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AFX

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Client:

LumCAT: EMAF06LAJD1SN

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.010

LampCAT:

Current(A): 0.134

Lamp flux(lm): 1065.0

Power (W): 15.210

Number of Lamps: 1

PF: 0.947

Length(mm): -140

Width(mm): -140

Phm Type: C

Height(mm): 20

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Photometric Results

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Lumens(lm): 1065.03, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 70.02

Central intensity(cd): 342.002, Maximum intensity(cd): 342.002

Angle of maximum intensity: C=90.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=108.0

[C90/270]Total=107.6

Field angle(10%Imax): [C0/180]Total=165.4

[C90/270]Total=165.4

Maximum s/h(1/2): C0\_180=1.22 C90\_270=1.22

Maximum s/h(1/4): C0\_180=1.33 C90\_270=1.33

Up flux rate of lamp(%): 10.52%

Down flux rate of lamp(%): 89.48%

Up flux rate of LUM(%): 10.52%

Down flux rate of LUM(%): 89.48%

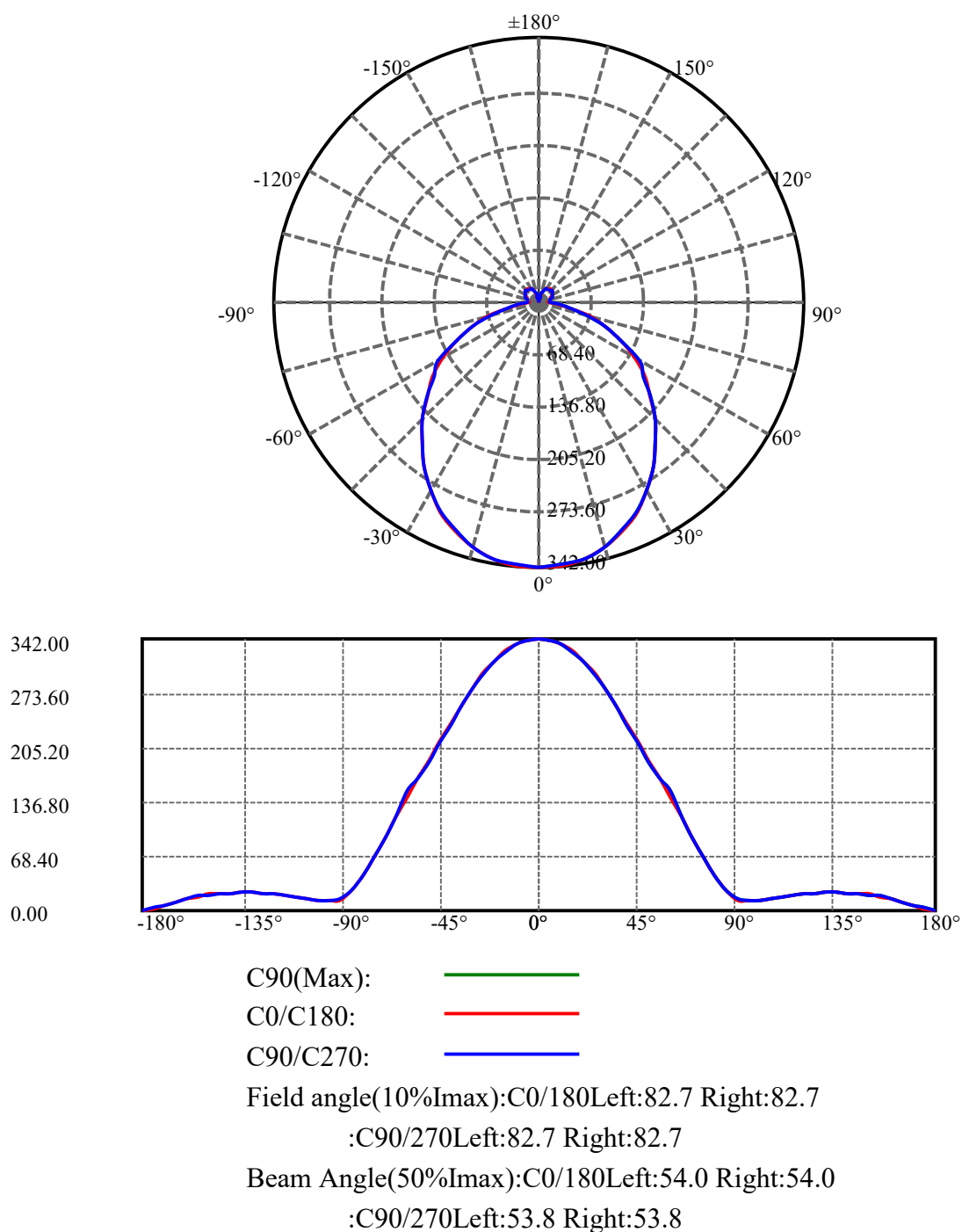
CIE Type : Semidirect lighting

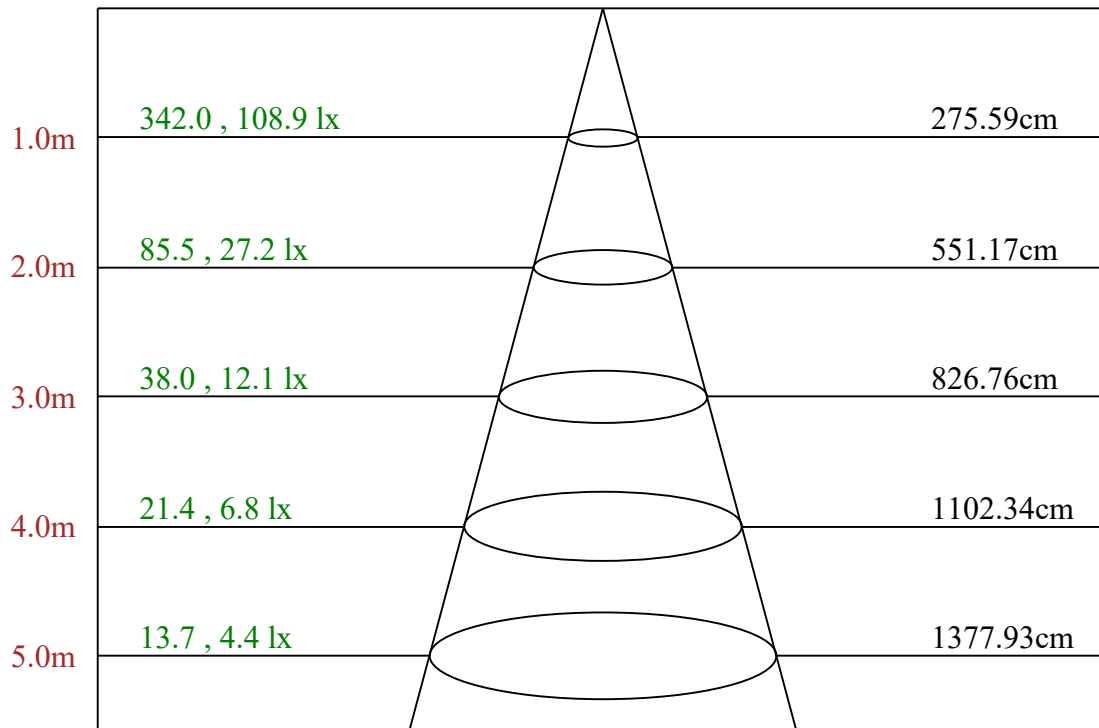
Output flux ratio in  $\pi$  solid angle : 69.083%

| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 342.002       | 0.000       | 0         | 0.00%       | 0.00%      |
| 5.0                | 340.172       | 8.155       | 8.155     | 0.77%       | 0.77%      |
| 10.0               | 335.022       | 24.154      | 32.309    | 2.27%       | 3.03%      |
| 15.0               | 326.589       | 39.246      | 71.555    | 3.68%       | 6.72%      |
| 20.0               | 314.876       | 52.866      | 124.421   | 4.96%       | 11.68%     |
| 25.0               | 298.887       | 64.372      | 188.794   | 6.04%       | 17.73%     |
| 30.0               | 279.852       | 73.240      | 262.033   | 6.88%       | 24.60%     |
| 35.0               | 257.798       | 79.173      | 341.206   | 7.43%       | 32.04%     |
| 40.0               | 235.789       | 82.351      | 423.557   | 7.73%       | 39.77%     |
| 45.0               | 211.823       | 82.879      | 506.436   | 7.78%       | 47.55%     |
| 50.0               | 188.550       | 80.901      | 587.337   | 7.60%       | 55.15%     |
| 55.0               | 165.847       | 77.058      | 664.395   | 7.24%       | 62.38%     |
