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

## Nata

LumCAT: 2-1747-N
Luminaire: 92.70.124.00

| | |
|---|---|
| Report No: 200406-B040 | Voltage(V): 220.4000 |
| Test No: 200406-C040 | Current(A): 0.0410 |
| LampCAT: CITIZEN CLU028 | Power (W): 8.2500 |
| Lamp flux(lm): 955.5 | PF: 0.8960 |
| Number of Lamps: 1 | Ballast type: AC |
| Length(mm): 0 | Width(mm): 0 |
| Phm Type: C | Height(mm): 0 |

## Photometric Results

Lumens(lm): 786.31
Efficiency(%): 82.29%
Lumens(lm)/Power(W): 95.31
Central intensity(cd): 1558.619
Maximum intensity(cd): 1558.619
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=39.4
[C90/270]Total=39.4
Field angle(10%Imax): [C0/180]Total=68.0
[C90/270]Total=68.0
Maximum s/h(1/2): C0_180=0.64 C90_270=0.64
Maximum s/h(1/4): C0_180=0.65 C90_270=0.65
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.29%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.150%

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 1558.619 | 0.000 | 0 | .000% | .000% |
| 1.0 | 1557.865 | 1.491 | 1.491 | .156% | .190% |
| 2.0 | 1548.352 | 4.458 | 5.95 | .467% | .757% |
| 3.0 | 1537.505 | 7.380 | 13.33 | .772% | 1.695% |
| 4.0 | 1520.220 | 10.235 | 23.565 | 1.071% | 2.997% |
| 5.0 | 1499.396 | 12.990 | 36.555 | 1.360% | 4.649% |
| 6.0 | 1474.687 | 15.630 | 52.185 | 1.636% | 6.637% |
| 7.0 | 1442.958 | 18.110 | 70.295 | 1.895% | 8.940% |
| 8.0 | 1411.520 | 20.429 | 90.724 | 2.138% | 11.538% |
| 9.0 | 1369.815 | 22.541 | 113.265 | 2.359% | 14.405% |
| 10.0 | 1325.848 | 24.395 | 137.66 | 2.553% | 17.507% |
| 11.0 | 1285.013 | 26.088 | 163.747 | 2.730% | 20.825% |
| 12.0 | 1232.113 | 27.516 | 191.263 | 2.880% | 24.324% |
| 13.0 | 1178.981 | 28.614 | 219.877 | 2.995% | 27.963% |
| 14.0 | 1118.790 | 29.411 | 249.288 | 3.078% | 31.703% |
| 15.0 | 1064.208 | 29.969 | 279.257 | 3.136% | 35.515% |
| 16.0 | 999.951 | 30.246 | 309.503 | 3.165% | 39.361% |
| 17.0 | 939.233 | 30.198 | 339.701 | 3.160% | 43.202% |
| 18.0 | 876.263 | 29.934 | 369.635 | 3.133% | 47.009% |
| 19.0 | 818.596 | 29.487 | 399.122 | 3.086% | 50.759% |
| 20.0 | 763.439 | 28.956 | 428.078 | 3.030% | 54.441% |
| 21.0 | 703.399 | 28.166 | 456.244 | 2.948% | 58.023% |
| 22.0 | 645.610 | 27.109 | 483.353 | 2.837% | 61.471% |
| 23.0 | 591.834 | 25.965 | 509.318 | 2.717% | 64.773% |
| 24.0 | 543.604 | 24.825 | 534.142 | 2.598% | 67.930% |
| 25.0 | 498.302 | 23.691 | 557.833 | 2.479% | 70.943% |
| 26.0 | 454.938 | 22.501 | 580.335 | 2.355% | 73.805% |
| 27.0 | 416.163 | 21.312 | 601.646 | 2.230% | 76.515% |
| 28.0 | 377.485 | 20.093 | 621.74 | 2.103% | 79.070% |
| 29.0 | 346.389 | 18.939 | 640.678 | 1.982% | 81.479% |
| 30.0 | 305.560 | 17.603 | 658.281 | 1.842% | 83.717% |
| 31.0 | 272.904 | 16.098 | 674.379 | 1.685% | 85.765% |
| 32.0 | 250.329 | 14.990 | 689.369 | 1.569% | 87.671% |
| 33.0 | 200.538 | 13.283 | 702.651 | 1.390% | 89.360% |
| 34.0 | 155.086 | 10.762 | 713.414 | 1.126% | 90.729% |
| 35.0 | 119.912 | 8.540 | 721.954 | .894% | 91.815% |
| 36.0 | 96.676 | 6.896 | 728.85 | .722% | 92.692% |
| 37.0 | 67.615 | 5.358 | 734.208 | .561% | 93.374% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 52.308 | 4.003 | 738.211 | .419% | 93.883% |
| 39.0 | 41.717 | 3.209 | 741.421 | .336% | 94.291% |
| 40.0 | 34.710 | 2.665 | 744.086 | .279% | 94.630% |
| 41.0 | 30.249 | 2.313 | 746.399 | .242% | 94.924% |
| 42.0 | 27.059 | 2.082 | 748.481 | .218% | 95.189% |
| 43.0 | 24.669 | 1.916 | 750.397 | .201% | 95.432% |
| 44.0 | 22.593 | 1.784 | 752.181 | .187% | 95.659% |
| 45.0 | 20.916 | 1.672 | 753.853 | .175% | 95.872% |
| 46.0 | 19.501 | 1.581 | 755.434 | .165% | 96.073% |
| 47.0 | 18.358 | 1.506 | 756.94 | .158% | 96.264% |
| 48.0 | 17.158 | 1.436 | 758.376 | .150% | 96.447% |
| 49.0 | 16.253 | 1.372 | 759.748 | .144% | 96.622% |
| 50.0 | 15.447 | 1.322 | 761.069 | .138% | 96.790% |
| 51.0 | 14.547 | 1.269 | 762.338 | .133% | 96.951% |
| 52.0 | 13.869 | 1.219 | 763.558 | .128% | 97.106% |
| 53.0 | 13.138 | 1.175 | 764.732 | .123% | 97.255% |
| 54.0 | 12.395 | 1.125 | 765.858 | .118% | 97.399% |
| 55.0 | 11.821 | 1.081 | 766.939 | .113% | 97.536% |
| 56.0 | 11.241 | 1.042 | 767.981 | .109% | 97.669% |
| 57.0 | 10.684 | 1.002 | 768.983 | .105% | 97.796% |
| 58.0 | 10.151 | 0.963 | 769.947 | .101% | 97.919% |
| 59.0 | 9.658 | 0.926 | 770.873 | .097% | 98.036% |
| 60.0 | 9.228 | 0.892 | 771.765 | .093% | 98.150% |
| 61.0 | 8.822 | 0.861 | 772.627 | .090% | 98.259% |
| 62.0 | 8.399 | 0.830 | 773.456 | .087% | 98.365% |
| 63.0 | 7.987 | 0.797 | 774.253 | .083% | 98.466% |
| 64.0 | 7.668 | 0.768 | 775.022 | .080% | 98.564% |
| 65.0 | 7.314 | 0.741 | 775.763 | .078% | 98.658% |
| 66.0 | 6.990 | 0.714 | 776.477 | .075% | 98.749% |
| 67.0 | 6.659 | 0.686 | 777.163 | .072% | 98.836% |
| 68.0 | 6.346 | 0.659 | 777.822 | .069% | 98.920% |
| 69.0 | 6.102 | 0.635 | 778.457 | .066% | 99.001% |
| 70.0 | 5.824 | 0.612 | 779.069 | .064% | 99.079% |
| 71.0 | 5.574 | 0.589 | 779.658 | .062% | 99.154% |
| 72.0 | 5.313 | 0.566 | 780.224 | .059% | 99.226% |
| 73.0 | 5.017 | 0.540 | 780.765 | .057% | 99.294% |
| 74.0 | 4.756 | 0.514 | 781.278 | .054% | 99.360% |
| 75.0 | 4.501 | 0.489 | 781.768 | .051% | 99.422% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 4.258 | 0.465 | 782.233 | .049% | 99.481% |
| 77.0 | 3.985 | 0.439 | 782.672 | .046% | 99.537% |
| 78.0 | 3.730 | 0.413 | 783.085 | .043% | 99.589% |
| 79.0 | 3.492 | 0.388 | 783.473 | .041% | 99.639% |
| 80.0 | 3.271 | 0.365 | 783.838 | .038% | 99.685% |
| 81.0 | 3.051 | 0.342 | 784.18 | .036% | 99.729% |
| 82.0 | 2.825 | 0.319 | 784.498 | .033% | 99.769% |
| 83.0 | 2.622 | 0.296 | 784.794 | .031% | 99.807% |
| 84.0 | 2.407 | 0.274 | 785.068 | .029% | 99.842% |
| 85.0 | 2.227 | 0.253 | 785.321 | .026% | 99.874% |
| 86.0 | 2.042 | 0.233 | 785.555 | .024% | 99.904% |
| 87.0 | 1.874 | 0.214 | 785.769 | .022% | 99.931% |
| 88.0 | 1.694 | 0.195 | 785.964 | .020% | 99.956% |
| 89.0 | 1.584 | 0.180 | 786.144 | .019% | 99.978% |
| 90.0 | 1.502 | 0.169 | 786.313 | .018% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

