



NATA LIGHTING CO.,LTD.  
www.nata.cn  
Email:info@nata.com  
Tel:+86-750-3770000 Fax:+86-750-3771111  
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

## Nata

LumCAT: LN01D05024DA-N

Luminaire: 97.70.234.00

Report No: 210104-B007

Test No: 210104-C007

LampCAT: BRIDGELUX V10 LES10.2

Lamp flux(lm): 1791.0

Number of Lamps: 1

Length(mm): 92

Phm Type: C

Voltage(V): 34.6200

Current(A): 0.3800

Power (W): 13.1550

PF: 0.0000

Ballast type: DC

Width(mm): 92

Height(mm): 50

## Photometric Results

Lumens(lm): 1591.92

Efficiency(%): 88.88%

Lumens(lm)/Power(W): 121.01

Central intensity(cd): 5414.836

Maximum intensity(cd): 5414.836

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

Beam Angle(50%Imax): [C0/180]Total=29.1

[C90/270]Total=29.1

Field angle(10%Imax): [C0/180]Total=49.1

[C90/270]Total=49.1

Maximum s/h(1/2): C0\_180=0.49 C90\_270=0.49

Maximum s/h(1/4): C0\_180=0.47 C90\_270=0.47

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.88%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 96.616%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 5414.836      | 0.000       | 0         | .000%       | .000%      |
| 1.0                | 5402.883      | 5.176       | 5.176     | .289%       | .325%      |
| 2.0                | 5363.789      | 15.453      | 20.629    | .863%       | 1.296%     |
| 3.0                | 5294.250      | 25.491      | 46.12     | 1.423%      | 2.897%     |
| 4.0                | 5201.086      | 35.131      | 81.251    | 1.962%      | 5.104%     |
| 5.0                | 5087.320      | 44.260      | 125.511   | 2.471%      | 7.884%     |
| 6.0                | 4922.719      | 52.605      | 178.117   | 2.937%      | 11.189%    |
| 7.0                | 4746.234      | 60.015      | 238.132   | 3.351%      | 14.959%    |
| 8.0                | 4558.219      | 66.590      | 304.722   | 3.718%      | 19.142%    |
| 9.0                | 4327.945      | 72.018      | 376.74    | 4.021%      | 23.666%    |
| 10.0               | 4052.883      | 75.843      | 452.583   | 4.235%      | 28.430%    |
| 11.0               | 3801.867      | 78.485      | 531.068   | 4.382%      | 33.360%    |
| 12.0               | 3519.914      | 80.038      | 611.106   | 4.469%      | 38.388%    |
| 13.0               | 3173.555      | 79.435      | 690.54    | 4.435%      | 43.378%    |
| 14.0               | 2876.555      | 77.441      | 767.981   | 4.324%      | 48.242%    |
| 15.0               | 2576.531      | 74.862      | 842.844   | 4.180%      | 52.945%    |
| 16.0               | 2265.188      | 70.945      | 913.788   | 3.961%      | 57.402%    |
| 17.0               | 1963.125      | 65.846      | 979.634   | 3.677%      | 61.538%    |
| 18.0               | 1686.298      | 60.171      | 1039.805  | 3.360%      | 65.318%    |
| 19.0               | 1443.291      | 54.448      | 1094.254  | 3.040%      | 68.738%    |
| 20.0               | 1229.119      | 48.913      | 1143.166  | 2.731%      | 71.811%    |
| 21.0               | 1039.725      | 43.566      | 1186.733  | 2.433%      | 74.547%    |
| 22.0               | 861.940       | 38.215      | 1224.948  | 2.134%      | 76.948%    |
| 23.0               | 731.876       | 33.443      | 1258.39   | 1.867%      | 79.049%    |
| 24.0               | 600.384       | 29.128      | 1287.518  | 1.626%      | 80.878%    |
| 25.0               | 493.066       | 24.863      | 1312.381  | 1.388%      | 82.440%    |
| 26.0               | 415.392       | 21.444      | 1333.825  | 1.197%      | 83.787%    |
| 27.0               | 350.873       | 18.747      | 1352.572  | 1.047%      | 84.965%    |
| 28.0               | 286.158       | 16.128      | 1368.7    | .901%       | 85.978%    |
| 29.0               | 245.454       | 13.908      | 1382.609  | .777%       | 86.852%    |
| 30.0               | 219.607       | 12.557      | 1395.165  | .701%       | 87.640%    |
| 31.0               | 183.157       | 11.208      | 1406.374  | .626%       | 88.345%    |
| 32.0               | 162.309       | 9.897       | 1416.271  | .553%       | 88.966%    |
| 33.0               | 146.011       | 9.083       | 1425.354  | .507%       | 89.537%    |
| 34.0               | 130.887       | 8.380       | 1433.734  | .468%       | 90.063%    |
| 35.0               | 118.111       | 7.733       | 1441.467  | .432%       | 90.549%    |
| 36.0               | 107.944       | 7.198       | 1448.664  | .402%       | 91.001%    |
| 37.0               | 98.297        | 6.726       | 1455.391  | .376%       | 91.424%    |

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 38.0               | 90.780        | 6.311       | 1461.702  | .352%       | 91.820%    |
| 39.0               | 82.976        | 5.931       | 1467.633  | .331%       | 92.193%    |
| 40.0               | 76.029        | 5.546       | 1473.178  | .310%       | 92.541%    |
| 41.0               | 70.530        | 5.219       | 1478.397  | .291%       | 92.869%    |
| 42.0               | 65.102        | 4.928       | 1483.325  | .275%       | 93.178%    |
| 43.0               | 59.745        | 4.625       | 1487.95   | .258%       | 93.469%    |
| 44.0               | 55.547        | 4.351       | 1492.301  | .243%       | 93.742%    |
| 45.0               | 51.694        | 4.121       | 1496.422  | .230%       | 94.001%    |
| 46.0               | 47.370        | 3.874       | 1500.297  | .216%       | 94.245%    |
| 47.0               | 44.072        | 3.637       | 1503.933  | .203%       | 94.473%    |
| 48.0               | 41.119        | 3.444       | 1507.377  | .192%       | 94.689%    |
| 49.0               | 38.088        | 3.253       | 1510.63   | .182%       | 94.894%    |
| 50.0               | 35.423        | 3.065       | 1513.695  | .171%       | 95.086%    |
| 51.0               | 33.293        | 2.907       | 1516.602  | .162%       | 95.269%    |
| 52.0               | 31.170        | 2.766       | 1519.368  | .154%       | 95.443%    |
| 53.0               | 29.447        | 2.637       | 1522.005  | .147%       | 95.608%    |
| 54.0               | 27.956        | 2.530       | 1524.535  | .141%       | 95.767%    |
| 55.0               | 26.543        | 2.433       | 1526.968  | .136%       | 95.920%    |
| 56.0               | 25.467        | 2.350       | 1529.318  | .131%       | 96.068%    |
| 57.0               | 24.370        | 2.279       | 1531.597  | .127%       | 96.211%    |
| 58.0               | 23.393        | 2.209       | 1533.806  | .123%       | 96.349%    |
| 59.0               | 22.570        | 2.149       | 1535.954  | .120%       | 96.484%    |
| 60.0               | 21.769        | 2.095       | 1538.049  | .117%       | 96.616%    |
| 61.0               | 20.953        | 2.039       | 1540.088  | .114%       | 96.744%    |
| 62.0               | 20.313        | 1.988       | 1542.076  | .111%       | 96.869%    |
| 63.0               | 19.709        | 1.946       | 1544.023  | .109%       | 96.991%    |
| 64.0               | 19.104        | 1.905       | 1545.927  | .106%       | 97.111%    |
| 65.0               | 18.570        | 1.864       | 1547.792  | .104%       | 97.228%    |
| 66.0               | 18.134        | 1.831       | 1549.623  | .102%       | 97.343%    |
| 67.0               | 17.796        | 1.807       | 1551.43   | .101%       | 97.457%    |
| 68.0               | 17.712        | 1.799       | 1553.228  | .100%       | 97.570%    |
| 69.0               | 17.873        | 1.815       | 1555.044  | .101%       | 97.684%    |
| 70.0               | 18.302        | 1.858       | 1556.902  | .104%       | 97.800%    |
| 71.0               | 18.949        | 1.925       | 1558.827  | .108%       | 97.921%    |
| 72.0               | 19.772        | 2.013       | 1560.84   | .112%       | 98.048%    |
| 73.0               | 20.798        | 2.122       | 1562.962  | .118%       | 98.181%    |
| 74.0               | 21.727        | 2.236       | 1565.198  | .125%       | 98.321%    |
| 75.0               | 22.535        | 2.339       | 1567.536  | .131%       | 98.468%    |

