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

## Nata

LumCAT: LN01D05024DA-N
Luminaire: 97.70.234.00
Report No: 210106-B008
Test No: 210106-C008
LampCAT: TRIDONIC SLE G7 9MM
Lamp flux(lm): 1978.0
Number of Lamps: 1
Length(mm): 92
Phm Type: C

Voltage(V): 36.2500
Current(A): 0.3810
Power (W): 13.8110
PF: 0.0000
Ballast type: DC
Width(mm): 92
Height(mm): 50

## Photometric Results

Lumens(lm): 1761.18
Efficiency(%): 89.04%
Lumens(lm)/Power(W): 127.52
Central intensity(cd): 6330.375
Maximum intensity(cd): 6330.375
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=28.2
[C90/270]Total=28.2
Field angle(10%Imax): [C0/180]Total=47.7
[C90/270]Total=47.7
Maximum s/h(1/2): C0_180=0.48 C90_270=0.48
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(%): 89.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.527%

KY Nata LN01D05024DA-N

Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 0.0 | 6330.375 | 0.000 | 0 | .000% | .000% |
| 1.0 | 6313.852 | 6.050 | 6.05 | .306% | .344% |
| 2.0 | 6264.070 | 18.053 | 24.103 | .913% | 1.369% |
| 3.0 | 6180.328 | 29.763 | 53.866 | 1.505% | 3.059% |
| 4.0 | 6068.039 | 40.999 | 94.865 | 2.073% | 5.386% |
| 5.0 | 5915.320 | 51.552 | 146.417 | 2.606% | 8.314% |
| 6.0 | 5728.078 | 61.189 | 207.606 | 3.093% | 11.788% |
| 7.0 | 5512.219 | 69.768 | 277.374 | 3.527% | 15.749% |
| 8.0 | 5266.969 | 77.145 | 354.519 | 3.900% | 20.130% |
| 9.0 | 4982.906 | 83.070 | 437.589 | 4.200% | 24.846% |
| 10.0 | 4662.492 | 87.287 | 524.876 | 4.413% | 29.802% |
| 11.0 | 4324.641 | 89.800 | 614.676 | 4.540% | 34.901% |
| 12.0 | 3982.289 | 90.807 | 705.483 | 4.591% | 40.057% |
| 13.0 | 3582.281 | 89.772 | 795.255 | 4.539% | 45.155% |
| 14.0 | 3191.766 | 86.707 | 881.962 | 4.384% | 50.078% |
| 15.0 | 2852.086 | 82.973 | 964.935 | 4.195% | 54.789% |
| 16.0 | 2486.953 | 78.232 | 1043.167 | 3.955% | 59.231% |
| 17.0 | 2135.602 | 71.986 | 1115.152 | 3.639% | 63.318% |
| 18.0 | 1836.844 | 65.497 | 1180.649 | 3.311% | 67.037% |
| 19.0 | 1544.266 | 58.824 | 1239.474 | 2.974% | 70.377% |
| 20.0 | 1296.963 | 52.002 | 1291.476 | 2.629% | 73.330% |
| 21.0 | 1081.807 | 45.677 | 1337.153 | 2.309% | 75.924% |
| 22.0 | 899.923 | 39.824 | 1376.977 | 2.013% | 78.185% |
| 23.0 | 745.200 | 34.519 | 1411.496 | 1.745% | 80.145% |
| 24.0 | 611.494 | 29.662 | 1441.158 | 1.500% | 81.829% |
| 25.0 | 500.520 | 25.285 | 1466.443 | 1.278% | 83.265% |
| 26.0 | 417.129 | 21.661 | 1488.104 | 1.095% | 84.495% |
| 27.0 | 349.277 | 18.750 | 1506.855 | .948% | 85.559% |
| 28.0 | 293.484 | 16.273 | 1523.128 | .823% | 86.483% |
| 29.0 | 248.154 | 14.171 | 1537.299 | .716% | 87.288% |
| 30.0 | 215.803 | 12.527 | 1549.825 | .633% | 87.999% |
| 31.0 | 186.581 | 11.198 | 1561.023 | .566% | 88.635% |
| 32.0 | 165.663 | 10.091 | 1571.115 | .510% | 89.208% |
| 33.0 | 149.407 | 9.282 | 1580.397 | .469% | 89.735% |
| 34.0 | 134.831 | 8.602 | 1588.999 | .435% | 90.223% |
| 35.0 | 122.709 | 7.998 | 1596.997 | .404% | 90.678% |
| 36.0 | 112.296 | 7.483 | 1604.48 | .378% | 91.102% |
| 37.0 | 103.240 | 7.030 | 1611.509 | .355% | 91.502% |

KY Nata LN01D05024DA-N

Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 38.0 | 95.203 | 6.624 | 1618.133 | .335% | 91.878% |
| 39.0 | 87.441 | 6.234 | 1624.367 | .315% | 92.232% |
| 40.0 | 80.838 | 5.869 | 1630.236 | .297% | 92.565% |
| 41.0 | 75.143 | 5.554 | 1635.79 | .281% | 92.880% |
| 42.0 | 69.448 | 5.253 | 1641.044 | .266% | 93.179% |
| 43.0 | 64.062 | 4.946 | 1645.989 | .250% | 93.459% |
| 44.0 | 59.681 | 4.670 | 1650.66 | .236% | 93.725% |
| 45.0 | 55.252 | 4.417 | 1655.077 | .223% | 93.975% |
| 46.0 | 51.033 | 4.157 | 1659.233 | .210% | 94.211% |
| 47.0 | 47.391 | 3.915 | 1663.148 | .198% | 94.434% |
| 48.0 | 44.135 | 3.700 | 1666.848 | .187% | 94.644% |
| 49.0 | 40.978 | 3.495 | 1670.343 | .177% | 94.842% |
| 50.0 | 38.180 | 3.300 | 1673.643 | .167% | 95.030% |
| 51.0 | 35.824 | 3.131 | 1676.774 | .158% | 95.207% |
| 52.0 | 33.652 | 2.981 | 1679.755 | .151% | 95.377% |
| 53.0 | 31.845 | 2.849 | 1682.605 | .144% | 95.538% |
| 54.0 | 30.171 | 2.733 | 1685.338 | .138% | 95.694% |
| 55.0 | 28.786 | 2.632 | 1687.97 | .133% | 95.843% |
| 56.0 | 27.598 | 2.548 | 1690.518 | .129% | 95.988% |
| 57.0 | 26.452 | 2.471 | 1692.989 | .125% | 96.128% |
| 58.0 | 25.425 | 2.399 | 1695.388 | .121% | 96.264% |
| 59.0 | 24.595 | 2.338 | 1697.726 | .118% | 96.397% |
| 60.0 | 23.730 | 2.283 | 1700.009 | .115% | 96.527% |
| 61.0 | 22.908 | 2.226 | 1702.235 | .113% | 96.653% |
| 62.0 | 22.275 | 2.177 | 1704.412 | .110% | 96.777% |
| 63.0 | 21.579 | 2.133 | 1706.545 | .108% | 96.898% |
| 64.0 | 20.925 | 2.086 | 1708.631 | .105% | 97.016% |
| 65.0 | 20.355 | 2.043 | 1710.674 | .103% | 97.132% |
| 66.0 | 19.821 | 2.005 | 1712.678 | .101% | 97.246% |
| 67.0 | 19.399 | 1.972 | 1714.65 | .100% | 97.358% |
| 68.0 | 19.308 | 1.961 | 1716.611 | .099% | 97.469% |
| 69.0 | 19.976 | 2.004 | 1718.615 | .101% | 97.583% |
| 70.0 | 20.679 | 2.088 | 1720.703 | .106% | 97.702% |
| 71.0 | 21.705 | 2.191 | 1722.894 | .111% | 97.826% |
| 72.0 | 22.697 | 2.309 | 1725.202 | .117% | 97.957% |
| 73.0 | 23.681 | 2.425 | 1727.628 | .123% | 98.095% |
| 74.0 | 24.405 | 2.528 | 1730.156 | .128% | 98.238% |
| 75.0 | 25.369 | 2.630 | 1732.786 | .133% | 98.388% |

