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## NT

Client:

LumCAT: 61-0309

Luminaire: 92.70.458.00

Report No: 20260714-B003

Ballast type:

Test No: 20241108-C006

Voltage(V): 36.900

LampCAT: CITIZEN CLU7A2 LES4.5

Current(A): 0.197

Lamp flux(lm): 686.5

Power (W): 7.270

Number of Lamps: 1

PF: 0.000

Length(mm): 35

Width(mm): 35

Phm Type: C

Height(mm): 17

## Photometric Results

Lumens(lm): 665.22, Efficiency(%): 96.90% , Luminous Efficacy(lm/W): 91.50

Central intensity(cd): 3460.933, Maximum intensity(cd): 3460.933

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.0

[C90/270]Total=23.0

Field angle(10%Imax): [C0/180]Total=39.4

[C90/270]Total=39.4

Maximum s/h(1/2): C0\_180=0.40 C90\_270=0.40

Maximum s/h(1/4): C0\_180=0.39 C90\_270=0.39

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 96.90%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 96.299%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 3460.933      | 0.000       | 0         | 0.00%       | 0.00%      |
| 1.0                | 3447.839      | 3.306       | 3.306     | 0.48%       | 0.50%      |
| 2.0                | 3406.361      | 9.838       | 13.144    | 1.43%       | 1.98%      |
| 3.0                | 3343.815      | 16.144      | 29.288    | 2.35%       | 4.40%      |
| 4.0                | 3245.717      | 22.057      | 51.345    | 3.21%       | 7.72%      |
| 5.0                | 3131.817      | 27.436      | 78.781    | 4.00%       | 11.84%     |
| 6.0                | 2969.344      | 32.063      | 110.844   | 4.67%       | 16.66%     |
| 7.0                | 2797.434      | 35.794      | 146.638   | 5.21%       | 22.04%     |
| 8.0                | 2597.141      | 38.608      | 185.246   | 5.62%       | 27.85%     |
| 9.0                | 2377.389      | 40.316      | 225.562   | 5.87%       | 33.91%     |
| 10.0               | 2144.616      | 40.922      | 266.485   | 5.96%       | 40.06%     |
| 11.0               | 1899.845      | 40.412      | 306.897   | 5.89%       | 46.13%     |
| 12.0               | 1576.735      | 38.004      | 344.901   | 5.54%       | 51.85%     |
| 13.0               | 1334.650      | 34.551      | 379.452   | 5.03%       | 57.04%     |
| 14.0               | 1198.058      | 32.418      | 411.87    | 4.72%       | 61.92%     |
| 15.0               | 1024.524      | 30.513      | 442.383   | 4.44%       | 66.50%     |
| 16.0               | 833.141       | 27.220      | 469.603   | 3.97%       | 70.59%     |
| 17.0               | 678.481       | 23.540      | 493.143   | 3.43%       | 74.13%     |
| 18.0               | 535.049       | 20.008      | 513.151   | 2.91%       | 77.14%     |
| 19.0               | 414.471       | 16.520      | 529.671   | 2.41%       | 79.62%     |
| 20.0               | 316.760       | 13.384      | 543.055   | 1.95%       | 81.64%     |
| 21.0               | 260.535       | 11.085      | 554.14    | 1.61%       | 83.30%     |
| 22.0               | 210.337       | 9.462       | 563.602   | 1.38%       | 84.72%     |
| 23.0               | 148.340       | 7.526       | 571.128   | 1.10%       | 85.86%     |
| 24.0               | 103.336       | 5.503       | 576.631   | 0.80%       | 86.68%     |
| 25.0               | 82.290        | 4.221       | 580.852   | 0.61%       | 87.32%     |
| 26.0               | 68.025        | 3.548       | 584.4     | 0.52%       | 87.85%     |
| 27.0               | 57.696        | 3.076       | 587.476   | 0.45%       | 88.31%     |
| 28.0               | 50.381        | 2.736       | 590.212   | 0.40%       | 88.72%     |
| 29.0               | 44.799        | 2.490       | 592.702   | 0.36%       | 89.10%     |
| 30.0               | 40.578        | 2.305       | 595.007   | 0.34%       | 89.45%     |
| 31.0               | 37.037        | 2.160       | 597.167   | 0.31%       | 89.77%     |
| 32.0               | 34.177        | 2.040       | 599.207   | 0.30%       | 90.08%     |
| 33.0               | 31.456        | 1.934       | 601.141   | 0.28%       | 90.37%     |
| 34.0               | 29.393        | 1.841       | 602.982   | 0.27%       | 90.64%     |
| 35.0               | 27.484        | 1.766       | 604.749   | 0.26%       | 90.91%     |
| 36.0               | 25.925        | 1.701       | 606.449   | 0.25%       | 91.17%     |
| 37.0               | 24.521        | 1.645       | 608.095   | 0.24%       | 91.41%     |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 23.380        | 1.599       | 609.693   | 0.23%       | 91.65%     |
| 39.0               | 22.239        | 1.557       | 611.251   | 0.23%       | 91.89%     |
| 40.0               | 21.361        | 1.521       | 612.771   | 0.22%       | 92.12%     |
| 41.0               | 20.498        | 1.491       | 614.262   | 0.22%       | 92.34%     |
| 42.0               | 19.788        | 1.464       | 615.725   | 0.21%       | 92.56%     |
| 43.0               | 19.144        | 1.442       | 617.168   | 0.21%       | 92.78%     |
| 44.0               | 18.581        | 1.424       | 618.591   | 0.21%       | 92.99%     |
| 45.0               | 18.083        | 1.409       | 620       | 0.21%       | 93.20%     |
| 46.0               | 17.718        | 1.400       | 621.401   | 0.20%       | 93.41%     |
| 47.0               | 17.381        | 1.396       | 622.796   | 0.20%       | 93.62%     |
| 48.0               | 17.118        | 1.395       | 624.191   | 0.20%       | 93.83%     |
| 49.0               | 16.884        | 1.396       | 625.587   | 0.20%       | 94.04%     |
| 50.0               | 16.708        | 1.401       | 626.988   | 0.20%       | 94.25%     |
| 51.0               | 16.481        | 1.404       | 628.392   | 0.20%       | 94.46%     |
| 52.0               | 16.181        | 1.402       | 629.794   | 0.20%       | 94.67%     |
| 53.0               | 15.911        | 1.396       | 631.19    | 0.20%       | 94.88%     |
| 54.0               | 15.633        | 1.390       | 632.58    | 0.20%       | 95.09%     |
| 55.0               | 15.348        | 1.383       | 633.963   | 0.20%       | 95.30%     |
| 56.0               | 15.004        | 1.372       | 635.335   | 0.20%       | 95.51%     |
| 57.0               | 14.587        | 1.353       | 636.687   | 0.20%       | 95.71%     |
| 58.0               | 14.155        | 1.329       | 638.017   | 0.19%       | 95.91%     |
| 59.0               | 13.753        | 1.305       | 639.321   | 0.19%       | 96.11%     |
| 60.0               | 13.336        | 1.280       | 640.601   | 0.19%       | 96.30%     |
| 61.0               | 12.868        | 1.251       | 641.852   | 0.18%       | 96.49%     |
| 62.0               | 12.356        | 1.215       | 643.067   | 0.18%       | 96.67%     |
| 63.0               | 11.836        | 1.177       | 644.244   | 0.17%       | 96.85%     |
| 64.0               | 11.324        | 1.136       | 645.38    | 0.17%       | 97.02%     |
| 65.0               | 10.834        | 1.097       | 646.477   | 0.16%       | 97.18%     |
| 66.0               | 10.344        | 1.057       | 647.533   | 0.15%       | 97.34%     |
| 67.0               | 9.927         | 1.019       | 648.553   | 0.15%       | 97.49%     |
| 68.0               | 9.495         | 0.984       | 649.536   | 0.14%       | 97.64%     |
| 69.0               | 9.159         | 0.952       | 650.488   | 0.14%       | 97.79%     |
| 70.0               | 8.800         | 0.922       | 651.41    | 0.13%       | 97.92%     |
| 71.0               | 8.515         | 0.895       | 652.305   | 0.13%       | 98.06%     |
| 72.0               | 8.244         | 0.871       | 653.177   | 0.13%       | 98.19%     |
| 73.0               | 7.930         | 0.846       | 654.023   | 0.12%       | 98.32%     |
| 74.0               | 7.601         | 0.817       | 654.839   | 0.12%       | 98.44%     |
| 75.0               | 7.323         | 0.789       | 655.628   | 0.11%       | 98.56%     |

