

IES Indoor Report

Photometric Filename:KO12W4K 6500K.IES

Description Information(From Photometric File)

Photometric File: KO12W4K 6500K.IES

IES Format: IESNA:LM-63-1995

[TEST]

[DATE] 2019/11/23

[MANUFAC] Eurotech Lighting

[LUMCAT] 1

[LUMINAIRE]

[LAMPCAT] LED

[LAMP]

[BALLASTCAT]

[BALLAST]

[OTHER] 1 GON-1800

[More] Temperature:15 Humidity:40

[More] Frequency:50.0 Voltage:229.6 Current:0.104 Power:12.2 PF:0.512

Character

Lamp Power (w) : 12.2
Total Rated Lamp Lumens (lm) : 1553.21
Luminair Lumens (lm) : 827.76
Total Luminair Efficiency : 53.29%
Luminaire Efficacy Rating (LER) : 67.85
Maximum Intensity (cd) : 250.71
Max Cd Angle (deg) : C=0.0 γ =0.0
Downward Lumens (lm) : 764.21
Downward Total Efficiency : 92.32%
Spacing Criteria : C0_180=0.64 C90_270=0.61
CIE Type : Semi-Direct
Beam Angle (50%Imax) : Left=-61.8 Right=64.4
Field Angle (10%Imax) : 218.5

Candela Tabulation

| <u>γ0.0</u> | <u>C0.0</u> | <u>C30.0</u> | <u>C60.0</u> | <u>C90.0</u> | <u>C120.0</u> | <u>C150.0</u> | <u>C180.0</u> | <u>C210.0</u> | <u>C240.0</u> | <u>C270.0</u> | <u>C300.0</u> | <u>C330.0</u> | <u>C360.0</u> |
|-------------------------------|-------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 | 250.71 |

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| | | | | | | | | | | | | | |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| γ 5.0 | 249.81 | 249.54 | 249.97 | 250.04 | 250.25 | 249.68 | 248.69 | 248.88 | 248.50 | 249.18 | 248.63 | 248.83 | 249.81 |
| γ 10.0 | 246.61 | 245.91 | 246.41 | 246.00 | 246.77 | 246.12 | 244.13 | 244.64 | 243.53 | 244.30 | 243.62 | 244.47 | 246.61 |
| γ 15.0 | 240.77 | 239.58 | 240.09 | 239.09 | 240.44 | 239.82 | 237.07 | 237.67 | 235.85 | 236.51 | 235.86 | 237.38 | 240.77 |
| γ 20.0 | 232.78 | 230.94 | 231.12 | 229.41 | 231.52 | 231.36 | 228.43 | 228.54 | 225.63 | 226.17 | 225.59 | 228.24 | 232.78 |
| γ 25.0 | 223.48 | 220.65 | 219.80 | 217.45 | 220.20 | 221.09 | 219.04 | 217.96 | 213.20 | 213.70 | 213.15 | 217.69 | 223.48 |
| γ 30.0 | 214.03 | 209.56 | 206.66 | 203.62 | 207.01 | 209.95 | 210.02 | 206.79 | 199.16 | 199.32 | 199.18 | 206.41 | 214.03 |
| γ 35.0 | 204.96 | 198.43 | 191.95 | 188.09 | 192.29 | 198.87 | 200.27 | 195.65 | 183.88 | 183.44 | 183.87 | 195.29 | 204.96 |
| γ 40.0 | 194.50 | 186.96 | 176.26 | 171.30 | 176.50 | 187.33 | 189.02 | 183.66 | 167.85 | 166.33 | 167.93 | 183.46 | 194.50 |
| γ 45.0 | 182.62 | 174.18 | 160.16 | 153.52 | 160.31 | 174.35 | 176.47 | 170.38 | 151.77 | 148.01 | 151.74 | 170.33 | 182.62 |
| γ 50.0 | 169.41 | 160.26 | 144.15 | 135.13 | 144.29 | 160.36 | 162.57 | 156.08 | 135.98 | 129.79 | 135.87 | 156.00 | 169.41 |
| γ 55.0 | 155.12 | 145.20 | 128.27 | 116.06 | 128.41 | 145.32 | 147.49 | 140.79 | 119.83 | 110.75 | 119.83 | 140.76 | 155.12 |
