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Nata

Client:

| | |
|-------------------------|---------------------|
| LumCAT: 2-1742-M | |
| Luminaire: 92.70.136.00 | |
| Report No: nata-0100 | Voltage(V): 34.0000 |
| Test No: | Current(A): 0.6500 |
| LampCAT: CREE CMT2850 | Power (W): 22.1000 |
| Lamp flux(lm): 3332.0 | PF: 0.0000 |
| Number of Lamps: 1 | Ballast type: DC |
| Length(mm): 70 | Width(mm): 70 |
| Phm Type: C | Height(mm): 0 |

Photometric Results

Lumens(lm): 2948.11, Efficiency(%): 88.48% , Luminous Efficacy(lm/W): 133.40
Central intensity(cd): 5201.867, Maximum intensity(cd): 5201.867
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=42.6
 [C90/270]Total=42.6
Field angle(10%Imax): [C0/180]Total=73.8
 [C90/270]Total=73.8
Maximum s/h(1/2): C0_180=0.69 C90_270=0.69
Maximum s/h(1/4): C0_180=0.67 C90_270=0.67
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.33%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.800%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/5/22
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

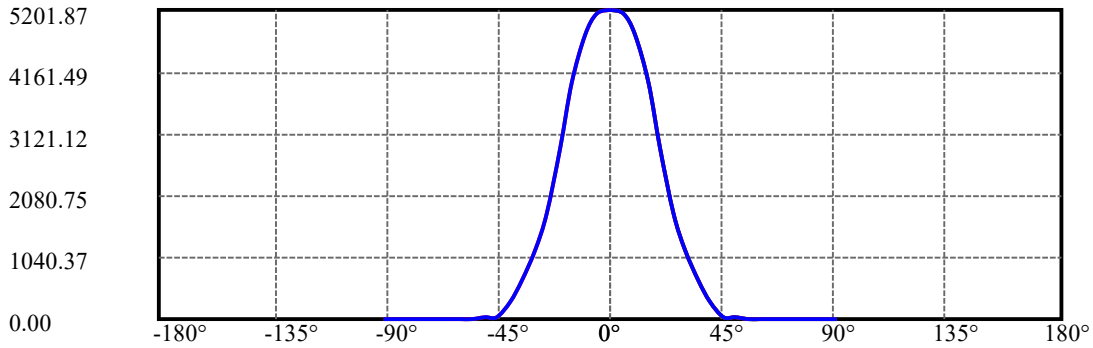
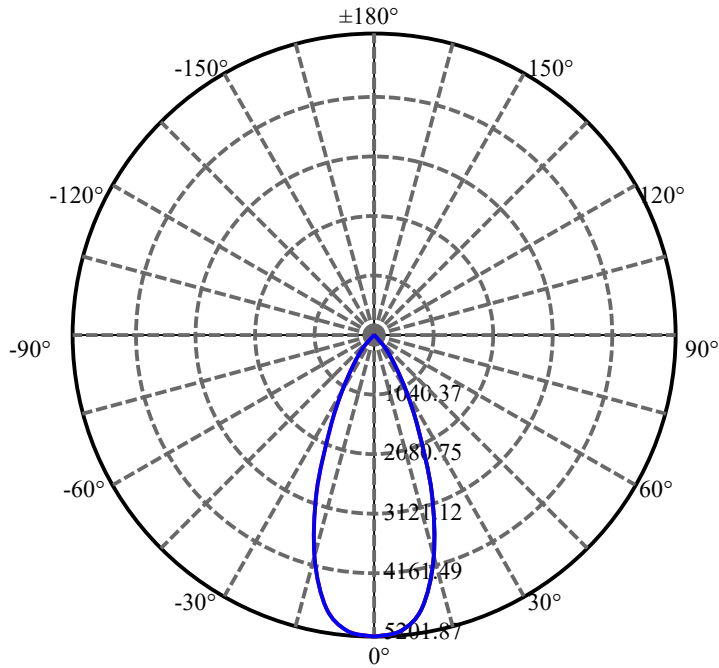
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 5201.866 | 31.108 | 31.108 | .934% | 1.055% |
| 5.0 | 5136.212 | 245.374 | 276.482 | 7.364% | 9.378% |
| 10.0 | 4781.648 | 455.132 | 731.614 | 13.660% | 24.816% |
| 15.0 | 3970.874 | 563.342 | 1294.956 | 16.907% | 43.925% |
| 20.0 | 2883.510 | 540.583 | 1835.539 | 16.224% | 62.262% |
| 25.0 | 1791.398 | 414.982 | 2250.521 | 12.455% | 76.338% |
| 30.0 | 1154.078 | 316.297 | 2566.818 | 9.493% | 87.067% |
| 35.0 | 660.402 | 207.629 | 2774.447 | 6.231% | 94.109% |
| 40.0 | 284.951 | 100.399 | 2874.846 | 3.013% | 97.515% |
| 45.0 | 39.682 | 15.380 | 2890.226 | .462% | 98.037% |
| 50.0 | 17.157 | 7.204 | 2897.43 | .216% | 98.281% |
| 55.0 | 15.134 | 6.795 | 2904.226 | .204% | 98.511% |
| 60.0 | 14.136 | 6.710 | 2910.936 | .201% | 98.739% |
| 65.0 | 13.468 | 6.691 | 2917.627 | .201% | 98.966% |
| 70.0 | 13.076 | 6.735 | 2924.362 | .202% | 99.194% |
| 75.0 | 12.773 | 6.763 | 2931.125 | .203% | 99.424% |
| 80.0 | 12.587 | 6.795 | 2937.919 | .204% | 99.654% |
| 85.0 | 12.484 | 6.817 | 2944.736 | .205% | 99.886% |
| 90.0 | 12.312 | 3.374 | 2948.111 | .101% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 2566.82 | 77.04% | 87.07% |
| 0-40 | 2874.85 | 86.28% | 97.51% |
| 0-60 | 2910.94 | 87.36% | 98.74% |
| 0-90 | 2944.74 | 88.38% | 99.89% |
| 0-120 | 2944.74 | 88.38% | 99.89% |
| 0-180 | 2948.11 | 88.48% | 100.00% |
| 60-90 | 40.51 | 1.22% | 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% |
| 0-26.71 | 2358.49 | 70.78% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|---------|
| 0-10 | 731.61 |
| 10-20 | 1103.92 |
| 20-30 | 731.28 |
| 30-40 | 308.03 |
| 40-50 | 22.58 |
| 50-60 | 13.51 |
| 60-70 | 13.43 |
| 70-80 | 13.56 |
| 80-90 | 6.82 |
| 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: —————

