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## Nata

LumCAT: 3-2500-L  
Luminaire: 92.70.131.00  
Report No: 200521-B007  
Test No: 200521-C007  
LampCAT: CITIZEN CLU038  
Lamp flux(lm): 2543.7  
Number of Lamps: 1  
Length(mm): 0  
Phm Type: C

Voltage(V): 35.6900  
Current(A): 0.6000  
Power (W): 21.4000  
PF: 0.0000  
Ballast type: DC  
Width(mm): 0  
Height(mm): 0

## Photometric Results

Lumens(lm): 2471.51  
Efficiency(%): 97.16%  
Lumens(lm)/Power(W): 115.49  
Central intensity(cd): 19704.380  
Maximum intensity(cd): 19704.380  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=15.0  
[C90/270]Total=15.0  
Field angle(10%Imax): [C0/180]Total=31.7  
[C90/270]Total=31.7  
Maximum s/h(1/2): C0\_180=0.26 C90\_270=0.26  
Maximum s/h(1/4): C0\_180=0.26 C90\_270=0.26  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 97.16%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.552%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 19704.375     | 0.000       | 0         | .000%       | .000%      |
| 1.0                | 19492.734     | 18.755      | 18.755    | .737%       | .759%      |
| 2.0                | 18786.797     | 54.942      | 73.697    | 2.160%      | 2.982%     |
| 3.0                | 17675.859     | 87.207      | 160.904   | 3.428%      | 6.510%     |
| 4.0                | 16314.609     | 113.777     | 274.681   | 4.473%      | 11.114%    |
| 5.0                | 14599.688     | 132.992     | 407.673   | 5.228%      | 16.495%    |
| 6.0                | 12623.133     | 143.063     | 550.736   | 5.624%      | 22.283%    |
| 7.0                | 10798.594     | 145.378     | 696.114   | 5.715%      | 28.166%    |
| 8.0                | 8946.141      | 141.309     | 837.424   | 5.555%      | 33.883%    |
| 9.0                | 7228.406      | 131.086     | 968.509   | 5.153%      | 39.187%    |
| 10.0               | 5742.984      | 117.386     | 1085.896  | 4.615%      | 43.937%    |
| 11.0               | 4544.016      | 102.788     | 1188.684  | 4.041%      | 48.096%    |
| 12.0               | 3707.930      | 90.206      | 1278.89   | 3.546%      | 51.745%    |
| 13.0               | 3059.156      | 80.308      | 1359.198  | 3.157%      | 54.995%    |
| 14.0               | 2577.164      | 72.144      | 1431.342  | 2.836%      | 57.914%    |
| 15.0               | 2239.664      | 66.128      | 1497.47   | 2.600%      | 60.589%    |
| 16.0               | 1914.188      | 60.866      | 1558.335  | 2.393%      | 63.052%    |
| 17.0               | 1658.461      | 55.636      | 1613.971  | 2.187%      | 65.303%    |
| 18.0               | 1473.258      | 51.635      | 1665.606  | 2.030%      | 67.392%    |
| 19.0               | 1333.477      | 48.831      | 1714.438  | 1.920%      | 69.368%    |
| 20.0               | 1210.922      | 46.570      | 1761.007  | 1.831%      | 71.252%    |
| 21.0               | 1113.708      | 44.638      | 1805.645  | 1.755%      | 73.059%    |
| 22.0               | 1046.046      | 43.401      | 1849.046  | 1.706%      | 74.815%    |
| 23.0               | 996.813       | 42.865      | 1891.911  | 1.685%      | 76.549%    |
| 24.0               | 944.705       | 42.449      | 1934.359  | 1.669%      | 78.266%    |
| 25.0               | 908.796       | 42.145      | 1976.504  | 1.657%      | 79.972%    |
| 26.0               | 879.279       | 42.208      | 2018.712  | 1.659%      | 81.679%    |
| 27.0               | 851.885       | 42.353      | 2061.065  | 1.665%      | 83.393%    |
| 28.0               | 829.343       | 42.565      | 2103.63   | 1.673%      | 85.115%    |
| 29.0               | 800.986       | 42.654      | 2146.284  | 1.677%      | 86.841%    |
| 30.0               | 760.331       | 42.155      | 2188.439  | 1.657%      | 88.547%    |
| 31.0               | 702.598       | 40.711      | 2229.151  | 1.600%      | 90.194%    |
| 32.0               | 622.680       | 37.968      | 2267.118  | 1.493%      | 91.730%    |
| 33.0               | 535.802       | 34.129      | 2301.248  | 1.342%      | 93.111%    |
| 34.0               | 444.122       | 29.655      | 2330.903  | 1.166%      | 94.311%    |
| 35.0               | 349.179       | 24.637      | 2355.54   | .969%       | 95.308%    |
| 36.0               | 250.966       | 19.109      | 2374.649  | .751%       | 96.081%    |
| 37.0               | 178.249       | 13.999      | 2388.647  | .550%       | 96.647%    |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 101.313       | 9.331       | 2397.979  | .367%       | 97.025%    |
| 39.0               | 54.330        | 5.313       | 2403.291  | .209%       | 97.240%    |
| 40.0               | 34.495        | 3.098       | 2406.389  | .122%       | 97.365%    |
| 41.0               | 26.698        | 2.179       | 2408.568  | .086%       | 97.453%    |
| 42.0               | 23.330        | 1.818       | 2410.386  | .071%       | 97.527%    |
| 43.0               | 21.312        | 1.654       | 2412.04   | .065%       | 97.594%    |
| 44.0               | 20.278        | 1.570       | 2413.609  | .062%       | 97.657%    |
| 45.0               | 19.491        | 1.528       | 2415.138  | .060%       | 97.719%    |
| 46.0               | 18.689        | 1.493       | 2416.631  | .059%       | 97.780%    |
| 47.0               | 18.007        | 1.459       | 2418.09   | .057%       | 97.839%    |
| 48.0               | 17.388        | 1.431       | 2419.521  | .056%       | 97.897%    |
| 49.0               | 16.952        | 1.410       | 2420.931  | .055%       | 97.954%    |
| 50.0               | 16.608        | 1.399       | 2422.331  | .055%       | 98.010%    |
| 51.0               | 16.017        | 1.380       | 2423.711  | .054%       | 98.066%    |
| 52.0               | 15.581        | 1.356       | 2425.067  | .053%       | 98.121%    |
| 53.0               | 15.145        | 1.337       | 2426.403  | .053%       | 98.175%    |
| 54.0               | 14.871        | 1.323       | 2427.726  | .052%       | 98.229%    |
| 55.0               | 14.639        | 1.317       | 2429.044  | .052%       | 98.282%    |
| 56.0               | 14.583        | 1.320       | 2430.364  | .052%       | 98.335%    |
| 57.0               | 14.534        | 1.331       | 2431.695  | .052%       | 98.389%    |
| 58.0               | 14.435        | 1.340       | 2433.035  | .053%       | 98.443%    |
| 59.0               | 14.337        | 1.345       | 2434.38   | .053%       | 98.498%    |
| 60.0               | 14.175        | 1.347       | 2435.727  | .053%       | 98.552%    |
| 61.0               | 13.999        | 1.345       | 2437.072  | .053%       | 98.607%    |
| 62.0               | 13.788        | 1.339       | 2438.411  | .053%       | 98.661%    |
| 63.0               | 13.570        | 1.331       | 2439.741  | .052%       | 98.715%    |
| 64.0               | 13.380        | 1.322       | 2441.064  | .052%       | 98.768%    |
| 65.0               | 13.113        | 1.311       | 2442.375  | .052%       | 98.821%    |
| 66.0               | 12.902        | 1.298       | 2443.673  | .051%       | 98.874%    |
| 67.0               | 12.734        | 1.289       | 2444.962  | .051%       | 98.926%    |
| 68.0               | 12.459        | 1.276       | 2446.238  | .050%       | 98.978%    |
| 69.0               | 12.234        | 1.260       | 2447.498  | .050%       | 99.029%    |
| 70.0               | 11.967        | 1.243       | 2448.741  | .049%       | 99.079%    |
| 71.0               | 11.665        | 1.221       | 2449.962  | .048%       | 99.128%    |
| 72.0               | 11.348        | 1.197       | 2451.159  | .047%       | 99.177%    |
| 73.0               | 11.095        | 1.174       | 2452.332  | .046%       | 99.224%    |
| 74.0               | 10.934        | 1.158       | 2453.491  | .046%       | 99.271%    |
| 75.0               | 10.814        | 1.149       | 2454.64   | .045%       | 99.318%    |

