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

Nata

Client:
LumCAT: 4-2412-L
Luminaire: 92.70.129.00
Report No: NT2018011016
Test No: GC2018011016
LampCAT: CXA1820
Lamp flux(lm): 2182.0
Number of Lamps: 1
Length(mm): 102
Phm Type: C

Voltage(V): 37.1000
Current(A): 0.6500
Power (W): 24.1150
PF: 0.0000
Ballast type: DC
Width(mm): 102
Height(mm): 0

## Photometric Results

Lumens(lm): 2130.11, Efficiency(%): 97.62% , Luminous Efficacy(lm/W): 88.33
Central intensity(cd): 17176.220, Maximum intensity(cd): 17176.220
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=14.0
[C90/270]Total=14.0
Field angle(10%Imax): [C0/180]Total=31.4
[C90/270]Total=31.4
Maximum s/h(1/2): C0_180=0.24 C90_270=0.24
Maximum s/h(1/4): C0_180=0.26 C90_270=0.26
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 97.81%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.313%

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 17176.221 | 4.109 | 4.109 | .188% | .193% |
| 1.0 | 16944.295 | 32.429 | 36.538 | 1.486% | 1.715% |
| 2.0 | 16107.438 | 61.645 | 98.183 | 2.825% | 4.609% |
| 3.0 | 14960.200 | 85.860 | 184.043 | 3.935% | 8.640% |
| 4.0 | 13542.223 | 103.592 | 287.635 | 4.748% | 13.503% |
| 5.0 | 11796.109 | 112.742 | 400.377 | 5.167% | 18.796% |
| 6.0 | 9975.944 | 114.351 | 514.728 | 5.241% | 24.164% |
| 7.0 | 8663.400 | 115.780 | 630.508 | 5.306% | 29.600% |
| 8.0 | 7121.477 | 108.687 | 739.195 | 4.981% | 34.702% |
| 9.0 | 5868.530 | 100.673 | 839.868 | 4.614% | 39.428% |
| 10.0 | 4822.321 | 91.829 | 931.697 | 4.208% | 43.739% |
| 11.0 | 3921.254 | 82.049 | 1013.746 | 3.760% | 47.591% |
| 12.0 | 3225.204 | 73.534 | 1087.28 | 3.370% | 51.043% |
| 13.0 | 2737.267 | 67.524 | 1154.804 | 3.095% | 54.213% |
| 14.0 | 2201.086 | 58.393 | 1213.197 | 2.676% | 56.955% |
| 15.0 | 1896.899 | 53.838 | 1267.036 | 2.467% | 59.482% |
| 16.0 | 1654.397 | 50.007 | 1317.043 | 2.292% | 61.830% |
| 17.0 | 1446.407 | 46.374 | 1363.417 | 2.125% | 64.007% |
| 18.0 | 1286.331 | 43.590 | 1407.007 | 1.998% | 66.053% |
| 19.0 | 1174.064 | 41.917 | 1448.924 | 1.921% | 68.021% |
| 20.0 | 1083.310 | 40.631 | 1489.554 | 1.862% | 69.929% |
| 21.0 | 1003.871 | 39.451 | 1529.006 | 1.808% | 71.781% |
| 22.0 | 945.945 | 38.859 | 1567.865 | 1.781% | 73.605% |
| 23.0 | 892.444 | 38.239 | 1606.104 | 1.752% | 75.400% |
| 24.0 | 848.598 | 37.850 | 1643.954 | 1.735% | 77.177% |
| 25.0 | 814.628 | 37.754 | 1681.708 | 1.730% | 78.949% |
| 26.0 | 785.614 | 37.766 | 1719.474 | 1.731% | 80.722% |
| 27.0 | 759.572 | 37.815 | 1757.289 | 1.733% | 82.498% |
| 28.0 | 737.363 | 37.961 | 1795.251 | 1.740% | 84.280% |
| 29.0 | 718.775 | 38.213 | 1833.464 | 1.751% | 86.074% |
| 30.0 | 700.717 | 38.421 | 1871.885 | 1.761% | 87.878% |
| 31.0 | 678.309 | 38.311 | 1910.195 | 1.756% | 89.676% |
| 32.0 | 633.279 | 36.801 | 1946.996 | 1.687% | 91.404% |
| 33.0 | 568.340 | 33.944 | 1980.94 | 1.556% | 92.997% |
| 34.0 | 488.412 | 29.950 | 2010.891 | 1.373% | 94.403% |
| 35.0 | 396.110 | 24.915 | 2035.806 | 1.142% | 95.573% |
| 36.0 | 269.825 | 17.392 | 2053.198 | .797% | 96.389% |
| 37.0 | 175.231 | 11.564 | 2064.762 | .530% | 96.932% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 113.451 | 7.660 | 2072.422 | .351% | 97.292% |
| 39.0 | 46.123 | 3.183 | 2075.605 | .146% | 97.441% |
| 40.0 | 24.239 | 1.709 | 2077.313 | .078% | 97.522% |
| 41.0 | 19.173 | 1.379 | 2078.693 | .063% | 97.586% |
| 42.0 | 16.166 | 1.186 | 2079.879 | .054% | 97.642% |
| 43.0 | 14.445 | 1.080 | 2080.959 | .050% | 97.693% |
| 44.0 | 13.647 | 1.040 | 2081.999 | .048% | 97.742% |
| 45.0 | 13.035 | 1.011 | 2083.01 | .046% | 97.789% |
| 46.0 | 12.594 | 0.993 | 2084.003 | .046% | 97.836% |
| 47.0 | 12.229 | 0.981 | 2084.984 | .045% | 97.882% |
| 48.0 | 12.002 | 0.978 | 2085.962 | .045% | 97.928% |
| 49.0 | 11.830 | 0.979 | 2086.941 | .045% | 97.974% |
| 50.0 | 11.638 | 0.978 | 2087.919 | .045% | 98.019% |
| 51.0 | 11.514 | 0.981 | 2088.9 | .045% | 98.066% |
| 52.0 | 11.404 | 0.985 | 2089.885 | .045% | 98.112% |
| 53.0 | 11.300 | 0.990 | 2090.875 | .045% | 98.158% |
| 54.0 | 11.225 | 0.996 | 2091.871 | .046% | 98.205% |
| 55.0 | 11.218 | 1.008 | 2092.878 | .046% | 98.252% |
| 56.0 | 11.211 | 1.019 | 2093.898 | .047% | 98.300% |
| 57.0 | 11.252 | 1.035 | 2094.933 | .047% | 98.349% |
| 58.0 | 11.307 | 1.052 | 2095.984 | .048% | 98.398% |
| 59.0 | 11.369 | 1.069 | 2097.053 | .049% | 98.448% |
| 60.0 | 11.465 | 1.089 | 2098.142 | .050% | 98.499% |
| 61.0 | 11.521 | 1.105 | 2099.247 | .051% | 98.551% |
| 62.0 | 11.541 | 1.117 | 2100.364 | .051% | 98.604% |
| 63.0 | 11.521 | 1.126 | 2101.49 | .052% | 98.657% |
| 64.0 | 11.459 | 1.129 | 2102.619 | .052% | 98.710% |
| 65.0 | 11.369 | 1.130 | 2103.749 | .052% | 98.763% |
| 66.0 | 11.245 | 1.127 | 2104.876 | .052% | 98.816% |
| 67.0 | 11.163 | 1.127 | 2106.002 | .052% | 98.868% |
| 68.0 | 11.004 | 1.119 | 2107.121 | .051% | 98.921% |
| 69.0 | 10.846 | 1.110 | 2108.232 | .051% | 98.973% |
| 70.0 | 10.653 | 1.098 | 2109.329 | .050% | 99.025% |
| 71.0 | 10.461 | 1.085 | 2110.414 | .050% | 99.076% |
| 72.0 | 10.282 | 1.072 | 2111.486 | .049% | 99.126% |
| 73.0 | 10.172 | 1.067 | 2112.553 | .049% | 99.176% |
| 74.0 | 10.048 | 1.059 | 2113.612 | .049% | 99.226% |
| 75.0 | 9.965 | 1.056 | 2114.668 | .048% | 99.275% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 9.903 | 1.054 | 2115.722 | .048% | 99.325% |
| 77.0 | 9.903 | 1.058 | 2116.78 | .048% | 99.374% |
| 78.0 | 9.883 | 1.060 | 2117.84 | .049% | 99.424% |
| 79.0 | 9.855 | 1.061 | 2118.901 | .049% | 99.474% |
| 80.0 | 9.848 | 1.064 | 2119.964 | .049% | 99.524% |
| 81.0 | 9.828 | 1.064 | 2121.029 | .049% | 99.574% |
| 82.0 | 9.834 | 1.068 | 2122.097 | .049% | 99.624% |
| 83.0 | 9.814 | 1.068 | 2123.165 | .049% | 99.674% |
| 84.0 | 9.786 | 1.067 | 2124.232 | .049% | 99.724% |
| 85.0 | 9.786 | 1.069 | 2125.301 | .049% | 99.774% |
| 86.0 | 9.766 | 1.068 | 2126.369 | .049% | 99.825% |
| 87.0 | 9.745 | 1.067 | 2127.437 | .049% | 99.875% |
| 88.0 | 9.759 | 1.070 | 2128.506 | .049% | 99.925% |
| 89.0 | 9.731 | 1.067 | 2129.573 | .049% | 99.975% |
| 90.0 | 9.717 | 0.533 | 2130.106 | .024% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

