



NATA LIGHTING CO.,LTD.
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Nata

Client:

LumCAT: 2-2752-L

Luminaire: 92.70.412.00

Report No: 2024815-B013

Ballast type: AC

Test No: 2024815-C013

Voltage(V): 35.270

LampCAT: BRIDGELUX V13B LES13

Current(A): 0.450

Lamp flux(lm): 2544.0

Power (W): 15.870

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2361.06, Efficiency(%): 92.81% , Luminous Efficacy(lm/W): 148.77

Central intensity(cd): 8755.822, Maximum intensity(cd): 8755.822

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=24.6

[C90/270]Total=24.6

Field angle(10%Imax): [C0/180]Total=56.2

[C90/270]Total=56.2

Maximum s/h(1/2): C0_180=0.41 C90_270=0.41

Maximum s/h(1/4): C0_180=0.43 C90_270=0.43

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.81%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.307%

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2024/8/15
Humidity(%): 60.0%

Operator: NT
Distance(m): 7.25

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 8755.822 | 0.000 | 0 | 0.00% | 0.00% |
| 1.0 | 8709.153 | 8.357 | 8.357 | 0.33% | 0.35% |
| 2.0 | 8574.685 | 24.807 | 33.164 | 0.98% | 1.40% |
| 3.0 | 8356.964 | 40.495 | 73.659 | 1.59% | 3.12% |
| 4.0 | 8080.827 | 55.023 | 128.682 | 2.16% | 5.45% |
| 5.0 | 7730.163 | 68.018 | 196.7 | 2.67% | 8.33% |
| 6.0 | 7338.343 | 79.189 | 275.889 | 3.11% | 11.68% |
| 7.0 | 6895.950 | 88.352 | 364.241 | 3.47% | 15.43% |
| 8.0 | 6434.281 | 95.402 | 459.643 | 3.75% | 19.47% |
| 9.0 | 5936.796 | 100.261 | 559.903 | 3.94% | 23.71% |
| 10.0 | 5444.811 | 102.999 | 662.903 | 4.05% | 28.08% |
| 11.0 | 4976.657 | 104.132 | 767.035 | 4.09% | 32.49% |
| 12.0 | 4539.002 | 104.020 | 871.054 | 4.09% | 36.89% |
| 13.0 | 4044.533 | 101.865 | 972.919 | 4.00% | 41.21% |
| 14.0 | 3620.880 | 98.117 | 1071.036 | 3.86% | 45.36% |
| 15.0 | 3233.244 | 94.096 | 1165.132 | 3.70% | 49.35% |
| 16.0 | 2849.288 | 89.126 | 1254.259 | 3.50% | 53.12% |
| 17.0 | 2524.873 | 83.690 | 1337.949 | 3.29% | 56.67% |
| 18.0 | 2258.887 | 78.874 | 1416.822 | 3.10% | 60.01% |
| 19.0 | 2010.397 | 74.277 | 1491.099 | 2.92% | 63.15% |
| 20.0 | 1795.956 | 69.667 | 1560.766 | 2.74% | 66.10% |
| 21.0 | 1614.122 | 65.480 | 1626.247 | 2.57% | 68.88% |
| 22.0 | 1454.352 | 61.662 | 1687.909 | 2.42% | 71.49% |
| 23.0 | 1315.836 | 58.126 | 1746.035 | 2.28% | 73.95% |
| 24.0 | 1194.752 | 54.890 | 1800.925 | 2.16% | 76.28% |
| 25.0 | 1110.429 | 52.415 | 1853.34 | 2.06% | 78.50% |
| 26.0 | 1030.974 | 50.548 | 1903.888 | 1.99% | 80.64% |
| 27.0 | 955.567 | 48.601 | 1952.489 | 1.91% | 82.70% |
| 28.0 | 881.795 | 46.518 | 1999.007 | 1.83% | 84.67% |