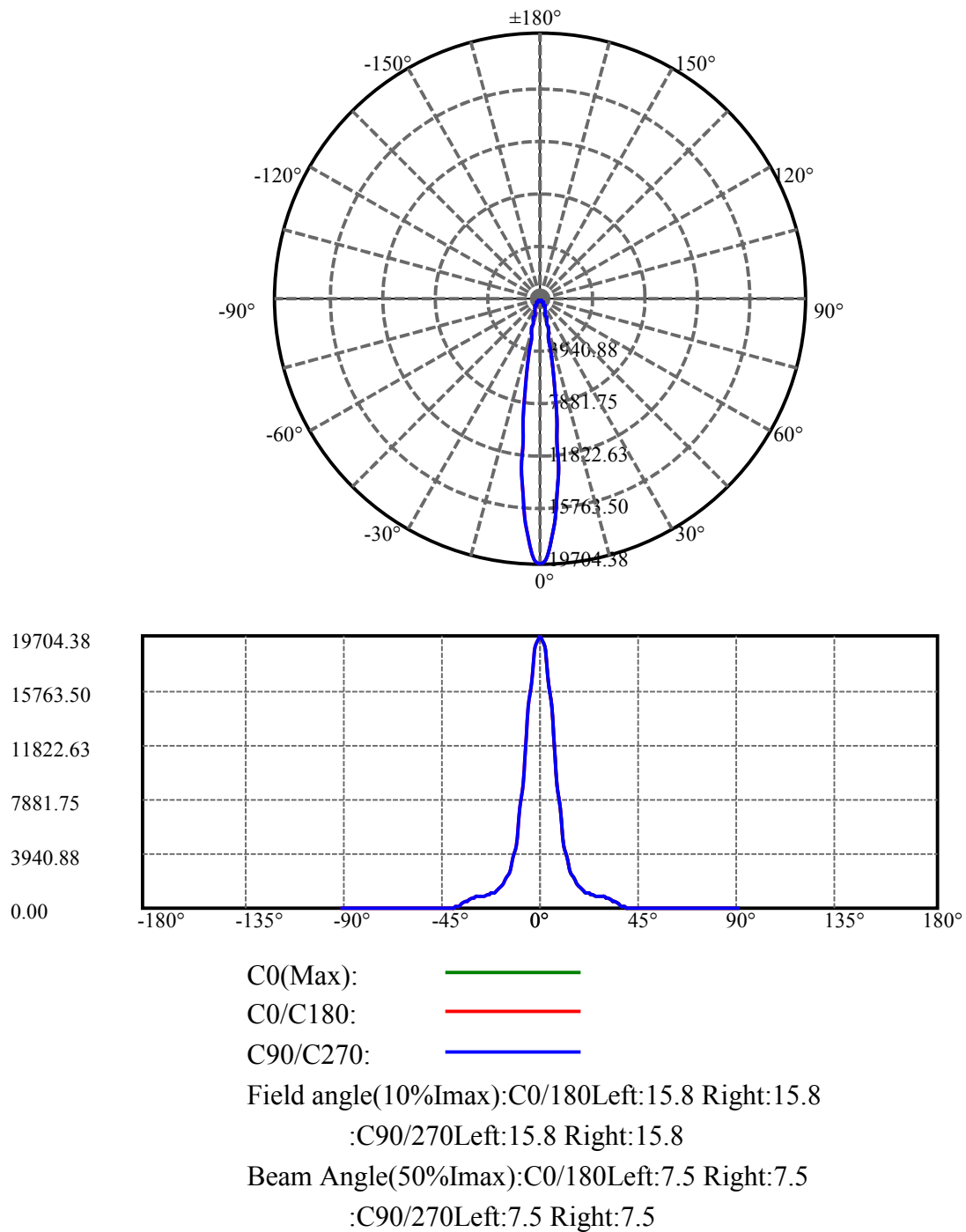
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 10.786        | 1.147       | 2455.786  | .045%       | 99.364%    |
| 77.0               | 10.716        | 1.146       | 2456.933  | .045%       | 99.410%    |
| 78.0               | 10.659        | 1.144       | 2458.077  | .045%       | 99.457%    |
| 79.0               | 10.589        | 1.142       | 2459.219  | .045%       | 99.503%    |
| 80.0               | 10.526        | 1.138       | 2460.357  | .045%       | 99.549%    |
| 81.0               | 10.463        | 1.135       | 2461.492  | .045%       | 99.595%    |
| 82.0               | 10.385        | 1.131       | 2462.622  | .044%       | 99.641%    |
| 83.0               | 10.336        | 1.126       | 2463.749  | .044%       | 99.686%    |
| 84.0               | 10.280        | 1.123       | 2464.872  | .044%       | 99.732%    |
| 85.0               | 10.209        | 1.118       | 2465.99   | .044%       | 99.777%    |
| 86.0               | 10.153        | 1.113       | 2467.103  | .044%       | 99.822%    |
| 87.0               | 10.118        | 1.109       | 2468.213  | .044%       | 99.867%    |
| 88.0               | 10.027        | 1.103       | 2469.316  | .043%       | 99.911%    |
| 89.0               | 10.005        | 1.098       | 2470.414  | .043%       | 99.956%    |
| 90.0               | 9.900         | 1.091       | 2471.505  | .043%       | 100.000%   |