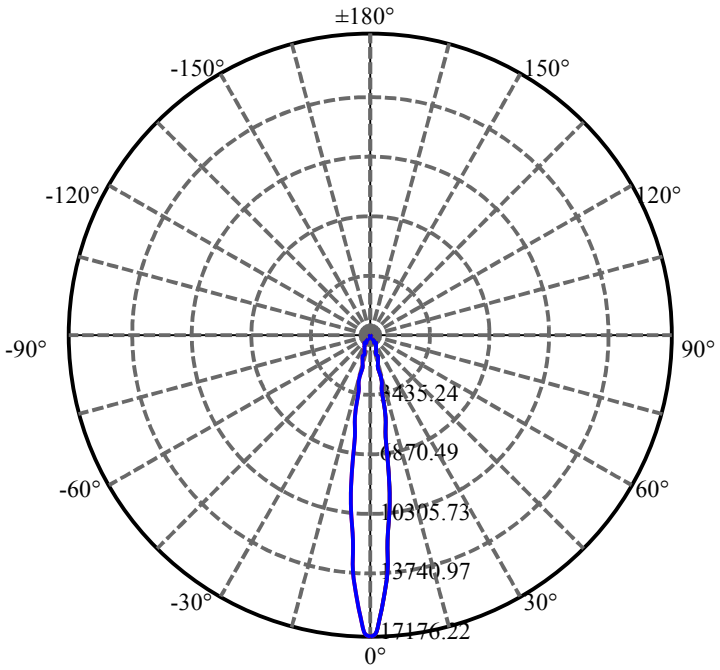
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1871.88 | 85.79% | 87.88% |
| 0-40 | 2077.31 | 95.20% | 97.52% |
| 0-60 | 2098.14 | 96.16% | 98.50% |
| 0-90 | 2129.57 | 97.60% | 99.97% |
| 0-120 | 2129.57 | 97.60% | 99.97% |
| 0-180 | 2130.11 | 97.62% | 100.00% |
| 60-90 | 32.52 | 1.49% | 1.53% |
| 90-120 | 0.00 | 0.00% | 0.00% |
| 90-130 | 0.00 | 0.00% | 0.00% |
| 90-150 | 0.00 | 0.00% | 0.00% |
| 90-180 | 0.00 | 0.00% | 0.00% |
| 0-25.59 | 1704.09 | 78.10% | 80.00% |

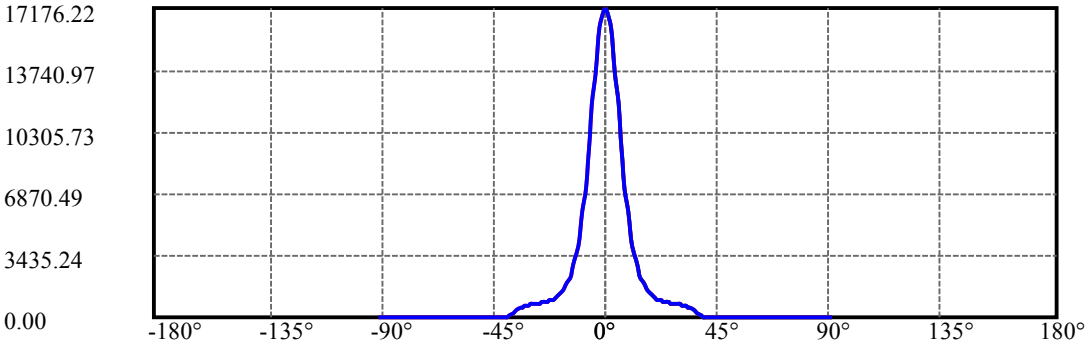
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 931.70 |
| 10-20 | 557.86 |
| 20-30 | 382.33 |
| 30-40 | 205.43 |
| 40-50 | 10.61 |
| 50-60 | 10.22 |
| 60-70 | 11.19 |
| 70-80 | 10.63 |
| 80-90 | 9.61 |
| 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:15.7 Right:15.7
:C90/270Left:15.7 Right:15.7

Beam Angle(50%Imax):C0/180Left:7.0 Right:7.0
:C90/270Left:7.0 Right:7.0

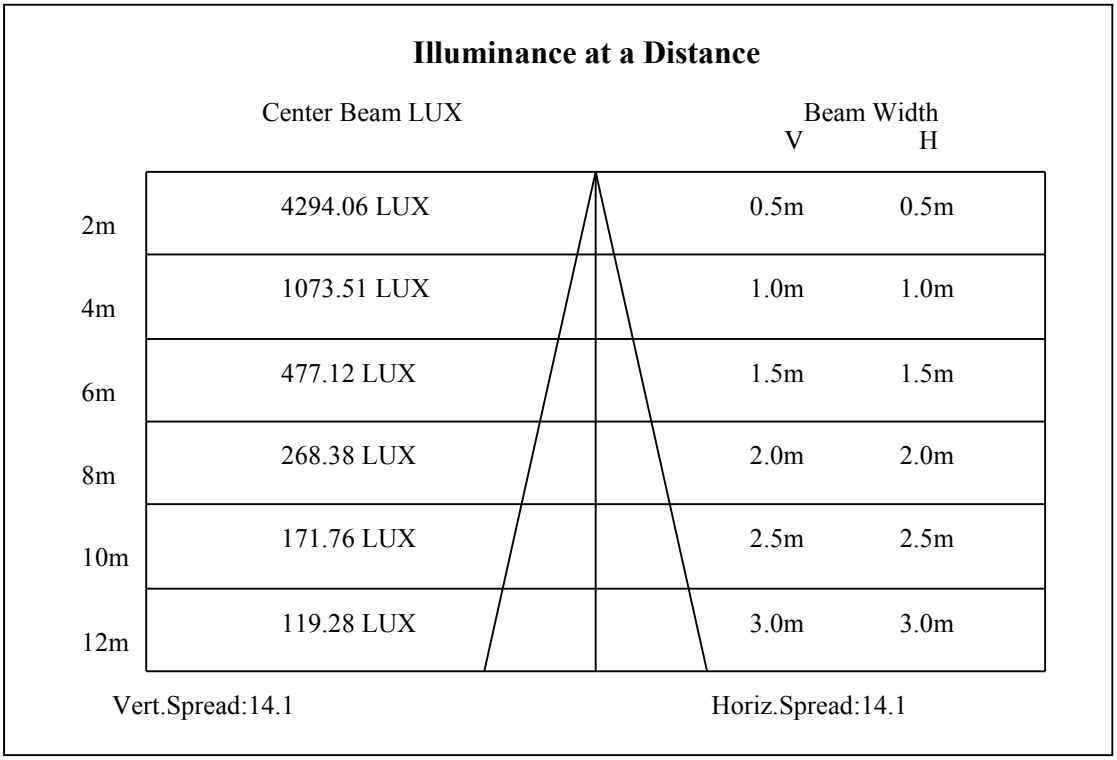
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/1/8
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

