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Nata

Client:

LumCAT: 2-2561-L

Luminaire: 92.70.412.00

Report No: 2024807-B002

Ballast type: AC

Test No: 2024809-C002

Voltage(V): 36.570

LampCAT: P2141-036-1206-P3090-1

Current(A): 0.695

Lamp flux(lm): 3120.0

Power (W): 25.410

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2899.08, Efficiency(%): 92.92% , Luminous Efficacy(lm/W): 114.09

Central intensity(cd): 11001.880, Maximum intensity(cd): 11001.880

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=22.6

[C90/270]Total=22.6

Field angle(10%Imax): [C0/180]Total=56.8

[C90/270]Total=56.8

Maximum s/h(1/2): C0_180=0.38 C90_270=0.38

Maximum s/h(1/4): C0_180=0.42 C90_270=0.42

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.92%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.066%

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2024/8/9
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 | 11001.883 | 0.000 | 0 | 0.00% | 0.00% |
| 1.0 | 10954.807 | 10.506 | 10.506 | 0.34% | 0.36% |
| 2.0 | 10820.740 | 31.254 | 41.76 | 1.00% | 1.44% |
| 3.0 | 10565.976 | 51.150 | 92.91 | 1.64% | 3.20% |
| 4.0 | 10210.995 | 69.547 | 162.457 | 2.23% | 5.60% |
| 5.0 | 9750.633 | 85.874 | 248.331 | 2.75% | 8.57% |
| 6.0 | 9115.533 | 99.147 | 347.478 | 3.18% | 11.99% |
| 7.0 | 8378.909 | 108.588 | 456.066 | 3.48% | 15.73% |
| 8.0 | 7750.702 | 115.437 | 571.502 | 3.70% | 19.71% |
| 9.0 | 6979.663 | 119.382 | 690.884 | 3.83% | 23.83% |
| 10.0 | 6335.936 | 120.501 | 811.385 | 3.86% | 27.99% |
| 11.0 | 5676.803 | 120.032 | 931.417 | 3.85% | 32.13% |
| 12.0 | 5069.009 | 117.467 | 1048.884 | 3.76% | 36.18% |
| 13.0 | 4577.451 | 114.479 | 1163.363 | 3.67% | 40.13% |
| 14.0 | 4121.353 | 111.344 | 1274.707 | 3.57% | 43.97% |
| 15.0 | 3703.823 | 107.428 | 1382.135 | 3.44% | 47.67% |
| 16.0 | 3319.098 | 102.905 | 1485.04 | 3.30% | 51.22% |
| 17.0 | 3008.211 | 98.533 | 1583.573 | 3.16% | 54.62% |
| 18.0 | 2710.188 | 94.284 | 1677.857 | 3.02% | 57.88% |
| 19.0 | 2447.560 | 89.734 | 1767.592 | 2.88% | 60.97% |
| 20.0 | 2224.202 | 85.506 | 1853.098 | 2.74% | 63.92% |
| 21.0 | 2035.884 | 81.802 | 1934.9 | 2.62% | 66.74% |
| 22.0 | 1876.054 | 78.612 | 2013.512 | 2.52% | 69.45% |
| 23.0 | 1739.536 | 75.865 | 2089.377 | 2.43% | 72.07% |
| 24.0 | 1622.683 | 73.510 | 2162.887 | 2.36% | 74.61% |
| 25.0 | 1508.327 | 71.192 | 2234.08 | 2.28% | 77.06% |
| 26.0 | 1384.982 | 68.297 | 2302.376 | 2.19% | 79.42% |
| 27.0 | 1247.689 | 64.409 | 2366.785 | 2.06% | 81.64% |
| 28.0 | 1132.814 | 60.269 | 2427.055 | 1.93% | 83.72% |
