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Nata

LumCAT: NA01D020060BW

Luminaire:

Report No: 200402-B018

Voltage(V): 6.5600

Test No: 200402-C018

Current(A): 0.1570

LampCAT: OSRAM 3030 DURIS S5

Power (W): 1.0300

Lamp flux(lm): 126.0

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): 116.00

Efficiency(%): 92.06%

Lumens(lm)/Power(W): 112.62

Central intensity(cd): 97.650

Maximum intensity(cd): 97.650

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=61.1

[C90/270]Total=61.1

Field angle(10%Imax): [C0/180]Total=105.4

[C90/270]Total=105.4

Maximum s/h(1/2): C0_180=0.92 C90_270=0.92

Maximum s/h(1/4): C0_180=0.93 C90_270=0.93

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.06%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 92.688%

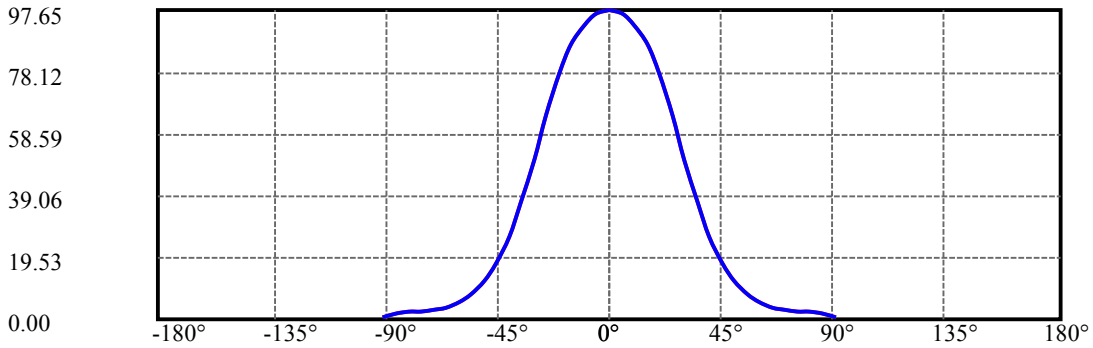
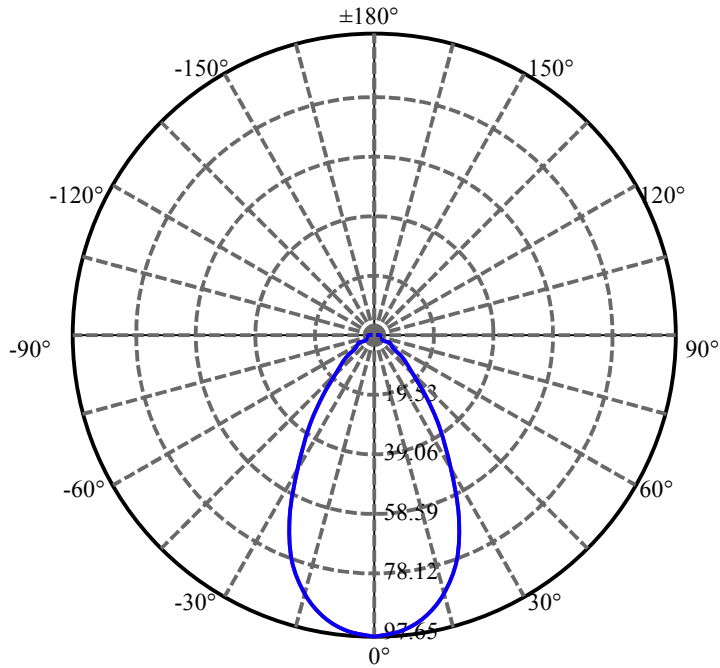
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 97.650 | 0.000 | 0 | .000% | .000% |
| 5.0 | 96.455 | 2.320 | 2.32 | 1.842% | 2.000% |
| 10.0 | 92.862 | 6.772 | 9.093 | 5.375% | 7.839% |
| 15.0 | 86.787 | 10.657 | 19.75 | 8.458% | 17.026% |
| 20.0 | 77.470 | 13.537 | 33.287 | 10.744% | 28.696% |
| 25.0 | 64.174 | 14.856 | 48.143 | 11.790% | 41.503% |
| 30.0 | 50.288 | 14.485 | 62.628 | 11.496% | 53.990% |
| 35.0 | 36.710 | 12.811 | 75.439 | 10.167% | 65.034% |
| 40.0 | 26.360 | 10.523 | 85.962 | 8.351% | 74.106% |
| 45.0 | 17.705 | 8.159 | 94.121 | 6.475% | 81.139% |
| 50.0 | 11.953 | 5.993 | 100.113 | 4.756% | 86.306% |
| 55.0 | 7.931 | 4.324 | 104.437 | 3.431% | 90.033% |
| 60.0 | 5.393 | 3.080 | 107.517 | 2.444% | 92.688% |
| 65.0 | 3.734 | 2.219 | 109.735 | 1.761% | 94.601% |
| 70.0 | 2.890 | 1.677 | 111.412 | 1.331% | 96.047% |
| 75.0 | 2.559 | 1.424 | 112.837 | 1.130% | 97.274% |
| 80.0 | 2.412 | 1.330 | 114.167 | 1.056% | 98.421% |
| 85.0 | 1.927 | 1.179 | 115.346 | .936% | 99.437% |
| 90.0 | 0.457 | 0.653 | 115.998 | .518% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|--------|---------|
| 0-30 | 62.63 | 49.70% | 53.99% |
| 0-40 | 85.96 | 68.22% | 74.11% |
| 0-60 | 107.52 | 85.33% | 92.69% |
| 0-90 | 115.35 | 91.54% | 99.44% |
| 0-120 | 115.35 | 91.54% | 99.44% |
| 0-180 | 116.00 | 92.06% | 100.00% |
| 60-90 | 10.91 | 8.66% | 9.40% |
| 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% |
| 0-44.19 | 92.80 | 73.65% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|-------|
| 0-10 | 9.09 |
| 10-20 | 24.19 |
| 20-30 | 29.34 |
| 30-40 | 23.33 |
| 40-50 | 14.15 |
| 50-60 | 7.40 |
| 60-70 | 3.90 |
| 70-80 | 2.75 |
| 80-90 | 1.18 |
| 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 |