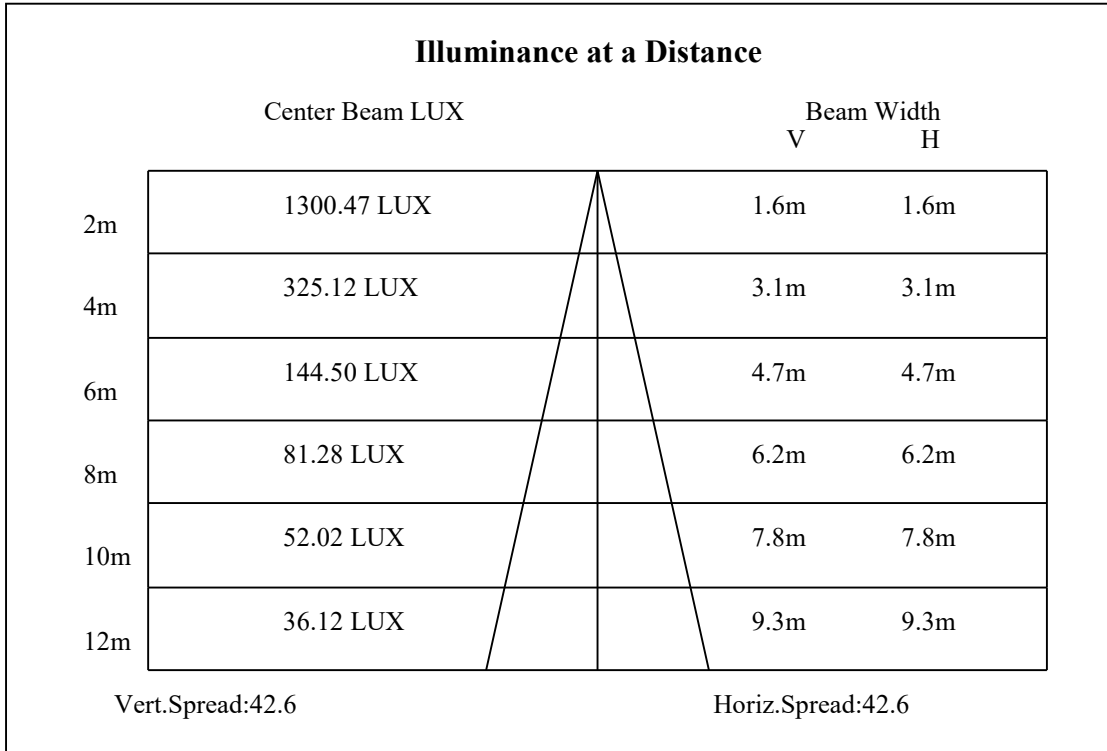
C90/C270: —————

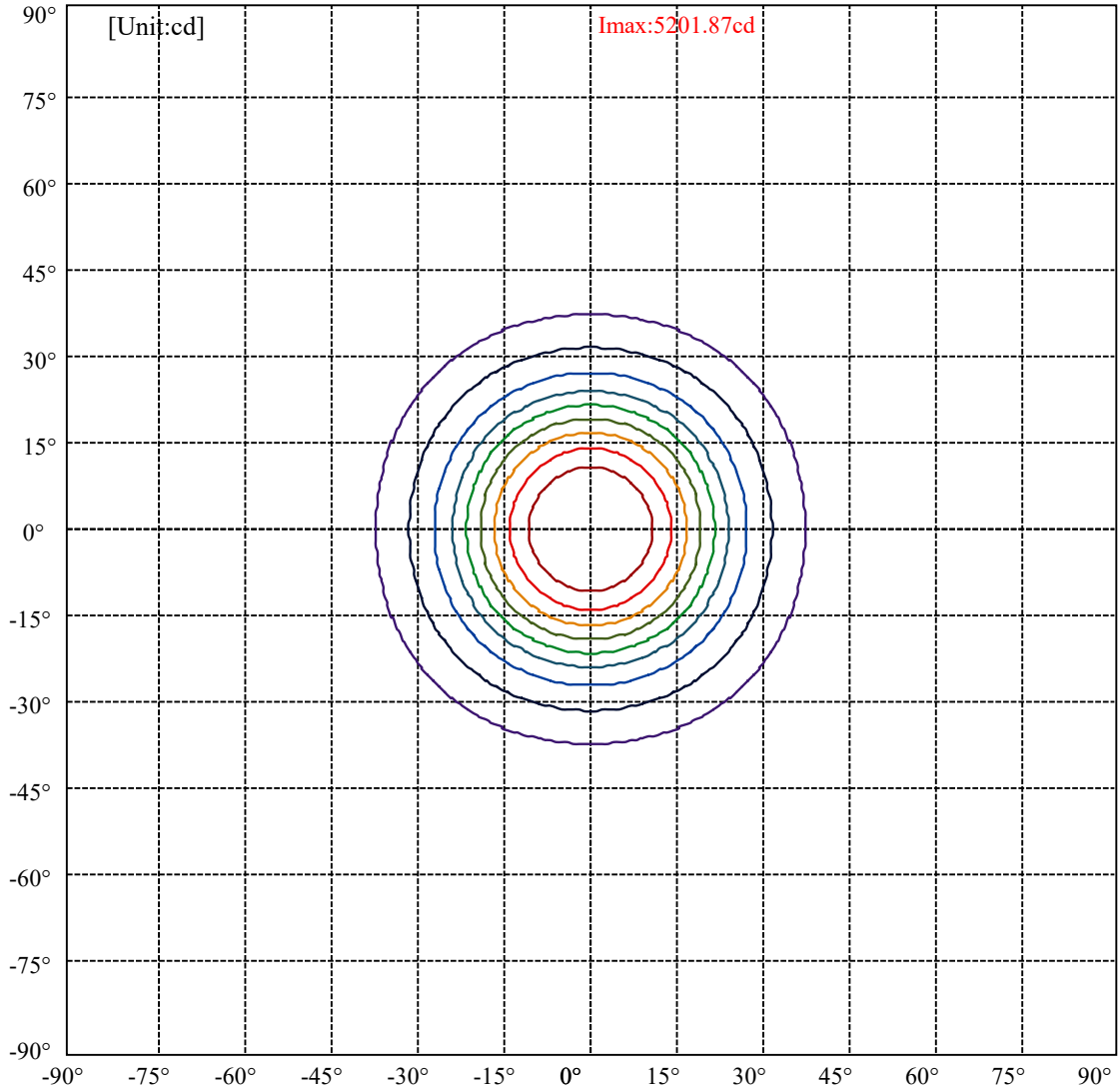
Field angle(10%Imax):C0/180Left:36.9 Right:36.9

