
P.Q.L., Inc. 6 LAMPS

| | |
|----------------------------------|--------------------|
| LumCAT: 6 LAMPS | Luminaire: 4000K |
| Report No: / | Voltage(V): |
| Test No: | Current(A): |
| LampCAT: LEDSM4' 18WT8/40K/FR/V4 | Power (W): 104.400 |
| Lamp flux(lm) | PF: |
| Number of Lamps: 6 | Ballast type: |
| Length(mm): 1200 | Width(mm): 500 |
| Phm Type: C | Height(mm): 150 |

Photometric Results

Lumens(lm): 10976.25
Lumens(lm)/Power(W): 105.14
Central intensity(cd): 3828.383
Maximum intensity(cd): 3828.383
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [H]Left=54.7 Right=54.1
[V]Left=54.7 Right=56.6
Field angle(10%Imax): [H]Left=82.2 Right=81.5
[V]Left=84.3 Right=84.4
Maximum s/h: C0_180=1.13 C90_270=1.23
Up flux rate of LUM(%): 1.69%
Down flux rate of LUM(%): 98.31%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 74.465%

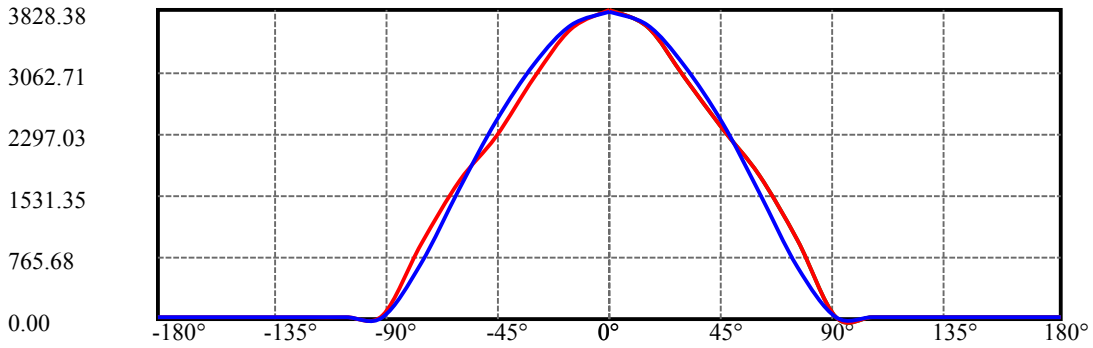
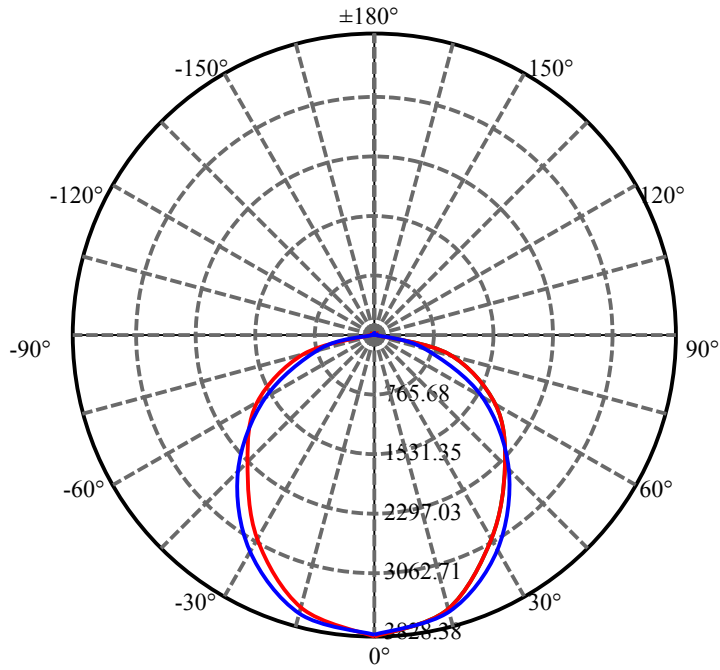
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 3820.428 | .000 | .000 | .000% | .000% |
| 15.0 | 3623.934 | 796.898 | 796.898 | 7.260% | 7.260% |
| 30.0 | 3071.854 | 2101.449 | 2898.347 | 19.145% | 26.406% |
| 45.0 | 2340.382 | 2702.100 | 5600.447 | 24.618% | 51.023% |
| 60.0 | 1614.232 | 2573.050 | 8173.497 | 23.442% | 74.465% |
| 75.0 | 856.519 | 1872.068 | 10045.570 | 17.056% | 91.521% |
| 90.0 | 59.564 | 744.871 | 10790.440 | 6.786% | 98.307% |
| 105.0 | 22.916 | 67.065 | 10857.500 | .611% | 98.918% |
| 120.0 | 23.447 | 35.129 | 10892.630 | .320% | 99.238% |
| 135.0 | 25.455 | 31.817 | 10924.450 | .290% | 99.528% |
| 150.0 | 28.172 | 26.773 | 10951.220 | .244% | 99.772% |
| 165.0 | 30.530 | 18.423 | 10969.650 | .168% | 99.940% |
| 180.0 | 31.212 | 6.609 | 10976.250 | .060% | 100.000% |