## Zonal flux distribution table



| γ(°) | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|---|---|---|---|---|---|
| 76.0 | 26.030 | 2.728 | 1735.514 | .138% | 98.543% |
| 77.0 | 26.374 | 2.794 | 1738.308 | .141% | 98.701% |
| 78.0 | 26.213 | 2.815 | 1741.123 | .142% | 98.861% |
| 79.0 | 25.397 | 2.773 | 1743.896 | .140% | 99.018% |
| 80.0 | 24.293 | 2.679 | 1746.575 | .135% | 99.171% |
| 81.0 | 21.663 | 2.485 | 1749.06 | .126% | 99.312% |
| 82.0 | 19.041 | 2.207 | 1751.267 | .112% | 99.437% |
| 83.0 | 16.200 | 1.916 | 1753.183 | .097% | 99.546% |
| 84.0 | 13.704 | 1.629 | 1754.812 | .082% | 99.638% |
| 85.0 | 11.841 | 1.394 | 1756.206 | .070% | 99.717% |
| 86.0 | 9.682 | 1.176 | 1757.383 | .059% | 99.784% |
| 87.0 | 8.958 | 1.020 | 1758.403 | .052% | 99.842% |
| 88.0 | 8.550 | 0.959 | 1759.362 | .048% | 99.897% |
| 89.0 | 8.276 | 0.922 | 1760.284 | .047% | 99.949% |
| 90.0 | 8.100 | 0.898 | 1761.182 | .045% | 100.000% |

## Zonal flux distribution table



ZONAL LUMEN SUMMARY

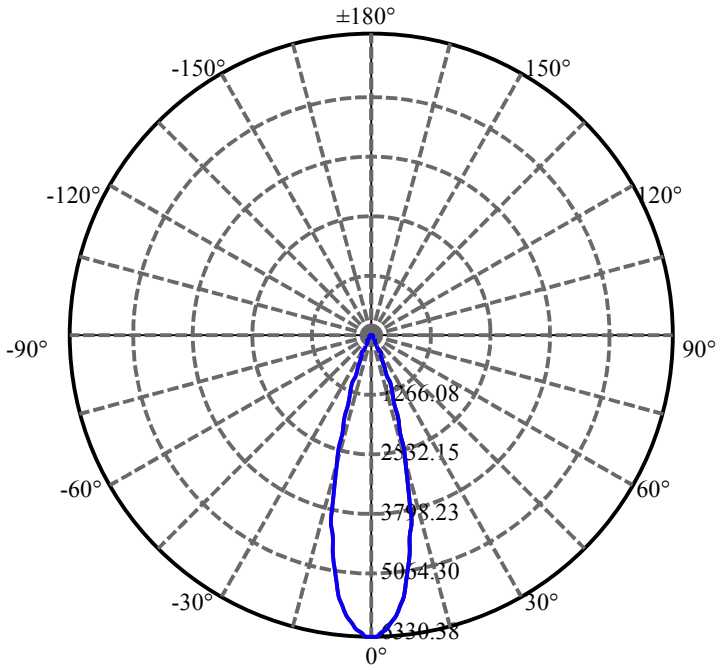
| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-30 | 1549.83 | 78.35% | 88.00% |
| 0-40 | 1630.24 | 82.42% | 92.56% |
| 0-60 | 1700.01 | 85.95% | 96.53% |
| 0-90 | 1760.28 | 88.99% | 99.95% |
| 0-120 | 1760.28 | 88.99% | 99.95% |
| 0-180 | 1761.18 | 89.04% | 100.00% |
| 60-90 | 62.56 | 3.16% | 3.55% |
| 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% |
| 0-22.93 | 1408.95 | 71.23% | 80.00% |

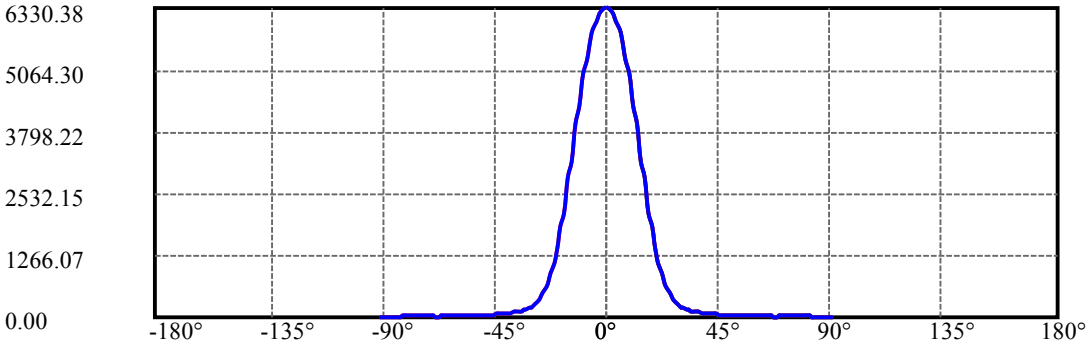
ZONAL LUMEN SUMMARY

| | |
|---|---|
| 0-10 | 524.88 |
| 10-20 | 766.60 |
| 20-30 | 258.35 |
| 30-40 | 80.41 |
| 40-50 | 43.41 |
| 50-60 | 26.37 |
| 60-70 | 20.69 |
| 70-80 | 25.87 |
| 80-90 | 13.71 |
| 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]





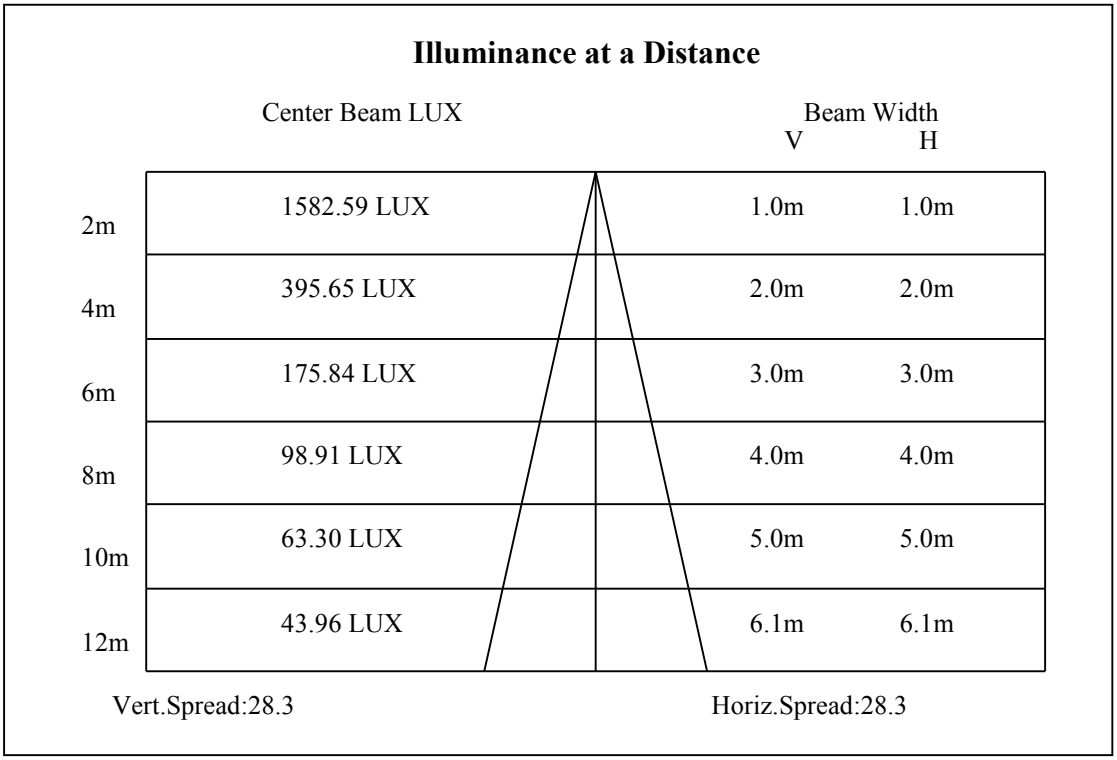

C0(Max):

