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Nata

LumCAT: LN01D04536DA-N

Luminaire: 97.70.234.00

Report No: 210706-B017

Test No: 210706-C017

LampCAT: Fortimo LED SLM 1203 G7N

Lamp flux(lm): 2173.0

Number of Lamps: 1

Length(mm): 570

Phm Type: C

Voltage(V): 36.6500

Current(A): 0.4510

Power (W): 16.5290

PF: 0.0000

Ballast type: DC

Width(mm): 45

Height(mm): 20

Photometric Results

Lumens(lm): 2018.01

Efficiency(%): 92.87%

Lumens(lm)/Power(W): 122.09

Central intensity(cd): 3817.125

Maximum intensity(cd): 3817.125

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=41.1

[C90/270]Total=41.1

Field angle(10%Imax): [C0/180]Total=66.5

[C90/270]Total=66.5

Maximum s/h(1/2): C0_180=0.67 C90_270=0.67

Maximum s/h(1/4): C0_180=0.64 C90_270=0.64

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.87%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.759%

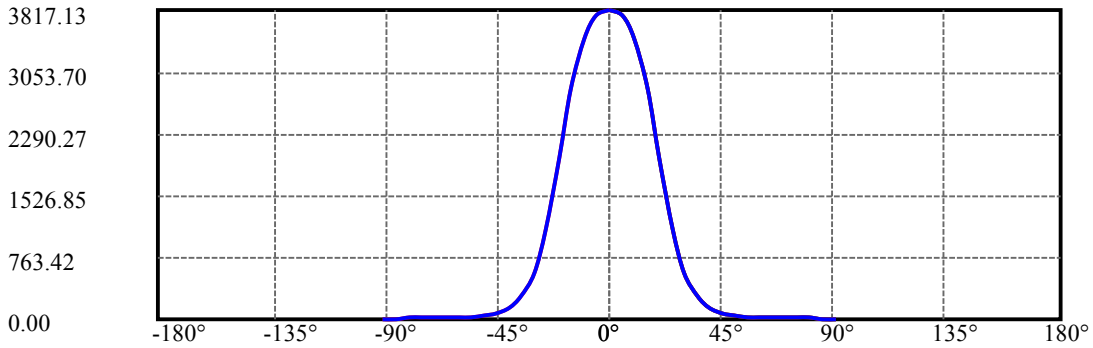
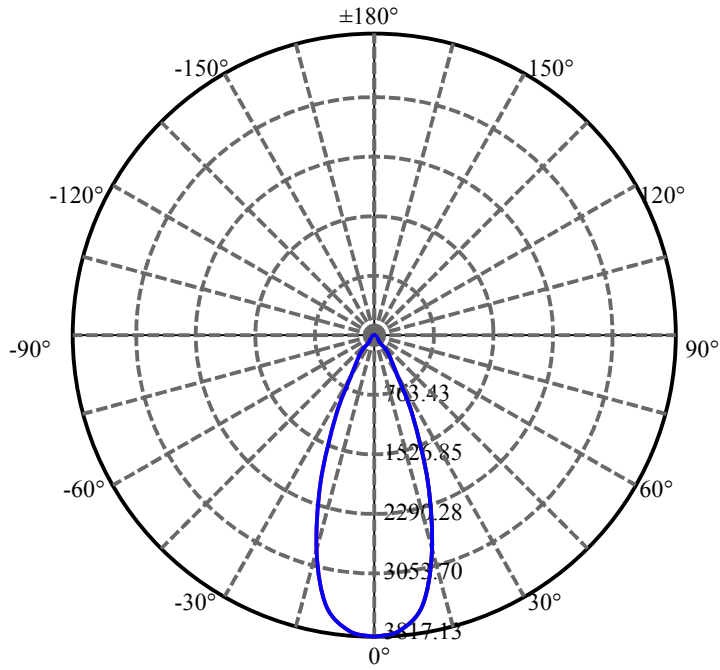
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 3817.125 | 0.000 | 0 | .000% | .000% |
| 5.0 | 3747.375 | 90.431 | 90.431 | 4.162% | 4.481% |
| 10.0 | 3469.852 | 258.183 | 348.614 | 11.882% | 17.275% |
| 15.0 | 2853.141 | 375.076 | 723.69 | 17.261% | 35.862% |
| 20.0 | 2002.219 | 400.150 | 1123.84 | 18.415% | 55.691% |
| 25.0 | 1125.879 | 328.080 | 1451.92 | 15.098% | 71.948% |
| 30.0 | 578.243 | 215.658 | 1667.578 | 9.925% | 82.635% |
| 35.0 | 275.991 | 125.792 | 1793.369 | 5.789% | 88.868% |
| 40.0 | 132.202 | 68.104 | 1861.473 | 3.134% | 92.243% |
| 45.0 | 72.710 | 37.941 | 1899.414 | 1.746% | 94.123% |
| 50.0 | 45.935 | 23.974 | 1923.388 | 1.103% | 95.311% |
| 55.0 | 30.867 | 16.699 | 1940.088 | .769% | 96.139% |
| 60.0 | 23.302 | 12.521 | 1952.609 | .576% | 96.759% |
| 65.0 | 21.895 | 10.987 | 1963.596 | .506% | 97.304% |
| 70.0 | 24.785 | 11.820 | 1975.416 | .544% | 97.889% |
| 75.0 | 28.146 | 13.835 | 1989.251 | .637% | 98.575% |
| 80.0 | 23.597 | 13.845 | 2003.096 | .637% | 99.261% |
| 85.0 | 11.095 | 9.427 | 2012.523 | .434% | 99.728% |
| 90.0 | 8.930 | 5.483 | 2018.006 | .252% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 1667.58 | 76.74% | 82.63% |
| 0-40 | 1861.47 | 85.67% | 92.24% |
| 0-60 | 1952.61 | 89.86% | 96.76% |
| 0-90 | 2012.52 | 92.62% | 99.73% |
| 0-120 | 2012.52 | 92.62% | 99.73% |
| 0-180 | 2018.01 | 92.87% | 100.00% |
| 60-90 | 72.44 | 3.33% | 3.59% |
| 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% |
| 0-28.77 | 1614.41 | 74.30% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|--------|
| 0-10 | 348.61 |
| 10-20 | 775.23 |
| 20-30 | 543.74 |
| 30-40 | 193.90 |
| 40-50 | 61.92 |
| 50-60 | 29.22 |
| 60-70 | 22.81 |
| 70-80 | 27.68 |
| 80-90 | 9.43 |
| 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: —————

