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Nata

LumCAT: NA01D020045BW

Luminaire:

Report No: 200406-B013

Voltage(V): 6.5000

Test No: 200406-C013

Current(A): 0.1540

LampCAT: LUMILEDS 3030 2D

Power (W): 1.0010

Lamp flux(lm): 92.5

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 84.37

Efficiency(%): 91.17%

Lumens(lm)/Power(W): 84.28

Central intensity(cd): 110.109

Maximum intensity(cd): 110.109

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=44.1

[C90/270]Total=44.1

Field angle(10%Imax): [C0/180]Total=88.7

[C90/270]Total=88.7

Maximum s/h(1/2): C0_180=0.69 C90_270=0.69

Maximum s/h(1/4): C0_180=0.74 C90_270=0.74

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.17%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 94.599%

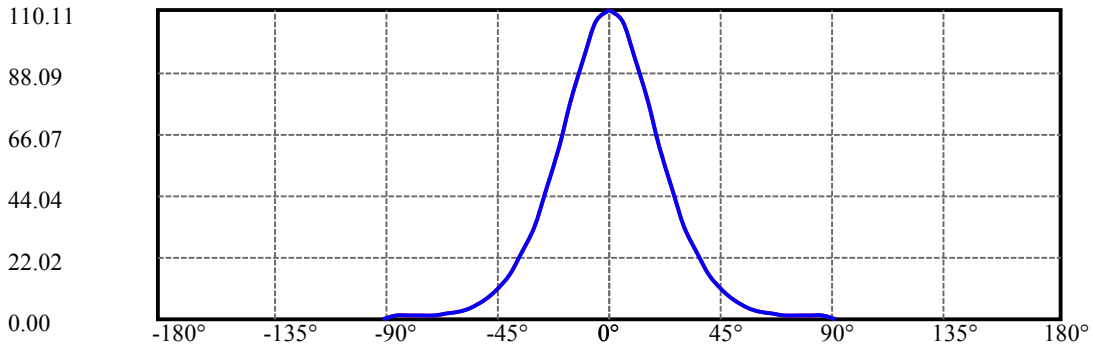
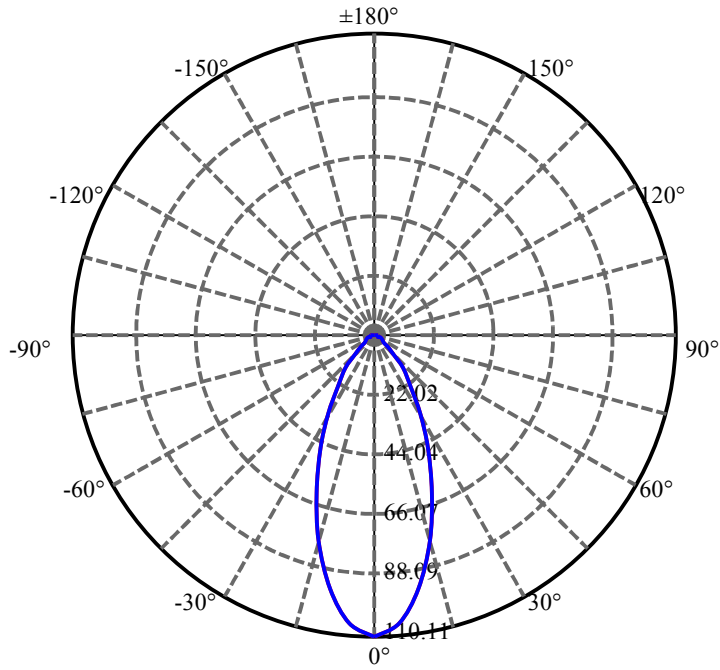
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 110.109 | 0.000 | 0 | .000% | .000% |
| 5.0 | 105.877 | 2.582 | 2.582 | 2.790% | 3.061% |
| 10.0 | 93.973 | 7.149 | 9.731 | 7.726% | 11.535% |
| 15.0 | 77.963 | 10.199 | 19.93 | 11.021% | 23.624% |
| 20.0 | 61.481 | 11.492 | 31.422 | 12.419% | 37.246% |
| 25.0 | 45.689 | 11.240 | 42.663 | 12.146% | 50.569% |
| 30.0 | 33.166 | 9.979 | 52.642 | 10.784% | 62.398% |
| 35.0 | 23.161 | 8.295 | 60.936 | 8.963% | 72.229% |
| 40.0 | 15.933 | 6.522 | 67.459 | 7.048% | 79.961% |
| 45.0 | 10.259 | 4.850 | 72.309 | 5.240% | 85.709% |
| 50.0 | 6.736 | 3.434 | 75.743 | 3.711% | 89.779% |
| 55.0 | 4.310 | 2.402 | 78.144 | 2.595% | 92.626% |
| 60.0 | 2.890 | 1.664 | 79.809 | 1.798% | 94.599% |
| 65.0 | 1.983 | 1.185 | 80.993 | 1.280% | 96.003% |
| 70.0 | 1.540 | 0.892 | 81.885 | .964% | 97.060% |
| 75.0 | 1.350 | 0.755 | 82.64 | .816% | 97.955% |
| 80.0 | 1.266 | 0.700 | 83.34 | .756% | 98.785% |
| 85.0 | 1.111 | 0.646 | 83.986 | .698% | 99.550% |
| 90.0 | 0.274 | 0.379 | 84.365 | .410% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|--------|---------|
| 0-30 | 52.64 | 56.89% | 62.40% |
| 0-40 | 67.46 | 72.90% | 79.96% |
| 0-60 | 79.81 | 86.24% | 94.60% |
| 0-90 | 83.99 | 90.76% | 99.55% |
| 0-120 | 83.99 | 90.76% | 99.55% |
| 0-180 | 84.37 | 91.17% | 100.00% |
| 60-90 | 5.84 | 6.31% | 6.92% |
| 90-120 | 0.00 | 0.00% | 0.00% |
| 90-130 | 0.00 | 0.00% | 0.00% |
| 90-150 | 0.00 | 0.00% | 0.00% |
| 90-180 | 0.00 | 0.00% | 0.00% |
| 0-40.03 | 67.49 | 72.93% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|-------|
| 0-10 | 9.73 |
| 10-20 | 21.69 |
| 20-30 | 21.22 |
| 30-40 | 14.82 |
| 40-50 | 8.28 |
| 50-60 | 4.07 |
| 60-70 | 2.08 |
| 70-80 | 1.46 |
| 80-90 | 0.65 |
| 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 |