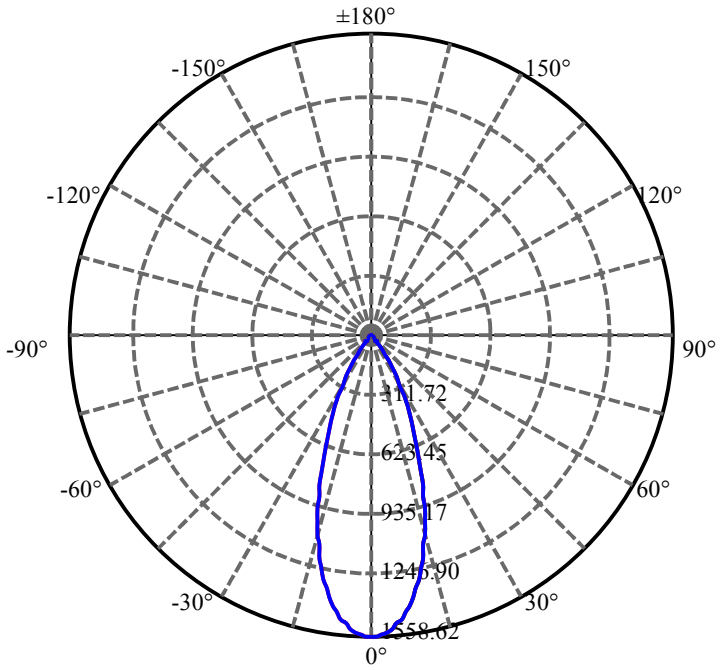
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 658.28 | 68.89% | 83.72% |
| 0-40 | 744.09 | 77.87% | 94.63% |
| 0-60 | 771.77 | 80.77% | 98.15% |
| 0-90 | 786.14 | 82.28% | 99.98% |
| 0-120 | 786.14 | 82.28% | 99.98% |
| 0-180 | 786.31 | 82.29% | 100.00% |
| 60-90 | 15.27 | 1.60% | 1.94% |
| 90-120 | 0.00 | 0.00% | 0.00% |
| 90-130 | 0.00 | 0.00% | 0.00% |
| 90-150 | 0.00 | 0.00% | 0.00% |
| 90-180 | 0.00 | 0.00% | 0.00% |
| 0-28.39 | 629.05 | 65.83% | 80.00% |

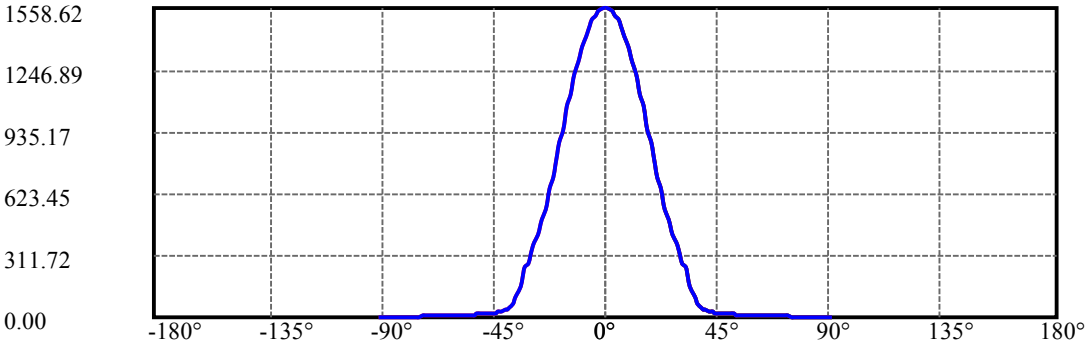
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 137.66 |
| 10-20 | 290.42 |
| 20-30 | 230.20 |
| 30-40 | 85.81 |
| 40-50 | 16.98 |
| 50-60 | 10.70 |
| 60-70 | 7.30 |
| 70-80 | 4.77 |
| 80-90 | 2.31 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

Light Distribution Curve [Unit:cd]






C0(Max):

C0/C180:

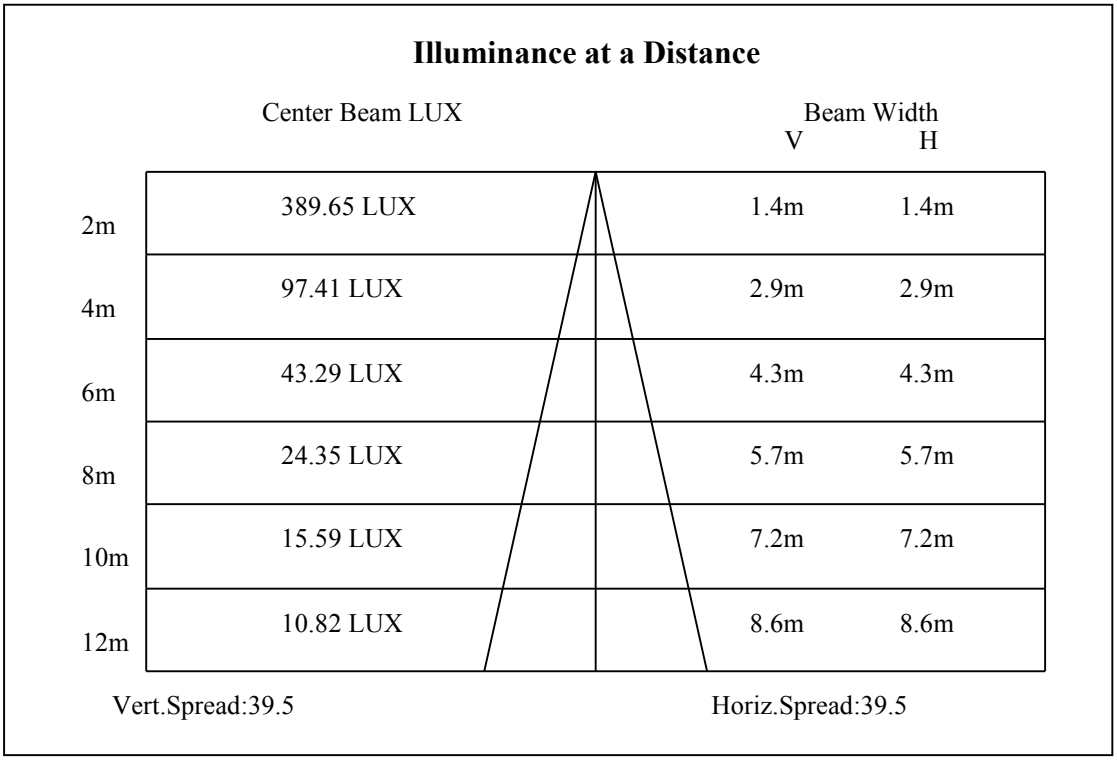
C90/C270:

Field angle(10%Imax):C0/180Left:34.0 Right:34.0
:C90/270Left:34.0 Right:34.0

Beam Angle(50%Imax):C0/180Left:19.7 Right:19.7
:C90/270Left:19.7 Right:19.7

Lux distance Curve





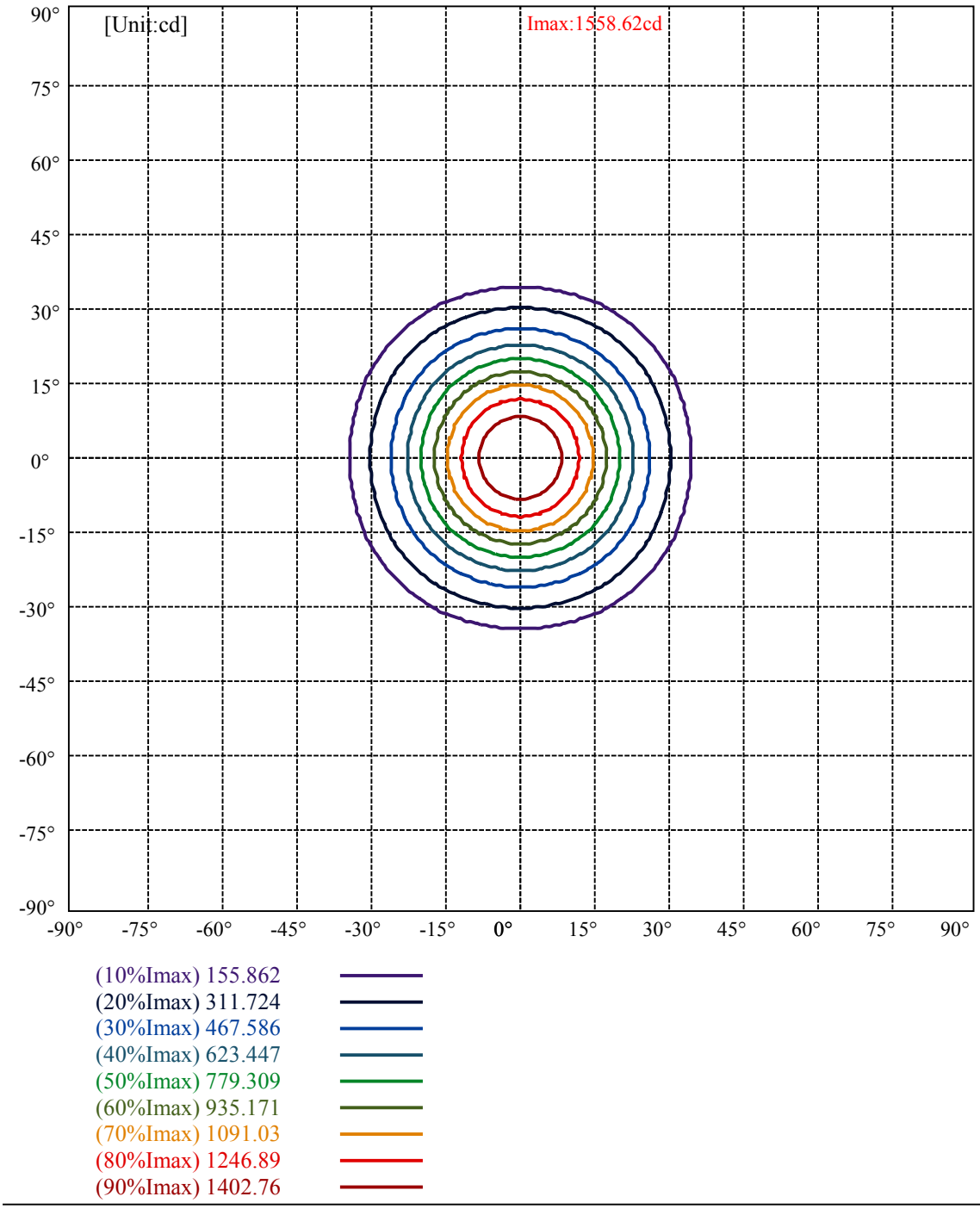

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

ISO-Intensity(V-H)