C0/C180:

C90/C270:

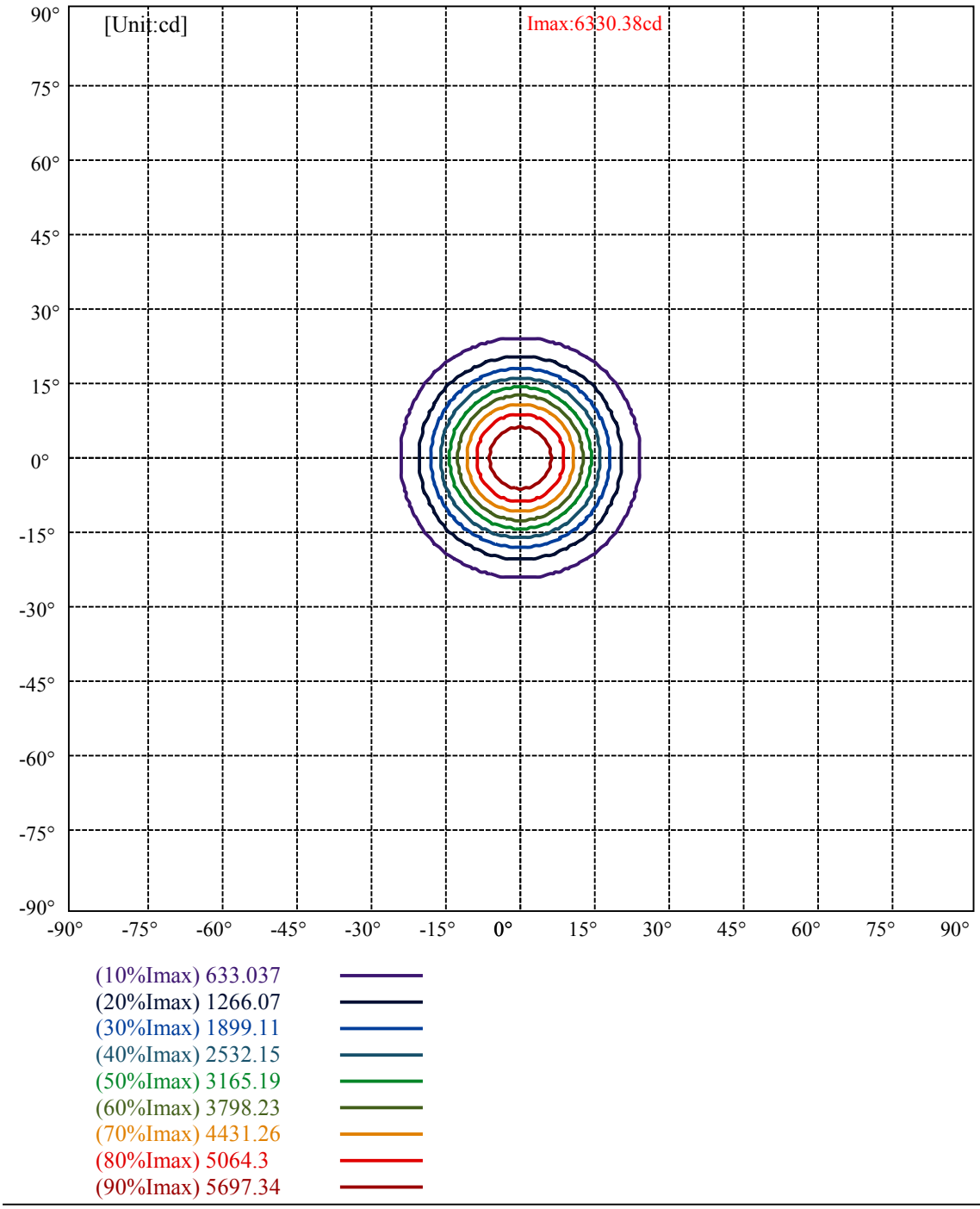
Field angle(10%Imax):C0/180Left:23.8 Right:23.8
:C90/270Left:23.8 Right:23.8

Beam Angle(50%Imax):C0/180Left:14.1 Right:14.1
:C90/270Left:14.1 Right:14.1


Illuminance at a Distance
Center Beam LUX
Beam Width
V
H
2m
1582.59 LUX
1.0m
1.0m
4m
395.65 LUX
2.0m
2.0m
6m
175.84 LUX
3.0m
3.0m
8m
98.91 LUX
4.0m
4.0m
10m
63.30 LUX
5.0m
5.0m
12m
43.96 LUX
6.1m
6.1m
Vert.Spread:28.3
Horiz.Spread:28.3

ISO-Intensity(V-H)






(10%Imax) 633.037
(20%Imax) 1266.07
(30%Imax) 1899.11
(40%Imax) 2532.15
(50%Imax) 3165.19
(60%Imax) 3798.23
(70%Imax) 4431.26
(80%Imax) 5064.3
(90%Imax) 5697.34

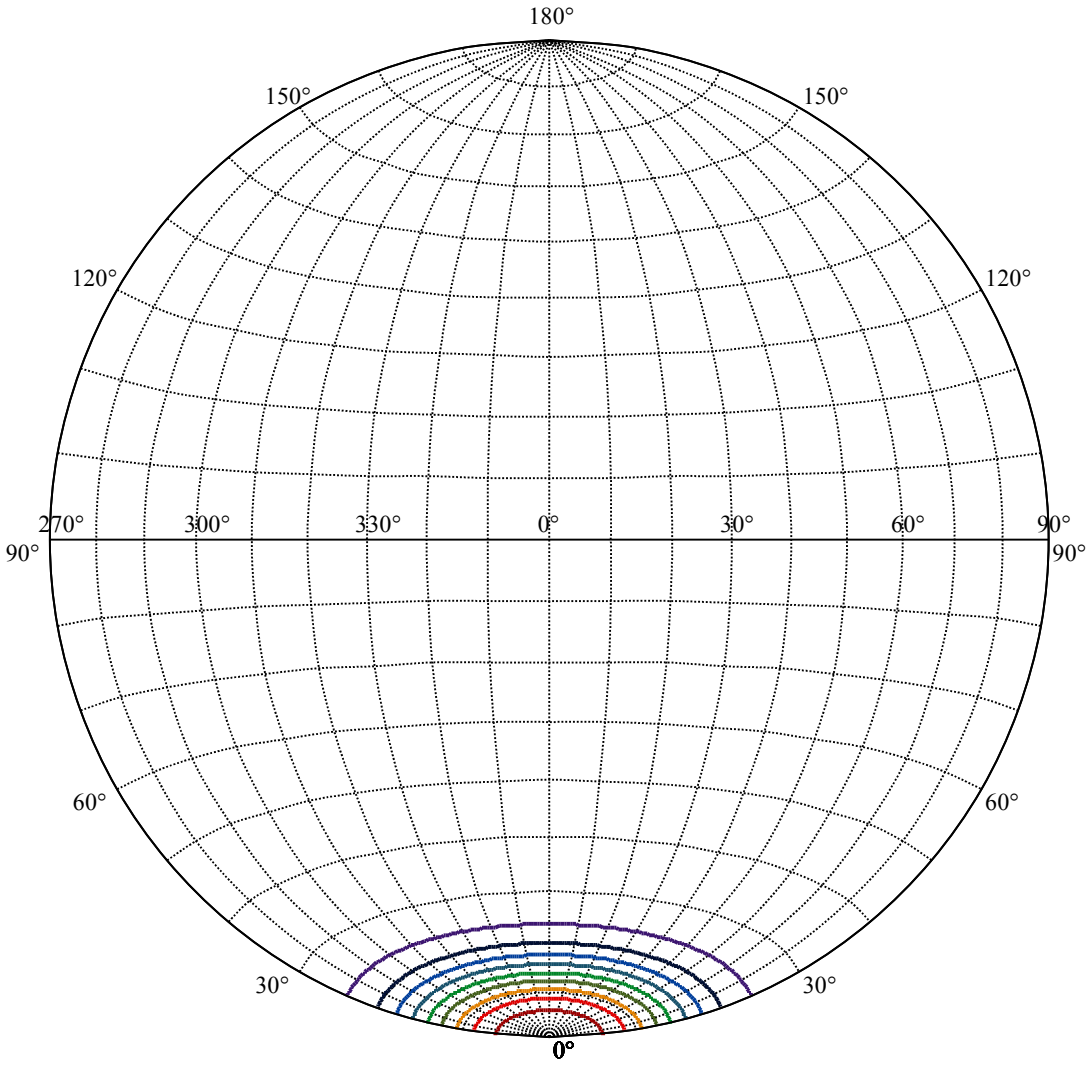
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/01/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web






