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## Nata

Client:
LumCAT: 1-09535-N
Luminaire: 92.70.246.00
Report No: 200728-B004
Test No: 200728-C004
LampCAT: SAMSUNG LC009D
Lamp flux(lm): 1393.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.5500
Current(A): 0.2860
Power (W): 9.8810
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

## Photometric Results

Lumens(lm): 1120.23, Efficiency(%): 80.42% , Luminous Efficacy(lm/W): 113.37
Central intensity(cd): 5811.188, Maximum intensity(cd): 5811.188
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=19.0
[C90/270]Total=19.0
Field angle(10%Imax): [C0/180]Total=47.2
[C90/270]Total=47.2
Maximum s/h(1/2): C0_180=0.32 C90_270=0.32
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 80.42%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.077%

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 5811.188 | 0.000 | 0 | .000% | .000% |
| 1.0 | 5789.109 | 5.551 | 5.551 | .398% | .495% |
| 2.0 | 5705.859 | 16.499 | 22.049 | 1.184% | 1.968% |
| 3.0 | 5519.391 | 26.847 | 48.896 | 1.927% | 4.365% |
| 4.0 | 5253.398 | 36.060 | 84.956 | 2.589% | 7.584% |
| 5.0 | 4932.141 | 43.818 | 128.774 | 3.146% | 11.495% |
| 6.0 | 4461.680 | 49.367 | 178.141 | 3.544% | 15.902% |
| 7.0 | 3992.273 | 52.474 | 230.614 | 3.767% | 20.586% |
| 8.0 | 3555.844 | 54.020 | 284.635 | 3.878% | 25.409% |
| 9.0 | 3100.289 | 53.944 | 338.579 | 3.873% | 30.224% |
| 10.0 | 2712.094 | 52.600 | 391.179 | 3.776% | 34.920% |
| 11.0 | 2417.695 | 51.257 | 442.436 | 3.680% | 39.495% |
| 12.0 | 2156.766 | 50.005 | 492.442 | 3.590% | 43.959% |
| 13.0 | 1904.836 | 48.201 | 540.643 | 3.460% | 48.262% |
| 14.0 | 1719.984 | 46.397 | 587.04 | 3.331% | 52.404% |
| 15.0 | 1548.492 | 44.871 | 631.911 | 3.221% | 56.409% |
| 16.0 | 1373.027 | 42.808 | 674.72 | 3.073% | 60.230% |
| 17.0 | 1228.591 | 40.514 | 715.234 | 2.908% | 63.847% |
| 18.0 | 1102.479 | 38.434 | 753.668 | 2.759% | 67.278% |
| 19.0 | 994.985 | 36.492 | 790.16 | 2.620% | 70.535% |
| 20.0 | 894.776 | 34.588 | 824.748 | 2.483% | 73.623% |
| 21.0 | 801.056 | 32.563 | 857.311 | 2.338% | 76.530% |
| 22.0 | 707.006 | 30.305 | 887.616 | 2.176% | 79.235% |
| 23.0 | 631.420 | 28.084 | 915.7 | 2.016% | 81.742% |
| 24.0 | 546.420 | 25.752 | 941.452 | 1.849% | 84.041% |
| 25.0 | 463.669 | 22.967 | 964.419 | 1.649% | 86.091% |
| 26.0 | 396.120 | 20.295 | 984.714 | 1.457% | 87.903% |
| 27.0 | 331.214 | 17.794 | 1002.509 | 1.277% | 89.491% |
| 28.0 | 260.086 | 14.970 | 1017.479 | 1.075% | 90.828% |
| 29.0 | 205.896 | 12.191 | 1029.671 | .875% | 91.916% |
| 30.0 | 161.072 | 9.908 | 1039.579 | .711% | 92.800% |
| 31.0 | 117.563 | 7.754 | 1047.333 | .557% | 93.493% |
| 32.0 | 88.538 | 5.905 | 1053.237 | .424% | 94.020% |
| 33.0 | 68.857 | 4.637 | 1057.874 | .333% | 94.434% |
| 34.0 | 55.941 | 3.777 | 1061.651 | .271% | 94.771% |
| 35.0 | 48.790 | 3.253 | 1064.903 | .233% | 95.061% |
| 36.0 | 44.627 | 2.974 | 1067.878 | .214% | 95.327% |
| 37.0 | 40.465 | 2.775 | 1070.653 | .199% | 95.574% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 37.167 | 2.591 | 1073.244 | .186% | 95.806% |
| 39.0 | 33.553 | 2.414 | 1075.658 | .173% | 96.021% |
| 40.0 | 29.798 | 2.209 | 1077.868 | .159% | 96.218% |
| 41.0 | 26.473 | 2.004 | 1079.871 | .144% | 96.397% |
| 42.0 | 23.119 | 1.802 | 1081.673 | .129% | 96.558% |
| 43.0 | 19.673 | 1.585 | 1083.258 | .114% | 96.700% |
| 44.0 | 17.198 | 1.392 | 1084.65 | .100% | 96.824% |
| 45.0 | 15.180 | 1.244 | 1085.894 | .089% | 96.935% |
| 46.0 | 13.247 | 1.112 | 1087.006 | .080% | 97.034% |
| 47.0 | 12.143 | 1.010 | 1088.016 | .072% | 97.124% |
| 48.0 | 11.363 | 0.950 | 1088.966 | .068% | 97.209% |
| 49.0 | 10.673 | 0.905 | 1089.871 | .065% | 97.290% |
| 50.0 | 10.146 | 0.868 | 1090.739 | .062% | 97.367% |
| 51.0 | 9.802 | 0.844 | 1091.583 | .061% | 97.443% |
| 52.0 | 9.457 | 0.826 | 1092.409 | .059% | 97.516% |
| 53.0 | 9.183 | 0.811 | 1093.22 | .058% | 97.589% |
| 54.0 | 8.951 | 0.799 | 1094.019 | .057% | 97.660% |
| 55.0 | 8.733 | 0.789 | 1094.809 | .057% | 97.731% |
| 56.0 | 8.592 | 0.783 | 1095.592 | .056% | 97.801% |
| 57.0 | 8.416 | 0.778 | 1096.369 | .056% | 97.870% |
| 58.0 | 8.325 | 0.774 | 1097.144 | .056% | 97.939% |
| 59.0 | 8.248 | 0.775 | 1097.918 | .056% | 98.008% |
| 60.0 | 8.184 | 0.776 | 1098.695 | .056% | 98.078% |
| 61.0 | 8.128 | 0.778 | 1099.473 | .056% | 98.147% |
| 62.0 | 8.079 | 0.781 | 1100.254 | .056% | 98.217% |
| 63.0 | 8.002 | 0.782 | 1101.036 | .056% | 98.287% |
| 64.0 | 7.917 | 0.781 | 1101.817 | .056% | 98.356% |
| 65.0 | 7.847 | 0.780 | 1102.597 | .056% | 98.426% |
| 66.0 | 7.755 | 0.778 | 1103.376 | .056% | 98.495% |
| 67.0 | 7.706 | 0.777 | 1104.153 | .056% | 98.565% |
| 68.0 | 7.622 | 0.776 | 1104.93 | .056% | 98.634% |
| 69.0 | 7.530 | 0.773 | 1105.703 | .055% | 98.703% |
| 70.0 | 7.432 | 0.768 | 1106.471 | .055% | 98.772% |
| 71.0 | 7.256 | 0.759 | 1107.23 | .054% | 98.840% |
| 72.0 | 7.095 | 0.746 | 1107.977 | .054% | 98.906% |
| 73.0 | 6.961 | 0.735 | 1108.712 | .053% | 98.972% |
| 74.0 | 6.841 | 0.726 | 1109.437 | .052% | 99.037% |
| 75.0 | 6.778 | 0.720 | 1110.157 | .052% | 99.101% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 6.673 | 0.714 | 1110.871 | .051% | 99.165% |
| 77.0 | 6.602 | 0.708 | 1111.579 | .051% | 99.228% |
| 78.0 | 6.539 | 0.703 | 1112.282 | .051% | 99.290% |
| 79.0 | 6.455 | 0.698 | 1112.98 | .050% | 99.353% |
| 80.0 | 6.398 | 0.693 | 1113.673 | .050% | 99.415% |
| 81.0 | 6.370 | 0.691 | 1114.364 | .050% | 99.476% |
| 82.0 | 6.377 | 0.691 | 1115.055 | .050% | 99.538% |
| 83.0 | 6.384 | 0.694 | 1115.749 | .050% | 99.600% |
| 84.0 | 6.335 | 0.693 | 1116.442 | .050% | 99.662% |
| 85.0 | 6.293 | 0.689 | 1117.131 | .049% | 99.723% |
| 86.0 | 5.885 | 0.666 | 1117.797 | .048% | 99.783% |
| 87.0 | 5.674 | 0.633 | 1118.429 | .045% | 99.839% |
| 88.0 | 5.513 | 0.613 | 1119.042 | .044% | 99.894% |
| 89.0 | 5.407 | 0.599 | 1119.64 | .043% | 99.947% |
| 90.0 | 5.351 | 0.590 | 1120.23 | .042% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

