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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: NA01D020045BW
Luminaire:
Report No: 200406-B004
Test No: 200406-C004
LampCAT: CREE 3030-HE
Lamp flux(lm): 134.6
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 3.4400
Current(A): 0.2990
Power (W): 1.0290
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

## Photometric Results

Lumens(lm): 129.63
Efficiency(%): 96.29%
Lumens(lm)/Power(W): 125.98
Central intensity(cd): 138.403
Maximum intensity(cd): 138.403
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=50.1
[C90/270]Total=50.1
Field angle(10%Imax): [C0/180]Total=98.0
[C90/270]Total=98.0
Maximum s/h(1/2): C0_180=0.77 C90_270=0.77
Maximum s/h(1/4): C0_180=0.81 C90_270=0.81
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 96.29%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 93.305%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2020/4/6
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 138.403 | 0.000 | 0 | .000% | .000% |
| 1.0 | 138.396 | 0.132 | 0.132 | .098% | .102% |
| 2.0 | 138.094 | 0.397 | 0.529 | .295% | .408% |
| 3.0 | 137.299 | 0.659 | 1.188 | .489% | .916% |
| 4.0 | 136.188 | 0.915 | 2.103 | .680% | 1.623% |
| 5.0 | 134.585 | 1.165 | 3.268 | .865% | 2.521% |
| 6.0 | 132.771 | 1.405 | 4.673 | 1.044% | 3.605% |
| 7.0 | 130.838 | 1.636 | 6.309 | 1.215% | 4.867% |
| 8.0 | 128.904 | 1.859 | 8.168 | 1.381% | 6.301% |
| 9.0 | 126.570 | 2.070 | 10.239 | 1.538% | 7.899% |
| 10.0 | 123.841 | 2.266 | 12.505 | 1.683% | 9.647% |
| 11.0 | 120.980 | 2.446 | 14.951 | 1.817% | 11.534% |
| 12.0 | 118.013 | 2.613 | 17.564 | 1.941% | 13.549% |
| 13.0 | 114.694 | 2.762 | 20.325 | 2.051% | 15.680% |
| 14.0 | 111.213 | 2.892 | 23.217 | 2.148% | 17.910% |
| 15.0 | 107.866 | 3.008 | 26.225 | 2.234% | 20.231% |
| 16.0 | 104.280 | 3.109 | 29.333 | 2.309% | 22.629% |
| 17.0 | 100.399 | 3.187 | 32.521 | 2.368% | 25.088% |
| 18.0 | 96.398 | 3.245 | 35.765 | 2.410% | 27.591% |
| 19.0 | 92.658 | 3.289 | 39.055 | 2.443% | 30.128% |
| 20.0 | 88.734 | 3.320 | 42.375 | 2.466% | 32.689% |
| 21.0 | 84.713 | 3.331 | 45.705 | 2.474% | 35.259% |
| 22.0 | 80.740 | 3.325 | 49.03 | 2.470% | 37.823% |
| 23.0 | 76.922 | 3.308 | 52.338 | 2.457% | 40.376% |
| 24.0 | 73.097 | 3.280 | 55.618 | 2.436% | 42.906% |
| 25.0 | 69.370 | 3.239 | 58.857 | 2.406% | 45.405% |
| 26.0 | 65.742 | 3.189 | 62.047 | 2.369% | 47.865% |
| 27.0 | 62.114 | 3.128 | 65.175 | 2.324% | 50.278% |
| 28.0 | 58.627 | 3.057 | 68.232 | 2.271% | 52.636% |
| 29.0 | 55.343 | 2.982 | 71.213 | 2.215% | 54.937% |
| 30.0 | 52.235 | 2.905 | 74.118 | 2.158% | 57.177% |
| 31.0 | 49.226 | 2.824 | 76.942 | 2.097% | 59.356% |
| 32.0 | 46.252 | 2.735 | 79.677 | 2.032% | 61.466% |
| 33.0 | 43.650 | 2.649 | 82.325 | 1.967% | 63.509% |
| 34.0 | 40.964 | 2.561 | 84.886 | 1.902% | 65.484% |
| 35.0 | 38.440 | 2.466 | 87.352 | 1.832% | 67.387% |
| 36.0 | 36.049 | 2.372 | 89.724 | 1.762% | 69.216% |
| 37.0 | 33.848 | 2.280 | 92.003 | 1.693% | 70.975% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 31.634 | 2.186 | 94.189 | 1.624% | 72.661% |
| 39.0 | 29.503 | 2.087 | 96.276 | 1.550% | 74.271% |
| 40.0 | 27.534 | 1.989 | 98.265 | 1.478% | 75.805% |
| 41.0 | 25.643 | 1.894 | 100.159 | 1.407% | 77.266% |
| 42.0 | 23.829 | 1.797 | 101.956 | 1.335% | 78.653% |
| 43.0 | 22.064 | 1.700 | 103.656 | 1.263% | 79.964% |
| 44.0 | 20.510 | 1.607 | 105.263 | 1.194% | 81.204% |
| 45.0 | 18.977 | 1.518 | 106.781 | 1.127% | 82.375% |
| 46.0 | 17.543 | 1.428 | 108.209 | 1.061% | 83.476% |
| 47.0 | 16.193 | 1.342 | 109.551 | .997% | 84.511% |
| 48.0 | 15.019 | 1.262 | 110.812 | .937% | 85.485% |
| 49.0 | 13.859 | 1.186 | 111.998 | .881% | 86.400% |
| 50.0 | 12.748 | 1.109 | 113.108 | .824% | 87.255% |
| 51.0 | 11.784 | 1.038 | 114.145 | .771% | 88.056% |
| 52.0 | 10.898 | 0.973 | 115.119 | .723% | 88.807% |
| 53.0 | 10.020 | 0.910 | 116.029 | .676% | 89.509% |
| 54.0 | 9.232 | 0.849 | 116.877 | .630% | 90.163% |
| 55.0 | 8.571 | 0.795 | 117.672 | .590% | 90.777% |
| 56.0 | 7.917 | 0.745 | 118.417 | .553% | 91.351% |
| 57.0 | 7.320 | 0.697 | 119.114 | .517% | 91.889% |
| 58.0 | 6.778 | 0.652 | 119.766 | .484% | 92.392% |
| 59.0 | 6.300 | 0.611 | 120.377 | .454% | 92.863% |
| 60.0 | 5.822 | 0.573 | 120.95 | .425% | 93.305% |
| 61.0 | 5.407 | 0.536 | 121.486 | .398% | 93.718% |
| 62.0 | 5.063 | 0.504 | 121.99 | .375% | 94.108% |
| 63.0 | 4.732 | 0.476 | 122.466 | .354% | 94.475% |
| 64.0 | 4.402 | 0.448 | 122.915 | .333% | 94.821% |
| 65.0 | 4.099 | 0.421 | 123.335 | .313% | 95.145% |
| 66.0 | 3.867 | 0.397 | 123.733 | .295% | 95.452% |
| 67.0 | 3.621 | 0.377 | 124.109 | .280% | 95.742% |
| 68.0 | 3.424 | 0.357 | 124.466 | .265% | 96.018% |
| 69.0 | 3.255 | 0.341 | 124.807 | .253% | 96.281% |
| 70.0 | 3.108 | 0.327 | 125.134 | .243% | 96.533% |
| 71.0 | 2.988 | 0.315 | 125.449 | .234% | 96.776% |
| 72.0 | 2.876 | 0.305 | 125.754 | .226% | 97.011% |
| 73.0 | 2.784 | 0.296 | 126.05 | .220% | 97.239% |
| 74.0 | 2.679 | 0.287 | 126.337 | .213% | 97.461% |
| 75.0 | 2.595 | 0.279 | 126.616 | .207% | 97.676% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 2.496 | 0.270 | 126.886 | .201% | 97.884% |
| 77.0 | 2.461 | 0.264 | 127.15 | .196% | 98.088% |
| 78.0 | 2.412 | 0.261 | 127.411 | .194% | 98.290% |
| 79.0 | 2.363 | 0.257 | 127.667 | .191% | 98.487% |
| 80.0 | 2.306 | 0.252 | 127.919 | .187% | 98.682% |
| 81.0 | 2.264 | 0.247 | 128.166 | .184% | 98.872% |
| 82.0 | 2.215 | 0.243 | 128.409 | .180% | 99.060% |
| 83.0 | 2.130 | 0.236 | 128.645 | .175% | 99.242% |
| 84.0 | 2.011 | 0.226 | 128.871 | .168% | 99.416% |
| 85.0 | 1.828 | 0.210 | 129.081 | .156% | 99.578% |
| 86.0 | 1.491 | 0.181 | 129.262 | .135% | 99.717% |
| 87.0 | 1.027 | 0.138 | 129.4 | .102% | 99.824% |
| 88.0 | 0.745 | 0.097 | 129.497 | .072% | 99.899% |
| 89.0 | 0.584 | 0.073 | 129.57 | .054% | 99.955% |
| 90.0 | 0.485 | 0.059 | 129.628 | .044% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

