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## Nata

LumCAT: 1-0928-M  
Luminaire: 92.70.124.00  
Report No: NATA0100  
Test No: GC2019092112  
LampCAT: BRIDGELUX V10B LES10  
Lamp flux(lm): 1244.0  
Number of Lamps: 1  
Length(mm): 0  
Phm Type: C

Voltage(V): 33.3900  
Current(A): 0.2470  
Power (W): 8.2500  
PF: 0.0000  
Ballast type: DC  
Width(mm): 0  
Height(mm): 0

## Photometric Results

Lumens(lm): 976.77  
Efficiency(%): 78.52%  
Lumens(lm)/Power(W): 118.40  
Central intensity(cd): 3066.609  
Maximum intensity(cd): 3066.609  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=34.3  
[C90/270]Total=34.3  
Field angle(10%Imax): [C0/180]Total=49.5  
[C90/270]Total=49.5  
Maximum s/h(1/2): C0\_180=0.58 C90\_270=0.58  
Maximum s/h(1/4): C0\_180=0.53 C90\_270=0.53  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 78.52%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.548%

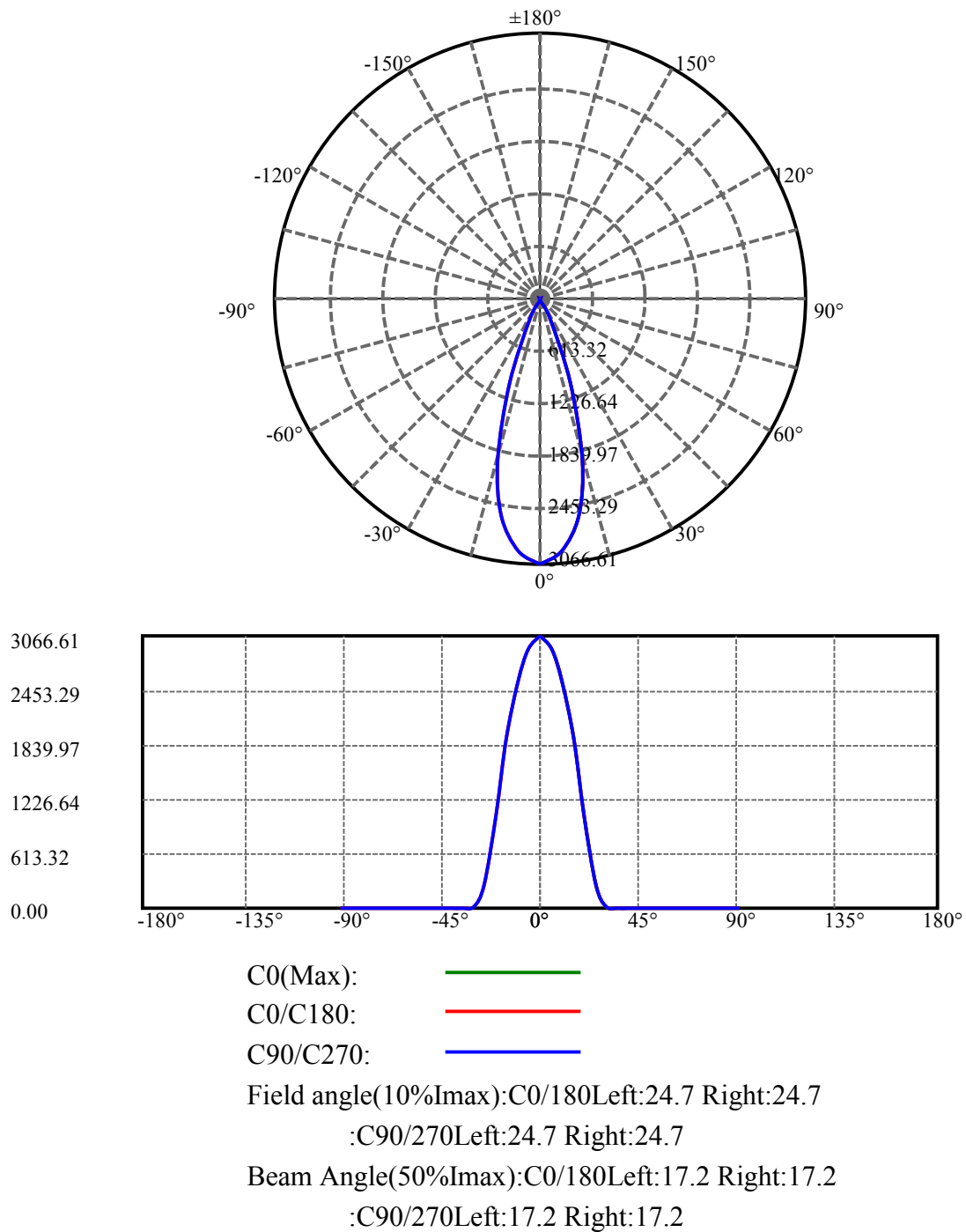
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 3066.609      | 0.000       | 0         | .000%       | .000%      |
| 5.0                | 2923.734      | 71.613      | 71.613    | 5.757%      | 7.332%     |
| 10.0               | 2547.844      | 195.736     | 267.348   | 15.734%     | 27.371%    |
| 15.0               | 1913.133      | 264.622     | 531.971   | 21.272%     | 54.462%    |
| 20.0               | 1038.333      | 243.242     | 775.213   | 19.553%     | 79.365%    |
| 25.0               | 265.718       | 136.771     | 911.984   | 10.994%     | 93.367%    |
| 30.0               | 18.520        | 35.971      | 947.954   | 2.892%      | 97.050%    |
| 35.0               | 7.868         | 3.886       | 951.84    | .312%       | 97.448%    |
| 40.0               | 6.068         | 2.325       | 954.165   | .187%       | 97.686%    |
| 45.0               | 5.280         | 2.101       | 956.266   | .169%       | 97.901%    |
| 50.0               | 4.929         | 2.063       | 958.329   | .166%       | 98.112%    |
| 55.0               | 4.725         | 2.099       | 960.429   | .169%       | 98.327%    |
| 60.0               | 4.613         | 2.158       | 962.587   | .173%       | 98.548%    |
| 65.0               | 4.556         | 2.229       | 964.816   | .179%       | 98.776%    |
| 70.0               | 4.528         | 2.300       | 967.116   | .185%       | 99.012%    |
| 75.0               | 4.493         | 2.358       | 969.474   | .190%       | 99.253%    |
| 80.0               | 4.493         | 2.404       | 971.878   | .193%       | 99.499%    |
| 85.0               | 4.486         | 2.440       | 974.318   | .196%       | 99.749%    |
| 90.0               | 4.472         | 2.453       | 976.771   | .197%       | 100.000%   |

