



NATA LIGHTING CO.,LTD.  
www.nata.cn  
Email:info@nata.com  
Tel:+86-750-3770000 Fax:+86-750-3771111  
Address:380JinOU Road,GaoXin Zone,Jiang Men City,Guangdong,China

---

## Nata

---

|                              |                         |
|------------------------------|-------------------------|
| LumCAT: 2-2263-M             |                         |
| Luminaire: 92.70.131.00      |                         |
| Report No: 200921-B044       | Voltage(V): 230.7000    |
| Test No: 200921-C044         | Current(A): 0.0890      |
| LampCAT: LUMINUS CXM-14-AC40 | Power (W): 19.6200      |
| Lamp flux(lm): 2101.3        | PF: 0.9530              |
| Number of Lamps: 1           | Ballast type: AC        |
| Length(feet)(ft.):0.000      | Width(feet)(ft.):0.000  |
| Phm Type: C                  | Height(feet)(ft.):0.000 |

---

## Photometric Results

---

Lumens(lm): 2028.15  
Efficiency(%): 96.52%  
Lumens(lm)/Power(W): 103.37  
Central intensity(cd): 7473.258  
Maximum intensity(cd): 7473.258  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=26.1  
                                  [C90/270]Total=26.1  
Field angle(10%Imax): [C0/180]Total=54.4  
                                  [C90/270]Total=54.4  
Maximum s/h(1/2): C0\_180=0.44 C90\_270=0.44  
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(%): 96.60%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 99.266%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 7473.259      | 1.788       | 1.788     | .085%       | .088%      |
| 1.0                | 7448.549      | 14.255      | 16.043    | .678%       | .791%      |
| 2.0                | 7374.709      | 28.224      | 44.267    | 1.343%      | 2.183%     |
| 3.0                | 7259.223      | 41.662      | 85.929    | 1.983%      | 4.237%     |
| 4.0                | 7131.556      | 54.553      | 140.483   | 2.596%      | 6.927%     |
| 5.0                | 6886.604      | 65.819      | 206.302   | 3.132%      | 10.172%    |
| 6.0                | 6628.486      | 75.980      | 282.282   | 3.616%      | 13.918%    |
| 7.0                | 6349.660      | 84.859      | 367.141   | 4.038%      | 18.102%    |
| 8.0                | 5926.925      | 90.456      | 457.597   | 4.305%      | 22.562%    |
| 9.0                | 5531.917      | 94.899      | 552.495   | 4.516%      | 27.241%    |
| 10.0               | 5115.099      | 97.404      | 649.899   | 4.635%      | 32.044%    |
| 11.0               | 4624.093      | 96.756      | 746.655   | 4.605%      | 36.815%    |
| 12.0               | 4185.524      | 95.429      | 842.084   | 4.541%      | 41.520%    |
| 13.0               | 3758.555      | 92.717      | 934.801   | 4.412%      | 46.091%    |
| 14.0               | 3264.417      | 86.603      | 1021.404  | 4.121%      | 50.361%    |
| 15.0               | 2832.344      | 80.389      | 1101.793  | 3.826%      | 54.325%    |
| 16.0               | 2467.846      | 74.595      | 1176.387  | 3.550%      | 58.003%    |
| 17.0               | 2043.951      | 65.533      | 1241.92   | 3.119%      | 61.234%    |
| 18.0               | 1765.531      | 59.829      | 1301.749  | 2.847%      | 64.184%    |
| 19.0               | 1519.129      | 54.236      | 1355.985  | 2.581%      | 66.858%    |
| 20.0               | 1319.189      | 49.478      | 1405.462  | 2.355%      | 69.298%    |
| 21.0               | 1179.399      | 46.349      | 1451.812  | 2.206%      | 71.583%    |
| 22.0               | 1022.944      | 42.022      | 1493.834  | 2.000%      | 73.655%    |
| 23.0               | 970.230       | 41.572      | 1535.406  | 1.978%      | 75.705%    |
| 24.0               | 908.693       | 40.531      | 1575.937  | 1.929%      | 77.703%    |
| 25.0               | 847.563       | 39.280      | 1615.217  | 1.869%      | 79.640%    |
| 26.0               | 797.221       | 38.324      | 1653.541  | 1.824%      | 81.530%    |
| 27.0               | 755.011       | 37.588      | 1691.129  | 1.789%      | 83.383%    |
| 28.0               | 718.741       | 37.003      | 1728.132  | 1.761%      | 85.207%    |
| 29.0               | 684.954       | 36.415      | 1764.547  | 1.733%      | 87.003%    |
| 30.0               | 644.815       | 35.355      | 1799.903  | 1.683%      | 88.746%    |
| 31.0               | 596.324       | 33.680      | 1833.583  | 1.603%      | 90.407%    |
| 32.0               | 535.065       | 31.093      | 1864.676  | 1.480%      | 91.940%    |
| 33.0               | 470.600       | 28.107      | 1892.783  | 1.338%      | 93.326%    |
| 34.0               | 408.558       | 25.053      | 1917.836  | 1.192%      | 94.561%    |
| 35.0               | 341.998       | 21.511      | 1939.348  | 1.024%      | 95.622%    |
| 36.0               | 276.407       | 17.816      | 1957.164  | .848%       | 96.500%    |
| 37.0               | 217.707       | 14.368      | 1971.532  | .684%       | 97.208%    |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 181.524       | 12.255      | 1983.787  | .583%       | 97.813%    |
| 39.0               | 137.493       | 9.489       | 1993.276  | .452%       | 98.281%    |
| 40.0               | 60.742        | 4.282       | 1997.558  | .204%       | 98.492%    |
| 41.0               | 32.523        | 2.340       | 1999.897  | .111%       | 98.607%    |
| 42.0               | 18.306        | 1.343       | 2001.241  | .064%       | 98.673%    |
| 43.0               | 14.356        | 1.074       | 2002.314  | .051%       | 98.726%    |
| 44.0               | 12.366        | 0.942       | 2003.256  | .045%       | 98.773%    |
| 45.0               | 11.085        | 0.860       | 2004.116  | .041%       | 98.815%    |
| 46.0               | 10.110        | 0.798       | 2004.913  | .038%       | 98.854%    |
| 47.0               | 9.571         | 0.768       | 2005.681  | .037%       | 98.892%    |
| 48.0               | 9.298         | 0.758       | 2006.439  | .036%       | 98.930%    |
| 49.0               | 9.066         | 0.750       | 2007.189  | .036%       | 98.967%    |
| 50.0               | 8.851         | 0.744       | 2007.933  | .035%       | 99.003%    |
| 51.0               | 8.619         | 0.735       | 2008.667  | .035%       | 99.039%    |
| 52.0               | 8.393         | 0.725       | 2009.392  | .035%       | 99.075%    |
| 53.0               | 8.208         | 0.719       | 2010.111  | .034%       | 99.111%    |
| 54.0               | 8.086         | 0.717       | 2010.829  | .034%       | 99.146%    |
| 55.0               | 7.883         | 0.708       | 2011.537  | .034%       | 99.181%    |
| 56.0               | 7.761         | 0.706       | 2012.242  | .034%       | 99.216%    |
| 57.0               | 7.593         | 0.698       | 2012.941  | .033%       | 99.250%    |
| 58.0               | 7.407         | 0.689       | 2013.629  | .033%       | 99.284%    |
| 59.0               | 7.169         | 0.674       | 2014.303  | .032%       | 99.317%    |
| 60.0               | 6.931         | 0.658       | 2014.962  | .031%       | 99.350%    |
| 61.0               | 6.694         | 0.642       | 2015.604  | .031%       | 99.381%    |
| 62.0               | 6.409         | 0.621       | 2016.224  | .030%       | 99.412%    |
| 63.0               | 6.137         | 0.600       | 2016.824  | .029%       | 99.442%    |
| 64.0               | 5.928         | 0.584       | 2017.408  | .028%       | 99.470%    |
| 65.0               | 5.713         | 0.568       | 2017.976  | .027%       | 99.498%    |
| 66.0               | 5.563         | 0.557       | 2018.533  | .027%       | 99.526%    |
| 67.0               | 5.377         | 0.543       | 2019.076  | .026%       | 99.553%    |
| 68.0               | 5.168         | 0.525       | 2019.601  | .025%       | 99.579%    |
| 69.0               | 4.977         | 0.510       | 2020.111  | .024%       | 99.604%    |
| 70.0               | 4.780         | 0.493       | 2020.603  | .023%       | 99.628%    |
| 71.0               | 4.553         | 0.472       | 2021.076  | .022%       | 99.651%    |
| 72.0               | 4.408         | 0.460       | 2021.535  | .022%       | 99.674%    |
| 73.0               | 4.258         | 0.446       | 2021.982  | .021%       | 99.696%    |
| 74.0               | 4.089         | 0.431       | 2022.413  | .021%       | 99.717%    |
| 75.0               | 3.950         | 0.418       | 2022.831  | .020%       | 99.738%    |