| 60.0               | 142.878       | 71.361      | 735.756   | 6.70%       | 69.08%     |
| 65.0               | 117.048       | 63.188      | 798.944   | 5.93%       | 75.02%     |
| 70.0               | 91.032        | 52.687      | 851.631   | 4.95%       | 79.96%     |
| 75.0               | 66.729        | 41.236      | 892.867   | 3.87%       | 83.83%     |
| 80.0               | 45.286        | 29.972      | 922.839   | 2.81%       | 86.65%     |
| 85.0               | 25.455        | 19.222      | 942.061   | 1.80%       | 88.45%     |
| 90.0               | 14.393        | 10.911      | 952.971   | 1.02%       | 89.48%     |
| 95.0               | 12.933        | 7.482       | 960.453   | 0.70%       | 90.18%     |
| 100.0              | 13.278        | 7.122       | 967.575   | 0.67%       | 90.85%     |
| 105.0              | 14.918        | 7.545       | 975.12    | 0.71%       | 91.56%     |
| 110.0              | 17.321        | 8.427       | 983.547   | 0.79%       | 92.35%     |
| 115.0              | 19.458        | 9.313       | 992.86    | 0.87%       | 93.22%     |
| 120.0              | 21.061        | 9.850       | 1002.71   | 0.92%       | 94.15%     |
| 125.0              | 22.091        | 9.974       | 1012.684  | 0.94%       | 95.08%     |
| 130.0              | 22.549        | 9.706       | 1022.39   | 0.91%       | 96.00%     |
| 135.0              | 22.548        | 9.113       | 1031.503  | 0.86%       | 96.85%     |
| 140.0              | 22.280        | 8.300       | 1039.803  | 0.78%       | 97.63%     |
| 145.0              | 21.633        | 7.327       | 1047.13   | 0.69%       | 98.32%     |
| 150.0              | 20.336        | 6.180       | 1053.31   | 0.58%       | 98.90%     |
| 155.0              | 18.008        | 4.853       | 1058.163  | 0.46%       | 99.36%     |
| 160.0              | 14.613        | 3.421       | 1061.584  | 0.32%       | 99.68%     |
| 165.0              | 10.493        | 2.069       | 1063.653  | 0.19%       | 99.87%     |
| 170.0              | 6.220         | 0.991       | 1064.645  | 0.09%       | 99.96%     |
| 175.0              | 3.205         | 0.337       | 1064.982  | 0.03%       | 100.00%    |
| 180.0              | 0.993         | 0.050       | 1065.032  | 0.00%       | 100.00%    |