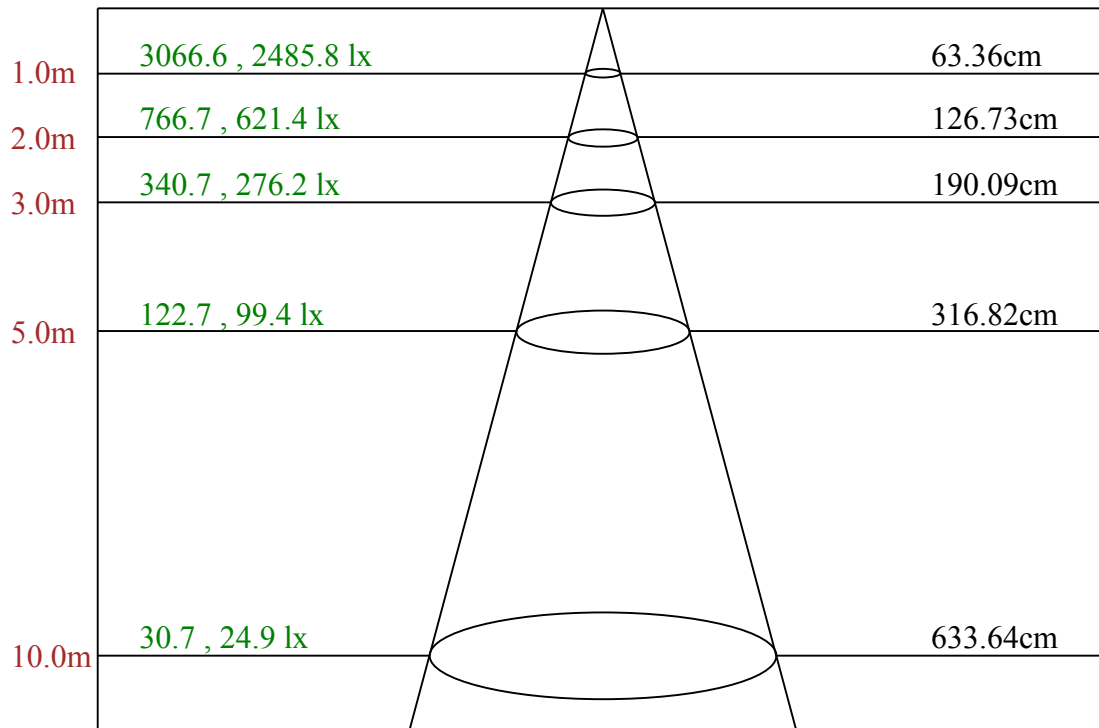
## ZONAL LUMEN SUMMARY

| Zone    | Lumens | %Lamp  | %Fixt   |
|---------|--------|--------|---------|
| 0-30    | 947.95 | 76.20% | 97.05%  |
| 0-40    | 954.17 | 76.70% | 97.69%  |
| 0-60    | 962.59 | 77.38% | 98.55%  |
| 0-90    | 974.32 | 78.32% | 99.75%  |
| 0-120   | 974.32 | 78.32% | 99.75%  |
| 0-180   | 976.77 | 78.52% | 100.00% |
| 60-90   | 13.89  | 1.12%  | 1.42%   |
| 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%   |
| 0-20.23 | 781.42 | 62.81% | 80.00%  |