| γ 60.0 | 139.69 | 129.38 | 111.94 | 96.91 | 111.99 | 129.37 | 131.43 | 124.65 | 103.25 | 91.40 | 103.25 | 124.64 | 139.69 |
| γ 65.0 | 123.32 | 112.79 | 95.21 | 77.49 | 95.20 | 112.72 | 114.55 | 107.87 | 86.39 | 72.12 | 86.35 | 107.93 | 123.32 |
| γ 70.0 | 106.21 | 95.75 | 78.18 | 58.33 | 78.28 | 95.58 | 97.18 | 90.82 | 69.33 | 53.07 | 69.37 | 90.76 | 106.21 |
| γ 75.0 | 88.78 | 78.53 | 61.22 | 39.72 | 61.26 | 78.39 | 79.70 | 73.66 | 52.66 | 34.78 | 52.69 | 73.70 | 88.78 |
| γ 80.0 | 71.61 | 61.88 | 44.93 | 22.61 | 44.83 | 61.82 | 63.10 | 57.42 | 37.25 | 18.54 | 37.13 | 57.40 | 71.61 |
| γ 85.0 | 56.09 | 47.23 | 30.59 | 8.72 | 30.49 | 47.03 | 49.25 | 43.68 | 24.82 | 6.02 | 24.60 | 43.61 | 56.09 |
| γ 90.0 | 44.63 | 37.19 | 20.68 | 1.25 | 20.57 | 37.21 | 41.79 | 35.68 | 17.81 | 0.37 | 17.52 | 35.67 | 44.63 |
| γ 95.0 | 39.73 | 32.93 | 16.33 | 0.15 | 16.20 | 32.84 | 37.55 | 31.74 | 14.67 | 0.12 | 14.63 | 31.75 | 39.73 |
| γ 100.0 | 35.59 | 29.18 | 13.47 | 0.22 | 13.19 | 29.08 | 33.45 | 27.96 | 11.76 | 0.23 | 11.72 | 28.02 | 35.59 |
| γ 105.0 | 31.53 | 25.49 | 10.56 | 0.36 | 10.23 | 25.39 | 29.39 | 24.16 | 8.86 | 0.35 | 8.94 | 24.33 | 31.53 |
| γ 110.0 | 27.51 | 21.86 | 7.88 | 0.46 | 7.48 | 21.51 | 25.36 | 20.50 | 5.98 | 0.24 | 6.19 | 20.69 | 27.51 |
| γ 115.0 | 23.61 | 18.14 | 5.03 | 0.69 | 4.63 | 17.87 | 21.44 | 16.90 | 3.37 | 0.72 | 3.58 | 17.00 | 23.61 |
| γ 120.0 | 20.28 | 14.72 | 2.48 | 0.71 | 2.25 | 14.29 | 17.71 | 13.36 | 1.32 | 0.88 | 1.59 | 13.45 | 20.28 |
| γ 125.0 | 15.82 | 10.76 | 0.94 | 0.90 | 0.79 | 10.45 | 13.63 | 9.45 | 0.81 | 0.94 | 0.91 | 9.57 | 15.82 |
| γ 130.0 | 11.59 | 6.97 | 0.92 | 1.00 | 0.98 | 6.68 | 9.39 | 5.79 | 0.97 | 1.07 | 0.98 | 5.94 | 11.59 |
| γ 135.0 | 7.51 | 3.64 | 1.06 | 1.13 | 1.33 | 3.41 | 5.48 | 2.84 | 1.11 | 1.20 | 1.06 | 2.82 | 7.51 |
| γ 140.0 | 3.86 | 1.29 | 1.14 | 1.30 | 1.27 | 1.32 | 2.27 | 1.30 | 1.20 | 1.31 | 1.17 | 1.28 | 3.86 |
| γ 145.0 | 1.46 | 1.37 | 1.26 | 1.50 | 1.35 | 1.29 | 1.34 | 1.40 | 1.42 | 1.46 | 1.29 | 1.35 | 1.46 |
| γ 150.0 | 1.57 | 1.42 | 1.39 | 1.45 | 1.44 | 1.51 | 1.48 | 1.50 | 1.54 | 1.47 | 1.47 | 1.35 | 1.57 |
| γ 155.0 | 1.54 | 1.50 | 1.56 | 1.57 | 1.58 | 1.57 | 1.55 | 1.56 | 1.58 | 1.59 | 1.59 | 1.64 | 1.54 |
| γ 160.0 | 1.57 | 1.70 | 1.72 | 1.63 | 1.64 | 1.64 | 1.64 | 1.67 | 1.80 | 1.68 | 1.78 | 1.73 | 1.57 |
| γ 165.0 | 1.63 | 1.76 | 1.86 | 1.66 | 1.74 | 1.75 | 1.67 | 1.76 | 1.92 | 1.74 | 1.93 | 1.80 | 1.63 |
| γ 170.0 | 1.72 | 1.85 | 2.02 | 1.74 | 1.80 | 1.81 | 1.77 | 1.78 | 1.79 | 1.78 | 1.94 | 1.90 | 1.72 |
| γ 175.0 | 1.87 | 1.96 | 1.93 | 1.83 | 1.84 | 1.80 | 1.82 | 1.80 | 1.84 | 1.97 | 1.99 | 1.98 | 1.87 |
| γ 180.0 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 |

