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Nata

LumCAT: 3-2044-M
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018062610
LampCAT: NICHIA NFCWJ120B-V3
Lamp flux(lm): 2252.0
Number of Lamps: 1
Length(mm): 84
Phm Type: C

Voltage(V): 33.5000
Current(A): 0.5000
Power (W): 16.7500
PF: 0.0000
Ballast type: DC
Width(mm): 84
Height(mm): 0

Photometric Results

Lumens(lm): 2019.07
Efficiency(%): 89.66%
Lumens(lm)/Power(W): 122.91
Central intensity(cd): 6954.862
Maximum intensity(cd): 6954.862
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.6
 [C90/270]Total=26.6
Field angle(10%Imax): [C0/180]Total=60.1
 [C90/270]Total=60.1
Maximum s/h(1/2): C0_180=0.45 C90_270=0.45
Maximum s/h(1/4): C0_180=0.45 C90_270=0.45
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.42%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.827%

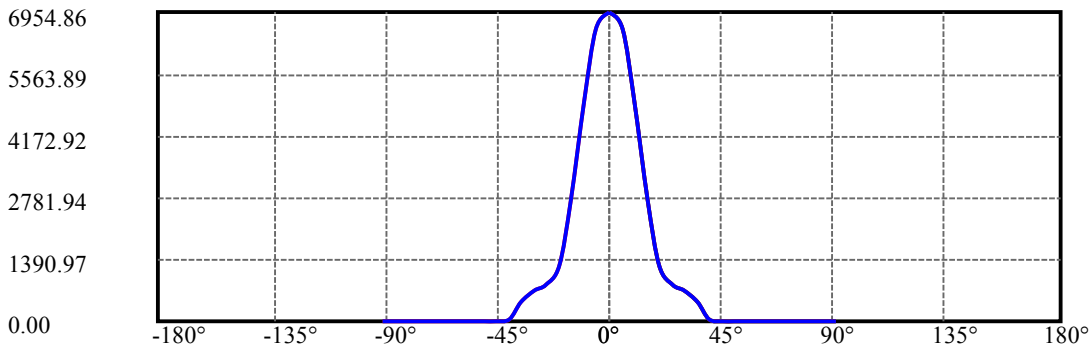
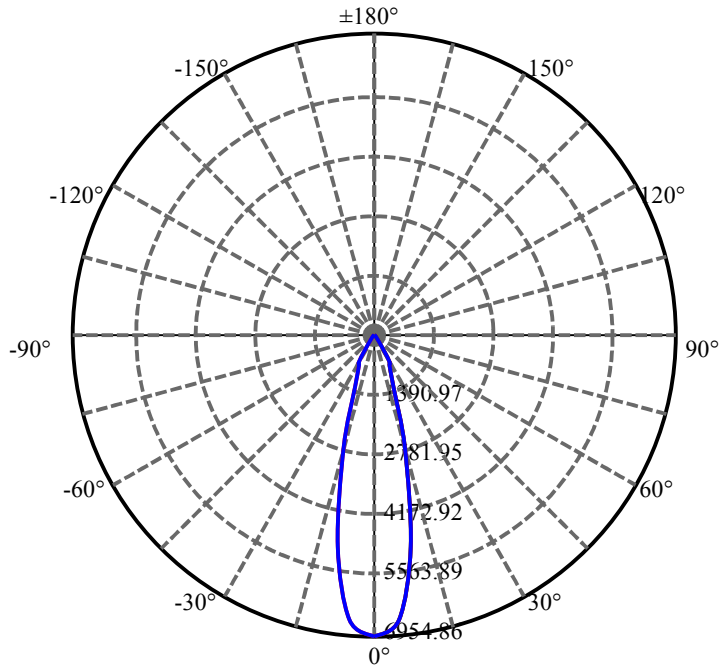
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 6954.862 | 41.591 | 41.591 | 1.847% | 2.060% |
| 5.0 | 6567.884 | 313.770 | 355.361 | 13.933% | 17.600% |
| 10.0 | 4962.509 | 472.347 | 827.708 | 20.975% | 40.994% |
| 15.0 | 2714.556 | 385.110 | 1212.818 | 17.101% | 60.068% |
| 20.0 | 1260.399 | 236.292 | 1449.11 | 10.493% | 71.771% |
| 25.0 | 801.243 | 185.610 | 1634.72 | 8.242% | 80.964% |
| 30.0 | 699.581 | 191.733 | 1826.453 | 8.514% | 90.460% |
| 35.0 | 412.820 | 129.790 | 1956.243 | 5.763% | 96.888% |
| 40.0 | 56.935 | 20.060 | 1976.303 | .891% | 97.882% |
| 45.0 | 11.025 | 4.273 | 1980.577 | .190% | 98.093% |
| 50.0 | 9.972 | 4.187 | 1984.764 | .186% | 98.301% |
| 55.0 | 9.511 | 4.271 | 1989.034 | .190% | 98.512% |
| 60.0 | 9.249 | 4.391 | 1993.425 | .195% | 98.730% |
| 65.0 | 9.071 | 4.506 | 1997.931 | .200% | 98.953% |
| 70.0 | 8.926 | 4.598 | 2002.529 | .204% | 99.181% |
| 75.0 | 8.837 | 4.679 | 2007.207 | .208% | 99.412% |
| 80.0 | 8.754 | 4.725 | 2011.933 | .210% | 99.646% |
| 85.0 | 8.726 | 4.765 | 2016.698 | .212% | 99.882% |
| 90.0 | 8.671 | 2.377 | 2019.075 | .106% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 1826.45 | 81.10% | 90.46% |
| 0-40 | 1976.30 | 87.76% | 97.88% |
| 0-60 | 1993.43 | 88.52% | 98.73% |
| 0-90 | 2016.70 | 89.55% | 99.88% |
| 0-120 | 2016.70 | 89.55% | 99.88% |
| 0-180 | 2019.07 | 89.66% | 100.00% |
| 60-90 | 27.66 | 1.23% | 1.37% |
| 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% |
| 0-24.48 | 1615.26 | 71.73% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|--------|
| 0-10 | 827.71 |
| 10-20 | 621.40 |
| 20-30 | 377.34 |
| 30-40 | 149.85 |
| 40-50 | 8.46 |
| 50-60 | 8.66 |
| 60-70 | 9.10 |
| 70-80 | 9.40 |
| 80-90 | 4.77 |
| 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 |



