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

Nata

LumCAT: LN01D04524DA-N
Luminaire: 97.70.234.00
Report No: 210106-B012
Test No: 210106-C012
LampCAT: SEOUL SAWX10 LES9.8
Lamp flux(lm): 1758.8
Number of Lamps: 1
Length(mm): 92
Phm Type: C

Voltage(V): 35.3400
Current(A): 0.3810
Power (W): 13.4640
PF: 0.0000
Ballast type: DC
Width(mm): 92
Height(mm): 50

## Photometric Results

Lumens(lm): 1545.96
Efficiency(%): 87.90%
Lumens(lm)/Power(W): 114.82
Central intensity(cd): 5135.203
Maximum intensity(cd): 5135.203
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=29.5
[C90/270]Total=29.5
Field angle(10%Imax): [C0/180]Total=49.5
[C90/270]Total=49.5
Maximum s/h(1/2): C0_180=0.50 C90_270=0.50
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(%): 87.90%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.348%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2021/01/06
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

KY Nata LN01D04524DA-N

Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 5135.203 | 0.000 | 0 | .000% | .000% |
| 1.0 | 5123.109 | 4.908 | 4.908 | .279% | .317% |
| 2.0 | 5078.109 | 14.642 | 19.55 | .832% | 1.265% |
| 3.0 | 5003.578 | 24.112 | 43.662 | 1.371% | 2.824% |
| 4.0 | 4910.555 | 33.186 | 76.848 | 1.887% | 4.971% |
| 5.0 | 4786.031 | 41.714 | 118.562 | 2.372% | 7.669% |
| 6.0 | 4637.320 | 49.522 | 168.084 | 2.816% | 10.872% |
| 7.0 | 4465.688 | 56.502 | 224.587 | 3.213% | 14.527% |
| 8.0 | 4288.008 | 62.649 | 287.235 | 3.562% | 18.580% |
| 9.0 | 4073.906 | 67.769 | 355.004 | 3.853% | 22.963% |
| 10.0 | 3849.117 | 71.700 | 426.704 | 4.077% | 27.601% |
| 11.0 | 3624.680 | 74.679 | 501.383 | 4.246% | 32.432% |
| 12.0 | 3368.391 | 76.444 | 577.827 | 4.346% | 37.377% |
| 13.0 | 3085.734 | 76.594 | 654.421 | 4.355% | 42.331% |
| 14.0 | 2794.711 | 75.269 | 729.691 | 4.280% | 47.200% |
| 15.0 | 2499.047 | 72.675 | 802.366 | 4.132% | 51.901% |
| 16.0 | 2203.242 | 68.902 | 871.267 | 3.918% | 56.358% |
| 17.0 | 1923.258 | 64.261 | 935.528 | 3.654% | 60.514% |
| 18.0 | 1637.459 | 58.708 | 994.237 | 3.338% | 64.312% |
| 19.0 | 1401.609 | 52.874 | 1047.11 | 3.006% | 67.732% |
| 20.0 | 1196.803 | 47.558 | 1094.668 | 2.704% | 70.808% |
| 21.0 | 994.226 | 42.072 | 1136.741 | 2.392% | 73.530% |
| 22.0 | 842.477 | 36.909 | 1173.65 | 2.099% | 75.917% |
| 23.0 | 702.809 | 32.424 | 1206.074 | 1.844% | 78.015% |
| 24.0 | 587.742 | 28.216 | 1234.29 | 1.604% | 79.840% |
| 25.0 | 489.312 | 24.490 | 1258.78 | 1.392% | 81.424% |
| 26.0 | 414.893 | 21.344 | 1280.124 | 1.214% | 82.804% |
| 27.0 | 349.777 | 18.708 | 1298.832 | 1.064% | 84.014% |
| 28.0 | 301.163 | 16.480 | 1315.312 | .937% | 85.081% |
| 29.0 | 256.929 | 14.601 | 1329.913 | .830% | 86.025% |
| 30.0 | 227.890 | 13.090 | 1343.003 | .744% | 86.872% |
| 31.0 | 193.866 | 11.737 | 1354.74 | .667% | 87.631% |
| 32.0 | 170.037 | 10.425 | 1365.166 | .593% | 88.305% |
| 33.0 | 151.699 | 9.478 | 1374.644 | .539% | 88.918% |
| 34.0 | 136.266 | 8.715 | 1383.359 | .495% | 89.482% |
| 35.0 | 122.456 | 8.035 | 1391.394 | .457% | 90.002% |
| 36.0 | 110.686 | 7.423 | 1398.817 | .422% | 90.482% |
| 37.0 | 101.145 | 6.909 | 1405.726 | .393% | 90.929% |

KY Nata LN01D04524DA-N

Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 91.807 | 6.440 | 1412.166 | .366% | 91.345% |
| 39.0 | 83.974 | 6.000 | 1418.166 | .341% | 91.734% |
| 40.0 | 77.238 | 5.623 | 1423.789 | .320% | 92.097% |
| 41.0 | 71.030 | 5.280 | 1429.068 | .300% | 92.439% |
| 42.0 | 65.531 | 4.961 | 1434.03 | .282% | 92.760% |
| 43.0 | 60.504 | 4.669 | 1438.699 | .265% | 93.062% |
| 44.0 | 55.976 | 4.396 | 1443.095 | .250% | 93.346% |
| 45.0 | 51.919 | 4.147 | 1447.241 | .236% | 93.614% |
| 46.0 | 48.255 | 3.918 | 1451.159 | .223% | 93.868% |
| 47.0 | 44.655 | 3.695 | 1454.854 | .210% | 94.107% |
| 48.0 | 41.674 | 3.490 | 1458.344 | .198% | 94.333% |
| 49.0 | 38.735 | 3.302 | 1461.646 | .188% | 94.546% |
| 50.0 | 35.979 | 3.115 | 1464.761 | .177% | 94.748% |
| 51.0 | 33.743 | 2.950 | 1467.711 | .168% | 94.938% |
| 52.0 | 31.852 | 2.815 | 1470.526 | .160% | 95.120% |
| 53.0 | 29.834 | 2.683 | 1473.209 | .153% | 95.294% |
| 54.0 | 28.308 | 2.563 | 1475.772 | .146% | 95.460% |
| 55.0 | 27.077 | 2.472 | 1478.244 | .141% | 95.620% |
| 56.0 | 25.798 | 2.389 | 1480.633 | .136% | 95.774% |
| 57.0 | 24.778 | 2.312 | 1482.946 | .131% | 95.924% |
| 58.0 | 23.864 | 2.249 | 1485.195 | .128% | 96.069% |
| 59.0 | 22.943 | 2.188 | 1487.383 | .124% | 96.211% |
| 60.0 | 22.113 | 2.129 | 1489.512 | .121% | 96.349% |
| 61.0 | 21.368 | 2.075 | 1491.587 | .118% | 96.483% |
| 62.0 | 20.665 | 2.025 | 1493.612 | .115% | 96.614% |
| 63.0 | 20.046 | 1.980 | 1495.592 | .113% | 96.742% |
| 64.0 | 19.455 | 1.938 | 1497.531 | .110% | 96.867% |
| 65.0 | 18.942 | 1.900 | 1499.431 | .108% | 96.990% |
| 66.0 | 18.682 | 1.877 | 1501.308 | .107% | 97.112% |
| 67.0 | 18.795 | 1.884 | 1503.193 | .107% | 97.234% |
| 68.0 | 19.181 | 1.924 | 1505.116 | .109% | 97.358% |
| 69.0 | 19.828 | 1.990 | 1507.106 | .113% | 97.487% |
| 70.0 | 20.665 | 2.080 | 1509.186 | .118% | 97.621% |
| 71.0 | 21.713 | 2.190 | 1511.376 | .125% | 97.763% |
| 72.0 | 22.556 | 2.302 | 1513.678 | .131% | 97.912% |
| 73.0 | 23.351 | 2.401 | 1516.079 | .136% | 98.067% |
| 74.0 | 24.026 | 2.491 | 1518.569 | .142% | 98.228% |
| 75.0 | 24.434 | 2.560 | 1521.13 | .146% | 98.394% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 24.652 | 2.606 | 1523.736 | .148% | 98.562% |
| 77.0 | 24.391 | 2.615 | 1526.35 | .149% | 98.731% |
| 78.0 | 23.428 | 2.560 | 1528.91 | .146% | 98.897% |
| 79.0 | 21.994 | 2.441 | 1531.351 | .139% | 99.055% |
| 80.0 | 20.011 | 2.265 | 1533.615 | .129% | 99.201% |
| 81.0 | 17.951 | 2.053 | 1535.668 | .117% | 99.334% |
| 82.0 | 15.764 | 1.828 | 1537.496 | .104% | 99.452% |
| 83.0 | 13.226 | 1.576 | 1539.072 | .090% | 99.554% |
| 84.0 | 11.236 | 1.333 | 1540.405 | .076% | 99.641% |
| 85.0 | 9.668 | 1.141 | 1541.546 | .065% | 99.714% |
| 86.0 | 8.775 | 1.008 | 1542.554 | .057% | 99.780% |
| 87.0 | 8.114 | 0.924 | 1543.478 | .053% | 99.839% |
| 88.0 | 7.664 | 0.864 | 1544.343 | .049% | 99.895% |
| 89.0 | 7.334 | 0.822 | 1545.165 | .047% | 99.948% |
| 90.0 | 7.200 | 0.797 | 1545.961 | .045% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