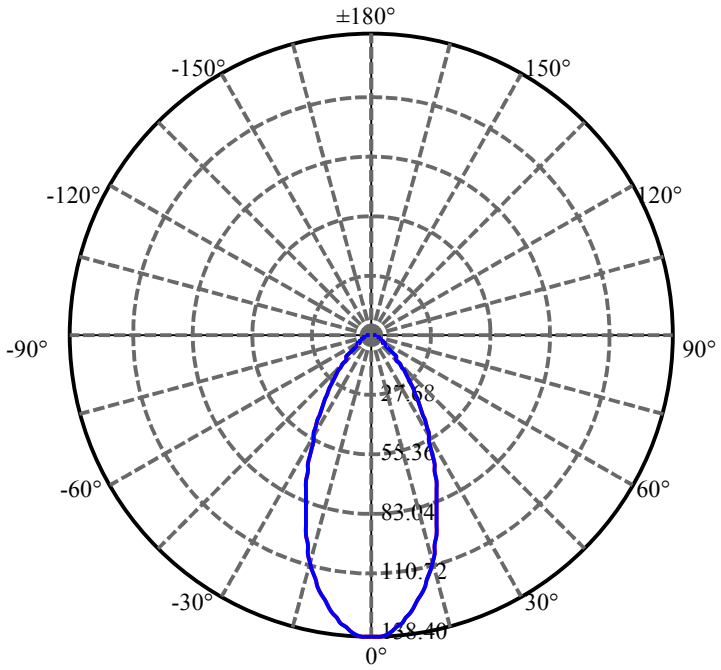
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 74.12 | 55.06% | 57.18% |
| 0-40 | 98.27 | 72.99% | 75.81% |
| 0-60 | 120.95 | 89.85% | 93.31% |
| 0-90 | 129.57 | 96.25% | 99.95% |
| 0-120 | 129.57 | 96.25% | 99.95% |
| 0-180 | 129.63 | 96.29% | 100.00% |
| 60-90 | 9.19 | 6.83% | 7.09% |
| 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% |
| 0-43.03 | 103.70 | 77.03% | 80.00% |

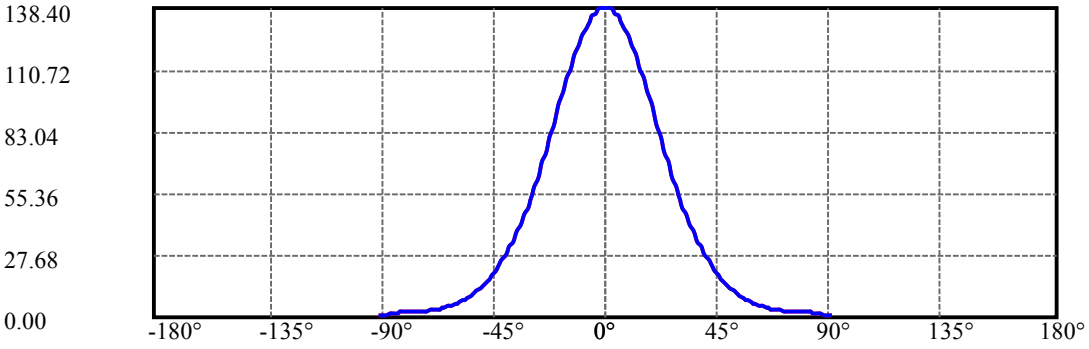
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 12.51 |
| 10-20 | 29.87 |
| 20-30 | 31.74 |
| 30-40 | 24.15 |
| 40-50 | 14.84 |
| 50-60 | 7.84 |
| 60-70 | 4.18 |
| 70-80 | 2.79 |
| 80-90 | 1.65 |
| 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/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:49.0 Right:49.0
:C90/270Left:49.0 Right:49.0

Beam Angle(50%Imax):C0/180Left:25.0 Right:25.0
:C90/270Left:25.0 Right:25.0

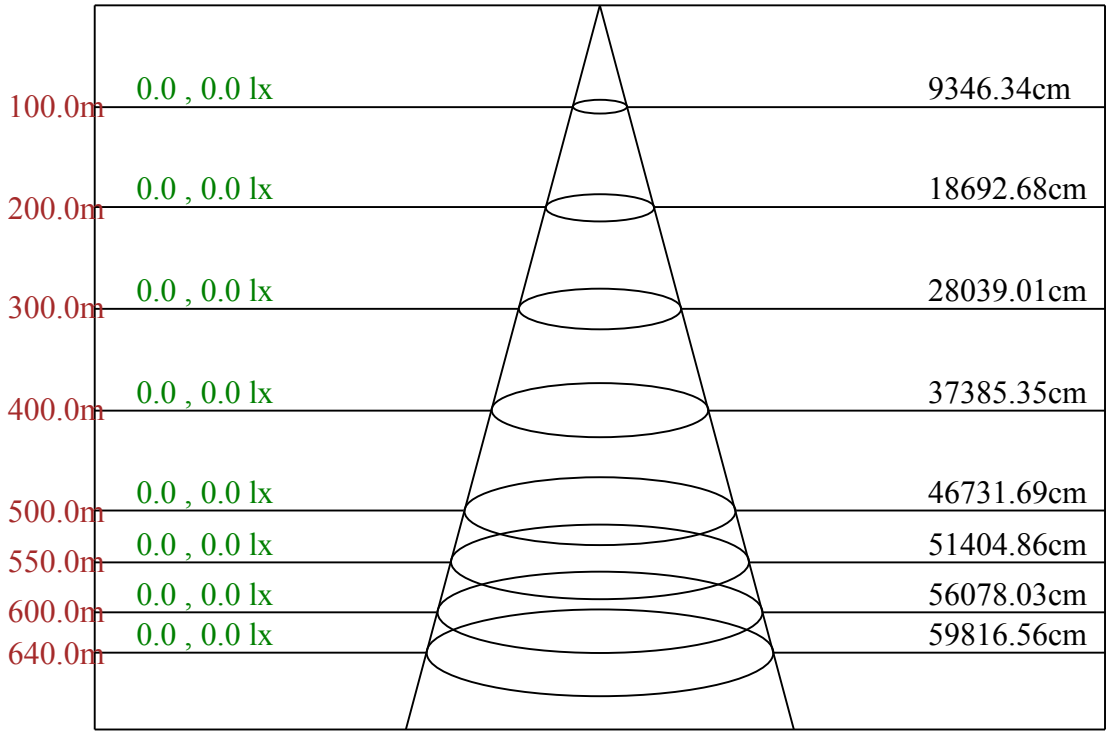
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Lux distance Curve



