NATA LIGHTING CO.,LTD.
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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D03524EE-N
Luminaire: 92.70.307.00

| | |
|---|---|
| Report No: 210519-B002 | Voltage(V): 221.3000 |
| Test No: 210519-C002 | Current(A): 0.0730 |
| LampCAT: LUMINUS CXM-6-AC40 LES6.3 | Power (W): 8.0000 |
| Lamp flux(lm): 873.4 | PF: 0.4960 |
| Number of Lamps: 1 | Ballast type: DC |
| Length(mm): 74 | Width(mm): 74 |
| Phm Type: C | Height(mm): 56 |

## Photometric Results

Lumens(lm): 603.13
Efficiency(%): 69.05%
Lumens(lm)/Power(W): 75.39
Central intensity(cd): 1880.578
Maximum intensity(cd): 1880.578
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=27.0
[C90/270]Total=27.0
Field angle(10%Imax): [C0/180]Total=52.9
[C90/270]Total=52.9
Maximum s/h(1/2): C0_180=0.45 C90_270=0.45
Maximum s/h(1/4): C0_180=0.46 C90_270=0.46
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 69.05%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.455%

| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2021/05/19 | Operator: NT07 |
| Temperature(°C): 25.0 | 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 | 1880.578 | 0.000 | 0 | .000% | .000% |
| 1.0 | 1874.180 | 1.797 | 1.797 | .206% | .298% |
| 2.0 | 1853.086 | 5.350 | 7.146 | .613% | 1.185% |
| 3.0 | 1817.578 | 8.779 | 15.925 | 1.005% | 2.640% |
| 4.0 | 1773.633 | 12.021 | 27.946 | 1.376% | 4.634% |
| 5.0 | 1714.008 | 15.004 | 42.95 | 1.718% | 7.121% |
| 6.0 | 1642.852 | 17.641 | 60.591 | 2.020% | 10.046% |
| 7.0 | 1567.195 | 19.925 | 80.516 | 2.281% | 13.350% |
| 8.0 | 1480.992 | 21.815 | 102.331 | 2.498% | 16.967% |
| 9.0 | 1387.828 | 23.250 | 125.581 | 2.662% | 20.822% |
| 10.0 | 1290.094 | 24.234 | 149.816 | 2.775% | 24.840% |
| 11.0 | 1181.018 | 24.691 | 174.507 | 2.827% | 28.934% |
| 12.0 | 1091.440 | 24.841 | 199.348 | 2.844% | 33.052% |
| 13.0 | 992.257 | 24.728 | 224.076 | 2.831% | 37.152% |
| 14.0 | 890.571 | 24.100 | 248.177 | 2.759% | 41.148% |
| 15.0 | 802.160 | 23.239 | 271.415 | 2.661% | 45.001% |
| 16.0 | 718.833 | 22.287 | 293.702 | 2.552% | 48.696% |
| 17.0 | 630.204 | 21.008 | 314.71 | 2.405% | 52.179% |
| 18.0 | 555.982 | 19.558 | 334.268 | 2.239% | 55.422% |
| 19.0 | 494.655 | 18.279 | 352.547 | 2.093% | 58.453% |
| 20.0 | 428.977 | 16.905 | 369.452 | 1.935% | 61.256% |
| 21.0 | 375.813 | 15.454 | 384.905 | 1.769% | 63.818% |
| 22.0 | 333.457 | 14.253 | 399.158 | 1.632% | 66.181% |
| 23.0 | 290.264 | 13.087 | 412.246 | 1.498% | 68.351% |
| 24.0 | 261.281 | 12.059 | 424.304 | 1.381% | 70.350% |
| 25.0 | 228.016 | 11.126 | 435.43 | 1.274% | 72.195% |
| 26.0 | 198.795 | 10.075 | 445.505 | 1.154% | 73.865% |
| 27.0 | 176.147 | 9.173 | 454.678 | 1.050% | 75.386% |
| 28.0 | 156.818 | 8.430 | 463.108 | .965% | 76.784% |
| 29.0 | 139.219 | 7.745 | 470.853 | .887% | 78.068% |
| 30.0 | 125.016 | 7.134 | 477.987 | .817% | 79.251% |
| 31.0 | 112.479 | 6.609 | 484.596 | .757% | 80.347% |
| 32.0 | 100.723 | 6.108 | 490.704 | .699% | 81.360% |
| 33.0 | 91.357 | 5.659 | 496.363 | .648% | 82.298% |
| 34.0 | 83.152 | 5.281 | 501.644 | .605% | 83.173% |
| 35.0 | 75.143 | 4.916 | 506.56 | .563% | 83.988% |
| 36.0 | 68.491 | 4.573 | 511.134 | .524% | 84.747% |
| 37.0 | 63.014 | 4.289 | 515.423 | .491% | 85.458% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 57.698 | 4.029 | 519.452 | .461% | 86.126% |
| 39.0 | 52.587 | 3.764 | 523.216 | .431% | 86.750% |
| 40.0 | 48.670 | 3.531 | 526.748 | .404% | 87.336% |
| 41.0 | 44.986 | 3.335 | 530.083 | .382% | 87.889% |
| 42.0 | 41.428 | 3.140 | 533.222 | .359% | 88.409% |
| 43.0 | 38.461 | 2.959 | 536.182 | .339% | 88.900% |
| 44.0 | 35.810 | 2.803 | 538.985 | .321% | 89.365% |
| 45.0 | 33.342 | 2.658 | 541.642 | .304% | 89.805% |
| 46.0 | 31.226 | 2.525 | 544.168 | .289% | 90.224% |
| 47.0 | 29.208 | 2.404 | 546.571 | .275% | 90.622% |
| 48.0 | 27.464 | 2.291 | 548.862 | .262% | 91.002% |
| 49.0 | 25.924 | 2.192 | 551.055 | .251% | 91.366% |
| 50.0 | 24.244 | 2.092 | 553.146 | .239% | 91.713% |
| 51.0 | 22.676 | 1.985 | 555.131 | .227% | 92.042% |
| 52.0 | 21.410 | 1.892 | 557.023 | .217% | 92.355% |
| 53.0 | 20.187 | 1.809 | 558.833 | .207% | 92.655% |
| 54.0 | 19.083 | 1.731 | 560.563 | .198% | 92.942% |
| 55.0 | 18.176 | 1.663 | 562.227 | .190% | 93.218% |
| 56.0 | 17.318 | 1.604 | 563.83 | .184% | 93.484% |
| 57.0 | 16.446 | 1.544 | 565.374 | .177% | 93.740% |
| 58.0 | 15.722 | 1.488 | 566.862 | .170% | 93.987% |
| 59.0 | 15.054 | 1.439 | 568.301 | .165% | 94.225% |
| 60.0 | 14.351 | 1.389 | 569.69 | .159% | 94.455% |
| 61.0 | 13.753 | 1.341 | 571.031 | .154% | 94.678% |
| 62.0 | 13.205 | 1.299 | 572.33 | .149% | 94.893% |
| 63.0 | 12.691 | 1.259 | 573.589 | .144% | 95.102% |
| 64.0 | 12.340 | 1.228 | 574.818 | .141% | 95.306% |
| 65.0 | 12.220 | 1.215 | 576.033 | .139% | 95.507% |
| 66.0 | 12.333 | 1.225 | 577.258 | .140% | 95.710% |
| 67.0 | 12.530 | 1.250 | 578.508 | .143% | 95.918% |
| 68.0 | 12.853 | 1.286 | 579.794 | .147% | 96.131% |
| 69.0 | 13.191 | 1.329 | 581.123 | .152% | 96.351% |
| 70.0 | 13.451 | 1.368 | 582.491 | .157% | 96.578% |
| 71.0 | 13.781 | 1.407 | 583.898 | .161% | 96.811% |
| 72.0 | 14.203 | 1.455 | 585.354 | .167% | 97.053% |
| 73.0 | 14.513 | 1.502 | 586.855 | .172% | 97.301% |
| 74.0 | 14.738 | 1.538 | 588.393 | .176% | 97.556% |
| 75.0 | 14.857 | 1.564 | 589.957 | .179% | 97.816% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 14.702 | 1.569 | 591.526 | .180% | 98.076% |
| 77.0 | 14.084 | 1.535 | 593.06 | .176% | 98.330% |
| 78.0 | 13.043 | 1.452 | 594.513 | .166% | 98.571% |
| 79.0 | 11.939 | 1.342 | 595.855 | .154% | 98.794% |
| 80.0 | 10.941 | 1.233 | 597.088 | .141% | 98.998% |
| 81.0 | 9.837 | 1.124 | 598.212 | .129% | 99.184% |
| 82.0 | 8.466 | 0.993 | 599.204 | .114% | 99.349% |
| 83.0 | 6.750 | 0.827 | 600.032 | .095% | 99.486% |
| 84.0 | 5.323 | 0.658 | 600.689 | .075% | 99.595% |
| 85.0 | 4.500 | 0.536 | 601.225 | .061% | 99.684% |
| 86.0 | 3.895 | 0.459 | 601.684 | .053% | 99.760% |
| 87.0 | 3.551 | 0.408 | 602.092 | .047% | 99.828% |
| 88.0 | 3.255 | 0.373 | 602.465 | .043% | 99.890% |
| 89.0 | 3.016 | 0.344 | 602.808 | .039% | 99.947% |
| 90.0 | 2.862 | 0.322 | 603.131 | .037% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