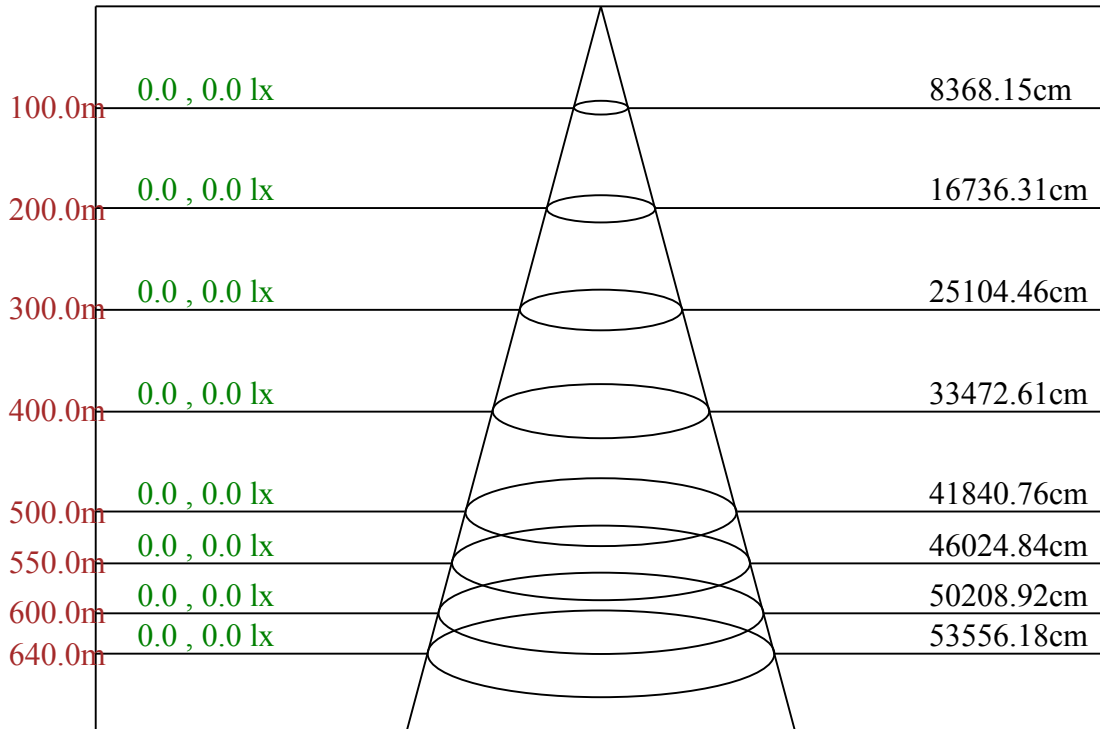


C0/C180: —

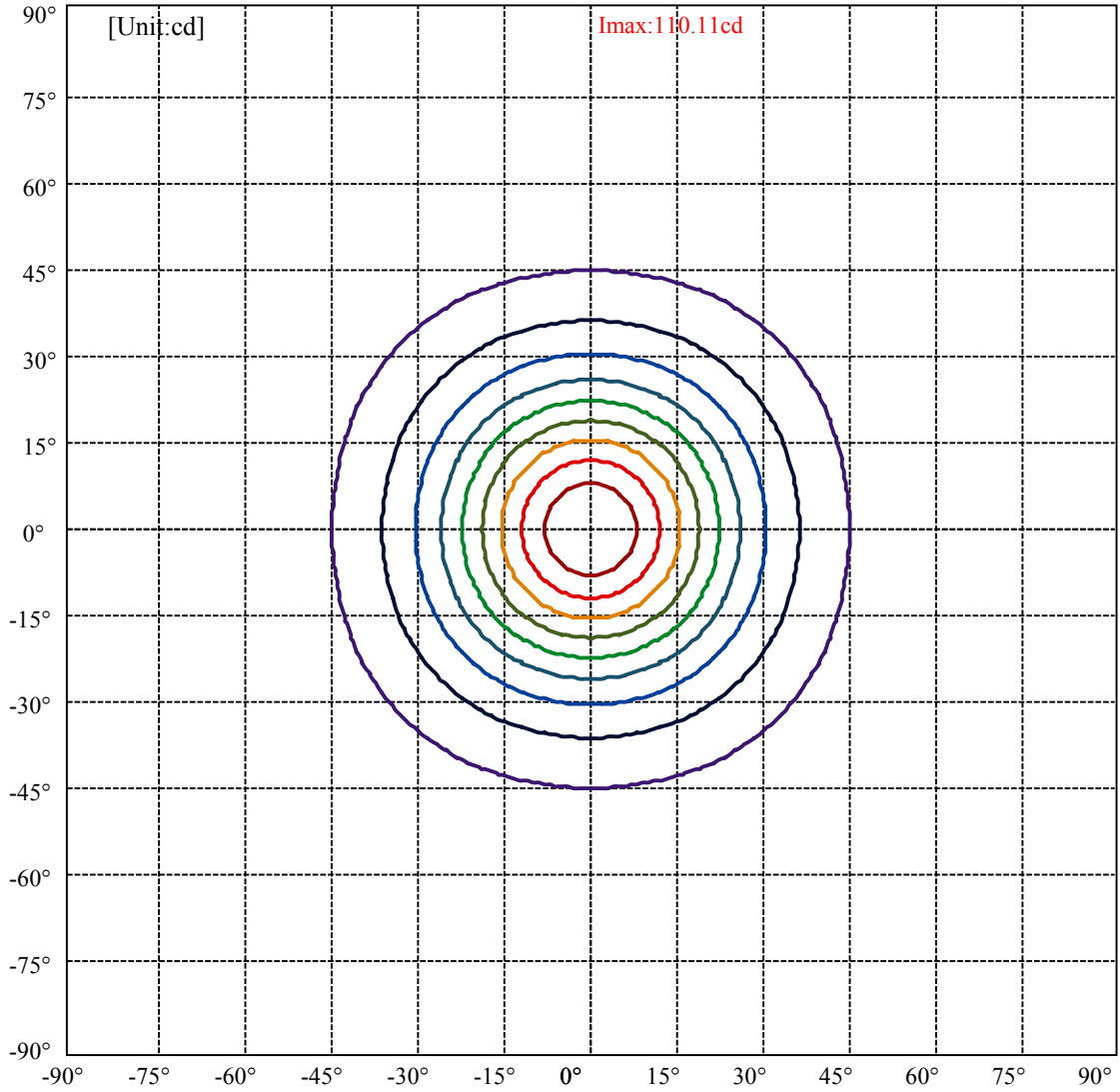
C90/C270: —

Field angle(10%Imax):C0/180Left:44.3 Right:44.3