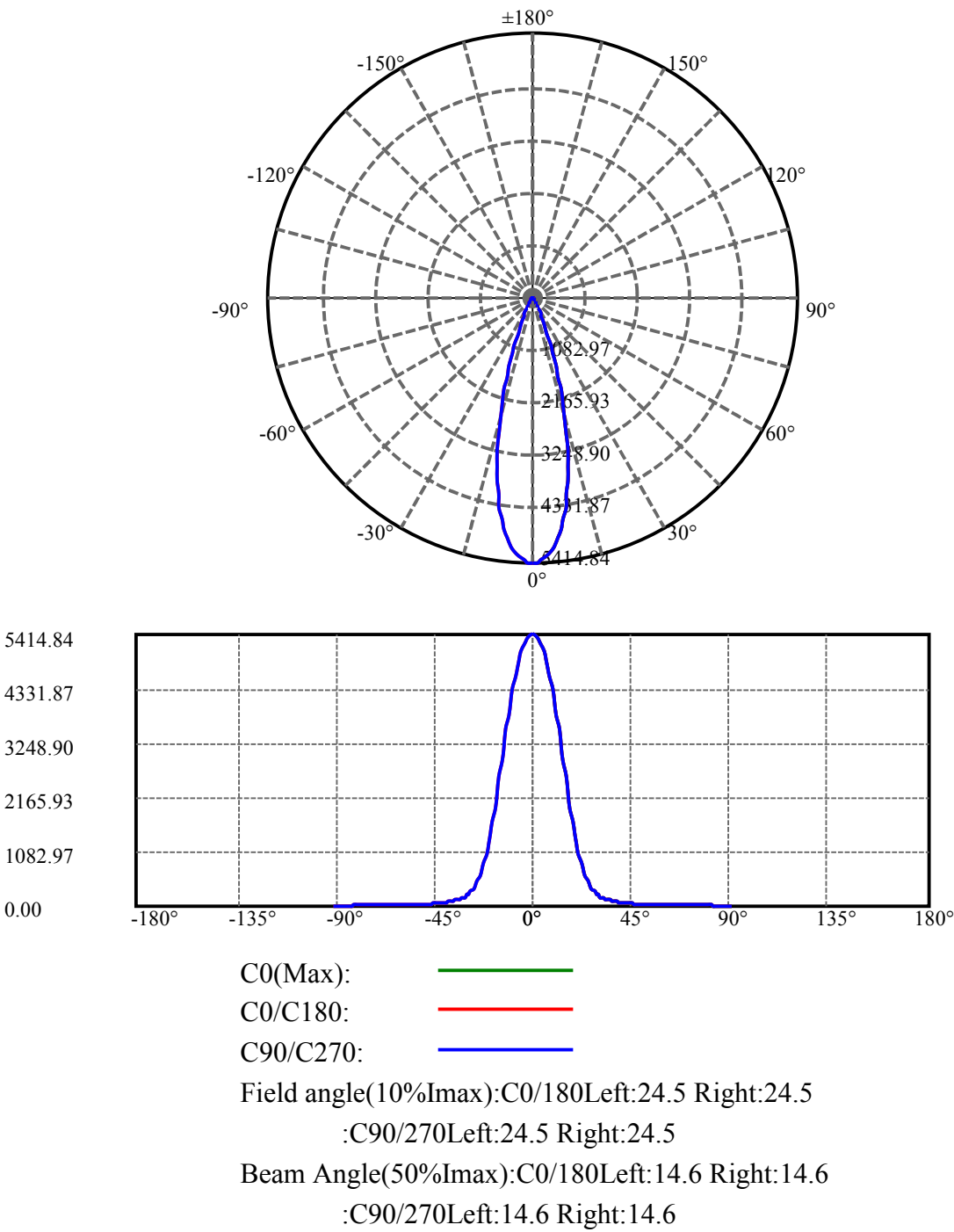
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 76.0               | 22.971        | 2.416       | 1569.952  | .135%       | 98.620%    |
| 77.0               | 23.119        | 2.457       | 1572.409  | .137%       | 98.774%    |
| 78.0               | 22.788        | 2.457       | 1574.867  | .137%       | 98.929%    |
| 79.0               | 21.509        | 2.380       | 1577.247  | .133%       | 99.078%    |
| 80.0               | 20.004        | 2.238       | 1579.485  | .125%       | 99.219%    |
| 81.0               | 18.077        | 2.059       | 1581.544  | .115%       | 99.348%    |
| 82.0               | 15.532        | 1.823       | 1583.367  | .102%       | 99.463%    |
| 83.0               | 13.416        | 1.574       | 1584.94   | .088%       | 99.562%    |
| 84.0               | 11.679        | 1.367       | 1586.307  | .076%       | 99.648%    |
| 85.0               | 9.766         | 1.170       | 1587.478  | .065%       | 99.721%    |
| 86.0               | 8.782         | 1.014       | 1588.492  | .057%       | 99.785%    |
| 87.0               | 8.079         | 0.923       | 1589.414  | .052%       | 99.843%    |
| 88.0               | 7.720         | 0.865       | 1590.28   | .048%       | 99.897%    |
| 89.0               | 7.453         | 0.832       | 1591.112  | .046%       | 99.949%    |
| 90.0               | 7.270         | 0.807       | 1591.919  | .045%       | 100.000%   |

