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

NT

Client:
LumCAT: 2-2569-L
Luminaire: 92.70.412.00
Report No: 2024806-B009
Ballast type: AC

| | |
|---|---|
| Test No: 2024806-C009 | Voltage(V): 34.920 |
| LampCAT: CITIZEN CLU038 LES14.5 | Current(A): 0.450 |
| Lamp flux(lm): 2571.0 | Power (W): 15.714 |
| Number of Lamps: 1 | PF: 0.000 |
| Length(mm): 0 | Width(mm): 0 |
| Phm Type: C | Height(mm): 0 |

## Photometric Results

Lumens(lm): 2358.13, Efficiency(%): 91.72% , Luminous Efficacy(lm/W): 150.07
Central intensity(cd): 3900.876, Maximum intensity(cd): 3900.876
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=46.2
[C90/270]Total=46.2
Field angle(10%Imax): [C0/180]Total=71.8
[C90/270]Total=71.8
Maximum s/h(1/2): C0_180=0.72 C90_270=0.72
Maximum s/h(1/4): C0_180=0.72 C90_270=0.72
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.72%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.977%

NT 2-2569-L

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 3900.876 | 0.000 | 0 | 0.00% | 0.00% |
| 1.0 | 3895.901 | 3.731 | 3.731 | 0.15% | 0.16% |
| 2.0 | 3884.197 | 11.167 | 14.897 | 0.43% | 0.63% |
| 3.0 | 3861.593 | 18.525 | 33.423 | 0.72% | 1.42% |
| 4.0 | 3828.235 | 25.740 | 59.163 | 1.00% | 2.51% |
| 5.0 | 3773.443 | 32.702 | 91.865 | 1.27% | 3.90% |
| 6.0 | 3721.139 | 39.386 | 131.251 | 1.53% | 5.57% |
| 7.0 | 3648.644 | 45.744 | 176.995 | 1.78% | 7.51% |
| 8.0 | 3571.321 | 51.672 | 228.667 | 2.01% | 9.70% |
| 9.0 | 3478.782 | 57.137 | 285.804 | 2.22% | 12.12% |
| 10.0 | 3383.903 | 62.105 | 347.909 | 2.42% | 14.75% |
| 11.0 | 3290.340 | 66.689 | 414.599 | 2.59% | 17.58% |
| 12.0 | 3181.634 | 70.748 | 485.346 | 2.75% | 20.58% |
| 13.0 | 3067.442 | 74.161 | 559.507 | 2.88% | 23.73% |
| 14.0 | 2966.345 | 77.232 | 636.739 | 3.00% | 27.00% |
| 15.0 | 2862.101 | 80.016 | 716.755 | 3.11% | 30.40% |
| 16.0 | 2751.640 | 82.257 | 799.012 | 3.20% | 33.88% |
| 17.0 | 2635.400 | 83.891 | 882.902 | 3.26% | 37.44% |
| 18.0 | 2525.451 | 85.091 | 967.994 | 3.31% | 41.05% |
| 19.0 | 2421.866 | 86.073 | 1054.067 | 3.35% | 44.70% |
| 20.0 | 2312.795 | 86.657 | 1140.724 | 3.37% | 48.37% |
| 21.0 | 2195.018 | 86.559 | 1227.283 | 3.37% | 52.04% |
| 22.0 | 2071.243 | 85.732 | 1313.016 | 3.33% | 55.68% |
| 23.0 | 1958.880 | 84.563 | 1397.579 | 3.29% | 59.27% |
| 24.0 | 1839.421 | 83.044 | 1480.623 | 3.23% | 62.79% |
| 25.0 | 1717.255 | 80.871 | 1561.494 | 3.15% | 66.22% |
| 26.0 | 1589.383 | 78.054 | 1639.548 | 3.04% | 69.53% |
| 27.0 | 1388.966 | 72.866 | 1712.414 | 2.83% | 72.62% |
| 28.0 | 1290.077 | 67.828 | 1780.241 | 2.64% | 75.49% |
| 29.0 | 1203.654 | 65.243 | 1845.484 | 2.54% | 78.26% |
| 30.0 | 1079.265 | 61.638 | 1907.123 | 2.40% | 80.87% |
| 31.0 | 948.430 | 56.428 | 1963.551 | 2.19% | 83.27% |
| 32.0 | 819.344 | 50.645 | 2014.195 | 1.97% | 85.41% |
| 33.0 | 693.521 | 44.570 | 2058.765 | 1.73% | 87.30% |
| 34.0 | 574.413 | 38.371 | 2097.136 | 1.49% | 88.93% |
| 35.0 | 475.664 | 32.611 | 2129.748 | 1.27% | 90.32% |
| 36.0 | 383.703 | 27.362 | 2157.11 | 1.06% | 91.48% |
| 37.0 | 309.152 | 22.597 | 2179.707 | 0.88% | 92.43% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 251.478 | 18.713 | 2198.42 | 0.73% | 93.23% |
| 39.0 | 228.764 | 16.392 | 2214.812 | 0.64% | 93.92% |
| 40.0 | 156.072 | 13.422 | 2228.234 | 0.52% | 94.49% |
| 41.0 | 123.322 | 9.949 | 2238.183 | 0.39% | 94.91% |
| 42.0 | 100.564 | 8.134 | 2246.317 | 0.32% | 95.26% |
| 43.0 | 84.697 | 6.863 | 2253.18 | 0.27% | 95.55% |
| 44.0 | 73.138 | 5.957 | 2259.137 | 0.23% | 95.80% |
| 45.0 | 63.694 | 5.259 | 2264.396 | 0.20% | 96.03% |
| 46.0 | 56.394 | 4.696 | 2269.092 | 0.18% | 96.22% |
| 47.0 | 50.958 | 4.270 | 2273.362 | 0.17% | 96.41% |
| 48.0 | 46.291 | 3.931 | 2277.293 | 0.15% | 96.57% |
| 49.0 | 42.304 | 3.638 | 2280.931 | 0.14% | 96.73% |
| 50.0 | 38.939 | 3.387 | 2284.319 | 0.13% | 96.87% |
| 51.0 | 36.072 | 3.174 | 2287.492 | 0.12% | 97.00% |
| 52.0 | 33.731 | 2.995 | 2290.488 | 0.12% | 97.13% |
| 53.0 | 31.668 | 2.845 | 2293.332 | 0.11% | 97.25% |
| 54.0 | 29.993 | 2.718 | 2296.05 | 0.11% | 97.37% |
| 55.0 | 28.376 | 2.605 | 2298.656 | 0.10% | 97.48% |
| 56.0 | 27.111 | 2.507 | 2301.163 | 0.10% | 97.58% |
| 57.0 | 25.940 | 2.426 | 2303.589 | 0.09% | 97.69% |
| 58.0 | 24.872 | 2.350 | 2305.938 | 0.09% | 97.79% |
| 59.0 | 23.899 | 2.280 | 2308.218 | 0.09% | 97.88% |
| 60.0 | 23.080 | 2.219 | 2310.438 | 0.09% | 97.98% |
| 61.0 | 22.334 | 2.167 | 2312.605 | 0.08% | 98.07% |
| 62.0 | 21.587 | 2.116 | 2314.721 | 0.08% | 98.16% |
| 63.0 | 20.944 | 2.069 | 2316.79 | 0.08% | 98.25% |
| 64.0 | 20.315 | 2.025 | 2318.814 | 0.08% | 98.33% |
| 65.0 | 19.744 | 1.982 | 2320.797 | 0.08% | 98.42% |
| 66.0 | 19.166 | 1.941 | 2322.738 | 0.08% | 98.50% |
| 67.0 | 18.632 | 1.901 | 2324.639 | 0.07% | 98.58% |
| 68.0 | 18.113 | 1.861 | 2326.5 | 0.07% | 98.66% |
| 69.0 | 17.615 | 1.823 | 2328.323 | 0.07% | 98.74% |
| 70.0 | 17.147 | 1.785 | 2330.108 | 0.07% | 98.81% |
| 71.0 | 16.650 | 1.747 | 2331.855 | 0.07% | 98.89% |
| 72.0 | 16.181 | 1.707 | 2333.562 | 0.07% | 98.96% |
| 73.0 | 15.743 | 1.669 | 2335.232 | 0.06% | 99.03% |
| 74.0 | 15.326 | 1.633 | 2336.865 | 0.06% | 99.10% |
| 75.0 | 14.872 | 1.596 | 2338.46 | 0.06% | 99.17% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 14.470 | 1.558 | 2340.018 | 0.06% | 99.23% |
| 77.0 | 14.053 | 1.521 | 2341.539 | 0.06% | 99.30% |
| 78.0 | 13.636 | 1.482 | 2343.021 | 0.06% | 99.36% |
| 79.0 | 13.248 | 1.444 | 2344.465 | 0.06% | 99.42% |
| 80.0 | 12.868 | 1.408 | 2345.873 | 0.05% | 99.48% |
| 81.0 | 12.465 | 1.370 | 2347.243 | 0.05% | 99.54% |
| 82.0 | 12.092 | 1.332 | 2348.575 | 0.05% | 99.59% |
| 83.0 | 11.756 | 1.296 | 2349.871 | 0.05% | 99.65% |
| 84.0 | 11.434 | 1.263 | 2351.135 | 0.05% | 99.70% |
| 85.0 | 11.127 | 1.231 | 2352.366 | 0.05% | 99.76% |
| 86.0 | 10.819 | 1.200 | 2353.566 | 0.05% | 99.81% |
| 87.0 | 10.615 | 1.173 | 2354.739 | 0.05% | 99.86% |
| 88.0 | 10.402 | 1.151 | 2355.89 | 0.04% | 99.90% |
| 89.0 | 10.198 | 1.129 | 2357.019 | 0.04% | 99.95% |
| 90.0 | 10.088 | 1.112 | 2358.131 | 0.04% | 100.00% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

