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: 1-1378-L
Luminaire: 92.70.427.00
Report No: 20231123-B003
Ballast type: AC

| | |
|---|---|
| Test No: 20231123-C003 | Voltage(V): 34.530 |
| LampCAT: LUMINUS CXM-9-AC40 | Current(A): 0.331 |
| Lamp flux(lm): 1706.1 | Power (W): 11.429 |
| Number of Lamps: 1 | PF: 0.000 |
| Length(mm): 0 | Width(mm): 0 |
| Phm Type: C | Height(mm): 0 |

## Photometric Results

Lumens(lm): 1548.61, Efficiency(%): 90.77% , Luminous Efficacy(lm/W): 135.50
Central intensity(cd): 5259.976, Maximum intensity(cd): 5259.976
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=26.8
[C90/270]Total=26.8
Field angle(10%Imax): [C0/180]Total=55.2
[C90/270]Total=55.2
Maximum s/h(1/2): C0_180=0.45 C90_270=0.45
Maximum s/h(1/4): C0_180=0.47 C90_270=0.47
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.77%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.016%

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 5259.976 | 0.000 | 0 | 0.00% | 0.00% |
| 1.0 | 5231.607 | 5.020 | 5.02 | 0.29% | 0.32% |
| 2.0 | 5161.446 | 14.917 | 19.937 | 0.87% | 1.29% |
| 3.0 | 5046.795 | 24.415 | 44.352 | 1.43% | 2.86% |
| 4.0 | 4902.184 | 33.302 | 77.654 | 1.95% | 5.01% |
| 5.0 | 4716.611 | 41.380 | 119.034 | 2.43% | 7.69% |
| 6.0 | 4511.803 | 48.498 | 167.532 | 2.84% | 10.82% |
| 7.0 | 4293.087 | 54.652 | 222.183 | 3.20% | 14.35% |
| 8.0 | 4040.674 | 59.643 | 281.827 | 3.50% | 18.20% |
| 9.0 | 3781.343 | 63.393 | 345.22 | 3.72% | 22.29% |
| 10.0 | 3537.510 | 66.233 | 411.453 | 3.88% | 26.57% |
| 11.0 | 3259.358 | 67.915 | 479.367 | 3.98% | 30.95% |
| 12.0 | 2992.900 | 68.346 | 547.713 | 4.01% | 35.37% |
| 13.0 | 2725.334 | 67.861 | 615.575 | 3.98% | 39.75% |
| 14.0 | 2473.199 | 66.541 | 682.115 | 3.90% | 44.05% |
| 15.0 | 2247.287 | 64.805 | 746.92 | 3.80% | 48.23% |
| 16.0 | 2018.815 | 62.510 | 809.431 | 3.66% | 52.27% |
| 17.0 | 1814.076 | 59.688 | 869.119 | 3.50% | 56.12% |
| 18.0 | 1628.365 | 56.758 | 925.877 | 3.33% | 59.79% |
| 19.0 | 1427.735 | 53.170 | 979.047 | 3.12% | 63.22% |
| 20.0 | 1278.668 | 49.535 | 1028.582 | 2.90% | 66.42% |
| 21.0 | 1165.477 | 46.933 | 1075.514 | 2.75% | 69.45% |
| 22.0 | 1058.091 | 44.684 | 1120.198 | 2.62% | 72.34% |
| 23.0 | 942.783 | 41.984 | 1162.182 | 2.46% | 75.05% |
| 24.0 | 842.952 | 39.043 | 1201.224 | 2.29% | 77.57% |
| 25.0 | 741.261 | 36.022 | 1237.246 | 2.11% | 79.89% |
| 26.0 | 653.491 | 32.923 | 1270.169 | 1.93% | 82.02% |
| 27.0 | 569.706 | 29.926 | 1300.095 | 1.75% | 83.95% |
| 28.0 | 491.886 | 26.877 | 1326.972 | 1.58% | 85.69% |
| 29.0 | 420.590 | 23.873 | 1350.845 | 1.40% | 87.23% |
| 30.0 | 353.613 | 20.903 | 1371.748 | 1.23% | 88.58% |
| 31.0 | 297.775 | 18.127 | 1389.876 | 1.06% | 89.75% |
| 32.0 | 256.329 | 15.874 | 1405.75 | 0.93% | 90.78% |
| 33.0 | 221.221 | 14.069 | 1419.819 | 0.82% | 91.68% |
| 34.0 | 182.466 | 12.217 | 1432.036 | 0.72% | 92.47% |
| 35.0 | 140.854 | 10.041 | 1442.077 | 0.59% | 93.12% |
| 36.0 | 117.626 | 8.230 | 1450.307 | 0.48% | 93.65% |
| 37.0 | 97.727 | 7.024 | 1457.33 | 0.41% | 94.11% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 81.868 | 5.995 | 1463.325 | 0.35% | 94.49% |
| 39.0 | 69.379 | 5.162 | 1468.487 | 0.30% | 94.83% |
| 40.0 | 59.837 | 4.507 | 1472.994 | 0.26% | 95.12% |
| 41.0 | 52.600 | 4.004 | 1476.998 | 0.23% | 95.38% |
| 42.0 | 46.525 | 3.601 | 1480.599 | 0.21% | 95.61% |
| 43.0 | 41.882 | 3.275 | 1483.874 | 0.19% | 95.82% |
| 44.0 | 38.173 | 3.022 | 1486.896 | 0.18% | 96.02% |
| 45.0 | 34.921 | 2.809 | 1489.705 | 0.16% | 96.20% |
| 46.0 | 32.223 | 2.626 | 1492.331 | 0.15% | 96.37% |
| 47.0 | 29.746 | 2.465 | 1494.795 | 0.14% | 96.53% |
| 48.0 | 27.628 | 2.319 | 1497.115 | 0.14% | 96.67% |
| 49.0 | 25.684 | 2.189 | 1499.304 | 0.13% | 96.82% |
| 50.0 | 24.017 | 2.072 | 1501.376 | 0.12% | 96.95% |
| 51.0 | 22.446 | 1.966 | 1503.342 | 0.12% | 97.08% |
| 52.0 | 21.131 | 1.870 | 1505.212 | 0.11% | 97.20% |
| 53.0 | 19.976 | 1.788 | 1507 | 0.10% | 97.31% |
| 54.0 | 18.889 | 1.713 | 1508.713 | 0.10% | 97.42% |
| 55.0 | 18.031 | 1.648 | 1510.361 | 0.10% | 97.53% |
| 56.0 | 17.208 | 1.592 | 1511.953 | 0.09% | 97.63% |
| 57.0 | 16.571 | 1.544 | 1513.498 | 0.09% | 97.73% |
| 58.0 | 15.907 | 1.502 | 1515 | 0.09% | 97.83% |
| 59.0 | 15.354 | 1.461 | 1516.461 | 0.09% | 97.92% |
| 60.0 | 14.862 | 1.428 | 1517.889 | 0.08% | 98.02% |
| 61.0 | 14.378 | 1.395 | 1519.284 | 0.08% | 98.11% |
| 62.0 | 13.935 | 1.364 | 1520.648 | 0.08% | 98.19% |
| 63.0 | 13.513 | 1.335 | 1521.983 | 0.08% | 98.28% |
| 64.0 | 13.098 | 1.306 | 1523.289 | 0.08% | 98.37% |
| 65.0 | 12.717 | 1.278 | 1524.567 | 0.07% | 98.45% |
| 66.0 | 12.344 | 1.250 | 1525.817 | 0.07% | 98.53% |
| 67.0 | 11.970 | 1.223 | 1527.04 | 0.07% | 98.61% |
| 68.0 | 11.610 | 1.195 | 1528.234 | 0.07% | 98.68% |
| 69.0 | 11.278 | 1.168 | 1529.402 | 0.07% | 98.76% |
| 70.0 | 10.939 | 1.141 | 1530.543 | 0.07% | 98.83% |
| 71.0 | 10.614 | 1.114 | 1531.657 | 0.07% | 98.91% |
| 72.0 | 10.282 | 1.087 | 1532.744 | 0.06% | 98.98% |
| 73.0 | 9.998 | 1.061 | 1533.804 | 0.06% | 99.04% |
| 74.0 | 9.701 | 1.036 | 1534.84 | 0.06% | 99.11% |
| 75.0 | 9.431 | 1.011 | 1535.851 | 0.06% | 99.18% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 9.154 | 0.987 | 1536.837 | 0.06% | 99.24% |
| 77.0 | 8.891 | 0.962 | 1537.799 | 0.06% | 99.30% |
| 78.0 | 8.670 | 0.940 | 1538.739 | 0.06% | 99.36% |
| 79.0 | 8.441 | 0.919 | 1539.659 | 0.05% | 99.42% |
| 80.0 | 8.248 | 0.900 | 1540.558 | 0.05% | 99.48% |
| 81.0 | 8.054 | 0.882 | 1541.44 | 0.05% | 99.54% |
| 82.0 | 7.888 | 0.864 | 1542.304 | 0.05% | 99.59% |
| 83.0 | 7.701 | 0.847 | 1543.152 | 0.05% | 99.65% |
| 84.0 | 7.514 | 0.829 | 1543.981 | 0.05% | 99.70% |
| 85.0 | 7.334 | 0.810 | 1544.791 | 0.05% | 99.75% |
| 86.0 | 7.168 | 0.793 | 1545.584 | 0.05% | 99.80% |
| 87.0 | 7.044 | 0.778 | 1546.362 | 0.05% | 99.86% |
| 88.0 | 6.878 | 0.763 | 1547.124 | 0.04% | 99.90% |
| 89.0 | 6.746 | 0.747 | 1547.871 | 0.04% | 99.95% |
| 90.0 | 6.656 | 0.735 | 1548.606 | 0.04% | 100.00% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