:C90/270Left:36.9 Right:36.9

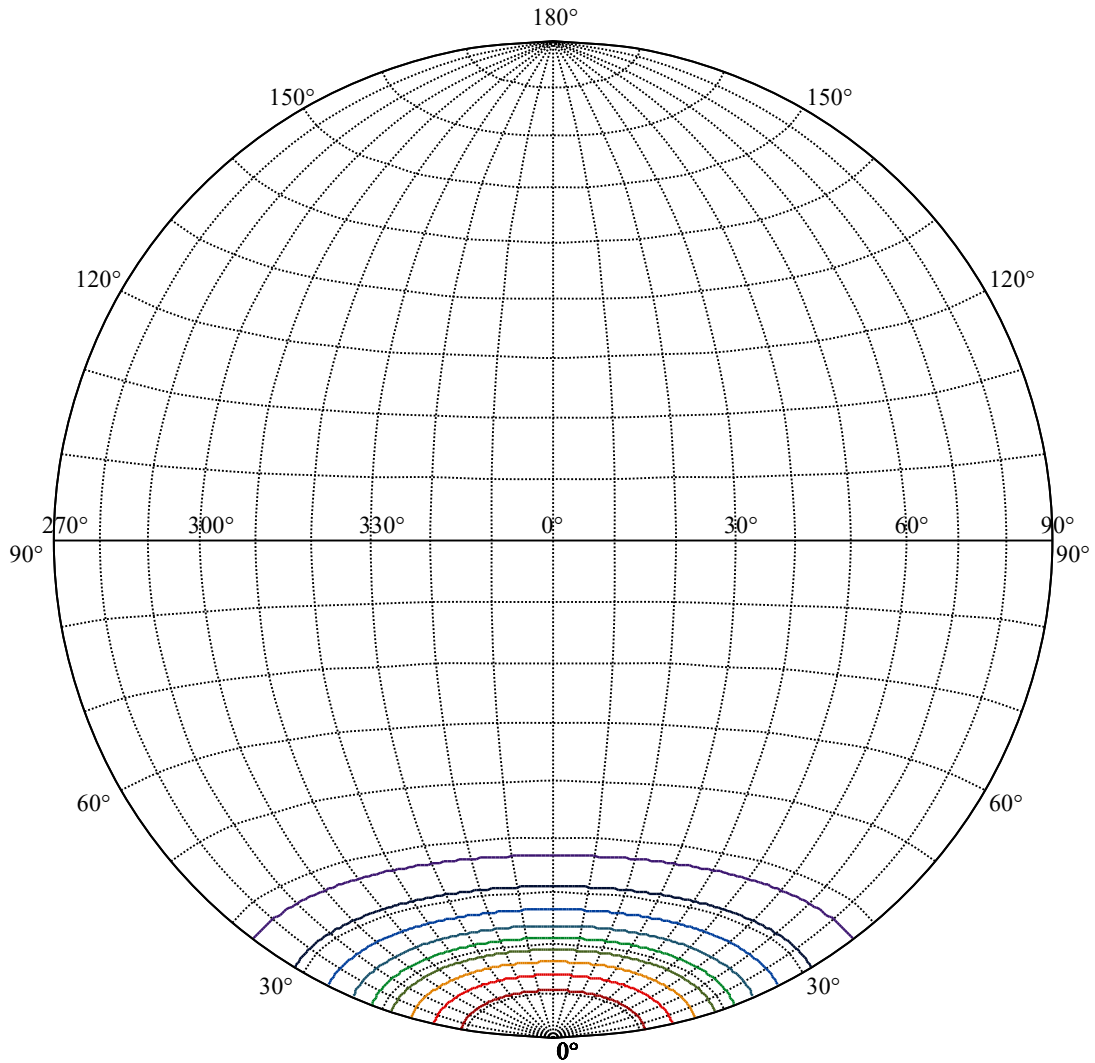
Beam Angle(50%Imax):C0/180Left:21.3 Right:21.3

