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

## Nata

LumCAT: 2-2536-L
Luminaire: 92.70.131.00
Report No: 220915-B008
Test No: 220915-C008
LampCAT: CITIZEN CLU038
Lamp flux(lm): 2261.0
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 35.5000
Current(A): 0.4790
Power (W): 17.0040
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

## Photometric Results

Lumens(lm): 1967.02
Efficiency(%): 87.00%
Lumens(lm)/Power(W): 115.68
Central intensity(cd): 8330.002
Maximum intensity(cd): 8330.002
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=18.9
[C90/270]Total=18.9
Field angle(10%Imax): [C0/180]Total=54.6
[C90/270]Total=54.6
Maximum s/h(1/2): C0_180=0.32 C90_270=0.32
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(%): 87.00%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.012%

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 8330.002 | 0.000 | 0 | .000% | .000% |
| 1.0 | 8246.796 | 7.932 | 7.932 | .351% | .403% |
| 2.0 | 8073.513 | 23.424 | 31.356 | 1.036% | 1.594% |
| 3.0 | 7734.266 | 37.807 | 69.163 | 1.672% | 3.516% |
| 4.0 | 7316.593 | 50.380 | 119.543 | 2.228% | 6.077% |
| 5.0 | 6827.441 | 60.847 | 180.39 | 2.691% | 9.171% |
| 6.0 | 6166.275 | 68.285 | 248.676 | 3.020% | 12.642% |
| 7.0 | 5530.579 | 72.602 | 321.278 | 3.211% | 16.333% |
| 8.0 | 4959.192 | 75.073 | 396.351 | 3.320% | 20.150% |
| 9.0 | 4402.668 | 75.873 | 472.224 | 3.356% | 24.007% |
| 10.0 | 3879.457 | 74.950 | 547.174 | 3.315% | 27.817% |
| 11.0 | 3507.047 | 73.806 | 620.98 | 3.264% | 31.570% |
| 12.0 | 3179.601 | 73.095 | 694.075 | 3.233% | 35.286% |
| 13.0 | 2854.247 | 71.607 | 765.682 | 3.167% | 38.926% |
| 14.0 | 2618.073 | 70.045 | 835.727 | 3.098% | 42.487% |
| 15.0 | 2406.697 | 68.982 | 904.709 | 3.051% | 45.994% |
| 16.0 | 2197.786 | 67.469 | 972.178 | 2.984% | 49.424% |
| 17.0 | 1999.332 | 65.360 | 1037.538 | 2.891% | 52.747% |
| 18.0 | 1839.493 | 63.294 | 1100.832 | 2.799% | 55.964% |
| 19.0 | 1676.517 | 61.171 | 1162.003 | 2.706% | 59.074% |
| 20.0 | 1537.591 | 58.827 | 1220.83 | 2.602% | 62.065% |
| 21.0 | 1403.805 | 56.481 | 1277.311 | 2.498% | 64.936% |
| 22.0 | 1282.350 | 53.979 | 1331.291 | 2.387% | 67.680% |
| 23.0 | 1175.773 | 51.578 | 1382.869 | 2.281% | 70.303% |
| 24.0 | 1074.932 | 49.208 | 1432.077 | 2.176% | 72.804% |
| 25.0 | 985.893 | 46.859 | 1478.936 | 2.073% | 75.186% |
| 26.0 | 916.542 | 44.907 | 1523.843 | 1.986% | 77.469% |
| 27.0 | 854.399 | 43.326 | 1567.169 | 1.916% | 79.672% |
| 28.0 | 779.103 | 41.357 | 1608.526 | 1.829% | 81.775% |
| 29.0 | 713.285 | 39.045 | 1647.571 | 1.727% | 83.760% |
| 30.0 | 647.535 | 36.742 | 1684.313 | 1.625% | 85.627% |
| 31.0 | 560.684 | 33.623 | 1717.936 | 1.487% | 87.337% |
| 32.0 | 486.911 | 30.012 | 1747.949 | 1.327% | 88.863% |
| 33.0 | 416.844 | 26.625 | 1774.574 | 1.178% | 90.216% |
| 34.0 | 342.093 | 22.968 | 1797.541 | 1.016% | 91.384% |
| 35.0 | 272.705 | 19.093 | 1816.635 | .844% | 92.354% |
| 36.0 | 217.262 | 15.601 | 1832.235 | .690% | 93.148% |
| 37.0 | 163.394 | 12.415 | 1844.65 | .549% | 93.779% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 114.173 | 9.265 | 1853.915 | .410% | 94.250% |
| 39.0 | 80.808 | 6.655 | 1860.57 | .294% | 94.588% |
| 40.0 | 60.059 | 4.913 | 1865.483 | .217% | 94.838% |
| 41.0 | 51.119 | 3.959 | 1869.442 | .175% | 95.039% |
| 42.0 | 46.294 | 3.539 | 1872.981 | .157% | 95.219% |
| 43.0 | 43.388 | 3.322 | 1876.303 | .147% | 95.388% |
| 44.0 | 41.409 | 3.200 | 1879.504 | .142% | 95.551% |
| 45.0 | 39.863 | 3.123 | 1882.627 | .138% | 95.709% |
| 46.0 | 38.346 | 3.059 | 1885.686 | .135% | 95.865% |
| 47.0 | 37.256 | 3.007 | 1888.693 | .133% | 96.018% |
| 48.0 | 36.390 | 2.977 | 1891.67 | .132% | 96.169% |
| 49.0 | 35.531 | 2.953 | 1894.623 | .131% | 96.319% |
| 50.0 | 34.948 | 2.938 | 1897.562 | .130% | 96.469% |
| 51.0 | 34.642 | 2.944 | 1900.506 | .130% | 96.618% |
| 52.0 | 34.589 | 2.971 | 1903.477 | .131% | 96.769% |
| 53.0 | 34.687 | 3.014 | 1906.49 | .133% | 96.923% |
| 54.0 | 34.828 | 3.064 | 1909.554 | .136% | 97.078% |
| 55.0 | 34.911 | 3.113 | 1912.667 | .138% | 97.237% |
| 56.0 | 34.672 | 3.144 | 1915.811 | .139% | 97.396% |
| 57.0 | 34.141 | 3.146 | 1918.958 | .139% | 97.556% |
| 58.0 | 32.976 | 3.104 | 1922.061 | .137% | 97.714% |
| 59.0 | 31.258 | 3.003 | 1925.064 | .133% | 97.867% |
| 60.0 | 29.212 | 2.857 | 1927.921 | .126% | 98.012% |
| 61.0 | 26.672 | 2.667 | 1930.588 | .118% | 98.148% |
| 62.0 | 23.864 | 2.435 | 1933.023 | .108% | 98.271% |
| 63.0 | 21.287 | 2.196 | 1935.219 | .097% | 98.383% |
| 64.0 | 18.329 | 1.944 | 1937.163 | .086% | 98.482% |
| 65.0 | 15.797 | 1.689 | 1938.852 | .075% | 98.568% |
| 66.0 | 14.184 | 1.496 | 1940.348 | .066% | 98.644% |
| 67.0 | 12.907 | 1.362 | 1941.71 | .060% | 98.713% |
| 68.0 | 12.152 | 1.269 | 1942.979 | .056% | 98.778% |
| 69.0 | 11.816 | 1.223 | 1944.202 | .054% | 98.840% |
| 70.0 | 11.540 | 1.200 | 1945.402 | .053% | 98.901% |
| 71.0 | 11.323 | 1.182 | 1946.583 | .052% | 98.961% |
| 72.0 | 11.166 | 1.169 | 1947.753 | .052% | 99.020% |
| 73.0 | 11.039 | 1.161 | 1948.914 | .051% | 99.079% |
| 74.0 | 10.920 | 1.154 | 1950.068 | .051% | 99.138% |
| 75.0 | 10.823 | 1.149 | 1951.217 | .051% | 99.196% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 10.748 | 1.145 | 1952.362 | .051% | 99.255% |
| 77.0 | 10.666 | 1.142 | 1953.504 | .050% | 99.313% |
| 78.0 | 10.546 | 1.136 | 1954.639 | .050% | 99.370% |
| 79.0 | 10.382 | 1.124 | 1955.764 | .050% | 99.428% |
| 80.0 | 10.225 | 1.111 | 1956.875 | .049% | 99.484% |
| 81.0 | 10.046 | 1.096 | 1957.971 | .048% | 99.540% |
| 82.0 | 9.829 | 1.078 | 1959.049 | .048% | 99.595% |
| 83.0 | 9.628 | 1.058 | 1960.107 | .047% | 99.648% |
| 84.0 | 9.426 | 1.038 | 1961.145 | .046% | 99.701% |
| 85.0 | 9.217 | 1.017 | 1962.162 | .045% | 99.753% |
| 86.0 | 9.060 | 0.999 | 1963.161 | .044% | 99.804% |
| 87.0 | 8.896 | 0.983 | 1964.144 | .043% | 99.854% |
| 88.0 | 8.799 | 0.969 | 1965.113 | .043% | 99.903% |
| 89.0 | 8.702 | 0.959 | 1966.072 | .042% | 99.952% |
| 90.0 | 8.672 | 0.953 | 1967.025 | .042% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

