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NATA

| | |
|-------------------------|---------------------|
| LumCAT: 1561-E | |
| Luminaire: 92.70.046.00 | |
| Report No: NATA0100 | Voltage(V): 36.1000 |
| Test No: GC2019022703 | Current(A): 0.4000 |
| LampCAT: CREE CXA1512 | Power (W): 14.4400 |
| Lamp flux(lm): 1852.4 | PF: 0.0000 |
| Number of Lamps: 1 | Ballast type: DC |
| Length(mm): 45 | Width(mm): 45 |
| Phm Type: C | Height(mm): 0 |

Photometric Results

Lumens(lm): 1565.88
Efficiency(%): 84.53%
Lumens(lm)/Power(W): 108.56
Central intensity(cd): 7178.484
Maximum intensity(cd): 7178.484
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=24.4
 [C90/270]Total=24.4
Field angle(10%Imax): [C0/180]Total=47.4
 [C90/270]Total=47.4
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.62%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.318%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 7178.484 | 1.717 | 1.717 | .093% | .110% |
| 1.0 | 7128.281 | 13.642 | 15.36 | .736% | .981% |
| 2.0 | 6977.039 | 26.702 | 42.062 | 1.441% | 2.686% |
| 3.0 | 6752.531 | 38.754 | 80.816 | 2.092% | 5.161% |
| 4.0 | 6495.609 | 49.689 | 130.504 | 2.682% | 8.334% |
| 5.0 | 6195.094 | 59.210 | 189.715 | 3.196% | 12.115% |
| 6.0 | 5859.281 | 67.163 | 256.878 | 3.626% | 16.405% |
| 7.0 | 5505.961 | 73.583 | 330.461 | 3.972% | 21.104% |
| 8.0 | 5147.016 | 78.553 | 409.014 | 4.241% | 26.120% |
| 9.0 | 4765.641 | 81.753 | 490.767 | 4.413% | 31.341% |
| 10.0 | 4374.141 | 83.294 | 574.061 | 4.497% | 36.661% |
| 11.0 | 4019.977 | 84.115 | 658.177 | 4.541% | 42.032% |
| 12.0 | 3659.063 | 83.426 | 741.602 | 4.504% | 47.360% |
| 13.0 | 3299.203 | 81.386 | 822.988 | 4.393% | 52.557% |
| 14.0 | 2966.766 | 78.706 | 901.695 | 4.249% | 57.584% |
| 15.0 | 2659.641 | 75.487 | 977.181 | 4.075% | 62.404% |
| 16.0 | 2351.039 | 71.064 | 1048.245 | 3.836% | 66.943% |
| 17.0 | 2057.625 | 65.971 | 1114.216 | 3.561% | 71.156% |
| 18.0 | 1781.227 | 60.361 | 1174.577 | 3.258% | 75.010% |
| 19.0 | 1543.008 | 55.089 | 1229.666 | 2.974% | 78.529% |
| 20.0 | 1323.752 | 49.649 | 1279.315 | 2.680% | 81.699% |
| 21.0 | 1150.446 | 45.211 | 1324.526 | 2.441% | 84.586% |
| 22.0 | 997.277 | 40.968 | 1365.494 | 2.212% | 87.203% |
| 23.0 | 836.445 | 35.840 | 1401.334 | 1.935% | 89.492% |
| 24.0 | 668.363 | 29.811 | 1431.145 | 1.609% | 91.395% |
| 25.0 | 517.683 | 23.992 | 1455.136 | 1.295% | 92.927% |
| 26.0 | 390.952 | 18.794 | 1473.93 | 1.015% | 94.128% |
| 27.0 | 276.553 | 13.768 | 1487.699 | .743% | 95.007% |
| 28.0 | 186.954 | 9.625 | 1497.323 | .520% | 95.622% |
| 29.0 | 104.182 | 5.539 | 1502.862 | .299% | 95.975% |
| 30.0 | 66.270 | 3.634 | 1506.496 | .196% | 96.207% |
| 31.0 | 48.227 | 2.724 | 1509.22 | .147% | 96.381% |
| 32.0 | 37.455 | 2.177 | 1511.396 | .117% | 96.520% |
| 33.0 | 30.621 | 1.829 | 1513.225 | .099% | 96.637% |
| 34.0 | 26.409 | 1.619 | 1514.845 | .087% | 96.741% |
| 35.0 | 23.646 | 1.487 | 1516.332 | .080% | 96.836% |
| 36.0 | 21.621 | 1.394 | 1517.726 | .075% | 96.925% |
| 37.0 | 20.004 | 1.320 | 1519.046 | .071% | 97.009% |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0 | 18.591 | 1.255 | 1520.301 | .068% | 97.089% |
| 39.0 | 17.339 | 1.197 | 1521.497 | .065% | 97.165% |
| 40.0 | 16.348 | 1.152 | 1522.65 | .062% | 97.239% |
| 41.0 | 15.448 | 1.111 | 1523.761 | .060% | 97.310% |
| 42.0 | 14.639 | 1.074 | 1524.835 | .058% | 97.379% |
| 43.0 | 13.908 | 1.040 | 1525.875 | .056% | 97.445% |
| 44.0 | 13.310 | 1.014 | 1526.889 | .055% | 97.510% |
| 45.0 | 12.769 | 0.990 | 1527.879 | .053% | 97.573% |
| 46.0 | 12.284 | 0.969 | 1528.848 | .052% | 97.635% |
| 47.0 | 11.813 | 0.947 | 1529.796 | .051% | 97.695% |
| 48.0 | 11.461 | 0.934 | 1530.73 | .050% | 97.755% |
| 49.0 | 11.102 | 0.919 | 1531.649 | .050% | 97.814% |
| 50.0 | 10.744 | 0.903 | 1532.551 | .049% | 97.871% |
| 51.0 | 10.470 | 0.892 | 1533.443 | .048% | 97.928% |
| 52.0 | 10.216 | 0.883 | 1534.326 | .048% | 97.985% |
| 53.0 | 9.977 | 0.874 | 1535.2 | .047% | 98.040% |
| 54.0 | 9.780 | 0.868 | 1536.068 | .047% | 98.096% |
| 55.0 | 9.598 | 0.862 | 1536.93 | .047% | 98.151% |
| 56.0 | 9.422 | 0.857 | 1537.787 | .046% | 98.206% |
| 57.0 | 9.253 | 0.851 | 1538.638 | .046% | 98.260% |
| 58.0 | 9.120 | 0.848 | 1539.486 | .046% | 98.314% |
| 59.0 | 8.972 | 0.843 | 1540.329 | .046% | 98.368% |
| 60.0 | 8.866 | 0.842 | 1541.171 | .045% | 98.422% |
| 61.0 | 8.761 | 0.840 | 1542.011 | .045% | 98.475% |
| 62.0 | 8.655 | 0.838 | 1542.849 | .045% | 98.529% |
| 63.0 | 8.571 | 0.837 | 1543.687 | .045% | 98.582% |
| 64.0 | 8.473 | 0.835 | 1544.522 | .045% | 98.636% |
| 65.0 | 8.402 | 0.835 | 1545.357 | .045% | 98.689% |
| 66.0 | 8.318 | 0.833 | 1546.19 | .045% | 98.742% |
| 67.0 | 8.262 | 0.834 | 1547.024 | .045% | 98.796% |
| 68.0 | 8.184 | 0.832 | 1547.856 | .045% | 98.849% |
| 69.0 | 8.121 | 0.831 | 1548.688 | .045% | 98.902% |
| 70.0 | 8.065 | 0.831 | 1549.519 | .045% | 98.955% |
| 71.0 | 8.037 | 0.833 | 1550.352 | .045% | 99.008% |
| 72.0 | 7.973 | 0.832 | 1551.184 | .045% | 99.061% |
| 73.0 | 7.924 | 0.831 | 1552.015 | .045% | 99.114% |
| 74.0 | 7.910 | 0.834 | 1552.849 | .045% | 99.168% |
| 75.0 | 7.938 | 0.841 | 1553.689 | .045% | 99.221% |

