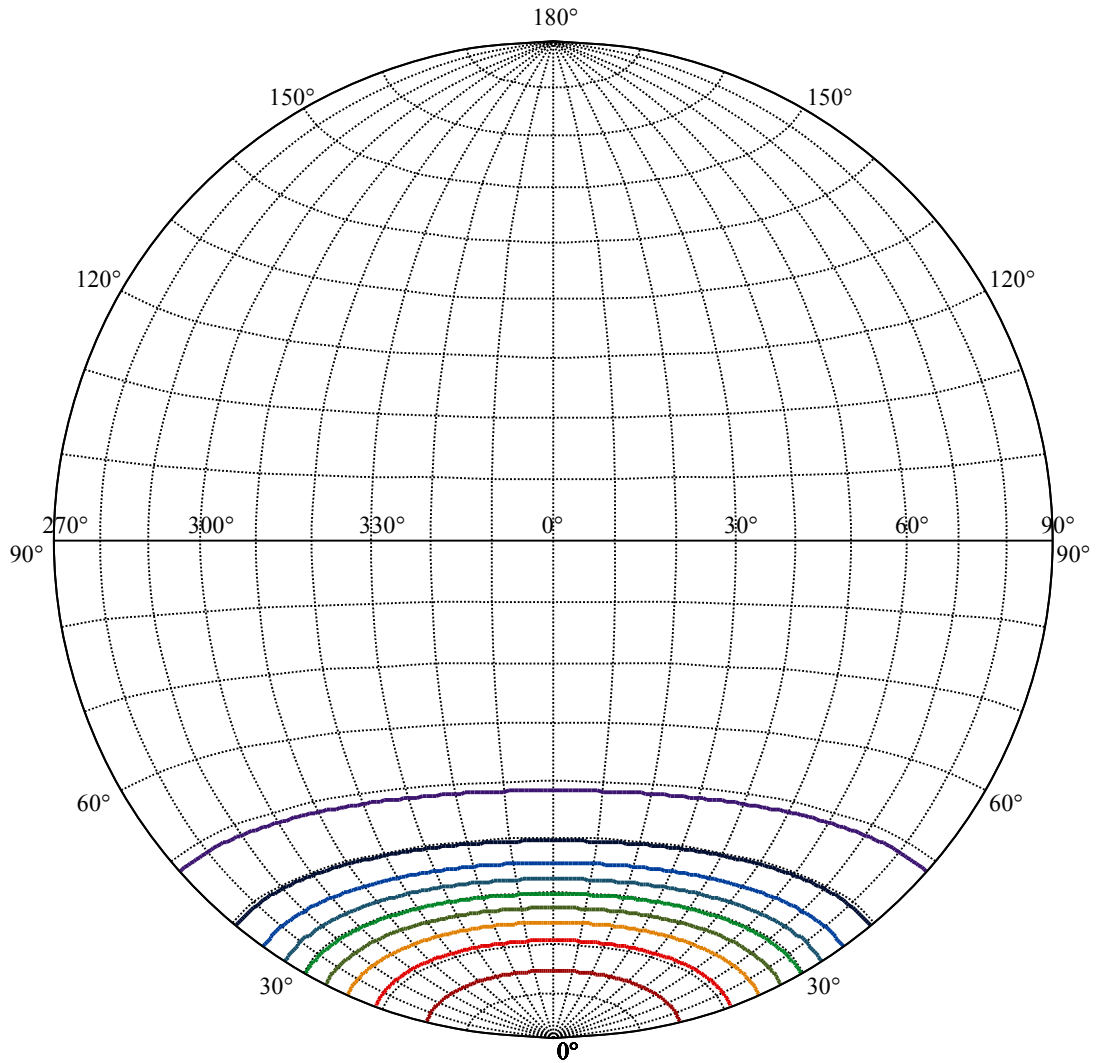
Field angle(10%Imax):C0/180Left:48.4 Right:48.4
:C90/270Left:48.4 Right:48.4

Beam Angle(50%Imax):C0/180Left:29.8 Right:29.8
:C90/270Left:29.8 Right:29.8





| | |
|-------------------|---|
| (10%Imax) 51.481 | — |
| (20%Imax) 102.962 | — |
| (30%Imax) 154.443 | — |
| (40%Imax) 205.924 | — |
| (50%Imax) 257.405 | — |
| (60%Imax) 308.886 | — |
| (70%Imax) 360.367 | — |
| (80%Imax) 411.848 | — |
| (90%Imax) 463.329 | — |



