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Nata

| | |
|------------------------|---------------------|
| LumCAT: 1-0938-N | |
| Luminaire: 92.361.000 | |
| Report No: 220518-B006 | Voltage(V): 36.3100 |
| Test No: 220518-C006 | Current(A): 0.3610 |
| LampCAT: CREE CXA1520 | Power (W): 13.1070 |
| Lamp flux(lm): 1029.7 | PF: 0.0000 |
| Number of Lamps: 1 | Ballast type: DC |
| Length(mm): 43 | Width(mm): 43 |
| Phm Type: C | Height(mm): 0 |

Photometric Results

Lumens(lm): 855.59
Efficiency(%): 83.09%
Lumens(lm)/Power(W): 65.28
Central intensity(cd): 1764.503
Maximum intensity(cd): 1764.503
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=41.5
 [C90/270]Total=41.5
Field angle(10%Imax): [C0/180]Total=63.1
 [C90/270]Total=63.1
Maximum s/h(1/2): C0_180=0.67 C90_270=0.67
Maximum s/h(1/4): C0_180=0.65 C90_270=0.65
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.09%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.007%

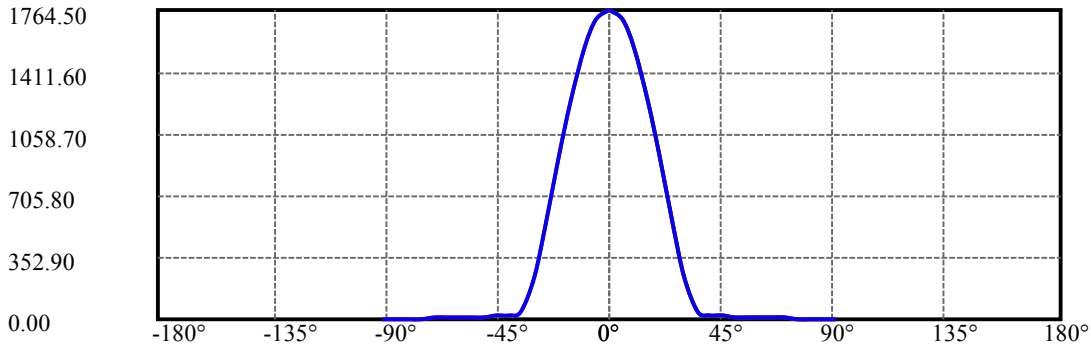
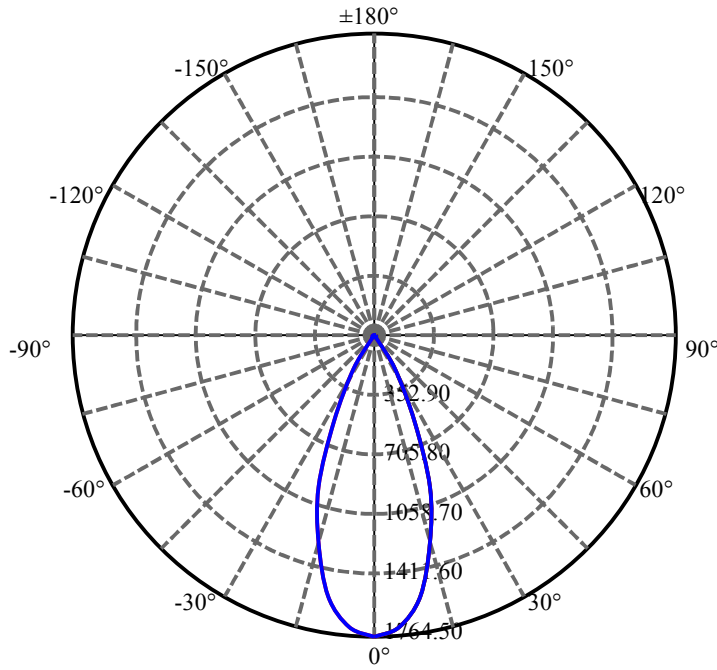
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 1764.503 | 0.000 | 0 | .000% | .000% |
| 5.0 | 1709.306 | 41.528 | 41.528 | 4.033% | 4.854% |
| 10.0 | 1548.272 | 116.534 | 158.062 | 11.317% | 18.474% |
| 15.0 | 1251.793 | 166.098 | 324.16 | 16.130% | 37.887% |
| 20.0 | 939.196 | 180.568 | 504.729 | 17.536% | 58.992% |
| 25.0 | 552.923 | 156.496 | 661.224 | 15.198% | 77.283% |
| 30.0 | 237.473 | 100.025 | 761.25 | 9.714% | 88.973% |
| 35.0 | 42.850 | 41.280 | 802.529 | 4.009% | 93.798% |
| 40.0 | 24.551 | 11.245 | 813.775 | 1.092% | 95.113% |
| 45.0 | 18.045 | 7.887 | 821.662 | .766% | 96.034% |
| 50.0 | 14.363 | 6.549 | 828.21 | .636% | 96.800% |
| 55.0 | 11.375 | 5.596 | 833.807 | .543% | 97.454% |
| 60.0 | 9.112 | 4.736 | 838.542 | .460% | 98.007% |
| 65.0 | 7.253 | 3.978 | 842.521 | .386% | 98.472% |
| 70.0 | 6.005 | 3.357 | 845.878 | .326% | 98.865% |
| 75.0 | 5.027 | 2.884 | 848.761 | .280% | 99.202% |
| 80.0 | 4.384 | 2.518 | 851.279 | .245% | 99.496% |
| 85.0 | 3.929 | 2.259 | 853.538 | .219% | 99.760% |
| 90.0 | 3.570 | 2.053 | 855.592 | .199% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|--------|---------|
| 0-30 | 761.25 | 73.93% | 88.97% |
| 0-40 | 813.77 | 79.03% | 95.11% |
| 0-60 | 838.54 | 81.43% | 98.01% |
| 0-90 | 853.54 | 82.89% | 99.76% |
| 0-120 | 853.54 | 82.89% | 99.76% |
| 0-180 | 855.59 | 83.09% | 100.00% |
| 60-90 | 19.73 | 1.92% | 2.31% |
| 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% |
| 0-26.16 | 684.47 | 66.47% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|--------|
| 0-10 | 158.06 |
| 10-20 | 346.67 |
| 20-30 | 256.52 |
| 30-40 | 52.52 |
| 40-50 | 14.44 |
| 50-60 | 10.33 |
| 60-70 | 7.34 |
| 70-80 | 5.40 |
| 80-90 | 2.26 |
| 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 |