| 29.0 | 1046.802 | 57.025 | 2484.08 | 1.83% | 85.69% |
| 30.0 | 920.080 | 53.105 | 2537.185 | 1.70% | 87.52% |
| 31.0 | 811.243 | 48.180 | 2585.365 | 1.54% | 89.18% |
| 32.0 | 706.920 | 43.494 | 2628.859 | 1.39% | 90.68% |
| 33.0 | 598.983 | 38.472 | 2667.331 | 1.23% | 92.01% |
| 34.0 | 496.650 | 33.157 | 2700.488 | 1.06% | 93.15% |
| 35.0 | 394.521 | 27.676 | 2728.165 | 0.89% | 94.10% |
| 36.0 | 314.764 | 22.584 | 2750.748 | 0.72% | 94.88% |
| 37.0 | 260.828 | 18.773 | 2769.521 | 0.60% | 95.53% |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0 | 186.111 | 14.918 | 2784.439 | 0.48% | 96.05% |
| 39.0 | 134.862 | 10.956 | 2795.395 | 0.35% | 96.42% |
| 40.0 | 94.389 | 7.995 | 2803.39 | 0.26% | 96.70% |
| 41.0 | 79.580 | 6.195 | 2809.585 | 0.20% | 96.91% |
| 42.0 | 69.225 | 5.406 | 2814.992 | 0.17% | 97.10% |
| 43.0 | 61.886 | 4.857 | 2819.848 | 0.16% | 97.27% |
| 44.0 | 55.736 | 4.439 | 2824.288 | 0.14% | 97.42% |
| 45.0 | 50.223 | 4.072 | 2828.36 | 0.13% | 97.56% |
| 46.0 | 46.393 | 3.778 | 2832.138 | 0.12% | 97.69% |
| 47.0 | 42.773 | 3.546 | 2835.685 | 0.11% | 97.81% |
| 48.0 | 39.842 | 3.340 | 2839.024 | 0.11% | 97.93% |
| 49.0 | 37.425 | 3.173 | 2842.197 | 0.10% | 98.04% |
| 50.0 | 35.545 | 3.042 | 2845.24 | 0.10% | 98.14% |
| 51.0 | 33.587 | 2.925 | 2848.165 | 0.09% | 98.24% |
| 52.0 | 32.024 | 2.815 | 2850.98 | 0.09% | 98.34% |
| 53.0 | 30.834 | 2.734 | 2853.714 | 0.09% | 98.44% |
| 54.0 | 29.750 | 2.670 | 2856.385 | 0.09% | 98.53% |
| 55.0 | 29.028 | 2.624 | 2859.009 | 0.08% | 98.62% |
| 56.0 | 28.528 | 2.601 | 2861.609 | 0.08% | 98.71% |
| 57.0 | 28.259 | 2.596 | 2864.206 | 0.08% | 98.80% |
| 58.0 | 27.996 | 2.601 | 2866.807 | 0.08% | 98.89% |
| 59.0 | 27.733 | 2.605 | 2869.413 | 0.08% | 98.98% |
| 60.0 | 27.155 | 2.593 | 2872.006 | 0.08% | 99.07% |
| 61.0 | 26.045 | 2.539 | 2874.545 | 0.08% | 99.15% |
| 62.0 | 24.297 | 2.426 | 2876.97 | 0.08% | 99.24% |
| 63.0 | 21.781 | 2.241 | 2879.211 | 0.07% | 99.31% |
| 64.0 | 18.995 | 2.001 | 2881.212 | 0.06% | 99.38% |
| 65.0 | 16.321 | 1.748 | 2882.96 | 0.06% | 99.44% |
| 66.0 | 14.139 | 1.520 | 2884.48 | 0.05% | 99.50% |
| 67.0 | 12.622 | 1.346 | 2885.825 | 0.04% | 99.54% |
| 68.0 | 11.419 | 1.218 | 2887.043 | 0.04% | 99.58% |
| 69.0 | 10.526 | 1.120 | 2888.163 | 0.04% | 99.62% |
| 70.0 | 9.829 | 1.045 | 2889.208 | 0.03% | 99.66% |
| 71.0 | 9.106 | 0.979 | 2890.187 | 0.03% | 99.69% |
| 72.0 | 8.502 | 0.916 | 2891.102 | 0.03% | 99.72% |
| 73.0 | 7.884 | 0.857 | 2891.959 | 0.03% | 99.75% |
| 74.0 | 7.339 | 0.800 | 2892.759 | 0.03% | 99.78% |
| 75.0 | 6.741 | 0.744 | 2893.503 | 0.02% | 99.81% |

