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

## NATA

LumCAT: 3-2324-M
Luminaire: 92.70.135.00

| | |
|---|---|
| Report No: NATA0100 | Voltage(V): 35.5200 |
| Test No: GC2019041513 | Current(A): 0.5030 |
| LampCAT: LUMILEDS LUXEON1205 | Power (W): 17.8670 |
| Lamp flux(lm): 2043.0 | PF: 0.0000 |
| Number of Lamps: 1 | Ballast type: DC |
| Length(mm): 85 | Width(mm): 85 |
| Phm Type: C | Height(mm): 0 |

## Photometric Results

Lumens(lm): 1758.83
Efficiency(%): 86.09%
Lumens(lm)/Power(W): 98.44
Central intensity(cd): 6725.813
Maximum intensity(cd): 6725.813
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=23.9
[C90/270]Total=23.9
Field angle(10%Imax): [C0/180]Total=58.3
[C90/270]Total=58.3
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.09%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.787%

| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2019/4/15 | Operator: NT07 |
| Temperature(°C): 10.0 | Humidity(%): 65.0% | Distance(m): 7.50 |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 6725.813 | 0.000 | 0 | .000% | .000% |
| 1.0 | 6707.391 | 6.428 | 6.428 | .315% | .365% |
| 2.0 | 6657.750 | 19.183 | 25.61 | .939% | 1.456% |
| 3.0 | 6564.867 | 31.624 | 57.235 | 1.548% | 3.254% |
| 4.0 | 6432.609 | 43.507 | 100.741 | 2.130% | 5.728% |
| 5.0 | 6256.688 | 54.589 | 155.33 | 2.672% | 8.831% |
| 6.0 | 6020.367 | 64.519 | 219.849 | 3.158% | 12.500% |
| 7.0 | 5692.359 | 72.701 | 292.55 | 3.559% | 16.633% |
| 8.0 | 5354.227 | 79.058 | 371.608 | 3.870% | 21.128% |
| 9.0 | 4887.422 | 83.003 | 454.611 | 4.063% | 25.847% |
| 10.0 | 4353.820 | 83.630 | 538.241 | 4.093% | 30.602% |
| 11.0 | 3876.539 | 82.238 | 620.479 | 4.025% | 35.278% |
| 12.0 | 3340.898 | 78.897 | 699.376 | 3.862% | 39.764% |
| 13.0 | 2831.203 | 73.247 | 772.623 | 3.585% | 43.928% |
| 14.0 | 2402.719 | 66.994 | 839.617 | 3.279% | 47.737% |
| 15.0 | 2024.930 | 60.785 | 900.402 | 2.975% | 51.193% |
| 16.0 | 1709.086 | 54.714 | 955.116 | 2.678% | 54.304% |
| 17.0 | 1481.977 | 49.693 | 1004.809 | 2.432% | 57.129% |
| 18.0 | 1274.034 | 45.441 | 1050.25 | 2.224% | 59.713% |
| 19.0 | 1147.092 | 42.123 | 1092.372 | 2.062% | 62.108% |
| 20.0 | 1038.797 | 40.008 | 1132.38 | 1.958% | 64.383% |
| 21.0 | 951.209 | 38.212 | 1170.592 | 1.870% | 66.555% |
| 22.0 | 887.674 | 36.953 | 1207.546 | 1.809% | 68.656% |
| 23.0 | 836.958 | 36.187 | 1243.733 | 1.771% | 70.714% |
| 24.0 | 796.366 | 35.710 | 1279.443 | 1.748% | 72.744% |
| 25.0 | 762.926 | 35.455 | 1314.898 | 1.735% | 74.760% |
| 26.0 | 736.291 | 35.389 | 1350.287 | 1.732% | 76.772% |
| 27.0 | 711.682 | 35.425 | 1385.712 | 1.734% | 78.786% |
| 28.0 | 693.042 | 35.565 | 1421.277 | 1.741% | 80.808% |
| 29.0 | 674.599 | 35.781 | 1457.058 | 1.751% | 82.842% |
| 30.0 | 658.617 | 35.997 | 1493.055 | 1.762% | 84.889% |
| 31.0 | 638.016 | 36.083 | 1529.138 | 1.766% | 86.941% |
| 32.0 | 600.054 | 35.469 | 1564.608 | 1.736% | 88.957% |
| 33.0 | 543.038 | 33.676 | 1598.284 | 1.648% | 90.872% |
| 34.0 | 468.295 | 30.606 | 1628.889 | 1.498% | 92.612% |
| 35.0 | 388.266 | 26.602 | 1655.491 | 1.302% | 94.124% |
| 36.0 | 304.256 | 22.050 | 1677.541 | 1.079% | 95.378% |
| 37.0 | 224.592 | 17.248 | 1694.789 | .844% | 96.359% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 138.776 | 12.129 | 1706.918 | .594% | 97.048% |
| 39.0 | 75.361 | 7.309 | 1714.227 | .358% | 97.464% |
| 40.0 | 41.252 | 4.067 | 1718.294 | .199% | 97.695% |
| 41.0 | 24.391 | 2.338 | 1720.632 | .114% | 97.828% |
| 42.0 | 19.849 | 1.607 | 1722.239 | .079% | 97.920% |
| 43.0 | 16.671 | 1.353 | 1723.592 | .066% | 97.996% |
| 44.0 | 14.105 | 1.162 | 1724.753 | .057% | 98.062% |
| 45.0 | 12.298 | 1.015 | 1725.768 | .050% | 98.120% |
| 46.0 | 11.292 | 0.923 | 1726.691 | .045% | 98.173% |
| 47.0 | 10.666 | 0.873 | 1727.564 | .043% | 98.222% |
| 48.0 | 10.216 | 0.844 | 1728.408 | .041% | 98.270% |
| 49.0 | 9.809 | 0.822 | 1729.23 | .040% | 98.317% |
| 50.0 | 9.443 | 0.803 | 1730.033 | .039% | 98.363% |
| 51.0 | 9.169 | 0.787 | 1730.82 | .039% | 98.407% |
| 52.0 | 8.909 | 0.776 | 1731.596 | .038% | 98.452% |
| 53.0 | 8.627 | 0.763 | 1732.359 | .037% | 98.495% |
| 54.0 | 8.430 | 0.752 | 1733.111 | .037% | 98.538% |
| 55.0 | 8.241 | 0.744 | 1733.855 | .036% | 98.580% |
| 56.0 | 8.058 | 0.736 | 1734.591 | .036% | 98.622% |
| 57.0 | 7.917 | 0.730 | 1735.322 | .036% | 98.663% |
| 58.0 | 7.770 | 0.725 | 1736.047 | .036% | 98.705% |
| 59.0 | 7.657 | 0.721 | 1736.769 | .035% | 98.746% |
| 60.0 | 7.566 | 0.719 | 1737.488 | .035% | 98.786% |
| 61.0 | 7.446 | 0.716 | 1738.204 | .035% | 98.827% |
| 62.0 | 7.348 | 0.713 | 1738.917 | .035% | 98.868% |
| 63.0 | 7.270 | 0.711 | 1739.628 | .035% | 98.908% |
| 64.0 | 7.200 | 0.710 | 1740.338 | .035% | 98.949% |
| 65.0 | 7.137 | 0.710 | 1741.047 | .035% | 98.989% |
| 66.0 | 7.080 | 0.709 | 1741.757 | .035% | 99.029% |
| 67.0 | 7.024 | 0.709 | 1742.466 | .035% | 99.070% |
| 68.0 | 6.975 | 0.709 | 1743.175 | .035% | 99.110% |
| 69.0 | 6.905 | 0.708 | 1743.883 | .035% | 99.150% |
| 70.0 | 6.877 | 0.708 | 1744.591 | .035% | 99.190% |
| 71.0 | 6.820 | 0.708 | 1745.299 | .035% | 99.231% |
| 72.0 | 6.785 | 0.707 | 1746.006 | .035% | 99.271% |
| 73.0 | 6.757 | 0.708 | 1746.715 | .035% | 99.311% |
| 74.0 | 6.736 | 0.709 | 1747.424 | .035% | 99.351% |
| 75.0 | 6.694 | 0.710 | 1748.133 | .035% | 99.392% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 6.673 | 0.710 | 1748.843 | .035% | 99.432% |
| 77.0 | 6.645 | 0.710 | 1749.553 | .035% | 99.472% |
| 78.0 | 6.630 | 0.711 | 1750.264 | .035% | 99.513% |
| 79.0 | 6.623 | 0.712 | 1750.976 | .035% | 99.553% |
| 80.0 | 6.616 | 0.714 | 1751.69 | .035% | 99.594% |
| 81.0 | 6.602 | 0.715 | 1752.404 | .035% | 99.635% |
| 82.0 | 6.567 | 0.714 | 1753.119 | .035% | 99.675% |
| 83.0 | 6.560 | 0.714 | 1753.832 | .035% | 99.716% |
| 84.0 | 6.553 | 0.714 | 1754.547 | .035% | 99.756% |
| 85.0 | 6.539 | 0.715 | 1755.261 | .035% | 99.797% |
| 86.0 | 6.539 | 0.715 | 1755.976 | .035% | 99.838% |
| 87.0 | 6.511 | 0.714 | 1756.69 | .035% | 99.878% |
| 88.0 | 6.518 | 0.714 | 1757.404 | .035% | 99.919% |
| 89.0 | 6.504 | 0.714 | 1758.118 | .035% | 99.959% |
| 90.0 | 6.511 | 0.714 | 1758.831 | .035% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