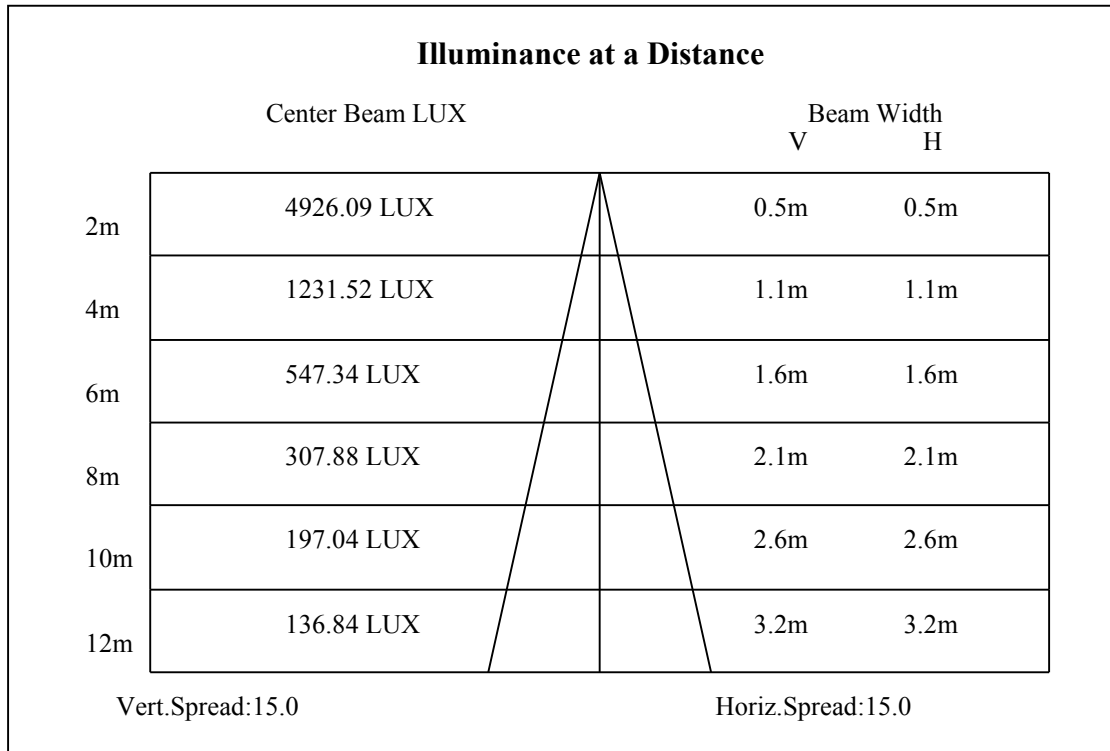
## ZONAL LUMEN SUMMARY

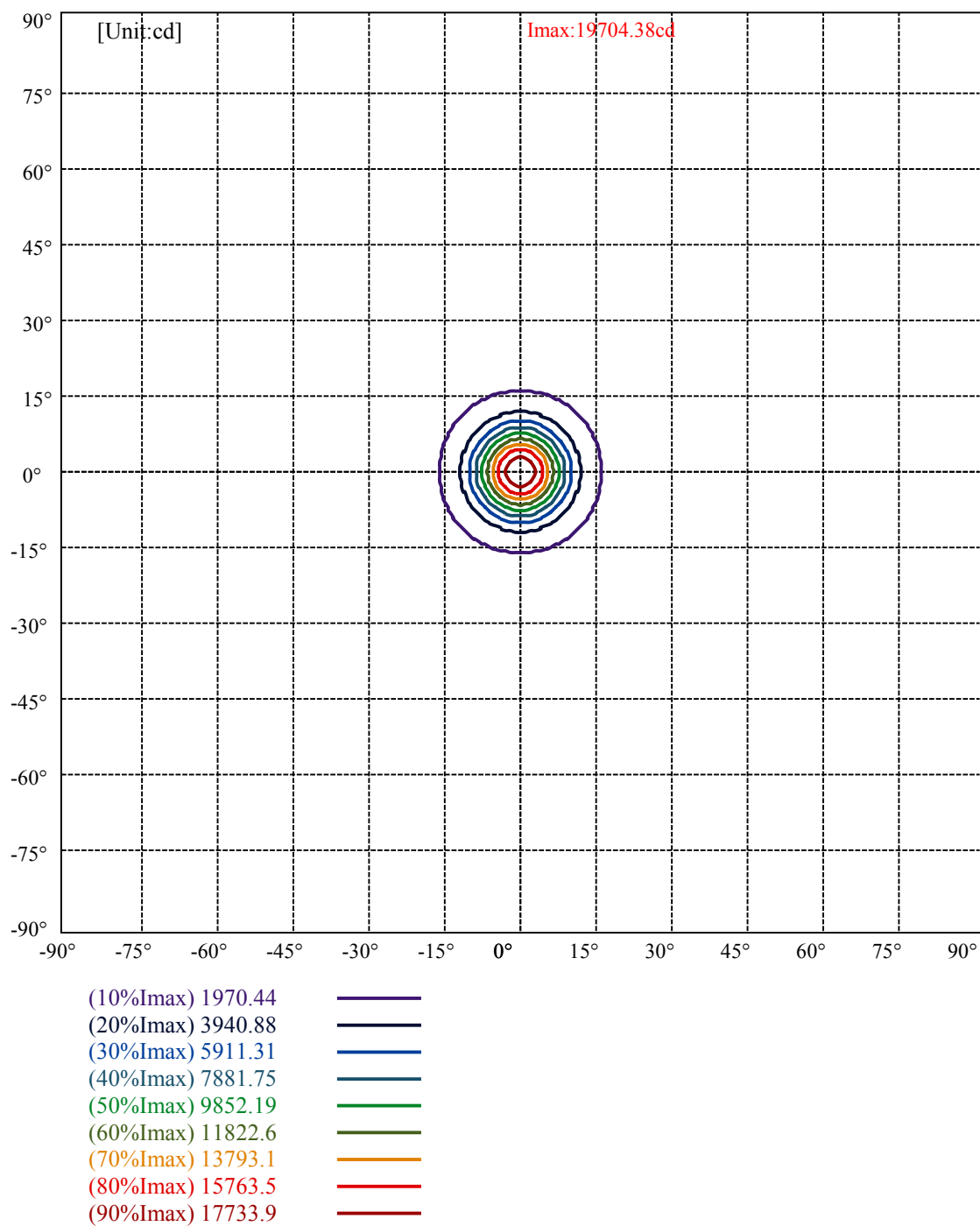
| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 2188.44 | 86.03% | 88.55%  |
| 0-40    | 2406.39 | 94.60% | 97.37%  |
| 0-60    | 2435.73 | 95.76% | 98.55%  |
| 0-90    | 2470.41 | 97.12% | 99.96%  |
| 0-120   | 2470.41 | 97.12% | 99.96%  |
| 0-180   | 2471.51 | 97.16% | 100.00% |
| 60-90   | 36.03   | 1.42%  | 1.46%   |
| 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%   |
| 0-25.02 | 1977.20 | 77.73% | 80.00%  |

## ZONAL LUMEN SUMMARY

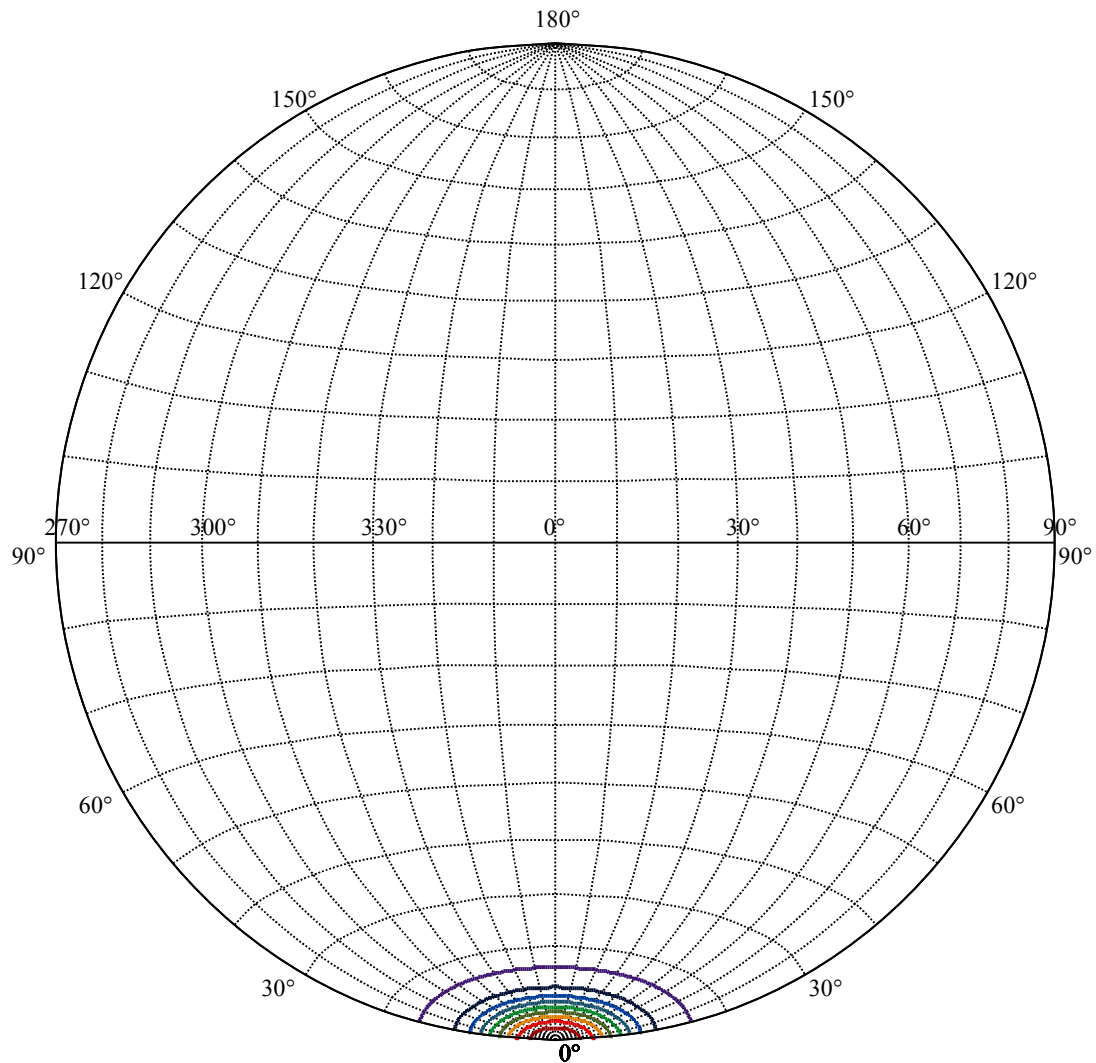
|         |         |
|---------|---------|
| 0-10    | 1085.90 |
| 10-20   | 675.11  |
| 20-30   | 427.43  |
| 30-40   | 217.95  |
| 40-50   | 15.94   |
| 50-60   | 13.40   |
| 60-70   | 13.01   |
| 70-80   | 11.62   |
| 80-90   | 10.06   |
| 90-100  | 0.00    |
| 100-110 | 0.00    |
| 110-120 | 0.00    |
| 120-130 | 0.00    |
| 130-140 | 0.00    |
| 140-150 | 0.00    |
| 150-160 | 0.00    |
| 160-170 | 0.00    |
| 170-180 | 0.00    |