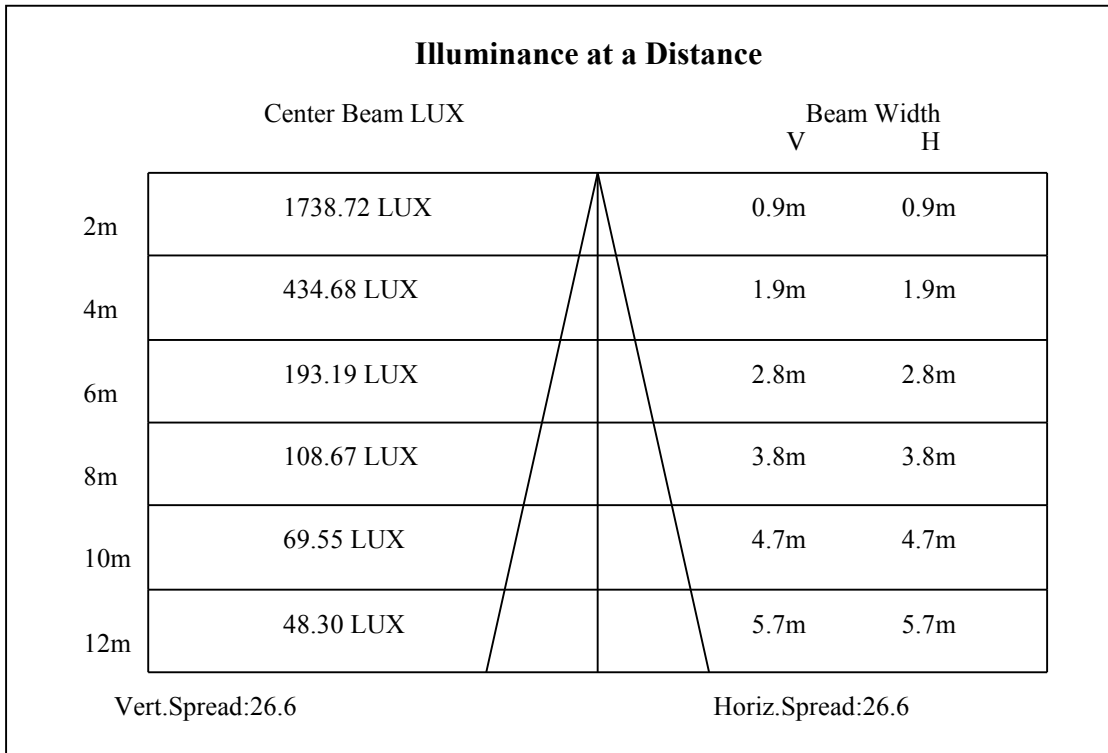
C0(Max): ———

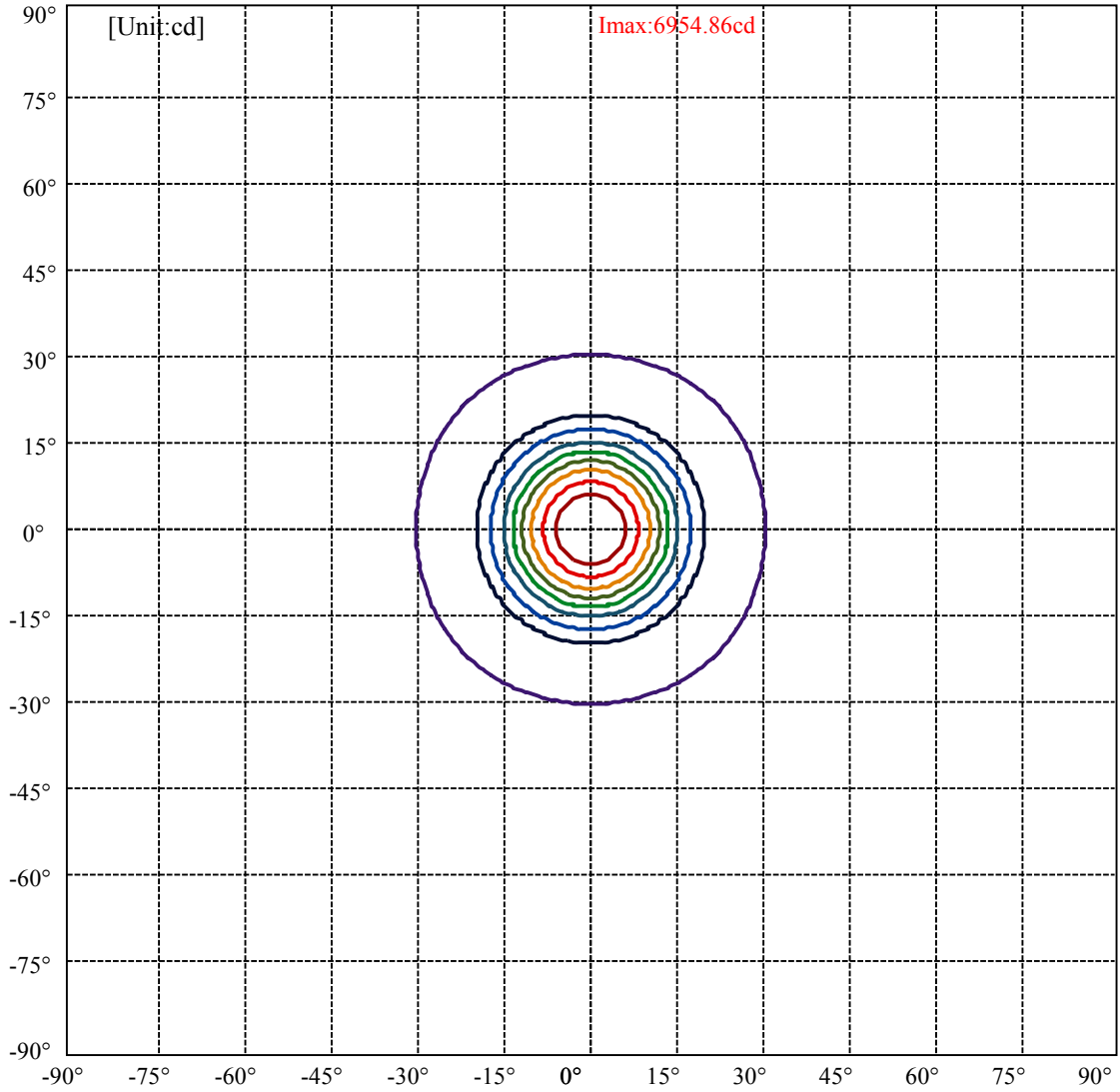
C0/C180: ———

C90/C270: ———

