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AFX

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Client:

LumCAT: ELZV3602LAJD4BK

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.167

Lamp flux(lm): 1723.3

Power (W): 19.680

Number of Lamps: 1

PF: 0.984

Length(mm): 900

Width(mm): 15

Phm Type: C

Height(mm): 10

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Photometric Results

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Lumens(lm): 1723.31, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 87.57

Central intensity(cd): 448.666, Maximum intensity(cd): 485.753

Angle of maximum intensity: C=90.0  $\gamma$ =20.0

Beam Angle(50%Imax): [C0/180]Total=109.4

[C90/270]Total=128.7

Field angle(10%Imax): [C0/180]Total=158.8

[C90/270]Total=237.2

Maximum s/h(1/2): C0\_180=1.24 C90\_270=1.59

Maximum s/h(1/4): C0\_180=1.35 C90\_270=1.71

Up flux rate of lamp(%): 13.14%

Down flux rate of lamp(%): 86.86%

Up flux rate of LUM(%): 13.14%

Down flux rate of LUM(%): 86.86%

CIE Type : Semidirect lighting

Output flux ratio in  $\pi$  solid angle : 59.474%

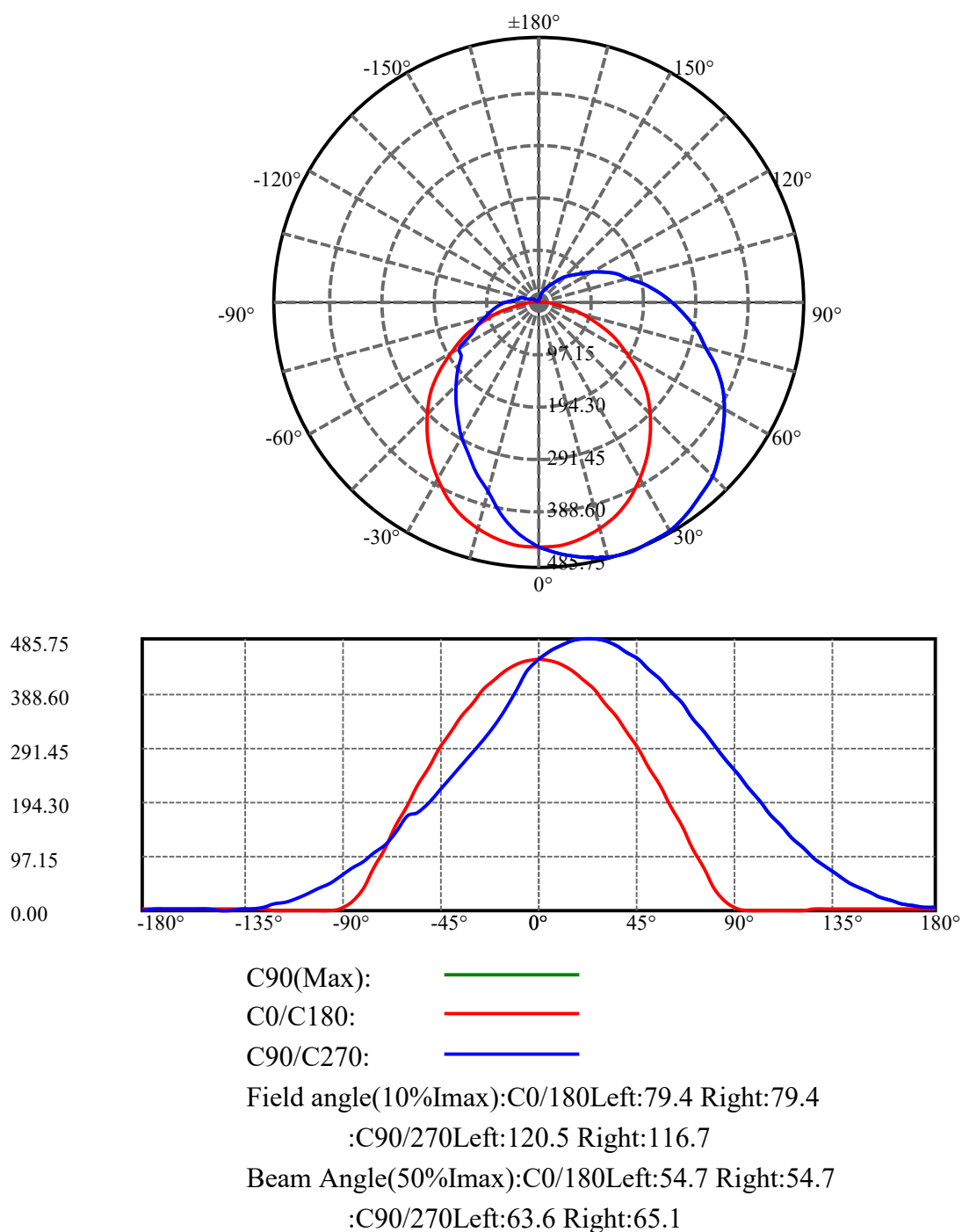
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0                | 448.666       | 0.000       | 0         | 0.00%       | 0.00%      |
| 5.0                | 445.273       | 10.687      | 10.687    | 0.62%       | 0.62%      |
| 10.0               | 436.227       | 31.534      | 42.221    | 1.83%       | 2.45%      |
| 15.0               | 423.369       | 50.991      | 93.211    | 2.96%       | 5.41%      |
| 20.0               | 408.977       | 68.597      | 161.808   | 3.98%       | 9.39%      |
| 25.0               | 390.891       | 83.891      | 245.7     | 4.87%       | 14.26%     |
| 30.0               | 372.237       | 96.574      | 342.274   | 5.60%       | 19.86%     |
| 35.0               | 351.490       | 106.574     | 448.848   | 6.18%       | 26.05%     |
| 40.0               | 329.660       | 113.645     | 562.493   | 6.59%       | 32.64%     |
| 45.0               | 304.578       | 117.434     | 679.927   | 6.81%       | 39.45%     |
| 50.0               | 279.608       | 118.043     | 797.97    | 6.85%       | 46.30%     |
| 55.0               | 253.405       | 115.895     | 913.865   | 6.73%       | 53.03%     |