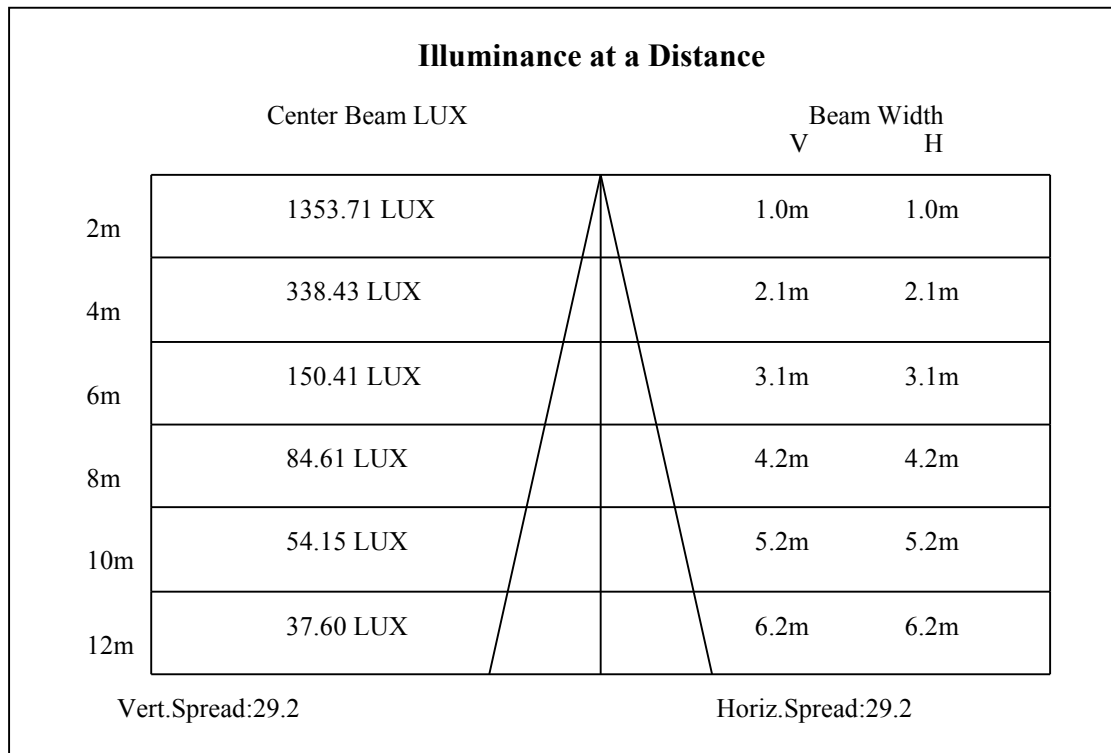
## ZONAL LUMEN SUMMARY

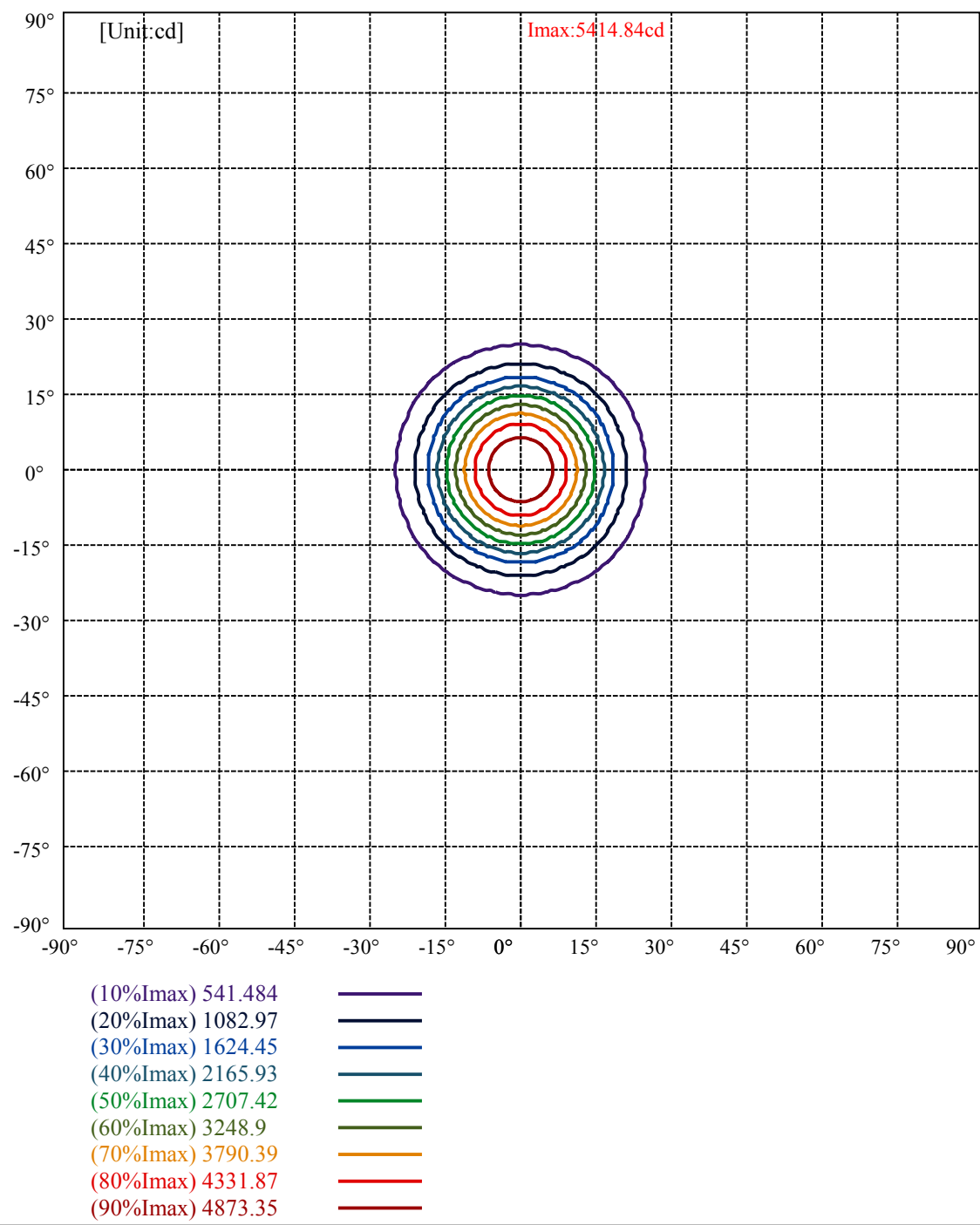
| Zone    | Lumens  | %Lamp  | %Fixt   |
|---------|---------|--------|---------|
| 0-30    | 1395.17 | 77.90% | 87.64%  |
| 0-40    | 1473.18 | 82.25% | 92.54%  |
| 0-60    | 1538.05 | 85.88% | 96.62%  |
| 0-90    | 1591.11 | 88.84% | 99.95%  |
| 0-120   | 1591.11 | 88.84% | 99.95%  |
| 0-180   | 1591.92 | 88.88% | 100.00% |
| 60-90   | 55.16   | 3.08%  | 3.46%   |
| 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%   |
| 0-23.52 | 1273.54 | 71.11% | 80.00%  |

## ZONAL LUMEN SUMMARY

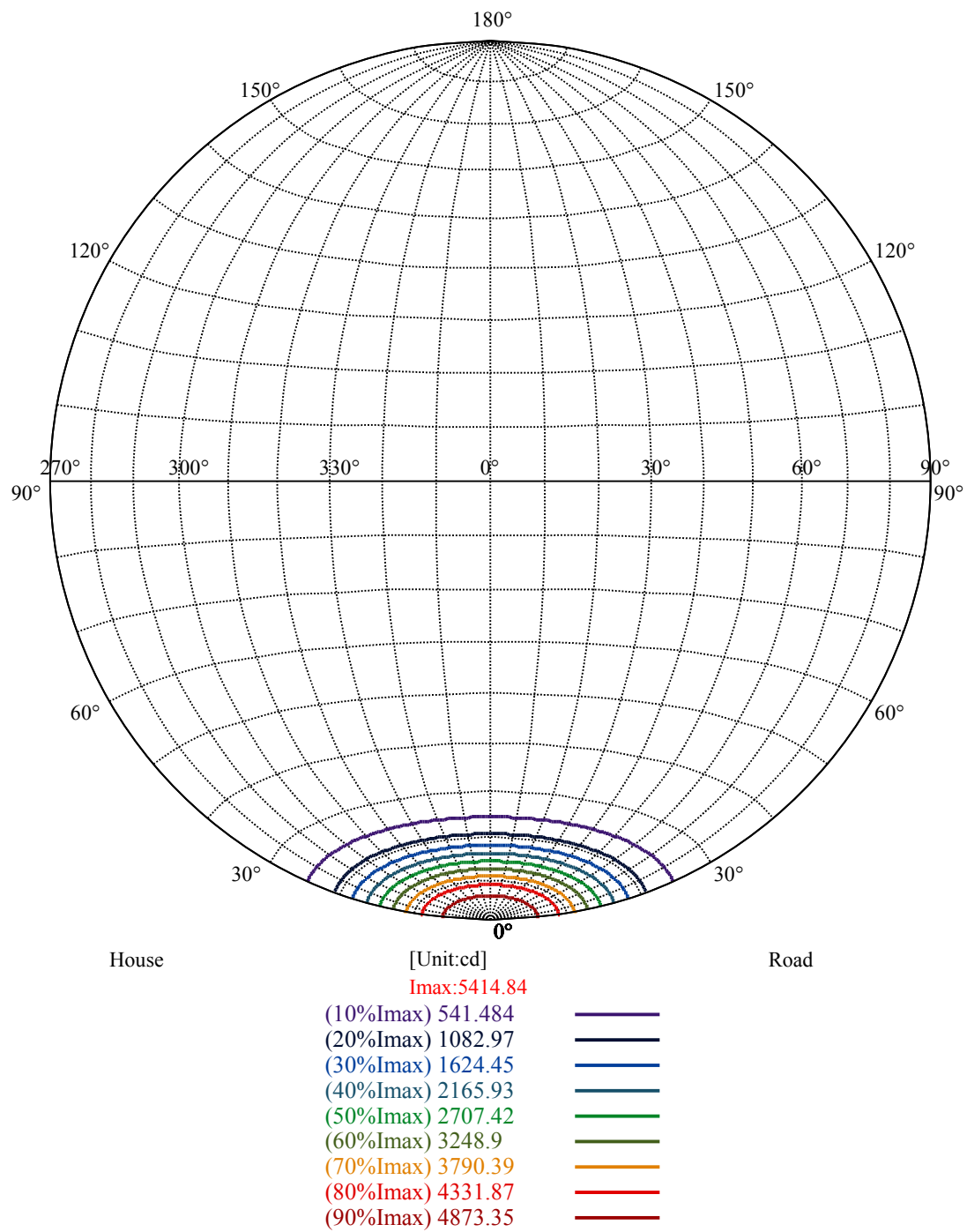
|         |        |
|---------|--------|
| 0-10    | 452.58 |
| 10-20   | 690.58 |
| 20-30   | 252.00 |
| 30-40   | 78.01  |
| 40-50   | 40.52  |
| 50-60   | 24.35  |
| 60-70   | 18.85  |
| 70-80   | 22.58  |
| 80-90   | 11.63  |
| 90-100  | 0.00   |
| 100-110 | 0.00   |
| 110-120 | 0.00   |
| 120-130 | 0.00   |
| 130-140 | 0.00   |
| 140-150 | 0.00   |
| 150-160 | 0.00   |
| 160-170 | 0.00   |
| 170-180 | 0.00   |