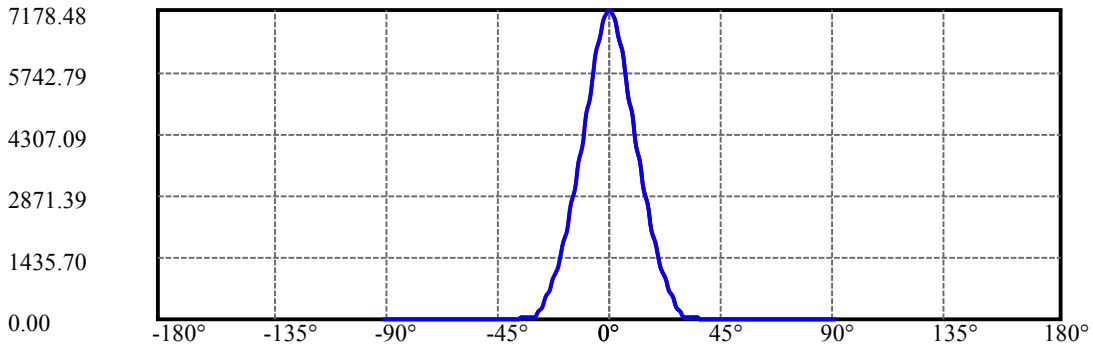
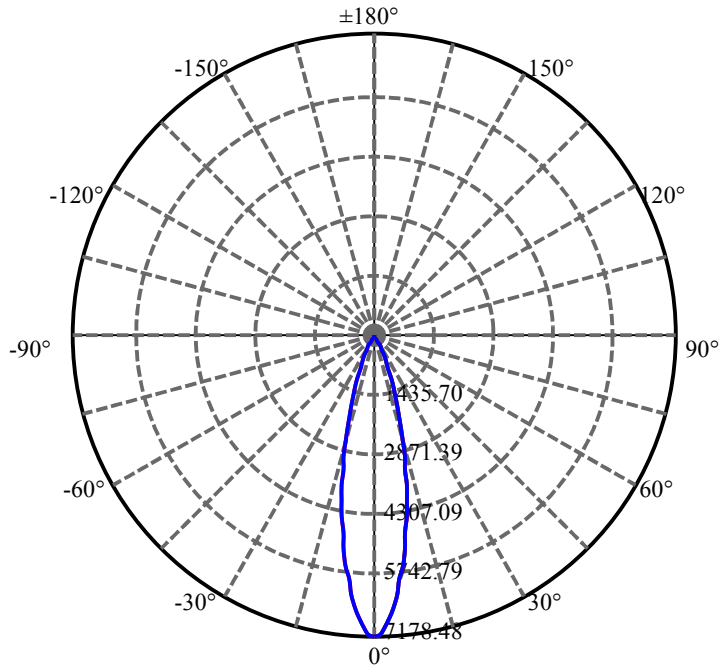
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0 | 8.016 | 0.853 | 1554.542 | .046% | 99.276% |
| 77.0 | 8.149 | 0.871 | 1555.413 | .047% | 99.331% |
| 78.0 | 8.318 | 0.892 | 1556.305 | .048% | 99.388% |
| 79.0 | 8.487 | 0.914 | 1557.219 | .049% | 99.447% |
| 80.0 | 8.655 | 0.935 | 1558.154 | .050% | 99.506% |
| 81.0 | 8.761 | 0.949 | 1559.103 | .051% | 99.567% |
| 82.0 | 8.775 | 0.953 | 1560.055 | .051% | 99.628% |
| 83.0 | 8.367 | 0.911 | 1560.966 | .049% | 99.686% |
| 84.0 | 7.699 | 0.840 | 1561.806 | .045% | 99.740% |
| 85.0 | 7.453 | 0.814 | 1562.62 | .044% | 99.792% |
| 86.0 | 7.270 | 0.795 | 1563.415 | .043% | 99.842% |
| 87.0 | 6.968 | 0.763 | 1564.178 | .041% | 99.891% |
| 88.0 | 6.300 | 0.690 | 1564.869 | .037% | 99.935% |
| 89.0 | 6.195 | 0.679 | 1565.548 | .037% | 99.979% |
| 90.0 | 6.131 | 0.336 | 1565.884 | .018% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 1506.50 | 81.33% | 96.21% |
| 0-40 | 1522.65 | 82.20% | 97.24% |
| 0-60 | 1541.17 | 83.20% | 98.42% |
| 0-90 | 1565.55 | 84.51% | 99.98% |
| 0-120 | 1565.55 | 84.51% | 99.98% |
| 0-180 | 1565.88 | 84.53% | 100.00% |
| 60-90 | 25.22 | 1.36% | 1.61% |
| 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% |
| 0-19.46 | 1252.71 | 67.63% | 80.00% |

ZONAL LUMEN SUMMARY

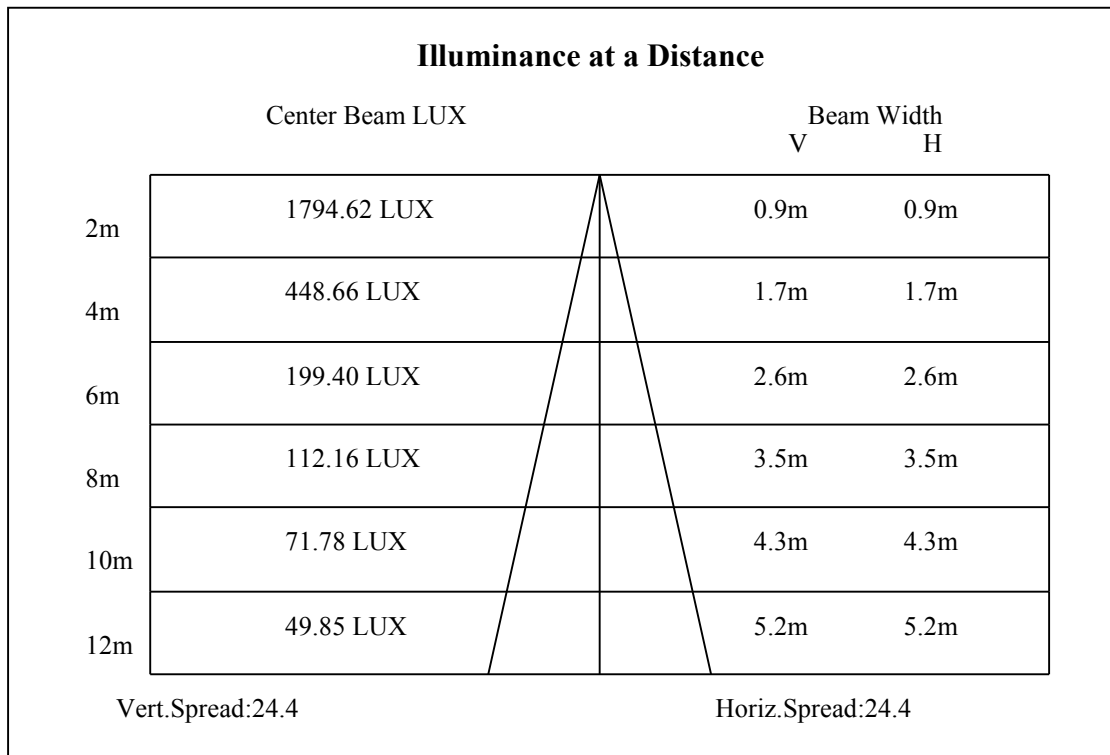
| | |
|---------|--------|
| 0-10 | 574.06 |
| 10-20 | 705.25 |
| 20-30 | 227.18 |
| 30-40 | 16.15 |
| 40-50 | 9.90 |
| 50-60 | 8.62 |
| 60-70 | 8.35 |
| 70-80 | 8.63 |
| 80-90 | 7.39 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