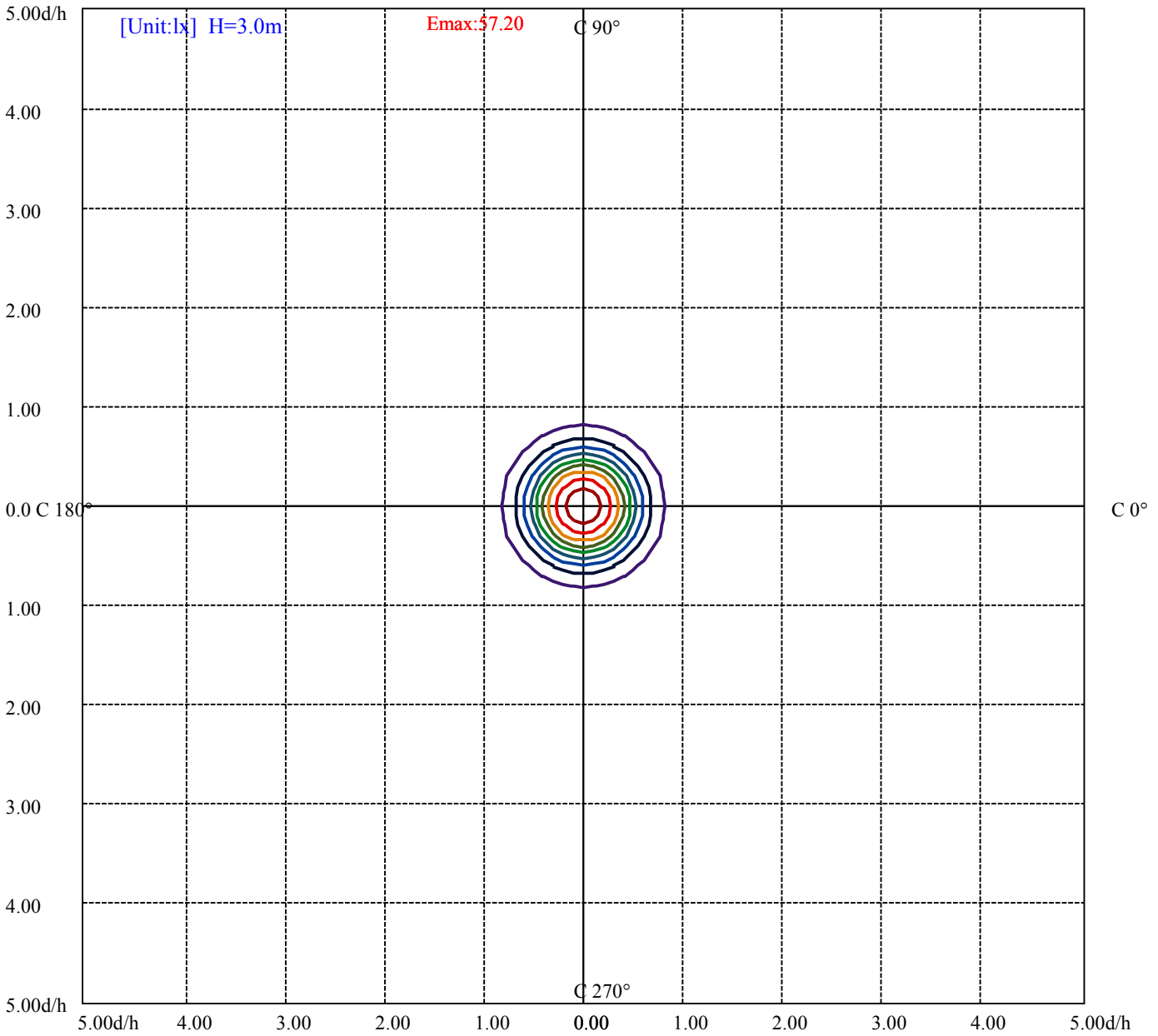
House

[Unit:cd]