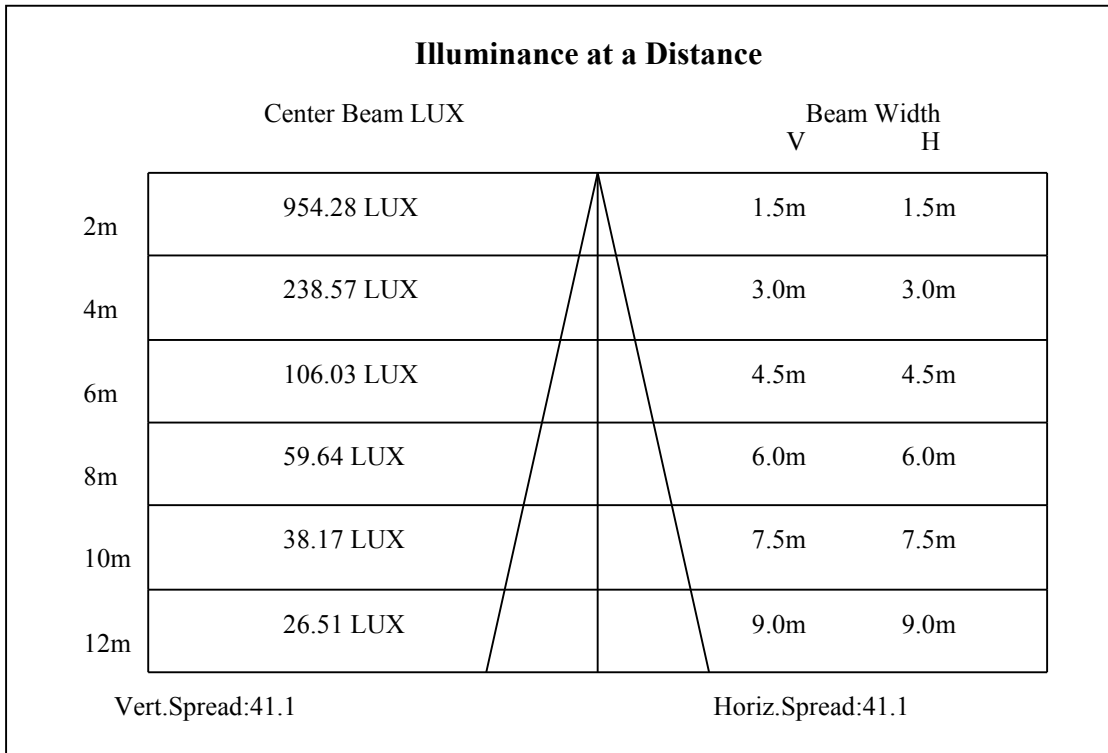
C90/C270: —————

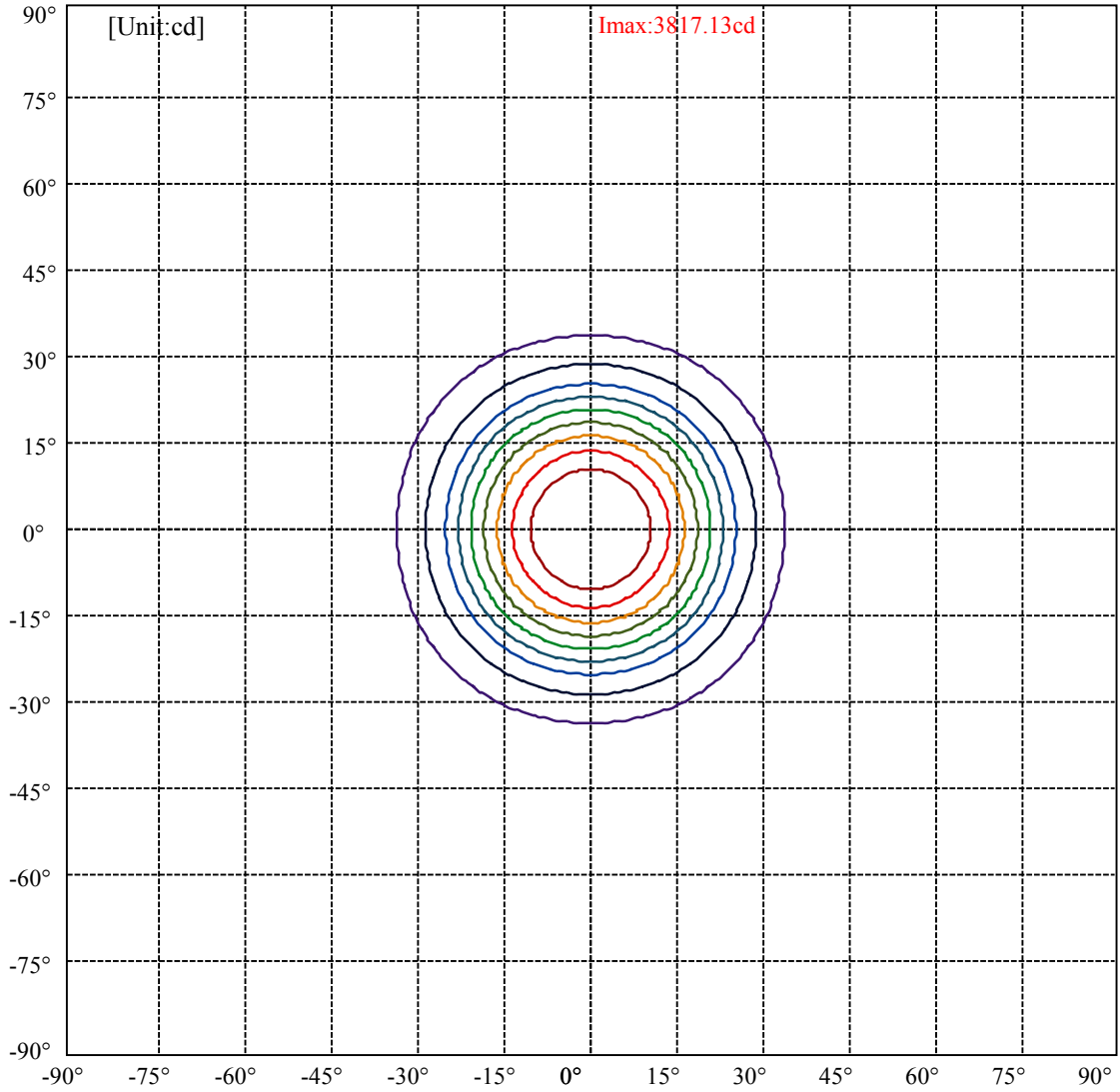
Field angle(10%Imax):C0/180Left:33.3 Right:33.3

