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

NT

Client:
LumCAT: 3-2832-L
Luminaire: 92.70.412.00
Report No: 2024302-B010
Ballast type: AC

| | |
|---|---|
| Test No: 2024302-C010 | Voltage(V): 34.130 |
| LampCAT: LUMINUS CXM-14-AC40 | Current(A): 0.530 |
| Lamp flux(lm): 2575.0 | Power (W): 18.088 |
| Number of Lamps: 1 | PF: 0.000 |
| Length(mm): 0 | Width(mm): 0 |
| Phm Type: C | Height(mm): 0 |

## Photometric Results

Lumens(lm): 2193.96, Efficiency(%): 85.20% , Luminous Efficacy(lm/W): 121.29
Central intensity(cd): 10701.920, Maximum intensity(cd): 10701.920
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=17.4
[C90/270]Total=17.4
Field angle(10%Imax): [C0/180]Total=50.0
[C90/270]Total=50.0
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.35 C90_270=0.35
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.20%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.898%

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 10701.922 | 0.000 | 0 | 0.00% | 0.00% |
| 1.0 | 10585.169 | 10.185 | 10.185 | 0.40% | 0.46% |
| 2.0 | 10270.538 | 29.934 | 40.12 | 1.16% | 1.83% |
| 3.0 | 9786.923 | 47.971 | 88.09 | 1.86% | 4.02% |
| 4.0 | 9139.005 | 63.351 | 151.442 | 2.46% | 6.90% |
| 5.0 | 8376.238 | 75.350 | 226.791 | 2.93% | 10.34% |
| 6.0 | 7562.482 | 83.762 | 310.553 | 3.25% | 14.15% |
| 7.0 | 6723.489 | 88.673 | 399.226 | 3.44% | 18.20% |
| 8.0 | 5879.521 | 90.197 | 489.424 | 3.50% | 22.31% |
| 9.0 | 5108.926 | 89.055 | 578.479 | 3.46% | 26.37% |
| 10.0 | 4490.929 | 86.875 | 665.354 | 3.37% | 30.33% |
| 11.0 | 3968.981 | 84.532 | 749.886 | 3.28% | 34.18% |
| 12.0 | 3497.071 | 81.615 | 831.501 | 3.17% | 37.90% |
| 13.0 | 3145.570 | 78.831 | 910.332 | 3.06% | 41.49% |
| 14.0 | 2832.035 | 76.513 | 986.845 | 2.97% | 44.98% |
| 15.0 | 2580.608 | 74.307 | 1061.152 | 2.89% | 48.37% |
| 16.0 | 2350.322 | 72.252 | 1133.404 | 2.81% | 51.66% |
| 17.0 | 2141.250 | 69.946 | 1203.35 | 2.72% | 54.85% |
| 18.0 | 1967.585 | 67.746 | 1271.096 | 2.63% | 57.94% |
| 19.0 | 1802.113 | 65.585 | 1336.681 | 2.55% | 60.93% |
| 20.0 | 1653.100 | 63.240 | 1399.921 | 2.46% | 63.81% |
| 21.0 | 1504.862 | 60.639 | 1460.56 | 2.35% | 66.57% |
| 22.0 | 1349.865 | 57.367 | 1517.927 | 2.23% | 69.19% |
| 23.0 | 1256.134 | 54.681 | 1572.608 | 2.12% | 71.68% |
| 24.0 | 1167.473 | 52.989 | 1625.597 | 2.06% | 74.09% |
| 25.0 | 1071.510 | 50.910 | 1676.506 | 1.98% | 76.41% |
| 26.0 | 975.087 | 48.310 | 1724.816 | 1.88% | 78.62% |
| 27.0 | 898.745 | 45.844 | 1770.66 | 1.78% | 80.71% |
| 28.0 | 838.957 | 43.995 | 1814.655 | 1.71% | 82.71% |
| 29.0 | 775.694 | 42.244 | 1856.899 | 1.64% | 84.64% |
| 30.0 | 705.650 | 39.996 | 1896.895 | 1.55% | 86.46% |
| 31.0 | 610.843 | 36.636 | 1933.531 | 1.42% | 88.13% |
| 32.0 | 519.358 | 32.379 | 1965.91 | 1.26% | 89.61% |
| 33.0 | 419.540 | 27.660 | 1993.57 | 1.07% | 90.87% |
| 34.0 | 329.606 | 22.671 | 2016.241 | 0.88% | 91.90% |
| 35.0 | 258.179 | 18.254 | 2034.496 | 0.71% | 92.73% |
| 36.0 | 191.178 | 14.308 | 2048.804 | 0.56% | 93.38% |
| 37.0 | 134.704 | 10.628 | 2059.432 | 0.41% | 93.87% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 97.945 | 7.766 | 2067.197 | 0.30% | 94.22% |
| 39.0 | 76.906 | 5.968 | 2073.166 | 0.23% | 94.49% |
| 40.0 | 71.127 | 5.163 | 2078.328 | 0.20% | 94.73% |
| 41.0 | 66.065 | 4.885 | 2083.214 | 0.19% | 94.95% |
| 42.0 | 61.412 | 4.631 | 2087.845 | 0.18% | 95.16% |
| 43.0 | 57.228 | 4.395 | 2092.24 | 0.17% | 95.36% |
| 44.0 | 53.629 | 4.184 | 2096.424 | 0.16% | 95.55% |
| 45.0 | 50.205 | 3.990 | 2100.414 | 0.15% | 95.74% |
| 46.0 | 47.235 | 3.811 | 2104.225 | 0.15% | 95.91% |
| 47.0 | 44.455 | 3.647 | 2107.872 | 0.14% | 96.08% |
| 48.0 | 42.165 | 3.502 | 2111.374 | 0.14% | 96.24% |
| 49.0 | 40.132 | 3.380 | 2114.753 | 0.13% | 96.39% |
| 50.0 | 38.566 | 3.281 | 2118.034 | 0.13% | 96.54% |
| 51.0 | 37.133 | 3.203 | 2121.237 | 0.12% | 96.69% |
| 52.0 | 36.064 | 3.141 | 2124.378 | 0.12% | 96.83% |
| 53.0 | 35.040 | 3.093 | 2127.471 | 0.12% | 96.97% |
| 54.0 | 34.287 | 3.056 | 2130.527 | 0.12% | 97.11% |
| 55.0 | 33.453 | 3.024 | 2133.55 | 0.12% | 97.25% |
| 56.0 | 32.670 | 2.988 | 2136.538 | 0.12% | 97.38% |
| 57.0 | 31.675 | 2.942 | 2139.48 | 0.11% | 97.52% |
| 58.0 | 30.578 | 2.879 | 2142.359 | 0.11% | 97.65% |
| 59.0 | 29.225 | 2.796 | 2145.155 | 0.11% | 97.78% |
| 60.0 | 27.864 | 2.697 | 2147.852 | 0.10% | 97.90% |
| 61.0 | 26.225 | 2.581 | 2150.433 | 0.10% | 98.02% |
| 62.0 | 24.550 | 2.447 | 2152.88 | 0.10% | 98.13% |
| 63.0 | 22.985 | 2.312 | 2155.192 | 0.09% | 98.23% |
| 64.0 | 21.331 | 2.175 | 2157.366 | 0.08% | 98.33% |
| 65.0 | 19.978 | 2.044 | 2159.411 | 0.08% | 98.43% |
| 66.0 | 18.698 | 1.930 | 2161.341 | 0.07% | 98.51% |
| 67.0 | 17.608 | 1.826 | 2163.166 | 0.07% | 98.60% |
| 68.0 | 16.752 | 1.741 | 2164.907 | 0.07% | 98.68% |
| 69.0 | 15.991 | 1.670 | 2166.577 | 0.06% | 98.75% |
| 70.0 | 15.457 | 1.615 | 2168.192 | 0.06% | 98.83% |
| 71.0 | 14.989 | 1.574 | 2169.766 | 0.06% | 98.90% |
| 72.0 | 14.550 | 1.536 | 2171.302 | 0.06% | 98.97% |
| 73.0 | 14.206 | 1.504 | 2172.806 | 0.06% | 99.04% |
| 74.0 | 13.877 | 1.476 | 2174.282 | 0.06% | 99.10% |
| 75.0 | 13.504 | 1.447 | 2175.729 | 0.06% | 99.17% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 13.160 | 1.415 | 2177.144 | 0.05% | 99.23% |
| 77.0 | 12.875 | 1.388 | 2178.532 | 0.05% | 99.30% |
| 78.0 | 12.612 | 1.364 | 2179.897 | 0.05% | 99.36% |
| 79.0 | 12.326 | 1.340 | 2181.236 | 0.05% | 99.42% |
| 80.0 | 11.975 | 1.310 | 2182.547 | 0.05% | 99.48% |
| 81.0 | 11.609 | 1.275 | 2183.822 | 0.05% | 99.54% |
| 82.0 | 11.309 | 1.243 | 2185.065 | 0.05% | 99.59% |
| 83.0 | 10.900 | 1.207 | 2186.272 | 0.05% | 99.65% |
| 84.0 | 10.600 | 1.171 | 2187.443 | 0.05% | 99.70% |
| 85.0 | 10.307 | 1.141 | 2188.585 | 0.04% | 99.75% |
| 86.0 | 10.095 | 1.115 | 2189.7 | 0.04% | 99.81% |
| 87.0 | 9.883 | 1.093 | 2190.793 | 0.04% | 99.86% |
| 88.0 | 9.671 | 1.071 | 2191.864 | 0.04% | 99.90% |
| 89.0 | 9.539 | 1.053 | 2192.917 | 0.04% | 99.95% |
| 90.0 | 9.525 | 1.045 | 2193.962 | 0.04% | 100.00% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