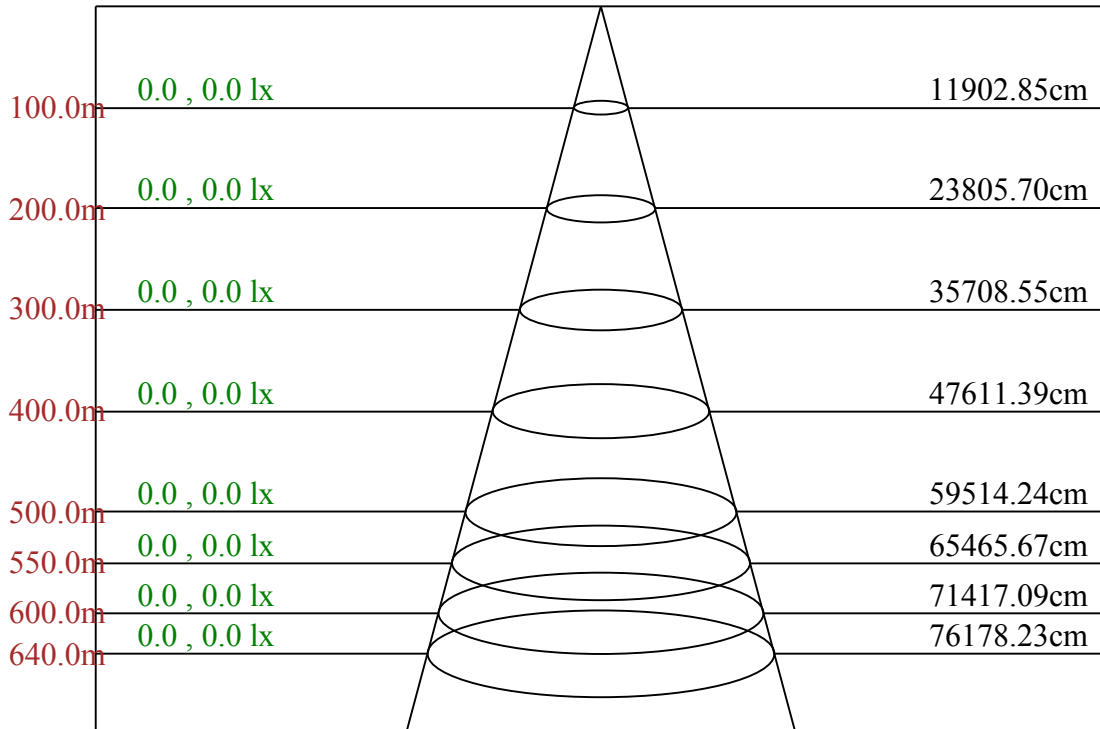


C0/C180: —

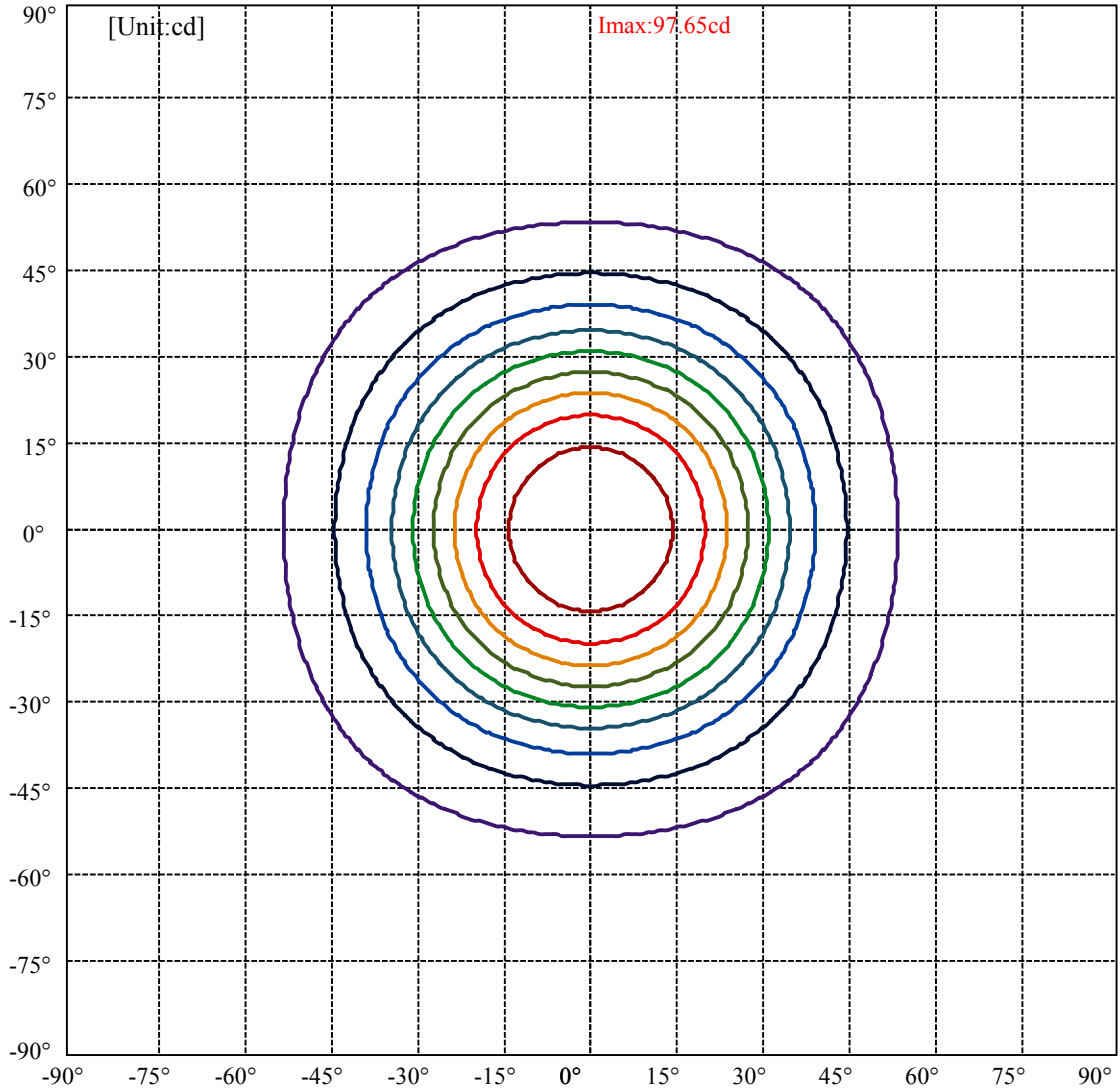
C90/C270: —

Field angle(10%Imax):C0/180Left:52.7 Right:52.7
:C90/270Left:52.7 Right:52.7

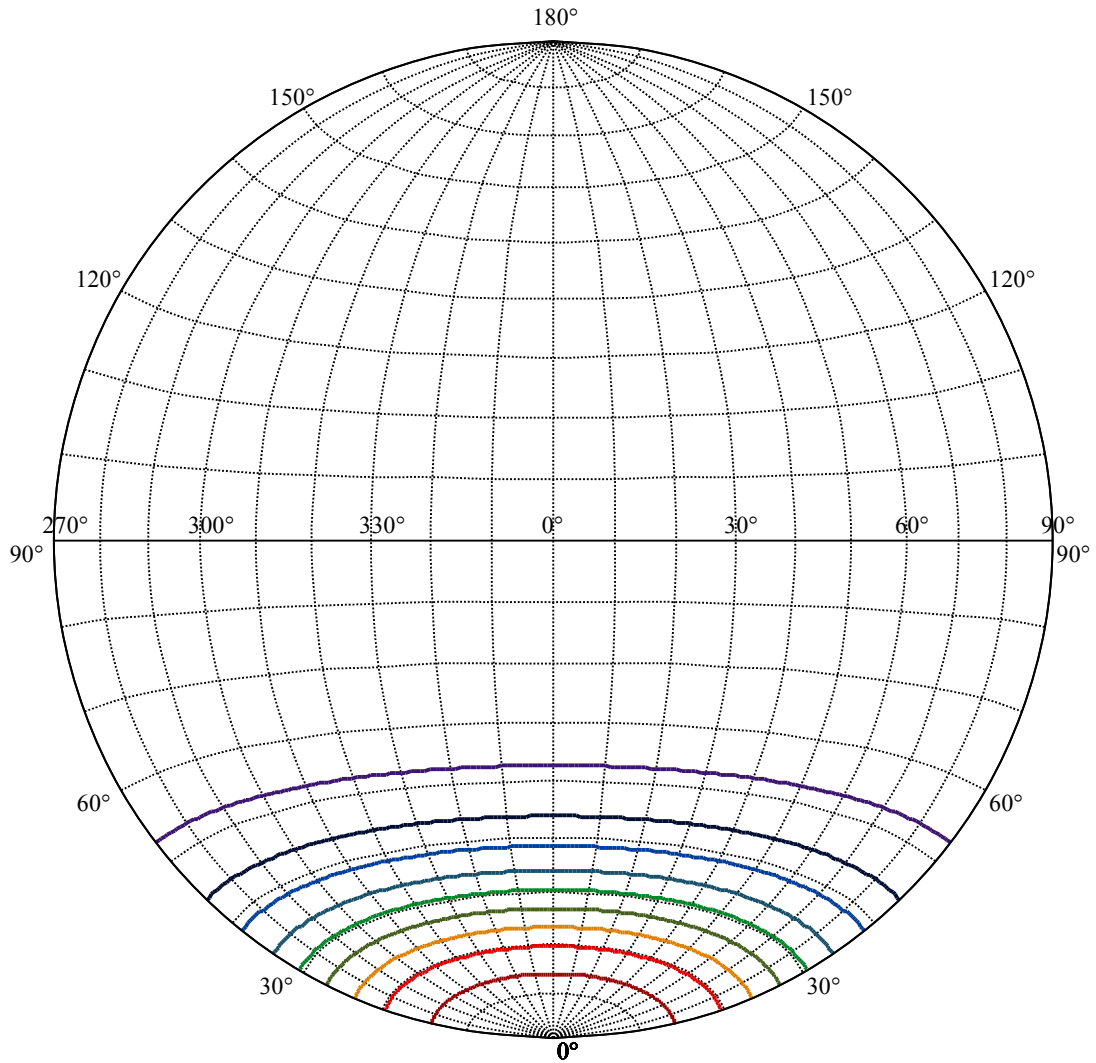
