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Nata

| | |
|-------------------------|-------------------------|
| LumCAT: 1-0943-N | |
| Luminaire: 92.70.259.00 | |
| Report No: 200923-B039 | Voltage(V): 230.9000 |
| Test No: 200923-C039 | Current(A): 0.0840 |
| LampCAT: CITIZEN CLU700 | Power (W): 10.4300 |
| Lamp flux(lm): 836.3 | PF: 0.5360 |
| Number of Lamps: 1 | Ballast type: AC |
| Length(feet)(ft.):0.000 | Width(feet)(ft.):0.000 |
| Phm Type: C | Height(feet)(ft.):0.000 |

Photometric Results

Lumens(lm): 644.32
Efficiency(%): 77.04%
Lumens(lm)/Power(W): 61.78
Central intensity(cd): 1272.147
Maximum intensity(cd): 1272.147
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=43.3
 [C90/270]Total=43.3
Field angle(10%Imax): [C0/180]Total=64.1
 [C90/270]Total=64.1
Maximum s/h(1/2): C0_180=0.70 C90_270=0.70
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(%): 77.88%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.051%

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/23
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

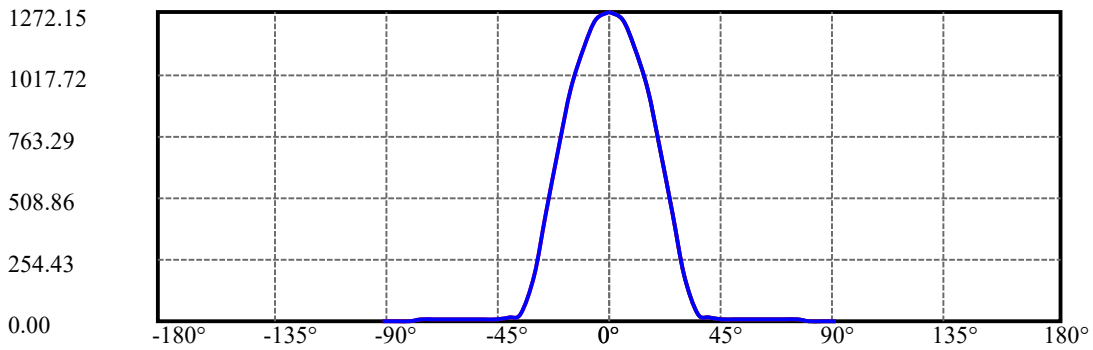
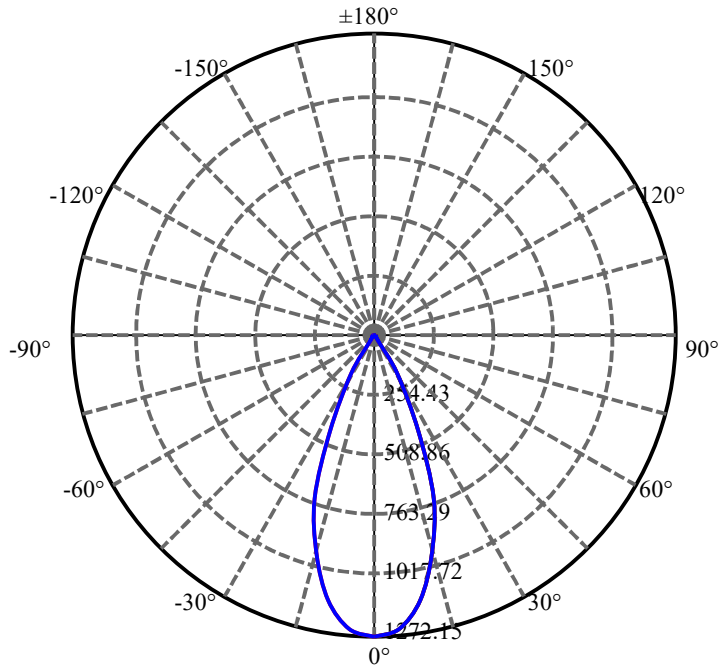
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 1272.148 | 7.608 | 7.608 | .910% | 1.181% |
| 5.0 | 1241.115 | 59.292 | 66.9 | 7.090% | 10.383% |
| 10.0 | 1132.938 | 107.836 | 174.736 | 12.894% | 27.119% |
| 15.0 | 952.516 | 135.132 | 309.868 | 16.158% | 48.092% |
| 20.0 | 729.060 | 136.680 | 446.548 | 16.343% | 69.305% |
| 25.0 | 443.662 | 102.776 | 549.324 | 12.289% | 85.256% |
| 30.0 | 190.840 | 52.303 | 601.627 | 6.254% | 93.374% |
| 35.0 | 34.512 | 10.851 | 612.478 | 1.297% | 95.058% |
| 40.0 | 15.151 | 5.338 | 617.816 | .638% | 95.886% |
| 45.0 | 10.702 | 4.148 | 621.964 | .496% | 96.530% |
| 50.0 | 8.938 | 3.753 | 625.717 | .449% | 97.112% |
| 55.0 | 7.523 | 3.378 | 629.095 | .404% | 97.637% |
| 60.0 | 6.357 | 3.018 | 632.113 | .361% | 98.105% |
| 65.0 | 5.354 | 2.660 | 634.772 | .318% | 98.518% |
| 70.0 | 4.635 | 2.387 | 637.159 | .285% | 98.888% |
| 75.0 | 4.292 | 2.273 | 639.432 | .272% | 99.241% |
| 80.0 | 3.938 | 2.126 | 641.558 | .254% | 99.571% |
| 85.0 | 3.666 | 2.002 | 643.56 | .239% | 99.882% |
| 90.0 | 2.784 | 0.763 | 644.323 | .091% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|--------|---------|
| 0-30 | 601.63 | 71.94% | 93.37% |
| 0-40 | 617.82 | 73.87% | 95.89% |
| 0-60 | 632.11 | 75.58% | 98.10% |
| 0-90 | 643.56 | 76.95% | 99.88% |
| 0-120 | 643.56 | 76.95% | 99.88% |
| 0-180 | 644.32 | 77.04% | 100.00% |
| 60-90 | 14.47 | 1.73% | 2.24% |
| 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% |
| 0-23.35 | 515.46 | 61.63% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|--------|
| 0-10 | 174.74 |
| 10-20 | 271.81 |
| 20-30 | 155.08 |
| 30-40 | 16.19 |
| 40-50 | 7.90 |
| 50-60 | 6.40 |
| 60-70 | 5.05 |
| 70-80 | 4.40 |
| 80-90 | 2.00 |
| 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 |