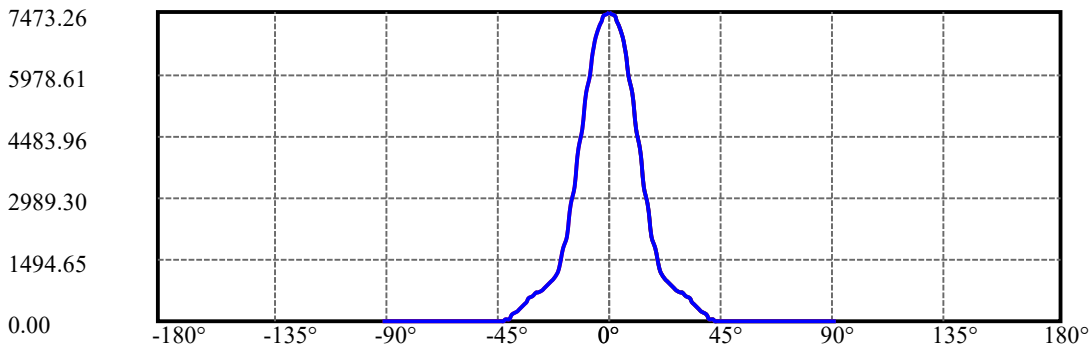
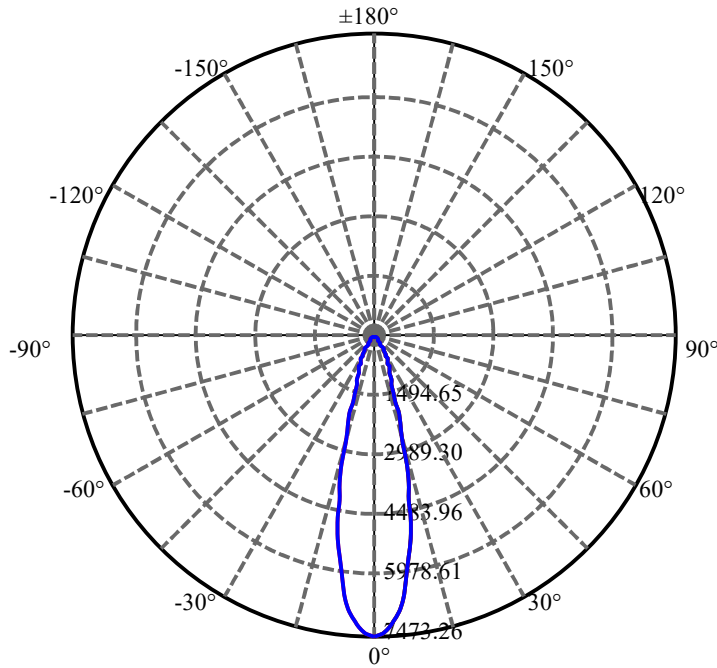
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 3.840         | 0.409       | 2023.24   | .019%       | 99.758%    |
| 77.0               | 3.770         | 0.403       | 2023.643  | .019%       | 99.778%    |
| 78.0               | 3.811         | 0.409       | 2024.052  | .019%       | 99.798%    |
| 79.0               | 3.811         | 0.410       | 2024.462  | .020%       | 99.818%    |
| 80.0               | 3.648         | 0.394       | 2024.856  | .019%       | 99.838%    |
| 81.0               | 3.515         | 0.381       | 2025.236  | .018%       | 99.856%    |
| 82.0               | 3.416         | 0.371       | 2025.607  | .018%       | 99.875%    |
| 83.0               | 3.353         | 0.365       | 2025.972  | .017%       | 99.893%    |
| 84.0               | 3.260         | 0.356       | 2026.328  | .017%       | 99.910%    |
| 85.0               | 3.161         | 0.345       | 2026.673  | .016%       | 99.927%    |
| 86.0               | 3.109         | 0.340       | 2027.013  | .016%       | 99.944%    |
| 87.0               | 3.051         | 0.334       | 2027.347  | .016%       | 99.960%    |
| 88.0               | 2.987         | 0.327       | 2027.675  | .016%       | 99.977%    |
| 89.0               | 2.906         | 0.319       | 2027.993  | .015%       | 99.992%    |
| 90.0               | 2.836         | 0.156       | 2028.149  | .007%       | 100.000%   |

ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 1799.90 | 85.66% | 88.75%  |
| 0-40    | 1997.56 | 95.06% | 98.49%  |
| 0-60    | 2014.96 | 95.89% | 99.35%  |
| 0-90    | 2027.99 | 96.51% | 99.99%  |
| 0-120   | 2027.99 | 96.51% | 99.99%  |
| 0-180   | 2028.15 | 96.52% | 100.00% |
| 60-90   | 13.69   | 0.65%  | 0.68%   |
| 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%   |
| 0-25.19 | 1622.52 | 77.22% | 80.00%  |

ZONAL LUMEN SUMMARY

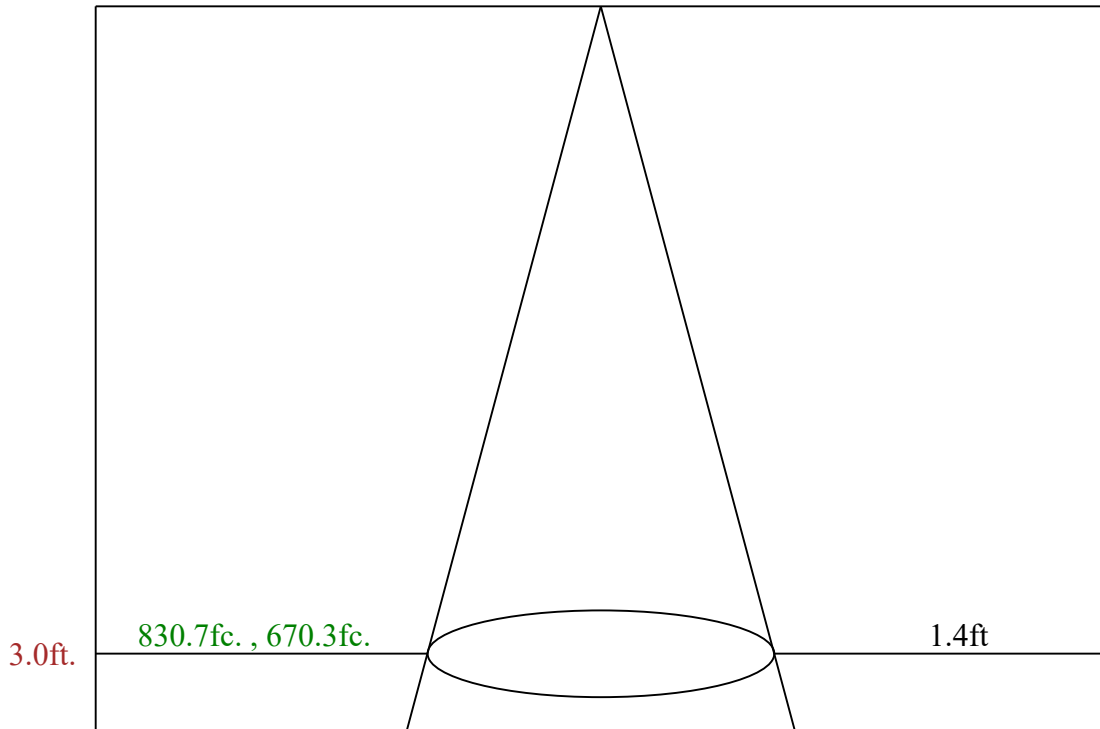
|         |        |
|---------|--------|
| 0-10    | 649.90 |
| 10-20   | 755.56 |
| 20-30   | 394.44 |
| 30-40   | 197.65 |
| 40-50   | 10.38  |
| 50-60   | 7.03   |
| 60-70   | 5.64   |
| 70-80   | 4.25   |
| 80-90   | 3.14   |
| 90-100  | 0.00   |
| 100-110 | 0.00   |
| 110-120 | 0.00   |
| 120-130 | 0.00   |
| 130-140 | 0.00   |
| 140-150 | 0.00   |
| 150-160 | 0.00   |
| 160-170 | 0.00   |
| 170-180 | 0.00   |