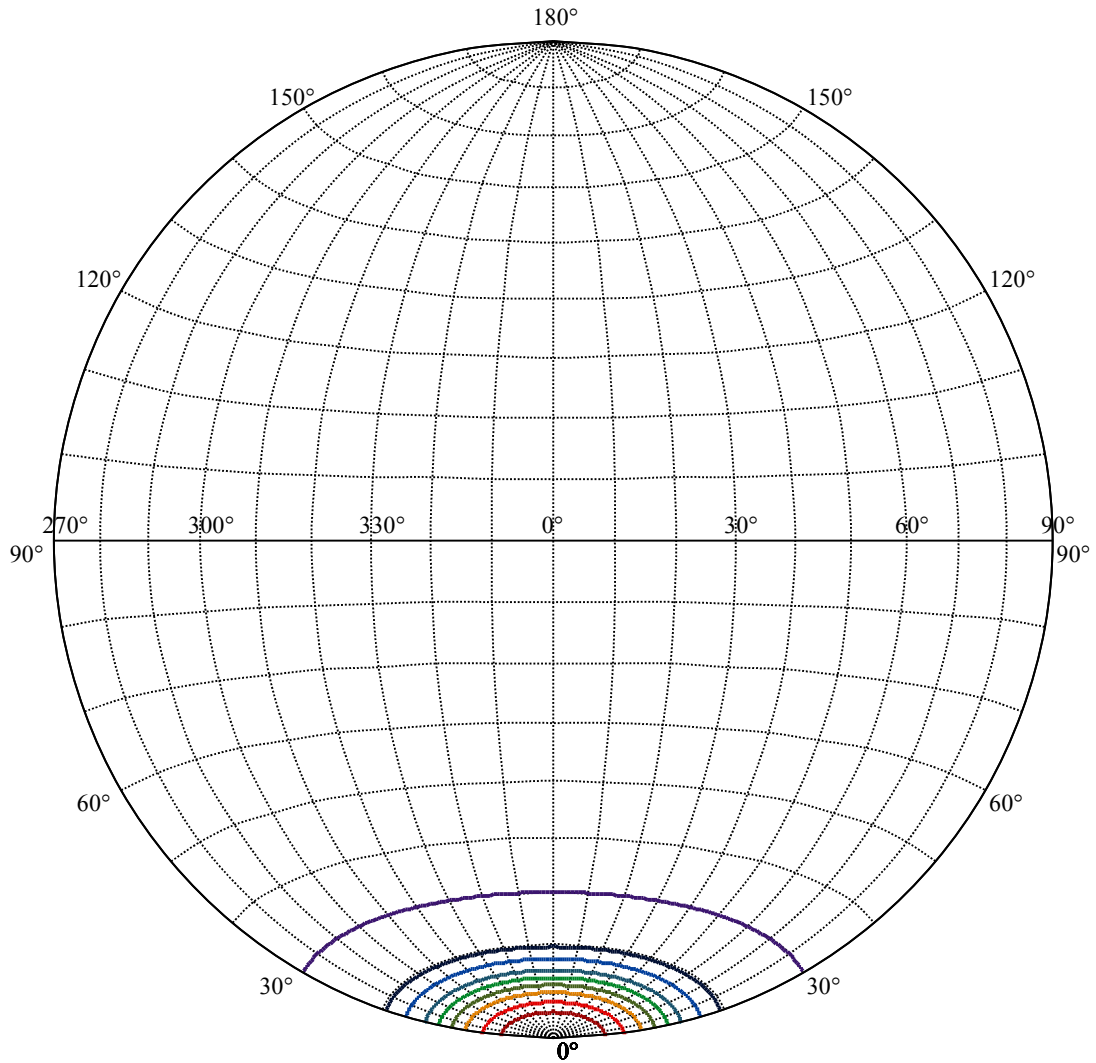
Field angle(10%Imax):C0/180Left:30.1 Right:30.1
:C90/270Left:30.1 Right:30.1