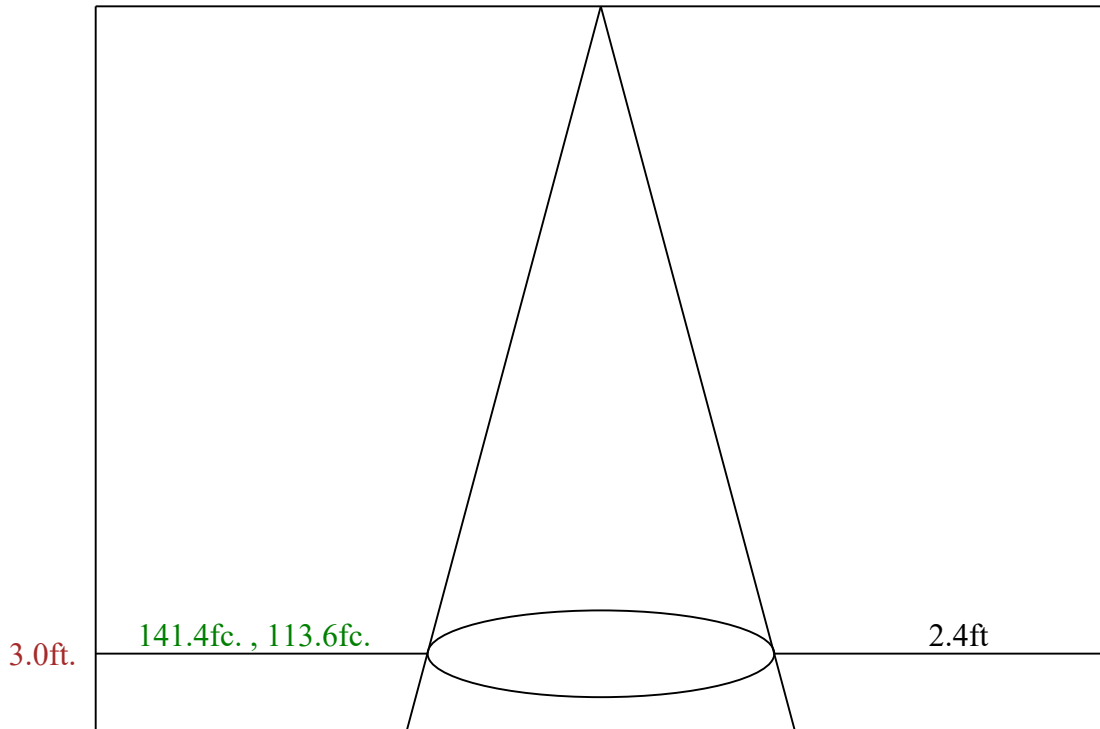
C0(Max): —————

C0/C180: —————

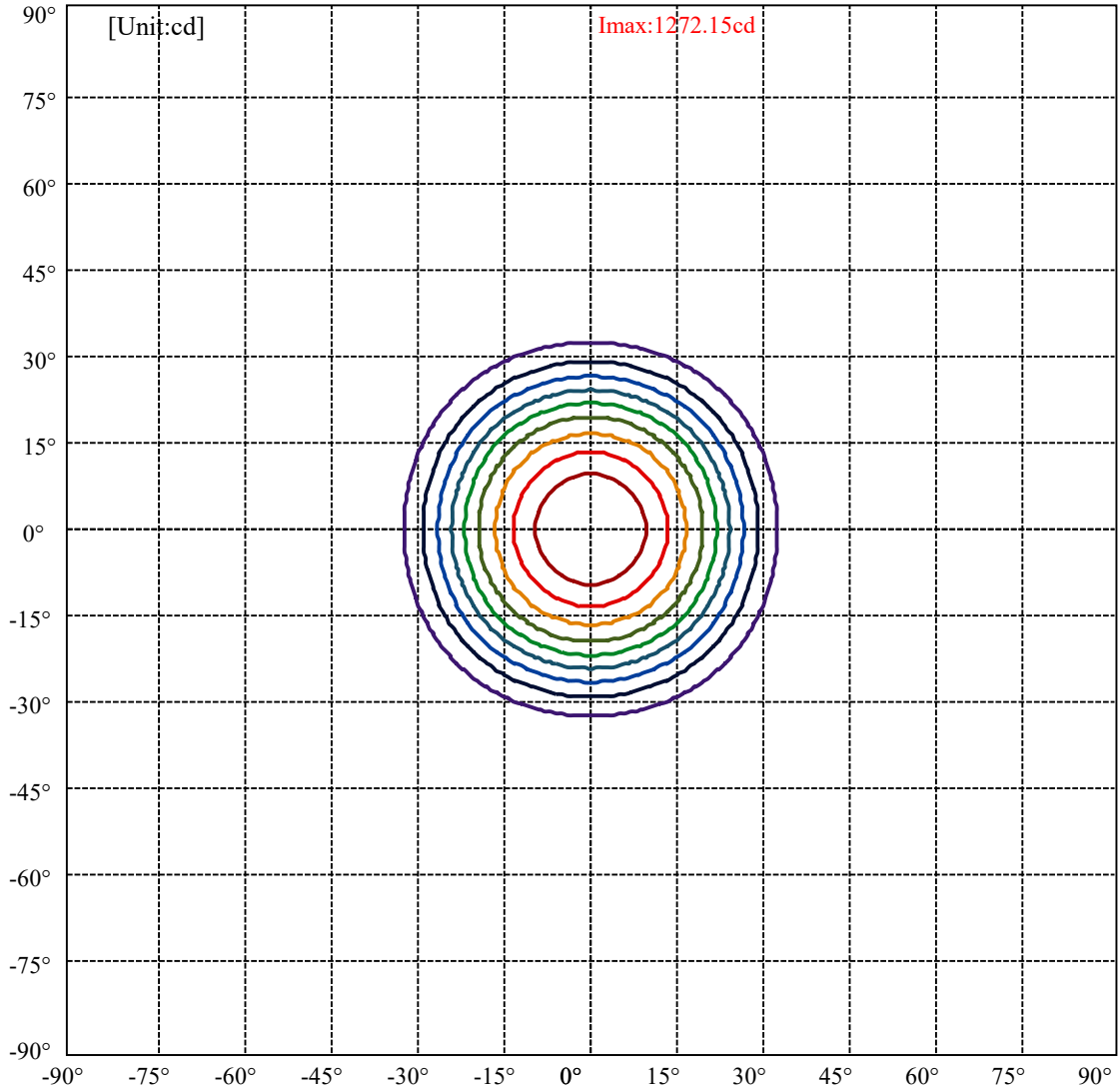
C90/C270: —————

Field angle(10%Imax):C0/180Left:32.0 Right:32.0
