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## Nata

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|                         |                     |
|-------------------------|---------------------|
| LumCAT: 2-1738-M        |                     |
| Luminaire: 92.70.136.00 |                     |
| Report No: NT2017071304 | Voltage(V): 51.2500 |
| Test No: NT2017071304   | Current(A): 0.8000  |
| LampCAT: CITIZEN CLU044 | Power (W): 41.0000  |
| Lamp flux(lm): 5855.0   | PF: 0.0000          |
| Number of Lamps: 1      | Ballast type: DC    |
| Length(mm): 71          | Width(mm): 71       |
| Phm Type: C             | Height(mm): 0       |

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## Photometric Results

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Lumens(lm): 5172.79  
Efficiency(%): 88.35%  
Lumens(lm)/Power(W): 126.17  
Central intensity(cd): 15742.450  
Maximum intensity(cd): 15742.450  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=25.5  
                                  [C90/270]Total=25.5  
Field angle(10%Imax): [C0/180]Total=65.2  
                                  [C90/270]Total=65.2  
Maximum s/h(1/2): C0\_180=0.44 C90\_270=0.44  
Maximum s/h(1/4): C0\_180=0.45 C90\_270=0.45  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 88.35%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.702%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 15742.446     | 0.000       | 0         | .000%       | .000%      |
| 1.0                | 15741.751     | 15.065      | 15.065    | .257%       | .291%      |
| 2.0                | 15741.751     | 45.188      | 60.253    | .772%       | 1.165%     |
| 3.0                | 15689.577     | 75.173      | 135.426   | 1.284%      | 2.618%     |
| 4.0                | 15551.840     | 104.575     | 240.001   | 1.786%      | 4.640%     |
| 5.0                | 15319.494     | 132.807     | 372.808   | 2.268%      | 7.207%     |
| 6.0                | 14819.325     | 158.388     | 531.196   | 2.705%      | 10.269%    |
| 7.0                | 14158.463     | 179.865     | 711.06    | 3.072%      | 13.746%    |
| 8.0                | 13357.775     | 196.928     | 907.989   | 3.363%      | 17.553%    |
| 9.0                | 12164.953     | 206.848     | 1114.836  | 3.533%      | 21.552%    |
| 10.0               | 11034.391     | 209.946     | 1324.782  | 3.586%      | 25.611%    |
| 11.0               | 9940.280      | 209.580     | 1534.362  | 3.580%      | 29.662%    |
| 12.0               | 8787.944      | 204.726     | 1739.088  | 3.497%      | 33.620%    |
| 13.0               | 7604.374      | 194.536     | 1933.624  | 3.323%      | 37.381%    |
| 14.0               | 6737.809      | 183.579     | 2117.203  | 3.135%      | 40.930%    |
| 15.0               | 6003.347      | 174.916     | 2292.119  | 2.987%      | 44.311%    |
| 16.0               | 5342.832      | 166.253     | 2458.372  | 2.840%      | 47.525%    |
| 17.0               | 4790.211      | 157.799     | 2616.171  | 2.695%      | 50.576%    |
| 18.0               | 4340.338      | 150.543     | 2766.714  | 2.571%      | 53.486%    |
| 19.0               | 3935.472      | 143.982     | 2910.696  | 2.459%      | 56.269%    |
| 20.0               | 3581.737      | 137.586     | 3048.282  | 2.350%      | 58.929%    |
| 21.0               | 3281.079      | 131.780     | 3180.062  | 2.251%      | 61.477%    |
| 22.0               | 3026.891      | 126.761     | 3306.823  | 2.165%      | 63.927%    |
| 23.0               | 2834.475      | 122.987     | 3429.81   | 2.101%      | 66.305%    |
| 24.0               | 2645.886      | 119.820     | 3549.631  | 2.046%      | 68.621%    |
| 25.0               | 2480.879      | 116.571     | 3666.202  | 1.991%      | 70.875%    |
| 26.0               | 2362.828      | 114.336     | 3780.538  | 1.953%      | 73.085%    |
| 27.0               | 2258.272      | 113.056     | 3893.595  | 1.931%      | 75.271%    |
| 28.0               | 2141.613      | 111.396     | 4004.99   | 1.903%      | 77.424%    |
| 29.0               | 2040.883      | 109.426     | 4114.416  | 1.869%      | 79.540%    |
| 30.0               | 1930.067      | 107.215     | 4221.631  | 1.831%      | 81.612%    |
| 31.0               | 1787.460      | 103.453     | 4325.085  | 1.767%      | 83.612%    |
| 32.0               | 1651.809      | 98.531      | 4423.616  | 1.683%      | 85.517%    |
| 33.0               | 1520.541      | 93.459      | 4517.074  | 1.596%      | 87.324%    |
| 34.0               | 1357.795      | 87.107      | 4604.181  | 1.488%      | 89.008%    |
| 35.0               | 1205.539      | 79.608      | 4683.789  | 1.360%      | 90.547%    |
| 36.0               | 1081.297      | 72.813      | 4756.602  | 1.244%      | 91.954%    |
| 37.0               | 934.641       | 65.749      | 4822.351  | 1.123%      | 93.225%    |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 802.580       | 57.986      | 4880.337  | .990%       | 94.346%    |
| 39.0               | 663.680       | 50.047      | 4930.384  | .855%       | 95.314%    |
| 40.0               | 527.055       | 41.529      | 4971.913  | .709%       | 96.117%    |
| 41.0               | 409.902       | 33.365      | 5005.277  | .570%       | 96.762%    |
| 42.0               | 304.150       | 25.943      | 5031.22   | .443%       | 97.263%    |
| 43.0               | 201.341       | 18.725      | 5049.945  | .320%       | 97.625%    |
| 44.0               | 130.134       | 12.511      | 5062.456  | .214%       | 97.867%    |
| 45.0               | 72.959        | 7.805       | 5070.261  | .133%       | 98.018%    |
| 46.0               | 47.227        | 4.700       | 5074.961  | .080%       | 98.109%    |
| 47.0               | 37.287        | 3.361       | 5078.322  | .057%       | 98.174%    |
| 48.0               | 30.504        | 2.740       | 5081.063  | .047%       | 98.227%    |
| 49.0               | 25.996        | 2.320       | 5083.383  | .040%       | 98.272%    |
| 50.0               | 24.069        | 2.087       | 5085.471  | .036%       | 98.312%    |
| 51.0               | 23.478        | 2.012       | 5087.482  | .034%       | 98.351%    |
| 52.0               | 23.137        | 2.000       | 5089.482  | .034%       | 98.389%    |
| 53.0               | 22.859        | 2.001       | 5091.483  | .034%       | 98.428%    |
| 54.0               | 22.615        | 2.004       | 5093.488  | .034%       | 98.467%    |
| 55.0               | 22.386        | 2.009       | 5095.496  | .034%       | 98.506%    |
| 56.0               | 22.212        | 2.015       | 5097.512  | .034%       | 98.545%    |
| 57.0               | 22.031        | 2.023       | 5099.535  | .035%       | 98.584%    |
| 58.0               | 21.885        | 2.031       | 5101.565  | .035%       | 98.623%    |
| 59.0               | 21.760        | 2.040       | 5103.606  | .035%       | 98.662%    |
| 60.0               | 21.648        | 2.051       | 5105.657  | .035%       | 98.702%    |
| 61.0               | 21.537        | 2.061       | 5107.717  | .035%       | 98.742%    |
| 62.0               | 21.468        | 2.072       | 5109.79   | .035%       | 98.782%    |
| 63.0               | 21.405        | 2.085       | 5111.875  | .036%       | 98.822%    |
| 64.0               | 21.335        | 2.097       | 5113.972  | .036%       | 98.863%    |
| 65.0               | 21.301        | 2.110       | 5116.082  | .036%       | 98.904%    |
| 66.0               | 21.266        | 2.124       | 5118.206  | .036%       | 98.945%    |
| 67.0               | 21.217        | 2.136       | 5120.342  | .036%       | 98.986%    |
| 68.0               | 21.196        | 2.149       | 5122.491  | .037%       | 99.028%    |
| 69.0               | 21.210        | 2.163       | 5124.654  | .037%       | 99.069%    |
| 70.0               | 21.245        | 2.180       | 5126.834  | .037%       | 99.112%    |
| 71.0               | 21.315        | 2.200       | 5129.034  | .038%       | 99.154%    |
| 72.0               | 21.412        | 2.222       | 5131.256  | .038%       | 99.197%    |
| 73.0               | 21.426        | 2.240       | 5133.496  | .038%       | 99.240%    |
| 74.0               | 21.565        | 2.260       | 5135.756  | .039%       | 99.284%    |
| 75.0               | 21.621        | 2.282       | 5138.038  | .039%       | 99.328%    |