Beam Angle(50%Imax):C0/180Left:13.3 Right:13.3
:C90/270Left:13.3 Right:13.3





| | |
|-------------------|---|
| (10%Imax) 695.486 | — |
| (20%Imax) 1390.97 | — |
| (30%Imax) 2086.46 | — |
| (40%Imax) 2781.94 | — |
| (50%Imax) 3477.43 | — |
| (60%Imax) 4172.92 | — |
| (70%Imax) 4868.4 | — |
| (80%Imax) 5563.89 | — |
| (90%Imax) 6259.38 | — |



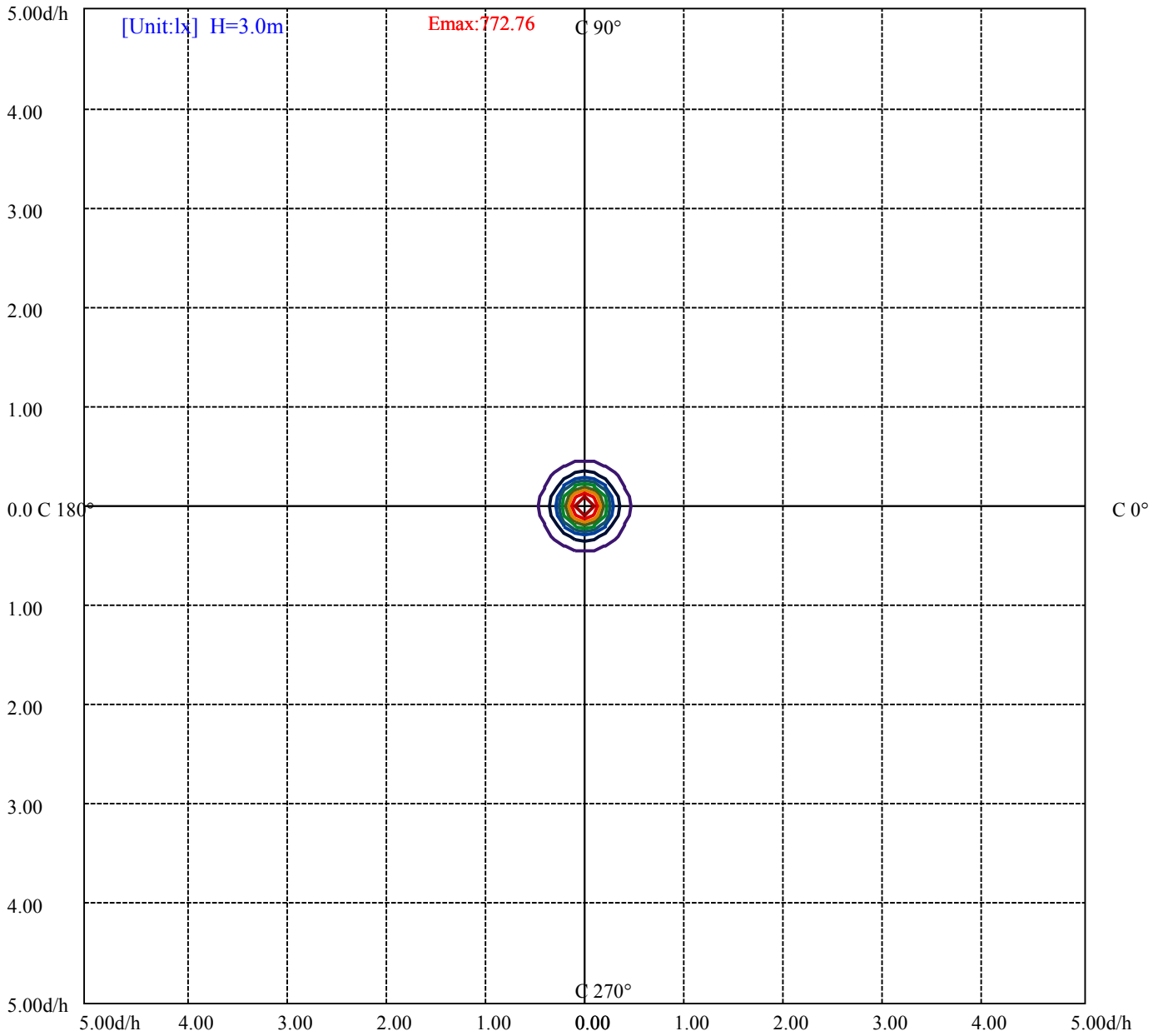
House

[Unit:cd]