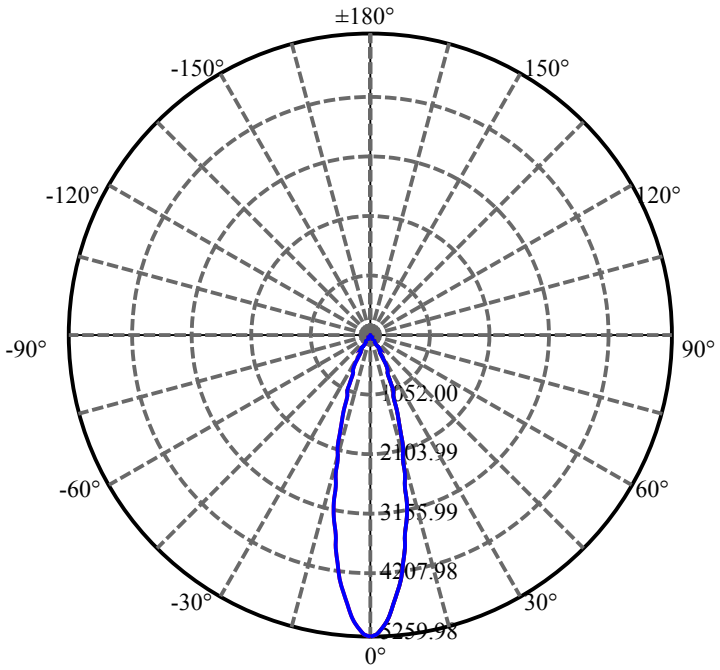
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1371.75 | 80.40% | 88.58% |
| 0-40 | 1472.99 | 86.34% | 95.12% |
| 0-60 | 1517.89 | 88.97% | 98.02% |
| 0-90 | 1547.87 | 90.73% | 99.95% |
| 0-120 | 1547.87 | 90.73% | 99.95% |
| 0-180 | 1548.61 | 90.77% | 100.00% |
| 60-90 | 29.98 | 1.76% | 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% |
| 0-25.05 | 1238.89 | 72.61% | 80.00% |

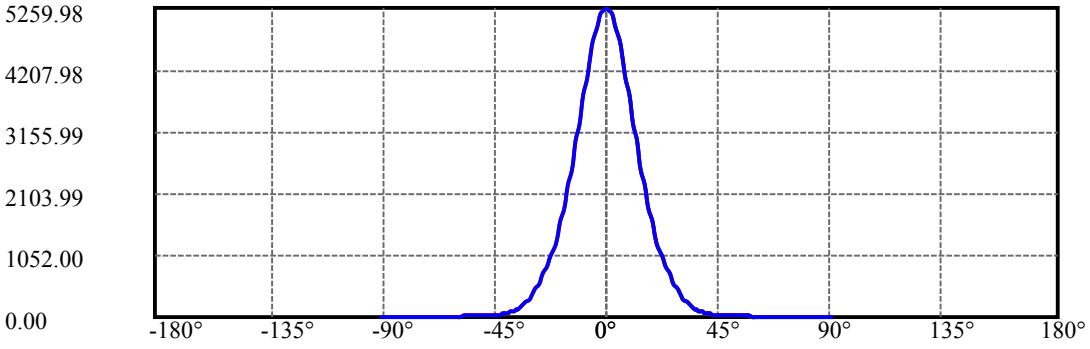
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 411.45 |
| 10-20 | 617.13 |
| 20-30 | 343.17 |
| 30-40 | 101.25 |
| 40-50 | 28.38 |
| 50-60 | 16.51 |
| 60-70 | 12.65 |
| 70-80 | 10.02 |
| 80-90 | 7.31 |
| 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:

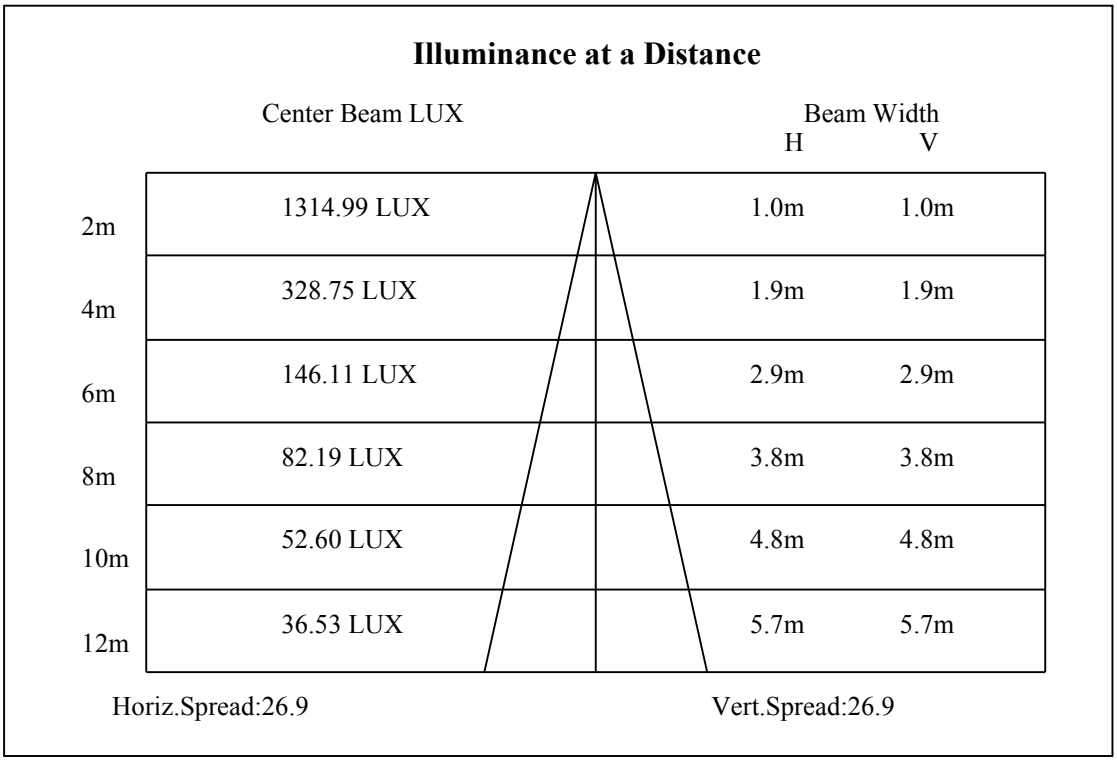
C90/C270:

Field angle(10%Imax):C0/180Left:27.6 Right:27.6
:C90/270Left:27.6 Right:27.6

Beam Angle(50%Imax):C0/180Left:13.4 Right:13.4
:C90/270Left:13.4 Right:13.4

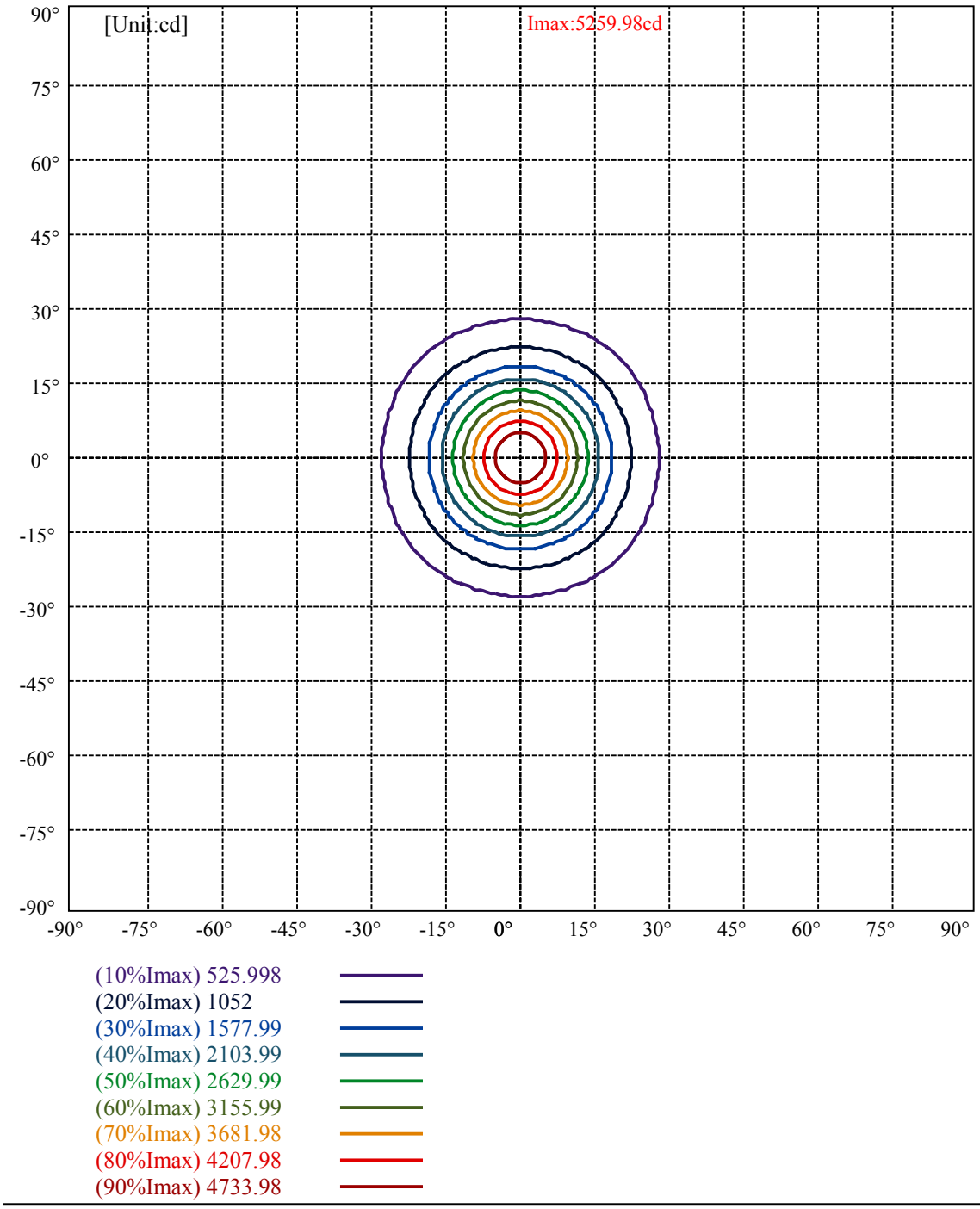
Lux distance Curve





ISO-Intensity(V-H)






(10%Imax) 525.998
(20%Imax) 1052
(30%Imax) 1577.99
(40%Imax) 2103.99
(50%Imax) 2629.99
(60%Imax) 3155.99
(70%Imax) 3681.98
(80%Imax) 4207.98
(90%Imax) 4733.98