House [Unit:cd] Road

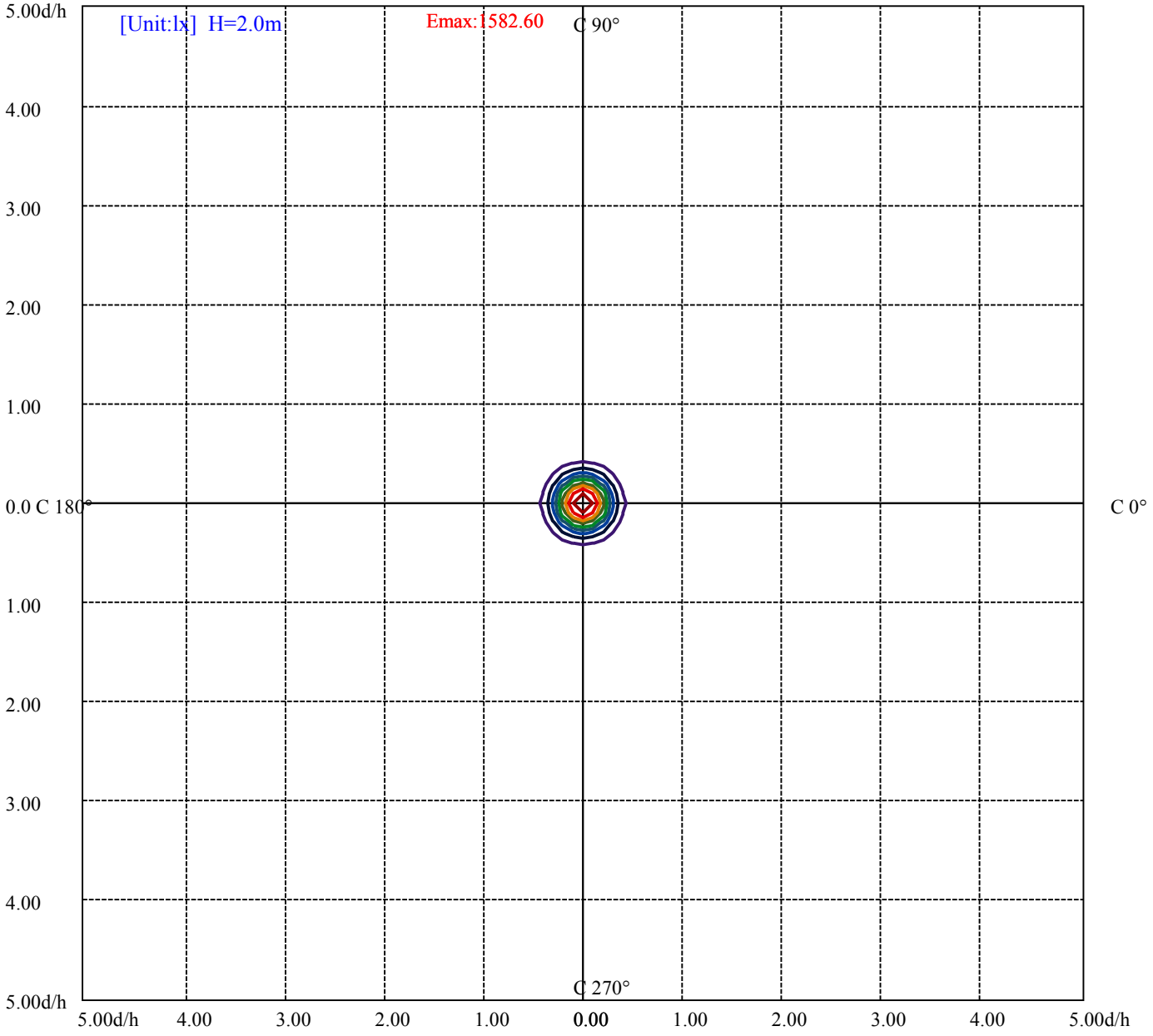
Imax:6330.38

(10%Imax) 633.037
(20%Imax) 1266.07
(30%Imax) 1899.11
(40%Imax) 2532.15
(50%Imax) 3165.19
(60%Imax) 3798.23
(70%Imax) 4431.26
(80%Imax) 5064.3
(90%Imax) 5697.34