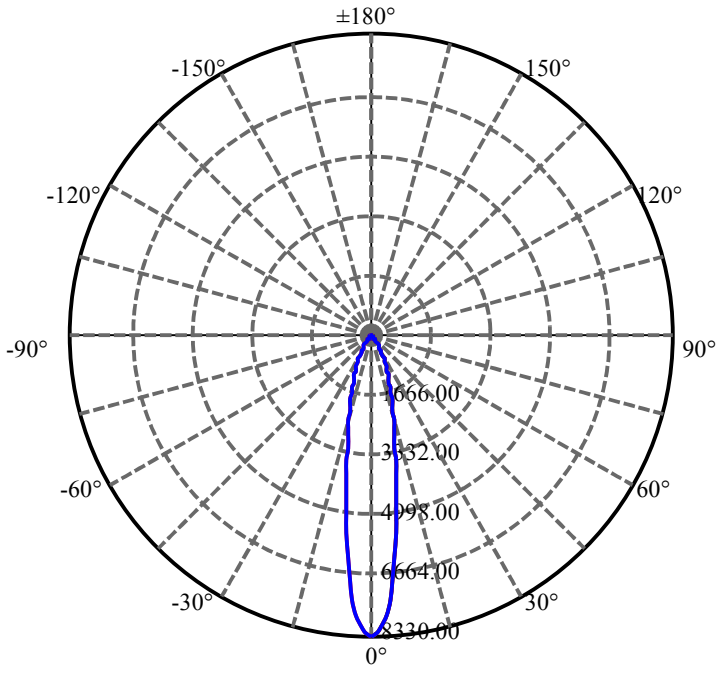
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1684.31 | 74.50% | 85.63% |
| 0-40 | 1865.48 | 82.51% | 94.84% |
| 0-60 | 1927.92 | 85.27% | 98.01% |
| 0-90 | 1966.07 | 86.96% | 99.95% |
| 0-120 | 1966.07 | 86.96% | 99.95% |
| 0-180 | 1967.02 | 87.00% | 100.00% |
| 60-90 | 41.01 | 1.81% | 2.08% |
| 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% |
| 0-27.16 | 1573.62 | 69.60% | 80.00% |

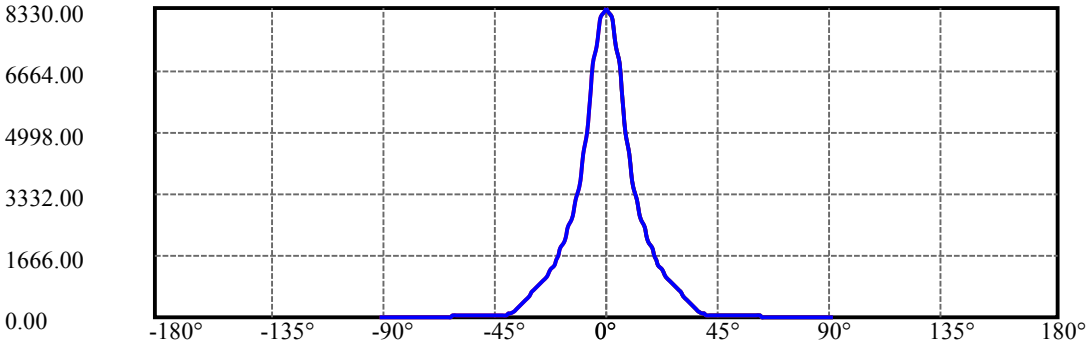
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 547.17 |
| 10-20 | 673.66 |
| 20-30 | 463.48 |
| 30-40 | 181.17 |
| 40-50 | 32.08 |
| 50-60 | 30.36 |
| 60-70 | 17.48 |
| 70-80 | 11.47 |
| 80-90 | 9.20 |
| 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:

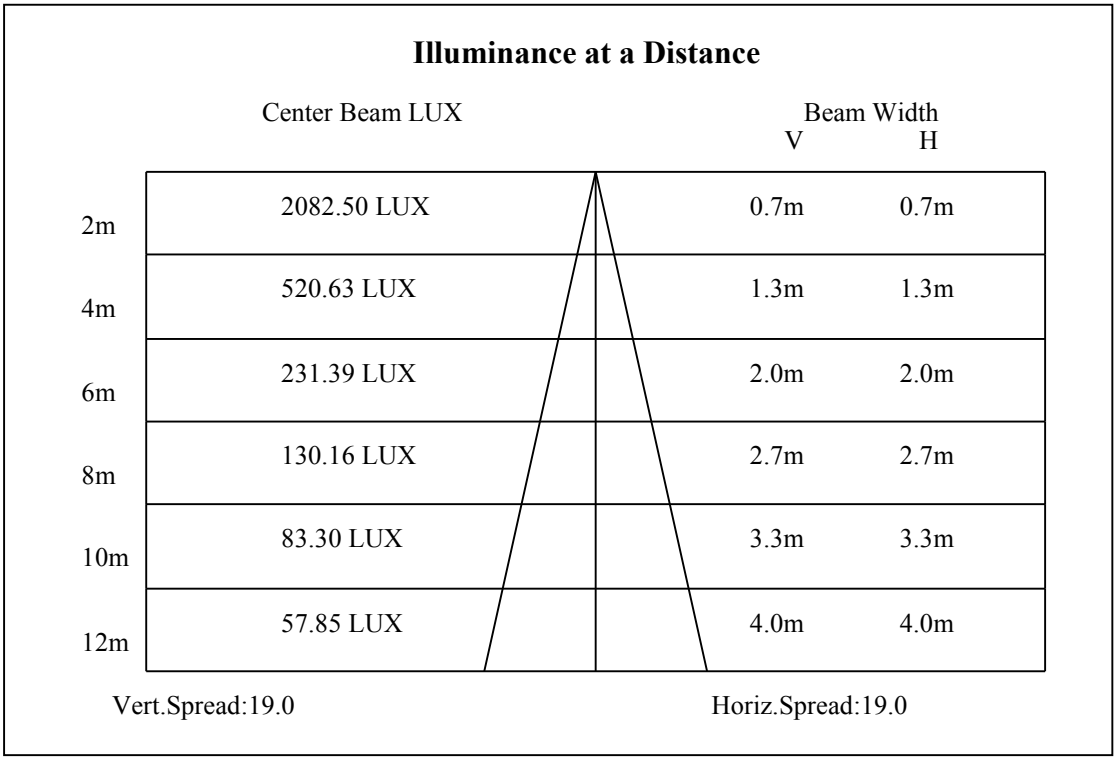
C90/C270:

Field angle(10%Imax):C0/180Left:27.3 Right:27.3
:C90/270Left:27.3 Right:27.3

Beam Angle(50%Imax):C0/180Left:9.5 Right:9.5
:C90/270Left:9.5 Right:9.5

Lux distance Curve

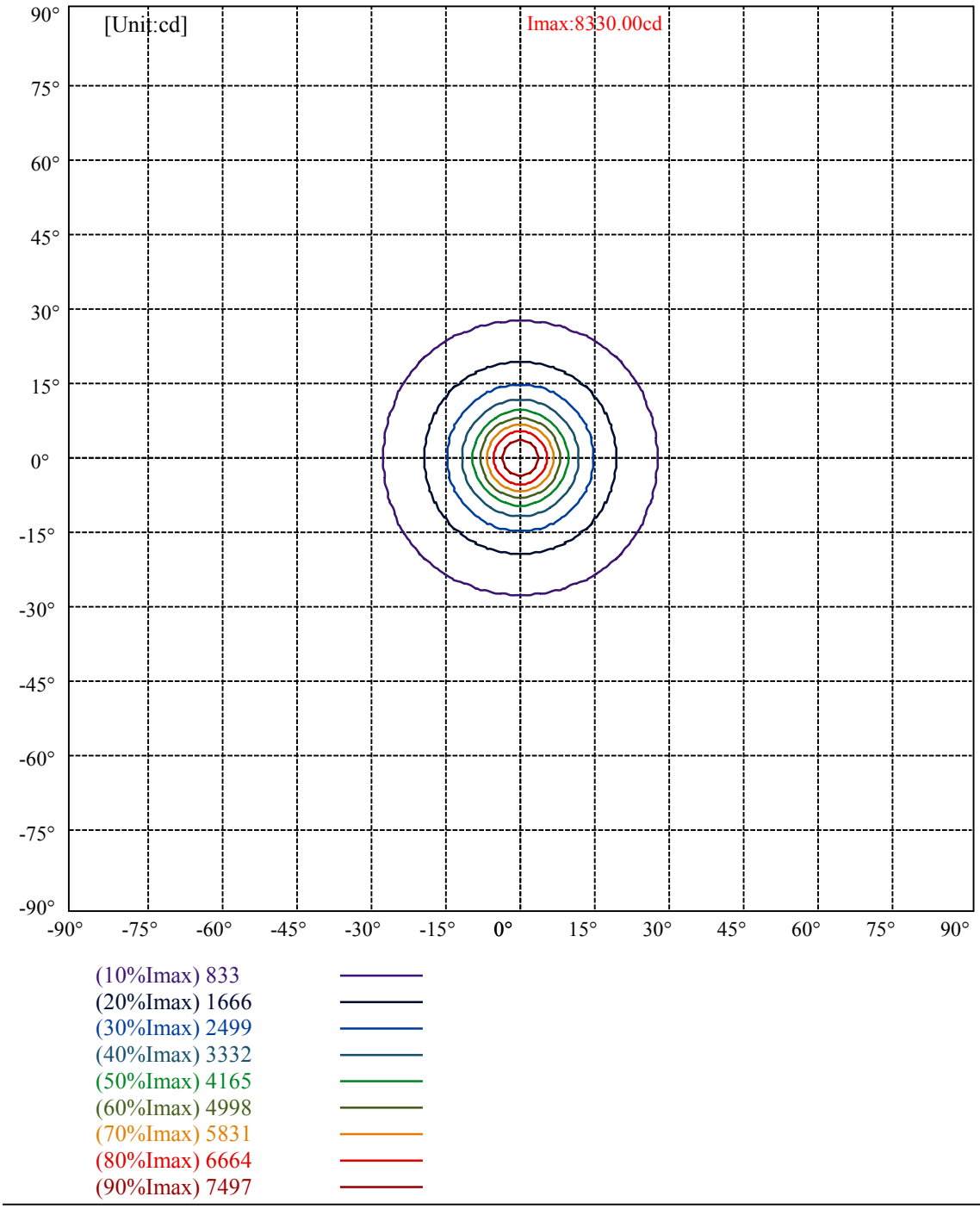





Equipment: GMS1980 Date: 2022/9/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

ISO-Intensity(V-H)