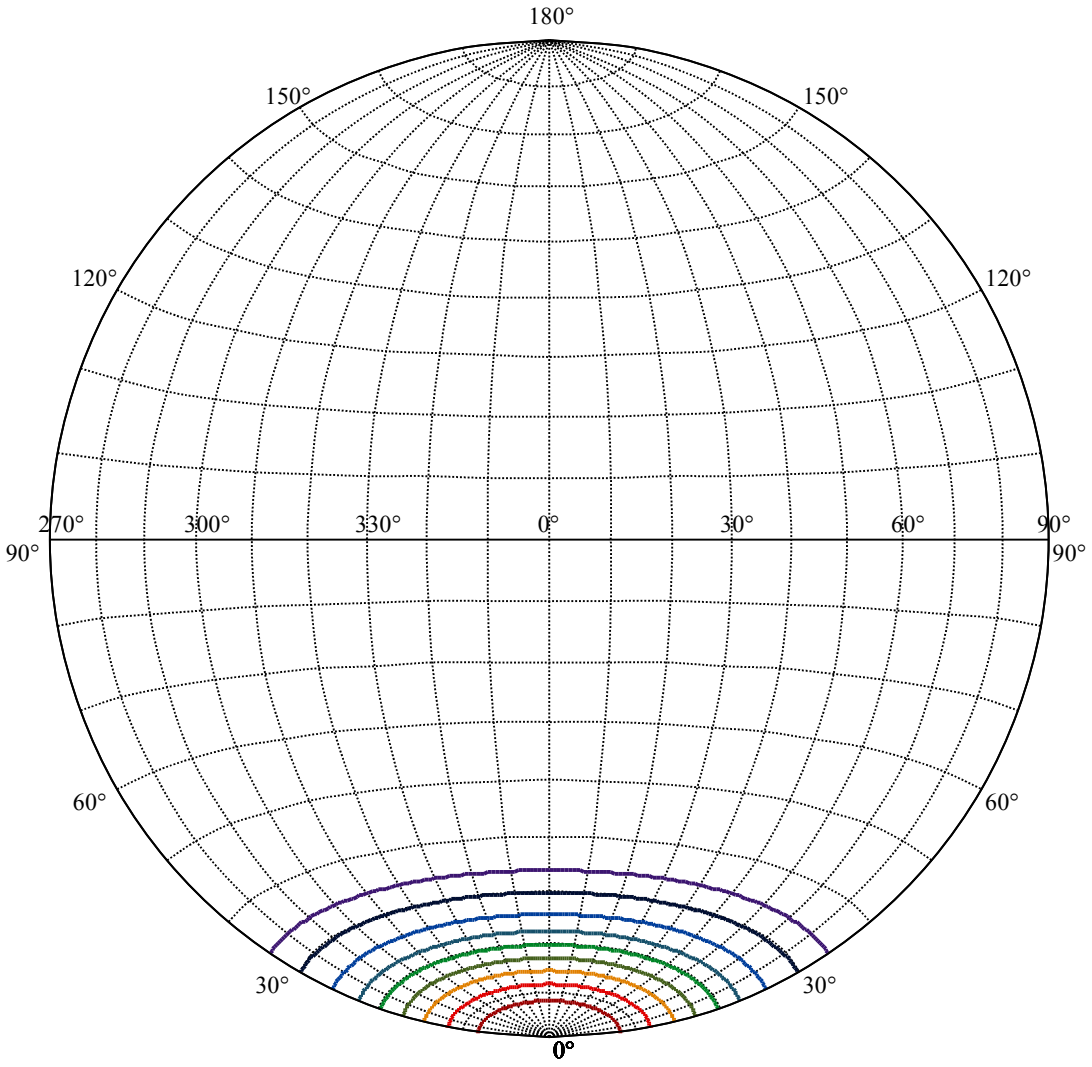

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

ISO candela diagram on circular web






House [Unit:cd] Road

Imax:1558.62

(10%Imax) 155.862
(20%Imax) 311.724
(30%Imax) 467.586
(40%Imax) 623.447
(50%Imax) 779.309
(60%Imax) 935.171
(70%Imax) 1091.03
(80%Imax) 1246.89
(90%Imax) 1402.76

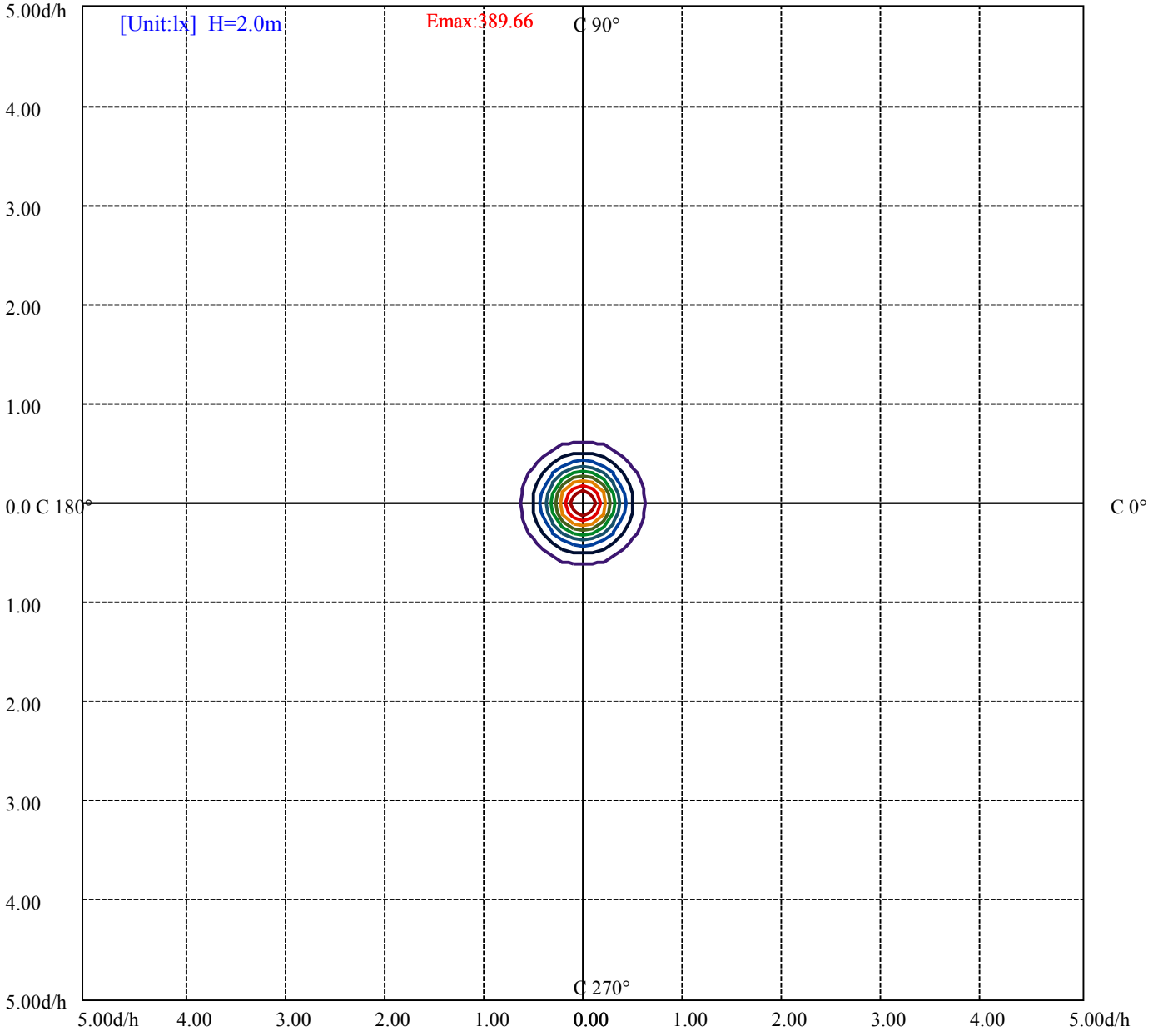
Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