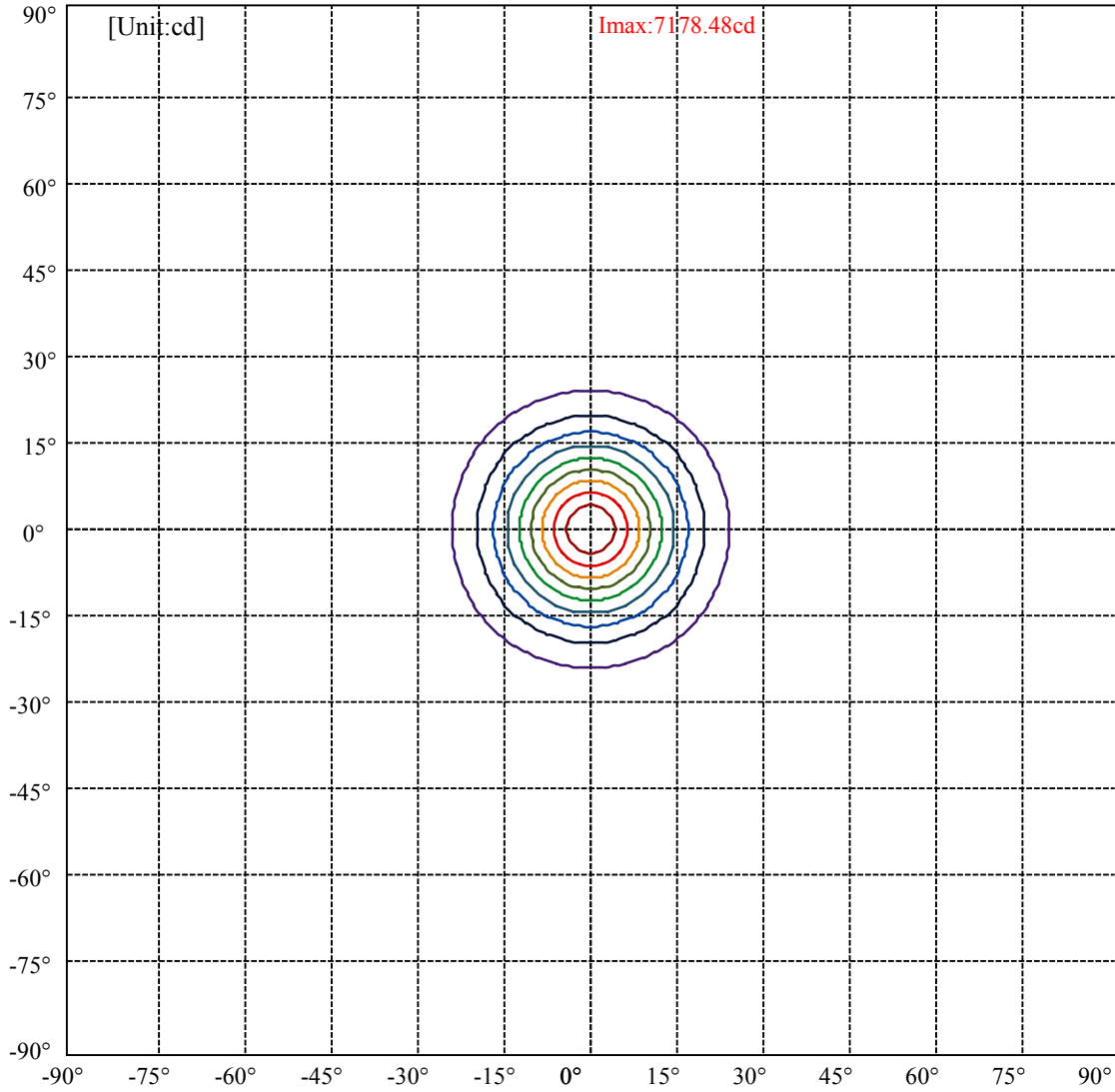


C0(Max): ———
C0/C180: ———
C90/C270: ———

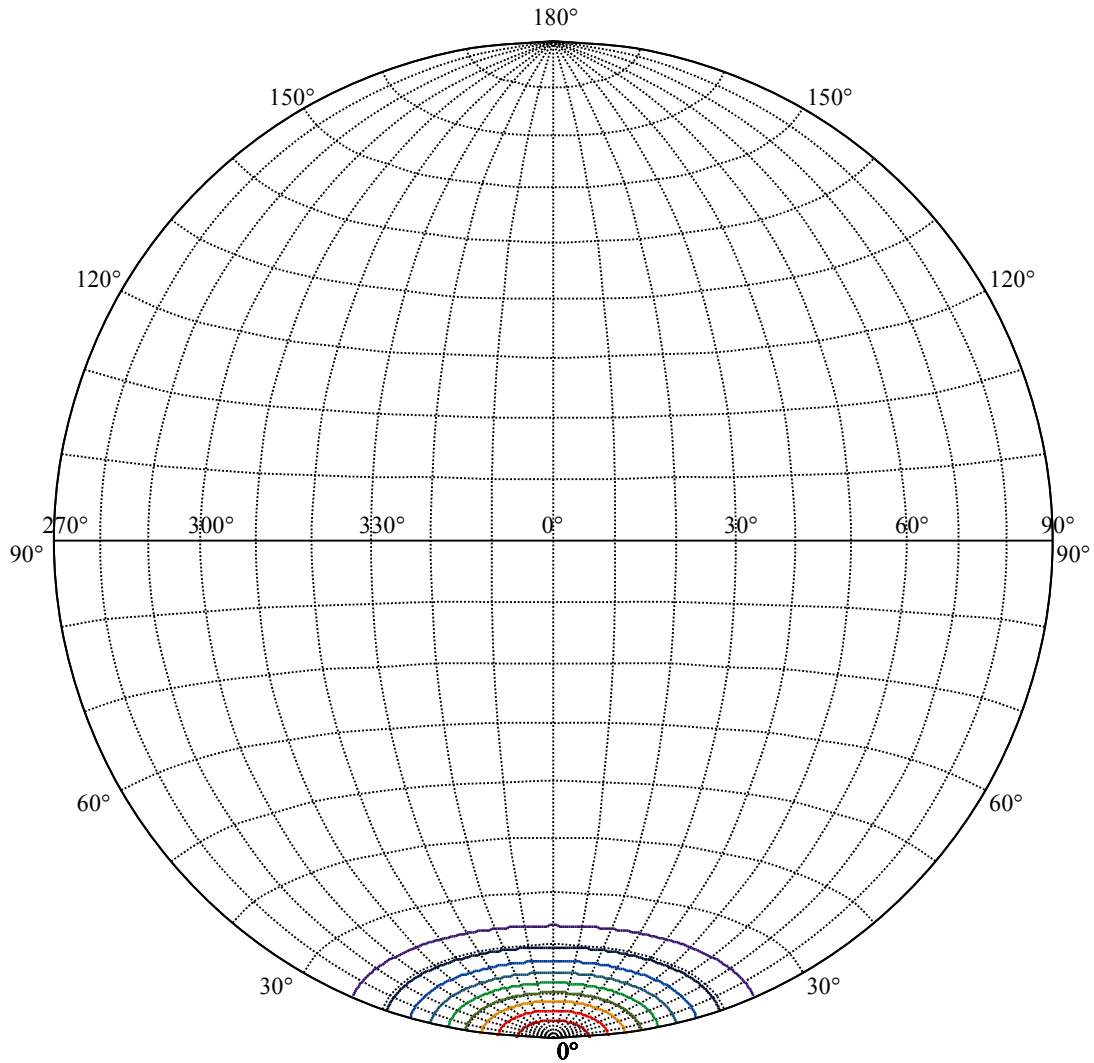
Field angle(10%Imax):C0/180Left:23.7 Right:23.7
:C90/270Left:23.7 Right:23.7

Beam Angle(50%Imax):C0/180Left:12.2 Right:12.2
:C90/270Left:12.2 Right:12.2





| | |
|-------------------|---|
| (10%Imax) 717.848 | — |
| (20%Imax) 1435.7 | — |
| (30%Imax) 2153.55 | — |
| (40%Imax) 2871.39 | — |
| (50%Imax) 3589.24 | — |
| (60%Imax) 4307.09 | — |
| (70%Imax) 5024.94 | — |
| (80%Imax) 5742.79 | — |
| (90%Imax) 6460.64 | — |