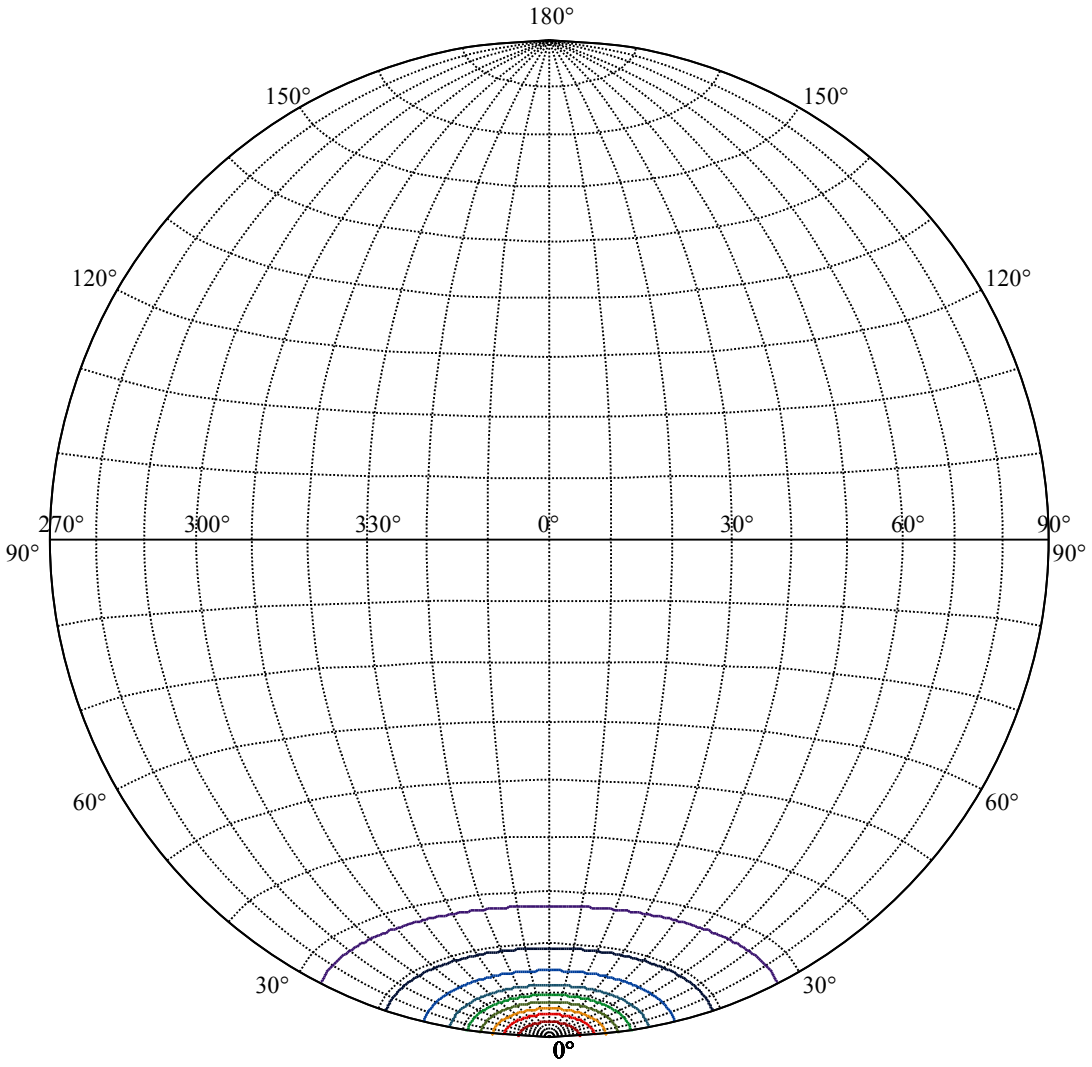

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web






House [Unit:cd] Road

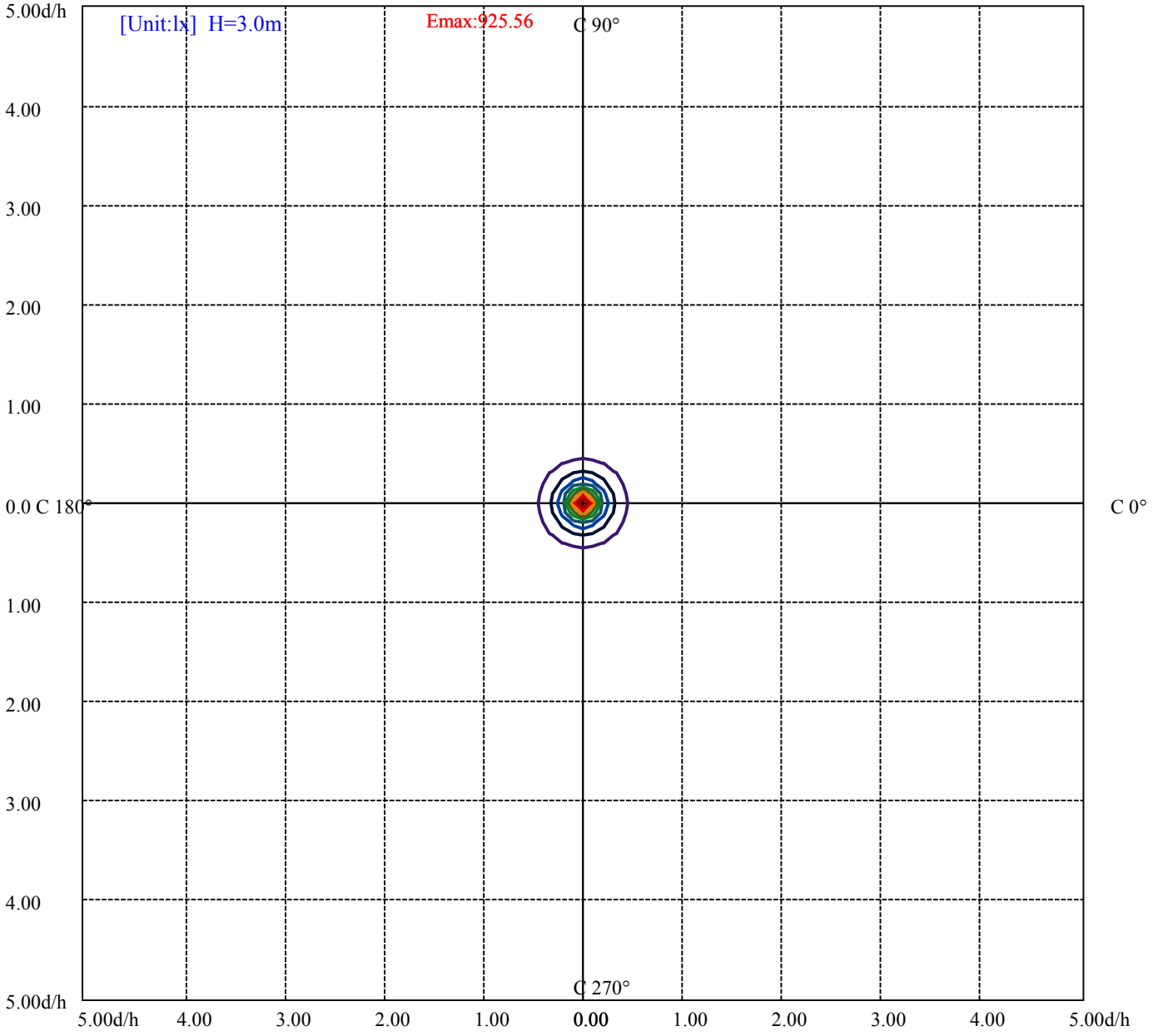
Imax:8330.00

(10%Imax) 833
(20%Imax) 1666
(30%Imax) 2499
(40%Imax) 3332
(50%Imax) 4165
(60%Imax) 4998
(70%Imax) 5831
(80%Imax) 6664
(90%Imax) 7497

Equipment: GMS1980 Date: 2022/9/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