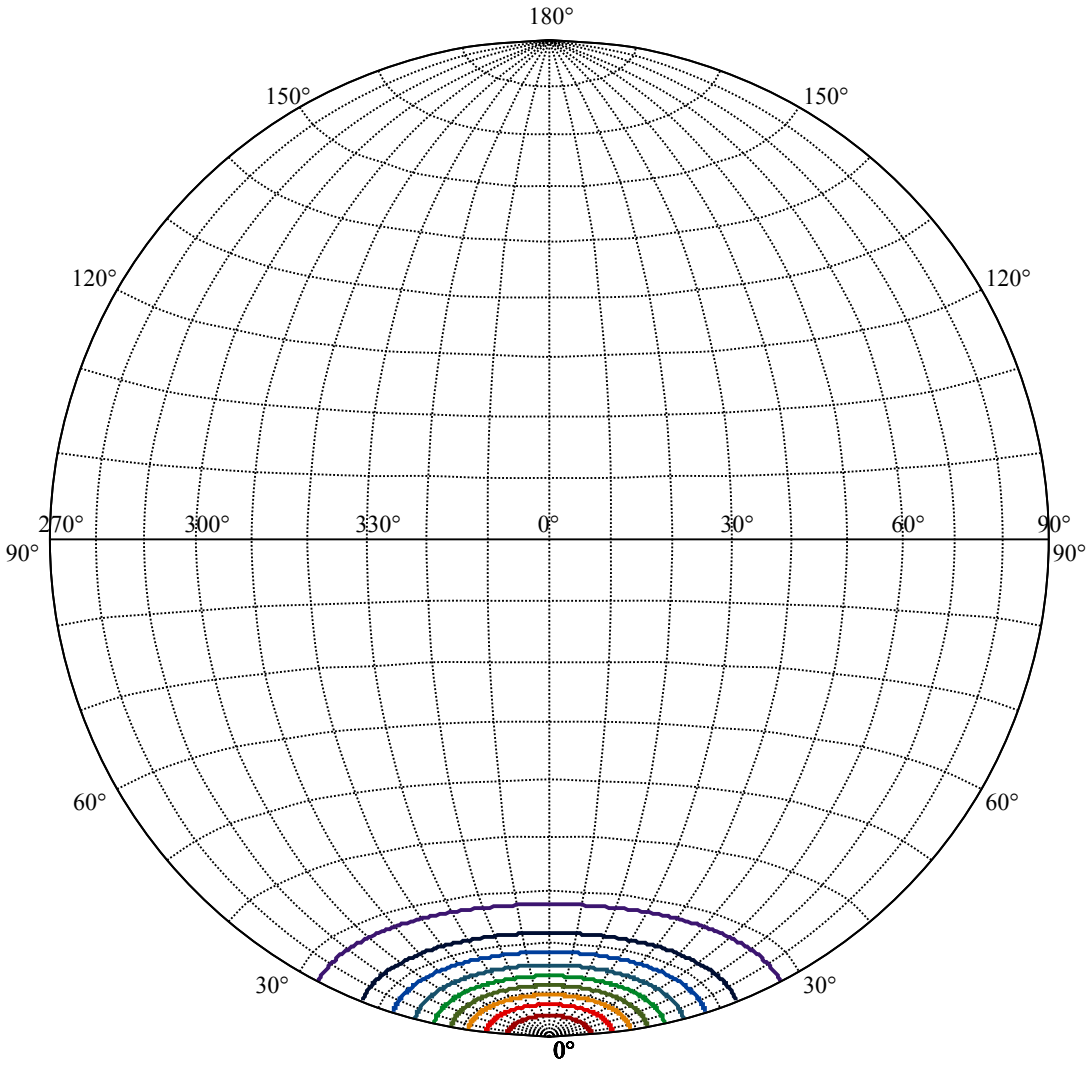
Equipment: GMS1980
Temperature(°C): 0.0

Date: 2023/11/23
Humidity(%): 0.0%

Operator: NT07
Distance(m): 7.44

ISO candela diagram on circular web






House [Unit:cd] Road

Imax:5259.98

(10%Imax) 525.998
(20%Imax) 1052
(30%Imax) 1577.99
(40%Imax) 2103.99
(50%Imax) 2629.99
(60%Imax) 3155.99
(70%Imax) 3681.98
(80%Imax) 4207.98
(90%Imax) 4733.98