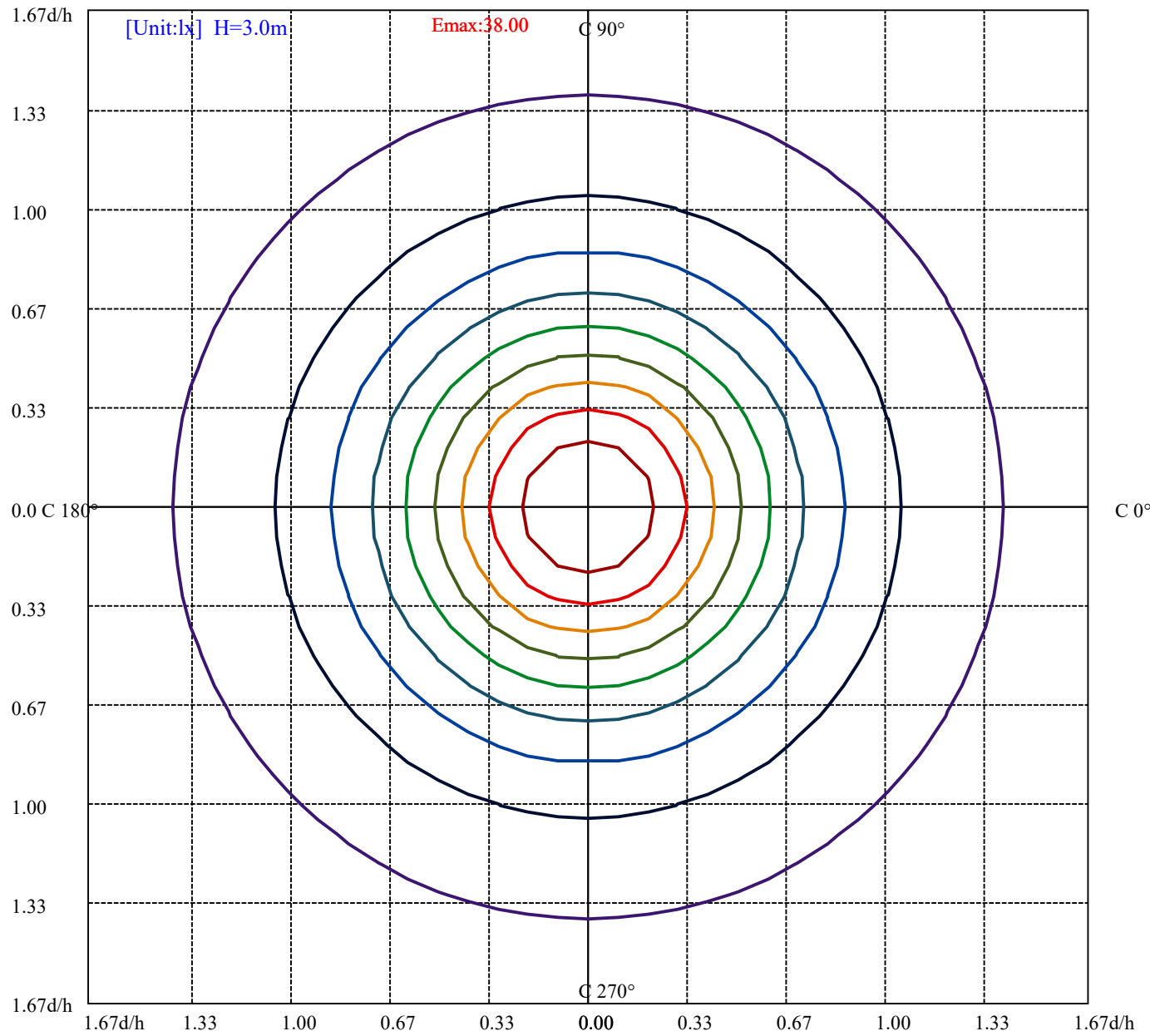
| ZONAL LUMEN SUMMARY |         |         |         |
|---------------------|---------|---------|---------|
| Zone                | Lumens  | %Lamp   | %Fixt   |
| 0-30                | 262.03  | 24.60%  | 24.60%  |
| 0-40                | 423.56  | 39.77%  | 39.77%  |
| 0-60                | 735.76  | 69.08%  | 69.08%  |
| 0-90                | 952.97  | 89.48%  | 89.48%  |
| 0-120               | 1002.71 | 94.15%  | 94.15%  |
| 0-180               | 1065.03 | 100.00% | 100.00% |
| 60-90               | 217.22  | 20.40%  | 20.40%  |
| 90-120              | 49.74   | 4.67%   | 4.67%   |
| 90-130              | 69.42   | 6.52%   | 6.52%   |
| 90-150              | 100.34  | 9.42%   | 9.42%   |
| 90-180              | 112.01  | 10.52%  | 10.52%  |
| 0-70.05             | 852.03  | 80.00%  | 80.00%  |

| ZONAL LUMEN SUMMARY |        |
|---------------------|--------|
| 0-10                | 32.31  |
| 10-20               | 92.11  |
| 20-30               | 137.61 |
| 30-40               | 161.52 |
| 40-50               | 163.78 |
| 50-60               | 148.42 |
| 60-70               | 115.88 |
| 70-80               | 71.21  |
| 80-90               | 30.13  |
| 90-100              | 14.60  |
| 100-110             | 15.97  |
| 110-120             | 19.16  |
| 120-130             | 19.68  |
| 130-140             | 17.41  |
| 140-150             | 13.51  |
| 150-160             | 8.27   |
| 160-170             | 3.06   |
| 170-180             | 0.34   |