## ISO illuminance diagram



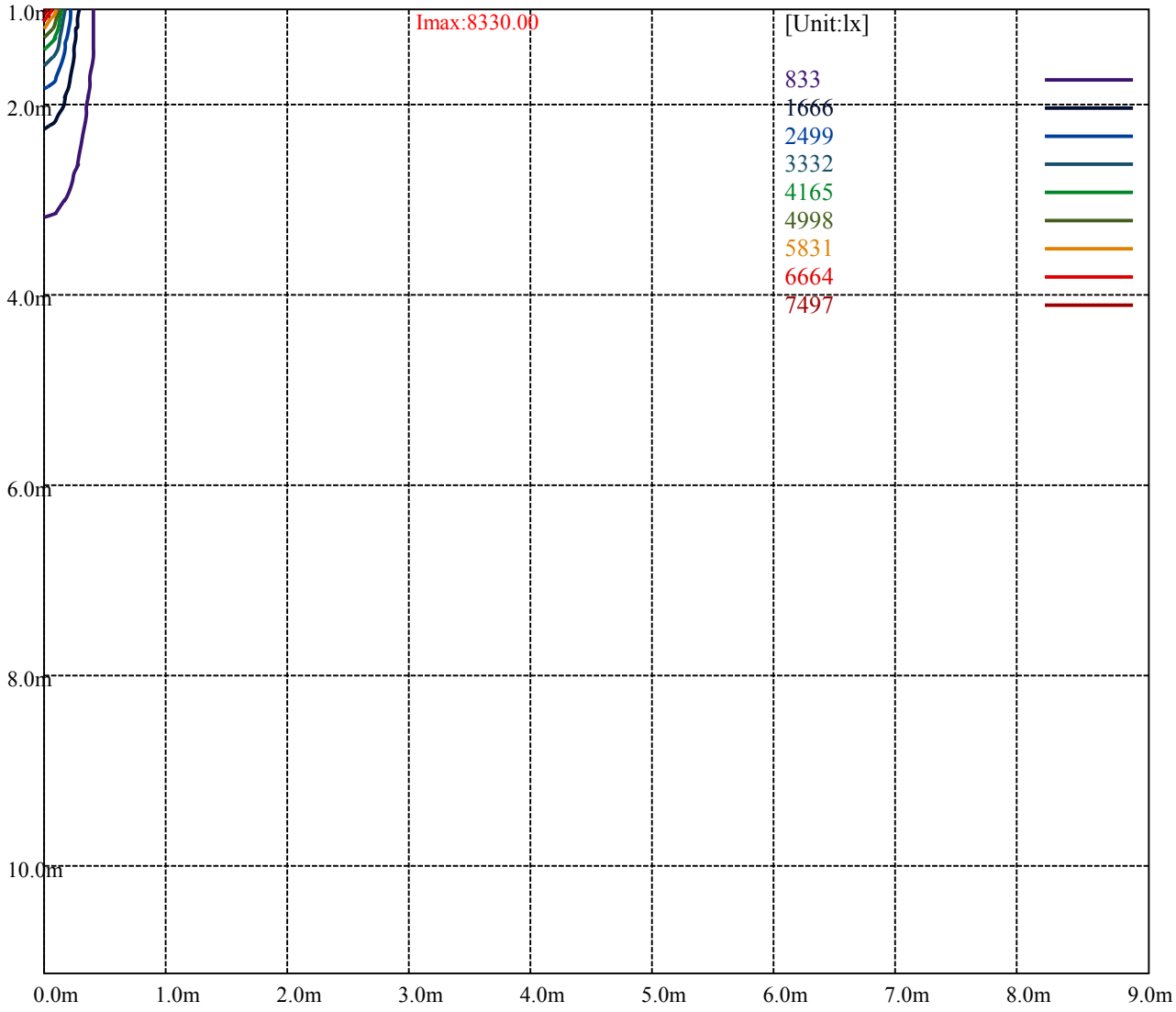



(10%Emax) 92.55545
(20%Emax) 185.1111
(30%Emax) 277.6667
(40%Emax) 370.2222
(50%Emax) 462.7767
(60%Emax) 555.3323
(70%Emax) 647.8878
(80%Emax) 740.4434
(90%Emax) 832.9989

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2022/9/15
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.73

## Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Nata 2-2536-L

## Luminance Limitting Curve(no luminous side)



Luminance Table

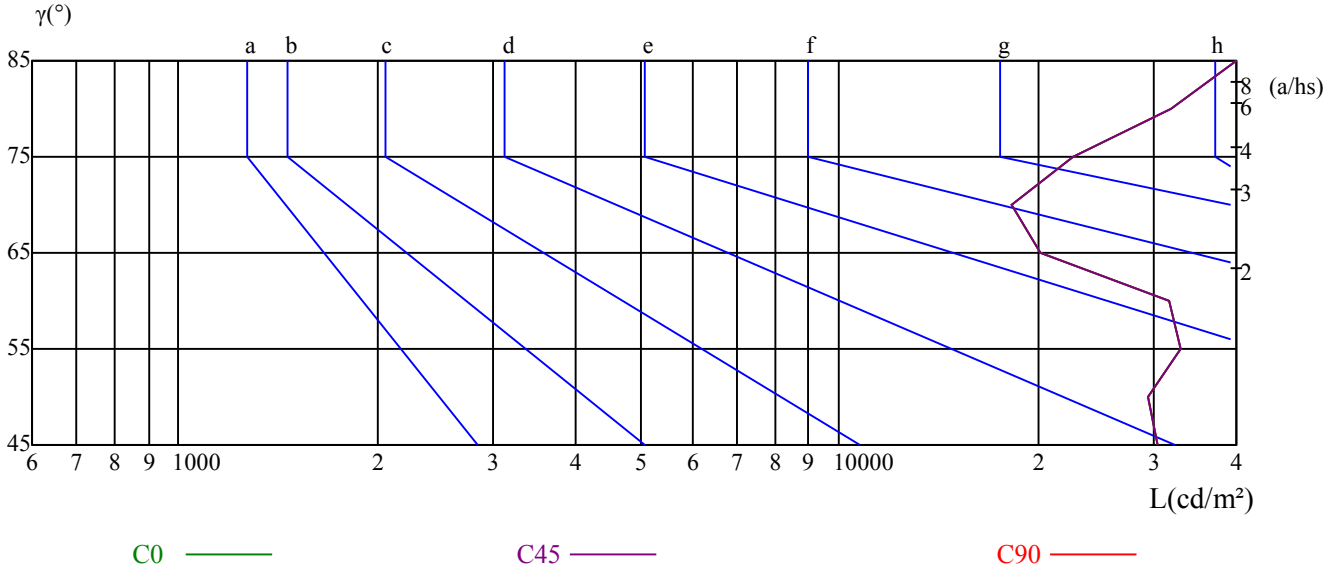
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 30489 | 29405 | 32918 | 31597 | 20216 | 18248 | 22615 | 31847 | 57194 |
| C45 | 30489 | 29405 | 32918 | 31597 | 20216 | 18248 | 22615 | 31847 | 57194 |
| C90 | 30489 | 29405 | 32918 | 31597 | 20216 | 18248 | 22615 | 31847 | 57194 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 20216 | 20216 | 20216 | 22615 | 22615 | 22615 | 57194 | 57194 | 57194 |

