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

NT

Client:
LumCAT: 2-2683-L
Luminaire: 92.70.411.00
Report No: 2024402-B012
Ballast type: AC

| | |
|---|---|
| Test No: 2024402-C012 | Voltage(V): 35.170 |
| LampCAT: LUMILEDS LUXEON 1205 | Current(A): 0.485 |
| Lamp flux(lm): 2202.0 | Power (W): 17.057 |
| Number of Lamps: 1 | PF: 0.000 |
| Length(mm): 0 | Width(mm): 0 |
| Phm Type: C | Height(mm): 0 |

Photometric Results

Lumens(lm): 1901.89, Efficiency(%): 86.37% , Luminous Efficacy(lm/W): 111.50
Central intensity(cd): 7214.420, Maximum intensity(cd): 7214.420
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=23.2
[C90/270]Total=23.2
Field angle(10%Imax): [C0/180]Total=56.8
[C90/270]Total=56.8
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
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(%): 86.37%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.046%

| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2024/4/02 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.65 |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 7214.420 | 0.000 | 0 | 0.00% | 0.00% |
| 1.0 | 7182.232 | 6.889 | 6.889 | 0.31% | 0.36% |
| 2.0 | 7072.356 | 20.460 | 27.348 | 0.93% | 1.44% |
| 3.0 | 6889.547 | 33.392 | 60.74 | 1.52% | 3.19% |
| 4.0 | 6654.725 | 45.337 | 106.077 | 2.06% | 5.58% |
| 5.0 | 6347.043 | 55.933 | 162.01 | 2.54% | 8.52% |
| 6.0 | 5986.983 | 64.819 | 226.829 | 2.94% | 11.93% |
| 7.0 | 5558.891 | 71.665 | 298.494 | 3.25% | 15.69% |
| 8.0 | 5135.554 | 76.538 | 375.032 | 3.48% | 19.72% |
| 9.0 | 4699.196 | 79.705 | 454.737 | 3.62% | 23.91% |
| 10.0 | 4277.614 | 81.237 | 535.974 | 3.69% | 28.18% |
| 11.0 | 3849.961 | 81.211 | 617.185 | 3.69% | 32.45% |
| 12.0 | 3447.985 | 79.777 | 696.962 | 3.62% | 36.65% |
| 13.0 | 3081.634 | 77.490 | 774.453 | 3.52% | 40.72% |
| 14.0 | 2748.348 | 74.623 | 849.076 | 3.39% | 44.64% |
| 15.0 | 2426.987 | 71.049 | 920.125 | 3.23% | 48.38% |
| 16.0 | 2168.025 | 67.330 | 987.455 | 3.06% | 51.92% |
| 17.0 | 1926.400 | 63.761 | 1051.216 | 2.90% | 55.27% |
| 18.0 | 1709.574 | 59.949 | 1111.165 | 2.72% | 58.42% |
| 19.0 | 1480.766 | 55.505 | 1166.671 | 2.52% | 61.34% |
| 20.0 | 1318.329 | 51.231 | 1217.902 | 2.33% | 64.04% |
| 21.0 | 1210.626 | 48.561 | 1266.463 | 2.21% | 66.59% |
| 22.0 | 1117.853 | 46.792 | 1313.255 | 2.12% | 69.05% |
| 23.0 | 1030.567 | 45.080 | 1358.334 | 2.05% | 71.42% |
| 24.0 | 953.500 | 43.379 | 1401.713 | 1.97% | 73.70% |
| 25.0 | 891.071 | 41.942 | 1443.655 | 1.90% | 75.91% |
| 26.0 | 838.174 | 40.819 | 1484.474 | 1.85% | 78.05% |
| 27.0 | 790.471 | 39.845 | 1524.319 | 1.81% | 80.15% |
| 28.0 | 745.701 | 38.893 | 1563.212 | 1.77% | 82.19% |
| 29.0 | 688.290 | 37.517 | 1600.729 | 1.70% | 84.17% |
| 30.0 | 623.674 | 35.423 | 1636.152 | 1.61% | 86.03% |
| 31.0 | 544.318 | 32.504 | 1668.655 | 1.48% | 87.74% |
| 32.0 | 470.184 | 29.064 | 1697.719 | 1.32% | 89.26% |
| 33.0 | 391.252 | 25.378 | 1723.098 | 1.15% | 90.60% |
| 34.0 | 317.624 | 21.453 | 1744.55 | 0.97% | 91.73% |
| 35.0 | 265.070 | 18.096 | 1762.647 | 0.82% | 92.68% |
| 36.0 | 210.191 | 15.132 | 1777.779 | 0.69% | 93.47% |
| 37.0 | 150.747 | 11.772 | 1789.551 | 0.53% | 94.09% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 90.051 | 8.038 | 1797.588 | 0.37% | 94.52% |
| 39.0 | 64.660 | 5.281 | 1802.869 | 0.24% | 94.79% |
| 40.0 | 53.899 | 4.135 | 1807.004 | 0.19% | 95.01% |
| 41.0 | 49.459 | 3.681 | 1810.684 | 0.17% | 95.20% |
| 42.0 | 46.065 | 3.471 | 1814.155 | 0.16% | 95.39% |
| 43.0 | 43.109 | 3.303 | 1817.458 | 0.15% | 95.56% |
| 44.0 | 40.915 | 3.171 | 1820.63 | 0.14% | 95.73% |
| 45.0 | 39.078 | 3.074 | 1823.704 | 0.14% | 95.89% |
| 46.0 | 37.835 | 3.008 | 1826.712 | 0.14% | 96.05% |
| 47.0 | 36.716 | 2.965 | 1829.677 | 0.13% | 96.20% |
| 48.0 | 35.787 | 2.931 | 1832.608 | 0.13% | 96.36% |
| 49.0 | 35.055 | 2.909 | 1835.517 | 0.13% | 96.51% |
| 50.0 | 34.141 | 2.885 | 1838.402 | 0.13% | 96.66% |
| 51.0 | 33.563 | 2.864 | 1841.266 | 0.13% | 96.81% |
| 52.0 | 32.721 | 2.844 | 1844.111 | 0.13% | 96.96% |
| 53.0 | 31.917 | 2.812 | 1846.922 | 0.13% | 97.11% |
| 54.0 | 30.973 | 2.772 | 1849.694 | 0.13% | 97.26% |
| 55.0 | 30.022 | 2.723 | 1852.417 | 0.12% | 97.40% |
| 56.0 | 28.910 | 2.663 | 1855.08 | 0.12% | 97.54% |
| 57.0 | 27.586 | 2.583 | 1857.663 | 0.12% | 97.67% |
| 58.0 | 26.086 | 2.482 | 1860.145 | 0.11% | 97.80% |
| 59.0 | 24.448 | 2.363 | 1862.508 | 0.11% | 97.93% |
| 60.0 | 22.729 | 2.229 | 1864.736 | 0.10% | 98.05% |
| 61.0 | 21.068 | 2.090 | 1866.826 | 0.09% | 98.16% |
| 62.0 | 19.525 | 1.956 | 1868.782 | 0.09% | 98.26% |
| 63.0 | 18.200 | 1.835 | 1870.617 | 0.08% | 98.36% |
| 64.0 | 17.037 | 1.729 | 1872.346 | 0.08% | 98.45% |
| 65.0 | 15.984 | 1.634 | 1873.98 | 0.07% | 98.53% |
| 66.0 | 14.996 | 1.546 | 1875.526 | 0.07% | 98.61% |
| 67.0 | 14.104 | 1.463 | 1876.989 | 0.07% | 98.69% |
| 68.0 | 13.358 | 1.391 | 1878.381 | 0.06% | 98.76% |
| 69.0 | 12.714 | 1.330 | 1879.711 | 0.06% | 98.83% |
| 70.0 | 12.209 | 1.280 | 1880.991 | 0.06% | 98.90% |
| 71.0 | 11.829 | 1.242 | 1882.233 | 0.06% | 98.97% |
| 72.0 | 11.500 | 1.213 | 1883.446 | 0.06% | 99.03% |
| 73.0 | 11.222 | 1.188 | 1884.634 | 0.05% | 99.09% |
| 74.0 | 10.973 | 1.167 | 1885.801 | 0.05% | 99.15% |
| 75.0 | 10.732 | 1.147 | 1886.948 | 0.05% | 99.21% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 10.497 | 1.127 | 1888.075 | 0.05% | 99.27% |
| 77.0 | 10.278 | 1.108 | 1889.182 | 0.05% | 99.33% |
| 78.0 | 10.051 | 1.088 | 1890.271 | 0.05% | 99.39% |
| 79.0 | 9.832 | 1.068 | 1891.339 | 0.05% | 99.45% |
| 80.0 | 9.598 | 1.047 | 1892.386 | 0.05% | 99.50% |
| 81.0 | 9.378 | 1.026 | 1893.413 | 0.05% | 99.55% |
| 82.0 | 9.181 | 1.006 | 1894.419 | 0.05% | 99.61% |
| 83.0 | 8.998 | 0.988 | 1895.407 | 0.04% | 99.66% |
| 84.0 | 8.830 | 0.971 | 1896.378 | 0.04% | 99.71% |
| 85.0 | 8.647 | 0.954 | 1897.332 | 0.04% | 99.76% |
| 86.0 | 8.500 | 0.937 | 1898.27 | 0.04% | 99.81% |
| 87.0 | 8.361 | 0.923 | 1899.192 | 0.04% | 99.86% |
| 88.0 | 8.230 | 0.909 | 1900.101 | 0.04% | 99.91% |
| 89.0 | 8.171 | 0.899 | 1901 | 0.04% | 99.95% |
| 90.0 | 8.105 | 0.892 | 1901.893 | 0.04% | 100.00% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