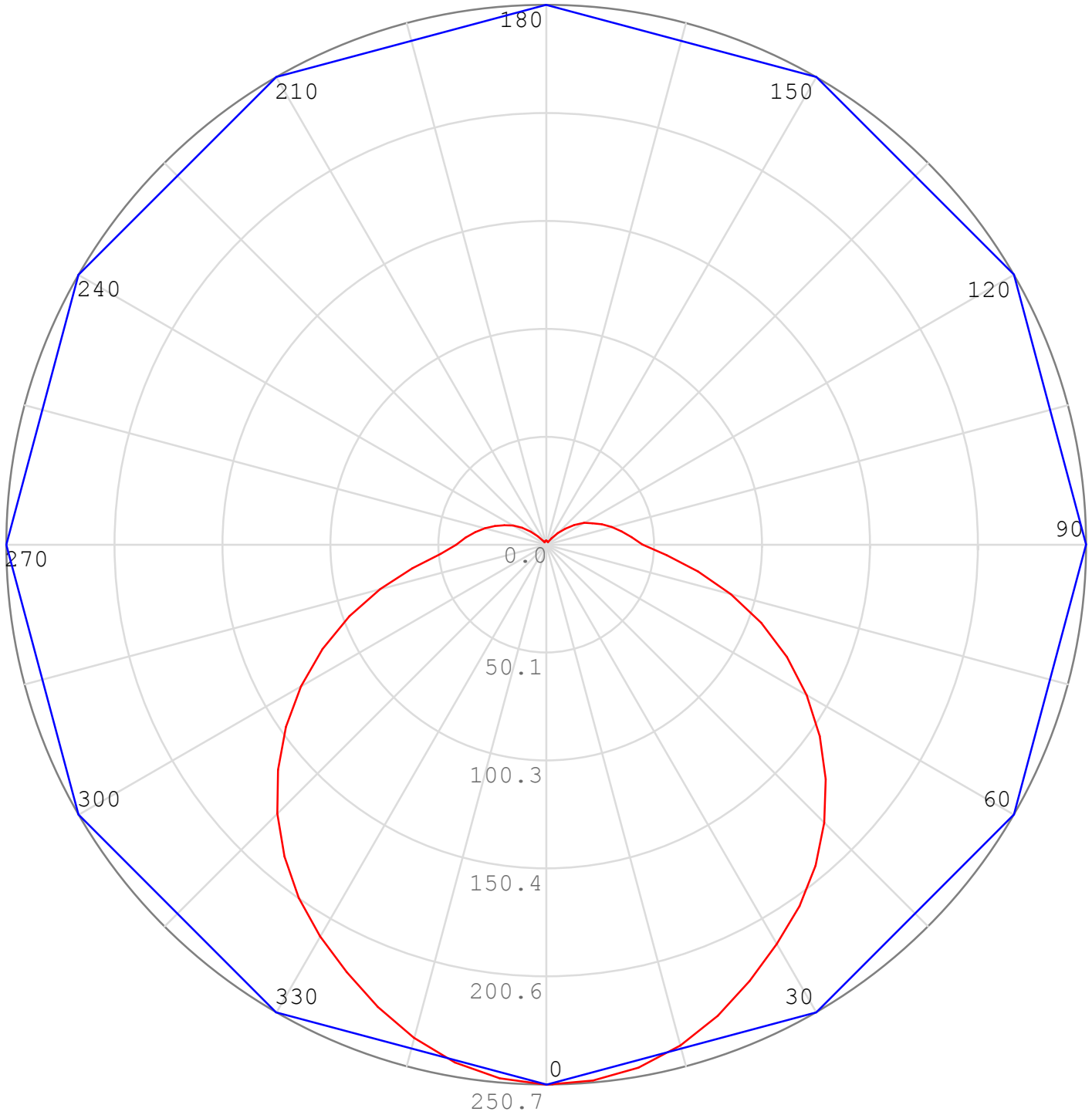
2D Light Intensity Distribution Curve

Plane [50%Ang.] [10%Ang.] Polar Graph

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C0.0: 126.2 223.5

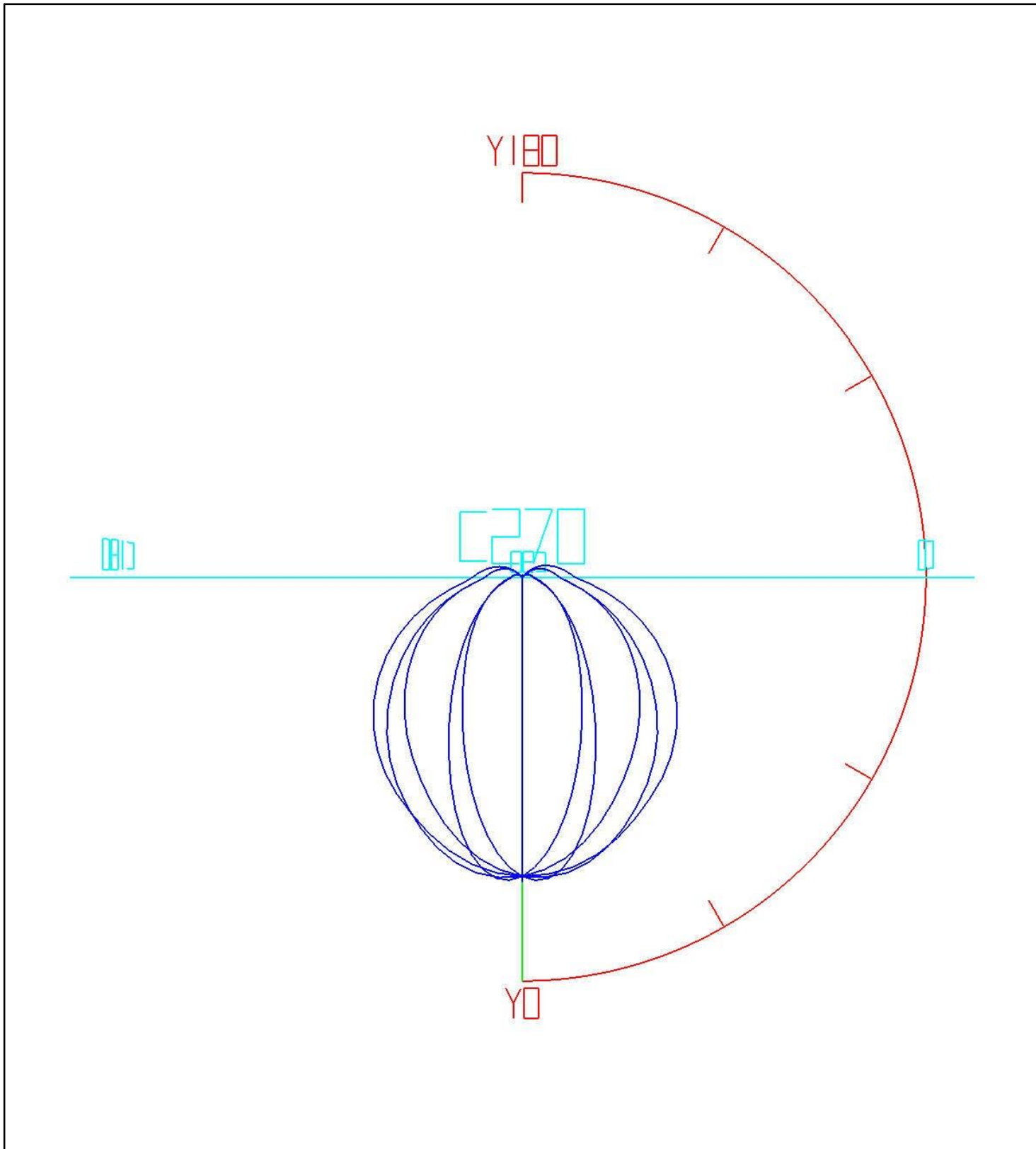


C Plane: C0.0 γ Cone: γ0.0

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3D Light Intensity Distribution Curve



Curves: 3D Model — 3D Model — Fixture — Fixture — Vert. HUD — Vert. HUD — Hori. HUD — Hori. HUD
View Angles: Orient:0 Tilt:0 Roll:0 Spin:0