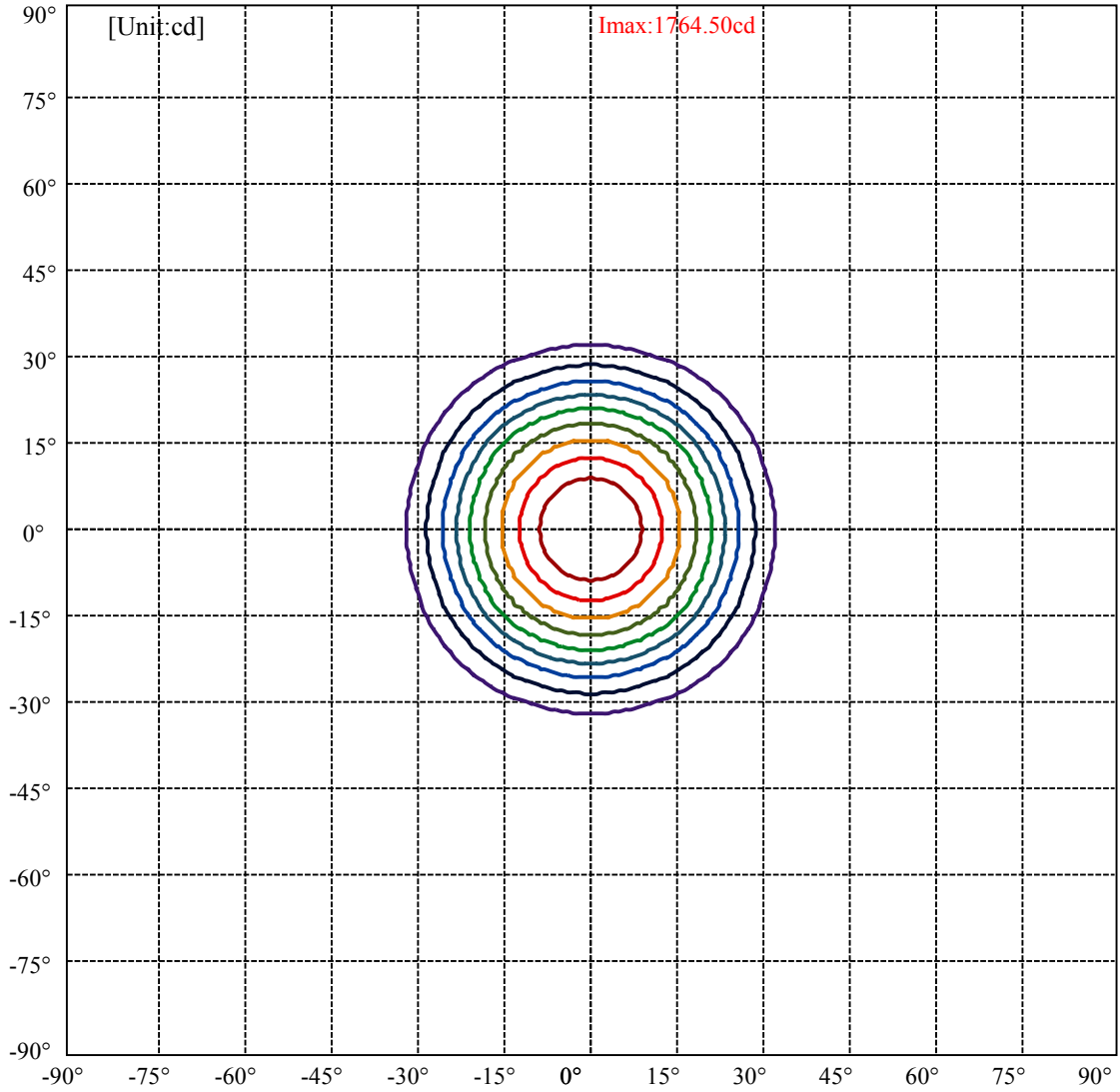
C0(Max): —————

C0/C180: —————

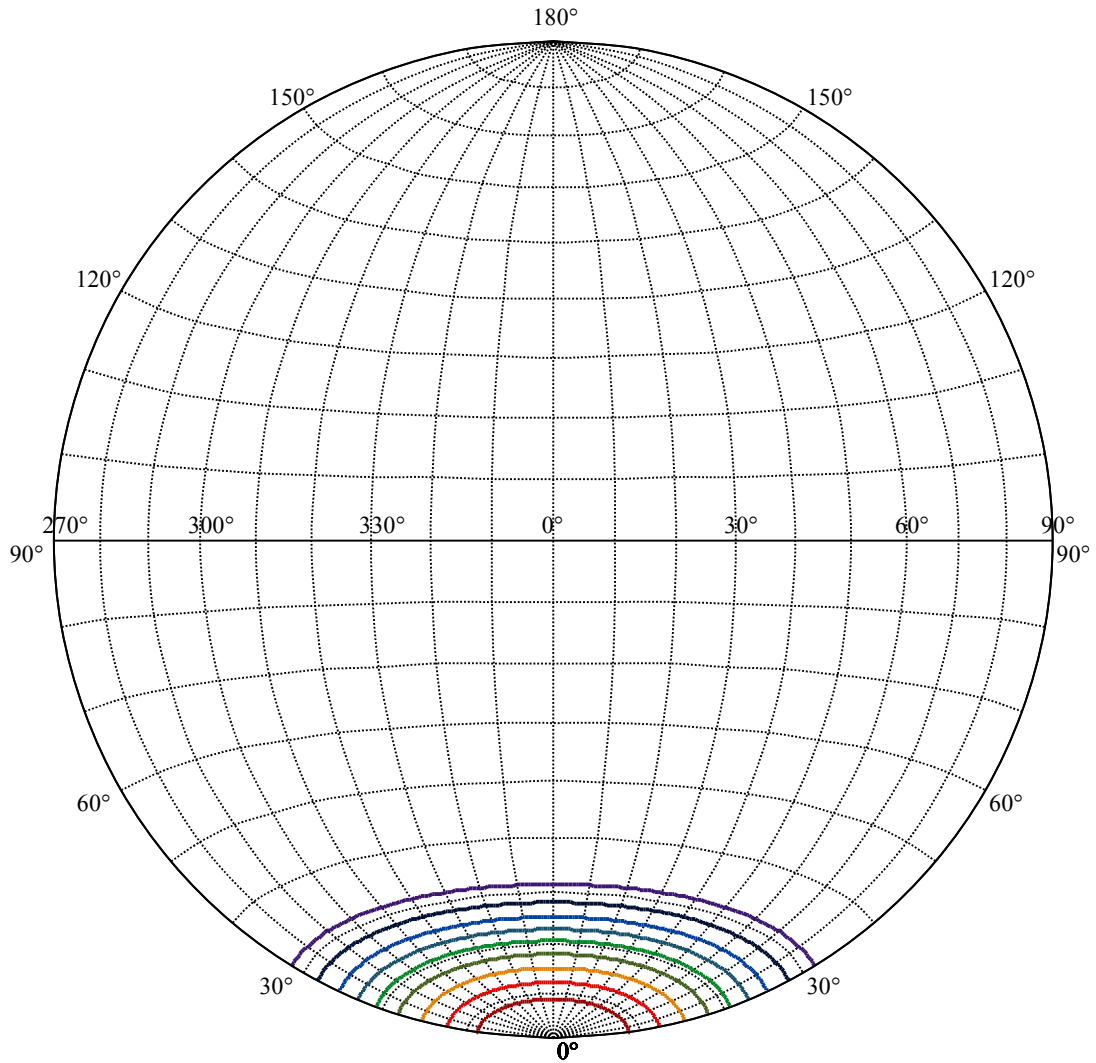
C90/C270: —————

Field angle(10%Imax):C0/180Left:31.6 Right:31.6
:C90/270Left:31.6 Right:31.6

Beam Angle(50%Imax):C0/180Left:20.7 Right:20.7
:C90/270Left:20.7 Right:20.7



| | |
|-------------------|---|
| (10%Imax) 176.45 | — |
| (20%Imax) 352.901 | — |
| (30%Imax) 529.351 | — |
| (40%Imax) 705.801 | — |
| (50%Imax) 882.252 | — |
| (60%Imax) 1058.7 | — |
| (70%Imax) 1235.15 | — |
| (80%Imax) 1411.6 | — |
| (90%Imax) 1588.05 | — |