| 29.0 | 799.863 | 43.997 | 2043.004 | 1.73% | 86.53% |
| 30.0 | 720.560 | 41.051 | 2084.055 | 1.61% | 88.27% |
| 31.0 | 641.466 | 37.903 | 2121.959 | 1.49% | 89.87% |
| 32.0 | 559.061 | 34.394 | 2156.352 | 1.35% | 91.33% |
| 33.0 | 479.416 | 30.594 | 2186.946 | 1.20% | 92.63% |
| 34.0 | 400.809 | 26.638 | 2213.584 | 1.05% | 93.75% |
| 35.0 | 327.780 | 22.627 | 2236.212 | 0.89% | 94.71% |
| 36.0 | 271.374 | 19.077 | 2255.289 | 0.75% | 95.52% |
| 37.0 | 211.019 | 15.733 | 2271.022 | 0.62% | 96.19% |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0 | 157.615 | 12.305 | 2283.326 | 0.48% | 96.71% |
| 39.0 | 94.869 | 8.618 | 2291.944 | 0.34% | 97.07% |
| 40.0 | 71.400 | 5.799 | 2297.743 | 0.23% | 97.32% |
| 41.0 | 56.097 | 4.540 | 2302.283 | 0.18% | 97.51% |
| 42.0 | 49.218 | 3.826 | 2306.11 | 0.15% | 97.67% |
| 43.0 | 43.837 | 3.447 | 2309.557 | 0.14% | 97.82% |
| 44.0 | 38.890 | 3.122 | 2312.679 | 0.12% | 97.95% |
| 45.0 | 35.493 | 2.859 | 2315.538 | 0.11% | 98.07% |
| 46.0 | 32.214 | 2.648 | 2318.185 | 0.10% | 98.18% |
| 47.0 | 29.796 | 2.466 | 2320.652 | 0.10% | 98.29% |
| 48.0 | 27.273 | 2.307 | 2322.959 | 0.09% | 98.39% |
| 49.0 | 25.506 | 2.167 | 2325.126 | 0.09% | 98.48% |
| 50.0 | 24.054 | 2.066 | 2327.193 | 0.08% | 98.57% |
| 51.0 | 22.694 | 1.978 | 2329.17 | 0.08% | 98.65% |
| 52.0 | 21.807 | 1.910 | 2331.08 | 0.08% | 98.73% |
| 53.0 | 20.986 | 1.861 | 2332.941 | 0.07% | 98.81% |
| 54.0 | 20.138 | 1.813 | 2334.754 | 0.07% | 98.89% |
| 55.0 | 19.580 | 1.773 | 2336.527 | 0.07% | 98.96% |
| 56.0 | 18.909 | 1.739 | 2338.266 | 0.07% | 99.03% |
| 57.0 | 18.219 | 1.698 | 2339.964 | 0.07% | 99.11% |
| 58.0 | 17.398 | 1.647 | 2341.611 | 0.06% | 99.18% |
| 59.0 | 16.432 | 1.582 | 2343.192 | 0.06% | 99.24% |
| 60.0 | 15.453 | 1.506 | 2344.699 | 0.06% | 99.31% |
| 61.0 | 14.422 | 1.426 | 2346.124 | 0.06% | 99.37% |
| 62.0 | 13.239 | 1.333 | 2347.457 | 0.05% | 99.42% |
| 63.0 | 12.188 | 1.237 | 2348.694 | 0.05% | 99.48% |
| 64.0 | 11.216 | 1.148 | 2349.842 | 0.05% | 99.52% |
| 65.0 | 10.171 | 1.058 | 2350.901 | 0.04% | 99.57% |
| 66.0 | 9.317 | 0.972 | 2351.873 | 0.04% | 99.61% |
| 67.0 | 8.443 | 0.893 | 2352.766 | 0.04% | 99.65% |
| 68.0 | 7.707 | 0.818 | 2353.584 | 0.03% | 99.68% |
| 69.0 | 7.037 | 0.752 | 2354.336 | 0.03% | 99.72% |
| 70.0 | 6.367 | 0.688 | 2355.025 | 0.03% | 99.74% |
| 71.0 | 5.782 | 0.628 | 2355.653 | 0.02% | 99.77% |
| 72.0 | 5.217 | 0.572 | 2356.225 | 0.02% | 99.80% |
| 73.0 | 4.777 | 0.523 | 2356.747 | 0.02% | 99.82% |
| 74.0 | 4.330 | 0.479 | 2357.226 | 0.02% | 99.84% |
| 75.0 | 3.982 | 0.439 | 2357.665 | 0.02% | 99.86% |