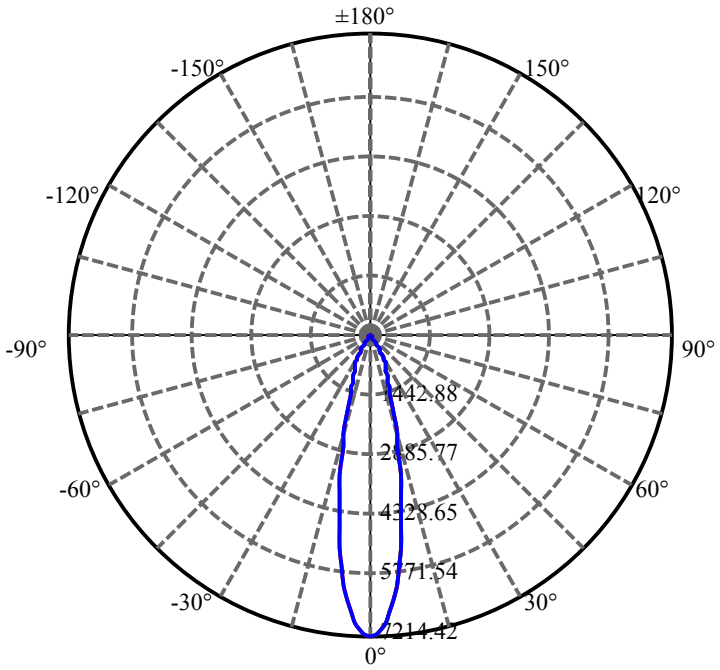
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1636.15 | 74.30% | 86.03% |
| 0-40 | 1807.00 | 82.06% | 95.01% |
| 0-60 | 1864.74 | 84.68% | 98.05% |
| 0-90 | 1901.00 | 86.33% | 99.95% |
| 0-120 | 1901.00 | 86.33% | 99.95% |
| 0-180 | 1901.89 | 86.37% | 100.00% |
| 60-90 | 36.26 | 1.65% | 1.91% |
| 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% |
| 0-26.93 | 1521.51 | 69.10% | 80.00% |

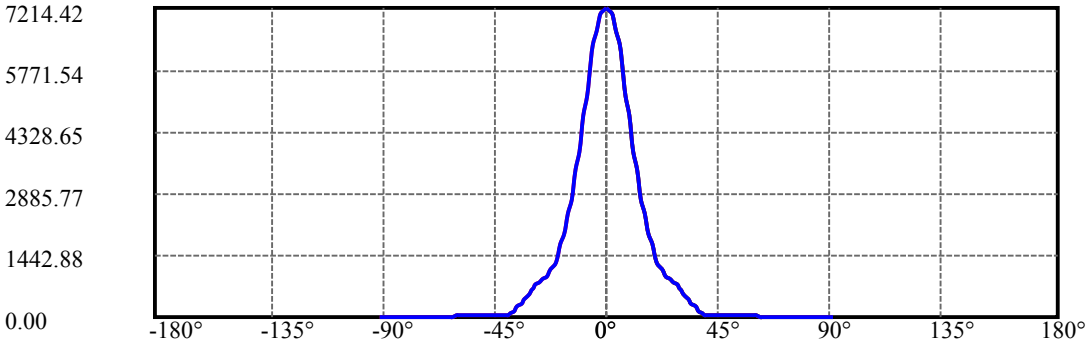
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 535.97 |
| 10-20 | 681.93 |
| 20-30 | 418.25 |
| 30-40 | 170.85 |
| 40-50 | 31.40 |
| 50-60 | 26.33 |
| 60-70 | 16.25 |
| 70-80 | 11.40 |
| 80-90 | 8.61 |
| 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 |

Light Distribution Curve [Unit:cd]






C0(Max):

C0/C180:

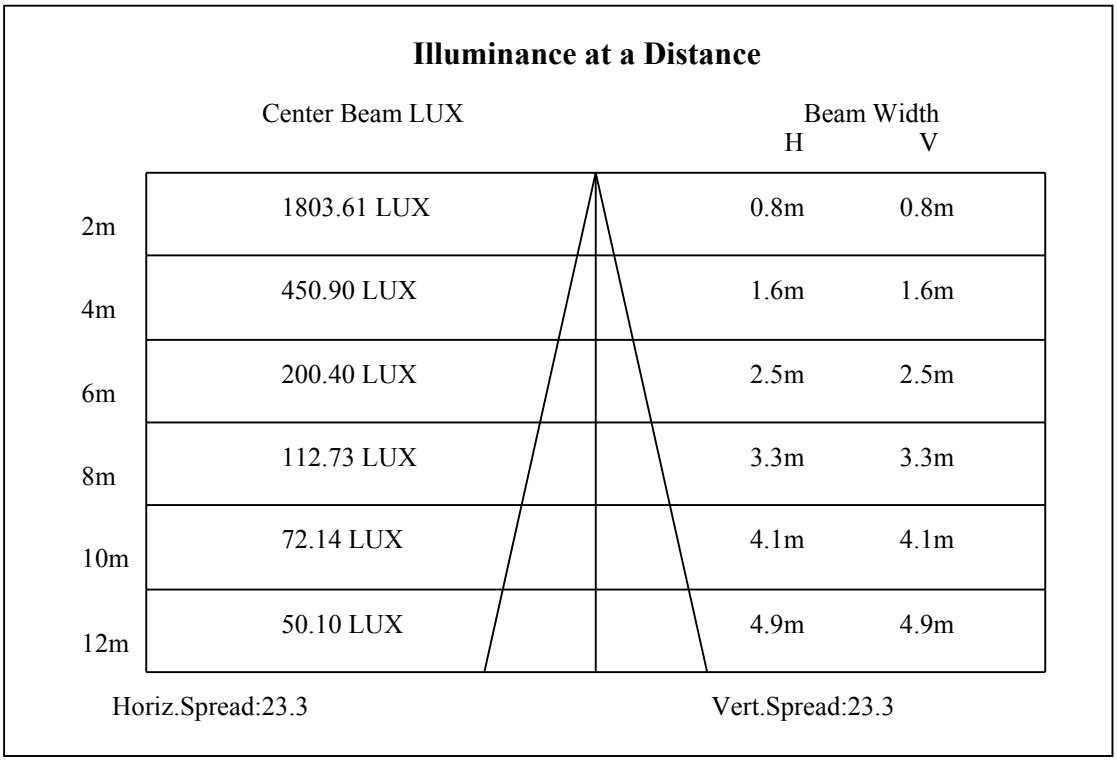
C90/C270:

Field angle(10%Imax):C0/180Left:28.4 Right:28.4
:C90/270Left:28.4 Right:28.4

Beam Angle(50%Imax):C0/180Left:11.6 Right:11.6
:C90/270Left:11.6 Right:11.6

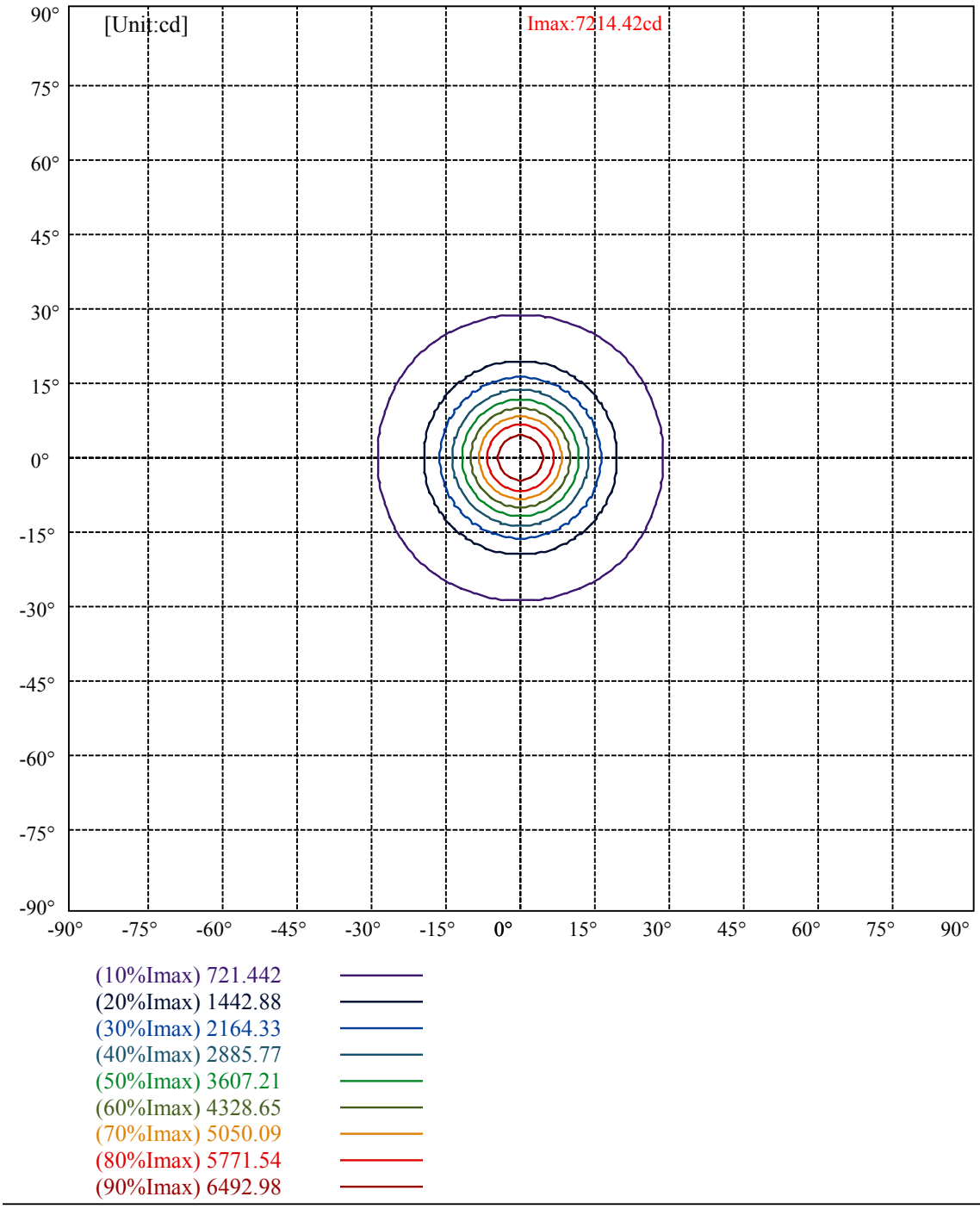
Lux distance Curve





ISO-Intensity(V-H)






(10%Imax) 721.442
(20%Imax) 1442.88
(30%Imax) 2164.33
(40%Imax) 2885.77
(50%Imax) 3607.21
(60%Imax) 4328.65
(70%Imax) 5050.09
(80%Imax) 5771.54
(90%Imax) 6492.98

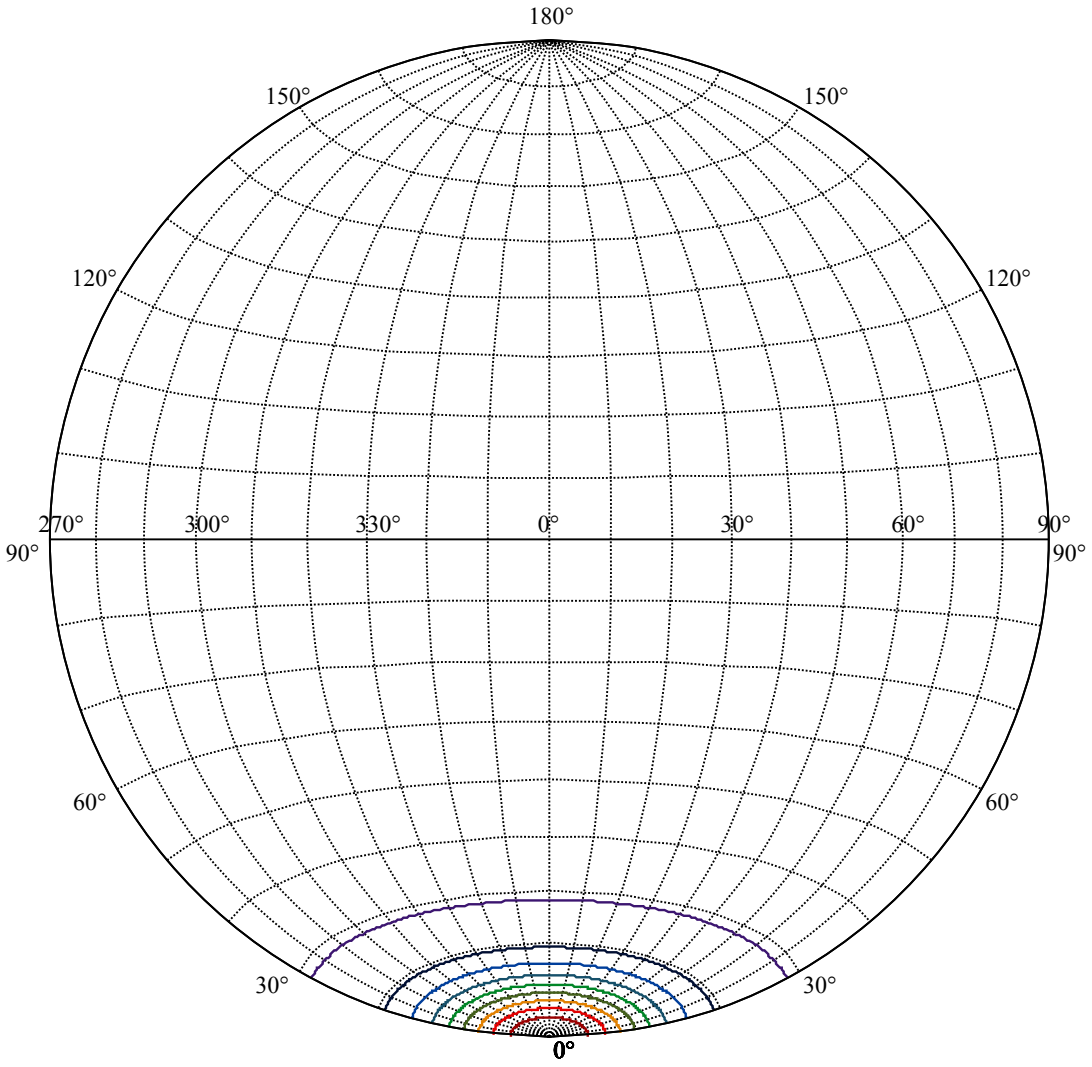
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/4/02
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