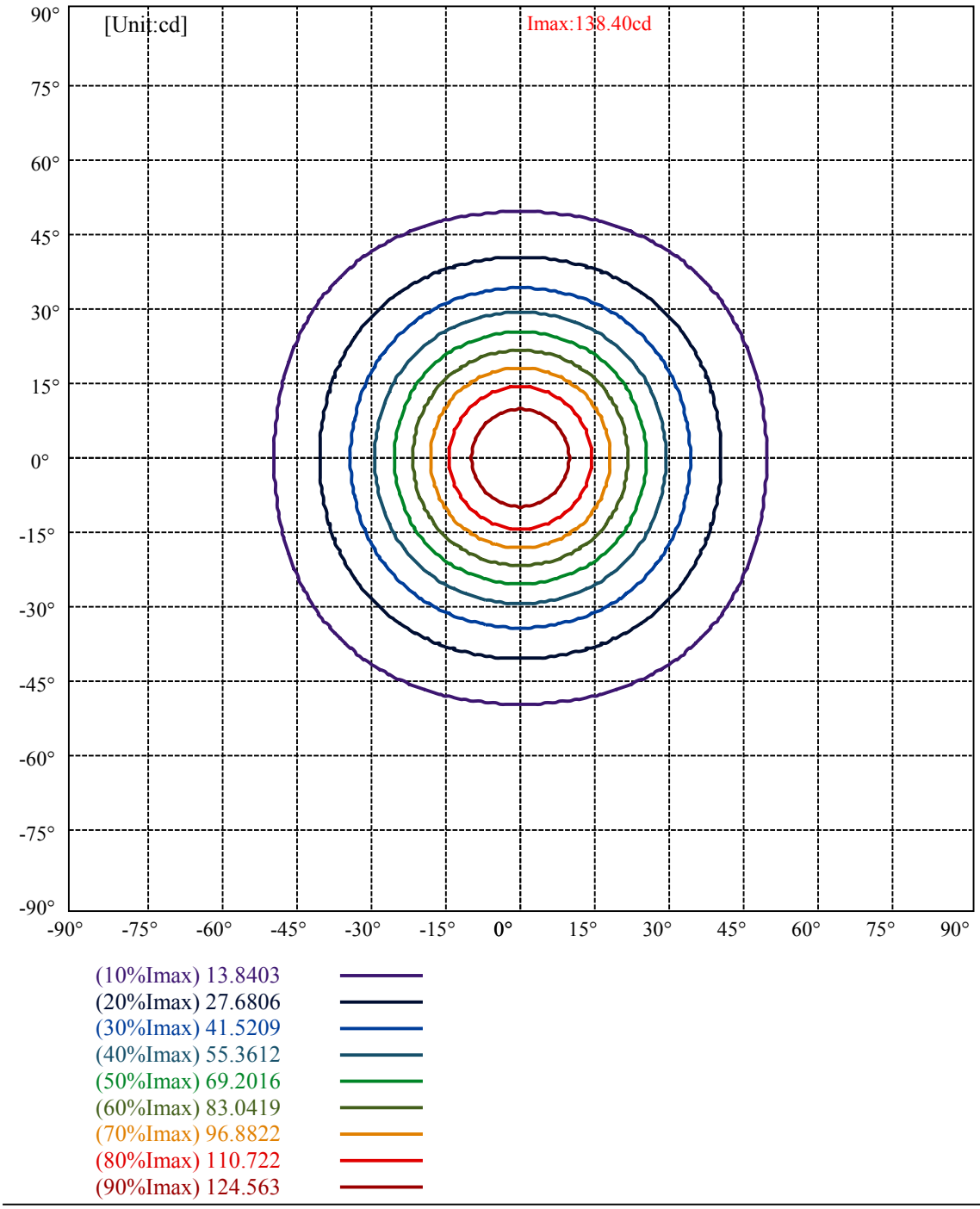



Max , Ave

Beam angle of C0 plane 50.09

ISO-Intensity(V-H)