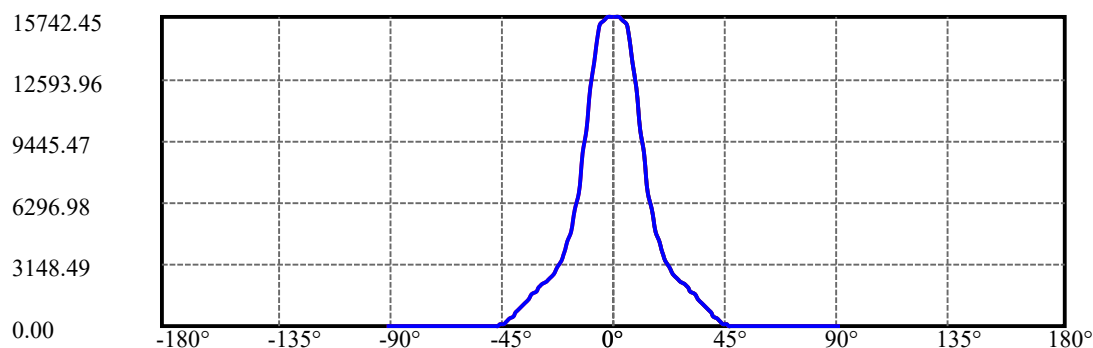
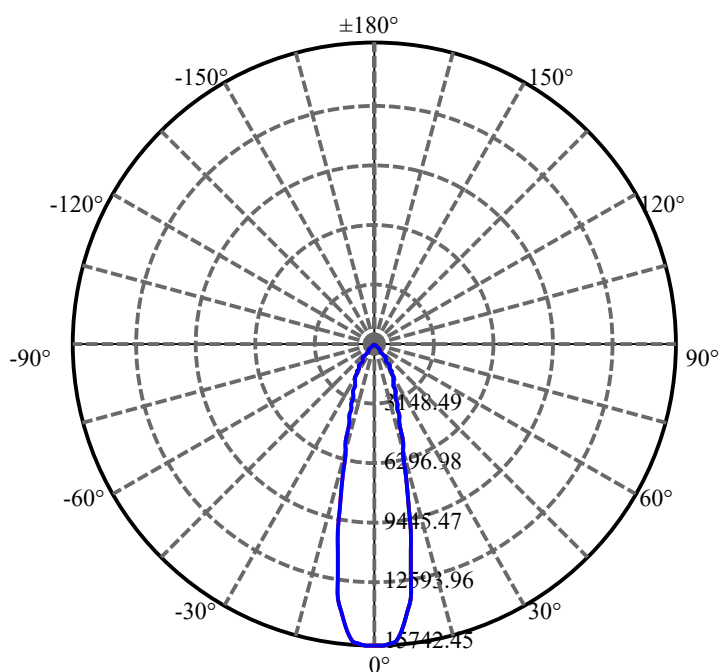
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 21.648        | 2.297       | 5140.335  | .039%       | 99.373%    |
| 77.0               | 21.621        | 2.307       | 5142.642  | .039%       | 99.417%    |
| 78.0               | 21.628        | 2.315       | 5144.957  | .040%       | 99.462%    |
| 79.0               | 21.593        | 2.322       | 5147.279  | .040%       | 99.507%    |
| 80.0               | 21.565        | 2.327       | 5149.606  | .040%       | 99.552%    |
| 81.0               | 21.544        | 2.331       | 5151.937  | .040%       | 99.597%    |
| 82.0               | 21.537        | 2.336       | 5154.273  | .040%       | 99.642%    |
| 83.0               | 21.530        | 2.341       | 5156.614  | .040%       | 99.687%    |
| 84.0               | 21.509        | 2.345       | 5158.959  | .040%       | 99.733%    |
| 85.0               | 21.433        | 2.344       | 5161.303  | .040%       | 99.778%    |
| 86.0               | 21.315        | 2.337       | 5163.639  | .040%       | 99.823%    |
| 87.0               | 20.883        | 2.309       | 5165.949  | .039%       | 99.868%    |
| 88.0               | 20.821        | 2.284       | 5168.233  | .039%       | 99.912%    |
| 89.0               | 20.786        | 2.281       | 5170.514  | .039%       | 99.956%    |
| 90.0               | 20.793        | 2.280       | 5172.793  | .039%       | 100.000%   |

## ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 4221.63 | 72.10% | 81.61%  |
| 0-40    | 4971.91 | 84.92% | 96.12%  |
| 0-60    | 5105.66 | 87.20% | 98.70%  |
| 0-90    | 5170.51 | 88.31% | 99.96%  |
| 0-120   | 5170.51 | 88.31% | 99.96%  |
| 0-180   | 5172.79 | 88.35% | 100.00% |
| 60-90   | 66.91   | 1.14%  | 1.29%   |
| 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%   |
| 0-29.22 | 4138.24 | 70.68% | 80.00%  |

## ZONAL LUMEN SUMMARY

|         |         |
|---------|---------|
| 0-10    | 1324.78 |
| 10-20   | 1723.50 |
| 20-30   | 1173.35 |
| 30-40   | 750.28  |
| 40-50   | 113.56  |
| 50-60   | 20.19   |
| 60-70   | 21.18   |
| 70-80   | 22.77   |
| 80-90   | 20.91   |
| 90-100  | 0.00    |
| 100-110 | 0.00    |
| 110-120 | 0.00    |
| 120-130 | 0.00    |
| 130-140 | 0.00    |
| 140-150 | 0.00    |
| 150-160 | 0.00    |
| 160-170 | 0.00    |
| 170-180 | 0.00    |



C0(Max):

C0/C180:

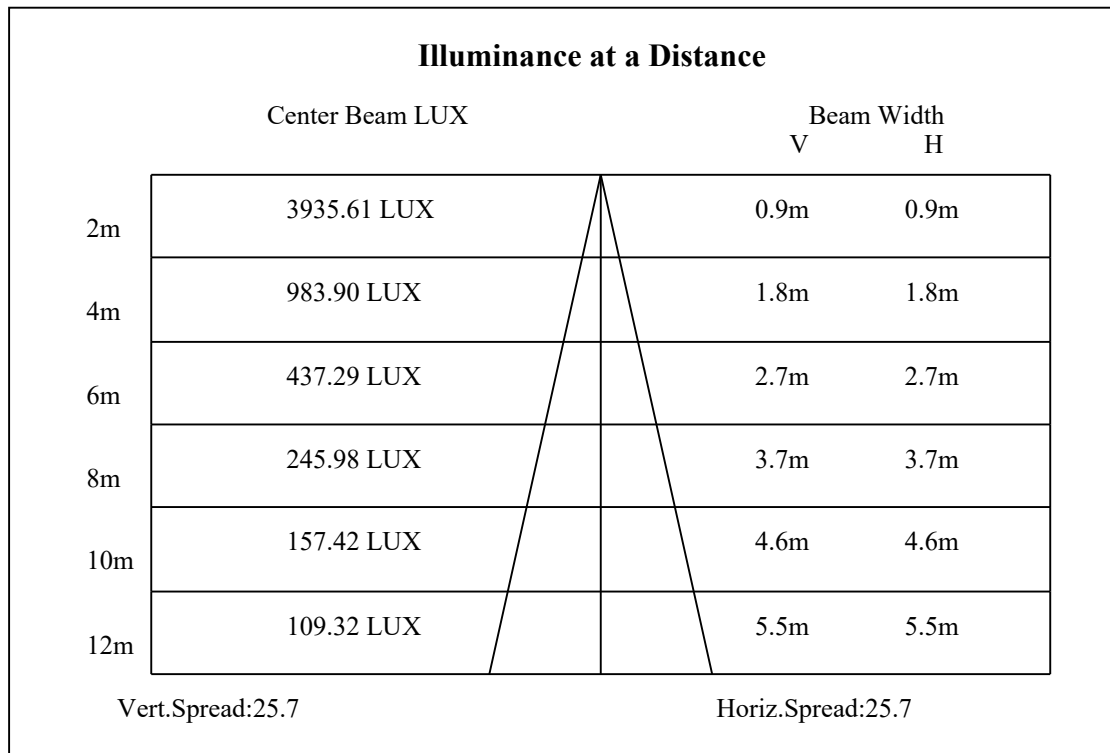
C90/C270:

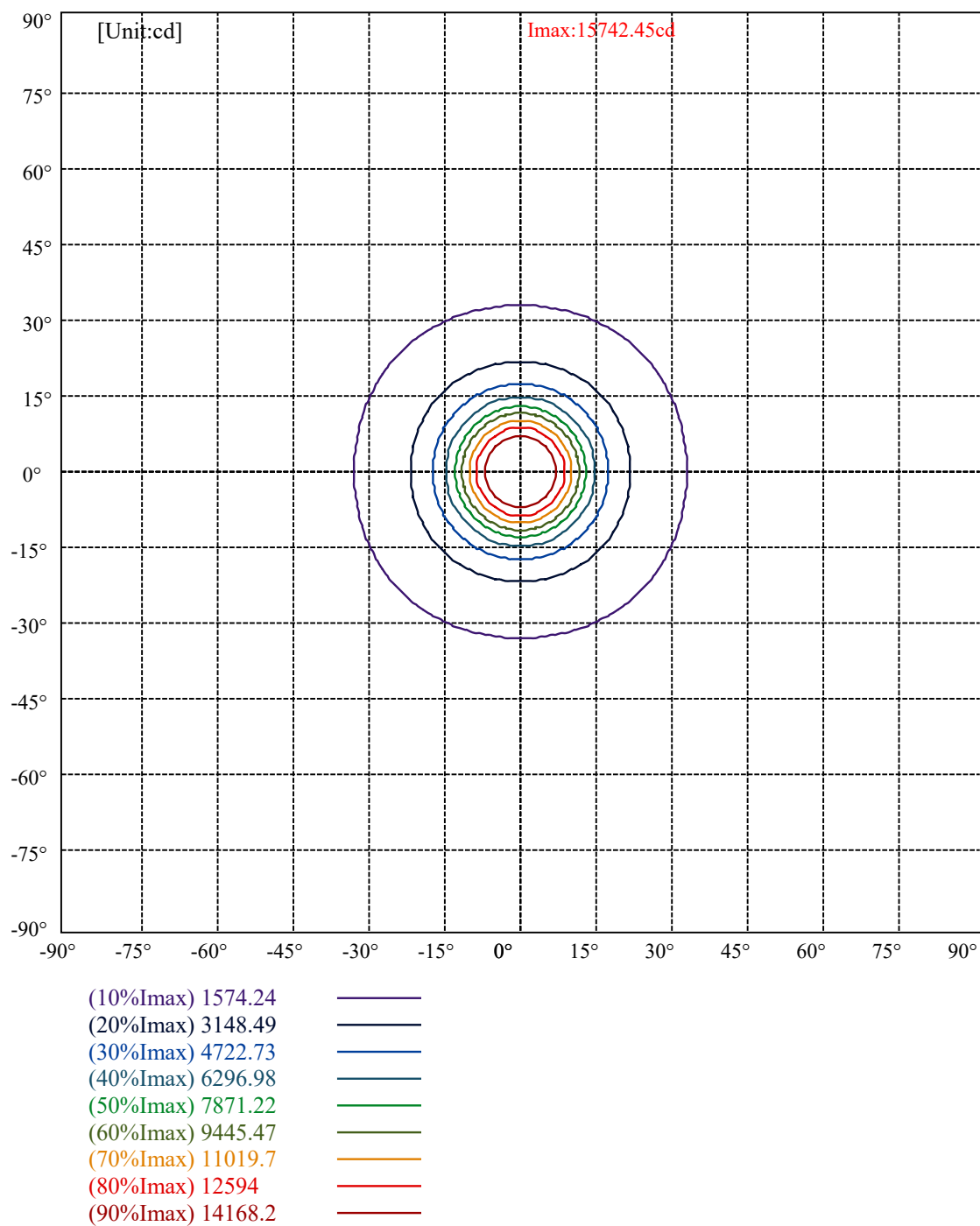
Field angle(10%Imax):C0/180Left:32.6 Right:32.6