| 60.0               | 227.056       | 111.057     | 1024.922  | 6.44%       | 59.47%     |
| 65.0               | 200.136       | 103.851     | 1128.774  | 6.03%       | 65.50%     |
| 70.0               | 173.592       | 94.630      | 1223.404  | 5.49%       | 70.99%     |
| 75.0               | 148.732       | 84.250      | 1307.654  | 4.89%       | 75.88%     |
| 80.0               | 126.118       | 73.542      | 1381.196  | 4.27%       | 80.15%     |
| 85.0               | 105.143       | 62.839      | 1444.036  | 3.65%       | 83.79%     |
| 90.0               | 87.833        | 52.838      | 1496.874  | 3.07%       | 86.86%     |
| 95.0               | 74.152        | 44.353      | 1541.227  | 2.57%       | 89.43%     |
| 100.0              | 62.973        | 37.260      | 1578.487  | 2.16%       | 91.60%     |
| 105.0              | 52.990        | 31.029      | 1609.516  | 1.80%       | 93.40%     |
| 110.0              | 44.578        | 25.503      | 1635.019  | 1.48%       | 94.88%     |
| 115.0              | 37.212        | 20.710      | 1655.728  | 1.20%       | 96.08%     |
| 120.0              | 31.228        | 16.638      | 1672.366  | 0.97%       | 97.04%     |
| 125.0              | 25.693        | 13.157      | 1685.523  | 0.76%       | 97.81%     |
| 130.0              | 21.206        | 10.197      | 1695.721  | 0.59%       | 98.40%     |
| 135.0              | 17.390        | 7.799       | 1703.52   | 0.45%       | 98.85%     |
| 140.0              | 14.361        | 5.879       | 1709.399  | 0.34%       | 99.19%     |
| 145.0              | 12.042        | 4.405       | 1713.804  | 0.26%       | 99.45%     |
| 150.0              | 10.246        | 3.282       | 1717.086  | 0.19%       | 99.64%     |
| 155.0              | 8.563         | 2.380       | 1719.466  | 0.14%       | 99.78%     |
| 160.0              | 7.067         | 1.639       | 1721.105  | 0.10%       | 99.87%     |
| 165.0              | 6.056         | 1.082       | 1722.187  | 0.06%       | 99.93%     |
| 170.0              | 5.309         | 0.674       | 1722.861  | 0.04%       | 99.97%     |
| 175.0              | 4.898         | 0.365       | 1723.226  | 0.02%       | 99.99%     |
| 180.0              | 2.392         | 0.087       | 1723.313  | 0.01%       | 100.00%    |