## ISO candela diagram on circular web






House [Unit:cd] Road

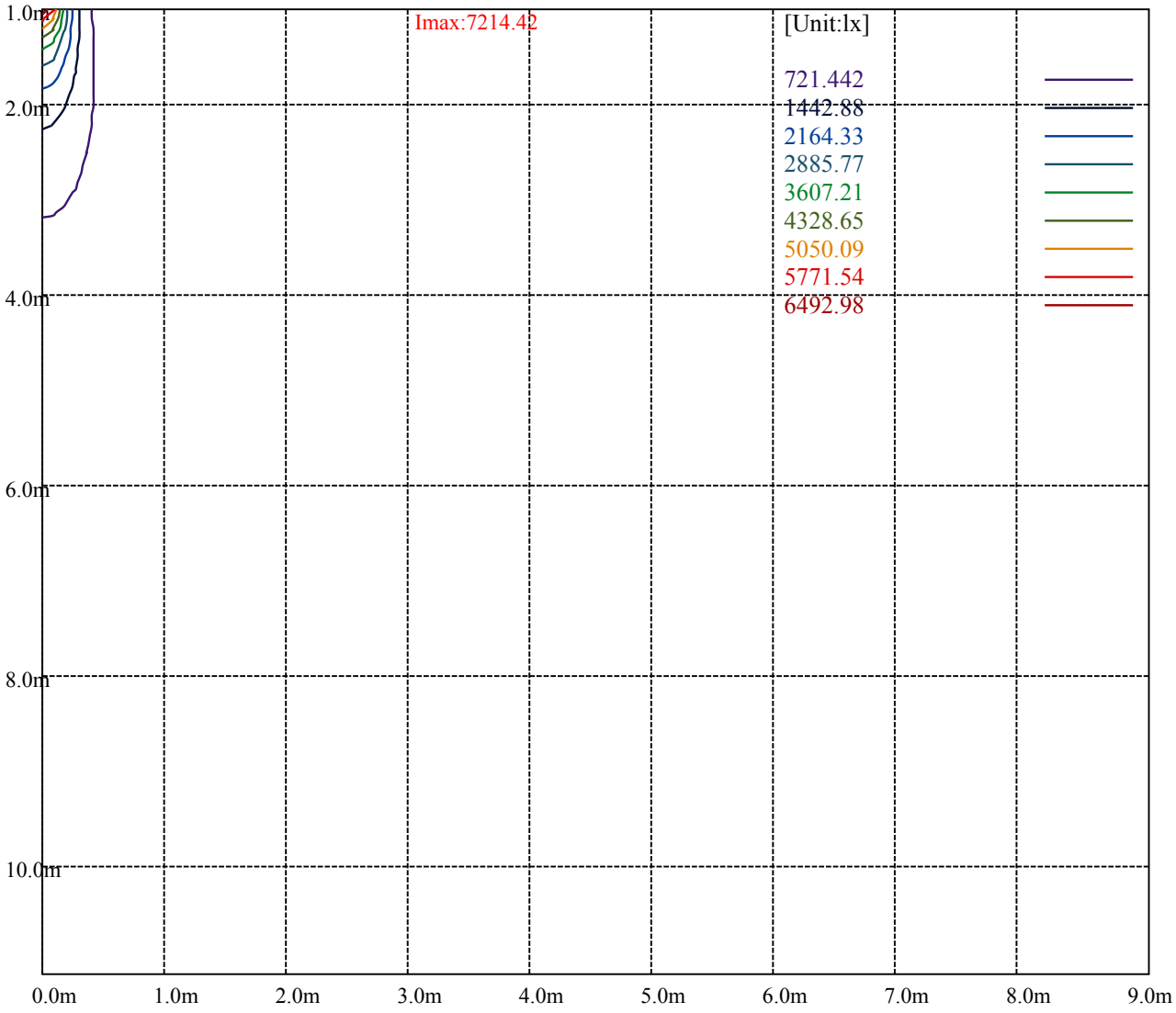
Imax:7214.42

(10%Imax) 721.442
(20%Imax) 1442.88
(30%Imax) 2164.33
(40%Imax) 2885.77
(50%Imax) 3607.21
(60%Imax) 4328.65
(70%Imax) 5050.09
(80%Imax) 5771.54
(90%Imax) 6492.98

| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2024/4/02 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.65 |

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/4/02
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

NT 2-2683-L

## Luminance Limitting Curve(no luminous side)



Luminance Table

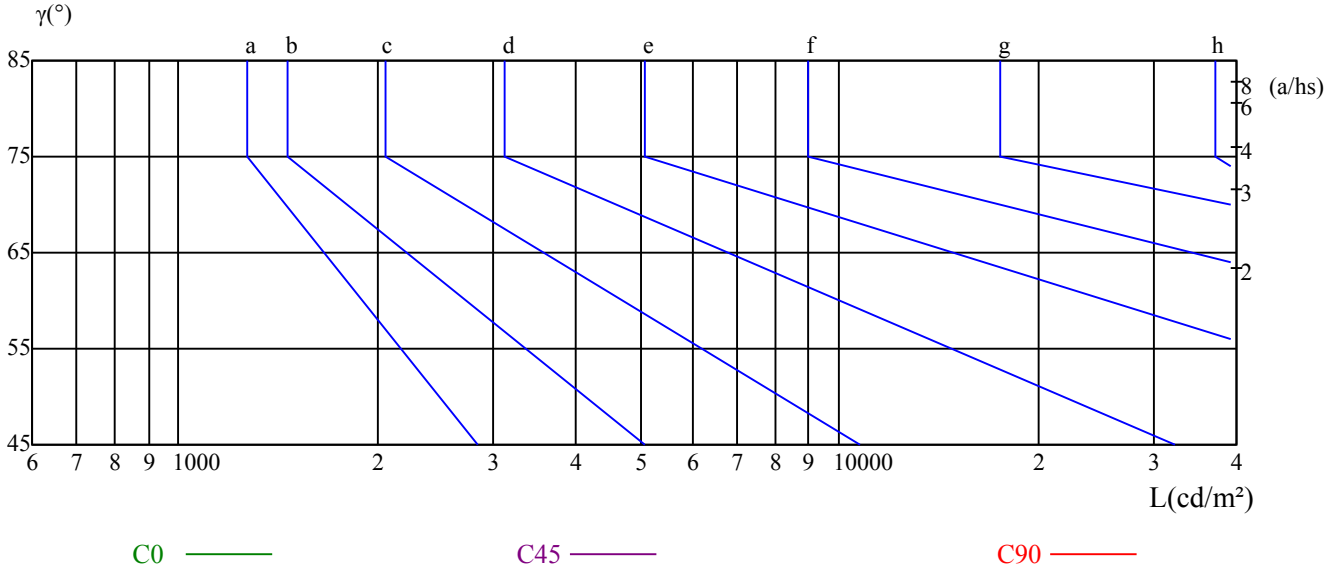
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 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 Limitting Curve




Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/4/02
Humidity(%): 60.0%

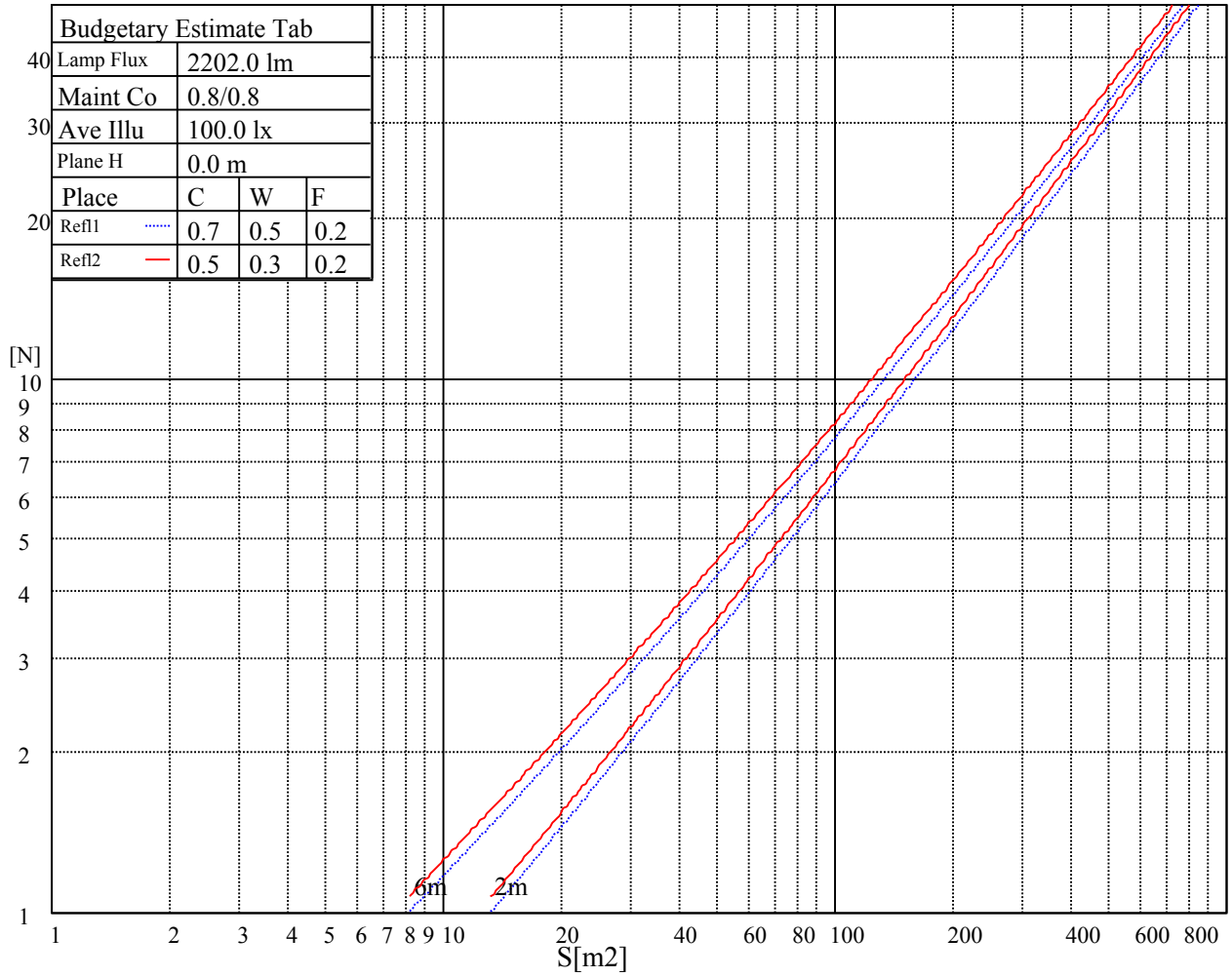
Operator: NT07
Distance(m): 7.65

| 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 | 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 | 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 | 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 | 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 | 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 | 非数字 |
| 4H | 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 | 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 | 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 | 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 | 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 | 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 | 非数字 |
| 8H | 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 | 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 | 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 | 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 | 非数字 |
| 12H | 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 | 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 | 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 | 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

## Budgetary Estimate Table






Equipment: GMS1980 Date: 2024/4/02 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.65

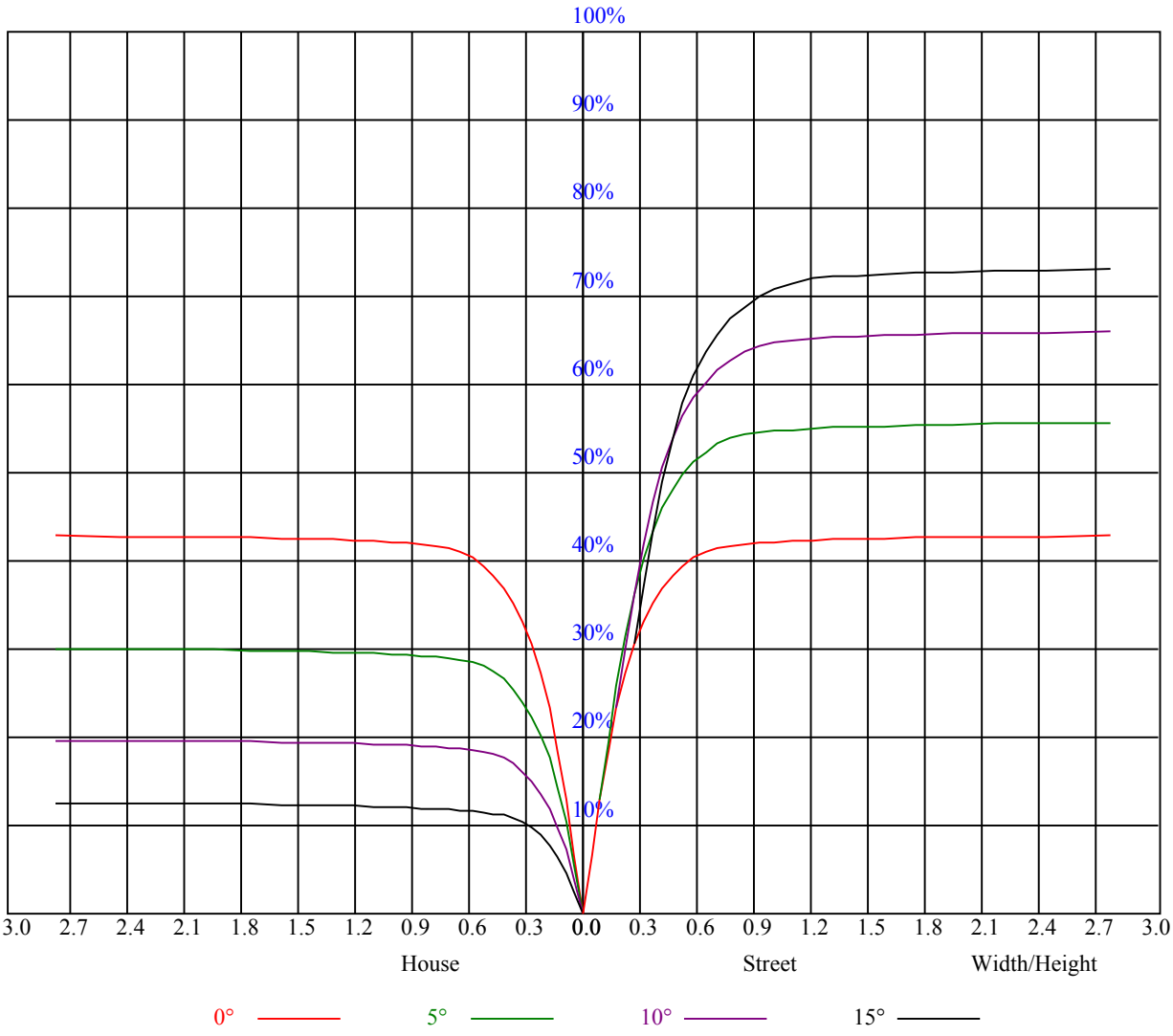
Utilization factor table for indoor luminaire