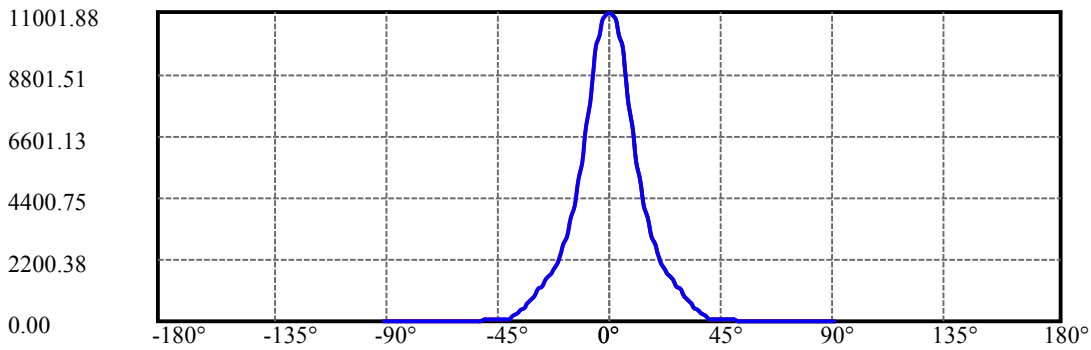
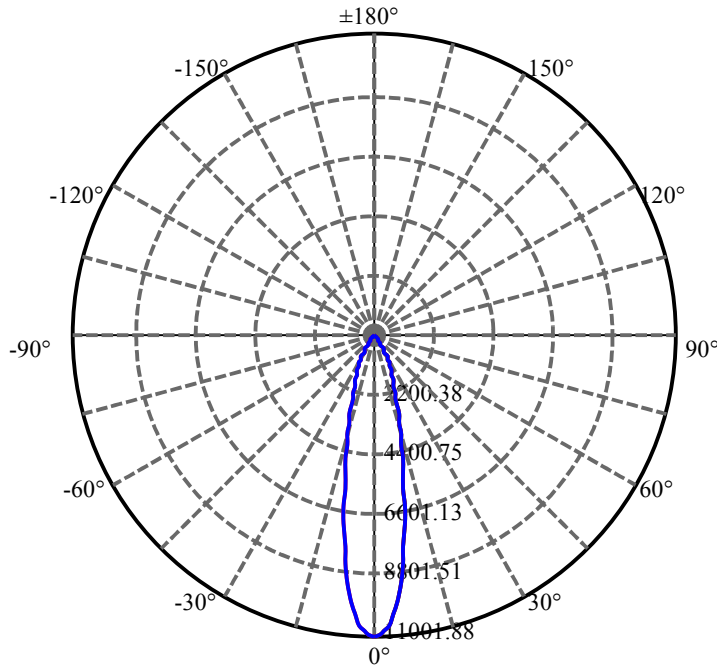
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0 | 6.176 | 0.686 | 2894.189 | 0.02% | 99.83% |
| 77.0 | 5.677 | 0.632 | 2894.821 | 0.02% | 99.85% |
| 78.0 | 5.145 | 0.579 | 2895.4 | 0.02% | 99.87% |
| 79.0 | 4.698 | 0.529 | 2895.929 | 0.02% | 99.89% |
| 80.0 | 4.271 | 0.484 | 2896.413 | 0.02% | 99.91% |
| 81.0 | 3.824 | 0.438 | 2896.85 | 0.01% | 99.92% |
| 82.0 | 3.417 | 0.393 | 2897.243 | 0.01% | 99.94% |
| 83.0 | 3.035 | 0.351 | 2897.594 | 0.01% | 99.95% |
| 84.0 | 2.648 | 0.310 | 2897.903 | 0.01% | 99.96% |
| 85.0 | 2.326 | 0.271 | 2898.175 | 0.01% | 99.97% |
| 86.0 | 2.037 | 0.238 | 2898.413 | 0.01% | 99.98% |
| 87.0 | 1.735 | 0.206 | 2898.62 | 0.01% | 99.98% |
| 88.0 | 1.485 | 0.176 | 2898.796 | 0.01% | 99.99% |
| 89.0 | 1.268 | 0.151 | 2898.947 | 0.00% | 100.00% |
| 90.0 | 1.183 | 0.134 | 2899.081 | 0.00% | 100.00% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 2537.18 | 81.32% | 87.52% |
| 0-40 | 2803.39 | 89.85% | 96.70% |
| 0-60 | 2872.01 | 92.05% | 99.07% |
| 0-90 | 2898.95 | 92.91% | 100.00% |
| 0-120 | 2898.95 | 92.91% | 100.00% |
| 0-180 | 2899.08 | 92.92% | 100.00% |
| 60-90 | 26.94 | 0.86% | 0.93% |
| 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% |
| 0-26.26 | 2319.27 | 74.34% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|---------|
| 0-10 | 811.39 |
| 10-20 | 1041.71 |
| 20-30 | 684.09 |
| 30-40 | 266.21 |
| 40-50 | 41.85 |
| 50-60 | 26.77 |
| 60-70 | 17.20 |
| 70-80 | 7.20 |
| 80-90 | 2.53 |
| 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: —————