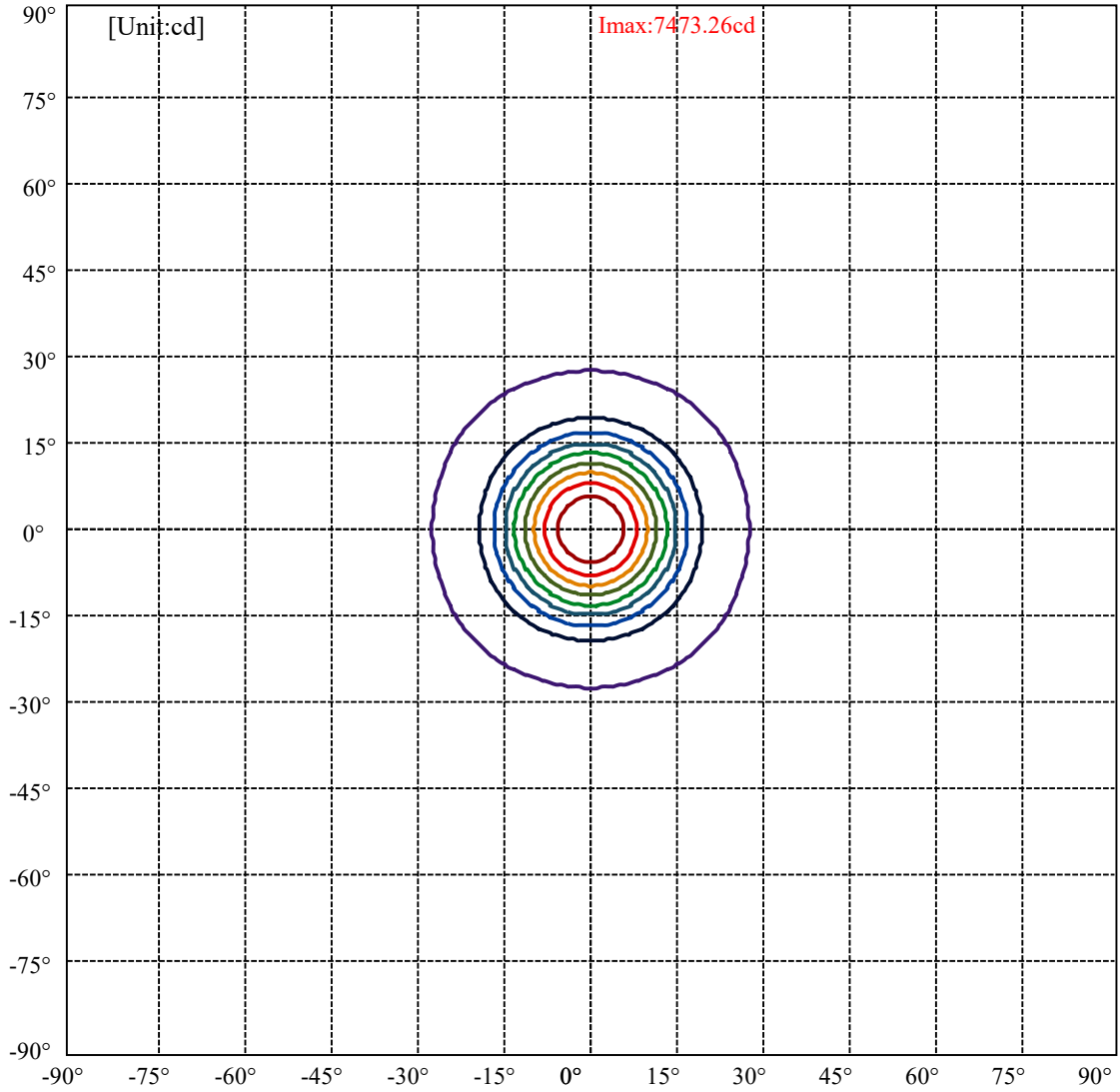
C0(Max): —  
C0/C180: —  
C90/C270: —

Field angle(10%Imax):C0/180Left:27.2 Right:27.2  
:C90/270Left:27.2 Right:27.2

Beam Angle(50%Imax):C0/180Left:13.0 Right:13.0  
:C90/270Left:13.0 Right:13.0

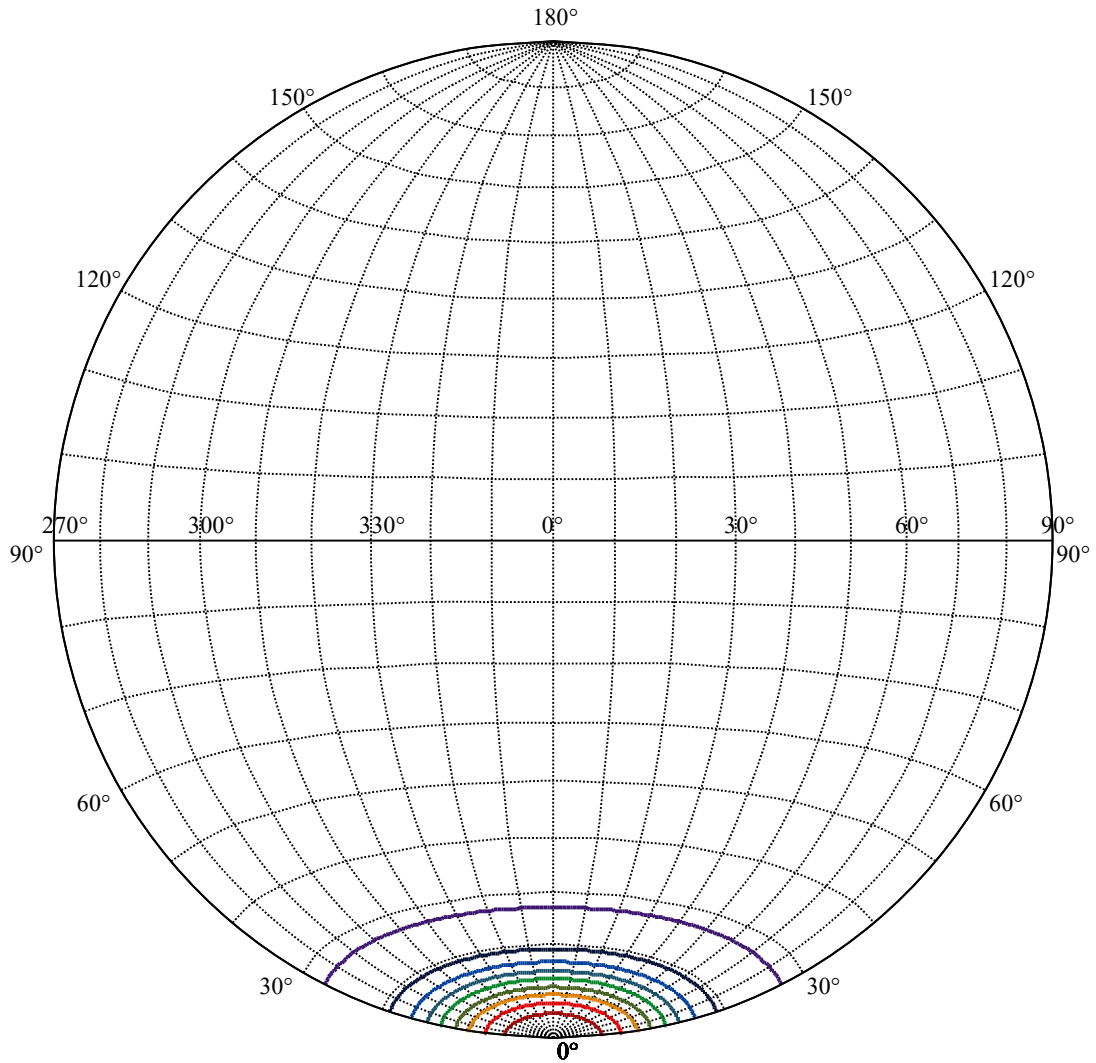


Max , Ave      Beam angle of C0 plane 26.14



|                   |   |
|-------------------|---|
| (10%Imax) 747.326 | — |
| (20%Imax) 1494.65 | — |
| (30%Imax) 2241.98 | — |
| (40%Imax) 2989.3  | — |
| (50%Imax) 3736.63 | — |
| (60%Imax) 4483.95 | — |
| (70%Imax) 5231.28 | — |
| (80%Imax) 5978.61 | — |
| (90%Imax) 6725.93 | — |