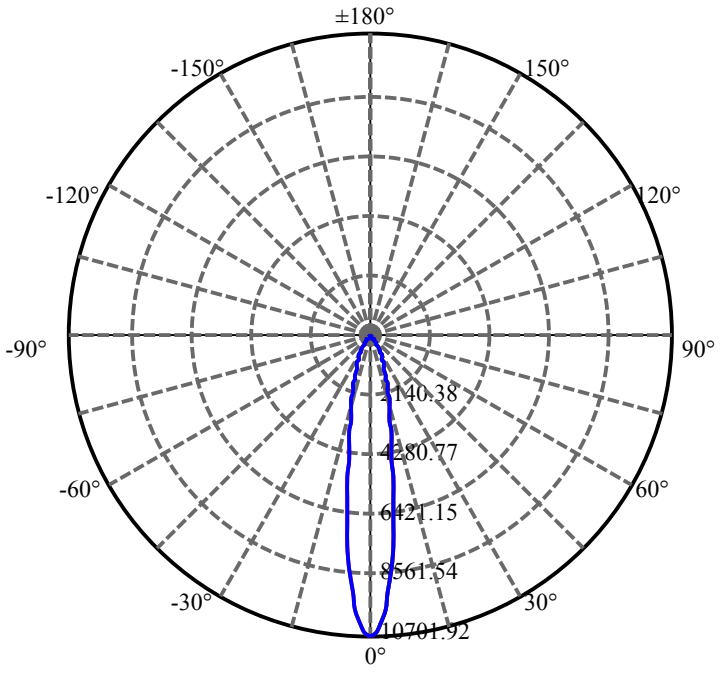
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1896.89 | 73.67% | 86.46% |
| 0-40 | 2078.33 | 80.71% | 94.73% |
| 0-60 | 2147.85 | 83.41% | 97.90% |
| 0-90 | 2192.92 | 85.16% | 99.95% |
| 0-120 | 2192.92 | 85.16% | 99.95% |
| 0-180 | 2193.96 | 85.20% | 100.00% |
| 60-90 | 45.07 | 1.75% | 2.05% |
| 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% |
| 0-26.66 | 1755.17 | 68.16% | 80.00% |

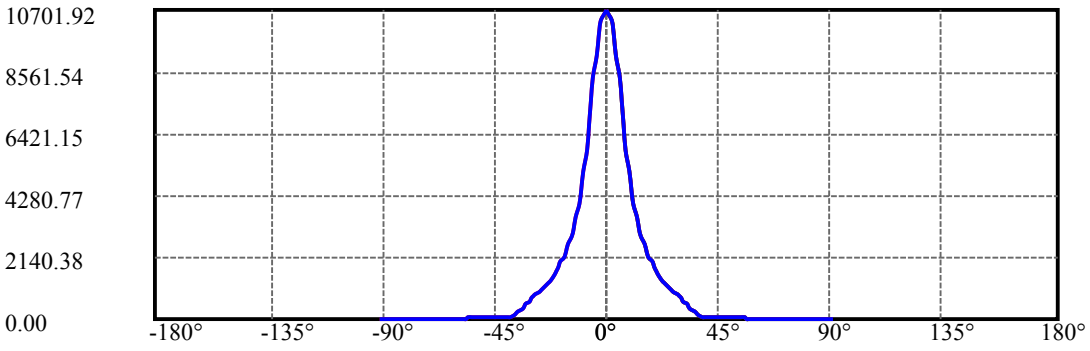
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 665.35 |
| 10-20 | 734.57 |
| 20-30 | 496.97 |
| 30-40 | 181.43 |
| 40-50 | 39.71 |
| 50-60 | 29.82 |
| 60-70 | 20.34 |
| 70-80 | 14.35 |
| 80-90 | 10.37 |
| 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:

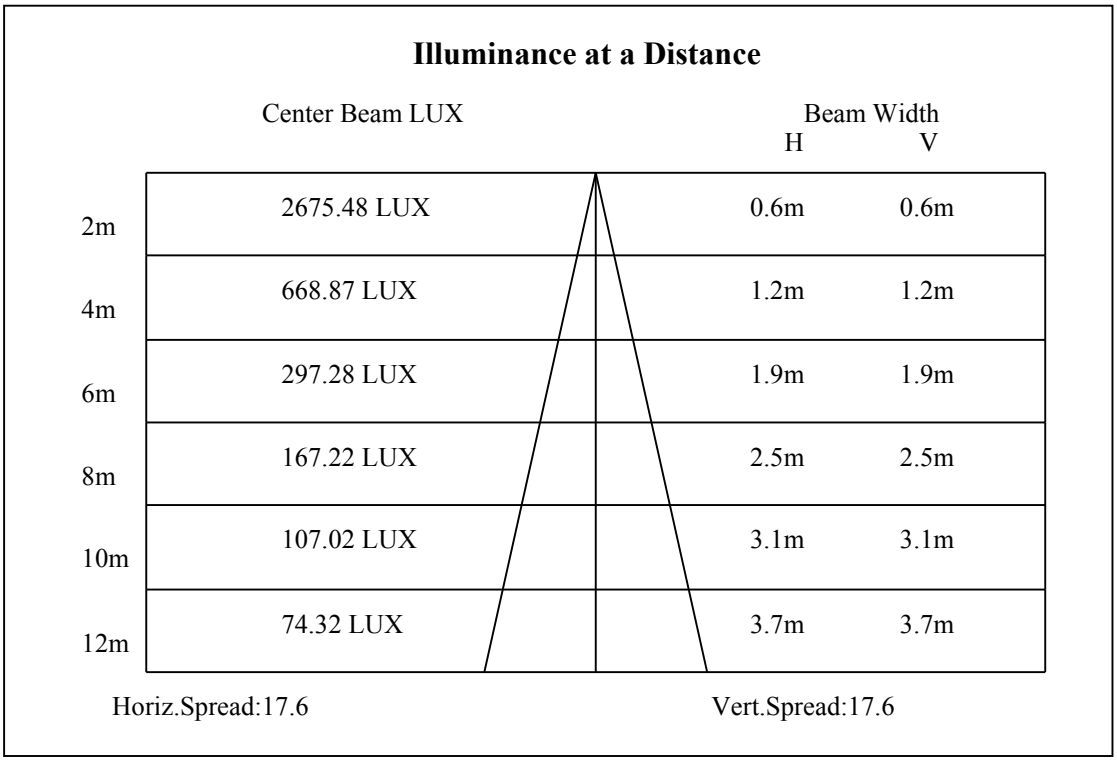
C90/C270:

Field angle(10%Imax):C0/180Left:25.0 Right:25.0
:C90/270Left:25.0 Right:25.0

Beam Angle(50%Imax):C0/180Left:8.7 Right:8.7
:C90/270Left:8.7 Right:8.7

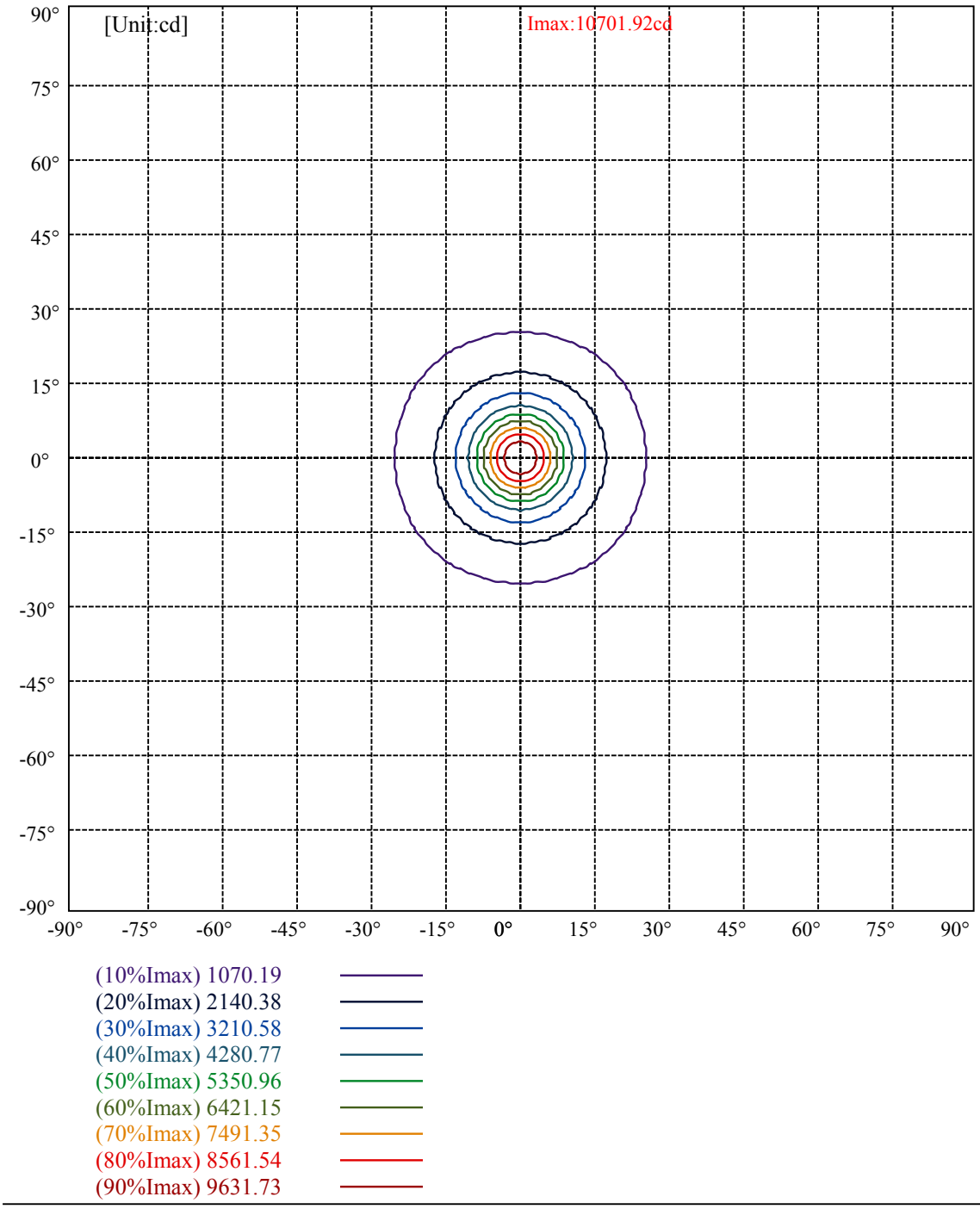
Lux distance Curve





ISO-Intensity(V-H)






(10%Imax) 1070.19
(20%Imax) 2140.38
(30%Imax) 3210.58
(40%Imax) 4280.77
(50%Imax) 5350.96
(60%Imax) 6421.15
(70%Imax) 7491.35
(80%Imax) 8561.54
(90%Imax) 9631.73

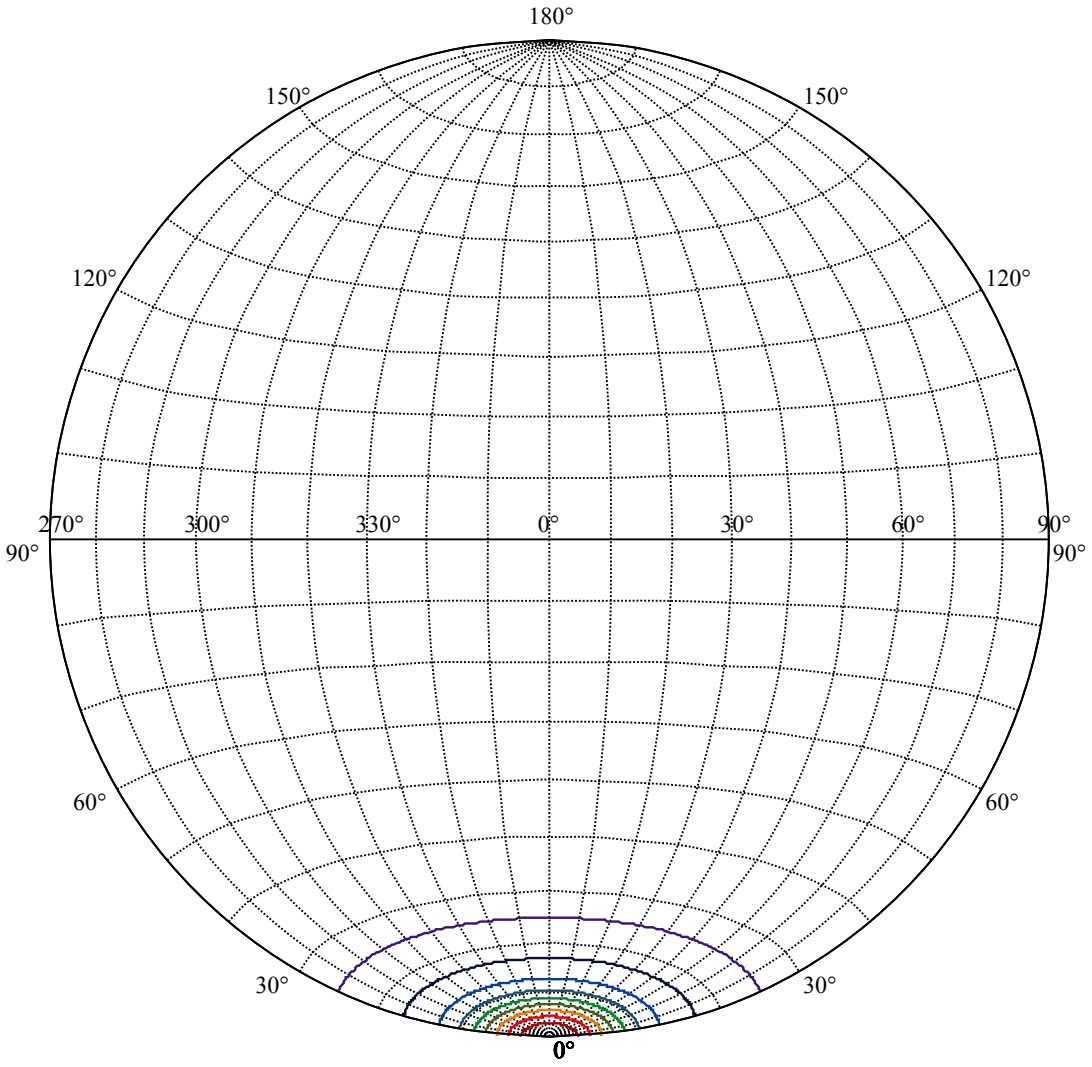
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/3/02
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