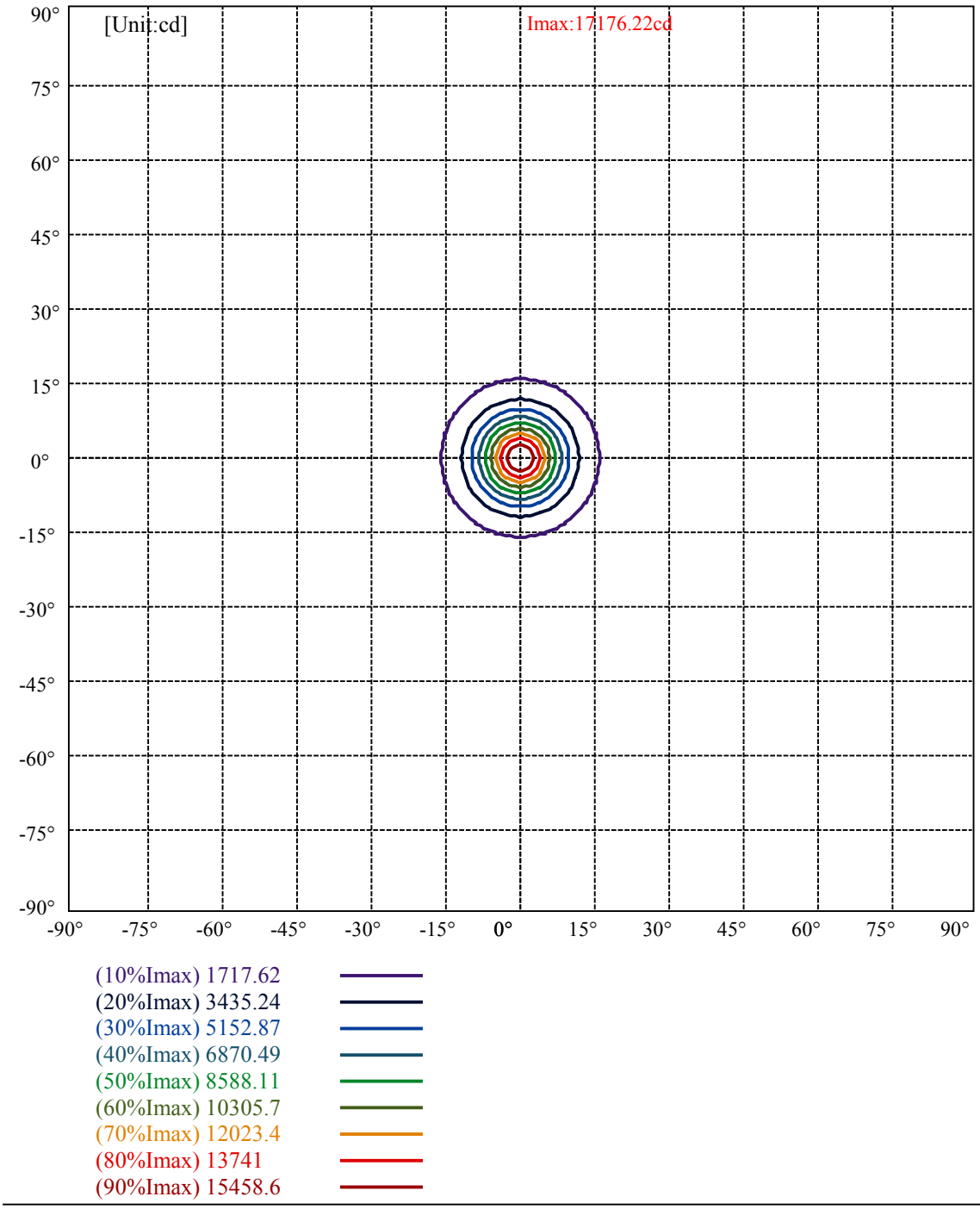
Lux distance Curve





ISO-Intensity(V-H)






(10%Imax) 1717.62
(20%Imax) 3435.24
(30%Imax) 5152.87
(40%Imax) 6870.49
(50%Imax) 8588.11
(60%Imax) 10305.7
(70%Imax) 12023.4
(80%Imax) 13741
(90%Imax) 15458.6

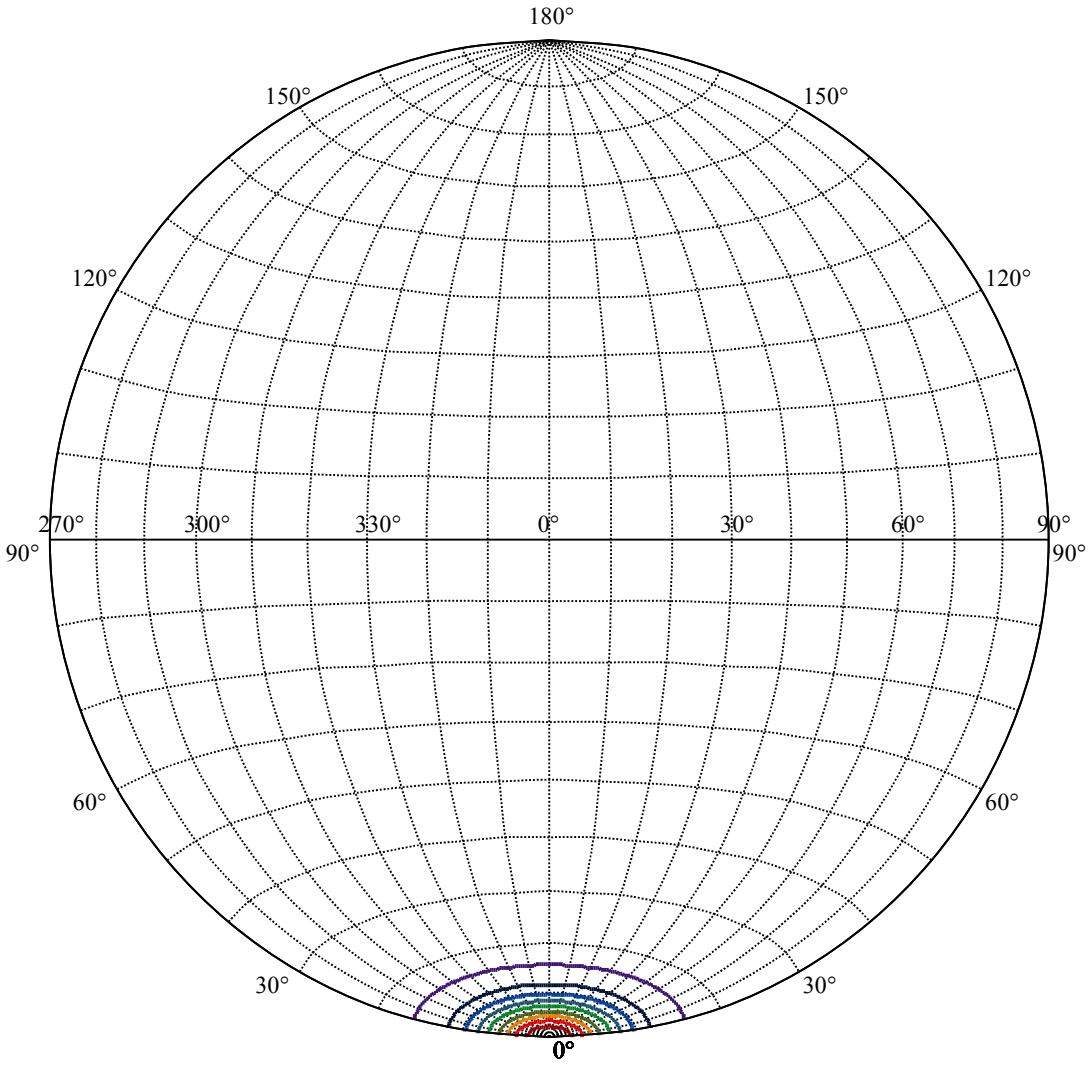
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/1/8
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