IES Indoor Report

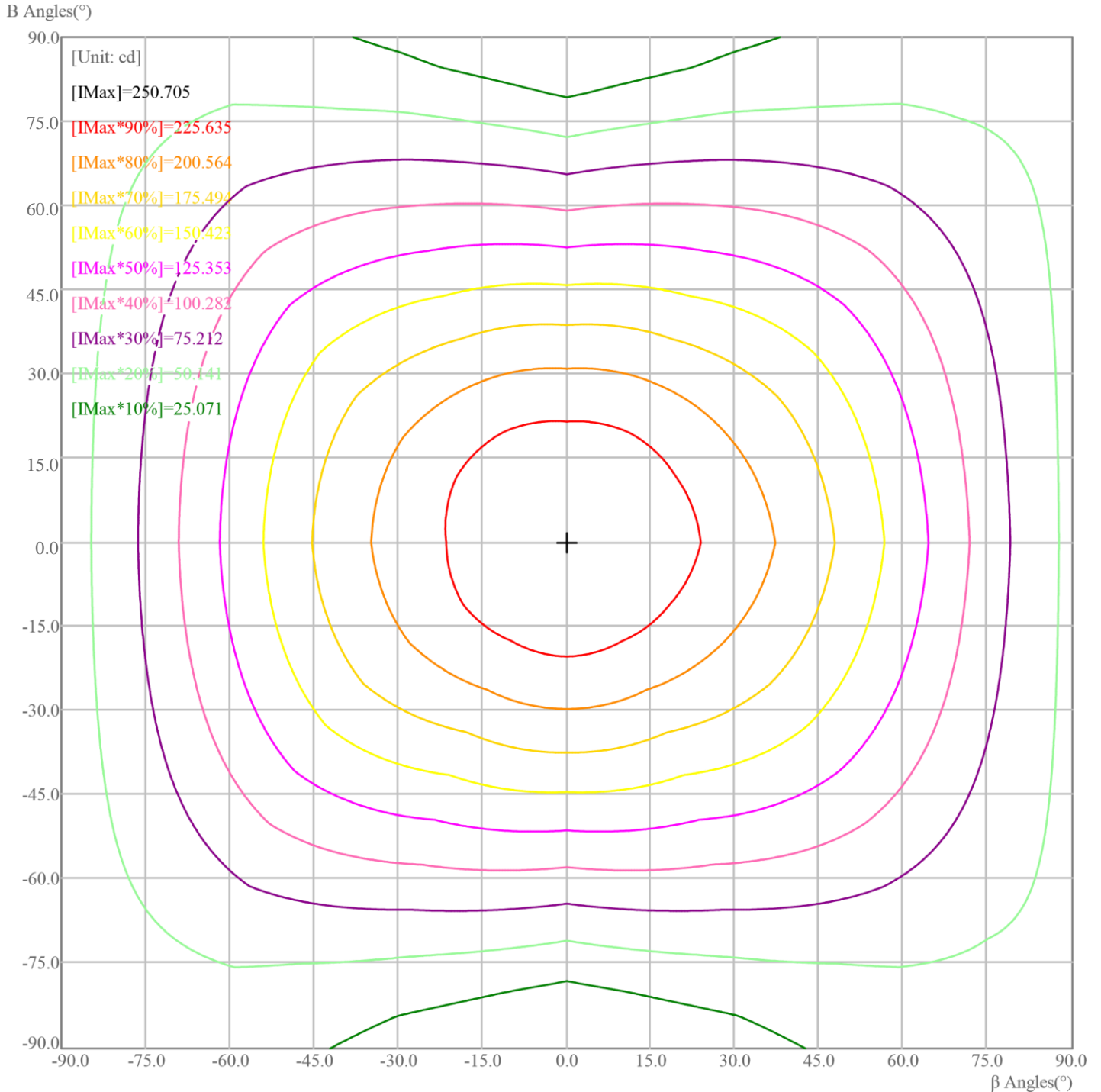
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Zonal Liumens Tabulation

| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | |
|-------------|-------------------|-------------------|-----------|--------|
| 0.0-5.0 | 5.98 | 5.98 | 0.72 | 0.72 |
| 5.0-10.0 | 17.69 | 23.67 | 2.14 | 2.86 |
| 10.0-15.0 | 28.68 | 52.35 | 3.47 | 6.32 |
| 15.0-20.0 | 38.53 | 90.88 | 4.65 | 10.98 |
| 20.0-25.0 | 46.91 | 137.79 | 5.67 | 16.65 |
| 25.0-30.0 | 53.67 | 191.46 | 6.48 | 23.13 |
| 30.0-35.0 | 58.76 | 250.22 | 7.10 | 30.23 |
| 35.0-40.0 | 62.12 | 312.35 | 7.50 | 37.73 |
| 40.0-45.0 | 63.65 | 375.99 | 7.69 | 45.42 |
| 45.0-50.0 | 63.38 | 439.37 | 7.66 | 53.08 |
| 50.0-55.0 | 61.38 | 500.75 | 7.42 | 60.49 |
| 55.0-60.0 | 57.70 | 558.46 | 6.97 | 67.47 |
| 60.0-65.0 | 52.47 | 610.92 | 6.34 | 73.80 |
| 65.0-70.0 | 45.89 | 656.81 | 5.54 | 79.35 |
| 70.0-75.0 | 38.29 | 695.11 | 4.63 | 83.97 |
| 75.0-80.0 | 30.18 | 725.29 | 3.65 | 87.62 |
| 80.0-85.0 | 22.43 | 747.72 | 2.71 | 90.33 |
| 85.0-90.0 | 16.49 | 764.21 | 1.99 | 92.32 |
| 90.0-95.0 | 13.21 | 777.42 | 1.60 | 93.92 |
| 95.0-100.0 | 11.38 | 788.80 | 1.37 | 95.29 |
| 100.0-105.0 | 9.67 | 798.46 | 1.17 | 96.46 |
| 105.0-110.0 | 7.96 | 806.42 | 0.96 | 97.42 |
| 110.0-115.0 | 6.30 | 812.72 | 0.76 | 98.18 |
| 115.0-120.0 | 4.78 | 817.50 | 0.58 | 98.76 |
| 120.0-125.0 | 3.43 | 820.93 | 0.41 | 99.17 |
| 125.0-130.0 | 2.31 | 823.23 | 0.28 | 99.45 |
| 130.0-135.0 | 1.43 | 824.66 | 0.17 | 99.63 |
| 135.0-140.0 | 0.79 | 825.46 | 0.10 | 99.72 |
| 140.0-145.0 | 0.49 | 825.95 | 0.06 | 99.78 |
| 145.0-150.0 | 0.42 | 826.36 | 0.05 | 99.83 |
| 150.0-155.0 | 0.38 | 826.75 | 0.05 | 99.88 |
| 155.0-160.0 | 0.34 | 827.09 | 0.04 | 99.92 |
| 160.0-165.0 | 0.28 | 827.37 | 0.03 | 99.95 |
| 165.0-170.0 | 0.21 | 827.59 | 0.03 | 99.98 |
| 170.0-175.0 | 0.13 | 827.72 | 0.02 | 99.99 |
| 175.0-180.0 | 0.05 | 827.76 | 0.01 | 100.00 |
| | | | Sums%Lamp | |