## ISO illuminance diagram



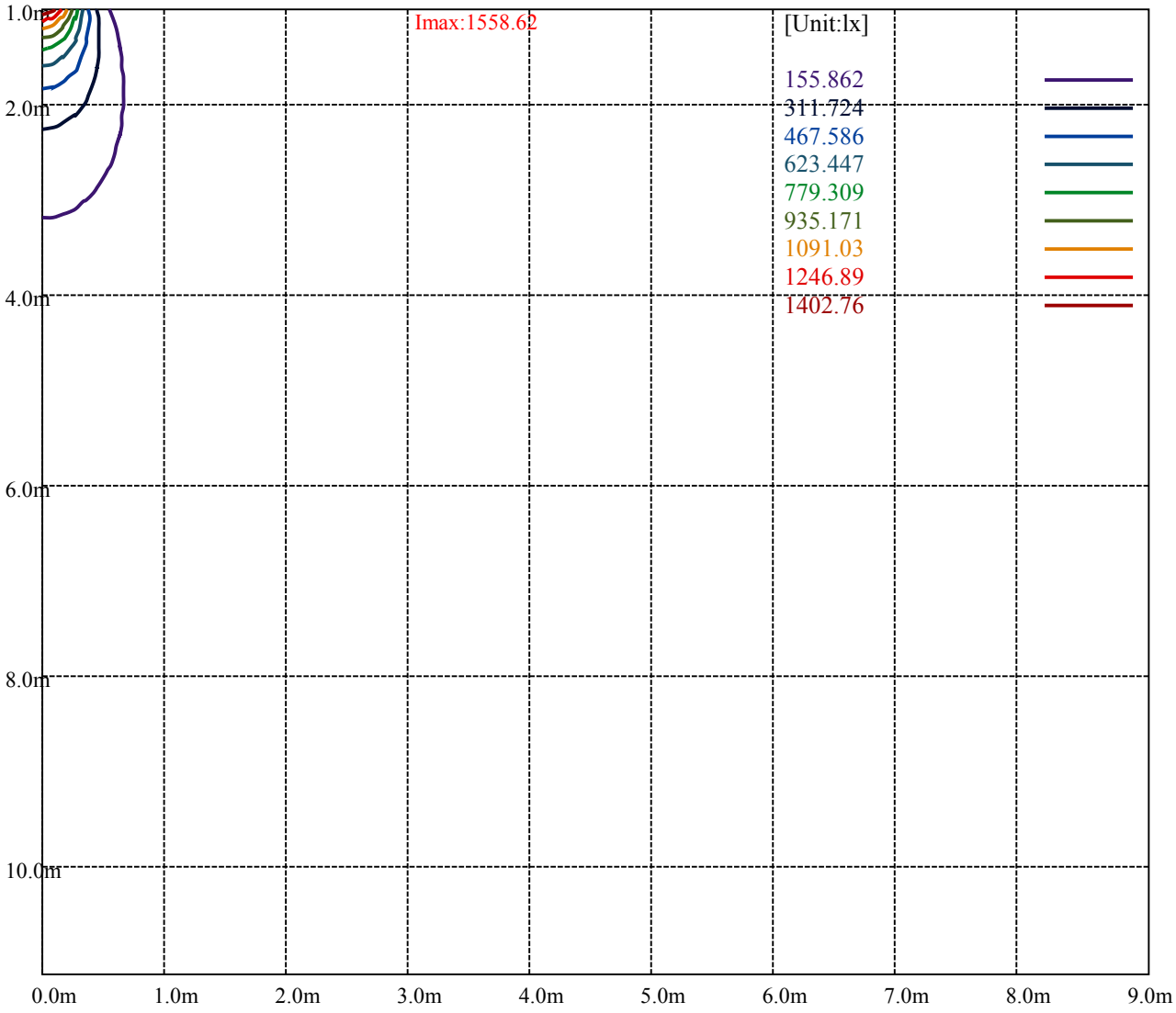



(10%Emax) 38.9655
(20%Emax) 77.931
(30%Emax) 116.8965
(40%Emax) 155.8618
(50%Emax) 194.8273
(60%Emax) 233.7928
(70%Emax) 272.7575
(80%Emax) 311.7225
(90%Emax) 350.69

Equipment: GMS 1800
Temperature(°C): 25.0
Date: 2020/4/6
Humidity(%): 60.0%
Operator: NT07
Distance(m): 6.81

Space ISO Lux diagram






Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Nata 2-1747-N

## Luminance Limitting Curve(no luminous side)



Luminance Table

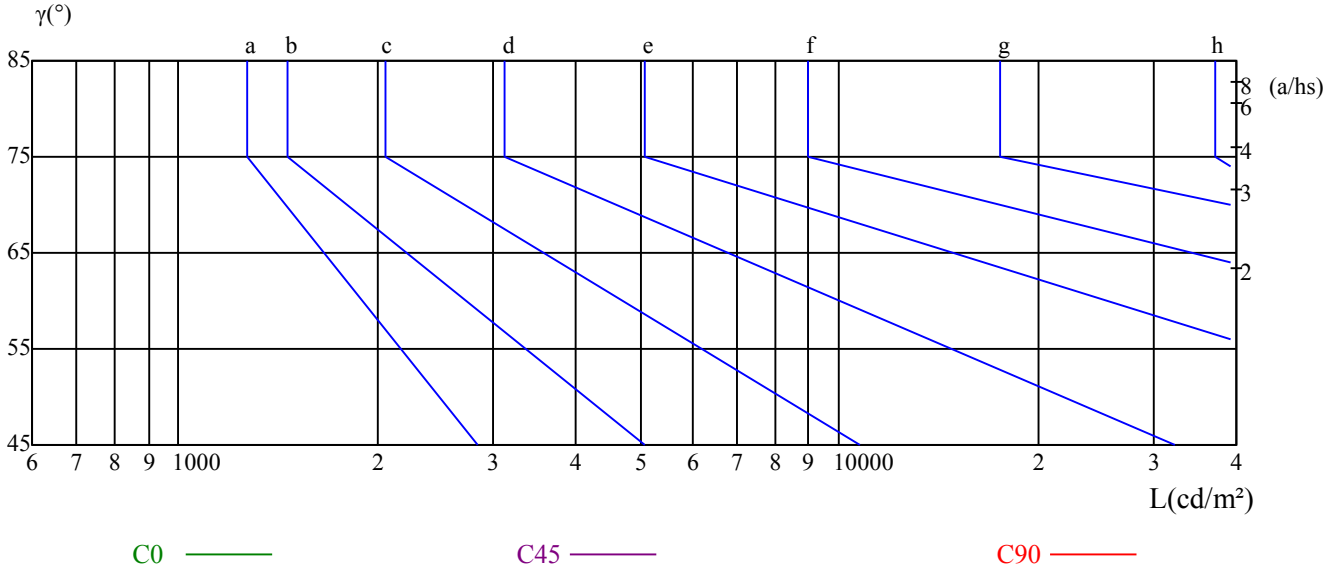
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Glare Table