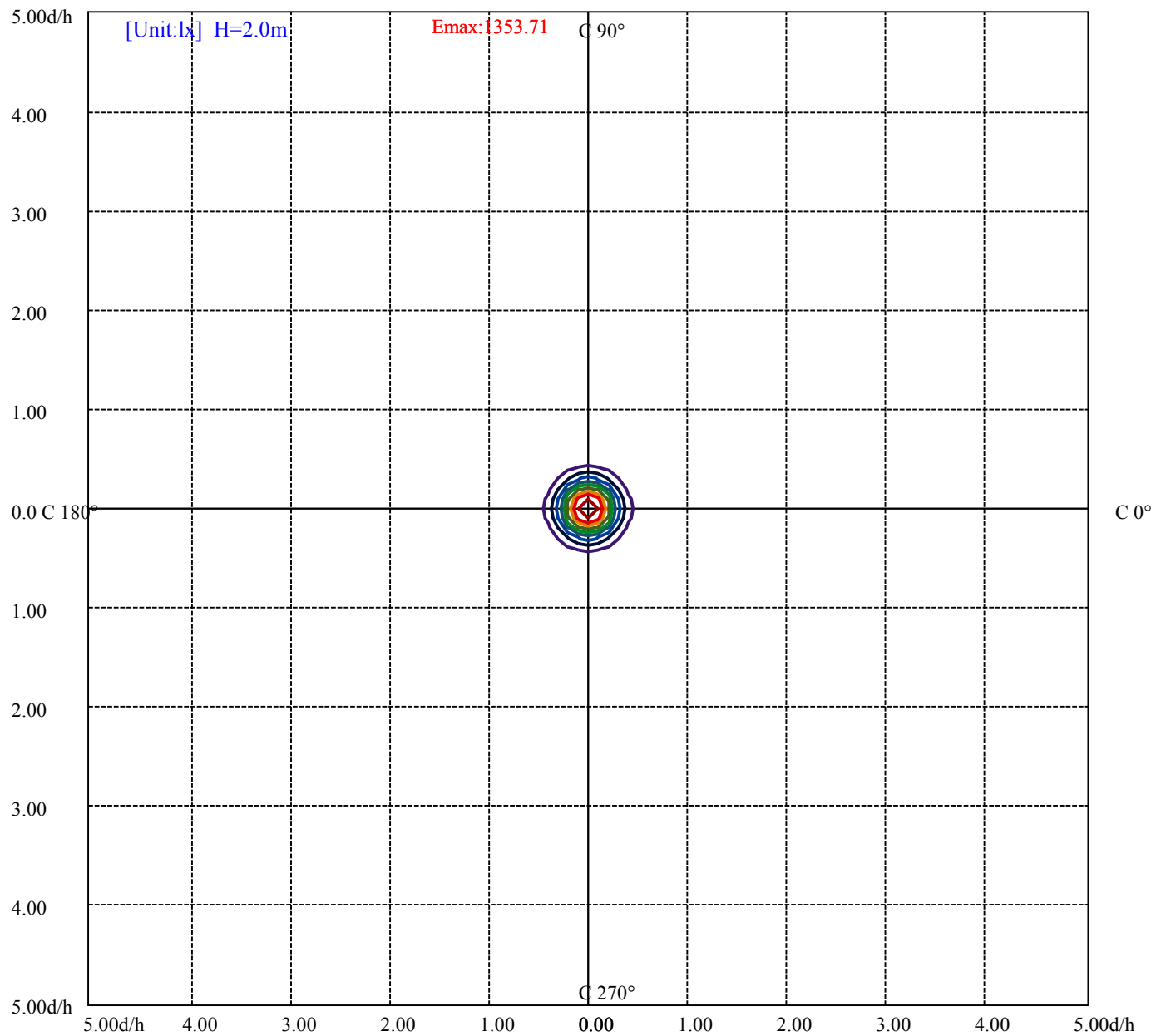




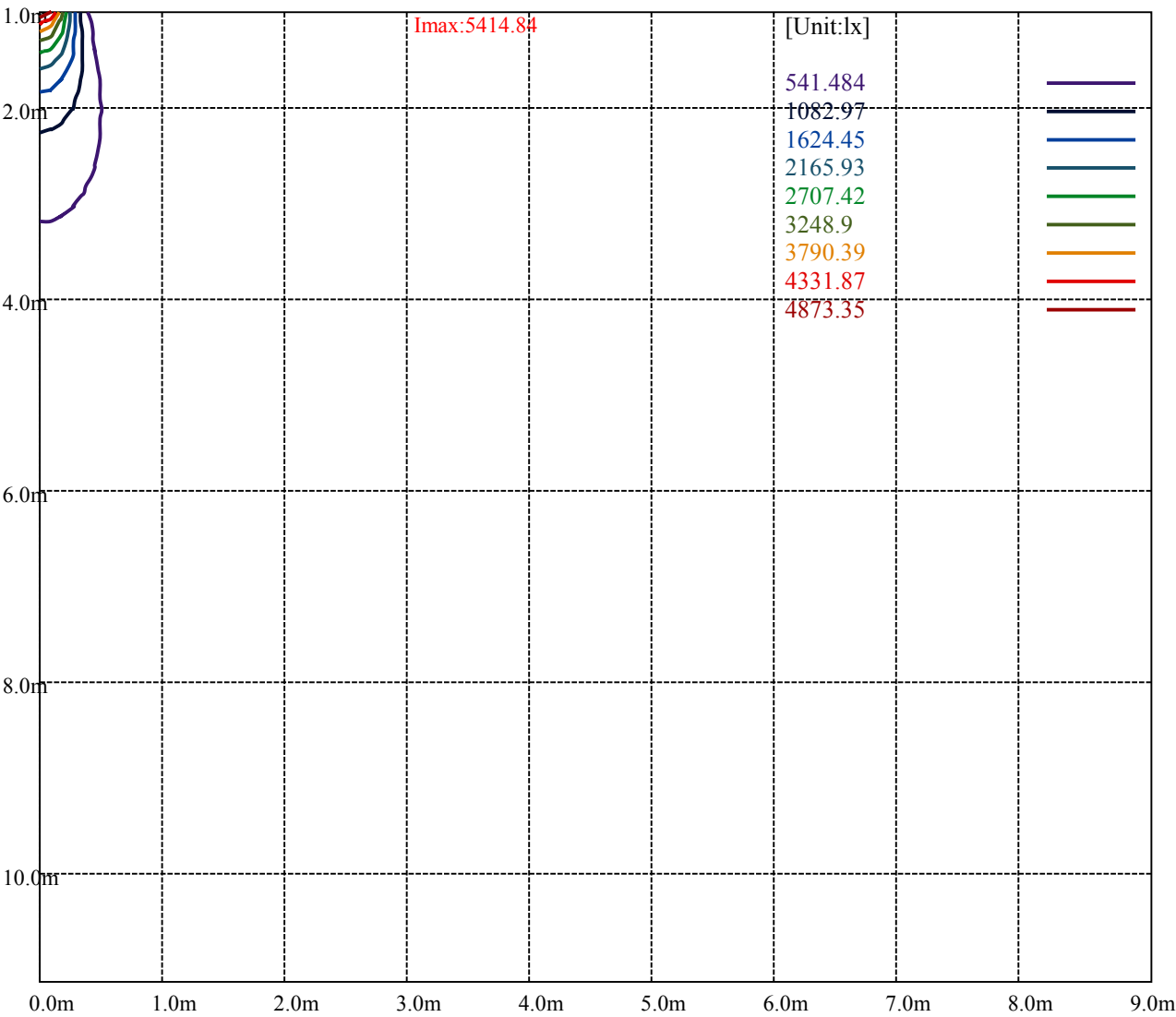








|           |          |   |
|-----------|----------|---|
| (10%Emax) | 135.3707 | — |
| (20%Emax) | 270.7425 | — |
| (30%Emax) | 406.1125 | — |
| (40%Emax) | 541.4825 | — |
| (50%Emax) | 676.855  | — |
| (60%Emax) | 812.225  | — |
| (70%Emax) | 947.595  | — |
| (80%Emax) | 1082.968 | — |
| (90%Emax) | 1218.338 | — |



Luminance Table

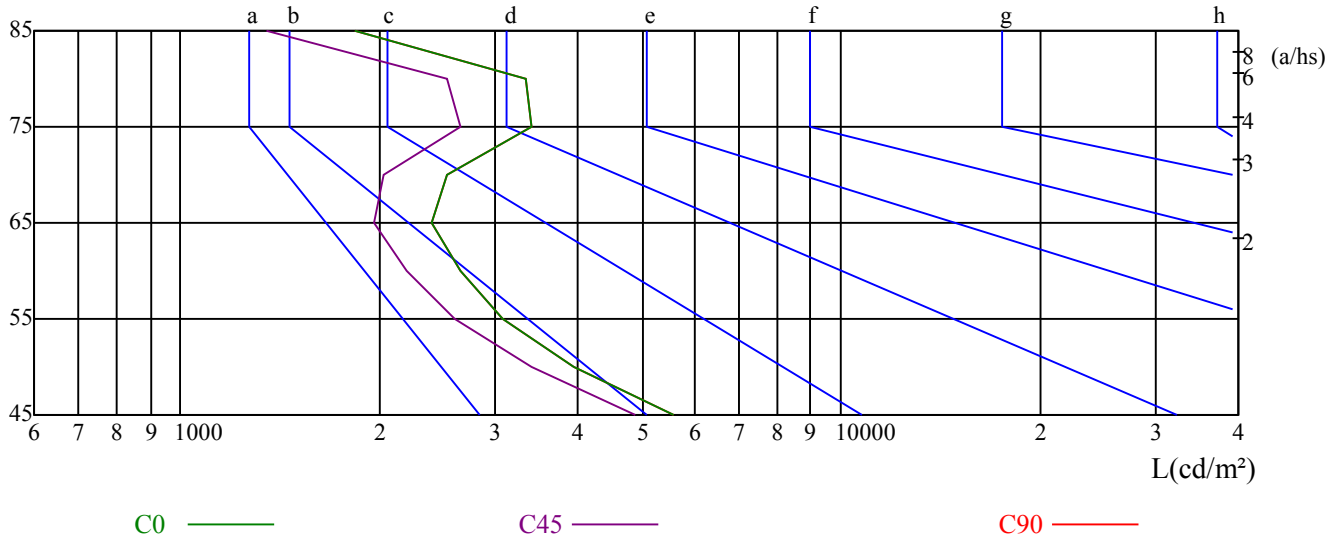
| $\gamma$ | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   |