:C90/270Left:32.0 Right:32.0

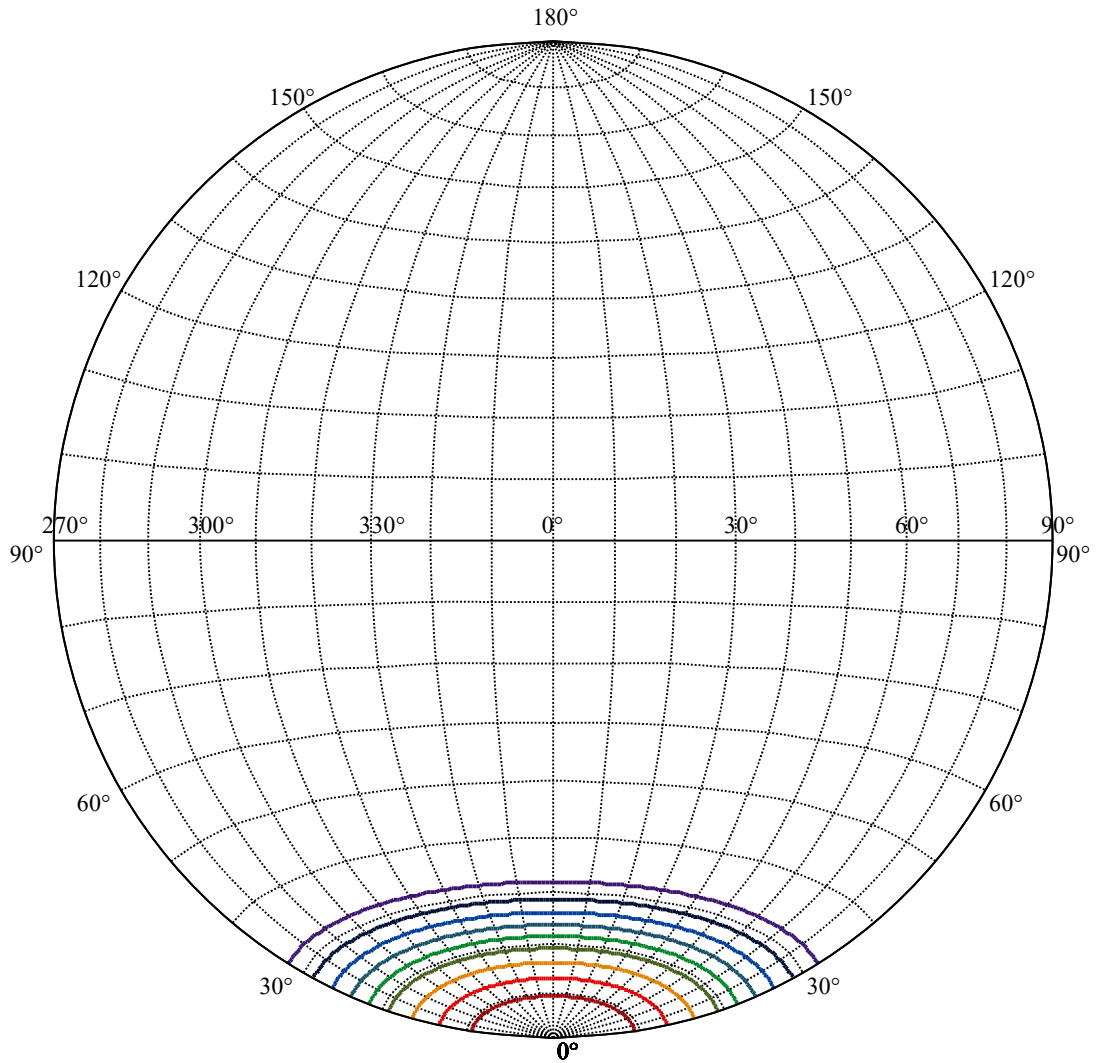
Beam Angle(50%Imax):C0/180Left:21.6 Right:21.6
:C90/270Left:21.6 Right:21.6