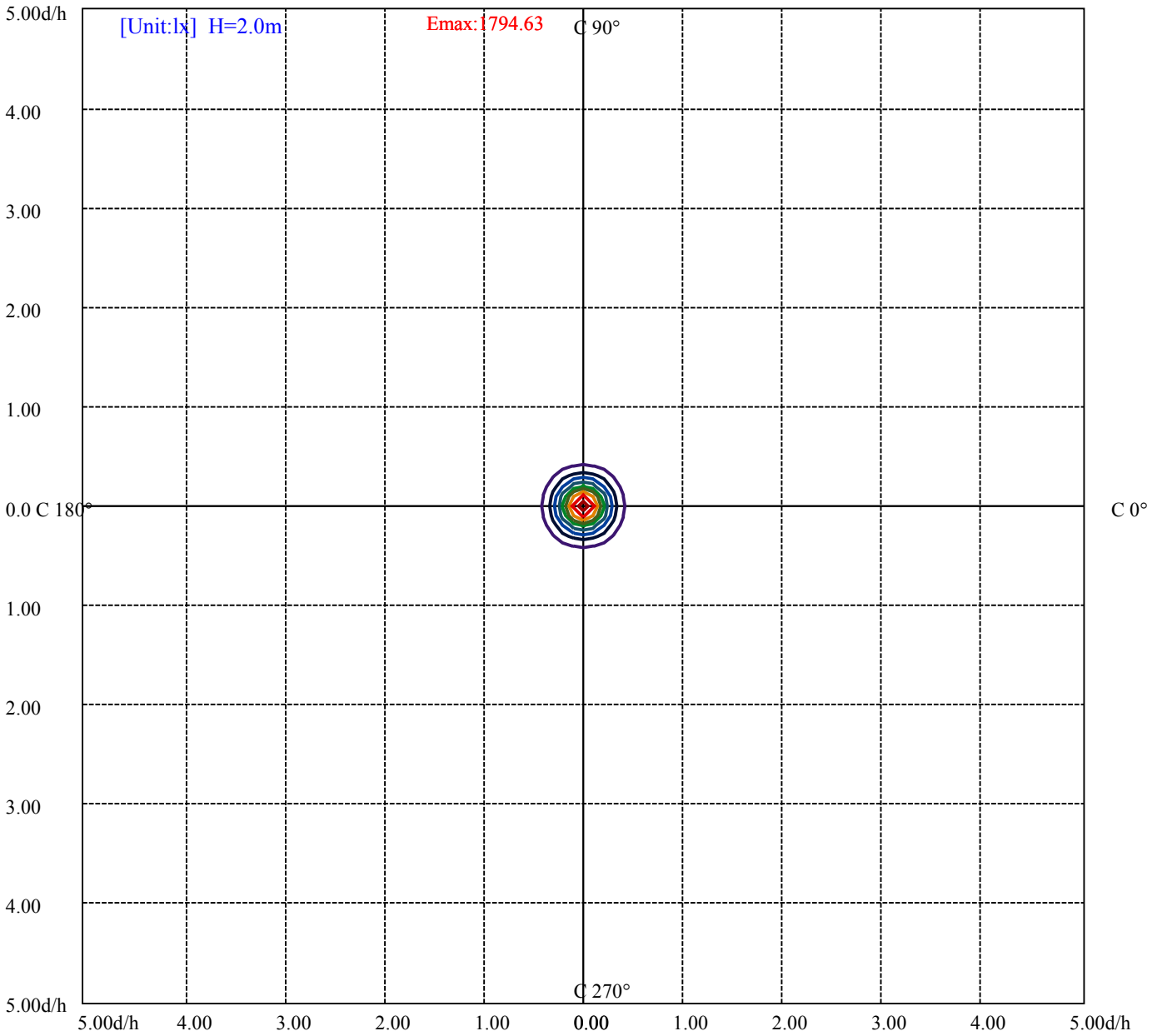
House

[Unit:cd]

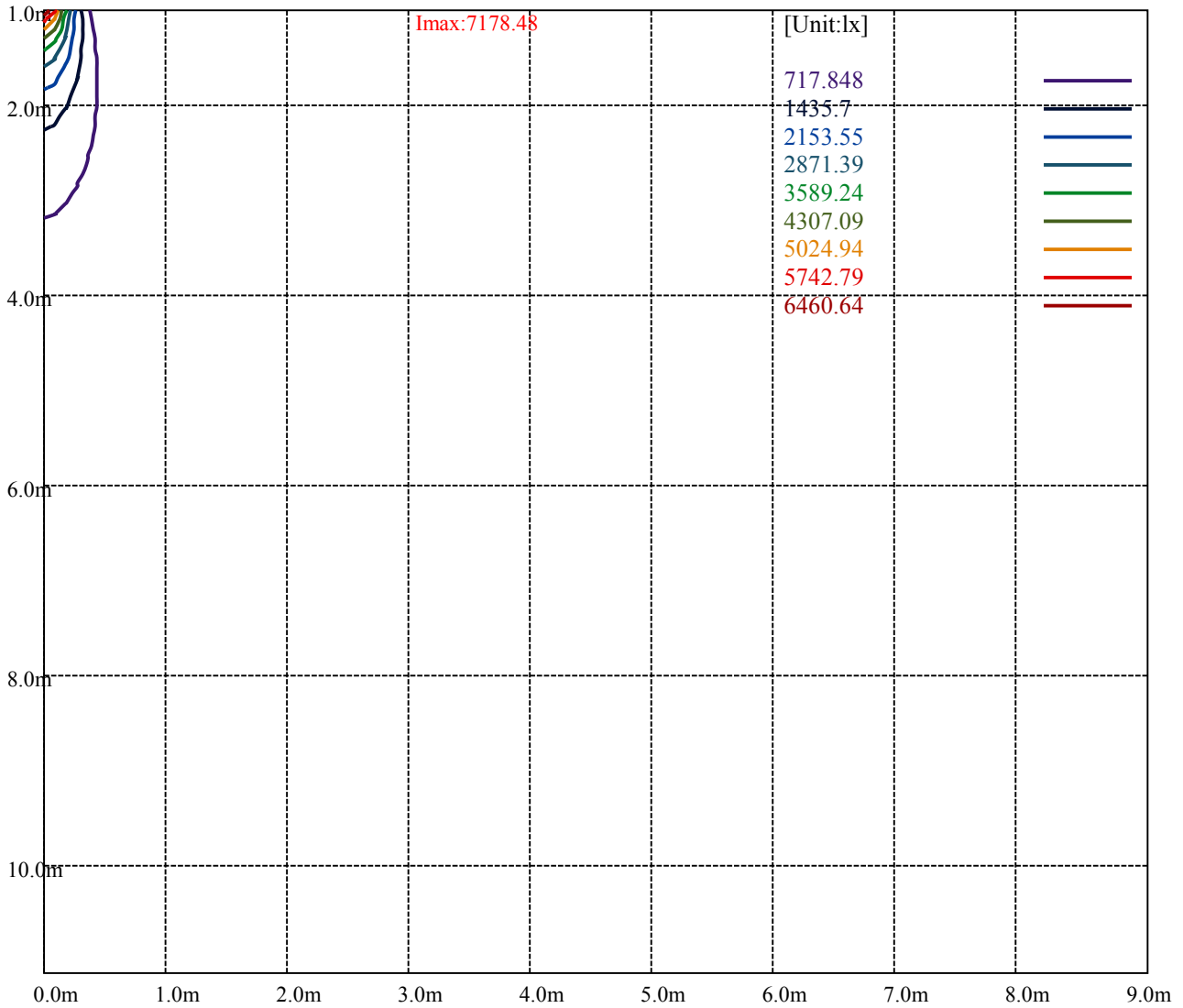
Road

I_{max}:7178.48

| | |
|--------------------------------|---|
| (10%I _{max}) 717.848 | — |
| (20%I _{max}) 1435.7 | — |
| (30%I _{max}) 2153.55 | — |
| (40%I _{max}) 2871.39 | — |
| (50%I _{max}) 3589.24 | — |
| (60%I _{max}) 4307.09 | — |
| (70%I _{max}) 5024.94 | — |
| (80%I _{max}) 5742.79 | — |
| (90%I _{max}) 6460.64 | — |



| | |
|--------------------|---|
| (10%Emax) 179.462 | — |
| (20%Emax) 358.925 | — |
| (30%Emax) 538.385 | — |
| (40%Emax) 717.8475 | — |
| (50%Emax) 897.31 | — |
| (60%Emax) 1076.772 | — |
| (70%Emax) 1256.233 | — |
| (80%Emax) 1435.695 | — |
| (90%Emax) 1615.157 | — |