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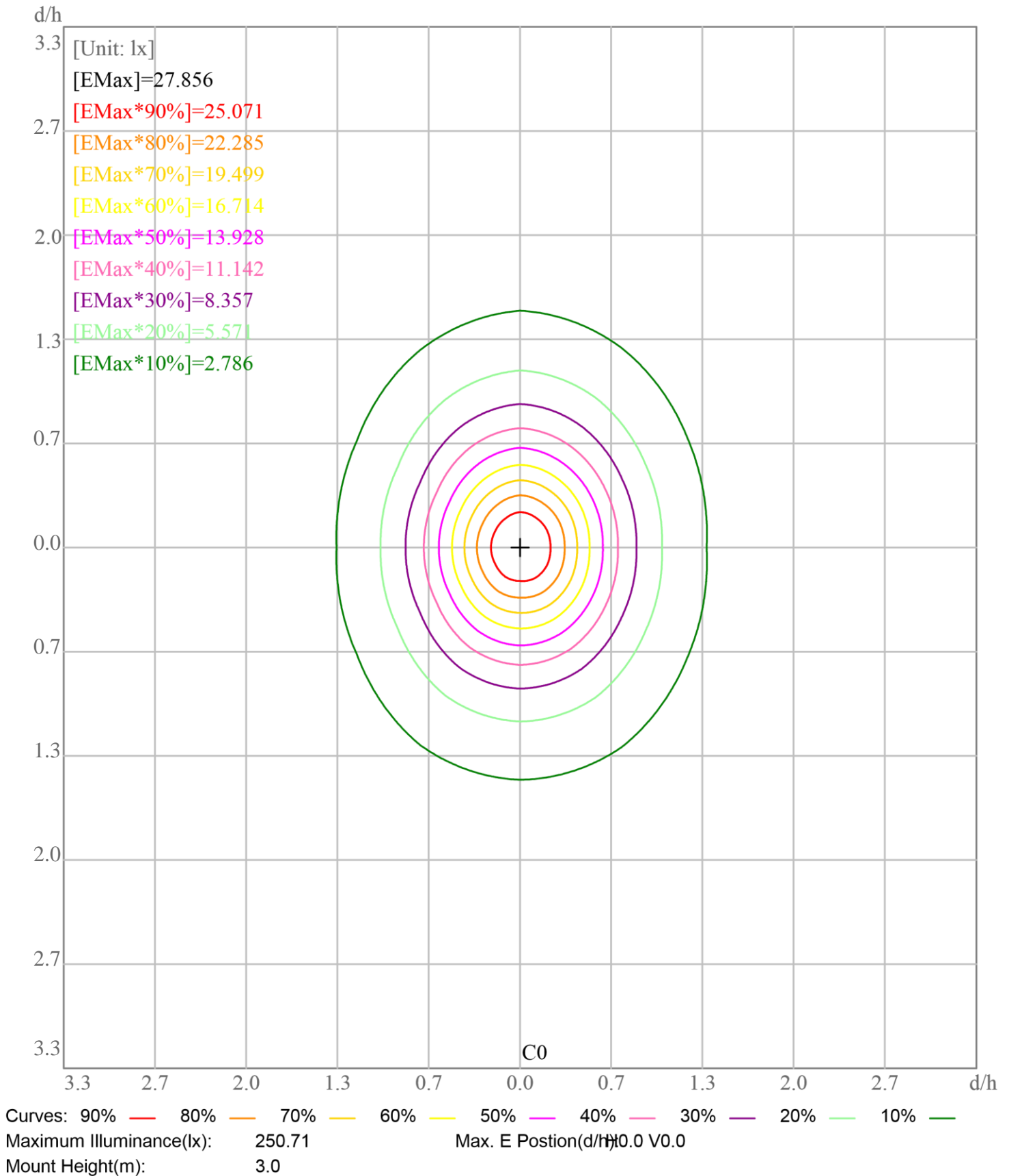
Photometric Filename: KO12W4K 6500K.IES Rectangle ISO Light Intensity Curve



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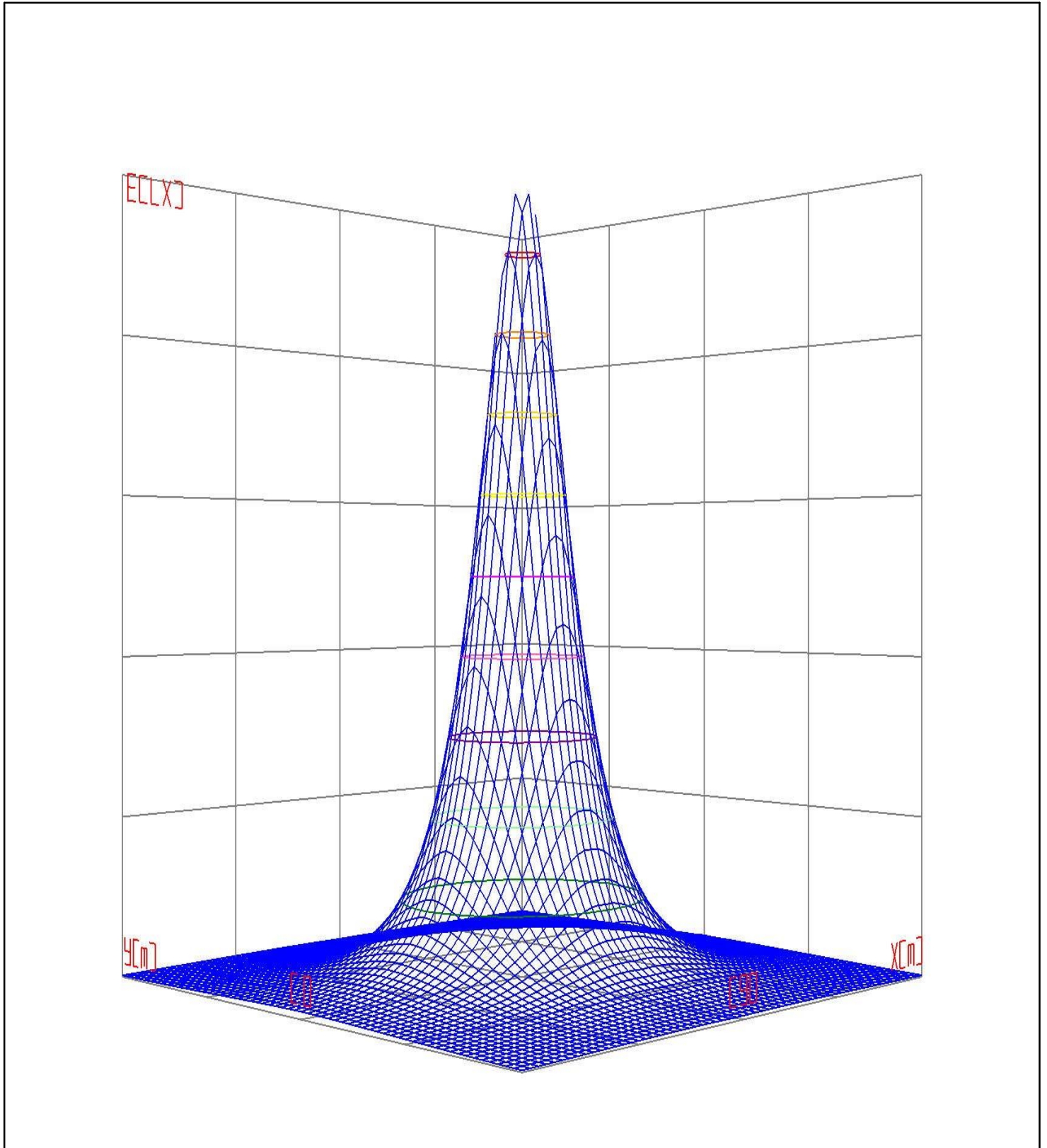
Plane ISO-Illuminance Curve