KY Nata LN01D05024DA-N

ISO illuminance diagram





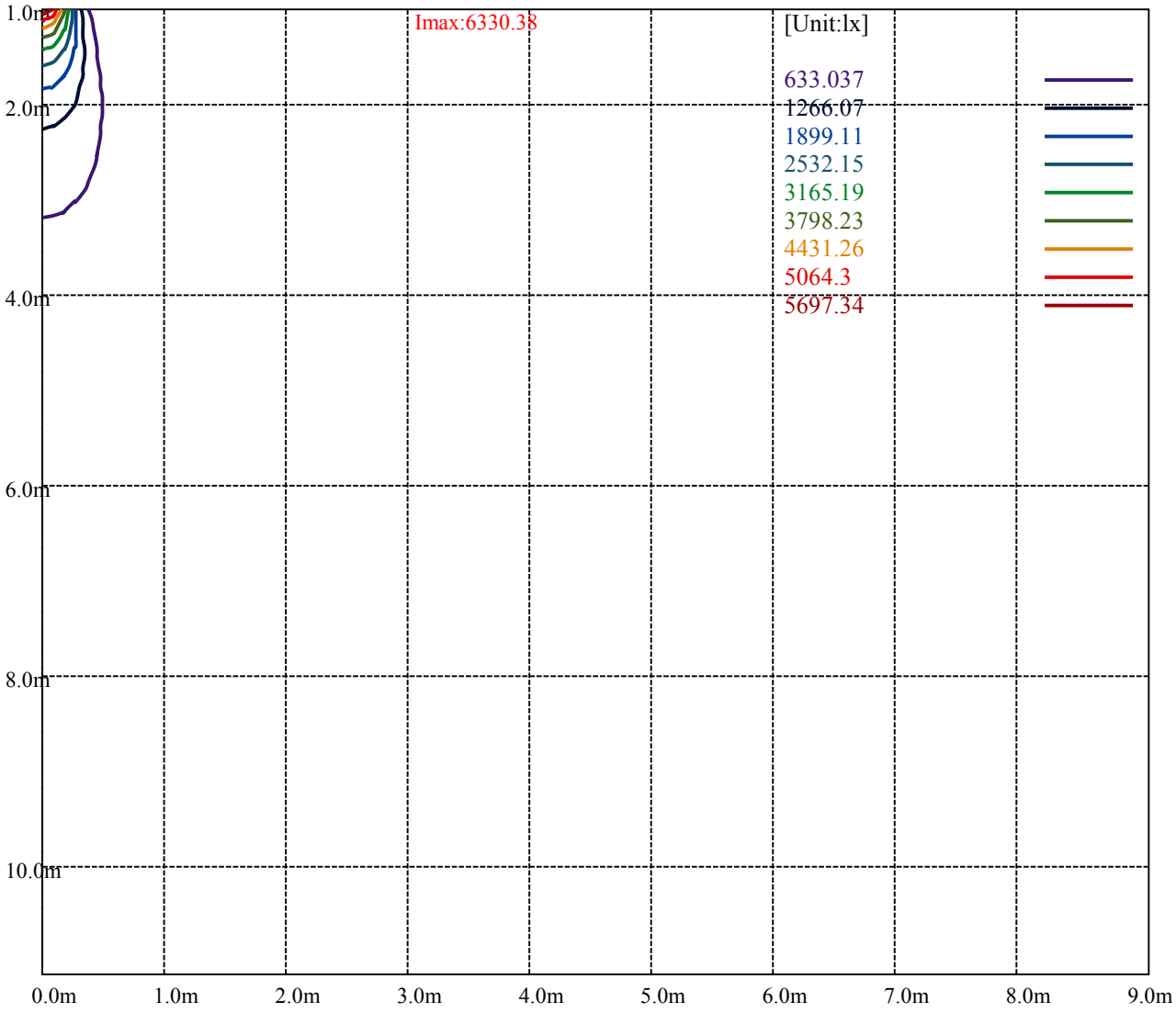

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/01/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram






Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/01/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

KY Nata LN01D05024DA-N

## Luminance Limitting Curve(no luminous side)



Luminance Table

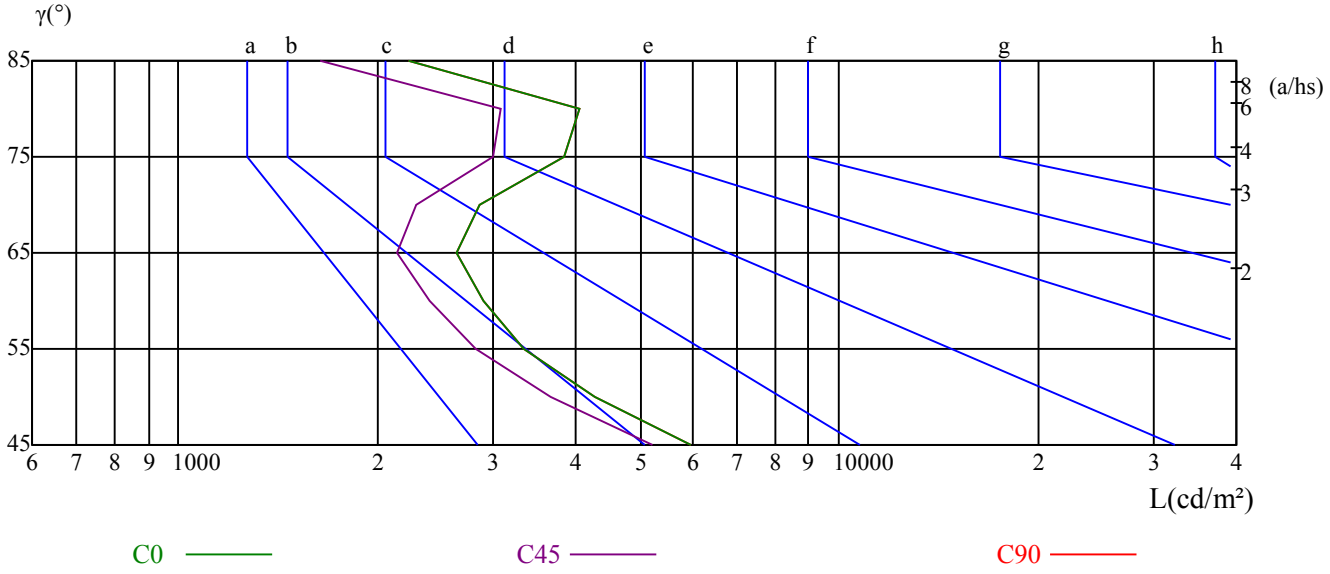
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 5981 | 4259 | 3338 | 2888 | 2628 | 2865 | 3824 | 4049 | 2226 |
| C45 | 5220 | 3663 | 2827 | 2405 | 2149 | 2296 | 2994 | 3084 | 1640 |
| C90 | 5981 | 4259 | 3338 | 2888 | 2628 | 2865 | 3824 | 4049 | 2226 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|---|---|---|---|---|---|---|---|---|
| 5691 | 5691 | 5691 | 11581 | 11581 | 11581 | 16051 | 16051 | 16051 |

Glare Table

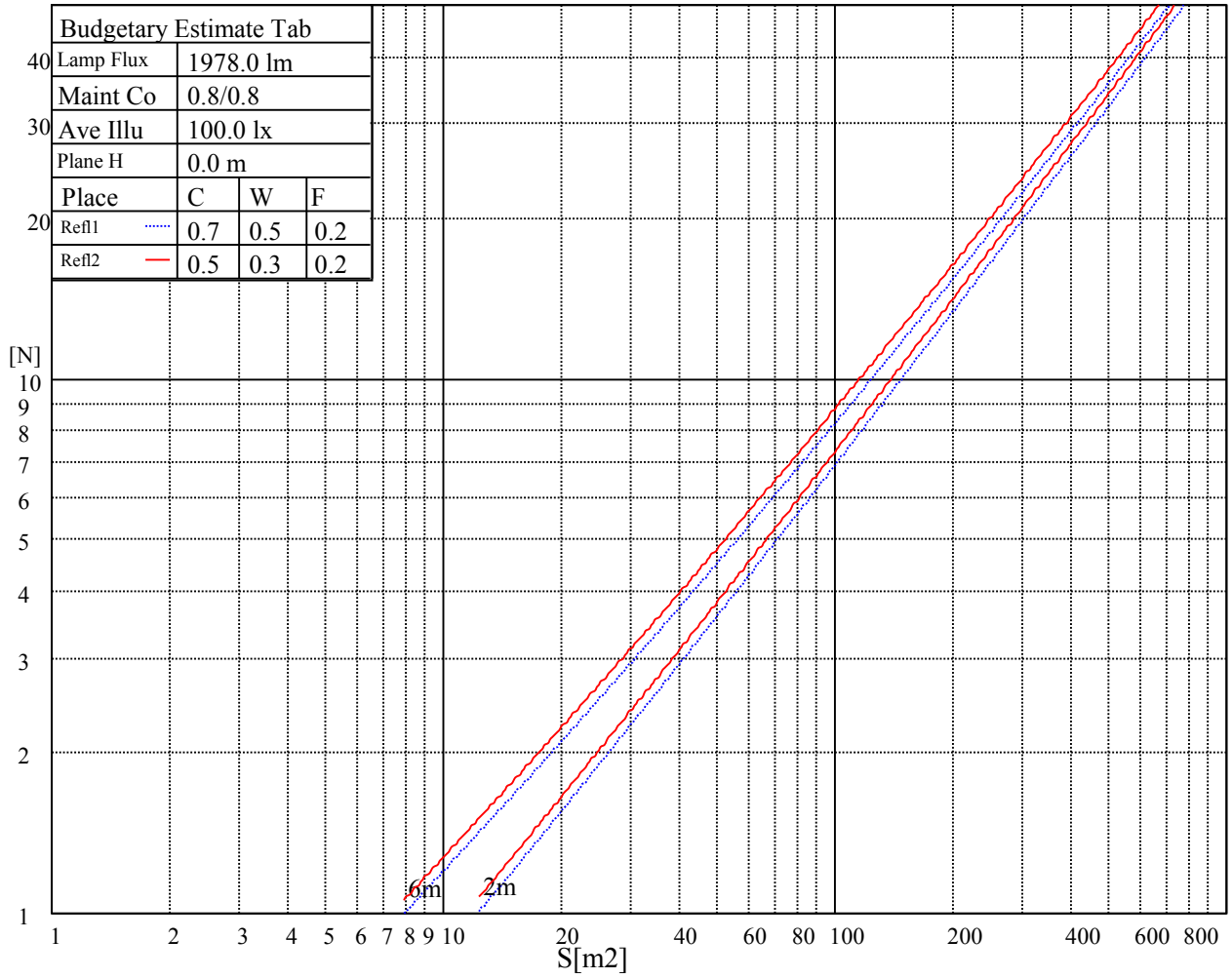
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.2 | D | | | | 2000 | 1000 | 500 | <=300 |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