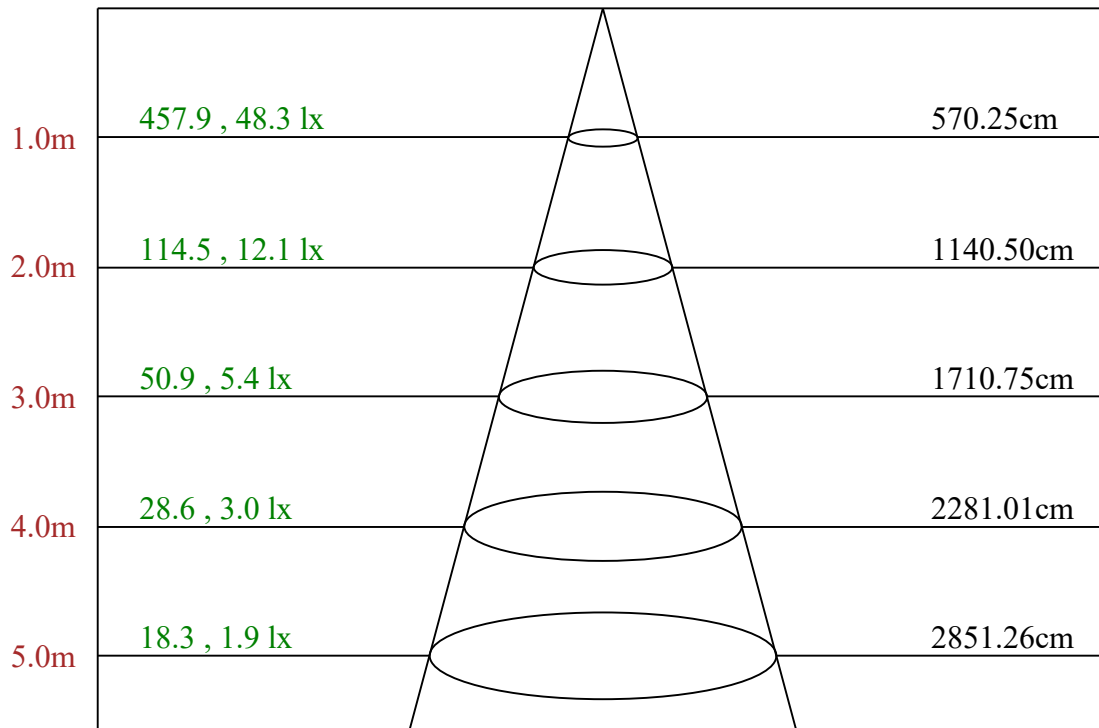
## ZONAL LUMEN SUMMARY

| Zone    | Lumens  | %Lamp   | %Fixt   |
|---------|---------|---------|---------|
| 0-30    | 342.27  | 19.86%  | 19.86%  |
| 0-40    | 562.49  | 32.64%  | 32.64%  |
| 0-60    | 1024.92 | 59.47%  | 59.47%  |
| 0-90    | 1496.87 | 86.86%  | 86.86%  |
| 0-120   | 1672.37 | 97.04%  | 97.04%  |
| 0-180   | 1723.31 | 100.00% | 100.00% |
| 60-90   | 471.95  | 27.39%  | 27.39%  |
| 90-120  | 175.49  | 10.18%  | 10.18%  |
| 90-130  | 198.85  | 11.54%  | 11.54%  |
| 90-150  | 220.21  | 12.78%  | 12.78%  |
| 90-180  | 226.35  | 13.13%  | 13.13%  |
| 0-79.83 | 1378.65 | 80.00%  | 80.00%  |

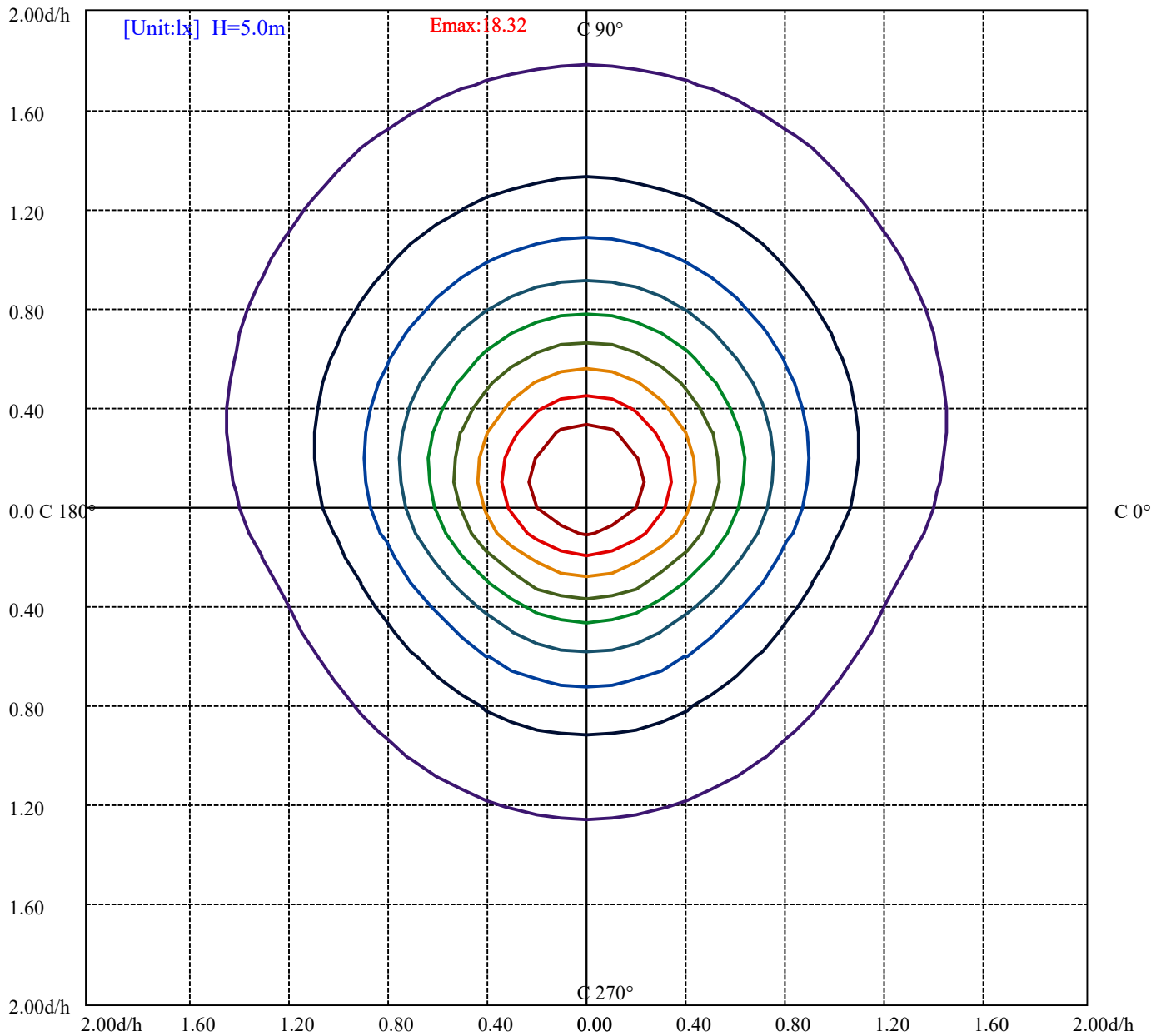
## ZONAL LUMEN SUMMARY

|         |        |
|---------|--------|
| 0-10    | 42.22  |
| 10-20   | 119.59 |
| 20-30   | 180.47 |
| 30-40   | 220.22 |
| 40-50   | 235.48 |
| 50-60   | 226.95 |
| 60-70   | 198.48 |
| 70-80   | 157.79 |
| 80-90   | 115.68 |
| 90-100  | 81.61  |
| 100-110 | 56.53  |
| 110-120 | 37.35  |
| 120-130 | 23.35  |
| 130-140 | 13.68  |
| 140-150 | 7.69   |
| 150-160 | 4.02   |
| 160-170 | 1.76   |
| 170-180 | 0.37   |