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



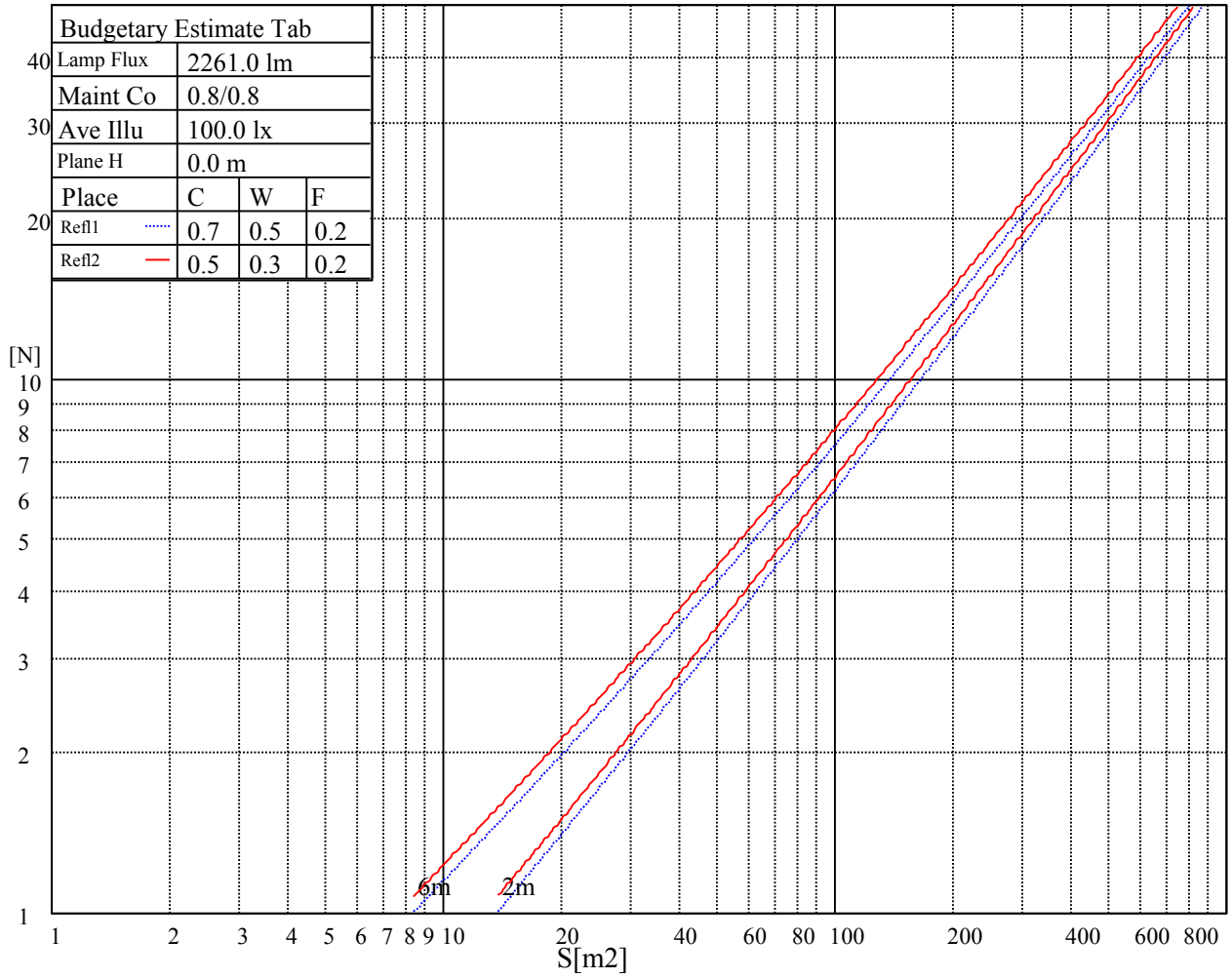

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

## Budgetary Estimate Table






Equipment: GMS1980 Date: 2022/9/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

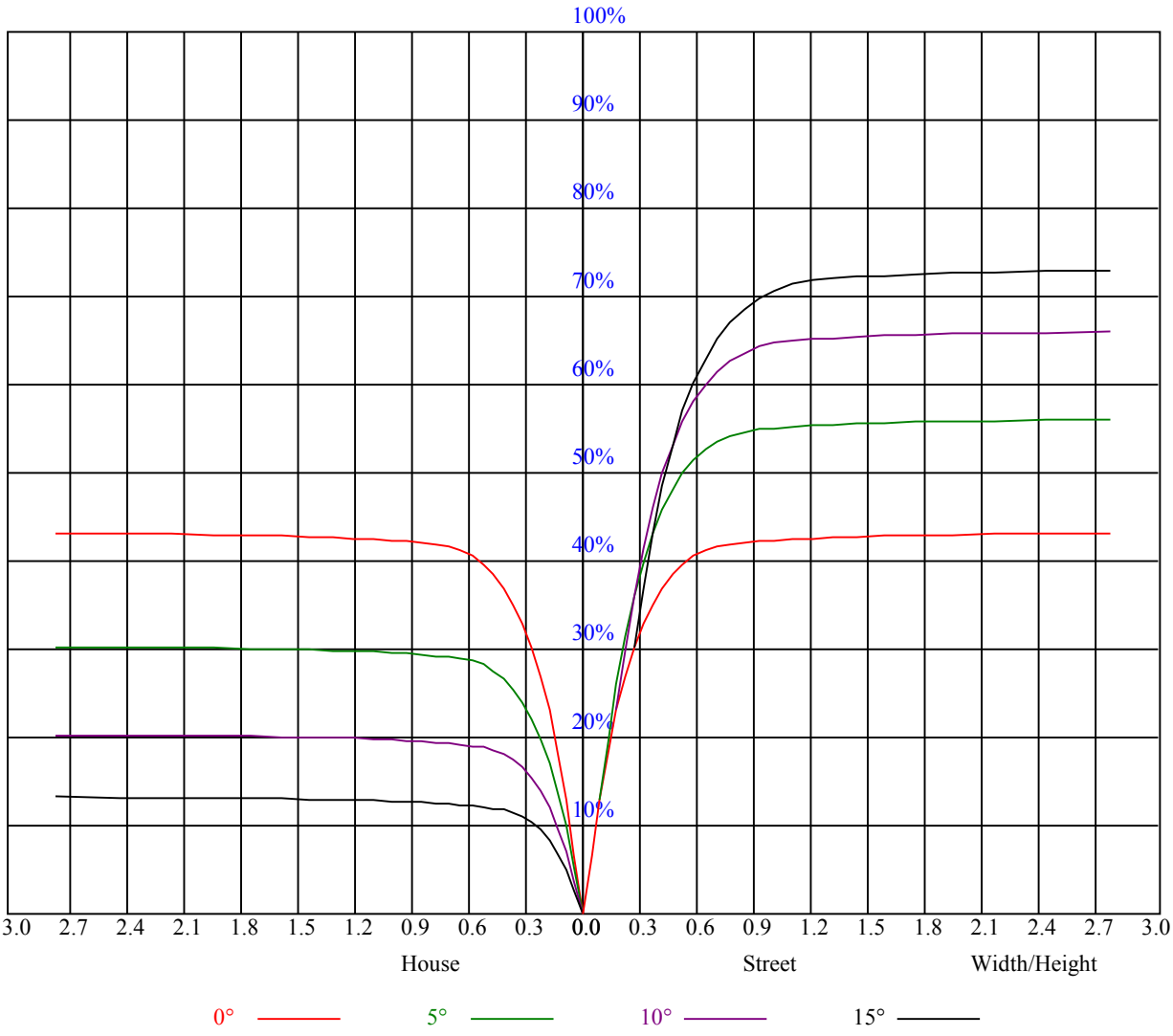
Utilization factor table for indoor luminaire



| 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 | 1.04 | 1.04 | 1.04 | 1.01 | 1.01 | 1.01 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 | 0.87 |
| 1 | 0.97 | 0.95 | 0.93 | 0.95 | 0.93 | 0.92 | 0.92 | 0.90 | 0.89 | 0.88 | 0.87 | 0.86 | 0.86 | 0.85 | 0.84 | 0.82 |
| 2 | 0.92 | 0.88 | 0.86 | 0.90 | 0.87 | 0.85 | 0.87 | 0.85 | 0.83 | 0.85 | 0.83 | 0.81 | 0.82 | 0.81 | 0.80 | 0.78 |
| 3 | 0.87 | 0.83 | 0.80 | 0.85 | 0.82 | 0.79 | 0.83 | 0.80 | 0.78 | 0.81 | 0.79 | 0.77 | 0.79 | 0.77 | 0.76 | 0.75 |
| 4 | 0.82 | 0.78 | 0.75 | 0.81 | 0.78 | 0.75 | 0.80 | 0.76 | 0.74 | 0.78 | 0.75 | 0.73 | 0.76 | 0.74 | 0.72 | 0.71 |
| 5 | 0.79 | 0.74 | 0.71 | 0.78 | 0.74 | 0.71 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.74 | 0.71 | 0.69 | 0.68 |
| 6 | 0.75 | 0.71 | 0.68 | 0.75 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.65 |
| 7 | 0.72 | 0.68 | 0.65 | 0.72 | 0.67 | 0.65 | 0.71 | 0.67 | 0.64 | 0.70 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.63 |
| 8 | 0.69 | 0.65 | 0.62 | 0.69 | 0.65 | 0.62 | 0.68 | 0.64 | 0.62 | 0.67 | 0.64 | 0.61 | 0.66 | 0.63 | 0.61 | 0.60 |
| 9 | 0.67 | 0.63 | 0.60 | 0.66 | 0.62 | 0.60 | 0.66 | 0.62 | 0.59 | 0.65 | 0.62 | 0.59 | 0.64 | 0.61 | 0.59 | 0.58 |
| 10 | 0.64 | 0.60 | 0.57 | 0.64 | 0.60 | 0.57 | 0.63 | 0.60 | 0.57 | 0.63 | 0.59 | 0.57 | 0.62 | 0.59 | 0.57 | 0.56 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2022/9/15 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 65.0% | Distance(m): 7.73 |