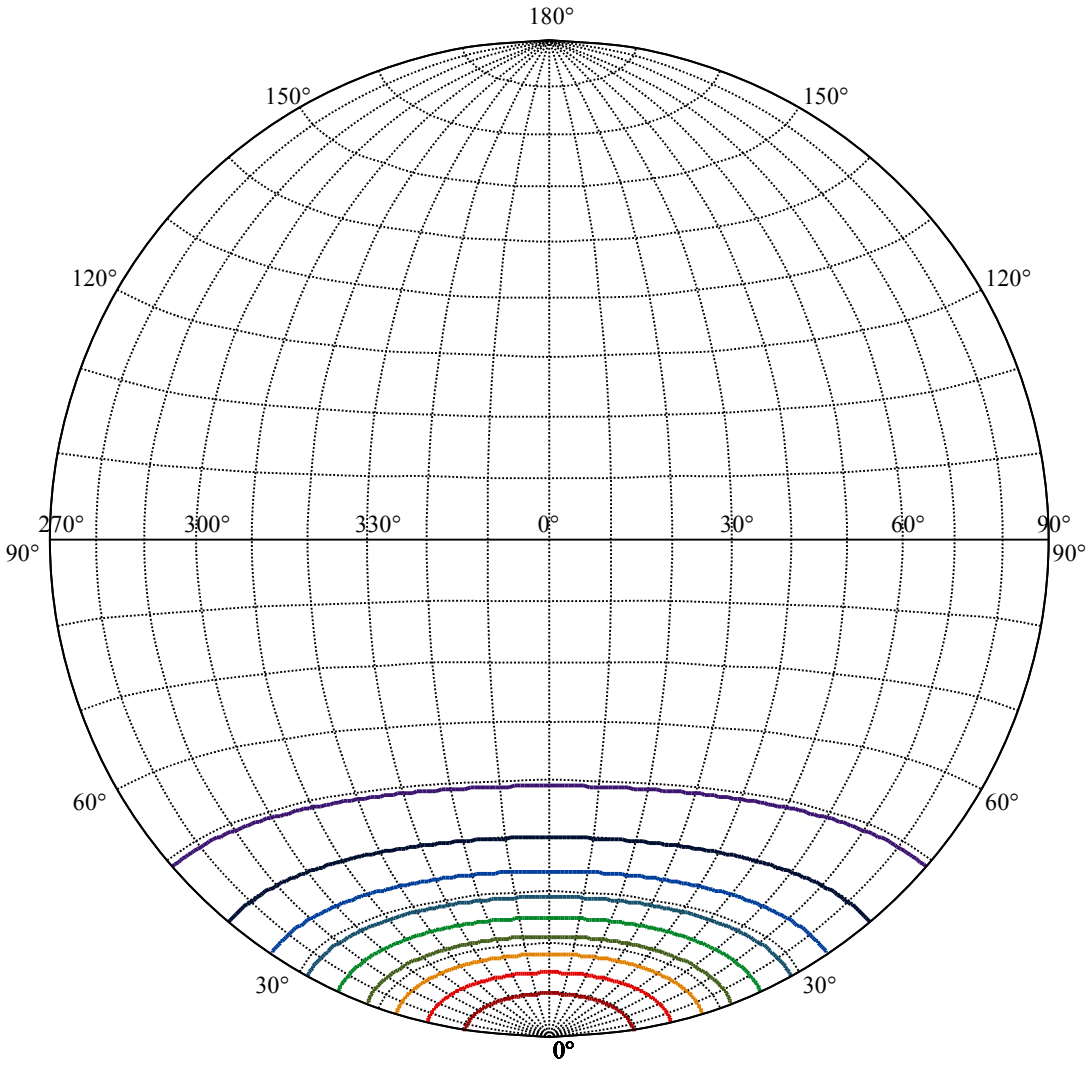

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web






House [Unit:cd] Road

Imax:138.40

(10%Imax) 13.8403
(20%Imax) 27.6806
(30%Imax) 41.5209
(40%Imax) 55.3612
(50%Imax) 69.2016
(60%Imax) 83.0419
(70%Imax) 96.8822
(80%Imax) 110.722
(90%Imax) 124.563

Equipment: GMS1980 Date: 2020/4/6 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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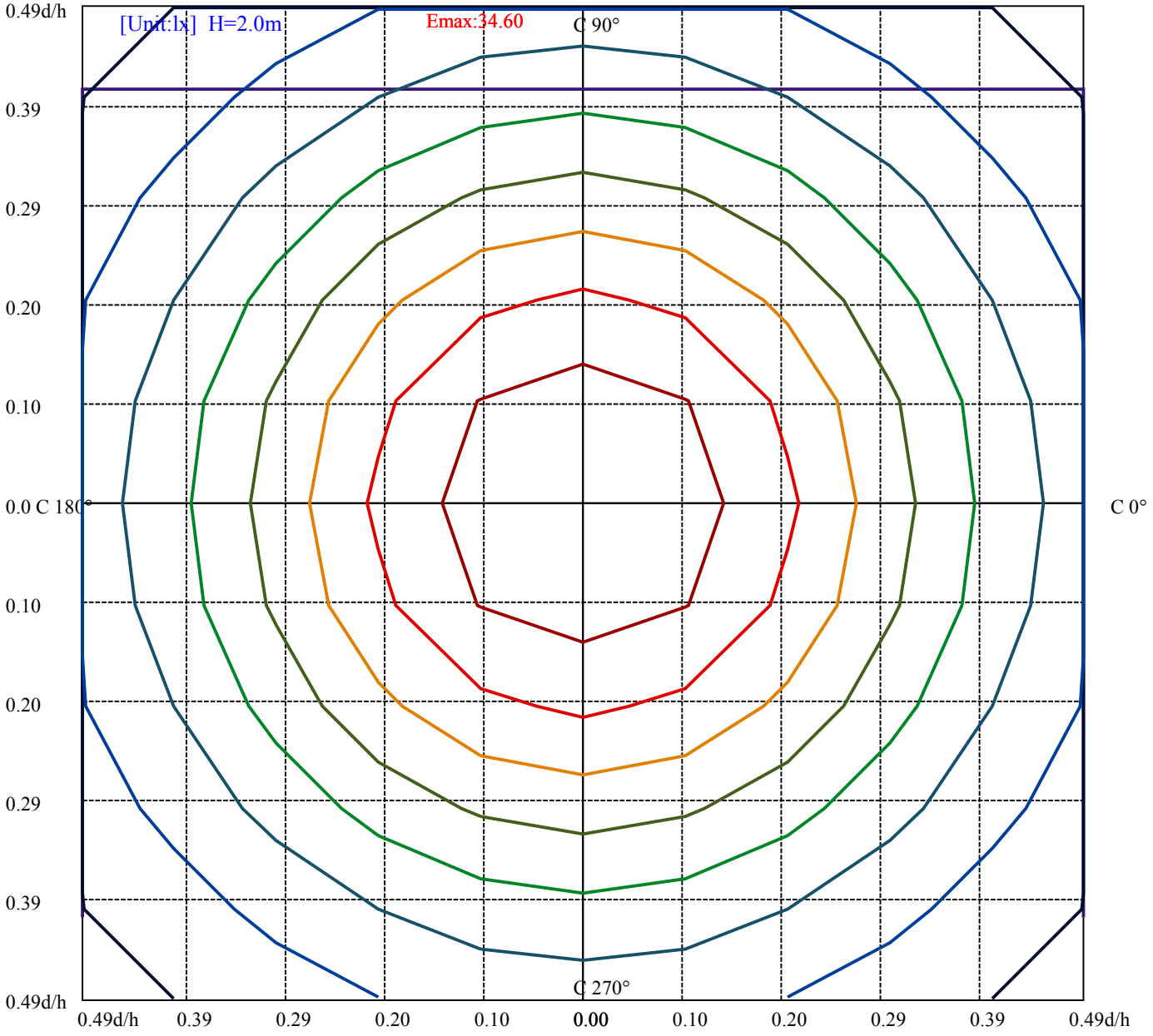
ISO illuminance diagram