:C90/270Left:33.3 Right:33.3

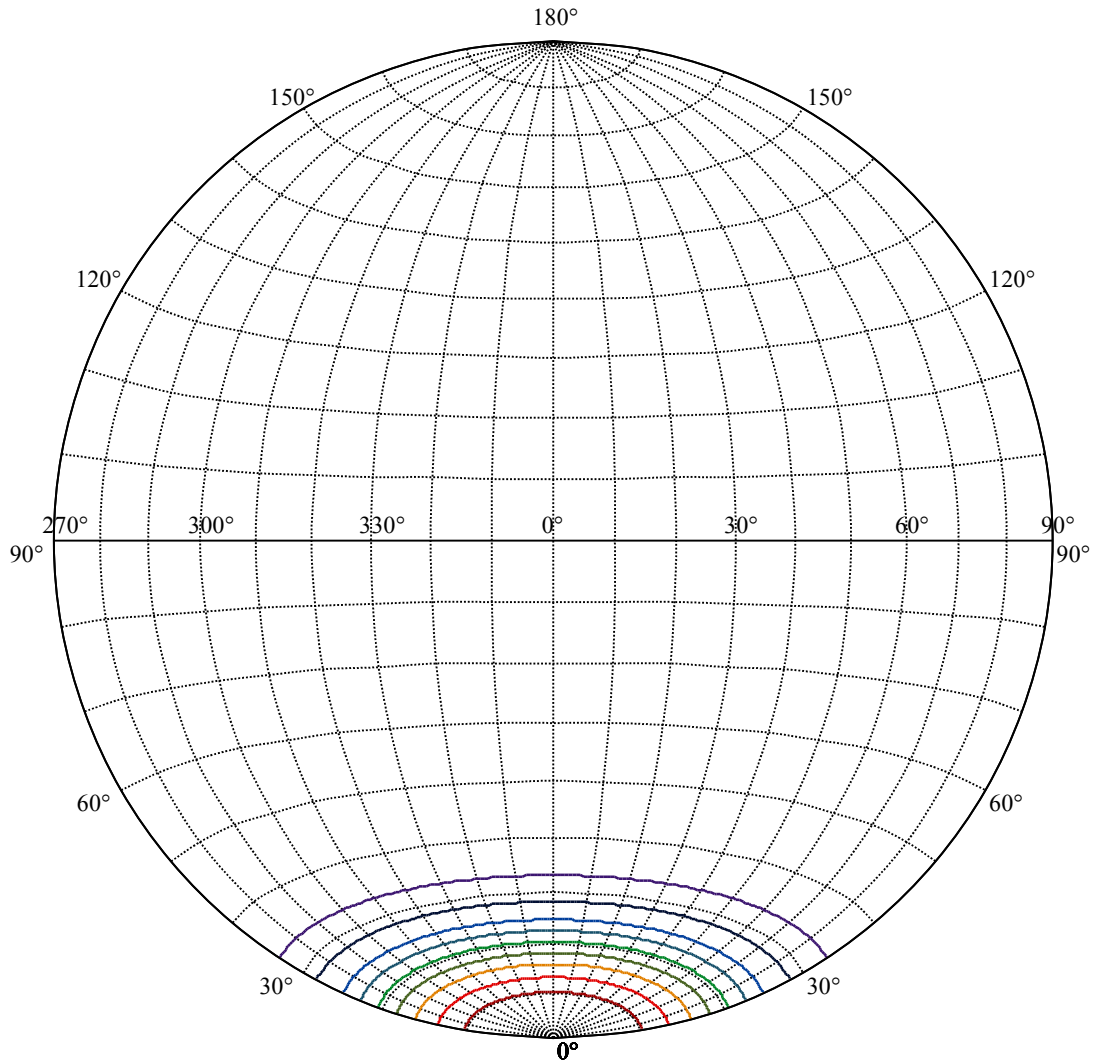
Beam Angle(50%Imax):C0/180Left:20.5 Right:20.5

:C90/270Left:20.5 Right:20.5





| | |
|-------------------|---|
| (10%Imax) 381.712 | — |
| (20%Imax) 763.425 | — |
| (30%Imax) 1145.14 | — |
| (40%Imax) 1526.85 | — |
| (50%Imax) 1908.56 | — |
| (60%Imax) 2290.27 | — |
| (70%Imax) 2671.99 | — |
| (80%Imax) 3053.7 | — |
| (90%Imax) 3435.41 | — |