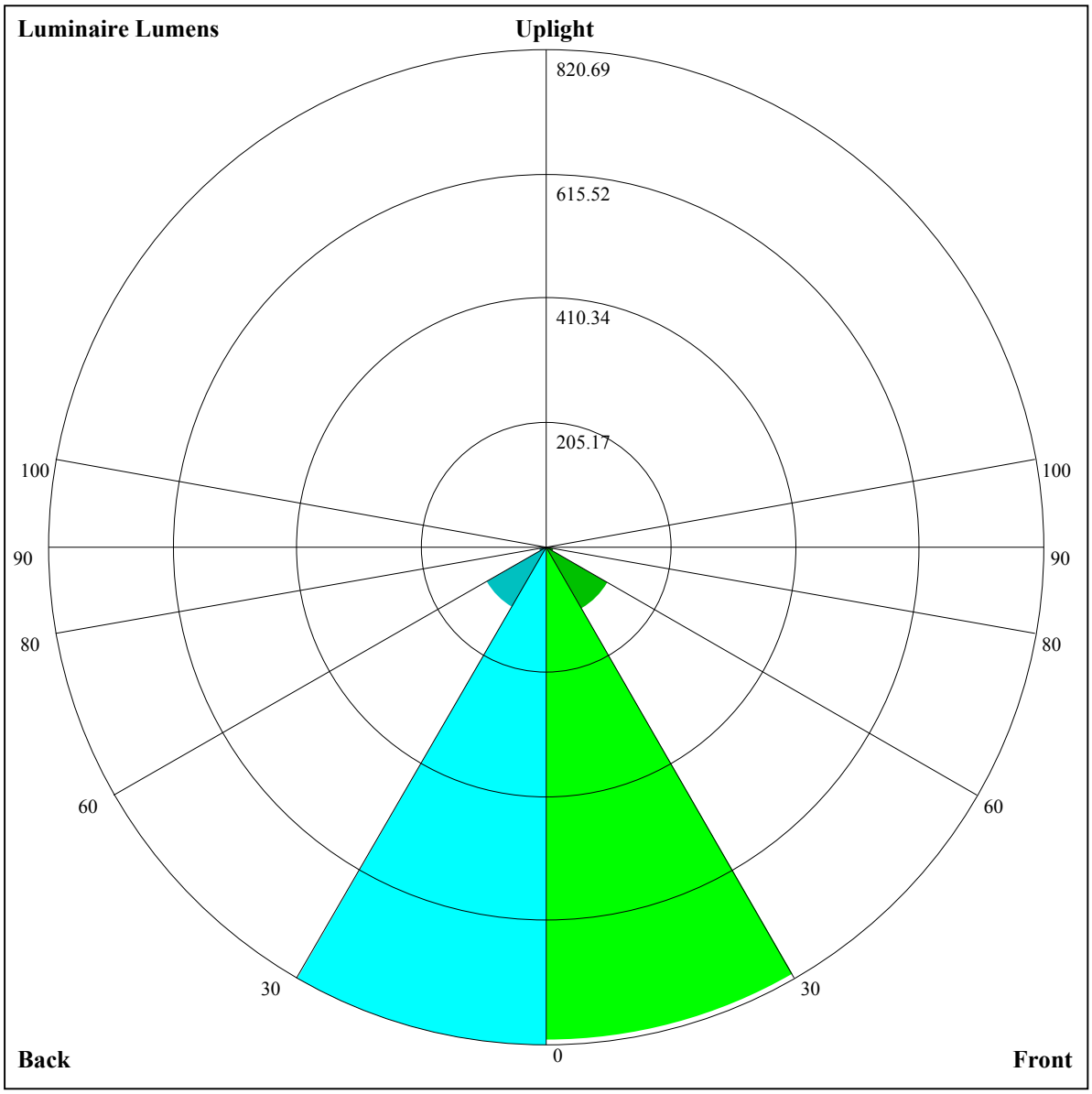
| RHOCC | 80 | | | 70 | | | 50 | | | 30 | | | 10 | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RHOW | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | COEFFCIENTS OF UTILIZATION RHOFC=20 CU | | | | | | | | | | | | | | | |
| 0 | 1.03 | 1.03 | 1.03 | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.86 |
| 1 | 0.96 | 0.95 | 0.93 | 0.95 | 0.93 | 0.91 | 0.91 | 0.90 | 0.88 | 0.88 | 0.87 | 0.86 | 0.85 | 0.84 | 0.83 | 0.82 |
| 2 | 0.91 | 0.88 | 0.85 | 0.90 | 0.87 | 0.84 | 0.87 | 0.85 | 0.83 | 0.84 | 0.82 | 0.81 | 0.82 | 0.80 | 0.79 | 0.78 |
| 3 | 0.86 | 0.83 | 0.80 | 0.85 | 0.82 | 0.79 | 0.83 | 0.80 | 0.78 | 0.81 | 0.79 | 0.77 | 0.79 | 0.77 | 0.75 | 0.74 |
| 4 | 0.82 | 0.78 | 0.75 | 0.81 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.78 | 0.75 | 0.73 | 0.76 | 0.74 | 0.72 | 0.71 |
| 5 | 0.78 | 0.74 | 0.71 | 0.78 | 0.74 | 0.71 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.73 | 0.71 | 0.69 | 0.68 |
| 6 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.65 |
| 7 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.63 |
| 8 | 0.69 | 0.65 | 0.62 | 0.69 | 0.65 | 0.62 | 0.68 | 0.64 | 0.62 | 0.67 | 0.64 | 0.62 | 0.66 | 0.63 | 0.61 | 0.60 |
| 9 | 0.67 | 0.63 | 0.60 | 0.66 | 0.62 | 0.60 | 0.66 | 0.62 | 0.60 | 0.65 | 0.62 | 0.59 | 0.64 | 0.61 | 0.59 | 0.58 |
| 10 | 0.64 | 0.60 | 0.58 | 0.64 | 0.60 | 0.58 | 0.63 | 0.60 | 0.57 | 0.63 | 0.60 | 0.57 | 0.62 | 0.59 | 0.57 | 0.56 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2024/4/02 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.65 |