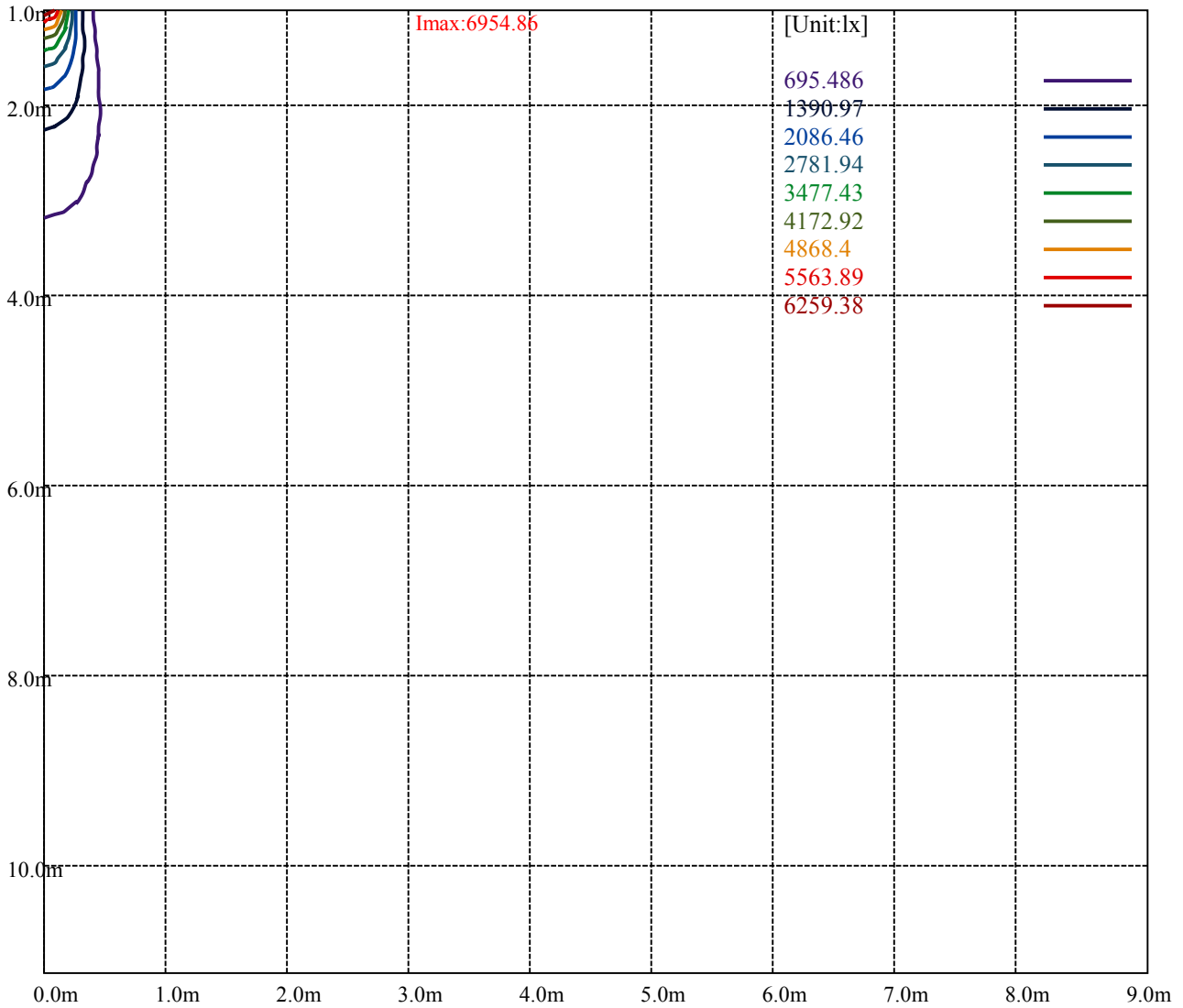
Road

Imax:6954.86

| | |
|-------------------|---|
| (10%Imax) 695.486 | — |
| (20%Imax) 1390.97 | — |
| (30%Imax) 2086.46 | — |
| (40%Imax) 2781.94 | — |
| (50%Imax) 3477.43 | — |
| (60%Imax) 4172.92 | — |
| (70%Imax) 4868.4 | — |
| (80%Imax) 5563.89 | — |
| (90%Imax) 6259.38 | — |



- (10%Emax) 77.27611
- (20%Emax) 154.5522
- (30%Emax) 231.8289
- (40%Emax) 309.1044
- (50%Emax) 386.3811
- (60%Emax) 463.6567
- (70%Emax) 540.9333
- (80%Emax) 618.2089
- (90%Emax) 695.4856