Beam Angle(50%Imax):C0/180Left:30.5 Right:30.5
:C90/270Left:30.5 Right:30.5



Max , Ave Beam angle of C0 plane 61.52



| | |
|------------------|---|
| (10%Imax) 9.765 | — |
| (20%Imax) 19.53 | — |
| (30%Imax) 29.295 | — |
| (40%Imax) 39.06 | — |
| (50%Imax) 48.825 | — |
| (60%Imax) 58.59 | — |
| (70%Imax) 68.355 | — |
| (80%Imax) 78.12 | — |
| (90%Imax) 87.885 | — |



House

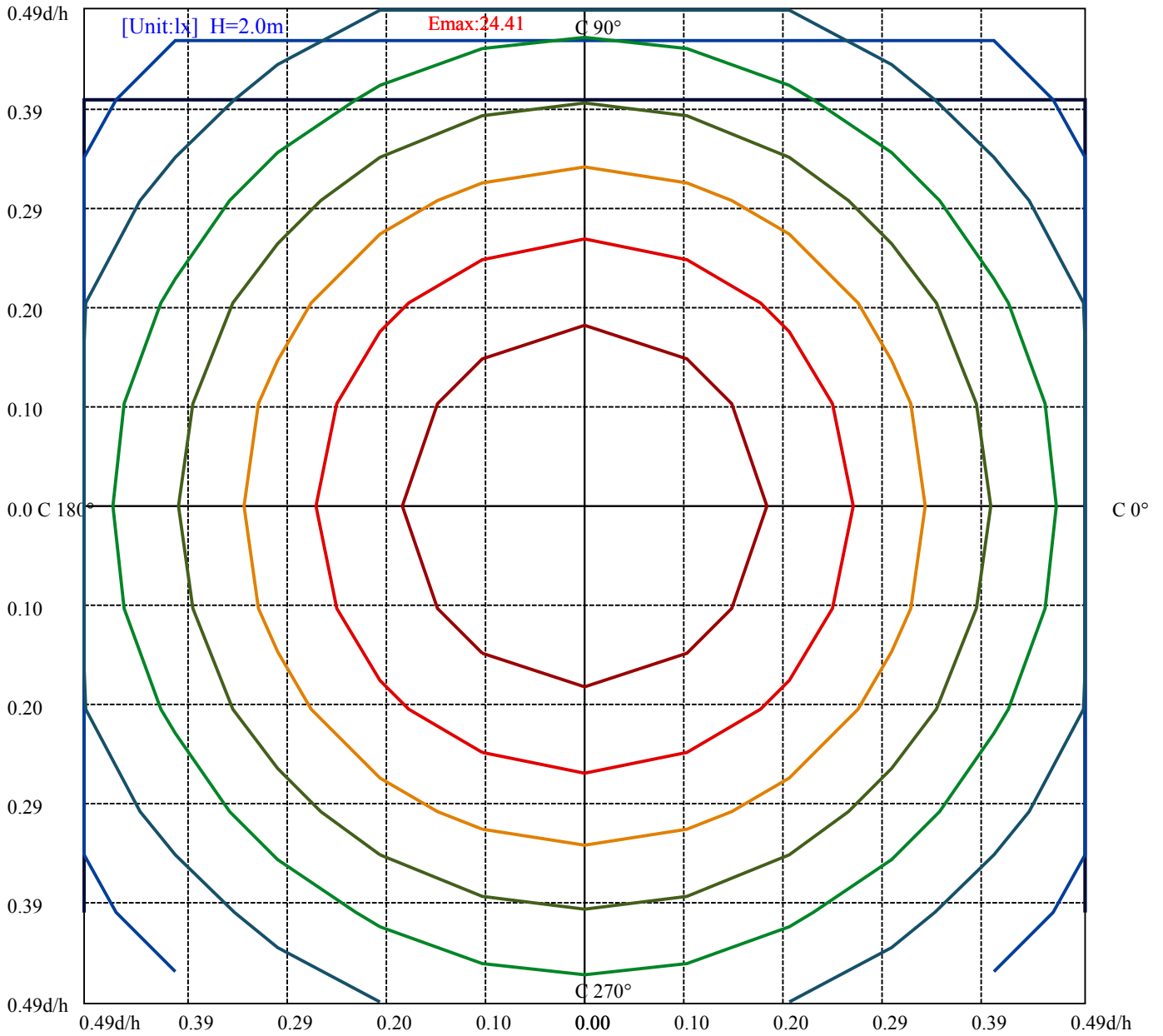
[Unit:cd]

