

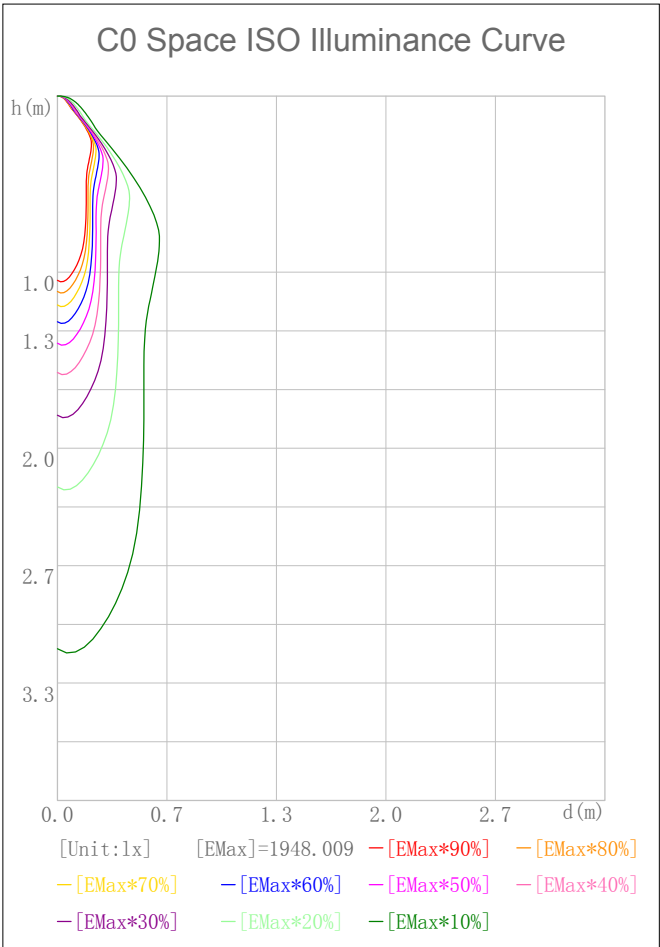
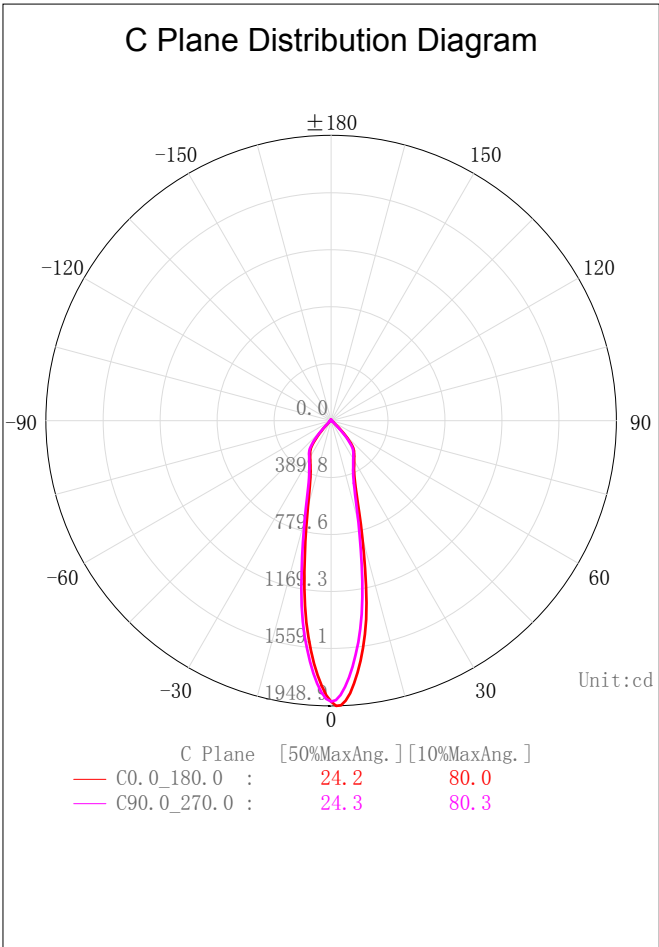
Indoor Luminaire Photometric Data

Description Information

| | | |
|---|-------------------------|-----------------------|
| Luminary Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Date: 2019/12/13 |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Shld.Ang(°): | Test Machine:GON-2000 |
| Test Lab: QUality peatment | Frequency (Hz): | Lamp CCT(K): Ra: |
| Lum. Size (W*L*H):0.050m*0.050m*0.060m | Lum. Area (m2):0.005 | Lum. W(kg): 0.000 |
| Test System: C, γ | Test Step: C=90.0 γ=1.0 | Temp. (°C): 25 |
| | | Humidity(%): 50.0 |