:C90/270Left:21.3 Right:21.3





| | |
|-------------------|---|
| (10%Imax) 520.187 | — |
| (20%Imax) 1040.37 | — |
| (30%Imax) 1560.56 | — |
| (40%Imax) 2080.75 | — |
| (50%Imax) 2600.93 | — |
| (60%Imax) 3121.12 | — |
| (70%Imax) 3641.31 | — |
| (80%Imax) 4161.49 | — |
| (90%Imax) 4681.68 | — |



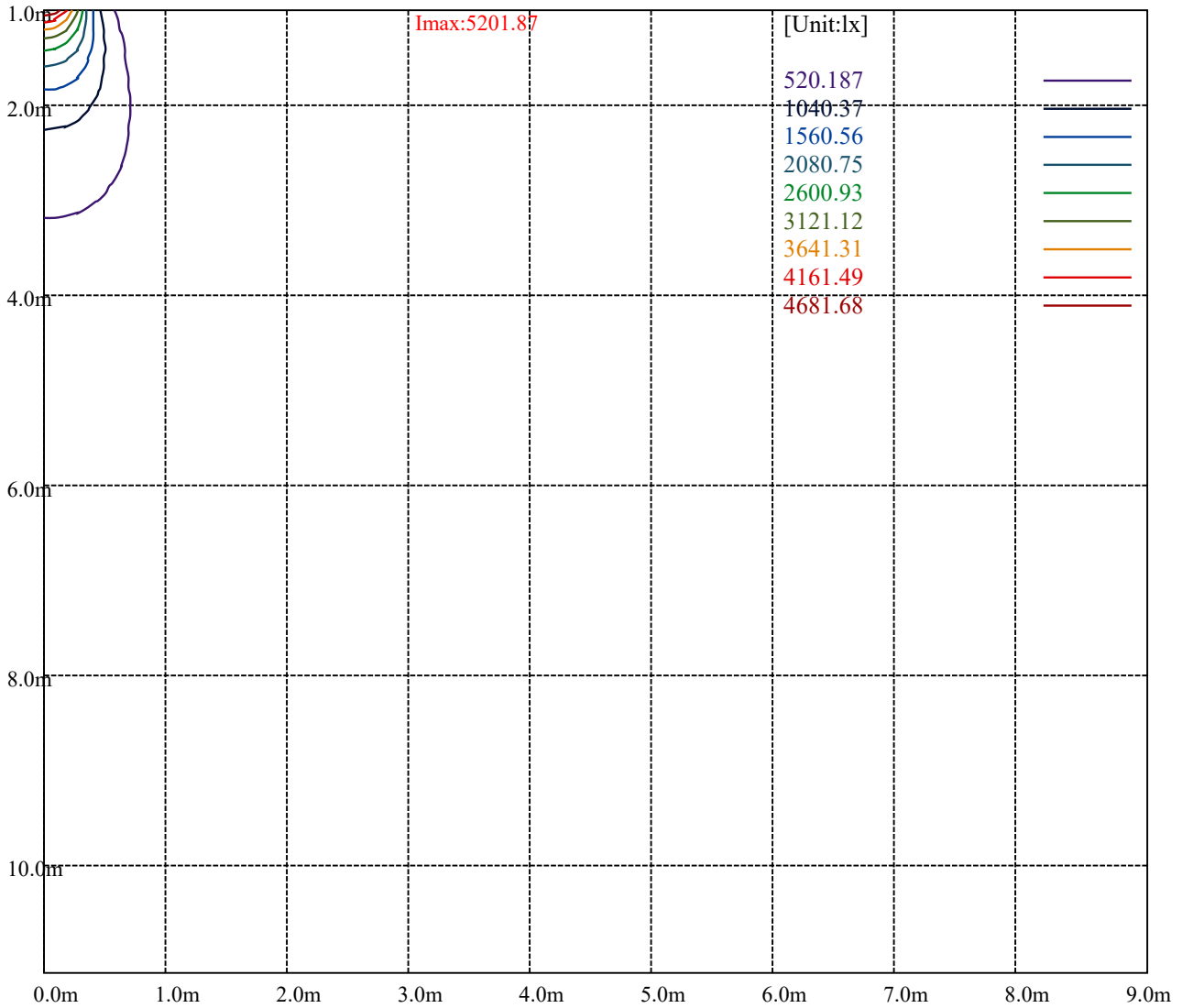
House

[Unit:cd]