|----------|------|------|------|------|------|------|------|------|------|
| C0       | 5596 | 3952 | 3078 | 2650 | 2397 | 2536 | 3397 | 3334 | 1836 |
| C45      | 4884 | 3398 | 2606 | 2206 | 1960 | 2032 | 2659 | 2540 | 1353 |
| C90      | 5596 | 3952 | 3078 | 2650 | 2397 | 2536 | 3397 | 3334 | 1836 |

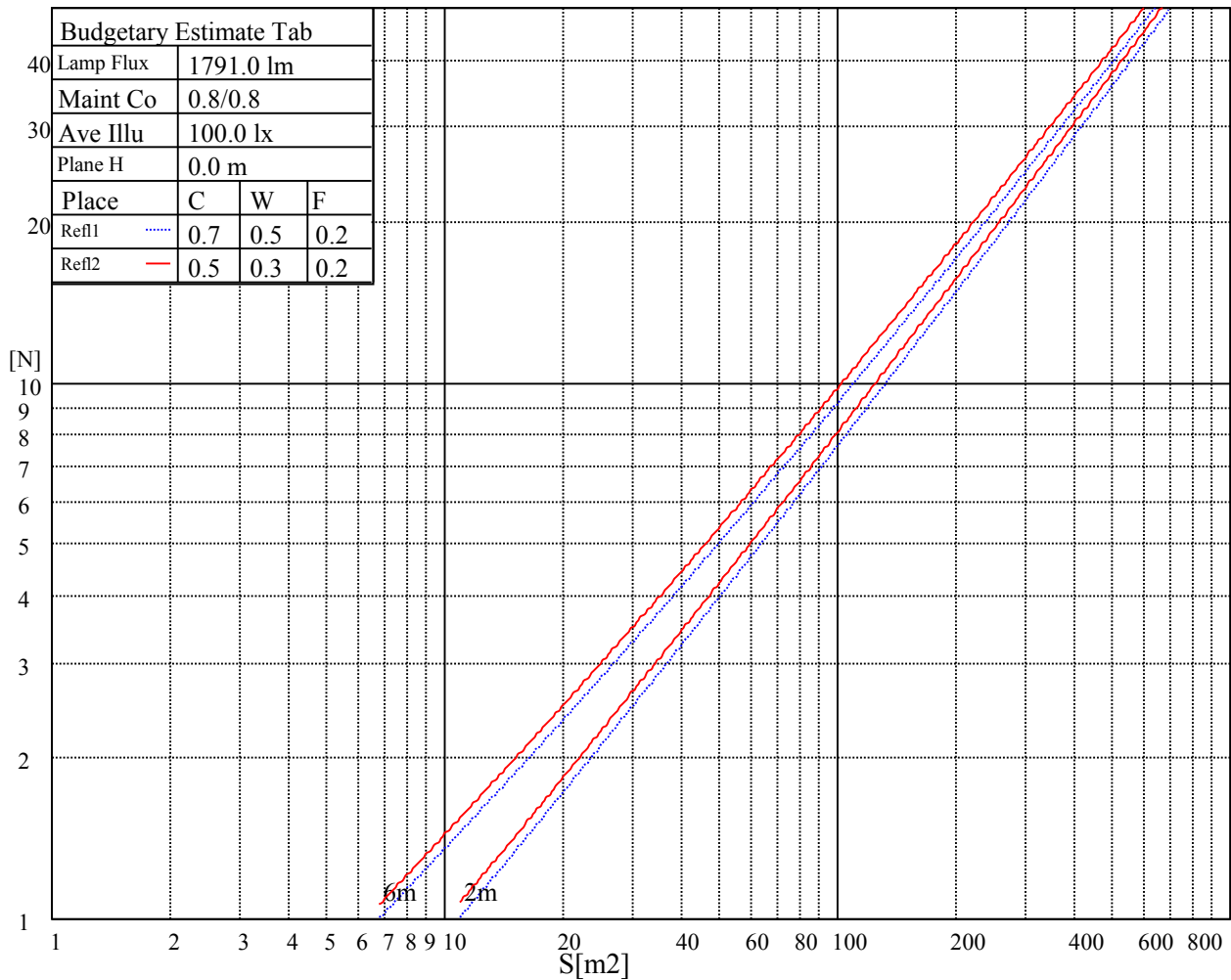
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 5191       | 5191       | 5191    | 10287      | 10287      | 10287   | 13239      | 13239      | 13239   |