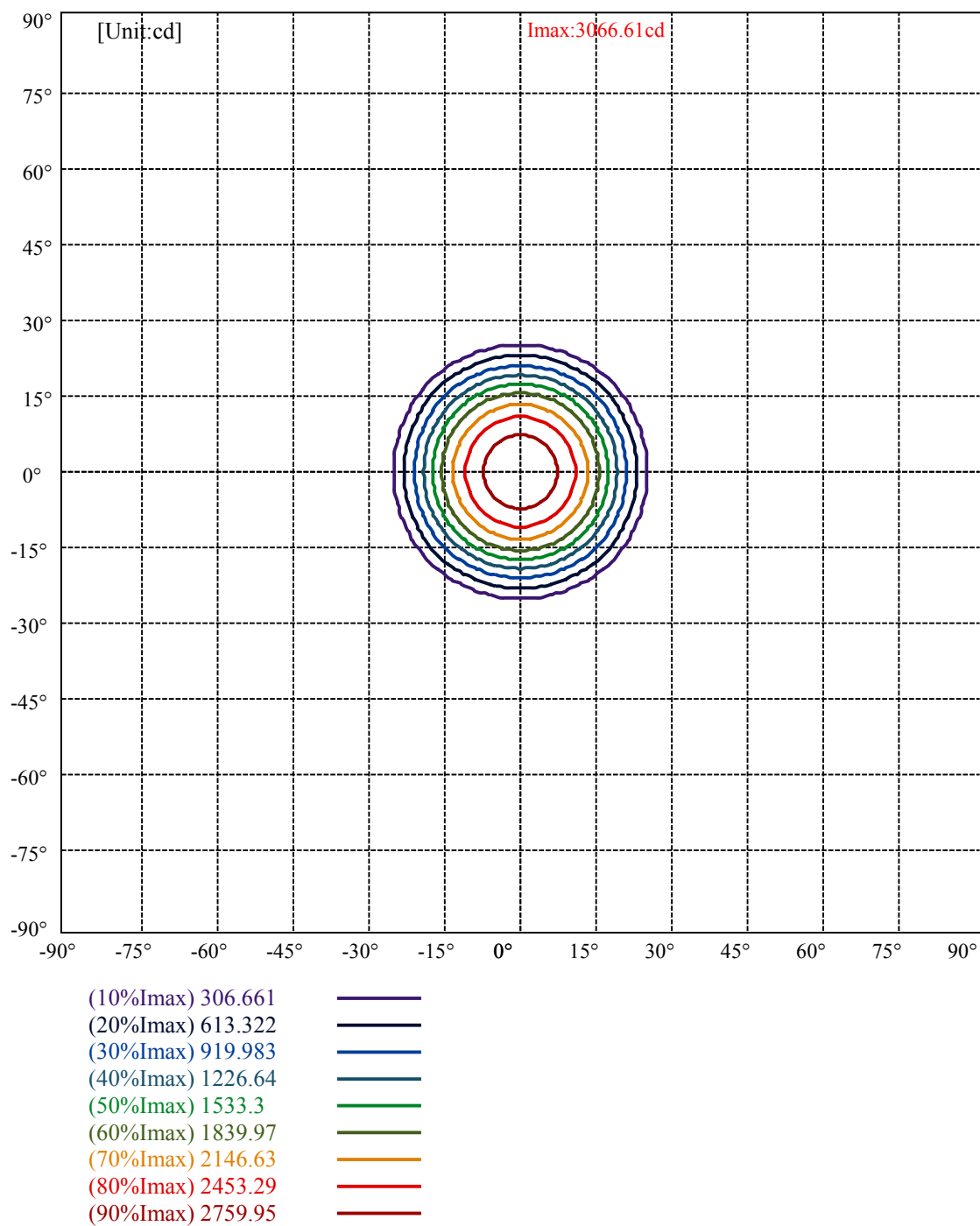
## ZONAL LUMEN SUMMARY

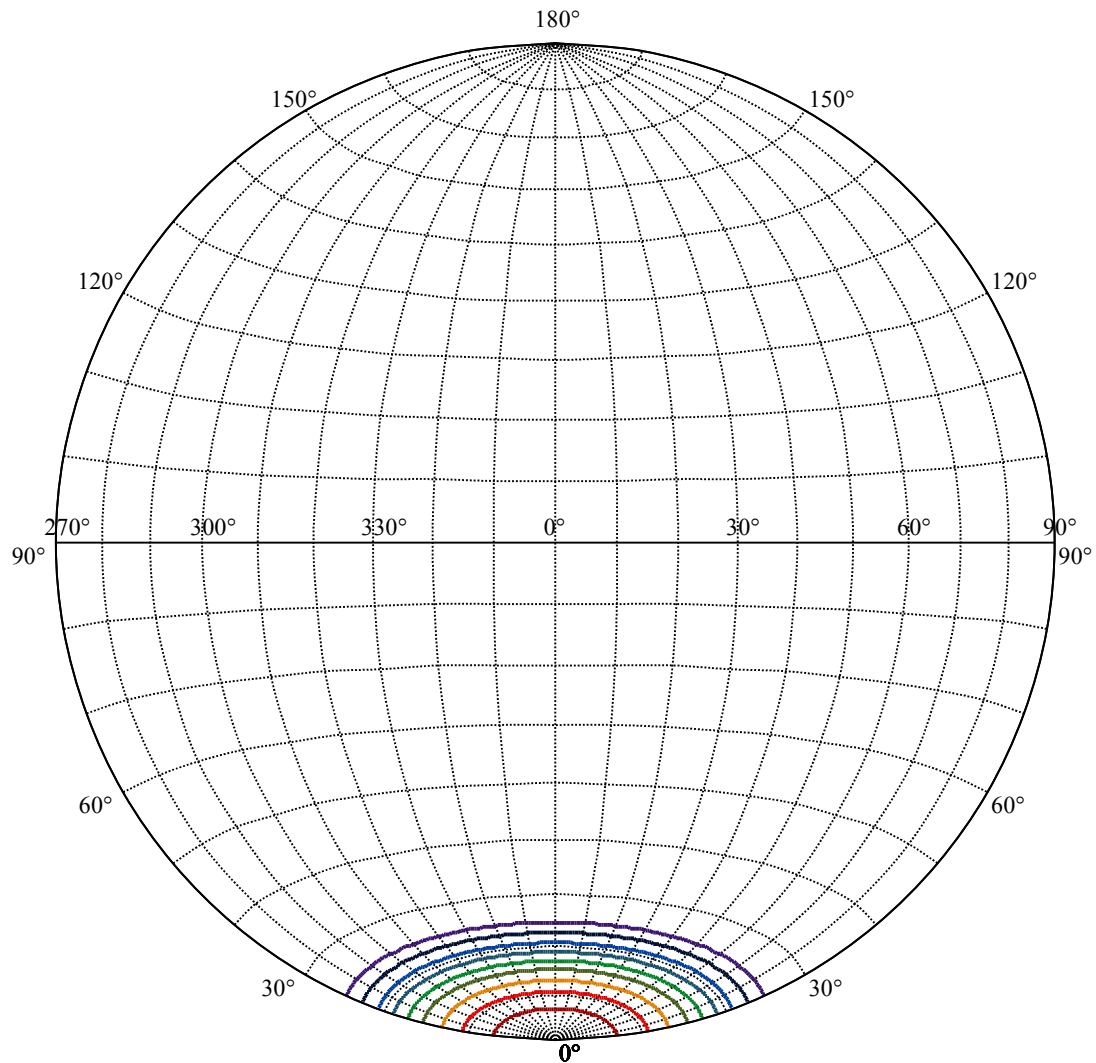
|         |        |
|---------|--------|
| 0-10    | 267.35 |
| 10-20   | 507.86 |
| 20-30   | 172.74 |
| 30-40   | 6.21   |
| 40-50   | 4.16   |
| 50-60   | 4.26   |
| 60-70   | 4.53   |
| 70-80   | 4.76   |
| 80-90   | 2.44   |
| 90-100  | 0.00   |
| 100-110 | 0.00   |
| 110-120 | 0.00   |
| 120-130 | 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 35.16