Road

I_{max}:5201.87

| | |
|--------------------------------|---|
| (10%I _{max}) 520.187 | — |
| (20%I _{max}) 1040.37 | — |
| (30%I _{max}) 1560.56 | — |
| (40%I _{max}) 2080.75 | — |
| (50%I _{max}) 2600.93 | — |
| (60%I _{max}) 3121.12 | — |
| (70%I _{max}) 3641.31 | — |
| (80%I _{max}) 4161.49 | — |
| (90%I _{max}) 4681.68 | — |



Luminance Table

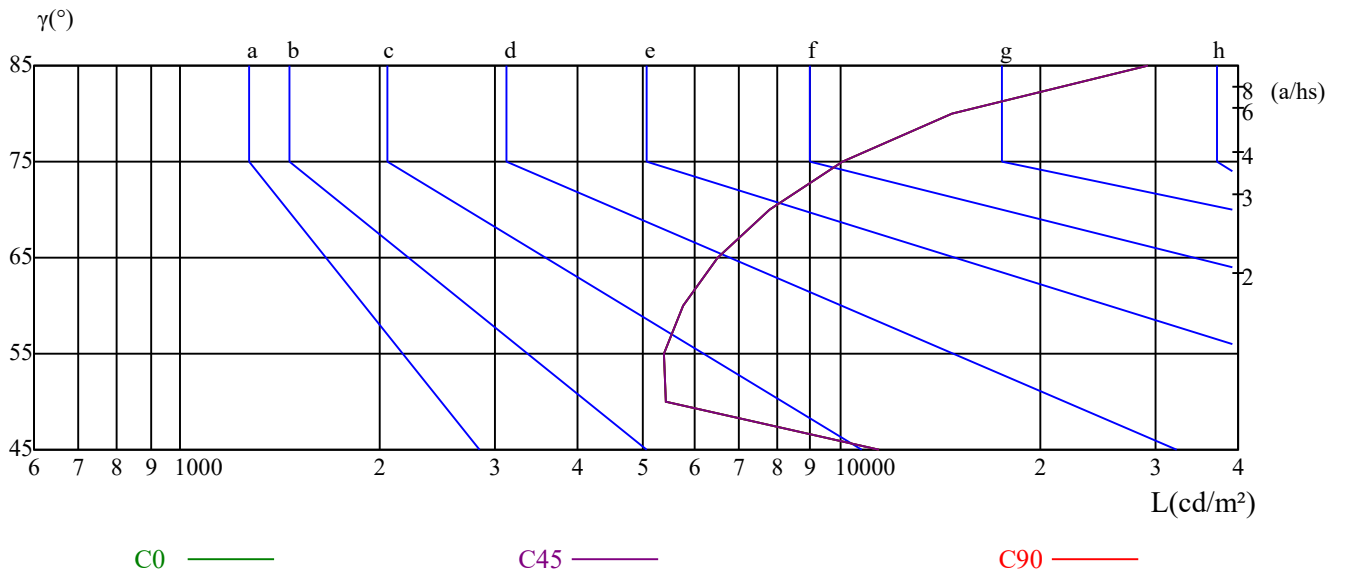
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|-------|------|------|------|------|------|-------|-------|-------|
| C0 | 11453 | 5447 | 5385 | 5770 | 6504 | 7802 | 10072 | 14793 | 29232 |
| C45 | 11453 | 5447 | 5385 | 5770 | 6504 | 7802 | 10072 | 14793 | 29232 |
| C90 | 11453 | 5447 | 5385 | 5770 | 6504 | 7802 | 10072 | 14793 | 29232 |