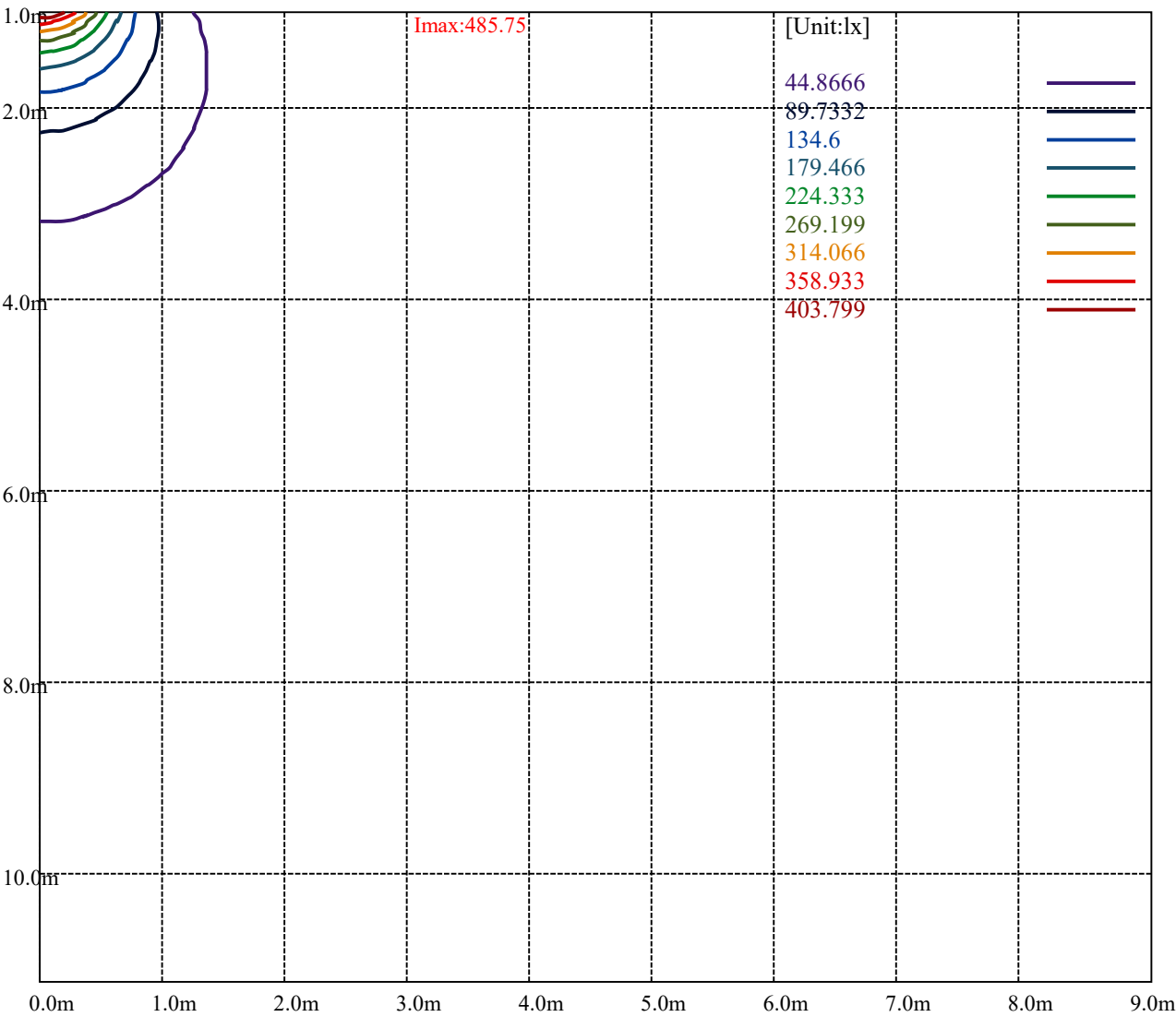




Max , Ave      Beam angle of C90 plane 141.35



|                    |   |
|--------------------|---|
| (10%Emax) 1.831696 | — |
| (20%Emax) 3.663388 | — |
| (30%Emax) 5.49508  | — |
| (40%Emax) 7.32676  | — |
| (50%Emax) 9.158481 | — |
| (60%Emax) 10.99016 | — |
| (70%Emax) 12.82188 | — |
| (80%Emax) 14.65356 | — |
| (90%Emax) 16.48524 | — |