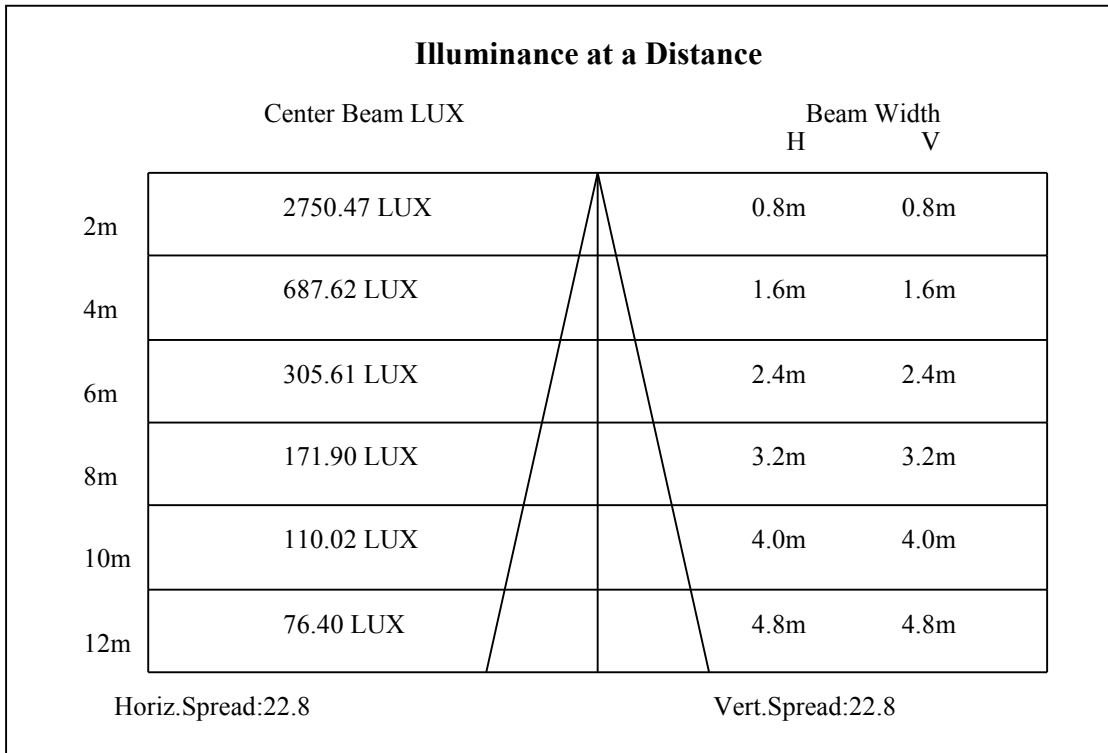
C90/C270: —————