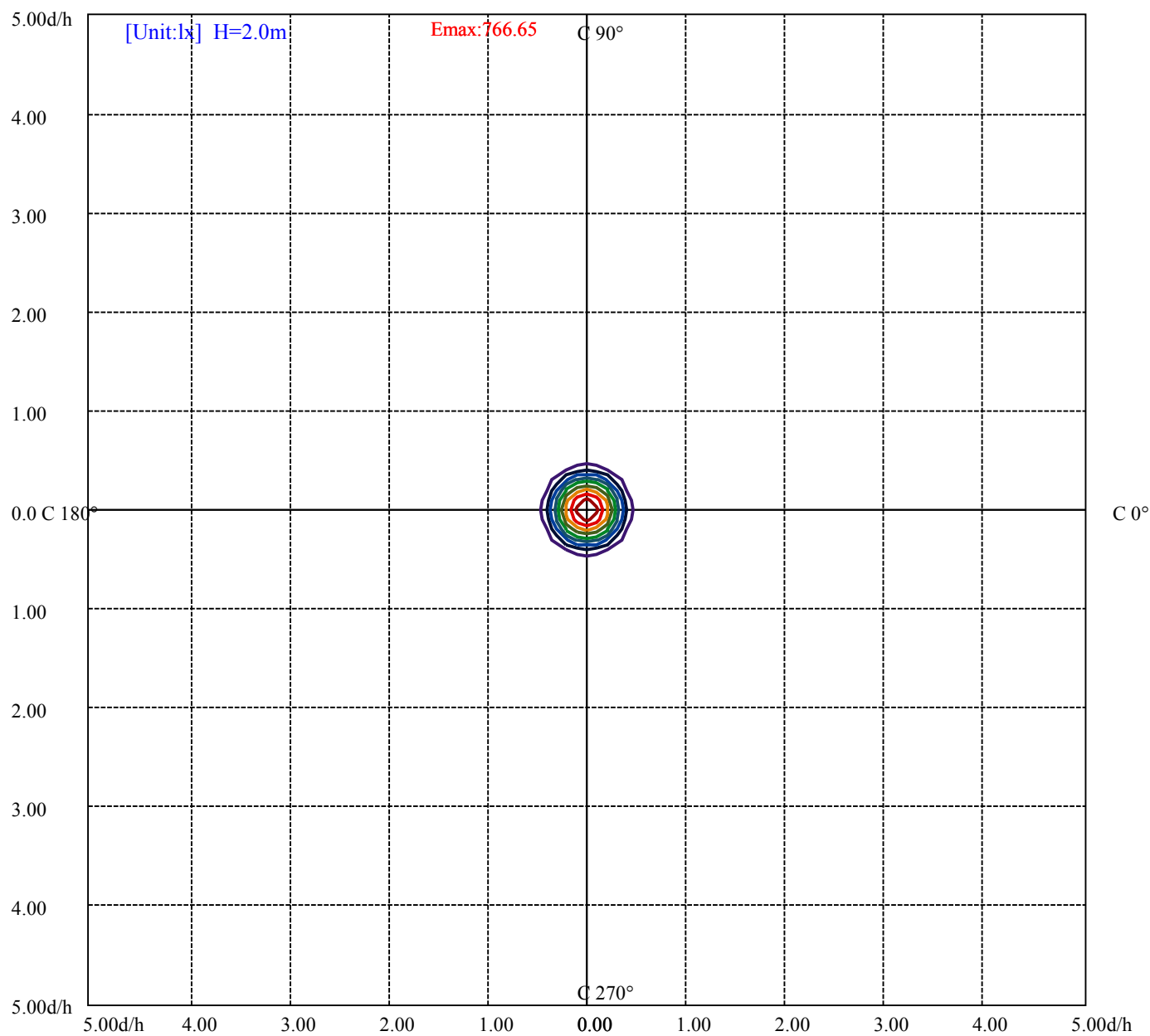
House

[Unit:cd]

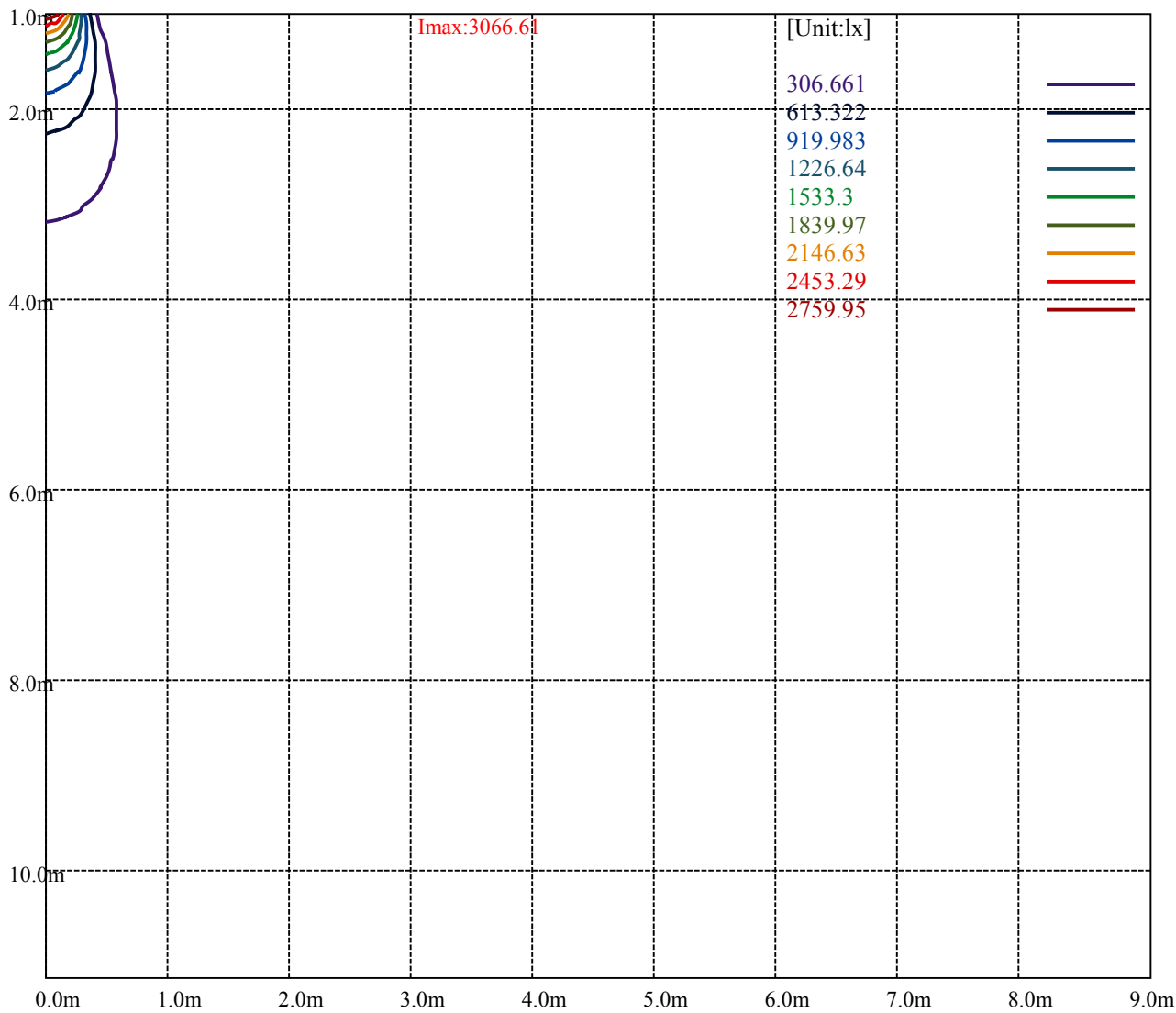
Road

Imax:3066.61

|           |         |   |
|-----------|---------|---|
| (10%Imax) | 306.661 | — |
| (20%Imax) | 613.322 | — |
| (30%Imax) | 919.983 | — |
| (40%Imax) | 1226.64 | — |
| (50%Imax) | 1533.3  | — |
| (60%Imax) | 1839.97 | — |
| (70%Imax) | 2146.63 | — |
| (80%Imax) | 2453.29 | — |
| (90%Imax) | 2759.95 | — |



|                                 |   |
|---------------------------------|---|
| (10%E <sub>max</sub> ) 76.665   | — |
| (20%E <sub>max</sub> ) 153.3302 | — |
| (30%E <sub>max</sub> ) 229.9955 | — |
| (40%E <sub>max</sub> ) 306.66   | — |
| (50%E <sub>max</sub> ) 383.325  | — |
| (60%E <sub>max</sub> ) 459.99   | — |
| (70%E <sub>max</sub> ) 536.655  | — |
| (80%E <sub>max</sub> ) 613.32   | — |
| (90%E <sub>max</sub> ) 689.985  | — |