Luminance Table

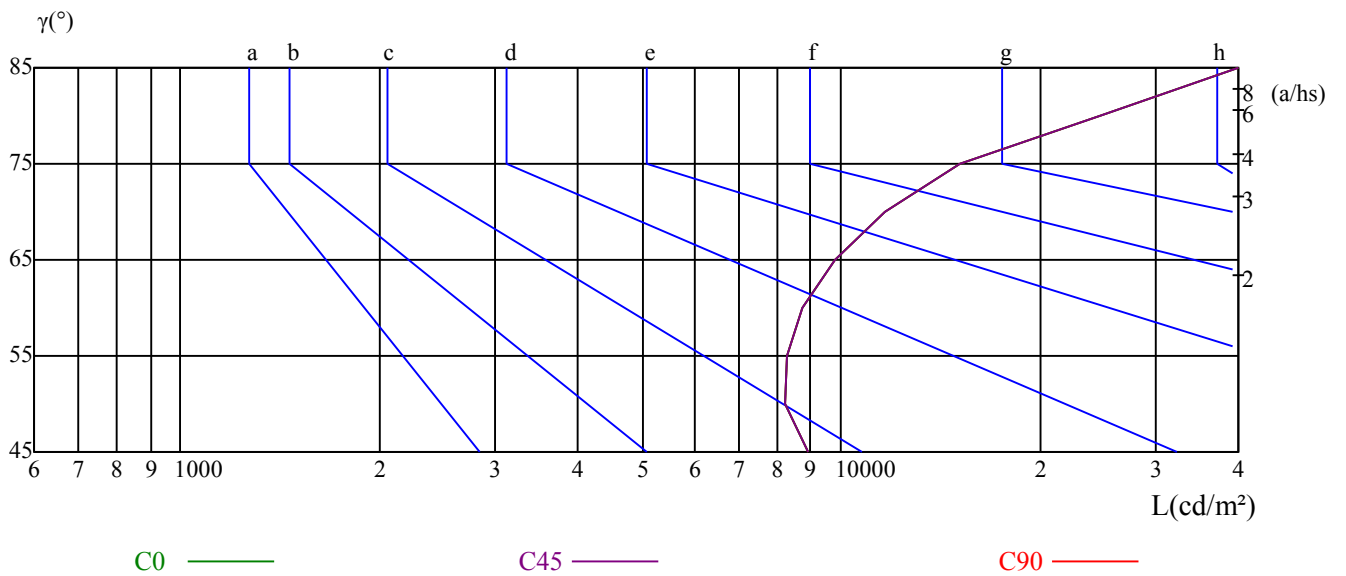
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|------|------|------|------|------|-------|-------|-------|-------|
| C0 | 8917 | 8254 | 8263 | 8757 | 9818 | 11644 | 15146 | 24615 | 42230 |
| C45 | 8917 | 8254 | 8263 | 8757 | 9818 | 11644 | 15146 | 24615 | 42230 |
| C90 | 8917 | 8254 | 8263 | 8757 | 9818 | 11644 | 15146 | 24615 | 42230 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 9818 | 9818 | 9818 | 15146 | 15146 | 15146 | 42230 | 42230 | 42230 |