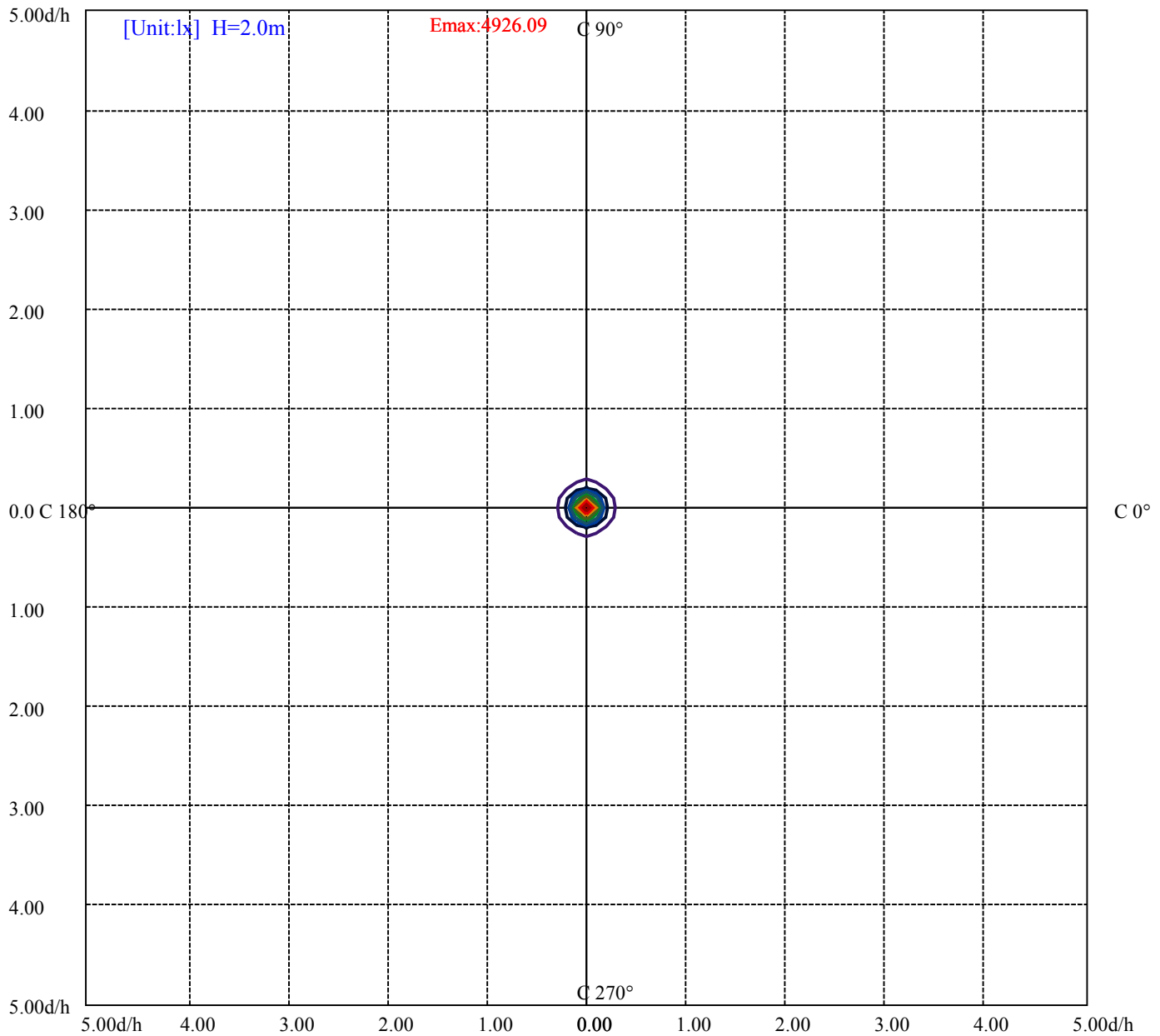
House

[Unit:cd]