:C90/270Left:44.3 Right:44.3

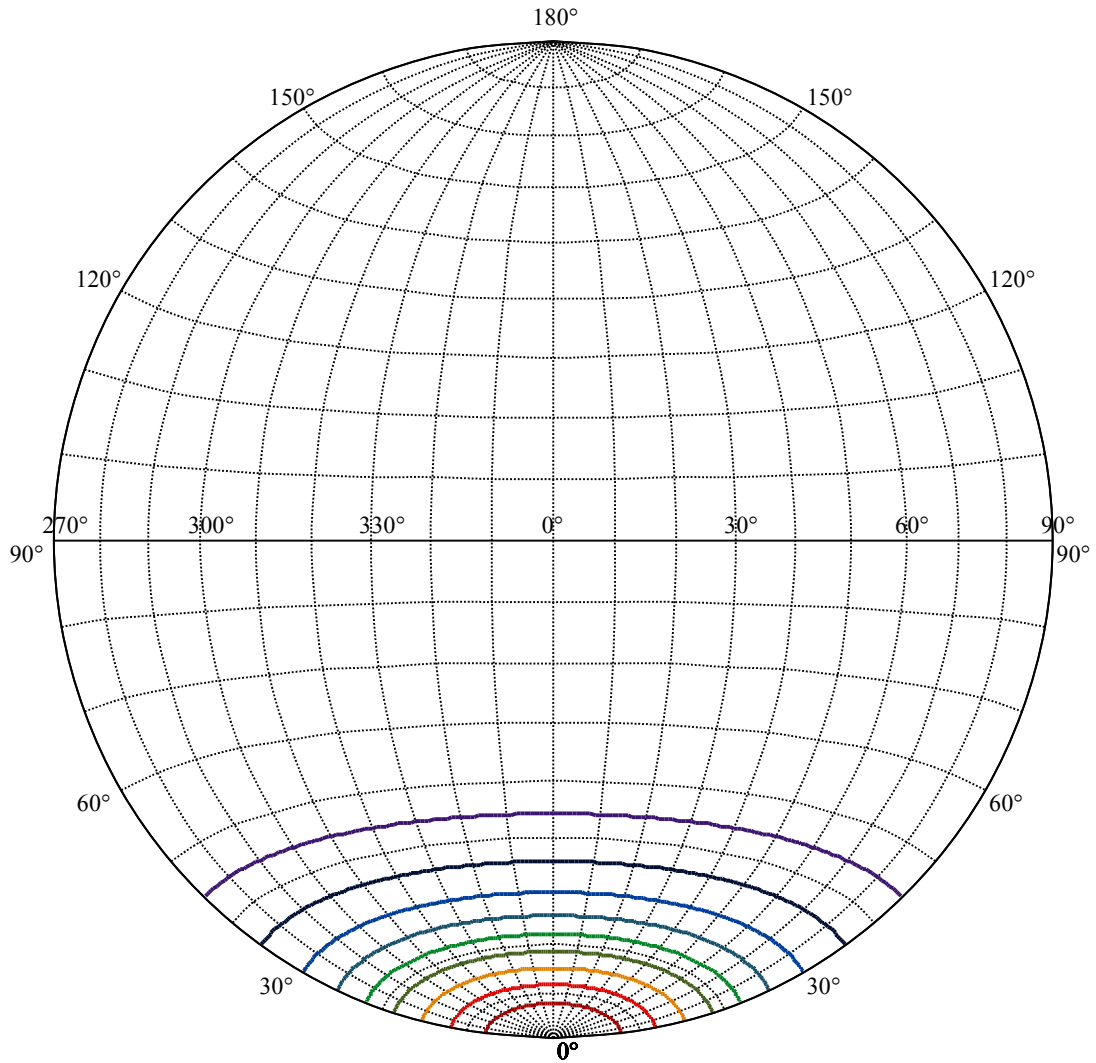
Beam Angle(50%Imax):C0/180Left:22.0 Right:22.0
:C90/270Left:22.0 Right:22.0