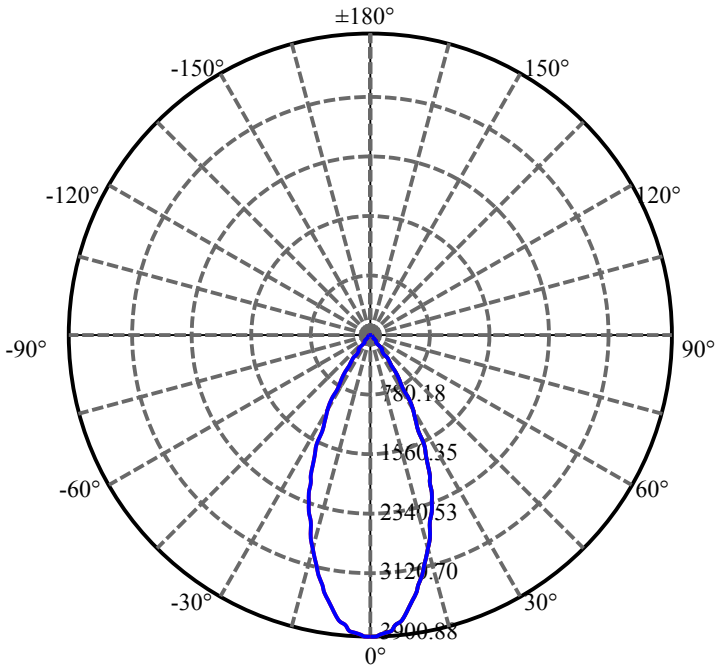
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1907.12 | 74.18% | 80.87% |
| 0-40 | 2228.23 | 86.67% | 94.49% |
| 0-60 | 2310.44 | 89.87% | 97.98% |
| 0-90 | 2357.02 | 91.68% | 99.95% |
| 0-120 | 2357.02 | 91.68% | 99.95% |
| 0-180 | 2358.13 | 91.72% | 100.00% |
| 60-90 | 46.58 | 1.81% | 1.98% |
| 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% |
| 0-29.67 | 1886.51 | 73.38% | 80.00% |

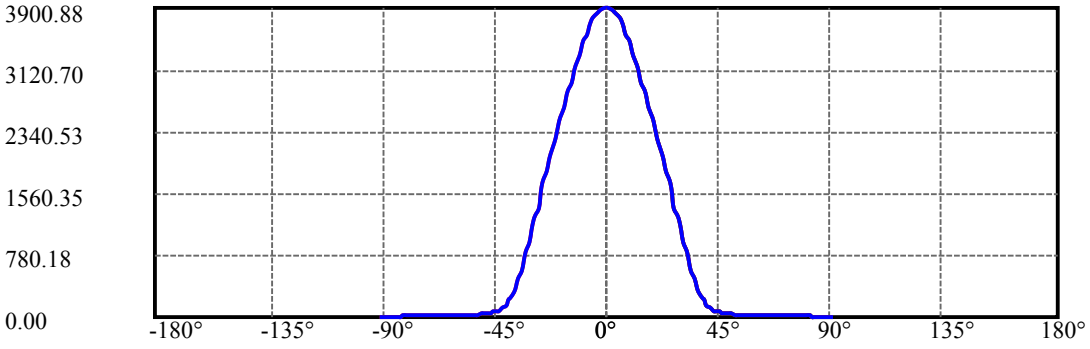
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 347.91 |
| 10-20 | 792.82 |
| 20-30 | 766.40 |
| 30-40 | 321.11 |
| 40-50 | 56.08 |
| 50-60 | 26.12 |
| 60-70 | 19.67 |
| 70-80 | 15.77 |
| 80-90 | 11.15 |
| 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:

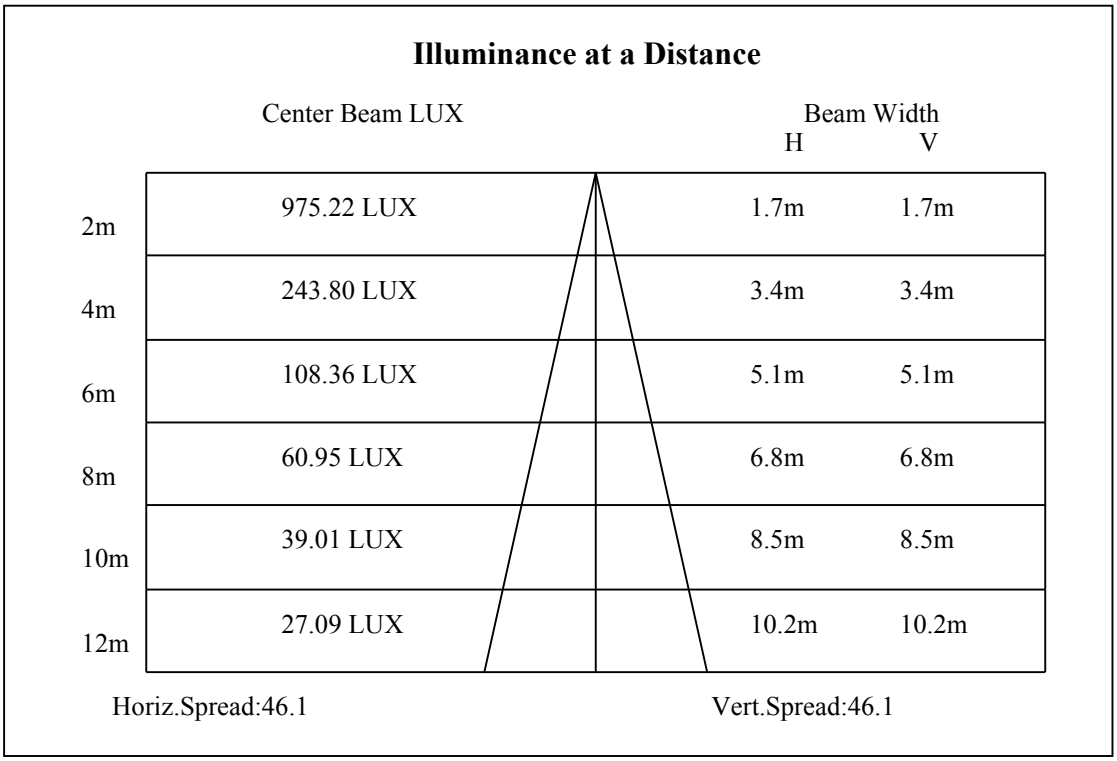
Field angle(10%Imax):C0/180Left:35.9 Right:35.9
:C90/270Left:35.9 Right:35.9