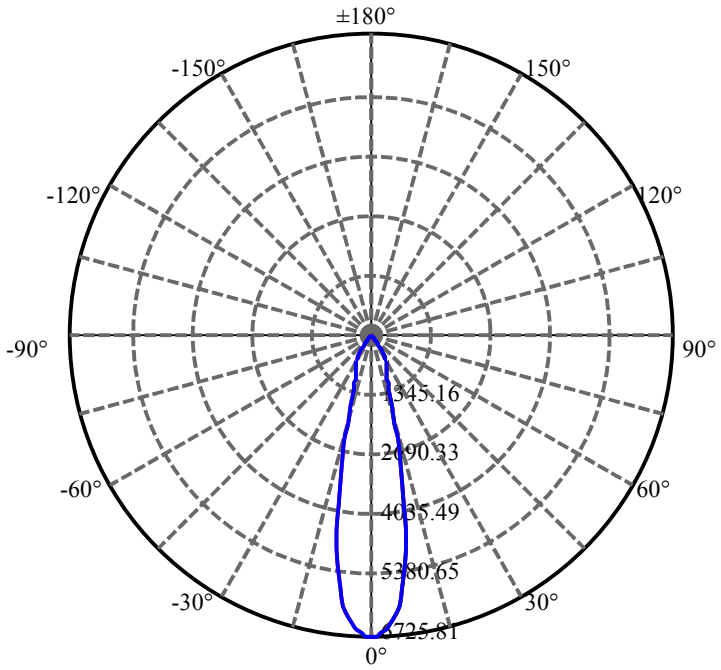
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1493.05 | 73.08% | 84.89% |
| 0-40 | 1718.29 | 84.11% | 97.70% |
| 0-60 | 1737.49 | 85.05% | 98.79% |
| 0-90 | 1758.12 | 86.06% | 99.96% |
| 0-120 | 1758.12 | 86.06% | 99.96% |
| 0-180 | 1758.83 | 86.09% | 100.00% |
| 60-90 | 21.35 | 1.04% | 1.21% |
| 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% |
| 0-27.60 | 1407.07 | 68.87% | 80.00% |

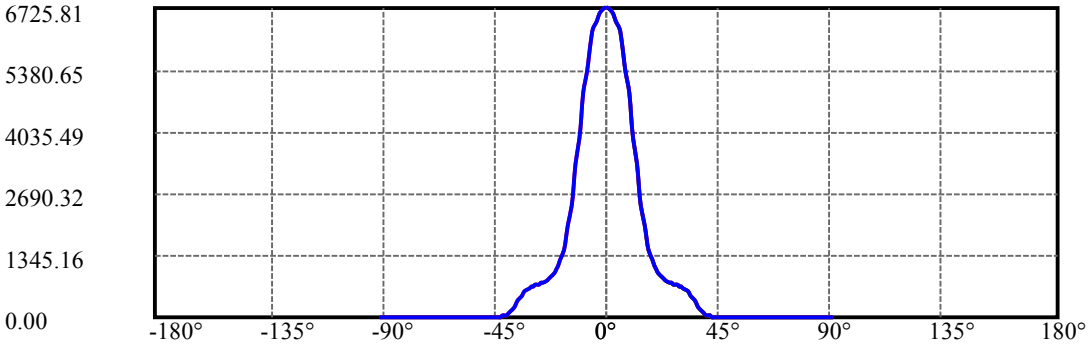
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 538.24 |
| 10-20 | 594.14 |
| 20-30 | 360.67 |
| 30-40 | 225.24 |
| 40-50 | 11.74 |
| 50-60 | 7.45 |
| 60-70 | 7.10 |
| 70-80 | 7.10 |
| 80-90 | 6.43 |
| 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:

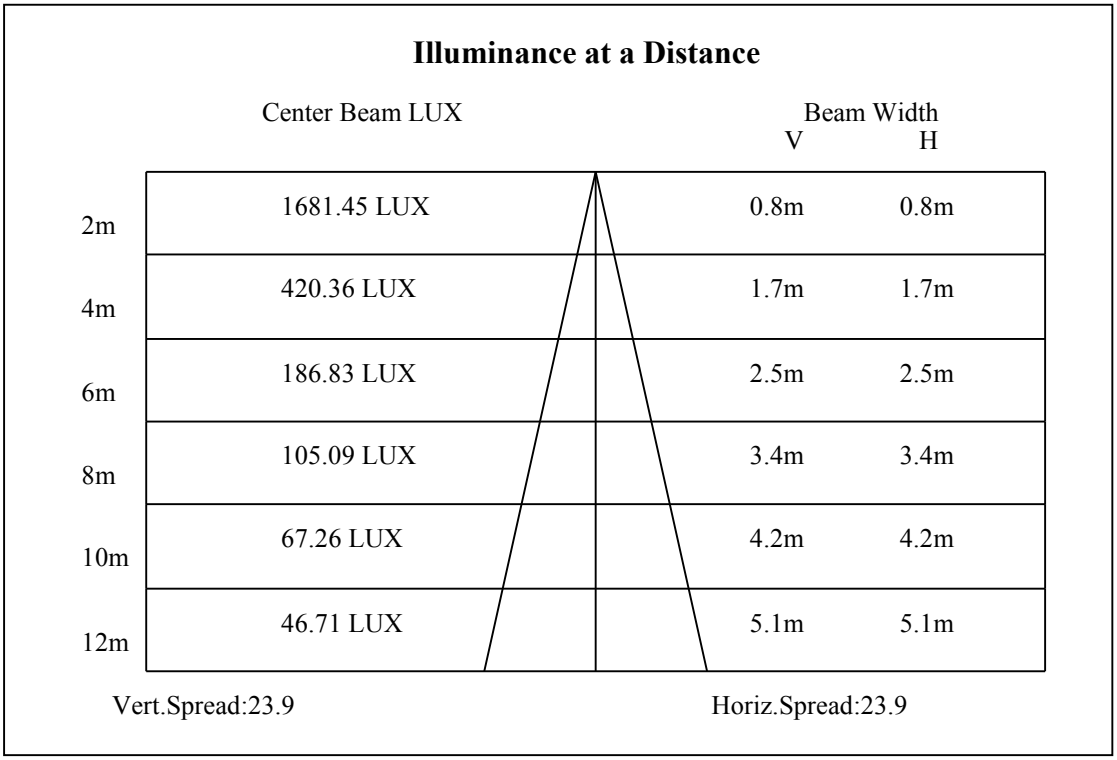
C90/C270:

Field angle(10%Imax):C0/180Left:29.1 Right:29.1
:C90/270Left:29.1 Right:29.1

Beam Angle(50%Imax):C0/180Left:12.0 Right:12.0
:C90/270Left:12.0 Right:12.0

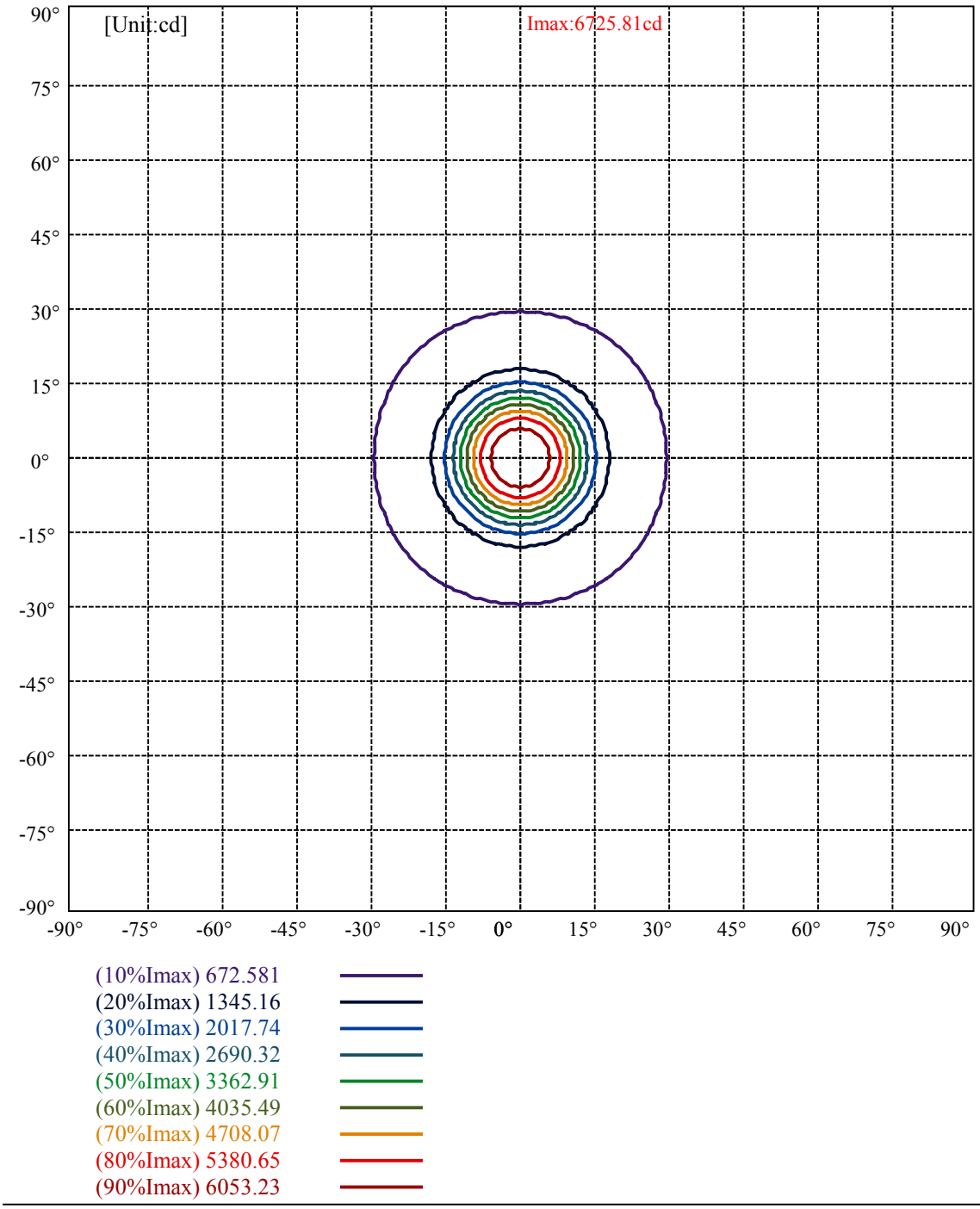
Lux distance Curve





ISO-Intensity(V-H)