Luminaire Lumens:
FL=814.28,FM=116.41,FH=13.87,FVH=4.75
BL=820.69,BM=114.47,BH=13.85,BVH=4.76
UL=0,UH=0

BUG Rating:B2-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 | 7240.46 | 7182.52 | 7061.97 | 6808.57 | 6544.04 | 6133.22 | 5772.13 | 5371.84 | 4983.25 |
| 45.0 | 7182.52 | 7243.97 | 7211.79 | 7132.20 | 6972.43 | 6761.16 | 6467.97 | 6047.77 | 5690.79 |
| 90.0 | 7240.46 | 7222.32 | 7152.09 | 6998.18 | 6802.71 | 6531.17 | 6134.39 | 5758.09 | 5357.21 |
| 135.0 | 7194.23 | 7232.85 | 7195.99 | 7101.18 | 6935.56 | 6715.52 | 6439.87 | 6034.31 | 5653.92 |
| 180.0 | 7240.46 | 7205.35 | 7122.25 | 6987.65 | 6724.88 | 6458.02 | 6133.80 | 5768.04 | 5271.77 |
| 225.0 | 7182.52 | 7090.06 | 6882.89 | 6637.68 | 6346.82 | 5916.68 | 5520.49 | 4980.32 | 4550.18 |
| 270.0 | 7240.46 | 7191.30 | 7095.33 | 6858.90 | 6616.03 | 6315.81 | 5886.25 | 5485.96 | 4963.94 |
| 315.0 | 7194.23 | 7089.47 | 6856.55 | 6592.03 | 6295.32 | 5944.77 | 5540.97 | 5024.80 | 4613.39 |
| 360.0 | 7240.46 | 7182.52 | 7061.97 | 6808.57 | 6544.04 | 6133.22 | 5772.13 | 5371.84 | 4983.25 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 4484.64 | 4087.27 | 3710.97 | 3345.20 | 2929.69 | 2622.45 | 2297.07 | 2115.06 | 1838.25 |
| 45.0 | 5282.88 | 4784.27 | 4382.22 | 3990.12 | 3519.60 | 3166.13 | 2762.91 | 2470.88 | 2220.99 |
| 90.0 | 4839.28 | 4416.17 | 4004.75 | 3536.57 | 3183.68 | 2781.05 | 2489.61 | 2229.18 | 1995.68 |
| 135.0 | 5237.82 | 4811.78 | 4283.32 | 3880.69 | 3503.80 | 3163.78 | 2767.59 | 2477.90 | 2212.21 |
| 180.0 | 4853.33 | 4434.31 | 4015.87 | 3540.67 | 3187.19 | 2858.88 | 2508.33 | 2243.23 | 1952.37 |
| 225.0 | 4135.26 | 3736.72 | 3303.07 | 2974.17 | 2669.85 | 2395.97 | 2099.26 | 1882.14 | 1683.75 |
| 270.0 | 4543.75 | 4132.33 | 3737.31 | 3290.78 | 2945.50 | 2630.06 | 2367.88 | 2072.34 | 1851.13 |
| 315.0 | 4216.60 | 3818.07 | 3362.18 | 3025.67 | 2713.75 | 2368.46 | 2123.25 | 1853.47 | 1656.83 |
| 360.0 | 4484.64 | 4087.27 | 3710.97 | 3345.20 | 2929.69 | 2622.45 | 2297.07 | 2115.06 | 1838.25 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1607.67 | 1446.73 | 1147.98 | 1147.98 | 1082.84 | 1006.47 | 944.38 | 893.11 | 839.10 |
| 45.0 | 1988.07 | 1731.15 | 1555.00 | 1402.26 | 1272.34 | 1165.24 | 1055.80 | 983.82 | 920.03 |
| 90.0 | 1741.10 | 1564.36 | 1301.01 | 1154.65 | 1130.71 | 1033.80 | 957.08 | 893.46 | 831.31 |
| 135.0 | 1931.89 | 1732.91 | 1515.21 | 1363.63 | 1236.64 | 1134.81 | 1027.13 | 953.39 | 891.36 |
| 180.0 | 1748.71 | 1569.05 | 1411.04 | 1244.25 | 1128.96 | 1033.57 | 962.17 | 879.65 | 826.40 |
| 225.0 | 1508.18 | 1148.21 | 1148.21 | 1080.68 | 999.21 | 931.44 | 861.45 | 815.51 | 775.54 |
| 270.0 | 1671.46 | 1492.97 | 1307.45 | 1195.09 | 1078.04 | 1002.55 | 939.34 | 873.80 | 828.15 |
| 315.0 | 1479.51 | 1160.74 | 1160.74 | 1096.48 | 1014.08 | 936.65 | 880.65 | 835.82 | 793.51 |
| 360.0 | 1607.67 | 1446.73 | 1147.98 | 1147.98 | 1082.84 | 1006.47 | 944.38 | 893.11 | 839.10 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 801.76 | 760.03 | 703.56 | 621.22 | 550.05 | 476.49 | 383.61 | 310.17 | 241.29 |
| 45.0 | 852.15 | 807.08 | 757.92 | 709.94 | 646.73 | 562.46 | 489.89 | 420.84 | 346.51 |
| 90.0 | 786.48 | 746.92 | 686.41 | 625.02 | 540.57 | 467.71 | 400.24 | 319.88 | 257.21 |
| 135.0 | 838.69 | 787.77 | 745.64 | 698.23 | 619.23 | 550.17 | 477.02 | 388.06 | 316.08 |
| 180.0 | 785.43 | 747.98 | 698.23 | 635.61 | 554.85 | 482.28 | 405.03 | 319.59 | 304.96 |
| 225.0 | 726.09 | 667.45 | 601.55 | 528.22 | 436.93 | 365.36 | 296.77 | 234.97 | 166.32 |
| 270.0 | 787.77 | 749.73 | 680.09 | 610.45 | 538.47 | 459.46 | 366.99 | 300.28 | 300.28 |
| 315.0 | 745.40 | 698.64 | 632.92 | 560.70 | 467.71 | 397.54 | 310.46 | 247.20 | 187.92 |
| 360.0 | 801.76 | 760.03 | 703.56 | 621.22 | 550.05 | 476.49 | 383.61 | 310.17 | 241.29 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 166.44 | 116.75 | 80.70 | 58.29 | 53.84 | 50.21 | 46.94 | 43.42 | 41.73 |
| 45.0 | 311.40 | 311.40 | 142.39 | 97.85 | 63.91 | 55.77 | 51.91 | 47.40 | 44.65 |
| 90.0 | 191.54 | 137.88 | 93.87 | 60.28 | 54.43 | 50.56 | 47.17 | 43.83 | 41.08 |
| 135.0 | 298.52 | 218.70 | 118.74 | 78.71 | 58.99 | 51.73 | 48.28 | 45.24 | 43.01 |
| 180.0 | 304.96 | 137.64 | 84.62 | 59.46 | 50.97 | 47.81 | 44.13 | 41.73 | 39.03 |
| 225.0 | 119.03 | 81.05 | 57.41 | 51.91 | 47.58 | 44.59 | 41.79 | 39.80 | 37.98 |
| 270.0 | 164.16 | 114.88 | 78.19 | 56.06 | 51.73 | 48.57 | 44.77 | 42.02 | 40.38 |
| 315.0 | 125.47 | 87.67 | 64.49 | 54.72 | 49.74 | 46.41 | 43.54 | 41.43 | 39.44 |
| 360.0 | 166.44 | 116.75 | 80.70 | 58.29 | 53.84 | 50.21 | 46.94 | 43.42 | 41.73 |