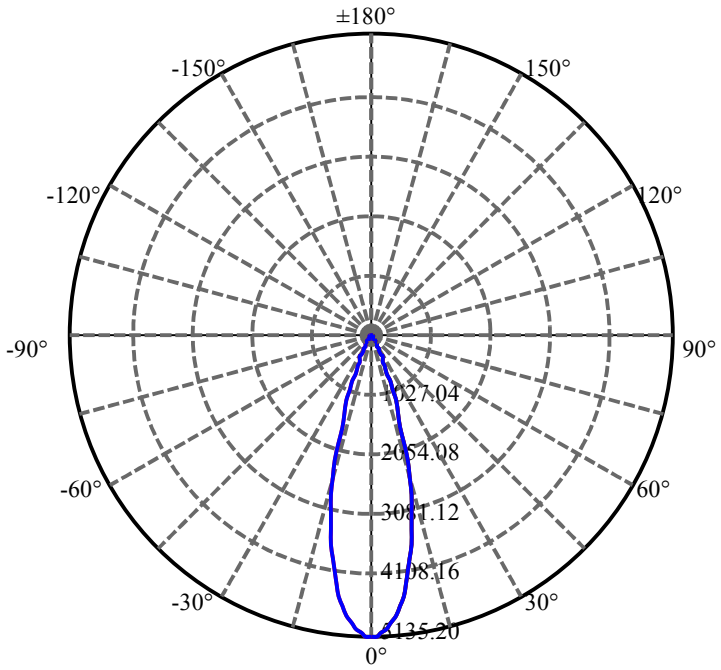
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1343.00 | 76.36% | 86.87% |
| 0-40 | 1423.79 | 80.95% | 92.10% |
| 0-60 | 1489.51 | 84.69% | 96.35% |
| 0-90 | 1545.16 | 87.85% | 99.95% |
| 0-120 | 1545.16 | 87.85% | 99.95% |
| 0-180 | 1545.96 | 87.90% | 100.00% |
| 60-90 | 57.78 | 3.29% | 3.74% |
| 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% |
| 0-24.10 | 1236.77 | 70.32% | 80.00% |

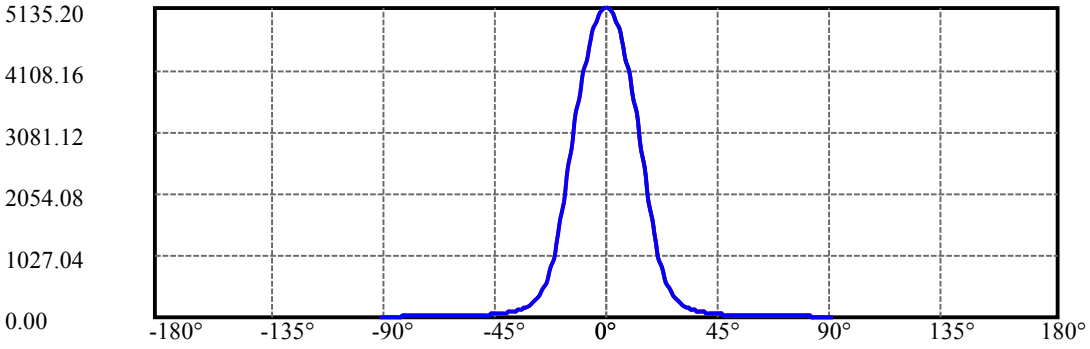
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 426.70 |
| 10-20 | 667.96 |
| 20-30 | 248.34 |
| 30-40 | 80.79 |
| 40-50 | 40.97 |
| 50-60 | 24.75 |
| 60-70 | 19.67 |
| 70-80 | 24.43 |
| 80-90 | 11.55 |
| 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]





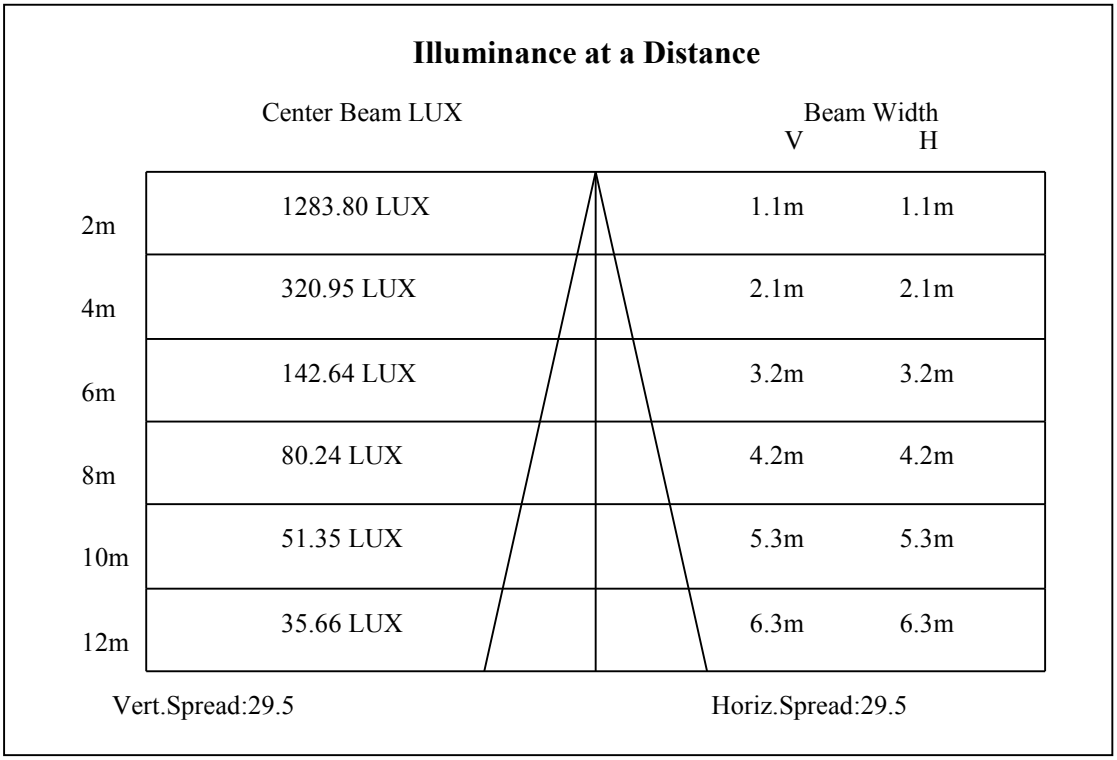

C0(Max):