Luminance Limitting Curve



## Budgetary Estimate Table






Equipment: GMS1980 Date: 2021/01/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

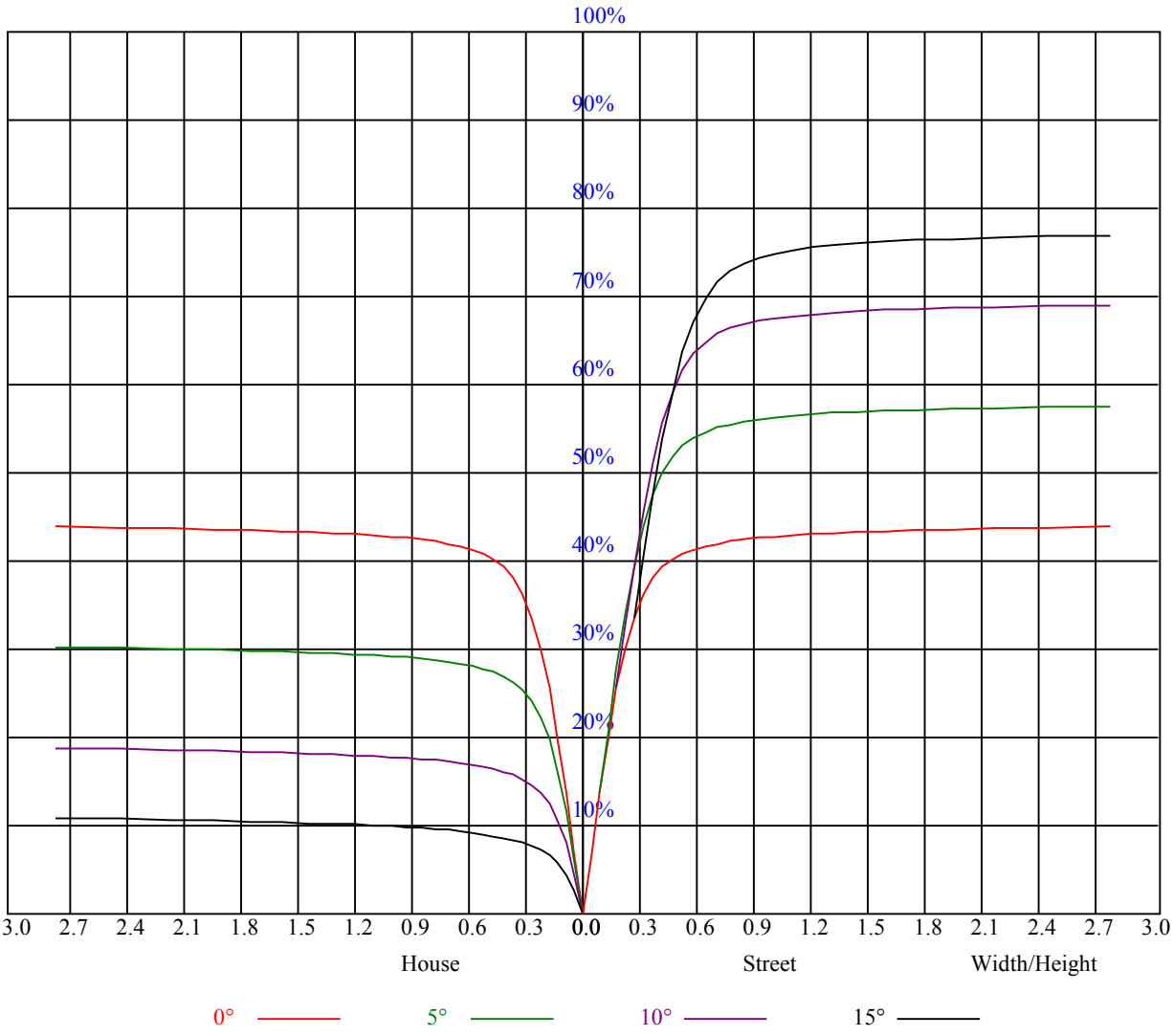
Utilization factor table for indoor luminaire



| RHOCC | 80 | | | 70 | | | 50 | | | 30 | | | 10 | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RHOW | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | COEFFCIENTS OF UTILIZATION RHOFC=20 CU | | | | | | | | | | | | | | | |
| 0 | 1.06 | 1.06 | 1.06 | 1.04 | 1.04 | 1.04 | 0.99 | 0.99 | 0.99 | 0.95 | 0.95 | 0.95 | 0.91 | 0.91 | 0.91 | 0.89 |
| 1 | 0.99 | 0.97 | 0.95 | 0.97 | 0.95 | 0.94 | 0.94 | 0.92 | 0.91 | 0.90 | 0.89 | 0.88 | 0.87 | 0.87 | 0.86 | 0.84 |
| 2 | 0.94 | 0.91 | 0.88 | 0.92 | 0.89 | 0.87 | 0.89 | 0.87 | 0.85 | 0.87 | 0.85 | 0.83 | 0.84 | 0.83 | 0.82 | 0.80 |
| 3 | 0.89 | 0.85 | 0.82 | 0.88 | 0.84 | 0.82 | 0.86 | 0.83 | 0.80 | 0.83 | 0.81 | 0.79 | 0.82 | 0.80 | 0.78 | 0.77 |
| 4 | 0.85 | 0.81 | 0.78 | 0.84 | 0.80 | 0.77 | 0.82 | 0.79 | 0.76 | 0.80 | 0.78 | 0.76 | 0.79 | 0.77 | 0.75 | 0.74 |
| 5 | 0.81 | 0.77 | 0.74 | 0.81 | 0.77 | 0.74 | 0.79 | 0.76 | 0.73 | 0.78 | 0.75 | 0.73 | 0.76 | 0.74 | 0.72 | 0.71 |
| 6 | 0.78 | 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 |
| 7 | 0.75 | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.66 |
| 8 | 0.73 | 0.69 | 0.66 | 0.72 | 0.68 | 0.66 | 0.71 | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.70 | 0.67 | 0.65 | 0.64 |
| 9 | 0.70 | 0.66 | 0.64 | 0.70 | 0.66 | 0.63 | 0.69 | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.68 | 0.65 | 0.63 | 0.62 |
| 10 | 0.68 | 0.64 | 0.62 | 0.68 | 0.64 | 0.61 | 0.67 | 0.64 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.61 | 0.60 |