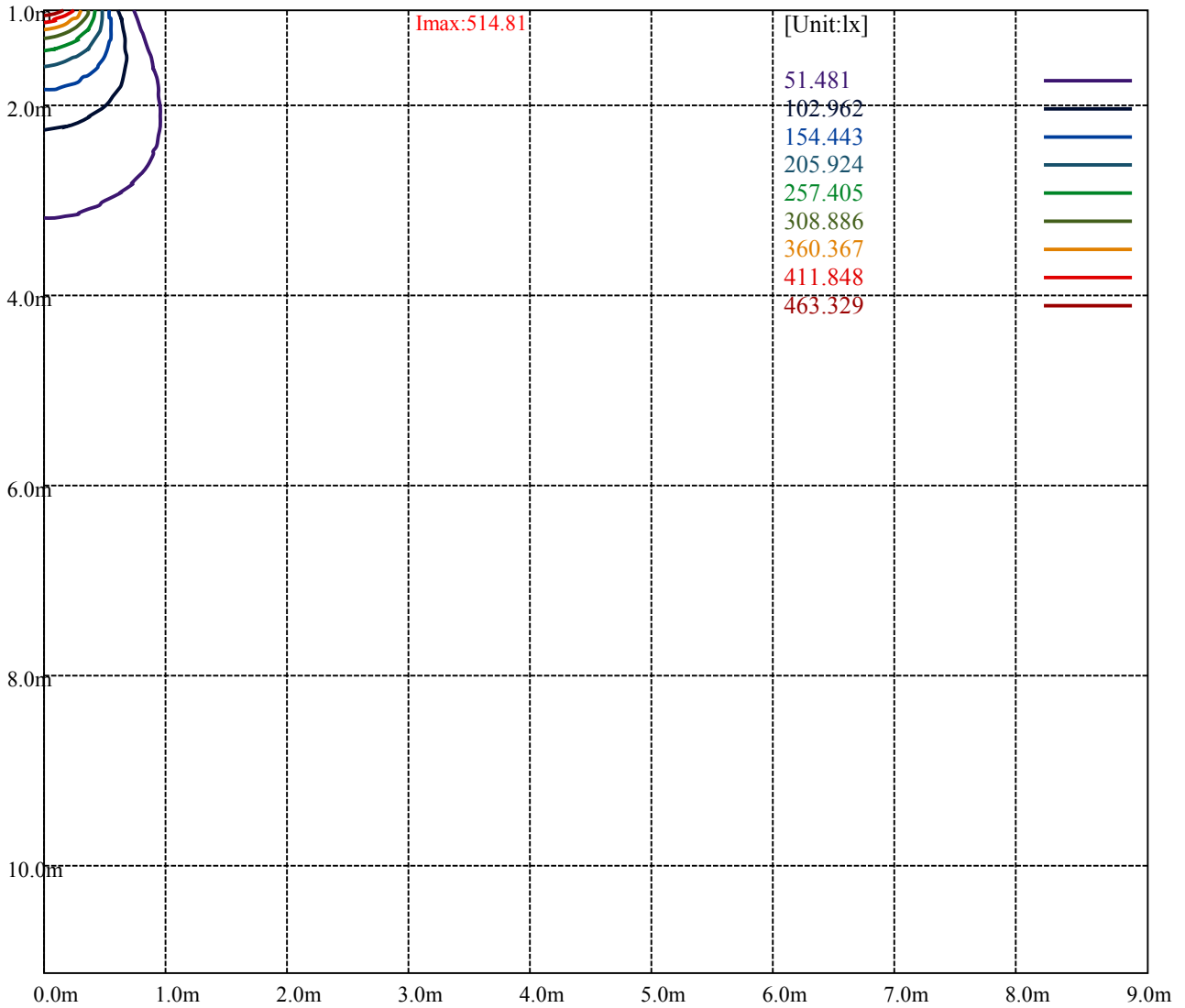
Road

Imax:514.81

| | |
|-------------------|---|
| (10%Imax) 51.481 | — |
| (20%Imax) 102.962 | — |
| (30%Imax) 154.443 | — |
| (40%Imax) 205.924 | — |
| (50%Imax) 257.405 | — |
| (60%Imax) 308.886 | — |
| (70%Imax) 360.367 | — |
| (80%Imax) 411.848 | — |
| (90%Imax) 463.329 | — |