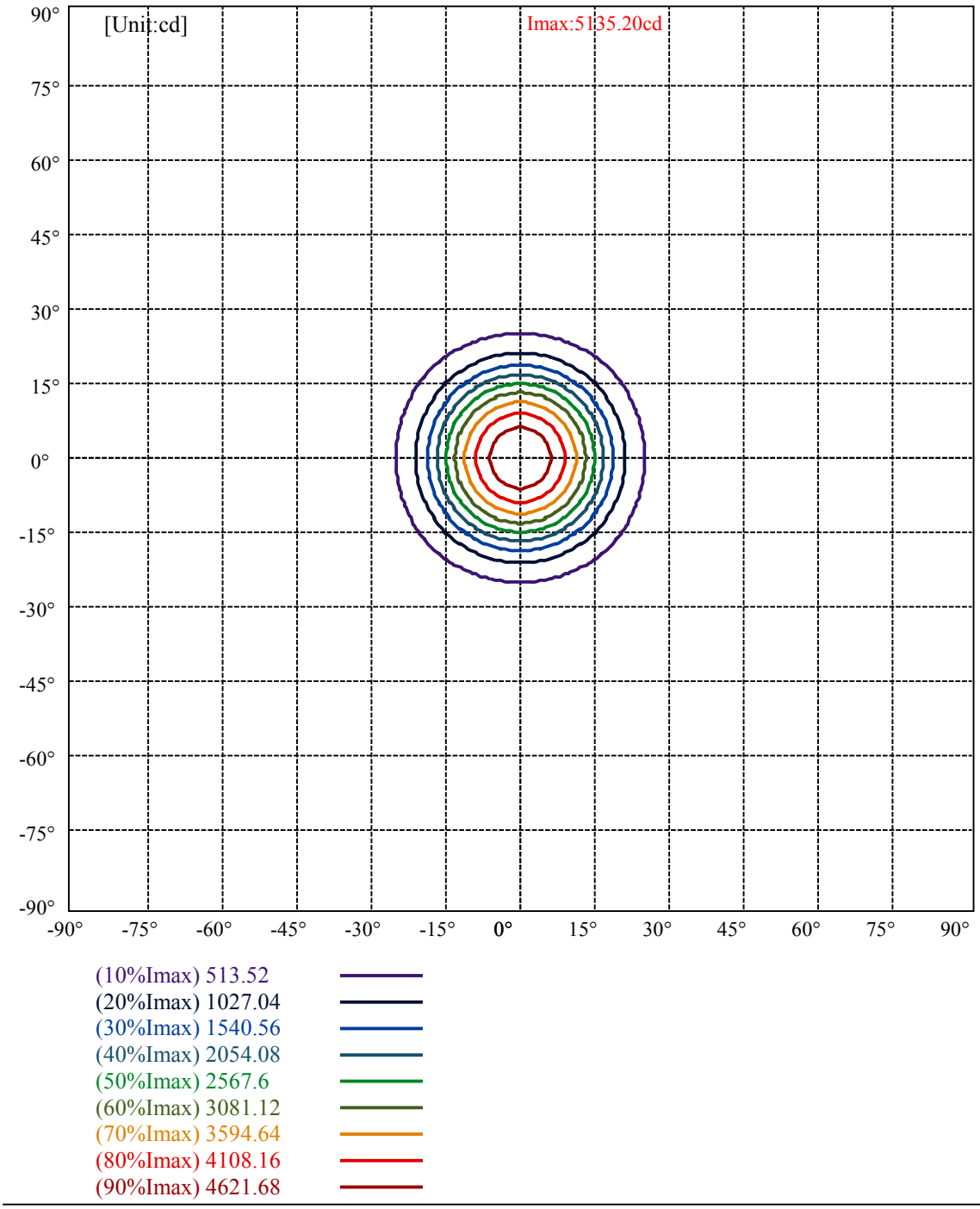
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:24.8 Right:24.8
:C90/270Left:24.8 Right:24.8

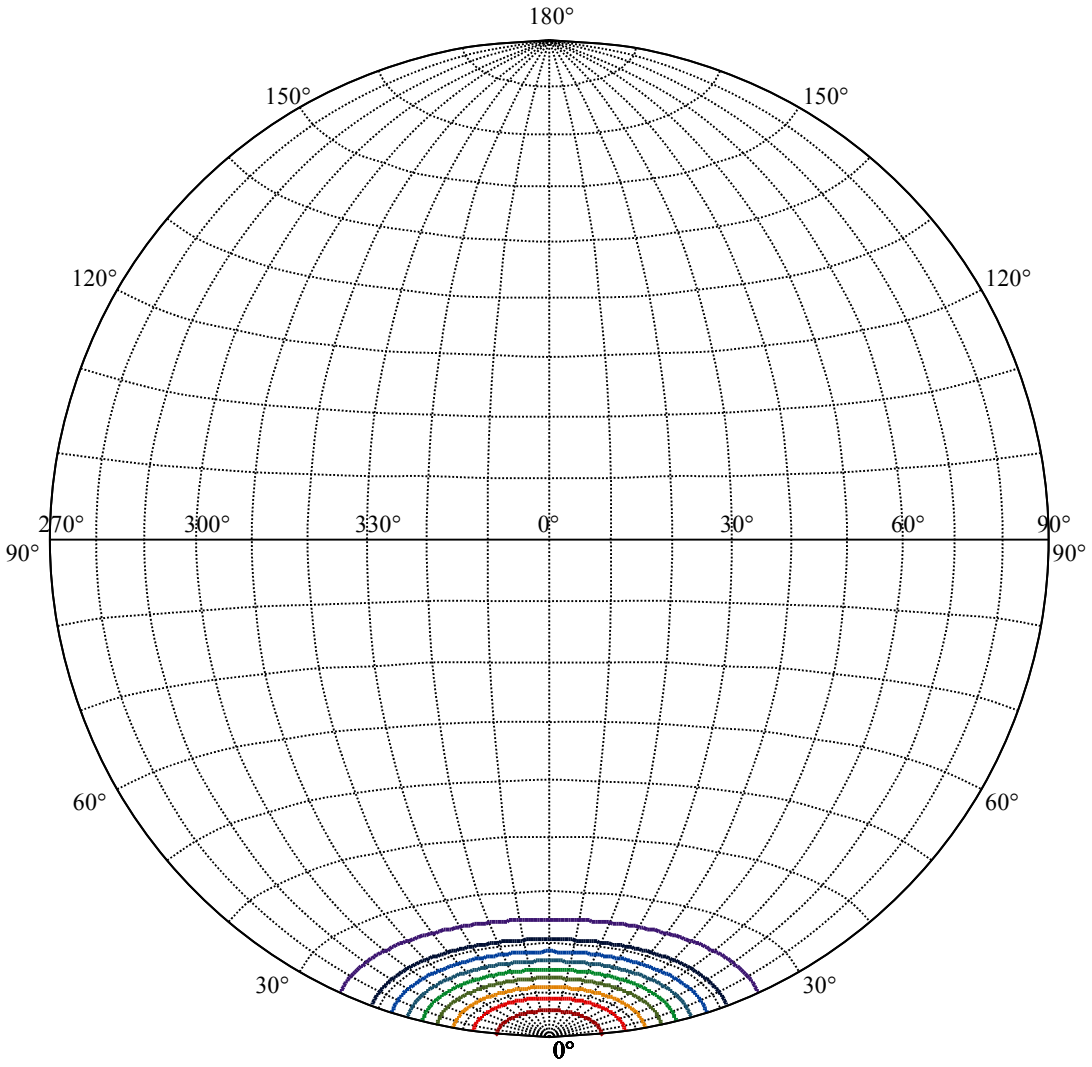
Beam Angle(50%Imax):C0/180Left:14.8 Right:14.8
:C90/270Left:14.8 Right:14.8


