NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86 750 3771111
Address:Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

## NT

Client: NT
LumCAT: 61-0310
Luminaire: 92.70.458.00
Report No: 20260714-B003
Ballast type: AC
Test No: 20250116-C001
LampCAT: CITIZEN CLU7A2
Lamp flux(lm): 563.0
Number of Lamps: 1
Length(mm): 75
Phm Type: C

Voltage(V): 36.000
Current(A): 0.150
Power (W): 5.400
PF: 0.000
Width(mm): 75
Height(mm): 52

## Photometric Results

Lumens(lm): 535.33, Efficiency(%): 95.08% , Luminous Efficacy(lm/W): 99.13
Central intensity(cd): 1462.438, Maximum intensity(cd): 1484.286
Angle of maximum intensity: C=225.0 γ=2.0
Beam Angle(50%Imax): [C0/180]Total=33.9
[C90/270]Total=33.3
Field angle(10%Imax): [C0/180]Total=55.1
[C90/270]Total=55.2
Maximum s/h(1/2): C0_180=0.62 C90_270=0.49
Maximum s/h(1/4): C0_180=0.61 C90_270=0.53
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 95.09%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.720%

Equipment: GMS 1800
Temperature(°C): 25.0
Date: 2025/1/16
Humidity(%): 60.0%
Operator: NT
Distance(m): 7.30

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 1470.165 | 0.000 | 0 | 0.00% | 0.00% |
| 1.0 | 1467.966 | 1.406 | 1.406 | 0.25% | 0.26% |
| 2.0 | 1458.774 | 4.201 | 5.607 | 0.75% | 1.05% |
| 3.0 | 1441.521 | 6.937 | 12.543 | 1.23% | 2.34% |
| 4.0 | 1420.338 | 9.580 | 22.123 | 1.70% | 4.13% |
| 5.0 | 1392.428 | 12.100 | 34.223 | 2.15% | 6.39% |
| 6.0 | 1355.591 | 14.442 | 48.665 | 2.57% | 9.09% |
| 7.0 | 1316.556 | 16.586 | 65.251 | 2.95% | 12.19% |
| 8.0 | 1258.776 | 18.431 | 83.682 | 3.27% | 15.63% |
| 9.0 | 1205.626 | 19.973 | 103.654 | 3.55% | 19.36% |
| 10.0 | 1149.385 | 21.312 | 124.966 | 3.79% | 23.34% |
| 11.0 | 1103.496 | 22.511 | 147.477 | 4.00% | 27.55% |
| 12.0 | 1035.238 | 23.379 | 170.857 | 4.15% | 31.92% |
| 13.0 | 979.184 | 23.906 | 194.763 | 4.25% | 36.38% |
| 14.0 | 923.076 | 24.349 | 219.112 | 4.32% | 40.93% |
| 15.0 | 860.693 | 24.488 | 243.6 | 4.35% | 45.50% |
| 16.0 | 790.071 | 24.188 | 267.788 | 4.30% | 50.02% |
| 17.0 | 726.309 | 23.614 | 291.402 | 4.19% | 54.43% |
| 18.0 | 664.227 | 22.927 | 314.329 | 4.07% | 58.72% |
| 19.0 | 599.166 | 21.980 | 336.31 | 3.90% | 62.82% |
| 20.0 | 536.337 | 20.783 | 357.093 | 3.69% | 66.71% |
| 21.0 | 473.662 | 19.394 | 376.487 | 3.44% | 70.33% |
| 22.0 | 414.630 | 17.851 | 394.337 | 3.17% | 73.66% |
| 23.0 | 357.036 | 16.192 | 410.529 | 2.88% | 76.69% |
| 24.0 | 303.007 | 14.431 | 424.96 | 2.56% | 79.38% |
| 25.0 | 262.127 | 12.850 | 437.81 | 2.28% | 81.78% |
| 26.0 | 220.321 | 11.388 | 449.198 | 2.02% | 83.91% |
| 27.0 | 177.875 | 9.742 | 458.94 | 1.73% | 85.73% |
| 28.0 | 153.109 | 8.380 | 467.32 | 1.49% | 87.30% |
| 29.0 | 112.162 | 6.940 | 474.26 | 1.23% | 88.59% |
| 30.0 | 87.496 | 5.391 | 479.651 | 0.96% | 89.60% |
| 31.0 | 69.790 | 4.377 | 484.028 | 0.78% | 90.42% |
| 32.0 | 55.568 | 3.591 | 487.619 | 0.64% | 91.09% |
| 33.0 | 45.476 | 2.977 | 490.596 | 0.53% | 91.64% |
| 34.0 | 37.436 | 2.509 | 493.105 | 0.45% | 92.11% |
| 35.0 | 32.034 | 2.157 | 495.263 | 0.38% | 92.52% |
| 36.0 | 28.044 | 1.913 | 497.175 | 0.34% | 92.87% |
| 37.0 | 24.760 | 1.722 | 498.898 | 0.31% | 93.19% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 22.628 | 1.582 | 500.479 | 0.28% | 93.49% |
| 39.0 | 20.816 | 1.483 | 501.962 | 0.26% | 93.77% |
| 40.0 | 19.224 | 1.396 | 503.359 | 0.25% | 94.03% |
| 41.0 | 17.912 | 1.322 | 504.681 | 0.23% | 94.28% |
| 42.0 | 16.793 | 1.261 | 505.942 | 0.22% | 94.51% |
| 43.0 | 15.800 | 1.207 | 507.149 | 0.21% | 94.74% |
| 44.0 | 14.941 | 1.160 | 508.31 | 0.21% | 94.95% |
| 45.0 | 14.195 | 1.120 | 509.429 | 0.20% | 95.16% |
| 46.0 | 13.509 | 1.083 | 510.513 | 0.19% | 95.36% |
| 47.0 | 12.996 | 1.054 | 511.567 | 0.19% | 95.56% |
| 48.0 | 12.470 | 1.029 | 512.596 | 0.18% | 95.75% |
| 49.0 | 11.990 | 1.004 | 513.601 | 0.18% | 95.94% |
| 50.0 | 11.504 | 0.980 | 514.581 | 0.17% | 96.12% |
| 51.0 | 11.031 | 0.953 | 515.534 | 0.17% | 96.30% |
| 52.0 | 10.618 | 0.929 | 516.463 | 0.17% | 96.48% |
| 53.0 | 10.265 | 0.908 | 517.371 | 0.16% | 96.65% |
| 54.0 | 9.912 | 0.889 | 518.261 | 0.16% | 96.81% |
| 55.0 | 9.526 | 0.868 | 519.128 | 0.15% | 96.97% |
| 56.0 | 9.179 | 0.845 | 519.974 | 0.15% | 97.13% |
| 57.0 | 8.913 | 0.827 | 520.801 | 0.15% | 97.29% |
| 58.0 | 8.553 | 0.808 | 521.608 | 0.14% | 97.44% |
| 59.0 | 8.267 | 0.786 | 522.395 | 0.14% | 97.58% |
| 60.0 | 7.960 | 0.767 | 523.161 | 0.14% | 97.73% |
| 61.0 | 7.674 | 0.746 | 523.907 | 0.13% | 97.87% |
| 62.0 | 7.281 | 0.721 | 524.628 | 0.13% | 98.00% |
| 63.0 | 6.888 | 0.689 | 525.317 | 0.12% | 98.13% |
| 64.0 | 6.495 | 0.657 | 525.974 | 0.12% | 98.25% |
| 65.0 | 6.108 | 0.624 | 526.597 | 0.11% | 98.37% |
| 66.0 | 5.735 | 0.591 | 527.188 | 0.10% | 98.48% |
| 67.0 | 5.382 | 0.559 | 527.747 | 0.10% | 98.58% |
| 68.0 | 5.069 | 0.529 | 528.277 | 0.09% | 98.68% |
| 69.0 | 4.776 | 0.502 | 528.779 | 0.09% | 98.78% |
| 70.0 | 4.516 | 0.477 | 529.256 | 0.08% | 98.87% |
| 71.0 | 4.310 | 0.456 | 529.713 | 0.08% | 98.95% |
| 72.0 | 4.103 | 0.437 | 530.15 | 0.08% | 99.03% |
| 73.0 | 3.903 | 0.419 | 530.569 | 0.07% | 99.11% |
| 74.0 | 3.710 | 0.400 | 530.969 | 0.07% | 99.19% |
| 75.0 | 3.537 | 0.383 | 531.352 | 0.07% | 99.26% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 3.357 | 0.366 | 531.718 | 0.07% | 99.33% |
| 77.0 | 3.211 | 0.350 | 532.068 | 0.06% | 99.39% |
| 78.0 | 3.031 | 0.334 | 532.402 | 0.06% | 99.45% |
| 79.0 | 2.844 | 0.316 | 532.718 | 0.06% | 99.51% |
| 80.0 | 2.731 | 0.301 | 533.018 | 0.05% | 99.57% |
| 81.0 | 2.591 | 0.288 | 533.306 | 0.05% | 99.62% |
| 82.0 | 2.458 | 0.274 | 533.58 | 0.05% | 99.67% |
| 83.0 | 2.358 | 0.262 | 533.842 | 0.05% | 99.72% |
| 84.0 | 2.218 | 0.249 | 534.091 | 0.04% | 99.77% |
| 85.0 | 2.112 | 0.236 | 534.328 | 0.04% | 99.81% |
| 86.0 | 1.972 | 0.223 | 534.551 | 0.04% | 99.85% |
| 87.0 | 1.852 | 0.209 | 534.76 | 0.04% | 99.89% |
| 88.0 | 1.765 | 0.198 | 534.958 | 0.04% | 99.93% |
| 89.0 | 1.679 | 0.189 | 535.147 | 0.03% | 99.97% |
| 90.0 | 1.625 | 0.181 | 535.328 | 0.03% | 100.00% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