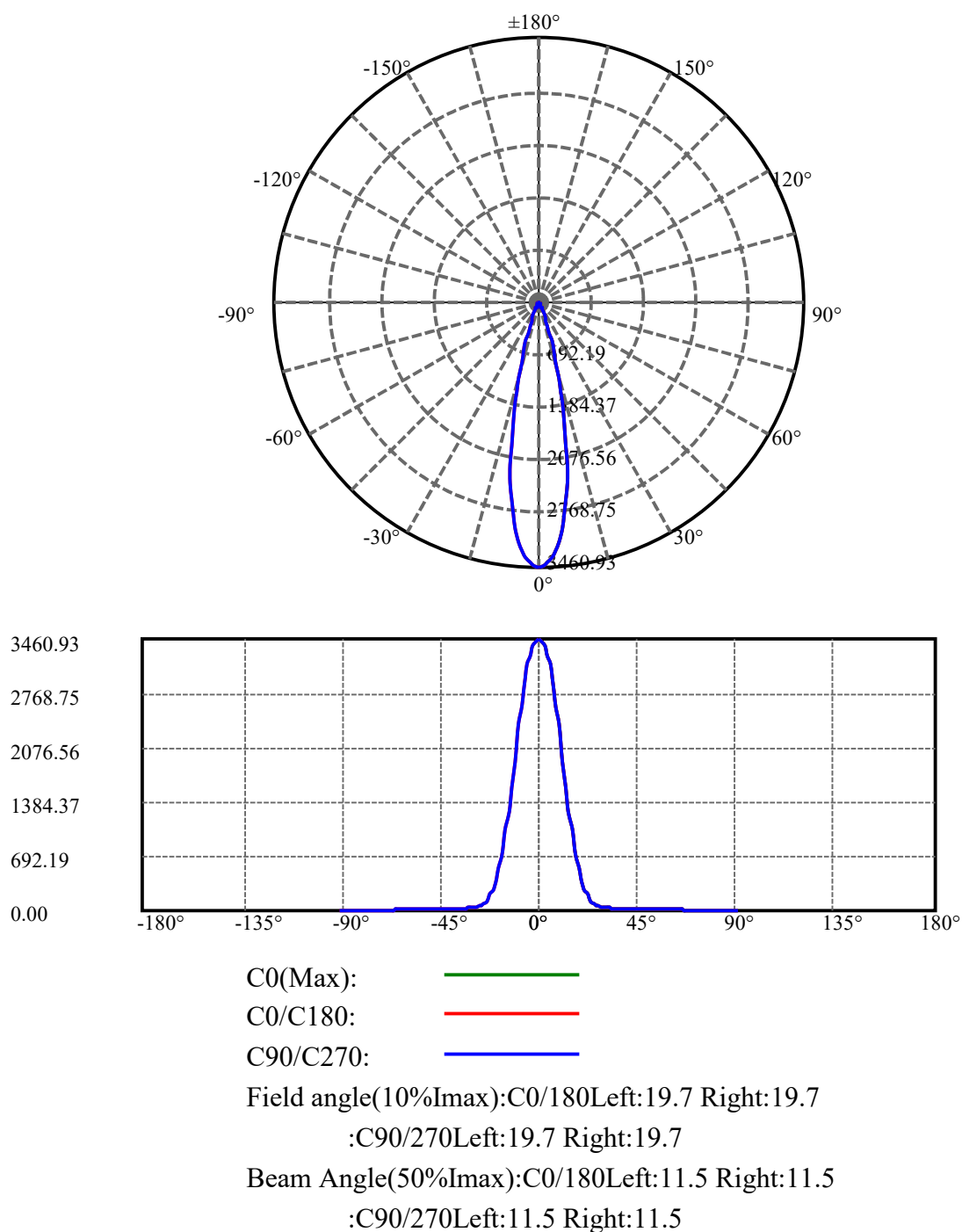
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 7.132         | 0.767       | 656.395   | 0.11%       | 98.67%     |
| 77.0               | 6.928         | 0.750       | 657.145   | 0.11%       | 98.79%     |
| 78.0               | 6.737         | 0.731       | 657.876   | 0.11%       | 98.90%     |
| 79.0               | 6.555         | 0.714       | 658.59    | 0.10%       | 99.00%     |
| 80.0               | 6.357         | 0.696       | 659.286   | 0.10%       | 99.11%     |
| 81.0               | 6.196         | 0.679       | 659.965   | 0.10%       | 99.21%     |
| 82.0               | 6.050         | 0.664       | 660.629   | 0.10%       | 99.31%     |
| 83.0               | 5.889         | 0.649       | 661.278   | 0.09%       | 99.41%     |
| 84.0               | 5.713         | 0.632       | 661.91    | 0.09%       | 99.50%     |
| 85.0               | 5.530         | 0.614       | 662.524   | 0.09%       | 99.59%     |
| 86.0               | 5.326         | 0.593       | 663.117   | 0.09%       | 99.68%     |
| 87.0               | 5.091         | 0.570       | 663.687   | 0.08%       | 99.77%     |
| 88.0               | 4.879         | 0.546       | 664.234   | 0.08%       | 99.85%     |
| 89.0               | 4.484         | 0.513       | 664.747   | 0.07%       | 99.93%     |
| 90.0               | 4.119         | 0.472       | 665.218   | 0.07%       | 100.00%    |

