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## Nata

Client:

LumCAT: 2-2519-L

Luminaire: 92.70.411.00

Report No: 2024906-B013

Ballast type: AC

Test No: 2024906-C013

Voltage(V): 34.220

LampCAT: NICHIA NFCWJ108B-V3

Current(A): 0.563

Lamp flux(lm): 2557.0

Power (W): 19.260

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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## Photometric Results

Lumens(lm): 2307.94, Efficiency(%): 90.26% , Luminous Efficacy(lm/W): 119.83

Central intensity(cd): 7629.933, Maximum intensity(cd): 7629.933

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=26.8

[C90/270]Total=26.8

Field angle(10%Imax): [C0/180]Total=57.2

[C90/270]Total=57.2

Maximum s/h(1/2): C0\_180=0.45 C90\_270=0.45

Maximum s/h(1/4): C0\_180=0.48 C90\_270=0.48

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.26%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.028%

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Equipment: GMS 1800  
Temperature(°C): 25.0

Date: 2024/9/6  
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                | 7629.933      | 0.000       | 0         | 0.00%       | 0.00%      |
| 1.0                | 7603.961      | 7.289       | 7.289     | 0.29%       | 0.32%      |
| 2.0                | 7510.163      | 21.693      | 28.982    | 0.85%       | 1.26%      |
| 3.0                | 7362.567      | 35.571      | 64.553    | 1.39%       | 2.80%      |
| 4.0                | 7157.613      | 48.604      | 113.157   | 1.90%       | 4.90%      |
| 5.0                | 6884.387      | 60.408      | 173.565   | 2.36%       | 7.52%      |
| 6.0                | 6587.842      | 70.800      | 244.365   | 2.77%       | 10.59%     |
| 7.0                | 6229.865      | 79.559      | 323.924   | 3.11%       | 14.04%     |
| 8.0                | 5866.034      | 86.568      | 410.492   | 3.39%       | 17.79%     |
| 9.0                | 5448.300      | 91.697      | 502.189   | 3.59%       | 21.76%     |
| 10.0               | 5069.154      | 95.179      | 597.368   | 3.72%       | 25.88%     |
| 11.0               | 4681.932      | 97.433      | 694.801   | 3.81%       | 30.10%     |
| 12.0               | 4323.798      | 98.446      | 793.247   | 3.85%       | 34.37%     |
| 13.0               | 3946.189      | 98.144      | 891.391   | 3.84%       | 38.62%     |
| 14.0               | 3584.736      | 96.395      | 987.786   | 3.77%       | 42.80%     |
| 15.0               | 3265.826      | 94.048      | 1081.833  | 3.68%       | 46.87%     |
| 16.0               | 2972.758      | 91.413      | 1173.246  | 3.57%       | 50.84%     |
| 17.0               | 2681.640      | 88.054      | 1261.3    | 3.44%       | 54.65%     |
| 18.0               | 2437.041      | 84.396      | 1345.696  | 3.30%       | 58.31%     |
| 19.0               | 2203.459      | 80.735      | 1426.431  | 3.16%       | 61.81%     |
| 20.0               | 1992.296      | 76.794      | 1503.225  | 3.00%       | 65.13%     |
| 21.0               | 1779.030      | 72.417      | 1575.642  | 2.83%       | 68.27%     |
| 22.0               | 1619.313      | 68.291      | 1643.934  | 2.67%       | 71.23%     |
| 23.0               | 1461.375      | 64.641      | 1708.575  | 2.53%       | 74.03%     |
| 24.0               | 1309.220      | 60.575      | 1769.15   | 2.37%       | 76.65%     |
| 25.0               | 1194.187      | 56.922      | 1826.072  | 2.23%       | 79.12%     |
| 26.0               | 1022.557      | 52.327      | 1878.398  | 2.05%       | 81.39%     |
| 27.0               | 935.704       | 47.909      | 1926.308  | 1.87%       | 83.46%     |
| 28.0               | 835.980       | 44.855      | 1971.163  | 1.75%       | 85.41%     |
| 29.0               | 722.964       | 40.786      | 2011.949  | 1.60%       | 87.18%     |
| 30.0               | 626.985       | 36.448      | 2048.398  | 1.43%       | 88.75%     |
| 31.0               | 538.187       | 32.425      | 2080.823  | 1.27%       | 90.16%     |
| 32.0               | 450.172       | 28.315      | 2109.138  | 1.11%       | 91.39%     |
| 33.0               | 386.880       | 24.660      | 2133.798  | 0.96%       | 92.45%     |
| 34.0               | 331.157       | 21.730      | 2155.528  | 0.85%       | 93.40%     |
| 35.0               | 259.455       | 18.342      | 2173.87   | 0.72%       | 94.19%     |
| 36.0               | 219.862       | 15.262      | 2189.132  | 0.60%       | 94.85%     |
| 37.0               | 169.074       | 12.685      | 2201.817  | 0.50%       | 95.40%     |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 142.379       | 10.396      | 2212.212  | 0.41%       | 95.85%     |
| 39.0               | 122.595       | 9.044       | 2221.257  | 0.35%       | 96.24%     |
| 40.0               | 92.280        | 7.494       | 2228.751  | 0.29%       | 96.57%     |
| 41.0               | 76.446        | 6.008       | 2234.759  | 0.23%       | 96.83%     |
| 42.0               | 65.132        | 5.144       | 2239.903  | 0.20%       | 97.05%     |
| 43.0               | 55.821        | 4.480       | 2244.383  | 0.18%       | 97.25%     |
| 44.0               | 48.923        | 3.953       | 2248.337  | 0.15%       | 97.42%     |
| 45.0               | 43.312        | 3.545       | 2251.881  | 0.14%       | 97.57%     |
| 46.0               | 39.343        | 3.232       | 2255.114  | 0.13%       | 97.71%     |
| 47.0               | 35.788        | 2.988       | 2258.102  | 0.12%       | 97.84%     |
| 48.0               | 33.029        | 2.782       | 2260.884  | 0.11%       | 97.96%     |
| 49.0               | 30.401        | 2.605       | 2263.489  | 0.10%       | 98.07%     |
| 50.0               | 28.357        | 2.450       | 2265.938  | 0.10%       | 98.18%     |
| 51.0               | 26.610        | 2.326       | 2268.264  | 0.09%       | 98.28%     |
| 52.0               | 25.079        | 2.218       | 2270.482  | 0.09%       | 98.38%     |
| 53.0               | 23.758        | 2.124       | 2272.606  | 0.08%       | 98.47%     |
| 54.0               | 22.549        | 2.041       | 2274.648  | 0.08%       | 98.56%     |
| 55.0               | 21.557        | 1.969       | 2276.616  | 0.08%       | 98.64%     |
| 56.0               | 20.526        | 1.902       | 2278.518  | 0.07%       | 98.73%     |
| 57.0               | 19.678        | 1.838       | 2280.356  | 0.07%       | 98.80%     |
| 58.0               | 18.863        | 1.782       | 2282.138  | 0.07%       | 98.88%     |
| 59.0               | 17.924        | 1.720       | 2283.858  | 0.07%       | 98.96%     |
| 60.0               | 17.050        | 1.652       | 2285.511  | 0.06%       | 99.03%     |
| 61.0               | 16.202        | 1.587       | 2287.097  | 0.06%       | 99.10%     |
| 62.0               | 15.283        | 1.517       | 2288.615  | 0.06%       | 99.16%     |
| 63.0               | 14.422        | 1.445       | 2290.059  | 0.06%       | 99.23%     |
| 64.0               | 13.568        | 1.373       | 2291.433  | 0.05%       | 99.28%     |
| 65.0               | 12.714        | 1.301       | 2292.733  | 0.05%       | 99.34%     |
| 66.0               | 12.116        | 1.239       | 2293.972  | 0.05%       | 99.39%     |
| 67.0               | 11.505        | 1.188       | 2295.16   | 0.05%       | 99.45%     |
| 68.0               | 10.854        | 1.133       | 2296.292  | 0.04%       | 99.50%     |
| 69.0               | 10.309        | 1.080       | 2297.372  | 0.04%       | 99.54%     |
| 70.0               | 9.875         | 1.037       | 2298.409  | 0.04%       | 99.59%     |
| 71.0               | 9.317         | 0.992       | 2299.401  | 0.04%       | 99.63%     |
| 72.0               | 8.456         | 0.924       | 2300.325  | 0.04%       | 99.67%     |
| 73.0               | 7.871         | 0.854       | 2301.179  | 0.03%       | 99.71%     |
| 74.0               | 7.162         | 0.790       | 2301.969  | 0.03%       | 99.74%     |
| 75.0               | 6.360         | 0.714       | 2302.683  | 0.03%       | 99.77%     |