Glare Table

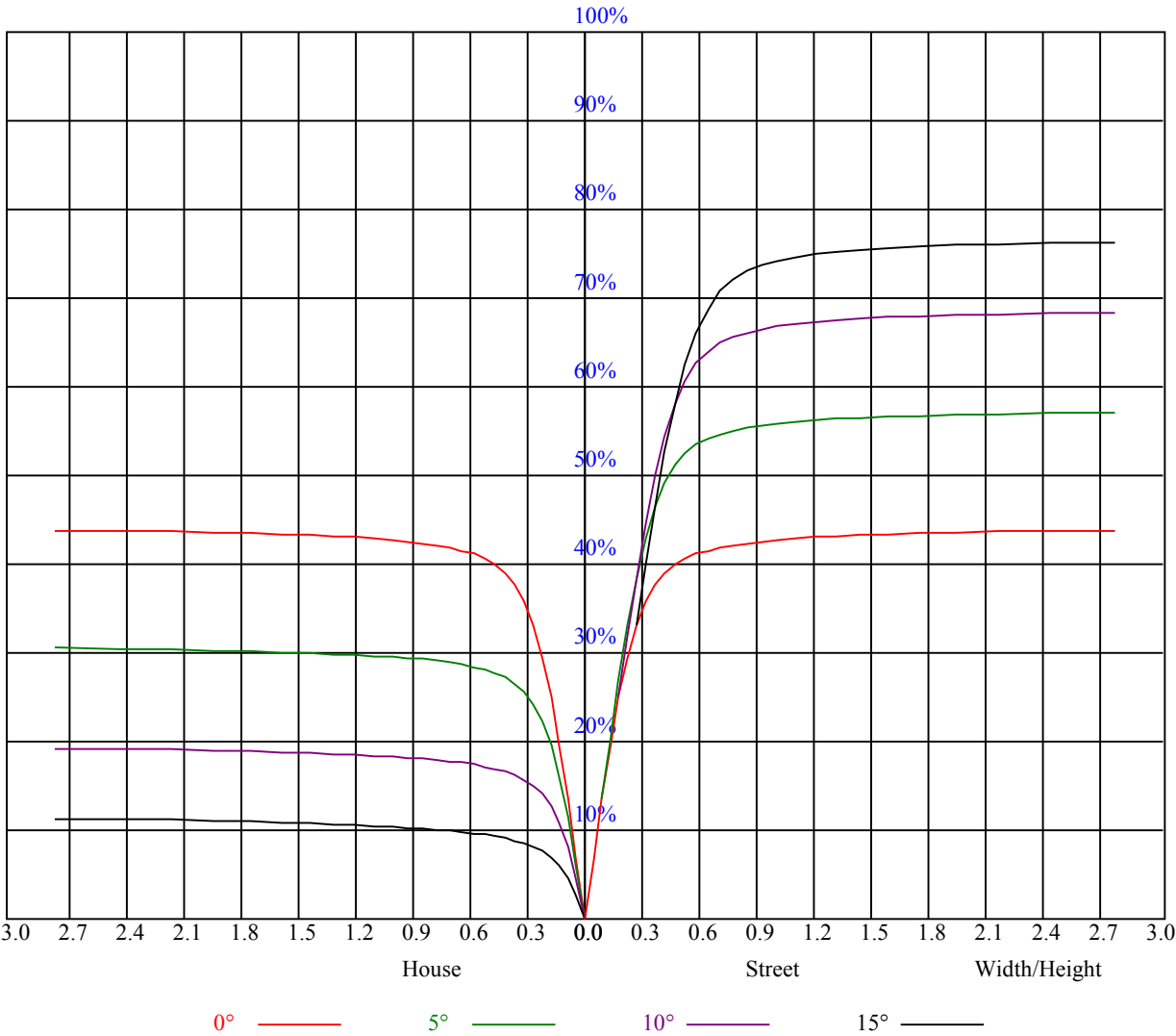
| Glare | Quality | Service Values Illuminance(lx) |      |      |            |            |            |            |            |
|-------|---------|--------------------------------|------|------|------------|------------|------------|------------|------------|
| 1.15  | A       | 2000                           | 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

 $\gamma(^{\circ})$ 



| 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    | 1.06                                    | 1.06 | 1.06 | 1.03 | 1.03 | 1.03 | 0.99 | 0.99 | 0.99 | 0.95 | 0.95 | 0.95 | 0.91 | 0.91 | 0.91 | 0.89 |
| 1    | 0.99                                    | 0.97 | 0.95 | 0.97 | 0.95 | 0.94 | 0.94 | 0.92 | 0.91 | 0.90 | 0.89 | 0.88 | 0.87 | 0.86 | 0.86 | 0.84 |
| 2    | 0.93                                    | 0.90 | 0.88 | 0.92 | 0.89 | 0.87 | 0.89 | 0.87 | 0.85 | 0.86 | 0.85 | 0.83 | 0.84 | 0.83 | 0.81 | 0.80 |
| 3    | 0.89                                    | 0.85 | 0.82 | 0.87 | 0.84 | 0.81 | 0.85 | 0.82 | 0.80 | 0.83 | 0.81 | 0.79 | 0.81 | 0.79 | 0.78 | 0.76 |
| 4    | 0.85                                    | 0.80 | 0.77 | 0.84 | 0.80 | 0.77 | 0.82 | 0.79 | 0.76 | 0.80 | 0.77 | 0.75 | 0.78 | 0.76 | 0.74 | 0.73 |
| 5    | 0.81                                    | 0.77 | 0.74 | 0.80 | 0.76 | 0.73 | 0.79 | 0.75 | 0.73 | 0.77 | 0.74 | 0.72 | 0.76 | 0.73 | 0.71 | 0.70 |
| 6    | 0.78                                    | 0.73 | 0.70 | 0.77 | 0.73 | 0.70 | 0.76 | 0.72 | 0.70 | 0.75 | 0.72 | 0.69 | 0.74 | 0.71 | 0.69 | 0.68 |
| 7    | 0.75                                    | 0.70 | 0.68 | 0.74 | 0.70 | 0.67 | 0.73 | 0.70 | 0.67 | 0.72 | 0.69 | 0.67 | 0.71 | 0.68 | 0.66 | 0.65 |
| 8    | 0.72                                    | 0.68 | 0.65 | 0.72 | 0.68 | 0.65 | 0.71 | 0.67 | 0.65 | 0.70 | 0.67 | 0.64 | 0.69 | 0.66 | 0.64 | 0.63 |
| 9    | 0.70                                    | 0.66 | 0.63 | 0.69 | 0.65 | 0.63 | 0.69 | 0.65 | 0.62 | 0.68 | 0.65 | 0.62 | 0.67 | 0.64 | 0.62 | 0.61 |
| 10   | 0.67                                    | 0.63 | 0.61 | 0.67 | 0.63 | 0.61 | 0.66 | 0.63 | 0.60 | 0.66 | 0.63 | 0.60 | 0.65 | 0.62 | 0.60 | 0.59 |