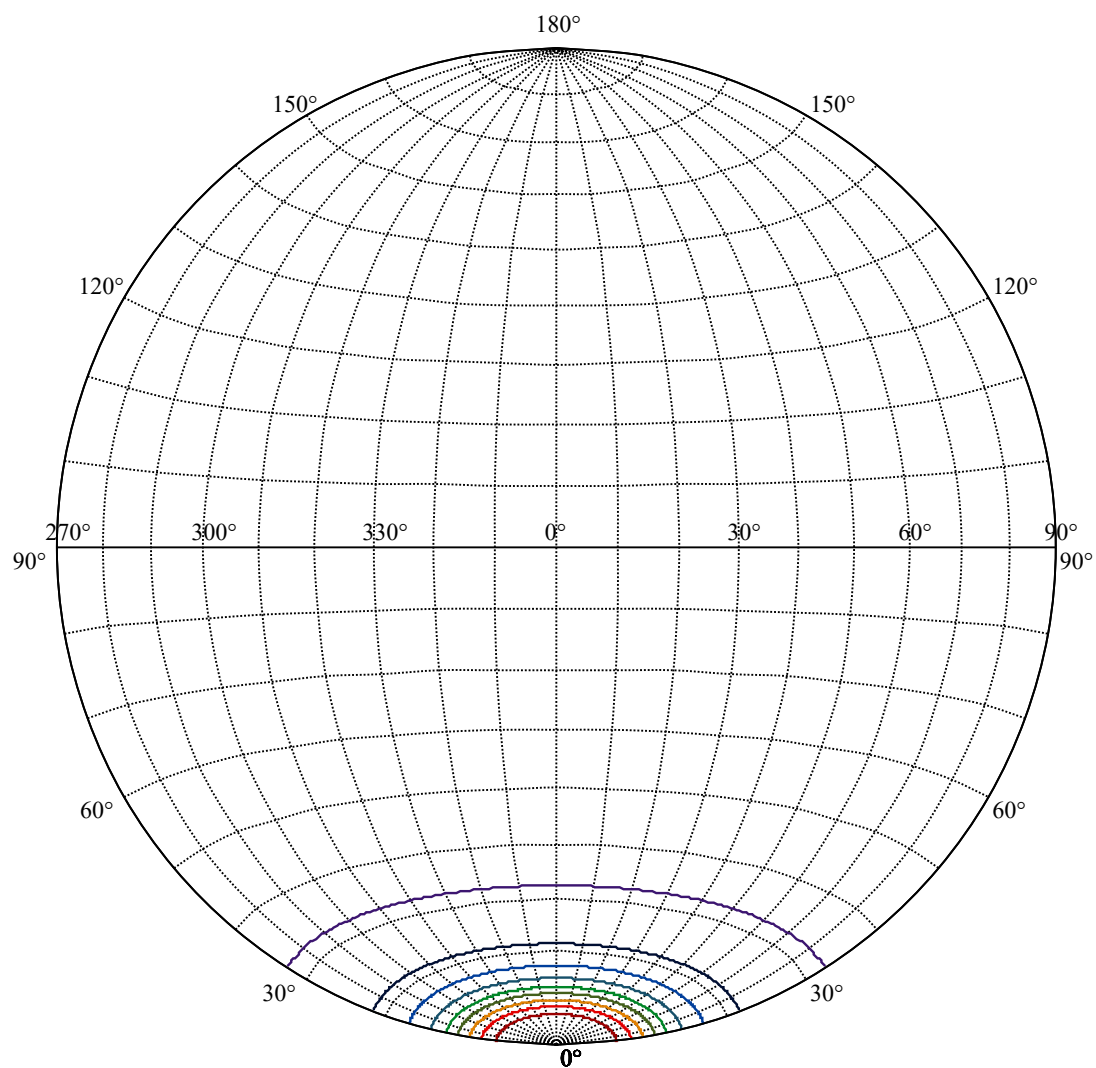
:C90/270Left:32.6 Right:32.6

Beam Angle(50%Imax):C0/180Left:12.8 Right:12.8

:C90/270Left:12.8 Right:12.8







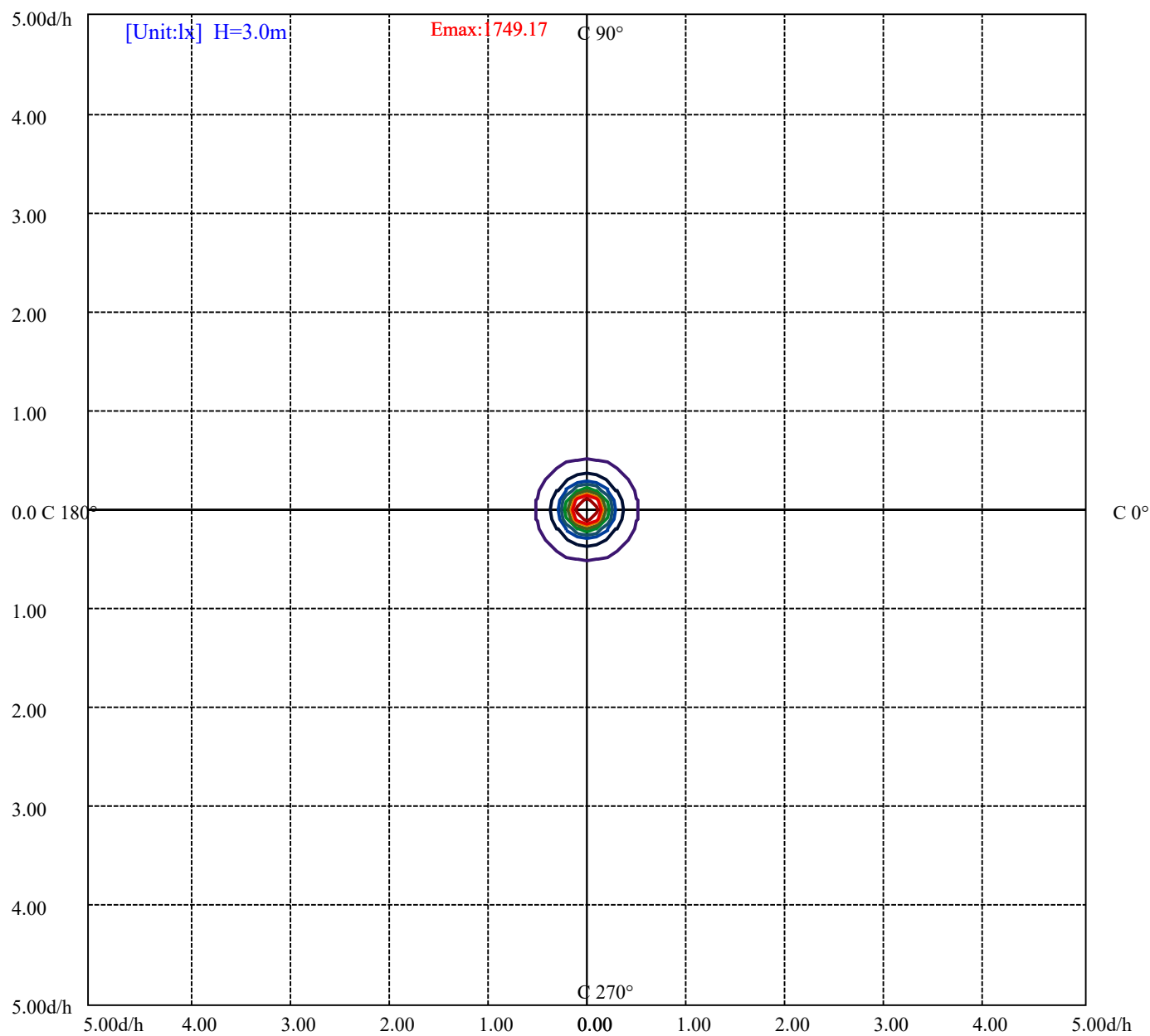
House

[Unit:cd]