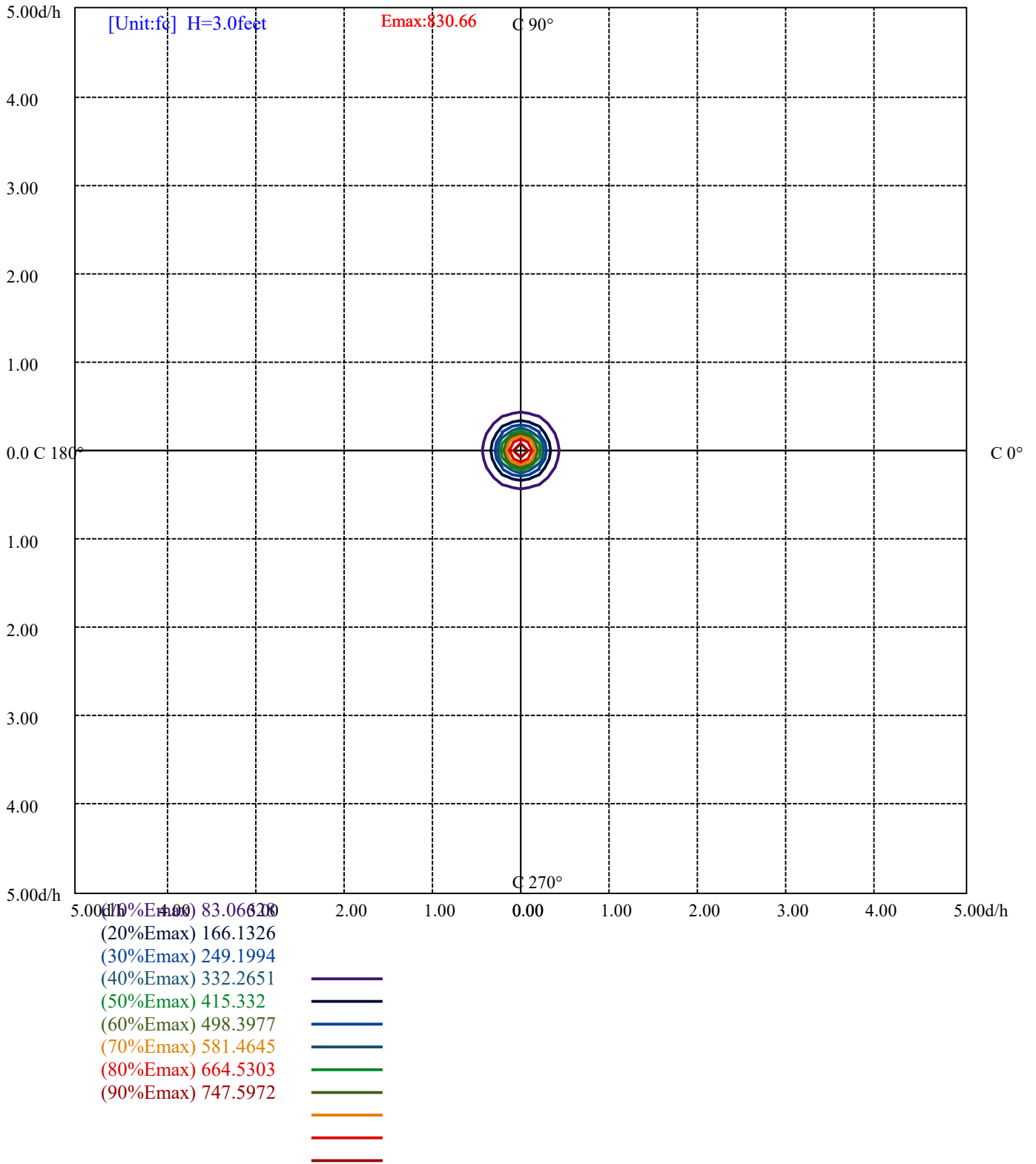
House

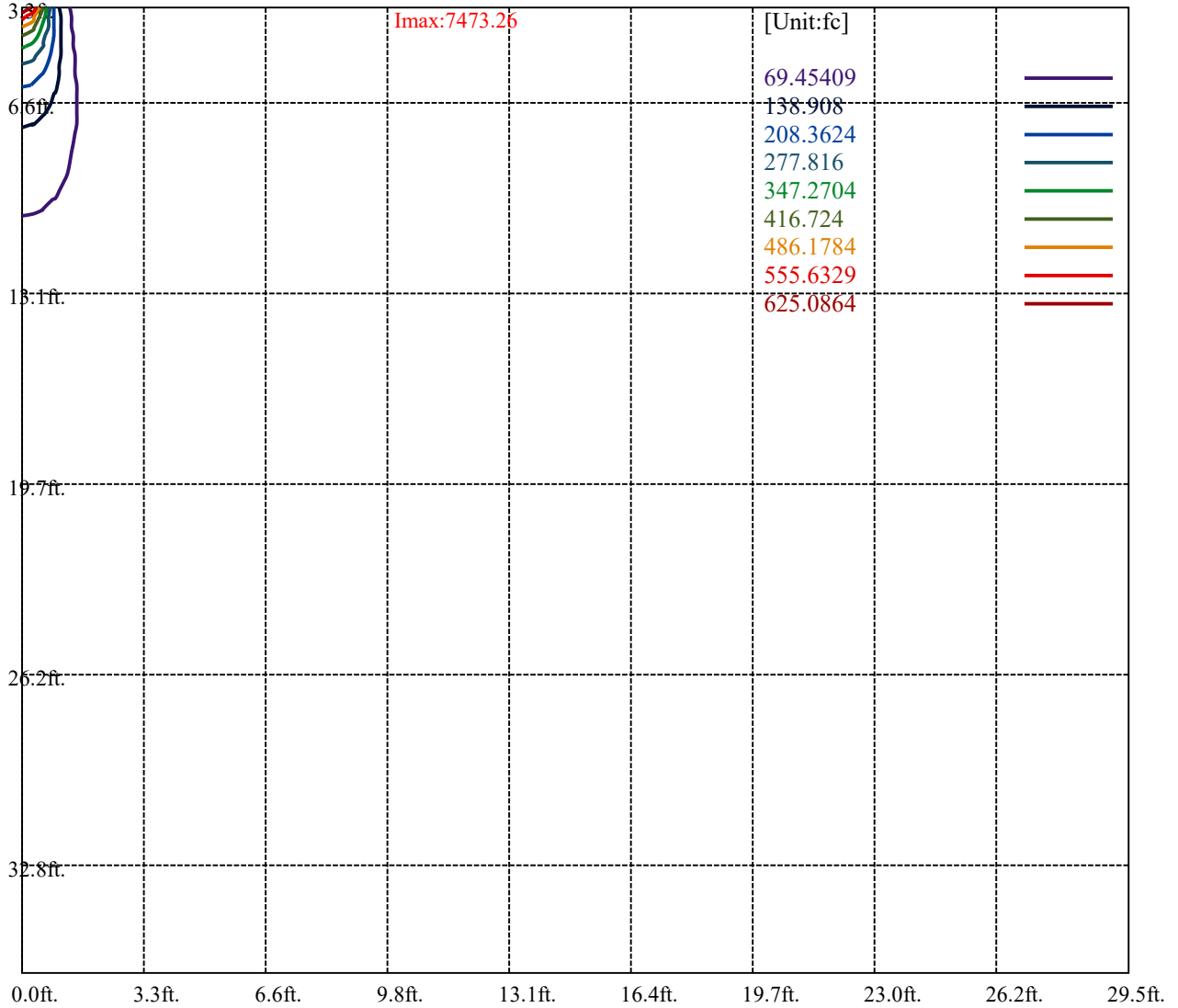
[Unit:cd]

Road

**Imax:7473.26**

|                   |   |
|-------------------|---|
| (10%Imax) 747.326 | — |
| (20%Imax) 1494.65 | — |
| (30%Imax) 2241.98 | — |
| (40%Imax) 2989.3  | — |
| (50%Imax) 3736.63 | — |
| (60%Imax) 4483.95 | — |
| (70%Imax) 5231.28 | — |
| (80%Imax) 5978.61 | — |
| (90%Imax) 6725.93 | — |





Luminance Table