## ISO candela diagram on circular web






[Unit:cd]

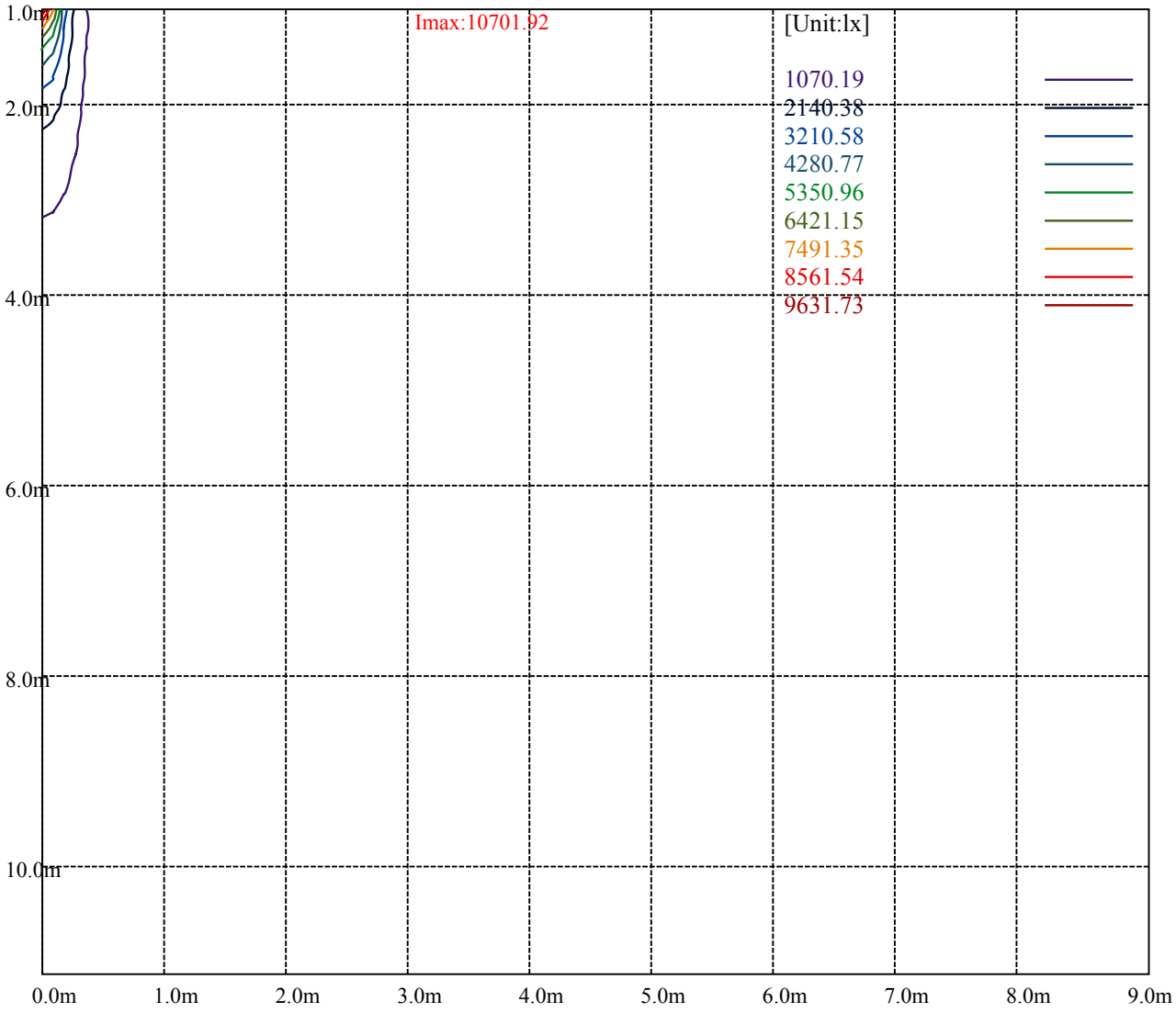
Imax:10701.92

(10%Imax) 1070.19
(20%Imax) 2140.38
(30%Imax) 3210.58
(40%Imax) 4280.77
(50%Imax) 5350.96
(60%Imax) 6421.15
(70%Imax) 7491.35
(80%Imax) 8561.54
(90%Imax) 9631.73

| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2024/3/02 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.65 |

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/3/02
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

## Luminance Limitting Curve(no luminous side)



Luminance Table

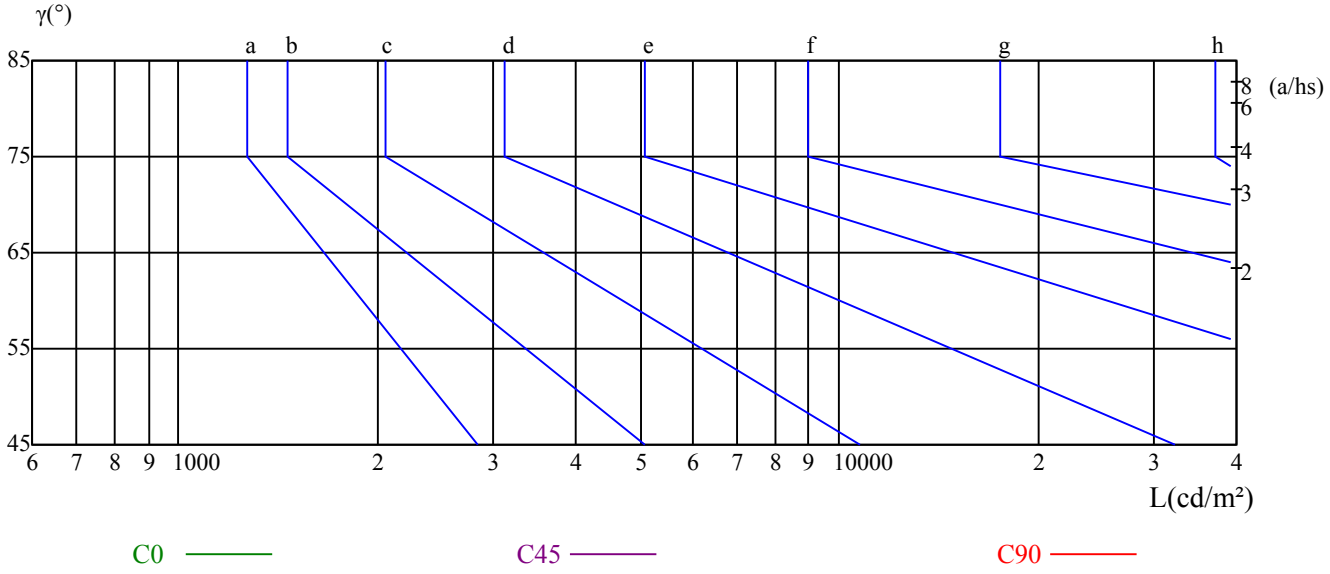
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 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