ISO candela diagram on circular web






House [Unit:cd] Road

Imax:17176.22

(10%Imax) 1717.62
(20%Imax) 3435.24
(30%Imax) 5152.87
(40%Imax) 6870.49
(50%Imax) 8588.11
(60%Imax) 10305.7
(70%Imax) 12023.4
(80%Imax) 13741
(90%Imax) 15458.6

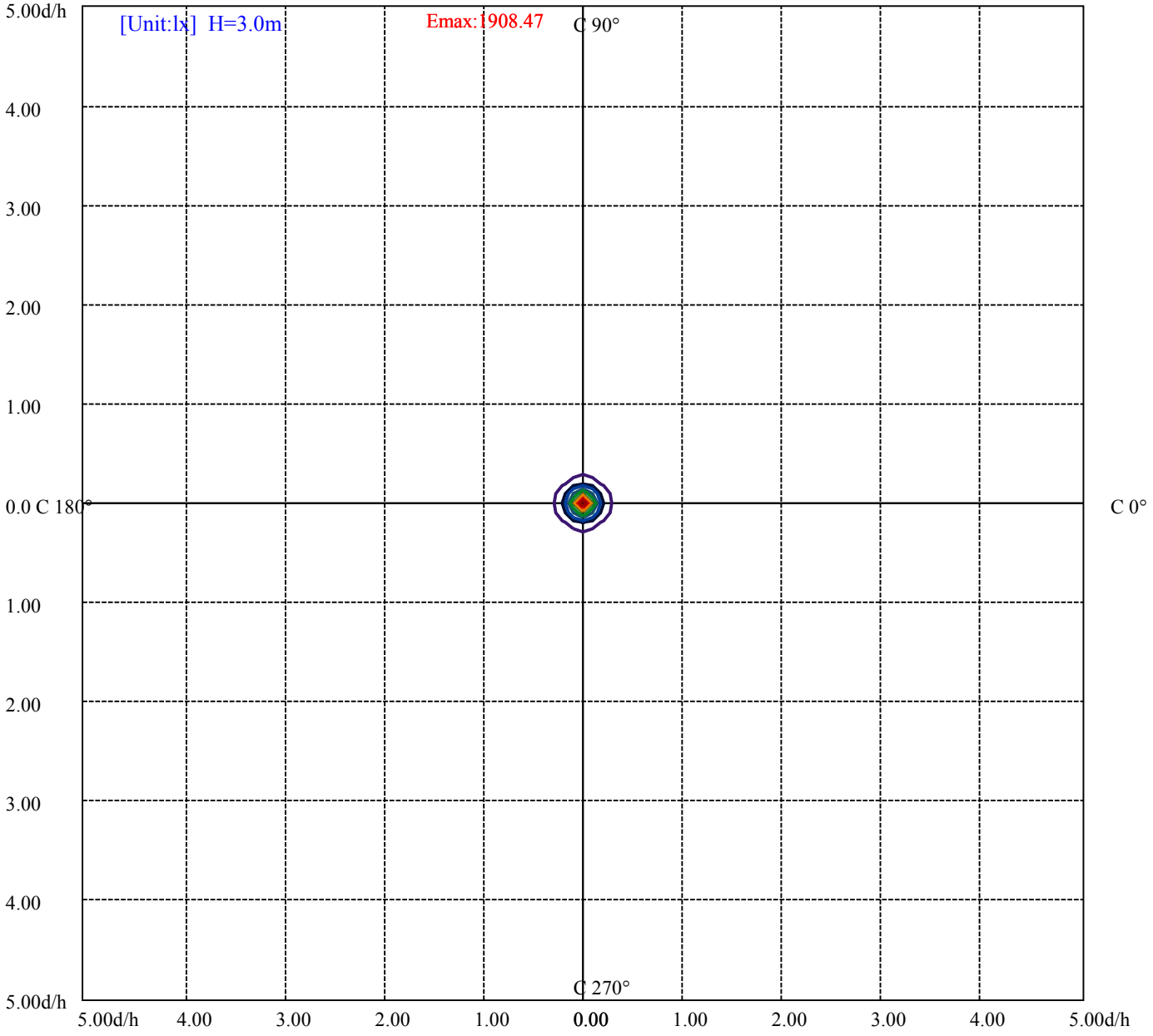
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/1/8
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

## ISO illuminance diagram





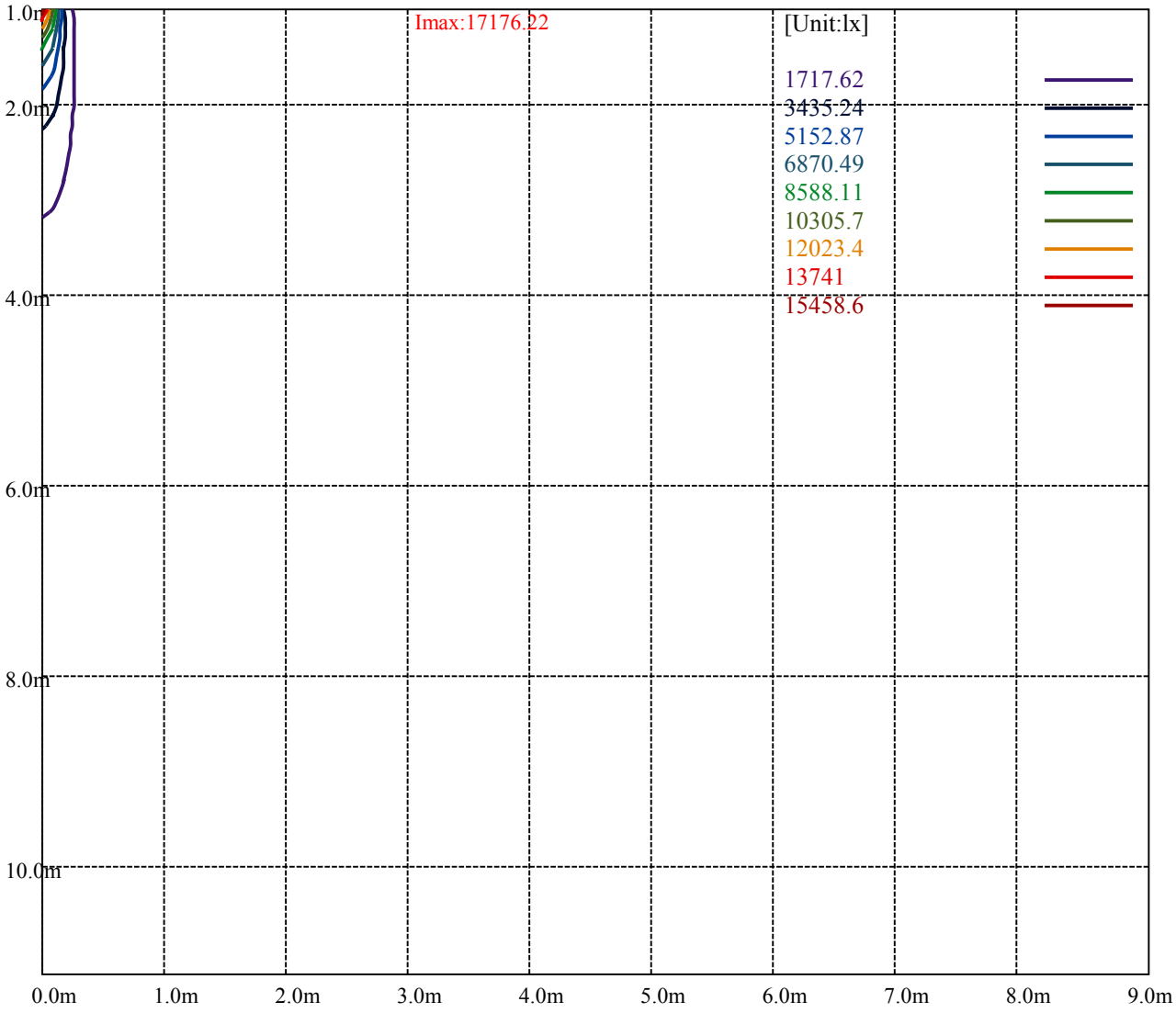

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/1/8
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

## Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/1/8
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

## Luminance Limitting Curve(no luminous side)



Luminance Table

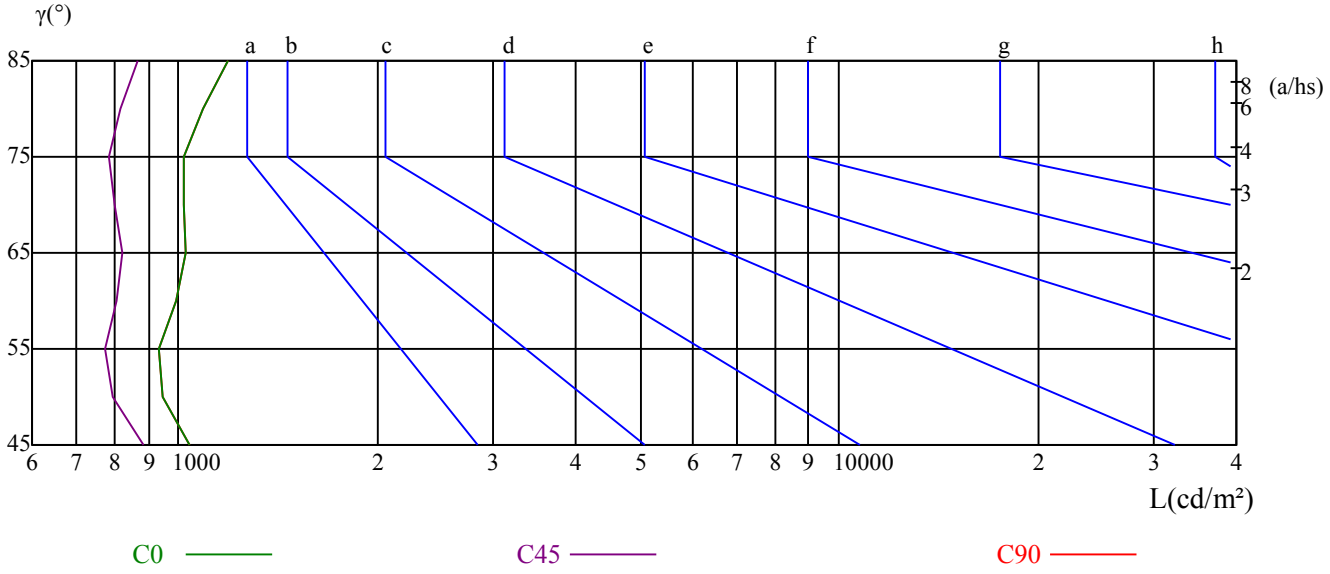
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 1039 | 945 | 936 | 992 | 1029 | 1019 | 1018 | 1090 | 1190 |
| C45 | 887 | 795 | 775 | 808 | 823 | 800 | 783 | 818 | 870 |
| C90 | 1039 | 945 | 936 | 992 | 1029 | 1019 | 1018 | 1090 | 1190 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 2586 | 2586 | 2586 | 3701 | 3701 | 3701 | 10792 | 10792 | 10792 |

Glare Table

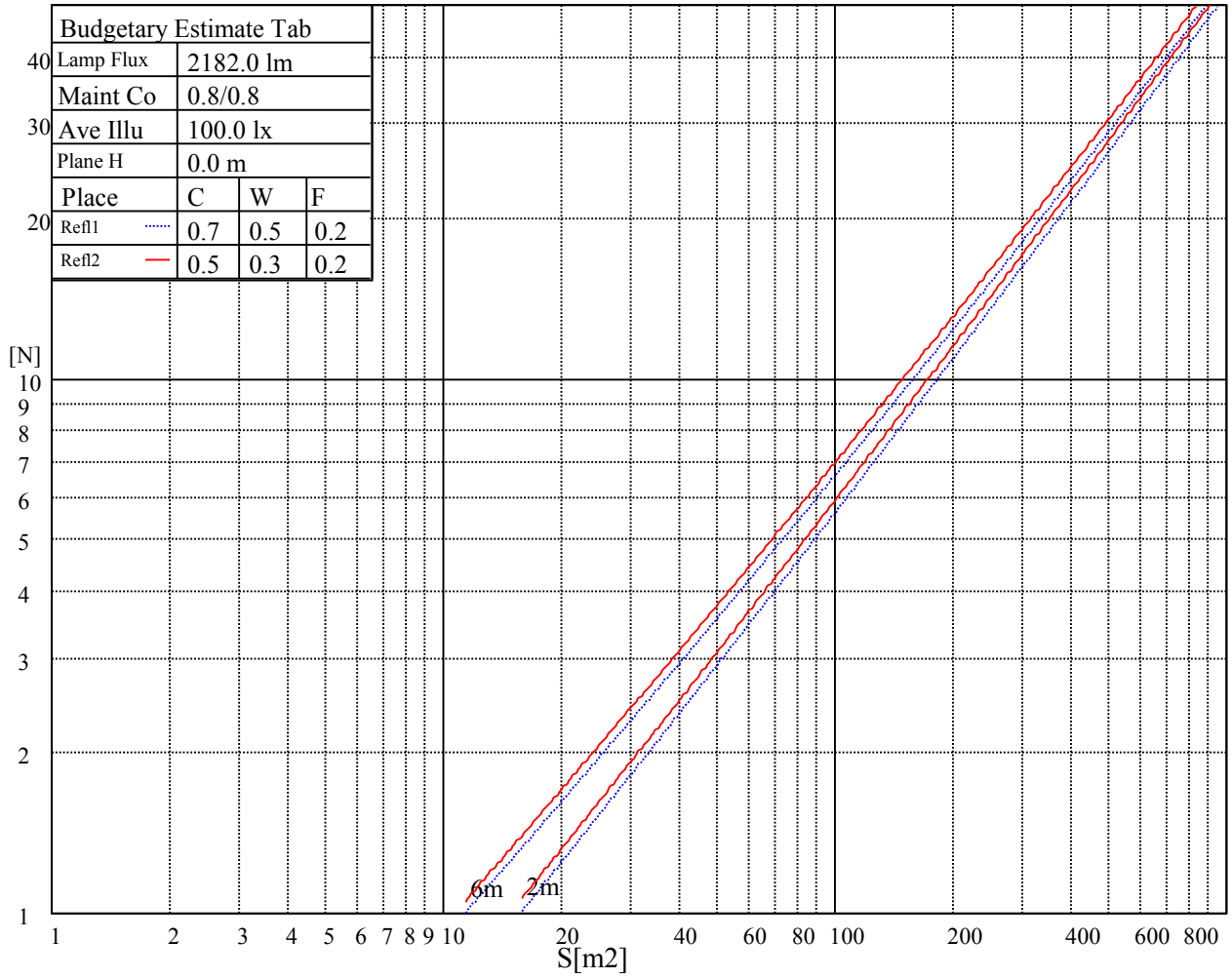
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.2 | D | | | | 2000 | 1000 | 500 | <=300 | |
| 2.55 | E | | | | | 2000 | 1000 | 500 | <=300 |
| | | a | b | c | d | e | f | g | h |

Luminance Limitting Curve



## Budgetary Estimate Table






Equipment: GMS1980 Date: 2018/1/8 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