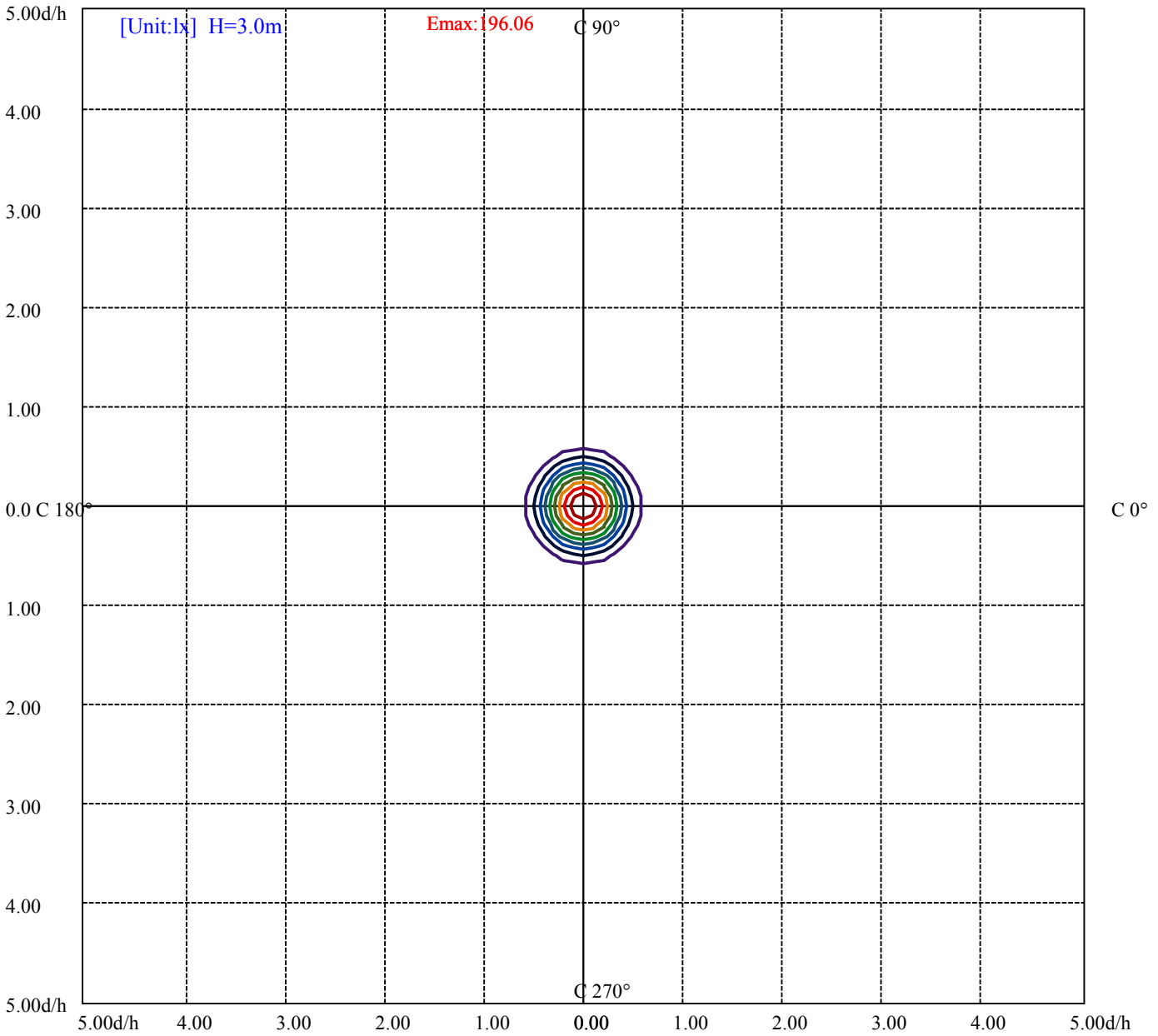
House

[Unit:cd]