Beam Angle(50%Imax):C0/180Left:23.1 Right:23.1
:C90/270Left:23.1 Right:23.1

Equipment: GMS1980 Date: 2024/8/6 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.65

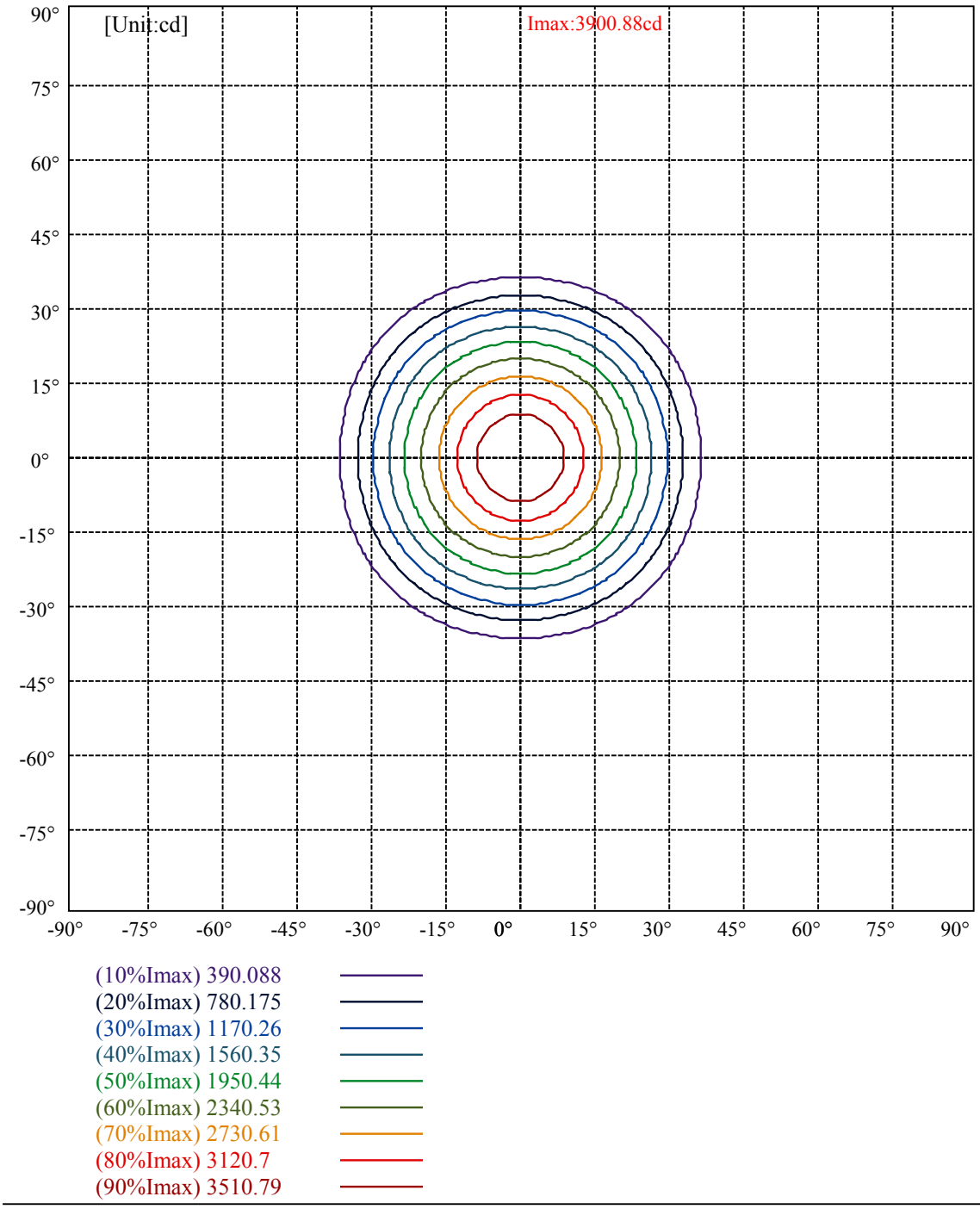
Lux distance Curve





ISO-Intensity(V-H)






(10%Imax) 390.088
(20%Imax) 780.175
(30%Imax) 1170.26
(40%Imax) 1560.35
(50%Imax) 1950.44
(60%Imax) 2340.53
(70%Imax) 2730.61
(80%Imax) 3120.7
(90%Imax) 3510.79

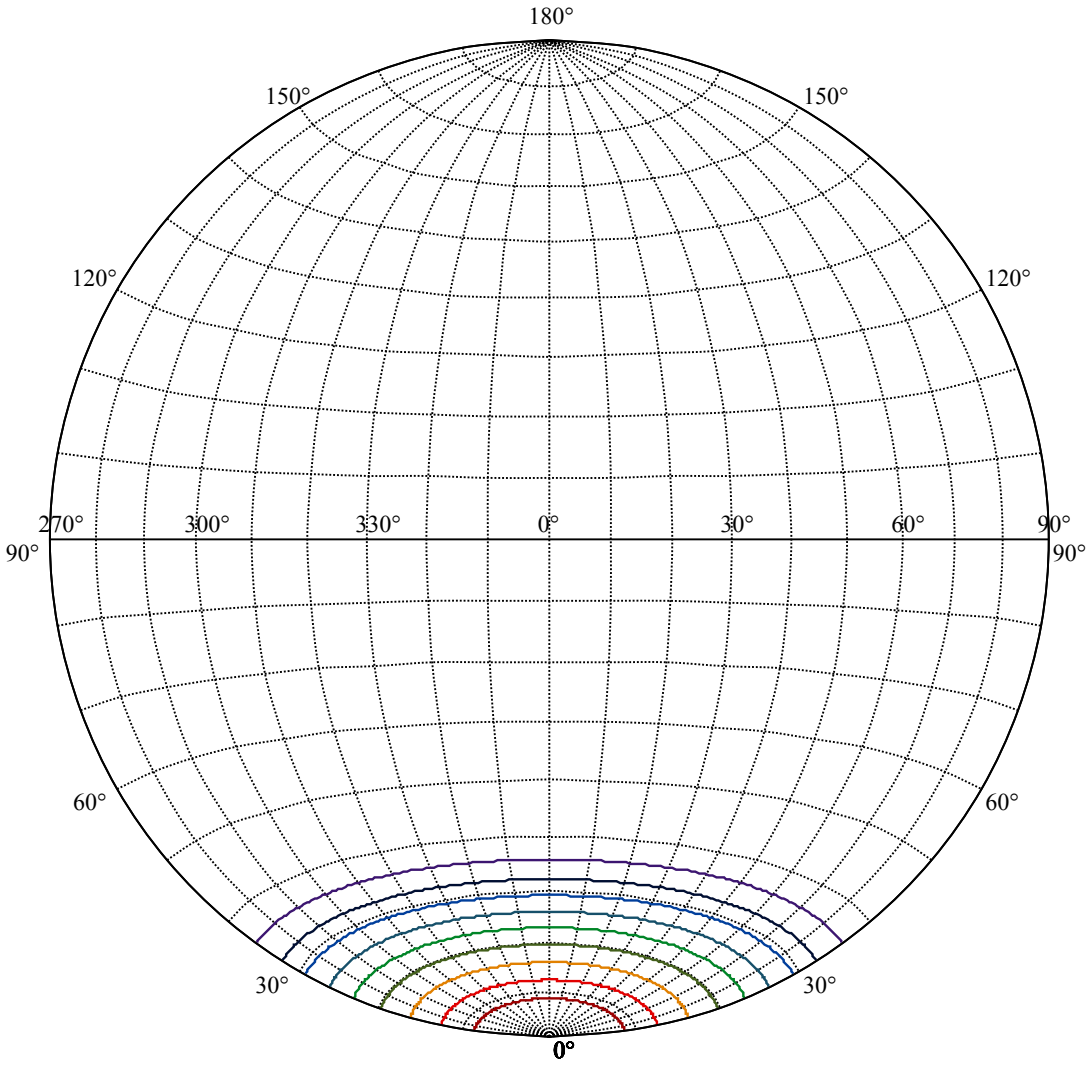
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/8/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