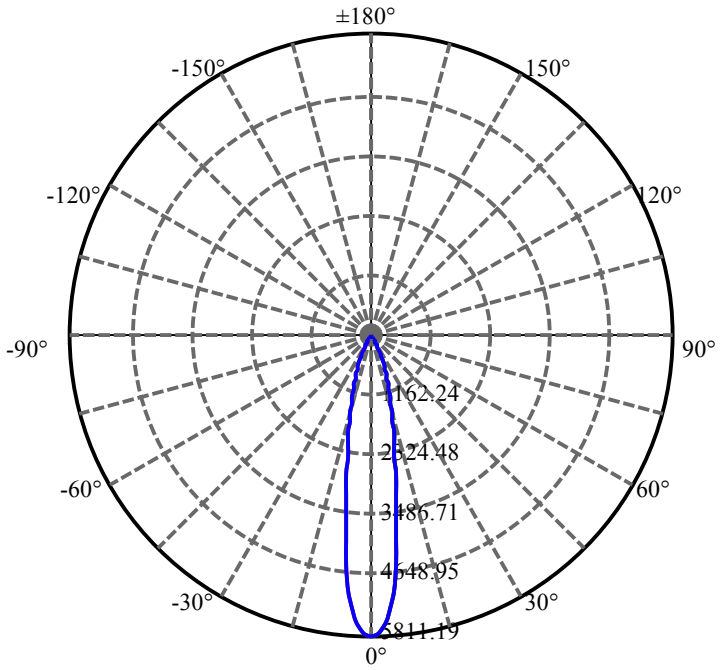
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1039.58 | 74.63% | 92.80% |
| 0-40 | 1077.87 | 77.38% | 96.22% |
| 0-60 | 1098.69 | 78.87% | 98.08% |
| 0-90 | 1119.64 | 80.38% | 99.95% |
| 0-120 | 1119.64 | 80.38% | 99.95% |
| 0-180 | 1120.23 | 80.42% | 100.00% |
| 60-90 | 21.72 | 1.56% | 1.94% |
| 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% |
| 0-22.31 | 896.18 | 64.33% | 80.00% |

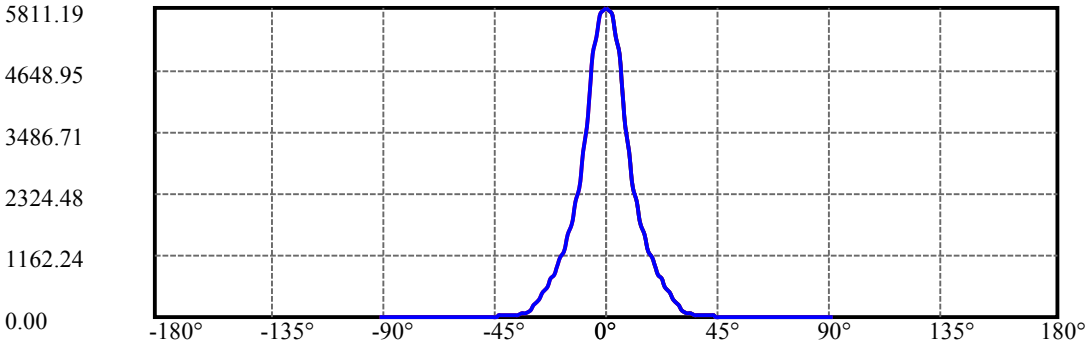
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 391.18 |
| 10-20 | 433.57 |
| 20-30 | 214.83 |
| 30-40 | 38.29 |
| 40-50 | 12.87 |
| 50-60 | 7.96 |
| 60-70 | 7.78 |
| 70-80 | 7.20 |
| 80-90 | 5.97 |
| 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:

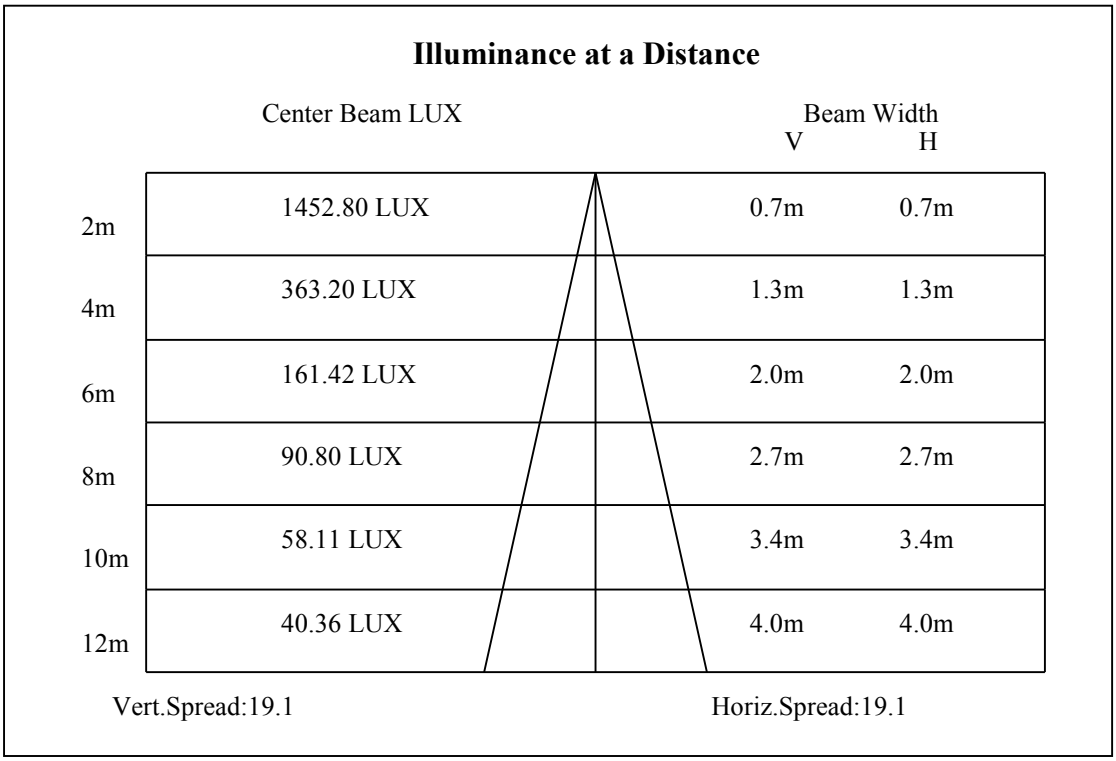
C90/C270:

Field angle(10%Imax):C0/180Left:23.6 Right:23.6
:C90/270Left:23.6 Right:23.6

Beam Angle(50%Imax):C0/180Left:9.5 Right:9.5
:C90/270Left:9.5 Right:9.5

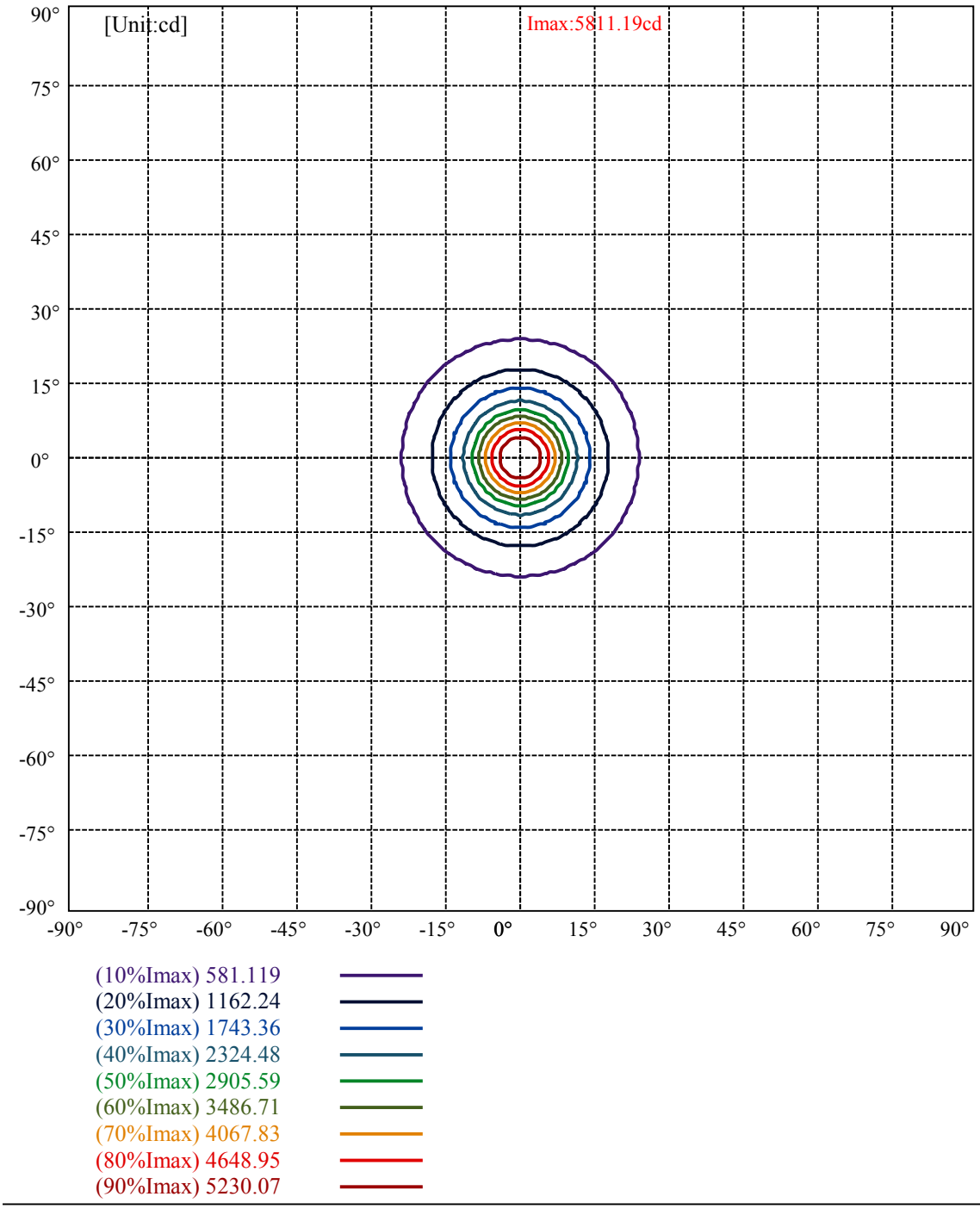
Lux distance Curve





ISO-Intensity(V-H)





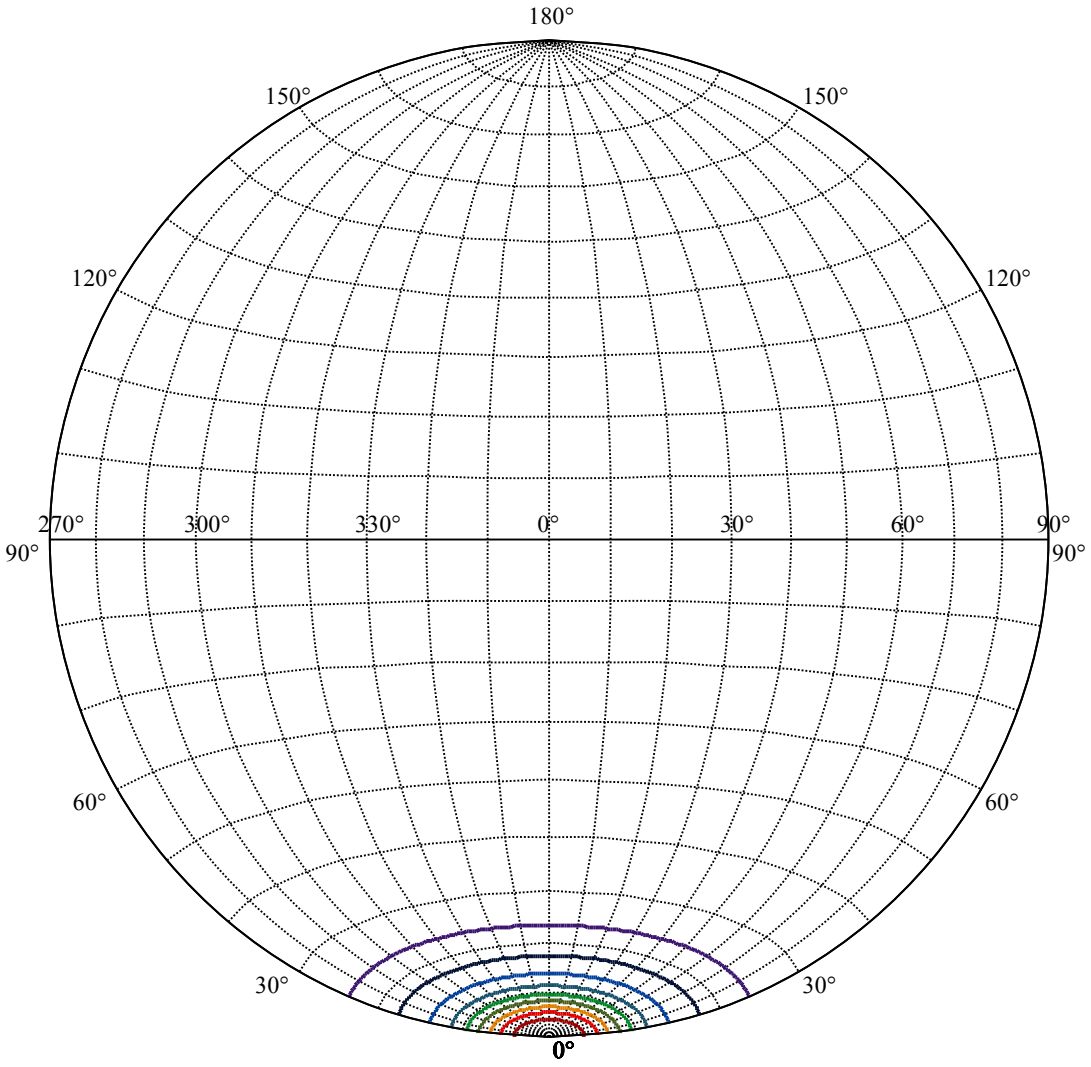

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/7/31
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web