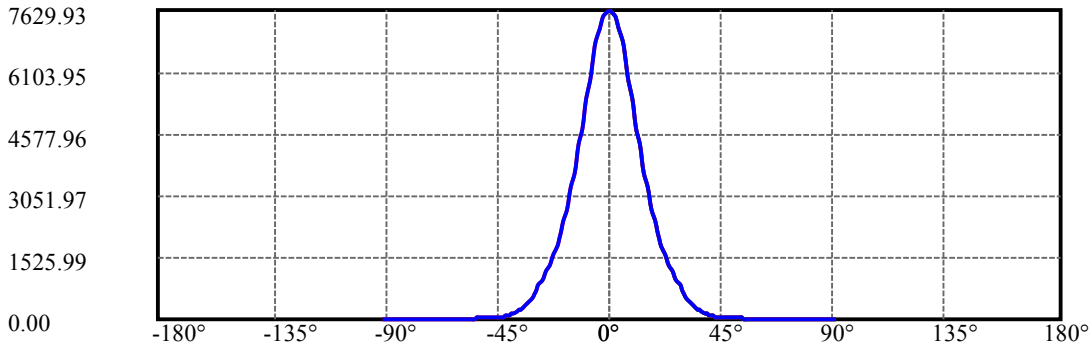
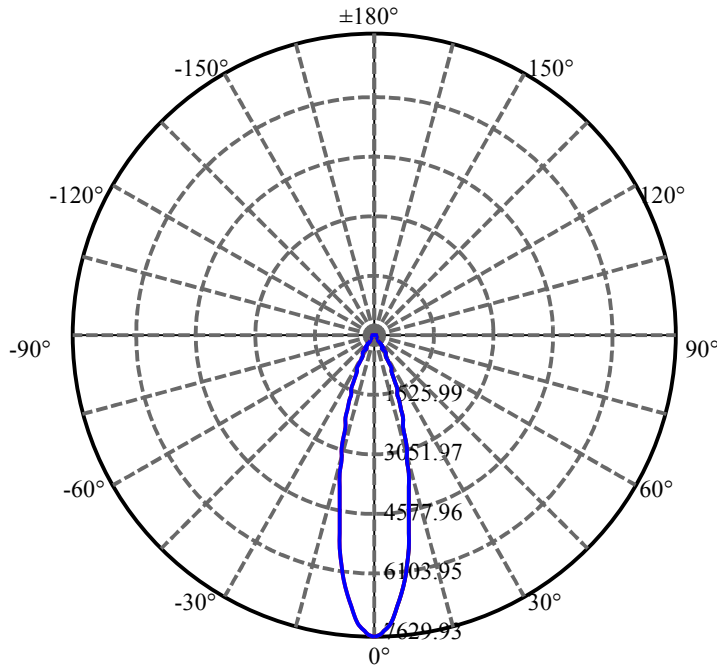
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 5.650         | 0.638       | 2303.321  | 0.02%       | 99.80%     |
| 77.0               | 5.020         | 0.569       | 2303.89   | 0.02%       | 99.82%     |
| 78.0               | 4.573         | 0.514       | 2304.403  | 0.02%       | 99.85%     |
| 79.0               | 4.172         | 0.470       | 2304.873  | 0.02%       | 99.87%     |
| 80.0               | 3.798         | 0.430       | 2305.303  | 0.02%       | 99.89%     |
| 81.0               | 3.489         | 0.394       | 2305.697  | 0.02%       | 99.90%     |
| 82.0               | 3.167         | 0.361       | 2306.058  | 0.01%       | 99.92%     |
| 83.0               | 2.898         | 0.330       | 2306.387  | 0.01%       | 99.93%     |
| 84.0               | 2.589         | 0.299       | 2306.686  | 0.01%       | 99.95%     |
| 85.0               | 2.352         | 0.270       | 2306.956  | 0.01%       | 99.96%     |
| 86.0               | 2.089         | 0.243       | 2307.199  | 0.01%       | 99.97%     |
| 87.0               | 1.879         | 0.217       | 2307.416  | 0.01%       | 99.98%     |
| 88.0               | 1.669         | 0.194       | 2307.61   | 0.01%       | 99.99%     |
| 89.0               | 1.498         | 0.174       | 2307.784  | 0.01%       | 99.99%     |
| 90.0               | 1.380         | 0.158       | 2307.942  | 0.01%       | 100.00%    |

ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 2048.40 | 80.11% | 88.75%  |
| 0-40    | 2228.75 | 87.16% | 96.57%  |
| 0-60    | 2285.51 | 89.38% | 99.03%  |
| 0-90    | 2307.78 | 90.25% | 99.99%  |
| 0-120   | 2307.78 | 90.25% | 99.99%  |
| 0-180   | 2307.94 | 90.26% | 100.00% |
| 60-90   | 22.27   | 0.87%  | 0.97%   |
| 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%   |
| 0-25.39 | 1846.35 | 72.21% | 80.00%  |

ZONAL LUMEN SUMMARY

|         |        |
|---------|--------|
| 0-10    | 597.37 |
| 10-20   | 905.86 |
| 20-30   | 545.17 |
| 30-40   | 180.35 |
| 40-50   | 37.19  |
| 50-60   | 19.57  |
| 60-70   | 12.90  |
| 70-80   | 6.89   |
| 80-90   | 2.48   |
| 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: —————