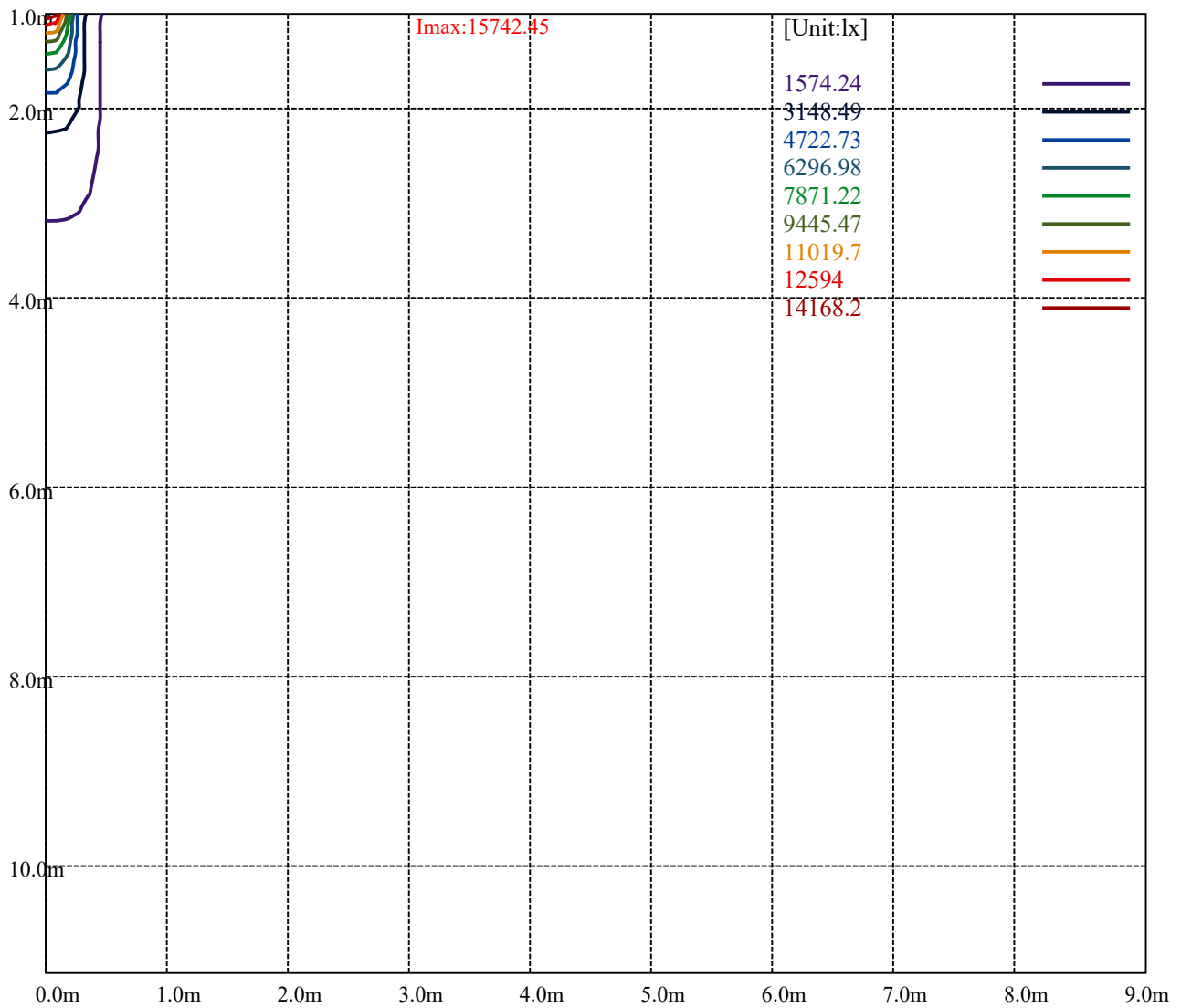
Road

**Imax:15742.45**

|           |         |   |
|-----------|---------|---|
| (10%Imax) | 1574.24 | — |
| (20%Imax) | 3148.49 | — |
| (30%Imax) | 4722.73 | — |
| (40%Imax) | 6296.98 | — |
| (50%Imax) | 7871.22 | — |
| (60%Imax) | 9445.47 | — |
| (70%Imax) | 11019.7 | — |
| (80%Imax) | 12594   | — |
| (90%Imax) | 14168.2 | — |



|           |          |   |
|-----------|----------|---|
| (10%Emax) | 174.9156 | — |
| (20%Emax) | 349.8322 | — |
| (30%Emax) | 524.7478 | — |
| (40%Emax) | 699.6644 | — |
| (50%Emax) | 874.58   | — |
| (60%Emax) | 1049.497 | — |
| (70%Emax) | 1224.411 | — |
| (80%Emax) | 1399.333 | — |
| (90%Emax) | 1574.245 | — |



Luminance Table

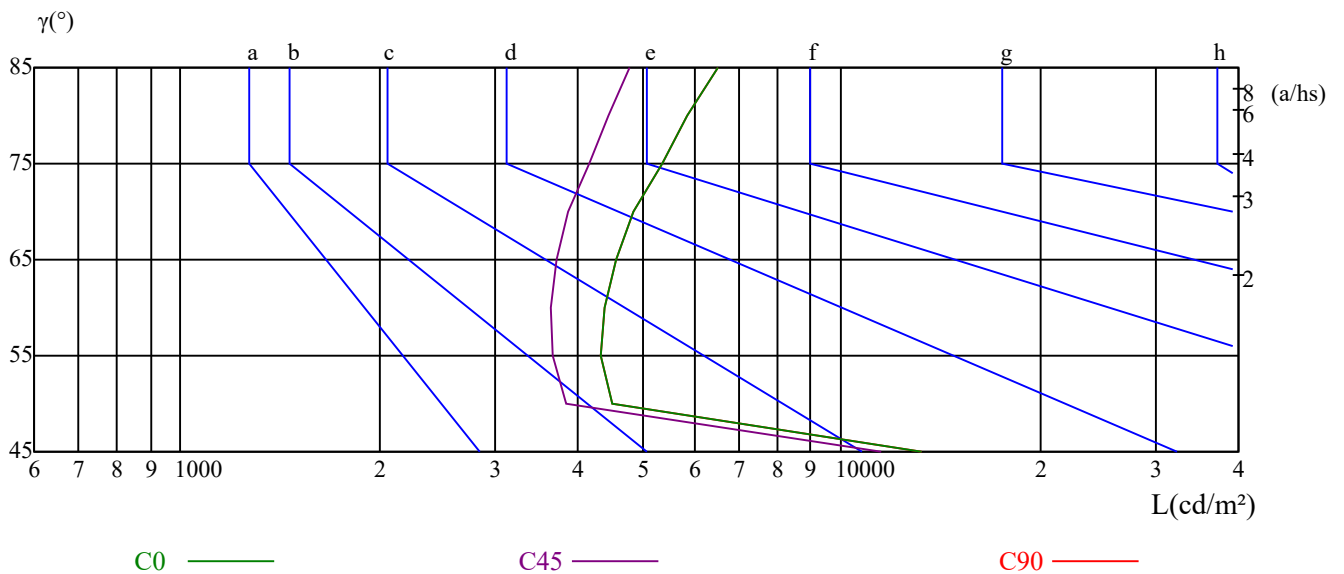
| $\gamma$ | 45    | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   |
|----------|-------|------|------|------|------|------|------|------|------|
| C0       | 13279 | 4500 | 4337 | 4386 | 4559 | 4858 | 5351 | 5864 | 6522 |
| C45      | 11517 | 3846 | 3649 | 3629 | 3705 | 3870 | 4167 | 4448 | 4794 |
| C90      | 13279 | 4500 | 4337 | 4386 | 4559 | 4858 | 5351 | 5864 | 6522 |

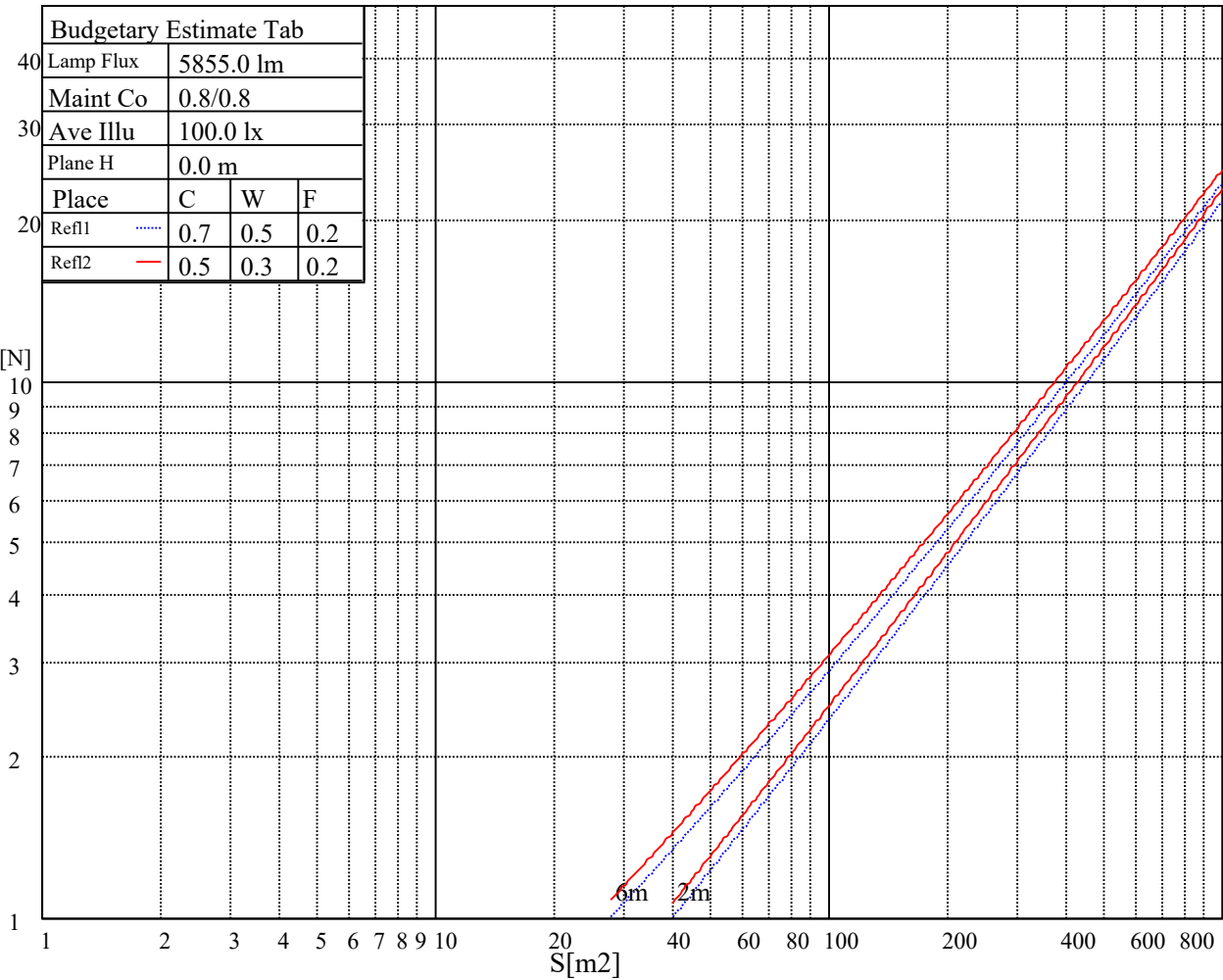
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 10286      | 10286      | 10286   | 17048      | 17048      | 17048   | 50187      | 50187      | 50187   |