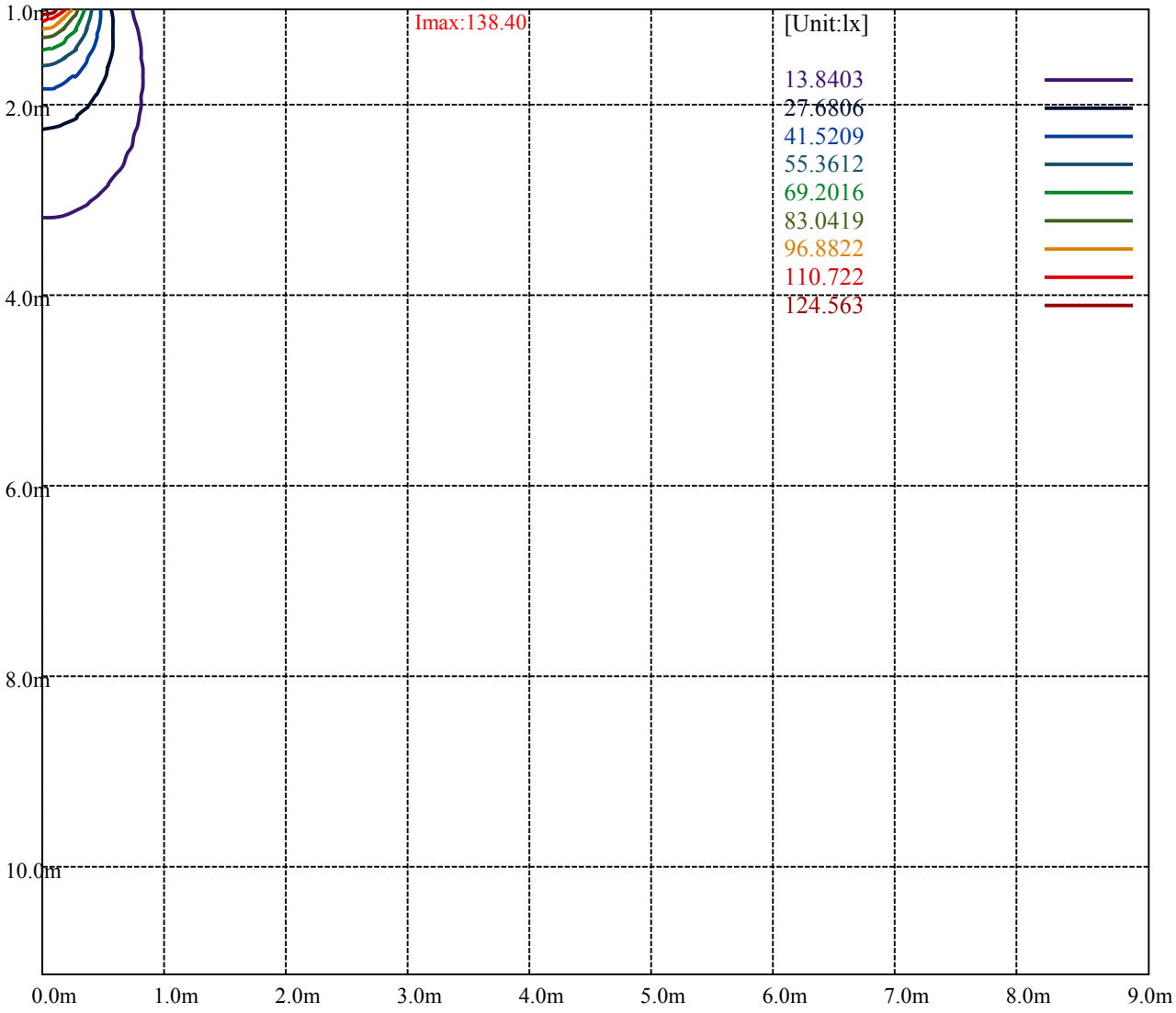

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata NA01D020045BW

## Luminance Limitting Curve(no luminous side)



Luminance Table

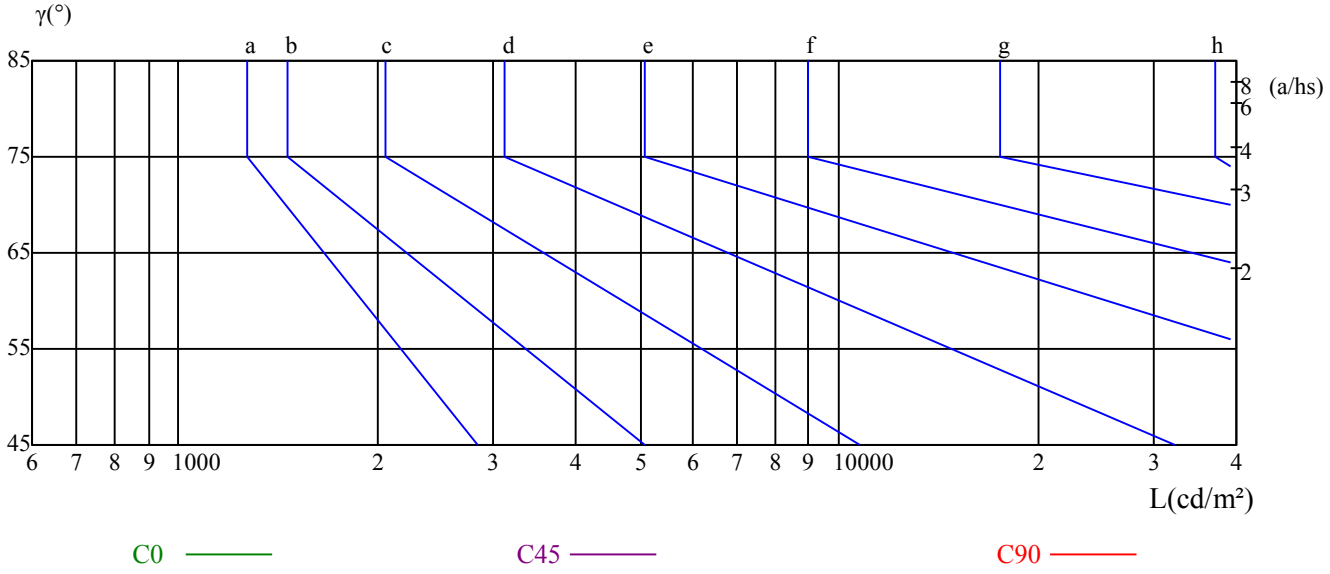
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| 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

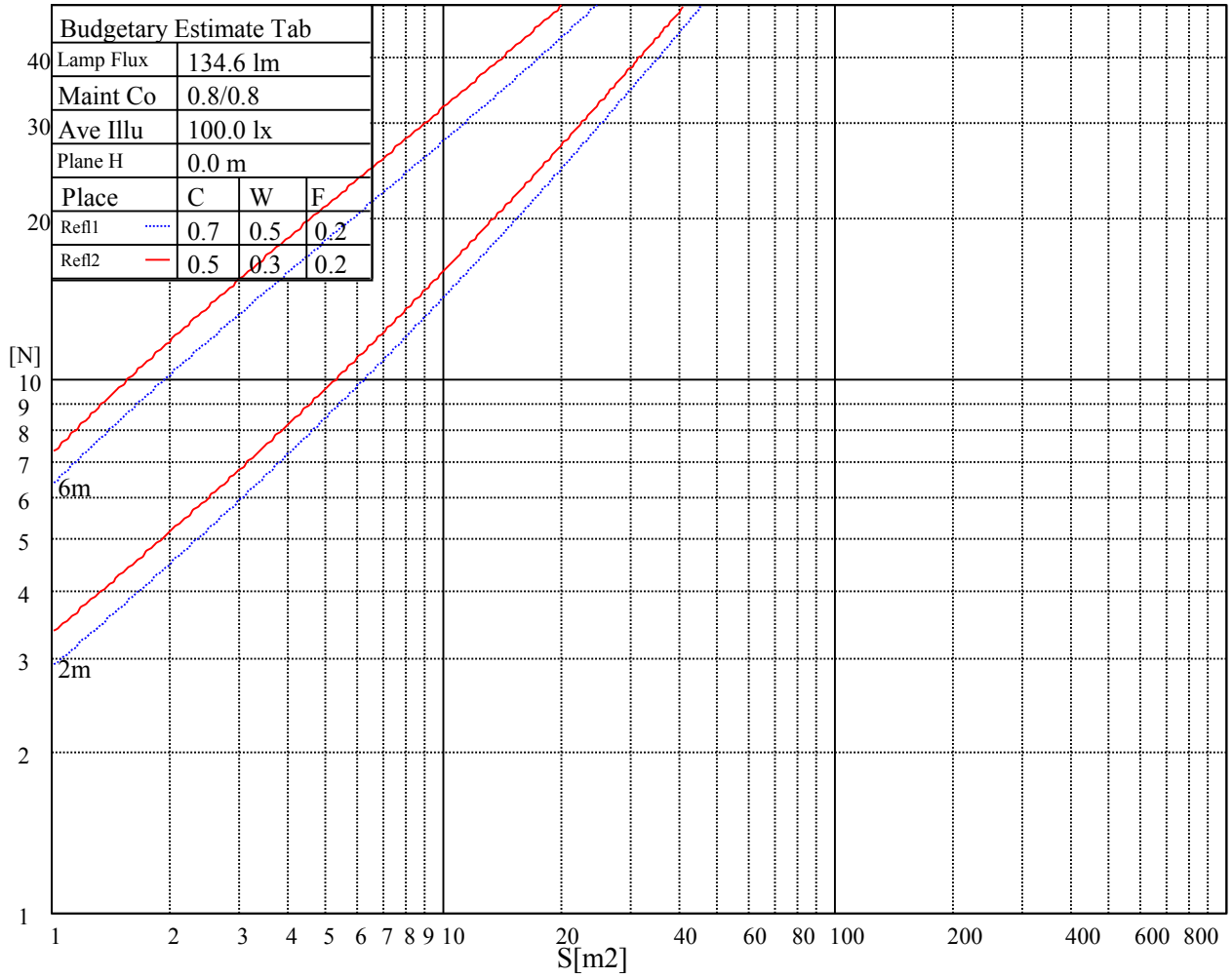
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.2 | D | | | | 2000 | 1000 | 500 | <=300 |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