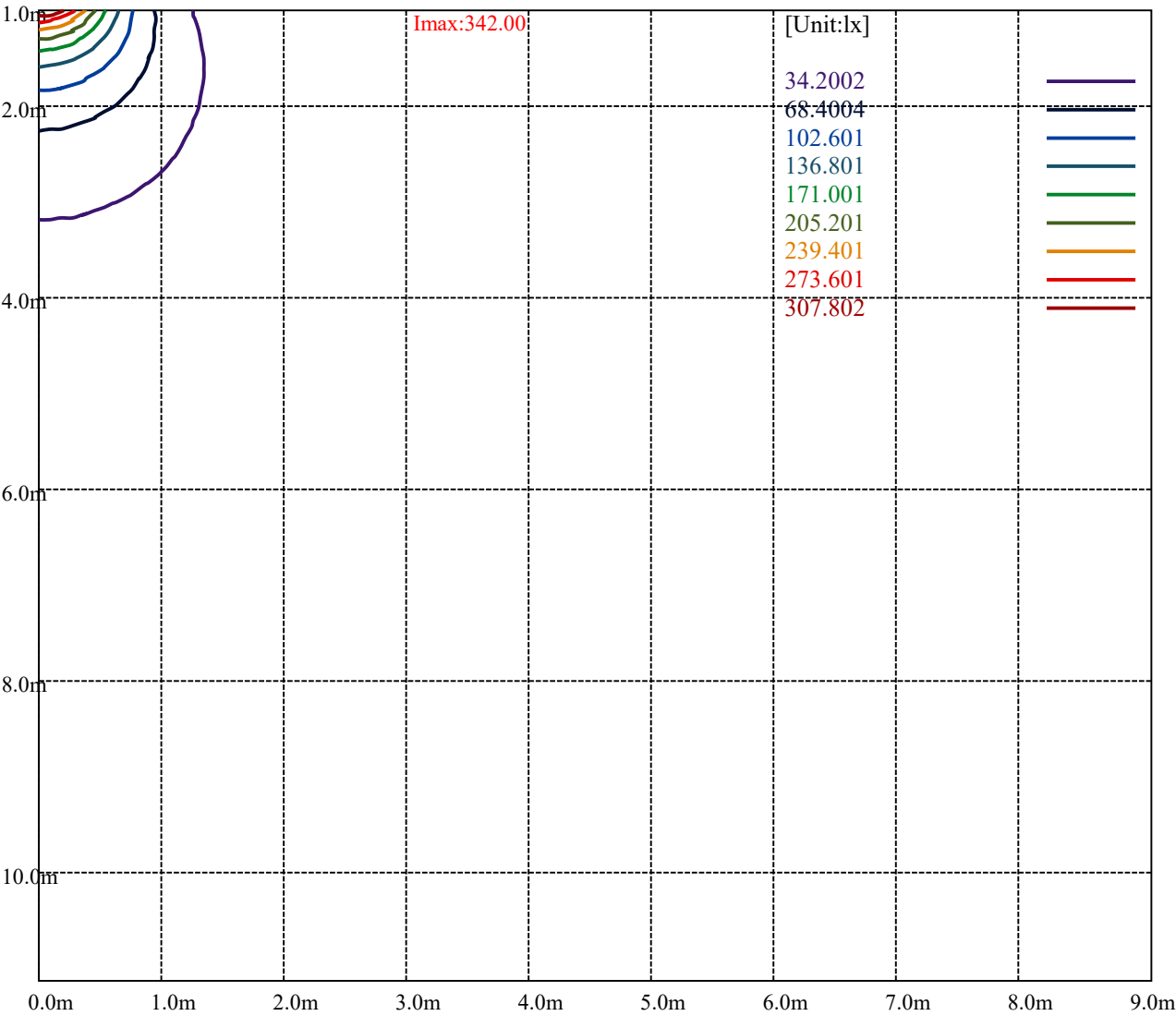




Max , Ave      Beam angle of C90 plane 108.06



|                    |  |
|--------------------|--|
| (10%Emax) 3.800022 |  |
| (20%Emax) 7.600044 |  |
| (30%Emax) 11.40011 |  |
| (40%Emax) 15.20011 |  |
| (50%Emax) 19.00011 |  |
| (60%Emax) 22.80011 |  |
| (70%Emax) 26.60011 |  |
| (80%Emax) 30.40011 |  |
| (90%Emax) 34.20022 |  |