Luminance Table

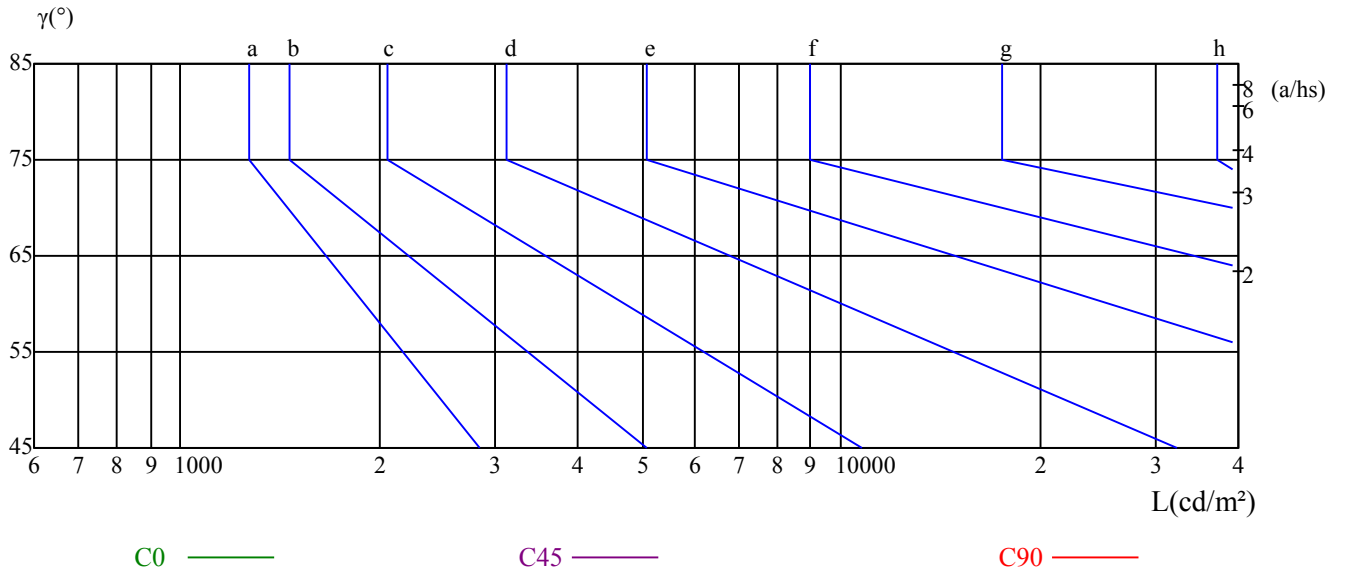
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

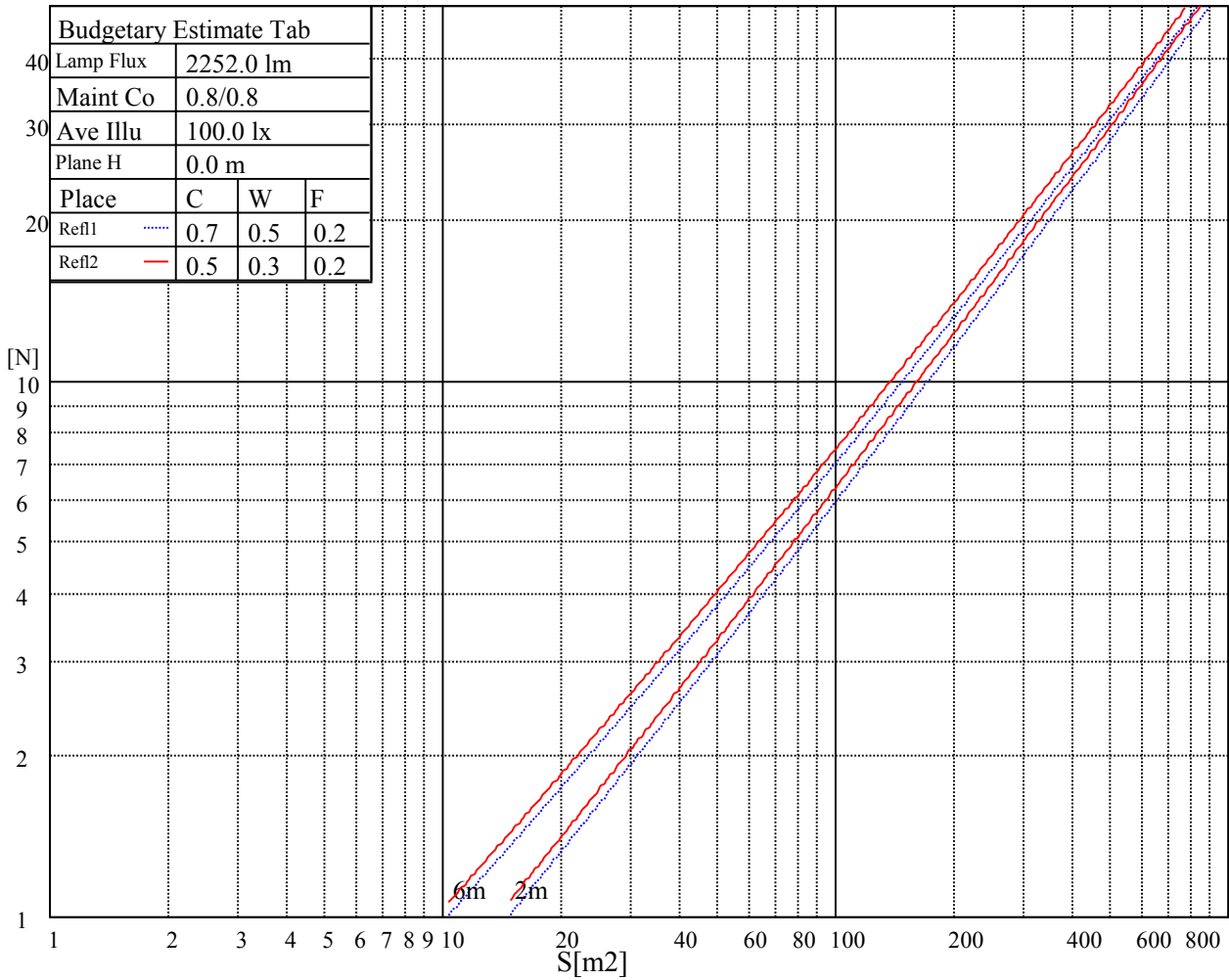
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Glare Table