ZONAL LUMEN SUMMARY

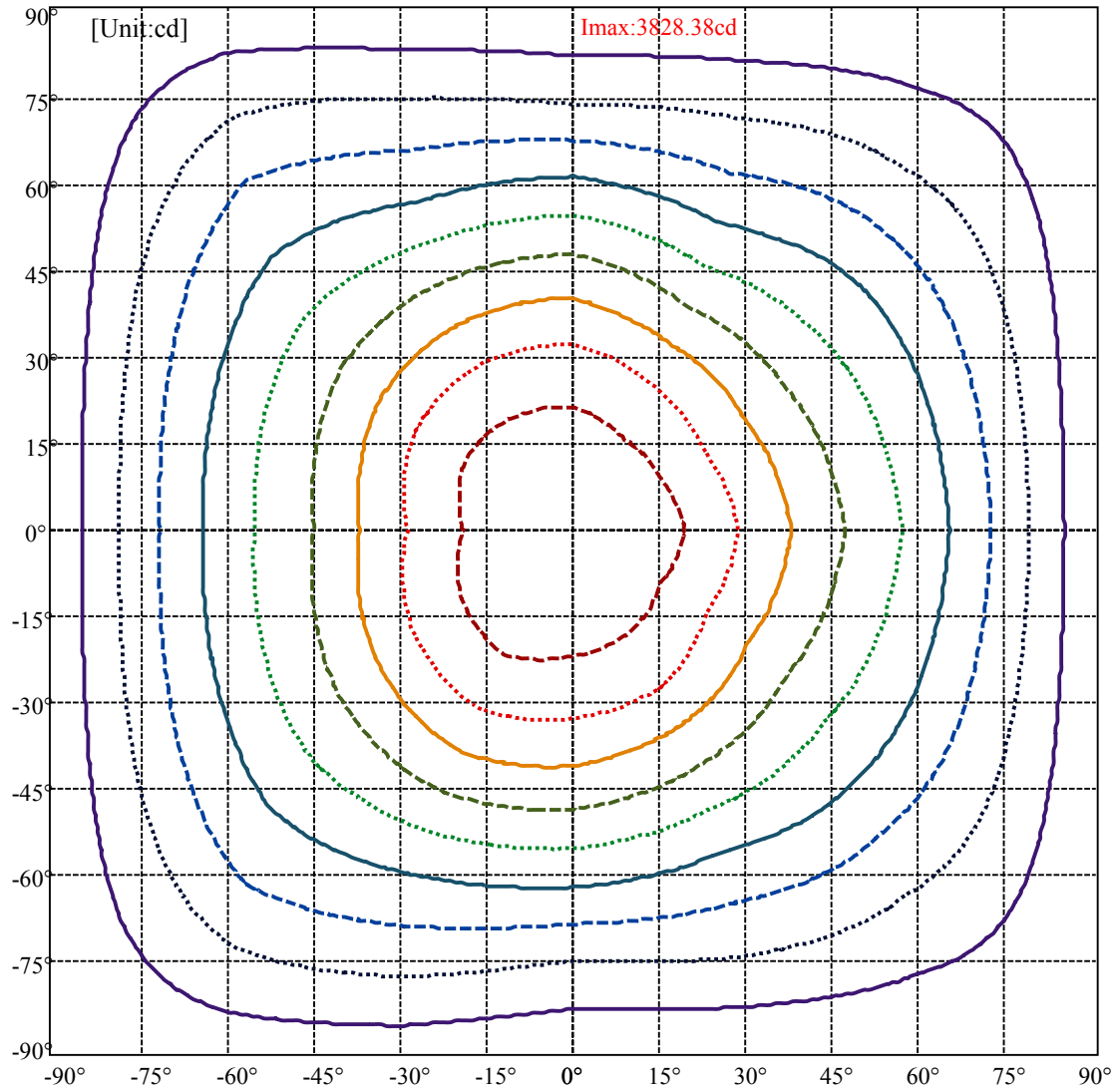
| Zone | Lumens | %Fixt |
|--------|----------|---------|
| 0-30 | 2898.35 | 26.41% |
| 0-40 | 2898.35 | 26.41% |
| 0-60 | 8173.50 | 74.47% |
| 0-90 | 10790.44 | 98.31% |
| 90-120 | 102.19 | 0.93% |
| 90-130 | 102.19 | 0.93% |
| 90-150 | 160.79 | 1.46% |
| 90-180 | 179.21 | 1.63% |
| 0-180 | 10976.25 | 100.00% |