## ISO candela diagram on circular web






House [Unit:cd] Road

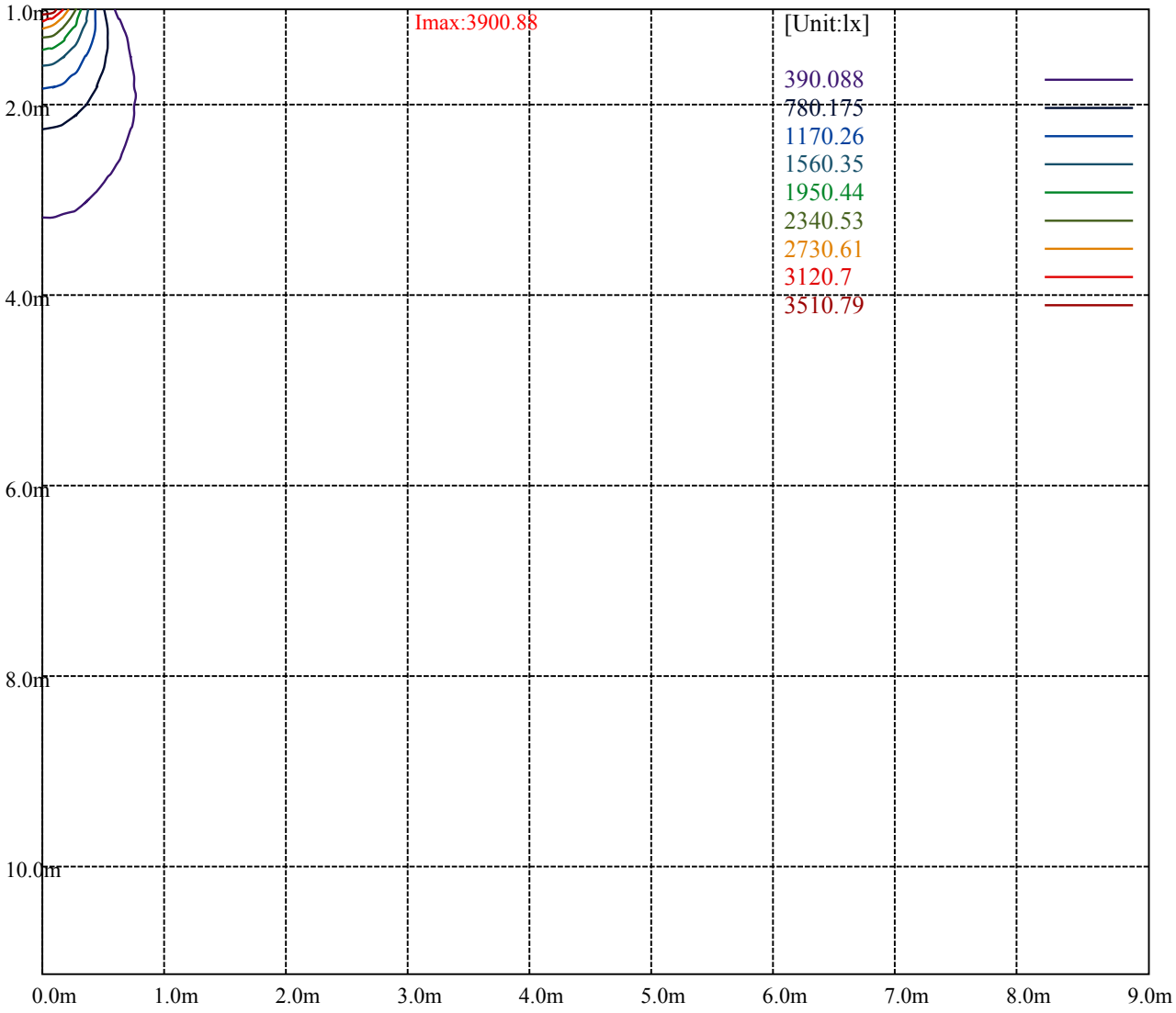
Imax:3900.88

(10%Imax) 390.088
(20%Imax) 780.175
(30%Imax) 1170.26
(40%Imax) 1560.35
(50%Imax) 1950.44
(60%Imax) 2340.53
(70%Imax) 2730.61
(80%Imax) 3120.7
(90%Imax) 3510.79

| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2024/8/6 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.65 |

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/8/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

NT 2-2569-L

## Luminance Limitting Curve(no luminous side)



Luminance Table

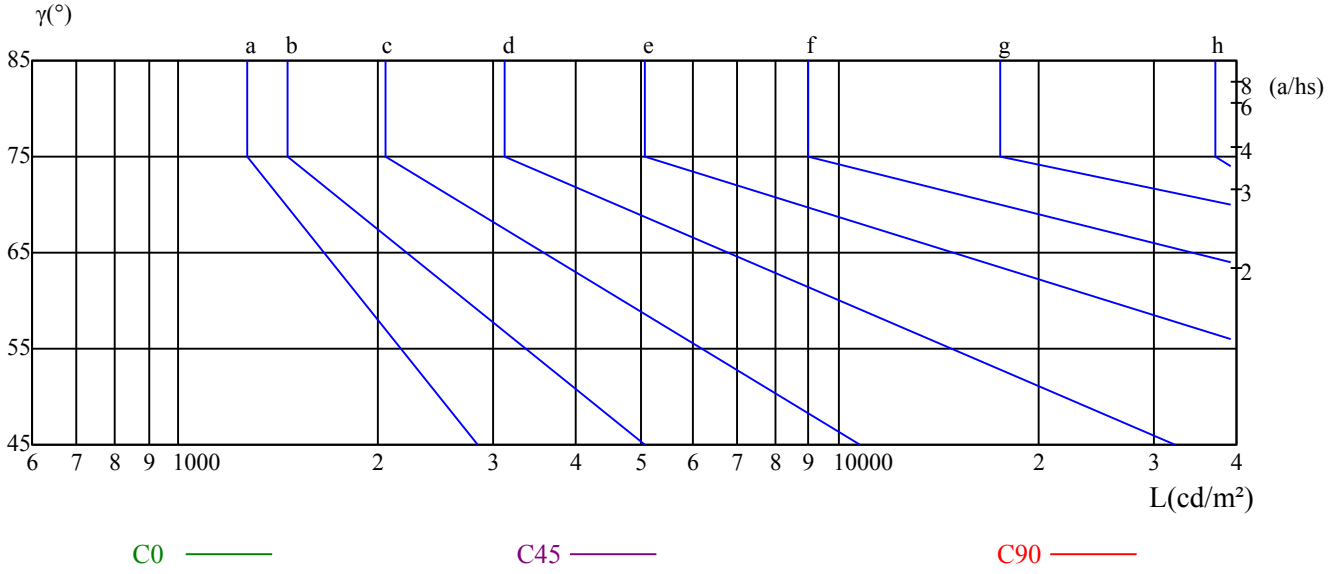
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 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: 2024/8/6
Humidity(%): 60.0%