Luminance Limitting Curve



## Budgetary Estimate Table






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2020/4/6 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 65.0% | Distance(m): 7.50 |

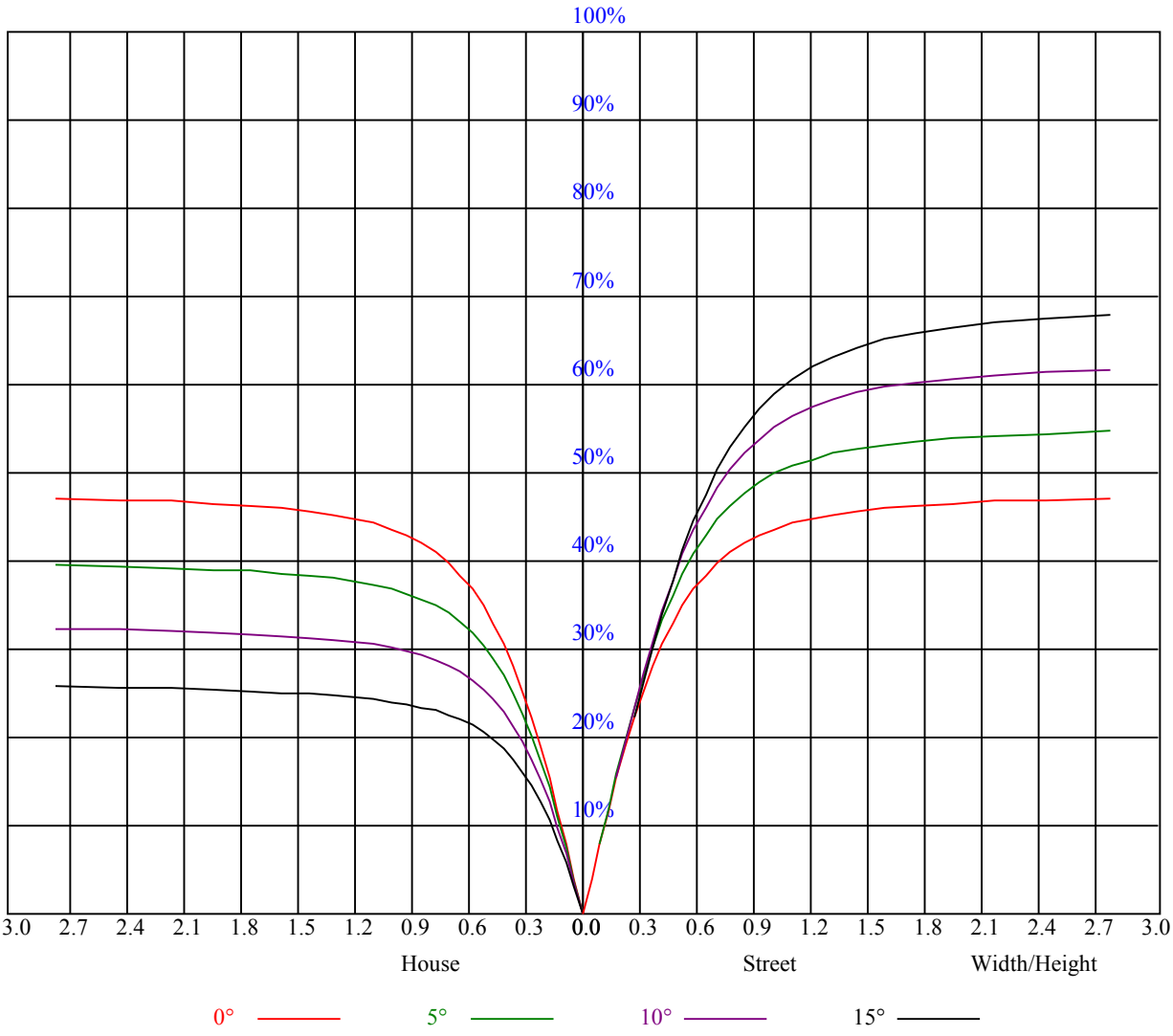
Utilization factor table for indoor luminaire