Glare Table

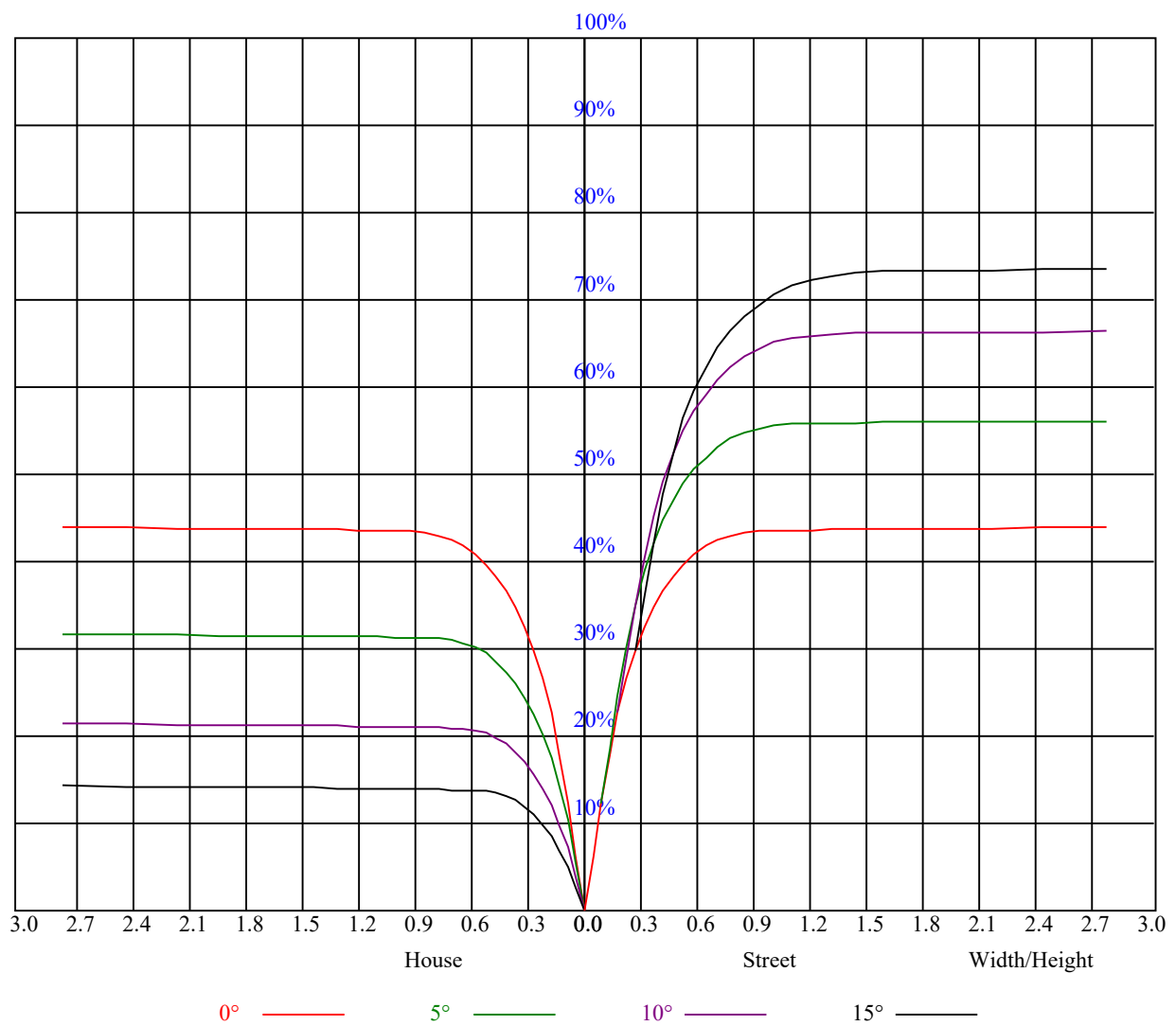
| Glare | Quality | Service Values Illuminance(lx) |      |      |            |            |            |            |            |
|-------|---------|--------------------------------|------|------|------------|------------|------------|------------|------------|
| 1.15  | A       | 2000                           | 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     | 1.05                                    | 1.05 | 1.05 | 1.03 | 1.03 | 1.03 | 0.98 | 0.98 | 0.98 | 0.94 | 0.94 | 0.94 | 0.90 | 0.90 | 0.90 | 0.88 |
| 1     | 0.99                                    | 0.97 | 0.95 | 0.97 | 0.95 | 0.93 | 0.93 | 0.92 | 0.90 | 0.90 | 0.89 | 0.88 | 0.87 | 0.86 | 0.85 | 0.84 |
| 2     | 0.93                                    | 0.90 | 0.87 | 0.91 | 0.88 | 0.86 | 0.89 | 0.86 | 0.84 | 0.86 | 0.84 | 0.82 | 0.84 | 0.82 | 0.81 | 0.79 |
| 3     | 0.88                                    | 0.84 | 0.81 | 0.87 | 0.83 | 0.80 | 0.84 | 0.81 | 0.79 | 0.82 | 0.80 | 0.78 | 0.80 | 0.78 | 0.77 | 0.75 |
| 4     | 0.83                                    | 0.79 | 0.76 | 0.82 | 0.78 | 0.75 | 0.81 | 0.77 | 0.75 | 0.79 | 0.76 | 0.74 | 0.77 | 0.75 | 0.73 | 0.72 |
| 5     | 0.79                                    | 0.75 | 0.72 | 0.78 | 0.74 | 0.71 | 0.77 | 0.73 | 0.71 | 0.76 | 0.73 | 0.70 | 0.74 | 0.72 | 0.70 | 0.68 |
| 6     | 0.76                                    | 0.71 | 0.68 | 0.75 | 0.71 | 0.68 | 0.74 | 0.70 | 0.67 | 0.73 | 0.69 | 0.67 | 0.71 | 0.69 | 0.66 | 0.65 |
| 7     | 0.72                                    | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.64 | 0.70 | 0.66 | 0.64 | 0.69 | 0.66 | 0.64 | 0.63 |
| 8     | 0.69                                    | 0.65 | 0.62 | 0.69 | 0.65 | 0.62 | 0.68 | 0.64 | 0.61 | 0.67 | 0.64 | 0.61 | 0.66 | 0.63 | 0.61 | 0.60 |
| 9     | 0.67                                    | 0.62 | 0.59 | 0.66 | 0.62 | 0.59 | 0.65 | 0.62 | 0.59 | 0.65 | 0.61 | 0.59 | 0.64 | 0.61 | 0.59 | 0.58 |
| 10    | 0.64                                    | 0.60 | 0.57 | 0.64 | 0.60 | 0.57 | 0.63 | 0.59 | 0.57 | 0.62 | 0.59 | 0.56 | 0.62 | 0.59 | 0.56 | 0.55 |