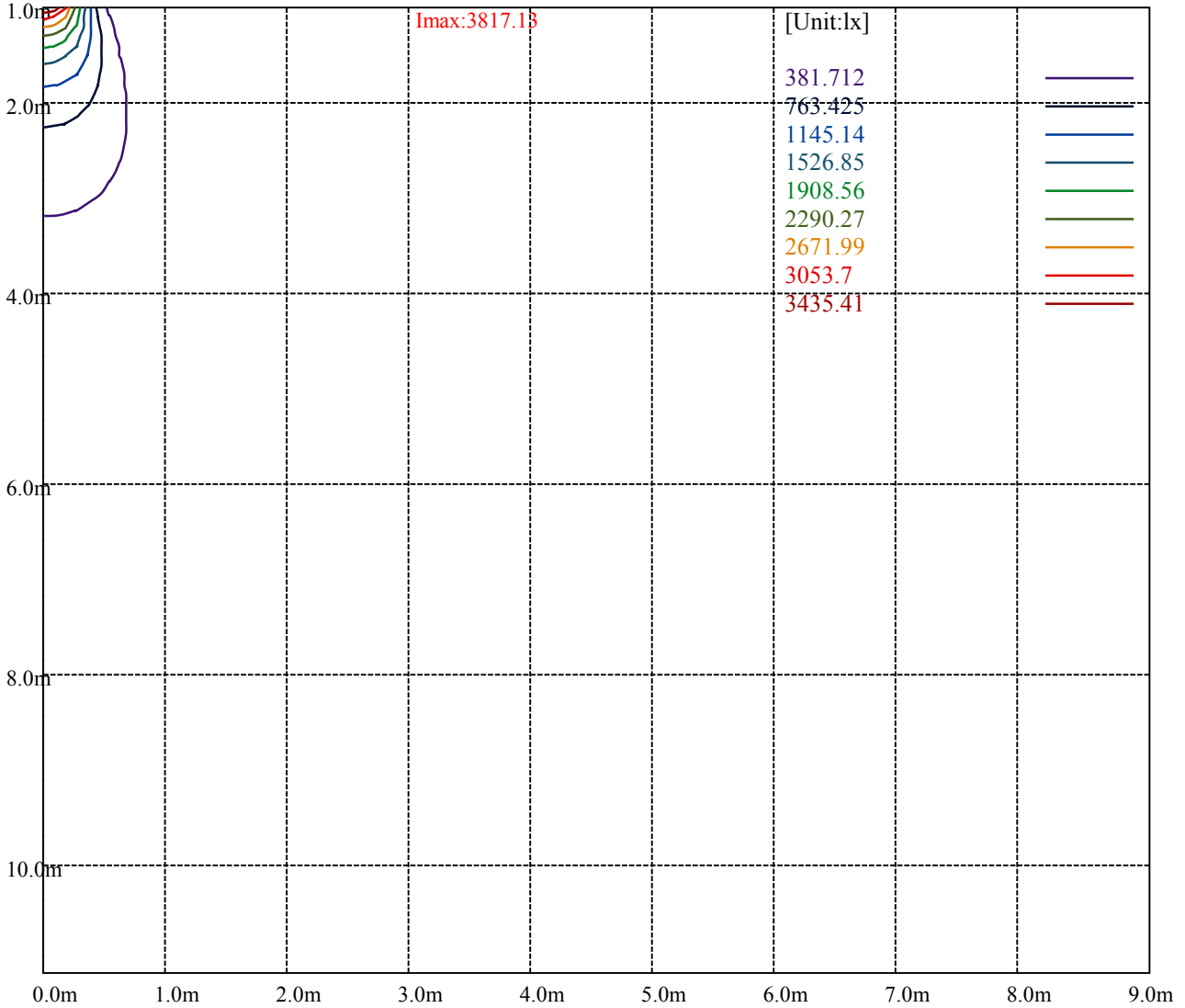
House

[Unit:cd]

Road

Imax:3817.13

| | |
|-------------------|---|
| (10%Imax) 381.712 | — |
| (20%Imax) 763.425 | — |
| (30%Imax) 1145.14 | — |
| (40%Imax) 1526.85 | — |
| (50%Imax) 1908.56 | — |
| (60%Imax) 2290.27 | — |
| (70%Imax) 2671.99 | — |
| (80%Imax) 3053.7 | — |
| (90%Imax) 3435.41 | — |



Luminance Table