House [Unit:cd] Road

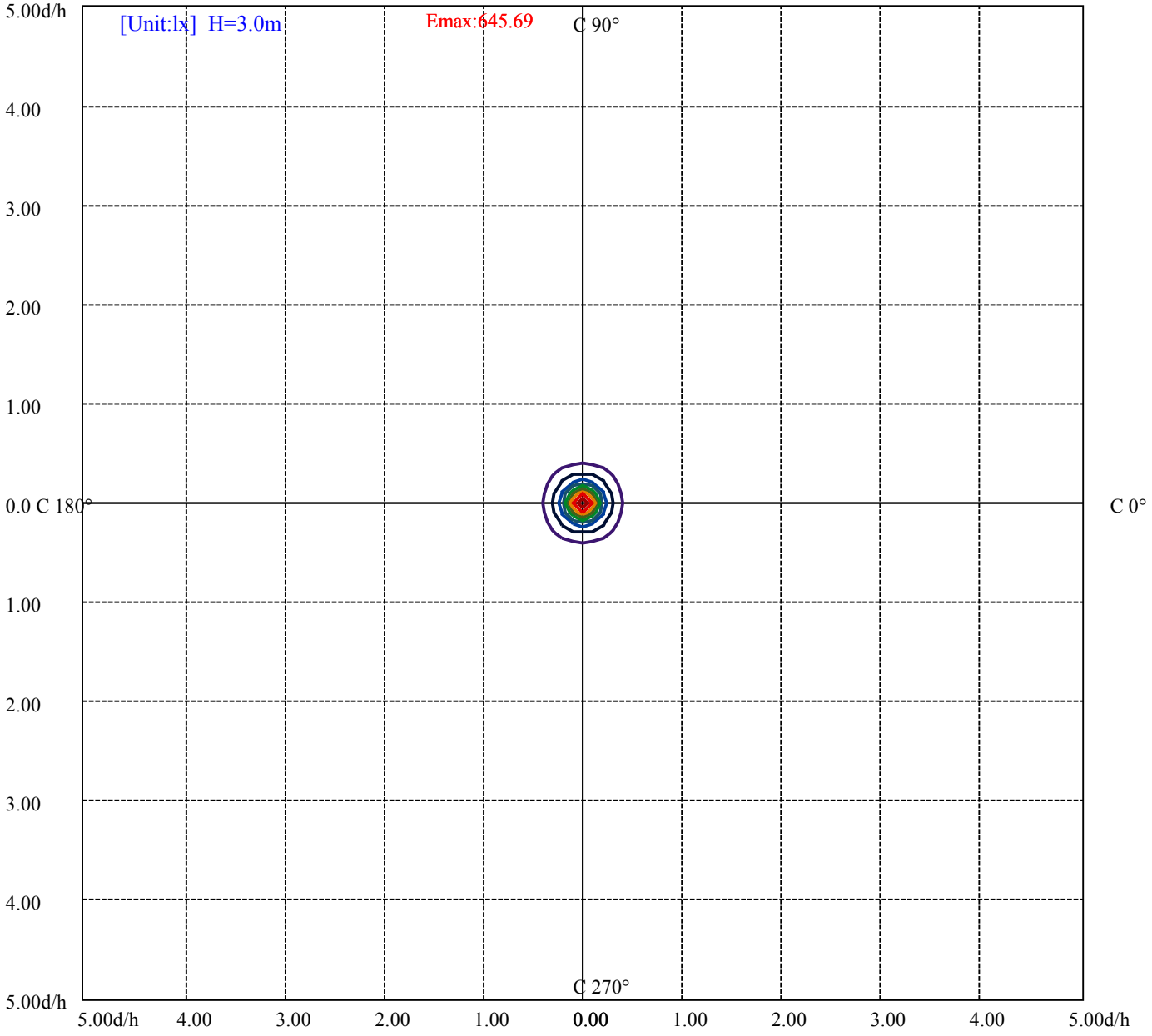
Imax:5811.19

(10%Imax) 581.119
(20%Imax) 1162.24
(30%Imax) 1743.36
(40%Imax) 2324.48
(50%Imax) 2905.59
(60%Imax) 3486.71
(70%Imax) 4067.83
(80%Imax) 4648.95
(90%Imax) 5230.07

| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2020/7/31 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 65.0% | Distance(m): 7.50 |

## ISO illuminance diagram



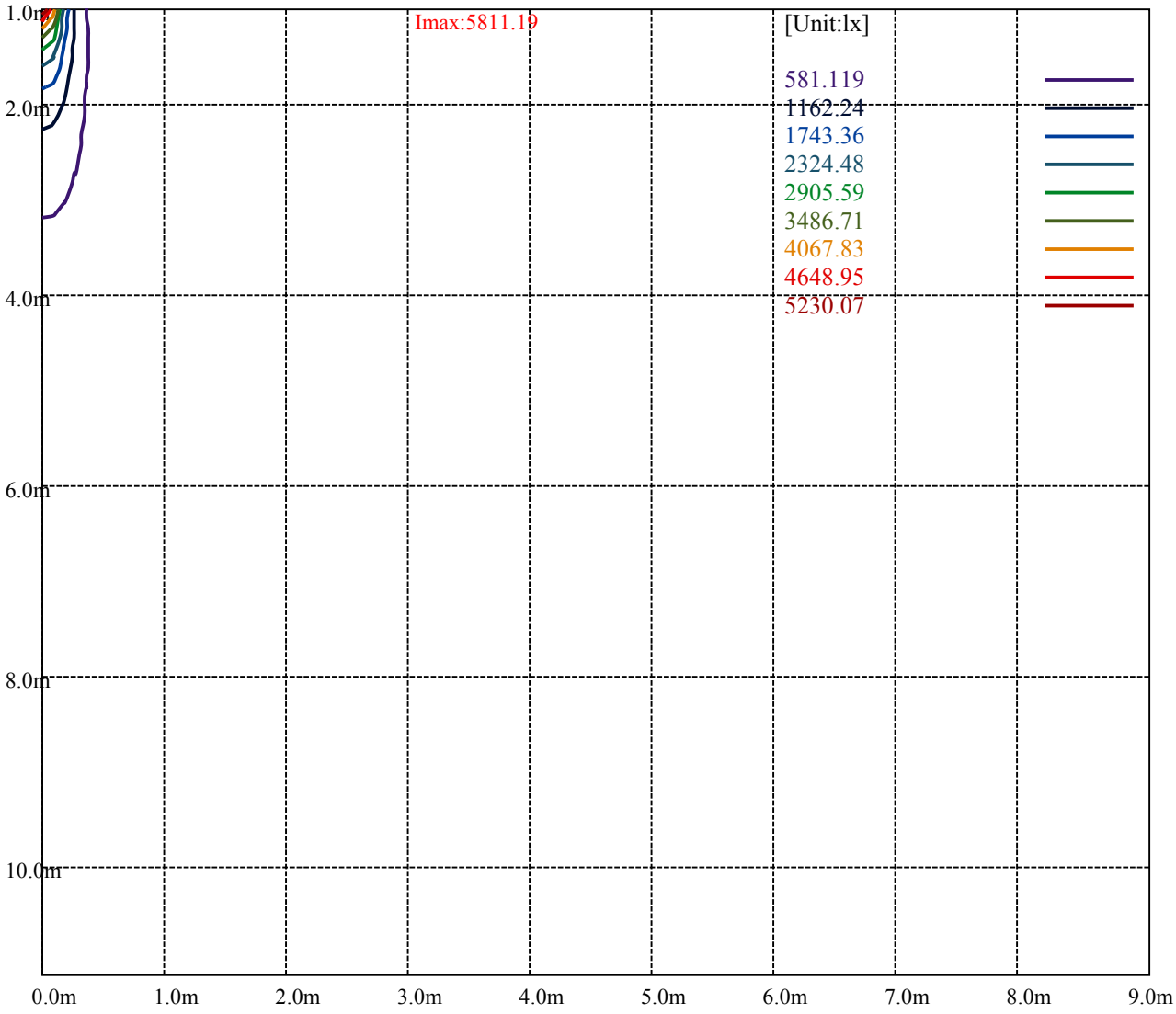



(10%Emax) 64.56866
(20%Emax) 129.1378
(30%Emax) 193.7067
(40%Emax) 258.2744
(50%Emax) 322.8434
(60%Emax) 387.4122
(70%Emax) 451.9811
(80%Emax) 516.55
(90%Emax) 581.1189