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 | 8375.56 | 8386.32 | 8271.59 | 7994.34 | 7681.83 | 7233.69 | 6562.06 | 5946.01 | 5313.23 |
| 45.0 | 8315.21 | 8057.08 | 7691.39 | 7236.08 | 6658.86 | 6033.85 | 5300.68 | 4633.84 | 4146.25 |
| 90.0 | 8237.53 | 7933.99 | 7617.90 | 7035.31 | 6472.43 | 5845.63 | 5045.53 | 4474.30 | 4009.42 |
| 135.0 | 8391.70 | 8227.97 | 7938.17 | 7594.59 | 7084.30 | 6545.33 | 5847.42 | 5142.33 | 4565.12 |
| 180.0 | 8375.56 | 8214.23 | 7961.48 | 7573.68 | 7051.44 | 6496.93 | 5794.24 | 5098.12 | 4526.88 |
| 225.0 | 8315.21 | 8374.97 | 8415.00 | 8196.31 | 7945.94 | 7595.19 | 6954.64 | 6462.28 | 5845.63 |
| 270.0 | 8237.53 | 8401.86 | 8413.81 | 8260.24 | 8007.49 | 7692.59 | 7246.83 | 6587.16 | 5999.79 |
| 315.0 | 8391.70 | 8377.95 | 8278.76 | 7983.58 | 7630.45 | 7176.32 | 6578.79 | 5900.60 | 5267.22 |
| 360.0 | 8375.56 | 8386.32 | 8271.59 | 7994.34 | 7681.83 | 7233.69 | 6562.06 | 5946.01 | 5313.23 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 4597.39 | 4110.40 | 3705.28 | 3356.32 | 2996.01 | 2753.41 | 2510.22 | 2317.22 | 2107.48 |
| 45.0 | 3677.79 | 3288.20 | 3004.97 | 2749.83 | 2482.73 | 2284.35 | 2112.27 | 1925.24 | 1750.16 |
| 90.0 | 3619.83 | 3200.96 | 2931.48 | 2692.47 | 2442.10 | 2252.68 | 2076.41 | 1887.59 | 1723.87 |
| 135.0 | 4036.31 | 3587.56 | 3255.34 | 2972.71 | 2679.32 | 2461.22 | 2278.98 | 2078.21 | 1884.61 |
| 180.0 | 4060.81 | 3568.44 | 3241.59 | 2963.74 | 2669.16 | 2463.61 | 2270.61 | 2059.08 | 1873.25 |
| 225.0 | 5174.60 | 4545.40 | 4070.97 | 3617.44 | 3235.62 | 2961.35 | 2696.65 | 2483.33 | 2256.27 |
| 270.0 | 5374.18 | 4664.31 | 4162.98 | 3751.29 | 3321.66 | 3028.87 | 2786.88 | 2533.52 | 2308.85 |
| 315.0 | 4680.44 | 4070.37 | 3683.77 | 3333.02 | 3007.36 | 2739.07 | 2521.57 | 2298.10 | 2090.16 |
| 360.0 | 4597.39 | 4110.40 | 3705.28 | 3356.32 | 2996.01 | 2753.41 | 2510.22 | 2317.22 | 2107.48 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 1933.60 | 1763.91 | 1611.54 | 1488.44 | 1359.98 | 1256.01 | 1140.68 | 1037.31 | 956.05 |
| 45.0 | 1619.90 | 1478.29 | 1348.62 | 1235.09 | 1125.74 | 1033.73 | 947.68 | 876.58 | 822.80 |
| 90.0 | 1584.05 | 1446.62 | 1331.89 | 1181.79 | 1098.68 | 1007.97 | 925.27 | 859.31 | 808.70 |
| 135.0 | 1753.15 | 1582.26 | 1446.02 | 1343.25 | 1212.98 | 1120.37 | 1027.15 | 932.74 | 871.20 |
| 180.0 | 1719.69 | 1568.51 | 1444.83 | 1322.33 | 1187.89 | 1105.07 | 1010.06 | 930.05 | 870.84 |
| 225.0 | 2056.69 | 1891.18 | 1738.81 | 1566.12 | 1445.42 | 1331.89 | 1183.65 | 1100.35 | 1017.29 |
| 270.0 | 2124.22 | 1927.03 | 1760.32 | 1617.51 | 1479.48 | 1364.16 | 1241.07 | 1130.52 | 1041.49 |
| 315.0 | 1924.64 | 1754.35 | 1618.71 | 1475.90 | 1348.62 | 1186.99 | 1123.89 | 1020.28 | 943.98 |
| 360.0 | 1933.60 | 1763.91 | 1611.54 | 1488.44 | 1359.98 | 1256.01 | 1140.68 | 1037.31 | 956.05 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 891.51 | 818.02 | 759.46 | 690.15 | 601.11 | 528.81 | 455.91 | 378.83 | 306.53 |
| 45.0 | 764.24 | 681.18 | 600.52 | 530.01 | 440.98 | 372.86 | 310.72 | 241.94 | 178.48 |
| 90.0 | 747.63 | 657.22 | 581.75 | 508.50 | 430.94 | 355.77 | 292.13 | 226.82 | 166.65 |
| 135.0 | 818.02 | 748.70 | 675.21 | 612.47 | 510.29 | 446.35 | 371.07 | 305.34 | 232.32 |
| 180.0 | 818.38 | 748.52 | 675.63 | 602.31 | 512.32 | 439.00 | 369.75 | 290.94 | 230.05 |
| 225.0 | 945.77 | 873.47 | 820.83 | 765.55 | 688.47 | 606.31 | 535.68 | 454.06 | 378.00 |
| 270.0 | 964.41 | 888.53 | 832.96 | 777.39 | 690.15 | 616.65 | 543.75 | 462.49 | 386.00 |
| 315.0 | 885.24 | 817.18 | 759.94 | 693.91 | 611.21 | 529.53 | 455.74 | 376.32 | 303.60 |
| 360.0 | 891.51 | 818.02 | 759.46 | 690.15 | 601.11 | 528.81 | 455.91 | 378.83 | 306.53 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 265.90 | 178.24 | 128.65 | 85.33 | 60.47 | 51.51 | 46.79 | 44.22 | 42.13 |
| 45.0 | 125.36 | 82.28 | 61.55 | 52.64 | 48.88 | 45.77 | 43.08 | 41.41 | 39.91 |
| 90.0 | 118.97 | 76.07 | 58.14 | 50.13 | 47.20 | 44.58 | 42.42 | 40.81 | 39.20 |
| 135.0 | 173.10 | 118.61 | 82.64 | 59.63 | 49.06 | 46.07 | 42.60 | 40.09 | 38.84 |
| 180.0 | 175.61 | 114.90 | 81.08 | 56.77 | 47.09 | 44.70 | 42.01 | 39.62 | 38.84 |
| 225.0 | 314.18 | 245.52 | 186.91 | 129.42 | 84.85 | 62.02 | 52.04 | 46.97 | 43.20 |
| 270.0 | 320.87 | 313.11 | 188.88 | 130.38 | 84.01 | 61.84 | 51.81 | 48.46 | 45.89 |
| 315.0 | 244.09 | 178.42 | 125.54 | 82.16 | 58.92 | 52.46 | 49.59 | 45.53 | 43.26 |
| 360.0 | 265.90 | 178.24 | 128.65 | 85.33 | 60.47 | 51.51 | 46.79 | 44.22 | 42.13 |