Max , Ave Beam angle of C0 plane 43.80



| | |
|-------------------|---|
| (10%Imax) 127.215 | — |
| (20%Imax) 254.429 | — |
| (30%Imax) 381.644 | — |
| (40%Imax) 508.859 | — |
| (50%Imax) 636.074 | — |
| (60%Imax) 763.288 | — |
| (70%Imax) 890.503 | — |
| (80%Imax) 1017.72 | — |
| (90%Imax) 1144.93 | — |



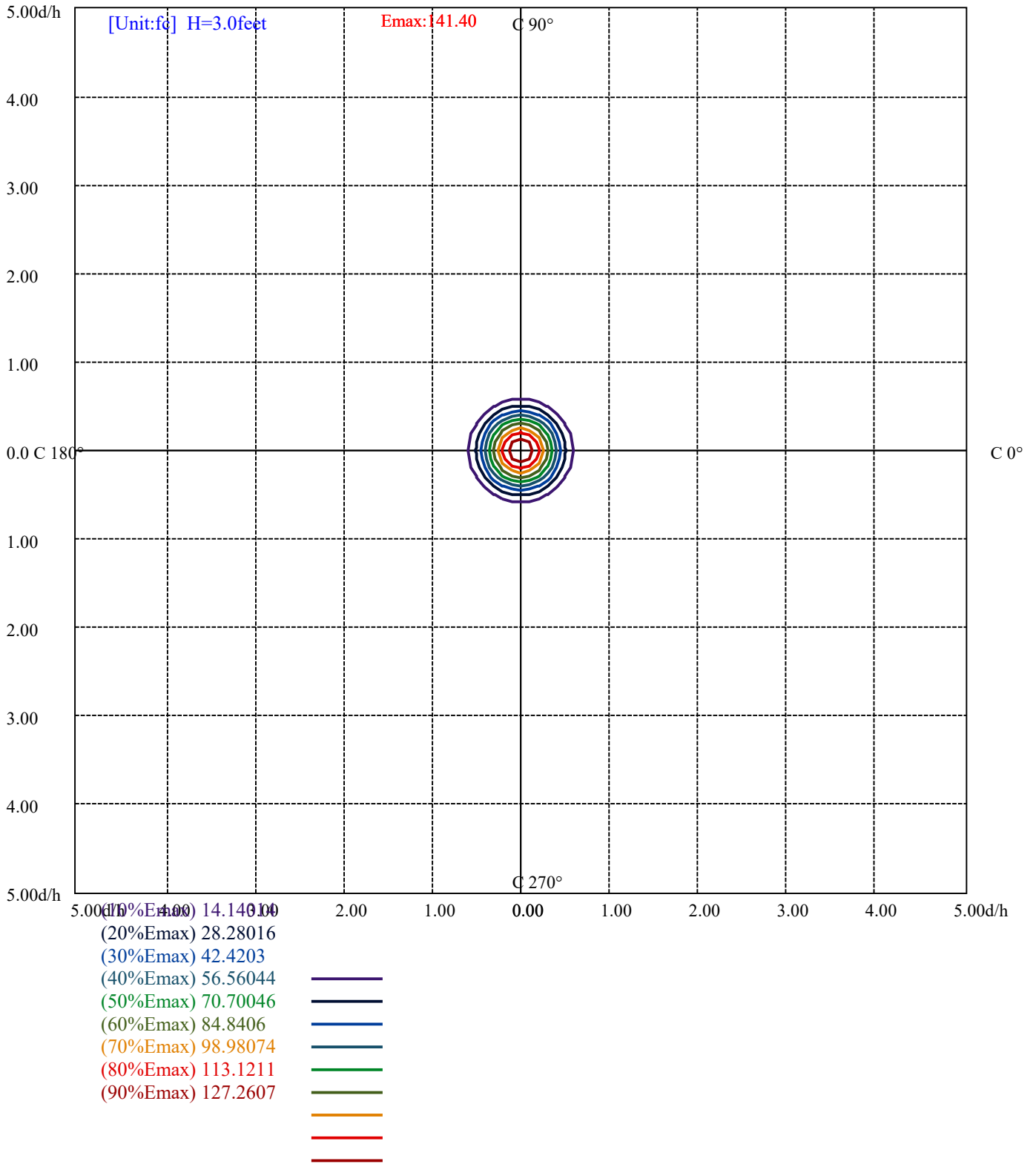
House