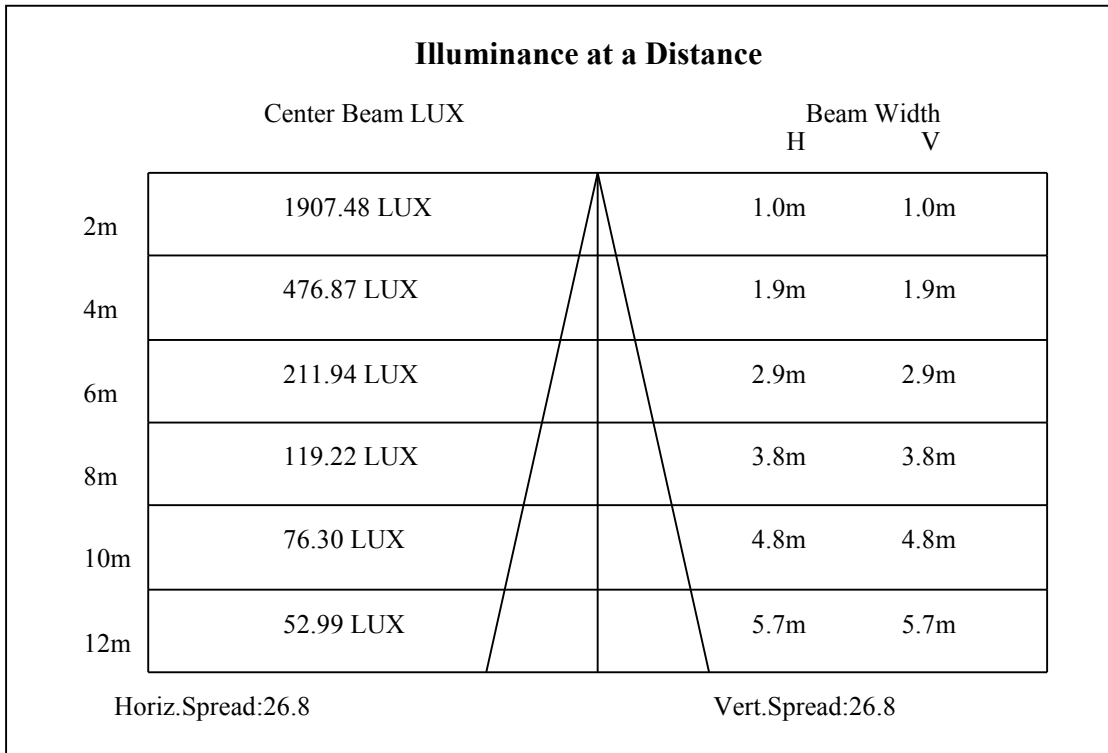
C90/C270: —————

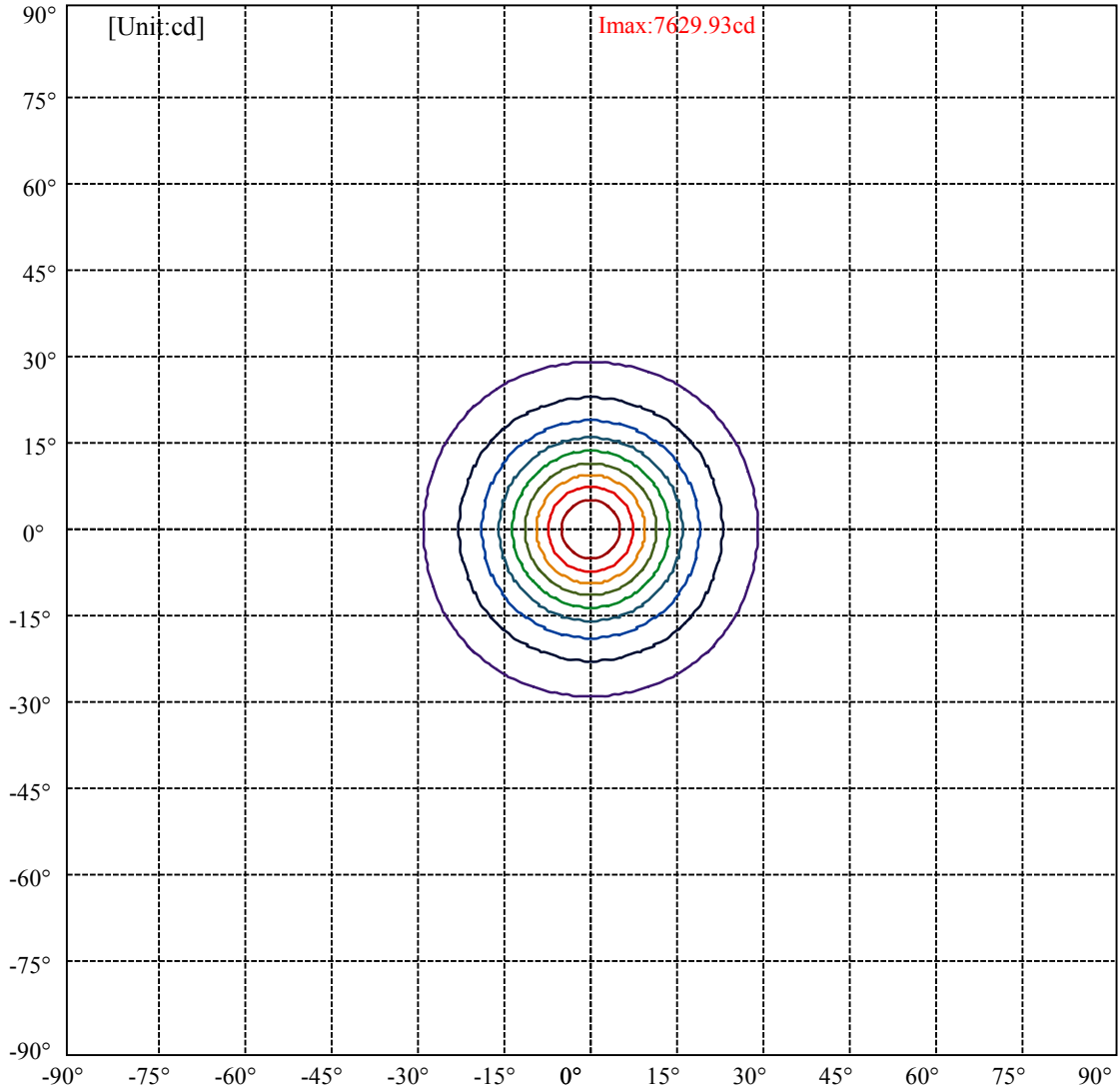
Field angle(10%Imax):C0/180Left:28.6 Right:28.6