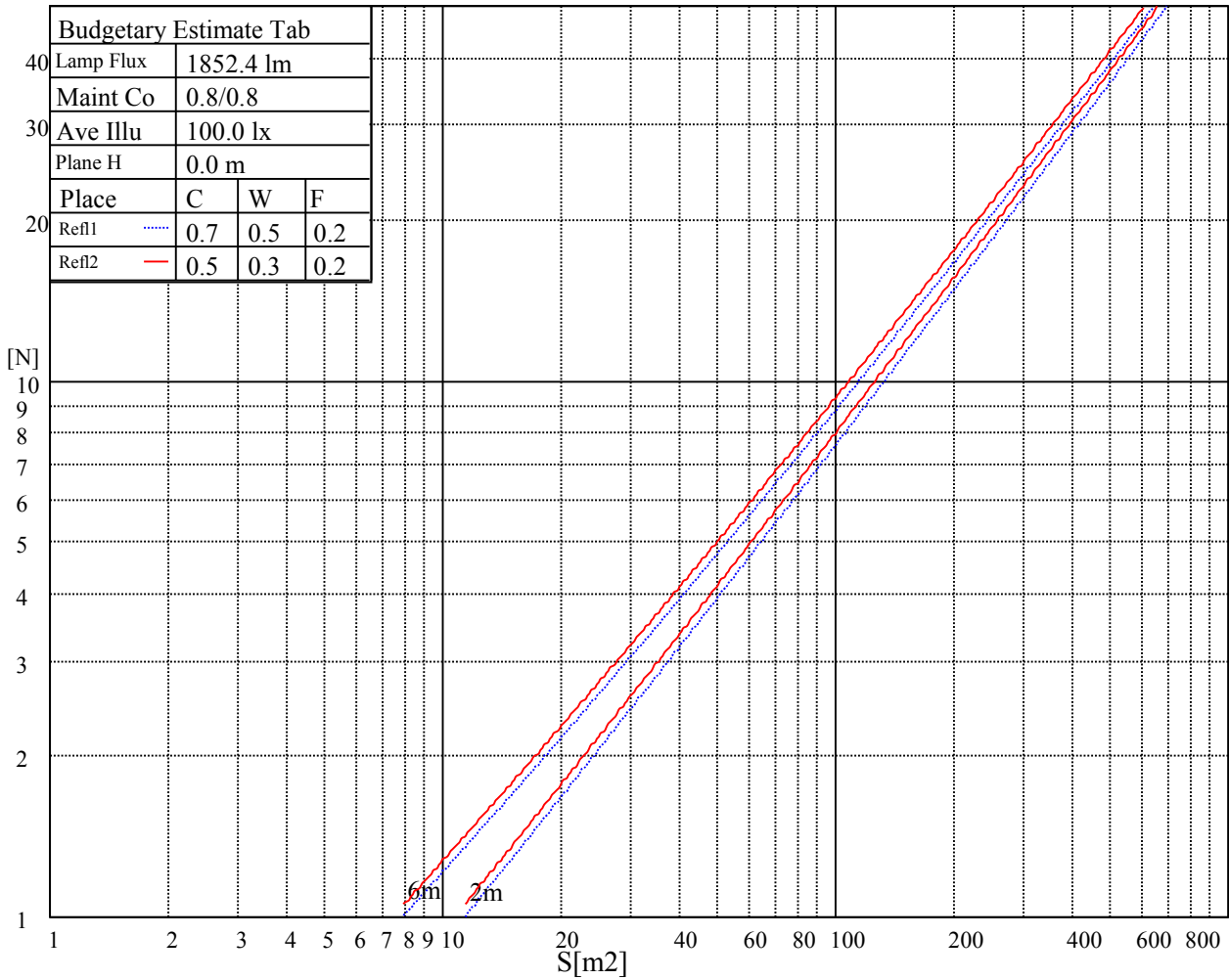
Glare Table

| 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 |

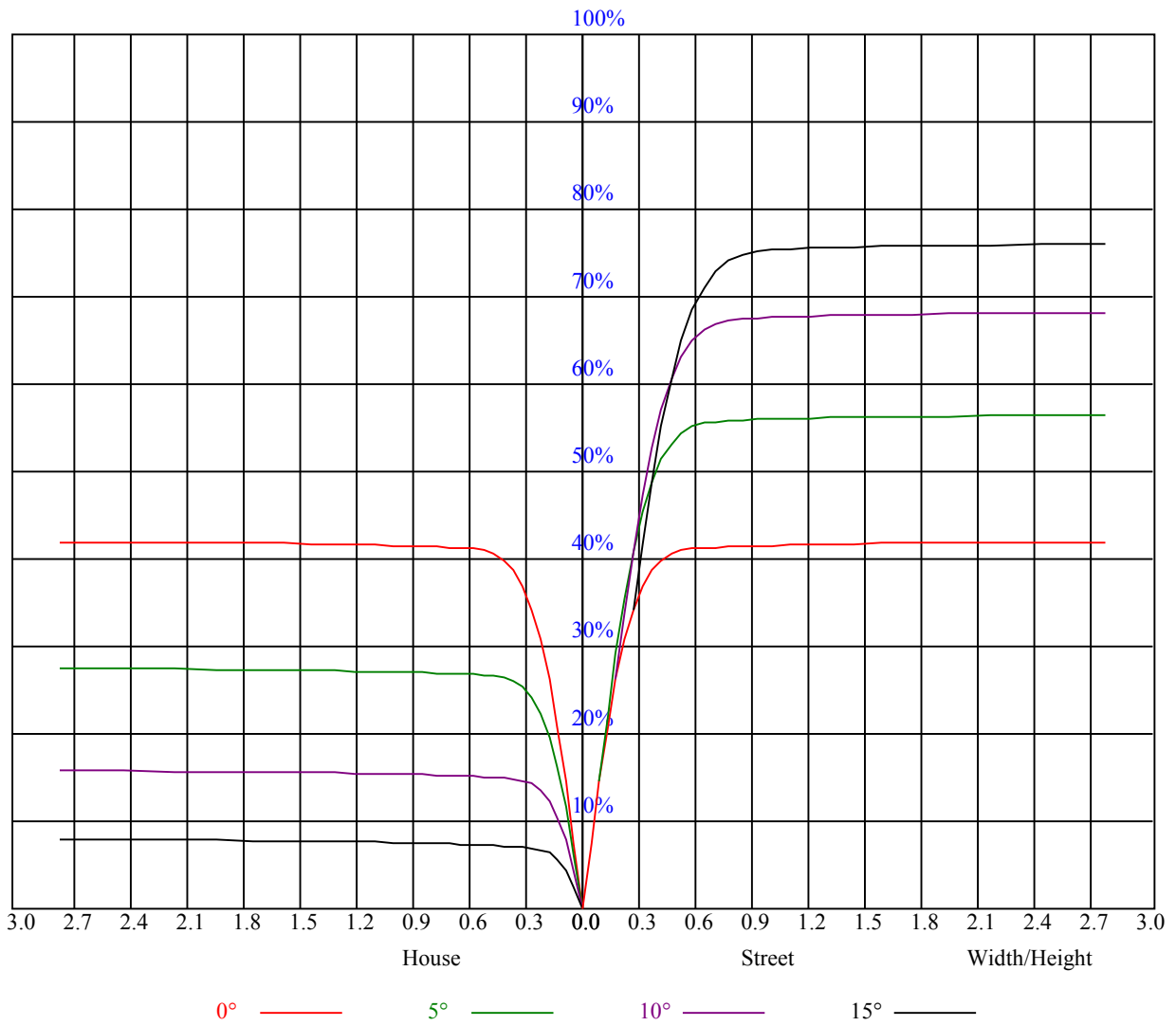
Luminance Limiting Curve



| Illumination assessment according UGR | | | | | | | | | | | |
|---|----------|------------------|-------|-------|-------|----------|----------------|-------|-------|-------|-------|
| Rf of Ceiling | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 | |
| Rf of Wall | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 | |
| Rf of Floor | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X | Y | | | | | | | | | | |
| 2H | 2H | 7.45 | 8.37 | 7.81 | 8.68 | 8.99 | 7.35 | 8.27 | 7.72 | 8.58 | 8.90 |
| | 3H | 10.48 | 11.29 | 10.87 | 11.63 | 12.00 | 10.27 | 11.08 | 10.65 | 11.41 | 11.78 |
| | 4H | 12.24 | 12.99 | 12.65 | 13.34 | 13.73 | 11.89 | 12.64 | 12.30 | 13.00 | 13.39 |
| | 6H | 14.63 | 15.32 | 15.05 | 15.70 | 16.10 | 13.82 | 14.50 | 14.24 | 14.88 | 15.28 |
| | 8H | 15.78 | 16.43 | 16.22 | 16.82 | 17.23 | 14.86 | 15.51 | 15.30 | 15.90 | 16.31 |
| | 12H | 17.33 | 17.94 | 17.76 | 18.33 | 18.76 | 16.52 | 17.14 | 16.96 | 17.52 | 17.95 |
| 4H | 2H | 8.26 | 9.01 | 8.67 | 9.36 | 9.75 | 8.19 | 8.94 | 8.60 | 9.29 | 9.68 |
| | 3H | 11.56 | 12.18 | 11.98 | 12.59 | 13.00 | 11.39 | 12.00 | 11.80 | 12.41 | 12.82 |
| | 4H | 13.50 | 14.05 | 13.94 | 14.48 | 14.93 | 13.20 | 13.75 | 13.64 | 14.17 | 14.62 |
| | 6H | 15.83 | 16.30 | 16.30 | 16.75 | 17.23 | 15.18 | 15.65 | 15.65 | 16.10 | 16.58 |
| | 8H | 17.15 | 17.59 | 17.63 | 18.04 | 18.51 | 16.37 | 16.81 | 16.84 | 17.26 | 17.73 |
| | 12H | 18.65 | 19.03 | 19.14 | 19.52 | 20.00 | 17.95 | 18.33 | 18.45 | 18.82 | 19.30 |
| 8H | 4H | 14.22 | 14.66 | 14.69 | 15.11 | 15.58 | 13.98 | 14.42 | 14.46 | 14.87 | 15.35 |
| | 6H | 16.87 | 17.22 | 17.39 | 17.72 | 18.21 | 16.31 | 16.65 | 16.82 | 17.16 | 17.64 |
| | 8H | 18.33 | 18.63 | 18.86 | 19.16 | 19.66 | 17.66 | 17.96 | 18.19 | 18.49 | 18.98 |
| | 12H | 19.94 | 20.20 | 20.46 | 20.70 | 21.28 | 19.35 | 19.61 | 19.87 | 20.11 | 20.69 |
| 12H | 4H | 14.43 | 14.80 | 14.92 | 15.29 | 15.77 | 14.25 | 14.63 | 14.75 | 15.12 | 15.60 |
| | 6H | 17.38 | 17.48 | 17.71 | 17.95 | 18.50 | 16.89 | 16.99 | 17.22 | 17.47 | 18.02 |
| | 8H | 18.73 | 18.99 | 19.26 | 19.49 | 20.08 | 18.15 | 18.41 | 18.67 | 18.91 | 19.49 |
| Variation with the observer position at spacings: | | | | | | | | | | | |
| S = 1.0H | 0.3/-1.3 | | | | | 0.3/-1.3 | | | | | |
| S = 1.5H | 0.2/-1.4 | | | | | 0.2/-1.4 | | | | | |
| S = 2.0H | 0.1/-1.1 | | | | | 0.1/-1.1 | | | | | |
| Standard tables: | BKBF | | | | | BKBF | | | | | |
| Uncorrected UGR | 1.3 | | | | | 1.3 | | | | | |



| 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 | 1.01 | 1.01 | 1.01 | 0.98 | 0.98 | 0.98 | 0.94 | 0.94 | 0.94 | 0.90 | 0.90 | 0.90 | 0.86 | 0.86 | 0.86 | 0.85 |
| 1 | 0.95 | 0.93 | 0.92 | 0.93 | 0.92 | 0.90 | 0.90 | 0.89 | 0.88 | 0.87 | 0.86 | 0.85 | 0.84 | 0.83 | 0.83 | 0.81 |
| 2 | 0.91 | 0.88 | 0.86 | 0.89 | 0.87 | 0.85 | 0.87 | 0.85 | 0.83 | 0.84 | 0.83 | 0.81 | 0.82 | 0.81 | 0.80 | 0.78 |
| 3 | 0.87 | 0.84 | 0.81 | 0.86 | 0.83 | 0.81 | 0.84 | 0.81 | 0.79 | 0.82 | 0.80 | 0.78 | 0.80 | 0.78 | 0.77 | 0.76 |
| 4 | 0.83 | 0.80 | 0.78 | 0.83 | 0.79 | 0.77 | 0.81 | 0.78 | 0.76 | 0.79 | 0.77 | 0.75 | 0.78 | 0.76 | 0.75 | 0.74 |
| 5 | 0.81 | 0.77 | 0.74 | 0.80 | 0.77 | 0.74 | 0.78 | 0.76 | 0.74 | 0.77 | 0.75 | 0.73 | 0.76 | 0.74 | 0.72 | 0.71 |
| 6 | 0.78 | 0.74 | 0.72 | 0.77 | 0.74 | 0.72 | 0.76 | 0.73 | 0.71 | 0.75 | 0.73 | 0.71 | 0.74 | 0.72 | 0.70 | 0.69 |
| 7 | 0.75 | 0.72 | 0.70 | 0.75 | 0.72 | 0.69 | 0.74 | 0.71 | 0.69 | 0.73 | 0.71 | 0.69 | 0.72 | 0.70 | 0.68 | 0.68 |
| 8 | 0.73 | 0.70 | 0.67 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.71 | 0.69 | 0.67 | 0.71 | 0.68 | 0.67 | 0.66 |
| 9 | 0.71 | 0.68 | 0.66 | 0.71 | 0.68 | 0.65 | 0.70 | 0.67 | 0.65 | 0.70 | 0.67 | 0.65 | 0.69 | 0.67 | 0.65 | 0.64 |
| 10 | 0.69 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.68 | 0.65 | 0.63 | 0.67 | 0.65 | 0.63 | 0.63 |