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2020/7/31
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/7/31
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

## Luminance Limitting Curve(no luminous side)



Luminance Table

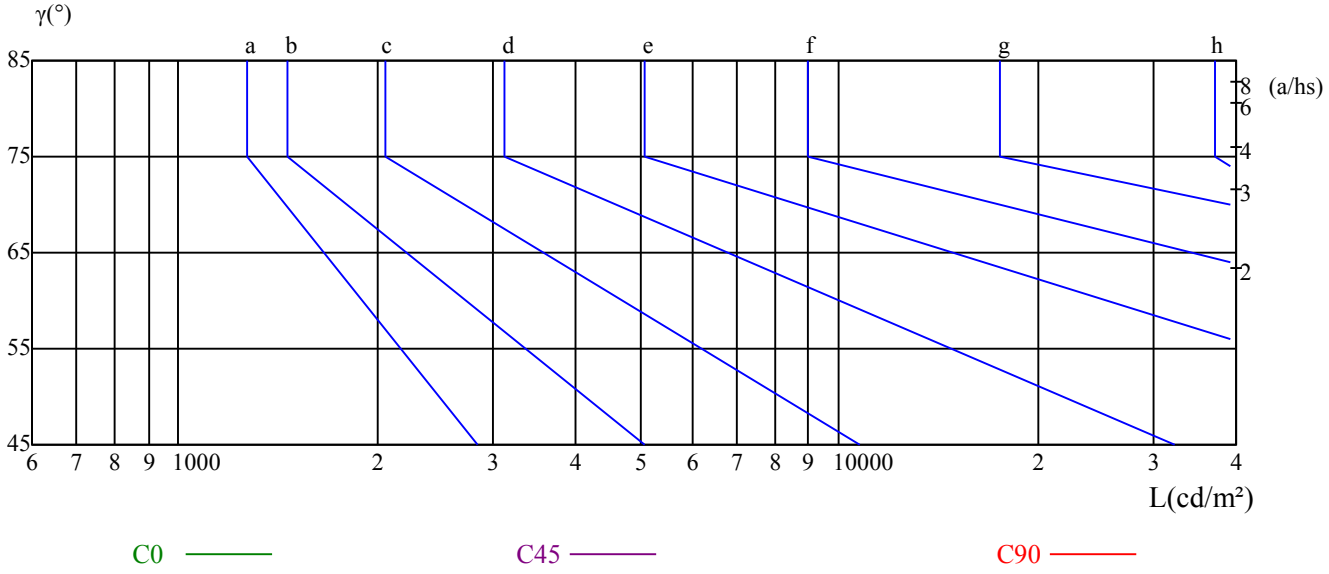
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 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

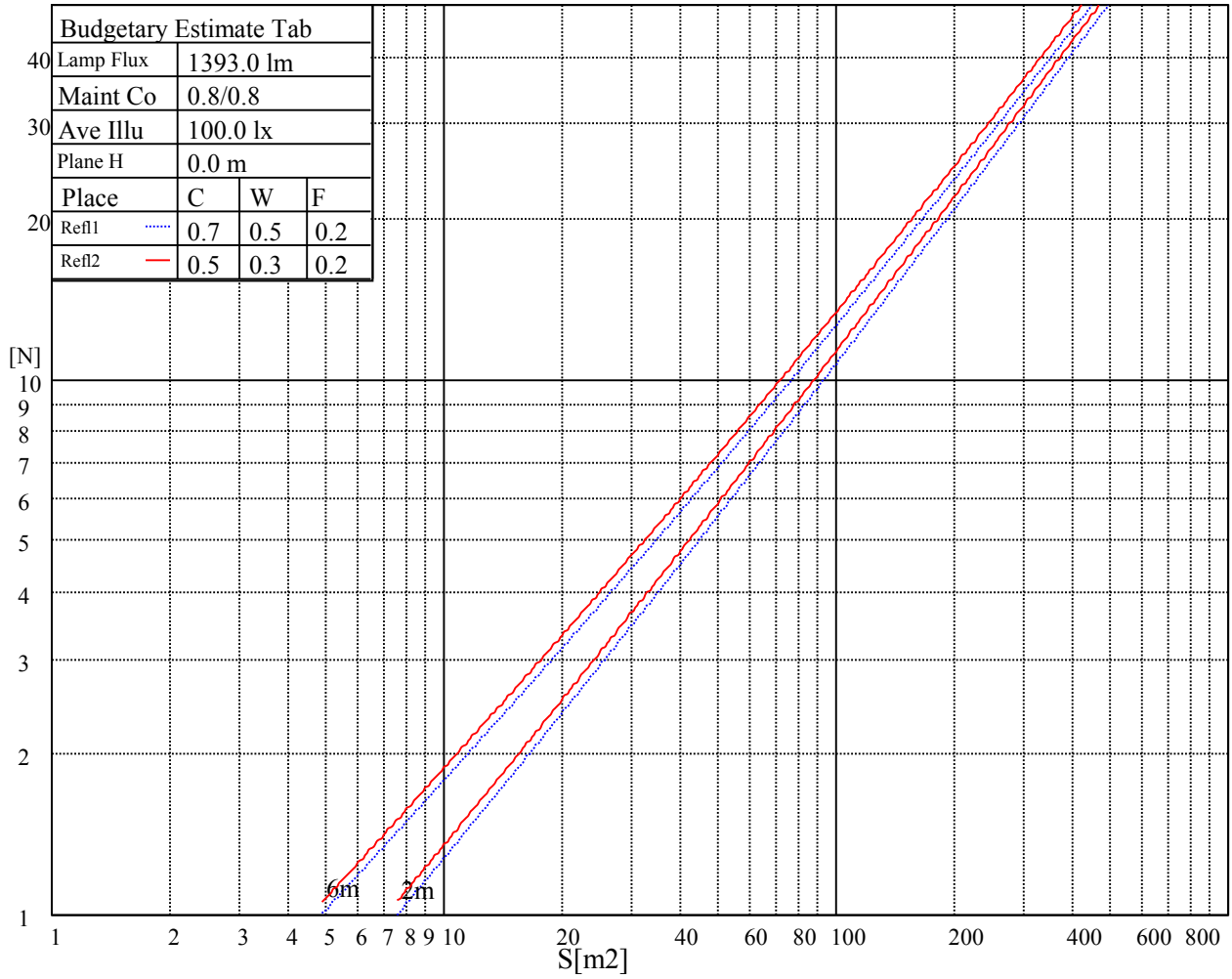


| Illumination assessment according UGR | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rf of Ceiling | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| Rf of Wall | | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| Rf of Floor | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 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: 2020/7/31 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