Illuminance at a Distance
Center Beam LUX
Beam Width
V
H
2m
1283.80 LUX
1.1m
1.1m
4m
320.95 LUX
2.1m
2.1m
6m
142.64 LUX
3.2m
3.2m
8m
80.24 LUX
4.2m
4.2m
10m
51.35 LUX
5.3m
5.3m
12m
35.66 LUX
6.3m
6.3m
Vert.Spread:29.5
Horiz.Spread:29.5


[Unit:cd]
Imax:5135.20cd
90°
75°
60°
45°
30°
15°
0°
-15°
-30°
-45°
-60°
-75°
-90°
-90° -75° -60° -45° -30° -15° 0° 15° 30° 45° 60° 75° 90°
(10%Imax) 513.52
(20%Imax) 1027.04
(30%Imax) 1540.56
(40%Imax) 2054.08
(50%Imax) 2567.6
(60%Imax) 3081.12
(70%Imax) 3594.64
(80%Imax) 4108.16
(90%Imax) 4621.68

ISO candela diagram on circular web






House [Unit:cd] Road

Imax:5135.20

(10%Imax) 513.52
(20%Imax) 1027.04
(30%Imax) 1540.56
(40%Imax) 2054.08
(50%Imax) 2567.6
(60%Imax) 3081.12
(70%Imax) 3594.64
(80%Imax) 4108.16
(90%Imax) 4621.68

Equipment: GMS1980
Temperature(°C): 25.0

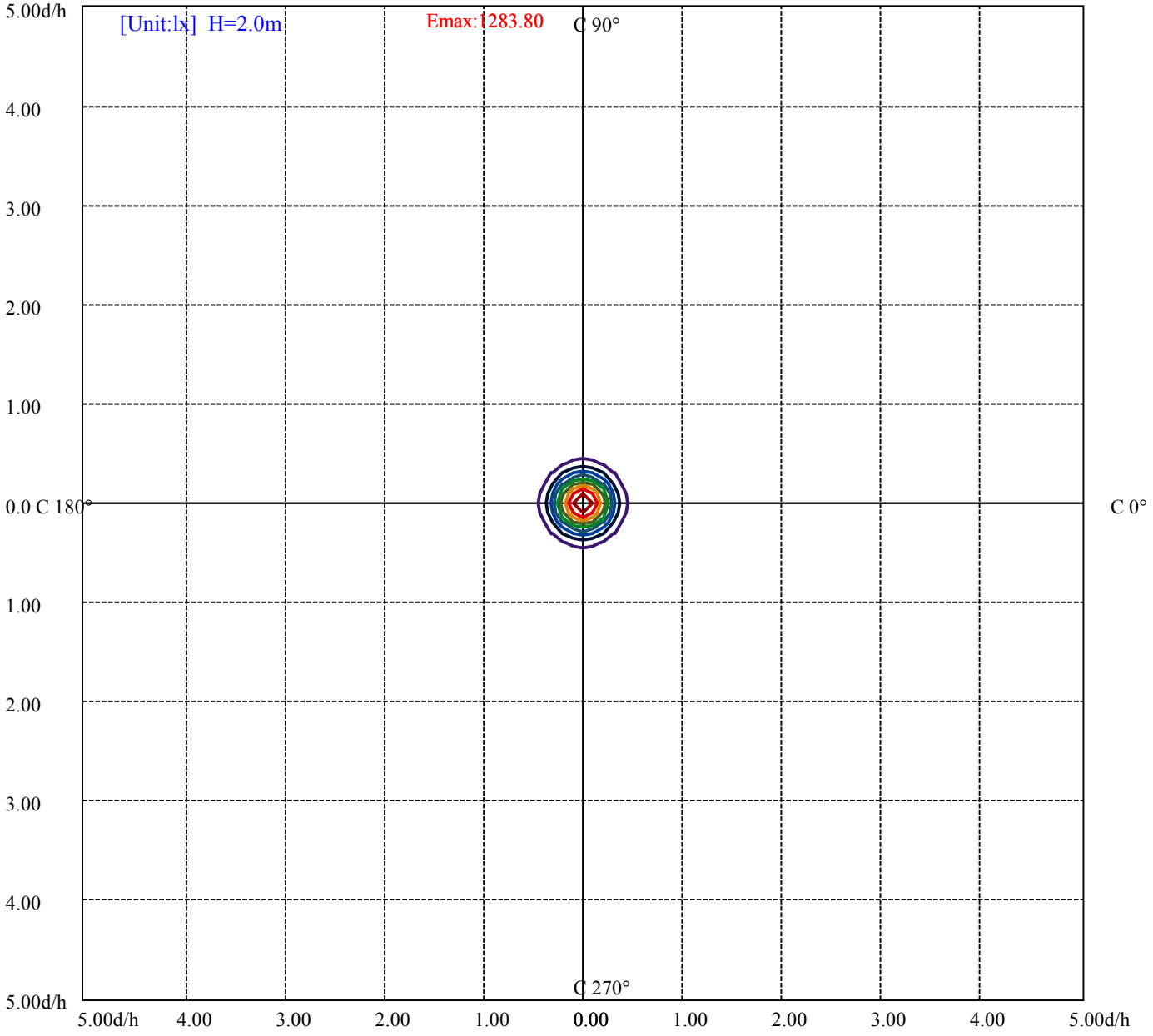
Date: 2021/01/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