## Nata 2-1738-M

## Intensity data(cd)

Appendix Page: 16 Total:18

| C/γ(°) | 0.0      | 1.0      | 2.0      | 3.0      | 4.0      | 5.0      | 6.0      | 7.0      | 8.0      |
|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0.0    | 15749.40 | 15732.71 | 15760.53 | 15743.84 | 15682.62 | 15571.32 | 15287.49 | 14792.20 | 14180.03 |
| 45.0   | 15760.53 | 15760.53 | 15754.97 | 15710.45 | 15621.40 | 15415.49 | 14925.76 | 14346.98 | 13562.29 |
| 90.0   | 15738.27 | 15727.14 | 15721.58 | 15660.36 | 15471.14 | 15204.02 | 14686.46 | 13918.47 | 13016.91 |
| 135.0  | 15721.58 | 15749.40 | 15716.01 | 15638.10 | 15498.97 | 15231.84 | 14714.28 | 13962.99 | 13139.34 |
| 180.0  | 15749.40 | 15743.84 | 15688.19 | 15537.93 | 15237.41 | 14858.98 | 14085.42 | 13245.08 | 12282.31 |
| 225.0  | 15760.53 | 15760.53 | 15760.53 | 15738.27 | 15588.01 | 15354.28 | 14875.67 | 14152.20 | 13350.82 |
| 270.0  | 15738.27 | 15732.71 | 15771.66 | 15738.27 | 15688.19 | 15498.97 | 15081.58 | 14530.63 | 13801.60 |
| 315.0  | 15721.58 | 15727.14 | 15760.53 | 15749.40 | 15626.97 | 15421.06 | 14897.93 | 14319.16 | 13528.90 |
| 360.0  | 15749.40 | 15732.71 | 15760.53 | 15743.84 | 15682.62 | 15571.32 | 15287.49 | 14792.20 | 14180.03 |
| C/γ(°) | 9.0      | 10.0     | 11.0     | 12.0     | 13.0     | 14.0     | 15.0     | 16.0     | 17.0     |
| 0.0    | 13267.34 | 12198.83 | 11135.89 | 10033.98 | 8692.78  | 7713.31  | 6856.28  | 5954.72  | 5375.94  |
| 45.0   | 12349.09 | 11263.88 | 10106.33 | 8837.47  | 7691.05  | 6806.19  | 5988.11  | 5398.21  | 4819.43  |
| 90.0   | 10986.18 | 10575.47 | 9440.18  | 8333.27  | 7133.98  | 6333.71  | 5669.79  | 5060.40  | 4532.82  |
| 135.0  | 12020.75 | 10768.58 | 9611.03  | 8514.69  | 7295.92  | 6477.85  | 5871.24  | 5158.90  | 4624.65  |
| 180.0  | 11036.83 | 9752.94  | 8665.51  | 7539.68  | 6711.58  | 5905.75  | 5257.96  | 4768.79  | 4331.92  |
| 225.0  | 12382.48 | 11034.60 | 9869.25  | 8736.74  | 7464.55  | 6622.54  | 5921.89  | 5261.30  | 4700.33  |
| 270.0  | 12671.87 | 11647.88 | 10507.02 | 9243.73  | 8041.66  | 7101.14  | 6238.54  | 5609.68  | 4997.51  |
| 315.0  | 12605.09 | 11032.93 | 10187.03 | 9063.98  | 7803.47  | 6941.98  | 6222.96  | 5530.66  | 4939.08  |
| 360.0  | 13267.34 | 12198.83 | 11135.89 | 10033.98 | 8692.78  | 7713.31  | 6856.28  | 5954.72  | 5375.94  |
| C/γ(°) | 18.0     | 19.0     | 20.0     | 21.0     | 22.0     | 23.0     | 24.0     | 25.0     | 26.0     |
| 0.0    | 4863.95  | 4363.09  | 3929.00  | 3600.66  | 3283.44  | 3049.71  | 2827.10  | 2644.56  | 2507.10  |
| 45.0   | 4324.13  | 3940.13  | 3556.14  | 3233.36  | 3005.19  | 2815.97  | 2593.36  | 2460.91  | 2340.15  |
| 90.0   | 4122.67  | 3726.43  | 3428.70  | 3133.74  | 2892.77  | 2708.56  | 2535.49  | 2380.22  | 2285.61  |
| 135.0  | 4262.91  | 3828.83  | 3472.66  | 3233.36  | 2955.10  | 2832.67  | 2594.48  | 2439.21  | 2327.35  |
| 180.0  | 3882.81  | 3561.70  | 3287.34  | 3017.43  | 2800.95  | 2632.88  | 2487.63  | 2344.60  | 2234.97  |
| 225.0  | 4287.96  | 3925.66  | 3571.16  | 3276.21  | 3053.60  | 2837.12  | 2647.90  | 2511.56  | 2382.44  |
| 270.0  | 4491.08  | 4101.52  | 3717.53  | 3394.75  | 3138.75  | 2927.27  | 2810.41  | 2559.42  | 2439.21  |
| 315.0  | 4487.19  | 4036.41  | 3691.37  | 3359.13  | 3085.32  | 2871.62  | 2670.72  | 2506.55  | 2385.78  |
| 360.0  | 4863.95  | 4363.09  | 3929.00  | 3600.66  | 3283.44  | 3049.71  | 2827.10  | 2644.56  | 2507.10  |
| C/γ(°) | 27.0     | 28.0     | 29.0     | 30.0     | 31.0     | 32.0     | 33.0     | 34.0     | 35.0     |
| 0.0    | 2366.31  | 2247.21  | 2154.27  | 2067.46  | 1927.77  | 1811.46  | 1691.81  | 1540.99  | 1392.96  |
| 45.0   | 2229.40  | 2131.46  | 2038.52  | 1899.39  | 1768.05  | 1641.72  | 1489.24  | 1355.67  | 1204.30  |
| 90.0   | 2192.67  | 2065.23  | 1959.49  | 1846.52  | 1700.71  | 1551.01  | 1417.45  | 1263.29  | 1109.25  |
| 135.0  | 2236.08  | 2119.77  | 2016.81  | 1905.51  | 1743.01  | 1613.90  | 1480.89  | 1331.74  | 1179.26  |
| 180.0  | 2144.81  | 2041.86  | 1915.53  | 1789.20  | 1646.73  | 1500.92  | 1366.80  | 1098.28  | 1080.87  |
| 225.0  | 2278.93  | 2174.86  | 2063.56  | 1947.81  | 1820.36  | 1660.09  | 1530.98  | 1394.07  | 1098.23  |
| 270.0  | 2340.71  | 2199.35  | 2108.08  | 2015.14  | 1854.87  | 1734.66  | 1618.35  | 1452.51  | 1310.60  |
| 315.0  | 2277.26  | 2153.16  | 2070.80  | 1969.51  | 1838.17  | 1700.71  | 1568.82  | 1425.79  | 1268.86  |
| 360.0  | 2366.31  | 2247.21  | 2154.27  | 2067.46  | 1927.77  | 1811.46  | 1691.81  | 1540.99  | 1392.96  |
| C/γ(°) | 36.0     | 37.0     | 38.0     | 39.0     | 40.0     | 41.0     | 42.0     | 43.0     | 44.0     |
| 0.0    | 1254.94  | 1103.57  | 967.78   | 818.08   | 673.38   | 552.62   | 421.84   | 300.52   | 287.16   |
| 45.0   | 1072.41  | 924.93   | 793.04   | 652.24   | 515.33   | 400.69   | 293.28   | 182.48   | 110.47   |
| 90.0   | 977.19   | 851.80   | 713.68   | 580.00   | 461.13   | 336.47   | 238.30   | 145.31   | 79.08    |
| 135.0  | 1045.69  | 894.32   | 764.10   | 627.75   | 495.86   | 386.78   | 291.06   | 172.58   | 102.68   |
| 180.0  | 934.11   | 792.53   | 672.72   | 552.45   | 408.71   | 301.35   | 208.36   | 114.70   | 66.11    |
| 225.0  | 1081.48  | 945.97   | 795.76   | 649.01   | 529.19   | 401.25   | 297.74   | 195.62   | 112.36   |
| 270.0  | 1174.25  | 1005.62  | 872.06   | 737.38   | 579.89   | 461.35   | 349.49   | 283.27   | 144.47   |
| 315.0  | 1110.31  | 958.38   | 841.51   | 692.53   | 552.95   | 438.70   | 333.13   | 216.26   | 138.74   |
| 360.0  | 1254.94  | 1103.57  | 967.78   | 818.08   | 673.38   | 552.62   | 421.84   | 300.52   | 287.16   |