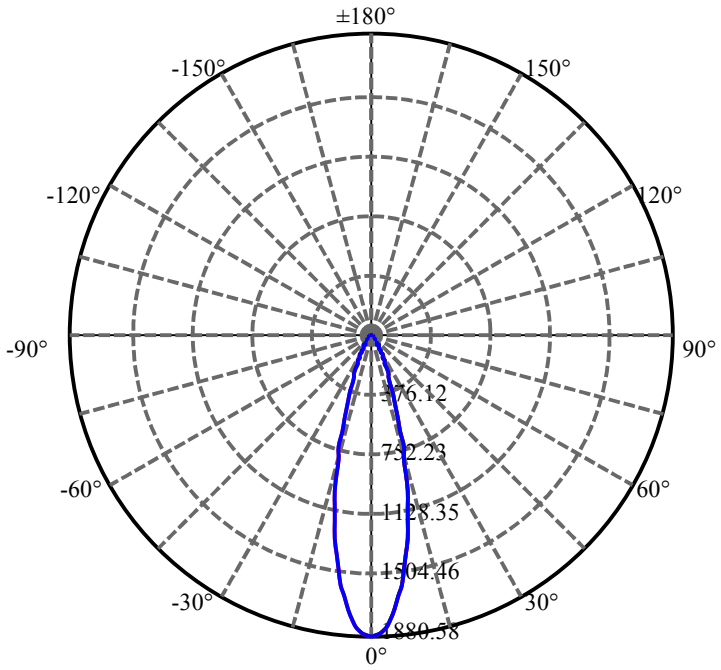
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 477.99 | 54.73% | 79.25% |
| 0-40 | 526.75 | 60.31% | 87.34% |
| 0-60 | 569.69 | 65.23% | 94.46% |
| 0-90 | 602.81 | 69.02% | 99.95% |
| 0-120 | 602.81 | 69.02% | 99.95% |
| 0-180 | 603.13 | 69.05% | 100.00% |
| 60-90 | 34.51 | 3.95% | 5.72% |
| 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% |
| 0-30.68 | 482.50 | 55.24% | 80.00% |

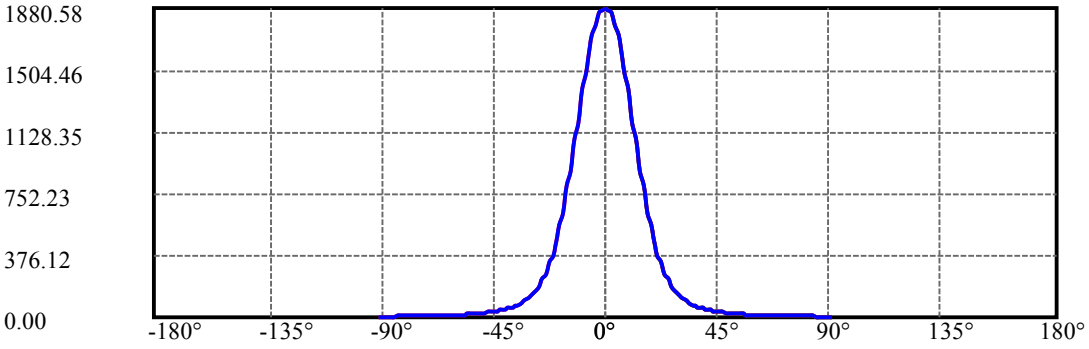
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 149.82 |
| 10-20 | 219.64 |
| 20-30 | 108.54 |
| 30-40 | 48.76 |
| 40-50 | 26.40 |
| 50-60 | 16.54 |
| 60-70 | 12.80 |
| 70-80 | 14.60 |
| 80-90 | 5.72 |
| 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:

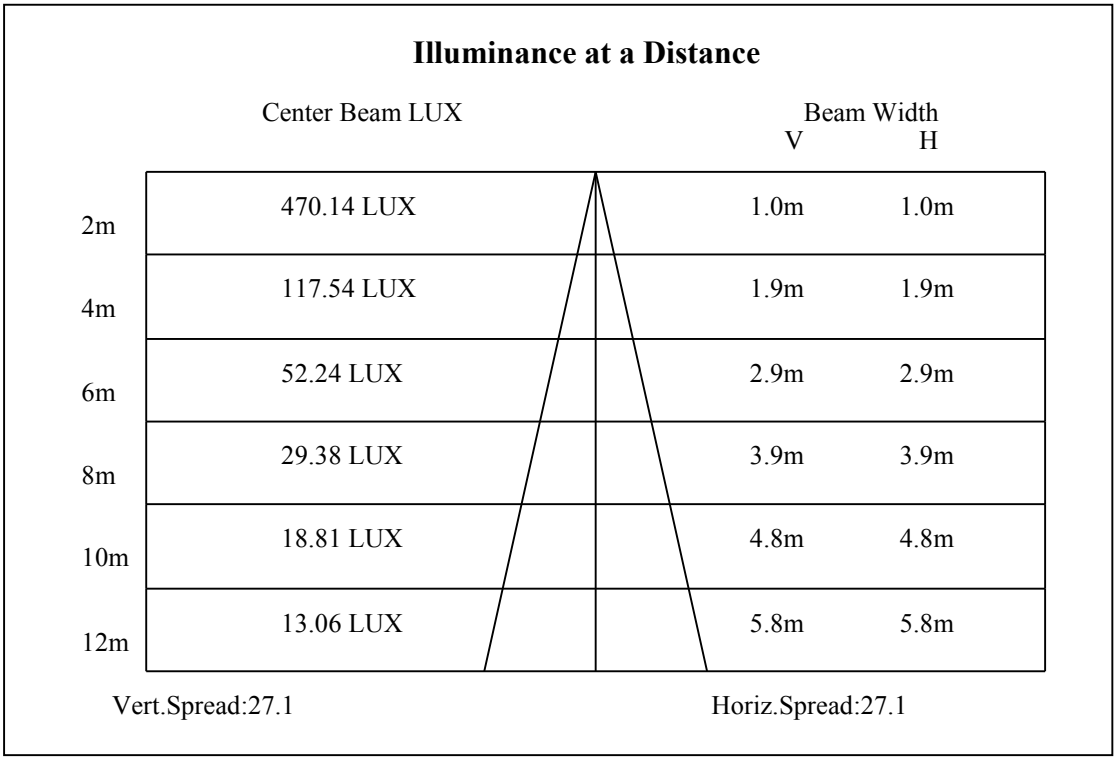
Field angle(10%Imax):C0/180Left:26.5 Right:26.5
:C90/270Left:26.5 Right:26.5

Beam Angle(50%Imax):C0/180Left:13.5 Right:13.5
:C90/270Left:13.5 Right:13.5

Equipment: GMS1980 Date: 2021/05/19 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

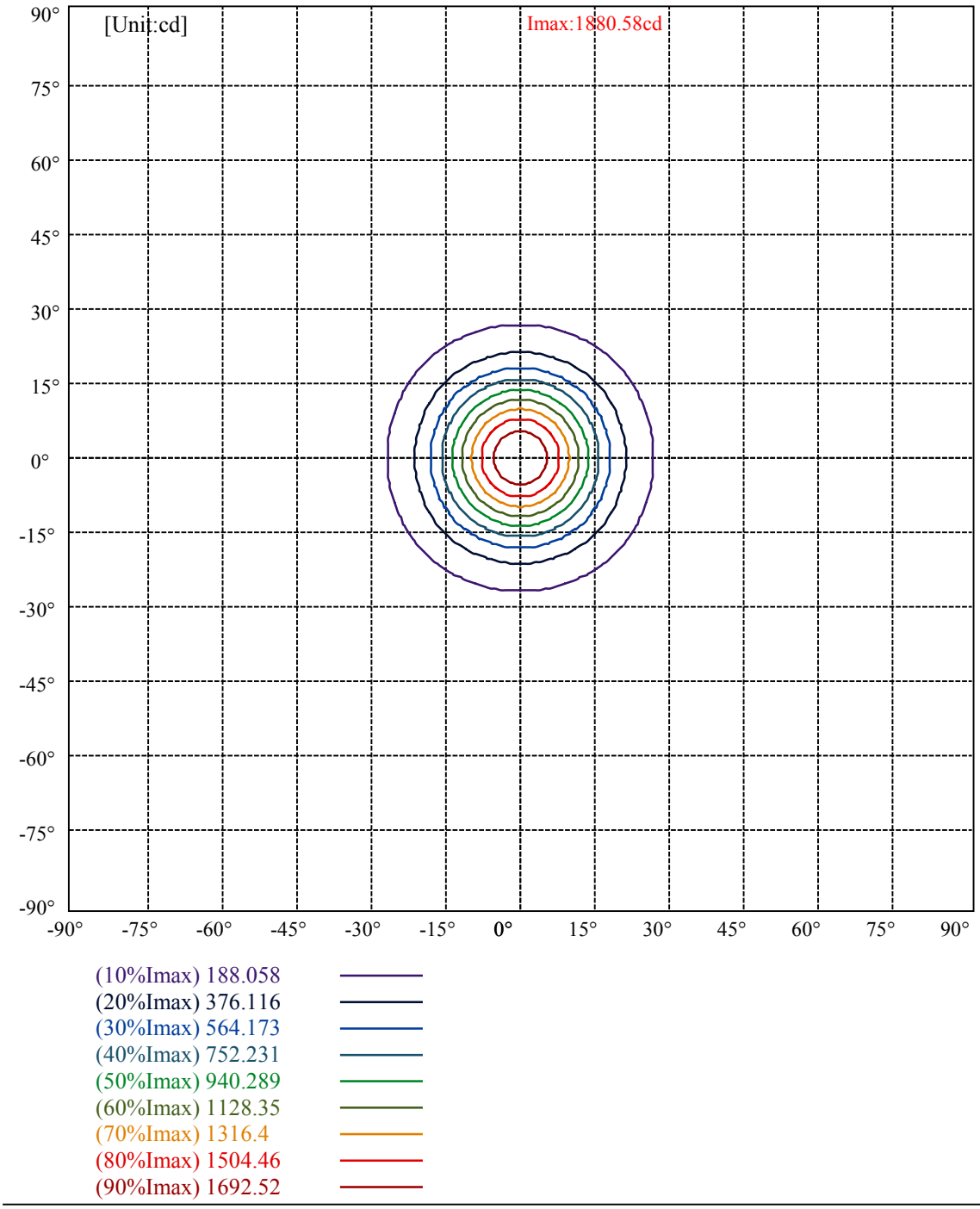
Lux distance Curve





ISO-Intensity(V-H)