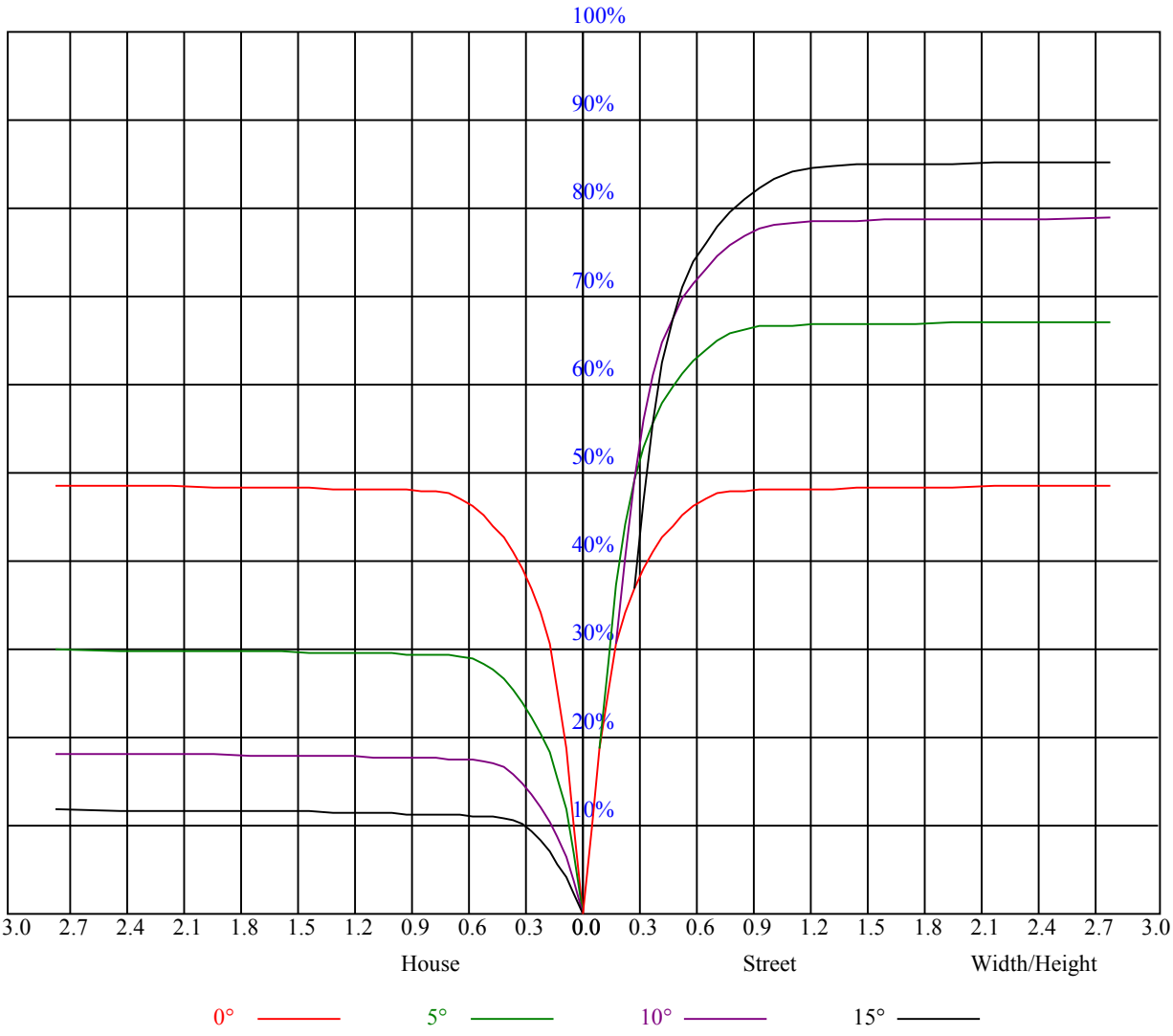
Utilization factor table for indoor luminaire



| 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 | 1.16 | 1.16 | 1.16 | 1.14 | 1.14 | 1.14 | 1.09 | 1.09 | 1.09 | 1.04 | 1.04 | 1.04 | 1.00 | 1.00 | 1.00 | 0.98 |
| 1 | 1.10 | 1.08 | 1.06 | 1.08 | 1.06 | 1.04 | 1.04 | 1.02 | 1.01 | 1.00 | 0.99 | 0.98 | 0.97 | 0.96 | 0.95 | 0.93 |
| 2 | 1.04 | 1.01 | 0.98 | 1.03 | 1.00 | 0.97 | 1.00 | 0.97 | 0.95 | 0.97 | 0.95 | 0.93 | 0.94 | 0.93 | 0.91 | 0.90 |
| 3 | 1.00 | 0.96 | 0.93 | 0.98 | 0.95 | 0.92 | 0.96 | 0.93 | 0.91 | 0.94 | 0.91 | 0.89 | 0.91 | 0.90 | 0.88 | 0.87 |
| 4 | 0.95 | 0.91 | 0.88 | 0.94 | 0.91 | 0.88 | 0.92 | 0.89 | 0.87 | 0.91 | 0.88 | 0.86 | 0.89 | 0.87 | 0.85 | 0.84 |
| 5 | 0.92 | 0.88 | 0.85 | 0.91 | 0.87 | 0.84 | 0.89 | 0.86 | 0.83 | 0.88 | 0.85 | 0.83 | 0.87 | 0.84 | 0.82 | 0.81 |
| 6 | 0.89 | 0.84 | 0.81 | 0.88 | 0.84 | 0.81 | 0.87 | 0.83 | 0.81 | 0.85 | 0.82 | 0.80 | 0.84 | 0.82 | 0.80 | 0.78 |
| 7 | 0.86 | 0.82 | 0.79 | 0.85 | 0.81 | 0.78 | 0.84 | 0.81 | 0.78 | 0.83 | 0.80 | 0.78 | 0.82 | 0.79 | 0.77 | 0.76 |
| 8 | 0.83 | 0.79 | 0.76 | 0.83 | 0.79 | 0.76 | 0.82 | 0.78 | 0.76 | 0.81 | 0.78 | 0.75 | 0.80 | 0.77 | 0.75 | 0.74 |
| 9 | 0.81 | 0.77 | 0.74 | 0.80 | 0.76 | 0.74 | 0.80 | 0.76 | 0.74 | 0.79 | 0.76 | 0.73 | 0.78 | 0.75 | 0.73 | 0.72 |
| 10 | 0.79 | 0.75 | 0.72 | 0.78 | 0.74 | 0.72 | 0.78 | 0.74 | 0.72 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.71 | 0.70 |