Luminance Table

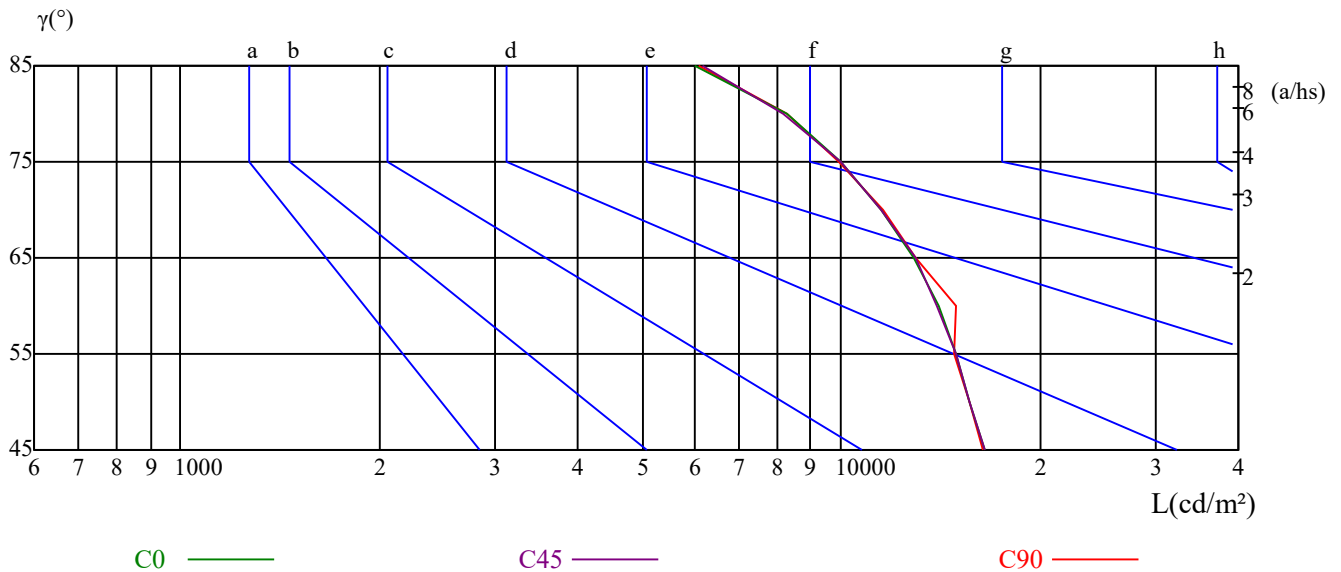
| $\gamma$ | 45    | 50    | 55    | 60    | 65    | 70    | 75   | 80   | 85   |
|----------|-------|-------|-------|-------|-------|-------|------|------|------|
| C0       | 16483 | 15627 | 14968 | 14086 | 12922 | 11485 | 9983 | 8308 | 6007 |
| C45      | 16481 | 15669 | 14899 | 14017 | 12951 | 11524 | 9972 | 8189 | 6161 |
| C90      | 16428 | 15612 | 14879 | 14992 | 12978 | 11554 | 9938 | 8273 | 6104 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 17962      | 18040      | 18003   | 16760      | 16685      | 16742   | 18496      | 18794      | 18970   |

Glare Table

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

Luminance Limiting Curve



| RHOC | 80                                      |      |      | 70   |      |      | 50   |      |      | 30   |      |      | 10   |      |      | 0    |
|------|-----------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RHOW | 50                                      | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 50   | 30   | 10   | 0    |
| RCR  | COEFFICIENTS OF UTILIZATION RHOFC=20 CU |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0    | 1.17                                    | 1.17 | 1.17 | 1.13 | 1.13 | 1.13 | 1.05 | 1.05 | 1.05 | 0.99 | 0.99 | 0.99 | 0.92 | 0.92 | 0.92 | 0.89 |
| 1    | 1.01                                    | 0.97 | 0.93 | 0.98 | 0.94 | 0.90 | 0.91 | 0.88 | 0.85 | 0.86 | 0.83 | 0.81 | 0.81 | 0.79 | 0.77 | 0.74 |
| 2    | 0.88                                    | 0.81 | 0.75 | 0.85 | 0.79 | 0.73 | 0.80 | 0.75 | 0.70 | 0.75 | 0.71 | 0.67 | 0.70 | 0.67 | 0.64 | 0.61 |
| 3    | 0.77                                    | 0.69 | 0.62 | 0.75 | 0.67 | 0.61 | 0.70 | 0.64 | 0.59 | 0.66 | 0.61 | 0.56 | 0.62 | 0.58 | 0.54 | 0.52 |
| 4    | 0.68                                    | 0.60 | 0.53 | 0.66 | 0.58 | 0.52 | 0.62 | 0.55 | 0.50 | 0.59 | 0.53 | 0.48 | 0.56 | 0.51 | 0.47 | 0.44 |
| 5    | 0.61                                    | 0.52 | 0.45 | 0.59 | 0.51 | 0.45 | 0.56 | 0.49 | 0.43 | 0.53 | 0.47 | 0.42 | 0.50 | 0.45 | 0.40 | 0.38 |
| 6    | 0.55                                    | 0.46 | 0.40 | 0.53 | 0.45 | 0.39 | 0.50 | 0.43 | 0.38 | 0.48 | 0.42 | 0.37 | 0.45 | 0.40 | 0.36 | 0.33 |
| 7    | 0.50                                    | 0.41 | 0.35 | 0.48 | 0.40 | 0.34 | 0.46 | 0.39 | 0.34 | 0.44 | 0.37 | 0.33 | 0.41 | 0.36 | 0.32 | 0.29 |
| 8    | 0.45                                    | 0.37 | 0.31 | 0.44 | 0.36 | 0.31 | 0.42 | 0.35 | 0.30 | 0.40 | 0.34 | 0.29 | 0.38 | 0.33 | 0.28 | 0.26 |
| 9    | 0.42                                    | 0.33 | 0.28 | 0.41 | 0.33 | 0.28 | 0.39 | 0.32 | 0.27 | 0.37 | 0.31 | 0.26 | 0.35 | 0.30 | 0.26 | 0.24 |
| 10   | 0.38                                    | 0.31 | 0.25 | 0.37 | 0.30 | 0.25 | 0.36 | 0.29 | 0.24 | 0.34 | 0.28 | 0.24 | 0.33 | 0.27 | 0.23 | 0.21 |