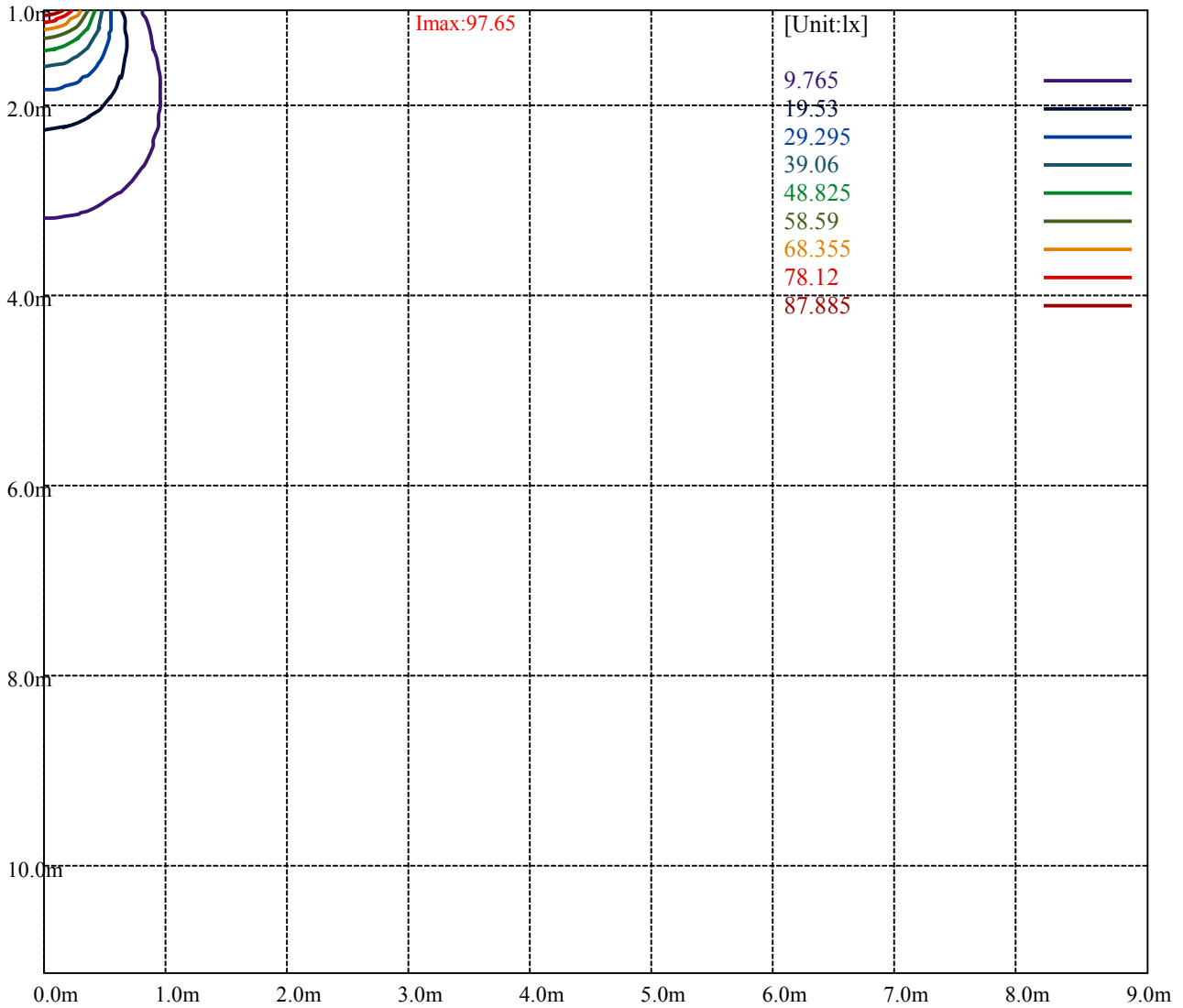
Road

Imax:97.65

- (10%Imax) 9.765
- (20%Imax) 19.53
- (30%Imax) 29.295
- (40%Imax) 39.06
- (50%Imax) 48.825
- (60%Imax) 58.59
- (70%Imax) 68.355
- (80%Imax) 78.12