| 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 | 1.15 | 1.15 | 1.15 | 1.12 | 1.12 | 1.12 | 1.07 | 1.07 | 1.07 | 1.02 | 1.02 | 1.02 | 0.98 | 0.98 | 0.98 | 0.96 |
| 1 | 1.04 | 1.01 | 0.99 | 1.02 | 1.00 | 0.97 | 0.98 | 0.96 | 0.94 | 0.95 | 0.93 | 0.91 | 0.91 | 0.90 | 0.89 | 0.87 |
| 2 | 0.95 | 0.91 | 0.87 | 0.94 | 0.89 | 0.86 | 0.90 | 0.87 | 0.84 | 0.87 | 0.84 | 0.82 | 0.85 | 0.82 | 0.80 | 0.78 |
| 3 | 0.88 | 0.82 | 0.77 | 0.86 | 0.81 | 0.77 | 0.83 | 0.79 | 0.75 | 0.81 | 0.77 | 0.74 | 0.79 | 0.76 | 0.73 | 0.71 |
| 4 | 0.81 | 0.74 | 0.70 | 0.80 | 0.74 | 0.69 | 0.77 | 0.72 | 0.68 | 0.75 | 0.71 | 0.67 | 0.73 | 0.70 | 0.67 | 0.65 |
| 5 | 0.75 | 0.68 | 0.63 | 0.74 | 0.68 | 0.63 | 0.72 | 0.67 | 0.62 | 0.70 | 0.66 | 0.62 | 0.69 | 0.65 | 0.61 | 0.60 |
| 6 | 0.69 | 0.63 | 0.58 | 0.69 | 0.62 | 0.58 | 0.67 | 0.62 | 0.57 | 0.66 | 0.61 | 0.57 | 0.64 | 0.60 | 0.57 | 0.55 |
| 7 | 0.65 | 0.58 | 0.54 | 0.64 | 0.58 | 0.53 | 0.63 | 0.57 | 0.53 | 0.62 | 0.57 | 0.53 | 0.60 | 0.56 | 0.53 | 0.51 |
| 8 | 0.61 | 0.54 | 0.50 | 0.60 | 0.54 | 0.50 | 0.59 | 0.53 | 0.49 | 0.58 | 0.53 | 0.49 | 0.57 | 0.52 | 0.49 | 0.47 |
| 9 | 0.57 | 0.51 | 0.46 | 0.57 | 0.50 | 0.46 | 0.56 | 0.50 | 0.46 | 0.55 | 0.50 | 0.46 | 0.54 | 0.49 | 0.46 | 0.44 |
| 10 | 0.54 | 0.48 | 0.43 | 0.53 | 0.47 | 0.43 | 0.52 | 0.47 | 0.43 | 0.52 | 0.47 | 0.43 | 0.51 | 0.46 | 0.43 | 0.42 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2020/4/6 | 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 | 139.50 | 139.61 | 139.33 | 138.94 | 137.98 | 136.52 | 134.38 | 132.02 | 129.94 |
| 45.0 | 138.15 | 138.43 | 138.54 | 138.43 | 137.98 | 136.86 | 135.62 | 133.82 | 132.24 |
| 90.0 | 137.93 | 138.77 | 139.22 | 139.44 | 138.99 | 138.15 | 137.19 | 135.79 | 134.61 |
| 135.0 | 138.04 | 138.43 | 139.05 | 138.71 | 138.15 | 137.03 | 135.90 | 134.83 | 133.26 |
| 180.0 | 139.50 | 139.44 | 138.83 | 137.59 | 136.07 | 134.33 | 132.02 | 130.11 | 128.19 |
| 225.0 | 138.15 | 137.70 | 136.97 | 135.17 | 133.76 | 131.85 | 129.54 | 127.29 | 125.10 |
| 270.0 | 137.93 | 137.31 | 136.35 | 134.78 | 132.98 | 131.06 | 128.53 | 126.23 | 123.98 |
| 315.0 | 138.04 | 137.48 | 136.46 | 135.34 | 133.59 | 130.89 | 128.98 | 126.62 | 123.92 |
| 360.0 | 139.50 | 139.61 | 139.33 | 138.94 | 137.98 | 136.52 | 134.38 | 132.02 | 129.94 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 127.63 | 124.99 | 122.40 | 119.42 | 115.14 | 111.77 | 108.62 | 104.91 | 100.97 |
| 45.0 | 130.84 | 128.48 | 126.06 | 123.36 | 119.64 | 116.72 | 113.74 | 109.74 | 106.48 |
| 90.0 | 132.92 | 129.94 | 127.97 | 125.61 | 123.08 | 119.48 | 116.16 | 112.73 | 108.11 |
| 135.0 | 131.18 | 128.81 | 126.11 | 123.69 | 120.66 | 117.39 | 114.36 | 110.70 | 106.65 |
| 180.0 | 125.21 | 122.57 | 119.48 | 115.54 | 112.50 | 109.35 | 105.36 | 102.49 | 98.72 |
| 225.0 | 122.40 | 119.76 | 116.44 | 113.06 | 109.58 | 105.64 | 101.81 | 98.33 | 94.61 |
| 270.0 | 120.60 | 117.62 | 114.69 | 111.43 | 108.00 | 104.91 | 101.19 | 97.20 | 93.60 |
| 315.0 | 121.78 | 118.58 | 114.69 | 111.99 | 108.96 | 104.46 | 101.70 | 98.16 | 94.05 |
| 360.0 | 127.63 | 124.99 | 122.40 | 119.42 | 115.14 | 111.77 | 108.62 | 104.91 | 100.97 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 97.37 | 93.21 | 89.04 | 85.33 | 81.39 | 77.96 | 74.14 | 70.09 | 66.66 |
| 45.0 | 102.71 | 97.88 | 94.39 | 90.62 | 86.29 | 82.07 | 78.47 | 74.42 | 70.71 |
| 90.0 | 104.40 | 100.69 | 96.47 | 92.14 | 87.53 | 83.59 | 79.76 | 75.66 | 71.33 |
| 135.0 | 102.99 | 99.45 | 95.06 | 91.01 | 87.02 | 82.74 | 78.69 | 75.09 | 71.04 |
| 180.0 | 94.11 | 90.90 | 87.19 | 82.29 | 79.14 | 75.71 | 71.04 | 68.12 | 64.97 |
| 225.0 | 90.17 | 86.63 | 83.03 | 79.37 | 74.76 | 71.33 | 67.89 | 63.79 | 60.58 |
| 270.0 | 89.44 | 85.95 | 82.07 | 78.19 | 74.70 | 70.82 | 66.99 | 63.73 | 60.30 |
| 315.0 | 90.00 | 86.57 | 82.63 | 78.75 | 75.09 | 71.16 | 67.78 | 64.07 | 60.36 |
| 360.0 | 97.37 | 93.21 | 89.04 | 85.33 | 81.39 | 77.96 | 74.14 | 70.09 | 66.66 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 63.17 | 59.18 | 56.19 | 53.21 | 49.73 | 47.03 | 44.44 | 41.68 | 38.98 |
| 45.0 | 66.77 | 62.94 | 59.68 | 56.08 | 52.71 | 49.61 | 46.97 | 43.65 | 41.12 |
| 90.0 | 67.73 | 63.73 | 59.91 | 56.76 | 53.83 | 50.29 | 47.59 | 44.94 | 42.19 |
| 135.0 | 67.16 | 63.84 | 60.36 | 57.04 | 53.94 | 50.74 | 48.09 | 45.28 | 42.53 |
| 180.0 | 61.37 | 57.88 | 55.01 | 51.75 | 48.94 | 46.07 | 43.26 | 40.89 | 38.36 |
| 225.0 | 57.26 | 53.94 | 50.63 | 47.93 | 45.00 | 42.19 | 39.83 | 37.13 | 34.88 |
| 270.0 | 56.25 | 53.27 | 50.40 | 47.31 | 44.44 | 42.08 | 39.43 | 36.90 | 34.76 |
| 315.0 | 57.21 | 54.23 | 50.57 | 47.81 | 45.23 | 42.02 | 39.60 | 37.24 | 34.71 |
| 360.0 | 63.17 | 59.18 | 56.19 | 53.21 | 49.73 | 47.03 | 44.44 | 41.68 | 38.98 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 36.73 | 34.31 | 32.29 | 30.04 | 27.90 | 26.16 | 24.24 | 22.44 | 20.93 |
| 45.0 | 38.81 | 36.28 | 33.81 | 31.78 | 29.53 | 27.39 | 25.48 | 23.51 | 21.94 |
| 90.0 | 39.49 | 37.24 | 34.82 | 32.74 | 30.49 | 28.24 | 26.38 | 24.36 | 22.56 |
| 135.0 | 40.16 | 37.97 | 35.10 | 33.08 | 30.99 | 28.80 | 26.72 | 24.86 | 23.01 |
| 180.0 | 35.94 | 33.86 | 31.84 | 29.48 | 27.62 | 25.82 | 23.96 | 22.16 | 20.76 |
| 225.0 | 32.46 | 30.21 | 28.24 | 26.16 | 24.24 | 22.61 | 21.09 | 19.52 | 18.00 |
| 270.0 | 32.46 | 30.54 | 28.41 | 26.44 | 24.81 | 23.23 | 21.38 | 19.86 | 18.45 |
| 315.0 | 32.34 | 30.38 | 28.58 | 26.33 | 24.69 | 22.89 | 21.38 | 19.80 | 18.45 |
| 360.0 | 36.73 | 34.31 | 32.29 | 30.04 | 27.90 | 26.16 | 24.24 | 22.44 | 20.93 |