Luminance Table

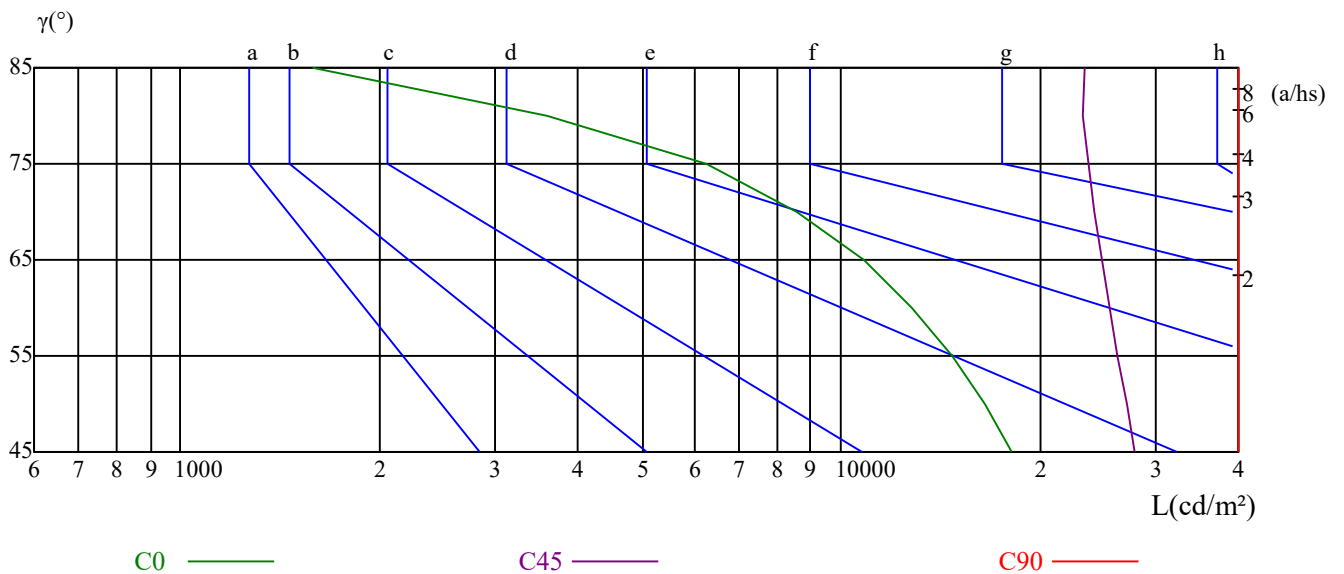
| $\gamma$ | 45    | 50    | 55    | 60    | 65    | 70    | 75    | 80     | 85     |
|----------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| C0       | 18125 | 16505 | 14723 | 12838 | 10821 | 8596  | 6246  | 3596   | 1589   |
| C45      | 27782 | 27078 | 26294 | 25494 | 24839 | 24162 | 23651 | 23326  | 23349  |
| C90      | 46484 | 49176 | 52553 | 57194 | 63492 | 72430 | 87500 | 118336 | 202602 |

| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 26292      | 44552      | 35080   | 21786      | 60191      | 44048   | 13700      | 145687     | 95841   |

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    | 1.16                                    | 1.16 | 1.16 | 1.12 | 1.12 | 1.12 | 1.04 | 1.04 | 1.04 | 0.97 | 0.97 | 0.97 | 0.90 | 0.90 | 0.90 | 0.87 |
| 1    | 0.97                                    | 0.92 | 0.88 | 0.94 | 0.89 | 0.85 | 0.87 | 0.83 | 0.80 | 0.81 | 0.78 | 0.75 | 0.75 | 0.73 | 0.70 | 0.67 |
| 2    | 0.84                                    | 0.76 | 0.69 | 0.81 | 0.74 | 0.68 | 0.75 | 0.69 | 0.64 | 0.69 | 0.65 | 0.61 | 0.65 | 0.61 | 0.57 | 0.54 |
| 3    | 0.73                                    | 0.64 | 0.57 | 0.70 | 0.62 | 0.55 | 0.65 | 0.58 | 0.53 | 0.61 | 0.55 | 0.50 | 0.56 | 0.52 | 0.48 | 0.45 |
| 4    | 0.64                                    | 0.55 | 0.48 | 0.62 | 0.53 | 0.46 | 0.58 | 0.50 | 0.44 | 0.54 | 0.47 | 0.42 | 0.50 | 0.45 | 0.40 | 0.38 |
| 5    | 0.57                                    | 0.48 | 0.41 | 0.55 | 0.46 | 0.40 | 0.51 | 0.44 | 0.38 | 0.48 | 0.42 | 0.36 | 0.45 | 0.39 | 0.35 | 0.32 |
| 6    | 0.51                                    | 0.42 | 0.35 | 0.49 | 0.41 | 0.34 | 0.46 | 0.39 | 0.33 | 0.43 | 0.37 | 0.32 | 0.41 | 0.35 | 0.30 | 0.28 |
| 7    | 0.46                                    | 0.37 | 0.31 | 0.45 | 0.36 | 0.30 | 0.42 | 0.35 | 0.29 | 0.39 | 0.33 | 0.28 | 0.37 | 0.31 | 0.27 | 0.25 |
| 8    | 0.42                                    | 0.33 | 0.27 | 0.41 | 0.33 | 0.27 | 0.38 | 0.31 | 0.26 | 0.36 | 0.30 | 0.25 | 0.34 | 0.28 | 0.24 | 0.22 |
| 9    | 0.38                                    | 0.30 | 0.24 | 0.37 | 0.29 | 0.24 | 0.35 | 0.28 | 0.23 | 0.33 | 0.27 | 0.22 | 0.31 | 0.26 | 0.22 | 0.20 |
| 10   | 0.35                                    | 0.27 | 0.22 | 0.34 | 0.27 | 0.22 | 0.33 | 0.26 | 0.21 | 0.31 | 0.25 | 0.20 | 0.29 | 0.24 | 0.20 | 0.18 |