Max , Ave Beam angle of C0 plane 45.41



| | |
|-------------------|---|
| (10%Imax) 11.0109 | — |
| (20%Imax) 22.0219 | — |
| (30%Imax) 33.0328 | — |
| (40%Imax) 44.0438 | — |
| (50%Imax) 55.0547 | — |
| (60%Imax) 66.0656 | — |
| (70%Imax) 77.0766 | — |
| (80%Imax) 88.0875 | — |
| (90%Imax) 99.0984 | — |



House

[Unit:cd]

Road

Imax:110.11

(10%Imax) 11.0109

(20%Imax) 22.0219

(30%Imax) 33.0328

(40%Imax) 44.0438

(50%Imax) 55.0547

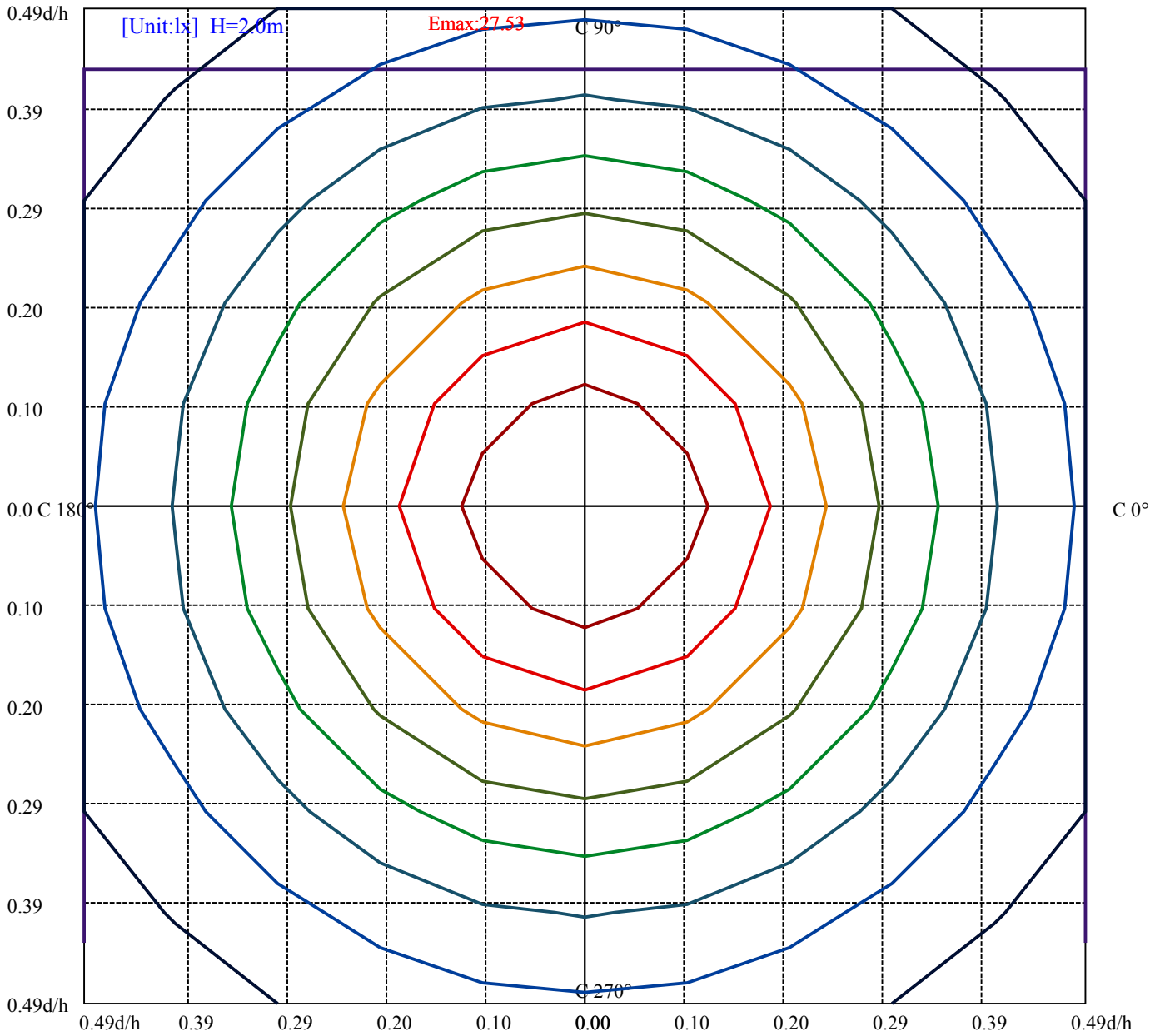
(60%Imax) 66.0656

(70%Imax) 77.0766

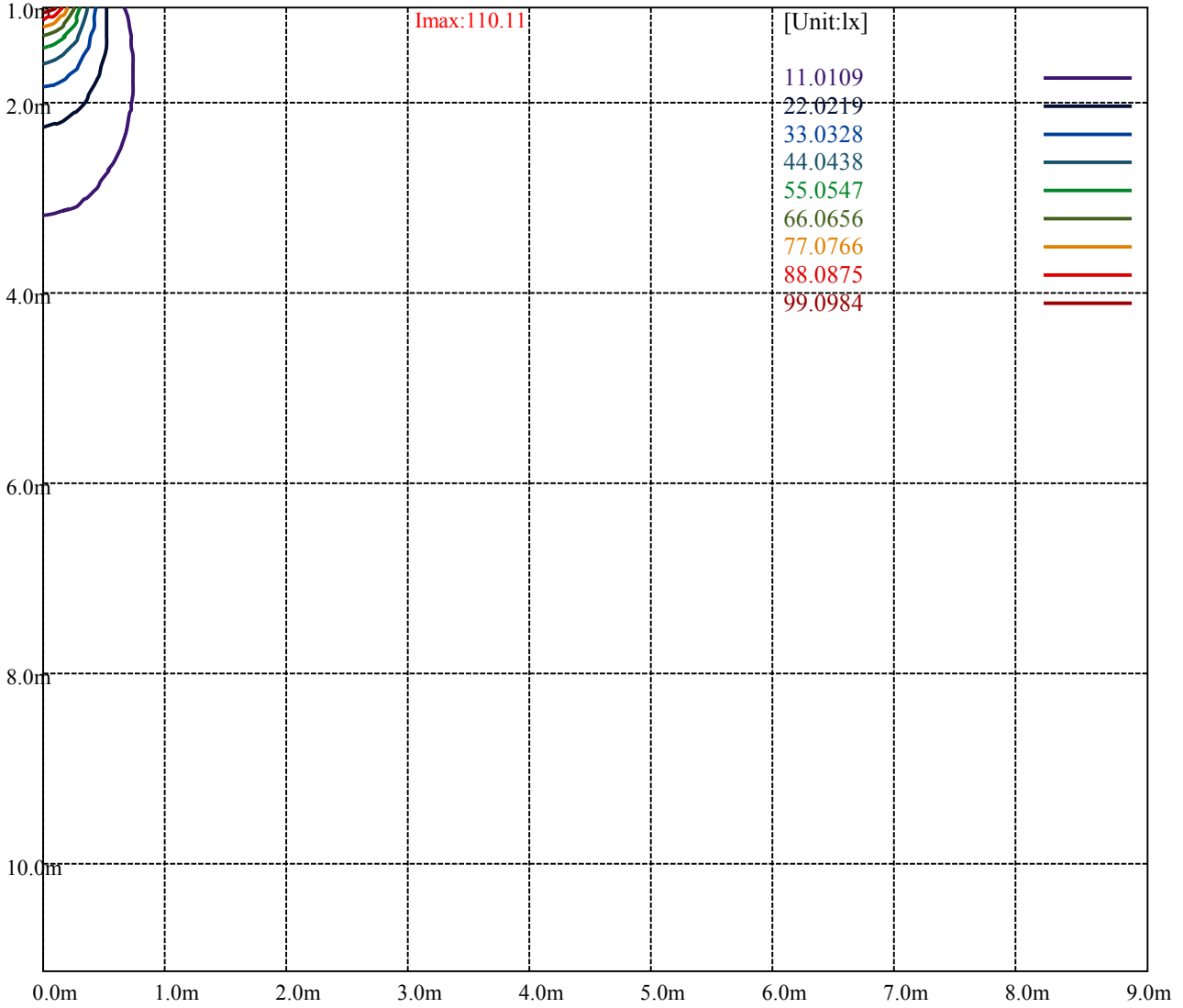
(80%Imax) 88.0875

(90%Imax) 99.0984





- (10%Emax) 2.752725
- (20%Emax) 5.50545
- (30%Emax) 8.2582
- (40%Emax) 11.01093
- (50%Emax) 13.76365
- (60%Emax) 16.51637
- (70%Emax) 19.26912
- (80%Emax) 22.02185
- (90%Emax) 24.77457