## Intensity data(cd)

| C/ $\gamma$ (°) | 45.0   | 46.0  | 47.0  | 48.0  | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |
|-----------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0             | 130.22 | 68.12 | 47.53 | 39.29 | 30.11 | 26.16 | 23.99 | 23.48 | 23.15 |
| 45.0            | 63.83  | 44.35 | 35.73 | 28.27 | 24.93 | 23.99 | 23.60 | 23.32 | 23.04 |
| 90.0            | 50.64  | 41.02 | 31.50 | 26.66 | 24.15 | 23.54 | 23.21 | 22.93 | 22.71 |
| 135.0           | 60.44  | 43.58 | 35.73 | 28.88 | 25.82 | 23.37 | 23.10 | 22.82 | 22.54 |
| 180.0           | 46.58  | 39.18 | 31.22 | 27.71 | 23.48 | 23.21 | 22.93 | 22.65 | 22.48 |
| 225.0           | 65.56  | 45.86 | 37.23 | 30.33 | 26.77 | 24.15 | 23.76 | 23.37 | 23.04 |
| 270.0           | 86.04  | 48.75 | 40.74 | 32.61 | 27.05 | 24.26 | 23.82 | 23.43 | 23.10 |
| 315.0           | 80.36  | 46.97 | 38.62 | 30.27 | 25.66 | 23.87 | 23.43 | 23.10 | 22.82 |
| 360.0           | 130.22 | 68.12 | 47.53 | 39.29 | 30.11 | 26.16 | 23.99 | 23.48 | 23.15 |
| C/ $\gamma$ (°) | 54.0   | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0             | 22.87  | 22.59 | 22.43 | 22.20 | 21.98 | 21.87 | 21.76 | 21.65 | 21.54 |
| 45.0            | 22.82  | 22.65 | 22.43 | 22.20 | 22.04 | 21.93 | 21.82 | 21.76 | 21.70 |
| 90.0            | 22.54  | 22.32 | 22.20 | 21.98 | 21.87 | 21.76 | 21.65 | 21.59 | 21.54 |
| 135.0           | 22.37  | 22.15 | 22.04 | 21.87 | 21.76 | 21.65 | 21.54 | 21.43 | 21.37 |
| 180.0           | 22.26  | 22.09 | 21.93 | 21.82 | 21.70 | 21.65 | 21.54 | 21.43 | 21.37 |
| 225.0           | 22.76  | 22.54 | 22.37 | 22.15 | 22.04 | 21.82 | 21.70 | 21.59 | 21.48 |
| 270.0           | 22.82  | 22.54 | 22.26 | 22.15 | 21.98 | 21.82 | 21.70 | 21.54 | 21.48 |
| 315.0           | 22.48  | 22.20 | 22.04 | 21.87 | 21.70 | 21.59 | 21.48 | 21.31 | 21.26 |
| 360.0           | 22.87  | 22.59 | 22.43 | 22.20 | 21.98 | 21.87 | 21.76 | 21.65 | 21.54 |
| C/ $\gamma$ (°) | 63.0   | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0             | 21.48  | 21.37 | 21.31 | 21.31 | 21.26 | 21.26 | 21.26 | 21.15 | 21.15 |
| 45.0            | 21.65  | 21.48 | 21.48 | 21.43 | 21.37 | 21.37 | 21.31 | 21.31 | 21.31 |
| 90.0            | 21.48  | 21.43 | 21.37 | 21.31 | 21.31 | 21.31 | 21.70 | 22.09 | 22.71 |
| 135.0           | 21.31  | 21.31 | 21.26 | 21.20 | 21.20 | 21.09 | 21.09 | 21.04 | 21.09 |
| 180.0           | 21.31  | 21.31 | 21.31 | 21.26 | 21.15 | 21.20 | 21.09 | 21.15 | 21.09 |
| 225.0           | 21.43  | 21.37 | 21.31 | 21.26 | 21.26 | 21.15 | 21.15 | 21.09 | 21.15 |
| 270.0           | 21.37  | 21.31 | 21.26 | 21.26 | 21.15 | 21.15 | 21.09 | 21.15 | 21.09 |
| 315.0           | 21.20  | 21.09 | 21.09 | 21.09 | 21.04 | 21.04 | 20.98 | 20.98 | 20.93 |
| 360.0           | 21.48  | 21.37 | 21.31 | 21.31 | 21.26 | 21.26 | 21.26 | 21.15 | 21.15 |
| C/ $\gamma$ (°) | 72.0   | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0             | 21.15  | 21.09 | 21.15 | 21.09 | 21.09 | 21.04 | 21.04 | 21.15 | 21.20 |
| 45.0            | 21.48  | 21.70 | 21.98 | 22.54 | 22.82 | 22.76 | 22.93 | 22.71 | 22.54 |
| 90.0            | 23.43  | 23.54 | 24.43 | 24.32 | 24.21 | 24.21 | 24.10 | 23.93 | 23.82 |
| 135.0           | 21.09  | 21.04 | 21.04 | 21.04 | 21.15 | 21.09 | 21.09 | 21.09 | 21.09 |
| 180.0           | 21.09  | 21.04 | 21.04 | 21.04 | 21.04 | 20.98 | 20.98 | 21.04 | 21.04 |
| 225.0           | 21.09  | 21.09 | 20.98 | 20.98 | 20.98 | 20.98 | 20.98 | 20.98 | 20.98 |
| 270.0           | 21.04  | 21.04 | 20.98 | 21.04 | 20.98 | 21.04 | 21.04 | 20.98 | 20.98 |
| 315.0           | 20.93  | 20.87 | 20.93 | 20.93 | 20.93 | 20.87 | 20.87 | 20.87 | 20.87 |
| 360.0           | 21.15  | 21.09 | 21.15 | 21.09 | 21.09 | 21.04 | 21.04 | 21.15 | 21.20 |
| C/ $\gamma$ (°) | 81.0   | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0             | 21.20  | 21.15 | 21.20 | 21.15 | 21.09 | 21.04 | 20.87 | 20.81 | 20.81 |
| 45.0            | 22.37  | 22.26 | 22.26 | 22.37 | 22.37 | 21.87 | 20.93 | 20.87 | 20.81 |
| 90.0            | 23.82  | 23.82 | 23.71 | 23.43 | 23.04 | 22.76 | 20.87 | 20.81 | 20.81 |
| 135.0           | 21.09  | 21.09 | 21.15 | 21.15 | 21.09 | 21.04 | 20.98 | 20.81 | 20.70 |
| 180.0           | 21.04  | 21.09 | 21.15 | 21.09 | 20.98 | 20.98 | 20.81 | 20.81 | 20.76 |
| 225.0           | 20.98  | 20.98 | 20.93 | 20.93 | 20.98 | 20.93 | 20.93 | 20.87 | 20.81 |
| 270.0           | 20.98  | 20.98 | 20.98 | 21.04 | 20.98 | 20.98 | 20.87 | 20.81 | 20.76 |
| 315.0           | 20.87  | 20.93 | 20.87 | 20.93 | 20.93 | 20.93 | 20.81 | 20.76 | 20.81 |
| 360.0           | 21.20  | 21.15 | 21.20 | 21.15 | 21.09 | 21.04 | 20.87 | 20.81 | 20.81 |

## Intensity data(cd)

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|                                 |              |
|---------------------------------|--------------|
| <b>C/<math>\gamma</math>(°)</b> | <b>90.0</b>  |
| <b>0.0</b>                      | <b>20.76</b> |
| <b>45.0</b>                     | <b>20.81</b> |
| <b>90.0</b>                     | <b>20.81</b> |
| <b>135.0</b>                    | <b>20.81</b> |
| <b>180.0</b>                    | <b>20.76</b> |
| <b>225.0</b>                    | <b>20.81</b> |
| <b>270.0</b>                    | <b>20.81</b> |
| <b>315.0</b>                    | <b>20.76</b> |
| <b>360.0</b>                    | <b>20.76</b> |