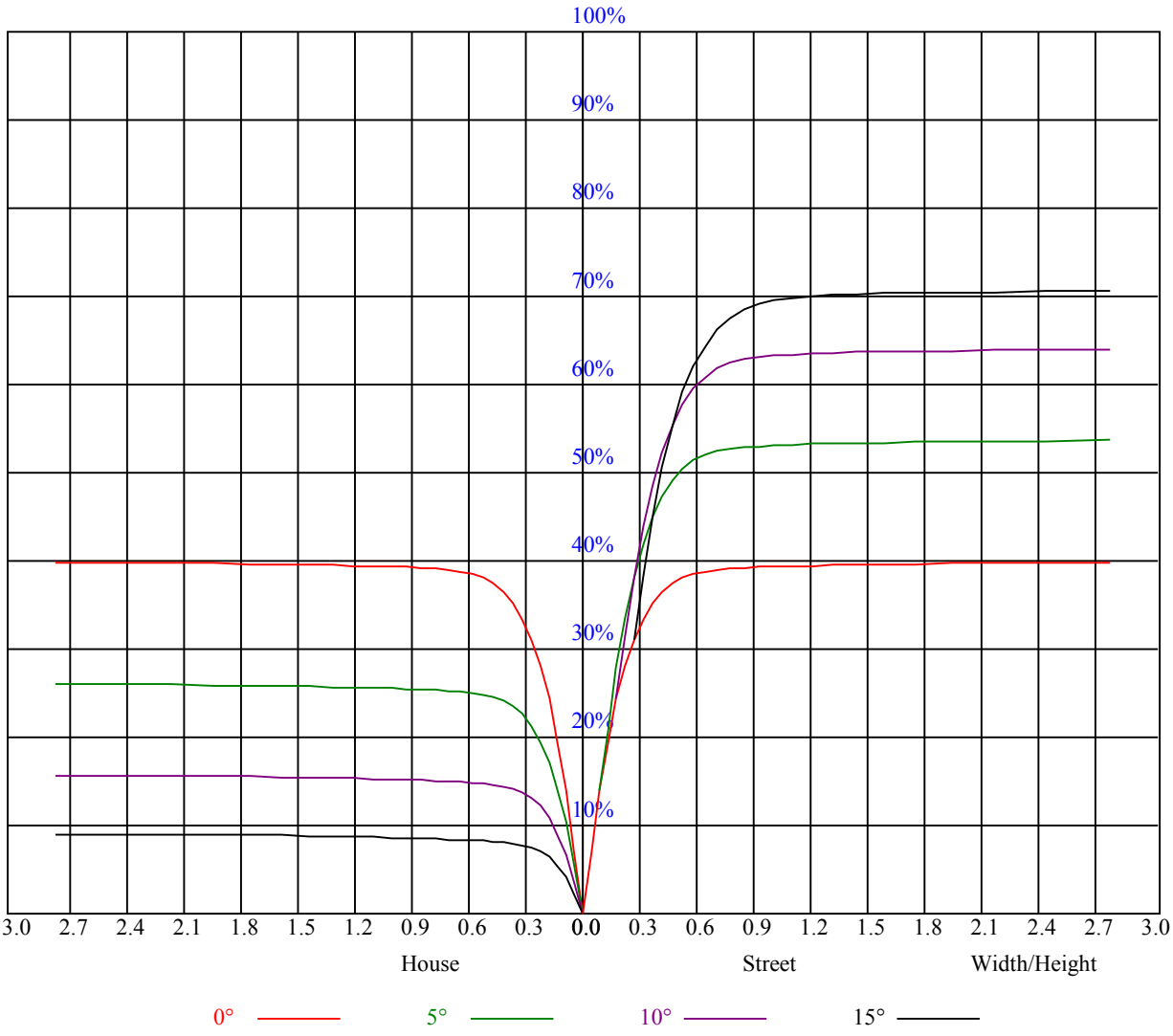
Utilization factor table for indoor luminaire



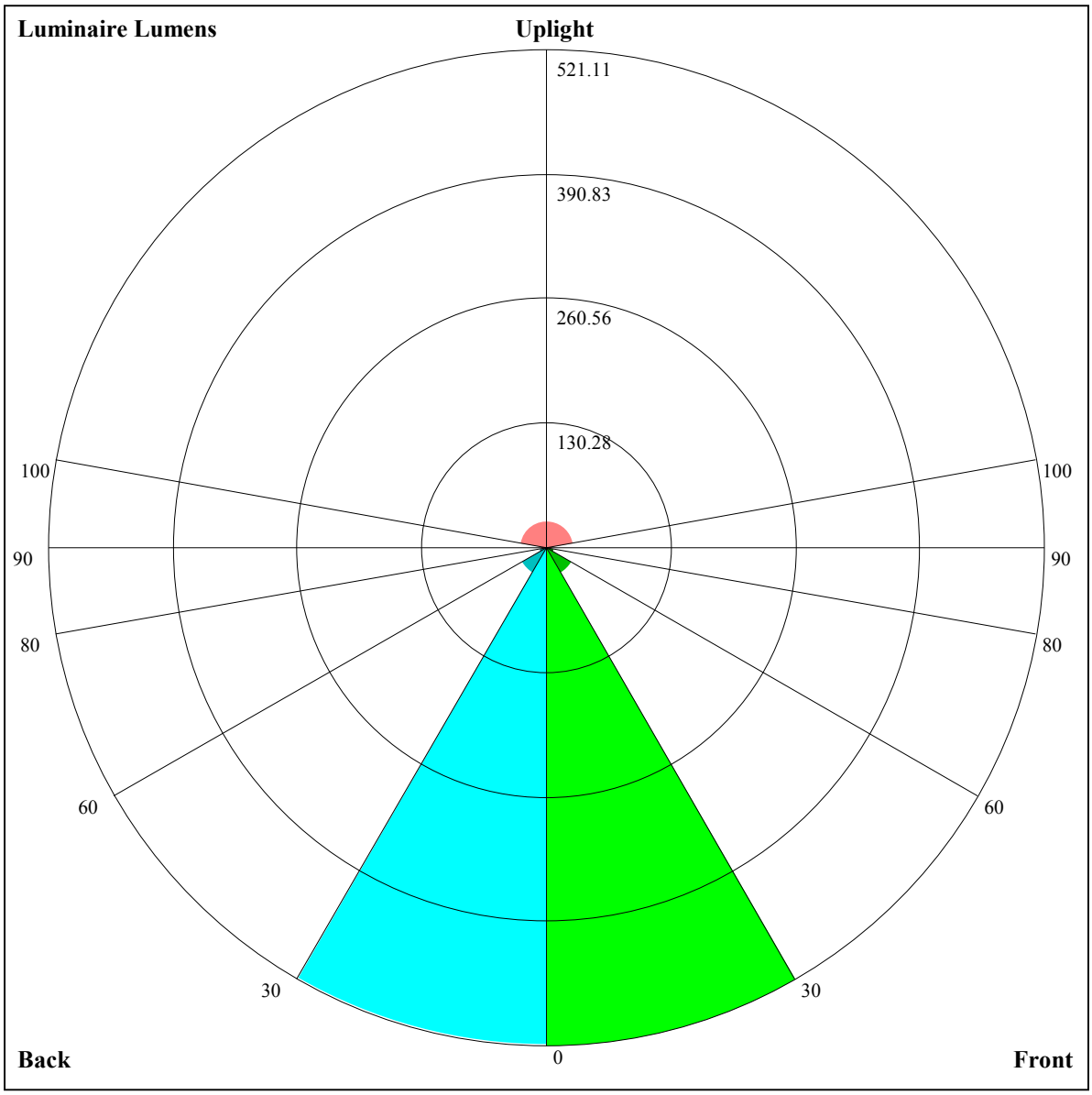
| RHOCC | 80 | | | 70 | | | 50 | | | 30 | | | 10 | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RHOW | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | COEFFCIENTS OF UTILIZATION RHOFC=20 CU | | | | | | | | | | | | | | | |
| 0 | 0.96 | 0.96 | 0.96 | 0.94 | 0.94 | 0.94 | 0.89 | 0.89 | 0.89 | 0.86 | 0.86 | 0.86 | 0.82 | 0.82 | 0.82 | 0.80 |
| 1 | 0.90 | 0.89 | 0.87 | 0.88 | 0.87 | 0.86 | 0.85 | 0.84 | 0.83 | 0.82 | 0.81 | 0.81 | 0.80 | 0.79 | 0.78 | 0.77 |
| 2 | 0.86 | 0.83 | 0.81 | 0.84 | 0.82 | 0.80 | 0.82 | 0.80 | 0.78 | 0.79 | 0.78 | 0.77 | 0.77 | 0.76 | 0.75 | 0.74 |
| 3 | 0.82 | 0.79 | 0.76 | 0.81 | 0.78 | 0.76 | 0.79 | 0.76 | 0.74 | 0.77 | 0.75 | 0.73 | 0.75 | 0.73 | 0.72 | 0.71 |
| 4 | 0.78 | 0.75 | 0.72 | 0.77 | 0.74 | 0.72 | 0.76 | 0.73 | 0.71 | 0.74 | 0.72 | 0.70 | 0.73 | 0.71 | 0.70 | 0.69 |
| 5 | 0.75 | 0.72 | 0.69 | 0.75 | 0.71 | 0.69 | 0.73 | 0.70 | 0.68 | 0.72 | 0.70 | 0.68 | 0.71 | 0.69 | 0.67 | 0.66 |
| 6 | 0.73 | 0.69 | 0.66 | 0.72 | 0.69 | 0.66 | 0.71 | 0.68 | 0.66 | 0.70 | 0.67 | 0.65 | 0.69 | 0.67 | 0.65 | 0.64 |
| 7 | 0.70 | 0.67 | 0.64 | 0.70 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.68 | 0.65 | 0.63 | 0.67 | 0.65 | 0.63 | 0.62 |
| 8 | 0.68 | 0.64 | 0.62 | 0.67 | 0.64 | 0.62 | 0.67 | 0.64 | 0.62 | 0.66 | 0.63 | 0.61 | 0.65 | 0.63 | 0.61 | 0.60 |
| 9 | 0.66 | 0.62 | 0.60 | 0.65 | 0.62 | 0.60 | 0.65 | 0.62 | 0.60 | 0.64 | 0.62 | 0.60 | 0.64 | 0.61 | 0.59 | 0.59 |
| 10 | 0.64 | 0.61 | 0.58 | 0.64 | 0.60 | 0.58 | 0.63 | 0.60 | 0.58 | 0.63 | 0.60 | 0.58 | 0.62 | 0.60 | 0.58 | 0.57 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2020/7/31 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 65.0% | Distance(m): 7.50 |