## 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    | 5410.13 | 5446.69 | 5461.88 | 5445.56 | 5402.25 | 5335.31 | 5218.31 | 5094.00 | 4946.06 |
| 45.0   | 5415.75 | 5411.25 | 5376.38 | 5323.50 | 5236.88 | 5133.94 | 4986.56 | 4806.56 | 4621.50 |
| 90.0   | 5403.38 | 5360.06 | 5291.44 | 5163.19 | 5058.00 | 4914.56 | 4676.63 | 4503.94 | 4284.56 |
| 135.0  | 5427.56 | 5371.88 | 5283.00 | 5182.88 | 5041.69 | 4891.50 | 4694.63 | 4473.56 | 4258.13 |
| 180.0  | 5410.13 | 5338.13 | 5250.94 | 5125.50 | 4966.31 | 4797.00 | 4580.44 | 4337.44 | 4100.63 |
| 225.0  | 5415.75 | 5395.50 | 5343.19 | 5260.50 | 5163.75 | 5037.75 | 4845.38 | 4671.00 | 4471.88 |
| 270.0  | 5403.38 | 5436.56 | 5436.56 | 5414.63 | 5351.06 | 5272.88 | 5173.88 | 5015.81 | 4863.94 |
| 315.0  | 5432.63 | 5463.00 | 5466.94 | 5438.25 | 5388.75 | 5315.63 | 5205.94 | 5067.56 | 4919.06 |
| 360.0  | 5410.13 | 5446.69 | 5461.88 | 5445.56 | 5402.25 | 5335.31 | 5218.31 | 5094.00 | 4946.06 |

| C/γ(°) | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 14.0    | 15.0    | 16.0    | 17.0    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.0    | 4728.38 | 4533.75 | 4316.06 | 4044.38 | 3743.44 | 3454.88 | 3114.56 | 2804.06 | 2460.38 |
| 45.0   | 4389.19 | 4127.06 | 3873.38 | 3597.19 | 3230.44 | 2929.50 | 2631.94 | 2305.13 | 1990.13 |
| 90.0   | 4014.00 | 3719.81 | 3441.38 | 3112.31 | 2778.75 | 2487.94 | 2174.63 | 1908.00 | 1630.13 |
| 135.0  | 3988.13 | 3687.75 | 3403.13 | 3142.69 | 2730.38 | 2440.13 | 2199.94 | 1872.56 | 1598.06 |
| 180.0  | 3841.31 | 3457.69 | 3201.19 | 2900.81 | 2565.00 | 2243.25 | 1969.88 | 1683.56 | 1449.00 |
| 225.0  | 4224.38 | 3950.44 | 3682.13 | 3357.56 | 3018.38 | 2718.00 | 2389.50 | 2104.88 | 1805.06 |
| 270.0  | 4690.13 | 4443.19 | 4218.19 | 3972.94 | 3632.06 | 3339.56 | 3033.56 | 2689.31 | 2355.19 |
| 315.0  | 4748.06 | 4503.38 | 4279.50 | 4031.44 | 3690.00 | 3399.19 | 3098.25 | 2754.00 | 2417.06 |
| 360.0  | 4728.38 | 4533.75 | 4316.06 | 4044.38 | 3743.44 | 3454.88 | 3114.56 | 2804.06 | 2460.38 |

| C/γ(°) | 18.0    | 19.0    | 20.0    | 21.0    | 22.0    | 23.0   | 24.0   | 25.0   | 26.0   |
|--------|---------|---------|---------|---------|---------|--------|--------|--------|--------|
| 0.0    | 2137.50 | 1870.31 | 1593.56 | 1343.81 | 1146.94 | 973.13 | 785.25 | 657.56 | 549.00 |
| 45.0   | 1717.88 | 1467.00 | 1218.94 | 1035.00 | 859.50  | 734.06 | 596.25 | 488.25 | 411.19 |
| 90.0   | 1402.88 | 1104.53 | 996.08  | 823.67  | 678.26  | 569.93 | 467.61 | 385.14 | 325.97 |
| 135.0  | 1391.06 | 1144.13 | 944.44  | 812.25  | 654.19  | 556.31 | 461.25 | 373.50 | 319.50 |
| 180.0  | 1115.38 | 1005.86 | 848.31  | 697.73  | 572.85  | 480.54 | 403.14 | 326.98 | 279.51 |
| 225.0  | 1508.63 | 1321.88 | 1104.69 | 939.09  | 776.93  | 652.61 | 534.60 | 438.53 | 369.56 |
| 270.0  | 2077.88 | 1789.31 | 1526.06 | 1313.44 | 1100.81 | 933.75 | 770.63 | 632.81 | 531.00 |
| 315.0  | 2139.19 | 1843.31 | 1600.88 | 1352.81 | 1106.04 | 954.68 | 784.35 | 641.76 | 537.41 |
| 360.0  | 2137.50 | 1870.31 | 1593.56 | 1343.81 | 1146.94 | 973.13 | 785.25 | 657.56 | 549.00 |

| C/γ(°) | 27.0   | 28.0   | 29.0   | 30.0   | 31.0   | 32.0   | 33.0   | 34.0   | 35.0   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0    | 446.63 | 364.50 | 308.25 | 284.63 | 218.64 | 192.21 | 171.17 | 152.10 | 136.29 |
| 45.0   | 348.19 | 286.31 | 238.16 | 207.11 | 177.13 | 158.34 | 142.88 | 129.94 | 116.33 |
| 90.0   | 278.27 | 231.08 | 201.99 | 178.43 | 157.11 | 139.44 | 126.39 | 114.13 | 103.44 |
| 135.0  | 285.75 | 227.14 | 199.18 | 176.46 | 153.73 | 138.60 | 125.66 | 113.46 | 102.94 |
| 180.0  | 241.54 | 204.08 | 180.45 | 161.72 | 142.54 | 129.66 | 118.63 | 107.10 | 99.84  |
| 225.0  | 313.09 | 257.74 | 224.38 | 197.83 | 173.70 | 154.29 | 140.06 | 126.45 | 114.75 |
| 270.0  | 443.81 | 357.19 | 304.31 | 287.44 | 218.31 | 192.60 | 171.56 | 152.27 | 136.24 |
| 315.0  | 449.72 | 361.24 | 306.90 | 263.25 | 224.10 | 193.33 | 171.73 | 151.65 | 135.06 |
| 360.0  | 446.63 | 364.50 | 308.25 | 284.63 | 218.64 | 192.21 | 171.17 | 152.10 | 136.29 |

| C/γ(°) | 36.0   | 37.0   | 38.0   | 39.0  | 40.0  | 41.0  | 42.0  | 43.0  | 44.0  |
|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| 0.0    | 122.91 | 112.67 | 103.61 | 93.49 | 86.57 | 80.21 | 73.35 | 68.23 | 63.51 |
| 45.0   | 106.99 | 97.54  | 90.17  | 82.74 | 76.05 | 70.59 | 65.03 | 60.53 | 56.03 |
| 90.0   | 95.18  | 86.85  | 80.27  | 73.46 | 67.16 | 62.10 | 57.54 | 52.37 | 48.60 |
| 135.0  | 94.61  | 86.29  | 79.82  | 73.13 | 66.94 | 61.93 | 56.81 | 52.20 | 48.38 |
| 180.0  | 91.58  | 83.36  | 78.13  | 72.62 | 65.76 | 61.71 | 57.54 | 52.37 | 49.28 |
| 225.0  | 105.69 | 96.69  | 89.61  | 82.24 | 75.71 | 70.48 | 65.70 | 60.08 | 56.08 |
| 270.0  | 124.03 | 112.28 | 103.05 | 93.77 | 85.67 | 79.20 | 72.56 | 66.49 | 61.54 |
| 315.0  | 122.57 | 110.70 | 101.59 | 92.36 | 84.38 | 78.02 | 72.28 | 65.70 | 60.98 |
| 360.0  | 122.91 | 112.67 | 103.61 | 93.49 | 86.57 | 80.21 | 73.35 | 68.23 | 63.51 |