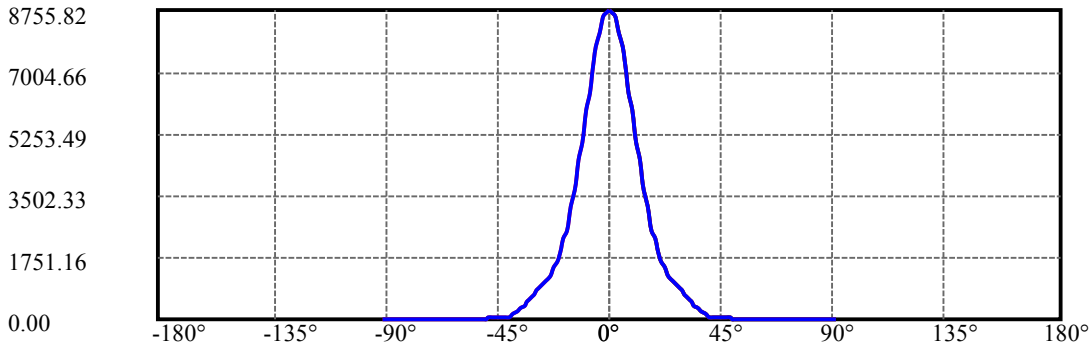
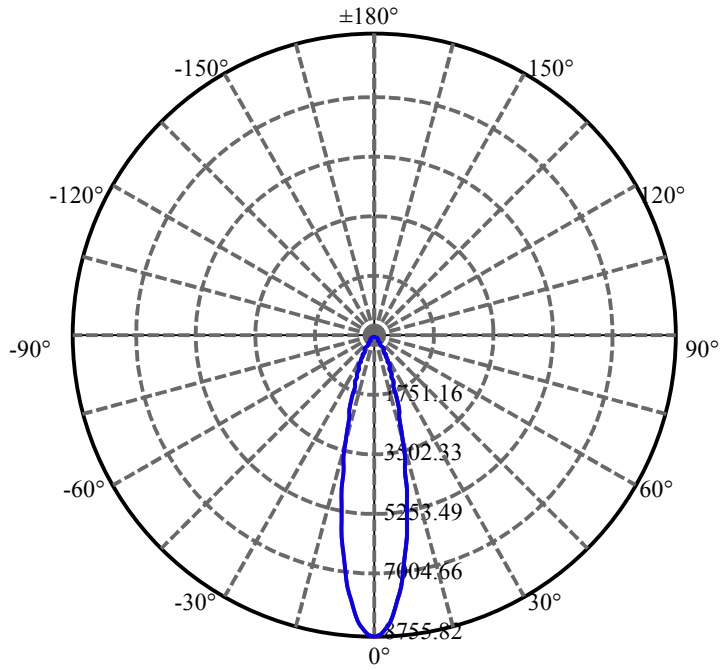
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0 | 3.647 | 0.405 | 2358.07 | 0.02% | 99.87% |
| 77.0 | 3.344 | 0.373 | 2358.443 | 0.01% | 99.89% |
| 78.0 | 3.075 | 0.344 | 2358.786 | 0.01% | 99.90% |
| 79.0 | 2.825 | 0.317 | 2359.103 | 0.01% | 99.92% |
| 80.0 | 2.556 | 0.290 | 2359.393 | 0.01% | 99.93% |
| 81.0 | 2.306 | 0.263 | 2359.656 | 0.01% | 99.94% |
| 82.0 | 2.083 | 0.238 | 2359.894 | 0.01% | 99.95% |
| 83.0 | 1.873 | 0.215 | 2360.109 | 0.01% | 99.96% |
| 84.0 | 1.649 | 0.192 | 2360.301 | 0.01% | 99.97% |
| 85.0 | 1.472 | 0.170 | 2360.472 | 0.01% | 99.98% |
| 86.0 | 1.301 | 0.152 | 2360.623 | 0.01% | 99.98% |
| 87.0 | 1.150 | 0.134 | 2360.757 | 0.01% | 99.99% |
| 88.0 | 0.999 | 0.118 | 2360.875 | 0.00% | 99.99% |
| 89.0 | 0.815 | 0.099 | 2360.974 | 0.00% | 100.00% |
| 90.0 | 0.703 | 0.083 | 2361.057 | 0.00% | 100.00% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 2084.06 | 81.92% | 88.27% |
| 0-40 | 2297.74 | 90.32% | 97.32% |
| 0-60 | 2344.70 | 92.17% | 99.31% |
| 0-90 | 2360.97 | 92.81% | 100.00% |
| 0-120 | 2360.97 | 92.81% | 100.00% |
| 0-180 | 2361.06 | 92.81% | 100.00% |
| 60-90 | 16.28 | 0.64% | 0.69% |
| 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% |
| 0-25.70 | 1888.85 | 74.25% | 80.00% |