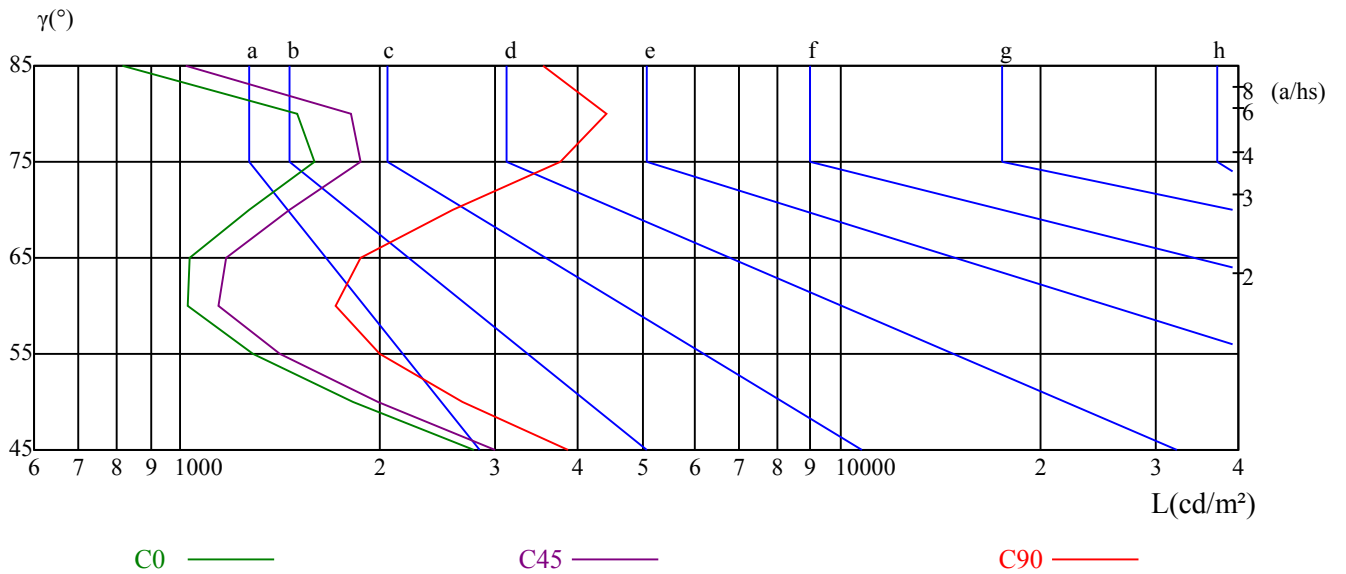
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|------|------|------|------|------|------|------|------|------|
| C0 | 2775 | 1821 | 1283 | 1027 | 1034 | 1272 | 1595 | 1505 | 816 |
| C45 | 2994 | 1984 | 1414 | 1145 | 1169 | 1463 | 1871 | 1812 | 1018 |
| C90 | 3873 | 2674 | 1998 | 1713 | 1878 | 2577 | 3749 | 4419 | 3542 |