Equipment: GMS1980
Temperature(°C): 0.0

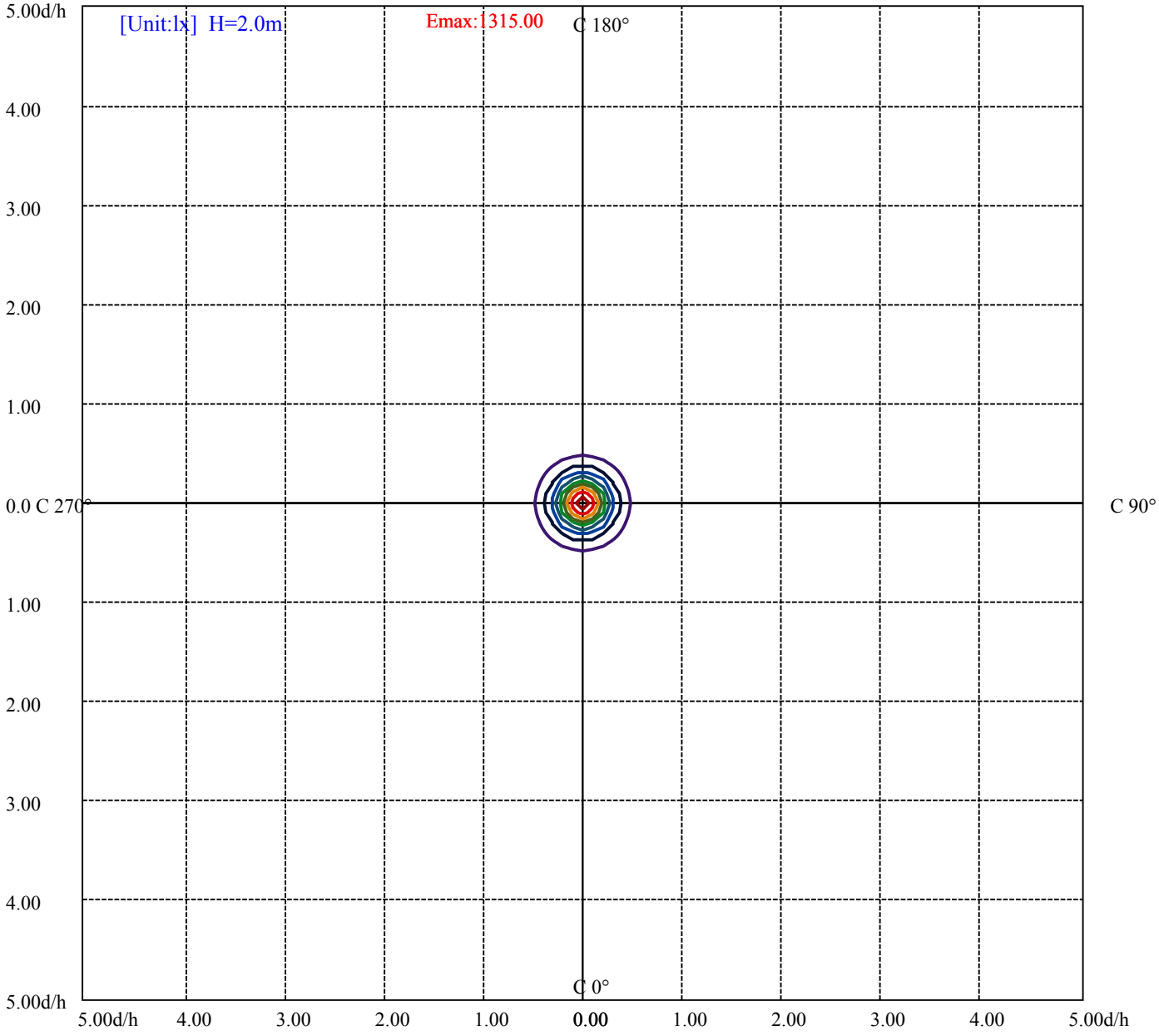
Date: 2023/11/23
Humidity(%): 0.0%

Operator: NT07
Distance(m): 7.44

NT 1-1378-L

ISO illuminance diagram





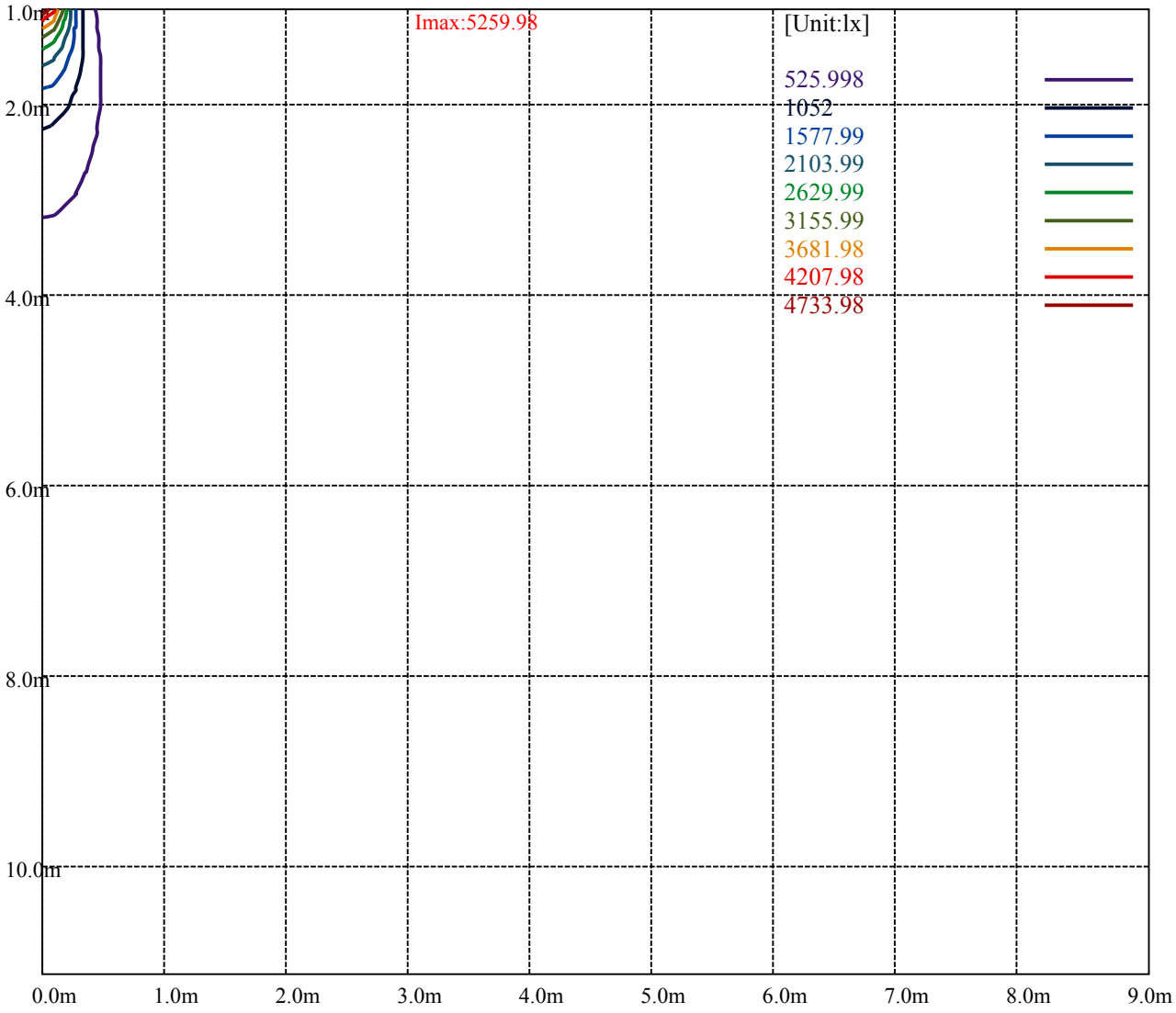

Equipment: GMS1980
Temperature(°C): 0.0

Date: 2023/11/23
Humidity(%): 0.0%

Operator: NT07
Distance(m): 7.44

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 0.0

Date: 2023/11/23
Humidity(%): 0.0%

Operator: NT07
Distance(m): 7.44

NT 1-1378-L

## Luminance Limitting Curve(no luminous side)



Luminance Table

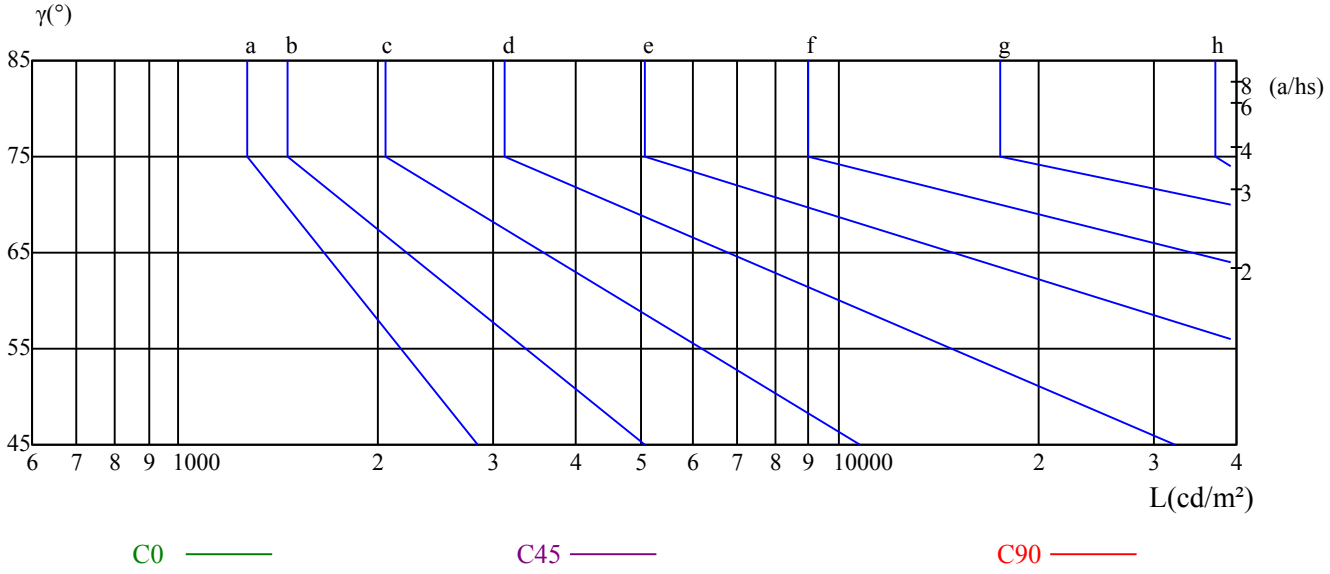
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 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): 0.0