## Intensity data(cd)

| C/γ(°) | 0.0    | 5.0    | 10.0   | 15.0   | 20.0   | 25.0   | 30.0   | 35.0   | 40.0   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0    | 342.00 | 340.20 | 335.69 | 326.66 | 315.83 | 300.49 | 281.54 | 259.89 | 236.42 |
| 15.0   | 342.00 | 339.29 | 333.86 | 325.72 | 313.95 | 299.48 | 279.57 | 258.76 | 236.14 |
| 30.0   | 342.00 | 339.28 | 333.84 | 325.67 | 312.97 | 297.55 | 279.41 | 257.64 | 234.96 |
| 45.0   | 342.00 | 339.27 | 333.82 | 324.72 | 313.80 | 297.43 | 279.24 | 257.41 | 234.67 |
| 60.0   | 342.00 | 340.17 | 334.69 | 325.54 | 313.65 | 299.02 | 279.82 | 257.87 | 235.01 |
| 75.0   | 342.00 | 340.17 | 333.77 | 325.54 | 313.65 | 299.02 | 279.82 | 257.87 | 236.84 |
| 90.0   | 342.00 | 339.25 | 334.67 | 325.50 | 314.50 | 299.82 | 281.49 | 260.40 | 237.48 |
| 105.0  | 342.00 | 341.08 | 336.47 | 328.17 | 318.03 | 301.44 | 284.85 | 262.72 | 240.60 |
| 120.0  | 342.00 | 342.00 | 337.38 | 329.99 | 319.82 | 304.10 | 286.54 | 265.28 | 243.10 |
| 135.0  | 342.00 | 342.00 | 338.30 | 330.91 | 320.74 | 305.95 | 288.39 | 267.13 | 244.95 |
| 150.0  | 342.00 | 341.08 | 338.30 | 331.83 | 311.50 | 307.80 | 291.16 | 269.90 | 246.80 |
| 165.0  | 342.00 | 342.00 | 339.23 | 332.76 | 323.52 | 308.73 | 292.09 | 271.75 | 247.72 |
| 180.0  | 342.00 | 340.20 | 334.78 | 326.66 | 314.03 | 298.69 | 278.84 | 256.28 | 233.72 |
| 195.0  | 342.00 | 340.19 | 334.76 | 327.53 | 315.76 | 299.48 | 279.57 | 257.86 | 234.33 |
| 210.0  | 342.00 | 340.19 | 334.74 | 327.49 | 315.69 | 299.37 | 279.41 | 258.54 | 234.96 |
| 225.0  | 342.00 | 340.18 | 335.63 | 327.45 | 316.53 | 300.16 | 280.15 | 258.32 | 234.67 |
| 240.0  | 342.00 | 341.09 | 336.52 | 328.29 | 316.40 | 299.94 | 280.73 | 257.87 | 235.93 |
| 255.0  | 342.00 | 340.17 | 335.60 | 326.46 | 315.48 | 299.02 | 278.91 | 256.04 | 233.18 |
| 270.0  | 342.00 | 340.17 | 335.58 | 326.41 | 313.58 | 297.07 | 277.82 | 253.98 | 231.97 |
| 285.0  | 342.00 | 341.08 | 334.63 | 326.33 | 313.42 | 295.91 | 276.55 | 253.51 | 249.82 |
| 300.0  | 342.00 | 340.15 | 334.61 | 324.44 | 322.59 | 293.94 | 273.60 | 250.49 | 227.38 |
| 315.0  | 342.00 | 339.23 | 332.76 | 322.59 | 309.65 | 291.16 | 271.75 | 247.72 | 224.61 |
| 330.0  | 342.00 | 338.30 | 330.91 | 321.67 | 306.88 | 289.32 | 268.98 | 245.87 | 222.76 |
| 345.0  | 342.00 | 337.38 | 329.99 | 319.82 | 305.03 | 288.39 | 266.21 | 244.02 | 220.91 |
| 360.0  | 342.00 | 340.20 | 335.69 | 326.66 | 315.83 | 300.49 | 281.54 | 259.89 | 236.42 |
|        |        |        |        |        |        |        |        |        |        |
| C/γ(°) | 45.0   | 50.0   | 55.0   | 60.0   | 65.0   | 70.0   | 75.0   | 80.0   | 85.0   |
| 0.0    | 214.77 | 190.40 | 169.65 | 145.28 | 119.11 | 92.04  | 67.68  | 45.12  | 24.36  |
| 15.0   | 213.52 | 190.00 | 168.29 | 144.76 | 119.43 | 91.38  | 66.95  | 44.33  | 24.43  |
| 30.0   | 212.28 | 191.41 | 168.73 | 146.05 | 119.75 | 93.44  | 67.13  | 45.36  | 25.40  |
| 45.0   | 212.84 | 190.10 | 168.27 | 145.53 | 121.88 | 93.69  | 69.13  | 46.39  | 25.47  |
| 60.0   | 213.98 | 190.20 | 170.09 | 147.23 | 122.54 | 96.02  | 70.41  | 48.47  | 26.52  |
| 75.0   | 213.98 | 191.12 | 169.17 | 147.23 | 124.36 | 96.93  | 73.16  | 49.38  | 28.35  |
| 90.0   | 214.55 | 191.63 | 170.54 | 148.54 | 124.70 | 99.02  | 74.27  | 52.26  | 31.17  |
| 105.0  | 217.55 | 194.51 | 172.38 | 149.34 | 127.21 | 100.48 | 77.43  | 53.47  | 32.26  |
| 120.0  | 219.99 | 195.03 | 173.77 | 151.59 | 128.48 | 103.52 | 78.57  | 55.46  | 35.12  |
| 135.0  | 221.84 | 198.73 | 175.62 | 152.51 | 129.41 | 105.37 | 80.42  | 57.31  | 36.97  |
| 150.0  | 223.69 | 199.66 | 178.40 | 155.29 | 131.25 | 107.22 | 82.27  | 59.16  | 38.82  |
| 165.0  | 225.54 | 202.43 | 179.32 | 156.21 | 132.18 | 109.07 | 84.11  | 61.01  | 39.75  |
| 180.0  | 209.35 | 185.89 | 163.33 | 139.87 | 114.60 | 89.34  | 65.87  | 45.12  | 25.27  |
| 195.0  | 209.91 | 186.38 | 163.76 | 139.33 | 115.81 | 90.48  | 66.05  | 44.33  | 24.43  |
| 210.0  | 211.37 | 187.78 | 164.20 | 139.70 | 115.21 | 88.90  | 66.22  | 43.54  | 24.49  |
| 225.0  | 211.93 | 187.37 | 164.63 | 140.98 | 114.61 | 89.14  | 64.58  | 42.75  | 23.65  |
| 240.0  | 211.24 | 188.38 | 163.69 | 139.91 | 113.39 | 87.79  | 64.01  | 42.06  | 22.86  |
| 255.0  | 209.41 | 187.46 | 161.86 | 138.08 | 112.48 | 85.96  | 61.27  | 55.78  | 21.03  |
| 270.0  | 208.14 | 184.30 | 160.46 | 154.96 | 110.03 | 83.44  | 58.68  | 37.59  | 19.25  |
| 285.0  | 206.49 | 182.52 | 158.56 | 133.67 | 107.86 | 80.20  | 57.15  | 35.95  | 18.44  |
| 300.0  | 203.35 | 181.17 | 157.14 | 132.18 | 104.45 | 78.57  | 53.61  | 32.35  | 16.64  |
| 315.0  | 201.50 | 178.40 | 154.36 | 128.48 | 102.60 | 75.79  | 52.69  | 31.43  | 15.71  |
| 330.0  | 198.73 | 176.55 | 153.44 | 127.56 | 99.83  | 73.95  | 49.91  | 29.58  | 15.71  |
| 345.0  | 197.81 | 173.77 | 150.67 | 124.78 | 97.98  | 73.02  | 49.91  | 28.65  | 14.79  |
| 360.0  | 214.77 | 190.40 | 169.65 | 145.28 | 119.11 | 92.04  | 67.68  | 45.12  | 24.36  |