- (10%Emax) 5.720111
- (20%Emax) 11.44022
- (30%Emax) 17.16033
- (40%Emax) 22.88044
- (50%Emax) 28.60056
- (60%Emax) 34.32066
- (70%Emax) 40.04078
- (80%Emax) 45.76089
- (90%Emax) 51.481



Luminance Table

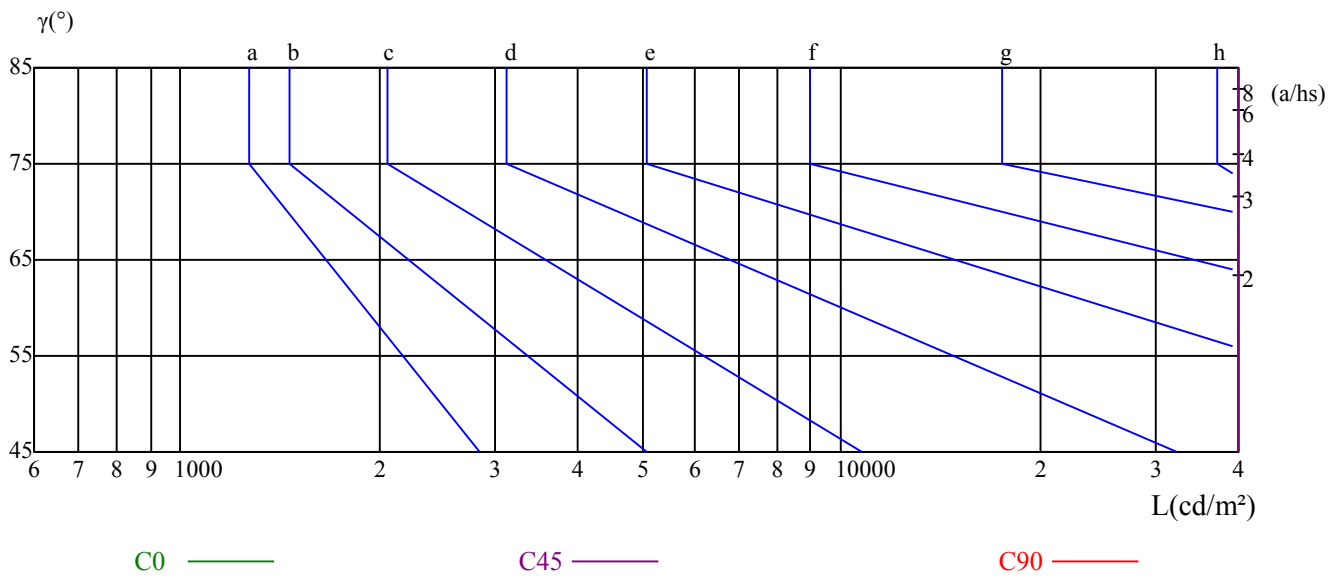
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| C0 | 98035 | 80152 | 67463 | 57901 | 50615 | 48108 | 54210 | 85030 | 134732 |
| C45 | 98035 | 80152 | 67463 | 57901 | 50615 | 48108 | 54210 | 85030 | 134732 |
| C90 | 98035 | 80152 | 67463 | 57901 | 50615 | 48108 | 54210 | 85030 | 134732 |