Date: 2023/11/23
Humidity(%): 0.0%

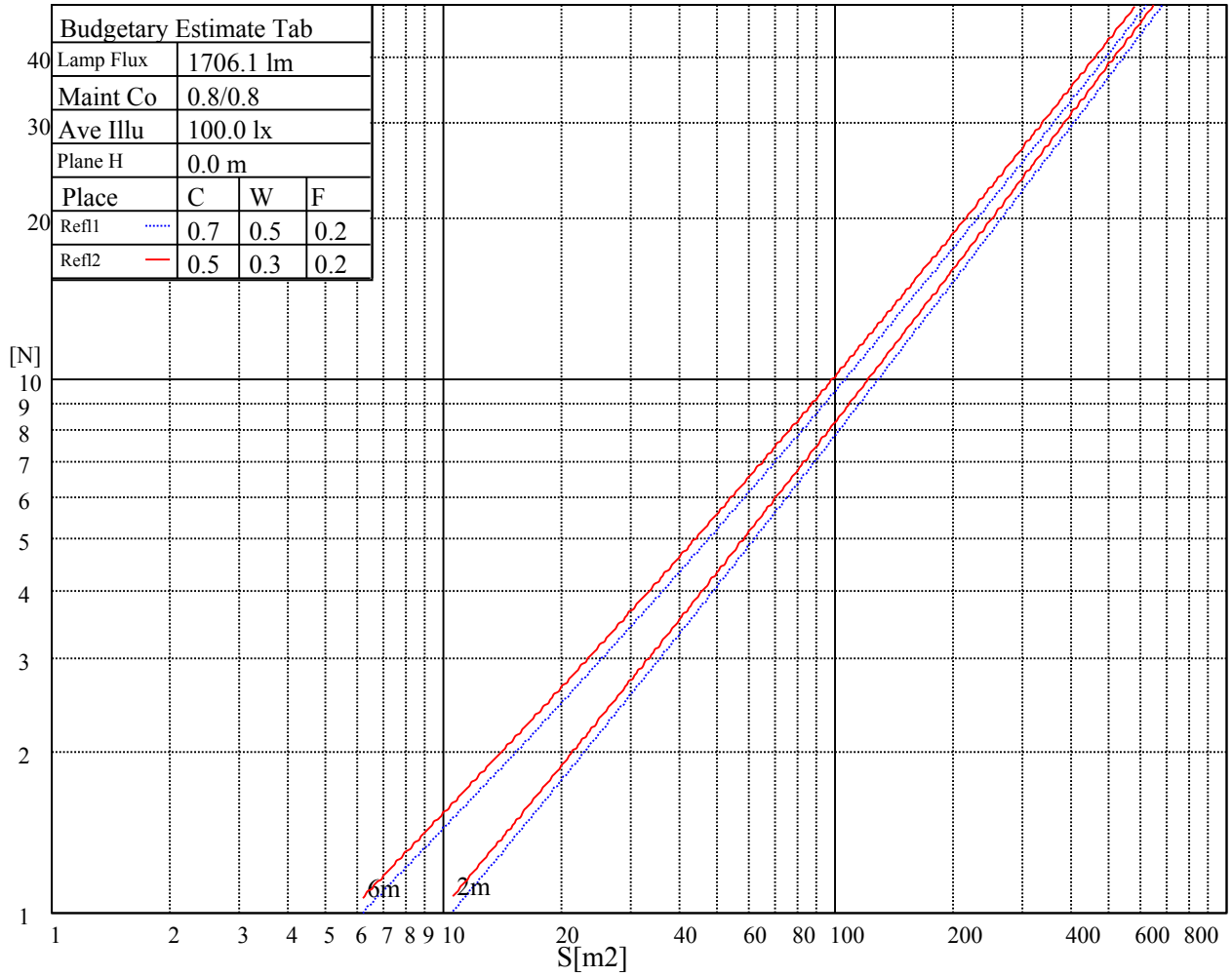
Operator: NT07
Distance(m): 7.44

| 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: 2023/11/23 Operator: NT07
Temperature(°C): 0.0 Humidity(%): 0.0% Distance(m): 7.44

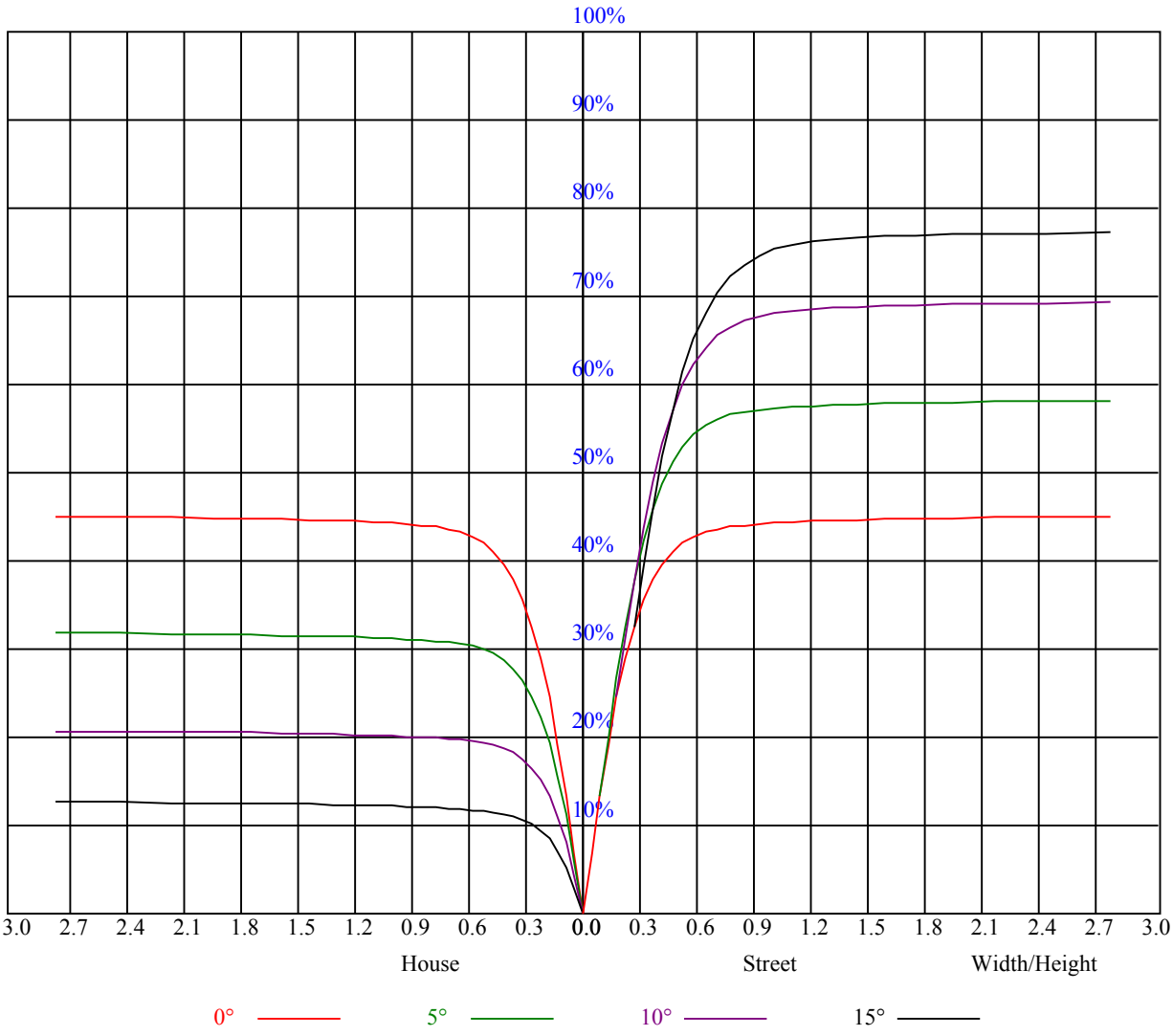
# Utilization factor table for indoor luminaire



| 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 | 1.08 | 1.08 | 1.08 | 1.06 | 1.06 | 1.06 | 1.01 | 1.01 | 1.01 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.91 |
| 1 | 1.01 | 0.99 | 0.98 | 0.99 | 0.98 | 0.96 | 0.96 | 0.94 | 0.93 | 0.92 | 0.91 | 0.90 | 0.89 | 0.88 | 0.88 | 0.86 |
| 2 | 0.96 | 0.93 | 0.90 | 0.94 | 0.91 | 0.89 | 0.91 | 0.89 | 0.87 | 0.89 | 0.87 | 0.85 | 0.86 | 0.85 | 0.83 | 0.82 |
| 3 | 0.91 | 0.87 | 0.84 | 0.90 | 0.86 | 0.83 | 0.87 | 0.84 | 0.82 | 0.85 | 0.83 | 0.81 | 0.83 | 0.81 | 0.80 | 0.78 |
| 4 | 0.86 | 0.82 | 0.79 | 0.86 | 0.82 | 0.79 | 0.84 | 0.80 | 0.78 | 0.82 | 0.79 | 0.77 | 0.80 | 0.78 | 0.76 | 0.75 |
| 5 | 0.83 | 0.78 | 0.75 | 0.82 | 0.78 | 0.75 | 0.80 | 0.77 | 0.74 | 0.79 | 0.76 | 0.74 | 0.78 | 0.75 | 0.73 | 0.72 |
| 6 | 0.79 | 0.75 | 0.72 | 0.78 | 0.74 | 0.71 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.69 |
| 7 | 0.76 | 0.72 | 0.69 | 0.75 | 0.71 | 0.68 | 0.74 | 0.71 | 0.68 | 0.73 | 0.70 | 0.68 | 0.72 | 0.70 | 0.67 | 0.66 |
| 8 | 0.73 | 0.69 | 0.66 | 0.73 | 0.69 | 0.66 | 0.72 | 0.68 | 0.65 | 0.71 | 0.68 | 0.65 | 0.70 | 0.67 | 0.65 | 0.64 |
| 9 | 0.70 | 0.66 | 0.63 | 0.70 | 0.66 | 0.63 | 0.69 | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.68 | 0.65 | 0.63 | 0.62 |
| 10 | 0.68 | 0.64 | 0.61 | 0.68 | 0.64 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.61 | 0.66 | 0.63 | 0.61 | 0.60 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2023/11/23 | Operator: NT07 |
| Temperature(°C): 0.0 | Humidity(%): 0.0% | Distance(m): 7.44 |