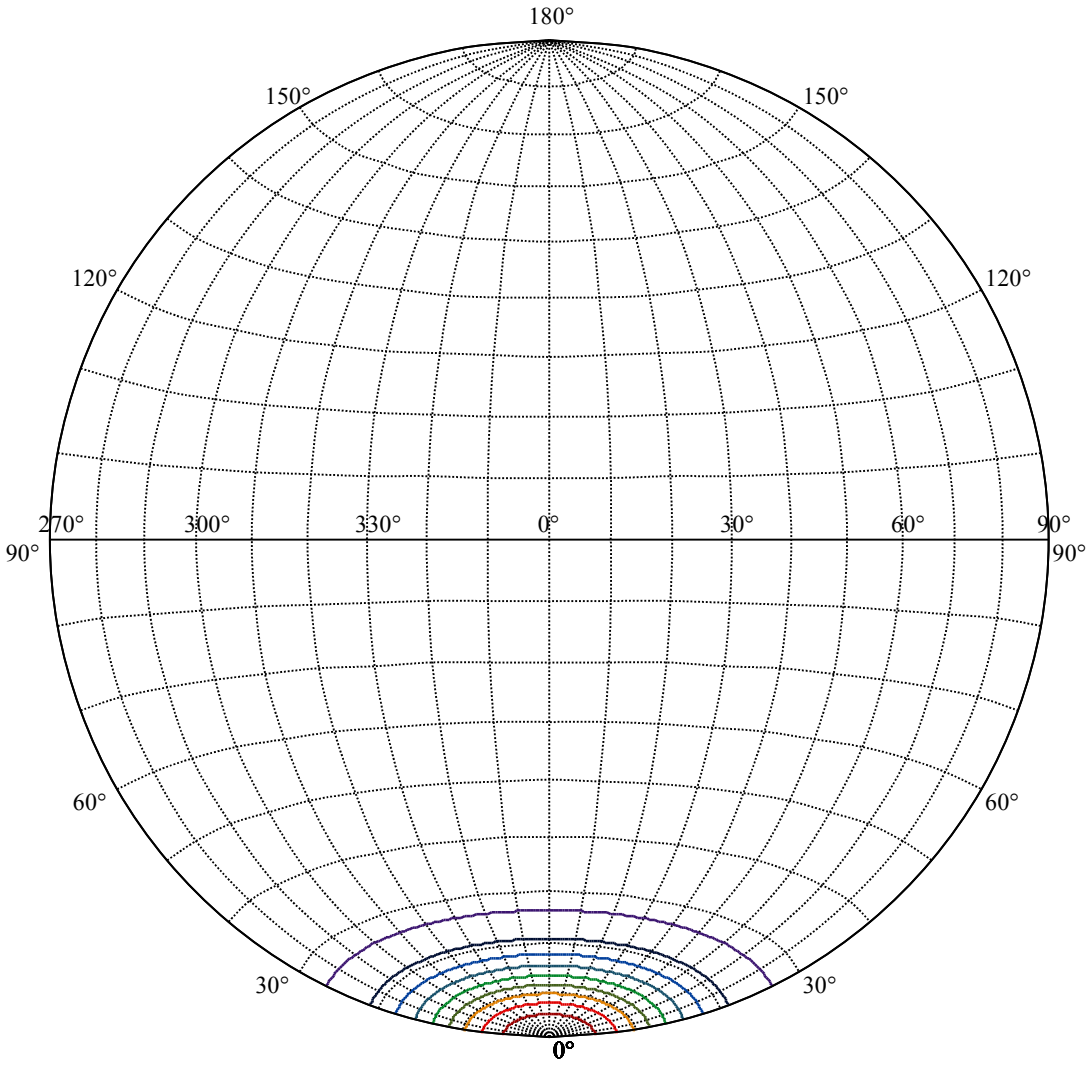

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web






House [Unit:cd] Road

Imax:1880.58

(10%Imax) 188.058
(20%Imax) 376.116
(30%Imax) 564.173
(40%Imax) 752.231
(50%Imax) 940.289
(60%Imax) 1128.35
(70%Imax) 1316.4
(80%Imax) 1504.46
(90%Imax) 1692.52

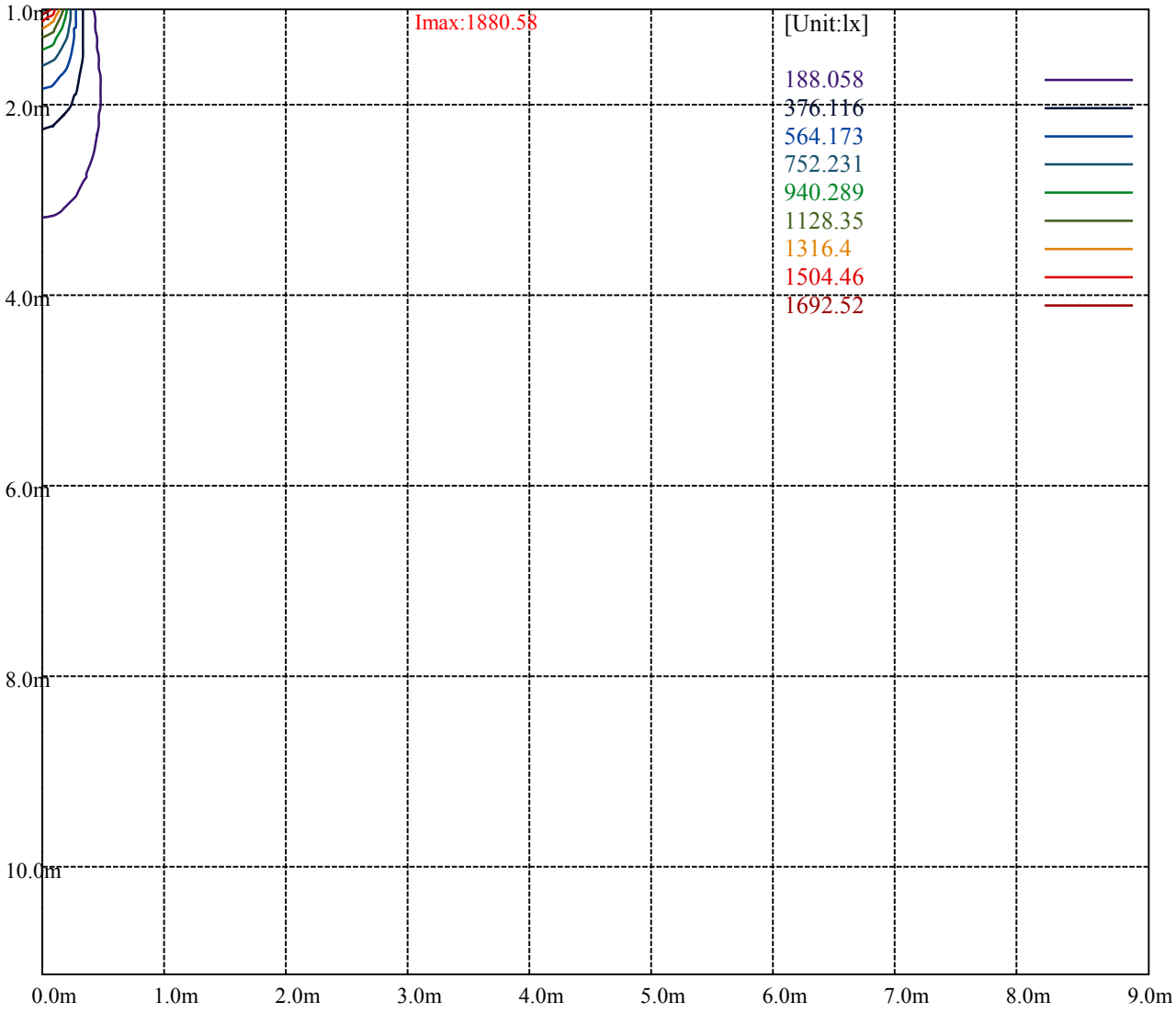
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D03524EE-N