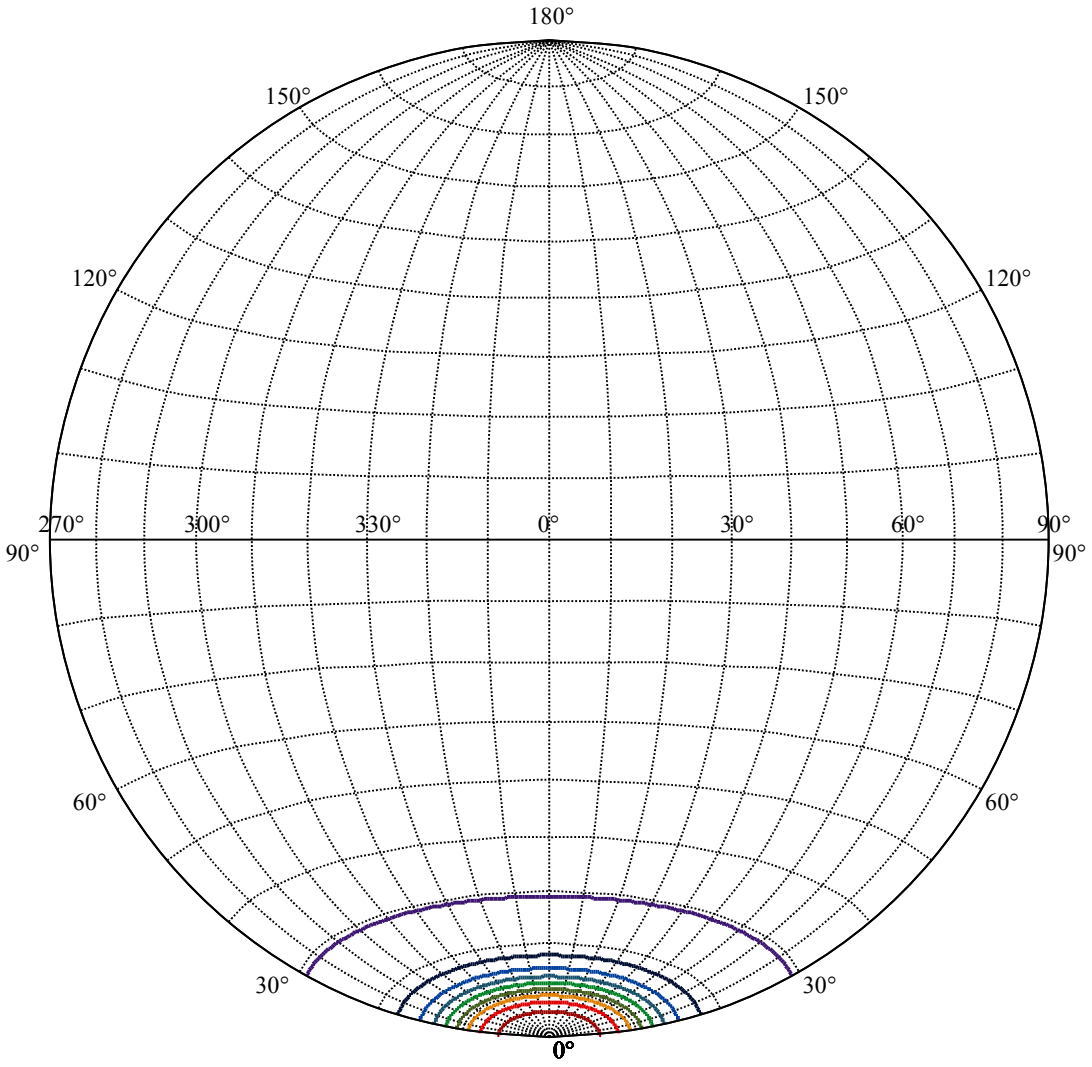

Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/4/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web






House [Unit:cd] Road

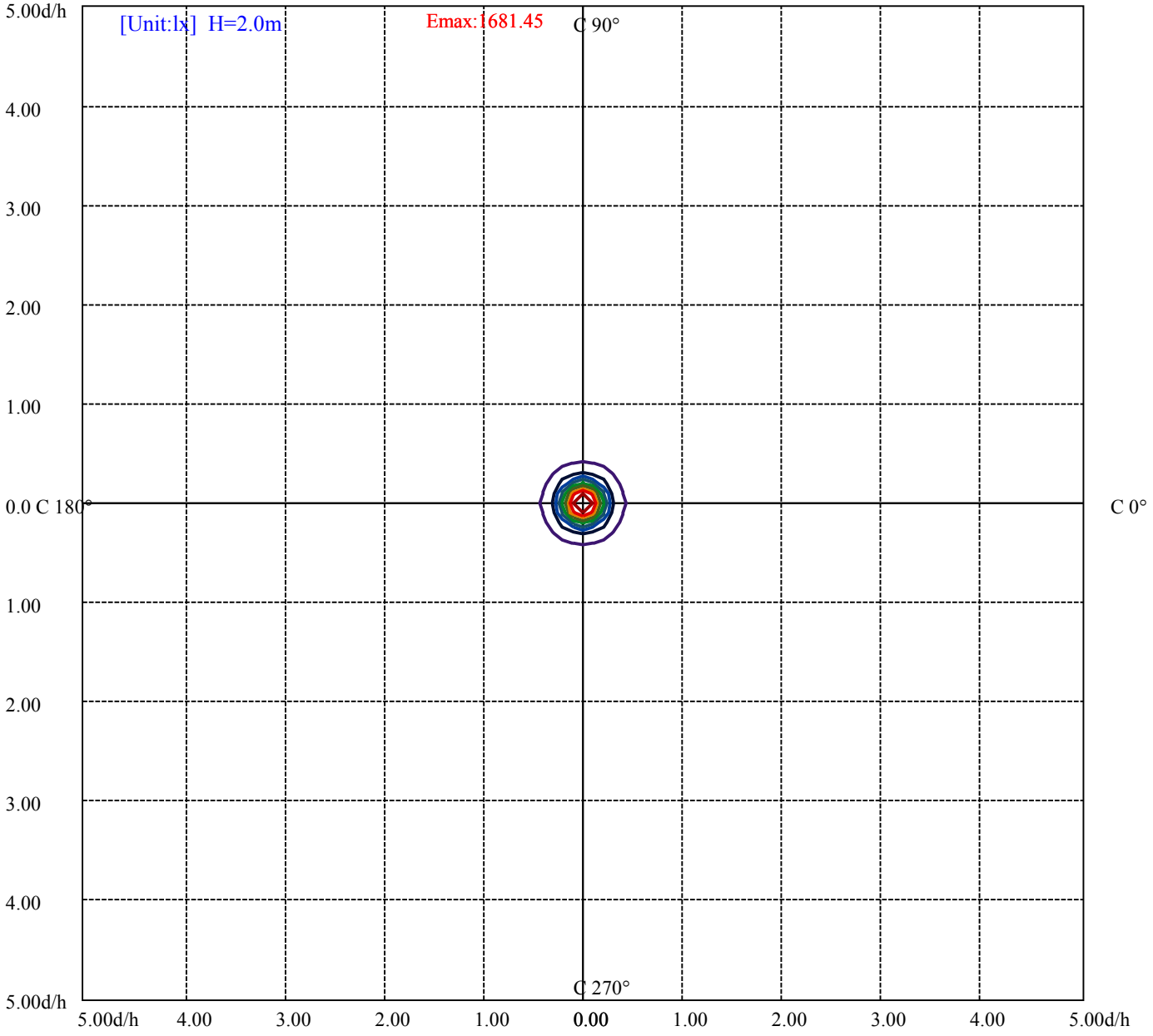
Imax:6725.81

(10%Imax) 672.581
(20%Imax) 1345.16
(30%Imax) 2017.74
(40%Imax) 2690.32
(50%Imax) 3362.91
(60%Imax) 4035.49
(70%Imax) 4708.07
(80%Imax) 5380.65
(90%Imax) 6053.23

Equipment: GMS1980 Date: 2019/4/15 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