Luminance Table

| $\gamma$ | 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  |

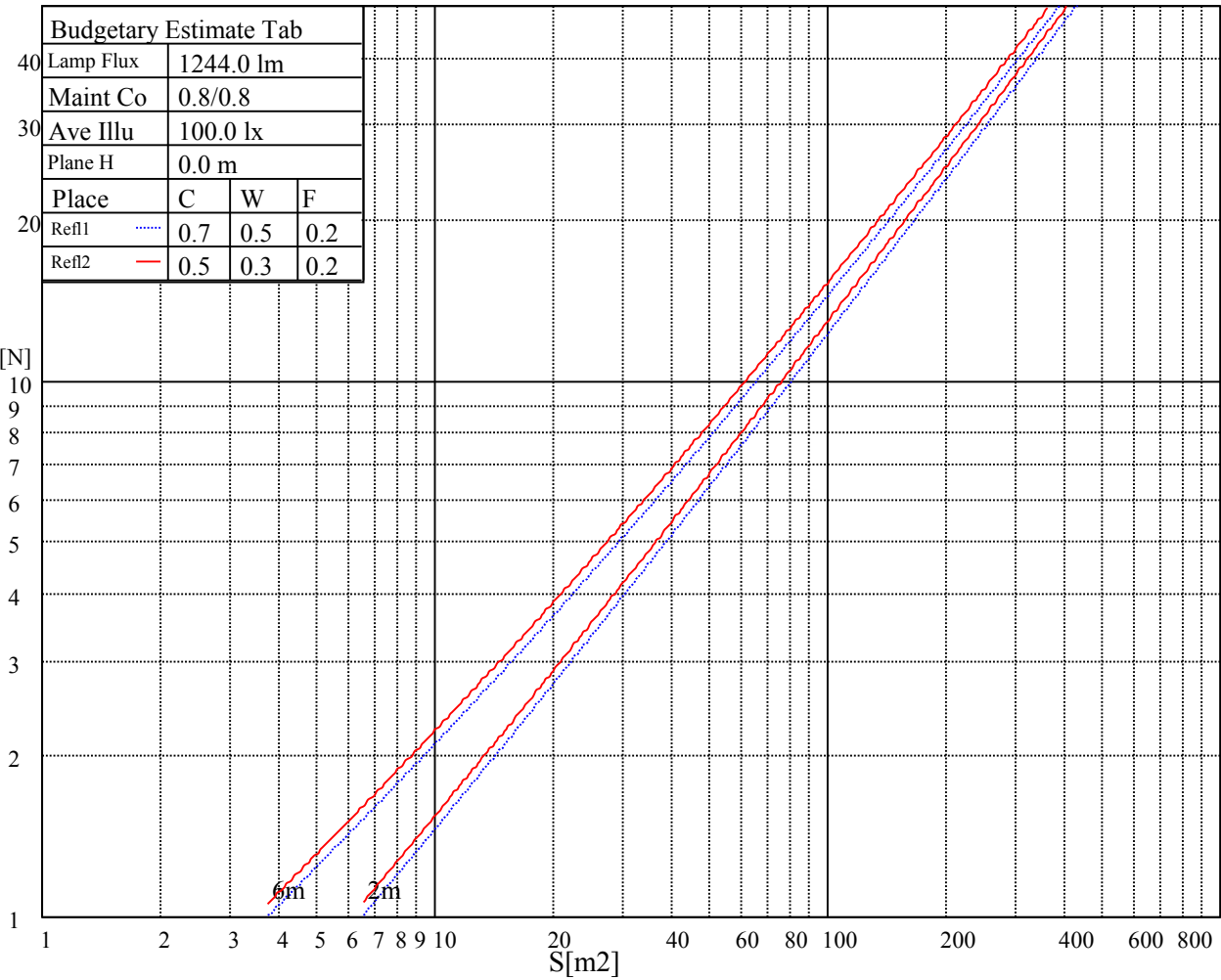
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 0          | 0          | 0       | 0          | 0          | 0       | 0     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