## Luminance Limitting Curve(no luminous side)



Luminance Table

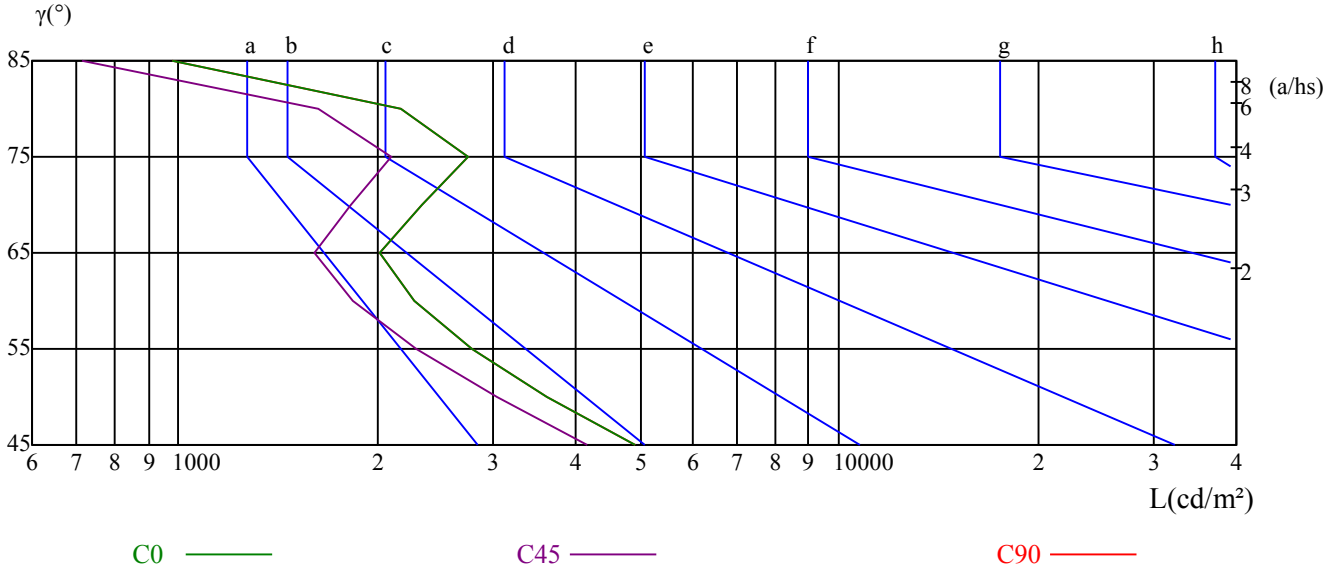
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 4902 | 3622 | 2781 | 2268 | 2013 | 2332 | 2741 | 2174 | 977 |
| C45 | 4159 | 3027 | 2289 | 1837 | 1603 | 1823 | 2099 | 1627 | 713 |
| C90 | 4902 | 3622 | 2781 | 2268 | 2013 | 2332 | 2741 | 2174 | 977 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 5280 | 5280 | 5280 | 10483 | 10483 | 10483 | 9429 | 9429 | 9429 |

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



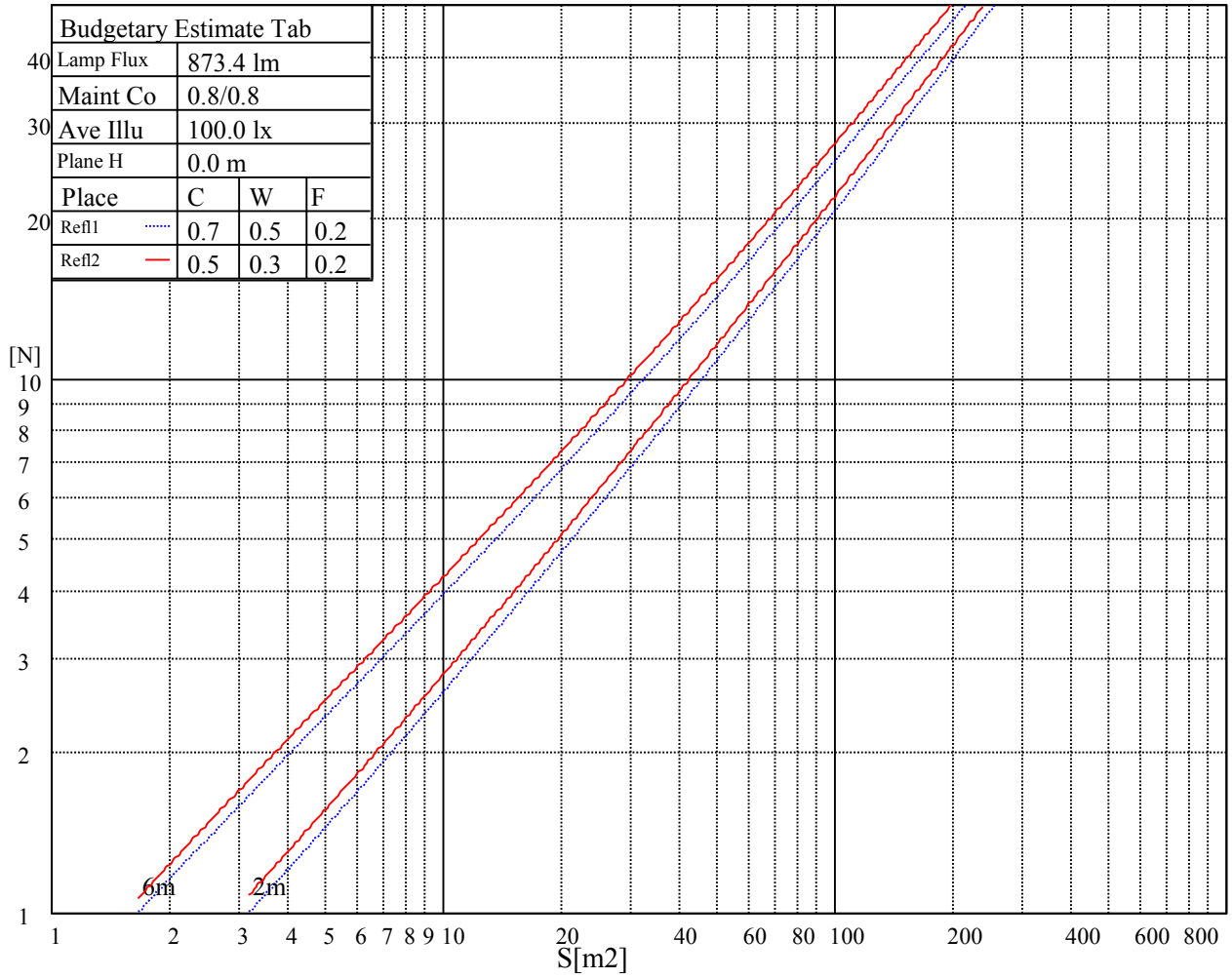

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

## Budgetary Estimate Table






Equipment: GMS1980 Date: 2021/05/19 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