## Coefficient Utilization Curve

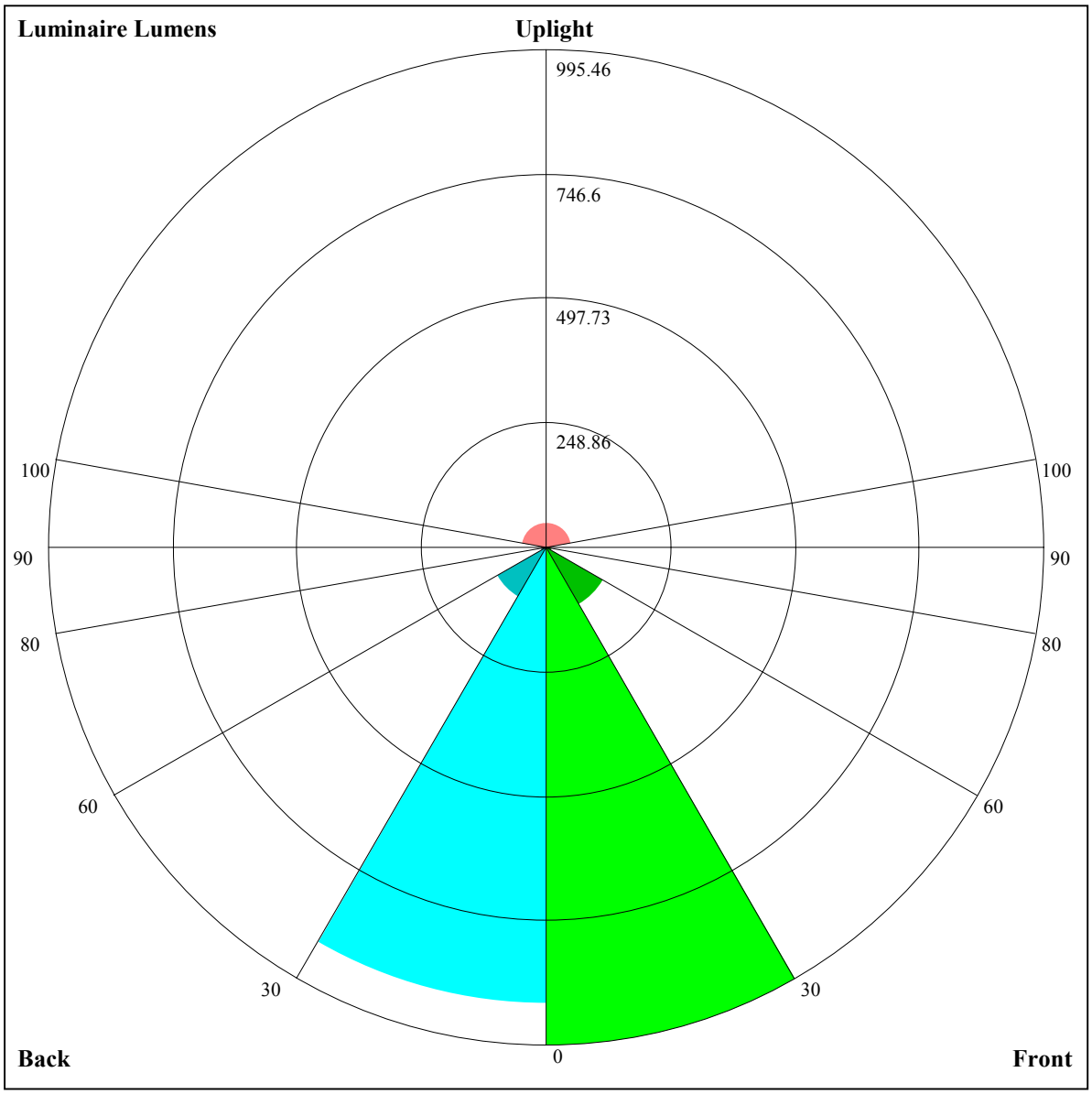





Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/1/8
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42




Luminaire Lumens:
FL=995.46,FM=132.23,FH=11.03,FVH=5.34
BL=914.5,BM=115,BH=10.81,BVH=5.34
UL=10.6,UH=50.45

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 | 17106.02 | 17496.92 | 17227.15 | 16406.81 | 15129.50 | 13103.42 | 11341.62 | 9623.86 | 7840.03 |
| 45.0 | 17364.79 | 16874.79 | 15691.07 | 14397.25 | 12938.25 | 11033.30 | 9519.25 | 8087.79 | 6672.84 |
| 90.0 | 16891.30 | 15856.24 | 14171.52 | 12662.97 | 10928.14 | 9617.80 | 7852.69 | 6593.00 | 5502.89 |
| 135.0 | 17342.77 | 16406.81 | 14672.53 | 13037.36 | 11336.11 | 9254.98 | 7680.37 | 6265.42 | 4944.06 |
| 180.0 | 17106.02 | 16225.12 | 14744.10 | 12949.27 | 10805.92 | 9131.10 | 7748.64 | 6156.96 | 4708.97 |
| 225.0 | 17364.79 | 17403.33 | 16896.81 | 15894.78 | 14667.02 | 12839.15 | 10916.58 | 9797.84 | 8221.57 |
| 270.0 | 16891.30 | 17502.43 | 17810.75 | 17480.41 | 16852.76 | 15454.33 | 13874.21 | 12552.86 | 10680.94 |
| 315.0 | 17342.77 | 17788.72 | 17645.58 | 16852.76 | 15680.06 | 13934.77 | 10874.19 | 10229.48 | 8400.51 |
| 360.0 | 17106.02 | 17496.92 | 17227.15 | 16406.81 | 15129.50 | 13103.42 | 11341.62 | 9623.86 | 7840.03 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 6281.94 | 5103.73 | 4013.61 | 3248.33 | 2785.85 | 2097.10 | 1772.82 | 1506.34 | 1316.40 |
| 45.0 | 5467.10 | 4542.15 | 3688.78 | 3083.16 | 2824.39 | 2131.78 | 1847.69 | 1602.14 | 1406.14 |
| 90.0 | 4462.32 | 3622.71 | 3031.41 | 2512.77 | 2110.86 | 1834.48 | 1594.98 | 1429.81 | 1280.61 |
| 135.0 | 3875.97 | 3116.19 | 2807.88 | 2061.86 | 1718.86 | 1475.51 | 1320.25 | 1191.42 | 1092.32 |
| 180.0 | 3885.33 | 3052.33 | 2381.74 | 2037.64 | 1733.73 | 1439.72 | 1304.84 | 1098.54 | 1087.97 |
| 225.0 | 6952.52 | 5696.69 | 4640.15 | 3871.02 | 3242.27 | 2629.49 | 2251.26 | 1948.45 | 1705.65 |
| 270.0 | 9084.31 | 7928.12 | 6458.12 | 5461.59 | 4602.72 | 3721.81 | 3154.73 | 2796.87 | 2243.55 |
| 315.0 | 6938.76 | 5516.65 | 4348.35 | 3525.26 | 2879.45 | 2278.78 | 1928.63 | 1661.60 | 1438.62 |
| 360.0 | 6281.94 | 5103.73 | 4013.61 | 3248.33 | 2785.85 | 2097.10 | 1772.82 | 1506.34 | 1316.40 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1193.62 | 1101.68 | 1014.14 | 958.53 | 912.28 | 865.49 | 834.66 | 808.23 | 786.21 |
| 45.0 | 1274.01 | 1166.09 | 1060.94 | 993.22 | 940.36 | 882.55 | 845.12 | 814.28 | 784.00 |
| 90.0 | 1094.08 | 1074.65 | 1005.33 | 935.52 | 890.65 | 852.38 | 813.02 | 785.71 | 760.27 |
| 135.0 | 1021.85 | 965.69 | 905.13 | 866.59 | 835.21 | 798.32 | 773.54 | 753.17 | 732.80 |
| 180.0 | 997.02 | 940.03 | 893.18 | 845.23 | 813.51 | 787.47 | 762.48 | 741.28 | 725.04 |
| 225.0 | 1473.86 | 1327.41 | 1209.04 | 1085.82 | 1007.75 | 943.12 | 884.21 | 838.78 | 806.36 |
| 270.0 | 1957.26 | 1726.57 | 1498.08 | 1349.98 | 1226.66 | 1114.34 | 1021.85 | 955.78 | 895.77 |
| 315.0 | 1278.96 | 1090.39 | 1080.65 | 996.08 | 941.13 | 895.88 | 853.92 | 819.79 | 794.46 |
| 360.0 | 1193.62 | 1101.68 | 1014.14 | 958.53 | 912.28 | 865.49 | 834.66 | 808.23 | 786.21 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 761.98 | 745.46 | 731.70 | 714.63 | 700.87 | 688.76 | 676.09 | 641.41 | 552.77 |
| 45.0 | 758.13 | 737.21 | 716.83 | 700.32 | 683.25 | 647.46 | 559.37 | 426.69 | 287.39 |
| 90.0 | 735.06 | 714.63 | 697.12 | 678.35 | 623.57 | 509.88 | 357.54 | 251.39 | 127.79 |
| 135.0 | 714.08 | 697.56 | 682.70 | 668.94 | 645.81 | 563.23 | 464.13 | 319.88 | 291.80 |
| 180.0 | 709.02 | 689.97 | 676.92 | 662.33 | 649.11 | 587.40 | 473.26 | 358.09 | 244.07 |
| 225.0 | 775.69 | 749.98 | 731.04 | 708.14 | 692.00 | 674.39 | 652.86 | 582.00 | 476.02 |
| 270.0 | 852.27 | 812.63 | 781.25 | 757.03 | 731.70 | 709.68 | 692.06 | 676.09 | 608.92 |
| 315.0 | 770.35 | 751.46 | 732.64 | 716.01 | 700.15 | 685.45 | 671.41 | 651.76 | 580.13 |
| 360.0 | 761.98 | 745.46 | 731.70 | 714.63 | 700.87 | 688.76 | 676.09 | 641.41 | 552.77 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 422.83 | 300.61 | 209.82 | 54.34 | 24.22 | 20.65 | 16.41 | 14.81 | 14.04 |
| 45.0 | 207.73 | 69.87 | 29.12 | 24.61 | 20.98 | 18.61 | 15.91 | 14.09 | 12.88 |
| 90.0 | 40.80 | 28.57 | 25.44 | 21.20 | 19.77 | 17.45 | 14.31 | 12.39 | 12.06 |
| 135.0 | 93.38 | 34.25 | 25.11 | 21.31 | 17.84 | 16.13 | 13.49 | 12.72 | 12.22 |
| 180.0 | 112.54 | 41.35 | 22.46 | 19.16 | 16.63 | 15.03 | 14.09 | 13.16 | 12.61 |
| 225.0 | 327.48 | 211.80 | 109.01 | 31.22 | 23.01 | 20.04 | 16.85 | 15.47 | 14.48 |
| 270.0 | 508.17 | 390.35 | 284.09 | 120.24 | 44.76 | 25.00 | 21.09 | 17.89 | 16.41 |
| 315.0 | 445.68 | 325.05 | 202.55 | 76.91 | 26.70 | 20.48 | 17.18 | 15.03 | 14.48 |
| 360.0 | 422.83 | 300.61 | 209.82 | 54.34 | 24.22 | 20.65 | 16.41 | 14.81 | 14.04 |