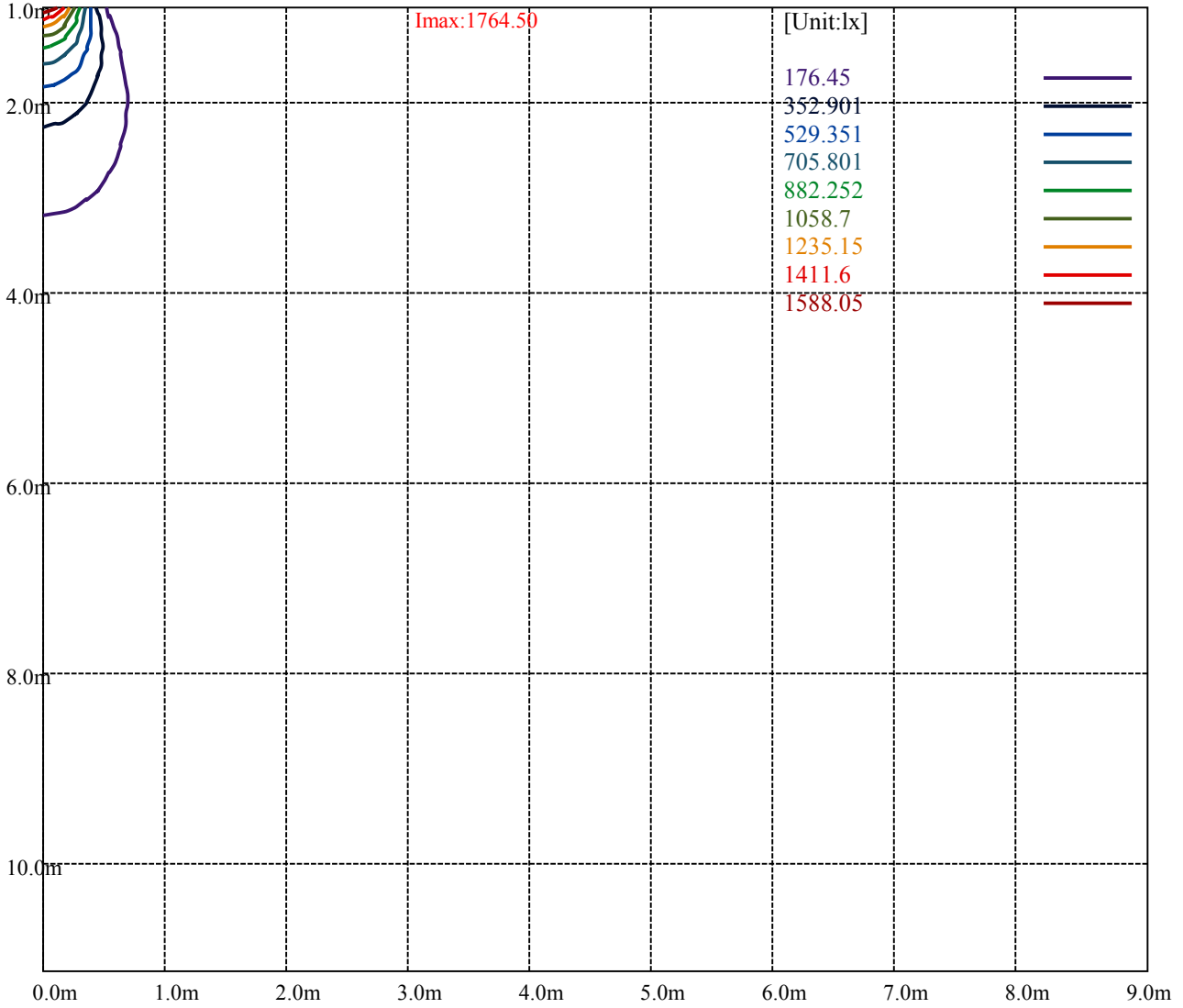
Road

Imax:1764.50

| | |
|-------------------|---|
| (10%Imax) 176.45 | — |
| (20%Imax) 352.901 | — |
| (30%Imax) 529.351 | — |
| (40%Imax) 705.801 | — |
| (50%Imax) 882.252 | — |
| (60%Imax) 1058.7 | — |
| (70%Imax) 1235.15 | — |
| (80%Imax) 1411.6 | — |
| (90%Imax) 1588.05 | — |



- (10%Emax) 19.60555
- (20%Emax) 39.21111
- (30%Emax) 58.81667
- (40%Emax) 78.42233
- (50%Emax) 98.02789
- (60%Emax) 117.6333
- (70%Emax) 137.2389
- (80%Emax) 156.8444
- (90%Emax) 176.45



Luminance Table

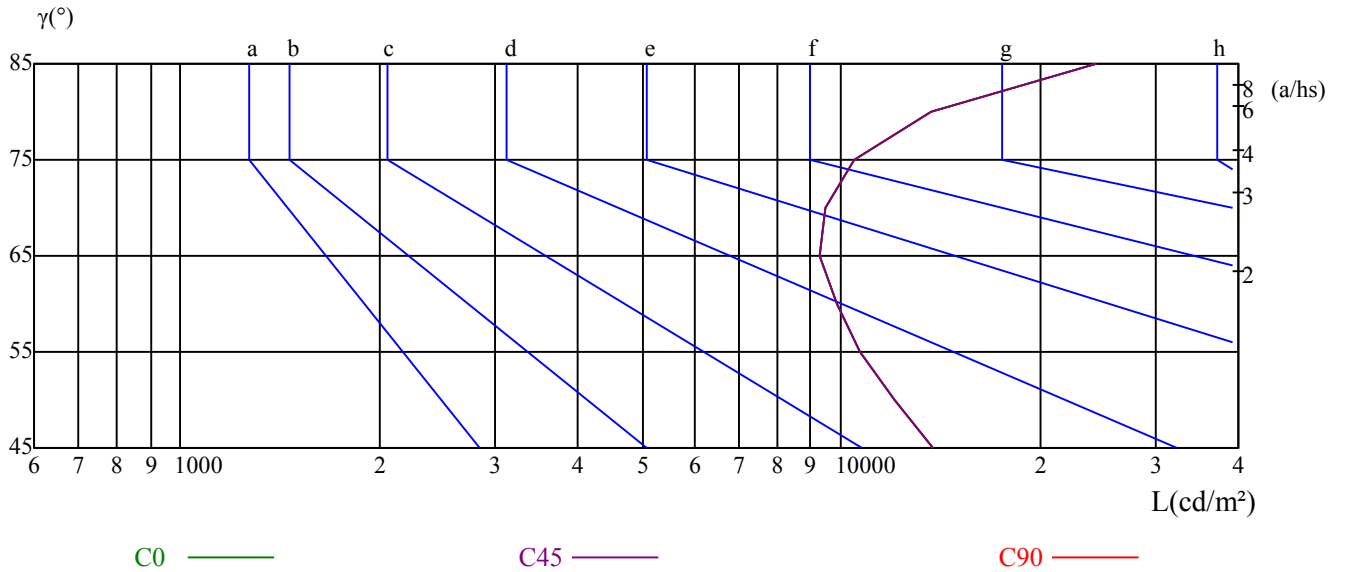
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|-------|-------|-------|------|------|------|-------|-------|-------|
| C0 | 13802 | 12085 | 10726 | 9856 | 9281 | 9496 | 10504 | 13655 | 24379 |
| C45 | 13802 | 12085 | 10726 | 9856 | 9281 | 9496 | 10504 | 13655 | 24379 |
| C90 | 13802 | 12085 | 10726 | 9856 | 9281 | 9496 | 10504 | 13655 | 24379 |