Glare Table

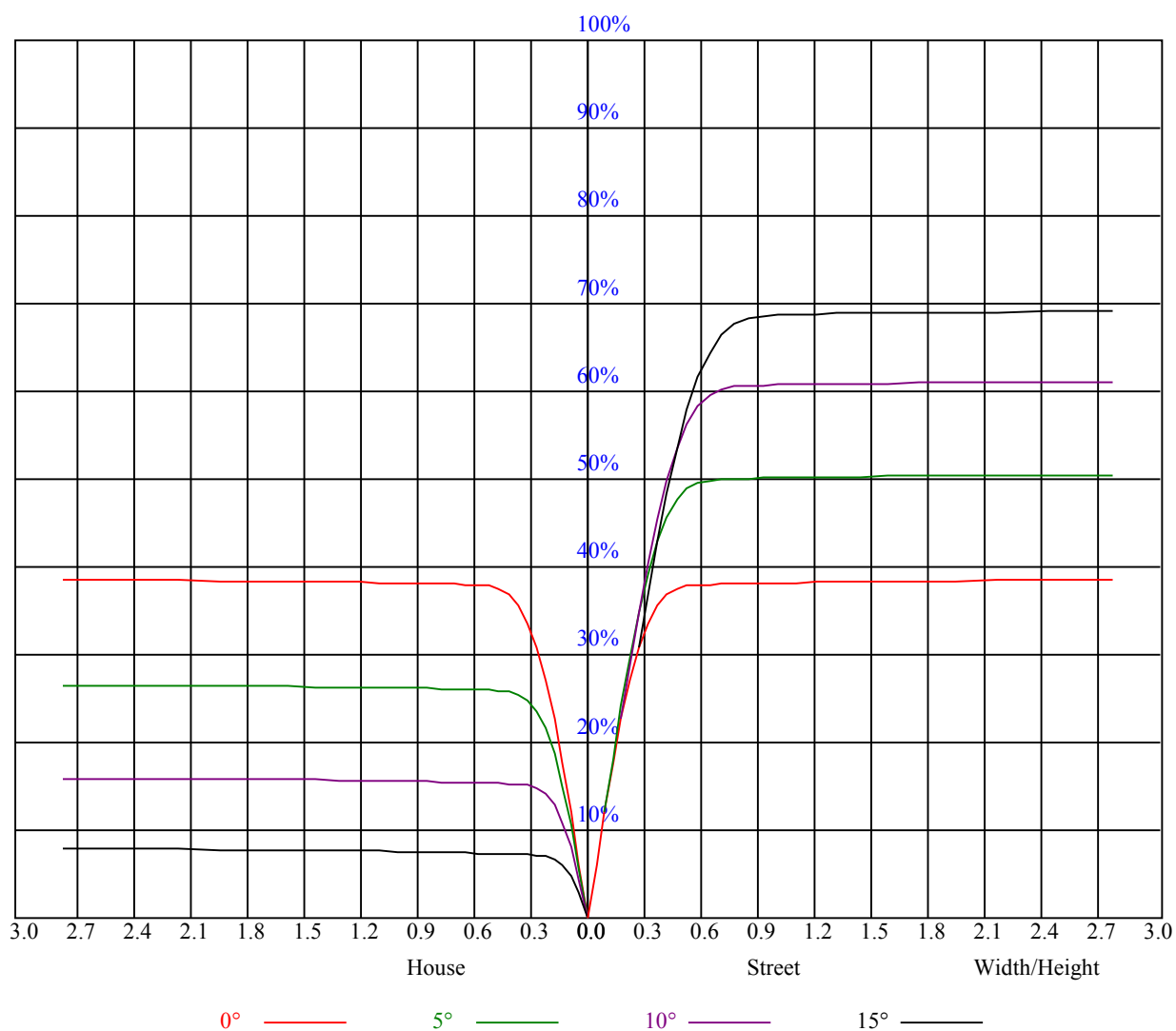
| Glare | Quality | Service Values Illuminance(lx) |      |      |            |            |            |            |            |
|-------|---------|--------------------------------|------|------|------------|------------|------------|------------|------------|
| 1.15  | A       | 2000                           | 1000 | 500  | $\leq 300$ |            |            |            |            |
| 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





| 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 | 0.84 | 0.84 | 0.84 | 0.80 | 0.80 | 0.80 | 0.79 |
| 1     | 0.88                                    | 0.87 | 0.85 | 0.86 | 0.85 | 0.84 | 0.83 | 0.82 | 0.81 | 0.80 | 0.80 | 0.79 | 0.78 | 0.77 | 0.77 | 0.75 |
| 2     | 0.84                                    | 0.81 | 0.79 | 0.82 | 0.80 | 0.78 | 0.80 | 0.78 | 0.77 | 0.78 | 0.76 | 0.75 | 0.76 | 0.74 | 0.73 | 0.72 |
| 3     | 0.80                                    | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.77 | 0.75 | 0.73 | 0.75 | 0.73 | 0.72 | 0.74 | 0.72 | 0.71 | 0.70 |
| 4     | 0.77                                    | 0.73 | 0.71 | 0.76 | 0.73 | 0.71 | 0.74 | 0.72 | 0.70 | 0.73 | 0.71 | 0.69 | 0.72 | 0.70 | 0.68 | 0.67 |
| 5     | 0.74                                    | 0.70 | 0.68 | 0.73 | 0.70 | 0.68 | 0.72 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.70 | 0.68 | 0.66 | 0.65 |
| 6     | 0.71                                    | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.69 | 0.67 | 0.65 | 0.68 | 0.66 | 0.64 | 0.68 | 0.65 | 0.64 | 0.63 |
| 7     | 0.69                                    | 0.65 | 0.63 | 0.68 | 0.65 | 0.63 | 0.67 | 0.64 | 0.62 | 0.66 | 0.64 | 0.62 | 0.66 | 0.63 | 0.62 | 0.61 |
| 8     | 0.66                                    | 0.63 | 0.61 | 0.66 | 0.63 | 0.61 | 0.65 | 0.62 | 0.60 | 0.65 | 0.62 | 0.60 | 0.64 | 0.62 | 0.60 | 0.59 |
| 9     | 0.64                                    | 0.61 | 0.59 | 0.64 | 0.61 | 0.59 | 0.63 | 0.60 | 0.58 | 0.63 | 0.60 | 0.58 | 0.62 | 0.60 | 0.58 | 0.57 |
| 10    | 0.62                                    | 0.59 | 0.57 | 0.62 | 0.59 | 0.57 | 0.61 | 0.59 | 0.57 | 0.61 | 0.58 | 0.56 | 0.60 | 0.58 | 0.56 | 0.56 |