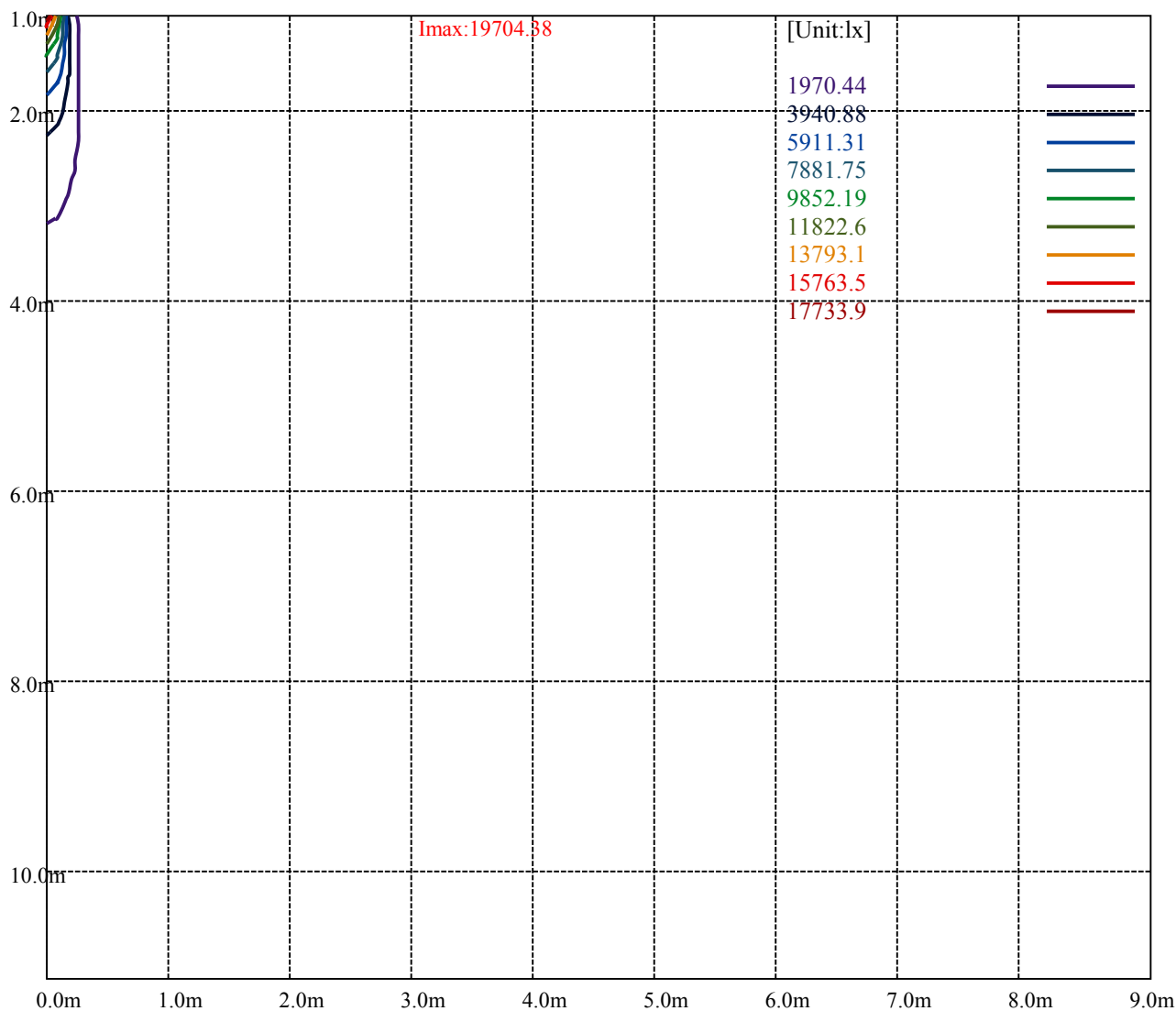
Road

**Imax:19704.38**

|           |         |   |
|-----------|---------|---|
| (10%Imax) | 1970.44 | — |
| (20%Imax) | 3940.88 | — |
| (30%Imax) | 5911.31 | — |
| (40%Imax) | 7881.75 | — |
| (50%Imax) | 9852.19 | — |
| (60%Imax) | 11822.6 | — |
| (70%Imax) | 13793.1 | — |
| (80%Imax) | 15763.5 | — |
| (90%Imax) | 17733.9 | — |



|                    |   |
|--------------------|---|
| (10%Emax) 492.6075 | — |
| (20%Emax) 985.2175 | — |
| (30%Emax) 1477.825 | — |
| (40%Emax) 1970.435 | — |
| (50%Emax) 2463.042 | — |
| (60%Emax) 2955.65  | — |
| (70%Emax) 3448.25  | — |
| (80%Emax) 3940.875 | — |
| (90%Emax) 4433.475 | — |



Luminance Table

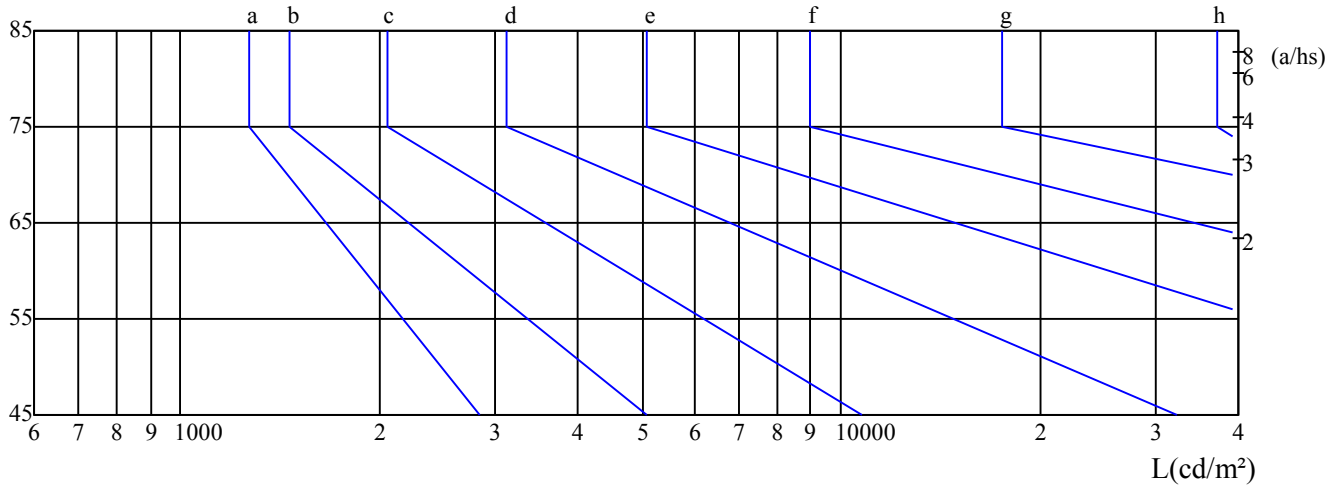
| $\gamma$ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|----|----|----|----|----|----|----|----|----|
| C0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C45      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| C90      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

| 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          |

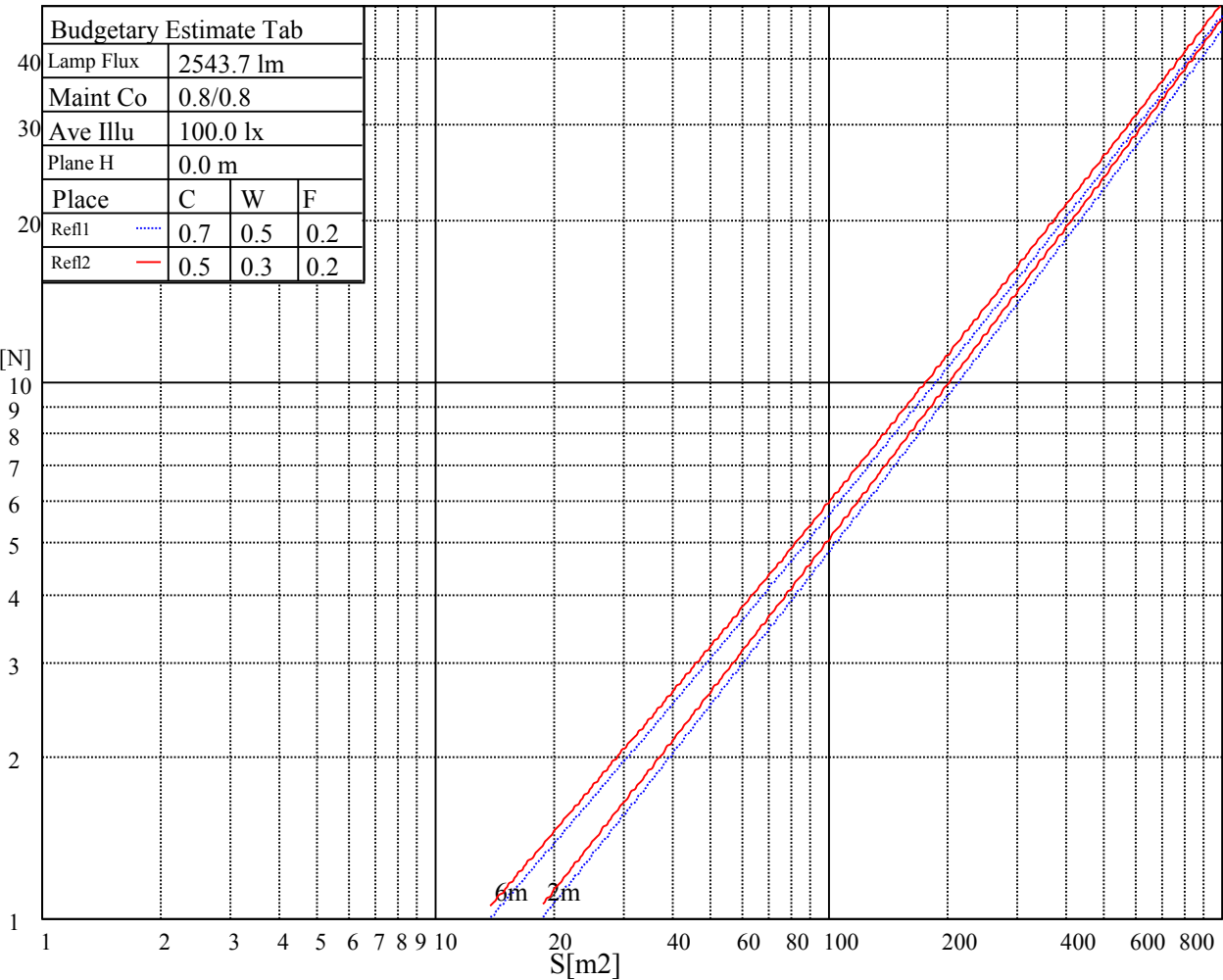
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