Luminaire Lumens:
FL=521.11,FM=30.28,FH=7.49,FVH=3.35
BL=520.21,BM=30.5,BH=7.53,BVH=3.36
UL=5.84,UH=27.78

BUG Rating:B2-U2-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 | 5790.38 | 5814.00 | 5774.06 | 5592.38 | 5376.38 | 5070.94 | 4596.19 | 4168.13 | 3717.00 |
| 45.0 | 5820.75 | 5802.75 | 5639.63 | 5410.13 | 5086.69 | 4722.19 | 4229.44 | 3692.25 | 3266.44 |
| 90.0 | 5820.19 | 5724.00 | 5568.19 | 5261.06 | 4897.69 | 4490.44 | 3900.94 | 3440.81 | 3030.75 |
| 135.0 | 5813.44 | 5791.50 | 5686.88 | 5469.19 | 5187.94 | 4834.13 | 4300.88 | 3834.56 | 3392.44 |
| 180.0 | 5790.38 | 5758.88 | 5631.19 | 5442.19 | 5139.56 | 4789.13 | 4322.25 | 3796.88 | 3353.06 |
| 225.0 | 5820.75 | 5802.19 | 5790.38 | 5641.31 | 5412.38 | 5155.88 | 4735.13 | 4320.00 | 3868.88 |
| 270.0 | 5820.19 | 5812.31 | 5798.81 | 5726.25 | 5553.00 | 5336.44 | 4971.94 | 4535.44 | 4100.06 |
| 315.0 | 5813.44 | 5807.25 | 5757.75 | 5612.63 | 5373.56 | 5058.00 | 4636.69 | 4150.13 | 3718.13 |
| 360.0 | 5790.38 | 5814.00 | 5774.06 | 5592.38 | 5376.38 | 5070.94 | 4596.19 | 4168.13 | 3717.00 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 3193.88 | 2837.25 | 2525.06 | 2233.69 | 1983.94 | 1788.19 | 1590.75 | 1434.38 | 1280.25 |
| 45.0 | 2844.00 | 2496.94 | 2229.19 | 2007.00 | 1768.50 | 1599.19 | 1442.81 | 1285.88 | 1146.38 |
| 90.0 | 2683.13 | 2324.81 | 2091.38 | 1890.00 | 1670.06 | 1509.19 | 1362.94 | 1110.09 | 1082.70 |
| 135.0 | 2912.63 | 2588.06 | 2309.63 | 2077.31 | 1830.38 | 1658.25 | 1497.94 | 1337.06 | 1199.81 |
| 180.0 | 2958.19 | 2549.25 | 2281.50 | 2054.25 | 1815.19 | 1644.19 | 1487.81 | 1331.44 | 1117.97 |
| 225.0 | 3315.94 | 2934.56 | 2605.50 | 2266.31 | 2040.75 | 1844.44 | 1629.00 | 1491.75 | 1329.75 |
| 270.0 | 3601.69 | 3140.44 | 2788.31 | 2480.06 | 2163.94 | 1944.00 | 1776.38 | 1563.75 | 1399.50 |
| 315.0 | 3292.88 | 2825.44 | 2511.00 | 2245.50 | 1965.94 | 1772.44 | 1600.31 | 1429.88 | 1272.38 |
| 360.0 | 3193.88 | 2837.25 | 2525.06 | 2233.69 | 1983.94 | 1788.19 | 1590.75 | 1434.38 | 1280.25 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1145.81 | 1037.81 | 928.69 | 825.75 | 743.63 | 664.88 | 569.81 | 493.88 | 421.88 |
| 45.0 | 1031.06 | 906.19 | 804.94 | 722.81 | 634.50 | 565.88 | 480.94 | 405.00 | 342.00 |
| 90.0 | 974.19 | 862.99 | 774.90 | 683.83 | 595.46 | 519.41 | 440.16 | 365.34 | 303.13 |
| 135.0 | 1081.13 | 957.38 | 856.69 | 772.88 | 680.06 | 600.75 | 515.81 | 433.13 | 367.31 |
| 180.0 | 1076.51 | 949.84 | 868.11 | 772.99 | 680.18 | 612.96 | 529.26 | 440.61 | 382.22 |
| 225.0 | 1115.04 | 1073.48 | 969.92 | 863.04 | 766.91 | 688.67 | 603.73 | 520.14 | 447.64 |
| 270.0 | 1286.44 | 1141.31 | 1022.63 | 938.25 | 822.38 | 741.38 | 663.75 | 564.75 | 487.69 |
| 315.0 | 1109.64 | 1030.89 | 932.34 | 828.90 | 732.94 | 657.45 | 567.90 | 486.51 | 417.09 |
| 360.0 | 1145.81 | 1037.81 | 928.69 | 825.75 | 743.63 | 664.88 | 569.81 | 493.88 | 421.88 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 344.81 | 289.69 | 218.25 | 178.31 | 125.44 | 94.84 | 72.90 | 58.11 | 50.18 |
| 45.0 | 288.56 | 212.40 | 166.61 | 128.25 | 90.56 | 70.93 | 56.64 | 48.77 | 43.43 |
| 90.0 | 246.15 | 184.78 | 142.59 | 107.27 | 77.23 | 59.46 | 51.53 | 46.63 | 42.41 |
| 135.0 | 309.38 | 253.24 | 180.84 | 141.47 | 100.86 | 76.50 | 59.01 | 50.29 | 45.23 |
| 180.0 | 317.76 | 237.43 | 194.34 | 150.13 | 109.35 | 78.81 | 61.71 | 51.69 | 46.35 |
| 225.0 | 379.52 | 299.76 | 242.27 | 192.83 | 145.07 | 107.04 | 81.79 | 62.61 | 53.21 |
| 270.0 | 414.56 | 330.19 | 284.06 | 214.82 | 160.14 | 123.02 | 92.98 | 69.86 | 57.43 |
| 315.0 | 348.98 | 273.21 | 218.19 | 175.50 | 131.85 | 97.71 | 74.31 | 59.57 | 52.09 |
| 360.0 | 344.81 | 289.69 | 218.25 | 178.31 | 125.44 | 94.84 | 72.90 | 58.11 | 50.18 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 46.13 | 41.12 | 37.63 | 34.03 | 29.93 | 26.49 | 23.34 | 19.69 | 17.27 |
| 45.0 | 39.66 | 36.06 | 33.30 | 29.81 | 26.21 | 23.23 | 19.80 | 17.04 | 14.96 |
| 90.0 | 39.15 | 35.89 | 32.79 | 29.31 | 25.71 | 22.39 | 19.63 | 16.59 | 14.57 |
| 135.0 | 41.40 | 37.80 | 34.93 | 31.67 | 28.07 | 24.86 | 21.38 | 18.51 | 16.26 |
| 180.0 | 42.75 | 38.98 | 36.06 | 32.57 | 28.97 | 25.76 | 22.61 | 19.13 | 16.82 |
| 225.0 | 48.38 | 43.88 | 40.22 | 36.56 | 32.85 | 29.48 | 26.04 | 21.94 | 19.07 |
| 270.0 | 52.14 | 47.14 | 43.14 | 39.26 | 35.27 | 31.78 | 27.79 | 23.96 | 20.81 |
| 315.0 | 47.42 | 42.86 | 39.26 | 35.21 | 31.39 | 27.79 | 24.36 | 20.53 | 17.83 |
| 360.0 | 46.13 | 41.12 | 37.63 | 34.03 | 29.93 | 26.49 | 23.34 | 19.69 | 17.27 |