ZONAL LUMEN SUMMARY

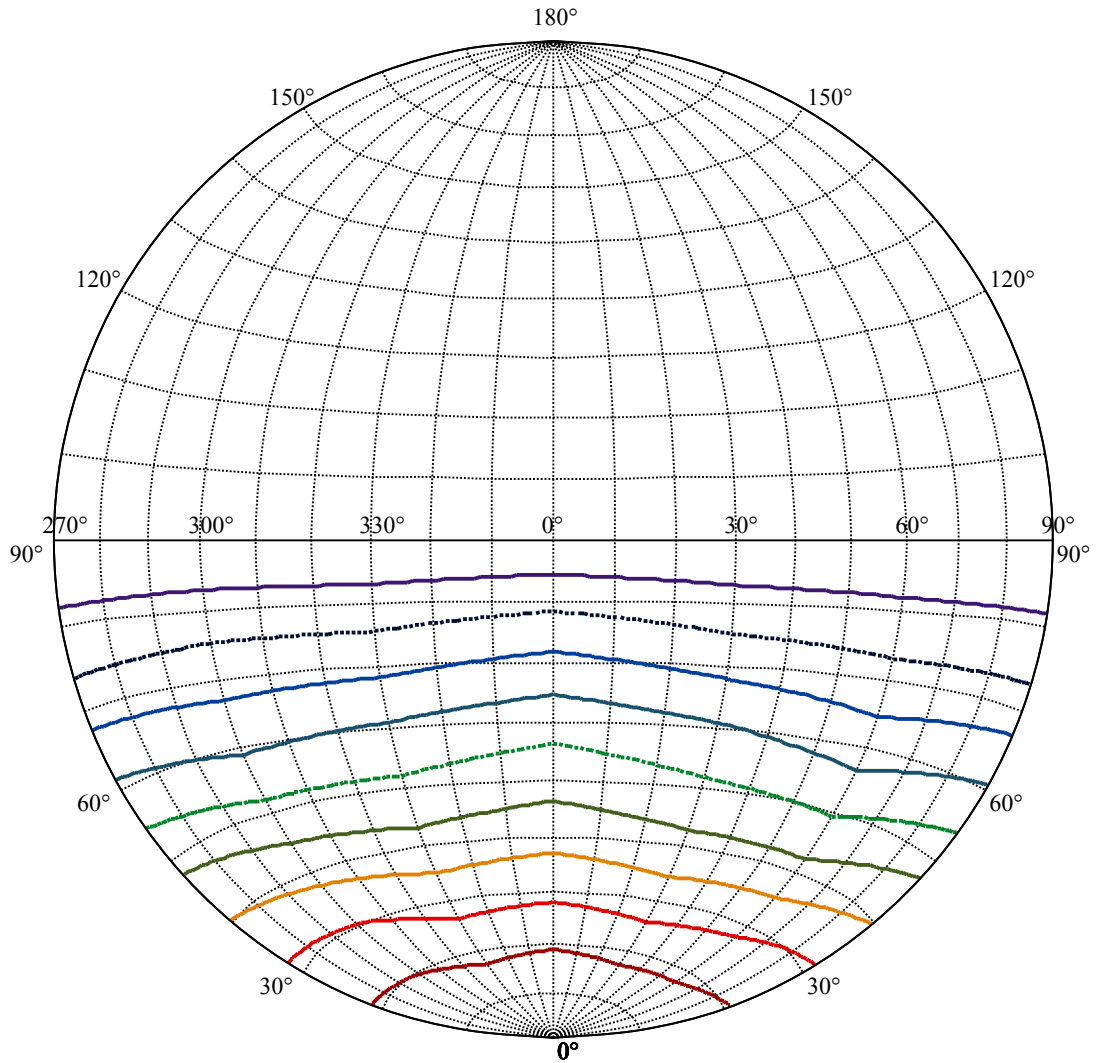
| | |
|---------|---------|
| 0-10 | 0.00 |
| 10-20 | 796.90 |
| 20-30 | 2101.45 |
| 30-40 | 0.00 |
| 40-50 | 2702.10 |
| 50-60 | 2573.05 |
| 60-70 | 0.00 |
| 70-80 | 1872.07 |
| 80-90 | 744.87 |
| 90-100 | 0.00 |
| 100-110 | 67.07 |
| 110-120 | 35.13 |
| 120-130 | 0.00 |
| 130-140 | 31.82 |
| 140-150 | 26.77 |
| 150-160 | 0.00 |
| 160-170 | 18.42 |
| 170-180 | 0.00 |



C0(Max): —
C0/C180: —
C90/C270: —



| | | |
|-----------|---------|-----------|
| (10%Imax) | 381.588 | ——— |
| (20%Imax) | 763.177 | |
| (30%Imax) | 1144.77 | - - - - - |
| (40%Imax) | 1526.35 | ——— |
| (50%Imax) | 1907.94 | |
| (60%Imax) | 2289.53 | - - - - - |
| (70%Imax) | 2671.12 | ——— |
| (80%Imax) | 3052.71 | |
| (90%Imax) | 3434.3 | - - - - - |