- (90%Imax) 87.885







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 |

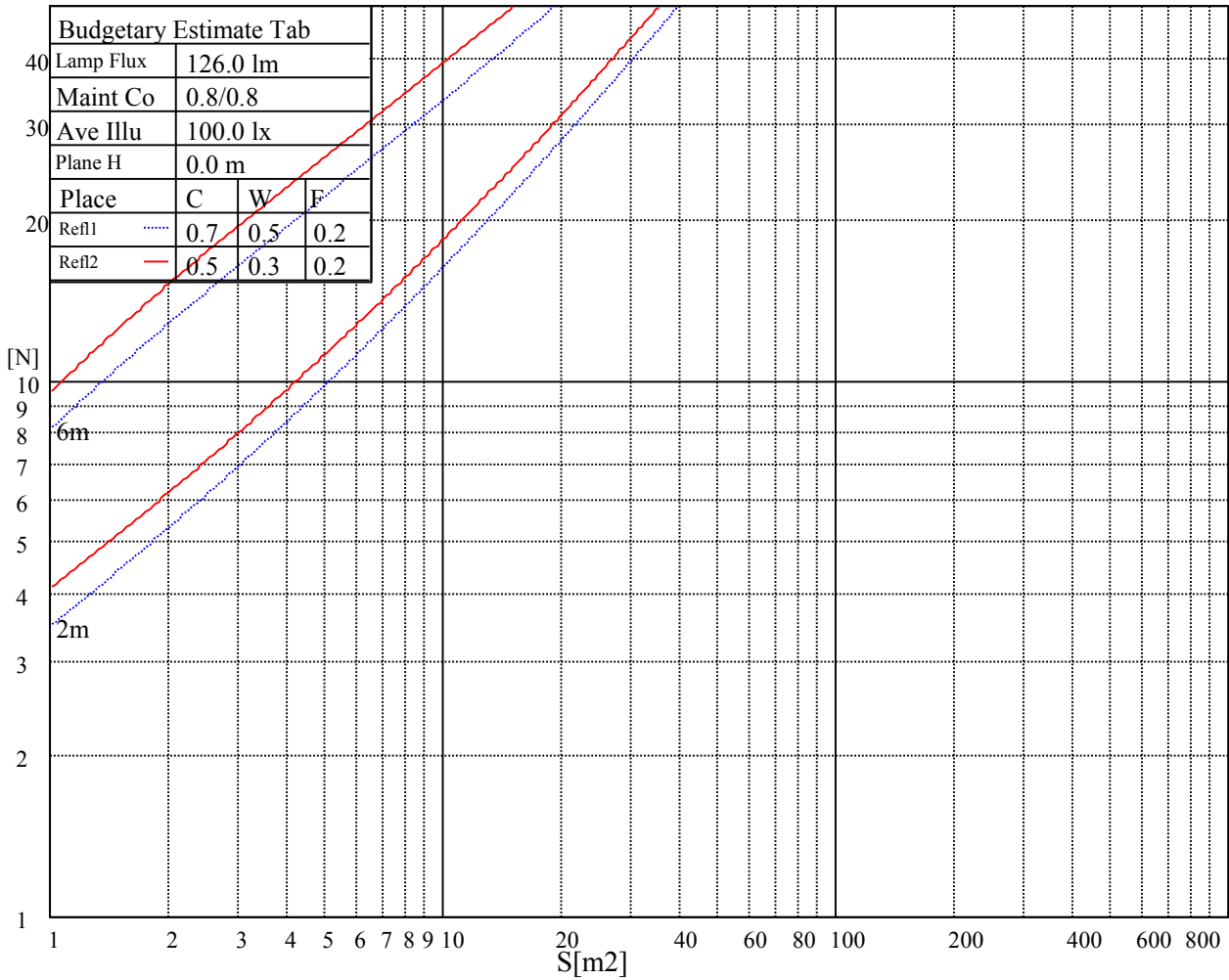
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Glare Table