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3D Plane ISO Illuminance Curve

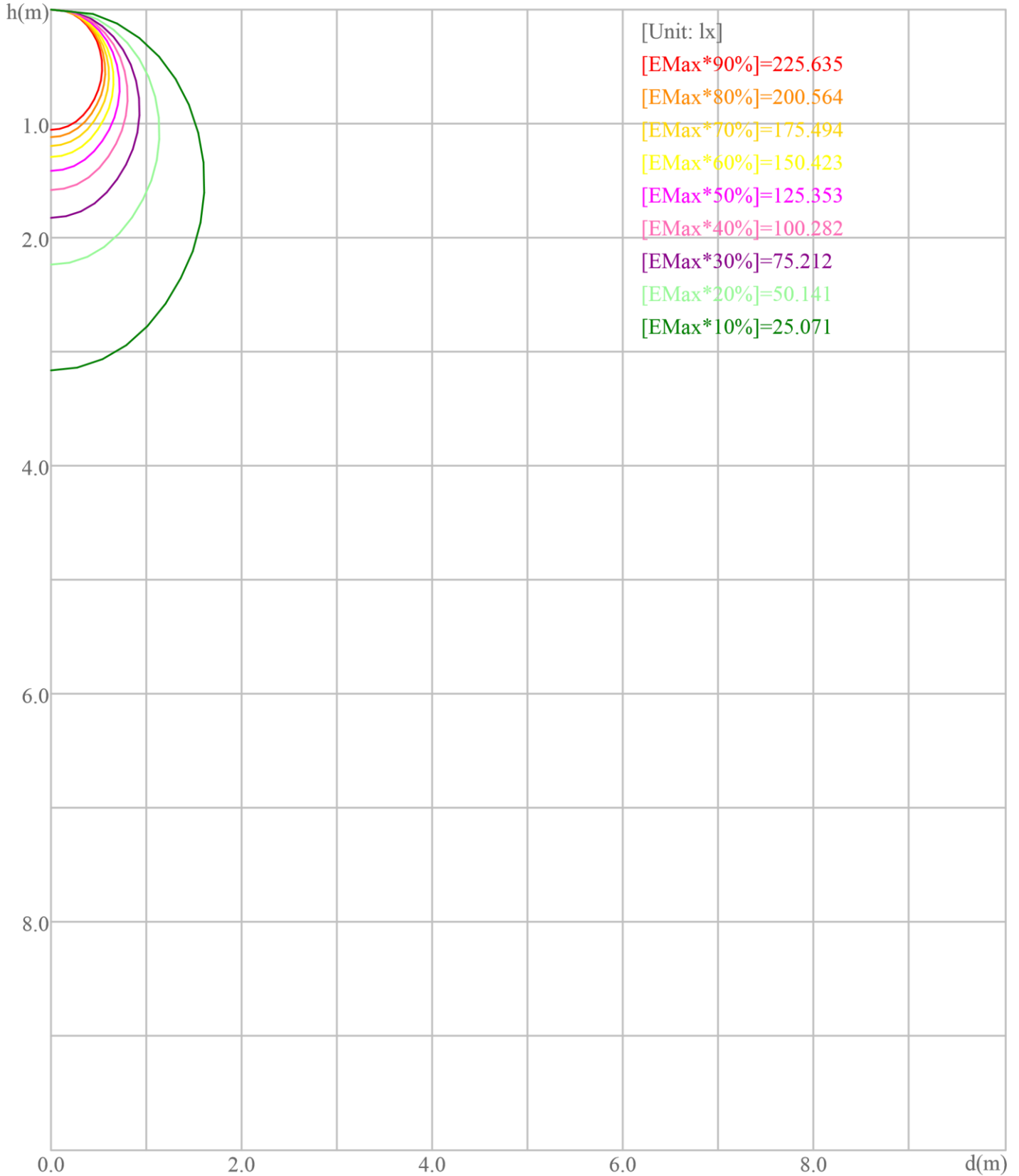


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

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Space ISO Illuminance Curve



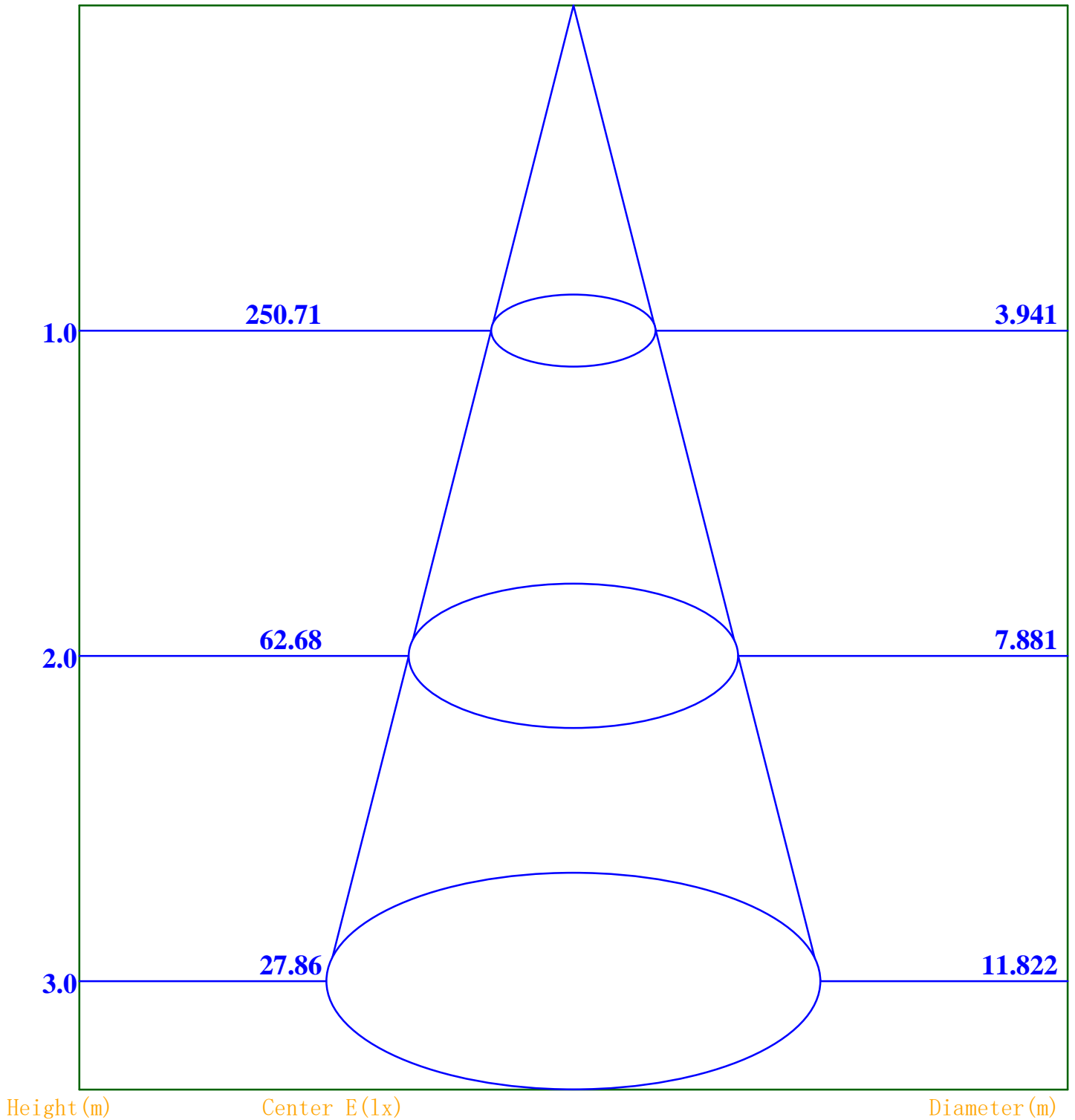
Curves: 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10%