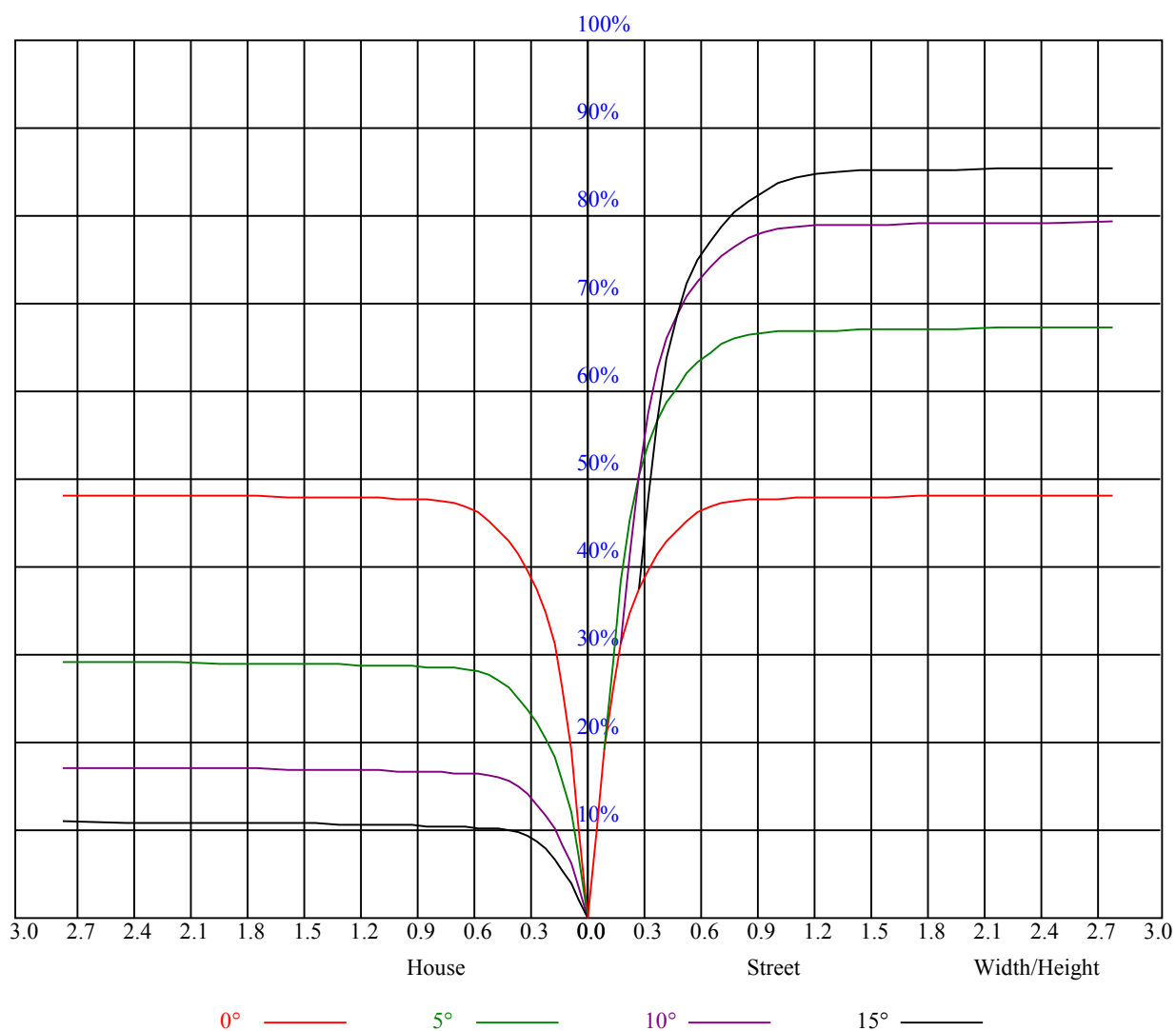
C0 ———

C45 ———

C90 ———



| 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     | 1.16                                    | 1.16 | 1.16 | 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     | 1.09                                    | 1.07 | 1.06 | 1.07 | 1.05 | 1.04 | 1.03 | 1.02 | 1.01 | 1.00 | 0.99 | 0.98 | 0.96 | 0.96 | 0.95 | 0.93 |
| 2     | 1.04                                    | 1.01 | 0.98 | 1.02 | 1.00 | 0.97 | 0.99 | 0.97 | 0.95 | 0.96 | 0.95 | 0.93 | 0.94 | 0.92 | 0.91 | 0.90 |
| 3     | 0.99                                    | 0.96 | 0.93 | 0.98 | 0.95 | 0.92 | 0.96 | 0.93 | 0.91 | 0.93 | 0.91 | 0.89 | 0.91 | 0.89 | 0.88 | 0.87 |
| 4     | 0.95                                    | 0.91 | 0.88 | 0.94 | 0.91 | 0.88 | 0.92 | 0.89 | 0.87 | 0.91 | 0.88 | 0.86 | 0.89 | 0.87 | 0.85 | 0.84 |
| 5     | 0.92                                    | 0.88 | 0.85 | 0.91 | 0.87 | 0.84 | 0.89 | 0.86 | 0.84 | 0.88 | 0.85 | 0.83 | 0.87 | 0.84 | 0.82 | 0.81 |
| 6     | 0.89                                    | 0.84 | 0.81 | 0.88 | 0.84 | 0.81 | 0.87 | 0.83 | 0.81 | 0.85 | 0.82 | 0.80 | 0.84 | 0.82 | 0.80 | 0.79 |
| 7     | 0.86                                    | 0.82 | 0.79 | 0.85 | 0.81 | 0.79 | 0.84 | 0.81 | 0.78 | 0.83 | 0.80 | 0.78 | 0.82 | 0.79 | 0.77 | 0.76 |
| 8     | 0.83                                    | 0.79 | 0.76 | 0.83 | 0.79 | 0.76 | 0.82 | 0.78 | 0.76 | 0.81 | 0.78 | 0.76 | 0.80 | 0.77 | 0.75 | 0.74 |
| 9     | 0.81                                    | 0.77 | 0.74 | 0.80 | 0.77 | 0.74 | 0.80 | 0.76 | 0.74 | 0.79 | 0.76 | 0.74 | 0.78 | 0.75 | 0.73 | 0.72 |
| 10    | 0.79                                    | 0.75 | 0.72 | 0.78 | 0.75 | 0.72 | 0.78 | 0.74 | 0.72 | 0.77 | 0.74 | 0.72 | 0.76 | 0.74 | 0.72 | 0.71 |