## Intensity data(cd)

| C/γ(°) | 90.0  | 95.0  | 100.0 | 105.0 | 110.0 | 115.0 | 120.0 | 125.0 | 130.0 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0    | 12.63 | 12.63 | 12.63 | 14.44 | 16.24 | 18.95 | 20.75 | 21.66 | 22.56 |
| 15.0   | 12.67 | 12.67 | 12.67 | 14.48 | 17.19 | 19.00 | 20.81 | 21.71 | 22.62 |
| 30.0   | 12.70 | 12.70 | 12.70 | 14.51 | 17.24 | 19.05 | 20.86 | 21.77 | 22.68 |
| 45.0   | 13.64 | 12.73 | 12.73 | 14.55 | 17.28 | 19.10 | 20.92 | 21.83 | 22.74 |
| 60.0   | 13.72 | 12.80 | 12.80 | 14.63 | 17.37 | 19.20 | 21.03 | 22.86 | 22.86 |
| 75.0   | 14.63 | 12.80 | 12.80 | 14.63 | 17.37 | 20.12 | 21.03 | 22.86 | 22.86 |
| 90.0   | 15.59 | 12.84 | 12.84 | 14.67 | 17.42 | 19.25 | 21.09 | 22.92 | 22.92 |
| 105.0  | 15.67 | 12.91 | 12.91 | 13.83 | 16.59 | 19.36 | 21.20 | 23.05 | 23.05 |
| 120.0  | 17.56 | 12.02 | 12.94 | 13.86 | 16.64 | 19.41 | 21.26 | 23.11 | 23.11 |
| 135.0  | 18.49 | 12.94 | 12.94 | 13.86 | 16.64 | 18.49 | 21.26 | 23.11 | 23.11 |
| 150.0  | 19.41 | 12.94 | 12.94 | 13.86 | 15.71 | 18.49 | 21.26 | 22.18 | 23.11 |
| 165.0  | 20.34 | 12.94 | 12.94 | 13.86 | 15.71 | 18.49 | 20.34 | 22.18 | 23.11 |
| 180.0  | 13.54 | 13.54 | 13.54 | 15.34 | 18.05 | 19.85 | 21.66 | 22.56 | 22.56 |
| 195.0  | 13.57 | 13.57 | 13.57 | 15.38 | 18.10 | 19.90 | 21.71 | 22.62 | 22.62 |
| 210.0  | 13.61 | 13.61 | 13.61 | 15.42 | 17.24 | 19.96 | 20.86 | 21.77 | 22.68 |
| 225.0  | 13.64 | 13.64 | 13.64 | 14.55 | 17.28 | 20.01 | 20.01 | 21.83 | 21.83 |
| 240.0  | 13.72 | 12.80 | 13.72 | 14.63 | 17.37 | 19.20 | 21.03 | 21.95 | 21.95 |
| 255.0  | 12.80 | 12.80 | 13.72 | 15.55 | 17.37 | 19.20 | 21.03 | 21.03 | 21.95 |
| 270.0  | 12.84 | 12.84 | 13.75 | 15.59 | 17.42 | 19.25 | 21.09 | 21.09 | 22.01 |
| 285.0  | 12.91 | 12.91 | 13.83 | 15.67 | 17.51 | 19.36 | 21.20 | 21.20 | 22.12 |
| 300.0  | 12.94 | 12.94 | 13.86 | 15.71 | 18.49 | 20.34 | 21.26 | 21.26 | 22.18 |
| 315.0  | 12.94 | 12.94 | 13.86 | 15.71 | 18.49 | 20.34 | 21.26 | 21.26 | 22.18 |
| 330.0  | 12.94 | 12.94 | 13.86 | 16.64 | 18.49 | 20.34 | 21.26 | 22.18 | 22.18 |
| 345.0  | 12.94 | 12.94 | 13.86 | 16.64 | 18.49 | 20.34 | 21.26 | 22.18 | 22.18 |
| 360.0  | 12.63 | 12.63 | 12.63 | 14.44 | 16.24 | 18.95 | 20.75 | 21.66 | 22.56 |
| C/γ(°) | 135.0 | 140.0 | 145.0 | 150.0 | 155.0 | 160.0 | 165.0 | 170.0 | 175.0 |
| 0.0    | 22.56 | 21.66 | 21.66 | 19.85 | 18.05 | 15.34 | 10.83 | 7.22  | 3.61  |
| 15.0   | 22.62 | 22.62 | 21.71 | 19.90 | 18.10 | 15.38 | 10.86 | 6.33  | 3.62  |
| 30.0   | 22.68 | 22.68 | 20.86 | 19.96 | 18.14 | 14.51 | 10.89 | 6.35  | 3.63  |