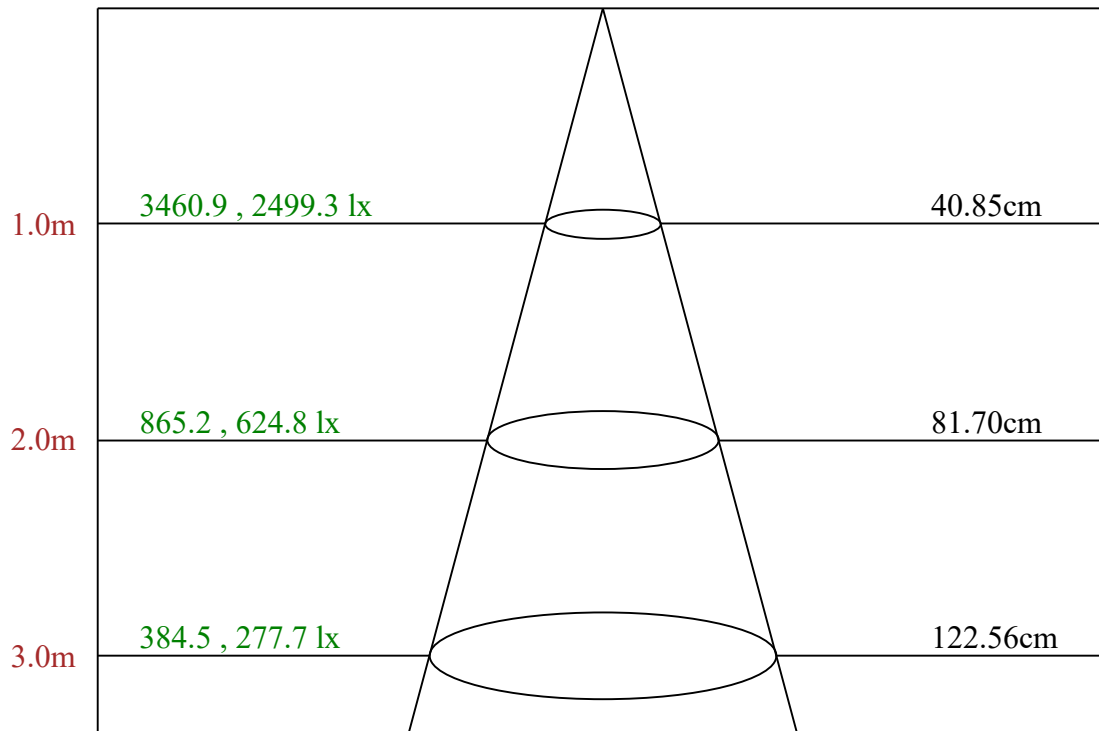
Zonal flux distribution table

| ZONAL LUMEN SUMMARY |        |        |         |
|---------------------|--------|--------|---------|
| Zone                | Lumens | %Lamp  | %Fixt   |
| 0-30                | 595.01 | 86.67% | 89.45%  |
| 0-40                | 612.77 | 89.26% | 92.12%  |
| 0-60                | 640.60 | 93.31% | 96.30%  |
| 0-90                | 664.75 | 96.83% | 99.93%  |
| 0-120               | 664.75 | 96.83% | 99.93%  |
| 0-180               | 665.22 | 96.90% | 100.00% |
| 60-90               | 24.15  | 3.52%  | 3.63%   |
| 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%   |
| 0-19.19             | 532.17 | 77.52% | 80.00%  |

ZONAL LUMEN SUMMARY

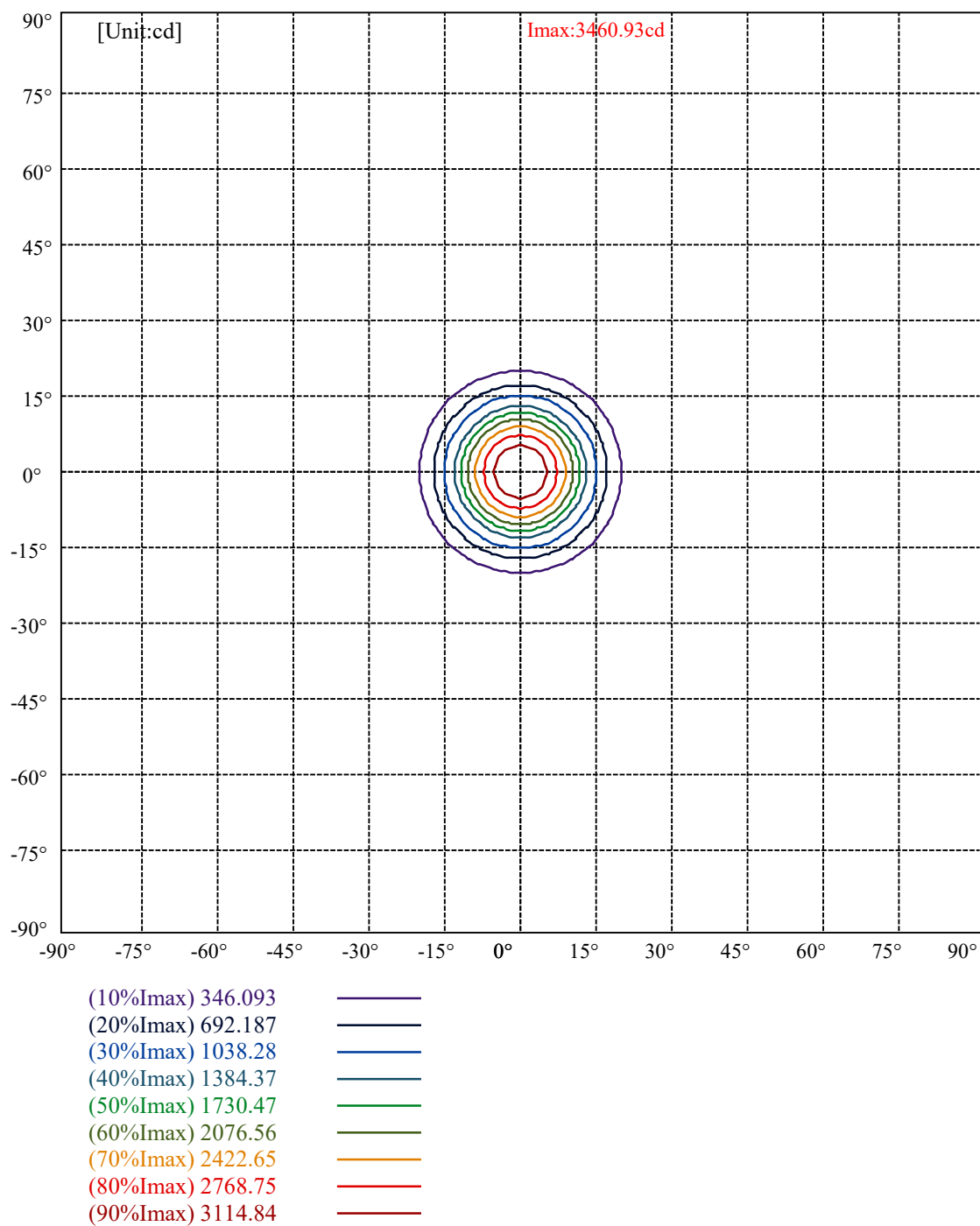
|         |        |
|---------|--------|
| 0-10    | 266.48 |
| 10-20   | 276.57 |
| 20-30   | 51.95  |
| 30-40   | 17.76  |
| 40-50   | 14.22  |
| 50-60   | 13.61  |
| 60-70   | 10.81  |
| 70-80   | 7.88   |
| 80-90   | 5.46   |
| 90-100  | 0.00   |
| 100-110 | 0.00   |
| 110-120 | 0.00   |
| 120-130 | 0.00   |
| 130-140 | 0.00   |
| 140-150 | 0.00   |
| 150-160 | 0.00   |
| 160-170 | 0.00   |
| 170-180 | 0.00   |