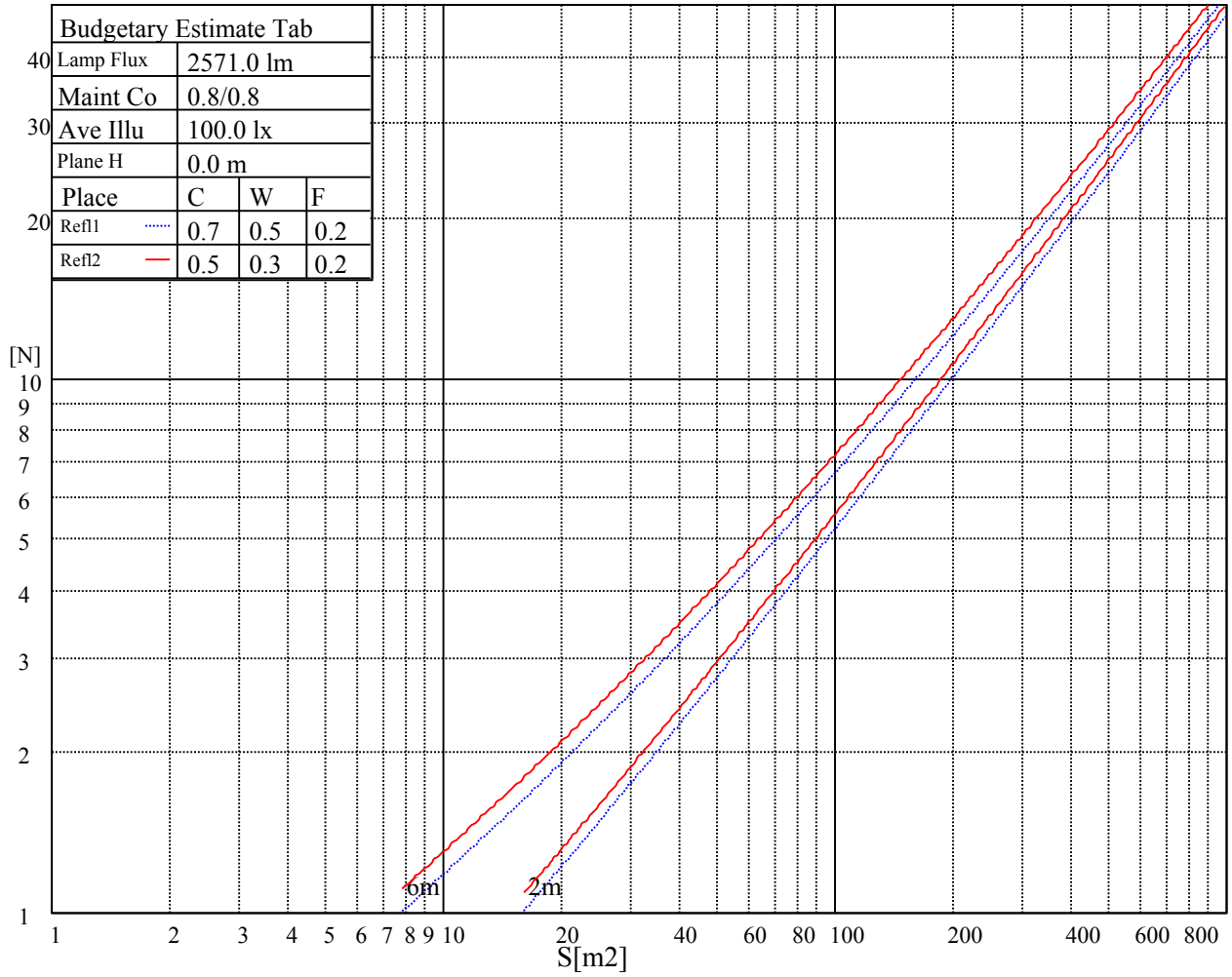
Operator: NT07
Distance(m): 7.65

| 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: 2024/8/6 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.65

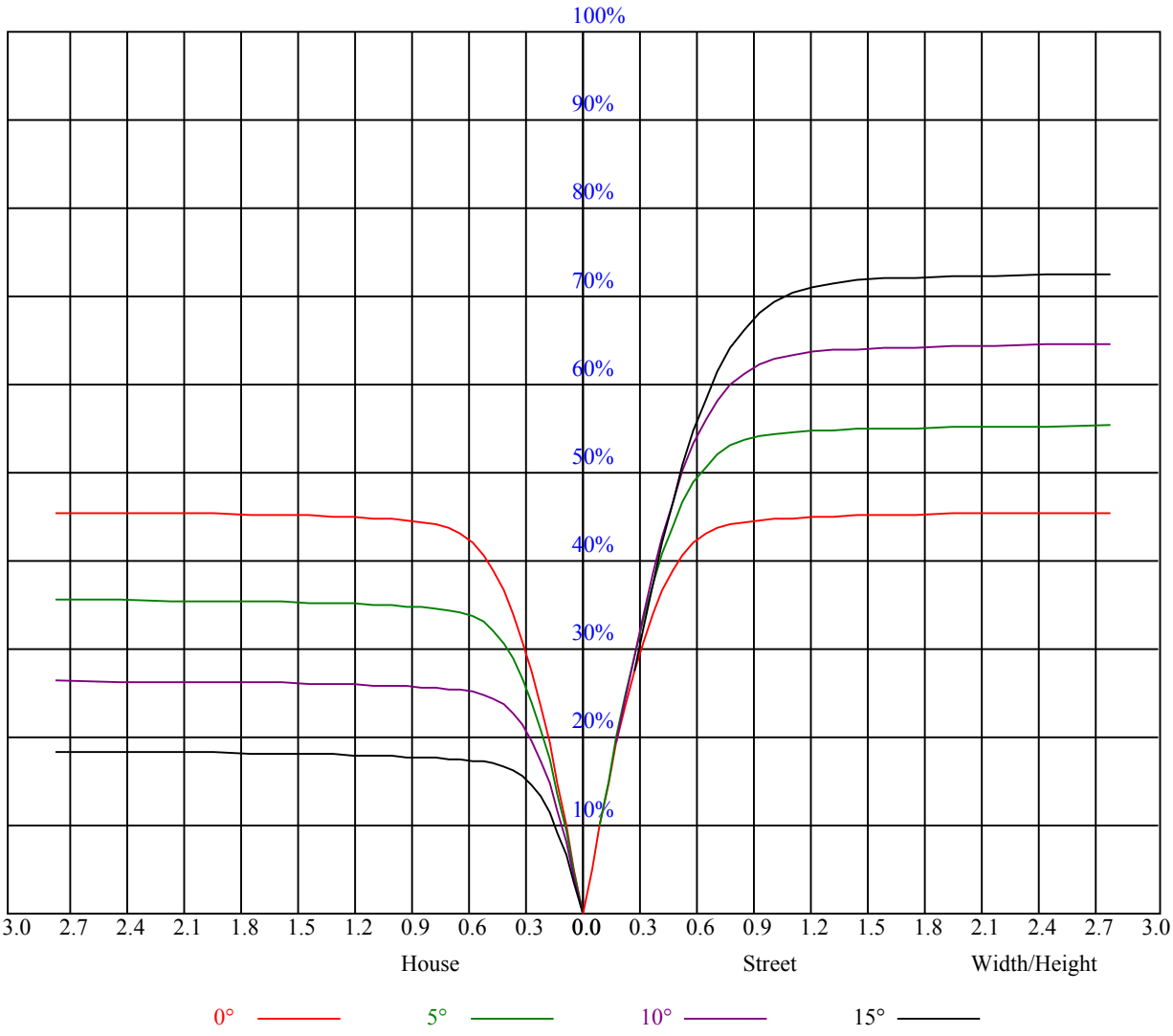
Utilization factor table for indoor luminaire