Maximum Light Intensity(cd): 250.71

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Illuminance-Distance Curve



Indoor Luminance Limiting Curve

Glare Grade Table

IES Indoor Report

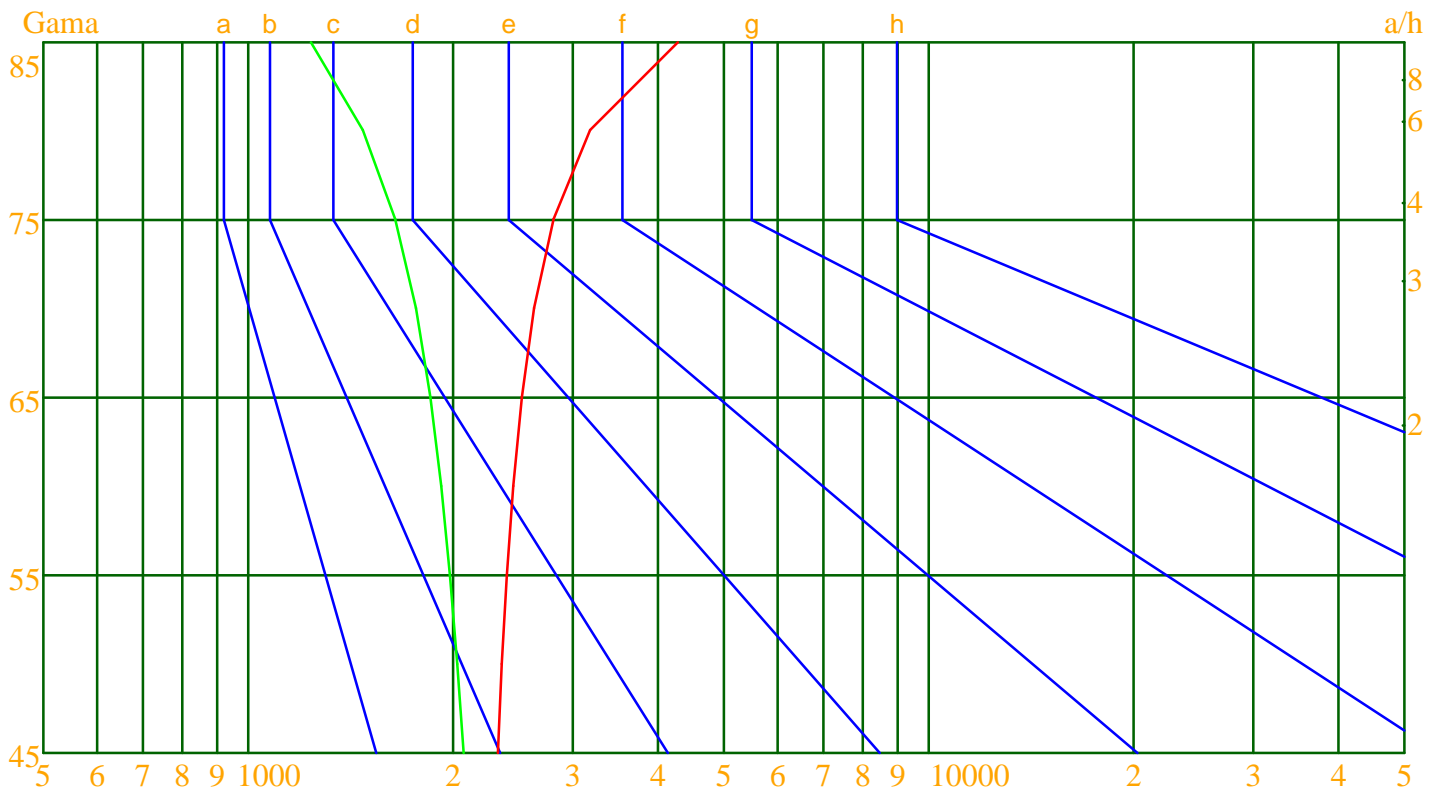
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| GI | Quality | Using Illuminance | | | | | | | |
|------|---------|-------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.2 | D | | | | 2000 | 1000 | 500 | <=300 | |
| 2.55 | E | | | | | 2000 | 1000 | 500 | <=300 |
| | | a | b | c | d | e | f | g | h |

Luminance Table

| Gama(deg) | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|-----------|------|------|------|------|------|------|------|------|-------|
| C0 | 5020 | 5123 | 5257 | 5430 | 5672 | 6036 | 6667 | 8016 | 12508 |
| C90 | 4220 | 4086 | 3933 | 3767 | 3564 | 3315 | 2983 | 2531 | 1945 |