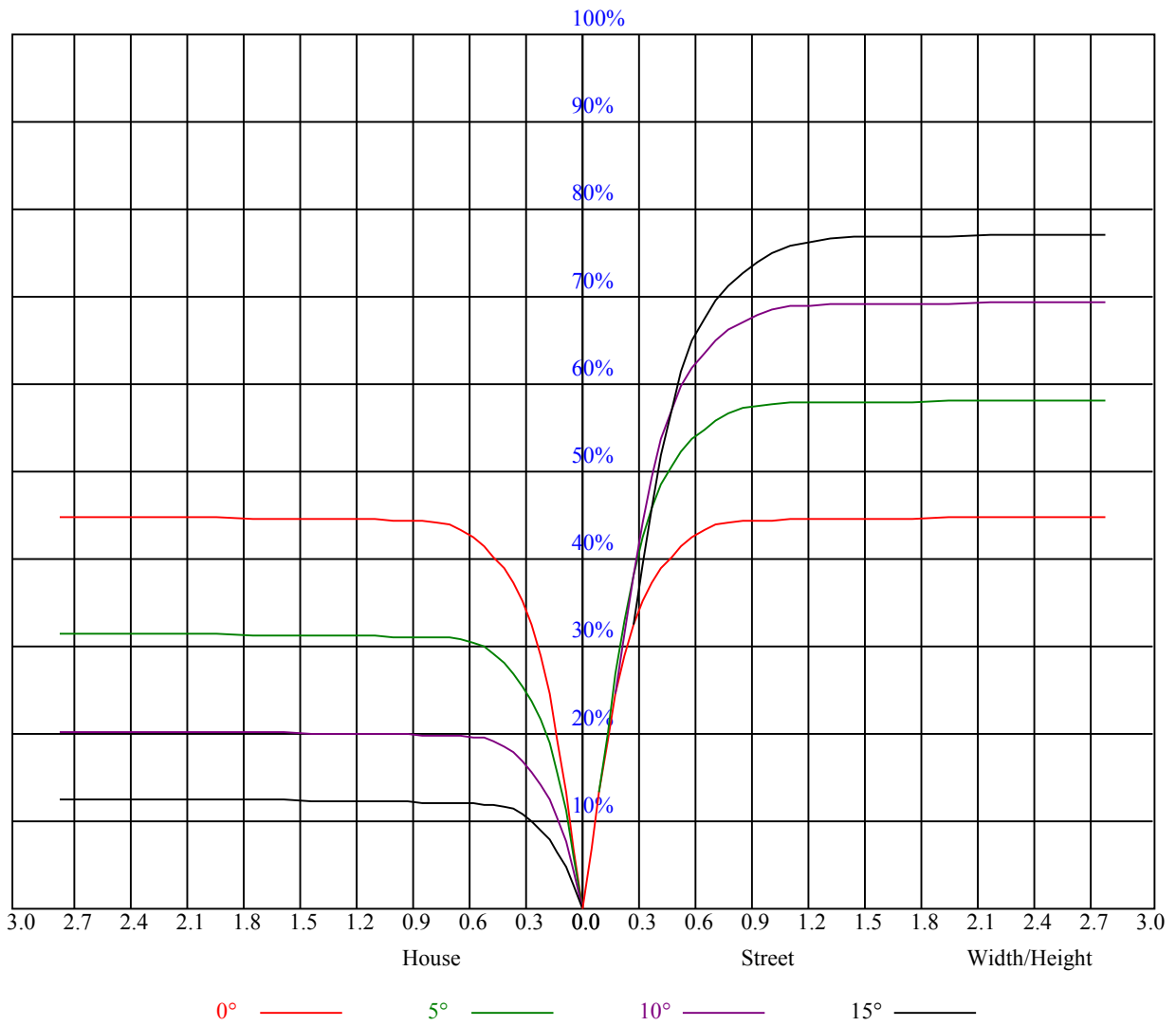
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 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 Limiting Curve