## ISO illuminance diagram





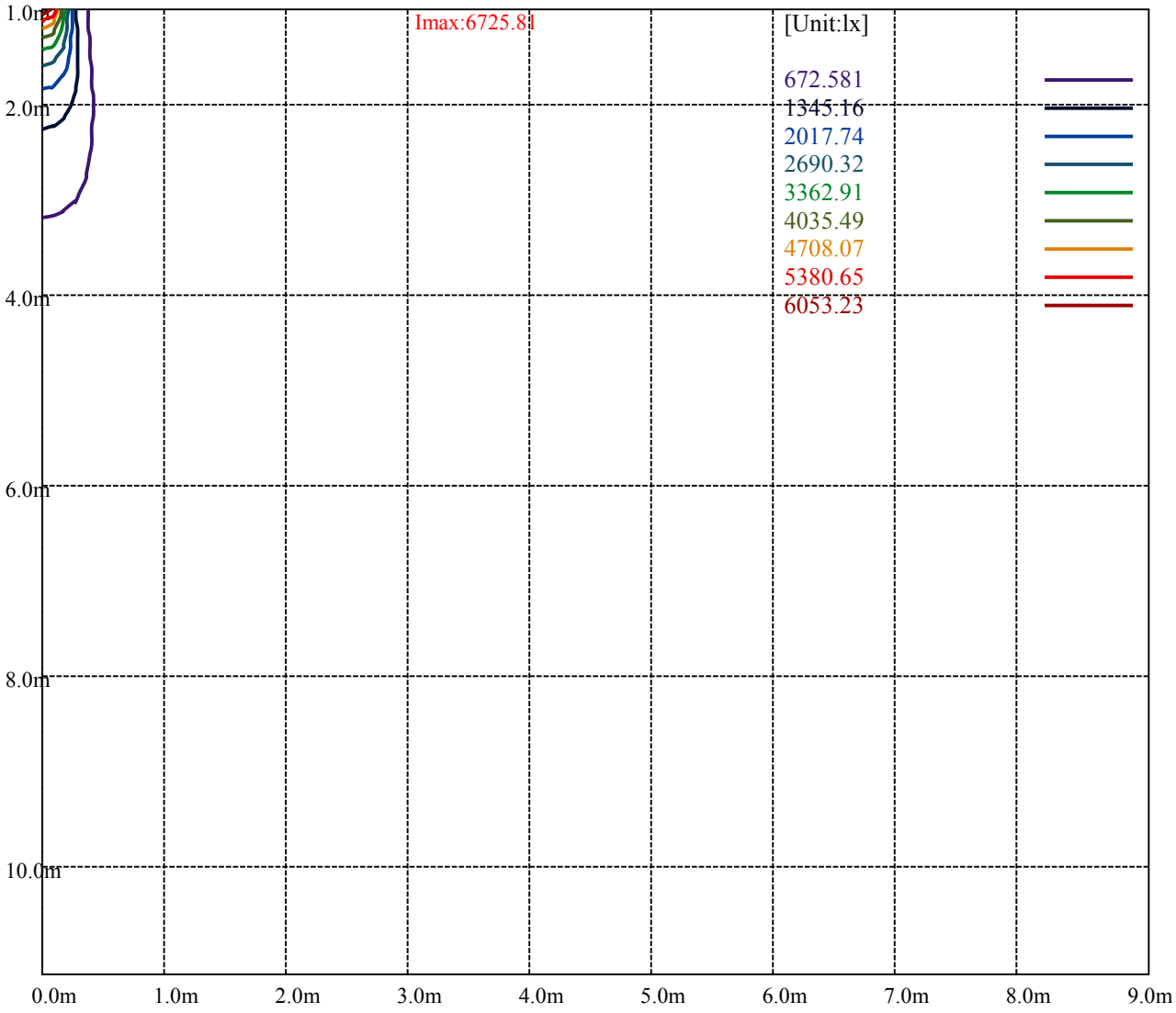

Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/4/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

## Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/4/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

## Luminance Limitting Curve(no luminous side)



Luminance Table

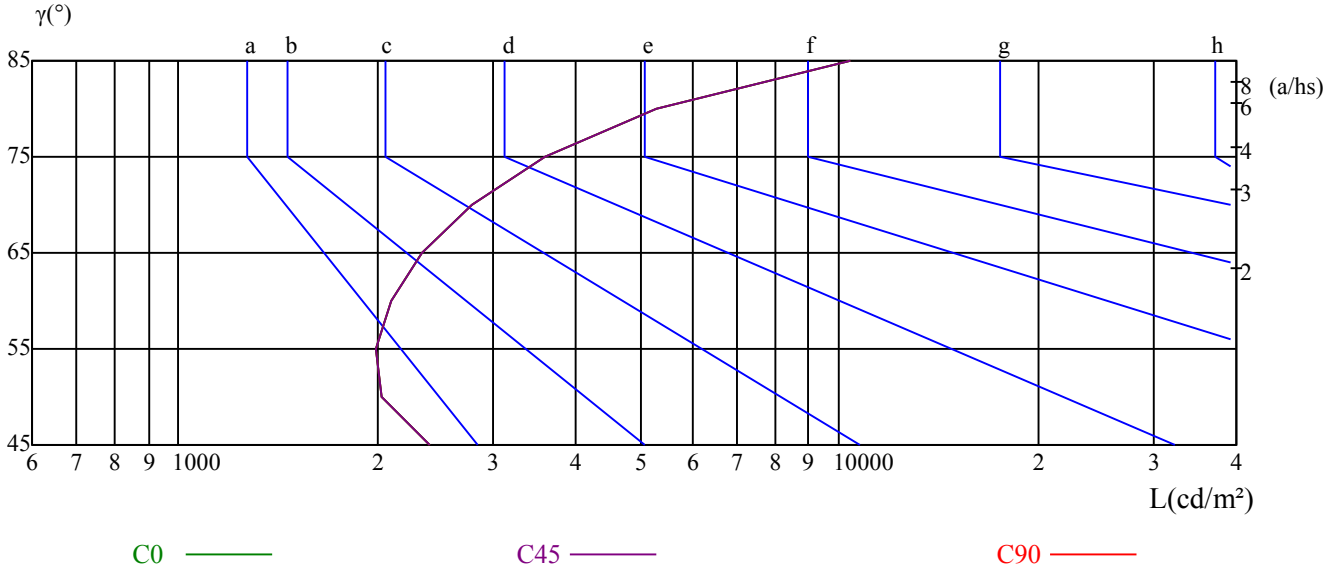
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 2407 | 2033 | 1989 | 2094 | 2337 | 2783 | 3580 | 5274 | 10384 |
| C45 | 2407 | 2033 | 1989 | 2094 | 2337 | 2783 | 3580 | 5274 | 10384 |
| C90 | 2407 | 2033 | 1989 | 2094 | 2337 | 2783 | 3580 | 5274 | 10384 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 2337 | 2337 | 2337 | 3580 | 3580 | 3580 | 10384 | 10384 | 10384 |