KY Nata LN01D04524DA-N

ISO illuminance diagram





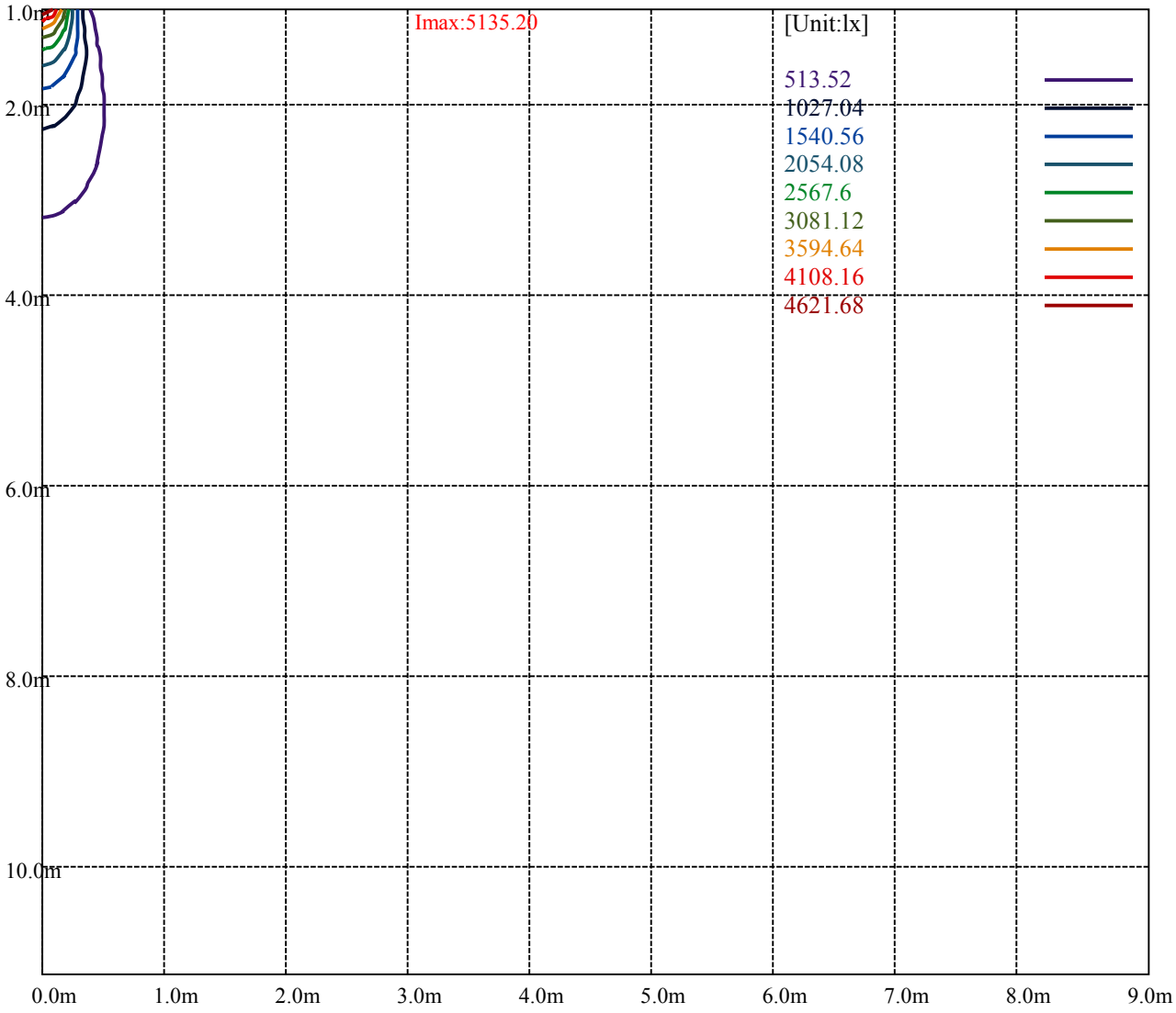

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/01/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/01/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

KY Nata LN01D04524DA-N

## Luminance Limitting Curve(no luminous side)



Luminance Table

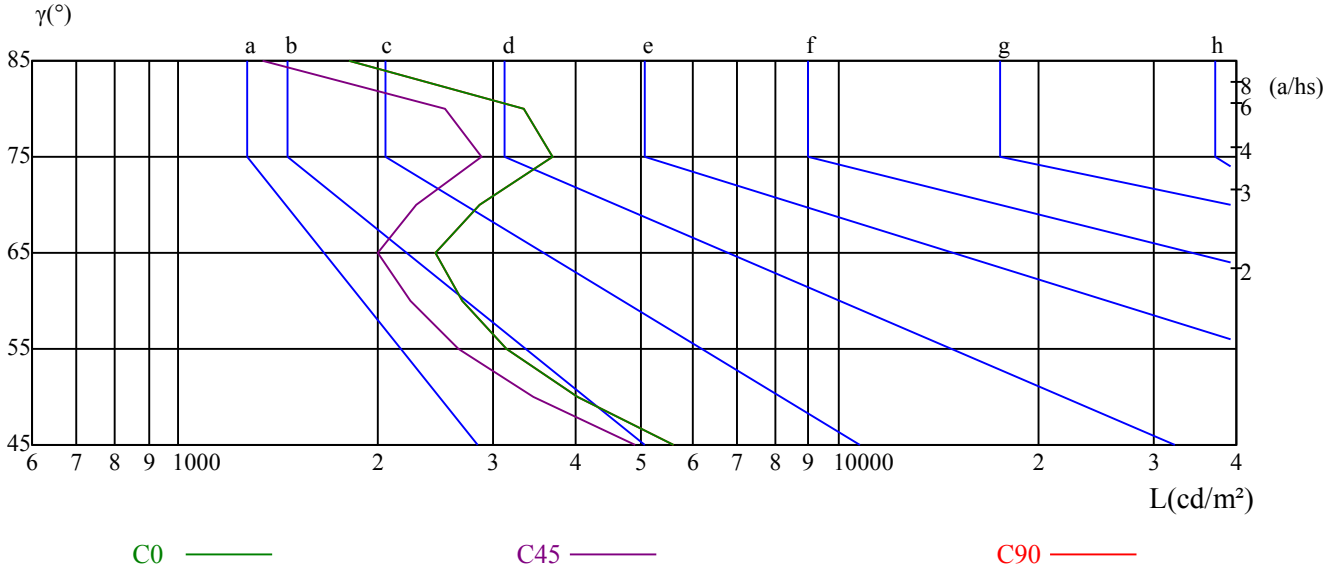
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 5620 | 4014 | 3140 | 2692 | 2445 | 2863 | 3683 | 3335 | 1817 |
| C45 | 4905 | 3452 | 2659 | 2241 | 2000 | 2294 | 2883 | 2541 | 1339 |
| C90 | 5620 | 4014 | 3140 | 2692 | 2445 | 2863 | 3683 | 3335 | 1817 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 5295 | 5295 | 5295 | 11154 | 11154 | 11154 | 13106 | 13106 | 13106 |