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 | 5218.74 | 5100.83 | 4976.29 | 4773.14 | 4575.53 | 4365.74 | 4083.44 | 3855.93 | 3615.70 |
| 45.0 | 5267.45 | 5234.79 | 5166.71 | 5036.07 | 4885.51 | 4707.27 | 4510.21 | 4237.87 | 4004.83 |
| 90.0 | 5258.59 | 5195.49 | 5076.48 | 4941.42 | 4777.57 | 4531.80 | 4318.69 | 4087.31 | 3854.27 |
| 135.0 | 5295.13 | 5284.05 | 5229.81 | 5121.32 | 4990.13 | 4824.07 | 4645.83 | 4441.02 | 4171.45 |
| 180.0 | 5218.74 | 5272.98 | 5281.29 | 5239.22 | 5140.14 | 5030.54 | 4887.72 | 4702.84 | 4454.86 |
| 225.0 | 5267.45 | 5258.59 | 5189.95 | 5093.64 | 4979.61 | 4779.78 | 4587.71 | 4373.49 | 4082.88 |
| 270.0 | 5258.59 | 5275.75 | 5245.31 | 5163.94 | 5058.21 | 4876.10 | 4700.07 | 4511.87 | 4244.51 |
| 315.0 | 5295.13 | 5230.36 | 5125.74 | 5005.63 | 4810.78 | 4617.60 | 4360.76 | 4134.36 | 3896.89 |
| 360.0 | 5218.74 | 5100.83 | 4976.29 | 4773.14 | 4575.53 | 4365.74 | 4083.44 | 3855.93 | 3615.70 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 3304.61 | 3047.22 | 2796.46 | 2557.89 | 2272.82 | 2067.46 | 1873.17 | 1691.61 | 1497.87 |
| 45.0 | 3708.69 | 3464.03 | 3219.37 | 2906.06 | 2660.85 | 2428.36 | 2208.61 | 1944.02 | 1759.14 |
| 90.0 | 3553.70 | 3301.29 | 3047.77 | 2795.91 | 2498.66 | 2279.46 | 2017.09 | 1824.45 | 1650.64 |
| 135.0 | 3942.28 | 3700.39 | 3387.64 | 3129.69 | 2816.94 | 2585.57 | 2355.85 | 2089.04 | 1892.54 |
| 180.0 | 4235.10 | 4010.37 | 3709.80 | 3458.49 | 3201.65 | 2886.14 | 2644.80 | 2413.42 | 2146.61 |
| 225.0 | 3842.65 | 3606.29 | 3302.40 | 3053.30 | 2803.66 | 2511.39 | 2285.55 | 2074.10 | 1878.15 |
| 270.0 | 4010.37 | 3771.79 | 3524.92 | 3208.85 | 2951.45 | 2711.22 | 2481.50 | 2199.20 | 1997.16 |
| 315.0 | 3653.34 | 3398.71 | 3086.52 | 2833.00 | 2596.64 | 2315.99 | 2111.74 | 1914.68 | 1690.50 |
| 360.0 | 3304.61 | 3047.22 | 2796.46 | 2557.89 | 2272.82 | 2067.46 | 1873.17 | 1691.61 | 1497.87 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1357.27 | 1081.28 | 1081.28 | 973.67 | 875.03 | 761.72 | 675.70 | 597.32 | 504.88 |
| 45.0 | 1595.84 | 1445.84 | 1273.69 | 1149.14 | 1037.33 | 906.69 | 811.48 | 700.78 | 617.75 |
| 90.0 | 1455.80 | 1097.66 | 1097.66 | 1068.77 | 930.72 | 826.54 | 733.60 | 649.46 | 555.31 |
| 135.0 | 1715.96 | 1562.08 | 1384.39 | 1254.87 | 1136.41 | 1024.04 | 898.39 | 804.29 | 715.72 |
| 180.0 | 1949.00 | 1761.91 | 1593.63 | 1404.87 | 1269.26 | 1149.14 | 1041.75 | 913.89 | 819.23 |
| 225.0 | 1654.52 | 1495.65 | 1256.53 | 1104.14 | 1077.29 | 971.46 | 871.32 | 756.02 | 671.66 |
| 270.0 | 1768.55 | 1596.95 | 1442.51 | 1268.70 | 1146.37 | 1035.11 | 932.71 | 812.59 | 724.58 |
| 315.0 | 1529.97 | 1380.52 | 1099.65 | 1099.65 | 992.32 | 867.56 | 778.66 | 695.74 | 618.80 |
| 360.0 | 1357.27 | 1081.28 | 1081.28 | 973.67 | 875.03 | 761.72 | 675.70 | 597.32 | 504.88 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 435.30 | 372.59 | 318.01 | 257.95 | 217.10 | 182.33 | 152.28 | 121.61 | 101.91 |
| 45.0 | 539.70 | 468.29 | 385.81 | 331.01 | 281.75 | 281.75 | 188.92 | 159.14 | 133.46 |
| 90.0 | 480.64 | 412.99 | 354.26 | 291.55 | 247.38 | 200.71 | 169.38 | 142.20 | 114.19 |
| 135.0 | 609.44 | 533.61 | 461.10 | 380.83 | 325.48 | 287.29 | 287.29 | 184.77 | 155.32 |
| 180.0 | 730.11 | 625.50 | 547.45 | 456.11 | 389.14 | 331.01 | 280.64 | 280.64 | 187.15 |
| 225.0 | 592.39 | 500.51 | 431.26 | 368.93 | 303.12 | 256.90 | 216.76 | 182.83 | 147.90 |
| 270.0 | 644.87 | 566.82 | 477.15 | 410.17 | 348.73 | 284.52 | 284.52 | 229.22 | 159.03 |
| 315.0 | 525.19 | 454.79 | 389.69 | 332.34 | 269.52 | 226.12 | 189.97 | 159.31 | 127.87 |
| 360.0 | 435.30 | 372.59 | 318.01 | 257.95 | 217.10 | 182.33 | 152.28 | 121.61 | 101.91 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 85.91 | 70.52 | 60.89 | 51.92 | 46.28 | 41.90 | 38.42 | 34.65 | 32.05 |
| 45.0 | 106.94 | 89.89 | 76.44 | 65.48 | 55.24 | 49.21 | 44.34 | 39.74 | 36.70 |
| 90.0 | 96.59 | 82.14 | 70.30 | 59.12 | 52.42 | 47.05 | 42.62 | 38.19 | 35.26 |
| 135.0 | 129.97 | 104.56 | 88.34 | 75.39 | 65.32 | 55.85 | 50.15 | 45.39 | 41.57 |
| 180.0 | 156.93 | 131.24 | 105.34 | 88.95 | 75.83 | 65.43 | 55.58 | 49.32 | 44.45 |
| 225.0 | 124.05 | 104.40 | 88.40 | 72.29 | 62.22 | 54.41 | 46.83 | 42.23 | 37.75 |
| 270.0 | 133.24 | 111.98 | 90.72 | 77.55 | 66.76 | 58.34 | 50.32 | 45.33 | 41.35 |
| 315.0 | 107.39 | 87.07 | 74.51 | 64.32 | 54.63 | 48.60 | 43.95 | 40.19 | 36.26 |
| 360.0 | 85.91 | 70.52 | 60.89 | 51.92 | 46.28 | 41.90 | 38.42 | 34.65 | 32.05 |