## 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    | 19901.25 | 19468.13 | 18635.63 | 17088.75 | 15592.50 | 13854.38 | 11559.38 | 9748.13  | 8026.88  |
| 45.0   | 19681.88 | 18967.50 | 17538.75 | 16104.38 | 14506.88 | 12521.25 | 10440.00 | 8595.00  | 6755.63  |
| 90.0   | 19518.75 | 18905.63 | 17775.00 | 16306.88 | 14771.25 | 12268.13 | 10790.44 | 8950.50  | 7039.13  |
| 135.0  | 19715.63 | 19687.50 | 19198.13 | 18208.13 | 17021.25 | 15412.50 | 13556.25 | 11750.63 | 9978.75  |
| 180.0  | 19901.25 | 19850.63 | 19417.50 | 18579.38 | 17094.38 | 15823.13 | 13978.13 | 11227.50 | 10082.25 |
| 225.0  | 19681.88 | 19991.25 | 19878.75 | 19265.63 | 18348.75 | 16931.25 | 15187.50 | 13511.25 | 11008.69 |
| 270.0  | 19518.75 | 19755.00 | 19468.13 | 18787.50 | 17752.50 | 16222.50 | 14405.63 | 12678.75 | 10670.63 |
| 315.0  | 19715.63 | 19316.25 | 18382.50 | 17066.25 | 15429.38 | 13764.38 | 11067.75 | 9927.00  | 8007.19  |
| 360.0  | 19901.25 | 19468.13 | 18635.63 | 17088.75 | 15592.50 | 13854.38 | 11559.38 | 9748.13  | 8026.88  |

| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 6125.63 | 4921.88 | 4016.25 | 3279.38 | 2846.25 | 2378.25 | 2037.94 | 1796.06 | 1574.44 |
| 45.0   | 5265.00 | 4241.25 | 3414.38 | 2863.13 | 2417.63 | 2063.25 | 1815.19 | 1616.06 | 1424.25 |
| 90.0   | 5588.44 | 4361.06 | 3493.13 | 2935.69 | 2457.00 | 2084.06 | 1817.44 | 1604.25 | 1399.50 |
| 135.0  | 7801.88 | 6221.25 | 4944.38 | 3915.00 | 3189.38 | 2868.75 | 2299.50 | 1978.88 | 1748.25 |
| 180.0  | 8278.88 | 6473.25 | 5032.13 | 4108.50 | 3285.56 | 2794.50 | 2404.13 | 2091.94 | 1777.50 |
| 225.0  | 9627.75 | 7652.25 | 5960.25 | 4800.38 | 3922.31 | 3201.19 | 2666.25 | 2298.94 | 1942.88 |
| 270.0  | 8696.25 | 7059.38 | 5512.50 | 4455.00 | 3566.25 | 2913.75 | 2851.88 | 2142.00 | 1831.50 |
| 315.0  | 6443.44 | 5013.56 | 3979.13 | 3306.38 | 2788.88 | 2313.56 | 2025.00 | 1785.38 | 1569.38 |
| 360.0  | 6125.63 | 4921.88 | 4016.25 | 3279.38 | 2846.25 | 2378.25 | 2037.94 | 1796.06 | 1574.44 |

| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0    | 24.0    | 25.0   | 26.0   |
|--------|---------|---------|---------|---------|---------|---------|---------|--------|--------|
| 0.0    | 1405.13 | 1281.38 | 1172.25 | 1092.38 | 1034.44 | 986.06  | 939.38  | 910.13 | 886.50 |
| 45.0   | 1294.88 | 1204.31 | 1113.19 | 1057.50 | 1008.00 | 967.50  | 927.56  | 898.31 | 874.69 |
| 90.0   | 1269.56 | 1113.75 | 1061.94 | 991.24  | 942.02  | 895.28  | 856.13  | 829.58 | 806.68 |
| 135.0  | 1528.88 | 1392.75 | 1265.06 | 1155.38 | 1084.50 | 1020.38 | 967.50  | 927.56 | 896.06 |
| 180.0  | 1578.94 | 1423.69 | 1284.19 | 1116.90 | 1093.05 | 1027.18 | 971.55  | 931.16 | 894.26 |
| 225.0  | 1719.56 | 1546.88 | 1406.25 | 1261.69 | 1116.00 | 1100.76 | 1031.40 | 984.88 | 946.91 |
| 270.0  | 1585.69 | 1422.00 | 1267.31 | 1141.88 | 1058.06 | 1001.25 | 927.00  | 883.69 | 853.88 |
| 315.0  | 1403.44 | 1283.06 | 1117.18 | 1092.71 | 1032.30 | 976.11  | 937.13  | 905.06 | 875.25 |
| 360.0  | 1405.13 | 1281.38 | 1172.25 | 1092.38 | 1034.44 | 986.06  | 939.38  | 910.13 | 886.50 |

| C/γ(°) | 27.0   | 28.0   | 29.0   | 30.0   | 31.0   | 32.0   | 33.0   | 34.0   | 35.0   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0    | 862.31 | 839.25 | 812.81 | 756.56 | 680.63 | 597.38 | 492.75 | 395.44 | 288.56 |
| 45.0   | 849.38 | 829.13 | 786.38 | 713.25 | 618.75 | 527.63 | 433.69 | 334.13 | 291.38 |
| 90.0   | 781.59 | 760.67 | 726.36 | 671.29 | 603.17 | 502.20 | 418.39 | 335.93 | 232.43 |
| 135.0  | 865.13 | 846.00 | 822.94 | 797.63 | 744.75 | 678.94 | 590.63 | 487.69 | 392.06 |
| 180.0  | 868.84 | 844.82 | 819.79 | 798.86 | 760.78 | 683.83 | 607.89 | 518.34 | 400.67 |
| 225.0  | 913.61 | 886.11 | 863.55 | 839.48 | 812.14 | 751.84 | 670.78 | 583.71 | 483.08 |
| 270.0  | 816.75 | 790.88 | 772.88 | 744.19 | 702.56 | 655.31 | 571.50 | 496.13 | 414.56 |
| 315.0  | 857.48 | 837.90 | 803.19 | 761.40 | 698.01 | 584.33 | 500.79 | 401.63 | 290.70 |
| 360.0  | 862.31 | 839.25 | 812.81 | 756.56 | 680.63 | 597.38 | 492.75 | 395.44 | 288.56 |

| C/γ(°) | 36.0   | 37.0   | 38.0   | 39.0   | 40.0  | 41.0  | 42.0  | 43.0  | 44.0  |
|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 0.0    | 231.69 | 111.60 | 56.70  | 29.14  | 24.13 | 20.87 | 17.89 | 17.04 | 16.48 |
| 45.0   | 148.11 | 83.19  | 45.45  | 33.24  | 29.42 | 26.21 | 24.36 | 23.34 | 22.50 |
| 90.0   | 158.23 | 95.40  | 51.75  | 32.29  | 28.97 | 25.48 | 23.18 | 22.73 | 22.39 |
| 135.0  | 284.63 | 224.04 | 111.94 | 53.38  | 28.69 | 22.50 | 19.01 | 16.43 | 15.53 |
| 180.0  | 305.55 | 215.49 | 129.26 | 63.45  | 33.13 | 24.13 | 20.76 | 17.49 | 16.26 |
| 225.0  | 376.59 | 288.11 | 201.66 | 109.63 | 57.49 | 35.61 | 30.54 | 26.44 | 23.74 |
| 270.0  | 312.19 | 291.38 | 156.49 | 83.14  | 48.71 | 36.23 | 30.83 | 27.96 | 26.72 |
| 315.0  | 190.74 | 116.78 | 57.26  | 30.38  | 25.43 | 22.56 | 20.08 | 19.07 | 18.62 |
| 360.0  | 231.69 | 111.60 | 56.70  | 29.14  | 24.13 | 20.87 | 17.89 | 17.04 | 16.48 |