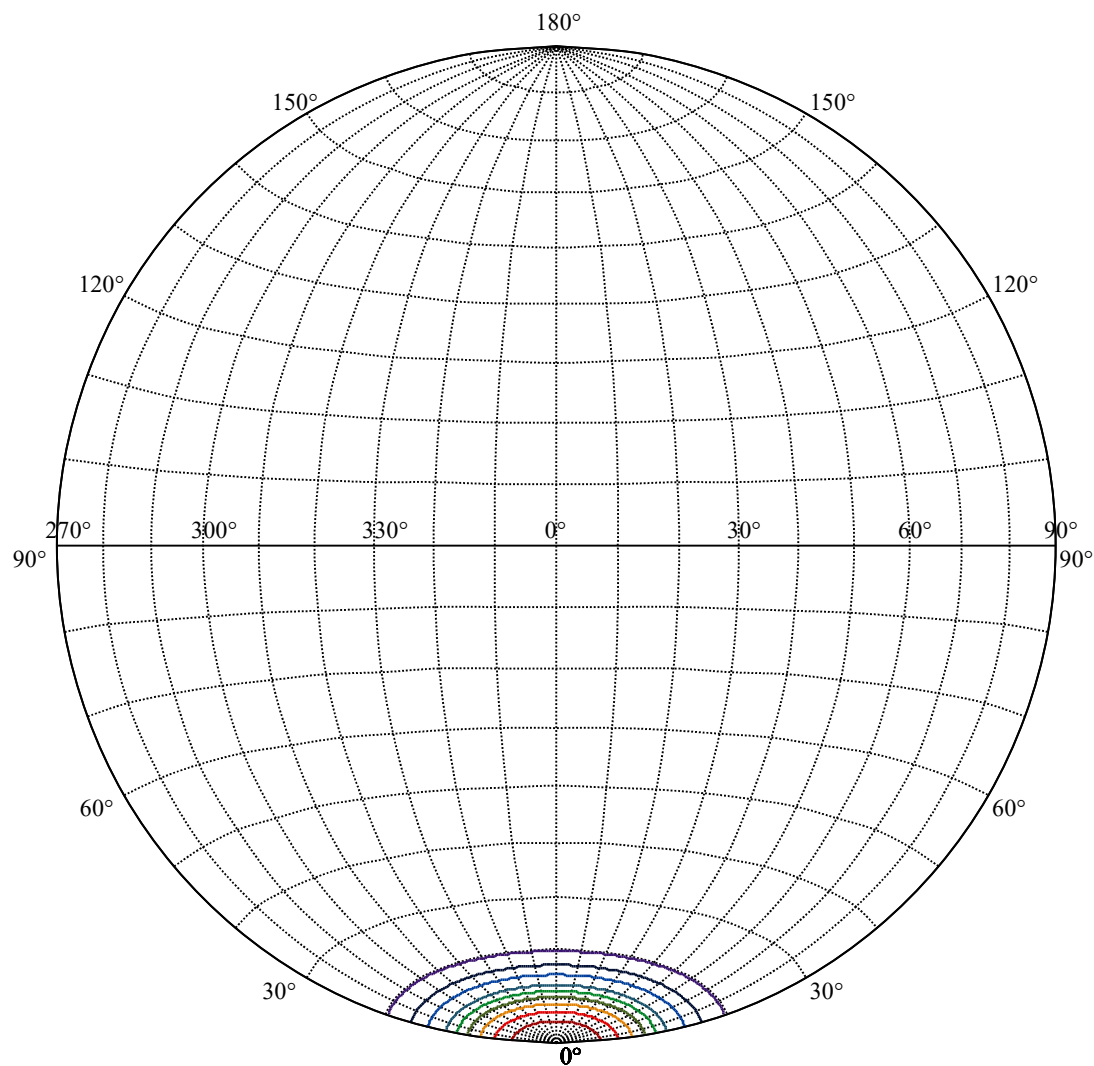




Max , Ave

Beam angle of C0 plane 23.09





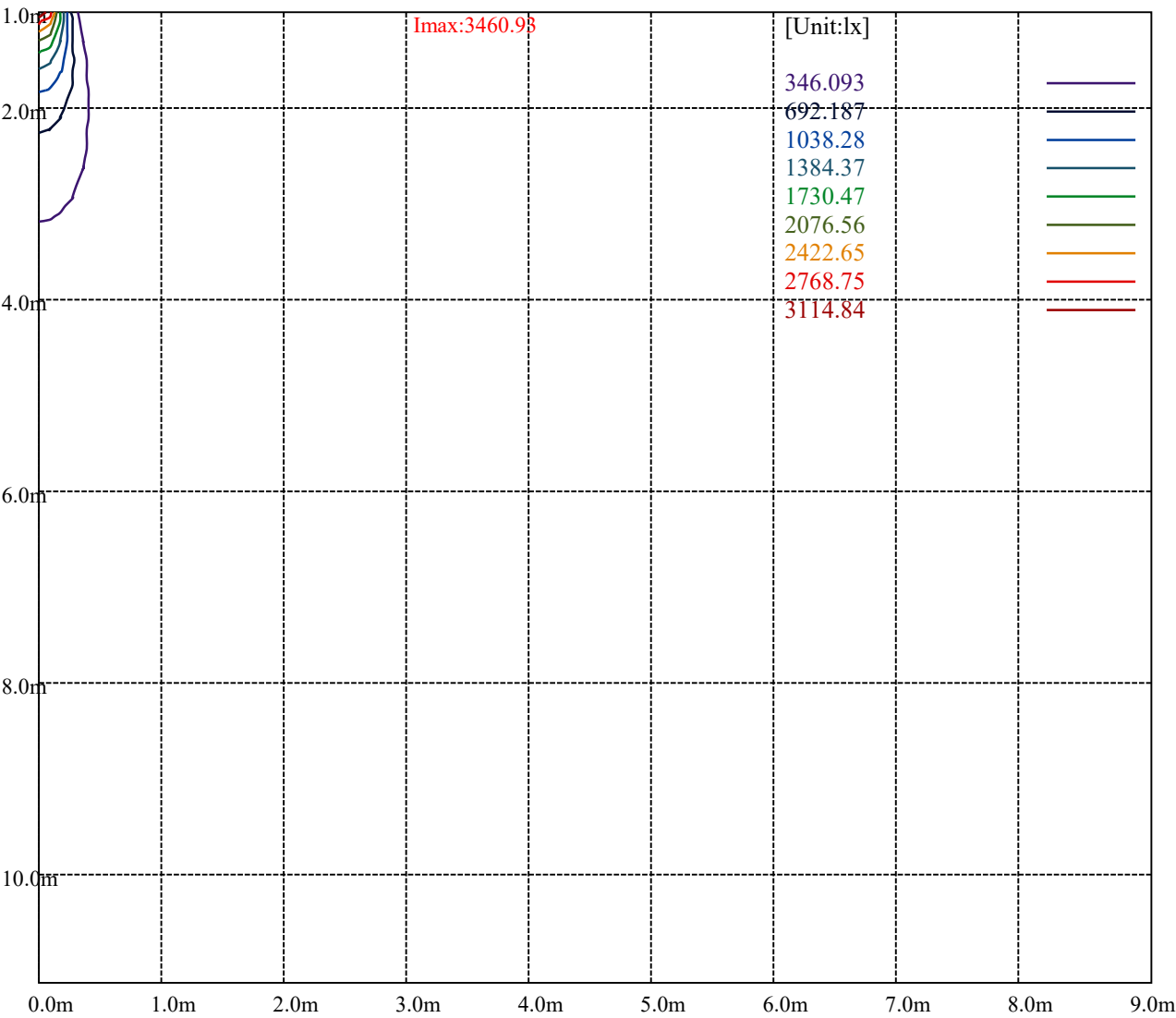
House

[Unit:cd]

Road

|                   |   |
|-------------------|---|
| Imax:3460.93      |   |
| (10%Imax) 346.093 | — |
| (20%Imax) 692.187 | — |
| (30%Imax) 1038.28 | — |
| (40%Imax) 1384.37 | — |
| (50%Imax) 1730.47 | — |
| (60%Imax) 2076.56 | — |
| (70%Imax) 2422.65 | — |
| (80%Imax) 2768.75 | — |
| (90%Imax) 3114.84 | — |