## Intensity data(cd)

| C/γ(°) | 45.0  | 46.0  | 47.0  | 48.0  | 49.0  | 50.0  | 51.0  | 52.0  | 53.0  |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0    | 59.23 | 54.34 | 50.79 | 47.36 | 43.88 | 40.61 | 37.97 | 35.27 | 33.13 |
| 45.0   | 52.37 | 48.49 | 45.00 | 42.13 | 39.49 | 36.45 | 34.26 | 32.23 | 30.09 |
| 90.0   | 45.11 | 41.23 | 38.36 | 35.83 | 33.24 | 31.05 | 29.36 | 27.62 | 26.44 |
| 135.0  | 44.94 | 41.01 | 38.25 | 35.78 | 33.19 | 31.11 | 29.48 | 27.79 | 26.44 |
| 180.0  | 46.01 | 42.64 | 39.66 | 37.13 | 34.65 | 32.57 | 30.77 | 29.14 | 27.84 |
| 225.0  | 52.31 | 47.93 | 44.66 | 41.79 | 38.87 | 36.17 | 34.09 | 31.95 | 30.15 |
| 270.0  | 56.98 | 51.86 | 48.09 | 44.55 | 40.95 | 37.74 | 35.16 | 32.91 | 30.60 |
| 315.0  | 56.59 | 51.47 | 47.76 | 44.38 | 40.44 | 37.69 | 35.27 | 32.46 | 30.88 |
| 360.0  | 59.23 | 54.34 | 50.79 | 47.36 | 43.88 | 40.61 | 37.97 | 35.27 | 33.13 |
| C/γ(°) | 54.0  | 55.0  | 56.0  | 57.0  | 58.0  | 59.0  | 60.0  | 61.0  | 62.0  |
| 0.0    | 31.28 | 29.42 | 28.13 | 26.72 | 25.54 | 24.53 | 23.51 | 22.61 | 21.88 |
| 45.0   | 28.69 | 27.39 | 26.10 | 24.98 | 24.08 | 23.12 | 22.28 | 21.54 | 20.76 |
| 90.0   | 25.20 | 24.13 | 23.29 | 22.39 | 21.60 | 20.98 | 20.36 | 19.74 | 19.24 |
| 135.0  | 25.31 | 24.24 | 23.34 | 22.50 | 21.71 | 21.04 | 20.25 | 19.63 | 19.13 |
| 180.0  | 26.49 | 25.31 | 24.36 | 23.46 | 22.44 | 21.71 | 21.04 | 20.19 | 19.63 |
| 225.0  | 28.74 | 27.34 | 26.21 | 25.09 | 24.02 | 23.18 | 22.39 | 21.49 | 20.70 |
| 270.0  | 28.97 | 27.34 | 26.16 | 24.98 | 24.08 | 23.06 | 22.16 | 21.26 | 20.59 |
| 315.0  | 28.97 | 27.17 | 26.16 | 24.86 | 23.68 | 22.95 | 22.16 | 21.15 | 20.59 |
| 360.0  | 31.28 | 29.42 | 28.13 | 26.72 | 25.54 | 24.53 | 23.51 | 22.61 | 21.88 |
| C/γ(°) | 63.0  | 64.0  | 65.0  | 66.0  | 67.0  | 68.0  | 69.0  | 70.0  | 71.0  |
| 0.0    | 21.21 | 20.42 | 19.80 | 19.35 | 18.73 | 18.28 | 17.83 | 17.38 | 16.88 |
| 45.0   | 20.08 | 19.41 | 18.79 | 18.23 | 17.78 | 17.16 | 16.65 | 16.26 | 15.64 |
| 90.0   | 18.79 | 18.34 | 18.00 | 17.78 | 18.23 | 19.74 | 22.05 | 24.81 | 27.45 |
| 135.0  | 18.56 | 18.11 | 17.78 | 17.44 | 17.27 | 18.06 | 19.58 | 21.94 | 24.47 |
| 180.0  | 19.01 | 18.51 | 17.83 | 17.38 | 16.88 | 16.43 | 15.92 | 15.53 | 15.02 |
| 225.0  | 20.08 | 19.35 | 18.73 | 18.17 | 17.66 | 17.10 | 16.59 | 16.09 | 15.64 |
| 270.0  | 19.97 | 19.29 | 18.79 | 18.34 | 17.94 | 17.49 | 17.27 | 17.61 | 19.35 |
| 315.0  | 19.97 | 19.41 | 18.84 | 18.39 | 17.89 | 17.44 | 17.10 | 16.82 | 17.16 |
| 360.0  | 21.21 | 20.42 | 19.80 | 19.35 | 18.73 | 18.28 | 17.83 | 17.38 | 16.88 |
| C/γ(°) | 72.0  | 73.0  | 74.0  | 75.0  | 76.0  | 77.0  | 78.0  | 79.0  | 80.0  |
| 0.0    | 16.43 | 15.98 | 15.53 | 15.02 | 14.51 | 14.06 | 13.67 | 13.05 | 12.60 |
| 45.0   | 15.19 | 14.74 | 14.18 | 13.67 | 13.28 | 12.77 | 12.32 | 11.93 | 11.42 |
| 90.0   | 30.32 | 33.47 | 35.83 | 37.69 | 38.36 | 38.14 | 36.06 | 31.44 | 27.17 |
| 135.0  | 26.61 | 28.97 | 30.83 | 32.18 | 31.73 | 30.60 | 28.46 | 24.41 | 20.70 |
| 180.0  | 14.51 | 14.12 | 13.67 | 13.22 | 12.71 | 12.21 | 11.81 | 11.36 | 10.91 |
| 225.0  | 15.02 | 14.51 | 14.06 | 13.56 | 13.05 | 12.71 | 12.26 | 11.70 | 11.25 |
| 270.0  | 21.66 | 24.08 | 27.11 | 29.81 | 32.34 | 34.82 | 36.45 | 37.07 | 36.11 |
| 315.0  | 18.45 | 20.53 | 22.61 | 25.14 | 27.79 | 29.64 | 31.28 | 31.11 | 29.87 |
| 360.0  | 16.43 | 15.98 | 15.53 | 15.02 | 14.51 | 14.06 | 13.67 | 13.05 | 12.60 |
| C/γ(°) | 81.0  | 82.0  | 83.0  | 84.0  | 85.0  | 86.0  | 87.0  | 88.0  | 89.0  |
| 0.0    | 12.09 | 11.70 | 11.25 | 10.74 | 10.29 | 9.90  | 9.00  | 8.49  | 8.10  |
| 45.0   | 11.03 | 10.63 | 10.13 | 9.73  | 9.28  | 8.61  | 8.10  | 7.71  | 7.43  |
| 90.0   | 22.05 | 15.81 | 11.53 | 10.46 | 8.44  | 7.93  | 7.43  | 7.14  | 7.03  |
| 135.0  | 16.93 | 12.54 | 10.74 | 10.18 | 8.33  | 7.71  | 7.37  | 7.09  | 7.03  |
| 180.0  | 10.46 | 10.07 | 9.62  | 9.23  | 8.33  | 7.93  | 7.48  | 7.31  | 7.31  |
| 225.0  | 10.91 | 10.41 | 9.96  | 9.68  | 9.17  | 8.49  | 7.99  | 7.65  | 7.31  |
| 270.0  | 33.41 | 29.03 | 24.19 | 17.83 | 12.54 | 9.84  | 8.61  | 8.16  | 7.65  |
| 315.0  | 27.73 | 24.08 | 19.91 | 15.58 | 11.76 | 9.84  | 8.66  | 8.21  | 7.76  |
| 360.0  | 12.09 | 11.70 | 11.25 | 10.74 | 10.29 | 9.90  | 9.00  | 8.49  | 8.10  |

## Intensity data(cd)

|                 |      |
|-----------------|------|
| C/ $\gamma$ (°) | 90.0 |
| 0.0             | 7.71 |
| 45.0            | 7.20 |
| 90.0            | 7.09 |
| 135.0           | 7.03 |
| 180.0           | 7.20 |
| 225.0           | 7.20 |
| 270.0           | 7.31 |
| 315.0           | 7.43 |
| 360.0           | 7.71 |