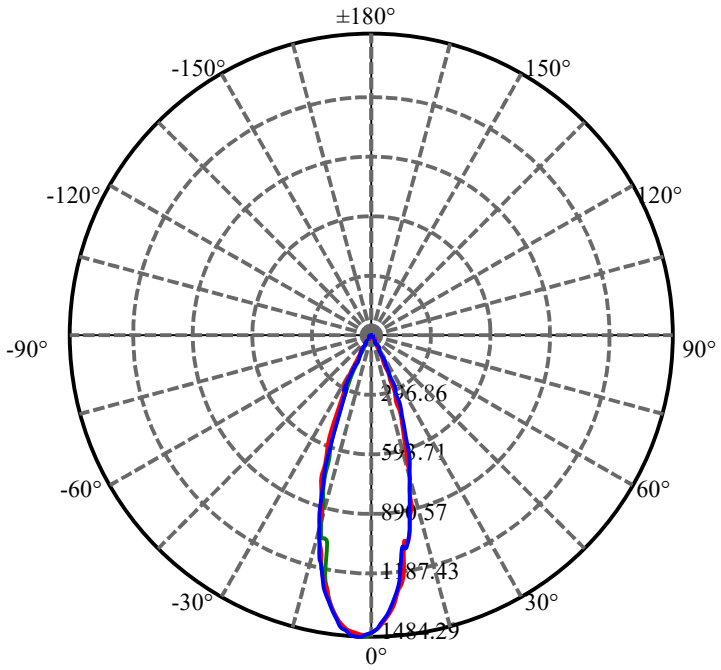
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 479.65 | 85.20% | 89.60% |
| 0-40 | 503.36 | 89.41% | 94.03% |
| 0-60 | 523.16 | 92.92% | 97.73% |
| 0-90 | 535.15 | 95.05% | 99.97% |
| 0-120 | 535.15 | 95.05% | 99.97% |
| 0-180 | 535.33 | 95.08% | 100.00% |
| 60-90 | 11.99 | 2.13% | 2.24% |
| 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% |
| 0-24.26 | 428.26 | 76.07% | 80.00% |

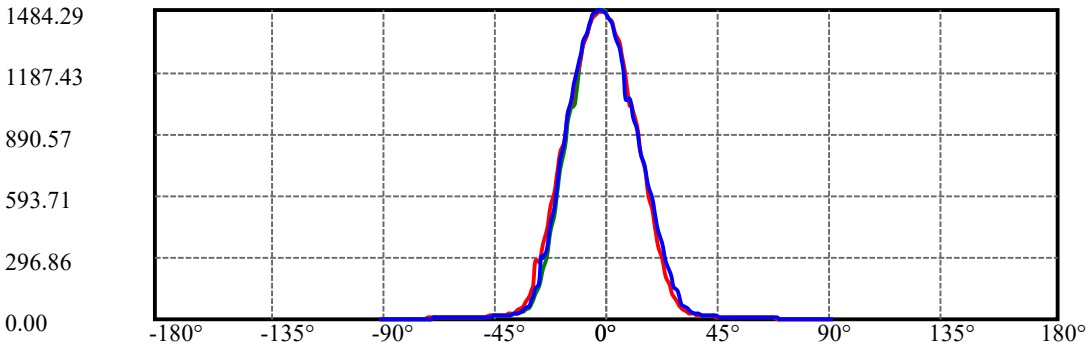
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 124.97 |
| 10-20 | 232.13 |
| 20-30 | 122.56 |
| 30-40 | 23.71 |
| 40-50 | 11.22 |
| 50-60 | 8.58 |
| 60-70 | 6.10 |
| 70-80 | 3.76 |
| 80-90 | 2.13 |
| 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]






C225(Max):

C0/C180:

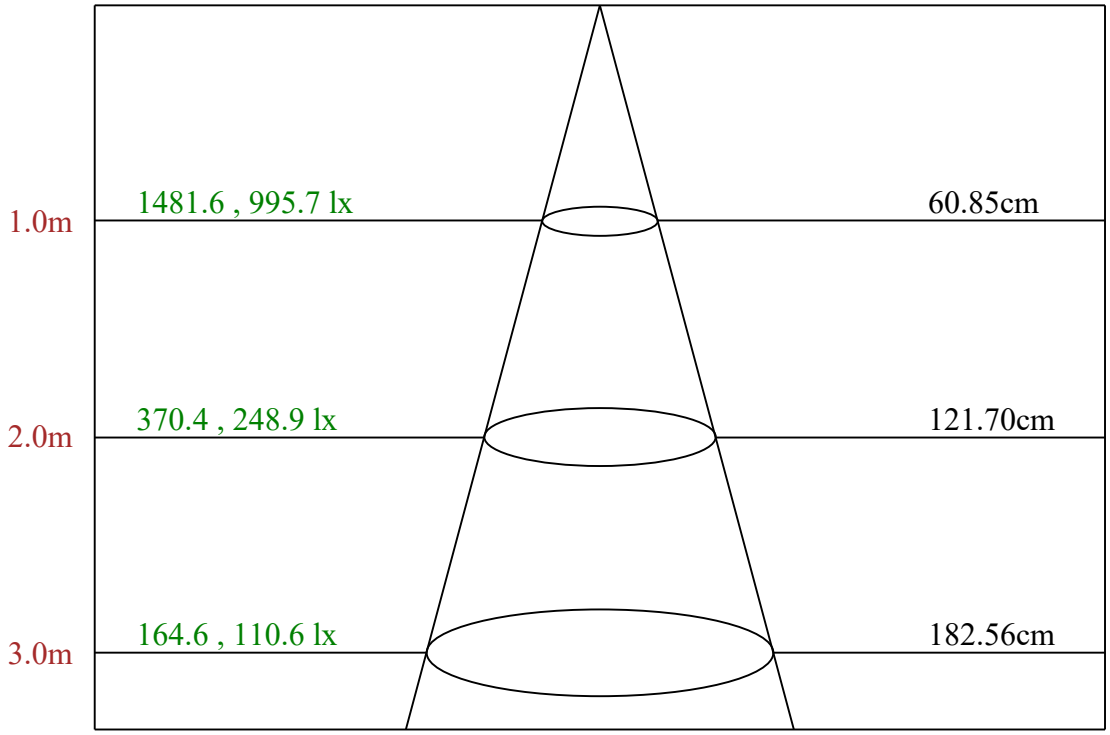
C90/C270:

Field angle(10%Imax):C0/180Left:27.6 Right:27.6
:C90/270Left:25.9 Right:29.3

Beam Angle(50%Imax):C0/180Left:17.0 Right:16.9
:C90/270Left:16.3 Right:17.0

Lux distance Curve






Max , Ave

Beam angle of C225 plane 33.85

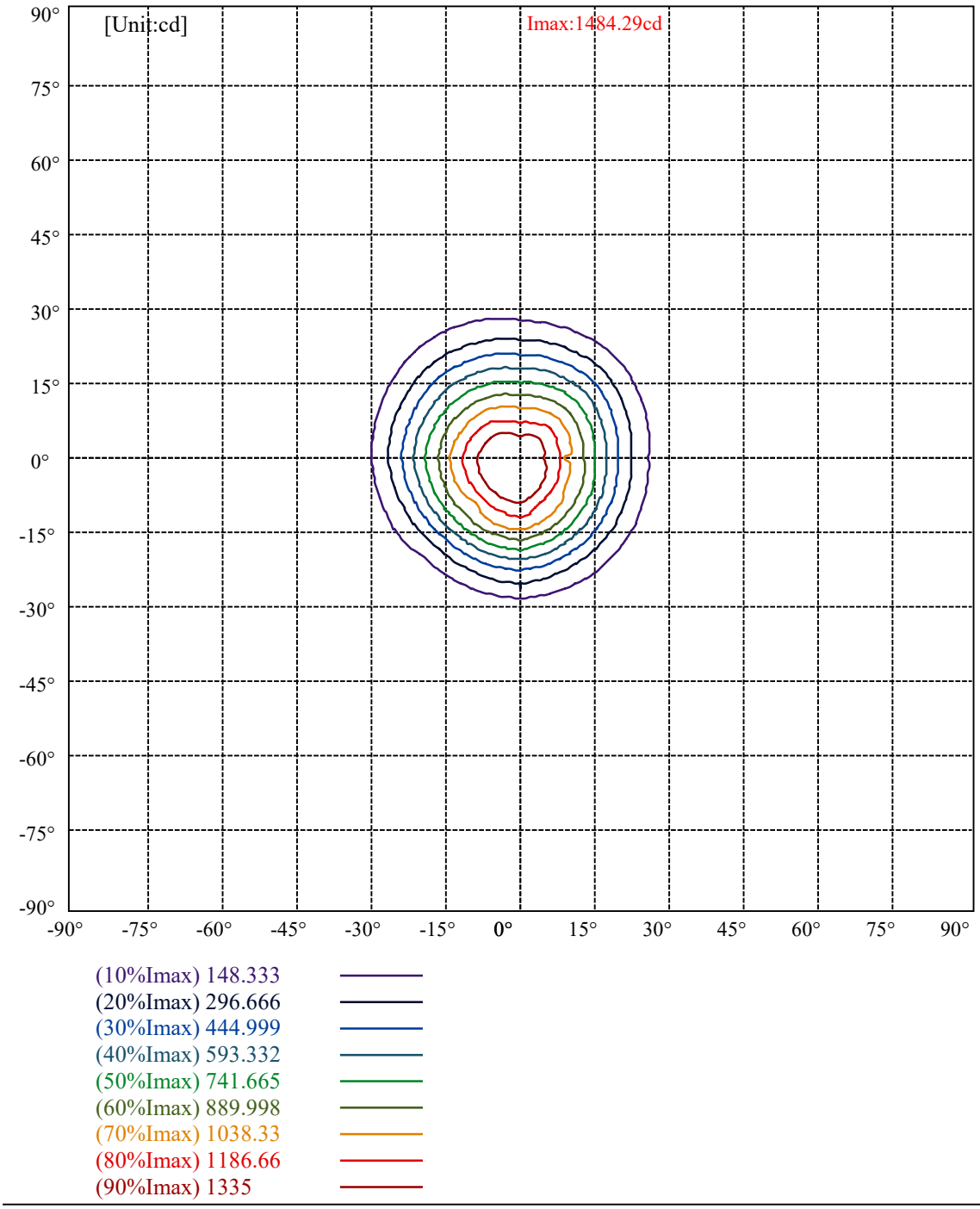
Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2025/1/16
Humidity(%): 60.0%

Operator: NT
Distance(m): 7.30

ISO-Intensity(V-H)