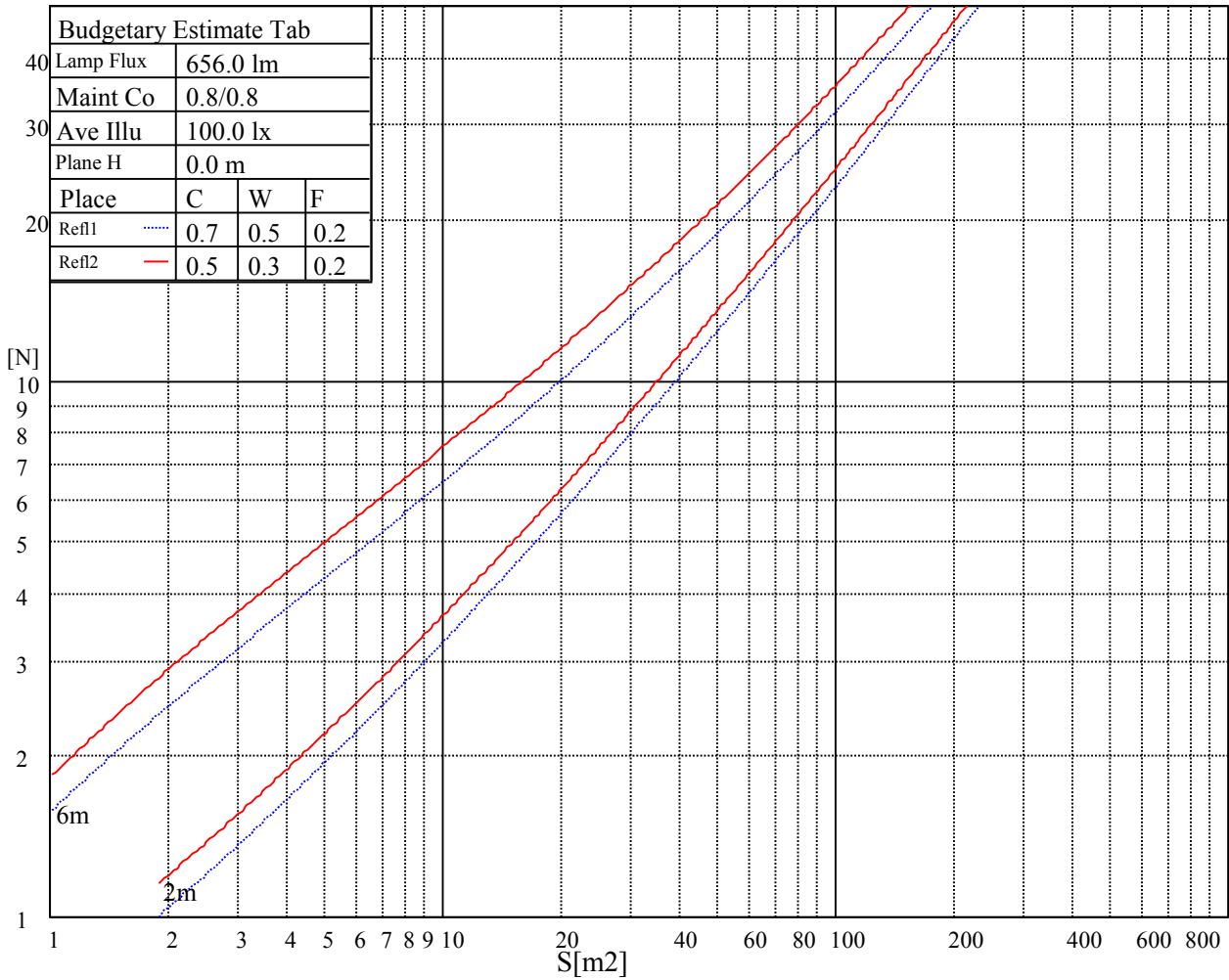
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 50615 | 50615 | 50615 | 54210 | 54210 | 54210 | 134732 | 134732 | 134732 |