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



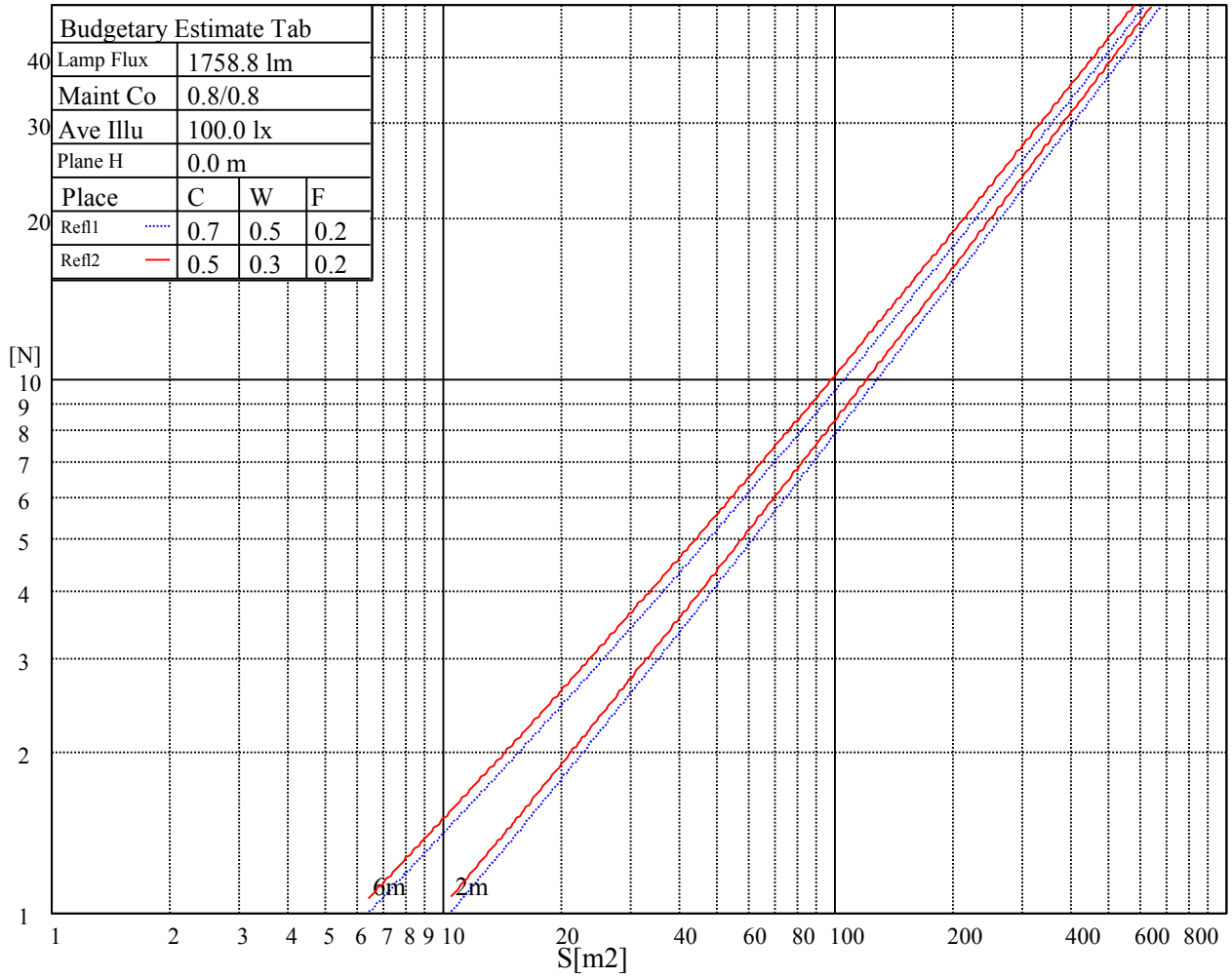

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/01/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

## Budgetary Estimate Table






Equipment: GMS1980 Date: 2021/01/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

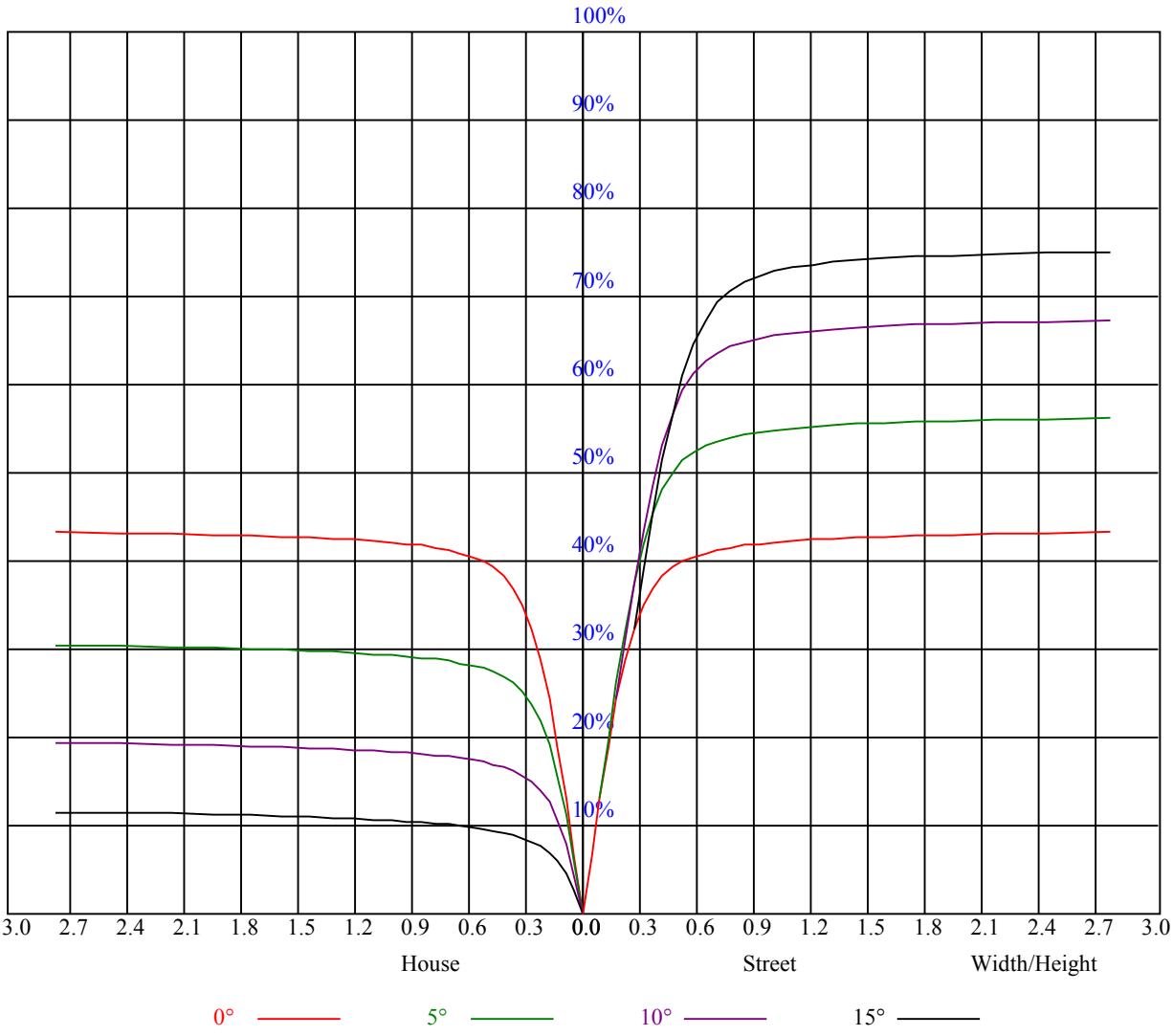
Utilization factor table for indoor luminaire



| 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 | 1.05 | 1.05 | 1.05 | 1.02 | 1.02 | 1.02 | 0.98 | 0.98 | 0.98 | 0.94 | 0.94 | 0.94 | 0.90 | 0.90 | 0.90 | 0.88 |
| 1 | 0.98 | 0.96 | 0.94 | 0.96 | 0.94 | 0.92 | 0.92 | 0.91 | 0.90 | 0.89 | 0.88 | 0.87 | 0.86 | 0.85 | 0.84 | 0.83 |
| 2 | 0.92 | 0.89 | 0.86 | 0.91 | 0.88 | 0.85 | 0.88 | 0.86 | 0.84 | 0.85 | 0.83 | 0.82 | 0.83 | 0.81 | 0.80 | 0.79 |
| 3 | 0.87 | 0.84 | 0.81 | 0.86 | 0.83 | 0.80 | 0.84 | 0.81 | 0.79 | 0.82 | 0.79 | 0.77 | 0.80 | 0.78 | 0.76 | 0.75 |
| 4 | 0.83 | 0.79 | 0.76 | 0.82 | 0.79 | 0.76 | 0.80 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.77 | 0.75 | 0.73 | 0.72 |
| 5 | 0.80 | 0.75 | 0.72 | 0.79 | 0.75 | 0.72 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.71 | 0.75 | 0.72 | 0.70 | 0.69 |
| 6 | 0.76 | 0.72 | 0.69 | 0.76 | 0.72 | 0.69 | 0.74 | 0.71 | 0.68 | 0.73 | 0.70 | 0.68 | 0.72 | 0.70 | 0.67 | 0.66 |
| 7 | 0.73 | 0.69 | 0.66 | 0.73 | 0.69 | 0.66 | 0.72 | 0.68 | 0.66 | 0.71 | 0.68 | 0.65 | 0.70 | 0.67 | 0.65 | 0.64 |
| 8 | 0.71 | 0.67 | 0.64 | 0.70 | 0.66 | 0.64 | 0.69 | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.68 | 0.65 | 0.63 | 0.62 |
| 9 | 0.68 | 0.64 | 0.61 | 0.68 | 0.64 | 0.61 | 0.67 | 0.64 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.61 | 0.60 |
| 10 | 0.66 | 0.62 | 0.59 | 0.66 | 0.62 | 0.59 | 0.65 | 0.62 | 0.59 | 0.65 | 0.61 | 0.59 | 0.64 | 0.61 | 0.59 | 0.58 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2021/01/06 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 65.0% | Distance(m): 7.50 |