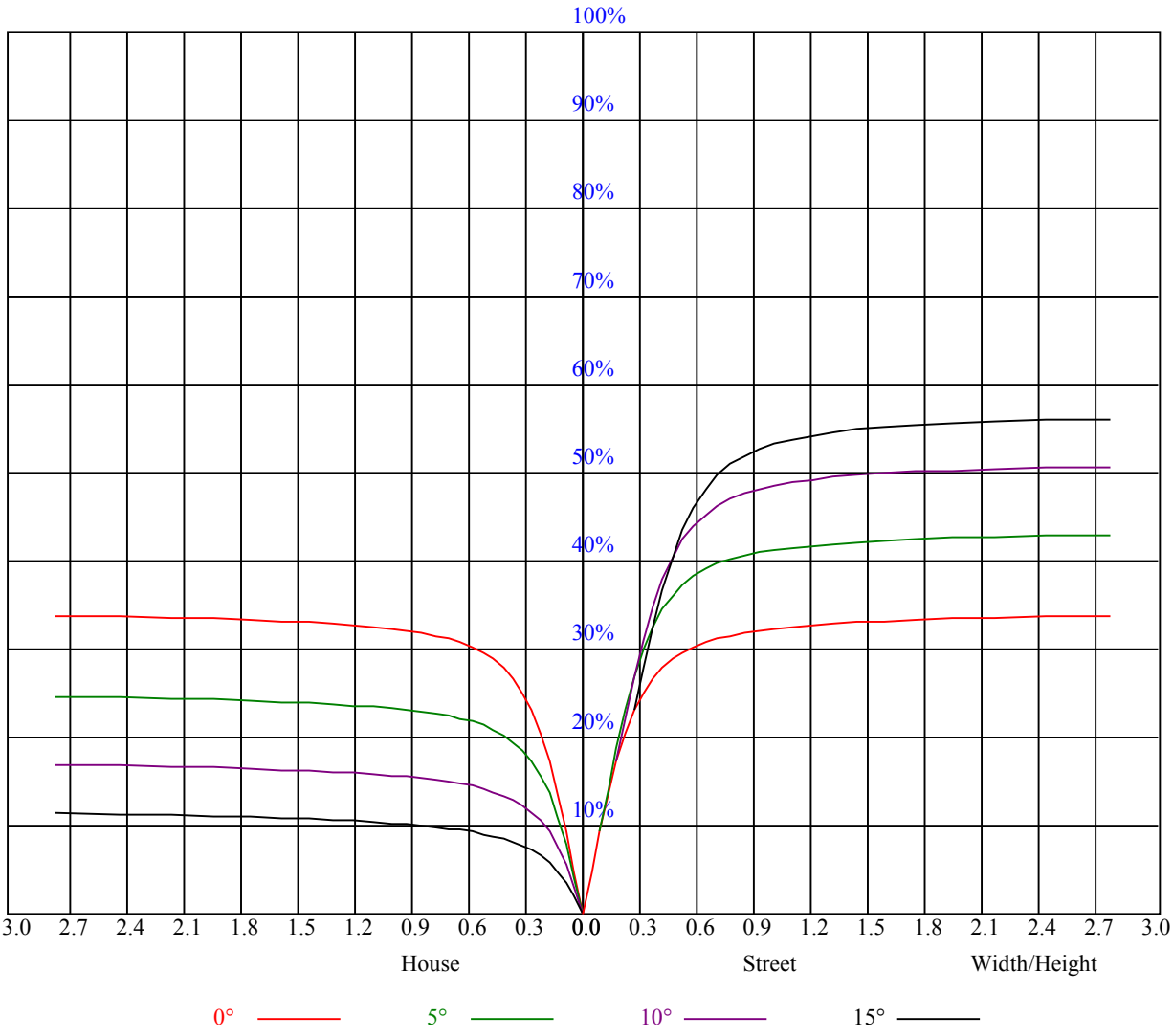
Utilization factor table for indoor luminaire



| 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 | 0.82 | 0.82 | 0.82 | 0.80 | 0.80 | 0.80 | 0.77 | 0.77 | 0.77 | 0.73 | 0.73 | 0.73 | 0.70 | 0.70 | 0.70 | 0.69 |
| 1 | 0.76 | 0.74 | 0.73 | 0.75 | 0.73 | 0.72 | 0.72 | 0.71 | 0.69 | 0.69 | 0.68 | 0.67 | 0.67 | 0.66 | 0.65 | 0.64 |
| 2 | 0.71 | 0.68 | 0.66 | 0.70 | 0.67 | 0.65 | 0.68 | 0.66 | 0.64 | 0.66 | 0.64 | 0.63 | 0.64 | 0.62 | 0.61 | 0.60 |
| 3 | 0.67 | 0.64 | 0.61 | 0.66 | 0.63 | 0.61 | 0.64 | 0.62 | 0.60 | 0.63 | 0.60 | 0.59 | 0.61 | 0.59 | 0.58 | 0.57 |
| 4 | 0.63 | 0.60 | 0.57 | 0.63 | 0.59 | 0.57 | 0.61 | 0.58 | 0.56 | 0.60 | 0.57 | 0.55 | 0.58 | 0.56 | 0.55 | 0.54 |
| 5 | 0.60 | 0.56 | 0.54 | 0.60 | 0.56 | 0.54 | 0.58 | 0.55 | 0.53 | 0.57 | 0.55 | 0.53 | 0.56 | 0.54 | 0.52 | 0.51 |
| 6 | 0.57 | 0.54 | 0.51 | 0.57 | 0.53 | 0.51 | 0.56 | 0.53 | 0.50 | 0.55 | 0.52 | 0.50 | 0.54 | 0.52 | 0.50 | 0.49 |
| 7 | 0.55 | 0.51 | 0.49 | 0.54 | 0.51 | 0.48 | 0.54 | 0.50 | 0.48 | 0.53 | 0.50 | 0.48 | 0.52 | 0.50 | 0.48 | 0.47 |
| 8 | 0.53 | 0.49 | 0.47 | 0.52 | 0.49 | 0.46 | 0.52 | 0.48 | 0.46 | 0.51 | 0.48 | 0.46 | 0.50 | 0.48 | 0.46 | 0.45 |
| 9 | 0.51 | 0.47 | 0.45 | 0.50 | 0.47 | 0.45 | 0.50 | 0.47 | 0.44 | 0.49 | 0.46 | 0.44 | 0.49 | 0.46 | 0.44 | 0.43 |
| 10 | 0.49 | 0.45 | 0.43 | 0.48 | 0.45 | 0.43 | 0.48 | 0.45 | 0.43 | 0.47 | 0.45 | 0.43 | 0.47 | 0.44 | 0.43 | 0.42 |