:C90/270Left:28.6 Right:28.6

Beam Angle(50%Imax):C0/180Left:13.4 Right:13.4

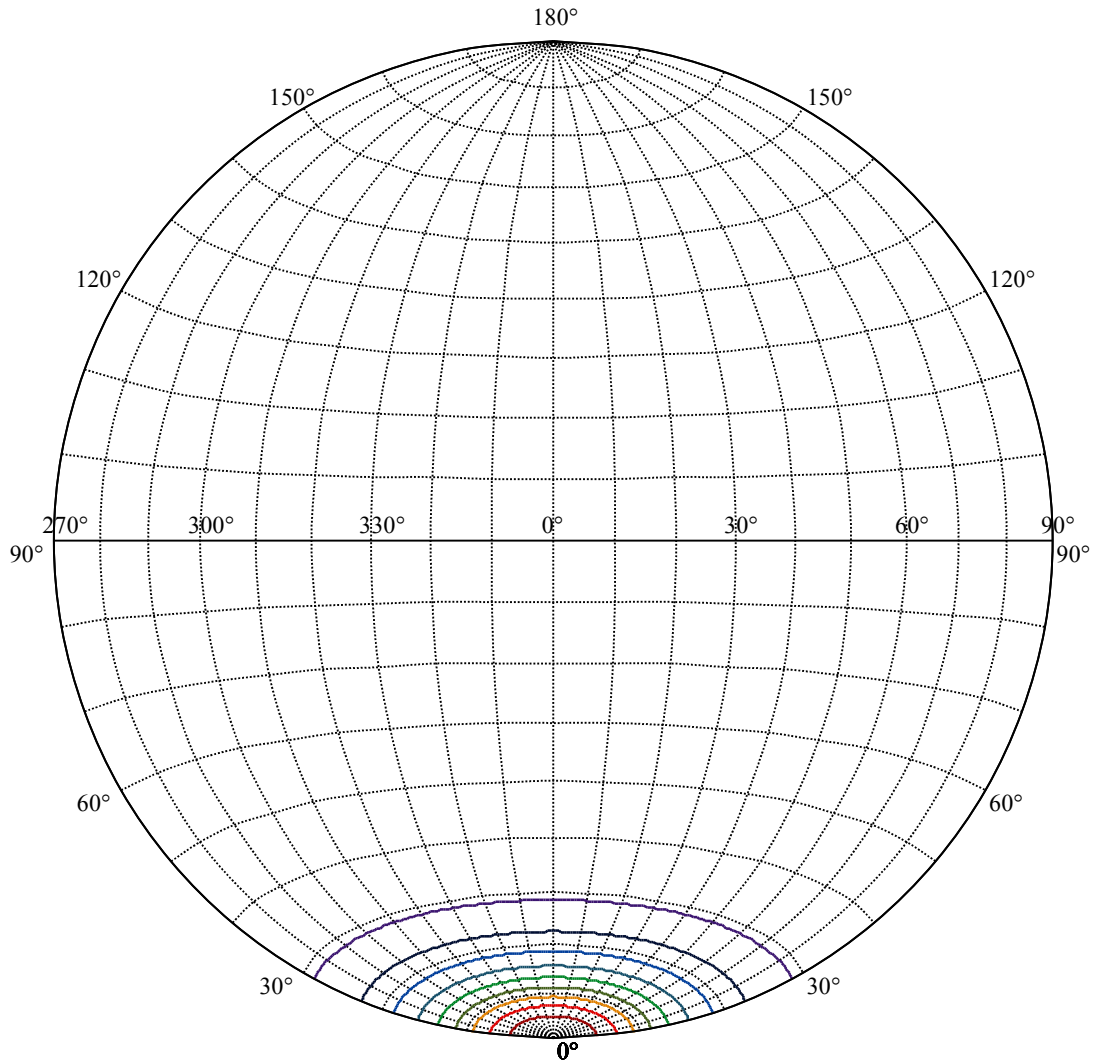
:C90/270Left:13.4 Right:13.4





|                   |   |
|-------------------|---|
| (10%Imax) 762.993 | — |
| (20%Imax) 1525.99 | — |
| (30%Imax) 2288.98 | — |
| (40%Imax) 3051.97 | — |
| (50%Imax) 3814.97 | — |
| (60%Imax) 4577.96 | — |
| (70%Imax) 5340.95 | — |
| (80%Imax) 6103.95 | — |
| (90%Imax) 6866.94 | — |





House

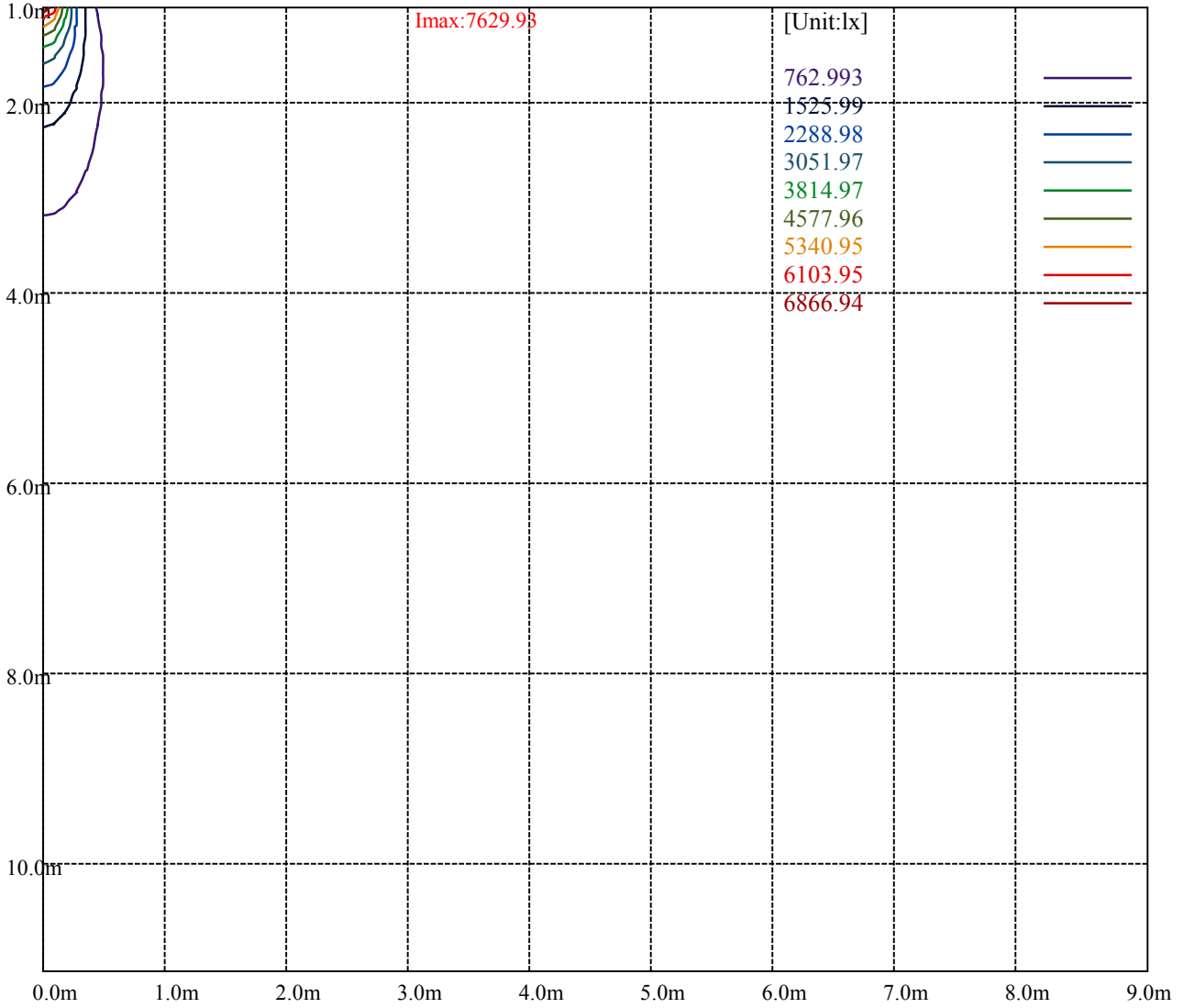
[Unit:cd]

Road

**Imax:7629.93**

|                   |   |
|-------------------|---|
| (10%Imax) 762.993 | — |
| (20%Imax) 1525.99 | — |
| (30%Imax) 2288.98 | — |
| (40%Imax) 3051.97 | — |
| (50%Imax) 3814.97 | — |
| (60%Imax) 4577.96 | — |
| (70%Imax) 5340.95 | — |
| (80%Imax) 6103.95 | — |
| (90%Imax) 6866.94 | — |