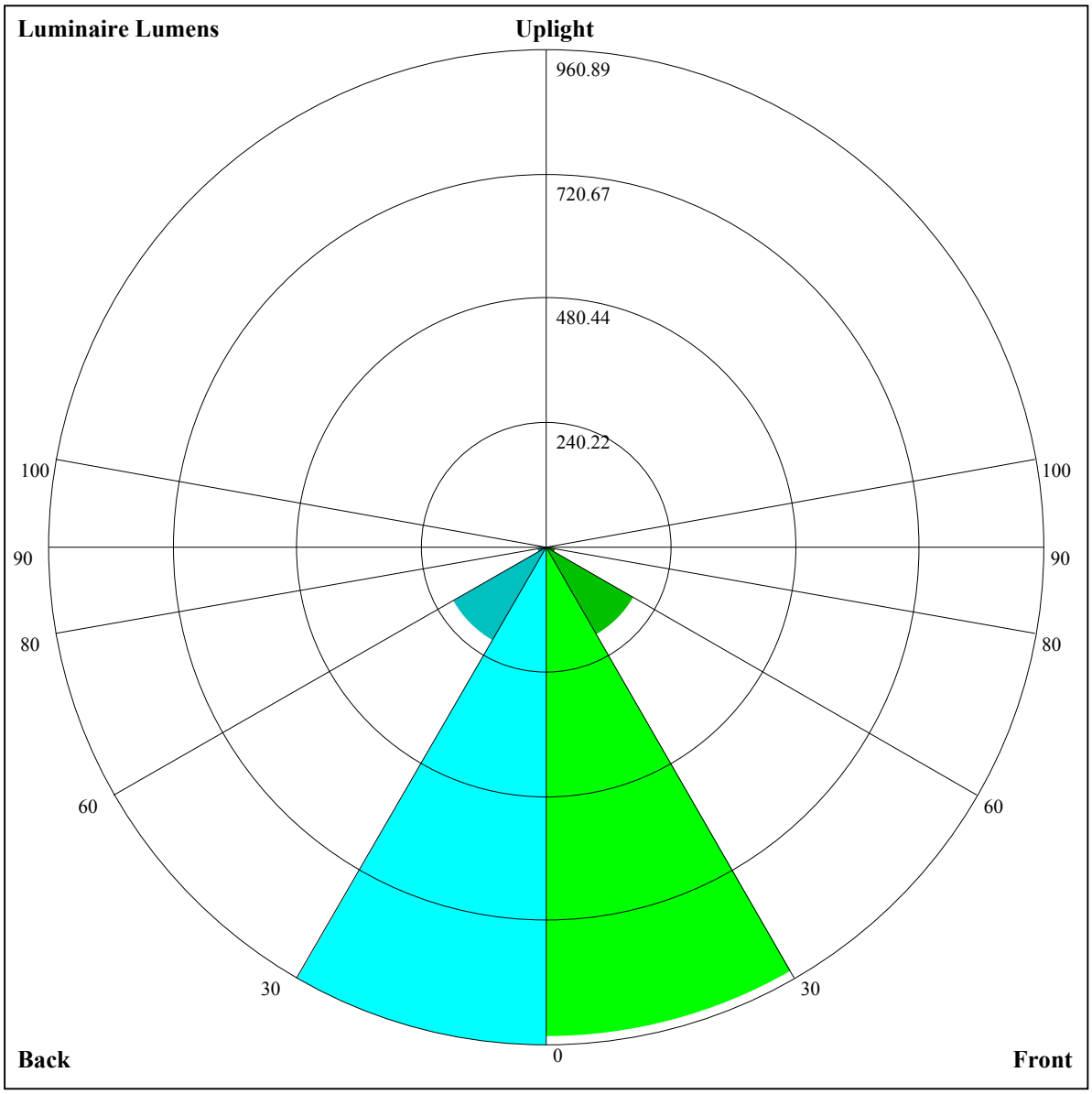
| RHOCC | 80 | | | 70 | | | 50 | | | 30 | | | 10 | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RHOW | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | COEFFCIENTS OF UTILIZATION RHOFC=20 CU | | | | | | | | | | | | | | | |
| 0 | 1.09 | 1.09 | 1.09 | 1.07 | 1.07 | 1.07 | 1.02 | 1.02 | 1.02 | 0.98 | 0.98 | 0.98 | 0.94 | 0.94 | 0.94 | 0.92 |
| 1 | 1.02 | 0.99 | 0.97 | 1.00 | 0.98 | 0.96 | 0.96 | 0.94 | 0.93 | 0.93 | 0.91 | 0.90 | 0.89 | 0.88 | 0.88 | 0.86 |
| 2 | 0.95 | 0.92 | 0.89 | 0.94 | 0.90 | 0.88 | 0.91 | 0.88 | 0.86 | 0.88 | 0.86 | 0.84 | 0.85 | 0.84 | 0.82 | 0.81 |
| 3 | 0.89 | 0.85 | 0.81 | 0.88 | 0.84 | 0.81 | 0.86 | 0.82 | 0.80 | 0.83 | 0.81 | 0.78 | 0.81 | 0.79 | 0.77 | 0.76 |
| 4 | 0.84 | 0.79 | 0.76 | 0.83 | 0.79 | 0.75 | 0.81 | 0.77 | 0.74 | 0.79 | 0.76 | 0.73 | 0.78 | 0.75 | 0.73 | 0.71 |
| 5 | 0.79 | 0.74 | 0.71 | 0.79 | 0.74 | 0.70 | 0.77 | 0.73 | 0.70 | 0.75 | 0.72 | 0.69 | 0.74 | 0.71 | 0.69 | 0.67 |
| 6 | 0.75 | 0.70 | 0.66 | 0.74 | 0.70 | 0.66 | 0.73 | 0.69 | 0.66 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.64 |
| 7 | 0.71 | 0.66 | 0.63 | 0.71 | 0.66 | 0.62 | 0.69 | 0.65 | 0.62 | 0.68 | 0.65 | 0.62 | 0.67 | 0.64 | 0.61 | 0.60 |
| 8 | 0.68 | 0.63 | 0.59 | 0.67 | 0.62 | 0.59 | 0.66 | 0.62 | 0.59 | 0.65 | 0.61 | 0.59 | 0.64 | 0.61 | 0.58 | 0.57 |
| 9 | 0.64 | 0.59 | 0.56 | 0.64 | 0.59 | 0.56 | 0.63 | 0.59 | 0.56 | 0.62 | 0.58 | 0.56 | 0.62 | 0.58 | 0.55 | 0.54 |
| 10 | 0.61 | 0.57 | 0.53 | 0.61 | 0.56 | 0.53 | 0.60 | 0.56 | 0.53 | 0.60 | 0.56 | 0.53 | 0.59 | 0.55 | 0.53 | 0.52 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2024/8/6 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.65 |