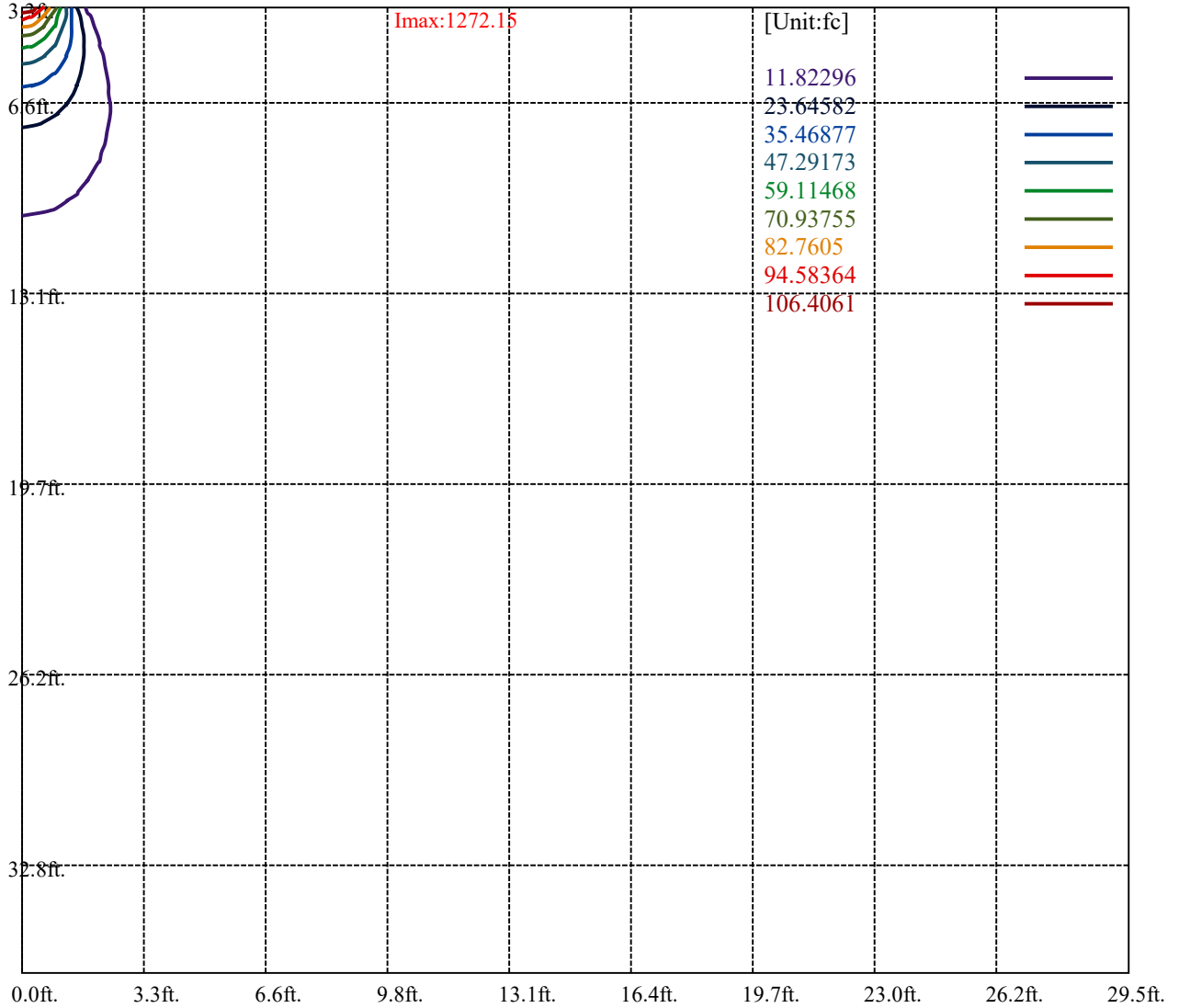
[Unit:cd]

Road

Imax:1272.15

| | | |
|-----------|---------|---|
| (10%Imax) | 127.215 | — |
| (20%Imax) | 254.429 | — |
| (30%Imax) | 381.644 | — |
| (40%Imax) | 508.859 | — |
| (50%Imax) | 636.074 | — |
| (60%Imax) | 763.288 | — |
| (70%Imax) | 890.503 | — |
| (80%Imax) | 1017.72 | — |
| (90%Imax) | 1144.93 | — |