| 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 | COEFFICIENTS OF UTILIZATION RHOFC=20 CU | | | | | | | | | | | | | | | |
| 0 | 1.09 | 1.09 | 1.09 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.91 |
| 1 | 1.00 | 0.98 | 0.96 | 0.98 | 0.96 | 0.94 | 0.95 | 0.93 | 0.91 | 0.91 | 0.90 | 0.88 | 0.88 | 0.87 | 0.86 | 0.84 |
| 2 | 0.95 | 0.92 | 0.89 | 0.94 | 0.91 | 0.88 | 0.91 | 0.88 | 0.86 | 0.88 | 0.86 | 0.84 | 0.86 | 0.84 | 0.82 | 0.81 |
| 3 | 0.91 | 0.87 | 0.84 | 0.90 | 0.86 | 0.83 | 0.87 | 0.84 | 0.82 | 0.85 | 0.83 | 0.81 | 0.83 | 0.81 | 0.79 | 0.78 |
| 4 | 0.87 | 0.83 | 0.80 | 0.86 | 0.82 | 0.79 | 0.84 | 0.81 | 0.78 | 0.82 | 0.80 | 0.77 | 0.81 | 0.79 | 0.77 | 0.75 |
| 5 | 0.84 | 0.79 | 0.76 | 0.83 | 0.79 | 0.76 | 0.81 | 0.78 | 0.75 | 0.80 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.73 |
| 6 | 0.81 | 0.76 | 0.73 | 0.80 | 0.76 | 0.73 | 0.79 | 0.75 | 0.73 | 0.78 | 0.75 | 0.72 | 0.76 | 0.74 | 0.72 | 0.71 |
| 7 | 0.78 | 0.74 | 0.71 | 0.77 | 0.73 | 0.71 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.74 | 0.72 | 0.70 | 0.69 |
| 8 | 0.75 | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.71 | 0.68 | 0.73 | 0.70 | 0.68 | 0.73 | 0.70 | 0.68 | 0.67 |
| 9 | 0.73 | 0.69 | 0.66 | 0.73 | 0.69 | 0.66 | 0.72 | 0.69 | 0.66 | 0.71 | 0.68 | 0.66 | 0.71 | 0.68 | 0.66 | 0.65 |
| 10 | 0.71 | 0.67 | 0.64 | 0.71 | 0.67 | 0.64 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.63 |



Intensity data(cd)

| | | | | | | | | | |
|--------|---------|---------|---------|---------|---------|--------|--------|--------|--------|
| C/γ(°) | 0.0 | 5.0 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 |
| 0.0 | 6962.43 | 6738.90 | 5317.35 | 3136.01 | 1504.69 | 839.06 | 711.88 | 501.56 | 70.53 |
| 45.0 | 6942.06 | 6770.29 | 5540.33 | 3281.91 | 1632.97 | 858.88 | 714.63 | 528.54 | 172.27 |
| 90.0 | 6954.72 | 6659.07 | 5082.26 | 2807.33 | 1063.63 | 800.30 | 696.30 | 420.19 | 51.53 |
| 135.0 | 6960.23 | 6661.27 | 5294.22 | 2987.91 | 1407.79 | 825.85 | 707.47 | 464.68 | 69.76 |
| 180.0 | 6962.43 | 6409.12 | 4591.70 | 2248.50 | 1080.76 | 767.43 | 685.67 | 344.21 | 21.75 |
| 225.0 | 6942.06 | 6326.53 | 4380.84 | 2153.81 | 1079.16 | 758.40 | 680.06 | 292.68 | 19.60 |
| 270.0 | 6954.72 | 6517.58 | 4866.99 | 2641.61 | 1251.98 | 792.81 | 707.47 | 402.46 | 27.86 |
| 315.0 | 6960.23 | 6460.32 | 4626.39 | 2459.37 | 1062.20 | 767.21 | 693.16 | 348.23 | 22.19 |
| 360.0 | 6962.43 | 6738.90 | 5317.35 | 3136.01 | 1504.69 | 839.06 | 711.88 | 501.56 | 70.53 |
| C/γ(°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 11.56 | 10.08 | 9.58 | 9.25 | 9.08 | 8.97 | 8.86 | 8.75 | 8.75 |
| 45.0 | 12.06 | 10.13 | 9.63 | 9.36 | 9.14 | 9.03 | 8.92 | 8.81 | 8.75 |
| 90.0 | 10.79 | 10.02 | 9.52 | 9.25 | 9.08 | 8.92 | 8.81 | 8.75 | 8.70 |
| 135.0 | 11.45 | 10.02 | 9.58 | 9.30 | 9.08 | 8.92 | 8.86 | 8.75 | 8.70 |
| 180.0 | 10.41 | 9.86 | 9.41 | 9.19 | 9.03 | 8.86 | 8.81 | 8.70 | 8.70 |
| 225.0 | 10.46 | 9.80 | 9.41 | 9.19 | 9.03 | 8.92 | 8.81 | 8.75 | 8.75 |
| 270.0 | 10.79 | 9.97 | 9.52 | 9.25 | 9.08 | 8.92 | 8.86 | 8.81 | 8.75 |
| 315.0 | 10.68 | 9.91 | 9.41 | 9.19 | 9.03 | 8.86 | 8.75 | 8.70 | 8.70 |
| 360.0 | 11.56 | 10.08 | 9.58 | 9.25 | 9.08 | 8.97 | 8.86 | 8.75 | 8.75 |
| C/γ(°) | 90.0 | | | | | | | | |
| 0.0 | 8.70 | | | | | | | | |
| 45.0 | 8.70 | | | | | | | | |
| 90.0 | 8.64 | | | | | | | | |
| 135.0 | 8.64 | | | | | | | | |
| 180.0 | 8.64 | | | | | | | | |
| 225.0 | 8.70 | | | | | | | | |
| 270.0 | 8.70 | | | | | | | | |
| 315.0 | 8.64 | | | | | | | | |
| 360.0 | 8.70 | | | | | | | | |