## Nata 3-2500-L

| Intensity data(cd) |       |       |       |       |       |       |       |       |       | Appendix Page: 17 Total:18 |  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------------|--|
| C/γ(°)             | 45.0  | 46.0  | 47.0  | 48.0  | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |                            |  |
| 0.0                | 15.98 | 15.36 | 15.02 | 14.63 | 14.34 | 14.06 | 13.73 | 13.39 | 13.16 |                            |  |
| 45.0               | 21.21 | 20.03 | 19.24 | 18.68 | 18.00 | 17.16 | 16.43 | 15.92 | 15.47 |                            |  |
| 90.0               | 21.49 | 20.98 | 20.36 | 19.52 | 19.35 | 19.01 | 17.44 | 17.27 | 16.99 |                            |  |
| 135.0              | 15.02 | 14.57 | 14.06 | 13.67 | 13.28 | 13.16 | 12.94 | 12.71 | 12.49 |                            |  |
| 180.0              | 15.75 | 15.19 | 14.63 | 14.29 | 13.95 | 13.73 | 13.56 | 13.33 | 12.94 |                            |  |
| 225.0              | 22.67 | 21.77 | 20.76 | 19.69 | 19.01 | 18.56 | 17.83 | 17.38 | 16.82 |                            |  |
| 270.0              | 25.93 | 24.41 | 23.46 | 22.50 | 21.83 | 21.54 | 20.87 | 19.86 | 18.96 |                            |  |
| 315.0              | 17.89 | 17.21 | 16.54 | 16.14 | 15.86 | 15.64 | 15.36 | 14.79 | 14.34 |                            |  |
| 360.0              | 15.98 | 15.36 | 15.02 | 14.63 | 14.34 | 14.06 | 13.73 | 13.39 | 13.16 |                            |  |
| C/γ(°)             | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |                            |  |
| 0.0                | 13.05 | 13.05 | 13.11 | 13.11 | 13.11 | 13.16 | 13.05 | 12.94 | 12.83 |                            |  |
| 45.0               | 15.02 | 14.74 | 14.51 | 14.40 | 14.34 | 13.84 | 13.67 | 13.56 | 13.56 |                            |  |
| 90.0               | 16.99 | 16.59 | 17.10 | 17.33 | 16.31 | 16.20 | 16.31 | 16.03 | 15.19 |                            |  |
| 135.0              | 12.38 | 12.32 | 12.32 | 12.38 | 12.38 | 12.32 | 12.32 | 12.26 | 12.26 |                            |  |
| 180.0              | 12.71 | 12.54 | 12.54 | 12.54 | 12.54 | 12.54 | 12.54 | 12.54 | 12.43 |                            |  |
| 225.0              | 16.26 | 15.86 | 15.69 | 15.36 | 15.13 | 15.08 | 14.91 | 14.91 | 14.91 |                            |  |
| 270.0              | 18.56 | 18.17 | 17.61 | 17.49 | 18.11 | 18.17 | 17.44 | 16.76 | 16.31 |                            |  |
| 315.0              | 14.01 | 13.84 | 13.78 | 13.67 | 13.56 | 13.39 | 13.16 | 12.99 | 12.83 |                            |  |
| 360.0              | 13.05 | 13.05 | 13.11 | 13.11 | 13.11 | 13.16 | 13.05 | 12.94 | 12.83 |                            |  |
| C/γ(°)             | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |                            |  |
| 0.0                | 12.71 | 12.66 | 12.54 | 12.49 | 12.32 | 12.26 | 12.15 | 11.87 | 11.59 |                            |  |
| 45.0               | 13.56 | 13.44 | 13.22 | 12.66 | 12.54 | 12.32 | 11.93 | 11.59 | 11.25 |                            |  |
| 90.0               | 14.46 | 14.29 | 13.28 | 12.77 | 12.77 | 12.26 | 11.76 | 11.59 | 11.42 |                            |  |
| 135.0              | 12.26 | 12.32 | 12.38 | 12.32 | 12.21 | 12.09 | 11.98 | 11.70 | 11.42 |                            |  |
| 180.0              | 12.38 | 12.32 | 12.26 | 12.26 | 12.21 | 12.09 | 12.09 | 11.98 | 11.70 |                            |  |
| 225.0              | 14.74 | 14.51 | 14.23 | 14.12 | 14.06 | 13.50 | 13.22 | 12.94 | 12.54 |                            |  |
| 270.0              | 15.75 | 14.91 | 14.40 | 14.06 | 13.28 | 12.83 | 12.66 | 12.32 | 11.98 |                            |  |
| 315.0              | 12.71 | 12.60 | 12.60 | 12.54 | 12.49 | 12.32 | 12.09 | 11.76 | 11.42 |                            |  |
| 360.0              | 12.71 | 12.66 | 12.54 | 12.49 | 12.32 | 12.26 | 12.15 | 11.87 | 11.59 |                            |  |
| C/γ(°)             | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |                            |  |
| 0.0                | 11.36 | 11.14 | 11.03 | 10.97 | 10.91 | 10.86 | 10.86 | 10.80 | 10.74 |                            |  |
| 45.0               | 10.97 | 10.80 | 10.69 | 10.58 | 10.52 | 10.52 | 10.41 | 10.35 | 10.35 |                            |  |
| 90.0               | 11.25 | 11.14 | 11.14 | 11.14 | 11.14 | 11.03 | 11.03 | 10.86 | 10.80 |                            |  |
| 135.0              | 11.19 | 10.86 | 10.69 | 10.52 | 10.52 | 10.41 | 10.35 | 10.29 | 10.24 |                            |  |
| 180.0              | 11.42 | 11.14 | 10.86 | 10.74 | 10.74 | 10.63 | 10.58 | 10.58 | 10.46 |                            |  |
| 225.0              | 11.98 | 11.59 | 11.31 | 10.97 | 10.86 | 10.80 | 10.69 | 10.58 | 10.52 |                            |  |
| 270.0              | 11.64 | 11.42 | 11.25 | 11.14 | 11.14 | 11.08 | 11.03 | 10.97 | 10.86 |                            |  |
| 315.0              | 10.97 | 10.69 | 10.52 | 10.46 | 10.46 | 10.41 | 10.35 | 10.29 | 10.24 |                            |  |
| 360.0              | 11.36 | 11.14 | 11.03 | 10.97 | 10.91 | 10.86 | 10.86 | 10.80 | 10.74 |                            |  |
| C/γ(°)             | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |                            |  |
| 0.0                | 10.69 | 10.58 | 10.52 | 10.46 | 10.35 | 10.35 | 10.29 | 10.01 | 9.90  |                            |  |
| 45.0               | 10.29 | 10.24 | 10.24 | 10.18 | 10.13 | 10.07 | 10.07 | 10.01 | 9.90  |                            |  |
| 90.0               | 10.69 | 10.52 | 10.46 | 10.35 | 10.24 | 10.13 | 10.07 | 9.90  | 9.84  |                            |  |
| 135.0              | 10.18 | 10.13 | 10.13 | 10.13 | 10.07 | 10.01 | 10.01 | 10.01 | 10.01 |                            |  |
| 180.0              | 10.46 | 10.41 | 10.41 | 10.35 | 10.29 | 10.24 | 10.24 | 10.18 | 10.18 |                            |  |
| 225.0              | 10.41 | 10.35 | 10.29 | 10.24 | 10.24 | 10.18 | 10.13 | 10.07 | 10.07 |                            |  |
| 270.0              | 10.80 | 10.69 | 10.52 | 10.41 | 10.29 | 10.18 | 10.13 | 10.07 | 10.13 |                            |  |
| 315.0              | 10.18 | 10.18 | 10.13 | 10.13 | 10.07 | 10.07 | 10.01 | 9.96  | 10.01 |                            |  |
| 360.0              | 10.69 | 10.58 | 10.52 | 10.46 | 10.35 | 10.35 | 10.29 | 10.01 | 9.90  |                            |  |

## Intensity data(cd)

Appendix Page: 18 Total:18

|                                 |              |
|---------------------------------|--------------|
| <b>C/<math>\gamma</math>(°)</b> | <b>90.0</b>  |
| <b>0.0</b>                      | <b>9.79</b>  |
| <b>45.0</b>                     | <b>9.84</b>  |
| <b>90.0</b>                     | <b>9.84</b>  |
| <b>135.0</b>                    | <b>9.79</b>  |
| <b>180.0</b>                    | <b>9.96</b>  |
| <b>225.0</b>                    | <b>10.13</b> |
| <b>270.0</b>                    | <b>9.96</b>  |
| <b>315.0</b>                    | <b>9.90</b>  |
| <b>360.0</b>                    | <b>9.79</b>  |