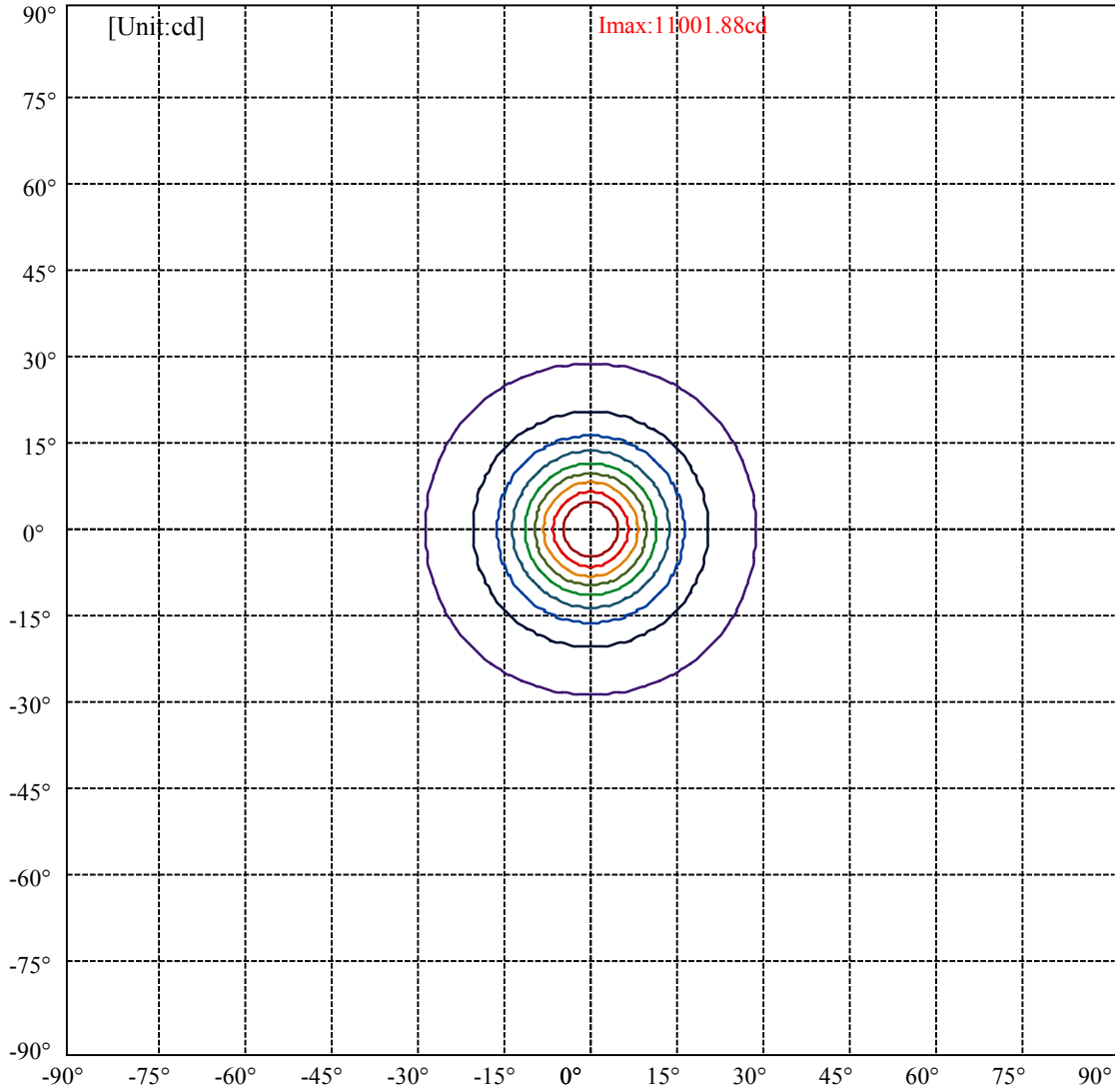
Field angle(10%Imax):C0/180Left:28.4 Right:28.4