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 | 40.75 | 39.14 | 37.88 | 36.87 | 35.79 | 35.02 | 34.48 | 34.18 | 34.24 |
| 45.0 | 38.60 | 37.23 | 36.27 | 35.73 | 35.07 | 34.72 | 34.66 | 34.90 | 34.84 |
| 90.0 | 38.12 | 36.69 | 35.79 | 35.31 | 34.60 | 34.42 | 34.48 | 34.84 | 34.90 |
| 135.0 | 37.52 | 36.33 | 35.49 | 34.72 | 34.18 | 33.88 | 33.94 | 34.06 | 34.42 |
| 180.0 | 37.76 | 36.63 | 35.97 | 35.25 | 34.90 | 34.48 | 34.36 | 34.54 | 34.72 |
| 225.0 | 40.69 | 38.90 | 37.58 | 36.57 | 35.55 | 34.66 | 34.24 | 34.00 | 34.00 |
| 270.0 | 43.50 | 41.77 | 40.09 | 38.84 | 37.64 | 36.45 | 35.67 | 35.07 | 35.13 |
| 315.0 | 41.95 | 40.09 | 38.96 | 37.82 | 36.51 | 35.97 | 35.31 | 35.13 | 35.25 |
| 360.0 | 40.75 | 39.14 | 37.88 | 36.87 | 35.79 | 35.02 | 34.48 | 34.18 | 34.24 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 34.48 | 34.36 | 34.60 | 34.42 | 33.40 | 32.27 | 30.12 | 27.61 | 25.10 |
| 45.0 | 35.02 | 34.78 | 33.94 | 32.63 | 31.13 | 28.26 | 25.45 | 23.66 | 19.78 |
| 90.0 | 35.25 | 34.84 | 33.76 | 32.45 | 30.47 | 27.79 | 25.45 | 22.89 | 18.94 |
| 135.0 | 34.30 | 34.84 | 34.54 | 33.10 | 32.03 | 29.94 | 27.37 | 24.86 | 22.23 |
| 180.0 | 34.84 | 35.31 | 34.84 | 34.06 | 32.57 | 30.71 | 27.90 | 25.51 | 23.00 |
| 225.0 | 34.12 | 34.48 | 34.72 | 35.19 | 34.78 | 33.58 | 32.51 | 29.82 | 27.43 |
| 270.0 | 35.31 | 35.31 | 35.37 | 35.85 | 35.37 | 34.60 | 33.16 | 31.07 | 28.50 |
| 315.0 | 35.31 | 35.37 | 35.61 | 35.43 | 34.06 | 32.92 | 31.73 | 27.96 | 25.93 |
| 360.0 | 34.48 | 34.36 | 34.60 | 34.42 | 33.40 | 32.27 | 30.12 | 27.61 | 25.10 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 22.77 | 19.18 | 16.61 | 14.70 | 12.97 | 12.19 | 11.83 | 11.53 | 11.29 |
| 45.0 | 17.15 | 15.18 | 13.15 | 12.49 | 12.13 | 11.77 | 11.53 | 11.35 | 11.17 |
| 90.0 | 16.49 | 14.52 | 12.67 | 12.13 | 11.77 | 11.47 | 11.29 | 11.11 | 10.99 |
| 135.0 | 19.24 | 15.83 | 13.98 | 12.73 | 12.07 | 11.71 | 11.41 | 11.23 | 11.05 |
| 180.0 | 19.42 | 16.85 | 14.58 | 13.09 | 12.43 | 12.07 | 11.83 | 11.59 | 11.41 |
| 225.0 | 25.28 | 22.53 | 18.94 | 16.31 | 14.16 | 12.67 | 12.19 | 11.77 | 11.53 |
| 270.0 | 25.99 | 23.06 | 19.42 | 16.79 | 14.58 | 12.85 | 12.31 | 11.89 | 11.59 |
| 315.0 | 23.96 | 19.48 | 17.03 | 15.24 | 13.15 | 12.49 | 12.13 | 11.83 | 11.53 |
| 360.0 | 22.77 | 19.18 | 16.61 | 14.70 | 12.97 | 12.19 | 11.83 | 11.53 | 11.29 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 11.11 | 10.99 | 10.88 | 10.76 | 10.70 | 10.64 | 10.58 | 10.40 | 10.28 |
| 45.0 | 11.11 | 10.99 | 10.93 | 10.82 | 10.76 | 10.64 | 10.46 | 10.28 | 10.04 |
| 90.0 | 10.88 | 10.76 | 10.70 | 10.64 | 10.58 | 10.46 | 10.28 | 10.04 | 9.86 |
| 135.0 | 10.93 | 10.88 | 10.76 | 10.70 | 10.64 | 10.58 | 10.40 | 10.16 | 10.04 |
| 180.0 | 11.17 | 11.11 | 10.99 | 10.88 | 10.76 | 10.70 | 10.52 | 10.28 | 10.10 |
| 225.0 | 11.35 | 11.17 | 10.99 | 10.88 | 10.82 | 10.76 | 10.70 | 10.64 | 10.52 |
| 270.0 | 11.41 | 11.23 | 11.05 | 10.93 | 10.88 | 10.76 | 10.70 | 10.64 | 10.58 |
| 315.0 | 11.35 | 11.17 | 11.05 | 10.99 | 10.88 | 10.82 | 10.76 | 10.64 | 10.40 |
| 360.0 | 11.11 | 10.99 | 10.88 | 10.76 | 10.70 | 10.64 | 10.58 | 10.40 | 10.28 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 10.10 | 9.86 | 9.68 | 9.50 | 9.32 | 9.14 | 8.96 | 8.84 | 8.72 |
| 45.0 | 9.86 | 9.68 | 9.50 | 9.20 | 9.02 | 8.90 | 8.72 | 8.66 | 8.60 |
| 90.0 | 9.68 | 9.44 | 9.32 | 9.14 | 8.96 | 8.84 | 8.66 | 8.66 | 8.60 |
| 135.0 | 9.86 | 9.62 | 9.38 | 9.26 | 9.02 | 8.90 | 8.78 | 8.72 | 8.66 |
| 180.0 | 9.86 | 9.68 | 9.44 | 9.26 | 9.08 | 8.96 | 8.78 | 8.72 | 8.60 |
| 225.0 | 10.34 | 10.16 | 9.92 | 9.74 | 9.44 | 9.20 | 9.08 | 8.90 | 8.78 |
| 270.0 | 10.40 | 10.16 | 9.98 | 9.74 | 9.50 | 9.32 | 9.14 | 8.96 | 8.84 |
| 315.0 | 10.28 | 10.04 | 9.80 | 9.56 | 9.38 | 9.20 | 9.02 | 8.90 | 8.78 |
| 360.0 | 10.10 | 9.86 | 9.68 | 9.50 | 9.32 | 9.14 | 8.96 | 8.84 | 8.72 |

Intensity data(cd)



| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 8.72 |
| 45.0 | 8.66 |
| 90.0 | 8.60 |
| 135.0 | 8.60 |
| 180.0 | 8.60 |
| 225.0 | 8.66 |
| 270.0 | 8.78 |
| 315.0 | 8.72 |
| 360.0 | 8.72 |