NATA 1561-E

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 | 7174.69 | 7148.25 | 7004.81 | 6833.25 | 6517.69 | 6243.19 | 5943.38 | 5541.19 | 5203.69 |
| 45.0 | 7182.00 | 7183.13 | 7047.00 | 6867.56 | 6673.50 | 6314.63 | 6015.94 | 5734.13 | 5313.38 |
| 90.0 | 7184.81 | 7131.38 | 6993.56 | 6759.56 | 6527.25 | 6257.81 | 5880.94 | 5555.25 | 5202.56 |
| 135.0 | 7172.44 | 7169.06 | 7054.88 | 6879.94 | 6636.38 | 6366.38 | 6080.63 | 5742.56 | 5420.81 |
| 180.0 | 7174.69 | 7102.69 | 6946.88 | 6664.50 | 6447.94 | 6170.06 | 5798.81 | 5477.63 | 5136.75 |
| 225.0 | 7182.00 | 7090.88 | 6902.44 | 6647.06 | 6374.81 | 6026.63 | 5712.19 | 5324.06 | 4933.69 |
| 270.0 | 7184.81 | 7130.25 | 6972.75 | 6763.50 | 6468.19 | 6170.06 | 5798.81 | 5410.69 | 5057.44 |
| 315.0 | 7172.44 | 7070.63 | 6894.00 | 6604.88 | 6319.13 | 6012.00 | 5643.56 | 5262.19 | 4907.81 |
| 360.0 | 7174.69 | 7148.25 | 7004.81 | 6833.25 | 6517.69 | 6243.19 | 5943.38 | 5541.19 | 5203.69 |

| C/γ(°) | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0 | 4861.13 | 4428.56 | 4091.63 | 3764.25 | 3369.94 | 3069.00 | 2778.19 | 2442.38 | 2143.13 |
| 45.0 | 4912.88 | 4602.38 | 4147.88 | 3798.56 | 3458.81 | 3044.25 | 2747.25 | 2414.25 | 2107.13 |
| 90.0 | 4802.06 | 4386.38 | 4031.44 | 3625.31 | 3250.13 | 2925.56 | 2584.69 | 2292.19 | 1968.19 |
| 135.0 | 5041.13 | 4645.69 | 4291.88 | 3931.31 | 3513.38 | 3177.00 | 2864.81 | 2482.31 | 2192.63 |
| 180.0 | 4745.25 | 4346.44 | 4013.44 | 3634.88 | 3281.06 | 2969.44 | 2630.25 | 2359.69 | 2049.19 |
| 225.0 | 4583.81 | 4189.50 | 3855.38 | 3481.88 | 3170.81 | 2816.44 | 2534.06 | 2259.00 | 1998.56 |
| 270.0 | 4661.44 | 4261.50 | 3923.44 | 3596.06 | 3204.56 | 2909.81 | 2624.06 | 2313.56 | 2017.69 |
| 315.0 | 4517.44 | 4132.69 | 3804.75 | 3440.25 | 3144.94 | 2822.63 | 2513.81 | 2244.94 | 1984.50 |
| 360.0 | 4861.13 | 4428.56 | 4091.63 | 3764.25 | 3369.94 | 3069.00 | 2778.19 | 2442.38 | 2143.13 |

| C/γ(°) | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 |
|--------|---------|---------|---------|---------|---------|--------|--------|--------|--------|
| 0.0 | 1887.75 | 1629.56 | 1422.56 | 1260.00 | 1075.50 | 909.56 | 727.88 | 559.13 | 424.13 |
| 45.0 | 1843.88 | 1600.31 | 1359.00 | 1198.13 | 1045.69 | 869.63 | 700.31 | 560.81 | 418.50 |
| 90.0 | 1681.88 | 1451.25 | 1106.27 | 1032.58 | 907.43 | 766.18 | 580.11 | 471.32 | 358.71 |
| 135.0 | 1918.69 | 1631.81 | 1397.25 | 1225.69 | 1050.75 | 873.00 | 721.69 | 561.94 | 435.38 |
| 180.0 | 1756.13 | 1541.81 | 1359.00 | 1105.26 | 983.70 | 821.36 | 647.44 | 493.59 | 368.66 |
| 225.0 | 1694.81 | 1486.13 | 1314.56 | 1102.89 | 967.56 | 812.81 | 642.99 | 488.42 | 366.08 |
| 270.0 | 1773.00 | 1517.63 | 1314.00 | 1159.31 | 990.56 | 839.81 | 676.13 | 525.38 | 396.56 |
| 315.0 | 1693.69 | 1485.56 | 1317.38 | 1119.71 | 957.04 | 799.20 | 650.36 | 480.88 | 359.61 |
| 360.0 | 1887.75 | 1629.56 | 1422.56 | 1260.00 | 1075.50 | 909.56 | 727.88 | 559.13 | 424.13 |

| C/γ(°) | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 |
|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| 0.0 | 317.81 | 176.29 | 111.21 | 72.62 | 52.71 | 41.23 | 33.75 | 28.35 | 25.03 |
| 45.0 | 293.63 | 232.82 | 113.96 | 69.36 | 47.19 | 36.28 | 29.53 | 25.26 | 22.56 |
| 90.0 | 249.64 | 160.88 | 98.89 | 58.50 | 43.03 | 33.69 | 26.72 | 23.79 | 21.49 |
| 135.0 | 310.50 | 284.63 | 123.41 | 74.98 | 47.48 | 37.74 | 30.26 | 25.26 | 22.89 |
| 180.0 | 260.55 | 149.79 | 92.70 | 61.31 | 47.08 | 36.00 | 29.81 | 25.88 | 23.51 |
| 225.0 | 244.91 | 159.02 | 93.09 | 59.01 | 47.03 | 36.51 | 29.87 | 26.21 | 23.91 |
| 270.0 | 285.19 | 181.01 | 108.28 | 70.54 | 51.81 | 40.16 | 33.19 | 29.19 | 25.09 |
| 315.0 | 250.20 | 151.20 | 91.91 | 63.84 | 49.50 | 38.03 | 31.84 | 27.34 | 24.69 |
| 360.0 | 317.81 | 176.29 | 111.21 | 72.62 | 52.71 | 41.23 | 33.75 | 28.35 | 25.03 |

| C/γ(°) | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 22.84 | 20.87 | 19.46 | 18.06 | 16.82 | 15.98 | 15.02 | 14.23 | 13.61 |
| 45.0 | 20.64 | 19.13 | 17.55 | 16.54 | 15.64 | 14.68 | 13.95 | 13.28 | 12.71 |
| 90.0 | 19.63 | 18.28 | 17.16 | 15.98 | 15.13 | 14.40 | 13.67 | 12.99 | 12.49 |
| 135.0 | 21.09 | 19.63 | 18.17 | 17.10 | 16.14 | 15.19 | 14.40 | 13.73 | 13.05 |
| 180.0 | 21.83 | 20.14 | 18.90 | 17.66 | 16.54 | 15.69 | 14.91 | 14.06 | 13.44 |
| 225.0 | 21.54 | 19.97 | 18.68 | 17.27 | 16.37 | 15.53 | 14.63 | 13.89 | 13.39 |
| 270.0 | 22.95 | 21.43 | 19.52 | 18.17 | 17.33 | 16.20 | 15.36 | 14.74 | 14.01 |
| 315.0 | 22.44 | 20.59 | 19.29 | 17.94 | 16.82 | 15.92 | 15.19 | 14.34 | 13.78 |
| 360.0 | 22.84 | 20.87 | 19.46 | 18.06 | 16.82 | 15.98 | 15.02 | 14.23 | 13.61 |