Luminance Table

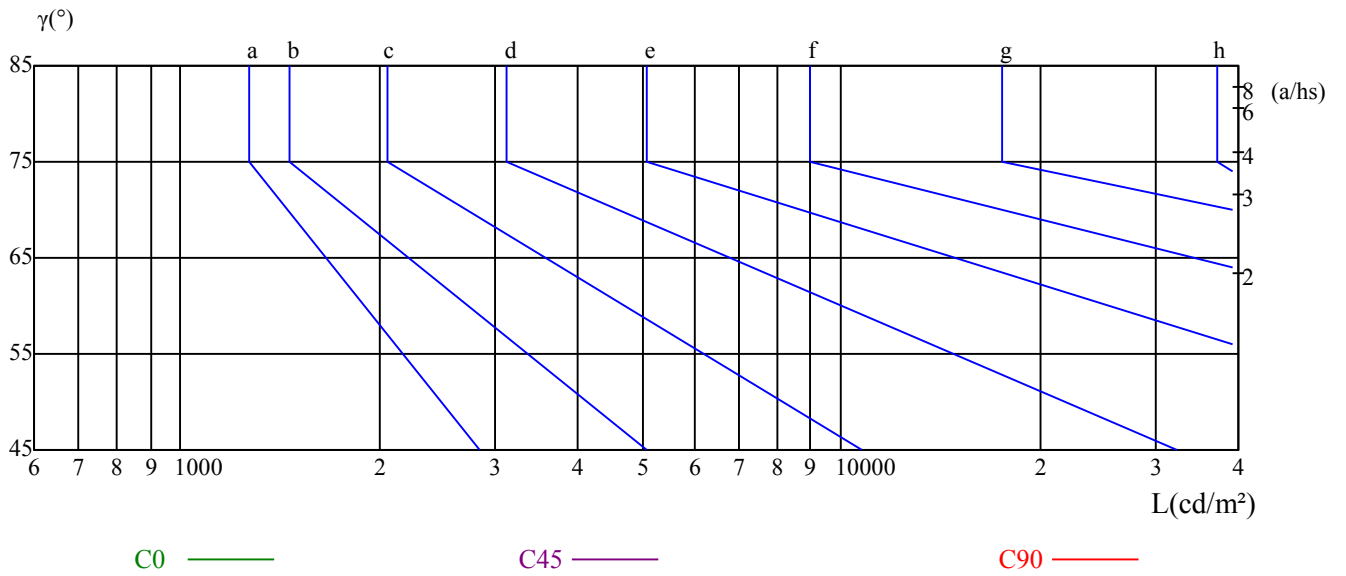
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

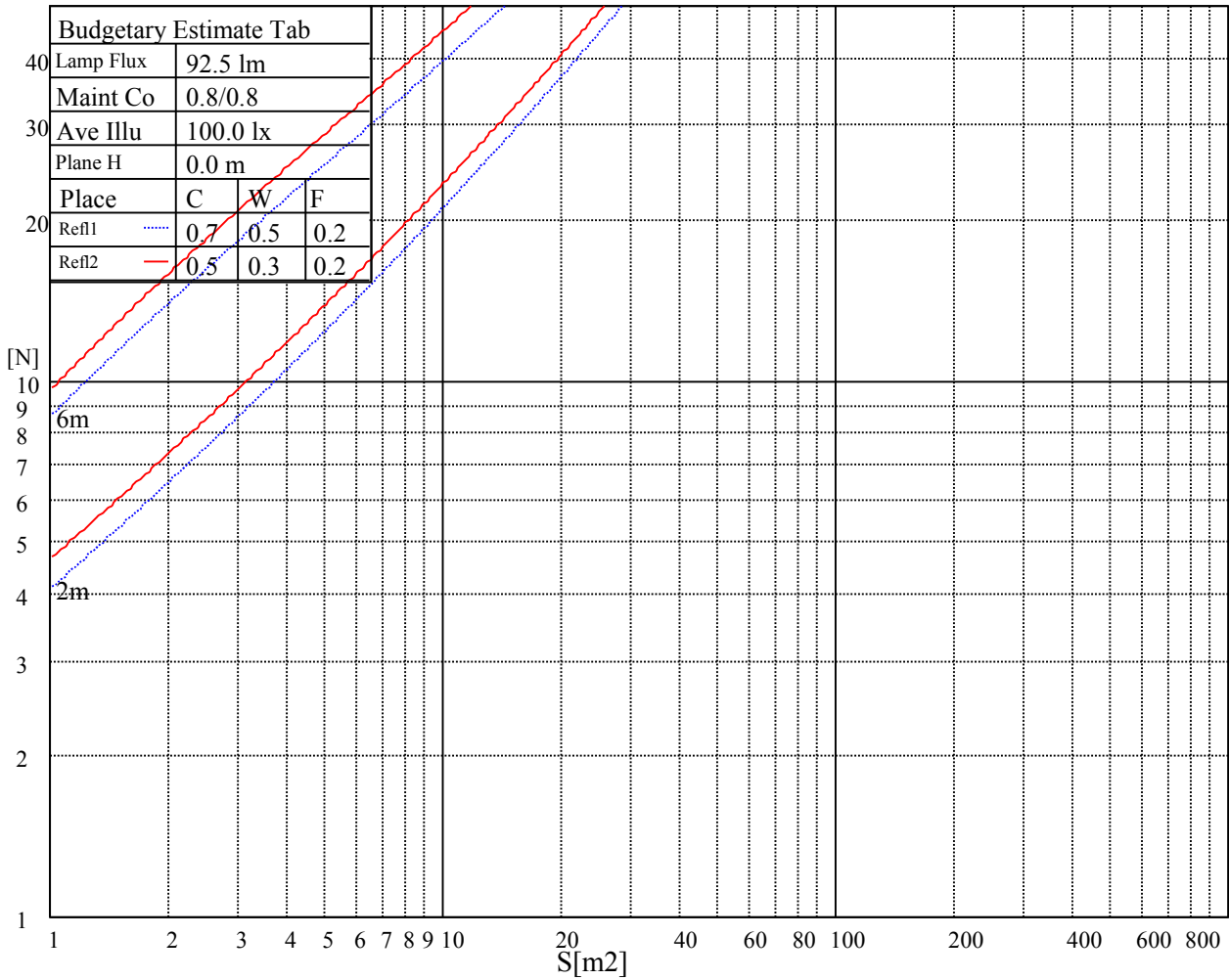
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Glare Table