:C90/270Left:28.4 Right:28.4

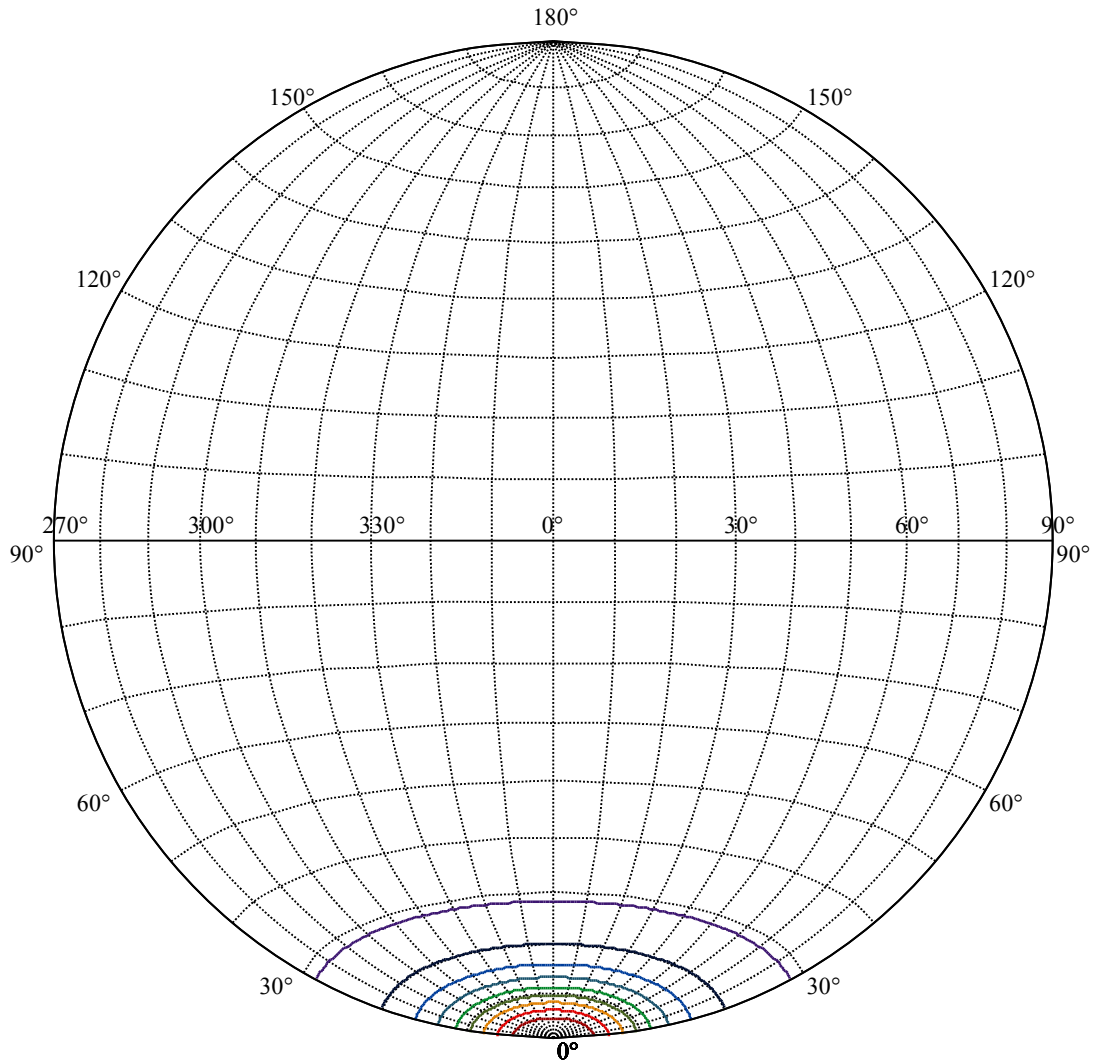
Beam Angle(50%Imax):C0/180Left:11.3 Right:11.3

:C90/270Left:11.3 Right:11.3





| | |
|-------------------|---|
| (10%Imax) 1100.19 | — |
| (20%Imax) 2200.38 | — |
| (30%Imax) 3300.56 | — |
| (40%Imax) 4400.75 | — |
| (50%Imax) 5500.94 | — |
| (60%Imax) 6601.13 | — |
| (70%Imax) 7701.32 | — |
| (80%Imax) 8801.51 | — |
| (90%Imax) 9901.69 | — |