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

Luminance Limitting Curve



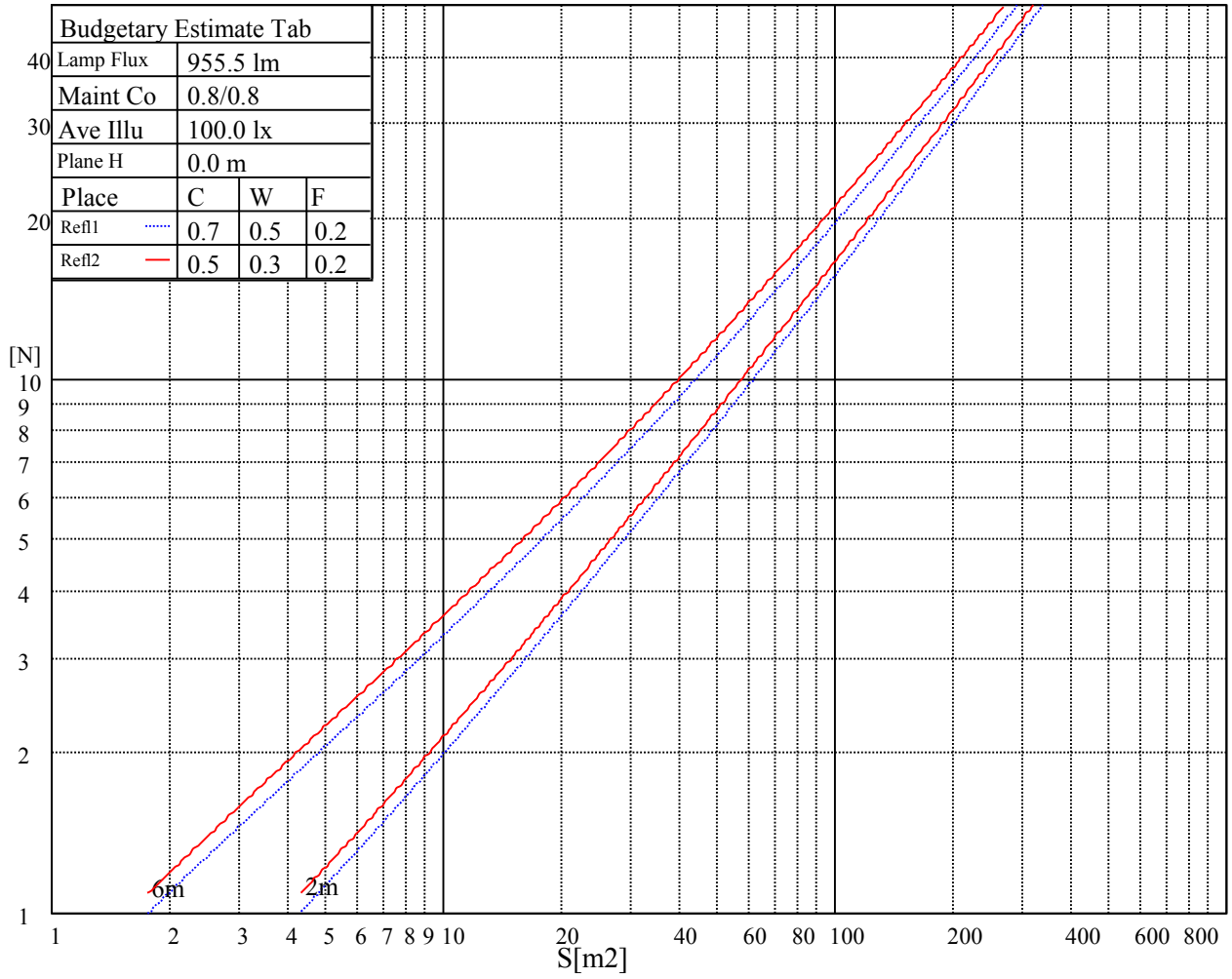

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

## Budgetary Estimate Table






Equipment: GMS 1800 Date: 2020/4/6 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 6.81

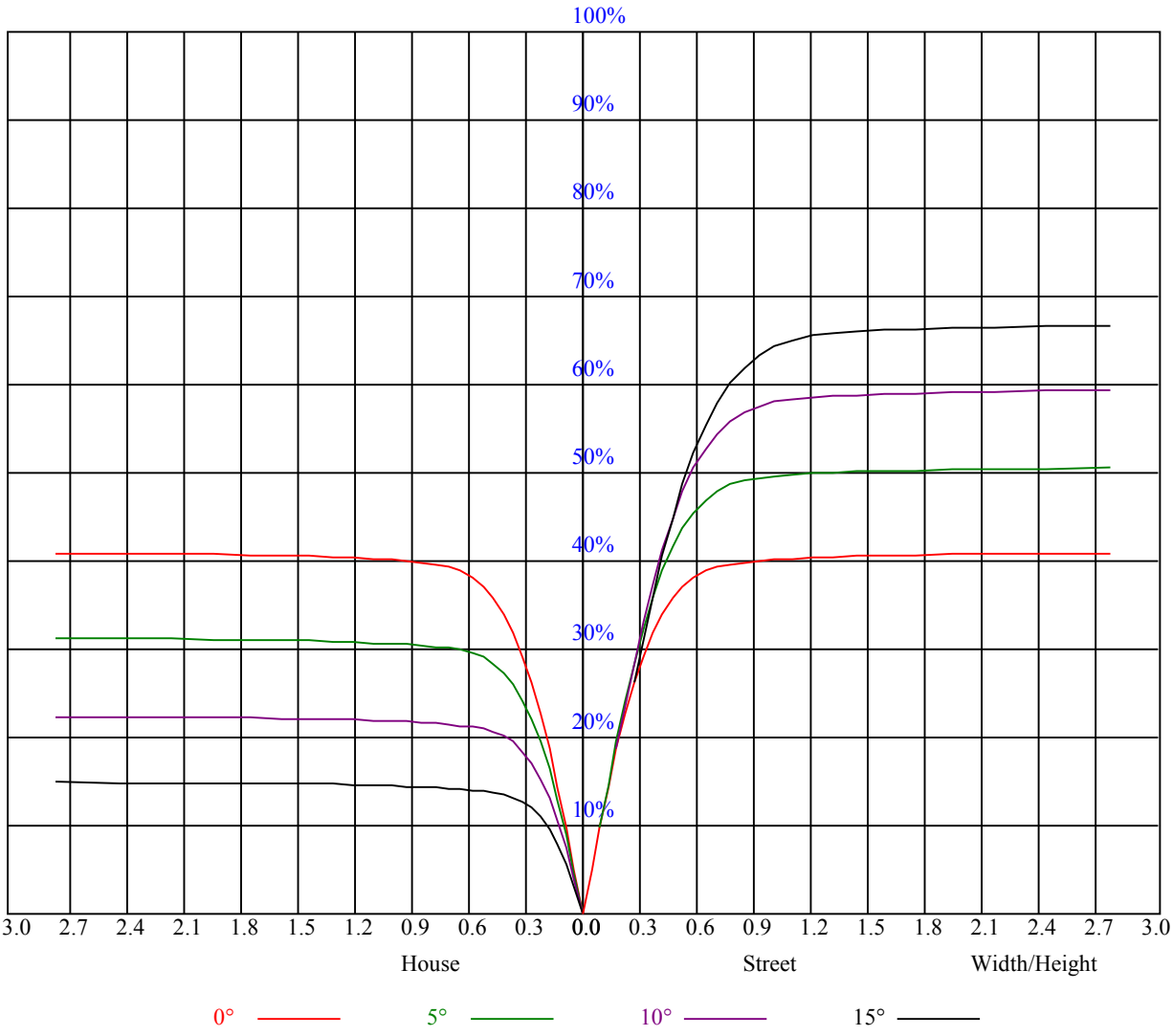
# Utilization factor table for indoor luminaire



| 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 | 0.98 | 0.98 | 0.98 | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.88 | 0.88 | 0.88 | 0.84 | 0.84 | 0.84 | 0.82 |
| 1 | 0.92 | 0.90 | 0.88 | 0.90 | 0.88 | 0.86 | 0.86 | 0.85 | 0.84 | 0.83 | 0.82 | 0.81 | 0.81 | 0.80 | 0.79 | 0.77 |
| 2 | 0.86 | 0.83 | 0.80 | 0.84 | 0.82 | 0.79 | 0.82 | 0.80 | 0.78 | 0.79 | 0.78 | 0.76 | 0.77 | 0.76 | 0.74 | 0.73 |
| 3 | 0.81 | 0.77 | 0.74 | 0.80 | 0.76 | 0.73 | 0.78 | 0.75 | 0.72 | 0.76 | 0.73 | 0.71 | 0.74 | 0.72 | 0.70 | 0.69 |
| 4 | 0.76 | 0.72 | 0.69 | 0.75 | 0.72 | 0.69 | 0.74 | 0.70 | 0.68 | 0.72 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.65 |
| 5 | 0.72 | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.63 | 0.68 | 0.65 | 0.63 | 0.62 |
| 6 | 0.69 | 0.64 | 0.61 | 0.68 | 0.64 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.60 | 0.65 | 0.62 | 0.60 | 0.59 |
| 7 | 0.65 | 0.61 | 0.58 | 0.65 | 0.61 | 0.58 | 0.64 | 0.60 | 0.57 | 0.63 | 0.60 | 0.57 | 0.62 | 0.59 | 0.57 | 0.56 |
| 8 | 0.62 | 0.58 | 0.55 | 0.62 | 0.58 | 0.55 | 0.61 | 0.57 | 0.55 | 0.60 | 0.57 | 0.54 | 0.60 | 0.57 | 0.54 | 0.53 |
| 9 | 0.60 | 0.55 | 0.52 | 0.59 | 0.55 | 0.52 | 0.59 | 0.55 | 0.52 | 0.58 | 0.54 | 0.52 | 0.57 | 0.54 | 0.52 | 0.51 |
| 10 | 0.57 | 0.53 | 0.50 | 0.57 | 0.53 | 0.50 | 0.56 | 0.52 | 0.50 | 0.56 | 0.52 | 0.50 | 0.55 | 0.52 | 0.50 | 0.49 |