Glare Table

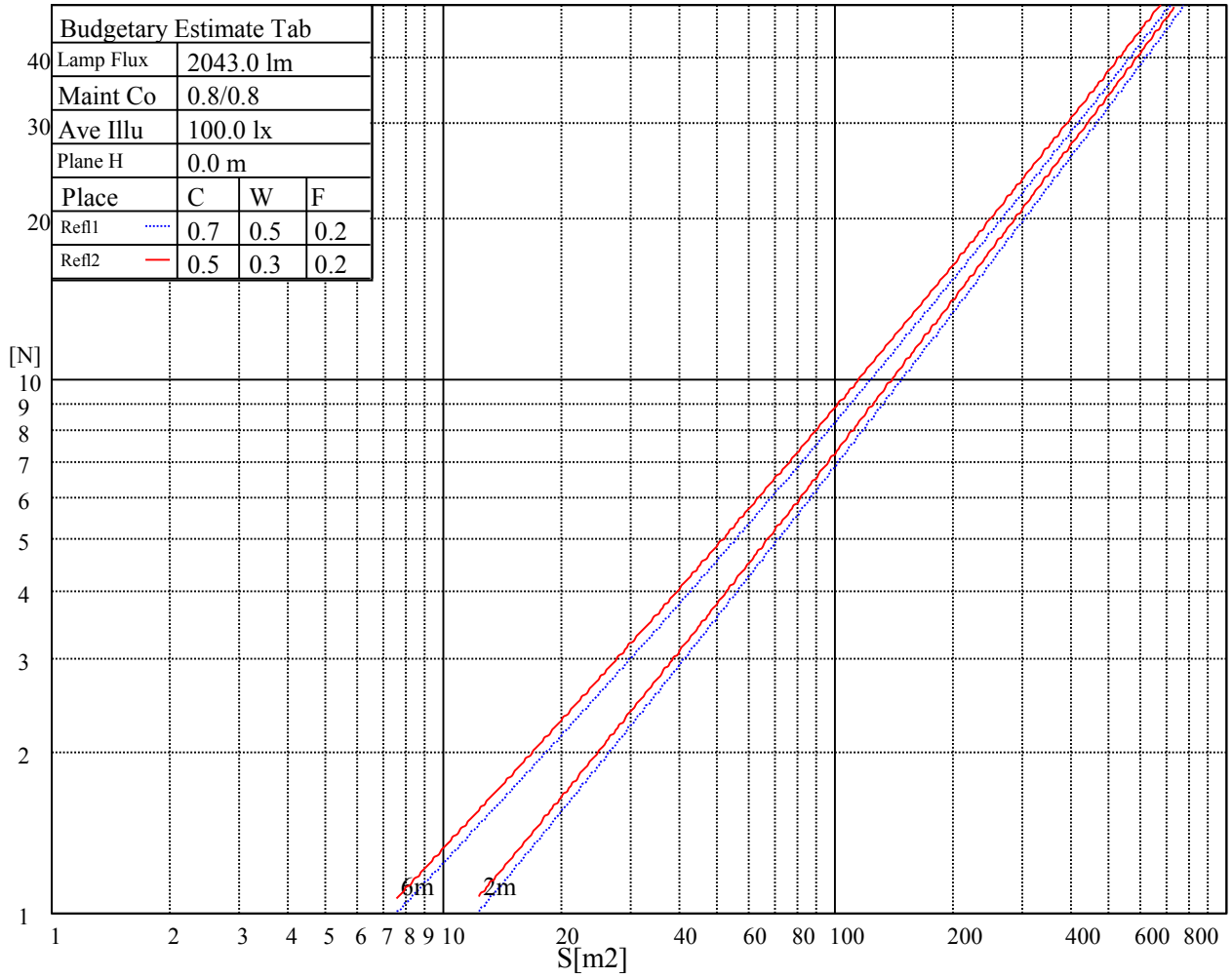
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.2 | D | | | | 2000 | 1000 | 500 | <=300 |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

Luminance Limitting Curve



## Budgetary Estimate Table






Equipment: GMS1980 Date: 2019/4/15 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

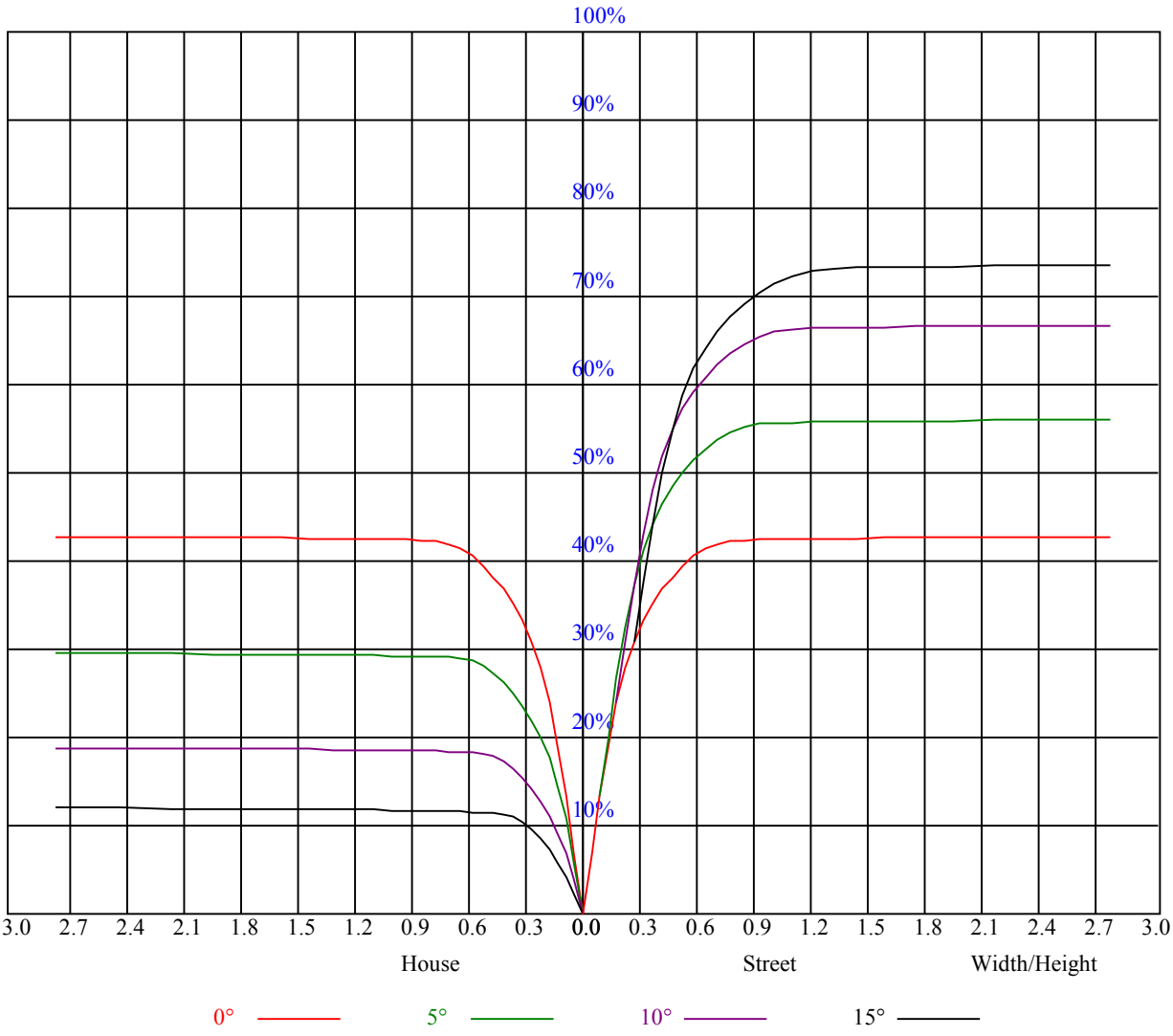
Utilization factor table for indoor luminaire