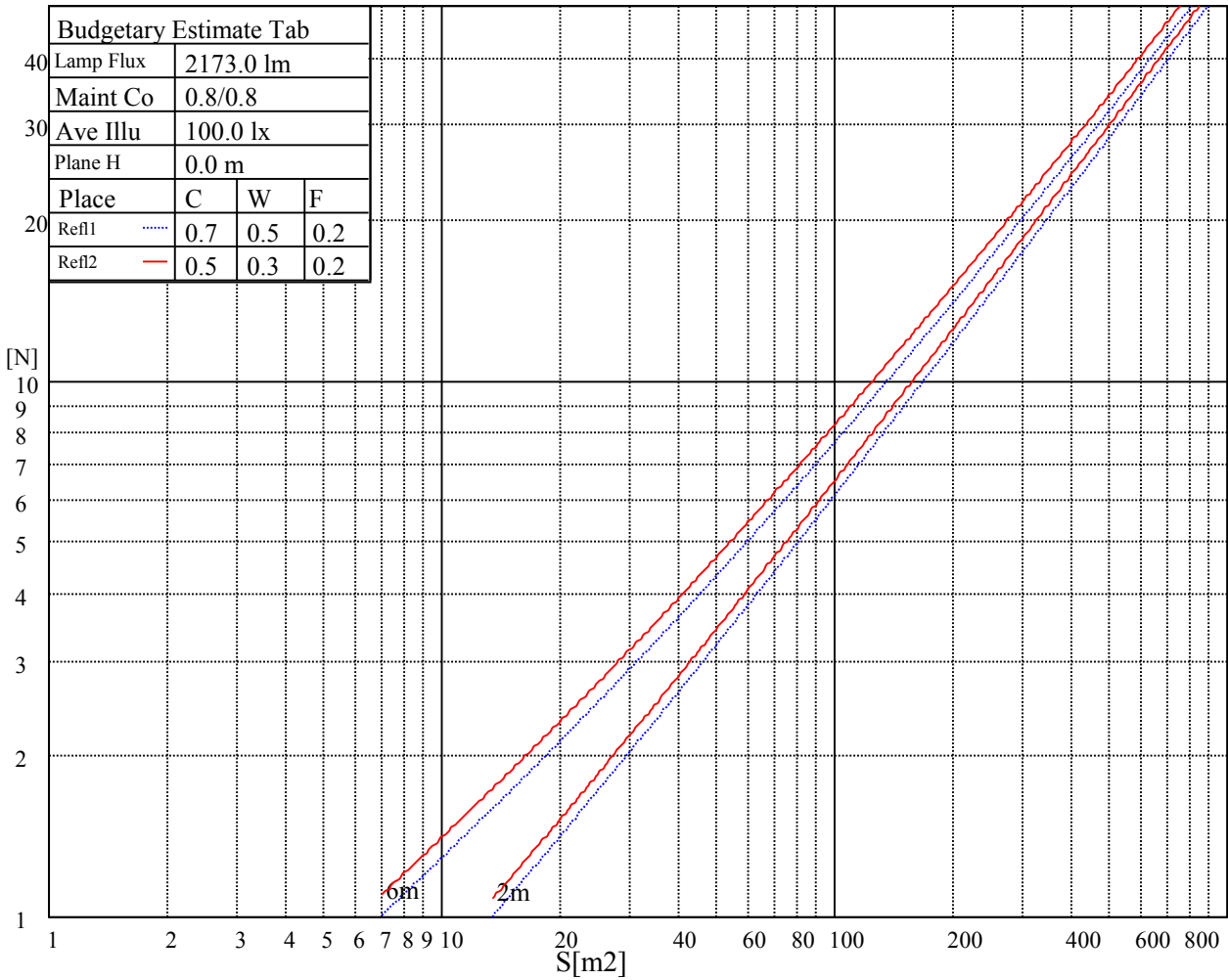
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 2020 | 2020 | 2020 | 4240 | 4240 | 4240 | 4963 | 4963 | 4963 |