ZONAL LUMEN SUMMARY

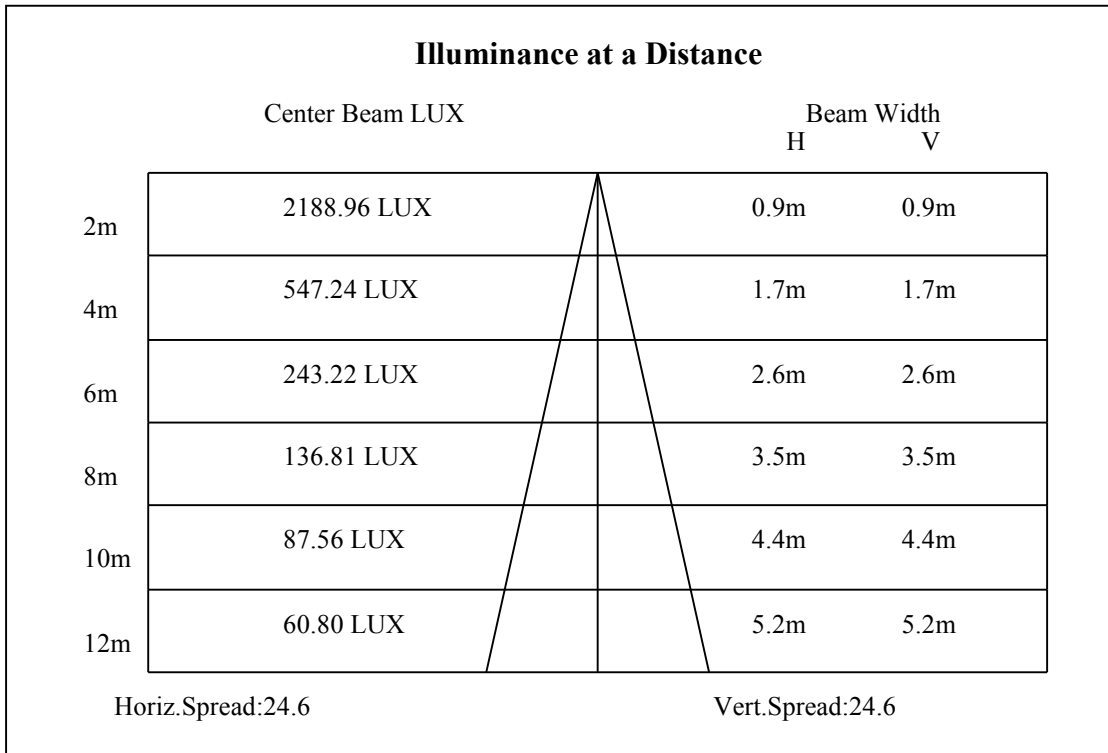
| | |
|---------|--------|
| 0-10 | 662.90 |
| 10-20 | 897.86 |
| 20-30 | 523.29 |
| 30-40 | 213.69 |
| 40-50 | 29.45 |
| 50-60 | 17.51 |
| 60-70 | 10.33 |
| 70-80 | 4.37 |
| 80-90 | 1.58 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