## Intensity data(cd)

Appendix Page: 10 Total:12

| C/γ(°) | 0.0    | 5.0    | 10.0   | 15.0   | 20.0   | 25.0   | 30.0   | 35.0   | 40.0   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0    | 448.67 | 449.56 | 445.08 | 436.13 | 424.49 | 407.47 | 385.98 | 362.69 | 337.62 |
| 15.0   | 448.67 | 454.06 | 454.06 | 449.56 | 440.57 | 427.99 | 411.80 | 392.02 | 367.74 |
| 30.0   | 448.67 | 456.74 | 460.33 | 460.33 | 455.84 | 446.87 | 434.31 | 416.36 | 395.72 |
| 45.0   | 448.67 | 459.46 | 466.65 | 470.24 | 468.45 | 463.95 | 454.06 | 440.57 | 423.49 |
| 60.0   | 448.67 | 462.15 | 472.04 | 477.44 | 479.24 | 476.54 | 470.24 | 460.35 | 445.97 |
| 75.0   | 448.67 | 463.08 | 473.89 | 482.00 | 484.70 | 483.80 | 478.40 | 471.19 | 459.48 |
| 90.0   | 448.67 | 463.14 | 474.90 | 482.13 | 485.75 | 485.75 | 481.23 | 473.09 | 462.23 |
| 105.0  | 448.67 | 461.20 | 471.95 | 480.01 | 481.80 | 480.91 | 474.64 | 467.47 | 454.04 |
| 120.0  | 448.67 | 461.18 | 469.22 | 474.58 | 473.69 | 469.22 | 462.07 | 449.56 | 435.26 |
| 135.0  | 448.67 | 452.18 | 457.46 | 458.34 | 455.70 | 447.79 | 437.23 | 422.27 | 402.92 |
| 150.0  | 448.67 | 454.08 | 455.89 | 452.28 | 445.96 | 436.03 | 421.58 | 403.53 | 381.86 |
| 165.0  | 448.67 | 451.36 | 447.77 | 442.37 | 430.68 | 416.30 | 397.42 | 374.94 | 348.86 |
| 180.0  | 448.67 | 443.29 | 434.34 | 420.90 | 402.99 | 382.40 | 358.22 | 331.35 | 300.90 |
| 195.0  | 448.67 | 440.57 | 427.09 | 408.20 | 387.52 | 358.75 | 329.98 | 298.51 | 264.34 |
| 210.0  | 448.67 | 436.10 | 416.36 | 391.24 | 361.62 | 329.32 | 297.02 | 266.51 | 238.69 |
| 225.0  | 448.67 | 431.58 | 404.61 | 374.94 | 342.57 | 312.00 | 285.92 | 258.95 | 232.87 |
| 240.0  | 448.67 | 427.09 | 397.42 | 362.35 | 329.98 | 303.01 | 278.73 | 254.45 | 231.08 |
| 255.0  | 448.67 | 426.14 | 392.81 | 357.67 | 328.84 | 303.62 | 280.19 | 256.77 | 233.34 |
| 270.0  | 448.67 | 426.96 | 394.39 | 360.02 | 331.07 | 304.84 | 282.23 | 258.71 | 237.00 |
| 285.0  | 448.67 | 425.38 | 394.93 | 360.90 | 331.35 | 307.17 | 283.89 | 259.71 | 255.23 |
| 300.0  | 448.67 | 430.79 | 400.40 | 369.12 | 361.08 | 312.81 | 286.90 | 261.87 | 237.74 |
| 315.0  | 448.67 | 428.43 | 404.68 | 374.77 | 343.10 | 313.19 | 288.55 | 263.04 | 236.65 |
| 330.0  | 448.67 | 438.74 | 421.58 | 398.11 | 371.03 | 340.34 | 308.74 | 278.05 | 249.16 |
| 345.0  | 448.67 | 443.27 | 431.58 | 417.20 | 397.42 | 371.34 | 344.37 | 313.80 | 279.63 |
| 360.0  | 448.67 | 449.56 | 445.08 | 436.13 | 424.49 | 407.47 | 385.98 | 362.69 | 337.62 |
| C/γ(°) | 45.0   | 50.0   | 55.0   | 60.0   | 65.0   | 70.0   | 75.0   | 80.0   | 85.0   |
| 0.0    | 306.27 | 276.72 | 242.69 | 207.77 | 171.05 | 133.44 | 97.61  | 58.21  | 27.76  |
| 15.0   | 341.67 | 311.10 | 279.63 | 245.46 | 211.30 | 174.43 | 137.57 | 102.50 | 71.93  |
| 30.0   | 372.39 | 348.16 | 318.55 | 287.15 | 253.94 | 221.64 | 189.34 | 159.73 | 131.91 |
| 45.0   | 402.81 | 379.43 | 354.26 | 325.49 | 297.61 | 268.84 | 240.97 | 212.19 | 187.02 |
| 60.0   | 428.88 | 406.41 | 385.73 | 361.45 | 335.38 | 309.30 | 283.23 | 257.15 | 230.18 |
| 75.0   | 445.06 | 427.94 | 407.22 | 384.70 | 361.28 | 336.95 | 310.82 | 285.60 | 259.47 |
| 90.0   | 448.67 | 432.38 | 413.39 | 393.49 | 370.87 | 344.64 | 318.41 | 294.89 | 268.66 |
| 105.0  | 437.92 | 420.01 | 399.41 | 377.02 | 354.63 | 329.56 | 303.59 | 277.62 | 253.44 |
| 120.0  | 417.38 | 395.93 | 373.59 | 347.67 | 322.65 | 295.83 | 269.91 | 244.89 | 219.86 |
| 135.0  | 381.81 | 358.93 | 331.66 | 304.39 | 277.12 | 248.09 | 219.93 | 194.42 | 168.91 |
| 150.0  | 357.49 | 331.31 | 299.71 | 269.92 | 236.52 | 203.12 | 171.52 | 143.54 | 117.36 |
| 165.0  | 321.89 | 292.22 | 259.85 | 224.78 | 190.62 | 152.85 | 118.69 | 84.52  | 56.65  |
| 180.0  | 270.45 | 237.32 | 202.39 | 165.68 | 128.96 | 91.35  | 54.63  | 22.39  | 4.48   |
| 195.0  | 227.48 | 193.31 | 160.94 | 125.88 | 96.21  | 66.54  | 43.16  | 26.07  | 13.49  |
| 210.0  | 208.18 | 181.26 | 153.44 | 124.73 | 99.60  | 78.07  | 60.12  | 43.97  | 30.51  |
| 225.0  | 205.90 | 180.73 | 155.55 | 133.07 | 110.59 | 92.61  | 76.43  | 61.14  | 46.75  |
| 240.0  | 206.80 | 184.32 | 162.74 | 142.06 | 122.28 | 104.30 | 89.01  | 74.63  | 61.14  |
| 255.0  | 210.82 | 190.10 | 170.28 | 149.56 | 132.44 | 114.42 | 99.10  | 95.50  | 70.27  |
| 270.0  | 213.48 | 194.48 | 173.68 | 169.15 | 137.49 | 118.50 | 102.22 | 87.74  | 74.17  |
| 285.0  | 214.93 | 192.54 | 171.94 | 152.24 | 132.54 | 115.52 | 98.51  | 84.18  | 70.75  |
| 300.0  | 213.61 | 190.37 | 168.03 | 145.68 | 126.91 | 108.14 | 91.16  | 75.97  | 61.67  |
| 315.0  | 211.14 | 185.62 | 160.11 | 137.24 | 115.25 | 95.89  | 78.30  | 62.46  | 48.39  |
| 330.0  | 220.27 | 191.38 | 163.40 | 135.41 | 109.23 | 85.76  | 65.00  | 47.85  | 33.40  |
| 345.0  | 244.56 | 208.60 | 173.53 | 139.37 | 108.79 | 76.43  | 50.35  | 29.67  | 15.29  |
| 360.0  | 306.27 | 276.72 | 242.69 | 207.77 | 171.05 | 133.44 | 97.61  | 58.21  | 27.76  |