Glare Table

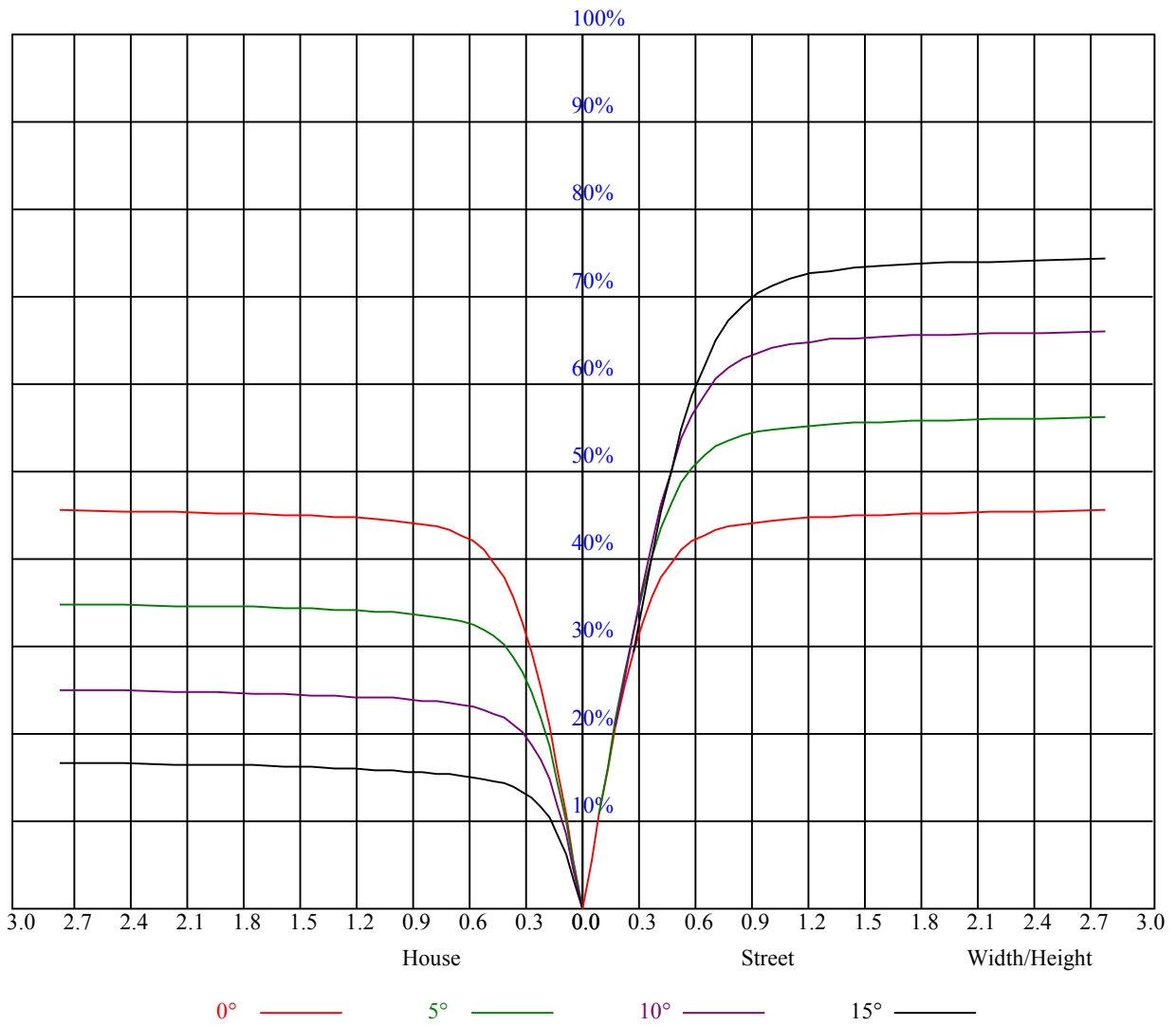
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 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 | 1.11 | 1.11 | 1.11 | 1.08 | 1.08 | 1.08 | 1.03 | 1.03 | 1.03 | 0.99 | 0.99 | 0.99 | 0.95 | 0.95 | 0.95 | 0.93 |
| 1 | 1.03 | 1.01 | 0.98 | 1.01 | 0.99 | 0.97 | 0.97 | 0.95 | 0.94 | 0.94 | 0.92 | 0.91 | 0.90 | 0.89 | 0.88 | 0.87 |
| 2 | 0.96 | 0.93 | 0.90 | 0.95 | 0.91 | 0.89 | 0.92 | 0.89 | 0.87 | 0.89 | 0.87 | 0.85 | 0.86 | 0.85 | 0.83 | 0.82 |
| 3 | 0.91 | 0.86 | 0.83 | 0.89 | 0.85 | 0.82 | 0.87 | 0.83 | 0.81 | 0.85 | 0.82 | 0.79 | 0.83 | 0.80 | 0.78 | 0.77 |
| 4 | 0.85 | 0.81 | 0.77 | 0.84 | 0.80 | 0.77 | 0.82 | 0.79 | 0.76 | 0.81 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.73 |
| 5 | 0.81 | 0.76 | 0.72 | 0.80 | 0.75 | 0.72 | 0.79 | 0.74 | 0.71 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.70 | 0.69 |
| 6 | 0.77 | 0.72 | 0.68 | 0.76 | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.65 |
| 7 | 0.73 | 0.68 | 0.65 | 0.73 | 0.68 | 0.65 | 0.72 | 0.67 | 0.64 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.64 | 0.62 |
| 8 | 0.70 | 0.65 | 0.61 | 0.69 | 0.65 | 0.61 | 0.68 | 0.64 | 0.61 | 0.68 | 0.64 | 0.61 | 0.67 | 0.63 | 0.61 | 0.59 |
| 9 | 0.67 | 0.62 | 0.59 | 0.66 | 0.62 | 0.59 | 0.66 | 0.61 | 0.58 | 0.65 | 0.61 | 0.58 | 0.64 | 0.61 | 0.58 | 0.57 |
| 10 | 0.64 | 0.59 | 0.56 | 0.64 | 0.59 | 0.56 | 0.63 | 0.59 | 0.56 | 0.62 | 0.58 | 0.56 | 0.62 | 0.58 | 0.55 | 0.54 |