Luminance Table

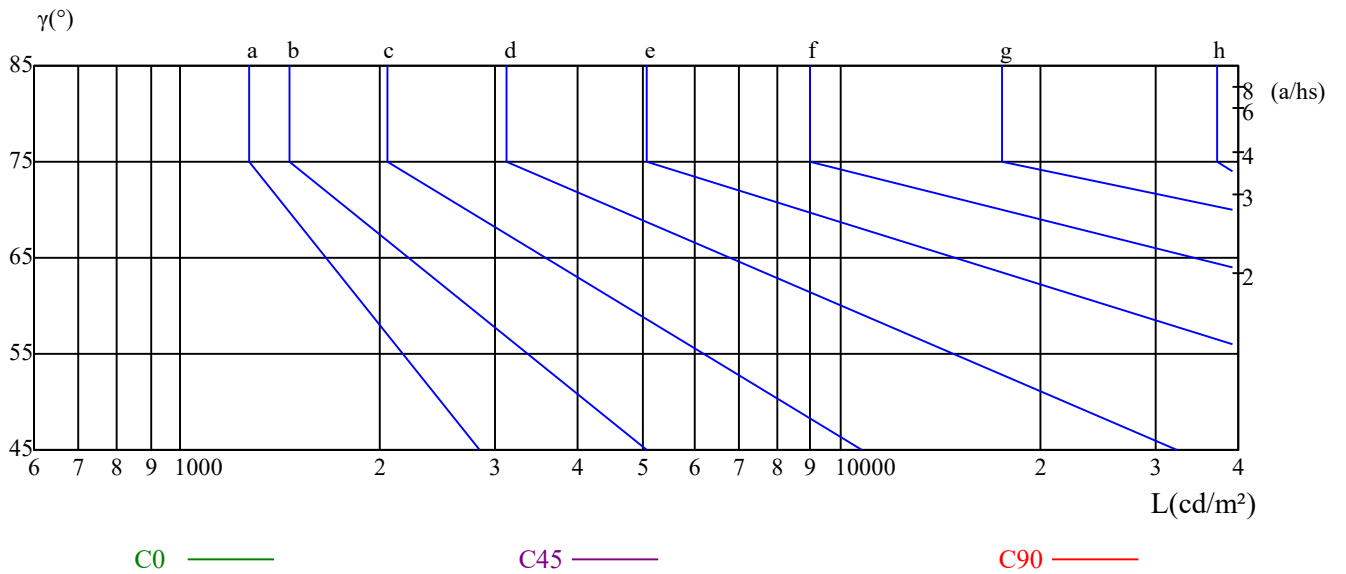
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

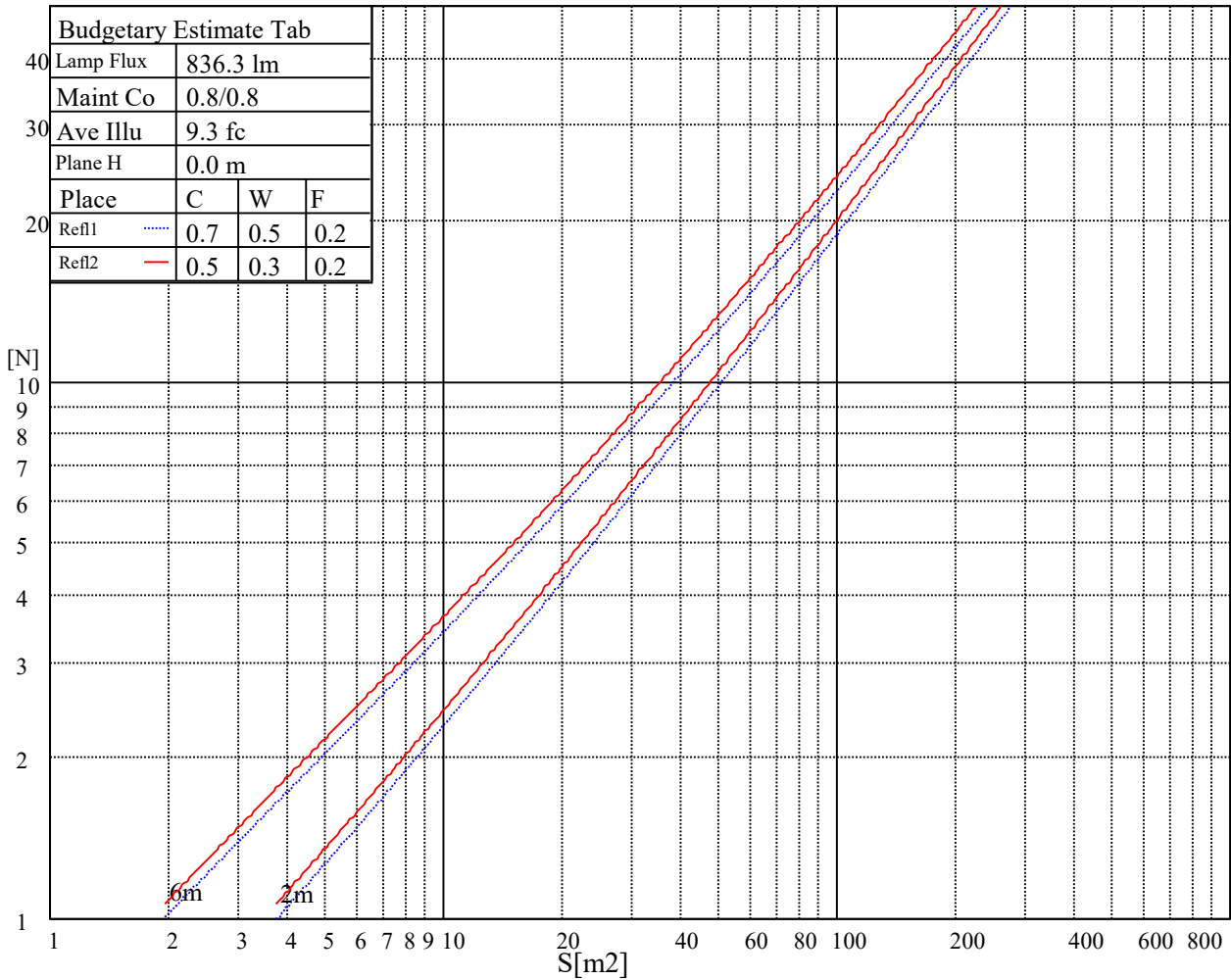
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Glare Table