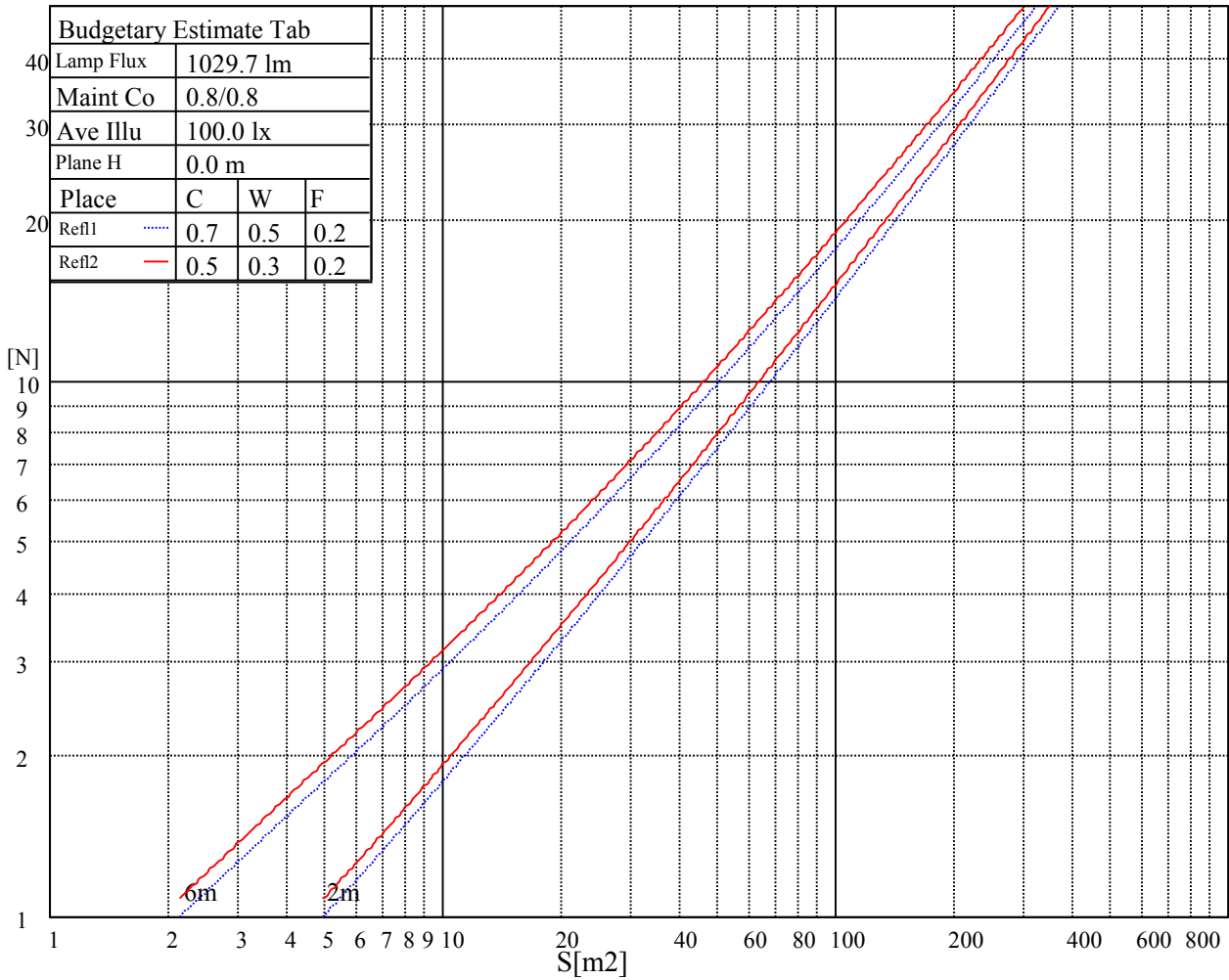
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 9281 | 9281 | 9281 | 10504 | 10504 | 10504 | 24379 | 24379 | 24379 |