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 | 15.24 | 13.28 | 12.09 | 11.31 | 10.58 | 10.01 | 9.68 | 9.28 | 9.06 |
| 45.0 | 13.33 | 11.81 | 11.03 | 10.46 | 9.96 | 9.56 | 9.28 | 9.06 | 8.72 |
| 90.0 | 13.11 | 11.81 | 11.14 | 10.58 | 10.07 | 9.68 | 9.39 | 9.11 | 8.89 |
| 135.0 | 14.34 | 12.77 | 11.87 | 11.19 | 10.63 | 10.13 | 9.84 | 9.51 | 9.23 |
| 180.0 | 14.85 | 13.11 | 12.09 | 11.42 | 10.86 | 10.24 | 9.90 | 9.56 | 9.34 |
| 225.0 | 16.59 | 14.18 | 12.83 | 11.87 | 11.03 | 10.46 | 10.07 | 9.68 | 9.39 |
| 270.0 | 18.23 | 15.30 | 13.67 | 12.49 | 11.48 | 10.80 | 10.35 | 9.90 | 9.56 |
| 315.0 | 15.75 | 13.73 | 12.43 | 11.59 | 10.80 | 10.29 | 9.90 | 9.56 | 9.28 |
| 360.0 | 15.24 | 13.28 | 12.09 | 11.31 | 10.58 | 10.01 | 9.68 | 9.28 | 9.06 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 8.83 | 8.61 | 8.49 | 8.33 | 8.21 | 8.10 | 8.10 | 8.04 | 8.04 |
| 45.0 | 8.55 | 8.38 | 8.27 | 8.10 | 8.10 | 8.10 | 7.99 | 7.93 | 7.88 |
| 90.0 | 8.72 | 8.49 | 8.38 | 8.33 | 8.27 | 8.16 | 8.10 | 8.04 | 7.99 |
| 135.0 | 9.00 | 8.83 | 8.66 | 8.49 | 8.38 | 8.38 | 8.27 | 8.21 | 8.16 |
| 180.0 | 9.06 | 8.83 | 8.66 | 8.49 | 8.44 | 8.33 | 8.27 | 8.27 | 8.21 |
| 225.0 | 9.11 | 8.89 | 8.72 | 8.49 | 8.38 | 8.33 | 8.27 | 8.16 | 8.10 |
| 270.0 | 9.28 | 9.06 | 8.89 | 8.66 | 8.49 | 8.38 | 8.33 | 8.27 | 8.21 |
| 315.0 | 9.06 | 8.78 | 8.66 | 8.44 | 8.33 | 8.21 | 8.16 | 8.10 | 8.04 |
| 360.0 | 8.83 | 8.61 | 8.49 | 8.33 | 8.21 | 8.10 | 8.10 | 8.04 | 8.04 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 7.93 | 7.88 | 7.82 | 7.76 | 7.71 | 7.65 | 7.54 | 7.48 | 7.31 |
| 45.0 | 7.82 | 7.76 | 7.71 | 7.59 | 7.59 | 7.54 | 7.43 | 7.31 | 7.09 |
| 90.0 | 7.93 | 7.82 | 7.76 | 7.71 | 7.65 | 7.59 | 7.48 | 7.31 | 7.14 |
| 135.0 | 8.04 | 7.99 | 7.93 | 7.82 | 7.76 | 7.65 | 7.59 | 7.48 | 7.26 |
| 180.0 | 8.10 | 8.04 | 7.88 | 7.82 | 7.76 | 7.65 | 7.54 | 7.43 | 7.26 |
| 225.0 | 8.04 | 7.93 | 7.88 | 7.76 | 7.71 | 7.59 | 7.48 | 7.43 | 7.20 |
| 270.0 | 8.16 | 8.04 | 7.99 | 7.82 | 7.76 | 7.71 | 7.65 | 7.59 | 7.48 |
| 315.0 | 7.99 | 7.88 | 7.82 | 7.76 | 7.71 | 7.59 | 7.54 | 7.43 | 7.31 |
| 360.0 | 7.93 | 7.88 | 7.82 | 7.76 | 7.71 | 7.65 | 7.54 | 7.48 | 7.31 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 7.14 | 6.98 | 6.86 | 6.81 | 6.69 | 6.64 | 6.53 | 6.47 | 6.36 |
| 45.0 | 6.92 | 6.81 | 6.69 | 6.64 | 6.53 | 6.47 | 6.36 | 6.24 | 6.19 |
| 90.0 | 7.03 | 6.92 | 6.86 | 6.81 | 6.69 | 6.64 | 6.58 | 6.58 | 6.64 |
| 135.0 | 7.14 | 7.03 | 6.86 | 6.81 | 6.69 | 6.64 | 6.58 | 6.41 | 6.36 |
| 180.0 | 7.03 | 6.92 | 6.81 | 6.75 | 6.64 | 6.53 | 6.47 | 6.36 | 6.30 |
| 225.0 | 7.09 | 6.92 | 6.81 | 6.69 | 6.58 | 6.53 | 6.47 | 6.36 | 6.30 |
| 270.0 | 7.31 | 7.14 | 7.03 | 6.98 | 6.86 | 6.81 | 6.81 | 6.81 | 6.75 |
| 315.0 | 7.09 | 6.98 | 6.81 | 6.75 | 6.69 | 6.58 | 6.53 | 6.41 | 6.30 |
| 360.0 | 7.14 | 6.98 | 6.86 | 6.81 | 6.69 | 6.64 | 6.53 | 6.47 | 6.36 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 6.24 | 6.19 | 6.13 | 6.02 | 5.91 | 5.85 | 5.74 | 5.57 | 5.46 |
| 45.0 | 6.08 | 5.96 | 5.91 | 5.79 | 5.68 | 5.63 | 5.51 | 5.34 | 5.29 |
| 90.0 | 7.03 | 7.71 | 8.10 | 8.38 | 8.44 | 5.63 | 5.51 | 5.34 | 5.34 |
| 135.0 | 6.24 | 6.13 | 6.08 | 5.96 | 5.91 | 5.79 | 5.68 | 5.51 | 5.40 |
| 180.0 | 6.24 | 6.13 | 6.08 | 6.02 | 5.91 | 5.85 | 5.68 | 5.57 | 5.40 |
| 225.0 | 6.19 | 6.08 | 6.08 | 6.02 | 5.91 | 5.85 | 5.74 | 5.57 | 5.40 |
| 270.0 | 6.69 | 6.64 | 6.58 | 6.47 | 6.64 | 6.64 | 5.79 | 5.63 | 5.51 |
| 315.0 | 6.24 | 6.19 | 6.13 | 6.02 | 5.96 | 5.85 | 5.74 | 5.57 | 5.46 |
| 360.0 | 6.24 | 6.19 | 6.13 | 6.02 | 5.91 | 5.85 | 5.74 | 5.57 | 5.46 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 5.40 |
| 45.0 | 5.29 |
| 90.0 | 5.29 |
| 135.0 | 5.40 |
| 180.0 | 5.40 |
| 225.0 | 5.29 |
| 270.0 | 5.34 |
| 315.0 | 5.40 |
| 360.0 | 5.40 |