Luminance Table

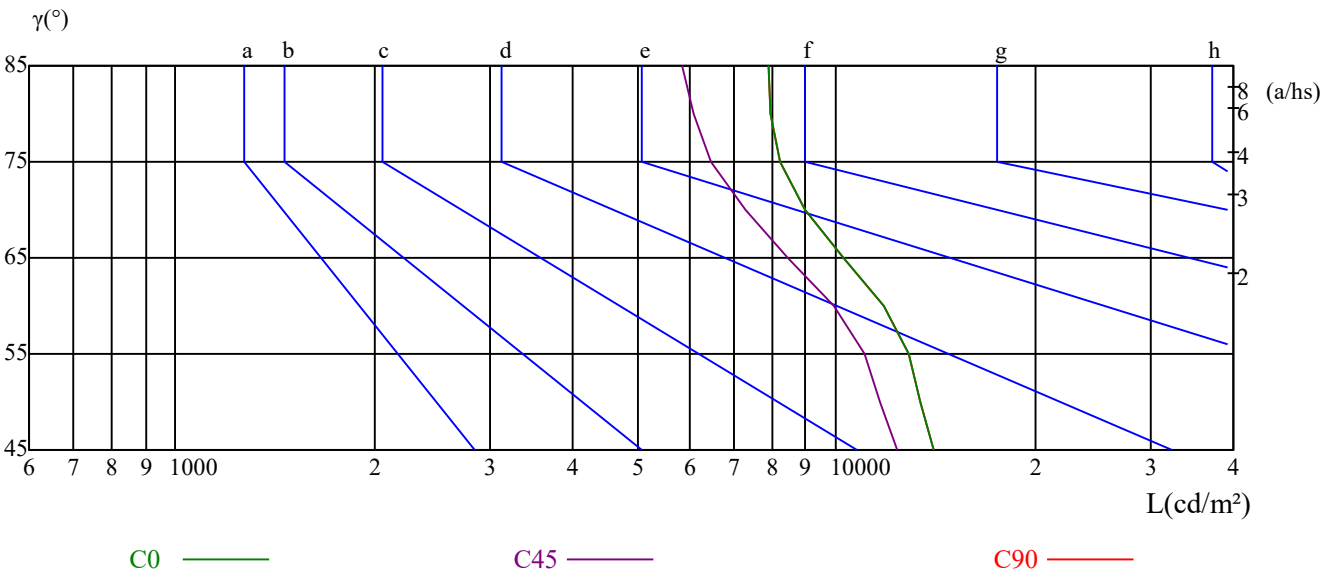
| $\gamma$ | 45    | 50    | 55    | 60    | 65    | 70   | 75   | 80   | 85   |
|----------|-------|-------|-------|-------|-------|------|------|------|------|
| C0       | 14051 | 13439 | 12897 | 11825 | 10250 | 8997 | 8212 | 7959 | 7906 |
| C45      | 12375 | 11668 | 11027 | 9943  | 8462  | 7275 | 6481 | 6104 | 5852 |
| C90      | 14051 | 13439 | 12897 | 11825 | 10250 | 8997 | 8212 | 7959 | 7906 |