## Coefficient Utilization Curve






Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/6
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

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 | 1553.63 | 1550.85 | 1535.07 | 1524.40 | 1508.62 | 1493.77 | 1473.82 | 1445.97 | 1416.74 |
| 45.0 | 1563.84 | 1553.63 | 1541.57 | 1522.54 | 1504.44 | 1484.95 | 1472.42 | 1430.66 | 1408.85 |
| 90.0 | 1552.24 | 1530.89 | 1509.55 | 1480.78 | 1454.79 | 1421.84 | 1381.94 | 1343.89 | 1301.66 |
| 135.0 | 1564.77 | 1559.66 | 1546.67 | 1528.57 | 1507.23 | 1474.28 | 1440.87 | 1404.68 | 1364.77 |
| 180.0 | 1553.63 | 1560.59 | 1555.49 | 1550.38 | 1532.75 | 1508.16 | 1479.85 | 1443.19 | 1414.88 |
| 225.0 | 1563.84 | 1574.05 | 1565.70 | 1556.88 | 1533.68 | 1508.62 | 1473.82 | 1432.05 | 1387.51 |
| 270.0 | 1552.24 | 1566.62 | 1569.87 | 1576.83 | 1569.87 | 1561.98 | 1550.38 | 1530.89 | 1518.36 |
| 315.0 | 1564.77 | 1566.62 | 1562.91 | 1559.66 | 1550.38 | 1541.57 | 1524.40 | 1512.33 | 1479.39 |
| 360.0 | 1553.63 | 1550.85 | 1535.07 | 1524.40 | 1508.62 | 1493.77 | 1473.82 | 1445.97 | 1416.74 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1379.15 | 1337.85 | 1305.84 | 1235.30 | 1182.87 | 1147.60 | 1086.81 | 1026.95 | 910.57 |
| 45.0 | 1369.41 | 1297.48 | 1268.25 | 1211.17 | 1151.78 | 1090.06 | 1022.78 | 959.67 | 892.38 |
| 90.0 | 1251.08 | 1199.11 | 1142.96 | 1099.81 | 1024.17 | 891.13 | 891.13 | 851.36 | 785.93 |
| 135.0 | 1320.69 | 1271.03 | 1217.67 | 1158.74 | 1110.01 | 1035.77 | 983.80 | 918.83 | 858.97 |
| 180.0 | 1366.62 | 1310.01 | 1267.32 | 1210.25 | 1145.28 | 1101.66 | 1043.66 | 989.83 | 933.22 |
| 225.0 | 1335.53 | 1291.92 | 1263.61 | 1204.68 | 1153.17 | 1121.62 | 1035.31 | 916.00 | 916.00 |
| 270.0 | 1485.42 | 1469.64 | 1437.62 | 1386.11 | 1360.13 | 1312.33 | 1261.75 | 1207.93 | 1148.99 |
| 315.0 | 1450.61 | 1429.73 | 1376.83 | 1350.85 | 1304.44 | 1250.15 | 1188.44 | 1129.04 | 1067.79 |
| 360.0 | 1379.15 | 1337.85 | 1305.84 | 1235.30 | 1182.87 | 1147.60 | 1086.81 | 1026.95 | 910.57 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 910.57 | 848.81 | 787.00 | 725.28 | 661.99 | 604.45 | 550.71 | 507.00 | 463.76 |
| 45.0 | 829.74 | 767.09 | 704.91 | 644.12 | 588.90 | 538.79 | 493.31 | 450.62 | 412.57 |
| 90.0 | 722.69 | 663.48 | 607.33 | 558.56 | 512.52 | 470.90 | 431.09 | 393.22 | 360.46 |
| 135.0 | 796.79 | 735.54 | 676.14 | 614.89 | 562.92 | 516.52 | 474.29 | 435.77 | 394.01 |
| 180.0 | 872.43 | 813.50 | 754.10 | 693.78 | 638.09 | 585.19 | 537.86 | 495.63 | 456.19 |
| 225.0 | 866.35 | 802.13 | 739.58 | 679.11 | 620.32 | 566.72 | 520.51 | 478.74 | 438.19 |
| 270.0 | 1087.28 | 1019.53 | 952.71 | 888.67 | 825.10 | 760.60 | 699.81 | 639.02 | 583.80 |
| 315.0 | 924.26 | 898.69 | 885.75 | 822.78 | 755.03 | 691.50 | 641.25 | 586.40 | 530.53 |
| 360.0 | 910.57 | 848.81 | 787.00 | 725.28 | 661.99 | 604.45 | 550.71 | 507.00 | 463.76 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 423.62 | 394.94 | 358.37 | 327.00 | 295.50 | 250.81 | 204.50 | 159.35 | 118.79 |
| 45.0 | 381.02 | 340.65 | 316.52 | 282.18 | 242.74 | 242.74 | 158.51 | 119.49 | 86.08 |
| 90.0 | 321.85 | 277.21 | 249.37 | 184.87 | 141.21 | 116.38 | 80.56 | 55.82 | 43.48 |
| 135.0 | 358.74 | 323.94 | 283.57 | 239.95 | 239.95 | 230.21 | 128.17 | 93.27 | 65.29 |
| 180.0 | 415.36 | 377.77 | 342.04 | 319.77 | 260.37 | 251.55 | 251.55 | 143.11 | 104.73 |
| 225.0 | 395.45 | 355.17 | 333.22 | 284.59 | 249.19 | 226.96 | 189.56 | 150.72 | 114.48 |
| 270.0 | 535.54 | 492.85 | 469.65 | 420.46 | 400.04 | 368.49 | 321.16 | 295.64 | 249.23 |
| 315.0 | 497.72 | 457.35 | 418.37 | 385.66 | 354.24 | 315.50 | 270.30 | 223.29 | 177.21 |
| 360.0 | 423.62 | 394.94 | 358.37 | 327.00 | 295.50 | 250.81 | 204.50 | 159.35 | 118.79 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 84.31 | 59.72 | 46.82 | 39.12 | 33.09 | 29.42 | 26.54 | 24.22 | 22.18 |
| 45.0 | 61.02 | 46.64 | 38.84 | 33.09 | 29.19 | 26.50 | 24.27 | 22.37 | 21.39 |
| 90.0 | 36.57 | 31.32 | 28.17 | 25.71 | 23.57 | 21.81 | 20.37 | 19.07 | 17.91 |
| 135.0 | 47.89 | 40.14 | 34.15 | 30.02 | 27.19 | 24.87 | 22.97 | 21.30 | 19.86 |
| 180.0 | 75.03 | 55.27 | 44.64 | 37.96 | 32.85 | 29.47 | 26.68 | 24.32 | 22.37 |
| 225.0 | 84.13 | 62.97 | 50.58 | 42.64 | 36.61 | 32.53 | 29.23 | 26.50 | 24.22 |
| 270.0 | 249.23 | 147.93 | 107.70 | 75.08 | 53.92 | 42.60 | 35.96 | 31.04 | 27.93 |
| 315.0 | 135.22 | 96.94 | 67.56 | 50.12 | 41.25 | 34.80 | 30.44 | 28.54 | 24.87 |
| 360.0 | 84.31 | 59.72 | 46.82 | 39.12 | 33.09 | 29.42 | 26.54 | 24.22 | 22.18 |