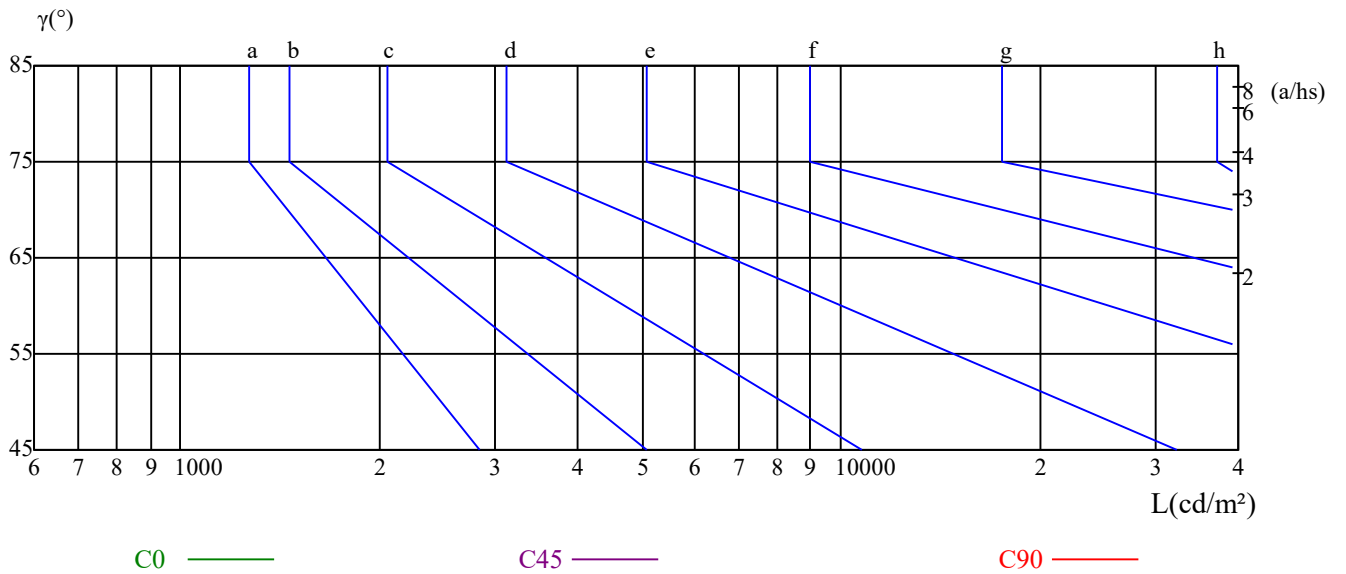
| $\gamma$ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C45      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C90      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

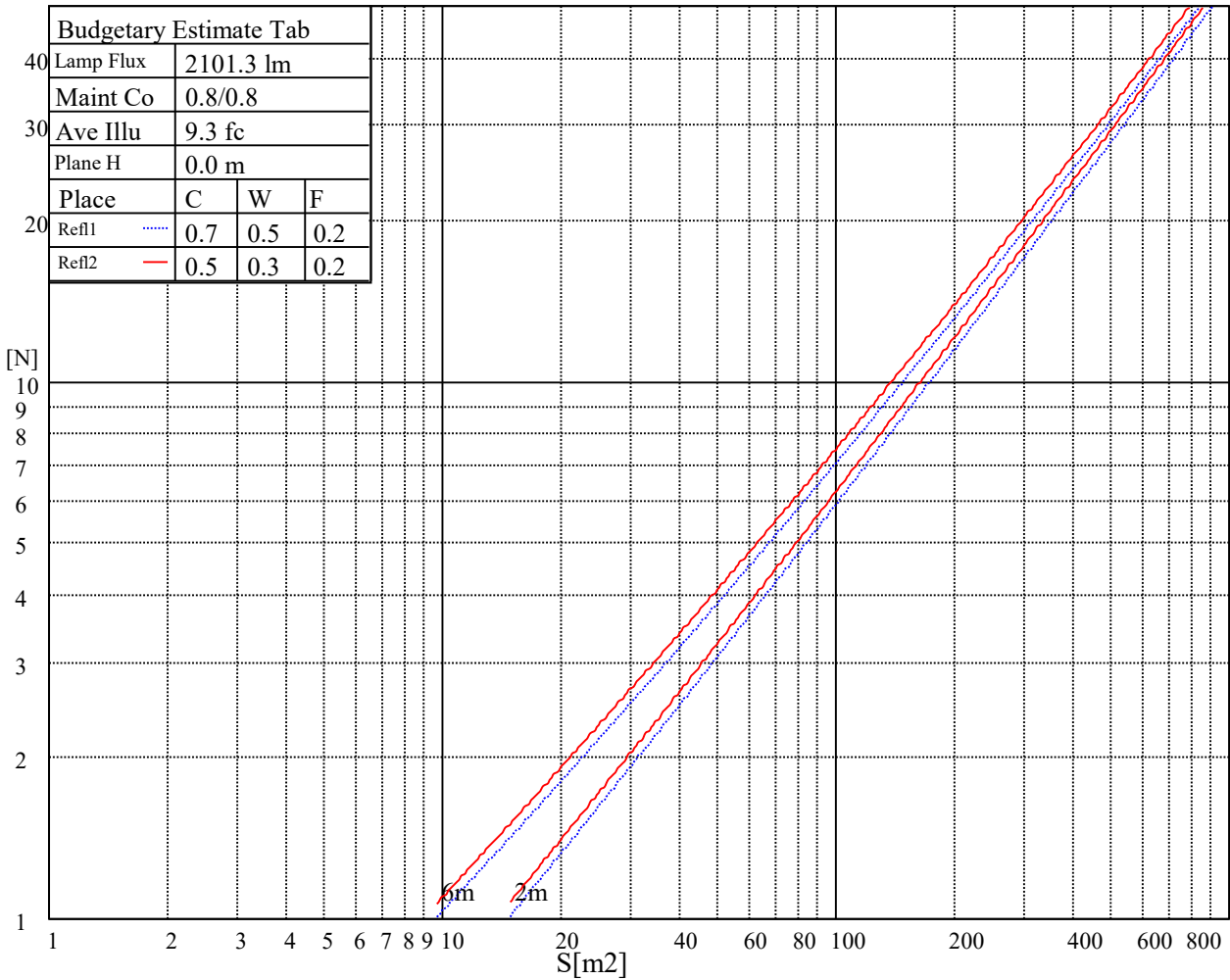
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0          | 0          | 0       | 0          | 0          | 0       | 0          | 0          | 0       |