Intensity data(cd)



| C/γ(°) | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 | 50.0 | 51.0 | 52.0 | 53.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 13.32 | 12.77 | 12.33 | 12.11 | 11.89 | 11.67 | 11.56 | 11.45 | 11.29 |
| 45.0 | 12.17 | 11.95 | 11.73 | 11.56 | 11.34 | 11.23 | 11.12 | 11.07 | 11.01 |
| 90.0 | 11.78 | 11.56 | 11.40 | 11.23 | 11.12 | 10.96 | 10.85 | 10.74 | 10.63 |
| 135.0 | 12.00 | 11.84 | 11.67 | 11.51 | 11.45 | 11.29 | 11.18 | 11.07 | 10.96 |
| 180.0 | 12.17 | 11.89 | 11.73 | 11.56 | 11.40 | 11.23 | 11.12 | 11.01 | 10.96 |
| 225.0 | 13.60 | 12.88 | 12.33 | 12.06 | 11.84 | 11.56 | 11.45 | 11.29 | 11.12 |
| 270.0 | 15.31 | 14.31 | 13.49 | 12.94 | 12.61 | 12.28 | 12.06 | 11.89 | 11.73 |
| 315.0 | 13.93 | 13.54 | 13.16 | 13.05 | 12.99 | 12.88 | 12.77 | 12.72 | 12.72 |
| 360.0 | 13.32 | 12.77 | 12.33 | 12.11 | 11.89 | 11.67 | 11.56 | 11.45 | 11.29 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 11.23 | 11.18 | 11.18 | 11.29 | 11.34 | 11.40 | 11.56 | 11.73 | 11.78 |
| 45.0 | 11.01 | 11.01 | 11.07 | 11.12 | 11.18 | 11.29 | 11.40 | 11.51 | 11.45 |
| 90.0 | 10.52 | 10.52 | 10.41 | 10.41 | 10.41 | 10.41 | 10.46 | 10.46 | 10.52 |
| 135.0 | 10.90 | 10.85 | 10.74 | 10.74 | 10.68 | 10.68 | 10.68 | 10.74 | 10.74 |
| 180.0 | 10.90 | 10.96 | 10.90 | 10.96 | 11.07 | 11.12 | 11.18 | 11.23 | 11.23 |
| 225.0 | 11.01 | 11.01 | 11.01 | 10.96 | 11.07 | 11.18 | 11.34 | 11.51 | 11.56 |
| 270.0 | 11.62 | 11.56 | 11.67 | 11.78 | 11.95 | 12.06 | 12.28 | 12.33 | 12.39 |
| 315.0 | 12.61 | 12.66 | 12.72 | 12.77 | 12.77 | 12.83 | 12.83 | 12.66 | 12.66 |
| 360.0 | 11.23 | 11.18 | 11.18 | 11.29 | 11.34 | 11.40 | 11.56 | 11.73 | 11.78 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 11.78 | 11.67 | 11.67 | 11.56 | 11.40 | 11.23 | 11.07 | 10.90 | 10.79 |
| 45.0 | 11.45 | 11.34 | 11.18 | 10.96 | 10.79 | 10.63 | 10.52 | 10.35 | 10.13 |
| 90.0 | 10.63 | 10.63 | 10.57 | 10.57 | 10.57 | 10.46 | 10.35 | 10.13 | 9.97 |
| 135.0 | 10.74 | 10.74 | 10.74 | 10.57 | 10.57 | 10.46 | 10.41 | 10.24 | 10.08 |
| 180.0 | 11.18 | 11.12 | 11.01 | 10.96 | 10.85 | 10.74 | 10.57 | 10.35 | 10.19 |
| 225.0 | 11.62 | 11.62 | 11.56 | 11.51 | 11.40 | 11.18 | 10.96 | 10.79 | 10.57 |
| 270.0 | 12.33 | 12.28 | 12.11 | 11.95 | 11.89 | 11.67 | 11.51 | 11.23 | 10.96 |
| 315.0 | 12.44 | 12.28 | 12.11 | 11.89 | 11.84 | 11.67 | 11.40 | 11.23 | 11.01 |
| 360.0 | 11.78 | 11.67 | 11.67 | 11.56 | 11.40 | 11.23 | 11.07 | 10.90 | 10.79 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 10.52 | 10.35 | 10.13 | 10.02 | 9.91 | 9.97 | 9.91 | 9.86 | 9.86 |
| 45.0 | 9.97 | 9.91 | 9.86 | 9.86 | 9.80 | 9.80 | 9.80 | 9.74 | 9.74 |
| 90.0 | 9.91 | 9.91 | 9.86 | 9.86 | 9.86 | 9.86 | 9.86 | 9.80 | 9.86 |
| 135.0 | 10.02 | 10.02 | 9.97 | 9.97 | 9.91 | 9.91 | 9.91 | 9.91 | 9.91 |
| 180.0 | 10.02 | 10.02 | 10.02 | 9.97 | 9.91 | 9.91 | 9.86 | 9.86 | 9.86 |
| 225.0 | 10.30 | 10.08 | 9.97 | 9.91 | 9.86 | 9.80 | 9.80 | 9.80 | 9.74 |
| 270.0 | 10.79 | 10.57 | 10.30 | 10.08 | 9.97 | 9.97 | 9.97 | 9.91 | 9.86 |
| 315.0 | 10.74 | 10.52 | 10.30 | 10.08 | 10.02 | 10.02 | 9.97 | 9.97 | 9.97 |
| 360.0 | 10.52 | 10.35 | 10.13 | 10.02 | 9.91 | 9.97 | 9.91 | 9.86 | 9.86 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 9.86 | 9.86 | 9.86 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.74 |
| 45.0 | 9.74 | 9.74 | 9.69 | 9.69 | 9.69 | 9.69 | 9.63 | 9.63 | 9.63 |
| 90.0 | 9.80 | 9.80 | 9.80 | 9.74 | 9.80 | 9.74 | 9.69 | 9.74 | 9.69 |
| 135.0 | 9.86 | 9.86 | 9.86 | 9.86 | 9.80 | 9.74 | 9.74 | 9.74 | 9.74 |
| 180.0 | 9.86 | 9.86 | 9.80 | 9.80 | 9.80 | 9.74 | 9.74 | 9.80 | 9.74 |
| 225.0 | 9.74 | 9.80 | 9.74 | 9.69 | 9.74 | 9.69 | 9.69 | 9.69 | 9.69 |
| 270.0 | 9.86 | 9.86 | 9.86 | 9.86 | 9.80 | 9.86 | 9.80 | 9.80 | 9.80 |
| 315.0 | 9.91 | 9.91 | 9.91 | 9.86 | 9.86 | 9.86 | 9.86 | 9.86 | 9.80 |
| 360.0 | 9.86 | 9.86 | 9.86 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.74 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 9.74 |
| 45.0 | 9.58 |
| 90.0 | 9.69 |
| 135.0 | 9.74 |
| 180.0 | 9.74 |
| 225.0 | 9.69 |
| 270.0 | 9.74 |
| 315.0 | 9.80 |
| 360.0 | 9.74 |