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 | 20.51 | 19.12 | 17.87 | 16.75 | 15.82 | 15.27 | 14.15 | 13.74 | 12.99 |
| 45.0 | 19.91 | 18.19 | 17.54 | 16.52 | 15.59 | 14.80 | 14.06 | 13.36 | 12.67 |
| 90.0 | 16.89 | 16.01 | 15.36 | 14.39 | 13.69 | 13.13 | 12.53 | 11.79 | 11.32 |
| 135.0 | 18.70 | 17.63 | 16.66 | 15.73 | 15.08 | 14.15 | 13.60 | 12.95 | 12.16 |
| 180.0 | 20.70 | 19.26 | 18.24 | 16.89 | 15.87 | 15.17 | 14.29 | 13.60 | 12.90 |
| 225.0 | 22.32 | 20.65 | 19.21 | 18.05 | 16.94 | 16.29 | 14.99 | 14.48 | 13.69 |
| 270.0 | 25.48 | 23.39 | 22.32 | 20.05 | 19.30 | 18.10 | 17.03 | 16.10 | 15.22 |
| 315.0 | 22.83 | 21.76 | 19.68 | 18.89 | 17.73 | 16.66 | 15.73 | 14.94 | 14.15 |
| 360.0 | 20.51 | 19.12 | 17.87 | 16.75 | 15.82 | 15.27 | 14.15 | 13.74 | 12.99 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 12.06 | 11.65 | 11.04 | 10.53 | 10.02 | 9.51 | 9.10 | 8.72 | 8.31 |
| 45.0 | 12.02 | 11.37 | 10.77 | 10.21 | 9.70 | 9.28 | 8.91 | 8.45 | 8.03 |
| 90.0 | 10.72 | 10.16 | 9.70 | 9.28 | 8.82 | 8.40 | 7.98 | 7.66 | 7.29 |
| 135.0 | 11.69 | 11.09 | 10.67 | 10.12 | 9.65 | 9.19 | 8.86 | 8.49 | 8.07 |
| 180.0 | 12.20 | 11.55 | 10.95 | 10.44 | 9.88 | 9.37 | 8.96 | 8.58 | 8.17 |
| 225.0 | 12.71 | 12.39 | 11.65 | 11.04 | 10.53 | 10.02 | 9.51 | 9.05 | 8.63 |
| 270.0 | 14.34 | 13.64 | 12.99 | 12.34 | 11.65 | 11.09 | 10.53 | 10.07 | 9.56 |
| 315.0 | 13.41 | 12.71 | 12.16 | 11.51 | 10.95 | 10.39 | 9.98 | 9.56 | 9.14 |
| 360.0 | 12.06 | 11.65 | 11.04 | 10.53 | 10.02 | 9.51 | 9.10 | 8.72 | 8.31 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 7.89 | 7.56 | 7.24 | 6.87 | 6.59 | 6.26 | 6.03 | 5.75 | 5.61 |
| 45.0 | 7.70 | 7.38 | 7.01 | 6.73 | 6.36 | 6.13 | 5.89 | 5.48 | 5.24 |
| 90.0 | 6.91 | 6.59 | 6.31 | 6.03 | 5.71 | 5.43 | 5.20 | 4.92 | 4.64 |
| 135.0 | 7.75 | 7.47 | 7.10 | 6.82 | 6.50 | 6.22 | 6.03 | 5.85 | 5.43 |
| 180.0 | 7.70 | 7.38 | 7.05 | 6.77 | 6.40 | 6.13 | 5.85 | 5.61 | 5.43 |
| 225.0 | 8.21 | 7.80 | 7.47 | 7.15 | 6.77 | 6.45 | 6.17 | 5.89 | 5.66 |
| 270.0 | 9.10 | 8.68 | 8.35 | 7.93 | 7.52 | 7.24 | 6.91 | 6.68 | 6.40 |
| 315.0 | 8.63 | 8.49 | 7.98 | 7.61 | 7.42 | 6.91 | 6.73 | 6.40 | 6.17 |
| 360.0 | 7.89 | 7.56 | 7.24 | 6.87 | 6.59 | 6.26 | 6.03 | 5.75 | 5.61 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 5.20 | 4.92 | 4.73 | 4.36 | 4.22 | 3.90 | 3.71 | 3.48 | 3.20 |
| 45.0 | 5.01 | 4.73 | 4.50 | 4.18 | 3.90 | 3.71 | 3.43 | 3.16 | 2.97 |
| 90.0 | 4.50 | 4.13 | 3.94 | 3.71 | 3.53 | 3.25 | 3.02 | 2.83 | 2.60 |
| 135.0 | 5.34 | 5.06 | 4.73 | 4.59 | 4.32 | 4.08 | 3.81 | 3.62 | 3.43 |
| 180.0 | 5.15 | 4.78 | 4.55 | 4.32 | 4.08 | 3.81 | 3.53 | 3.29 | 3.11 |
| 225.0 | 5.29 | 5.10 | 4.83 | 4.55 | 4.22 | 3.94 | 3.71 | 3.43 | 3.16 |
| 270.0 | 6.13 | 5.80 | 5.48 | 5.24 | 5.01 | 4.69 | 4.41 | 4.13 | 3.94 |
| 315.0 | 5.89 | 5.61 | 5.29 | 5.06 | 4.78 | 4.50 | 4.22 | 3.99 | 3.76 |
| 360.0 | 5.20 | 4.92 | 4.73 | 4.36 | 4.22 | 3.90 | 3.71 | 3.48 | 3.20 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 2.97 | 2.74 | 2.55 | 2.37 | 2.13 | 1.95 | 1.81 | 1.62 | 1.53 |
| 45.0 | 2.74 | 2.55 | 2.27 | 2.04 | 1.90 | 1.72 | 1.58 | 1.39 | 1.30 |
| 90.0 | 2.41 | 2.23 | 2.04 | 1.90 | 1.76 | 1.62 | 1.53 | 1.39 | 1.30 |
| 135.0 | 3.25 | 3.02 | 2.88 | 2.74 | 2.51 | 2.32 | 2.04 | 1.86 | 1.72 |
| 180.0 | 2.88 | 2.60 | 2.41 | 2.18 | 2.00 | 1.86 | 1.67 | 1.48 | 1.44 |
| 225.0 | 2.97 | 2.74 | 2.51 | 2.27 | 2.13 | 1.90 | 1.67 | 1.58 | 1.44 |
| 270.0 | 3.62 | 3.39 | 3.16 | 2.88 | 2.64 | 2.41 | 2.32 | 2.04 | 1.90 |
| 315.0 | 3.57 | 3.34 | 3.16 | 2.88 | 2.74 | 2.55 | 2.37 | 2.18 | 2.04 |
| 360.0 | 2.97 | 2.74 | 2.55 | 2.37 | 2.13 | 1.95 | 1.81 | 1.62 | 1.53 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 1.44 |
| 45.0 | 1.30 |
| 90.0 | 1.25 |
| 135.0 | 1.53 |
| 180.0 | 1.39 |
| 225.0 | 1.44 |
| 270.0 | 1.76 |
| 315.0 | 1.90 |
| 360.0 | 1.44 |