Glare Table

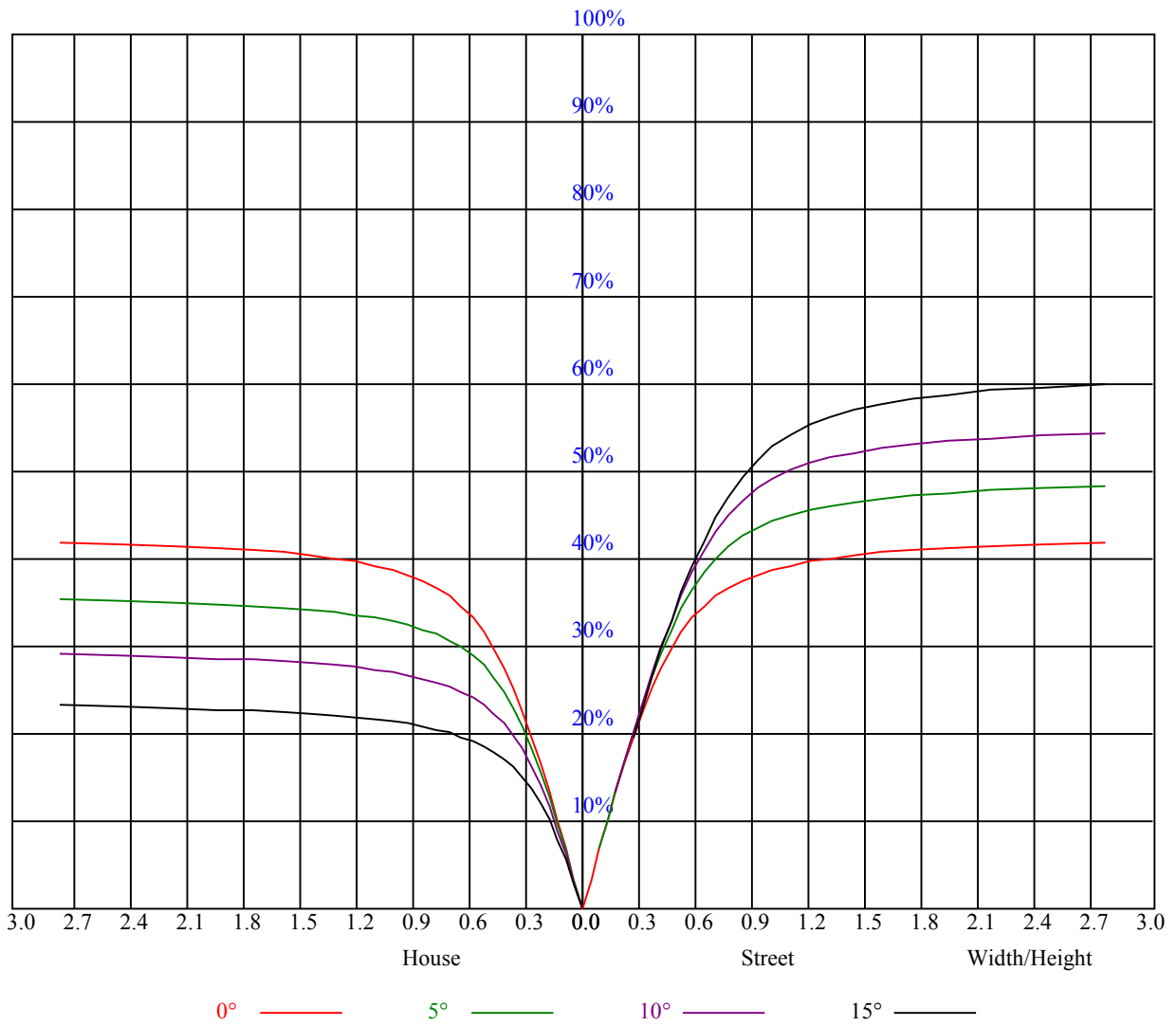
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 |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