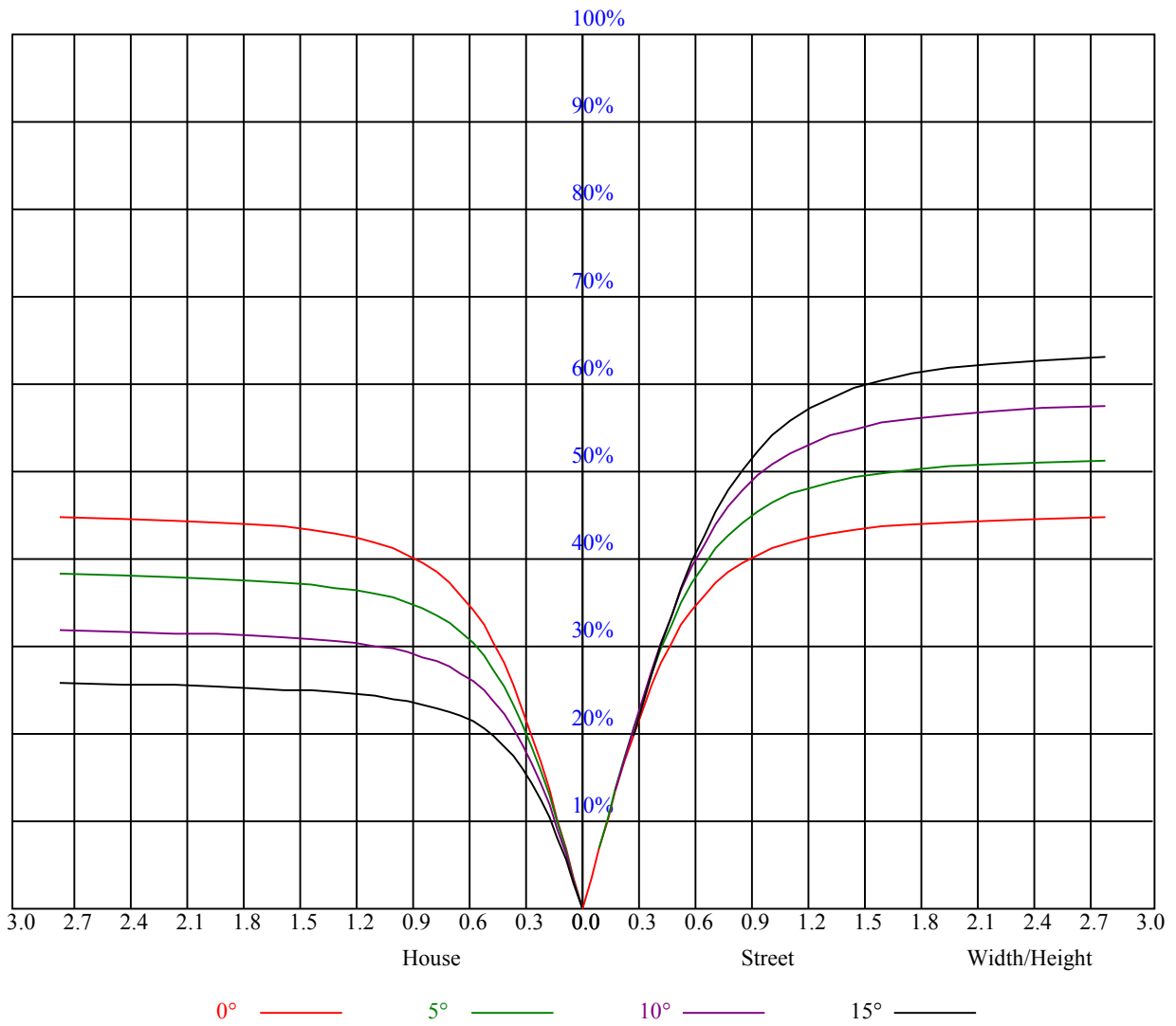
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 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 | 1.10 | 1.10 | 1.10 | 1.07 | 1.07 | 1.07 | 1.02 | 1.02 | 1.02 | 0.98 | 0.98 | 0.98 | 0.94 | 0.94 | 0.94 | 0.92 |
| 1 | 0.99 | 0.96 | 0.94 | 0.97 | 0.95 | 0.92 | 0.94 | 0.91 | 0.89 | 0.90 | 0.88 | 0.87 | 0.87 | 0.85 | 0.84 | 0.82 |
| 2 | 0.90 | 0.86 | 0.82 | 0.89 | 0.85 | 0.81 | 0.86 | 0.82 | 0.79 | 0.83 | 0.80 | 0.77 | 0.80 | 0.78 | 0.76 | 0.74 |
| 3 | 0.83 | 0.77 | 0.73 | 0.81 | 0.76 | 0.72 | 0.79 | 0.74 | 0.71 | 0.76 | 0.73 | 0.70 | 0.74 | 0.71 | 0.68 | 0.67 |
| 4 | 0.76 | 0.70 | 0.65 | 0.75 | 0.69 | 0.65 | 0.73 | 0.68 | 0.64 | 0.71 | 0.67 | 0.63 | 0.69 | 0.65 | 0.62 | 0.61 |
| 5 | 0.70 | 0.64 | 0.59 | 0.69 | 0.63 | 0.59 | 0.67 | 0.62 | 0.58 | 0.66 | 0.61 | 0.58 | 0.64 | 0.60 | 0.57 | 0.55 |
| 6 | 0.65 | 0.58 | 0.54 | 0.64 | 0.58 | 0.54 | 0.63 | 0.57 | 0.53 | 0.61 | 0.56 | 0.53 | 0.60 | 0.56 | 0.52 | 0.51 |
| 7 | 0.60 | 0.54 | 0.49 | 0.60 | 0.54 | 0.49 | 0.58 | 0.53 | 0.49 | 0.57 | 0.52 | 0.49 | 0.56 | 0.52 | 0.48 | 0.47 |
| 8 | 0.56 | 0.50 | 0.46 | 0.56 | 0.50 | 0.45 | 0.55 | 0.49 | 0.45 | 0.54 | 0.49 | 0.45 | 0.53 | 0.48 | 0.45 | 0.43 |
| 9 | 0.53 | 0.46 | 0.42 | 0.52 | 0.46 | 0.42 | 0.51 | 0.46 | 0.42 | 0.50 | 0.45 | 0.42 | 0.50 | 0.45 | 0.42 | 0.40 |
| 10 | 0.49 | 0.43 | 0.39 | 0.49 | 0.43 | 0.39 | 0.48 | 0.43 | 0.39 | 0.47 | 0.43 | 0.39 | 0.47 | 0.42 | 0.39 | 0.38 |