Glare Table

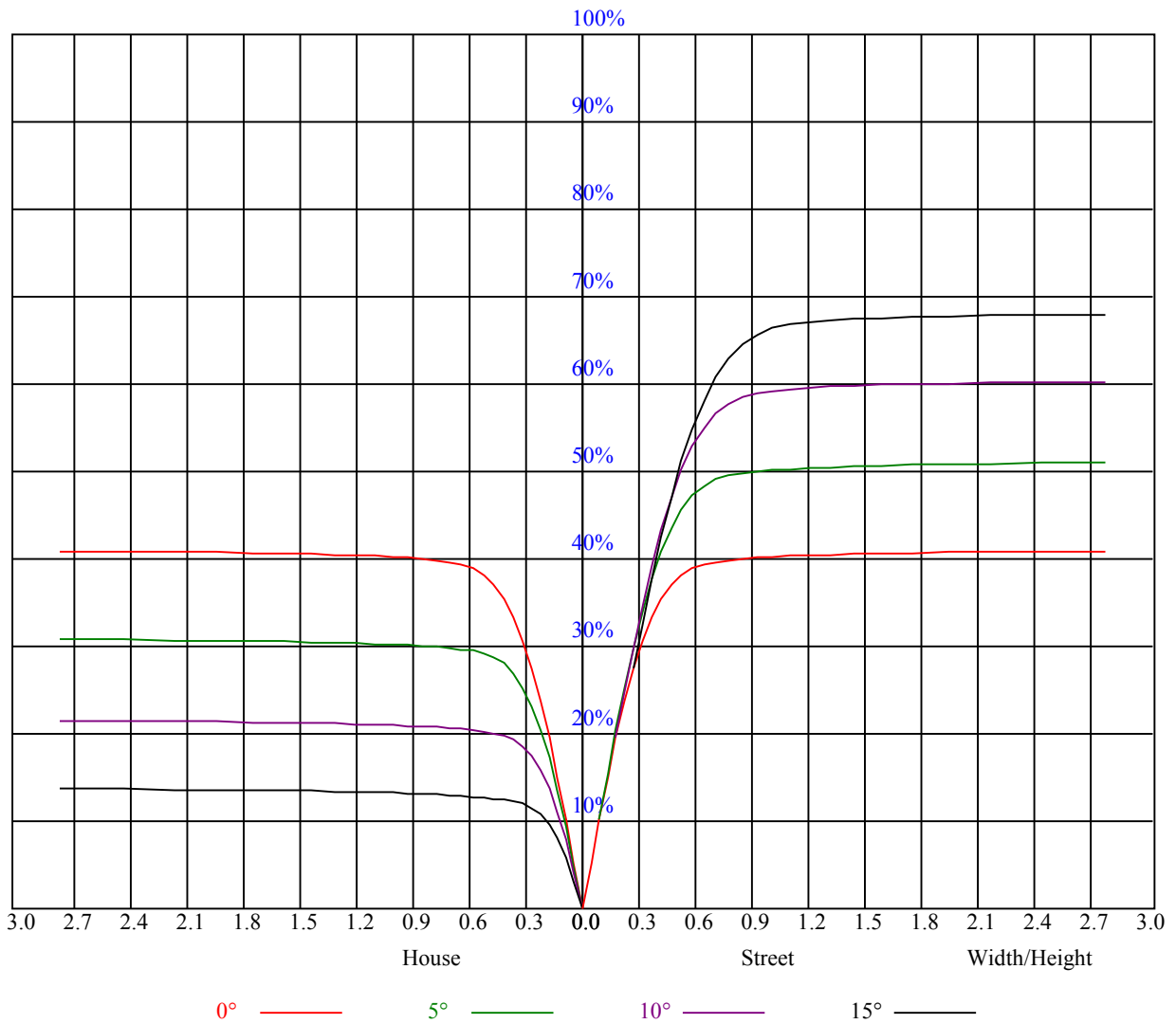
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 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 | 0.99 | 0.99 | 0.99 | 0.97 | 0.97 | 0.97 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.85 | 0.85 | 0.85 | 0.83 |
| 1 | 0.93 | 0.91 | 0.89 | 0.91 | 0.89 | 0.87 | 0.87 | 0.86 | 0.85 | 0.84 | 0.83 | 0.82 | 0.81 | 0.81 | 0.80 | 0.78 |
| 2 | 0.87 | 0.84 | 0.81 | 0.86 | 0.83 | 0.81 | 0.83 | 0.81 | 0.79 | 0.81 | 0.79 | 0.77 | 0.78 | 0.77 | 0.75 | 0.74 |
| 3 | 0.82 | 0.79 | 0.76 | 0.81 | 0.78 | 0.75 | 0.79 | 0.76 | 0.74 | 0.77 | 0.75 | 0.73 | 0.75 | 0.73 | 0.72 | 0.70 |
| 4 | 0.78 | 0.74 | 0.71 | 0.77 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.74 | 0.71 | 0.69 | 0.72 | 0.70 | 0.68 | 0.67 |
| 5 | 0.74 | 0.70 | 0.67 | 0.73 | 0.69 | 0.66 | 0.72 | 0.68 | 0.66 | 0.71 | 0.68 | 0.65 | 0.69 | 0.67 | 0.65 | 0.64 |
| 6 | 0.71 | 0.66 | 0.63 | 0.70 | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.68 | 0.65 | 0.62 | 0.67 | 0.64 | 0.62 | 0.61 |
| 7 | 0.67 | 0.63 | 0.60 | 0.67 | 0.63 | 0.60 | 0.66 | 0.62 | 0.60 | 0.65 | 0.62 | 0.59 | 0.64 | 0.61 | 0.59 | 0.58 |
| 8 | 0.64 | 0.60 | 0.57 | 0.64 | 0.60 | 0.57 | 0.63 | 0.60 | 0.57 | 0.62 | 0.59 | 0.57 | 0.62 | 0.59 | 0.57 | 0.56 |
| 9 | 0.62 | 0.58 | 0.55 | 0.61 | 0.57 | 0.55 | 0.61 | 0.57 | 0.55 | 0.60 | 0.57 | 0.54 | 0.59 | 0.56 | 0.54 | 0.53 |
| 10 | 0.59 | 0.55 | 0.52 | 0.59 | 0.55 | 0.52 | 0.58 | 0.55 | 0.52 | 0.58 | 0.54 | 0.52 | 0.57 | 0.54 | 0.52 | 0.51 |