Character Parameter

| Lamp Speciality Parameter | Luminaire Speciality Parameter | |
|---|--------------------------------|---------------------------------------|
| Rated Flux(lm): 801.710 | Luminary Flux(lm): 801.710 | Field Angle(10%Imax): 80.0(°) |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 783.230lm 97.69% |
| Rated Voltage(V): | Luminary EER(lm/W): 86.354 | Up Lumens&Percent: 18.480lm 2.31% |
| Tested Power(W): 9.284 | Max. Candela(cd): 1948.899 | S/MH: C0_a180=0.413 C90_270=0.410 |
| Lamps' Inside: 1 | Max Cand@Ang. (°): C=0.0 γ=1.0 | CIE Type: Semi-Direct |
| Tested Electrics (V, A, pf):240.0, 0.041, 0.929 | Beam Angle(50%Imax): 24.2(°) | ErP Φ use(90°): 713.745lm |
| Lamp Size(W*L*H):0.050m*0.050m*0.060m | Left=-10.7°, Right=13.6° | IRF(%): 516.245 |



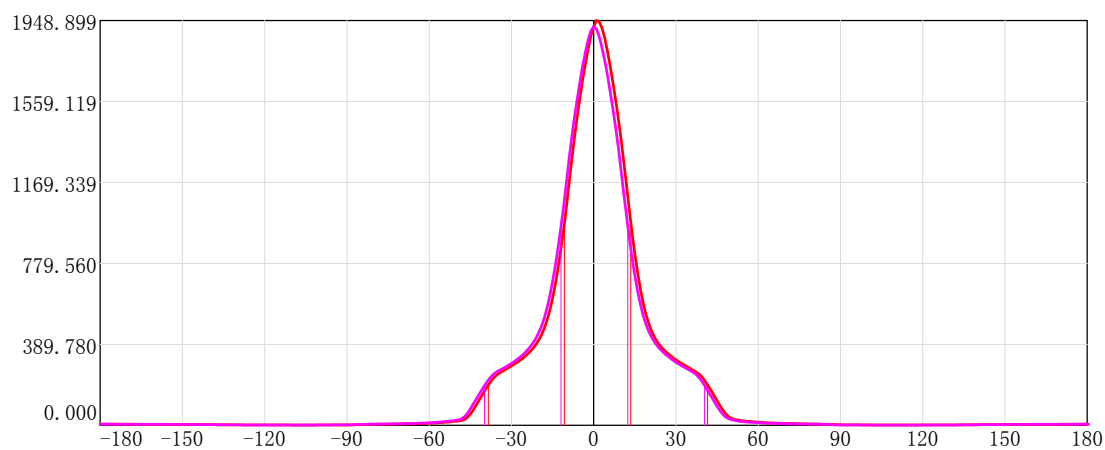
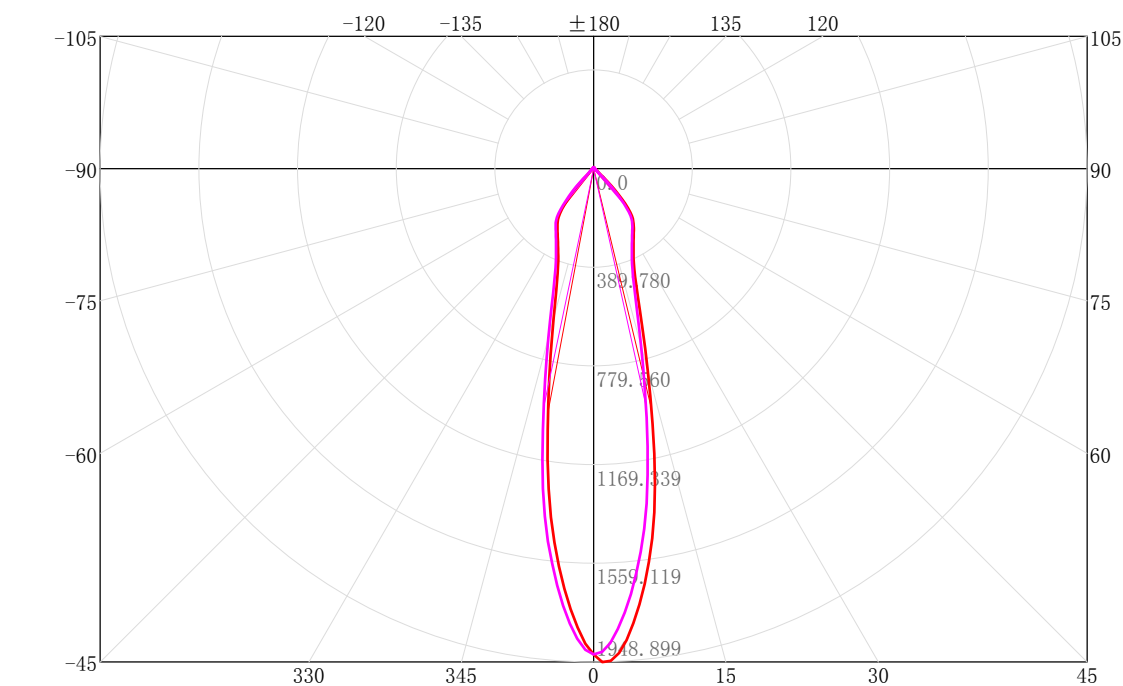
IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