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 | 3818.81 | 3742.31 | 3438.56 | 2796.75 | 1995.19 | 1119.38 | 560.25 | 291.38 | 130.50 |
| 45.0 | 3818.81 | 3722.06 | 3400.31 | 2751.75 | 1870.31 | 1028.81 | 529.88 | 284.63 | 120.99 |
| 90.0 | 3816.56 | 3711.94 | 3420.56 | 2743.88 | 1838.25 | 1040.01 | 512.72 | 230.57 | 109.24 |
| 135.0 | 3814.31 | 3773.81 | 3546.00 | 2971.69 | 2165.06 | 1239.75 | 627.19 | 293.06 | 141.53 |
| 180.0 | 3818.81 | 3765.38 | 3477.38 | 2824.31 | 1985.63 | 1108.69 | 553.22 | 262.24 | 130.33 |
| 225.0 | 3818.81 | 3776.06 | 3544.31 | 2943.56 | 2083.50 | 1103.79 | 623.42 | 285.53 | 145.52 |
| 270.0 | 3816.56 | 3777.75 | 3562.31 | 3057.19 | 2210.63 | 1342.13 | 689.06 | 320.06 | 157.73 |
| 315.0 | 3814.31 | 3709.69 | 3369.38 | 2736.00 | 1869.19 | 1024.48 | 530.21 | 240.47 | 121.78 |
| 360.0 | 3818.81 | 3742.31 | 3438.56 | 2796.75 | 1995.19 | 1119.38 | 560.25 | 291.38 | 130.50 |

| C/γ(°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 72.11 | 46.41 | 31.05 | 23.23 | 18.84 | 16.14 | 14.57 | 12.94 | 10.86 |
| 45.0 | 72.56 | 46.24 | 31.16 | 23.40 | 19.24 | 16.03 | 14.29 | 12.71 | 10.29 |
| 90.0 | 64.58 | 40.95 | 27.84 | 22.39 | 34.59 | 53.27 | 64.01 | 46.29 | 10.97 |
| 135.0 | 75.54 | 47.03 | 31.84 | 23.68 | 19.07 | 17.16 | 20.98 | 18.23 | 11.14 |
| 180.0 | 71.38 | 46.18 | 30.77 | 23.12 | 18.68 | 16.03 | 14.29 | 12.71 | 10.63 |
| 225.0 | 77.79 | 48.99 | 33.13 | 24.24 | 19.41 | 16.26 | 14.29 | 12.83 | 10.91 |
| 270.0 | 80.61 | 48.26 | 31.50 | 23.85 | 26.72 | 46.01 | 61.59 | 56.81 | 13.28 |
| 315.0 | 67.11 | 43.43 | 29.64 | 22.50 | 18.62 | 17.38 | 21.15 | 16.26 | 10.69 |
| 360.0 | 72.11 | 46.41 | 31.05 | 23.23 | 18.84 | 16.14 | 14.57 | 12.94 | 10.86 |

| C/γ(°) | 90.0 |
|--------|------|
| 0.0 | 9.06 |
| 45.0 | 9.17 |
| 90.0 | 8.72 |
| 135.0 | 8.72 |
| 180.0 | 8.94 |
| 225.0 | 9.34 |
| 270.0 | 8.83 |
| 315.0 | 8.66 |
| 360.0 | 9.06 |