## Coefficient Utilization Curve






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
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 | 1854.56 | 1867.50 | 1869.19 | 1854.00 | 1827.00 | 1781.44 | 1725.19 | 1667.25 | 1587.38 |
| 45.0 | 1891.69 | 1894.50 | 1883.25 | 1854.00 | 1818.56 | 1764.56 | 1698.75 | 1630.13 | 1552.50 |
| 90.0 | 1895.06 | 1893.38 | 1874.25 | 1842.19 | 1802.81 | 1744.31 | 1674.56 | 1602.56 | 1513.13 |
| 135.0 | 1881.00 | 1875.94 | 1851.75 | 1820.81 | 1779.19 | 1716.19 | 1650.94 | 1578.38 | 1490.06 |
| 180.0 | 1854.56 | 1829.81 | 1792.13 | 1731.38 | 1674.56 | 1608.19 | 1506.94 | 1425.94 | 1335.94 |
| 225.0 | 1891.69 | 1873.69 | 1847.25 | 1802.25 | 1743.19 | 1681.31 | 1609.88 | 1512.56 | 1429.31 |
| 270.0 | 1895.06 | 1886.63 | 1859.06 | 1823.63 | 1775.81 | 1710.56 | 1636.31 | 1562.06 | 1470.94 |
| 315.0 | 1881.00 | 1872.00 | 1847.81 | 1812.38 | 1767.94 | 1705.50 | 1640.25 | 1558.69 | 1468.69 |
| 360.0 | 1854.56 | 1867.50 | 1869.19 | 1854.00 | 1827.00 | 1781.44 | 1725.19 | 1667.25 | 1587.38 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1500.75 | 1417.50 | 1317.38 | 1225.69 | 1119.94 | 1012.50 | 921.38 | 841.50 | 722.81 |
| 45.0 | 1450.13 | 1359.56 | 1266.19 | 1157.63 | 1050.75 | 956.81 | 856.13 | 759.94 | 679.50 |
| 90.0 | 1427.63 | 1325.81 | 1222.31 | 1112.12 | 1020.83 | 916.37 | 829.41 | 745.31 | 646.93 |
| 135.0 | 1395.00 | 1305.00 | 1200.94 | 1107.00 | 1004.06 | 901.69 | 815.63 | 724.50 | 638.44 |
| 180.0 | 1230.19 | 1111.50 | 1030.28 | 926.72 | 829.29 | 746.33 | 658.52 | 584.83 | 511.37 |
| 225.0 | 1342.13 | 1235.25 | 1115.49 | 1034.21 | 941.63 | 832.56 | 749.70 | 671.74 | 590.46 |
| 270.0 | 1373.06 | 1284.19 | 1180.69 | 1087.88 | 984.38 | 882.56 | 795.94 | 713.81 | 618.19 |
| 315.0 | 1383.75 | 1281.94 | 1114.88 | 1080.28 | 987.19 | 875.76 | 790.59 | 709.03 | 633.94 |
| 360.0 | 1500.75 | 1417.50 | 1317.38 | 1225.69 | 1119.94 | 1012.50 | 921.38 | 841.50 | 722.81 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 645.75 | 581.63 | 495.00 | 437.06 | 392.06 | 336.38 | 293.06 | 284.63 | 226.07 |
| 45.0 | 596.81 | 529.88 | 462.38 | 403.31 | 356.63 | 309.94 | 286.88 | 237.83 | 212.57 |
| 90.0 | 574.71 | 510.13 | 437.01 | 387.06 | 342.45 | 294.36 | 261.06 | 232.48 | 201.43 |
| 135.0 | 568.13 | 505.69 | 434.81 | 384.75 | 340.31 | 292.50 | 284.06 | 228.60 | 201.54 |
| 180.0 | 444.54 | 392.74 | 346.39 | 297.39 | 264.32 | 235.86 | 203.79 | 181.01 | 162.34 |
| 225.0 | 517.39 | 459.28 | 399.83 | 348.69 | 308.64 | 269.72 | 239.06 | 209.48 | 184.84 |
| 270.0 | 551.81 | 490.50 | 423.00 | 375.75 | 333.00 | 290.81 | 266.34 | 225.39 | 200.87 |
| 315.0 | 548.72 | 487.41 | 433.41 | 372.49 | 330.24 | 292.56 | 255.99 | 224.72 | 200.70 |
| 360.0 | 645.75 | 581.63 | 495.00 | 437.06 | 392.06 | 336.38 | 293.06 | 284.63 | 226.07 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 200.64 | 176.06 | 155.98 | 140.74 | 125.89 | 112.89 | 102.88 | 93.88 | 84.04 |
| 45.0 | 184.84 | 166.28 | 148.84 | 131.40 | 117.28 | 106.37 | 95.68 | 86.40 | 79.09 |
| 90.0 | 182.81 | 161.27 | 140.74 | 128.64 | 116.10 | 101.48 | 93.38 | 85.16 | 75.43 |
| 135.0 | 178.26 | 160.03 | 141.02 | 126.84 | 113.06 | 101.19 | 91.97 | 82.80 | 74.76 |
| 180.0 | 143.89 | 128.14 | 115.88 | 103.78 | 94.44 | 85.11 | 77.12 | 70.99 | 64.69 |
| 225.0 | 165.54 | 148.56 | 130.28 | 117.90 | 107.04 | 95.12 | 86.79 | 79.31 | 71.89 |
| 270.0 | 176.06 | 155.31 | 139.73 | 124.93 | 111.94 | 101.53 | 91.24 | 83.08 | 75.04 |
| 315.0 | 177.13 | 158.91 | 141.30 | 125.89 | 114.08 | 102.09 | 91.80 | 83.59 | 76.22 |
| 360.0 | 200.64 | 176.06 | 155.98 | 140.74 | 125.89 | 112.89 | 102.88 | 93.88 | 84.04 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 77.01 | 70.82 | 64.58 | 59.01 | 54.56 | 49.95 | 46.01 | 42.75 | 39.21 |
| 45.0 | 71.66 | 65.98 | 60.36 | 55.29 | 51.19 | 47.53 | 43.48 | 40.56 | 37.86 |
| 90.0 | 69.92 | 64.07 | 58.11 | 53.10 | 49.05 | 45.00 | 42.08 | 38.98 | 36.28 |
| 135.0 | 68.46 | 62.94 | 56.76 | 52.37 | 48.38 | 44.72 | 40.73 | 37.91 | 35.04 |
| 180.0 | 59.12 | 54.84 | 50.79 | 46.35 | 43.20 | 40.11 | 37.01 | 34.31 | 32.18 |
| 225.0 | 65.25 | 60.24 | 55.29 | 50.68 | 47.03 | 43.37 | 40.61 | 37.41 | 34.71 |
| 270.0 | 68.01 | 62.27 | 57.88 | 51.64 | 47.70 | 44.61 | 40.33 | 37.63 | 35.44 |
| 315.0 | 68.51 | 62.94 | 57.83 | 52.26 | 48.26 | 44.61 | 41.18 | 38.14 | 35.78 |
| 360.0 | 77.01 | 70.82 | 64.58 | 59.01 | 54.56 | 49.95 | 46.01 | 42.75 | 39.21 |