Luminaire Lumens:
FL=945.35,FM=196.13,FH=17.62,FVH=6.08
BL=960.89,BM=209.12,BH=17.87,BVH=6.18
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 | 3904.09 | 3897.66 | 3892.98 | 3867.23 | 3825.67 | 3771.83 | 3706.87 | 3632.55 | 3521.94 |
| 45.0 | 3886.54 | 3902.92 | 3909.95 | 3904.68 | 3882.44 | 3839.13 | 3799.34 | 3725.60 | 3664.15 |
| 90.0 | 3902.34 | 3895.90 | 3891.22 | 3868.98 | 3842.65 | 3780.61 | 3726.77 | 3662.40 | 3577.54 |
| 135.0 | 3910.53 | 3900.00 | 3885.95 | 3871.32 | 3844.99 | 3792.90 | 3760.13 | 3694.58 | 3634.31 |
| 180.0 | 3904.09 | 3887.71 | 3862.54 | 3839.72 | 3813.97 | 3749.60 | 3700.44 | 3635.48 | 3555.89 |
| 225.0 | 3886.54 | 3874.83 | 3851.42 | 3810.46 | 3761.88 | 3696.92 | 3627.28 | 3544.18 | 3476.88 |
| 270.0 | 3902.34 | 3900.58 | 3892.98 | 3878.93 | 3849.67 | 3806.95 | 3758.96 | 3679.95 | 3606.21 |
| 315.0 | 3910.53 | 3907.61 | 3886.54 | 3851.42 | 3804.61 | 3749.60 | 3689.32 | 3614.41 | 3533.65 |
| 360.0 | 3904.09 | 3897.66 | 3892.98 | 3867.23 | 3825.67 | 3771.83 | 3706.87 | 3632.55 | 3521.94 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 3427.14 | 3337.60 | 3236.35 | 3105.85 | 2999.92 | 2895.17 | 2774.61 | 2666.34 | 2538.18 |
| 45.0 | 3578.71 | 3482.73 | 3390.27 | 3264.44 | 3162.61 | 3060.20 | 2943.74 | 2846.01 | 2713.16 |
| 90.0 | 3493.85 | 3387.34 | 3294.29 | 3188.36 | 3085.95 | 2971.25 | 2872.93 | 2763.49 | 2658.74 |
| 135.0 | 3554.13 | 3471.61 | 3389.68 | 3311.26 | 3188.95 | 3091.80 | 2992.90 | 2873.51 | 2771.68 |
| 180.0 | 3473.95 | 3389.10 | 3301.90 | 3208.85 | 3078.93 | 2985.88 | 2885.80 | 2791.00 | 2675.12 |
| 225.0 | 3348.72 | 3265.03 | 3165.54 | 3069.56 | 2948.42 | 2854.79 | 2760.56 | 2666.93 | 2534.67 |
| 270.0 | 3528.97 | 3416.02 | 3325.31 | 3194.80 | 3094.14 | 2989.39 | 2888.14 | 2761.74 | 2658.74 |
| 315.0 | 3424.80 | 3321.80 | 3219.38 | 3109.94 | 2980.61 | 2882.29 | 2778.12 | 2644.11 | 2532.91 |
| 360.0 | 3427.14 | 3337.60 | 3236.35 | 3105.85 | 2999.92 | 2895.17 | 2774.61 | 2666.34 | 2538.18 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 2436.94 | 2329.84 | 2223.91 | 2085.22 | 1969.93 | 1859.32 | 1744.03 | 1602.99 | 1491.80 |
| 45.0 | 2612.50 | 2517.70 | 2419.38 | 2292.97 | 2185.87 | 2065.90 | 1948.86 | 1806.65 | 1690.19 |
| 90.0 | 2543.45 | 2441.03 | 2333.94 | 2223.33 | 2085.22 | 1967.00 | 1818.94 | 1705.99 | 1582.51 |
| 135.0 | 2633.57 | 2537.59 | 2437.52 | 2334.52 | 2202.26 | 2089.90 | 1978.70 | 1867.51 | 1725.89 |
| 180.0 | 2572.71 | 2448.05 | 2344.47 | 2236.79 | 2100.43 | 1994.51 | 1885.07 | 1775.63 | 1642.20 |
| 225.0 | 2440.45 | 2340.96 | 2209.87 | 2099.85 | 1967.58 | 1855.22 | 1749.88 | 1638.69 | 1496.48 |
| 270.0 | 2558.66 | 2459.76 | 2340.37 | 2228.01 | 2114.48 | 2003.87 | 1862.83 | 1752.81 | 1611.77 |
| 315.0 | 2405.33 | 2299.99 | 2192.90 | 2059.47 | 1944.18 | 1835.32 | 1727.06 | 1587.77 | 1474.24 |
| 360.0 | 2436.94 | 2329.84 | 2223.91 | 2085.22 | 1969.93 | 1859.32 | 1744.03 | 1602.99 | 1491.80 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1160.74 | 1160.74 | 1104.32 | 983.18 | 862.21 | 716.61 | 610.45 | 486.73 | 398.42 |
| 45.0 | 1567.88 | 1415.13 | 1297.50 | 1181.04 | 1031.81 | 908.33 | 789.53 | 649.66 | 546.07 |
| 90.0 | 1433.27 | 1154.24 | 1154.24 | 1061.25 | 905.99 | 785.20 | 672.66 | 567.32 | 450.16 |
| 135.0 | 1607.09 | 1486.53 | 1336.13 | 1217.91 | 1095.01 | 940.52 | 818.20 | 673.65 | 567.73 |
| 180.0 | 1535.69 | 1418.06 | 1299.26 | 1154.71 | 1030.64 | 906.57 | 755.58 | 643.81 | 541.39 |
| 225.0 | 1166.76 | 1166.76 | 1137.68 | 985.28 | 862.21 | 743.53 | 632.04 | 507.74 | 418.26 |
| 270.0 | 1493.55 | 1372.41 | 1218.50 | 1093.26 | 965.09 | 841.03 | 693.55 | 587.04 | 491.06 |
| 315.0 | 1146.75 | 1146.75 | 1081.61 | 957.49 | 834.47 | 712.98 | 576.15 | 479.36 | 392.22 |
| 360.0 | 1160.74 | 1160.74 | 1104.32 | 983.18 | 862.21 | 716.61 | 610.45 | 486.73 | 398.42 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 322.11 | 259.55 | 196.93 | 158.60 | 130.27 | 108.50 | 87.96 | 75.73 | 66.48 |
| 45.0 | 453.02 | 367.58 | 295.60 | 295.60 | 174.98 | 141.57 | 112.48 | 94.86 | 81.23 |
| 90.0 | 368.87 | 299.93 | 240.94 | 182.59 | 148.71 | 117.10 | 98.84 | 84.33 | 71.16 |
| 135.0 | 471.75 | 386.89 | 296.18 | 296.18 | 226.19 | 151.98 | 120.09 | 100.60 | 85.91 |
| 180.0 | 427.86 | 348.85 | 297.35 | 297.35 | 168.72 | 136.36 | 112.13 | 90.01 | 76.55 |
| 225.0 | 321.76 | 258.49 | 206.41 | 156.31 | 126.82 | 105.28 | 85.56 | 73.74 | 64.84 |
| 270.0 | 405.03 | 313.15 | 296.77 | 296.77 | 152.98 | 125.12 | 104.64 | 86.15 | 74.85 |
| 315.0 | 299.23 | 238.77 | 181.65 | 146.72 | 119.91 | 100.66 | 82.81 | 72.16 | 64.08 |
| 360.0 | 322.11 | 259.55 | 196.93 | 158.60 | 130.27 | 108.50 | 87.96 | 75.73 | 66.48 |