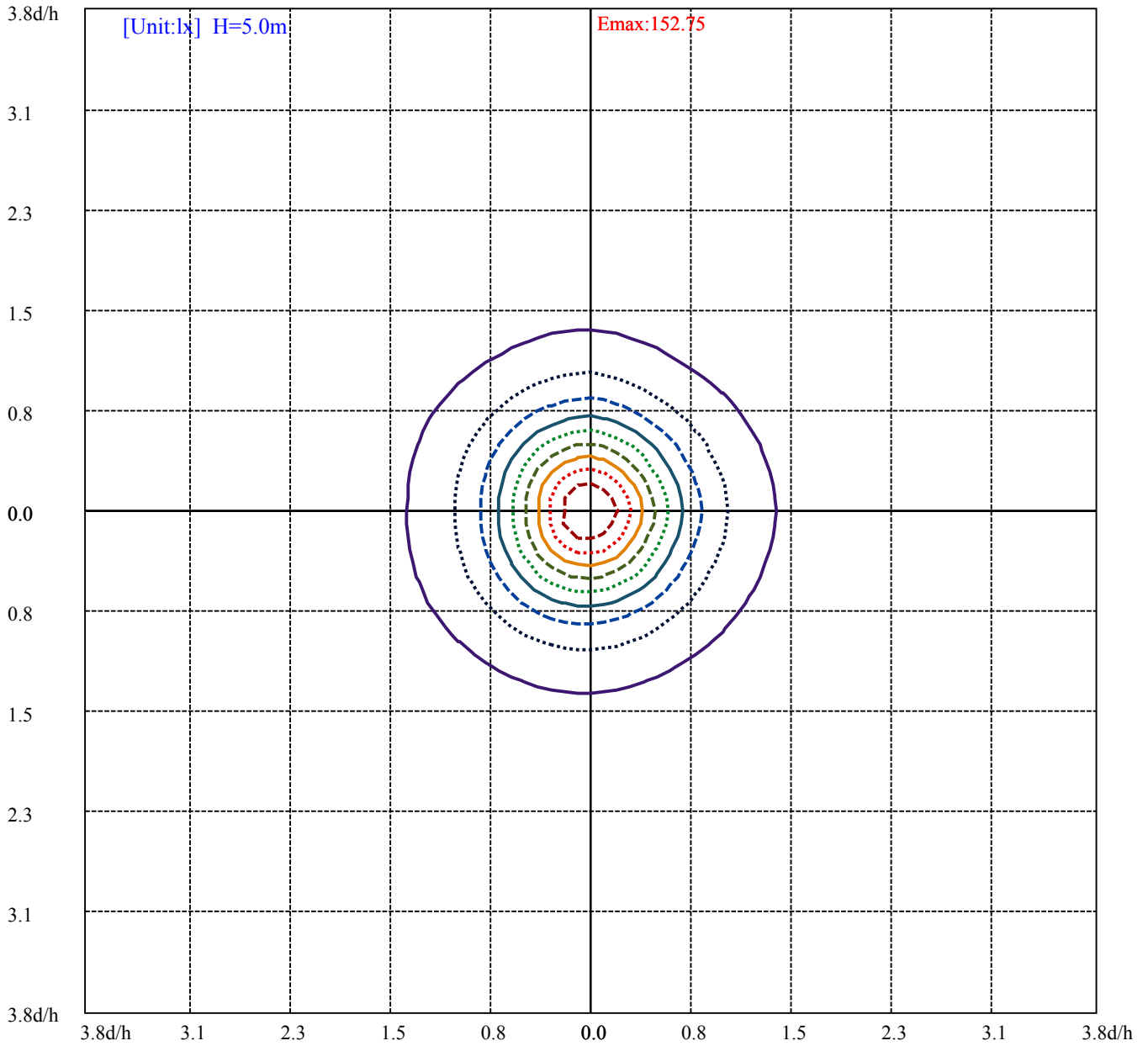


House

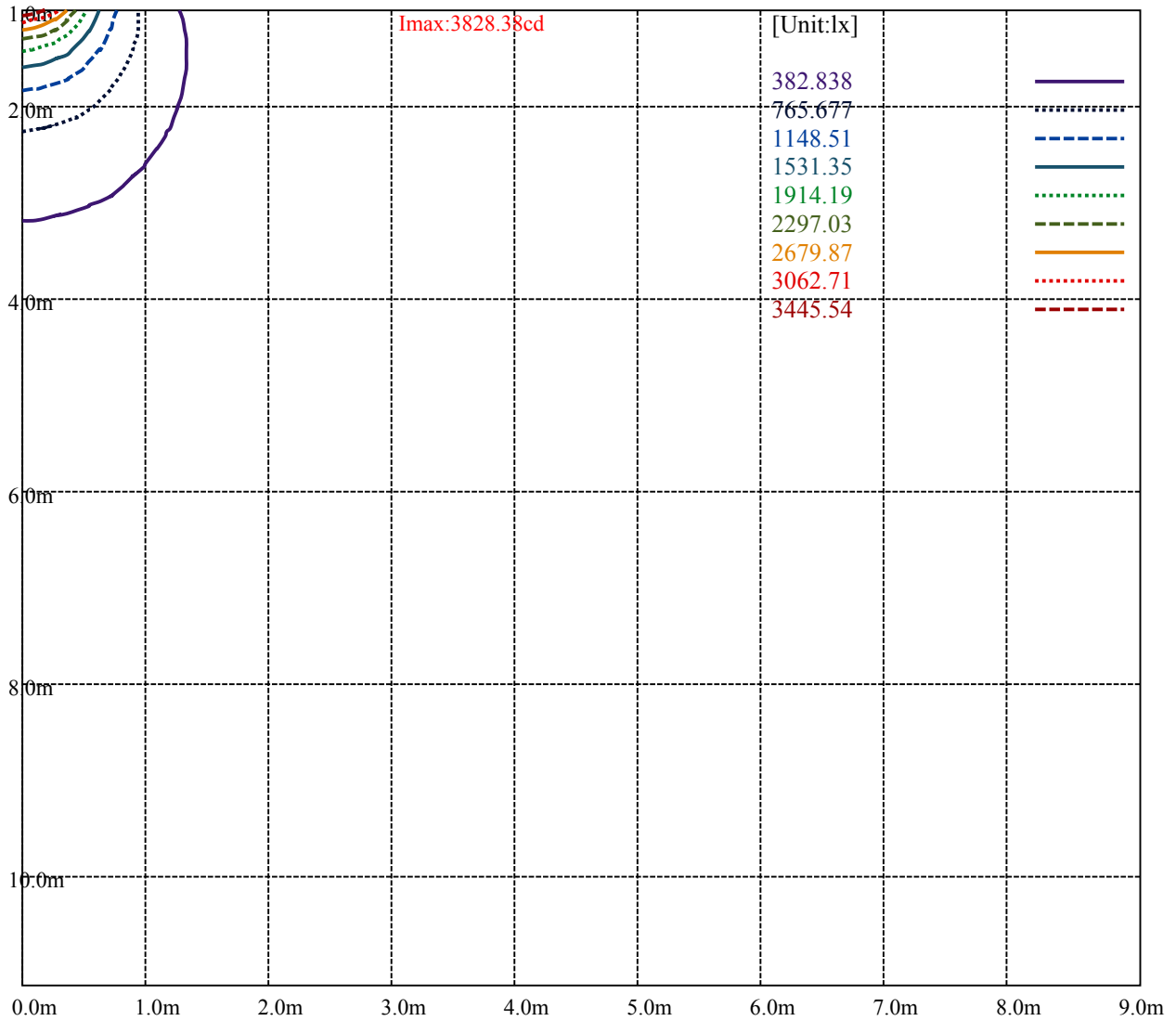
Road

I_{max}:3828.38cd

| | |
|--------------------------------|-----------|
| (10%I _{max}) 382.838 | — |
| (20%I _{max}) 765.677 | ····· |
| (30%I _{max}) 1148.51 | - - - - - |
| (40%I _{max}) 1531.35 | — |
| (50%I _{max}) 1914.19 | ····· |
| (60%I _{max}) 2297.03 | - - - - - |
| (70%I _{max}) 2679.87 | — |
| (80%I _{max}) 3062.71 | ····· |
| (90%I _{max}) 3445.54 | - - - - - |



- (10%Emax) 15.27488 ———
- (20%Emax) 30.54976 ·····