Glare Table

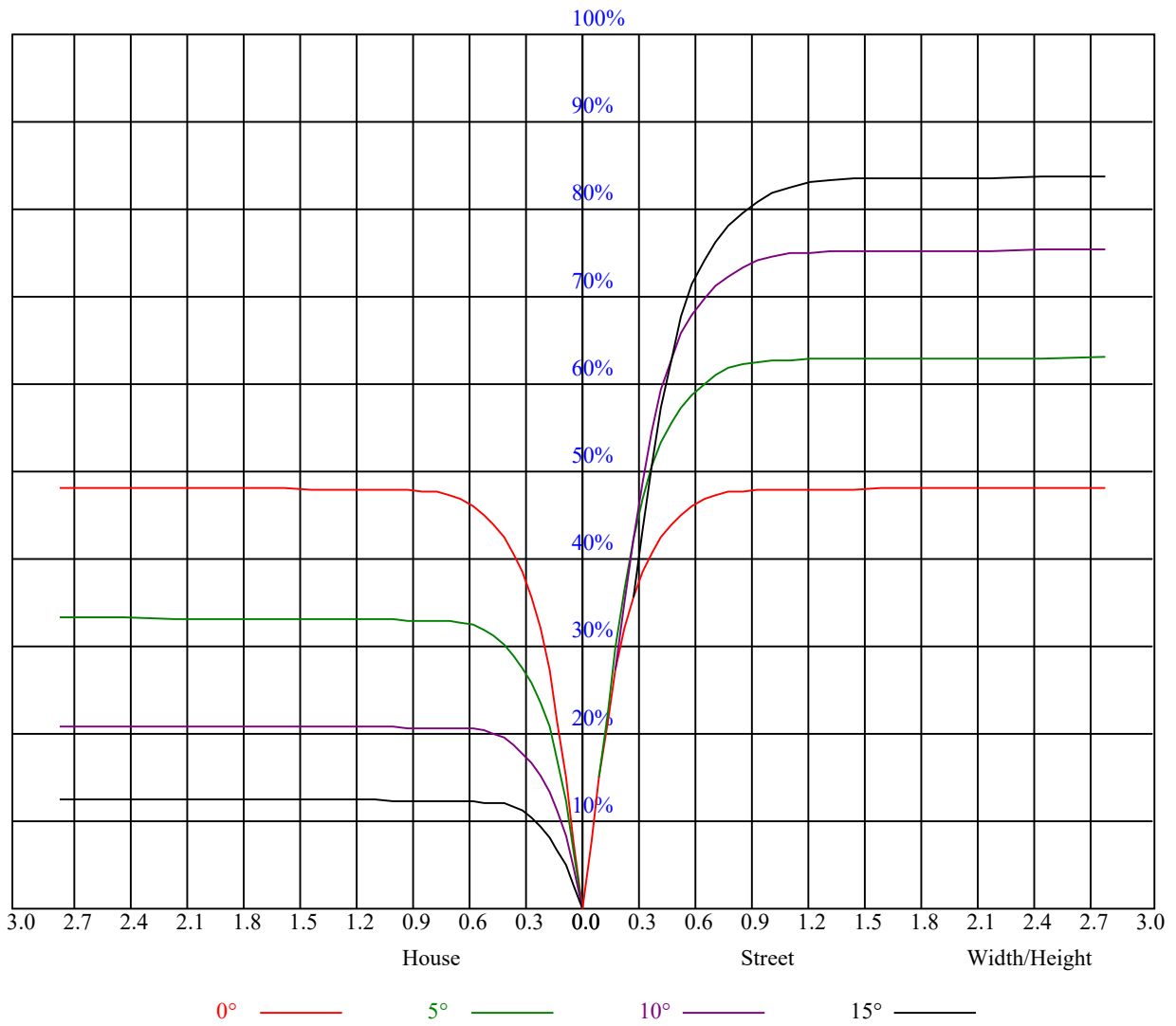
| Glare | Quality | Service Values Illuminance(lx) |      |      |       |       |       |       |       |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A       | 2000                           | 1000 | 500  | <=300 |       |    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





| 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     | 1.15                                    | 1.15 | 1.15 | 1.12 | 1.12 | 1.12 | 1.07 | 1.07 | 1.07 | 1.03 | 1.03 | 1.03 | 0.99 | 0.99 | 0.99 | 0.97 |
| 1     | 1.08                                    | 1.06 | 1.05 | 1.06 | 1.05 | 1.03 | 1.02 | 1.01 | 1.00 | 0.99 | 0.98 | 0.97 | 0.96 | 0.95 | 0.94 | 0.92 |
| 2     | 1.03                                    | 1.00 | 0.97 | 1.01 | 0.98 | 0.96 | 0.98 | 0.96 | 0.94 | 0.95 | 0.94 | 0.92 | 0.93 | 0.91 | 0.90 | 0.89 |
| 3     | 0.98                                    | 0.94 | 0.91 | 0.97 | 0.93 | 0.90 | 0.94 | 0.91 | 0.89 | 0.92 | 0.90 | 0.88 | 0.90 | 0.88 | 0.86 | 0.85 |
| 4     | 0.94                                    | 0.89 | 0.86 | 0.93 | 0.89 | 0.86 | 0.91 | 0.87 | 0.85 | 0.89 | 0.86 | 0.84 | 0.87 | 0.85 | 0.83 | 0.82 |
| 5     | 0.90                                    | 0.85 | 0.82 | 0.89 | 0.85 | 0.82 | 0.87 | 0.84 | 0.81 | 0.86 | 0.83 | 0.80 | 0.84 | 0.82 | 0.80 | 0.79 |
| 6     | 0.86                                    | 0.82 | 0.79 | 0.85 | 0.81 | 0.78 | 0.84 | 0.81 | 0.78 | 0.83 | 0.80 | 0.77 | 0.82 | 0.79 | 0.77 | 0.76 |
| 7     | 0.83                                    | 0.79 | 0.75 | 0.82 | 0.78 | 0.75 | 0.81 | 0.78 | 0.75 | 0.80 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.73 |
| 8     | 0.80                                    | 0.76 | 0.73 | 0.80 | 0.75 | 0.73 | 0.79 | 0.75 | 0.72 | 0.78 | 0.74 | 0.72 | 0.77 | 0.74 | 0.72 | 0.71 |
| 9     | 0.77                                    | 0.73 | 0.70 | 0.77 | 0.73 | 0.70 | 0.76 | 0.72 | 0.70 | 0.75 | 0.72 | 0.70 | 0.75 | 0.72 | 0.69 | 0.68 |
| 10    | 0.75                                    | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.73 | 0.69 | 0.67 | 0.66 |