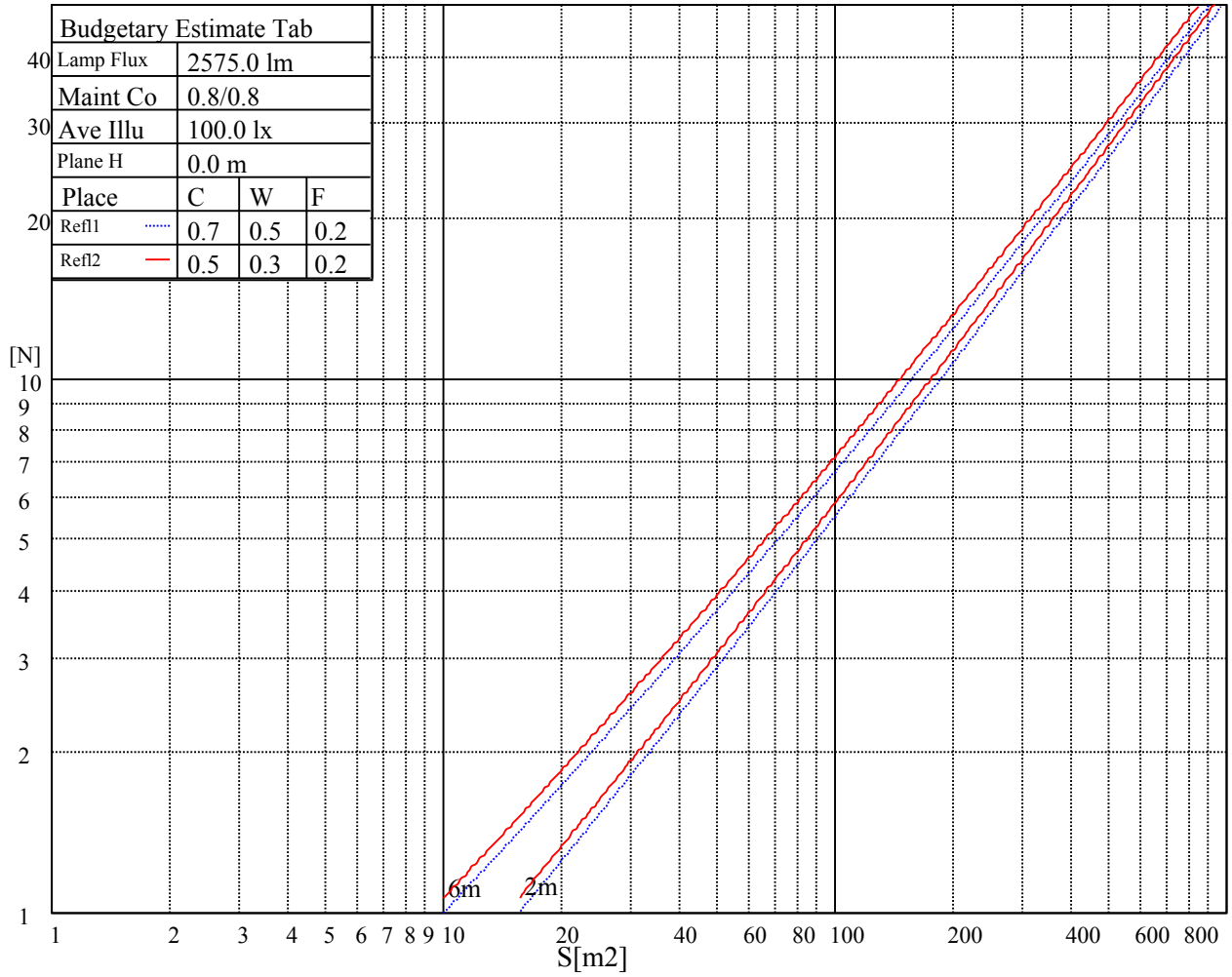


| Illumination assessment according UGR | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rf of Ceiling | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| Rf of Wall | | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| Rf of Floor | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 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: 2024/3/02 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.65

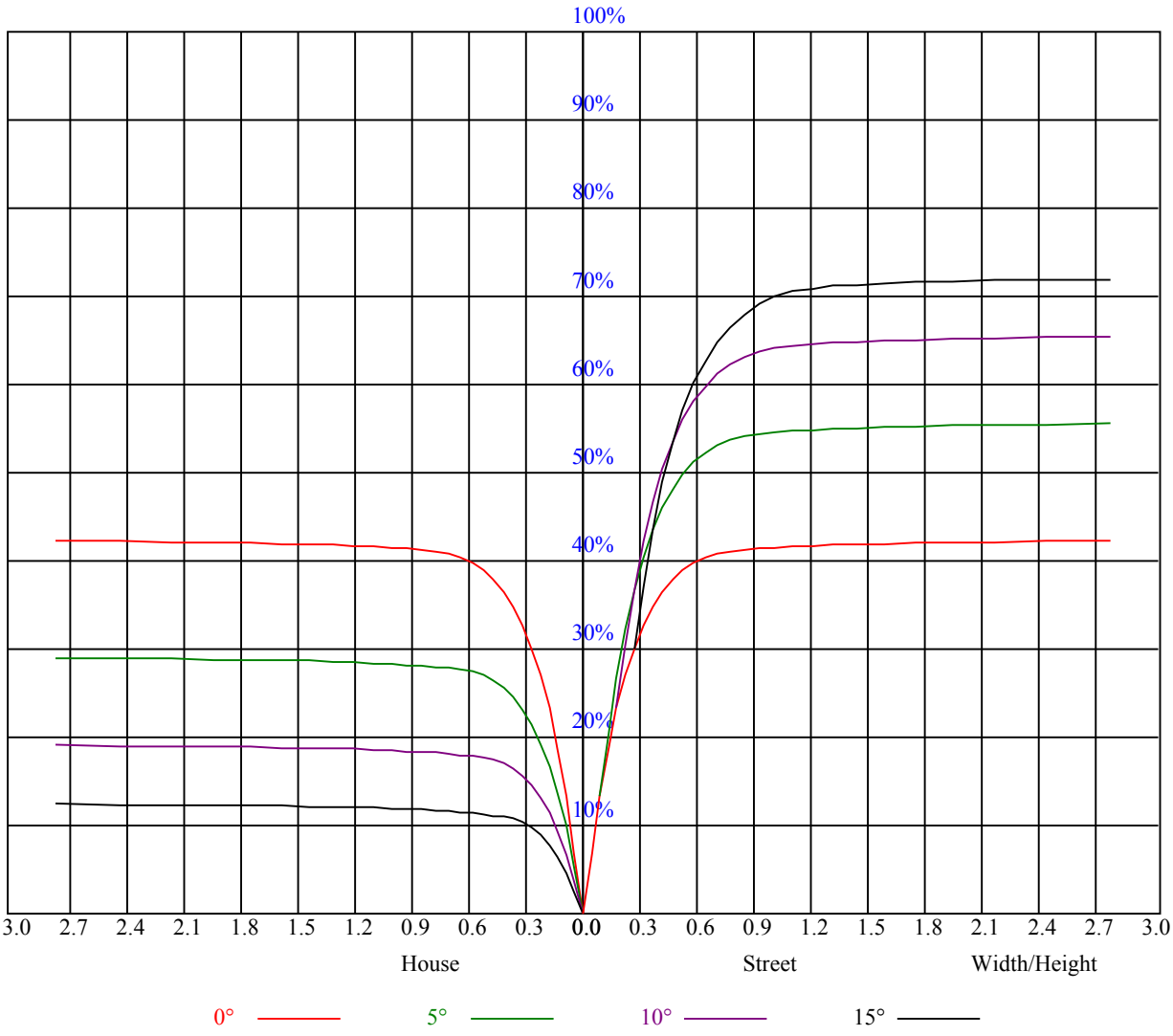
Utilization factor table for indoor luminaire