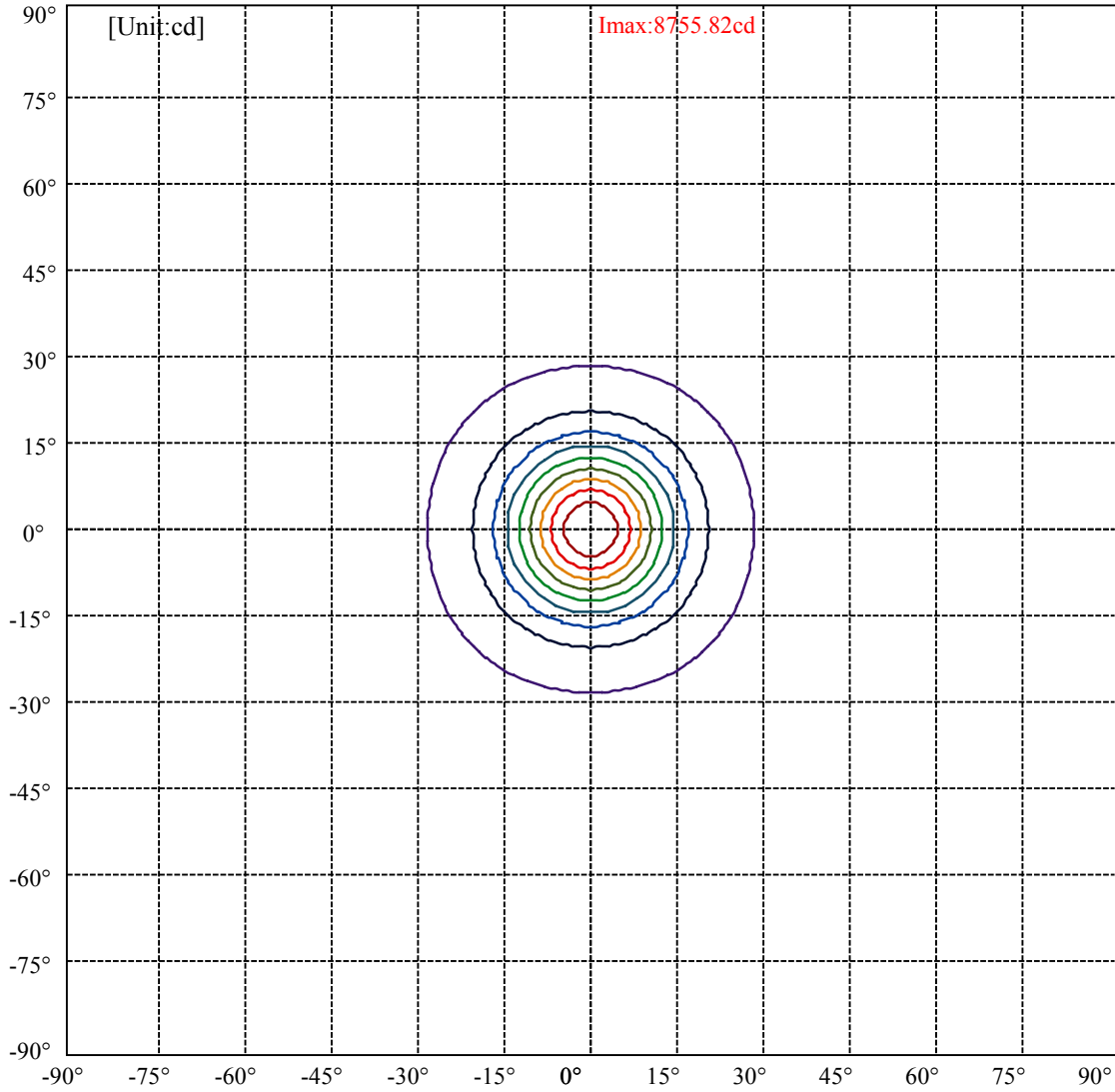


C0(Max): —————
C0/C180: —————
C90/C270: —————

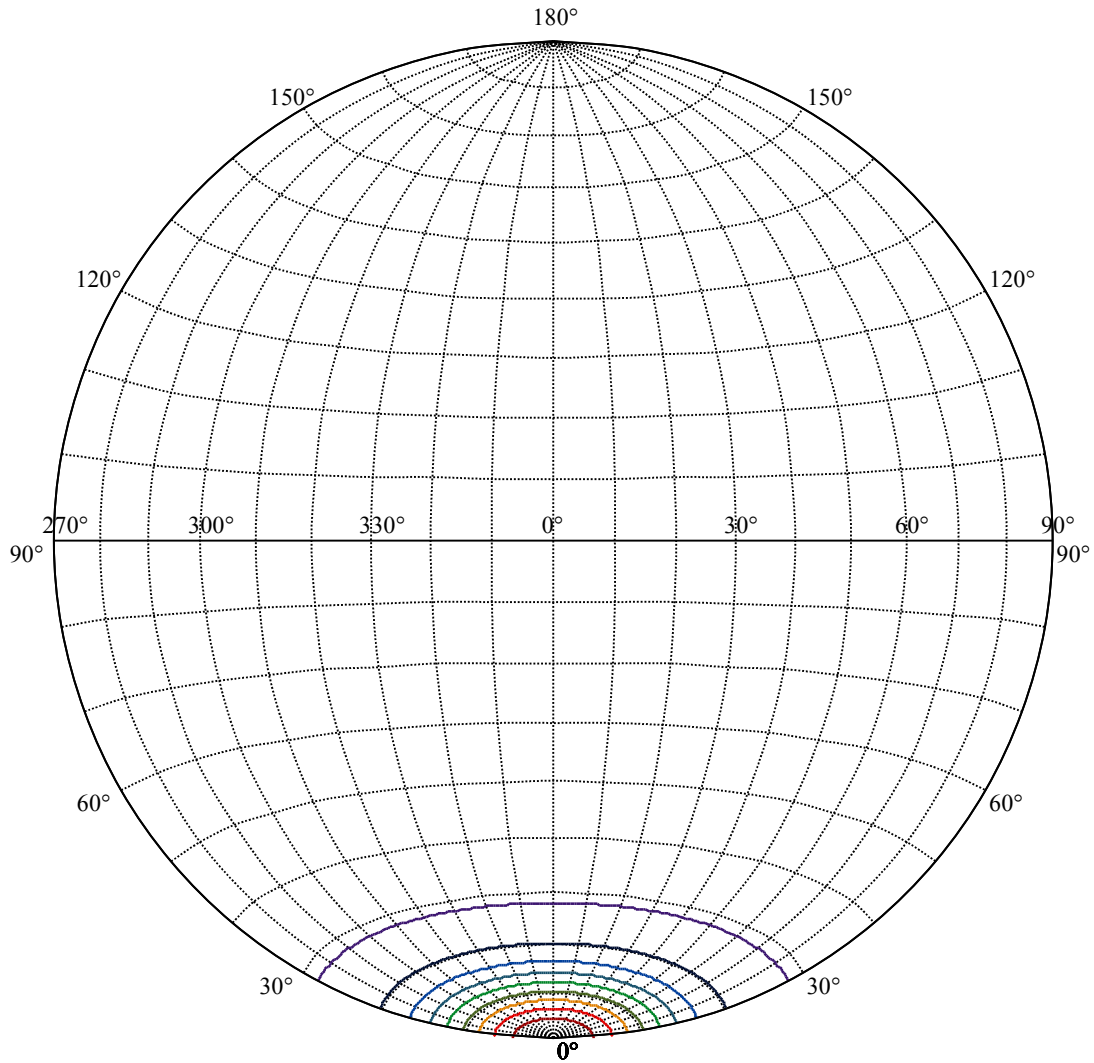
Field angle(10%Imax):C0/180Left:28.1 Right:28.1
:C90/270Left:28.1 Right:28.1

Beam Angle(50%Imax):C0/180Left:12.3 Right:12.3
:C90/270Left:12.3 Right:12.3





| | |
|-------------------|---|
| (10%Imax) 875.582 | — |
| (20%Imax) 1751.16 | — |
| (30%Imax) 2626.75 | — |
| (40%Imax) 3502.33 | — |
| (50%Imax) 4377.91 | — |
| (60%Imax) 5253.49 | — |
| (70%Imax) 6129.08 | — |
| (80%Imax) 7004.66 | — |
| (90%Imax) 7880.24 | — |