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 | 36.73 | 34.14 | 31.78 | 29.87 | 28.18 | 26.21 | 24.75 | 23.23 | 21.54 |
| 45.0 | 34.71 | 32.68 | 30.54 | 28.58 | 26.78 | 25.43 | 23.96 | 22.67 | 21.38 |
| 90.0 | 34.20 | 31.95 | 29.87 | 28.35 | 26.94 | 24.53 | 22.28 | 20.93 | 19.86 |
| 135.0 | 32.57 | 30.71 | 28.91 | 27.17 | 25.54 | 24.24 | 22.67 | 21.21 | 19.74 |
| 180.0 | 30.09 | 28.13 | 26.61 | 25.09 | 23.79 | 22.44 | 21.15 | 20.19 | 19.29 |
| 225.0 | 32.46 | 30.49 | 28.29 | 26.72 | 25.37 | 23.68 | 22.50 | 21.43 | 20.19 |
| 270.0 | 32.57 | 30.26 | 28.35 | 26.49 | 24.92 | 23.51 | 21.88 | 20.76 | 19.69 |
| 315.0 | 33.41 | 31.44 | 29.31 | 27.45 | 25.88 | 23.91 | 22.22 | 20.87 | 19.80 |
| 360.0 | 36.73 | 34.14 | 31.78 | 29.87 | 28.18 | 26.21 | 24.75 | 23.23 | 21.54 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 20.48 | 19.58 | 18.68 | 17.89 | 17.21 | 16.43 | 15.75 | 14.96 | 14.23 |
| 45.0 | 20.19 | 19.18 | 18.11 | 17.16 | 16.43 | 15.69 | 14.96 | 14.29 | 13.78 |
| 90.0 | 18.62 | 17.72 | 16.93 | 15.98 | 15.30 | 14.68 | 14.06 | 13.50 | 13.05 |
| 135.0 | 18.73 | 17.78 | 16.82 | 15.98 | 15.30 | 14.68 | 13.89 | 13.39 | 12.88 |
| 180.0 | 18.28 | 17.38 | 16.65 | 15.69 | 14.96 | 14.34 | 13.61 | 13.11 | 12.49 |
| 225.0 | 19.13 | 18.23 | 17.27 | 16.54 | 15.69 | 14.96 | 14.34 | 13.73 | 13.11 |
| 270.0 | 18.62 | 17.89 | 17.16 | 16.26 | 15.58 | 14.96 | 14.18 | 13.67 | 13.16 |
| 315.0 | 18.62 | 17.66 | 16.93 | 16.09 | 15.30 | 14.68 | 14.01 | 13.39 | 12.94 |
| 360.0 | 20.48 | 19.58 | 18.68 | 17.89 | 17.21 | 16.43 | 15.75 | 14.96 | 14.23 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 13.73 | 13.22 | 12.71 | 12.26 | 11.87 | 11.42 | 11.19 | 10.86 | 10.58 |
| 45.0 | 13.22 | 12.71 | 12.26 | 11.87 | 11.48 | 11.08 | 10.63 | 10.29 | 9.90 |
| 90.0 | 12.60 | 12.49 | 13.05 | 14.63 | 16.37 | 18.56 | 20.87 | 22.89 | 24.98 |
| 135.0 | 12.38 | 11.87 | 11.53 | 11.08 | 10.69 | 10.35 | 10.01 | 9.68 | 9.45 |
| 180.0 | 11.93 | 11.48 | 11.08 | 10.69 | 10.41 | 10.18 | 9.90 | 9.62 | 9.34 |
| 225.0 | 12.66 | 12.21 | 11.70 | 11.25 | 10.86 | 10.58 | 10.24 | 9.73 | 9.23 |
| 270.0 | 12.66 | 12.77 | 13.89 | 15.81 | 17.83 | 20.14 | 22.61 | 24.75 | 27.23 |
| 315.0 | 12.38 | 11.98 | 11.53 | 11.08 | 10.74 | 10.52 | 10.07 | 9.79 | 9.56 |
| 360.0 | 13.73 | 13.22 | 12.71 | 12.26 | 11.87 | 11.42 | 11.19 | 10.86 | 10.58 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 10.35 | 10.24 | 9.90 | 9.56 | 9.23 | 8.78 | 8.33 | 7.82 | 7.31 |
| 45.0 | 9.51 | 9.17 | 8.83 | 8.38 | 8.04 | 7.65 | 7.20 | 6.92 | 6.58 |
| 90.0 | 27.51 | 29.31 | 31.11 | 32.63 | 33.36 | 33.08 | 30.94 | 28.07 | 25.65 |
| 135.0 | 9.45 | 9.45 | 9.51 | 9.51 | 9.34 | 9.00 | 8.10 | 7.26 | 6.47 |
| 180.0 | 8.89 | 8.55 | 8.16 | 7.59 | 7.26 | 6.81 | 6.36 | 5.91 | 5.57 |
| 225.0 | 8.89 | 8.55 | 8.04 | 7.76 | 7.43 | 6.98 | 6.69 | 6.36 | 5.96 |
| 270.0 | 29.53 | 31.39 | 32.96 | 34.14 | 33.98 | 31.84 | 28.91 | 26.16 | 23.68 |
| 315.0 | 9.51 | 9.45 | 9.39 | 9.28 | 9.00 | 8.55 | 7.82 | 7.03 | 6.30 |
| 360.0 | 10.35 | 10.24 | 9.90 | 9.56 | 9.23 | 8.78 | 8.33 | 7.82 | 7.31 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 6.81 | 6.36 | 5.85 | 5.46 | 5.06 | 4.67 | 4.16 | 3.77 | 3.54 |
| 45.0 | 6.19 | 5.85 | 5.46 | 5.18 | 4.78 | 4.28 | 3.99 | 3.77 | 3.49 |
| 90.0 | 22.95 | 19.91 | 13.84 | 8.33 | 4.61 | 3.77 | 3.49 | 3.09 | 2.81 |
| 135.0 | 5.68 | 5.34 | 5.01 | 4.67 | 4.22 | 3.66 | 3.38 | 3.09 | 2.87 |
| 180.0 | 5.23 | 4.95 | 4.61 | 4.22 | 3.77 | 3.43 | 3.21 | 2.87 | 2.87 |
| 225.0 | 5.68 | 5.34 | 4.95 | 4.61 | 4.33 | 3.94 | 3.60 | 3.43 | 3.09 |
| 270.0 | 20.36 | 14.51 | 9.17 | 5.40 | 4.84 | 3.71 | 3.21 | 2.87 | 2.64 |
| 315.0 | 5.79 | 5.46 | 5.12 | 4.73 | 4.39 | 3.71 | 3.38 | 3.15 | 2.81 |
| 360.0 | 6.81 | 6.36 | 5.85 | 5.46 | 5.06 | 4.67 | 4.16 | 3.77 | 3.54 |

## Intensity data(cd)

| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 3.26 |
| 45.0 | 3.21 |
| 90.0 | 2.64 |
| 135.0 | 2.76 |
| 180.0 | 2.76 |
| 225.0 | 3.09 |
| 270.0 | 2.53 |
| 315.0 | 2.64 |
| 360.0 | 3.26 |