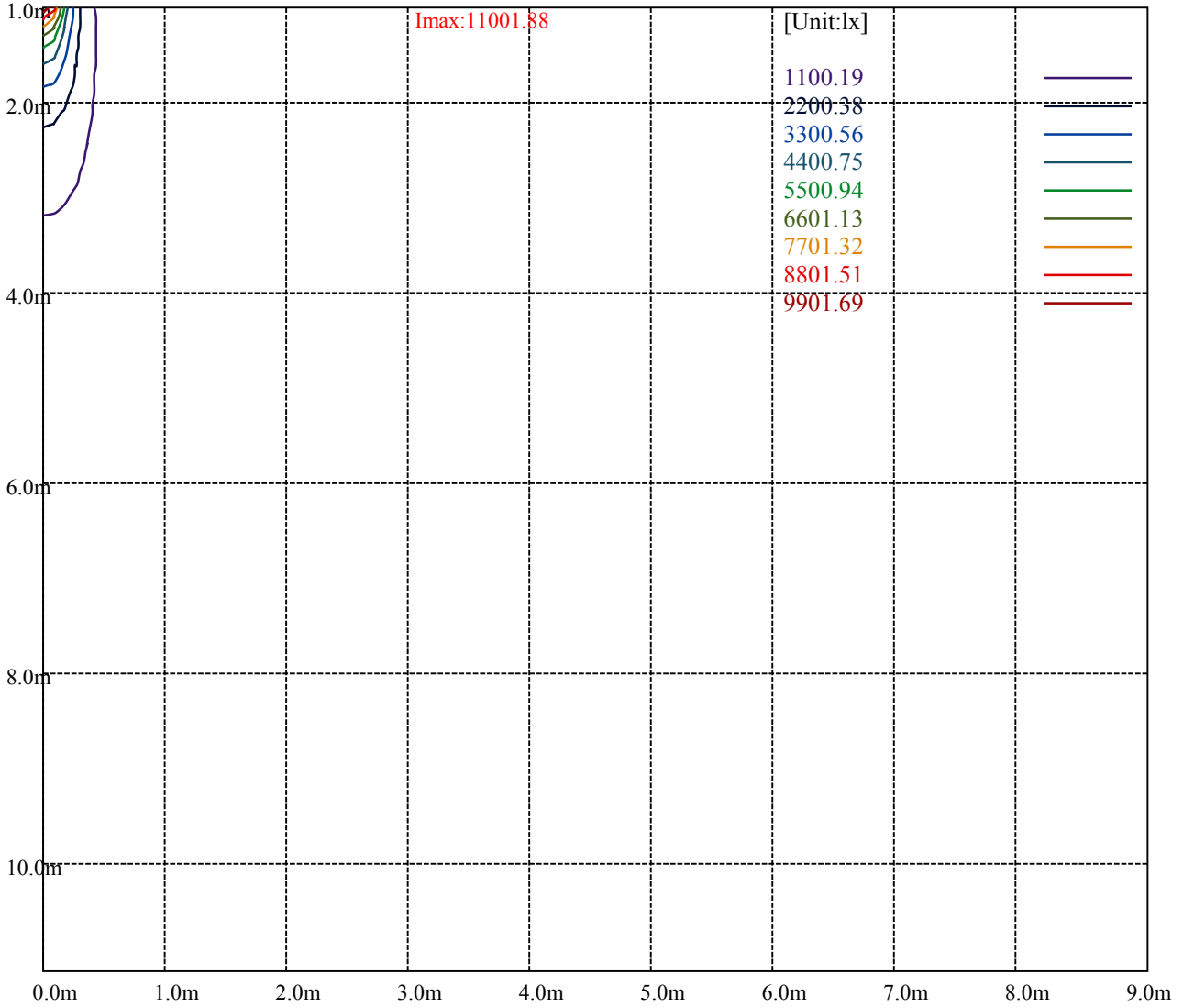
House

[Unit:cd]

Road

Imax:11001.88

| | |
|-------------------|---|
| (10%Imax) 1100.19 | — |
| (20%Imax) 2200.38 | — |
| (30%Imax) 3300.56 | — |
| (40%Imax) 4400.75 | — |
| (50%Imax) 5500.94 | — |
| (60%Imax) 6601.13 | — |
| (70%Imax) 7701.32 | — |
| (80%Imax) 8801.51 | — |
| (90%Imax) 9901.69 | — |



Luminance Table

| | | | | | | | | | |
|----------|----|----|----|----|----|----|----|----|----|
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| C0 | 58 | 35 | 24 | 18 | 14 | 10 | 7 | 4 | 2 |
| C45 | 58 | 35 | 24 | 18 | 14 | 10 | 7 | 4 | 2 |
| C90 | 58 | 35 | 24 | 18 | 14 | 10 | 7 | 4 | 2 |

| | | | | | | | | |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
| 14 | 14 | 14 | 7 | 7 | 7 | 2 | 2 | 2 |

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 | | | | | | | | | | | |
| | | | | | | | | | | | |