| 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 | 1.02 | 1.02 | 1.02 | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.86 |
| 1 | 0.96 | 0.95 | 0.93 | 0.95 | 0.93 | 0.91 | 0.91 | 0.90 | 0.89 | 0.88 | 0.87 | 0.86 | 0.85 | 0.84 | 0.83 | 0.82 |
| 2 | 0.91 | 0.88 | 0.86 | 0.90 | 0.87 | 0.85 | 0.87 | 0.85 | 0.83 | 0.84 | 0.83 | 0.81 | 0.82 | 0.81 | 0.80 | 0.78 |
| 3 | 0.87 | 0.83 | 0.80 | 0.85 | 0.82 | 0.80 | 0.83 | 0.81 | 0.78 | 0.81 | 0.79 | 0.77 | 0.79 | 0.78 | 0.76 | 0.75 |
| 4 | 0.82 | 0.79 | 0.76 | 0.82 | 0.78 | 0.75 | 0.80 | 0.77 | 0.74 | 0.78 | 0.76 | 0.74 | 0.77 | 0.74 | 0.73 | 0.72 |
| 5 | 0.79 | 0.75 | 0.72 | 0.78 | 0.74 | 0.72 | 0.77 | 0.73 | 0.71 | 0.75 | 0.72 | 0.70 | 0.74 | 0.72 | 0.70 | 0.69 |
| 6 | 0.76 | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.66 |
| 7 | 0.73 | 0.68 | 0.66 | 0.72 | 0.68 | 0.65 | 0.71 | 0.68 | 0.65 | 0.70 | 0.67 | 0.65 | 0.69 | 0.67 | 0.64 | 0.63 |
| 8 | 0.70 | 0.66 | 0.63 | 0.69 | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.68 | 0.65 | 0.62 | 0.67 | 0.64 | 0.62 | 0.61 |
| 9 | 0.67 | 0.63 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.60 | 0.66 | 0.62 | 0.60 | 0.65 | 0.62 | 0.60 | 0.59 |
| 10 | 0.65 | 0.61 | 0.58 | 0.65 | 0.61 | 0.58 | 0.64 | 0.61 | 0.58 | 0.63 | 0.60 | 0.58 | 0.63 | 0.60 | 0.58 | 0.57 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2019/4/15 | Operator: NT07 |
| Temperature(°C): 10.0 | 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 | 6732.56 | 6701.06 | 6631.31 | 6526.69 | 6361.88 | 6131.25 | 5858.44 | 5466.38 | 5058.00 |
| 45.0 | 6725.81 | 6687.00 | 6607.69 | 6486.75 | 6332.63 | 6097.50 | 5767.31 | 5391.56 | 4956.19 |
| 90.0 | 6724.13 | 6688.69 | 6637.50 | 6537.38 | 6370.31 | 6213.94 | 5985.56 | 5562.56 | 5223.38 |
| 135.0 | 6720.75 | 6736.50 | 6714.00 | 6648.19 | 6560.44 | 6416.44 | 6225.19 | 6004.13 | 5765.63 |
| 180.0 | 6732.56 | 6731.44 | 6700.50 | 6617.25 | 6509.25 | 6362.44 | 6145.88 | 5854.50 | 5528.81 |
| 225.0 | 6725.81 | 6732.56 | 6712.31 | 6653.81 | 6558.19 | 6435.56 | 6270.19 | 6006.94 | 5739.19 |
| 270.0 | 6724.13 | 6715.69 | 6672.94 | 6595.31 | 6491.25 | 6329.81 | 6120.56 | 5886.56 | 5601.38 |
| 315.0 | 6720.75 | 6666.19 | 6585.75 | 6453.56 | 6276.94 | 6066.56 | 5789.81 | 5366.25 | 4961.25 |
| 360.0 | 6732.56 | 6701.06 | 6631.31 | 6526.69 | 6361.88 | 6131.25 | 5858.44 | 5466.38 | 5058.00 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 4536.56 | 3970.69 | 3461.63 | 2984.06 | 2446.88 | 2081.25 | 1780.31 | 1491.75 | 1315.69 |
| 45.0 | 4342.50 | 3817.69 | 3305.81 | 2726.44 | 2322.56 | 1977.19 | 1664.44 | 1428.19 | 1264.50 |
| 90.0 | 4776.75 | 4096.69 | 3661.31 | 3186.56 | 2701.69 | 2270.25 | 1941.19 | 1640.25 | 1429.88 |
| 135.0 | 5294.25 | 4871.81 | 4457.25 | 3823.88 | 3262.50 | 2855.25 | 2337.75 | 1941.75 | 1676.25 |
| 180.0 | 5093.44 | 4583.25 | 4080.38 | 3491.44 | 2989.69 | 2480.06 | 2048.63 | 1740.38 | 1501.88 |
| 225.0 | 5403.94 | 4891.50 | 4417.31 | 3906.00 | 3331.13 | 2801.81 | 2390.63 | 1988.44 | 1693.13 |
| 270.0 | 5157.00 | 4732.31 | 4258.69 | 3706.88 | 3165.75 | 2724.19 | 2286.00 | 1915.31 | 1647.56 |
| 315.0 | 4494.94 | 3866.63 | 3369.94 | 2901.94 | 2429.44 | 2031.75 | 1750.50 | 1526.63 | 1326.94 |
| 360.0 | 4536.56 | 3970.69 | 3461.63 | 2984.06 | 2446.88 | 2081.25 | 1780.31 | 1491.75 | 1315.69 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1177.88 | 1059.19 | 966.38 | 899.44 | 843.19 | 801.00 | 771.19 | 743.06 | 720.00 |
| 45.0 | 1119.38 | 1019.25 | 932.06 | 864.56 | 818.44 | 781.88 | 745.31 | 721.13 | 700.88 |
| 90.0 | 1202.63 | 1116.17 | 1005.98 | 922.22 | 865.63 | 816.53 | 781.88 | 747.68 | 720.11 |
| 135.0 | 1433.81 | 1272.38 | 1139.63 | 1031.63 | 953.44 | 883.13 | 834.19 | 798.19 | 767.81 |
| 180.0 | 1280.25 | 1118.93 | 1044.56 | 945.51 | 883.29 | 835.20 | 793.24 | 760.50 | 734.68 |
| 225.0 | 1443.94 | 1261.69 | 1121.91 | 1025.61 | 939.77 | 880.82 | 834.64 | 789.47 | 760.33 |
| 270.0 | 1415.81 | 1260.00 | 1124.44 | 1018.13 | 944.44 | 887.63 | 831.94 | 796.50 | 764.44 |
| 315.0 | 1118.59 | 1069.14 | 975.43 | 902.59 | 853.20 | 809.49 | 778.56 | 746.89 | 722.08 |
| 360.0 | 1177.88 | 1059.19 | 966.38 | 899.44 | 843.19 | 801.00 | 771.19 | 743.06 | 720.00 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 699.75 | 682.88 | 667.69 | 654.19 | 636.19 | 592.31 | 529.88 | 441.00 | 361.69 |
| 45.0 | 678.94 | 663.19 | 648.00 | 633.38 | 592.88 | 534.94 | 453.38 | 367.31 | 290.81 |
| 90.0 | 700.09 | 682.54 | 661.50 | 646.82 | 624.66 | 558.84 | 488.81 | 411.53 | 322.65 |
| 135.0 | 734.63 | 712.69 | 694.69 | 675.56 | 657.56 | 642.94 | 603.00 | 533.81 | 462.38 |
| 180.0 | 709.54 | 691.03 | 673.20 | 655.71 | 641.87 | 626.46 | 581.96 | 518.18 | 447.64 |
| 225.0 | 733.67 | 712.07 | 690.02 | 673.76 | 658.69 | 642.09 | 612.11 | 555.19 | 473.18 |
| 270.0 | 732.94 | 712.69 | 694.13 | 675.56 | 659.25 | 637.88 | 579.94 | 500.63 | 423.56 |
| 315.0 | 703.91 | 687.26 | 667.58 | 653.96 | 633.04 | 564.98 | 495.23 | 418.73 | 324.23 |
| 360.0 | 699.75 | 682.88 | 667.69 | 654.19 | 636.19 | 592.31 | 529.88 | 441.00 | 361.69 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 288.56 | 194.23 | 107.83 | 51.30 | 25.71 | 21.15 | 18.00 | 15.13 | 13.11 |
| 45.0 | 244.74 | 131.29 | 64.97 | 30.71 | 22.16 | 19.63 | 15.86 | 13.33 | 11.53 |
| 90.0 | 237.32 | 163.97 | 89.61 | 40.05 | 24.47 | 21.32 | 18.11 | 14.85 | 12.99 |
| 135.0 | 366.19 | 286.88 | 192.88 | 115.99 | 63.79 | 29.14 | 22.73 | 19.63 | 16.54 |
| 180.0 | 348.08 | 267.47 | 190.69 | 107.38 | 53.10 | 25.43 | 21.49 | 17.61 | 14.63 |
| 225.0 | 384.36 | 303.98 | 216.68 | 134.78 | 74.59 | 31.78 | 23.01 | 19.58 | 15.75 |
| 270.0 | 333.56 | 292.50 | 162.68 | 85.95 | 41.63 | 25.26 | 21.43 | 18.06 | 15.13 |
| 315.0 | 231.24 | 156.43 | 84.88 | 36.73 | 24.58 | 21.43 | 18.17 | 15.19 | 13.16 |
| 360.0 | 288.56 | 194.23 | 107.83 | 51.30 | 25.71 | 21.15 | 18.00 | 15.13 | 13.11 |