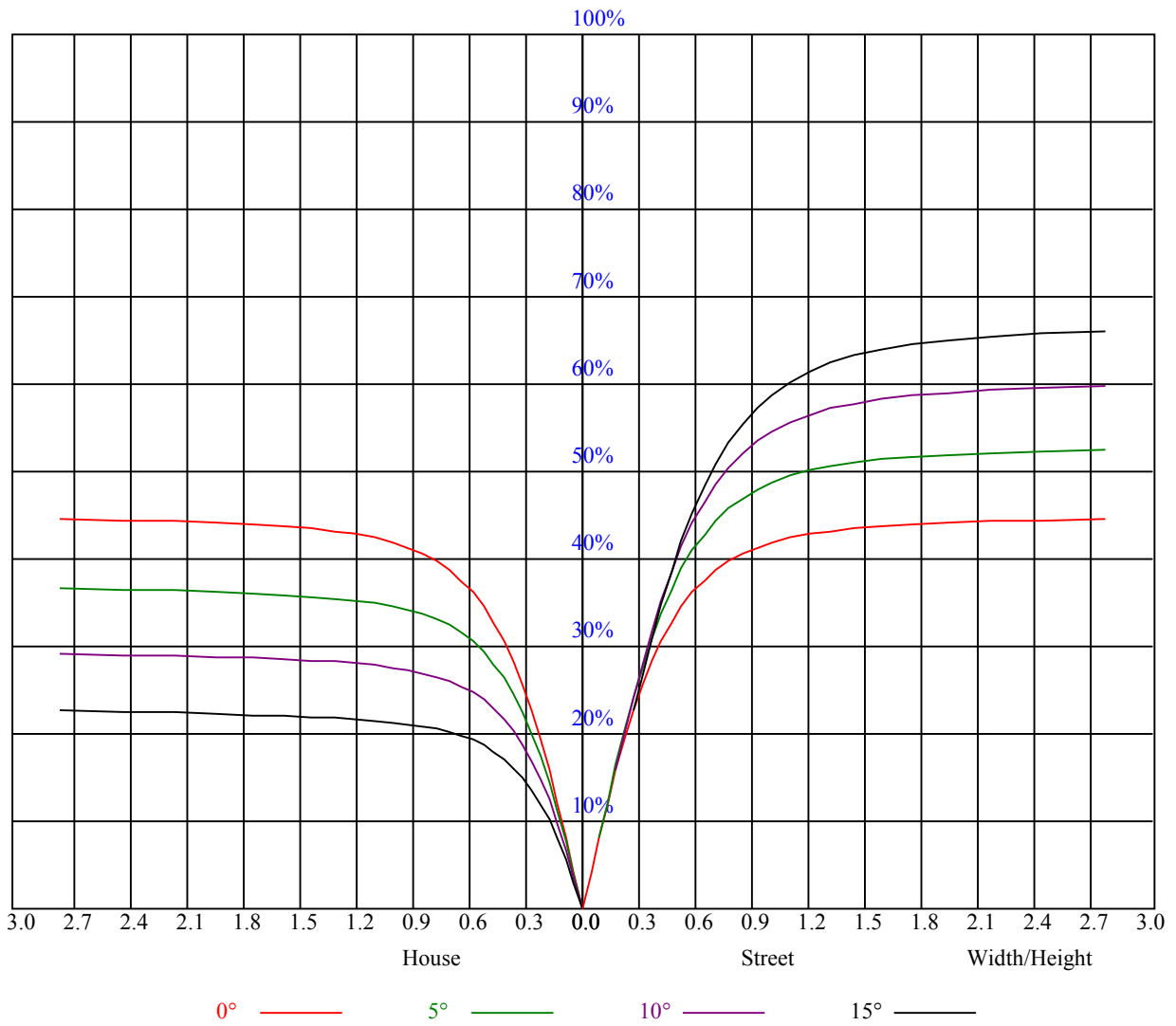
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 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 | 1.01 | 1.01 | 1.01 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.91 |
| 1 | 0.99 | 0.97 | 0.94 | 0.97 | 0.95 | 0.93 | 0.94 | 0.92 | 0.90 | 0.90 | 0.89 | 0.87 | 0.87 | 0.86 | 0.85 | 0.83 |
| 2 | 0.91 | 0.87 | 0.84 | 0.90 | 0.86 | 0.83 | 0.87 | 0.84 | 0.81 | 0.84 | 0.81 | 0.79 | 0.81 | 0.79 | 0.77 | 0.76 |
| 3 | 0.84 | 0.79 | 0.75 | 0.83 | 0.78 | 0.74 | 0.81 | 0.77 | 0.73 | 0.78 | 0.75 | 0.72 | 0.76 | 0.73 | 0.71 | 0.69 |
| 4 | 0.78 | 0.73 | 0.68 | 0.77 | 0.72 | 0.68 | 0.75 | 0.71 | 0.67 | 0.73 | 0.69 | 0.66 | 0.71 | 0.68 | 0.65 | 0.64 |
| 5 | 0.73 | 0.67 | 0.63 | 0.72 | 0.66 | 0.62 | 0.70 | 0.65 | 0.62 | 0.69 | 0.64 | 0.61 | 0.67 | 0.64 | 0.61 | 0.59 |
| 6 | 0.68 | 0.62 | 0.58 | 0.67 | 0.62 | 0.58 | 0.66 | 0.61 | 0.57 | 0.65 | 0.60 | 0.57 | 0.63 | 0.59 | 0.56 | 0.55 |
| 7 | 0.64 | 0.58 | 0.54 | 0.63 | 0.58 | 0.54 | 0.62 | 0.57 | 0.53 | 0.61 | 0.56 | 0.53 | 0.60 | 0.56 | 0.53 | 0.51 |
| 8 | 0.60 | 0.54 | 0.50 | 0.59 | 0.54 | 0.50 | 0.58 | 0.53 | 0.50 | 0.57 | 0.53 | 0.50 | 0.57 | 0.52 | 0.49 | 0.48 |
| 9 | 0.57 | 0.51 | 0.47 | 0.56 | 0.51 | 0.47 | 0.55 | 0.50 | 0.47 | 0.54 | 0.50 | 0.47 | 0.54 | 0.49 | 0.46 | 0.45 |
| 10 | 0.54 | 0.48 | 0.44 | 0.53 | 0.48 | 0.44 | 0.52 | 0.47 | 0.44 | 0.52 | 0.47 | 0.44 | 0.51 | 0.47 | 0.44 | 0.43 |