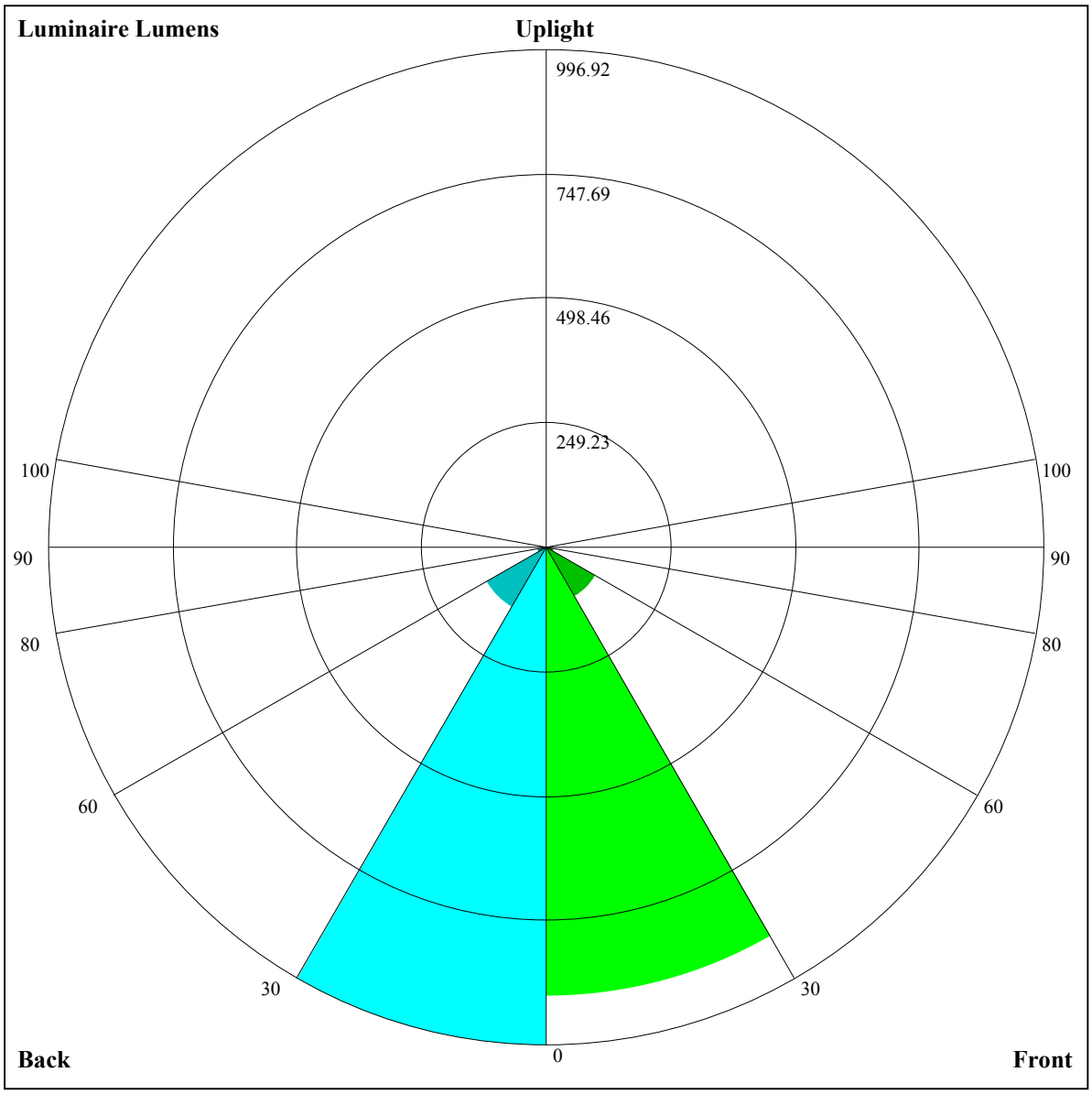
| RHOCC | 80 | | | 70 | | | 50 | | | 30 | | | 10 | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RHOW | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | COEFFCIENTS OF UTILIZATION RHOFC=20 CU | | | | | | | | | | | | | | | |
| 0 | 1.01 | 1.01 | 1.01 | 0.99 | 0.99 | 0.99 | 0.95 | 0.95 | 0.95 | 0.91 | 0.91 | 0.91 | 0.87 | 0.87 | 0.87 | 0.85 |
| 1 | 0.95 | 0.93 | 0.92 | 0.93 | 0.92 | 0.90 | 0.90 | 0.89 | 0.87 | 0.87 | 0.86 | 0.85 | 0.84 | 0.83 | 0.82 | 0.81 |
| 2 | 0.90 | 0.87 | 0.84 | 0.88 | 0.86 | 0.83 | 0.86 | 0.83 | 0.82 | 0.83 | 0.81 | 0.80 | 0.81 | 0.79 | 0.78 | 0.77 |
| 3 | 0.85 | 0.82 | 0.79 | 0.84 | 0.81 | 0.78 | 0.82 | 0.79 | 0.77 | 0.80 | 0.78 | 0.76 | 0.78 | 0.76 | 0.75 | 0.73 |
| 4 | 0.81 | 0.77 | 0.74 | 0.80 | 0.77 | 0.74 | 0.78 | 0.75 | 0.73 | 0.77 | 0.74 | 0.72 | 0.75 | 0.73 | 0.71 | 0.70 |
| 5 | 0.77 | 0.73 | 0.70 | 0.77 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.74 | 0.71 | 0.69 | 0.73 | 0.70 | 0.68 | 0.67 |
| 6 | 0.74 | 0.70 | 0.67 | 0.74 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.70 | 0.68 | 0.66 | 0.65 |
| 7 | 0.71 | 0.67 | 0.64 | 0.71 | 0.67 | 0.64 | 0.70 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.68 | 0.65 | 0.63 | 0.62 |
| 8 | 0.69 | 0.65 | 0.62 | 0.68 | 0.64 | 0.62 | 0.67 | 0.64 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.61 | 0.60 |
| 9 | 0.66 | 0.62 | 0.59 | 0.66 | 0.62 | 0.59 | 0.65 | 0.62 | 0.59 | 0.64 | 0.61 | 0.59 | 0.64 | 0.61 | 0.59 | 0.58 |
| 10 | 0.64 | 0.60 | 0.57 | 0.64 | 0.60 | 0.57 | 0.63 | 0.60 | 0.57 | 0.62 | 0.59 | 0.57 | 0.62 | 0.59 | 0.57 | 0.56 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2024/3/02 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.65 |