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    | 7467.46 | 7391.82 | 7292.52 | 7132.89 | 7033.12 | 6673.96 | 6337.07 | 6103.66 | 5706.45 |
| 45.0   | 7467.46 | 7493.44 | 7454.93 | 7369.55 | 7254.00 | 7071.64 | 6840.55 | 6547.74 | 6196.47 |
| 90.0   | 7480.92 | 7413.63 | 7314.33 | 7183.47 | 7034.98 | 6762.59 | 6456.79 | 6179.77 | 5789.51 |
| 135.0  | 7477.20 | 7478.13 | 7445.18 | 7352.38 | 7254.93 | 7090.66 | 6864.68 | 6577.44 | 6245.19 |
| 180.0  | 7467.46 | 7495.76 | 7459.57 | 7396.00 | 7284.16 | 7132.89 | 6936.14 | 6677.21 | 6328.26 |
| 225.0  | 7467.46 | 7435.44 | 7292.05 | 7149.13 | 7032.66 | 6657.26 | 6475.82 | 6108.77 | 5519.91 |
| 270.0  | 7480.92 | 7486.48 | 7424.77 | 7321.29 | 7184.86 | 6995.07 | 6739.85 | 6441.02 | 6054.01 |
| 315.0  | 7477.20 | 7393.68 | 7314.33 | 7169.08 | 6973.73 | 6708.76 | 6376.98 | 6161.67 | 5575.59 |
| 360.0  | 7467.46 | 7391.82 | 7292.52 | 7132.89 | 7033.12 | 6673.96 | 6337.07 | 6103.66 | 5706.45 |
| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
| 0.0    | 5256.34 | 4771.42 | 4317.60 | 3859.13 | 3407.17 | 2945.45 | 2513.90 | 2108.34 | 1775.16 |
| 45.0   | 5809.00 | 5377.45 | 4933.84 | 4468.41 | 4189.53 | 3546.38 | 3101.37 | 2835.48 | 2265.64 |
| 90.0   | 5357.96 | 4900.89 | 4447.99 | 3981.64 | 3518.07 | 3061.46 | 2640.58 | 2246.62 | 1905.09 |
| 135.0  | 5879.54 | 5534.29 | 4994.16 | 4532.91 | 4167.25 | 3612.73 | 3243.36 | 2795.57 | 2372.37 |
| 180.0  | 5944.50 | 5522.23 | 5065.16 | 4612.26 | 4145.44 | 3680.48 | 3220.16 | 2861.00 | 2348.24 |
| 225.0  | 5253.09 | 4790.91 | 4330.13 | 3858.67 | 3402.99 | 2951.95 | 2516.69 | 2124.11 | 1790.94 |
| 270.0  | 5643.34 | 5190.45 | 4726.41 | 4267.02 | 3794.17 | 3332.46 | 2879.10 | 2621.56 | 2077.25 |
| 315.0  | 5111.56 | 4833.14 | 4177.46 | 3904.15 | 3443.82 | 2984.43 | 2543.60 | 2150.10 | 1816.92 |
| 360.0  | 5256.34 | 4771.42 | 4317.60 | 3859.13 | 3407.17 | 2945.45 | 2513.90 | 2108.34 | 1775.16 |
| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0    | 26.0    |
| 0.0    | 1513.91 | 1317.16 | 1176.09 | 1069.83 | 896.93  | 896.93  | 848.16  | 802.27  | 759.76  |
| 45.0   | 2048.48 | 1745.46 | 1497.20 | 1307.88 | 1175.63 | 1072.61 | 978.88  | 905.10  | 845.70  |
| 90.0   | 1628.53 | 1413.68 | 1250.34 | 1127.37 | 922.87  | 908.58  | 908.58  | 849.09  | 803.52  |
| 135.0  | 2006.25 | 1693.03 | 1445.23 | 1258.69 | 1122.73 | 1021.57 | 935.26  | 861.48  | 809.51  |
| 180.0  | 1973.30 | 1718.55 | 1426.67 | 1287.46 | 1152.43 | 1048.48 | 961.25  | 889.32  | 832.71  |
| 225.0  | 1533.40 | 1328.76 | 1183.05 | 1080.04 | 898.09  | 898.09  | 860.97  | 811.59  | 767.93  |
| 270.0  | 1875.39 | 1596.97 | 1382.12 | 1218.32 | 1100.92 | 1001.62 | 915.77  | 851.73  | 803.47  |
| 315.0  | 1545.00 | 1339.43 | 1192.80 | 1085.61 | 913.96  | 913.96  | 860.69  | 809.92  | 755.17  |
| 360.0  | 1513.91 | 1317.16 | 1176.09 | 1069.83 | 896.93  | 896.93  | 848.16  | 802.27  | 759.76  |
| C/γ(°) | 27.0    | 28.0    | 29.0    | 30.0    | 31.0    | 32.0    | 33.0    | 34.0    | 35.0    |
| 0.0    | 721.57  | 692.11  | 653.64  | 602.41  | 542.46  | 477.44  | 411.55  | 344.36  | 279.02  |
| 45.0   | 796.98  | 751.97  | 716.24  | 687.47  | 642.45  | 590.95  | 528.30  | 466.59  | 400.69  |
| 90.0   | 757.21  | 720.46  | 691.69  | 650.95  | 602.83  | 540.51  | 474.61  | 408.07  | 341.06  |
| 135.0  | 765.89  | 729.23  | 703.71  | 672.62  | 647.56  | 574.24  | 510.20  | 472.62  | 406.26  |
| 180.0  | 784.45  | 742.22  | 707.88  | 677.72  | 630.39  | 578.88  | 517.17  | 453.13  | 387.70  |
| 225.0  | 726.21  | 696.89  | 659.02  | 609.51  | 551.41  | 487.37  | 422.97  | 355.82  | 288.26  |
| 270.0  | 763.57  | 723.20  | 693.03  | 654.52  | 610.44  | 551.97  | 486.54  | 420.65  | 353.36  |
| 315.0  | 724.22  | 693.87  | 654.43  | 603.34  | 543.06  | 479.16  | 413.45  | 347.24  | 279.63  |
| 360.0  | 721.57  | 692.11  | 653.64  | 602.41  | 542.46  | 477.44  | 411.55  | 344.36  | 279.02  |
| C/γ(°) | 36.0    | 37.0    | 38.0    | 39.0    | 40.0    | 41.0    | 42.0    | 43.0    | 44.0    |
| 0.0    | 215.91  | 155.82  | 101.67  | 57.08   | 26.08   | 17.40   | 16.75   | 15.27   | 13.64   |
| 45.0   | 334.80  | 281.44  | 242.46  | 242.46  | 99.77   | 54.52   | 23.48   | 15.55   | 13.46   |
| 90.0   | 274.61  | 209.65  | 148.12  | 93.60   | 49.79   | 22.00   | 14.62   | 12.81   | 9.79    |
| 135.0  | 338.51  | 272.62  | 246.63  | 234.57  | 93.41   | 48.58   | 21.30   | 14.71   | 13.04   |
| 180.0  | 320.88  | 255.45  | 255.45  | 241.99  | 100.51  | 56.43   | 25.29   | 16.33   | 14.71   |
| 225.0  | 224.68  | 164.64  | 109.98  | 62.92   | 28.72   | 16.94   | 16.33   | 14.52   | 11.93   |
| 270.0  | 286.54  | 247.56  | 247.56  | 113.87  | 64.83   | 30.77   | 16.43   | 14.85   | 12.99   |
| 315.0  | 215.31  | 154.48  | 100.32  | 53.46   | 22.83   | 13.55   | 12.25   | 10.81   | 9.37    |
| 360.0  | 215.91  | 155.82  | 101.67  | 57.08   | 26.08   | 17.40   | 16.75   | 15.27   | 13.64   |