Luminance Table

| $\gamma$ | 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

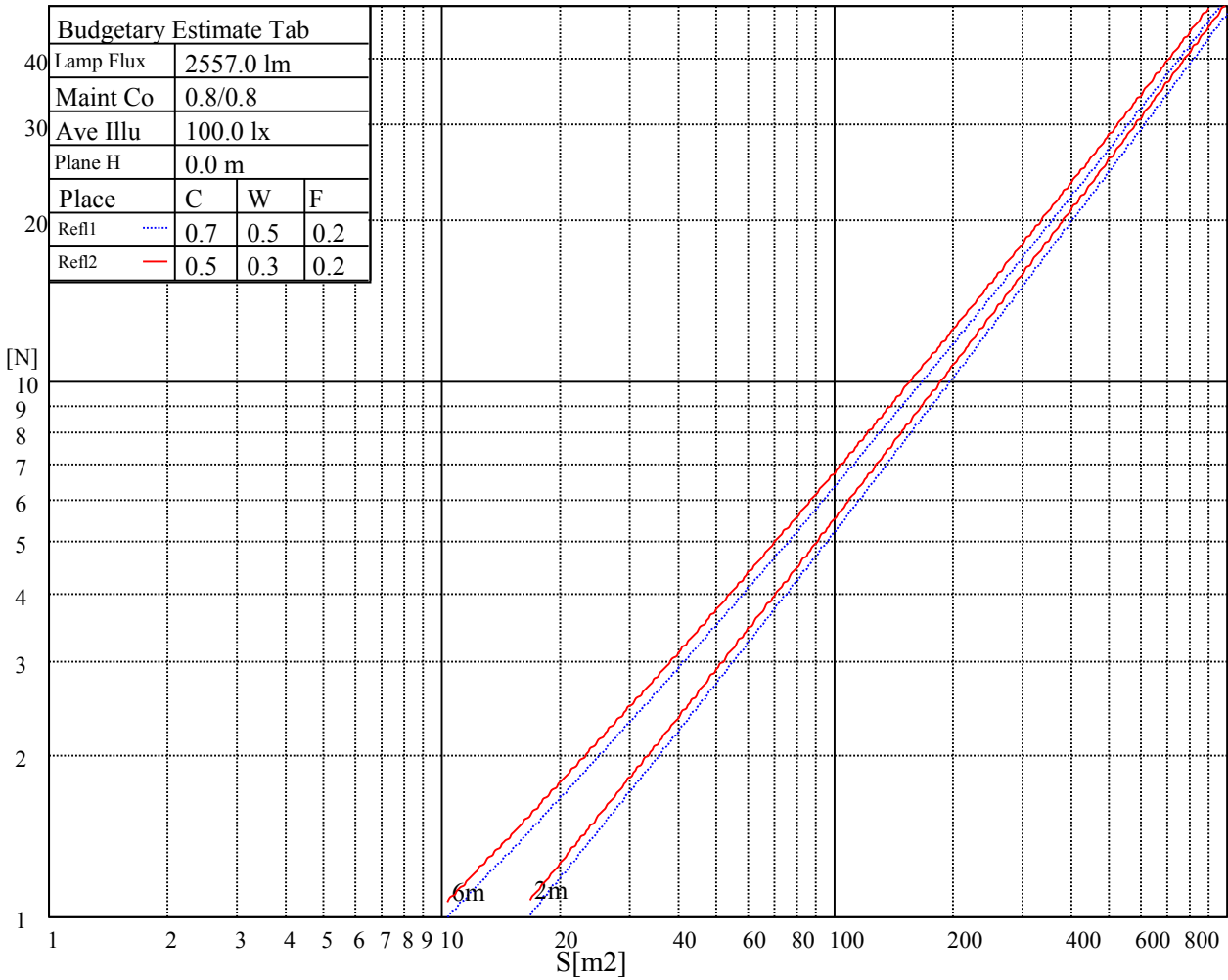
| Glare | Quality | Service Values Illuminance(lx) |      |      |       |       |       |       |       |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A       | 2000                           | 1000 | 500  | <=300 |       |    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

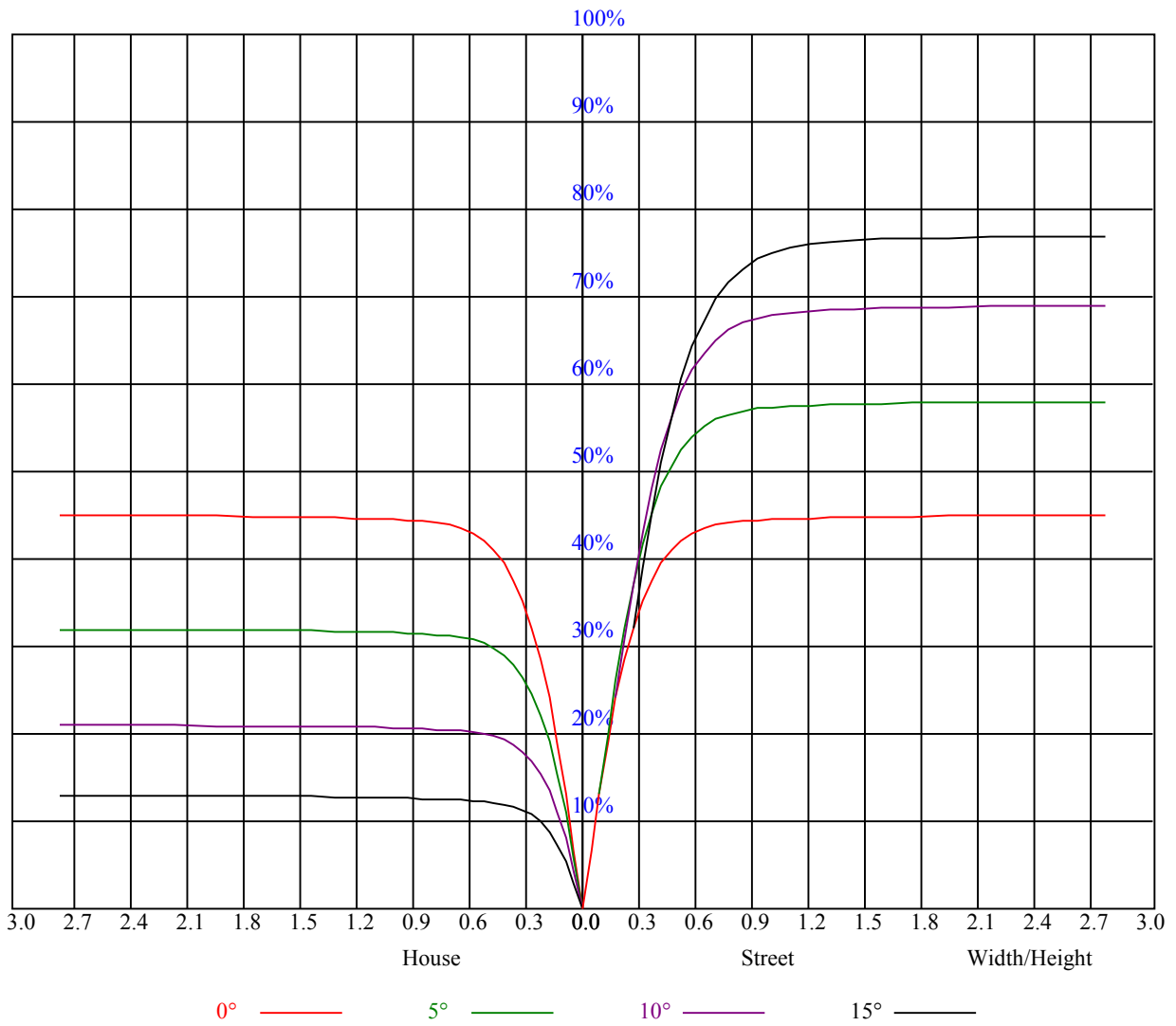


| Illumination assessment according UGR             |     |                  |     |     |     |     |                |     |     |     |  |
|---|-----|------------------|-----|-----|-----|-----|----------------|-----|-----|-----|--|
| Rf of Ceiling                                     | 70  | 70               | 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  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 3H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| 4H  | 12H | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 2H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 3H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| 8H  | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 12H | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| 12H   | 12H | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 4H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 6H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
|   | 8H  | 非数字              | 非数字 | 非数字 | 非数字 | 非数字 | 非数字            | 非数字 | 非数字 | 非数字 |  |
| Variation with the observer position at spacings: |     |                  |     |     |     |     |                |     |     |     |  |
| S = 1.0H  |     | 非数字/非数字          |     |     |     |     | 非数字/非数字        |     |     |     |  |
| S = 1.5H  |     | 非数字/非数字          |     |     |     |     | 非数字/非数字        |     |     |     |  |
| S = 2.0H  |     | 非数字/非数字          |     |     |     |     | 非数字/非数字        |     |     |     |  |
| Standard tables:                                  |     | BK0              |     |     |     |     | BK0            |     |     |     |  |
| Uncorrected UGR                                   |     | 负无穷大             |     |     |     |     | 负无穷大           |     |     |     |  |