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 | 111.04 | 109.97 | 100.13 | 84.99 | 68.12 | 51.58 | 39.38 | 27.39 | 19.01 |
| 45.0 | 109.18 | 106.54 | 96.30 | 80.49 | 64.69 | 48.49 | 35.21 | 25.31 | 17.16 |
| 90.0 | 108.90 | 102.26 | 89.10 | 72.90 | 57.71 | 42.41 | 30.38 | 21.26 | 14.34 |
| 135.0 | 111.32 | 103.44 | 90.06 | 74.93 | 58.11 | 42.86 | 30.71 | 21.60 | 14.63 |
| 180.0 | 111.04 | 103.89 | 89.72 | 72.17 | 54.79 | 41.18 | 29.42 | 20.14 | 13.84 |
| 225.0 | 109.18 | 103.95 | 91.07 | 74.53 | 59.01 | 42.98 | 30.83 | 21.49 | 14.57 |
| 270.0 | 108.90 | 107.49 | 97.09 | 82.63 | 64.80 | 48.04 | 34.54 | 24.36 | 16.76 |
| 315.0 | 111.32 | 109.46 | 98.33 | 81.06 | 64.63 | 47.98 | 34.88 | 23.74 | 17.16 |
| 360.0 | 111.04 | 109.97 | 100.13 | 84.99 | 68.12 | 51.58 | 39.38 | 27.39 | 19.01 |
| C/γ(°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 12.49 | 8.33 | 5.29 | 3.49 | 2.36 | 1.74 | 1.46 | 1.41 | 1.18 |
| 45.0 | 11.08 | 7.37 | 4.67 | 3.15 | 2.14 | 1.63 | 1.41 | 1.29 | 1.24 |
| 90.0 | 9.06 | 5.68 | 3.83 | 2.64 | 1.80 | 1.46 | 1.29 | 1.24 | 0.79 |
| 135.0 | 9.23 | 6.13 | 3.83 | 2.59 | 1.91 | 1.46 | 1.29 | 1.24 | 1.13 |
| 180.0 | 8.83 | 5.74 | 3.71 | 2.53 | 1.80 | 1.46 | 1.35 | 1.29 | 1.13 |
| 225.0 | 9.34 | 5.91 | 3.88 | 2.59 | 1.80 | 1.52 | 1.35 | 1.24 | 1.13 |
| 270.0 | 10.91 | 7.43 | 4.56 | 3.04 | 2.03 | 1.52 | 1.29 | 1.24 | 1.18 |
| 315.0 | 11.14 | 7.31 | 4.73 | 3.09 | 2.03 | 1.52 | 1.35 | 1.18 | 1.13 |
| 360.0 | 12.49 | 8.33 | 5.29 | 3.49 | 2.36 | 1.74 | 1.46 | 1.41 | 1.18 |
| C/γ(°) | 90.0 | | | | | | | | |
| 0.0 | 0.34 | | | | | | | | |
| 45.0 | 0.34 | | | | | | | | |
| 90.0 | 0.28 | | | | | | | | |
| 135.0 | 0.28 | | | | | | | | |
| 180.0 | 0.23 | | | | | | | | |
| 225.0 | 0.23 | | | | | | | | |
| 270.0 | 0.23 | | | | | | | | |
| 315.0 | 0.28 | | | | | | | | |
| 360.0 | 0.34 | | | | | | | | |