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    | 13.09 | 12.71 | 12.25 | 12.02 | 11.74 | 11.55 | 11.18 | 10.86 | 10.58 |
| 45.0   | 11.32 | 9.74  | 9.00  | 8.68  | 8.31  | 8.07  | 7.75  | 7.52  | 7.15  |
| 90.0   | 8.49  | 7.52  | 6.96  | 6.64  | 6.36  | 6.22  | 6.08  | 5.89  | 5.80  |
| 135.0  | 11.28 | 9.61  | 8.58  | 7.80  | 7.10  | 6.50  | 6.17  | 5.75  | 5.61  |
| 180.0  | 12.81 | 11.37 | 10.72 | 10.49 | 10.39 | 10.26 | 10.16 | 10.02 | 9.93  |
| 225.0  | 11.37 | 10.53 | 10.35 | 10.30 | 10.26 | 10.07 | 9.84  | 9.65  | 9.47  |
| 270.0  | 11.46 | 10.77 | 10.12 | 9.88  | 9.93  | 9.84  | 9.61  | 9.37  | 9.19  |
| 315.0  | 8.86  | 8.63  | 8.58  | 8.58  | 8.45  | 8.31  | 8.17  | 8.07  | 7.93  |
| 360.0  | 13.09 | 12.71 | 12.25 | 12.02 | 11.74 | 11.55 | 11.18 | 10.86 | 10.58 |
| C/γ(°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0    | 10.35 | 9.93  | 9.51  | 9.05  | 8.68  | 8.21  | 7.75  | 7.29  | 6.91  |
| 45.0   | 7.05  | 6.68  | 6.45  | 6.36  | 6.17  | 5.89  | 5.61  | 5.48  | 5.24  |
| 90.0   | 5.75  | 5.80  | 5.75  | 5.80  | 5.80  | 5.75  | 5.61  | 5.48  | 5.24  |
| 135.0  | 5.61  | 5.61  | 5.75  | 5.71  | 5.75  | 5.71  | 5.71  | 5.71  | 5.52  |
| 180.0  | 9.79  | 9.51  | 9.37  | 9.23  | 9.10  | 8.77  | 8.54  | 8.31  | 8.03  |
| 225.0  | 9.28  | 9.00  | 8.82  | 8.54  | 8.17  | 7.89  | 7.61  | 7.29  | 6.96  |
| 270.0  | 9.05  | 8.86  | 8.82  | 8.58  | 8.35  | 8.17  | 7.93  | 7.61  | 7.24  |
| 315.0  | 7.80  | 7.66  | 7.61  | 7.47  | 7.24  | 6.96  | 6.68  | 6.40  | 6.13  |
| 360.0  | 10.35 | 9.93  | 9.51  | 9.05  | 8.68  | 8.21  | 7.75  | 7.29  | 6.91  |
| C/γ(°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0    | 6.59  | 6.31  | 5.85  | 5.66  | 5.29  | 4.92  | 4.59  | 4.22  | 3.90  |
| 45.0   | 4.92  | 4.69  | 4.59  | 4.41  | 4.22  | 4.13  | 3.99  | 3.85  | 3.62  |
| 90.0   | 5.01  | 4.87  | 4.64  | 4.59  | 4.45  | 4.18  | 4.08  | 3.85  | 3.62  |
| 135.0  | 5.24  | 5.06  | 4.87  | 4.69  | 4.50  | 4.36  | 4.13  | 4.04  | 3.67  |
| 180.0  | 7.66  | 7.24  | 7.05  | 6.87  | 6.68  | 6.45  | 6.13  | 5.94  | 5.85  |
| 225.0  | 6.68  | 6.54  | 6.31  | 6.17  | 5.94  | 5.75  | 5.52  | 5.29  | 5.06  |
| 270.0  | 7.01  | 6.77  | 6.59  | 6.45  | 6.31  | 6.17  | 5.99  | 5.80  | 5.61  |
| 315.0  | 5.99  | 5.94  | 5.80  | 5.66  | 5.61  | 5.38  | 5.38  | 5.24  | 5.10  |
| 360.0  | 6.59  | 6.31  | 5.85  | 5.66  | 5.29  | 4.92  | 4.59  | 4.22  | 3.90  |
| C/γ(°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0    | 3.62  | 3.34  | 3.11  | 2.92  | 2.88  | 2.88  | 2.83  | 2.74  | 2.69  |
| 45.0   | 3.48  | 3.39  | 3.29  | 3.11  | 2.97  | 2.88  | 2.88  | 2.83  | 2.74  |
| 90.0   | 3.43  | 3.29  | 3.06  | 2.97  | 2.92  | 2.97  | 3.62  | 3.34  | 2.88  |
| 135.0  | 3.53  | 3.34  | 3.25  | 3.06  | 2.92  | 2.83  | 2.83  | 3.06  | 2.97  |
| 180.0  | 5.57  | 5.43  | 5.24  | 5.06  | 4.92  | 4.64  | 4.55  | 4.50  | 4.45  |
| 225.0  | 5.01  | 4.97  | 4.73  | 4.64  | 4.69  | 4.64  | 4.55  | 4.45  | 4.41  |
| 270.0  | 5.52  | 5.38  | 5.20  | 5.20  | 4.92  | 4.87  | 4.78  | 5.01  | 4.69  |
| 315.0  | 5.10  | 4.92  | 4.83  | 4.64  | 4.50  | 4.45  | 4.45  | 4.55  | 4.36  |
| 360.0  | 3.62  | 3.34  | 3.11  | 2.92  | 2.88  | 2.88  | 2.83  | 2.74  | 2.69  |
| C/γ(°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0    | 2.69  | 2.69  | 2.64  | 2.51  | 2.55  | 2.51  | 2.74  | 2.97  | 2.97  |
| 45.0   | 2.69  | 2.69  | 2.64  | 2.60  | 2.60  | 2.60  | 2.55  | 2.55  | 2.51  |
| 90.0   | 2.69  | 2.64  | 2.60  | 2.64  | 2.55  | 2.51  | 2.51  | 2.51  | 2.51  |
| 135.0  | 2.78  | 2.69  | 2.60  | 2.60  | 2.60  | 2.60  | 2.55  | 2.51  | 2.51  |
| 180.0  | 4.41  | 4.22  | 4.18  | 4.04  | 3.81  | 3.76  | 3.62  | 3.43  | 3.20  |
| 225.0  | 4.27  | 4.13  | 4.04  | 3.90  | 3.71  | 3.67  | 3.48  | 3.34  | 3.25  |
| 270.0  | 4.36  | 4.18  | 4.13  | 3.94  | 3.76  | 3.67  | 3.53  | 3.34  | 3.16  |
| 315.0  | 4.22  | 4.08  | 3.99  | 3.85  | 3.71  | 3.57  | 3.43  | 3.25  | 3.16  |
| 360.0  | 2.69  | 2.69  | 2.64  | 2.51  | 2.55  | 2.51  | 2.74  | 2.97  | 2.97  |

Intensity data(cd)

|                 |      |
|-----------------|------|
| C/ $\gamma$ (°) | 90.0 |
| 0.0             | 2.88 |
| 45.0            | 2.51 |
| 90.0            | 2.51 |
| 135.0           | 2.51 |
| 180.0           | 3.02 |
| 225.0           | 3.11 |
| 270.0           | 3.06 |
| 315.0           | 3.11 |
| 360.0           | 2.88 |