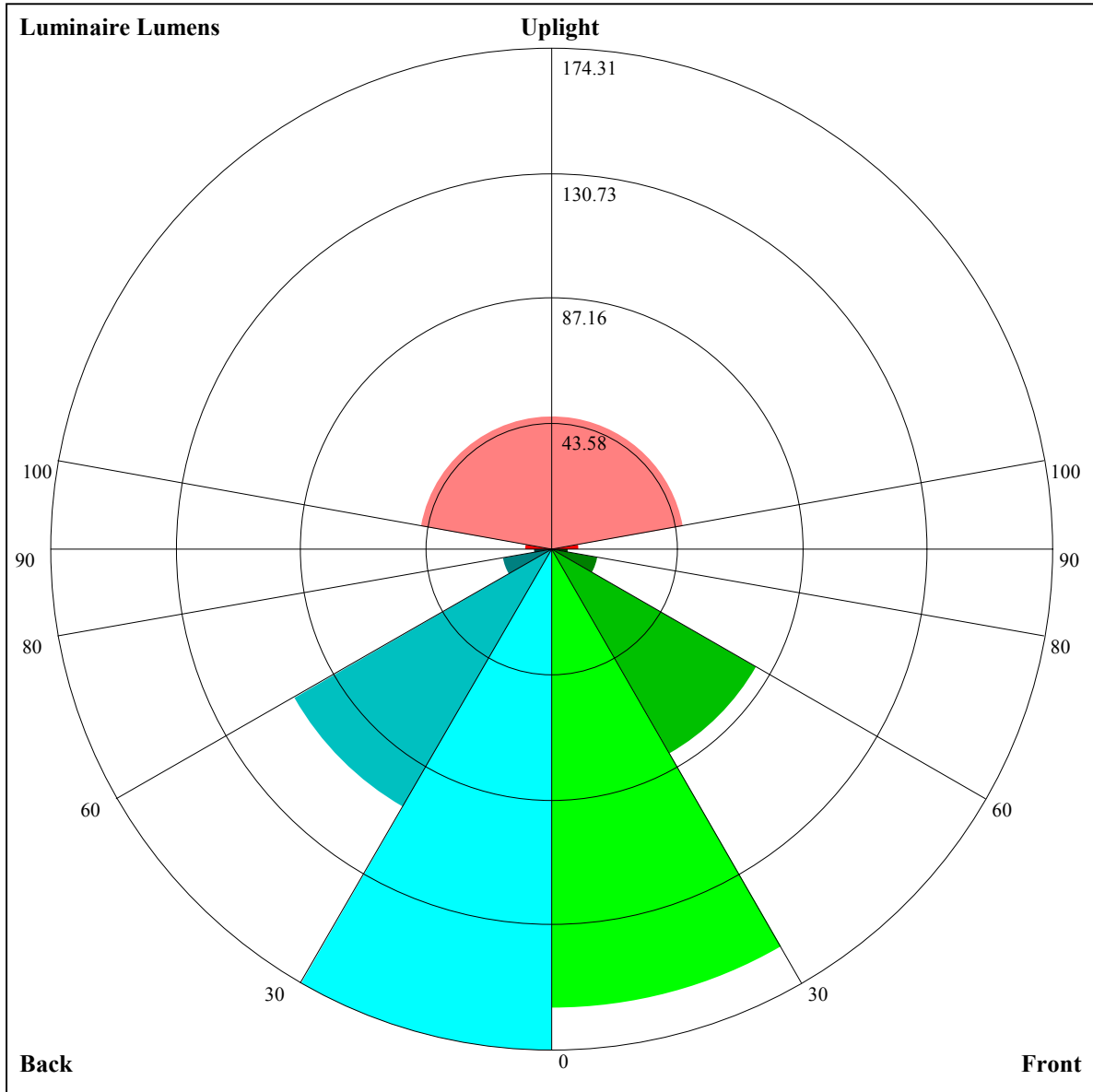
Luminance Limiting Curve





| 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 | 1.03 | 1.03 | 1.03 | 1.01 | 1.01 | 1.01 | 0.96 | 0.96 | 0.96 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.87 |
| 1 | 0.93 | 0.91 | 0.88 | 0.91 | 0.89 | 0.87 | 0.88 | 0.86 | 0.84 | 0.85 | 0.83 | 0.81 | 0.82 | 0.80 | 0.79 | 0.77 |
| 2 | 0.85 | 0.81 | 0.77 | 0.84 | 0.80 | 0.76 | 0.81 | 0.77 | 0.75 | 0.78 | 0.75 | 0.73 | 0.76 | 0.73 | 0.71 | 0.70 |
| 3 | 0.78 | 0.73 | 0.69 | 0.77 | 0.72 | 0.68 | 0.75 | 0.70 | 0.67 | 0.72 | 0.69 | 0.66 | 0.70 | 0.67 | 0.65 | 0.63 |
| 4 | 0.72 | 0.66 | 0.62 | 0.71 | 0.66 | 0.62 | 0.69 | 0.65 | 0.61 | 0.67 | 0.63 | 0.60 | 0.66 | 0.62 | 0.59 | 0.58 |
| 5 | 0.67 | 0.61 | 0.57 | 0.66 | 0.60 | 0.56 | 0.64 | 0.59 | 0.56 | 0.63 | 0.59 | 0.55 | 0.61 | 0.58 | 0.55 | 0.53 |
| 6 | 0.62 | 0.56 | 0.52 | 0.61 | 0.56 | 0.52 | 0.60 | 0.55 | 0.51 | 0.59 | 0.54 | 0.51 | 0.58 | 0.54 | 0.51 | 0.49 |
| 7 | 0.58 | 0.52 | 0.48 | 0.57 | 0.52 | 0.48 | 0.56 | 0.51 | 0.47 | 0.55 | 0.51 | 0.47 | 0.54 | 0.50 | 0.47 | 0.46 |
| 8 | 0.54 | 0.48 | 0.44 | 0.54 | 0.48 | 0.44 | 0.53 | 0.48 | 0.44 | 0.52 | 0.47 | 0.44 | 0.51 | 0.47 | 0.44 | 0.42 |
| 9 | 0.51 | 0.45 | 0.41 | 0.51 | 0.45 | 0.41 | 0.50 | 0.45 | 0.41 | 0.49 | 0.44 | 0.41 | 0.48 | 0.44 | 0.41 | 0.40 |
| 10 | 0.48 | 0.42 | 0.39 | 0.48 | 0.42 | 0.39 | 0.47 | 0.42 | 0.39 | 0.46 | 0.42 | 0.38 | 0.45 | 0.41 | 0.38 | 0.37 |