Luminance Limiting Curve



Luminous Size: Length(m)=0.245 Width(m)=0.120 Height(m)=0.090 Area(m²)=0.051450

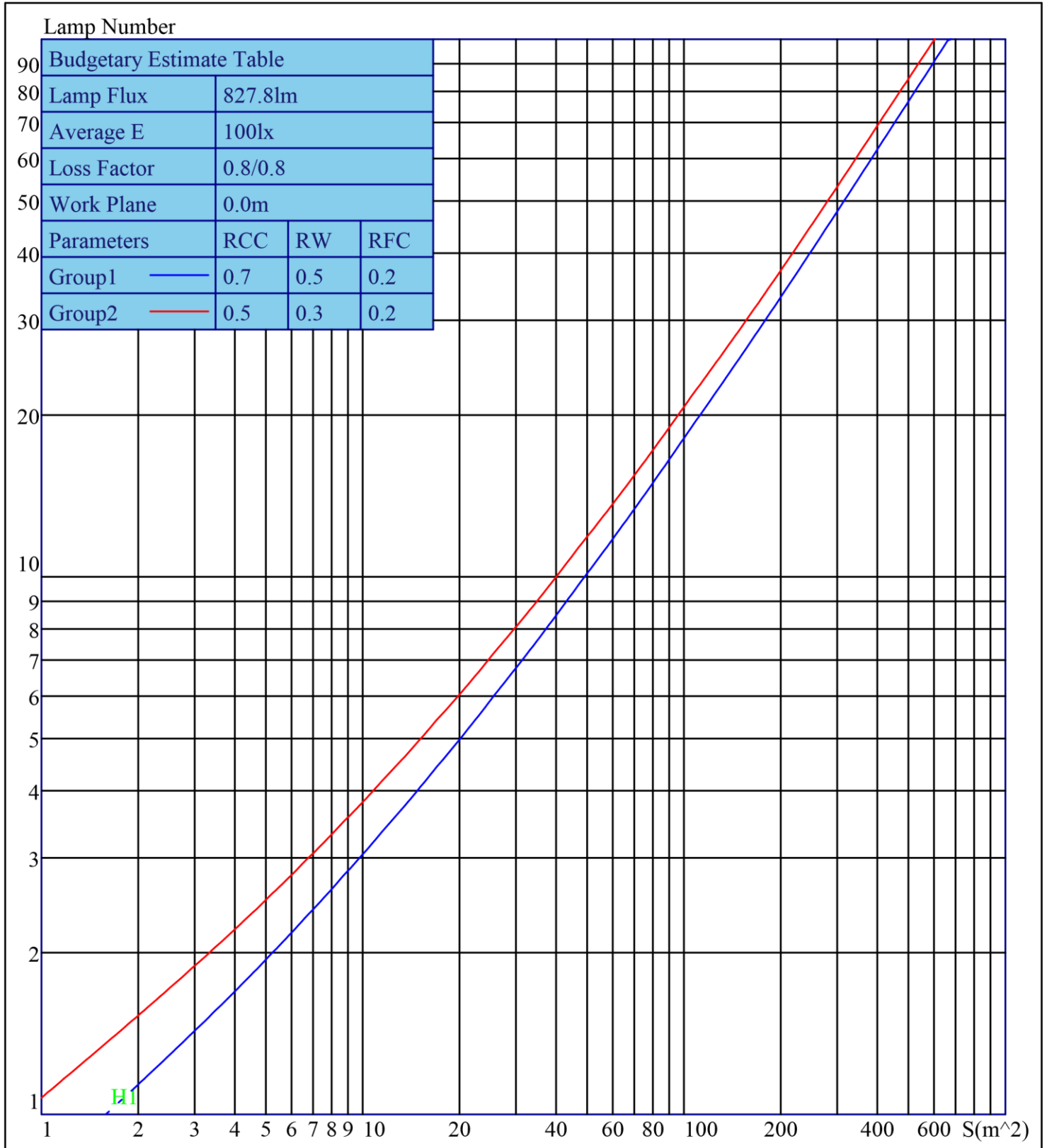
Luminous Type: Without Luminous Side

Luminous Curves: C0-C180 Color: — C90-C270 Color: —

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Indoor Budgetary Estimate Table



Parameters1: Rhocc = 0.7 Rhow = 0.5 Rhofc = 0.2 LLF = 0.8
 Parameters2: Rhocc = 0.5 Rhow = 0.3 Rhofc = 0.2 LLF = 0.8
 Average Illuminance(lx): 100 Cavity Height: H1(m) = 2

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Indoor Coefficient of Utilization Table

| Coefficients of Utilization - Zonal Cavity Method | | | | | | | | | | | | | | | | | | |
|---|-------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Coefficient Effective Floor Cavity Reflectance RFC=0.20 | | | | | | | | | | | | | | | | | | |
| RhoCC (%) | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| RhoW (%) | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | Coefficient of Utilization(%) | | | | | | | | | | | | | | | | | |
| 0 | 62 | 62 | 62 | 62 | 61 | 61 | 61 | 61 | 57 | 57 | 57 | 54 | 54 | 54 | 51 | 51 | 51 | 49 |
| 1 | 56 | 53 | 51 | 48 | 54 | 52 | 49 | 47 | 49 | 47 | 45 | 46 | 44 | 43 | 43 | 42 | 41 | 39 |
| 2 | 51 | 46 | 42 | 39 | 49 | 45 | 41 | 38 | 42 | 39 | 37 | 40 | 37 | 35 | 38 | 36 | 34 | 32 |
| 3 | 46 | 40 | 36 | 32 | 44 | 39 | 35 | 31 | 37 | 33 | 30 | 35 | 32 | 29 | 33 | 30 | 28 | 27 |
| 4 | 42 | 36 | 31 | 27 | 41 | 35 | 30 | 27 | 33 | 29 | 26 | 31 | 28 | 25 | 29 | 26 | 24 | 23 |
| 5 | 39 | 32 | 27 | 23 | 37 | 31 | 26 | 23 | 29 | 25 | 22 | 28 | 24 | 22 | 26 | 23 | 21 | 20 |
| 6 | 36 | 28 | 24 | 20 | 34 | 28 | 23 | 20 | 26 | 22 | 19 | 25 | 22 | 19 | 24 | 21 | 18 | 17 |
| 7 | 33 | 26 | 21 | 18 | 32 | 25 | 21 | 17 | 24 | 20 | 17 | 23 | 19 | 17 | 22 | 19 | 16 | 15 |
| 8 | 31 | 23 | 19 | 16 | 30 | 23 | 19 | 16 | 22 | 18 | 15 | 21 | 17 | 15 | 20 | 17 | 15 | 13 |

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| | | | | | | |
|----|-------------|-------------|----------|----------|----------|----|
| 9 | 29 22 17 14 | 28 21 17 14 | 20 16 14 | 19 16 13 | 18 15 13 | 12 |
| 10 | 27 20 16 13 | 26 19 15 13 | 19 15 12 | 18 14 12 | 17 14 12 | 11 |