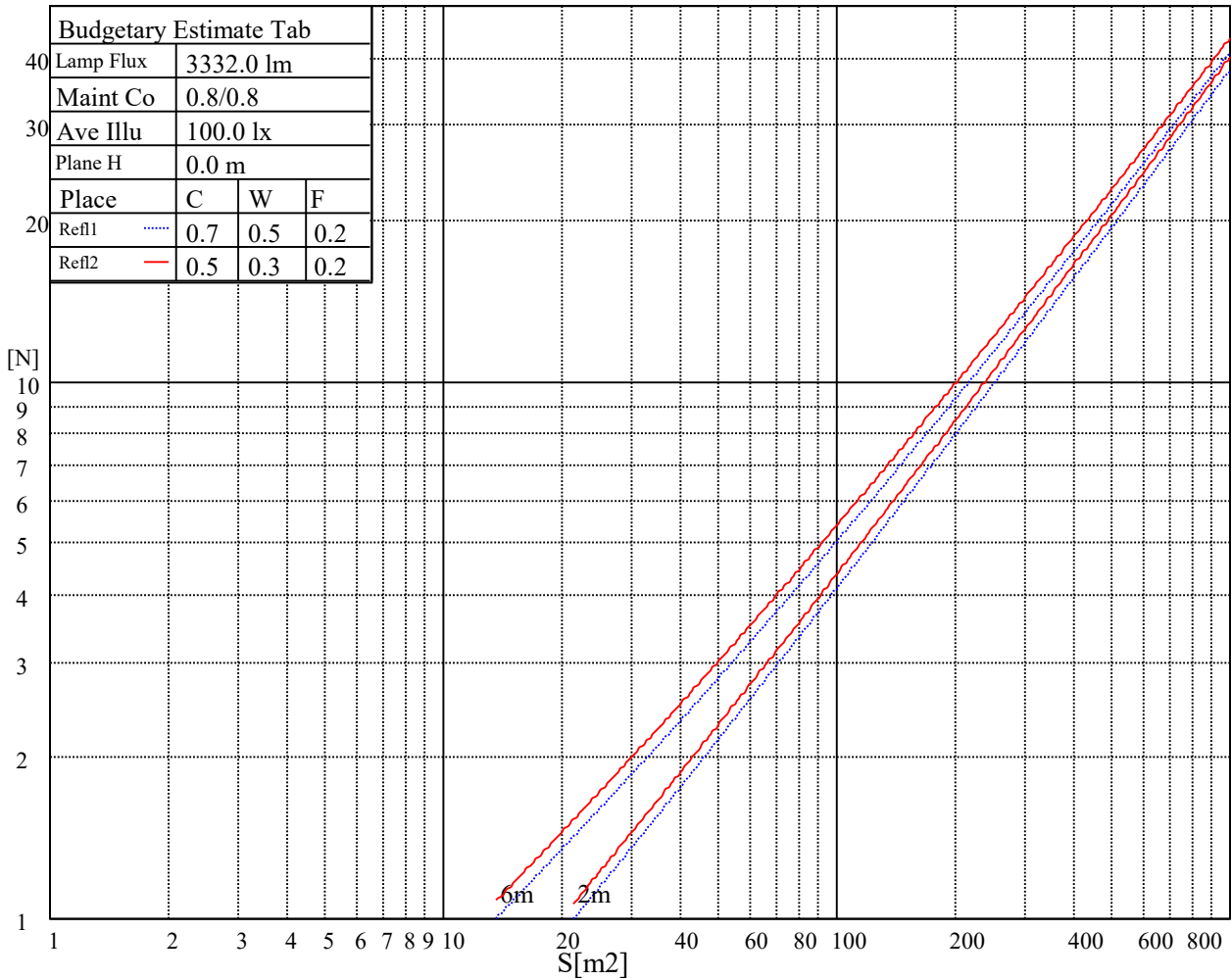
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 6504 | 6504 | 6504 | 10072 | 10072 | 10072 | 29232 | 29232 | 29232 |

Glare Table

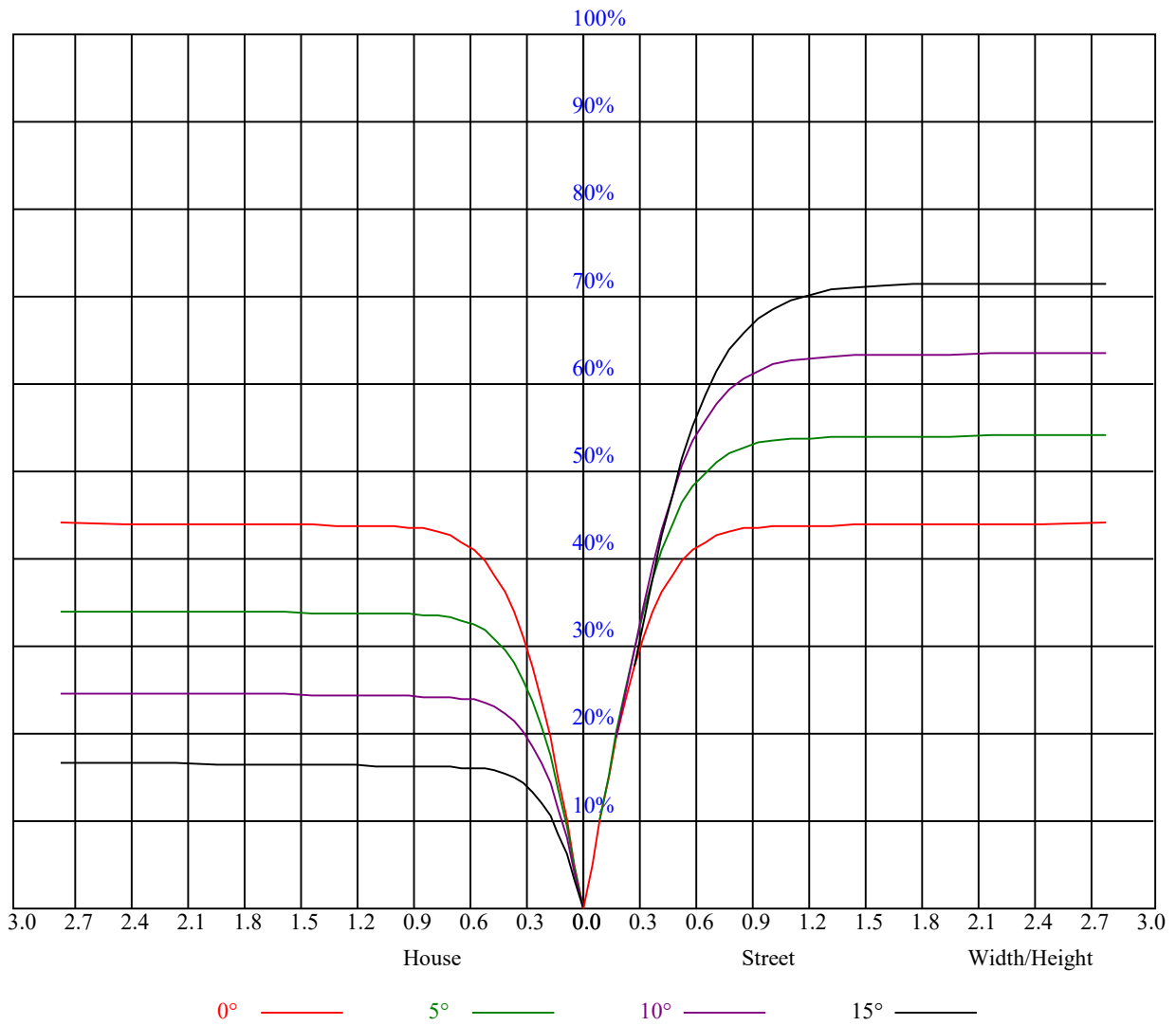
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 |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