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 | 11.14 | 10.58 | 10.13 | 9.73 | 9.39 | 9.06 | 8.83 | 8.61 | 8.33 |
| 45.0 | 10.80 | 10.29 | 9.90 | 9.62 | 9.28 | 9.00 | 8.78 | 8.49 | 8.33 |
| 90.0 | 11.59 | 11.03 | 10.46 | 10.01 | 9.68 | 9.28 | 9.06 | 8.83 | 8.55 |
| 135.0 | 13.89 | 12.09 | 11.48 | 10.91 | 10.41 | 10.01 | 9.68 | 9.39 | 9.00 |
| 180.0 | 12.71 | 10.97 | 10.46 | 10.07 | 9.62 | 9.28 | 9.00 | 8.72 | 8.49 |
| 225.0 | 13.33 | 12.09 | 10.80 | 10.29 | 9.90 | 9.51 | 9.23 | 8.94 | 8.72 |
| 270.0 | 12.99 | 11.93 | 11.36 | 10.80 | 10.24 | 9.90 | 9.51 | 9.28 | 8.94 |
| 315.0 | 11.93 | 11.36 | 10.74 | 10.29 | 9.96 | 9.51 | 9.28 | 9.00 | 8.66 |
| 360.0 | 11.14 | 10.58 | 10.13 | 9.73 | 9.39 | 9.06 | 8.83 | 8.61 | 8.33 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 8.16 | 7.99 | 7.88 | 7.71 | 7.59 | 7.48 | 7.43 | 7.31 | 7.26 |
| 45.0 | 8.16 | 7.99 | 7.88 | 7.76 | 7.65 | 7.54 | 7.48 | 7.37 | 7.26 |
| 90.0 | 8.38 | 8.16 | 7.99 | 7.88 | 7.71 | 7.65 | 7.54 | 7.43 | 7.31 |
| 135.0 | 8.78 | 8.55 | 8.33 | 8.16 | 8.04 | 7.88 | 7.71 | 7.65 | 7.54 |
| 180.0 | 8.27 | 8.16 | 7.93 | 7.82 | 7.65 | 7.54 | 7.48 | 7.37 | 7.26 |
| 225.0 | 8.49 | 8.27 | 8.10 | 7.93 | 7.76 | 7.71 | 7.59 | 7.48 | 7.37 |
| 270.0 | 8.72 | 8.49 | 8.27 | 8.10 | 7.93 | 7.82 | 7.71 | 7.54 | 7.43 |
| 315.0 | 8.49 | 8.33 | 8.10 | 7.99 | 7.82 | 7.65 | 7.59 | 7.43 | 7.37 |
| 360.0 | 8.16 | 7.99 | 7.88 | 7.71 | 7.59 | 7.48 | 7.43 | 7.31 | 7.26 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 7.14 | 7.09 | 7.03 | 6.98 | 6.92 | 6.86 | 6.81 | 6.81 | 6.75 |
| 45.0 | 7.20 | 7.14 | 7.09 | 7.03 | 6.98 | 6.98 | 6.86 | 6.86 | 6.81 |
| 90.0 | 7.26 | 7.20 | 7.09 | 7.09 | 7.03 | 6.98 | 6.92 | 6.86 | 6.81 |
| 135.0 | 7.43 | 7.31 | 7.26 | 7.14 | 7.14 | 7.09 | 6.98 | 6.98 | 6.86 |
| 180.0 | 7.20 | 7.14 | 7.09 | 7.03 | 6.98 | 6.92 | 6.86 | 6.81 | 6.75 |
| 225.0 | 7.31 | 7.26 | 7.14 | 7.09 | 7.03 | 6.98 | 6.98 | 6.92 | 6.92 |
| 270.0 | 7.37 | 7.26 | 7.26 | 7.20 | 7.09 | 7.03 | 6.98 | 6.92 | 6.92 |
| 315.0 | 7.26 | 7.20 | 7.14 | 7.09 | 7.03 | 6.98 | 6.86 | 6.86 | 6.75 |
| 360.0 | 7.14 | 7.09 | 7.03 | 6.98 | 6.92 | 6.86 | 6.81 | 6.81 | 6.75 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.58 | 6.58 | 6.58 | 6.58 |
| 45.0 | 6.81 | 6.75 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.64 | 6.64 |
| 90.0 | 6.75 | 6.75 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.64 | 6.64 |
| 135.0 | 6.81 | 6.81 | 6.75 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.64 |
| 180.0 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.58 | 6.58 | 6.58 | 6.58 |
| 225.0 | 6.81 | 6.81 | 6.75 | 6.69 | 6.69 | 6.69 | 6.69 | 6.64 | 6.64 |
| 270.0 | 6.81 | 6.81 | 6.81 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.64 |
| 315.0 | 6.81 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.64 | 6.64 | 6.58 |
| 360.0 | 6.75 | 6.69 | 6.69 | 6.64 | 6.64 | 6.58 | 6.58 | 6.58 | 6.58 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 6.58 | 6.53 | 6.53 | 6.47 | 6.53 | 6.53 | 6.47 | 6.47 | 6.47 |
| 45.0 | 6.64 | 6.58 | 6.58 | 6.58 | 6.58 | 6.58 | 6.58 | 6.53 | 6.53 |
| 90.0 | 6.58 | 6.58 | 6.53 | 6.58 | 6.53 | 6.53 | 6.53 | 6.53 | 6.53 |
| 135.0 | 6.58 | 6.58 | 6.58 | 6.58 | 6.53 | 6.53 | 6.53 | 6.53 | 6.53 |
| 180.0 | 6.53 | 6.53 | 6.53 | 6.53 | 6.47 | 6.47 | 6.47 | 6.47 | 6.47 |
| 225.0 | 6.64 | 6.58 | 6.64 | 6.58 | 6.58 | 6.58 | 6.53 | 6.58 | 6.53 |
| 270.0 | 6.69 | 6.58 | 6.58 | 6.58 | 6.58 | 6.58 | 6.53 | 6.58 | 6.53 |
| 315.0 | 6.58 | 6.58 | 6.53 | 6.53 | 6.53 | 6.53 | 6.47 | 6.47 | 6.47 |
| 360.0 | 6.58 | 6.53 | 6.53 | 6.47 | 6.53 | 6.53 | 6.47 | 6.47 | 6.47 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 6.47 |
| 45.0 | 6.53 |
| 90.0 | 6.53 |
| 135.0 | 6.47 |
| 180.0 | 6.47 |
| 225.0 | 6.58 |
| 270.0 | 6.53 |
| 315.0 | 6.53 |
| 360.0 | 6.47 |