Luminaire Lumens:
FL=901.1,FM=115.16,FH=17.07,FVH=5.67
BL=996.92,BM=137.87,BH=17.65,BVH=5.76
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 | 10443.40 | 9848.22 | 9238.42 | 8519.76 | 7523.13 | 6724.88 | 5933.65 | 5191.59 | 4404.46 |
| 45.0 | 10788.10 | 10576.83 | 10198.19 | 9662.71 | 8822.33 | 8069.14 | 7270.31 | 6469.14 | 5502.34 |
| 90.0 | 10734.84 | 10467.39 | 9902.65 | 9286.41 | 8568.92 | 7589.26 | 6787.50 | 5797.88 | 5066.35 |
| 135.0 | 10841.35 | 10821.45 | 10623.65 | 10120.35 | 9541.57 | 8838.71 | 7878.36 | 7076.60 | 6083.47 |
| 180.0 | 10443.40 | 10724.89 | 10821.45 | 10673.98 | 10356.20 | 9735.86 | 9090.94 | 8351.22 | 7534.83 |
| 225.0 | 10788.10 | 10751.81 | 10446.32 | 10010.92 | 9422.77 | 8553.12 | 7770.68 | 6951.36 | 6134.97 |
| 270.0 | 10734.84 | 10822.62 | 10724.31 | 10350.93 | 9859.93 | 9233.74 | 8514.50 | 7527.81 | 6686.84 |
| 315.0 | 10841.35 | 10668.13 | 10209.31 | 9670.32 | 9017.21 | 8265.19 | 7253.92 | 6422.32 | 5622.90 |
| 360.0 | 10443.40 | 9848.22 | 9238.42 | 8519.76 | 7523.13 | 6724.88 | 5933.65 | 5191.59 | 4404.46 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 3916.38 | 3518.43 | 3186.61 | 2837.23 | 2599.63 | 2342.71 | 2156.03 | 1986.90 | 1803.14 |
| 45.0 | 4812.36 | 4244.11 | 3794.66 | 3329.99 | 3020.40 | 2756.47 | 2469.71 | 2266.05 | 2085.22 |
| 90.0 | 4453.04 | 3848.50 | 3454.64 | 3122.23 | 2844.25 | 2539.35 | 2325.74 | 2133.79 | 1966.41 |
| 135.0 | 5337.90 | 4682.44 | 4147.55 | 3605.04 | 3248.06 | 2942.57 | 2676.88 | 2383.68 | 2185.29 |
| 180.0 | 6528.83 | 5752.24 | 5025.97 | 4405.05 | 3792.32 | 3410.16 | 3085.95 | 2808.55 | 2496.63 |
| 225.0 | 5186.91 | 4543.16 | 4027.58 | 3607.39 | 3264.44 | 2903.36 | 2653.47 | 2432.25 | 2189.97 |
| 270.0 | 5890.93 | 5156.48 | 4385.73 | 3790.56 | 3410.75 | 3092.97 | 2826.11 | 2534.08 | 2320.48 |
| 315.0 | 4745.06 | 4182.08 | 3729.11 | 3279.07 | 2984.71 | 2668.68 | 2450.98 | 2257.27 | 2082.87 |
| 360.0 | 3916.38 | 3518.43 | 3186.61 | 2837.23 | 2599.63 | 2342.71 | 2156.03 | 1986.90 | 1803.14 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1671.46 | 1549.73 | 1437.96 | 1145.11 | 1145.11 | 1091.68 | 987.51 | 912.07 | 845.06 |
| 45.0 | 1887.99 | 1748.71 | 1591.87 | 1476.00 | 1370.07 | 1264.73 | 1137.15 | 1032.40 | 940.52 |
| 90.0 | 1818.94 | 1648.64 | 1528.67 | 1391.72 | 1150.55 | 1150.55 | 1046.27 | 951.28 | 885.04 |
| 135.0 | 2012.06 | 1859.32 | 1689.60 | 1567.88 | 1430.35 | 1327.93 | 1223.76 | 1093.26 | 992.01 |
| 180.0 | 2301.75 | 2067.66 | 1896.77 | 1753.98 | 1595.97 | 1480.09 | 1372.41 | 1267.66 | 1136.57 |
| 225.0 | 2014.99 | 1817.18 | 1680.24 | 1556.76 | 1416.30 | 1154.71 | 1154.71 | 1103.32 | 1002.49 |
| 270.0 | 2146.08 | 1982.80 | 1787.34 | 1654.49 | 1532.76 | 1421.57 | 1285.80 | 1183.97 | 1076.29 |
| 315.0 | 1887.41 | 1742.86 | 1612.35 | 1492.97 | 1157.81 | 1157.81 | 1132.18 | 1028.12 | 922.72 |
| 360.0 | 1671.46 | 1549.73 | 1437.96 | 1145.11 | 1145.11 | 1091.68 | 987.51 | 912.07 | 845.06 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 796.26 | 708.82 | 624.32 | 533.14 | 416.27 | 324.62 | 238.95 | 146.60 | 97.97 |
| 45.0 | 879.65 | 834.00 | 763.19 | 686.53 | 577.09 | 484.04 | 392.16 | 302.03 | 302.03 |
| 90.0 | 827.16 | 777.35 | 708.41 | 626.83 | 512.07 | 418.38 | 328.49 | 244.27 | 152.39 |
| 135.0 | 920.03 | 868.53 | 814.11 | 747.39 | 666.63 | 579.43 | 463.56 | 371.09 | 305.55 |
| 180.0 | 1036.49 | 950.46 | 892.53 | 840.44 | 791.87 | 716.37 | 602.84 | 512.13 | 419.08 |
| 225.0 | 909.32 | 856.54 | 814.93 | 754.82 | 653.70 | 564.22 | 448.46 | 358.80 | 272.83 |
| 270.0 | 957.49 | 893.11 | 836.35 | 779.58 | 704.08 | 595.82 | 502.18 | 409.13 | 320.18 |
| 315.0 | 863.56 | 822.83 | 751.72 | 676.46 | 565.03 | 471.98 | 379.69 | 292.79 | 195.41 |
| 360.0 | 796.26 | 708.82 | 624.32 | 533.14 | 416.27 | 324.62 | 238.95 | 146.60 | 97.97 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 81.81 | 75.96 | 69.99 | 65.95 | 61.51 | 58.00 | 53.49 | 50.45 | 47.40 |
| 45.0 | 127.93 | 84.92 | 77.48 | 71.92 | 67.89 | 62.38 | 58.52 | 55.13 | 51.79 |
| 90.0 | 101.77 | 81.93 | 73.91 | 69.12 | 63.85 | 59.52 | 56.12 | 51.91 | 48.75 |
| 135.0 | 305.55 | 117.57 | 88.60 | 79.53 | 74.15 | 68.41 | 63.50 | 59.63 | 55.54 |
| 180.0 | 303.79 | 303.79 | 201.49 | 89.71 | 79.18 | 73.04 | 67.59 | 63.20 | 59.22 |
| 225.0 | 177.67 | 117.92 | 88.25 | 78.89 | 73.27 | 68.76 | 63.97 | 58.99 | 55.07 |
| 270.0 | 297.35 | 198.98 | 97.91 | 82.17 | 76.02 | 70.23 | 65.95 | 60.51 | 56.88 |
| 315.0 | 133.55 | 96.56 | 85.91 | 77.95 | 73.15 | 68.18 | 62.15 | 58.00 | 54.37 |
| 360.0 | 81.81 | 75.96 | 69.99 | 65.95 | 61.51 | 58.00 | 53.49 | 50.45 | 47.40 |