## 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    | 5.37   | 0.90   | 0.90   | 0.90   | 0.90   | 0.90   | 0.90   | 1.79  | 1.79  |
| 15.0   | 49.45  | 32.37  | 22.48  | 17.08  | 13.49  | 10.79  | 9.89   | 8.99  | 8.09  |
| 30.0   | 107.68 | 87.04  | 70.89  | 57.43  | 47.56  | 38.59  | 32.30  | 26.92 | 22.43 |
| 45.0   | 162.74 | 140.26 | 120.48 | 102.50 | 86.32  | 72.83  | 61.14  | 51.25 | 42.26 |
| 60.0   | 206.80 | 183.42 | 160.05 | 139.37 | 121.38 | 103.40 | 87.22  | 73.73 | 61.14 |
| 75.0   | 235.14 | 210.82 | 187.39 | 164.87 | 143.25 | 123.43 | 106.31 | 88.29 | 74.78 |
| 90.0   | 243.33 | 219.81 | 196.29 | 170.96 | 151.06 | 131.16 | 111.26 | 94.08 | 78.70 |
| 105.0  | 227.47 | 205.08 | 180.90 | 160.30 | 138.81 | 120.00 | 102.99 | 86.87 | 72.54 |
| 120.0  | 195.73 | 173.39 | 151.94 | 132.28 | 114.40 | 97.42  | 83.12  | 69.71 | 58.99 |
| 135.0  | 146.92 | 125.80 | 108.21 | 92.37  | 78.30  | 65.98  | 56.30  | 46.63 | 38.71 |
| 150.0  | 93.89  | 75.83  | 61.39  | 50.55  | 41.53  | 34.30  | 28.89  | 24.37 | 20.76 |
| 165.0  | 35.97  | 24.28  | 17.08  | 12.59  | 10.79  | 8.99   | 8.09   | 7.19  | 7.19  |
| 180.0  | 1.79   | 1.79   | 1.79   | 1.79   | 1.79   | 1.79   | 1.79   | 1.79  | 1.79  |
| 195.0  | 5.39   | 2.70   | 1.80   | 1.80   | 0.90   | 0.90   | 0.90   | 0.90  | 0.90  |
| 210.0  | 19.74  | 12.56  | 8.08   | 5.38   | 3.59   | 1.79   | 1.79   | 0.90  | 0.90  |
| 225.0  | 35.97  | 26.07  | 18.88  | 13.49  | 8.99   | 6.29   | 5.39   | 1.80  | 0.90  |
| 240.0  | 48.55  | 37.76  | 35.07  | 21.58  | 15.29  | 10.79  | 7.19   | 4.50  | 1.80  |
| 255.0  | 56.76  | 46.85  | 36.04  | 27.93  | 20.72  | 14.41  | 9.91   | 6.31  | 3.60  |
| 270.0  | 60.61  | 49.75  | 38.90  | 30.76  | 22.61  | 16.28  | 10.85  | 6.33  | 3.62  |
| 285.0  | 57.31  | 44.78  | 35.82  | 27.76  | 19.70  | 14.33  | 9.85   | 6.27  | 3.58  |
| 300.0  | 49.16  | 37.54  | 28.60  | 21.45  | 15.19  | 10.73  | 7.15   | 4.47  | 1.79  |
| 315.0  | 36.07  | 25.51  | 18.47  | 12.32  | 8.80   | 5.28   | 3.52   | 1.76  | 0.88  |
| 330.0  | 19.86  | 12.64  | 8.12   | 5.42   | 3.61   | 1.81   | 1.81   | 0.90  | 0.90  |
| 345.0  | 6.29   | 2.70   | 1.80   | 0.90   | 0.90   | 0.90   | 0.90   | 0.90  | 0.90  |
| 360.0  | 5.37   | 0.90   | 0.90   | 0.90   | 0.90   | 0.90   | 0.90   | 1.79  | 1.79  |
|        |        |        |        |        |        |        |        |       |       |
| C/γ(°) | 135.0  | 140.0  | 145.0  | 150.0  | 155.0  | 160.0  | 165.0  | 170.0 | 175.0 |
| 0.0    | 1.79   | 2.69   | 3.58   | 3.58   | 4.48   | 4.48   | 4.48   | 4.48  | 4.48  |
| 15.0   | 7.19   | 7.19   | 7.19   | 7.19   | 6.29   | 6.29   | 5.39   | 5.39  | 4.50  |