| Intensity data(cd) |         |         |         |         |         |        |       |      |      | Appendix Page: 14 Total:14 |
|--------------------|---------|---------|---------|---------|---------|--------|-------|------|------|----------------------------|
| C/γ(°)             | 0.0     | 5.0     | 10.0    | 15.0    | 20.0    | 25.0   | 30.0  | 35.0 | 40.0 |                            |
| 0.0                | 3071.25 | 2898.00 | 2473.31 | 1776.38 | 938.81  | 286.31 | 13.95 | 7.54 | 5.79 |                            |
| 45.0               | 3070.13 | 2912.63 | 2517.75 | 1842.19 | 1003.50 | 291.94 | 15.64 | 7.76 | 6.08 |                            |
| 90.0               | 3066.75 | 2890.69 | 2516.06 | 1859.63 | 956.53  | 185.34 | 16.20 | 7.65 | 6.13 |                            |
| 135.0              | 3058.31 | 2990.81 | 2700.56 | 2139.75 | 1329.75 | 418.50 | 30.43 | 8.61 | 6.47 |                            |
| 180.0              | 3071.25 | 2973.38 | 2620.69 | 2056.50 | 1107.51 | 300.60 | 23.01 | 8.04 | 6.13 |                            |
| 225.0              | 3070.13 | 2947.50 | 2581.88 | 1948.50 | 1080.39 | 243.23 | 18.00 | 8.16 | 6.13 |                            |
| 270.0              | 3066.75 | 2939.63 | 2572.31 | 2014.31 | 1125.00 | 305.44 | 18.68 | 8.10 | 6.13 |                            |
| 315.0              | 3058.31 | 2837.25 | 2400.19 | 1667.81 | 765.17  | 94.39  | 12.26 | 7.09 | 5.68 |                            |
| 360.0              | 3071.25 | 2898.00 | 2473.31 | 1776.38 | 938.81  | 286.31 | 13.95 | 7.54 | 5.79 |                            |
| C/γ(°)             | 45.0    | 50.0    | 55.0    | 60.0    | 65.0    | 70.0   | 75.0  | 80.0 | 85.0 |                            |
| 0.0                | 5.12    | 4.78    | 4.61    | 4.50    | 4.50    | 4.44   | 4.44  | 4.39 | 4.39 |                            |
| 45.0               | 5.29    | 5.01    | 4.78    | 4.67    | 4.61    | 4.56   | 4.50  | 4.50 | 4.50 |                            |
| 90.0               | 5.34    | 5.01    | 4.78    | 4.67    | 4.61    | 4.61   | 4.56  | 4.61 | 4.61 |                            |
| 135.0              | 5.46    | 5.01    | 4.78    | 4.61    | 4.56    | 4.50   | 4.50  | 4.50 | 4.44 |                            |
| 180.0              | 5.23    | 4.89    | 4.67    | 4.56    | 4.44    | 4.44   | 4.39  | 4.39 | 4.39 |                            |
| 225.0              | 5.29    | 4.95    | 4.73    | 4.61    | 4.56    | 4.56   | 4.50  | 4.50 | 4.50 |                            |
| 270.0              | 5.40    | 5.01    | 4.78    | 4.67    | 4.61    | 4.61   | 4.56  | 4.56 | 4.56 |                            |
| 315.0              | 5.12    | 4.78    | 4.67    | 4.61    | 4.56    | 4.50   | 4.50  | 4.50 | 4.50 |                            |
| 360.0              | 5.12    | 4.78    | 4.61    | 4.50    | 4.50    | 4.44   | 4.44  | 4.39 | 4.39 |                            |
| C/γ(°)             | 90.0    |         |         |         |         |        |       |      |      |                            |
| 0.0                | 4.39    |         |         |         |         |        |       |      |      |                            |
| 45.0               | 4.50    |         |         |         |         |        |       |      |      |                            |
| 90.0               | 4.50    |         |         |         |         |        |       |      |      |                            |
| 135.0              | 4.50    |         |         |         |         |        |       |      |      |                            |
| 180.0              | 4.39    |         |         |         |         |        |       |      |      |                            |
| 225.0              | 4.50    |         |         |         |         |        |       |      |      |                            |
| 270.0              | 4.50    |         |         |         |         |        |       |      |      |                            |
| 315.0              | 4.50    |         |         |         |         |        |       |      |      |                            |
| 360.0              | 4.39    |         |         |         |         |        |       |      |      |                            |