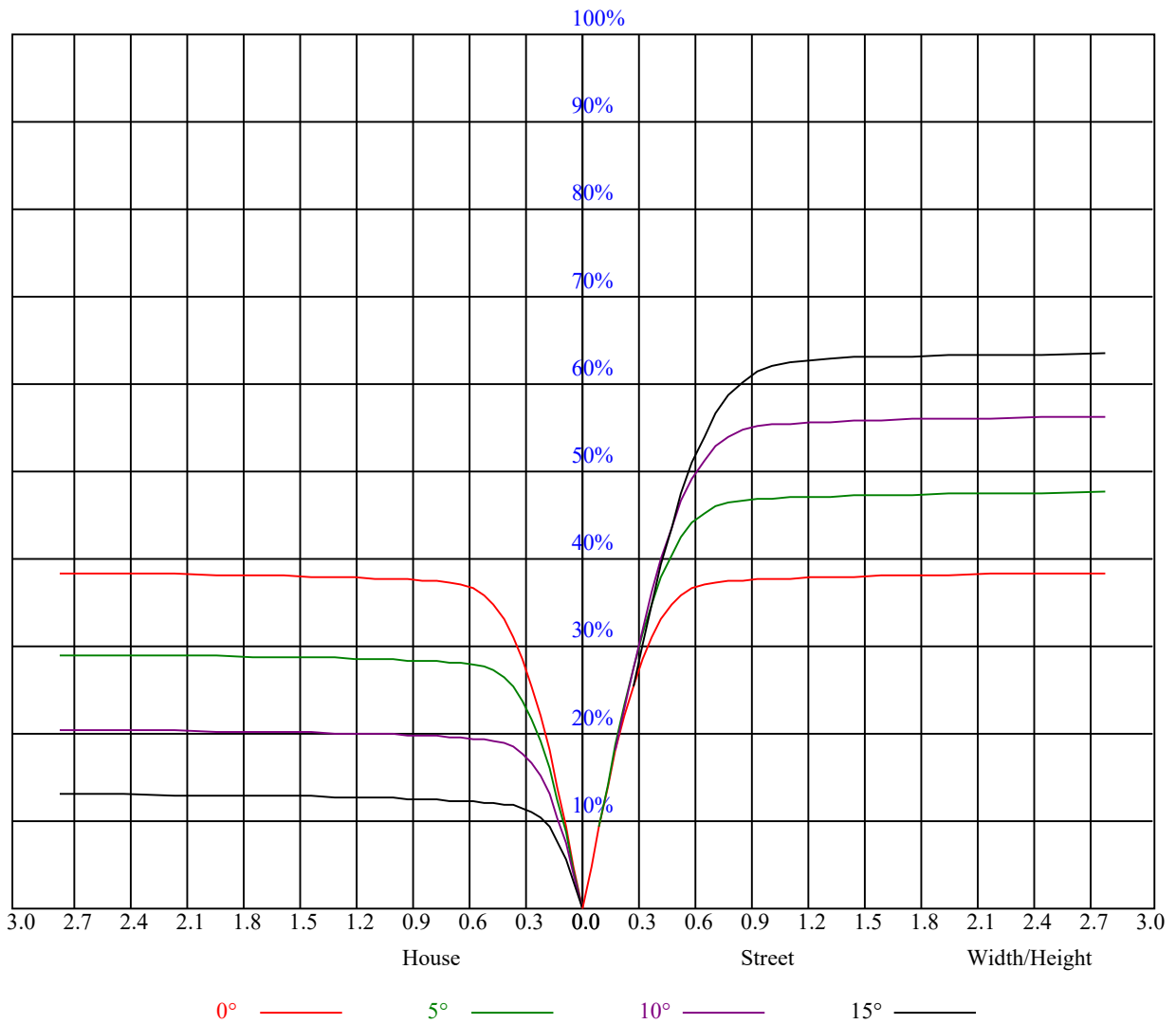
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|------------|------------|------------|------------|------------|
| 1.15 | A | 2000 | 1000 | 500 | ≤ 300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | ≤ 300 | | | |
| 1.85 | 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 | 0.93 | 0.93 | 0.93 | 0.91 | 0.91 | 0.91 | 0.87 | 0.87 | 0.87 | 0.83 | 0.83 | 0.83 | 0.79 | 0.79 | 0.79 | 0.78 |
| 1 | 0.86 | 0.84 | 0.82 | 0.84 | 0.82 | 0.81 | 0.81 | 0.80 | 0.78 | 0.78 | 0.77 | 0.76 | 0.76 | 0.75 | 0.74 | 0.72 |
| 2 | 0.81 | 0.78 | 0.76 | 0.80 | 0.77 | 0.75 | 0.77 | 0.75 | 0.73 | 0.75 | 0.73 | 0.72 | 0.73 | 0.72 | 0.70 | 0.69 |
| 3 | 0.77 | 0.74 | 0.71 | 0.76 | 0.73 | 0.71 | 0.74 | 0.72 | 0.69 | 0.72 | 0.70 | 0.68 | 0.71 | 0.69 | 0.67 | 0.66 |
| 4 | 0.74 | 0.70 | 0.67 | 0.73 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.70 | 0.67 | 0.65 | 0.68 | 0.66 | 0.65 | 0.63 |
| 5 | 0.70 | 0.67 | 0.64 | 0.70 | 0.66 | 0.64 | 0.68 | 0.65 | 0.63 | 0.67 | 0.65 | 0.63 | 0.66 | 0.64 | 0.62 | 0.61 |
| 6 | 0.68 | 0.64 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.60 | 0.65 | 0.62 | 0.60 | 0.64 | 0.62 | 0.60 | 0.59 |
| 7 | 0.65 | 0.61 | 0.59 | 0.64 | 0.61 | 0.58 | 0.64 | 0.60 | 0.58 | 0.63 | 0.60 | 0.58 | 0.62 | 0.59 | 0.58 | 0.57 |
| 8 | 0.63 | 0.59 | 0.56 | 0.62 | 0.59 | 0.56 | 0.61 | 0.58 | 0.56 | 0.61 | 0.58 | 0.56 | 0.60 | 0.57 | 0.56 | 0.55 |
| 9 | 0.60 | 0.57 | 0.54 | 0.60 | 0.57 | 0.54 | 0.59 | 0.56 | 0.54 | 0.59 | 0.56 | 0.54 | 0.58 | 0.56 | 0.54 | 0.53 |
| 10 | 0.58 | 0.55 | 0.52 | 0.58 | 0.55 | 0.52 | 0.57 | 0.54 | 0.52 | 0.57 | 0.54 | 0.52 | 0.56 | 0.54 | 0.52 | 0.51 |