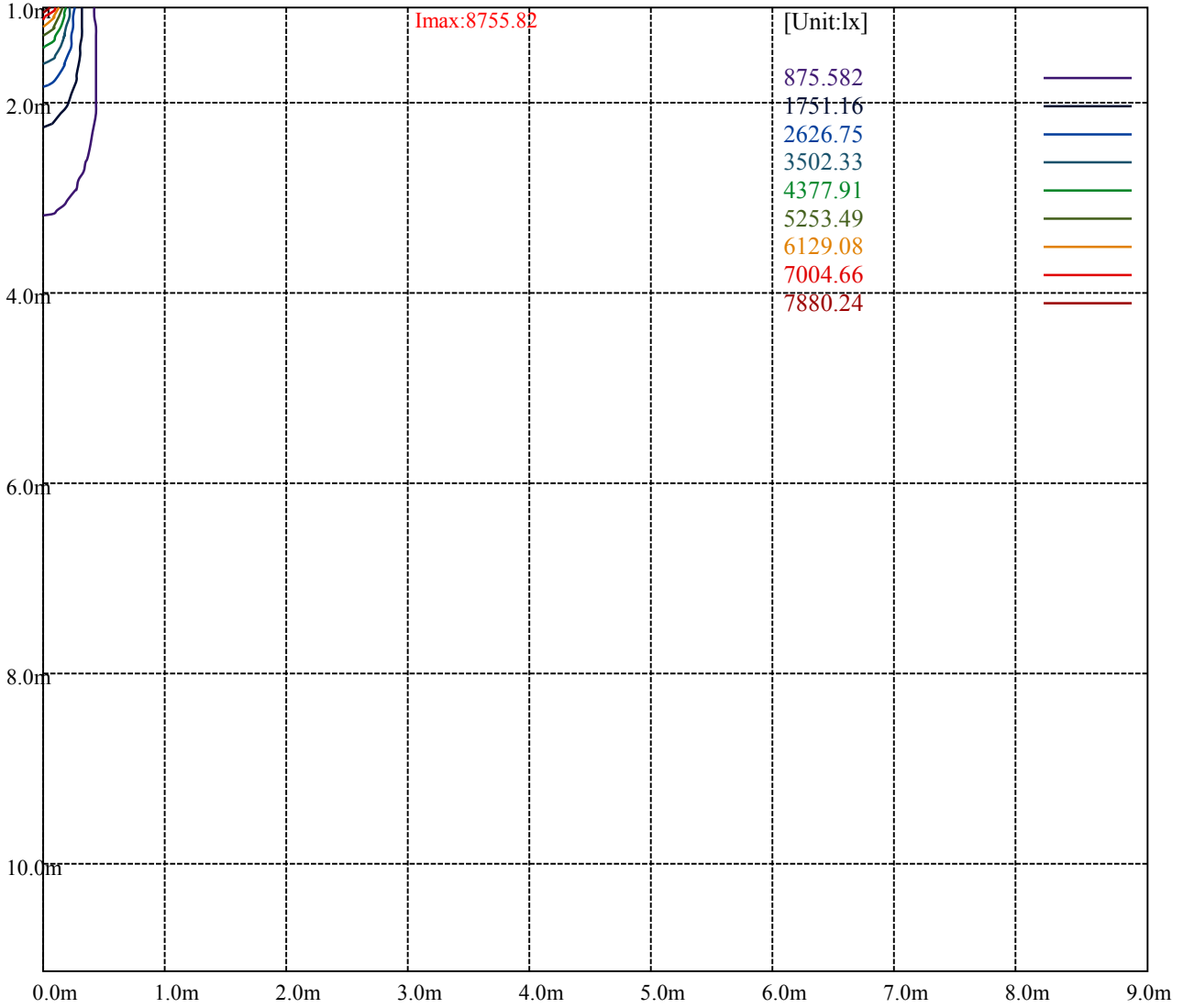
House

[Unit:cd]

Road

Imax:8755.82

| | |
|-------------------|---|
| (10%Imax) 875.582 | — |
| (20%Imax) 1751.16 | — |
| (30%Imax) 2626.75 | — |
| (40%Imax) 3502.33 | — |
| (50%Imax) 4377.91 | — |
| (60%Imax) 5253.49 | — |
| (70%Imax) 6129.08 | — |
| (80%Imax) 7004.66 | — |
| (90%Imax) 7880.24 | — |



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



| Illumination 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 | | | | | | | | | | |
| | 3H | | | | | | | | | | |
| | 4H | | | | | | | | | | |
| | 6H | | | | | | | | | | |
| | 8H | | | | | | | | | | |
| | 12H | | | | | | | | | | |
| 4H | 2H | | | | | | | | | | |
| | 3H | | | | | | | | | | |
| | 4H | | | | | | | | | | |
| | 6H | | | | | | | | | | |
| | 8H | | | | | | | | | | |
| | 12H | | | | | | | | | | |
| 8H | 4H | | | | | | | | | | |
| | 6H | | | | | | | | | | |
| | 8H | | | | | | | | | | |
| | 12H | | | | | | | | | | |
| 12H | 4H | | | | | | | | | | |
| | 6H | | | | | | | | | | |
| | 8H | | | | | | | | | | |
| Variation with the observer position at spacings: | | | | | | | | | | | |
| S = 1.0H | | | | | | | | | | | |
| S = 1.5H | | | | | | | | | | | |
| S = 2.0H | | | | | | | | | | | |
| Standard tables: | | | | | | | | | | | |
| Uncorrected UGR | | | | | | | | | | | |
| | | | | | | | | | | | |