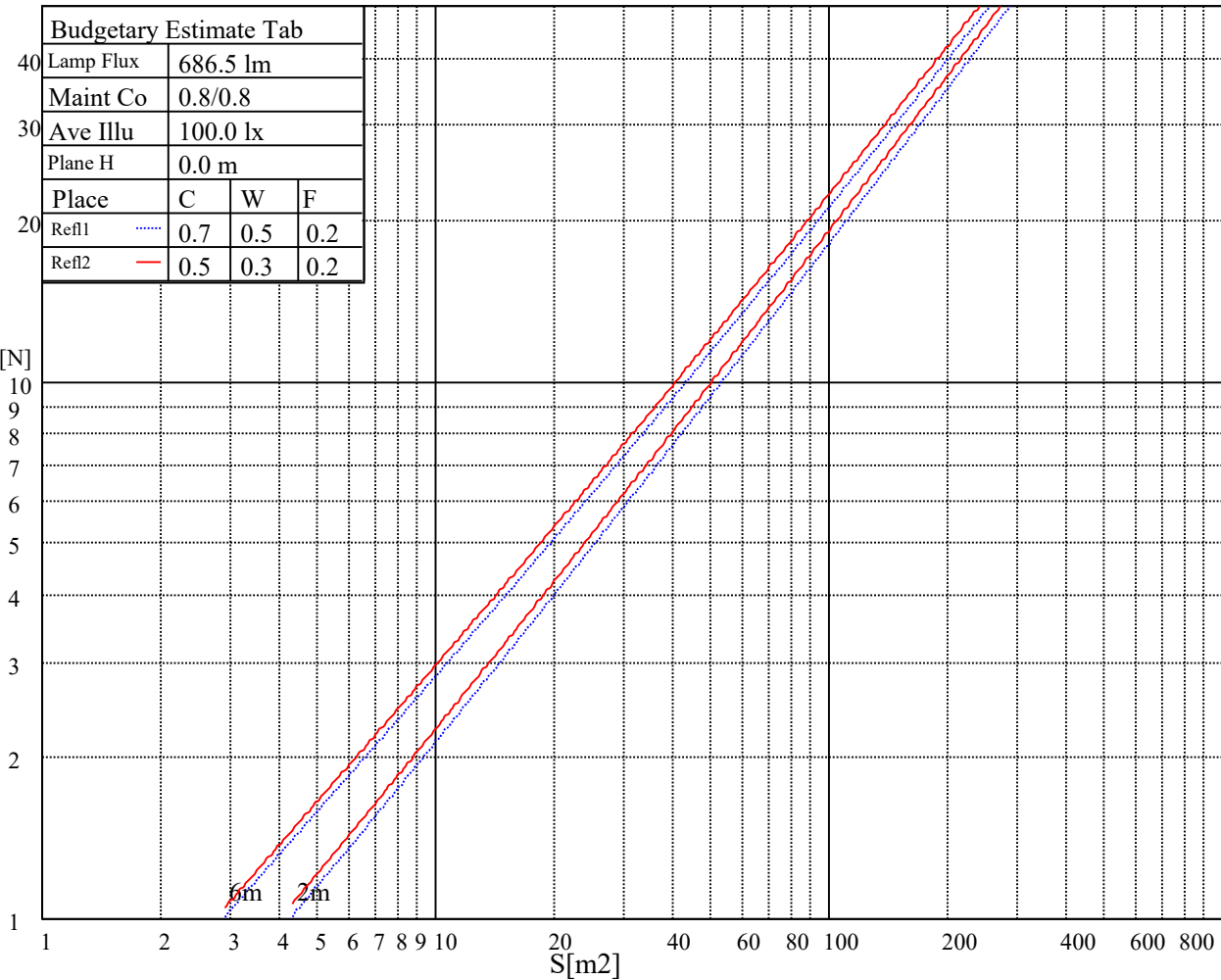
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 20927      | 20927      | 20927   | 23097      | 23097      | 23097   | 51796      | 51796      | 51796   |

Glare Table

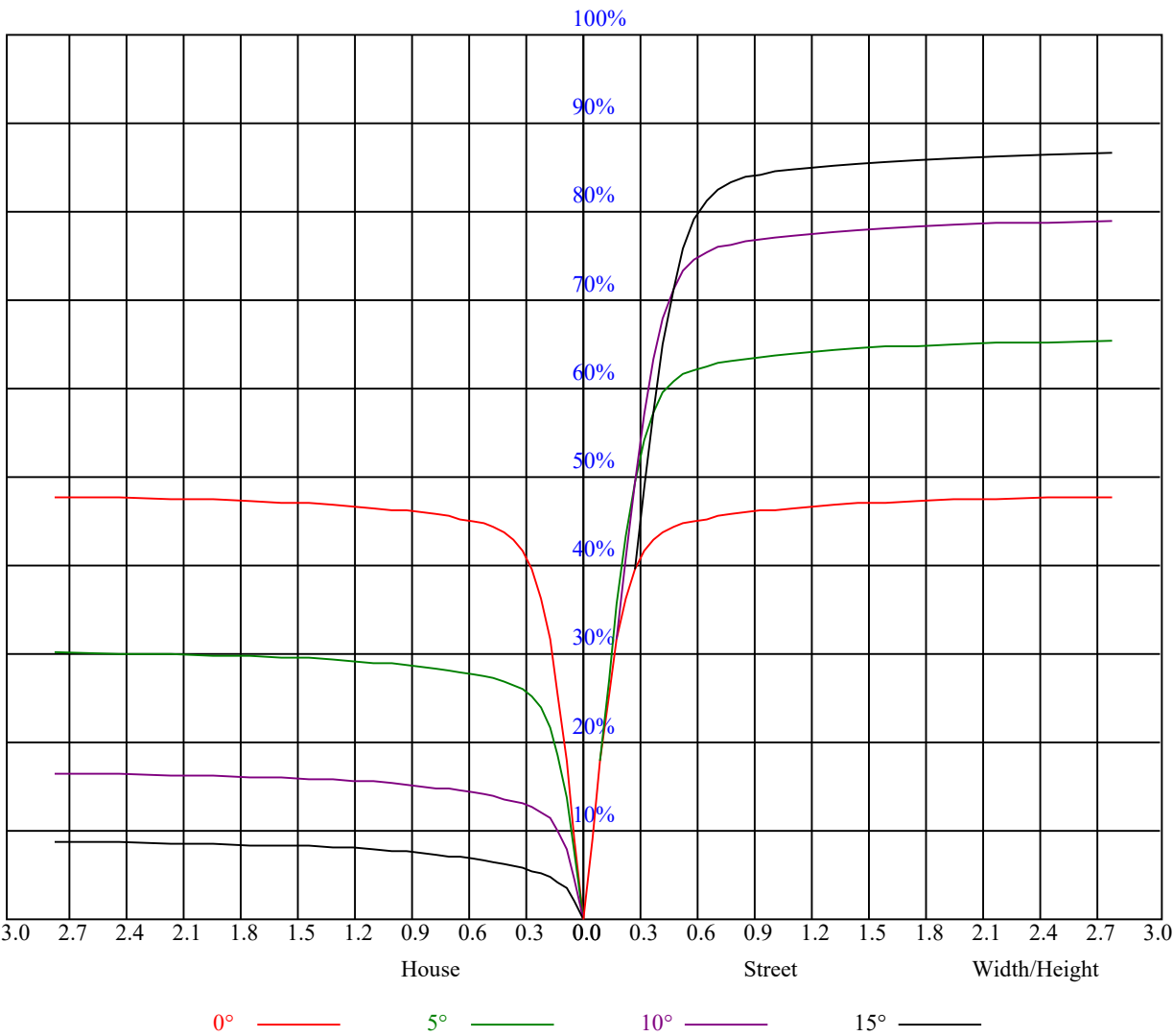
| Glare | Quality | Service Values Illuminance(lx) |      |      |            |            |            |            |            |
|-------|---------|--------------------------------|------|------|------------|------------|------------|------------|------------|
| 1.15  | A       | 2000            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