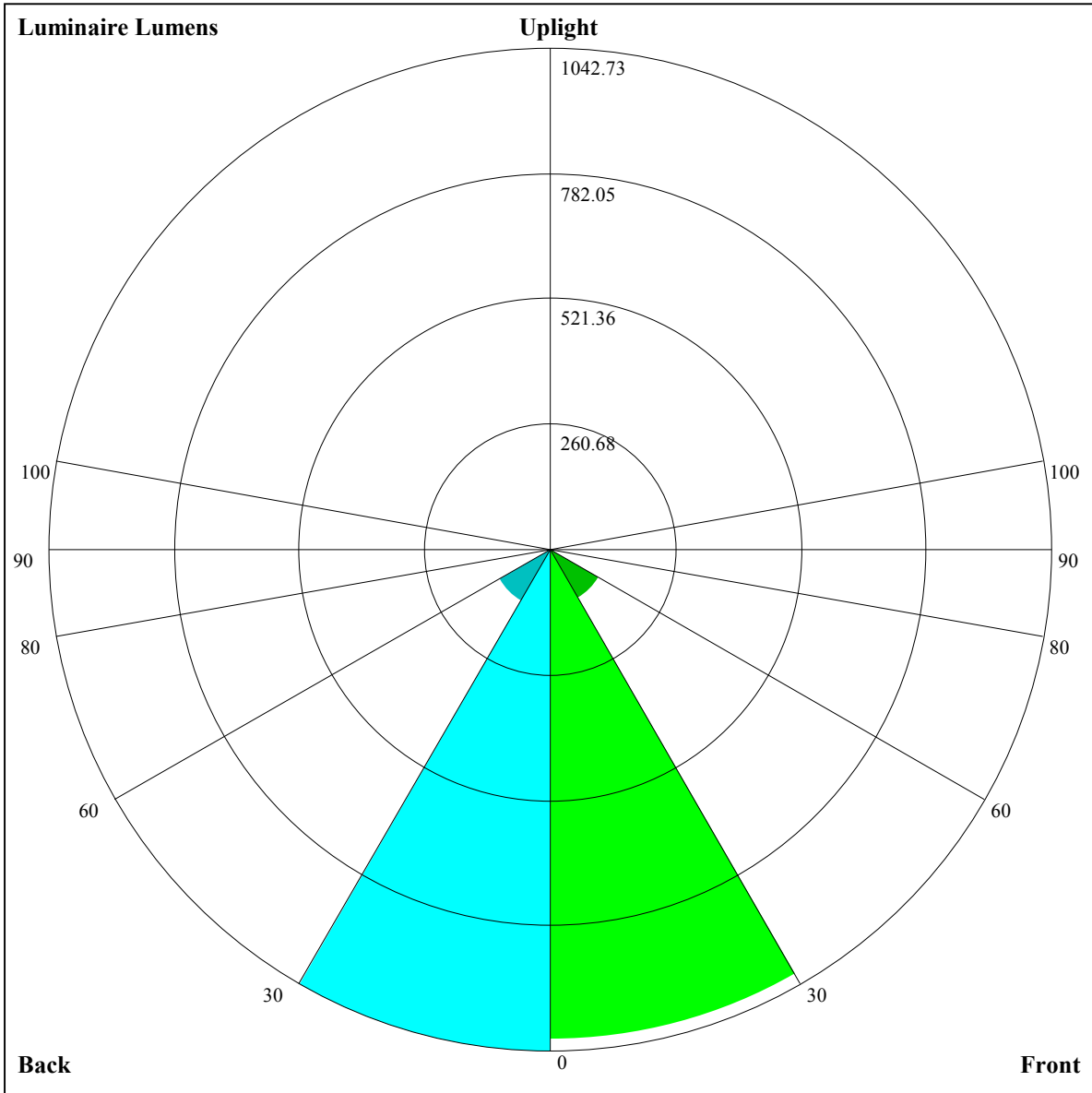
UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



| 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     | 1.07                                    | 1.07 | 1.07 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 0.92 | 0.92 | 0.92 | 0.90 |
| 1     | 1.01                                    | 0.99 | 0.97 | 0.99 | 0.97 | 0.96 | 0.96 | 0.94 | 0.93 | 0.92 | 0.91 | 0.90 | 0.89 | 0.88 | 0.88 | 0.86 |
| 2     | 0.96                                    | 0.92 | 0.90 | 0.94 | 0.91 | 0.89 | 0.91 | 0.89 | 0.87 | 0.89 | 0.87 | 0.85 | 0.86 | 0.85 | 0.83 | 0.82 |
| 3     | 0.91                                    | 0.87 | 0.84 | 0.89 | 0.86 | 0.83 | 0.87 | 0.84 | 0.82 | 0.85 | 0.83 | 0.81 | 0.83 | 0.81 | 0.80 | 0.78 |
| 4     | 0.86                                    | 0.82 | 0.79 | 0.85 | 0.82 | 0.79 | 0.83 | 0.80 | 0.78 | 0.82 | 0.79 | 0.77 | 0.80 | 0.78 | 0.76 | 0.75 |
| 5     | 0.82                                    | 0.78 | 0.75 | 0.82 | 0.78 | 0.75 | 0.80 | 0.77 | 0.74 | 0.79 | 0.76 | 0.73 | 0.77 | 0.75 | 0.73 | 0.72 |
| 6     | 0.79                                    | 0.75 | 0.71 | 0.78 | 0.74 | 0.71 | 0.77 | 0.73 | 0.71 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.69 |
| 7     | 0.76                                    | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.66 |
| 8     | 0.73                                    | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.70 | 0.67 | 0.65 | 0.64 |
| 9     | 0.70                                    | 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 |
| 10    | 0.68                                    | 0.63 | 0.61 | 0.67 | 0.63 | 0.61 | 0.67 | 0.63 | 0.60 | 0.66 | 0.63 | 0.60 | 0.65 | 0.62 | 0.60 | 0.59 |







Luminaire Lumens:

FL=1018.65,FM=117.86,FH=10.19,FVH=1.35

BL=1042.73,BM=124.42,BH=9.83,BVH=1.33

UL=0,UH=0

BUG Rating:B3-U0-G0

Intensity data(cd)

|        |         |         |         |         |         |         |         |         |         |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| C/γ(°) | 0.0     | 1.0     | 2.0     | 3.0     | 4.0     | 5.0     | 6.0     | 7.0     | 8.0     |
| 0.0    | 7662.93 | 7588.29 | 7424.51 | 7208.84 | 6925.85 | 6595.96 | 6242.74 | 5870.55 | 5459.93 |
| 45.0   | 7665.19 | 7554.34 | 7379.93 | 7144.24 | 6840.59 | 6491.78 | 6120.75 | 5699.51 | 5259.35 |
| 90.0   | 7441.75 | 7196.59 | 6889.05 | 6537.46 | 6138.56 | 5698.41 | 5245.42 | 4795.80 | 4540.03 |
| 135.0  | 7749.87 | 7600.54 | 7401.64 | 7167.63 | 6862.30 | 6520.75 | 6140.77 | 5711.23 | 5273.86 |
| 180.0  | 7662.93 | 7665.19 | 7613.94 | 7496.94 | 7339.83 | 7117.49 | 6841.17 | 6511.86 | 6148.60 |
| 225.0  | 7665.19 | 7734.26 | 7723.69 | 7650.68 | 7513.07 | 7319.75 | 7049.52 | 6731.36 | 6383.14 |
| 270.0  | 7441.75 | 7646.79 | 7800.59 | 7905.29 | 7926.48 | 7902.56 | 7781.09 | 7544.30 | 7243.95 |
| 315.0  | 7749.87 | 7845.69 | 7847.95 | 7789.45 | 7714.23 | 7428.40 | 7281.27 | 6974.31 | 6619.41 |
| 360.0  | 7662.93 | 7588.29 | 7424.51 | 7208.84 | 6925.85 | 6595.96 | 6242.74 | 5870.55 | 5459.93 |
| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
| 0.0    | 5040.95 | 4780.19 | 4350.07 | 3943.87 | 3566.16 | 3227.39 | 2909.81 | 2643.47 | 2398.90 |
| 45.0   | 4805.26 | 4384.61 | 3985.13 | 3771.15 | 3429.65 | 2977.19 | 2803.37 | 2545.97 | 2315.33 |
| 90.0   | 3989.60 | 3627.44 | 3419.61 | 3093.67 | 2806.15 | 2558.22 | 2331.46 | 2114.75 | 1917.48 |
| 135.0  | 4827.55 | 4390.76 | 4004.63 | 3648.57 | 3304.81 | 2992.28 | 2711.44 | 2557.69 | 2240.63 |
| 180.0  | 5741.87 | 5303.35 | 4876.01 | 4617.51 | 4205.21 | 3836.38 | 3488.15 | 3157.17 | 2857.40 |
| 225.0  | 6013.73 | 5681.69 | 5249.89 | 4727.26 | 4382.92 | 3978.46 | 3606.26 | 3266.92 | 2956.06 |
| 270.0  | 6924.69 | 6553.65 | 6151.39 | 5812.05 | 5331.20 | 4998.06 | 4574.62 | 4146.71 | 3739.40 |
| 315.0  | 6242.74 | 5831.55 | 5418.72 | 4976.30 | 4543.40 | 4109.91 | 3701.50 | 3349.39 | 3027.92 |
| 360.0  | 5040.95 | 4780.19 | 4350.07 | 3943.87 | 3566.16 | 3227.39 | 2909.81 | 2643.47 | 2398.90 |
| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0    | 26.0    |
| 0.0    | 2174.88 | 1962.63 | 1767.62 | 1598.22 | 1444.47 | 1253.35 | 1082.63 | 1082.63 | 914.90  |
| 45.0   | 2101.34 | 1897.98 | 1711.33 | 1546.44 | 1397.11 | 1258.35 | 1129.10 | 1006.52 | 886.20  |
| 90.0   | 1733.09 | 1572.62 | 1419.92 | 1106.23 | 1054.82 | 1031.01 | 909.33  | 811.99  | 695.56  |
| 135.0  | 2112.49 | 1906.91 | 1724.73 | 1557.01 | 1406.57 | 1266.18 | 1135.77 | 1014.35 | 896.19  |
| 180.0  | 2597.22 | 2357.11 | 2139.82 | 1934.77 | 1750.33 | 1583.76 | 1433.33 | 1292.35 | 1163.10 |
| 225.0  | 2672.44 | 2417.24 | 2192.75 | 1984.34 | 1790.44 | 1622.18 | 1465.07 | 1323.58 | 1074.11 |
| 270.0  | 3368.89 | 3032.38 | 2736.51 | 2479.11 | 2241.74 | 2025.02 | 1827.81 | 1648.36 | 1486.78 |
| 315.0  | 2735.98 | 2480.79 | 2245.68 | 2026.13 | 1869.02 | 1651.15 | 1490.73 | 1373.72 | 1063.60 |
| 360.0  | 2174.88 | 1962.63 | 1767.62 | 1598.22 | 1444.47 | 1253.35 | 1082.63 | 1082.63 | 914.90  |
| C/γ(°) | 27.0    | 28.0    | 29.0    | 30.0    | 31.0    | 32.0    | 33.0    | 34.0    | 35.0    |
| 0.0    | 844.68  | 730.41  | 585.13  | 529.94  | 445.84  | 369.51  | 300.76  | 242.89  | 194.64  |
| 45.0   | 769.73  | 658.87  | 560.26  | 472.75  | 423.18  | 320.68  | 294.46  | 294.46  | 172.72  |
| 90.0   | 572.41  | 499.92  | 416.51  | 341.03  | 276.58  | 221.81  | 177.82  | 142.23  | 114.11  |
| 135.0  | 780.87  | 672.80  | 571.93  | 483.36  | 404.26  | 331.25  | 281.10  | 281.10  | 165.52  |
| 180.0  | 1040.53 | 923.52  | 809.30  | 698.40  | 595.90  | 505.65  | 423.76  | 362.47  | 295.03  |
| 225.0  | 1074.11 | 1003.42 | 885.63  | 771.88  | 663.97  | 566.31  | 479.05  | 399.37  | 327.83  |
| 270.0  | 1339.71 | 1207.10 | 1080.05 | 958.06  | 841.63  | 729.04  | 665.55  | 531.25  | 480.58  |
| 315.0  | 1063.60 | 991.80  | 874.90  | 760.47  | 654.14  | 557.11  | 472.54  | 395.48  | 325.20  |
| 360.0  | 844.68  | 730.41  | 585.13  | 529.94  | 445.84  | 369.51  | 300.76  | 242.89  | 194.64  |
| C/γ(°) | 36.0    | 37.0    | 38.0    | 39.0    | 40.0    | 41.0    | 42.0    | 43.0    | 44.0    |
| 0.0    | 156.48  | 125.62  | 102.02  | 83.84   | 70.43   | 60.66   | 53.40   | 47.73   | 43.15   |
| 45.0   | 138.61  | 111.75  | 91.14   | 75.58   | 64.39   | 56.24   | 49.99   | 44.94   | 40.89   |
| 90.0   | 92.62   | 76.48   | 64.23   | 55.24   | 48.41   | 43.15   | 39.11   | 35.74   | 33.96   |
| 135.0  | 144.97  | 116.58  | 94.61   | 77.74   | 65.28   | 56.56   | 50.20   | 45.20   | 41.26   |
| 180.0  | 295.03  | 191.64  | 154.22  | 124.52  | 101.29  | 83.84   | 70.70   | 60.60   | 53.04   |
| 225.0  | 264.70  | 211.83  | 168.62  | 133.93  | 106.70  | 85.68   | 70.17   | 59.03   | 50.72   |
| 270.0  | 403.10  | 307.28  | 295.03  | 295.03  | 173.88  | 138.55  | 110.75  | 89.41   | 73.59   |
| 315.0  | 263.39  | 211.41  | 169.15  | 134.88  | 107.86  | 86.89   | 76.74   | 63.92   | 54.77   |
| 360.0  | 156.48  | 125.62  | 102.02  | 83.84   | 70.43   | 60.66   | 53.40   | 47.73   | 43.15   |