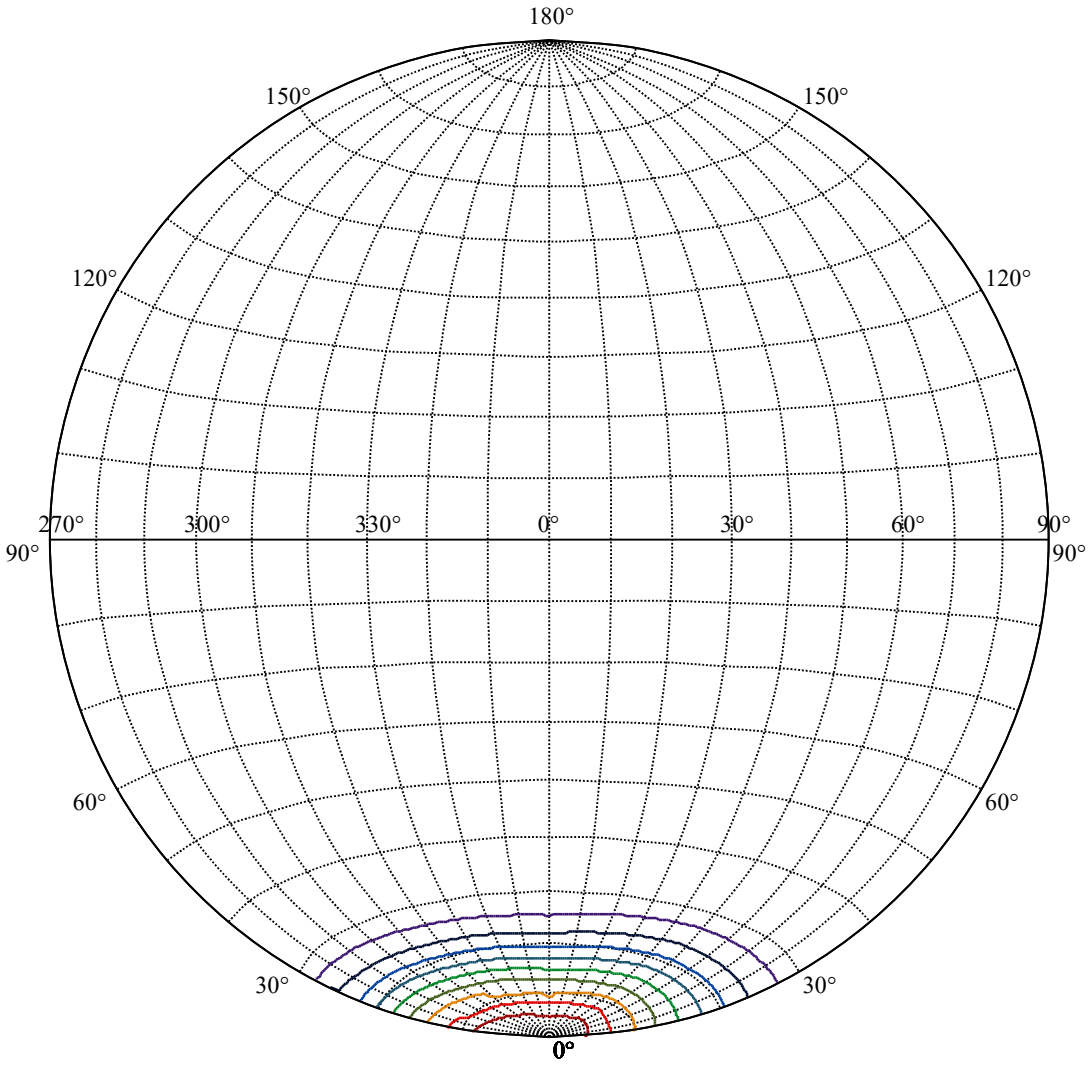

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2025/1/16
Humidity(%): 60.0%

Operator: NT
Distance(m): 7.30

## ISO candela diagram on circular web






[Unit:cd]

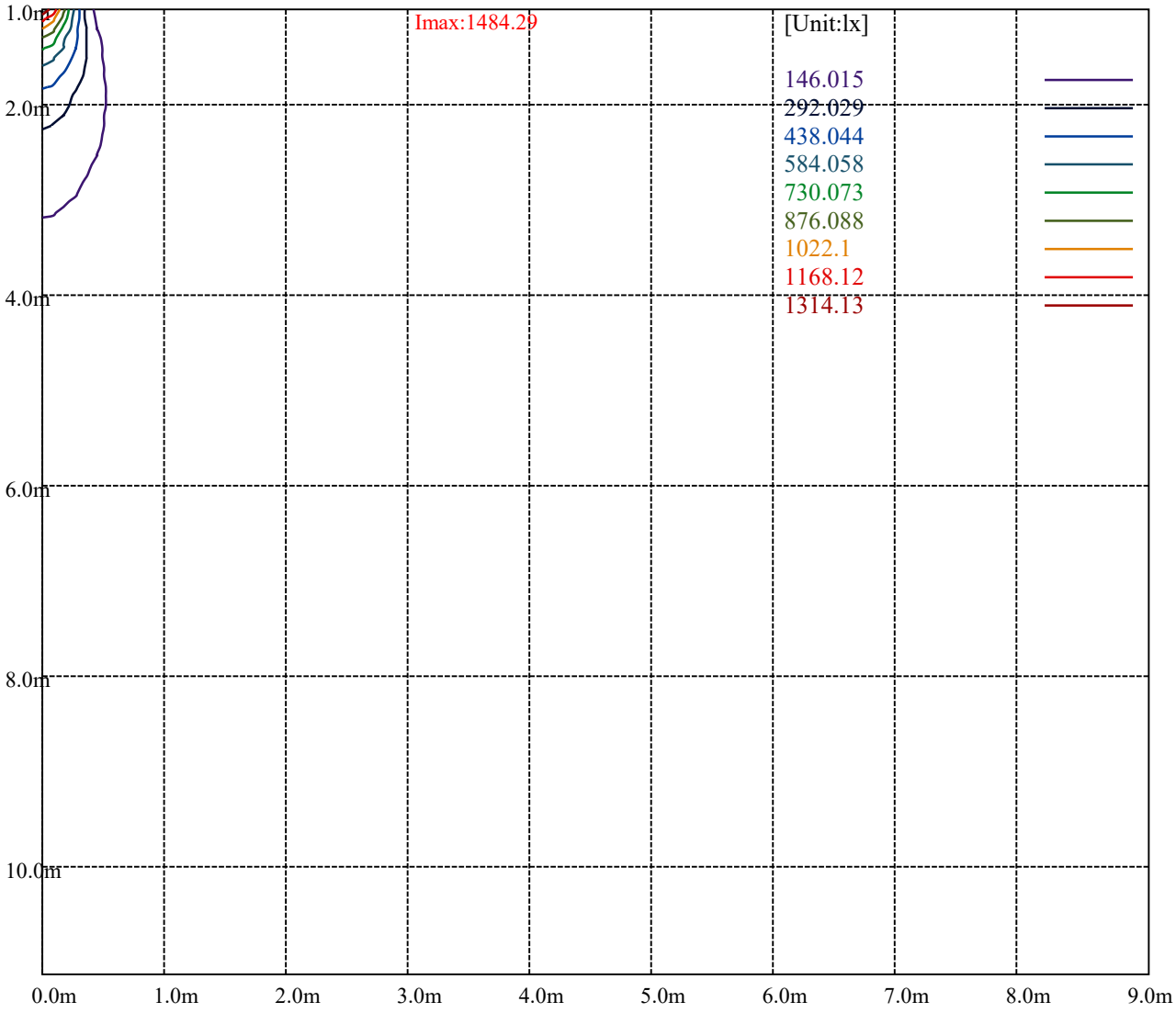
Imax:1484.29

(10%Imax) 148.679
(20%Imax) 297.358
(30%Imax) 446.037
(40%Imax) 594.716
(50%Imax) 743.396
(60%Imax) 892.075
(70%Imax) 1040.75
(80%Imax) 1189.43
(90%Imax) 1338.11

| | | |
|---|---|---|
| Equipment: GMS 1800 | Date: 2025/1/16 | Operator: NT |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.30 |

## Space ISO Lux diagram






Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2025/1/16
Humidity(%): 60.0%