| 45.0   | 22.74 | 22.74 | 21.83 | 20.01 | 18.19 | 14.55 | 10.91 | 6.37  | 3.64  |
| 60.0   | 22.86 | 22.86 | 21.95 | 21.03 | 19.20 | 15.55 | 11.89 | 7.32  | 3.66  |
| 75.0   | 22.86 | 22.86 | 21.95 | 21.03 | 19.20 | 15.55 | 11.89 | 7.32  | 3.66  |
| 90.0   | 23.84 | 22.92 | 22.92 | 21.09 | 19.25 | 15.59 | 12.84 | 8.25  | 4.58  |
| 105.0  | 23.05 | 23.05 | 23.05 | 21.20 | 19.36 | 16.59 | 12.91 | 8.30  | 4.61  |
| 120.0  | 23.11 | 23.11 | 23.11 | 22.18 | 20.34 | 16.64 | 12.94 | 8.32  | 4.62  |
| 135.0  | 23.11 | 23.11 | 23.11 | 22.18 | 19.41 | 17.56 | 13.86 | 8.32  | 4.62  |
| 150.0  | 23.11 | 23.11 | 23.11 | 22.18 | 20.34 | 16.64 | 12.94 | 8.32  | 4.62  |
| 165.0  | 23.11 | 23.11 | 23.11 | 22.18 | 20.34 | 17.56 | 12.02 | 8.32  | 4.62  |
| 180.0  | 22.56 | 22.56 | 21.66 | 20.75 | 18.05 | 12.63 | 9.02  | 5.41  | 2.71  |
| 195.0  | 22.62 | 22.62 | 21.71 | 20.81 | 17.19 | 16.29 | 9.05  | 5.43  | 2.71  |
| 210.0  | 22.68 | 22.68 | 21.77 | 19.96 | 18.14 | 13.61 | 9.98  | 5.44  | 2.72  |
| 225.0  | 21.83 | 21.83 | 20.92 | 20.01 | 17.28 | 13.64 | 10.01 | 5.46  | 2.73  |
| 240.0  | 21.95 | 21.95 | 21.03 | 20.12 | 17.37 | 13.72 | 9.14  | 5.49  | 2.74  |
| 255.0  | 21.95 | 21.95 | 21.03 | 20.12 | 17.37 | 13.72 | 10.06 | 5.49  | 2.74  |
| 270.0  | 22.01 | 21.09 | 21.09 | 19.25 | 17.42 | 13.75 | 9.17  | 4.58  | 1.83  |
| 285.0  | 21.20 | 21.20 | 20.28 | 19.36 | 16.59 | 12.91 | 9.22  | 4.61  | 1.84  |
| 300.0  | 22.18 | 21.26 | 20.34 | 19.41 | 16.64 | 12.94 | 8.32  | 4.62  | 1.85  |
| 315.0  | 22.18 | 21.26 | 20.34 | 18.49 | 15.71 | 12.02 | 8.32  | 4.62  | 1.85  |
| 330.0  | 22.18 | 21.26 | 20.34 | 18.49 | 15.71 | 12.02 | 7.39  | 3.70  | 1.85  |
| 345.0  | 22.18 | 21.26 | 20.34 | 18.49 | 14.79 | 12.02 | 7.39  | 3.70  | 1.85  |
| 360.0  | 22.56 | 21.66 | 21.66 | 19.85 | 18.05 | 15.34 | 10.83 | 7.22  | 3.61  |

## Intensity data(cd)

|                 |       |
|-----------------|-------|
| C/ $\gamma$ (°) | 180.0 |
| 0.0             | 1.80  |
| 15.0            | 1.81  |
| 30.0            | 1.81  |
| 45.0            | 1.82  |
| 60.0            | 1.83  |
| 75.0            | 1.83  |
| 90.0            | 1.83  |
| 105.0           | 1.84  |
| 120.0           | 1.85  |
| 135.0           | 1.85  |
| 150.0           | 2.77  |
| 165.0           | 2.77  |
| 180.0           | 0.00  |
| 195.0           | 0.00  |
| 210.0           | 0.00  |
| 225.0           | 0.00  |
| 240.0           | 0.00  |
| 255.0           | 0.00  |
| 270.0           | 0.00  |
| 285.0           | 0.00  |
| 300.0           | 0.00  |
| 315.0           | 0.00  |
| 330.0           | 0.00  |
| 345.0           | 0.00  |
| 360.0           | 1.80  |