Intensity data(cd)

|        |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C/γ(°) | 45.0  | 46.0  | 47.0  | 48.0  | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |
| 0.0    | 39.32 | 37.32 | 33.17 | 31.70 | 29.54 | 26.96 | 26.12 | 24.70 | 23.71 |
| 45.0   | 37.42 | 34.64 | 32.12 | 30.64 | 28.02 | 27.17 | 25.70 | 24.55 | 23.60 |
| 90.0   | 30.54 | 28.33 | 27.28 | 25.18 | 24.23 | 23.18 | 22.18 | 21.29 | 20.45 |
| 135.0  | 37.79 | 34.95 | 32.33 | 29.96 | 28.02 | 26.18 | 24.55 | 23.71 | 22.13 |
| 180.0  | 46.94 | 42.21 | 38.27 | 36.27 | 32.17 | 29.80 | 28.54 | 26.75 | 25.23 |
| 225.0  | 44.57 | 40.47 | 35.37 | 31.91 | 29.65 | 27.17 | 25.07 | 23.29 | 21.97 |
| 270.0  | 61.87 | 53.82 | 48.83 | 43.15 | 39.21 | 36.48 | 33.01 | 30.59 | 28.80 |
| 315.0  | 48.04 | 43.00 | 38.95 | 35.43 | 32.38 | 29.91 | 27.70 | 25.76 | 24.18 |
| 360.0  | 39.32 | 37.32 | 33.17 | 31.70 | 29.54 | 26.96 | 26.12 | 24.70 | 23.71 |
| C/γ(°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0    | 22.76 | 21.87 | 20.92 | 20.03 | 19.13 | 18.13 | 17.08 | 16.08 | 15.14 |
| 45.0   | 22.60 | 21.60 | 20.66 | 19.71 | 18.71 | 17.61 | 16.40 | 15.45 | 14.40 |
| 90.0   | 19.66 | 18.92 | 18.08 | 17.14 | 16.19 | 15.24 | 14.30 | 13.30 | 12.51 |
| 135.0  | 20.92 | 20.39 | 18.98 | 18.40 | 17.50 | 16.45 | 15.45 | 14.51 | 13.61 |
| 180.0  | 23.97 | 22.76 | 21.81 | 20.92 | 19.97 | 19.03 | 18.24 | 17.19 | 16.14 |
| 225.0  | 20.76 | 19.82 | 19.08 | 18.55 | 18.19 | 17.35 | 16.93 | 16.45 | 15.61 |
| 270.0  | 26.91 | 25.34 | 23.86 | 22.65 | 21.87 | 20.97 | 20.13 | 19.40 | 18.66 |
| 315.0  | 22.81 | 21.76 | 20.81 | 20.03 | 19.34 | 18.61 | 17.87 | 17.24 | 16.19 |
| 360.0  | 22.76 | 21.87 | 20.92 | 20.03 | 19.13 | 18.13 | 17.08 | 16.08 | 15.14 |
| C/γ(°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0    | 14.19 | 13.30 | 12.46 | 11.67 | 11.04 | 10.09 | 9.30  | 8.78  | 8.30  |
| 45.0   | 13.46 | 12.62 | 11.93 | 11.35 | 10.99 | 10.78 | 10.72 | 10.72 | 10.99 |
| 90.0   | 11.77 | 11.35 | 11.09 | 11.04 | 11.14 | 11.20 | 11.56 | 11.72 | 10.72 |
| 135.0  | 12.72 | 12.09 | 11.25 | 10.51 | 9.78  | 9.15  | 8.62  | 8.36  | 7.88  |
| 180.0  | 15.19 | 14.30 | 13.40 | 12.51 | 11.67 | 10.83 | 10.09 | 9.36  | 8.67  |
| 225.0  | 14.77 | 13.46 | 12.19 | 11.98 | 11.25 | 10.46 | 9.46  | 8.88  | 8.30  |
| 270.0  | 17.82 | 16.82 | 15.77 | 14.88 | 14.03 | 12.98 | 12.14 | 11.35 | 10.51 |
| 315.0  | 15.45 | 14.61 | 13.61 | 12.98 | 12.14 | 11.35 | 10.57 | 9.83  | 9.15  |
| 360.0  | 14.19 | 13.30 | 12.46 | 11.67 | 11.04 | 10.09 | 9.30  | 8.78  | 8.30  |
| C/γ(°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0    | 7.94  | 7.46  | 6.73  | 5.89  | 5.41  | 4.84  | 4.31  | 3.89  | 3.63  |
| 45.0   | 10.99 | 10.83 | 9.88  | 7.88  | 6.20  | 4.99  | 4.47  | 3.99  | 3.68  |
| 90.0   | 7.83  | 6.89  | 5.89  | 5.20  | 4.57  | 4.15  | 3.89  | 3.47  | 3.15  |
| 135.0  | 7.10  | 6.62  | 5.78  | 5.26  | 4.94  | 4.57  | 4.10  | 3.84  | 3.47  |
| 180.0  | 8.20  | 7.52  | 6.99  | 6.47  | 5.78  | 5.15  | 4.73  | 4.47  | 3.99  |
| 225.0  | 7.46  | 6.99  | 6.41  | 5.99  | 5.41  | 4.94  | 4.57  | 4.21  | 3.84  |
| 270.0  | 9.62  | 8.88  | 8.52  | 7.73  | 6.99  | 6.25  | 5.68  | 5.05  | 4.57  |
| 315.0  | 8.52  | 7.78  | 7.10  | 6.47  | 5.89  | 5.26  | 4.84  | 4.47  | 4.05  |
| 360.0  | 7.94  | 7.46  | 6.73  | 5.89  | 5.41  | 4.84  | 4.31  | 3.89  | 3.63  |
| C/γ(°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0    | 3.26  | 3.00  | 2.73  | 2.42  | 2.16  | 2.05  | 1.79  | 1.58  | 1.37  |
| 45.0   | 3.36  | 3.10  | 2.79  | 2.47  | 2.26  | 1.94  | 1.79  | 1.58  | 1.58  |
| 90.0   | 3.00  | 2.68  | 2.47  | 2.26  | 2.16  | 1.89  | 1.73  | 1.73  | 1.58  |
| 135.0  | 3.21  | 2.89  | 2.68  | 2.37  | 2.21  | 1.94  | 1.84  | 1.42  | 1.37  |
| 180.0  | 3.63  | 3.31  | 3.05  | 2.68  | 2.37  | 2.10  | 1.89  | 1.68  | 1.47  |
| 225.0  | 3.47  | 3.15  | 2.84  | 2.52  | 2.21  | 2.00  | 1.79  | 1.52  | 1.31  |
| 270.0  | 4.21  | 3.73  | 3.47  | 3.10  | 2.84  | 2.47  | 2.16  | 1.94  | 1.73  |
| 315.0  | 3.78  | 3.47  | 3.15  | 2.89  | 2.63  | 2.31  | 2.05  | 1.89  | 1.58  |
| 360.0  | 3.26  | 3.00  | 2.73  | 2.42  | 2.16  | 2.05  | 1.79  | 1.58  | 1.37  |

Intensity data(cd)

|               |             |
|---------------|-------------|
| <b>C/γ(°)</b> | <b>90.0</b> |
| <b>0.0</b>    | <b>1.26</b> |
| <b>45.0</b>   | <b>1.47</b> |
| <b>90.0</b>   | <b>1.58</b> |
| <b>135.0</b>  | <b>1.31</b> |
| <b>180.0</b>  | <b>1.26</b> |
| <b>225.0</b>  | <b>1.21</b> |
| <b>270.0</b>  | <b>1.47</b> |
| <b>315.0</b>  | <b>1.47</b> |
| <b>360.0</b>  | <b>1.26</b> |