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 | 29.84 | 27.79 | 25.57 | 24.02 | 22.64 | 21.37 | 19.93 | 18.99 | 17.99 |
| 45.0 | 33.43 | 31.11 | 28.95 | 27.01 | 24.85 | 23.36 | 21.92 | 20.76 | 19.43 |
| 90.0 | 32.60 | 29.78 | 27.73 | 25.96 | 23.97 | 22.58 | 20.98 | 19.93 | 18.99 |
| 135.0 | 37.59 | 34.71 | 31.61 | 29.34 | 27.29 | 25.13 | 23.53 | 22.14 | 20.92 |
| 180.0 | 39.63 | 36.59 | 33.21 | 30.83 | 28.73 | 26.40 | 24.69 | 23.25 | 21.92 |
| 225.0 | 34.76 | 32.16 | 29.84 | 27.34 | 25.57 | 23.97 | 22.58 | 20.98 | 19.87 |
| 270.0 | 38.03 | 34.54 | 32.05 | 29.84 | 27.40 | 25.74 | 24.13 | 22.36 | 21.09 |
| 315.0 | 33.49 | 31.11 | 29.01 | 26.68 | 25.02 | 23.58 | 21.81 | 20.65 | 19.60 |
| 360.0 | 29.84 | 27.79 | 25.57 | 24.02 | 22.64 | 21.37 | 19.93 | 18.99 | 17.99 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 17.21 | 16.61 | 15.89 | 15.39 | 14.89 | 14.34 | 13.95 | 13.56 | 13.17 |
| 45.0 | 18.54 | 17.77 | 16.94 | 16.38 | 15.78 | 15.17 | 14.67 | 14.28 | 13.78 |
| 90.0 | 18.16 | 17.21 | 16.55 | 15.94 | 15.44 | 14.83 | 14.45 | 14.00 | 13.62 |
| 135.0 | 19.65 | 18.71 | 17.93 | 17.21 | 16.44 | 15.94 | 15.33 | 14.78 | 14.34 |
| 180.0 | 20.48 | 19.43 | 18.54 | 17.71 | 16.88 | 16.27 | 15.78 | 15.11 | 14.61 |
| 225.0 | 18.88 | 18.05 | 17.10 | 16.50 | 15.78 | 15.28 | 14.78 | 14.28 | 13.89 |
| 270.0 | 19.76 | 18.82 | 17.93 | 17.21 | 16.44 | 15.89 | 15.39 | 14.89 | 14.34 |
| 315.0 | 18.43 | 17.66 | 16.77 | 16.22 | 15.61 | 15.11 | 14.56 | 14.12 | 13.73 |
| 360.0 | 17.21 | 16.61 | 15.89 | 15.39 | 14.89 | 14.34 | 13.95 | 13.56 | 13.17 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 12.79 | 12.45 | 12.07 | 11.73 | 11.35 | 11.07 | 10.74 | 10.35 | 10.07 |
| 45.0 | 13.40 | 13.01 | 12.68 | 12.23 | 11.85 | 11.51 | 11.24 | 10.85 | 10.52 |
| 90.0 | 13.12 | 12.84 | 12.34 | 12.01 | 11.62 | 11.24 | 10.96 | 10.63 | 10.30 |
| 135.0 | 13.84 | 13.45 | 13.06 | 12.62 | 12.29 | 11.96 | 11.57 | 11.24 | 10.90 |
| 180.0 | 14.23 | 13.67 | 13.34 | 12.95 | 12.57 | 12.23 | 11.85 | 11.51 | 11.13 |
| 225.0 | 13.51 | 13.01 | 12.62 | 12.34 | 11.96 | 11.57 | 11.24 | 10.90 | 10.68 |
| 270.0 | 13.95 | 13.51 | 13.12 | 12.68 | 12.34 | 11.90 | 11.57 | 11.29 | 10.90 |
| 315.0 | 13.28 | 12.84 | 12.51 | 12.18 | 11.79 | 11.40 | 11.07 | 10.74 | 10.41 |
| 360.0 | 12.79 | 12.45 | 12.07 | 11.73 | 11.35 | 11.07 | 10.74 | 10.35 | 10.07 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 9.69 | 9.47 | 9.19 | 8.97 | 8.69 | 8.47 | 8.30 | 8.08 | 7.86 |
| 45.0 | 10.19 | 9.91 | 9.58 | 9.35 | 9.02 | 8.86 | 8.58 | 8.36 | 8.19 |
| 90.0 | 9.96 | 9.74 | 9.47 | 9.19 | 8.97 | 8.69 | 8.52 | 8.25 | 8.08 |
| 135.0 | 10.57 | 10.30 | 9.96 | 9.69 | 9.41 | 9.13 | 8.86 | 8.64 | 8.41 |
| 180.0 | 10.85 | 10.52 | 10.19 | 9.85 | 9.58 | 9.24 | 9.02 | 8.80 | 8.52 |
| 225.0 | 10.30 | 9.96 | 9.69 | 9.41 | 9.13 | 8.86 | 8.64 | 8.41 | 8.25 |
| 270.0 | 10.57 | 10.30 | 9.96 | 9.69 | 9.41 | 9.13 | 8.91 | 8.64 | 8.47 |
| 315.0 | 10.13 | 9.80 | 9.58 | 9.30 | 9.02 | 8.75 | 8.52 | 8.36 | 8.19 |
| 360.0 | 9.69 | 9.47 | 9.19 | 8.97 | 8.69 | 8.47 | 8.30 | 8.08 | 7.86 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 7.75 | 7.58 | 7.36 | 7.25 | 7.09 | 6.97 | 6.86 | 6.59 | 6.64 |
| 45.0 | 7.97 | 7.80 | 7.64 | 7.36 | 7.20 | 7.09 | 6.97 | 6.86 | 6.59 |
| 90.0 | 7.92 | 7.75 | 7.53 | 7.42 | 7.20 | 7.03 | 6.92 | 6.75 | 6.64 |
| 135.0 | 8.25 | 8.03 | 7.86 | 7.64 | 7.47 | 7.31 | 7.14 | 6.97 | 6.86 |
| 180.0 | 8.30 | 8.19 | 7.97 | 7.80 | 7.58 | 7.42 | 7.25 | 7.09 | 6.92 |
| 225.0 | 8.03 | 7.86 | 7.75 | 7.47 | 7.36 | 7.14 | 7.09 | 6.86 | 6.81 |
| 270.0 | 8.25 | 8.08 | 7.86 | 7.69 | 7.47 | 7.31 | 7.14 | 6.97 | 6.92 |
| 315.0 | 7.97 | 7.80 | 7.64 | 7.47 | 7.31 | 7.09 | 6.97 | 6.92 | 6.59 |
| 360.0 | 7.75 | 7.58 | 7.36 | 7.25 | 7.09 | 6.97 | 6.86 | 6.59 | 6.64 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 6.70 |
| 45.0 | 6.64 |
| 90.0 | 6.64 |
| 135.0 | 6.59 |
| 180.0 | 6.81 |
| 225.0 | 6.59 |
| 270.0 | 6.64 |
| 315.0 | 6.64 |
| 360.0 | 6.70 |