## Coefficient Utilization Curve






| | | |
|---|---|---|
| Equipment: GMS1980 | Date: 2021/01/06 | Operator: NT07 |
| Temperature(°C): 25.0 | Humidity(%): 65.0% | Distance(m): 7.50 |

Intensity data(cd)



| C/γ(°) | 0.0 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 6328.13 | 6359.63 | 6361.88 | 6329.25 | 6266.25 | 6174.00 | 6021.56 | 5868.00 | 5687.44 |
| 45.0 | 6328.69 | 6328.13 | 6284.81 | 6216.75 | 6118.31 | 5956.31 | 5788.69 | 5592.38 | 5344.31 |
| 90.0 | 6326.44 | 6278.06 | 6206.63 | 6094.69 | 5942.81 | 5774.06 | 5549.06 | 5289.19 | 5030.44 |
| 135.0 | 6338.25 | 6294.38 | 6203.25 | 6098.63 | 5966.44 | 5761.13 | 5562.56 | 5335.31 | 5046.75 |
| 180.0 | 6328.13 | 6257.81 | 6167.81 | 6030.56 | 5856.19 | 5670.56 | 5421.38 | 5135.63 | 4854.38 |
| 225.0 | 6328.69 | 6300.00 | 6231.94 | 6129.00 | 6008.06 | 5826.94 | 5633.44 | 5384.81 | 5104.13 |
| 270.0 | 6326.44 | 6338.81 | 6320.25 | 6259.50 | 6174.00 | 6061.50 | 5880.94 | 5705.44 | 5500.69 |
| 315.0 | 6338.25 | 6354.00 | 6336.00 | 6284.25 | 6212.25 | 6098.06 | 5967.00 | 5787.00 | 5567.63 |
| 360.0 | 6328.13 | 6359.63 | 6361.88 | 6329.25 | 6266.25 | 6174.00 | 6021.56 | 5868.00 | 5687.44 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 5421.94 | 5179.50 | 4913.44 | 4622.63 | 4222.69 | 3879.56 | 3518.44 | 3109.50 | 2714.63 |
| 45.0 | 5061.94 | 4776.19 | 4420.13 | 4076.44 | 3669.75 | 3258.00 | 2904.19 | 2522.81 | 2151.56 |
| 90.0 | 4737.94 | 4337.44 | 3992.63 | 3637.13 | 3189.94 | 2845.13 | 2516.06 | 2166.19 | 1839.94 |
| 135.0 | 4719.38 | 4395.38 | 4001.06 | 3633.75 | 3218.63 | 2819.81 | 2481.75 | 2124.56 | 1789.31 |
| 180.0 | 4546.13 | 4125.94 | 3771.56 | 3410.44 | 2960.44 | 2617.88 | 2292.19 | 1950.75 | 1641.38 |
| 225.0 | 4822.88 | 4475.25 | 4092.19 | 3735.56 | 3368.25 | 2918.81 | 2576.81 | 2250.00 | 1944.56 |
| 270.0 | 5208.19 | 4948.88 | 4664.81 | 4313.25 | 3933.56 | 3580.88 | 3223.13 | 2825.44 | 2444.63 |
| 315.0 | 5344.88 | 5061.38 | 4741.31 | 4429.13 | 4095.00 | 3614.06 | 3304.13 | 2946.38 | 2558.81 |
| 360.0 | 5421.94 | 5179.50 | 4913.44 | 4622.63 | 4222.69 | 3879.56 | 3518.44 | 3109.50 | 2714.63 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 2383.88 | 2040.19 | 1727.44 | 1478.81 | 1231.88 | 1041.19 | 854.44 | 696.94 | 579.38 |
| 45.0 | 1866.38 | 1591.31 | 1287.00 | 1077.75 | 910.69 | 712.69 | 599.63 | 493.31 | 402.19 |
| 90.0 | 1576.69 | 1236.94 | 1104.47 | 905.74 | 740.31 | 617.91 | 503.83 | 413.89 | 351.06 |
| 135.0 | 1533.94 | 1301.06 | 1041.75 | 879.75 | 738.56 | 582.19 | 490.50 | 414.00 | 344.81 |
| 180.0 | 1394.44 | 1101.88 | 965.42 | 788.74 | 642.60 | 536.57 | 437.91 | 359.72 | 304.99 |
| 225.0 | 1605.38 | 1363.50 | 1120.44 | 914.79 | 759.49 | 626.51 | 503.94 | 408.60 | 342.96 |
| 270.0 | 2131.88 | 1811.81 | 1522.69 | 1268.44 | 1069.88 | 896.63 | 729.56 | 590.63 | 489.94 |
| 315.0 | 2202.19 | 1907.44 | 1606.50 | 1340.44 | 1105.99 | 947.93 | 772.14 | 627.08 | 521.72 |
| 360.0 | 2383.88 | 2040.19 | 1727.44 | 1478.81 | 1231.88 | 1041.19 | 854.44 | 696.94 | 579.38 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 493.31 | 385.31 | 325.69 | 285.19 | 232.43 | 205.31 | 183.32 | 163.18 | 146.36 |
| 45.0 | 332.44 | 284.06 | 239.12 | 210.43 | 185.23 | 164.98 | 150.58 | 137.03 | 125.27 |
| 90.0 | 300.71 | 246.43 | 219.54 | 194.23 | 169.37 | 153.06 | 139.22 | 124.65 | 114.64 |
| 135.0 | 290.81 | 286.31 | 216.84 | 191.19 | 165.60 | 145.74 | 132.30 | 119.70 | 109.13 |
| 180.0 | 261.84 | 219.99 | 194.01 | 173.08 | 154.01 | 138.15 | 126.34 | 115.03 | 105.19 |
| 225.0 | 285.02 | 245.14 | 211.16 | 184.95 | 166.56 | 149.51 | 135.45 | 124.43 | 114.69 |
| 270.0 | 406.13 | 326.25 | 284.06 | 238.33 | 202.22 | 179.72 | 161.49 | 144.51 | 130.22 |
| 315.0 | 423.96 | 354.38 | 294.81 | 249.02 | 217.24 | 188.83 | 166.56 | 150.13 | 136.18 |
| 360.0 | 493.31 | 385.31 | 325.69 | 285.19 | 232.43 | 205.31 | 183.32 | 163.18 | 146.36 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 133.59 | 121.28 | 111.71 | 102.04 | 93.66 | 87.02 | 80.27 | 74.19 | 69.24 |
| 45.0 | 116.04 | 107.78 | 98.44 | 91.69 | 85.28 | 78.64 | 72.62 | 67.67 | 62.44 |
| 90.0 | 105.75 | 96.86 | 89.72 | 82.46 | 75.83 | 70.48 | 65.53 | 59.34 | 55.86 |
| 135.0 | 100.91 | 93.71 | 85.61 | 79.82 | 74.31 | 69.47 | 63.79 | 59.34 | 55.07 |
| 180.0 | 97.31 | 89.38 | 83.08 | 76.56 | 70.54 | 65.70 | 61.20 | 56.14 | 52.43 |
| 225.0 | 103.95 | 96.53 | 89.66 | 81.79 | 76.11 | 70.93 | 65.59 | 60.64 | 56.64 |
| 270.0 | 119.19 | 108.51 | 100.13 | 91.58 | 84.15 | 78.30 | 72.34 | 66.83 | 62.27 |
| 315.0 | 121.61 | 111.88 | 103.28 | 93.60 | 86.85 | 80.61 | 74.25 | 68.34 | 63.51 |
| 360.0 | 133.59 | 121.28 | 111.71 | 102.04 | 93.66 | 87.02 | 80.27 | 74.19 | 69.24 |