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 | 5126.06 | 5154.75 | 5151.38 | 5122.69 | 5059.69 | 4962.94 | 4853.25 | 4705.31 | 4555.13 |
| 45.0 | 5140.69 | 5135.63 | 5101.88 | 5042.81 | 4969.69 | 4860.56 | 4715.44 | 4563.00 | 4373.44 |
| 90.0 | 5130.00 | 5094.56 | 5034.38 | 4930.88 | 4825.13 | 4699.13 | 4534.88 | 4349.81 | 4168.13 |
| 135.0 | 5144.06 | 5108.63 | 5028.19 | 4933.69 | 4815.00 | 4662.00 | 4491.56 | 4322.81 | 4165.31 |
| 180.0 | 5126.06 | 5073.19 | 4989.38 | 4849.88 | 4713.19 | 4561.31 | 4368.94 | 4152.38 | 3945.94 |
| 225.0 | 5140.69 | 5119.31 | 5052.94 | 4971.94 | 4868.44 | 4721.63 | 4551.75 | 4383.56 | 4173.19 |
| 270.0 | 5130.00 | 5143.50 | 5126.06 | 5083.88 | 5009.63 | 4904.44 | 4785.19 | 4622.63 | 4457.81 |
| 315.0 | 5144.06 | 5155.31 | 5140.69 | 5092.88 | 5023.69 | 4916.25 | 4797.56 | 4626.00 | 4465.13 |
| 360.0 | 5126.06 | 5154.75 | 5151.38 | 5122.69 | 5059.69 | 4962.94 | 4853.25 | 4705.31 | 4555.13 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 4366.69 | 4162.50 | 3965.63 | 3751.31 | 3451.50 | 3191.63 | 2919.38 | 2563.31 | 2281.50 |
| 45.0 | 4192.31 | 3970.69 | 3726.00 | 3488.06 | 3233.81 | 2934.56 | 2624.63 | 2344.50 | 2003.06 |
| 90.0 | 3948.19 | 3715.88 | 3492.56 | 3217.50 | 2954.81 | 2649.94 | 2342.81 | 2077.31 | 1824.19 |
| 135.0 | 3895.88 | 3686.63 | 3489.75 | 3181.50 | 2883.94 | 2648.81 | 2309.63 | 2013.75 | 1796.06 |
| 180.0 | 3699.00 | 3437.44 | 3184.88 | 2885.63 | 2610.00 | 2298.94 | 1996.88 | 1740.38 | 1501.31 |
| 225.0 | 3944.25 | 3724.31 | 3452.63 | 3191.06 | 2883.38 | 2569.50 | 2289.38 | 2014.88 | 1689.75 |
| 270.0 | 4258.13 | 4045.50 | 3841.88 | 3617.44 | 3303.00 | 3029.63 | 2749.50 | 2392.88 | 2121.19 |
| 315.0 | 4286.81 | 4050.00 | 3844.13 | 3614.63 | 3365.44 | 3034.69 | 2760.19 | 2478.94 | 2169.00 |
| 360.0 | 4366.69 | 4162.50 | 3965.63 | 3751.31 | 3451.50 | 3191.63 | 2919.38 | 2563.31 | 2281.50 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 2009.25 | 1723.50 | 1459.69 | 1247.63 | 1036.69 | 856.13 | 721.13 | 594.56 | 502.88 |
| 45.0 | 1744.31 | 1500.19 | 1284.75 | 1051.88 | 892.13 | 748.69 | 620.44 | 516.94 | 439.88 |
| 90.0 | 1530.56 | 1318.50 | 1101.32 | 917.78 | 778.78 | 660.49 | 559.01 | 454.16 | 385.43 |
| 135.0 | 1503.56 | 1290.38 | 1096.31 | 895.50 | 752.63 | 626.06 | 507.38 | 428.63 | 363.94 |
| 180.0 | 1108.86 | 1040.96 | 875.76 | 704.03 | 592.03 | 498.49 | 411.47 | 342.34 | 292.33 |
| 225.0 | 1458.56 | 1103.29 | 1016.66 | 861.41 | 729.73 | 604.58 | 502.03 | 428.23 | 361.01 |
| 270.0 | 1865.25 | 1596.94 | 1352.25 | 1158.75 | 969.19 | 807.75 | 686.81 | 573.19 | 491.06 |
| 315.0 | 1879.31 | 1639.13 | 1387.69 | 1116.84 | 988.65 | 820.29 | 693.68 | 576.45 | 482.63 |
| 360.0 | 2009.25 | 1723.50 | 1459.69 | 1247.63 | 1036.69 | 856.13 | 721.13 | 594.56 | 502.88 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 417.38 | 349.31 | 300.38 | 285.19 | 223.14 | 194.51 | 173.93 | 154.41 | 137.64 |
| 45.0 | 370.13 | 312.19 | 285.19 | 229.28 | 201.83 | 176.51 | 156.26 | 141.36 | 127.01 |
| 90.0 | 328.78 | 276.19 | 233.89 | 204.41 | 178.20 | 156.99 | 139.67 | 126.79 | 115.76 |
| 135.0 | 298.13 | 286.88 | 220.73 | 191.03 | 167.29 | 149.63 | 133.43 | 119.98 | 109.63 |
| 180.0 | 252.06 | 215.21 | 186.08 | 163.29 | 146.64 | 130.89 | 117.79 | 107.94 | 99.39 |
| 225.0 | 306.11 | 266.12 | 229.89 | 203.68 | 178.99 | 158.63 | 143.38 | 129.99 | 115.71 |
| 270.0 | 412.31 | 348.19 | 302.06 | 286.88 | 226.80 | 197.49 | 175.44 | 154.52 | 137.03 |
| 315.0 | 413.33 | 355.22 | 297.23 | 259.37 | 228.04 | 195.64 | 173.70 | 155.14 | 137.48 |
| 360.0 | 417.38 | 349.31 | 300.38 | 285.19 | 223.14 | 194.51 | 173.93 | 154.41 | 137.64 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 124.82 | 113.85 | 102.04 | 93.60 | 86.29 | 79.03 | 72.73 | 67.56 | 62.27 |
| 45.0 | 114.64 | 105.24 | 96.86 | 87.64 | 81.11 | 75.09 | 69.08 | 63.62 | 59.34 |
| 90.0 | 104.91 | 95.29 | 87.81 | 80.10 | 73.24 | 67.78 | 62.83 | 57.21 | 53.27 |
| 135.0 | 99.39 | 91.29 | 83.48 | 76.44 | 70.76 | 65.64 | 59.96 | 55.86 | 51.92 |
| 180.0 | 89.83 | 83.25 | 77.29 | 71.16 | 65.59 | 61.14 | 57.04 | 52.54 | 49.11 |
| 225.0 | 105.92 | 97.43 | 88.09 | 81.45 | 75.54 | 68.96 | 64.24 | 59.91 | 55.01 |
| 270.0 | 123.47 | 111.66 | 98.94 | 90.17 | 82.52 | 75.04 | 68.51 | 63.28 | 57.88 |
| 315.0 | 122.51 | 111.15 | 99.96 | 91.24 | 82.86 | 75.54 | 69.86 | 64.07 | 59.01 |
| 360.0 | 124.82 | 113.85 | 102.04 | 93.60 | 86.29 | 79.03 | 72.73 | 67.56 | 62.27 |