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 | 40.20 | 39.09 | 37.75 | 36.99 | 36.17 | 35.17 | 34.53 | 33.36 | 32.36 |
| 45.0 | 42.25 | 40.56 | 38.98 | 37.63 | 37.04 | 36.17 | 35.35 | 34.65 | 33.83 |
| 90.0 | 39.15 | 37.92 | 36.93 | 35.99 | 35.35 | 34.18 | 33.94 | 33.24 | 32.30 |
| 135.0 | 40.20 | 38.98 | 37.57 | 36.40 | 35.87 | 35.17 | 34.35 | 33.77 | 33.36 |
| 180.0 | 37.63 | 36.23 | 35.17 | 34.18 | 33.59 | 32.77 | 32.13 | 31.60 | 30.90 |
| 225.0 | 36.40 | 35.46 | 34.94 | 34.18 | 33.01 | 32.48 | 32.01 | 30.84 | 30.26 |
| 270.0 | 38.68 | 37.51 | 36.40 | 35.82 | 35.00 | 33.88 | 33.47 | 32.66 | 31.72 |
| 315.0 | 38.10 | 36.93 | 35.99 | 35.11 | 34.41 | 33.30 | 32.71 | 31.66 | 30.61 |
| 360.0 | 40.20 | 39.09 | 37.75 | 36.99 | 36.17 | 35.17 | 34.53 | 33.36 | 32.36 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 31.49 | 30.14 | 28.97 | 27.51 | 25.93 | 24.05 | 22.30 | 20.60 | 19.49 |
| 45.0 | 32.89 | 32.19 | 30.78 | 29.73 | 28.62 | 26.98 | 24.87 | 23.47 | 21.13 |
| 90.0 | 31.60 | 30.61 | 29.50 | 28.44 | 26.98 | 24.93 | 23.53 | 21.07 | 19.84 |
| 135.0 | 32.36 | 31.89 | 30.78 | 29.73 | 28.50 | 26.86 | 25.16 | 23.70 | 21.48 |
| 180.0 | 30.20 | 29.44 | 28.38 | 27.51 | 25.81 | 24.29 | 23.00 | 21.24 | 19.37 |
| 225.0 | 28.97 | 27.86 | 26.98 | 25.05 | 23.53 | 22.12 | 20.25 | 18.84 | 17.73 |
| 270.0 | 30.61 | 29.50 | 28.38 | 27.15 | 25.22 | 23.88 | 22.00 | 20.31 | 19.08 |
| 315.0 | 29.67 | 28.56 | 27.51 | 25.57 | 24.11 | 22.47 | 20.72 | 19.31 | 18.08 |
| 360.0 | 31.49 | 30.14 | 28.97 | 27.51 | 25.93 | 24.05 | 22.30 | 20.60 | 19.49 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 17.97 | 16.97 | 15.86 | 14.81 | 14.05 | 13.34 | 12.58 | 12.17 | 11.88 |
| 45.0 | 19.78 | 18.67 | 17.15 | 16.21 | 15.39 | 14.40 | 13.58 | 12.93 | 12.41 |
| 90.0 | 18.73 | 17.09 | 16.33 | 15.45 | 14.34 | 13.46 | 12.87 | 12.29 | 11.94 |
| 135.0 | 20.13 | 18.73 | 17.50 | 16.33 | 15.39 | 14.40 | 13.75 | 12.93 | 12.35 |
| 180.0 | 18.38 | 16.80 | 15.86 | 15.10 | 13.81 | 13.11 | 12.58 | 12.06 | 11.59 |
| 225.0 | 16.44 | 15.63 | 14.51 | 13.52 | 12.93 | 12.41 | 11.82 | 11.53 | 11.24 |
| 270.0 | 17.56 | 16.62 | 15.80 | 14.75 | 13.69 | 13.11 | 12.41 | 12.00 | 11.70 |
| 315.0 | 16.62 | 15.80 | 14.86 | 13.81 | 13.23 | 12.64 | 12.11 | 11.76 | 11.53 |
| 360.0 | 17.97 | 16.97 | 15.86 | 14.81 | 14.05 | 13.34 | 12.58 | 12.17 | 11.88 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 11.47 | 11.24 | 10.94 | 10.77 | 10.48 | 10.24 | 10.01 | 9.83 | 9.54 |
| 45.0 | 12.00 | 11.59 | 11.29 | 11.06 | 10.77 | 10.53 | 10.36 | 10.07 | 9.83 |
| 90.0 | 11.53 | 11.29 | 11.06 | 10.77 | 10.53 | 10.30 | 10.12 | 9.89 | 9.60 |
| 135.0 | 12.00 | 11.70 | 11.41 | 11.12 | 10.94 | 10.77 | 10.42 | 10.24 | 10.01 |
| 180.0 | 11.35 | 11.12 | 10.89 | 10.59 | 10.42 | 10.24 | 10.01 | 9.77 | 9.60 |
| 225.0 | 11.00 | 10.77 | 10.53 | 10.36 | 10.12 | 9.95 | 9.71 | 9.54 | 9.31 |
| 270.0 | 11.41 | 11.12 | 10.94 | 10.65 | 10.42 | 10.18 | 10.01 | 9.71 | 9.54 |
| 315.0 | 11.24 | 10.94 | 10.71 | 10.53 | 10.30 | 10.01 | 9.77 | 9.60 | 9.36 |
| 360.0 | 11.47 | 11.24 | 10.94 | 10.77 | 10.48 | 10.24 | 10.01 | 9.83 | 9.54 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 9.36 | 9.13 | 8.95 | 8.72 | 8.54 | 8.43 | 8.31 | 8.25 | 8.08 |
| 45.0 | 9.60 | 9.36 | 9.25 | 9.01 | 8.78 | 8.66 | 8.49 | 8.37 | 8.19 |
| 90.0 | 9.42 | 9.25 | 9.07 | 8.90 | 8.72 | 8.54 | 8.37 | 8.25 | 8.49 |
| 135.0 | 9.71 | 9.54 | 9.31 | 9.13 | 8.95 | 8.78 | 8.66 | 8.43 | 8.25 |
| 180.0 | 9.31 | 9.19 | 8.95 | 8.84 | 8.66 | 8.49 | 8.37 | 8.19 | 8.08 |
| 225.0 | 9.13 | 8.90 | 8.72 | 8.66 | 8.43 | 8.31 | 8.19 | 8.02 | 8.08 |
| 270.0 | 9.31 | 9.13 | 8.95 | 8.78 | 8.60 | 8.49 | 8.25 | 8.25 | 8.02 |
| 315.0 | 9.19 | 8.95 | 8.78 | 8.60 | 8.49 | 8.31 | 8.25 | 8.08 | 8.19 |
| 360.0 | 9.36 | 9.13 | 8.95 | 8.72 | 8.54 | 8.43 | 8.31 | 8.25 | 8.08 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 8.19 |
| 45.0 | 8.08 |
| 90.0 | 8.08 |
| 135.0 | 8.19 |
| 180.0 | 8.02 |
| 225.0 | 8.08 |
| 270.0 | 8.13 |
| 315.0 | 8.08 |
| 360.0 | 8.19 |