Operator: NT
Distance(m): 7.30

NT NT 61-0310

## Luminance Limitting Curve(no luminous side)



Luminance Table

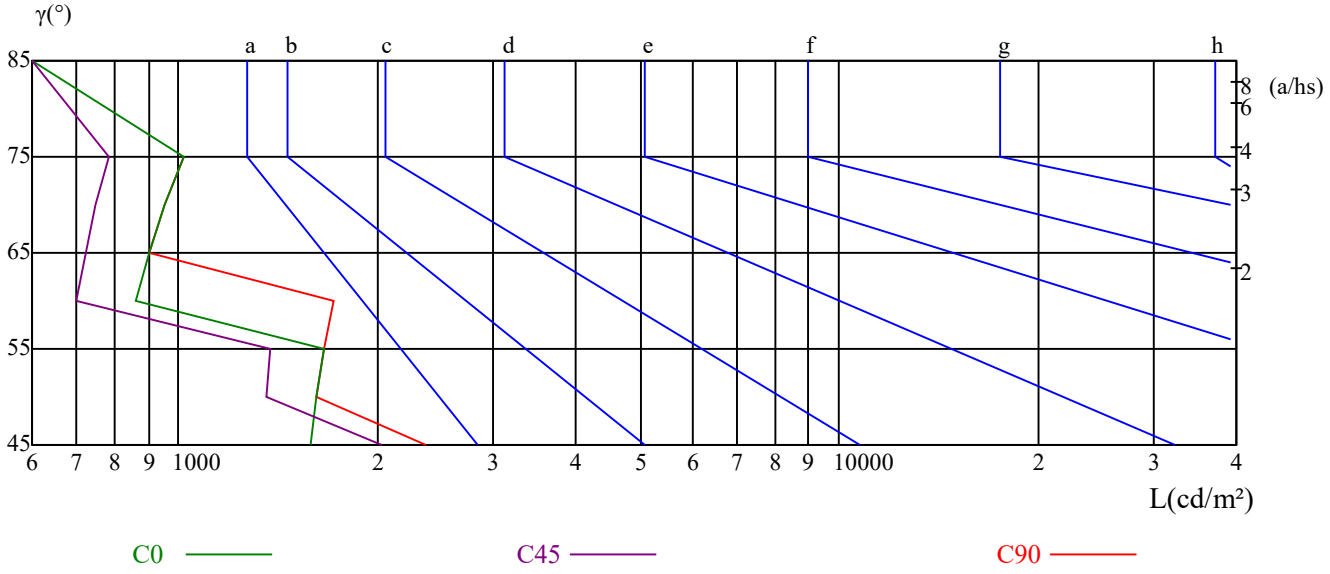
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 1582 | 1614 | 1660 | 861 | 901 | 954 | 1020 | 0 | 438 |
| C45 | 2029 | 1359 | 1376 | 702 | 722 | 750 | 786 | 0 | 321 |
| C90 | 2374 | 1614 | 1660 | 1722 | 901 | 954 | 1020 | 0 | 0 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 2242 | 2242 | 2242 | 3660 | 3660 | 3660 | 1957 | 0 | 978 |

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



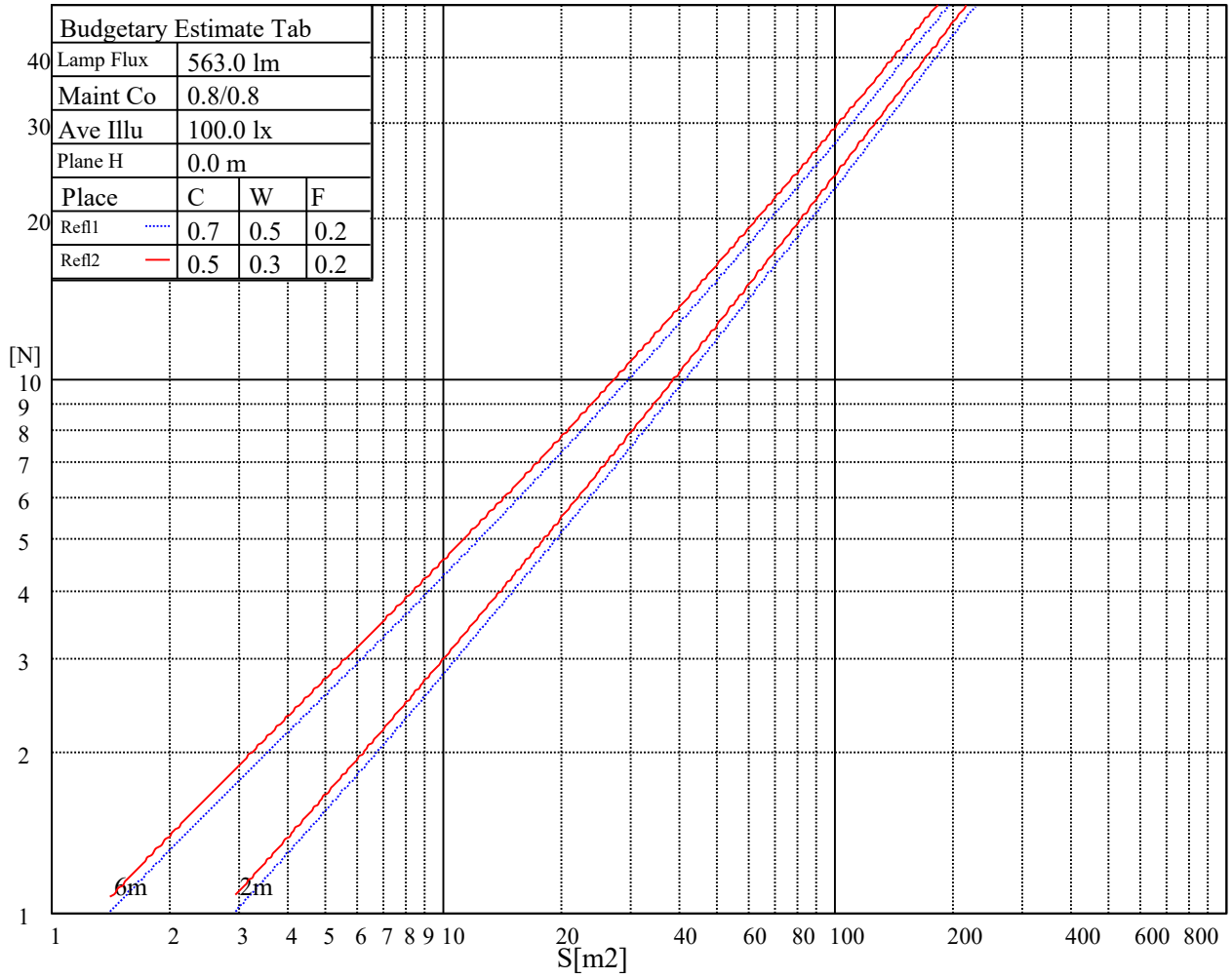

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2025/1/16
Humidity(%): 60.0%

Operator: NT
Distance(m): 7.30

## Budgetary Estimate Table






Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2025/1/16
Humidity(%): 60.0%

Operator: NT
Distance(m): 7.30

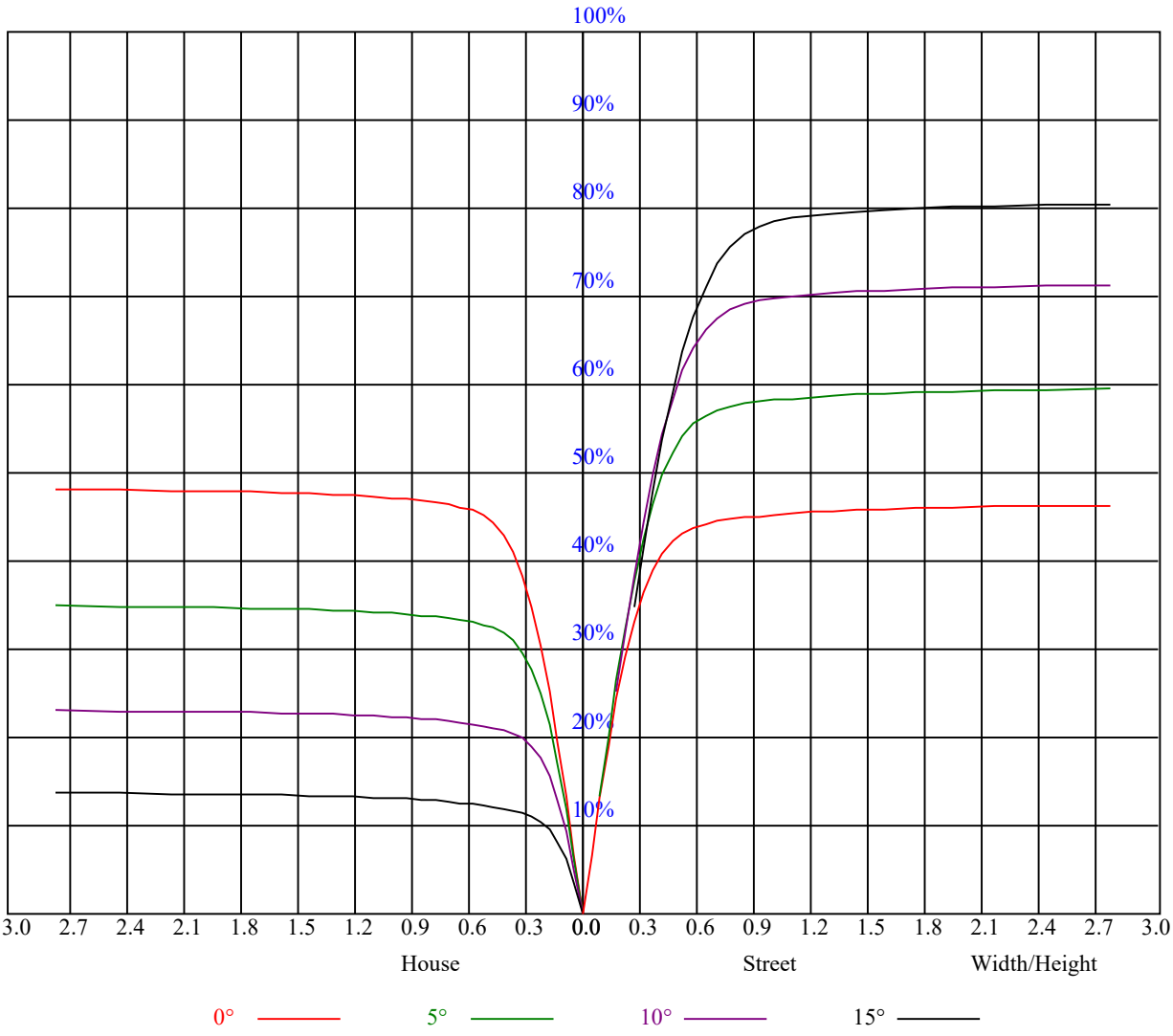
Utilization factor table for indoor luminaire