Luminaire Lumens:

FL=159.94,FM=82,FH=16.13,FVH=6.14

BL=174.31,BM=103.88,BH=17.8,BVH=6.32

UL=9.82,UH=46.71

BUG Rating:B1-U2-G0

Intensity data(cd)

| | | | | | | | | | |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| C/ γ (°) | 0.0 | 5.0 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 |
| 0.0 | 513.50 | 497.07 | 468.91 | 437.58 | 383.52 | 274.15 | 184.41 | 109.79 | 69.33 |
| 45.0 | 516.19 | 508.26 | 485.94 | 459.02 | 419.21 | 341.81 | 240.00 | 152.95 | 95.03 |
| 90.0 | 515.31 | 505.29 | 484.45 | 459.72 | 415.31 | 349.97 | 255.08 | 153.69 | 92.44 |
| 135.0 | 514.24 | 515.73 | 502.08 | 475.96 | 457.30 | 421.67 | 342.78 | 237.77 | 127.42 |
| 180.0 | 513.50 | 516.24 | 503.20 | 478.60 | 453.31 | 394.80 | 316.89 | 218.56 | 136.19 |
| 225.0 | 516.19 | 511.27 | 488.26 | 467.19 | 427.61 | 351.37 | 249.70 | 150.81 | 92.76 |
| 270.0 | 515.31 | 508.53 | 492.80 | 468.95 | 437.12 | 372.48 | 251.55 | 161.39 | 96.66 |
| 315.0 | 514.24 | 499.07 | 470.44 | 447.84 | 398.09 | 296.42 | 183.15 | 103.76 | 68.12 |
| 360.0 | 513.50 | 497.07 | 468.91 | 437.58 | 383.52 | 274.15 | 184.41 | 109.79 | 69.33 |
| C/ γ (°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 49.84 | 38.79 | 29.51 | 22.46 | 17.49 | 13.27 | 11.88 | 10.86 | 9.61 |
| 45.0 | 55.50 | 42.83 | 33.60 | 24.27 | 18.10 | 14.06 | 11.74 | 10.49 | 9.00 |
| 90.0 | 57.73 | 43.48 | 32.62 | 24.69 | 16.66 | 13.83 | 12.30 | 22.09 | 14.57 |
| 135.0 | 78.19 | 54.15 | 40.83 | 30.81 | 22.97 | 17.17 | 13.74 | 11.97 | 10.44 |
| 180.0 | 80.88 | 57.35 | 42.41 | 31.65 | 23.90 | 17.31 | 14.57 | 12.44 | 10.67 |
| 225.0 | 63.71 | 46.96 | 33.22 | 24.59 | 18.00 | 13.50 | 11.69 | 10.35 | 8.91 |
| 270.0 | 63.39 | 47.56 | 35.96 | 27.52 | 19.54 | 15.22 | 13.09 | 17.49 | 11.79 |
| 315.0 | 49.88 | 39.81 | 30.44 | 22.46 | 17.35 | 14.11 | 12.02 | 10.63 | 9.56 |
| 360.0 | 49.84 | 38.79 | 29.51 | 22.46 | 17.49 | 13.27 | 11.88 | 10.86 | 9.61 |
| C/ γ (°) | 90.0 | | | | | | | | |
| 0.0 | 9.70 | | | | | | | | |
| 45.0 | 8.03 | | | | | | | | |
| 90.0 | 8.72 | | | | | | | | |
| 135.0 | 9.56 | | | | | | | | |
| 180.0 | 9.65 | | | | | | | | |
| 225.0 | 7.98 | | | | | | | | |
| 270.0 | 8.96 | | | | | | | | |
| 315.0 | 9.37 | | | | | | | | |
| 360.0 | 9.70 | | | | | | | | |