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 | 1268.44 | 1214.14 | 1087.93 | 883.57 | 620.18 | 335.03 | 99.72 | 21.25 | 12.85 |
| 45.0 | 1264.26 | 1261.94 | 1196.97 | 1053.12 | 834.10 | 560.32 | 278.65 | 50.35 | 19.03 |
| 90.0 | 1278.64 | 1253.12 | 1139.90 | 896.28 | 759.25 | 484.31 | 183.39 | 34.71 | 14.66 |
| 135.0 | 1277.25 | 1262.40 | 1175.63 | 1024.35 | 816.93 | 522.73 | 248.49 | 51.65 | 19.49 |
| 180.0 | 1268.44 | 1249.87 | 1170.06 | 1035.95 | 795.12 | 549.18 | 277.72 | 53.18 | 17.87 |
| 225.0 | 1264.26 | 1205.79 | 1072.15 | 883.33 | 630.81 | 330.21 | 85.15 | 19.26 | 12.16 |
| 270.0 | 1278.64 | 1248.48 | 1138.97 | 954.28 | 724.12 | 451.27 | 262.41 | 25.15 | 13.18 |
| 315.0 | 1277.25 | 1233.17 | 1081.89 | 889.23 | 651.97 | 316.24 | 91.18 | 20.56 | 11.97 |
| 360.0 | 1268.44 | 1214.14 | 1087.93 | 883.57 | 620.18 | 335.03 | 99.72 | 21.25 | 12.85 |
| C/ γ (°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 9.98 | 8.12 | 6.68 | 5.34 | 4.36 | 3.76 | 3.43 | 2.92 | 2.41 |
| 45.0 | 11.88 | 9.56 | 7.52 | 6.26 | 5.10 | 4.13 | 3.57 | 3.16 | 2.88 |
| 90.0 | 10.49 | 8.72 | 6.87 | 5.71 | 4.64 | 3.85 | 3.29 | 2.97 | 2.60 |
| 135.0 | 11.46 | 9.37 | 7.75 | 6.22 | 5.01 | 4.08 | 3.57 | 3.06 | 2.60 |
| 180.0 | 12.02 | 10.07 | 8.82 | 7.75 | 6.64 | 5.61 | 5.29 | 5.06 | 4.13 |
| 225.0 | 10.02 | 8.82 | 7.61 | 6.64 | 5.80 | 5.34 | 5.20 | 5.01 | 7.05 |
| 270.0 | 10.30 | 8.68 | 7.66 | 6.59 | 5.85 | 5.24 | 5.01 | 4.78 | 4.04 |
| 315.0 | 9.47 | 8.17 | 7.29 | 6.36 | 5.43 | 5.06 | 4.97 | 4.55 | 3.62 |
| 360.0 | 9.98 | 8.12 | 6.68 | 5.34 | 4.36 | 3.76 | 3.43 | 2.92 | 2.41 |
| C/ γ (°) | 90.0 | | | | | | | | |
| 0.0 | 2.18 | | | | | | | | |
| 45.0 | 2.51 | | | | | | | | |
| 90.0 | 2.41 | | | | | | | | |
| 135.0 | 2.27 | | | | | | | | |
| 180.0 | 3.02 | | | | | | | | |
| 225.0 | 4.04 | | | | | | | | |
| 270.0 | 2.92 | | | | | | | | |
| 315.0 | 2.92 | | | | | | | | |
| 360.0 | 2.18 | | | | | | | | |