| 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 | 1.13 | 1.13 | 1.13 | 1.11 | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.01 | 1.01 | 1.01 | 0.97 | 0.97 | 0.97 | 0.95 |
| 1 | 1.06 | 1.04 | 1.02 | 1.04 | 1.02 | 1.00 | 1.00 | 0.99 | 0.97 | 0.97 | 0.96 | 0.94 | 0.93 | 0.93 | 0.92 | 0.90 |
| 2 | 1.00 | 0.97 | 0.94 | 0.98 | 0.95 | 0.93 | 0.95 | 0.93 | 0.91 | 0.93 | 0.91 | 0.89 | 0.90 | 0.88 | 0.87 | 0.86 |
| 3 | 0.95 | 0.91 | 0.87 | 0.93 | 0.90 | 0.87 | 0.91 | 0.88 | 0.85 | 0.89 | 0.86 | 0.84 | 0.87 | 0.85 | 0.83 | 0.81 |
| 4 | 0.90 | 0.86 | 0.82 | 0.89 | 0.85 | 0.82 | 0.87 | 0.84 | 0.81 | 0.85 | 0.82 | 0.80 | 0.84 | 0.81 | 0.79 | 0.78 |
| 5 | 0.86 | 0.81 | 0.78 | 0.85 | 0.81 | 0.78 | 0.84 | 0.80 | 0.77 | 0.82 | 0.79 | 0.76 | 0.81 | 0.78 | 0.76 | 0.74 |
| 6 | 0.82 | 0.78 | 0.74 | 0.82 | 0.77 | 0.74 | 0.80 | 0.76 | 0.74 | 0.79 | 0.76 | 0.73 | 0.78 | 0.75 | 0.73 | 0.71 |
| 7 | 0.79 | 0.74 | 0.71 | 0.78 | 0.74 | 0.71 | 0.77 | 0.73 | 0.70 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.69 |
| 8 | 0.76 | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.74 | 0.70 | 0.67 | 0.73 | 0.70 | 0.67 | 0.66 |
| 9 | 0.73 | 0.68 | 0.65 | 0.73 | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.70 | 0.67 | 0.65 | 0.64 |
| 10 | 0.70 | 0.66 | 0.63 | 0.70 | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.69 | 0.65 | 0.63 | 0.68 | 0.65 | 0.62 | 0.61 |

## Coefficient Utilization Curve

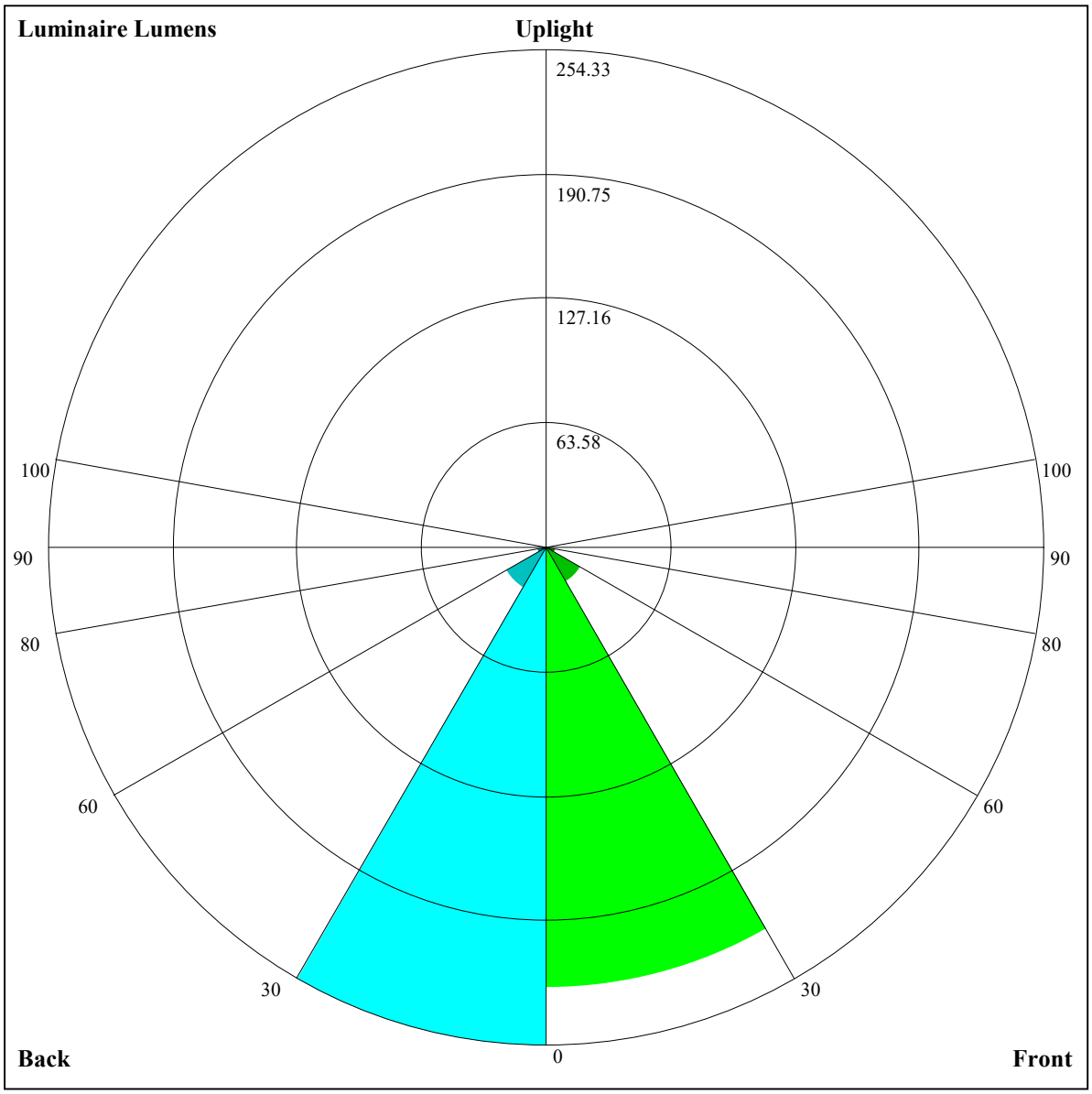





| | | |
|---|---|---|
| Equipment: GMS 1800 | Date: 2025/1/16 | Operator: NT |
| Temperature(°C): 25.0 | Humidity(%): 60.0% | Distance(m): 7.30 |