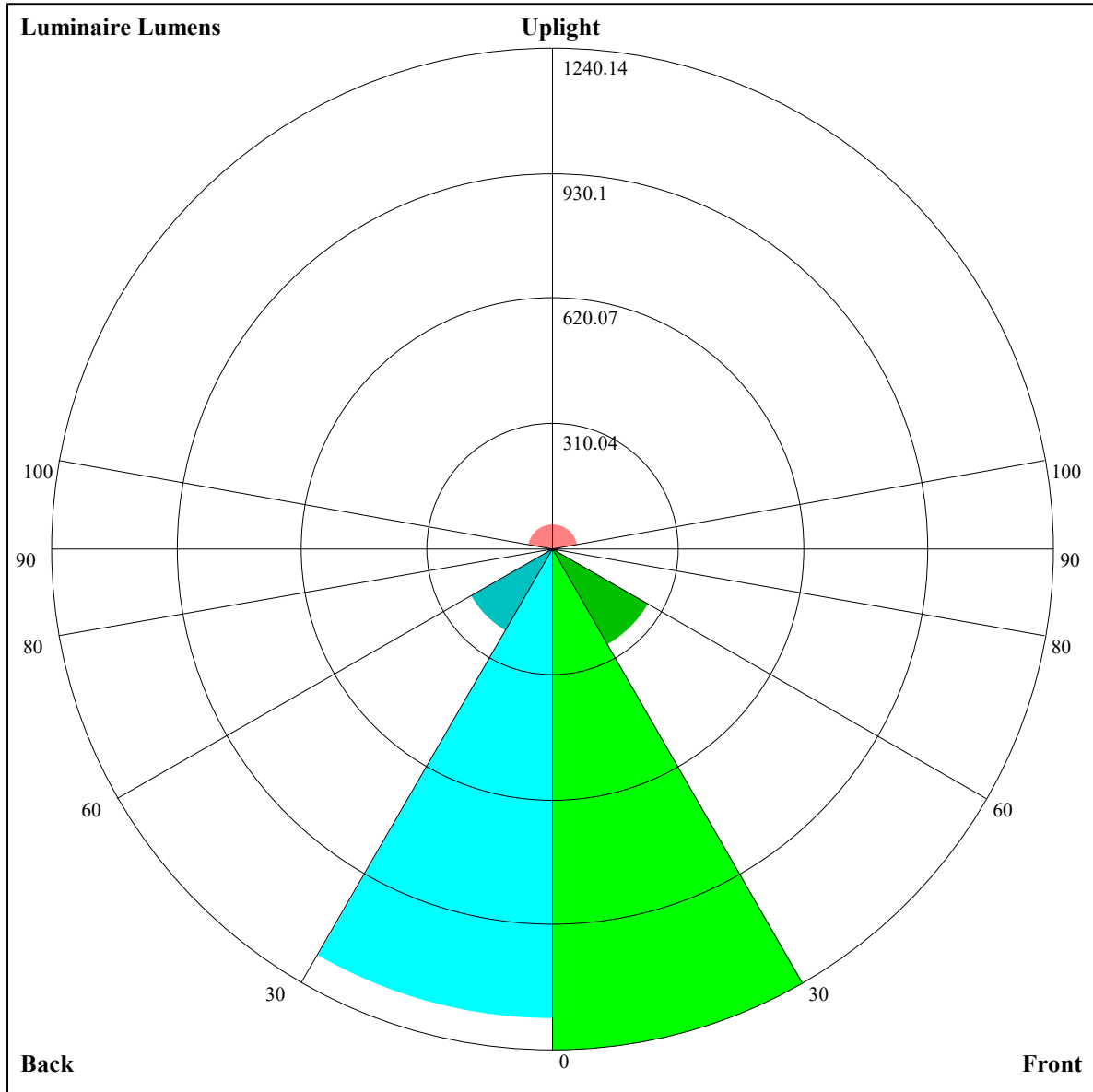
Luminance Limiting Curve





| 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 | 1.06 | 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 | 0.96 | 0.94 | 0.97 | 0.95 | 0.93 | 0.93 | 0.91 | 0.90 | 0.90 | 0.88 | 0.87 | 0.87 | 0.86 | 0.85 | 0.83 |
| 2 | 0.93 | 0.90 | 0.87 | 0.92 | 0.88 | 0.86 | 0.89 | 0.86 | 0.84 | 0.86 | 0.84 | 0.82 | 0.84 | 0.82 | 0.80 | 0.79 |
| 3 | 0.88 | 0.84 | 0.81 | 0.87 | 0.83 | 0.80 | 0.85 | 0.82 | 0.79 | 0.82 | 0.80 | 0.78 | 0.81 | 0.78 | 0.77 | 0.75 |
| 4 | 0.84 | 0.79 | 0.76 | 0.83 | 0.79 | 0.76 | 0.81 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.78 | 0.75 | 0.73 | 0.72 |
| 5 | 0.80 | 0.75 | 0.72 | 0.79 | 0.75 | 0.72 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.70 | 0.75 | 0.72 | 0.70 | 0.69 |
| 6 | 0.76 | 0.72 | 0.68 | 0.76 | 0.71 | 0.68 | 0.74 | 0.71 | 0.68 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.66 |
| 7 | 0.73 | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.68 | 0.65 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.64 | 0.63 |
| 8 | 0.70 | 0.65 | 0.62 | 0.69 | 0.65 | 0.62 | 0.69 | 0.65 | 0.62 | 0.68 | 0.64 | 0.62 | 0.67 | 0.64 | 0.62 | 0.60 |
| 9 | 0.67 | 0.63 | 0.60 | 0.67 | 0.63 | 0.60 | 0.66 | 0.62 | 0.60 | 0.65 | 0.62 | 0.59 | 0.65 | 0.61 | 0.59 | 0.58 |
| 10 | 0.65 | 0.60 | 0.57 | 0.64 | 0.60 | 0.57 | 0.64 | 0.60 | 0.57 | 0.63 | 0.60 | 0.57 | 0.62 | 0.59 | 0.57 | 0.56 |





Luminaire Lumens:

FL=1240.14,FM=272.25,FH=13.48,FVH=6.8

BL=1164.89,BM=233.41,BH=13.46,BVH=6.79

UL=13.43,UH=63.93

BUG Rating:B3-U2-G0

Intensity data(cd)

| C/\u03b3(\u00b0) | 0.0 | 5.0 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 |
|------------------|---------|---------|---------|---------|---------|---------|---------|--------|--------|
| 0.0 | 5204.48 | 5163.74 | 4974.90 | 4313.67 | 3272.00 | 2096.55 | 1389.07 | 796.67 | 380.44 |