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 | 44.36 | 42.37 | 40.03 | 38.80 | 37.45 | 36.52 | 35.17 | 34.59 | 33.94 |
| 45.0 | 47.99 | 45.65 | 43.37 | 40.97 | 39.27 | 38.04 | 36.69 | 35.76 | 34.82 |
| 90.0 | 46.12 | 43.60 | 41.61 | 39.39 | 37.98 | 36.64 | 35.76 | 34.70 | 34.12 |
| 135.0 | 52.32 | 48.52 | 45.71 | 43.31 | 40.50 | 38.92 | 37.34 | 36.40 | 35.00 |
| 180.0 | 55.54 | 52.44 | 48.40 | 45.82 | 43.42 | 40.91 | 39.15 | 37.86 | 36.28 |
| 225.0 | 51.85 | 48.57 | 45.24 | 43.01 | 40.56 | 38.98 | 37.57 | 36.17 | 35.41 |
| 270.0 | 53.26 | 49.22 | 46.58 | 43.95 | 41.67 | 39.68 | 38.33 | 36.99 | 35.70 |
| 315.0 | 50.21 | 47.52 | 44.71 | 42.08 | 40.20 | 38.86 | 37.04 | 36.05 | 35.05 |
| 360.0 | 44.36 | 42.37 | 40.03 | 38.80 | 37.45 | 36.52 | 35.17 | 34.59 | 33.94 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 33.53 | 32.19 | 31.31 | 30.20 | 28.79 | 27.04 | 25.22 | 23.47 | 21.83 |
| 45.0 | 34.00 | 33.30 | 32.71 | 31.66 | 30.43 | 28.85 | 27.80 | 25.93 | 24.23 |
| 90.0 | 33.07 | 32.42 | 31.37 | 30.31 | 28.73 | 27.74 | 26.22 | 24.46 | 22.88 |
| 135.0 | 34.41 | 33.53 | 32.89 | 31.84 | 30.43 | 29.26 | 28.03 | 26.57 | 24.70 |
| 180.0 | 35.35 | 34.53 | 33.71 | 32.95 | 32.30 | 31.13 | 30.08 | 28.62 | 27.39 |
| 225.0 | 34.70 | 33.71 | 33.01 | 32.07 | 31.37 | 29.73 | 28.44 | 26.98 | 25.22 |
| 270.0 | 34.88 | 34.29 | 33.47 | 32.66 | 31.60 | 30.96 | 29.03 | 28.03 | 25.69 |
| 315.0 | 34.35 | 33.65 | 32.89 | 31.72 | 30.96 | 29.09 | 28.09 | 25.75 | 24.46 |
| 360.0 | 33.53 | 32.19 | 31.31 | 30.20 | 28.79 | 27.04 | 25.22 | 23.47 | 21.83 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 20.60 | 18.90 | 18.02 | 16.97 | 16.21 | 15.63 | 15.16 | 14.75 | 14.40 |
| 45.0 | 22.53 | 21.07 | 19.49 | 18.55 | 17.38 | 16.68 | 16.09 | 15.57 | 15.04 |
| 90.0 | 21.48 | 19.96 | 18.73 | 17.85 | 16.91 | 16.09 | 15.51 | 15.16 | 14.63 |
| 135.0 | 23.00 | 21.54 | 20.37 | 18.61 | 17.79 | 16.85 | 15.98 | 15.45 | 14.98 |
| 180.0 | 25.22 | 23.99 | 22.06 | 21.07 | 19.02 | 18.08 | 16.85 | 16.15 | 15.57 |
| 225.0 | 23.99 | 21.71 | 20.60 | 18.73 | 17.91 | 16.91 | 16.09 | 15.57 | 15.16 |
| 270.0 | 24.35 | 22.59 | 21.07 | 19.37 | 18.20 | 17.32 | 16.44 | 15.68 | 15.22 |
| 315.0 | 22.71 | 20.89 | 19.49 | 18.43 | 17.44 | 16.44 | 15.80 | 15.33 | 14.92 |
| 360.0 | 20.60 | 18.90 | 18.02 | 16.97 | 16.21 | 15.63 | 15.16 | 14.75 | 14.40 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 13.99 | 13.75 | 13.46 | 12.99 | 12.82 | 12.58 | 12.41 | 12.11 | 11.47 |
| 45.0 | 14.63 | 14.34 | 13.99 | 13.58 | 13.34 | 13.05 | 12.93 | 12.99 | 12.58 |
| 90.0 | 14.28 | 13.93 | 13.58 | 13.17 | 12.82 | 12.41 | 12.11 | 11.76 | 11.47 |
| 135.0 | 14.46 | 14.10 | 13.81 | 13.40 | 13.05 | 12.87 | 12.52 | 12.11 | 11.88 |
| 180.0 | 15.10 | 14.63 | 14.28 | 13.99 | 13.58 | 13.23 | 12.99 | 12.64 | 12.29 |
| 225.0 | 14.63 | 14.34 | 13.99 | 13.69 | 13.28 | 12.99 | 12.76 | 12.47 | 12.23 |
| 270.0 | 14.86 | 14.46 | 14.05 | 13.75 | 13.34 | 13.11 | 12.76 | 12.41 | 12.11 |
| 315.0 | 14.46 | 14.10 | 13.87 | 13.46 | 13.05 | 12.76 | 12.41 | 12.11 | 11.76 |
| 360.0 | 13.99 | 13.75 | 13.46 | 12.99 | 12.82 | 12.58 | 12.41 | 12.11 | 11.47 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 11.00 | 10.71 | 10.42 | 10.18 | 9.95 | 9.77 | 9.60 | 9.48 | 9.42 |
| 45.0 | 11.65 | 11.24 | 10.77 | 10.53 | 10.24 | 10.01 | 9.77 | 9.54 | 9.48 |
| 90.0 | 11.12 | 10.83 | 10.53 | 10.30 | 10.07 | 9.89 | 9.71 | 9.60 | 9.48 |
| 135.0 | 11.59 | 11.24 | 10.94 | 10.59 | 10.30 | 10.07 | 9.89 | 9.66 | 9.48 |
| 180.0 | 12.00 | 11.76 | 11.53 | 11.06 | 10.71 | 10.42 | 10.18 | 9.89 | 9.77 |
| 225.0 | 12.29 | 11.88 | 11.06 | 10.71 | 10.36 | 10.18 | 9.95 | 9.71 | 9.54 |
| 270.0 | 11.76 | 11.65 | 11.12 | 10.83 | 10.48 | 10.30 | 10.07 | 9.83 | 9.66 |
| 315.0 | 11.47 | 11.18 | 10.83 | 10.59 | 10.36 | 10.12 | 9.89 | 9.66 | 9.48 |
| 360.0 | 11.00 | 10.71 | 10.42 | 10.18 | 9.95 | 9.77 | 9.60 | 9.48 | 9.42 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 9.54 |
| 45.0 | 9.54 |
| 90.0 | 9.54 |
| 135.0 | 9.48 |
| 180.0 | 9.60 |
| 225.0 | 9.48 |
| 270.0 | 9.54 |
| 315.0 | 9.48 |
| 360.0 | 9.54 |