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 | 1761.52 | 1721.48 | 1575.09 | 1340.86 | 995.48 | 595.74 | 322.07 | 43.74 | 24.62 |
| 45.0 | 1765.70 | 1711.32 | 1562.54 | 1296.04 | 939.91 | 546.74 | 308.92 | 42.72 | 24.74 |
| 90.0 | 1766.89 | 1707.14 | 1534.45 | 1182.27 | 934.89 | 553.73 | 207.16 | 49.24 | 26.05 |
| 135.0 | 1763.91 | 1725.66 | 1579.27 | 1335.48 | 1025.96 | 643.54 | 302.35 | 62.68 | 28.86 |
| 180.0 | 1761.52 | 1695.19 | 1508.76 | 1179.46 | 885.66 | 498.46 | 154.16 | 37.94 | 24.02 |
| 225.0 | 1765.70 | 1702.36 | 1552.38 | 1185.56 | 929.16 | 552.95 | 180.57 | 39.50 | 24.02 |
| 270.0 | 1766.89 | 1717.30 | 1564.33 | 1308.59 | 943.50 | 562.87 | 310.72 | 35.43 | 22.59 |
| 315.0 | 1763.91 | 1693.99 | 1509.36 | 1186.10 | 859.01 | 469.36 | 113.83 | 31.55 | 21.51 |
| 360.0 | 1761.52 | 1721.48 | 1575.09 | 1340.86 | 995.48 | 595.74 | 322.07 | 43.74 | 24.62 |
| C/γ(°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 18.40 | 14.76 | 11.65 | 9.32 | 7.47 | 6.15 | 5.08 | 4.42 | 3.88 |
| 45.0 | 18.46 | 14.58 | 11.47 | 9.32 | 7.35 | 6.04 | 5.08 | 4.36 | 3.94 |
| 90.0 | 18.82 | 14.64 | 11.47 | 9.08 | 7.23 | 5.98 | 4.96 | 4.36 | 3.88 |
| 135.0 | 19.60 | 15.54 | 12.01 | 9.56 | 7.53 | 6.21 | 5.08 | 4.36 | 3.82 |
| 180.0 | 17.45 | 13.80 | 10.99 | 8.72 | 6.93 | 5.74 | 4.84 | 4.24 | 3.76 |
| 225.0 | 17.81 | 14.16 | 11.29 | 9.20 | 7.35 | 6.09 | 5.14 | 4.42 | 4.06 |
| 270.0 | 17.21 | 13.86 | 11.23 | 9.02 | 7.23 | 6.04 | 5.14 | 4.54 | 4.12 |
| 315.0 | 16.61 | 13.56 | 10.88 | 8.66 | 6.93 | 5.80 | 4.90 | 4.36 | 3.94 |
| 360.0 | 18.40 | 14.76 | 11.65 | 9.32 | 7.47 | 6.15 | 5.08 | 4.42 | 3.88 |
| C/γ(°) | 90.0 | | | | | | | | |
| 0.0 | 3.47 | | | | | | | | |
| 45.0 | 3.64 | | | | | | | | |
| 90.0 | 3.64 | | | | | | | | |
| 135.0 | 3.53 | | | | | | | | |
| 180.0 | 3.53 | | | | | | | | |
| 225.0 | 3.64 | | | | | | | | |
| 270.0 | 3.59 | | | | | | | | |
| 315.0 | 3.53 | | | | | | | | |
| 360.0 | 3.47 | | | | | | | | |