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 | 19.46 | 17.83 | 16.59 | 15.47 | 14.23 | 13.16 | 12.21 | 11.31 | 10.41 |
| 45.0 | 20.25 | 18.68 | 17.33 | 16.09 | 14.68 | 13.61 | 12.66 | 11.53 | 10.63 |
| 90.0 | 20.98 | 19.46 | 17.78 | 16.48 | 15.30 | 13.84 | 12.83 | 11.87 | 10.86 |
| 135.0 | 21.21 | 19.74 | 18.11 | 16.82 | 15.47 | 14.18 | 13.11 | 12.15 | 10.97 |
| 180.0 | 19.35 | 17.66 | 16.48 | 15.24 | 14.23 | 13.16 | 12.09 | 11.19 | 10.35 |
| 225.0 | 16.71 | 15.41 | 14.23 | 13.22 | 12.21 | 11.31 | 10.41 | 9.62 | 8.94 |
| 270.0 | 16.88 | 15.69 | 14.57 | 13.39 | 12.26 | 11.36 | 10.41 | 9.68 | 8.83 |
| 315.0 | 16.99 | 15.86 | 14.46 | 13.44 | 12.49 | 11.36 | 10.58 | 9.84 | 9.17 |
| 360.0 | 19.46 | 17.83 | 16.59 | 15.47 | 14.23 | 13.16 | 12.21 | 11.31 | 10.41 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 9.68 | 9.00 | 8.38 | 7.71 | 7.09 | 6.58 | 6.08 | 5.63 | 5.23 |
| 45.0 | 9.84 | 9.11 | 8.33 | 7.76 | 7.14 | 6.69 | 6.19 | 5.74 | 5.34 |
| 90.0 | 9.96 | 9.23 | 8.49 | 7.88 | 7.26 | 6.64 | 6.19 | 5.68 | 5.29 |
| 135.0 | 10.13 | 9.39 | 8.55 | 7.93 | 7.43 | 6.75 | 6.24 | 5.79 | 5.46 |
| 180.0 | 9.51 | 8.83 | 8.16 | 7.48 | 6.98 | 6.47 | 6.02 | 5.51 | 5.18 |
| 225.0 | 8.27 | 7.65 | 7.14 | 6.69 | 6.19 | 5.85 | 5.46 | 5.06 | 4.78 |
| 270.0 | 8.16 | 7.59 | 7.03 | 6.41 | 5.96 | 5.63 | 5.06 | 4.78 | 4.50 |
| 315.0 | 8.33 | 7.76 | 7.26 | 6.69 | 6.19 | 5.79 | 5.34 | 5.06 | 4.73 |
| 360.0 | 9.68 | 9.00 | 8.38 | 7.71 | 7.09 | 6.58 | 6.08 | 5.63 | 5.23 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 4.89 | 4.56 | 4.28 | 3.99 | 3.77 | 3.54 | 3.38 | 3.21 | 3.04 |
| 45.0 | 4.95 | 4.61 | 4.33 | 4.05 | 3.77 | 3.54 | 3.43 | 3.26 | 3.15 |
| 90.0 | 4.89 | 4.56 | 4.16 | 3.88 | 3.66 | 3.49 | 3.26 | 3.09 | 2.98 |
| 135.0 | 5.12 | 4.73 | 4.39 | 4.11 | 3.83 | 3.60 | 3.43 | 3.26 | 3.15 |
| 180.0 | 4.84 | 4.44 | 4.16 | 3.94 | 3.66 | 3.43 | 3.26 | 3.09 | 2.98 |
| 225.0 | 4.50 | 4.22 | 3.94 | 3.77 | 3.54 | 3.38 | 3.21 | 3.09 | 3.04 |
| 270.0 | 4.22 | 3.94 | 3.71 | 3.49 | 3.26 | 3.09 | 2.93 | 2.81 | 2.64 |
| 315.0 | 4.44 | 4.16 | 3.83 | 3.71 | 3.49 | 3.32 | 3.15 | 3.04 | 2.93 |
| 360.0 | 4.89 | 4.56 | 4.28 | 3.99 | 3.77 | 3.54 | 3.38 | 3.21 | 3.04 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 2.87 | 2.81 | 2.70 | 2.64 | 2.59 | 2.59 | 2.48 | 2.42 | 2.36 |
| 45.0 | 3.04 | 2.98 | 2.93 | 2.81 | 2.64 | 2.53 | 2.48 | 2.36 | 2.31 |
| 90.0 | 2.81 | 2.76 | 2.64 | 2.59 | 2.48 | 2.48 | 2.36 | 2.31 | 2.19 |
| 135.0 | 3.09 | 2.98 | 2.81 | 2.76 | 2.64 | 2.53 | 2.48 | 2.42 | 2.36 |
| 180.0 | 2.87 | 2.76 | 2.70 | 2.64 | 2.53 | 2.48 | 2.48 | 2.42 | 2.36 |
| 225.0 | 2.93 | 2.81 | 2.76 | 2.70 | 2.64 | 2.64 | 2.59 | 2.53 | 2.42 |
| 270.0 | 2.53 | 2.42 | 2.19 | 1.97 | 1.86 | 1.91 | 1.97 | 2.03 | 2.03 |
| 315.0 | 2.87 | 2.76 | 2.70 | 2.64 | 2.59 | 2.53 | 2.48 | 2.42 | 2.42 |
| 360.0 | 2.87 | 2.81 | 2.70 | 2.64 | 2.59 | 2.59 | 2.48 | 2.42 | 2.36 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 2.36 | 2.36 | 2.25 | 2.14 | 2.03 | 1.86 | 1.46 | 0.96 | 0.68 |
| 45.0 | 2.25 | 2.19 | 2.08 | 2.03 | 1.91 | 1.74 | 1.41 | 0.90 | 0.68 |
| 90.0 | 2.19 | 2.14 | 2.08 | 2.03 | 1.86 | 1.63 | 0.96 | 0.79 | 0.62 |
| 135.0 | 2.31 | 2.25 | 2.19 | 2.08 | 1.86 | 1.52 | 0.96 | 0.73 | 0.62 |
| 180.0 | 2.31 | 2.19 | 2.14 | 1.97 | 1.74 | 1.07 | 0.79 | 0.62 | 0.51 |
| 225.0 | 2.42 | 2.42 | 2.31 | 2.03 | 1.74 | 1.13 | 0.79 | 0.62 | 0.45 |
| 270.0 | 1.97 | 1.91 | 1.86 | 1.80 | 1.63 | 1.35 | 0.84 | 0.62 | 0.56 |
| 315.0 | 2.31 | 2.25 | 2.14 | 2.03 | 1.86 | 1.63 | 1.01 | 0.73 | 0.56 |
| 360.0 | 2.36 | 2.36 | 2.25 | 2.14 | 2.03 | 1.86 | 1.46 | 0.96 | 0.68 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 0.56 |
| 45.0 | 0.56 |
| 90.0 | 0.51 |
| 135.0 | 0.51 |
| 180.0 | 0.45 |
| 225.0 | 0.39 |
| 270.0 | 0.45 |
| 315.0 | 0.45 |
| 360.0 | 0.56 |