- (30%Emax) 45.8248 - - - - -
- (40%Emax) 61.0996 ———
- (50%Emax) 76.3744 ·····
- (60%Emax) 91.6492 - - - - -
- (70%Emax) 106.924 ———
- (80%Emax) 122.1992 ·····
- (90%Emax) 137.474 - - - - -



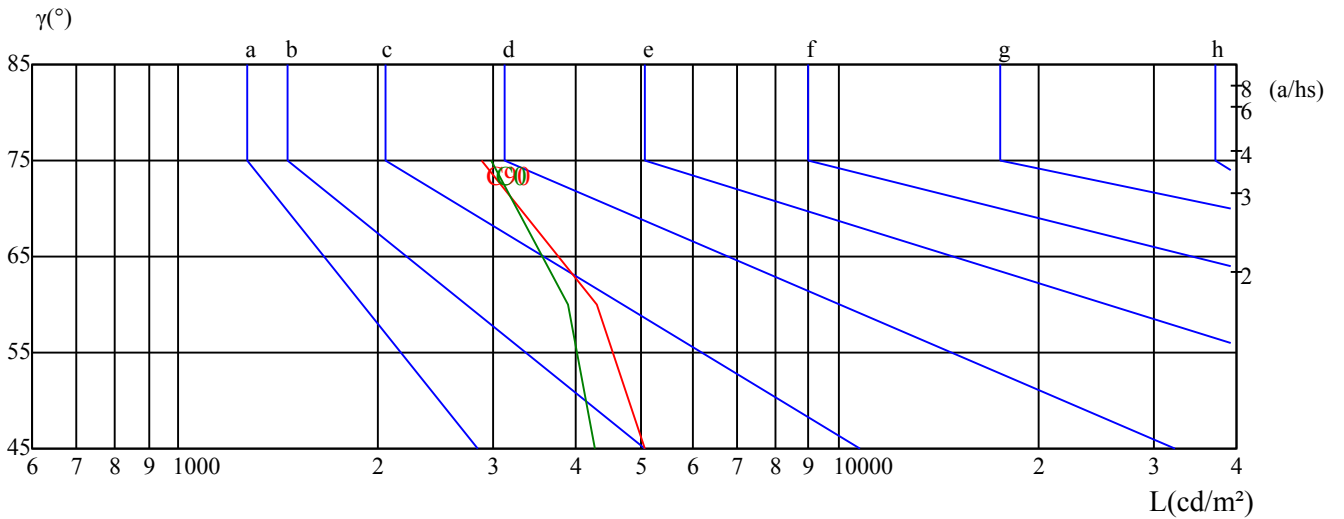
Luminance Table

| | | | | | | | | | |
|----------|------|----|----|------|----|----|------|----|----|
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| C0 | 4273 | 0 | 0 | 3894 | 0 | 0 | 2976 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 5083 | 0 | 0 | 4303 | 0 | 0 | 2869 | 0 | 0 |