LCS Graph






Luminaire Lumens:

FL=225.17,FM=20.05,FH=4.74,FVH=1.13

BL=254.33,BM=23.83,BH=5.13,BVH=1.19

UL=0,UH=0

BUG Rating:B1-U0-G0

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 | 1462.44 | 1446.98 | 1425.67 | 1396.36 | 1360.12 | 1326.02 | 1268.46 | 1227.43 | 1172.54 |
| 45.0 | 1475.23 | 1467.77 | 1449.65 | 1413.94 | 1394.76 | 1357.99 | 1315.36 | 1267.93 | 1215.70 |
| 90.0 | 1463.50 | 1444.32 | 1418.74 | 1385.70 | 1345.73 | 1299.37 | 1248.21 | 1192.26 | 1057.75 |
| 135.0 | 1479.49 | 1475.23 | 1465.10 | 1448.05 | 1423.54 | 1392.63 | 1354.79 | 1321.75 | 1263.67 |
| 180.0 | 1462.44 | 1472.56 | 1475.23 | 1472.03 | 1462.97 | 1447.52 | 1425.13 | 1397.42 | 1361.19 |
| 225.0 | 1475.23 | 1482.15 | 1484.29 | 1480.56 | 1470.96 | 1454.98 | 1430.46 | 1399.56 | 1361.19 |
| 270.0 | 1463.50 | 1476.83 | 1483.22 | 1483.22 | 1476.29 | 1462.97 | 1441.65 | 1411.81 | 1375.57 |
| 315.0 | 1479.49 | 1477.89 | 1468.30 | 1452.31 | 1428.33 | 1397.96 | 1360.65 | 1314.29 | 1262.60 |
| 360.0 | 1462.44 | 1446.98 | 1425.67 | 1396.36 | 1360.12 | 1326.02 | 1268.46 | 1227.43 | 1172.54 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1034.04 | 1034.04 | 995.40 | 929.70 | 863.24 | 796.10 | 727.52 | 659.30 | 591.52 |
| 45.0 | 1159.22 | 1100.07 | 1039.31 | 976.43 | 914.08 | 852.27 | 792.58 | 732.90 | 672.68 |
| 90.0 | 1057.75 | 1032.76 | 971.58 | 911.37 | 852.69 | 795.62 | 739.72 | 685.79 | 633.19 |
| 135.0 | 1221.03 | 1152.82 | 1104.86 | 1043.05 | 980.16 | 917.81 | 857.60 | 798.44 | 740.89 |
| 180.0 | 1319.62 | 1271.66 | 1218.37 | 1160.82 | 1100.07 | 1038.25 | 999.35 | 908.75 | 844.27 |
| 225.0 | 1315.89 | 1263.67 | 1205.58 | 1052.42 | 1024.02 | 1024.02 | 951.23 | 861.70 | 800.58 |
| 270.0 | 1332.41 | 1282.32 | 1248.74 | 1164.01 | 1125.11 | 1057.43 | 985.49 | 912.48 | 837.35 |
| 315.0 | 1205.05 | 1057.75 | 1044.11 | 1044.11 | 974.09 | 903.11 | 832.07 | 761.19 | 690.00 |
| 360.0 | 1034.04 | 1034.04 | 995.40 | 929.70 | 863.24 | 796.10 | 727.52 | 659.30 | 591.52 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 525.92 | 462.77 | 401.06 | 354.06 | 298.64 | 247.85 | 202.82 | 164.03 | 132.21 |
| 45.0 | 611.93 | 550.11 | 502.15 | 431.28 | 385.98 | 332.16 | 281.53 | 281.53 | 192.54 |
| 90.0 | 580.11 | 526.93 | 473.80 | 421.52 | 370.53 | 320.70 | 273.48 | 228.99 | 204.31 |
| 135.0 | 686.54 | 631.11 | 576.22 | 522.40 | 469.11 | 416.35 | 364.13 | 315.10 | 268.74 |
| 180.0 | 805.37 | 740.89 | 675.34 | 610.33 | 545.85 | 482.97 | 422.22 | 363.60 | 308.71 |
| 225.0 | 723.25 | 645.87 | 569.67 | 495.65 | 425.36 | 359.07 | 297.41 | 242.52 | 194.51 |
| 270.0 | 761.67 | 686.00 | 609.80 | 535.72 | 464.32 | 396.10 | 332.69 | 296.99 | 296.99 |
| 315.0 | 619.02 | 549.63 | 482.65 | 418.33 | 357.26 | 301.09 | 249.77 | 204.26 | 164.56 |
| 360.0 | 525.92 | 462.77 | 401.06 | 354.06 | 298.64 | 247.85 | 202.82 | 164.03 | 132.21 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 106.05 | 84.36 | 66.83 | 53.18 | 43.11 | 35.81 | 30.59 | 26.86 | 24.03 |
| 45.0 | 155.87 | 124.49 | 97.95 | 76.74 | 59.95 | 47.37 | 38.64 | 32.45 | 28.08 |
| 90.0 | 153.10 | 134.13 | 106.58 | 76.15 | 65.97 | 52.33 | 42.37 | 35.44 | 30.43 |
| 135.0 | 268.74 | 230.27 | 164.03 | 131.89 | 104.77 | 82.49 | 65.07 | 51.80 | 41.94 |
| 180.0 | 277.27 | 277.27 | 170.00 | 135.14 | 106.53 | 83.45 | 68.64 | 52.06 | 43.80 |
| 225.0 | 153.37 | 119.48 | 92.72 | 72.21 | 57.13 | 46.47 | 38.69 | 32.99 | 28.99 |
| 270.0 | 177.56 | 146.33 | 114.09 | 87.82 | 67.84 | 53.61 | 43.75 | 36.72 | 31.44 |
| 315.0 | 131.04 | 108.55 | 85.10 | 66.83 | 53.02 | 43.01 | 36.08 | 31.17 | 27.55 |
| 360.0 | 106.05 | 84.36 | 66.83 | 53.18 | 43.11 | 35.81 | 30.59 | 26.86 | 24.03 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 21.85 | 20.09 | 18.60 | 17.80 | 16.63 | 15.19 | 14.60 | 13.86 | 13.16 |
| 45.0 | 24.99 | 22.65 | 21.53 | 19.34 | 18.49 | 17.32 | 16.31 | 15.35 | 14.55 |
| 90.0 | 26.80 | 24.19 | 22.12 | 20.41 | 18.86 | 17.64 | 16.47 | 15.51 | 14.55 |
| 135.0 | 34.85 | 29.90 | 26.49 | 23.93 | 21.90 | 20.36 | 18.97 | 17.75 | 16.73 |
| 180.0 | 36.29 | 30.16 | 27.23 | 24.41 | 22.22 | 20.46 | 19.02 | 17.85 | 16.79 |
| 225.0 | 27.02 | 23.61 | 21.69 | 20.62 | 18.65 | 17.85 | 16.73 | 15.72 | 14.87 |
| 270.0 | 27.66 | 24.83 | 22.65 | 20.84 | 19.18 | 17.80 | 16.63 | 15.61 | 14.81 |
| 315.0 | 24.89 | 22.65 | 20.73 | 19.18 | 17.85 | 16.68 | 15.61 | 14.76 | 14.07 |
| 360.0 | 21.85 | 20.09 | 18.60 | 17.80 | 16.63 | 15.19 | 14.60 | 13.86 | 13.16 |