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 | 98.44 | 101.31 | 100.86 | 97.88 | 89.83 | 75.54 | 61.26 | 44.49 | 31.73 |
| 45.0 | 96.64 | 97.14 | 95.18 | 90.68 | 81.73 | 68.51 | 54.06 | 40.61 | 29.14 |
| 90.0 | 96.58 | 93.38 | 87.64 | 80.04 | 69.98 | 56.81 | 43.99 | 31.73 | 22.73 |
| 135.0 | 98.94 | 92.48 | 84.38 | 76.84 | 66.66 | 54.23 | 41.74 | 30.43 | 21.43 |
| 180.0 | 98.44 | 92.64 | 84.99 | 75.32 | 64.18 | 52.76 | 40.05 | 28.41 | 20.19 |
| 225.0 | 96.64 | 94.05 | 89.21 | 81.96 | 72.62 | 59.23 | 45.68 | 31.89 | 23.18 |
| 270.0 | 96.58 | 98.16 | 97.37 | 93.09 | 84.88 | 71.21 | 56.48 | 42.58 | 30.66 |
| 315.0 | 98.94 | 102.49 | 103.28 | 98.49 | 89.89 | 75.09 | 59.06 | 43.54 | 31.84 |
| 360.0 | 98.44 | 101.31 | 100.86 | 97.88 | 89.83 | 75.54 | 61.26 | 44.49 | 31.73 |
| C/ γ (°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 21.66 | 14.91 | 9.79 | 6.64 | 4.50 | 3.26 | 2.64 | 2.48 | 2.08 |
| 45.0 | 19.52 | 13.28 | 8.55 | 5.74 | 3.94 | 2.98 | 2.59 | 2.48 | 2.31 |
| 90.0 | 15.08 | 9.90 | 6.75 | 4.67 | 3.21 | 2.64 | 2.36 | 2.19 | 1.91 |
| 135.0 | 14.40 | 9.96 | 6.64 | 4.78 | 3.54 | 2.87 | 2.70 | 2.76 | 2.03 |
| 180.0 | 13.56 | 9.23 | 6.36 | 4.44 | 3.26 | 2.64 | 2.48 | 2.31 | 1.63 |
| 225.0 | 15.30 | 10.13 | 6.81 | 4.61 | 3.26 | 2.64 | 2.48 | 2.31 | 1.52 |
| 270.0 | 20.76 | 14.06 | 9.11 | 6.02 | 3.94 | 2.93 | 2.48 | 2.31 | 1.86 |
| 315.0 | 21.38 | 14.18 | 9.45 | 6.24 | 4.22 | 3.15 | 2.76 | 2.48 | 2.08 |
| 360.0 | 21.66 | 14.91 | 9.79 | 6.64 | 4.50 | 3.26 | 2.64 | 2.48 | 2.08 |
| C/ γ (°) | 90.0 | | | | | | | | |
| 0.0 | 0.62 | | | | | | | | |
| 45.0 | 0.56 | | | | | | | | |
| 90.0 | 0.45 | | | | | | | | |
| 135.0 | 0.39 | | | | | | | | |
| 180.0 | 0.39 | | | | | | | | |
| 225.0 | 0.39 | | | | | | | | |
| 270.0 | 0.39 | | | | | | | | |
| 315.0 | 0.45 | | | | | | | | |
| 360.0 | 0.62 | | | | | | | | |