Glare Table

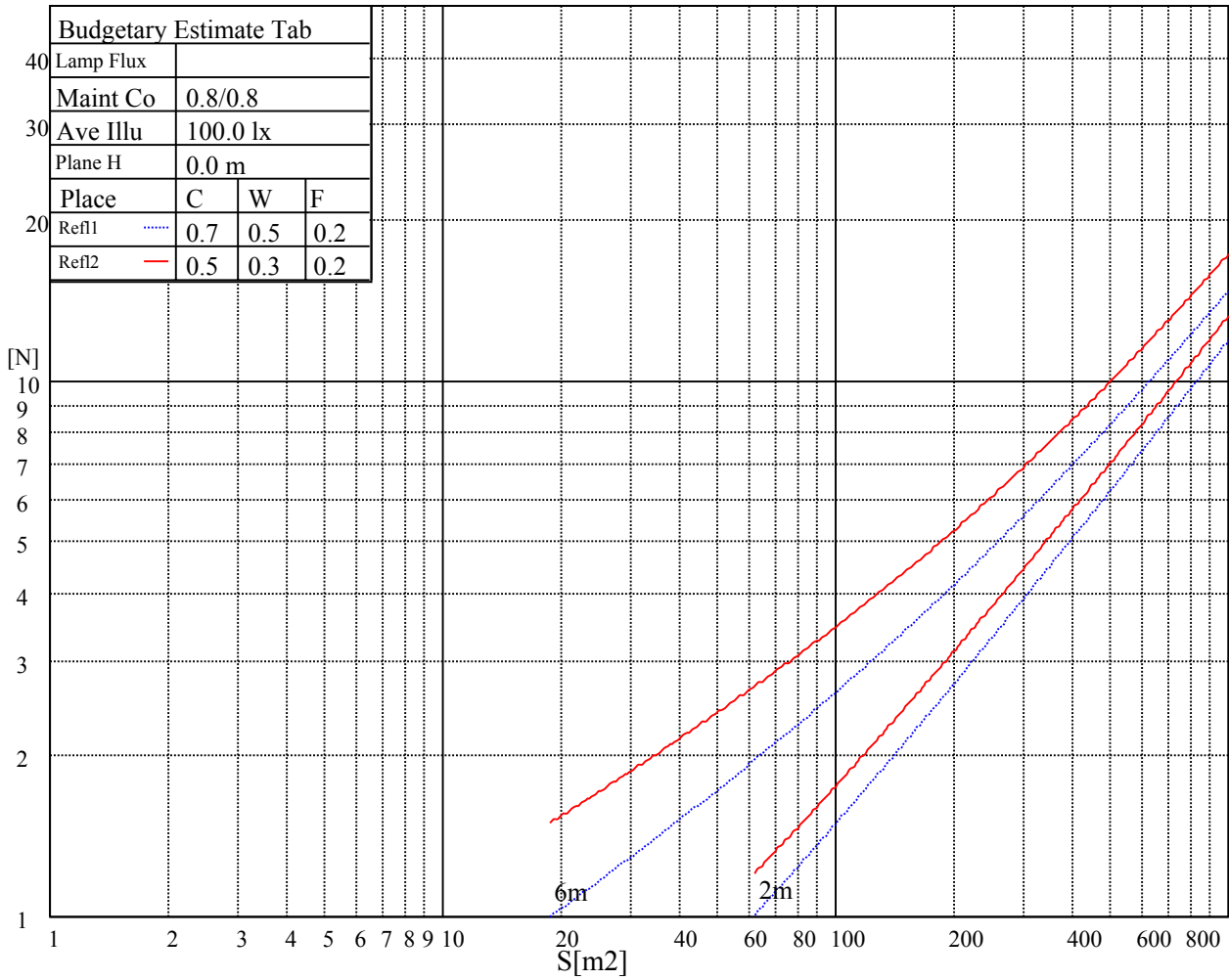
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 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