NATA 1561-E

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 | 12.99 | 12.43 | 11.98 | 11.59 | 11.14 | 10.80 | 10.52 | 10.24 | 9.96 |
| 45.0 | 12.15 | 11.76 | 11.31 | 11.03 | 10.69 | 10.35 | 10.13 | 9.90 | 9.62 |
| 90.0 | 12.04 | 11.59 | 11.19 | 10.86 | 10.58 | 10.24 | 9.96 | 9.73 | 9.51 |
| 135.0 | 12.49 | 12.04 | 11.53 | 11.19 | 10.80 | 10.41 | 10.18 | 9.90 | 9.68 |
| 180.0 | 12.94 | 12.32 | 11.87 | 11.48 | 11.08 | 10.69 | 10.46 | 10.13 | 9.90 |
| 225.0 | 12.83 | 12.38 | 11.93 | 11.53 | 11.25 | 10.91 | 10.58 | 10.35 | 10.18 |
| 270.0 | 13.50 | 13.05 | 12.49 | 12.15 | 11.81 | 11.42 | 11.14 | 10.91 | 10.63 |
| 315.0 | 13.22 | 12.71 | 12.21 | 11.87 | 11.48 | 11.14 | 10.80 | 10.58 | 10.35 |
| 360.0 | 12.99 | 12.43 | 11.98 | 11.59 | 11.14 | 10.80 | 10.52 | 10.24 | 9.96 |
| C/γ(°) | 54.0 | 55.0 | 56.0 | 57.0 | 58.0 | 59.0 | 60.0 | 61.0 | 62.0 |
| 0.0 | 9.79 | 9.56 | 9.39 | 9.23 | 9.06 | 8.89 | 8.78 | 8.61 | 8.49 |
| 45.0 | 9.45 | 9.34 | 9.11 | 8.94 | 8.83 | 8.66 | 8.61 | 8.44 | 8.38 |
| 90.0 | 9.34 | 9.17 | 9.00 | 8.83 | 8.72 | 8.61 | 8.49 | 8.44 | 8.33 |
| 135.0 | 9.45 | 9.28 | 9.06 | 8.89 | 8.83 | 8.61 | 8.49 | 8.38 | 8.27 |
| 180.0 | 9.68 | 9.45 | 9.34 | 9.11 | 8.94 | 8.83 | 8.72 | 8.61 | 8.49 |
| 225.0 | 9.96 | 9.79 | 9.68 | 9.51 | 9.34 | 9.23 | 9.11 | 9.06 | 8.94 |
| 270.0 | 10.46 | 10.29 | 10.07 | 9.96 | 9.84 | 9.68 | 9.62 | 9.51 | 9.39 |
| 315.0 | 10.13 | 9.90 | 9.73 | 9.56 | 9.39 | 9.28 | 9.11 | 9.06 | 8.94 |
| 360.0 | 9.79 | 9.56 | 9.39 | 9.23 | 9.06 | 8.89 | 8.78 | 8.61 | 8.49 |
| C/γ(°) | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | 69.0 | 70.0 | 71.0 |
| 0.0 | 8.44 | 8.33 | 8.27 | 8.21 | 8.10 | 7.99 | 7.93 | 7.88 | 7.88 |
| 45.0 | 8.27 | 8.16 | 8.10 | 7.99 | 7.93 | 7.82 | 7.76 | 7.71 | 7.65 |
| 90.0 | 8.21 | 8.10 | 8.04 | 7.93 | 7.88 | 7.82 | 7.76 | 7.65 | 7.59 |
| 135.0 | 8.16 | 8.10 | 7.93 | 7.88 | 7.82 | 7.71 | 7.65 | 7.59 | 7.54 |
| 180.0 | 8.38 | 8.27 | 8.21 | 8.10 | 7.99 | 7.99 | 7.88 | 7.82 | 7.76 |
| 225.0 | 8.89 | 8.83 | 8.78 | 8.72 | 8.72 | 8.66 | 8.61 | 8.55 | 8.61 |
| 270.0 | 9.34 | 9.23 | 9.17 | 9.11 | 9.06 | 9.00 | 8.94 | 8.94 | 8.94 |
| 315.0 | 8.89 | 8.78 | 8.72 | 8.61 | 8.61 | 8.49 | 8.44 | 8.38 | 8.33 |
| 360.0 | 8.44 | 8.33 | 8.27 | 8.21 | 8.10 | 7.99 | 7.93 | 7.88 | 7.88 |
| C/γ(°) | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 | 80.0 |
| 0.0 | 7.82 | 7.76 | 7.71 | 7.65 | 7.59 | 7.54 | 7.48 | 7.48 | 7.76 |
| 45.0 | 7.59 | 7.48 | 7.43 | 7.37 | 7.26 | 7.26 | 7.20 | 7.14 | 7.03 |
| 90.0 | 7.48 | 7.43 | 7.31 | 7.26 | 7.14 | 7.09 | 7.03 | 6.98 | 6.98 |
| 135.0 | 7.48 | 7.43 | 7.37 | 7.26 | 7.26 | 7.14 | 7.09 | 7.03 | 6.98 |
| 180.0 | 7.71 | 7.65 | 7.59 | 7.59 | 7.54 | 7.48 | 7.48 | 7.43 | 7.48 |
| 225.0 | 8.55 | 8.55 | 8.61 | 8.61 | 8.66 | 8.83 | 9.17 | 9.39 | 9.73 |
| 270.0 | 8.89 | 8.89 | 9.06 | 9.62 | 10.24 | 10.86 | 11.48 | 12.21 | 12.77 |
| 315.0 | 8.27 | 8.21 | 8.21 | 8.16 | 8.44 | 9.00 | 9.62 | 10.24 | 10.52 |
| 360.0 | 7.82 | 7.76 | 7.71 | 7.65 | 7.59 | 7.54 | 7.48 | 7.48 | 7.76 |
| C/γ(°) | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 89.0 |
| 0.0 | 8.10 | 8.38 | 8.16 | 7.37 | 7.20 | 7.26 | 7.20 | 6.30 | 6.24 |
| 45.0 | 6.98 | 6.98 | 6.92 | 6.81 | 6.75 | 6.64 | 6.36 | 6.36 | 6.24 |
| 90.0 | 6.86 | 6.81 | 6.75 | 6.69 | 6.58 | 6.36 | 6.30 | 6.24 | 6.13 |
| 135.0 | 6.86 | 6.86 | 6.75 | 6.69 | 6.69 | 6.41 | 6.30 | 6.30 | 6.19 |
| 180.0 | 7.71 | 7.93 | 7.71 | 7.26 | 7.31 | 6.41 | 6.30 | 6.24 | 6.08 |
| 225.0 | 9.96 | 9.79 | 9.45 | 8.83 | 8.78 | 8.61 | 6.36 | 6.36 | 6.24 |
| 270.0 | 12.94 | 12.99 | 12.04 | 10.13 | 8.55 | 8.55 | 8.89 | 6.30 | 6.24 |
| 315.0 | 10.69 | 10.46 | 9.17 | 7.82 | 7.76 | 7.93 | 8.04 | 6.30 | 6.19 |
| 360.0 | 8.10 | 8.38 | 8.16 | 7.37 | 7.20 | 7.26 | 7.20 | 6.30 | 6.24 |

Intensity data(cd)

| | |
|----------------------------|------|
| C/ γ ($^{\circ}$) | 90.0 |
| 0.0 | 6.08 |
| 45.0 | 6.19 |
| 90.0 | 6.13 |
| 135.0 | 6.13 |
| 180.0 | 6.08 |
| 225.0 | 6.19 |
| 270.0 | 6.13 |
| 315.0 | 6.13 |
| 360.0 | 6.08 |