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 | 12.58 | 11.99 | 11.51 | 11.14 | 10.71 | 10.34 | 9.97 | 9.65 | 9.38 |
| 45.0 | 13.80 | 13.22 | 12.58 | 12.04 | 11.56 | 11.14 | 10.60 | 10.18 | 9.86 |
| 90.0 | 13.80 | 13.22 | 12.84 | 12.63 | 12.47 | 11.99 | 11.40 | 10.98 | 10.55 |
| 135.0 | 15.99 | 14.97 | 14.39 | 13.75 | 13.11 | 12.58 | 11.99 | 11.51 | 11.03 |
| 180.0 | 15.77 | 14.92 | 14.18 | 13.54 | 12.95 | 12.36 | 11.88 | 11.46 | 10.98 |
| 225.0 | 14.12 | 13.48 | 12.90 | 12.31 | 11.83 | 11.40 | 10.98 | 10.55 | 10.23 |
| 270.0 | 14.12 | 13.48 | 13.06 | 12.47 | 11.72 | 11.40 | 10.98 | 10.44 | 10.23 |
| 315.0 | 13.38 | 12.79 | 12.52 | 11.88 | 11.56 | 10.82 | 10.44 | 10.18 | 9.86 |
| 360.0 | 12.58 | 11.99 | 11.51 | 11.14 | 10.71 | 10.34 | 9.97 | 9.65 | 9.38 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 9.01 | 8.74 | 8.37 | 8.10 | 7.73 | 7.41 | 7.19 | 6.87 | 6.34 |
| 45.0 | 9.49 | 9.06 | 8.79 | 8.58 | 8.21 | 7.99 | 7.57 | 7.35 | 7.09 |
| 90.0 | 10.28 | 9.97 | 9.54 | 9.22 | 9.01 | 8.90 | 8.63 | 8.37 | 7.83 |
| 135.0 | 10.50 | 10.02 | 9.65 | 9.27 | 8.90 | 8.53 | 8.26 | 7.94 | 7.62 |
| 180.0 | 10.71 | 10.18 | 9.86 | 9.59 | 9.06 | 8.79 | 8.53 | 8.26 | 7.89 |
| 225.0 | 9.86 | 9.54 | 9.17 | 9.01 | 8.63 | 8.37 | 8.05 | 7.73 | 7.41 |
| 270.0 | 9.91 | 9.54 | 9.22 | 8.95 | 8.63 | 8.31 | 7.94 | 7.67 | 7.30 |
| 315.0 | 9.54 | 9.17 | 8.85 | 8.58 | 8.26 | 7.83 | 7.51 | 7.19 | 6.77 |
| 360.0 | 9.01 | 8.74 | 8.37 | 8.10 | 7.73 | 7.41 | 7.19 | 6.87 | 6.34 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 6.08 | 5.70 | 5.44 | 5.06 | 4.74 | 4.48 | 4.26 | 4.10 | 3.89 |
| 45.0 | 6.66 | 6.34 | 5.97 | 5.70 | 5.28 | 4.90 | 4.69 | 4.42 | 4.16 |
| 90.0 | 7.25 | 6.55 | 5.92 | 5.38 | 5.06 | 4.85 | 4.58 | 4.42 | 4.32 |
| 135.0 | 7.25 | 6.93 | 6.61 | 6.29 | 5.97 | 5.44 | 5.28 | 4.90 | 4.64 |
| 180.0 | 7.57 | 7.25 | 6.82 | 6.45 | 6.08 | 5.76 | 5.38 | 5.06 | 4.74 |
| 225.0 | 7.03 | 6.66 | 6.29 | 5.92 | 5.54 | 5.22 | 4.85 | 4.53 | 4.32 |
| 270.0 | 6.87 | 6.50 | 6.18 | 5.81 | 5.44 | 5.22 | 4.74 | 4.48 | 4.32 |
| 315.0 | 6.39 | 6.02 | 5.65 | 5.28 | 4.96 | 4.69 | 4.42 | 4.21 | 4.10 |
| 360.0 | 6.08 | 5.70 | 5.44 | 5.06 | 4.74 | 4.48 | 4.26 | 4.10 | 3.89 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 3.73 | 3.52 | 3.36 | 3.20 | 3.04 | 2.88 | 2.72 | 2.56 | 2.50 |
| 45.0 | 3.94 | 3.78 | 3.57 | 3.36 | 3.20 | 3.04 | 2.88 | 2.72 | 2.61 |
| 90.0 | 4.10 | 3.89 | 3.78 | 3.57 | 3.36 | 3.20 | 2.98 | 2.77 | 2.61 |
| 135.0 | 4.42 | 4.21 | 3.94 | 3.73 | 3.57 | 3.36 | 3.14 | 2.98 | 2.88 |
| 180.0 | 4.53 | 4.32 | 4.10 | 4.00 | 3.73 | 3.62 | 3.41 | 3.20 | 3.09 |
| 225.0 | 4.16 | 3.94 | 3.68 | 3.57 | 3.36 | 3.25 | 3.09 | 2.88 | 2.72 |
| 270.0 | 4.16 | 3.94 | 3.73 | 3.52 | 3.41 | 3.30 | 3.09 | 2.93 | 2.82 |
| 315.0 | 3.78 | 3.62 | 3.52 | 3.36 | 3.20 | 3.04 | 2.93 | 2.72 | 2.61 |
| 360.0 | 3.73 | 3.52 | 3.36 | 3.20 | 3.04 | 2.88 | 2.72 | 2.56 | 2.50 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 2.45 | 2.29 | 2.18 | 1.97 | 1.92 | 1.81 | 1.71 | 1.65 | 1.60 |
| 45.0 | 2.45 | 2.29 | 2.13 | 2.08 | 1.92 | 1.81 | 1.71 | 1.65 | 1.55 |
| 90.0 | 2.45 | 2.24 | 2.13 | 2.08 | 1.97 | 1.92 | 1.81 | 1.76 | 1.65 |
| 135.0 | 2.72 | 2.56 | 2.40 | 2.29 | 2.08 | 1.97 | 1.81 | 1.76 | 1.65 |
| 180.0 | 2.88 | 2.77 | 2.72 | 2.50 | 2.40 | 2.18 | 2.03 | 1.92 | 1.71 |
| 225.0 | 2.56 | 2.50 | 2.34 | 2.18 | 2.13 | 1.97 | 1.87 | 1.71 | 1.65 |
| 270.0 | 2.72 | 2.56 | 2.56 | 2.40 | 2.34 | 2.13 | 1.97 | 1.87 | 1.81 |
| 315.0 | 2.50 | 2.45 | 2.40 | 2.24 | 2.13 | 1.97 | 1.92 | 1.81 | 1.81 |
| 360.0 | 2.45 | 2.29 | 2.18 | 1.97 | 1.92 | 1.81 | 1.71 | 1.65 | 1.60 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 1.55 |
| 45.0 | 1.49 |
| 90.0 | 1.71 |
| 135.0 | 1.55 |
| 180.0 | 1.65 |
| 225.0 | 1.60 |
| 270.0 | 1.76 |
| 315.0 | 1.71 |
| 360.0 | 1.55 |