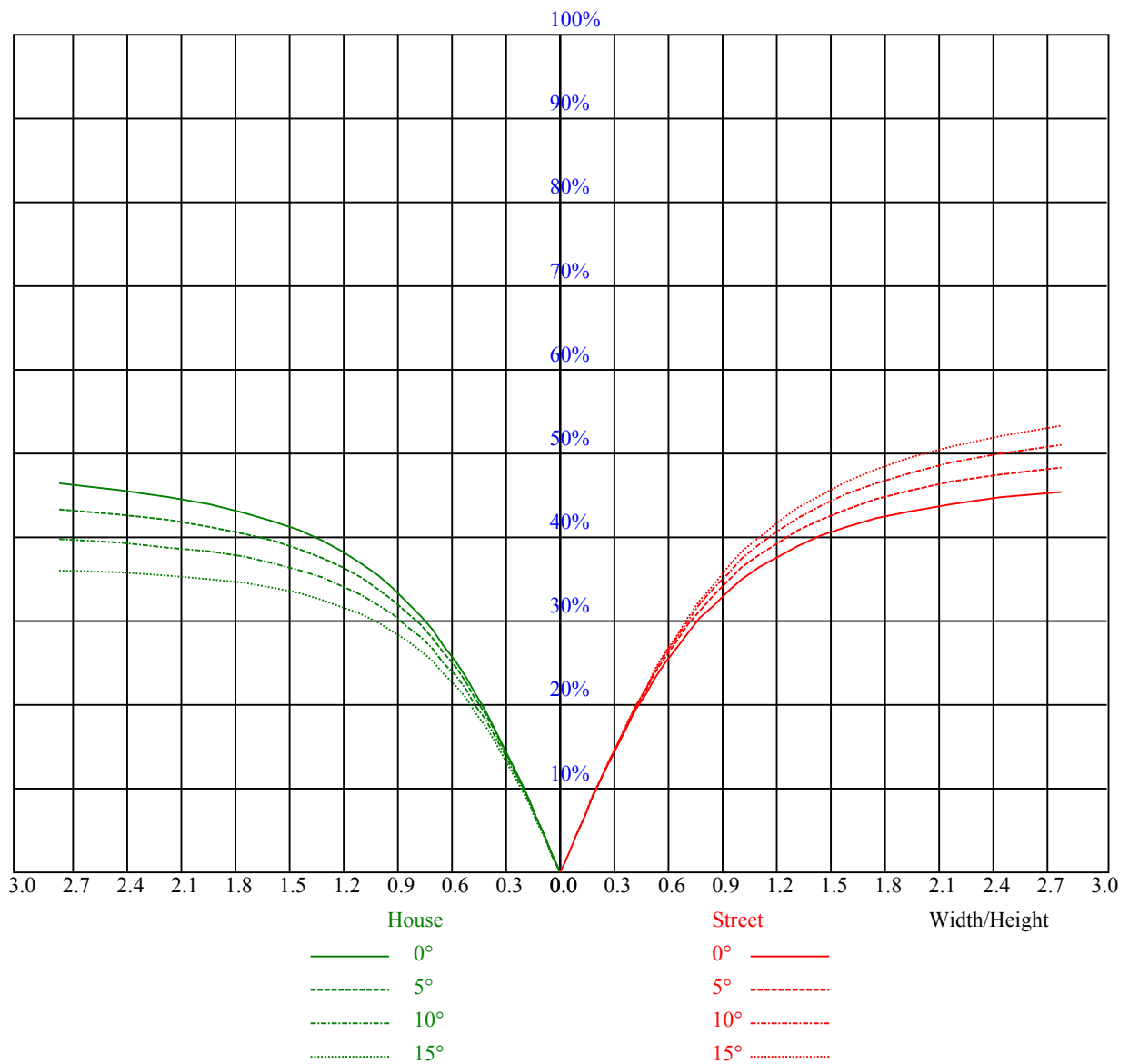


| Illuminatin assessment according UGR | | | | | | | | | | | |
|---|----------|------------------|------|------|------|----------|----------------|------|------|------|------|
| Rf of Ceiling | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 | |
| Rf of Wall | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 | |
| Rf of Floor | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X | Y | | | | | | | | | | |
| 2H | 2H | 8.5 | 10.1 | 8.8 | 10.4 | 10.7 | 8.1 | 9.7 | 8.5 | 10.0 | 10.3 |
| | 3H | 10.3 | 11.8 | 10.7 | 12.1 | 12.4 | 9.7 | 11.2 | 10.1 | 11.5 | 11.8 |
| | 4H | 10.9 | 12.2 | 11.3 | 12.6 | 12.9 | 10.1 | 11.4 | 10.5 | 11.8 | 12.2 |
| | 6H | 11.6 | 12.8 | 12.0 | 13.2 | 13.6 | 10.7 | 11.9 | 11.1 | 12.3 | 12.7 |
| | 8H | 11.8 | 13.1 | 12.2 | 13.5 | 13.8 | 10.9 | 12.2 | 11.3 | 12.5 | 12.9 |
| | 12H | 11.7 | 12.8 | 12.2 | 13.2 | 13.7 | 10.8 | 11.8 | 11.3 | 12.3 | 12.7 |
| 4H | 2H | 8.8 | 10.1 | 9.2 | 10.5 | 10.9 | 8.5 | 9.8 | 8.9 | 10.2 | 10.6 |
| | 3H | 10.8 | 11.8 | 11.2 | 12.3 | 12.7 | 10.2 | 11.3 | 10.7 | 11.7 | 12.2 |
| | 4H | 11.7 | 12.8 | 12.2 | 13.2 | 13.7 | 11.0 | 12.1 | 11.5 | 12.5 | 13.0 |
| | 6H | 12.5 | 13.6 | 13.0 | 14.0 | 14.5 | 11.7 | 12.7 | 12.2 | 13.2 | 13.6 |
| | 8H | 12.6 | 13.3 | 13.2 | 13.9 | 14.4 | 11.8 | 12.5 | 12.3 | 13.0 | 13.5 |
| | 12H | 12.8 | 13.5 | 13.4 | 14.1 | 14.6 | 12.0 | 12.7 | 12.5 | 13.2 | 13.7 |
| 8H | 4H | 11.9 | 12.6 | 12.4 | 13.1 | 13.7 | 11.2 | 12.0 | 11.8 | 12.5 | 13.0 |
| | 6H | 12.8 | 13.5 | 13.3 | 14.0 | 14.6 | 12.0 | 12.8 | 12.6 | 13.3 | 13.8 |
| | 8H | 13.1 | 13.9 | 13.7 | 14.4 | 14.9 | 12.4 | 13.1 | 12.9 | 13.6 | 14.2 |
| | 12H | 13.4 | 14.1 | 14.0 | 14.7 | 15.2 | 12.6 | 13.4 | 13.2 | 13.9 | 14.4 |
| 12H | 4H | 11.9 | 12.6 | 12.4 | 13.2 | 13.7 | 11.3 | 12.0 | 11.8 | 12.5 | 13.1 |
| | 6H | 12.9 | 13.6 | 13.4 | 14.1 | 14.6 | 12.1 | 12.9 | 12.7 | 13.4 | 13.9 |
| | 8H | 13.3 | 14.0 | 13.8 | 14.5 | 15.0 | 12.5 | 13.2 | 13.0 | 13.7 | 14.3 |
| Variation with the observer position at spacings: | | | | | | | | | | | |
| S = 1.0H | 0.2/-0.7 | | | | | 0.3/-0.6 | | | | | |
| S = 1.5H | 0.6/-0.5 | | | | | 0.6/-0.6 | | | | | |
| S = 2.0H | 0.8/-0.5 | | | | | 0.8/-0.7 | | | | | |
| Standard tables: | BK3 | | | | | BK3 | | | | | |
| Uncorrected UGR | -5.6 | | | | | -6.2 | | | | | |
| According 1000lm | | | | | | | | | | | |