| 45.0 | 5195.12 | 5151.08 | 4940.76 | 4290.55 | 3232.91 | 2103.15 | 1308.69 | 746.01 | 376.04 |
| 90.0 | 5200.63 | 5121.90 | 4766.23 | 3865.51 | 2877.25 | 1756.85 | 1098.38 | 656.44 | 281.01 |
| 135.0 | 5207.23 | 5138.96 | 4794.86 | 4044.99 | 2892.66 | 1764.01 | 1171.05 | 689.86 | 307.77 |
| 180.0 | 5204.48 | 5101.53 | 4630.24 | 3676.12 | 2504.52 | 1520.66 | 987.05 | 521.05 | 169.79 |
| 225.0 | 5195.12 | 5115.84 | 4614.28 | 3773.57 | 2623.44 | 1591.68 | 1035.06 | 543.63 | 180.92 |
| 270.0 | 5200.63 | 5163.74 | 4794.31 | 3944.79 | 2906.98 | 1778.87 | 1150.13 | 687.65 | 294.55 |
| 315.0 | 5207.23 | 5132.91 | 4737.60 | 3857.80 | 2758.33 | 1719.41 | 1093.20 | 641.90 | 289.10 |
| 360.0 | 5204.48 | 5163.74 | 4974.90 | 4313.67 | 3272.00 | 2096.55 | 1389.07 | 796.67 | 380.44 |

| C/\u03b3(\u00b0) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 76.75 | 19.05 | 15.64 | 14.48 | 13.65 | 13.16 | 12.83 | 12.66 | 12.55 |
| 45.0 | 52.69 | 18.39 | 15.58 | 14.42 | 13.60 | 13.16 | 12.83 | 12.61 | 12.50 |
| 90.0 | 31.11 | 16.41 | 14.81 | 13.87 | 13.38 | 12.99 | 12.66 | 12.50 | 12.39 |
| 135.0 | 38.54 | 16.74 | 14.92 | 13.98 | 13.43 | 13.05 | 12.72 | 12.55 | 12.39 |
| 180.0 | 24.28 | 16.41 | 14.92 | 14.09 | 13.49 | 13.10 | 12.83 | 12.66 | 12.55 |
| 225.0 | 26.54 | 16.74 | 15.14 | 14.26 | 13.54 | 13.16 | 12.83 | 12.61 | 12.50 |
| 270.0 | 33.80 | 16.90 | 15.03 | 13.98 | 13.38 | 13.05 | 12.77 | 12.55 | 12.50 |
| 315.0 | 33.75 | 16.63 | 15.03 | 13.98 | 13.27 | 12.94 | 12.72 | 12.55 | 12.50 |
| 360.0 | 76.75 | 19.05 | 15.64 | 14.48 | 13.65 | 13.16 | 12.83 | 12.66 | 12.55 |

| C/\u03b3(\u00b0) | 90.0 |
|------------------|-------|
| 0.0 | 12.39 |
| 45.0 | 12.39 |
| 90.0 | 12.28 |
| 135.0 | 12.28 |
| 180.0 | 12.28 |
| 225.0 | 12.33 |
| 270.0 | 12.28 |
| 315.0 | 12.28 |
| 360.0 | 12.39 |