| 30.0   | 18.84  | 16.15  | 14.36  | 12.56  | 10.77  | 8.97   | 7.18   | 6.28  | 5.38  |
| 45.0   | 35.07  | 28.77  | 23.38  | 19.78  | 16.18  | 12.59  | 9.89   | 7.19  | 5.39  |
| 60.0   | 49.45  | 41.36  | 33.27  | 26.07  | 20.68  | 16.18  | 12.59  | 8.99  | 6.29  |
| 75.0   | 61.26  | 49.55  | 39.64  | 31.53  | 24.33  | 18.02  | 13.51  | 9.91  | 7.21  |
| 90.0   | 65.13  | 51.56  | 42.51  | 33.47  | 25.33  | 19.00  | 13.57  | 9.95  | 7.24  |
| 105.0  | 59.11  | 48.36  | 38.51  | 30.45  | 24.18  | 17.91  | 13.43  | 9.85  | 7.16  |
| 120.0  | 48.26  | 39.33  | 32.18  | 25.03  | 19.66  | 15.19  | 11.62  | 8.94  | 6.26  |
| 135.0  | 32.55  | 26.39  | 21.99  | 18.47  | 14.96  | 12.32  | 9.68   | 7.92  | 6.16  |
| 150.0  | 18.05  | 15.35  | 13.54  | 11.74  | 9.93   | 9.03   | 8.12   | 6.32  | 5.42  |
| 165.0  | 6.29   | 6.29   | 6.29   | 6.29   | 6.29   | 6.29   | 6.29   | 5.39  | 5.39  |
| 180.0  | 1.79   | 1.79   | 2.69   | 2.69   | 2.69   | 2.69   | 3.58   | 3.58  | 4.48  |
| 195.0  | 0.90   | 0.90   | 0.90   | 0.90   | 1.80   | 1.80   | 2.70   | 3.60  | 4.50  |
| 210.0  | 0.90   | 0.90   | 0.90   | 0.90   | 1.79   | 1.79   | 2.69   | 3.59  | 3.59  |
| 225.0  | 0.90   | 0.90   | 0.90   | 1.80   | 1.80   | 1.80   | 2.70   | 2.70  | 3.60  |
| 240.0  | 0.90   | 0.90   | 0.90   | 1.80   | 1.80   | 1.80   | 1.80   | 2.70  | 3.60  |
| 255.0  | 1.80   | 0.90   | 0.90   | 1.80   | 1.80   | 1.80   | 1.80   | 2.70  | 3.60  |
| 270.0  | 1.81   | 0.90   | 0.90   | 1.81   | 1.81   | 1.81   | 1.81   | 2.71  | 3.62  |
| 285.0  | 1.79   | 0.90   | 0.90   | 1.79   | 1.79   | 1.79   | 1.79   | 2.69  | 3.58  |
| 300.0  | 0.89   | 0.89   | 0.89   | 1.79   | 1.79   | 1.79   | 2.68   | 2.68  | 3.58  |
| 315.0  | 0.88   | 0.88   | 0.88   | 1.76   | 1.76   | 1.76   | 2.64   | 2.64  | 3.52  |
| 330.0  | 0.90   | 0.90   | 0.90   | 0.90   | 1.81   | 1.81   | 2.71   | 3.61  | 4.51  |
| 345.0  | 0.90   | 0.90   | 0.90   | 1.80   | 1.80   | 2.70   | 2.70   | 3.60  | 4.50  |
| 360.0  | 1.79   | 2.69   | 3.58   | 3.58   | 4.48   | 4.48   | 4.48   | 4.48  | 4.48  |

## Intensity data(cd)

|                 |       |
|-----------------|-------|
| C/ $\gamma$ (°) | 180.0 |
| 0.0             | 4.48  |
| 15.0            | 4.50  |
| 30.0            | 4.49  |
| 45.0            | 4.50  |
| 60.0            | 4.50  |
| 75.0            | 4.50  |
| 90.0            | 5.43  |
| 105.0           | 5.37  |
| 120.0           | 5.36  |
| 135.0           | 5.28  |
| 150.0           | 4.51  |
| 165.0           | 4.50  |
| 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           | 4.48  |