五、灯具的概算曲线



| 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 | 1.19 | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.10 | 1.10 | 1.10 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 0.98 |
| 1 | 0.93 | 0.86 | 0.80 | 0.91 | 0.84 | 0.78 | 0.86 | 0.80 | 0.75 | 0.81 | 0.77 | 0.73 | 0.77 | 0.73 | 0.70 | 0.67 |
| 2 | 0.80 | 0.71 | 0.63 | 0.78 | 0.69 | 0.62 | 0.74 | 0.66 | 0.60 | 0.70 | 0.64 | 0.58 | 0.66 | 0.61 | 0.57 | 0.54 |
| 3 | 0.69 | 0.59 | 0.51 | 0.67 | 0.58 | 0.50 | 0.64 | 0.56 | 0.49 | 0.61 | 0.54 | 0.48 | 0.58 | 0.52 | 0.47 | 0.44 |
| 4 | 0.60 | 0.50 | 0.41 | 0.58 | 0.49 | 0.41 | 0.56 | 0.47 | 0.40 | 0.53 | 0.45 | 0.39 | 0.50 | 0.44 | 0.39 | 0.36 |
| 5 | 0.53 | 0.42 | 0.34 | 0.51 | 0.41 | 0.34 | 0.49 | 0.40 | 0.33 | 0.46 | 0.39 | 0.33 | 0.44 | 0.38 | 0.32 | 0.30 |
| 6 | 0.46 | 0.36 | 0.29 | 0.45 | 0.36 | 0.28 | 0.43 | 0.35 | 0.28 | 0.41 | 0.33 | 0.28 | 0.39 | 0.32 | 0.27 | 0.25 |
| 7 | 0.41 | 0.31 | 0.24 | 0.40 | 0.31 | 0.24 | 0.39 | 0.30 | 0.24 | 0.37 | 0.29 | 0.24 | 0.35 | 0.28 | 0.23 | 0.21 |
| 8 | 0.37 | 0.28 | 0.21 | 0.36 | 0.27 | 0.21 | 0.35 | 0.27 | 0.21 | 0.33 | 0.26 | 0.20 | 0.32 | 0.25 | 0.20 | 0.18 |
| 9 | 0.34 | 0.25 | 0.18 | 0.33 | 0.24 | 0.18 | 0.32 | 0.24 | 0.18 | 0.30 | 0.23 | 0.18 | 0.29 | 0.23 | 0.18 | 0.16 |
| 10 | 0.31 | 0.22 | 0.16 | 0.30 | 0.22 | 0.16 | 0.29 | 0.21 | 0.16 | 0.28 | 0.21 | 0.16 | 0.27 | 0.20 | 0.16 | 0.14 |



Intensity data(cd)

| C/γ(°) | 0.0 | 15.0 | 30.0 | 45.0 | 60.0 | 75.0 | 90.0 | 105.0 | 120.0 |
|--------|---------|---------|---------|---------|---------|---------|--------|-------|-------|
| 0.0 | 3828.38 | 3607.93 | 2986.34 | 2356.80 | 1774.99 | 979.54 | 26.82 | 22.05 | 22.05 |
| 30.0 | 3826.11 | 3540.89 | 2881.80 | 2197.71 | 1577.26 | 777.27 | 25.80 | 24.09 | 25.23 |
| 60.0 | 3811.34 | 3546.57 | 2981.80 | 2146.92 | 1355.56 | 682.95 | 25.34 | 23.64 | 25.00 |
| 90.0 | 3815.88 | 3637.48 | 3140.89 | 2426.12 | 1570.44 | 653.41 | 27.39 | 23.64 | 24.55 |
| 120.0 | 3818.16 | 3661.34 | 3167.02 | 2406.80 | 1537.94 | 822.27 | 50.00 | 23.64 | 24.66 |
| 150.0 | 3822.70 | 3686.34 | 3131.80 | 2385.21 | 1740.90 | 1096.58 | 117.05 | 23.98 | 24.55 |
| 180.0 | 3828.38 | 3590.89 | 2988.62 | 2265.21 | 1712.72 | 931.24 | 47.05 | 23.86 | 24.77 |
| 210.0 | 3826.11 | 3697.70 | 3153.39 | 2410.21 | 1766.69 | 1113.29 | 147.95 | 22.50 | 22.16 |
| 240.0 | 3811.34 | 3713.61 | 3263.61 | 2521.57 | 1664.76 | 940.90 | 162.95 | 22.27 | 22.05 |
| 270.0 | 3815.88 | 3649.98 | 3163.62 | 2460.21 | 1607.94 | 699.54 | 35.00 | 21.59 | 21.82 |
| 300.0 | 3818.16 | 3609.07 | 3087.48 | 2292.03 | 1478.40 | 785.22 | 24.89 | 21.70 | 22.05 |
| 330.0 | 3822.70 | 3545.43 | 2915.89 | 2215.78 | 1583.17 | 796.02 | 24.55 | 22.05 | 22.50 |
| 360.0 | 3828.38 | 3607.93 | 2986.34 | 2356.80 | 1774.99 | 979.54 | 26.82 | 22.05 | 22.05 |
| C/γ(°) | 135.0 | 150.0 | 165.0 | 180.0 | | | | | |
| 0.0 | 24.09 | 27.05 | 30.11 | 31.14 | | | | | |
| 30.0 | 27.50 | 29.89 | 31.36 | 31.36 | | | | | |
| 60.0 | 27.27 | 29.55 | 31.25 | 31.25 | | | | | |
| 90.0 | 26.70 | 29.32 | 31.02 | 31.02 | | | | | |
| 120.0 | 26.82 | 29.20 | 31.25 | 31.36 | | | | | |
| 150.0 | 26.48 | 29.32 | 31.36 | 31.14 | | | | | |
| 180.0 | 26.93 | 29.32 | 31.36 | 31.14 | | | | | |
| 210.0 | 23.75 | 26.82 | 30.00 | 31.36 | | | | | |
| 240.0 | 23.52 | 26.59 | 29.43 | 31.25 | | | | | |
| 270.0 | 23.75 | 26.70 | 29.55 | 31.02 | | | | | |
| 300.0 | 23.98 | 26.82 | 29.66 | 31.36 | | | | | |
| 330.0 | 24.66 | 27.50 | 30.00 | 31.14 | | | | | |
| 360.0 | 24.09 | 27.05 | 30.11 | 31.14 | | | | | |