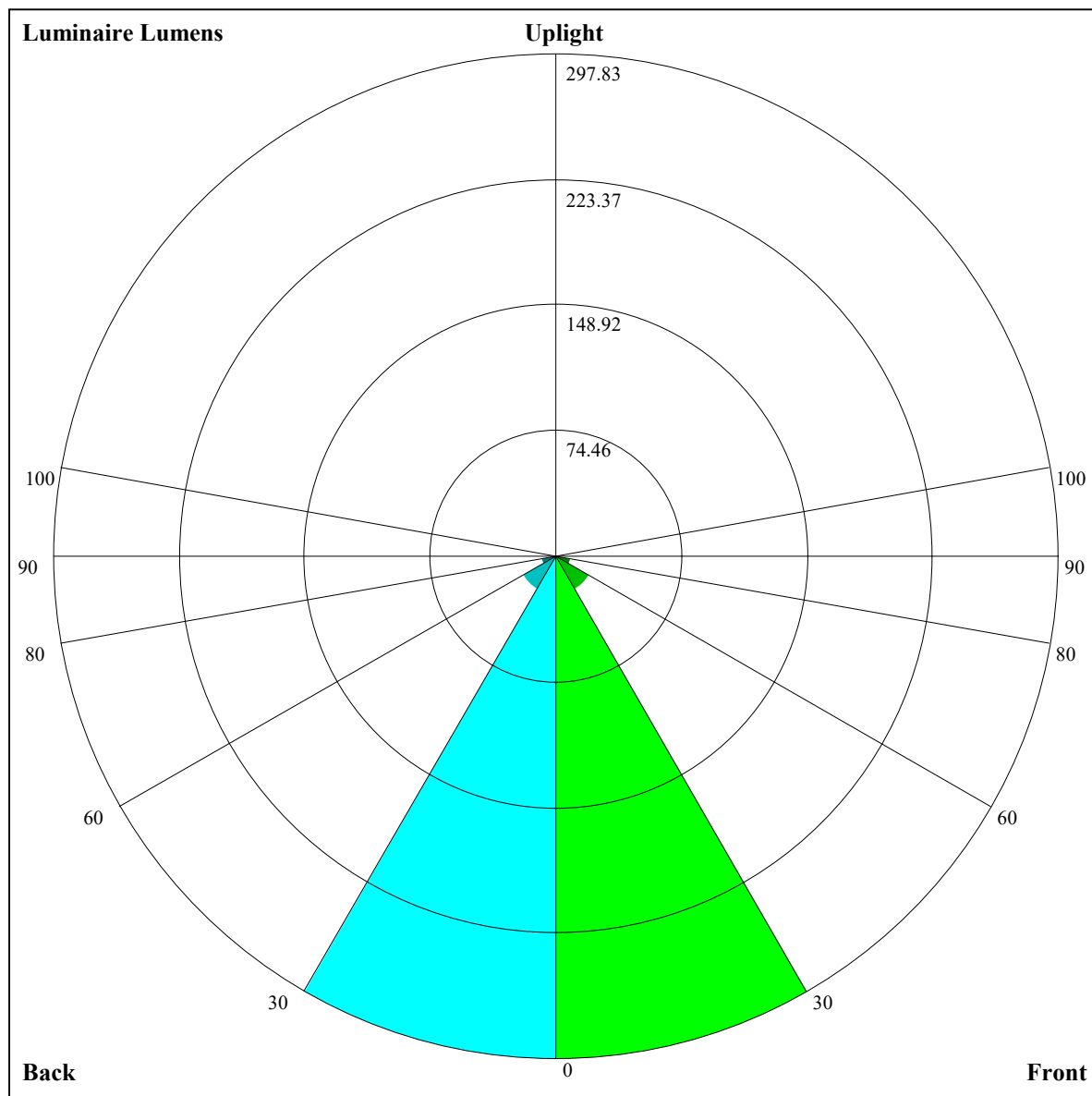
Luminance Limiting Curve





| RHOC | 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    | 1.15                                    | 1.15 | 1.15 | 1.13 | 1.13 | 1.13 | 1.08 | 1.08 | 1.08 | 1.03 | 1.03 | 1.03 | 0.99 | 0.99 | 0.99 | 0.97 |
| 1    | 1.08                                    | 1.06 | 1.04 | 1.06 | 1.04 | 1.03 | 1.02 | 1.01 | 1.00 | 0.99 | 0.98 | 0.97 | 0.96 | 0.95 | 0.94 | 0.92 |
| 2    | 1.03                                    | 1.00 | 0.97 | 1.01 | 0.98 | 0.96 | 0.98 | 0.96 | 0.94 | 0.95 | 0.93 | 0.92 | 0.93 | 0.91 | 0.90 | 0.88 |
| 3    | 0.98                                    | 0.94 | 0.91 | 0.97 | 0.93 | 0.91 | 0.94 | 0.92 | 0.89 | 0.92 | 0.90 | 0.88 | 0.90 | 0.88 | 0.87 | 0.85 |
| 4    | 0.94                                    | 0.90 | 0.87 | 0.93 | 0.89 | 0.86 | 0.91 | 0.88 | 0.86 | 0.89 | 0.87 | 0.85 | 0.88 | 0.85 | 0.84 | 0.82 |
| 5    | 0.91                                    | 0.87 | 0.83 | 0.90 | 0.86 | 0.83 | 0.88 | 0.85 | 0.82 | 0.87 | 0.84 | 0.82 | 0.86 | 0.83 | 0.81 | 0.80 |
| 6    | 0.88                                    | 0.84 | 0.81 | 0.87 | 0.83 | 0.80 | 0.86 | 0.82 | 0.80 | 0.85 | 0.82 | 0.79 | 0.83 | 0.81 | 0.79 | 0.78 |
| 7    | 0.85                                    | 0.81 | 0.78 | 0.85 | 0.81 | 0.78 | 0.83 | 0.80 | 0.77 | 0.82 | 0.79 | 0.77 | 0.82 | 0.79 | 0.77 | 0.76 |
| 8    | 0.83                                    | 0.79 | 0.76 | 0.82 | 0.78 | 0.76 | 0.81 | 0.78 | 0.75 | 0.80 | 0.77 | 0.75 | 0.80 | 0.77 | 0.75 | 0.74 |
| 9    | 0.81                                    | 0.77 | 0.74 | 0.80 | 0.76 | 0.74 | 0.79 | 0.76 | 0.73 | 0.79 | 0.76 | 0.73 | 0.78 | 0.75 | 0.73 | 0.72 |
| 10   | 0.79                                    | 0.75 | 0.72 | 0.78 | 0.74 | 0.72 | 0.78 | 0.74 | 0.72 | 0.77 | 0.74 | 0.72 | 0.76 | 0.73 | 0.71 | 0.71 |





Luminaire Lumens:

FL=297.83,FM=22.84,FH=9.35,FVH=2.96

BL=297.83,BM=22.84,BH=9.35,BVH=2.96

UL=0,UH=0

BUG Rating:B1-U0-G0

## Intensity data(cd)

Appendix Page: 17 Total:19

| C/γ(°) | 0.0     | 1.0     | 2.0     | 3.0     | 4.0     | 5.0     | 6.0     | 7.0     | 8.0     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 45.0   | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 90.0   | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 135.0  | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 180.0  | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 225.0  | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 270.0  | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 315.0  | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| 360.0  | 3460.93 | 3447.84 | 3406.36 | 3343.82 | 3245.72 | 3131.82 | 2969.34 | 2797.43 | 2597.14 |
| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
| 0.0    | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 45.0   | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 90.0   | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 135.0  | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 180.0  | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 225.0  | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 270.0  | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 315.0  | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| 360.0  | 2377.39 | 2144.62 | 1899.85 | 1576.74 | 1334.65 | 1198.06 | 1024.52 | 833.14  | 678.48  |
| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0    | 26.0    |
| 0.0    | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 45.0   | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 90.0   | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 135.0  | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 180.0  | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 225.0  | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 270.0  | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 315.0  | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| 360.0  | 535.05  | 414.47  | 316.76  | 260.54  | 210.34  | 148.34  | 103.34  | 82.29   | 68.03   |
| C/γ(°) | 27.0    | 28.0    | 29.0    | 30.0    | 31.0    | 32.0    | 33.0    | 34.0    | 35.0    |
| 0.0    | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 45.0   | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 90.0   | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 135.0  | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 180.0  | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 225.0  | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 270.0  | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 315.0  | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| 360.0  | 57.70   | 50.38   | 44.80   | 40.58   | 37.04   | 34.18   | 31.46   | 29.39   | 27.48   |
| C/γ(°) | 36.0    | 37.0    | 38.0    | 39.0    | 40.0    | 41.0    | 42.0    | 43.0    | 44.0    |
| 0.0    | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 45.0   | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 90.0   | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 135.0  | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 180.0  | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 225.0  | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 270.0  | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 315.0  | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |
| 360.0  | 25.93   | 24.52   | 23.38   | 22.24   | 21.36   | 20.50   | 19.79   | 19.14   | 18.58   |

| Intensity data(cd) |       |       |       |       |       |       |       |       |       | Appendix Page: 18 Total:19 |  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------------|--|
| C/ $\gamma$ (°)    | 45.0  | 46.0  | 47.0  | 48.0  | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |                            |  |
| 0.0                | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 45.0               | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 90.0               | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 135.0              | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 180.0              | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 225.0              | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 270.0              | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 315.0              | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| 360.0              | 18.08 | 17.72 | 17.38 | 17.12 | 16.88 | 16.71 | 16.48 | 16.18 | 15.91 |                            |  |
| C/ $\gamma$ (°)    | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |                            |  |
| 0.0                | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 45.0               | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 90.0               | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 135.0              | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 180.0              | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 225.0              | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 270.0              | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 315.0              | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| 360.0              | 15.63 | 15.35 | 15.00 | 14.59 | 14.16 | 13.75 | 13.34 | 12.87 | 12.36 |                            |  |
| C/ $\gamma$ (°)    | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |                            |  |
| 0.0                | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 45.0               | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 90.0               | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 135.0              | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 180.0              | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 225.0              | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 270.0              | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 315.0              | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| 360.0              | 11.84 | 11.32 | 10.83 | 10.34 | 9.93  | 9.50  | 9.16  | 8.80  | 8.52  |                            |  |
| C/ $\gamma$ (°)    | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |                            |  |
| 0.0                | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 45.0               | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 90.0               | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 135.0              | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 180.0              | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 225.0              | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 270.0              | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 315.0              | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| 360.0              | 8.24  | 7.93  | 7.60  | 7.32  | 7.13  | 6.93  | 6.74  | 6.56  | 6.36  |                            |  |
| C/ $\gamma$ (°)    | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |                            |  |
| 0.0                | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 45.0               | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 90.0               | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 135.0              | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 180.0              | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 225.0              | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 270.0              | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 315.0              | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |
| 360.0              | 6.20  | 6.05  | 5.89  | 5.71  | 5.53  | 5.33  | 5.09  | 4.88  | 4.48  |                            |  |

## Intensity data(cd)

Appendix Page: 19 Total:19

|                       |      |
|-----------------------|------|
| C/ $\gamma(^{\circ})$ | 90.0 |
| 0.0                   | 4.12 |
| 45.0                  | 4.12 |
| 90.0                  | 4.12 |
| 135.0                 | 4.12 |
| 180.0                 | 4.12 |
| 225.0                 | 4.12 |
| 270.0                 | 4.12 |
| 315.0                 | 4.12 |
| 360.0                 | 4.12 |