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 | 64.63 | 59.34 | 55.46 | 51.81 | 47.98 | 44.44 | 41.63 | 38.81 | 36.39 |
| 45.0 | 57.71 | 53.89 | 49.78 | 46.58 | 43.09 | 39.99 | 37.58 | 35.38 | 33.02 |
| 90.0 | 52.09 | 47.76 | 44.66 | 41.85 | 38.87 | 36.39 | 34.43 | 32.29 | 30.94 |
| 135.0 | 49.67 | 45.45 | 41.79 | 38.53 | 35.66 | 33.47 | 31.44 | 29.76 | 28.18 |
| 180.0 | 48.99 | 45.11 | 42.19 | 39.60 | 36.73 | 34.71 | 32.96 | 30.99 | 29.76 |
| 225.0 | 52.37 | 48.88 | 45.17 | 41.79 | 39.15 | 36.51 | 34.09 | 32.29 | 30.77 |
| 270.0 | 58.11 | 53.44 | 49.89 | 46.58 | 43.20 | 39.99 | 37.35 | 34.99 | 32.85 |
| 315.0 | 58.44 | 54.39 | 50.18 | 46.35 | 43.14 | 39.94 | 37.13 | 34.71 | 32.85 |
| 360.0 | 64.63 | 59.34 | 55.46 | 51.81 | 47.98 | 44.44 | 41.63 | 38.81 | 36.39 |

| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 34.43 | 32.51 | 31.05 | 29.59 | 28.24 | 27.11 | 25.99 | 24.92 | 24.08 |
| 45.0 | 31.44 | 30.04 | 28.46 | 27.39 | 26.38 | 25.54 | 24.53 | 23.74 | 23.01 |
| 90.0 | 29.42 | 28.18 | 27.23 | 26.16 | 25.14 | 24.41 | 23.68 | 22.73 | 22.11 |
| 135.0 | 26.83 | 25.82 | 24.75 | 23.79 | 23.12 | 22.44 | 21.66 | 21.26 | 20.87 |
| 180.0 | 28.41 | 27.11 | 26.27 | 25.20 | 24.24 | 23.51 | 22.84 | 21.94 | 21.43 |
| 225.0 | 29.03 | 27.79 | 26.78 | 25.71 | 24.69 | 23.96 | 23.12 | 22.39 | 21.77 |
| 270.0 | 31.05 | 29.59 | 28.29 | 27.06 | 25.99 | 25.03 | 24.19 | 23.23 | 22.56 |
| 315.0 | 30.77 | 29.25 | 27.96 | 26.72 | 25.59 | 24.75 | 23.85 | 23.06 | 22.39 |
| 360.0 | 34.43 | 32.51 | 31.05 | 29.59 | 28.24 | 27.11 | 25.99 | 24.92 | 24.08 |

| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 23.29 | 22.39 | 21.71 | 21.09 | 20.42 | 19.80 | 19.35 | 18.73 | 18.23 |
| 45.0 | 22.28 | 21.54 | 20.98 | 20.36 | 19.80 | 19.29 | 18.68 | 18.23 | 17.61 |
| 90.0 | 21.38 | 20.70 | 19.97 | 19.52 | 18.96 | 18.34 | 17.83 | 17.44 | 16.88 |
| 135.0 | 20.31 | 19.86 | 19.46 | 19.01 | 19.41 | 22.22 | 28.35 | 32.63 | 38.31 |
| 180.0 | 20.76 | 20.14 | 19.63 | 19.13 | 18.62 | 18.00 | 17.61 | 17.10 | 16.65 |
| 225.0 | 21.09 | 20.59 | 20.03 | 19.46 | 19.07 | 18.62 | 18.06 | 17.55 | 17.10 |
| 270.0 | 21.83 | 21.04 | 20.48 | 19.97 | 19.35 | 18.84 | 18.45 | 17.89 | 17.38 |
| 315.0 | 21.71 | 21.15 | 20.59 | 20.03 | 19.58 | 19.35 | 21.49 | 25.88 | 31.50 |
| 360.0 | 23.29 | 22.39 | 21.71 | 21.09 | 20.42 | 19.80 | 19.35 | 18.73 | 18.23 |

| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 17.78 | 17.21 | 16.71 | 16.14 | 15.64 | 15.24 | 14.79 | 14.12 | 13.67 |
| 45.0 | 17.04 | 16.54 | 16.03 | 15.47 | 14.96 | 14.51 | 14.01 | 13.56 | 13.22 |
| 90.0 | 16.31 | 15.81 | 15.30 | 14.79 | 14.29 | 13.78 | 13.39 | 12.83 | 12.32 |
| 135.0 | 44.44 | 49.84 | 54.51 | 59.63 | 63.56 | 65.59 | 62.94 | 56.59 | 50.68 |
| 180.0 | 16.09 | 15.53 | 15.08 | 14.51 | 13.95 | 13.50 | 13.05 | 12.54 | 12.04 |
| 225.0 | 16.48 | 16.03 | 15.53 | 14.96 | 14.51 | 14.06 | 13.56 | 13.16 | 12.71 |
| 270.0 | 16.88 | 16.37 | 15.92 | 15.47 | 14.96 | 14.51 | 14.06 | 13.50 | 13.11 |
| 315.0 | 36.56 | 42.13 | 46.18 | 51.98 | 56.36 | 59.79 | 63.90 | 66.88 | 66.60 |
| 360.0 | 17.78 | 17.21 | 16.71 | 16.14 | 15.64 | 15.24 | 14.79 | 14.12 | 13.67 |

| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 13.22 | 12.66 | 12.21 | 11.76 | 11.25 | 10.74 | 9.68 | 9.28 | 8.78 |
| 45.0 | 12.60 | 12.21 | 11.76 | 11.36 | 11.08 | 9.96 | 9.17 | 8.72 | 8.38 |
| 90.0 | 11.93 | 11.42 | 10.86 | 10.35 | 9.62 | 9.00 | 8.38 | 8.04 | 7.93 |
| 135.0 | 37.80 | 26.61 | 15.98 | 10.97 | 9.56 | 8.83 | 8.33 | 7.99 | 7.93 |
| 180.0 | 11.59 | 11.03 | 10.58 | 10.13 | 9.06 | 8.66 | 8.21 | 7.93 | 7.88 |
| 225.0 | 12.21 | 11.87 | 11.42 | 11.08 | 10.69 | 9.51 | 8.94 | 8.55 | 8.21 |
| 270.0 | 12.66 | 12.15 | 11.64 | 11.14 | 10.63 | 10.01 | 9.34 | 8.83 | 8.44 |
| 315.0 | 61.31 | 54.39 | 45.17 | 32.85 | 22.84 | 10.74 | 9.62 | 9.06 | 8.66 |
| 360.0 | 13.22 | 12.66 | 12.21 | 11.76 | 11.25 | 10.74 | 9.68 | 9.28 | 8.78 |

## Intensity data(cd)

| C/γ(°) | 90.0 |
|---|---|
| 0.0 | 8.38 |
| 45.0 | 8.21 |
| 90.0 | 7.93 |
| 135.0 | 7.93 |
| 180.0 | 7.88 |
| 225.0 | 8.16 |
| 270.0 | 8.04 |
| 315.0 | 8.27 |
| 360.0 | 8.38 |