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 | 57.76 | 52.20 | 47.70 | 43.01 | 39.85 | 37.16 | 34.41 | 32.48 | 30.78 |
| 45.0 | 68.76 | 61.16 | 55.19 | 48.98 | 44.83 | 41.32 | 37.63 | 35.23 | 33.18 |
| 90.0 | 62.91 | 56.53 | 50.04 | 45.76 | 42.02 | 38.98 | 35.70 | 33.47 | 31.60 |
| 135.0 | 71.87 | 63.79 | 57.24 | 51.68 | 45.94 | 42.08 | 38.80 | 35.99 | 33.18 |
| 180.0 | 66.42 | 57.24 | 51.44 | 46.70 | 42.66 | 38.62 | 35.87 | 33.07 | 31.19 |
| 225.0 | 57.94 | 51.09 | 46.58 | 42.90 | 39.62 | 36.40 | 34.12 | 32.25 | 30.26 |
| 270.0 | 66.31 | 58.00 | 52.67 | 48.11 | 44.24 | 40.26 | 37.57 | 35.29 | 32.77 |
| 315.0 | 57.59 | 51.15 | 46.82 | 43.19 | 39.27 | 36.69 | 34.47 | 32.07 | 30.37 |
| 360.0 | 57.76 | 52.20 | 47.70 | 43.01 | 39.85 | 37.16 | 34.41 | 32.48 | 30.78 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 28.97 | 27.62 | 26.45 | 25.40 | 24.23 | 23.41 | 22.65 | 21.95 | 21.13 |
| 45.0 | 31.37 | 29.38 | 28.03 | 26.80 | 25.69 | 24.46 | 23.58 | 22.71 | 21.83 |
| 90.0 | 29.96 | 28.21 | 26.98 | 25.52 | 24.58 | 23.70 | 22.71 | 22.06 | 21.42 |
| 135.0 | 31.25 | 29.61 | 27.80 | 26.63 | 25.28 | 24.40 | 23.58 | 22.65 | 22.00 |
| 180.0 | 29.55 | 27.86 | 26.69 | 25.69 | 24.81 | 23.82 | 23.06 | 22.41 | 21.83 |
| 225.0 | 28.85 | 27.39 | 26.34 | 25.34 | 24.52 | 23.53 | 22.77 | 22.06 | 21.42 |
| 270.0 | 31.08 | 29.61 | 28.38 | 26.98 | 25.87 | 24.70 | 23.88 | 23.12 | 22.18 |
| 315.0 | 28.91 | 27.33 | 26.22 | 25.16 | 23.99 | 23.17 | 22.41 | 21.71 | 20.89 |
| 360.0 | 28.97 | 27.62 | 26.45 | 25.40 | 24.23 | 23.41 | 22.65 | 21.95 | 21.13 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 20.60 | 19.90 | 19.37 | 18.84 | 18.26 | 17.79 | 17.32 | 16.91 | 16.33 |
| 45.0 | 21.13 | 20.48 | 19.90 | 19.43 | 18.79 | 18.26 | 17.85 | 17.38 | 16.85 |
| 90.0 | 20.83 | 20.13 | 19.61 | 19.14 | 18.67 | 18.08 | 17.62 | 17.15 | 16.56 |
| 135.0 | 21.36 | 20.78 | 20.07 | 19.61 | 19.14 | 18.61 | 18.08 | 17.62 | 17.21 |
| 180.0 | 21.13 | 20.60 | 20.07 | 19.49 | 19.02 | 18.49 | 18.08 | 17.67 | 17.26 |
| 225.0 | 20.66 | 20.07 | 19.49 | 18.84 | 18.32 | 17.85 | 17.21 | 16.74 | 16.27 |
| 270.0 | 21.54 | 20.89 | 20.31 | 19.49 | 18.90 | 18.38 | 17.85 | 17.21 | 16.74 |
| 315.0 | 20.31 | 19.66 | 19.14 | 18.49 | 17.97 | 17.44 | 16.91 | 16.50 | 15.98 |
| 360.0 | 20.60 | 19.90 | 19.37 | 18.84 | 18.26 | 17.79 | 17.32 | 16.91 | 16.33 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 15.92 | 15.51 | 15.16 | 14.63 | 14.28 | 13.93 | 13.40 | 13.11 | 12.70 |
| 45.0 | 16.39 | 15.92 | 15.51 | 15.04 | 14.63 | 14.22 | 13.75 | 13.34 | 12.99 |
| 90.0 | 16.21 | 15.74 | 15.22 | 14.81 | 14.40 | 13.87 | 13.52 | 13.17 | 12.76 |
| 135.0 | 16.62 | 16.15 | 15.74 | 15.22 | 14.81 | 14.40 | 13.93 | 13.58 | 13.23 |
| 180.0 | 16.74 | 16.33 | 15.98 | 15.57 | 15.16 | 14.69 | 14.28 | 13.93 | 13.52 |
| 225.0 | 15.74 | 15.33 | 14.92 | 14.46 | 14.10 | 13.69 | 13.34 | 12.87 | 12.52 |
| 270.0 | 16.27 | 15.74 | 15.33 | 14.92 | 14.46 | 14.05 | 13.69 | 13.23 | 12.82 |
| 315.0 | 15.57 | 15.22 | 14.75 | 14.34 | 13.93 | 13.58 | 13.17 | 12.76 | 12.41 |
| 360.0 | 15.92 | 15.51 | 15.16 | 14.63 | 14.28 | 13.93 | 13.40 | 13.11 | 12.70 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 12.29 | 12.00 | 11.65 | 11.35 | 11.06 | 10.71 | 10.53 | 10.36 | 10.12 |
| 45.0 | 12.52 | 12.17 | 11.76 | 11.41 | 11.12 | 10.83 | 10.65 | 10.36 | 10.24 |
| 90.0 | 12.29 | 11.94 | 11.65 | 11.24 | 11.00 | 10.71 | 10.48 | 10.24 | 10.12 |
| 135.0 | 12.76 | 12.35 | 12.06 | 11.65 | 11.29 | 11.00 | 10.77 | 10.48 | 10.30 |
| 180.0 | 13.11 | 12.70 | 12.35 | 12.06 | 11.70 | 11.35 | 11.12 | 10.94 | 10.53 |
| 225.0 | 12.23 | 11.88 | 11.53 | 11.24 | 11.00 | 10.65 | 10.48 | 10.30 | 10.07 |
| 270.0 | 12.47 | 12.06 | 11.70 | 11.41 | 11.06 | 10.77 | 10.53 | 10.30 | 10.12 |
| 315.0 | 12.06 | 11.65 | 11.35 | 11.12 | 10.77 | 10.53 | 10.36 | 10.24 | 10.07 |
| 360.0 | 12.29 | 12.00 | 11.65 | 11.35 | 11.06 | 10.71 | 10.53 | 10.36 | 10.12 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 10.07 |
| 45.0 | 10.07 |
| 90.0 | 10.07 |
| 135.0 | 10.12 |
| 180.0 | 10.18 |
| 225.0 | 10.01 |
| 270.0 | 10.07 |
| 315.0 | 10.12 |
| 360.0 | 10.07 |