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 | 57.54 | 53.83 | 49.89 | 46.58 | 43.14 | 39.99 | 37.46 | 35.44 | 32.68 |
| 45.0 | 54.84 | 50.85 | 47.64 | 44.27 | 41.40 | 38.59 | 36.06 | 33.92 | 32.01 |
| 90.0 | 49.50 | 45.73 | 42.24 | 39.43 | 36.45 | 33.92 | 31.73 | 29.87 | 28.18 |
| 135.0 | 47.42 | 44.16 | 41.18 | 38.03 | 35.21 | 32.96 | 30.77 | 28.91 | 27.34 |
| 180.0 | 45.96 | 42.75 | 39.77 | 37.29 | 34.82 | 32.57 | 30.77 | 29.03 | 27.68 |
| 225.0 | 51.86 | 48.04 | 44.21 | 41.74 | 38.87 | 36.00 | 34.14 | 32.34 | 30.09 |
| 270.0 | 53.27 | 49.50 | 45.62 | 42.30 | 39.04 | 36.17 | 33.75 | 31.95 | 29.48 |
| 315.0 | 54.96 | 51.19 | 46.69 | 43.76 | 40.95 | 37.63 | 35.27 | 33.36 | 31.22 |
| 360.0 | 57.54 | 53.83 | 49.89 | 46.58 | 43.14 | 39.99 | 37.46 | 35.44 | 32.68 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 30.99 | 29.64 | 27.84 | 26.66 | 25.82 | 24.58 | 23.51 | 22.78 | 21.88 |
| 45.0 | 29.98 | 28.63 | 27.45 | 26.10 | 25.20 | 24.30 | 23.46 | 22.56 | 21.83 |
| 90.0 | 26.83 | 25.59 | 24.58 | 23.79 | 22.84 | 22.05 | 21.43 | 20.64 | 20.14 |
| 135.0 | 25.88 | 24.86 | 23.74 | 22.84 | 22.11 | 21.38 | 20.59 | 20.03 | 19.52 |
| 180.0 | 26.38 | 25.14 | 24.30 | 23.46 | 22.44 | 21.71 | 21.04 | 20.25 | 19.63 |
| 225.0 | 28.80 | 27.56 | 26.27 | 25.14 | 24.19 | 23.18 | 22.28 | 21.54 | 20.76 |
| 270.0 | 28.07 | 26.94 | 25.43 | 24.41 | 23.63 | 22.67 | 21.77 | 21.15 | 20.36 |
| 315.0 | 29.53 | 28.24 | 26.78 | 25.82 | 24.69 | 23.68 | 22.84 | 21.99 | 21.21 |
| 360.0 | 30.99 | 29.64 | 27.84 | 26.66 | 25.82 | 24.58 | 23.51 | 22.78 | 21.88 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 21.09 | 20.48 | 19.69 | 19.01 | 18.51 | 17.83 | 17.38 | 16.88 | 16.31 |
| 45.0 | 21.09 | 20.36 | 19.74 | 19.07 | 18.56 | 18.00 | 17.38 | 16.93 | 16.54 |
| 90.0 | 19.69 | 19.18 | 19.13 | 19.69 | 20.98 | 22.56 | 24.92 | 27.73 | 30.15 |
| 135.0 | 19.01 | 18.45 | 18.11 | 18.00 | 18.73 | 19.91 | 21.77 | 23.68 | 25.88 |
| 180.0 | 19.07 | 18.45 | 17.94 | 17.44 | 16.93 | 16.48 | 16.03 | 15.53 | 15.13 |
| 225.0 | 19.97 | 19.35 | 18.68 | 18.11 | 17.55 | 16.99 | 16.48 | 15.98 | 15.47 |
| 270.0 | 19.86 | 19.35 | 18.84 | 18.96 | 19.46 | 20.76 | 22.11 | 24.02 | 26.83 |
| 315.0 | 20.59 | 20.03 | 19.41 | 19.18 | 19.63 | 20.93 | 22.56 | 24.58 | 27.39 |
| 360.0 | 21.09 | 20.48 | 19.69 | 19.01 | 18.51 | 17.83 | 17.38 | 16.88 | 16.31 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 15.86 | 15.36 | 14.91 | 14.46 | 14.06 | 13.61 | 13.16 | 12.77 | 12.38 |
| 45.0 | 15.92 | 15.47 | 14.96 | 14.51 | 14.01 | 13.61 | 13.05 | 12.60 | 12.21 |
| 90.0 | 32.29 | 34.37 | 36.11 | 37.46 | 39.15 | 38.42 | 36.23 | 32.68 | 28.46 |
| 135.0 | 28.13 | 29.98 | 31.16 | 31.84 | 32.01 | 30.99 | 28.24 | 25.59 | 22.89 |
| 180.0 | 14.57 | 14.18 | 13.73 | 13.33 | 12.77 | 12.32 | 11.93 | 11.42 | 10.97 |
| 225.0 | 14.96 | 14.63 | 14.12 | 13.67 | 13.28 | 12.83 | 12.38 | 11.93 | 11.48 |
| 270.0 | 29.14 | 31.22 | 33.30 | 35.10 | 35.89 | 36.73 | 36.73 | 35.21 | 32.18 |
| 315.0 | 29.59 | 31.61 | 33.92 | 35.10 | 36.06 | 36.62 | 35.72 | 33.75 | 29.53 |
| 360.0 | 15.86 | 15.36 | 14.91 | 14.46 | 14.06 | 13.61 | 13.16 | 12.77 | 12.38 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 11.93 | 11.59 | 11.08 | 10.58 | 10.13 | 9.51 | 8.94 | 8.44 | 7.93 |
| 45.0 | 11.64 | 11.14 | 10.69 | 10.18 | 9.68 | 9.11 | 8.61 | 8.04 | 7.65 |
| 90.0 | 24.47 | 19.46 | 14.63 | 11.03 | 8.89 | 8.21 | 7.65 | 7.26 | 6.92 |
| 135.0 | 18.79 | 15.36 | 11.64 | 10.24 | 8.55 | 7.93 | 7.48 | 7.14 | 6.92 |
| 180.0 | 10.58 | 10.13 | 9.62 | 9.11 | 8.55 | 7.99 | 7.54 | 7.26 | 7.20 |
| 225.0 | 11.08 | 10.63 | 10.13 | 9.62 | 9.23 | 8.61 | 8.10 | 7.59 | 7.37 |
| 270.0 | 28.52 | 25.03 | 20.03 | 15.19 | 11.14 | 9.34 | 8.21 | 7.71 | 7.31 |
| 315.0 | 26.61 | 22.78 | 18.00 | 13.95 | 11.19 | 9.51 | 8.38 | 7.88 | 7.37 |
| 360.0 | 11.93 | 11.59 | 11.08 | 10.58 | 10.13 | 9.51 | 8.94 | 8.44 | 7.93 |

## Intensity data(cd)

| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 7.59 |
| 45.0 | 7.37 |
| 90.0 | 6.98 |
| 135.0 | 6.92 |
| 180.0 | 7.20 |
| 225.0 | 7.31 |
| 270.0 | 7.03 |
| 315.0 | 7.20 |
| 360.0 | 7.59 |