2D Plane Light Intensity Distribution Curve

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

C Plane Distribution Diagram



C Plane [50%MaxAng.] [10%MaxAng.]
— C0.0_180.0 : 24.2 80.0
— C90.0_270.0 : 24.3 80.3

Unit:cd

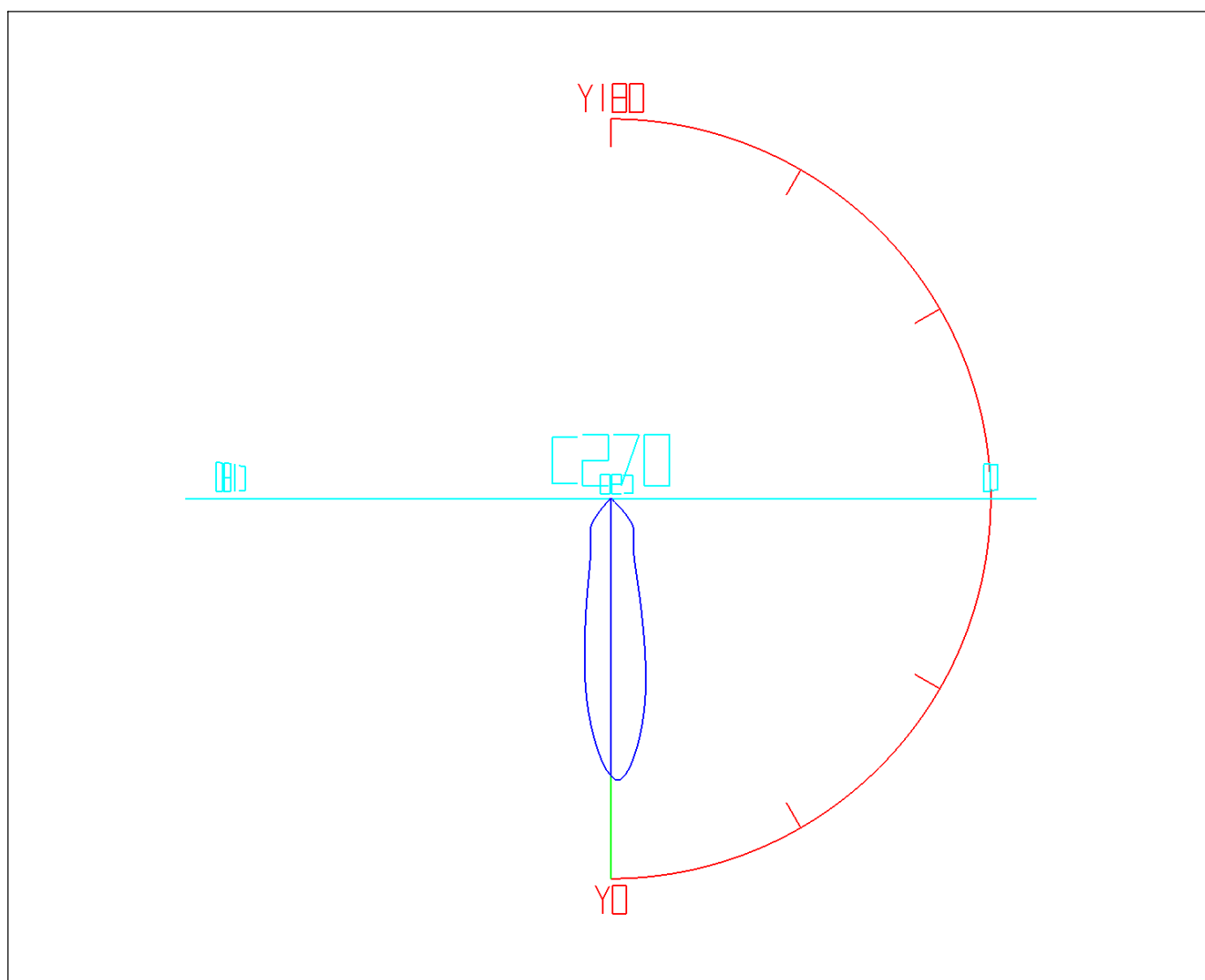
IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

3D Light Intensity Distribution Modal

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

3D Light Intensity Distribution Modal



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

Zonal Flux Tabulation

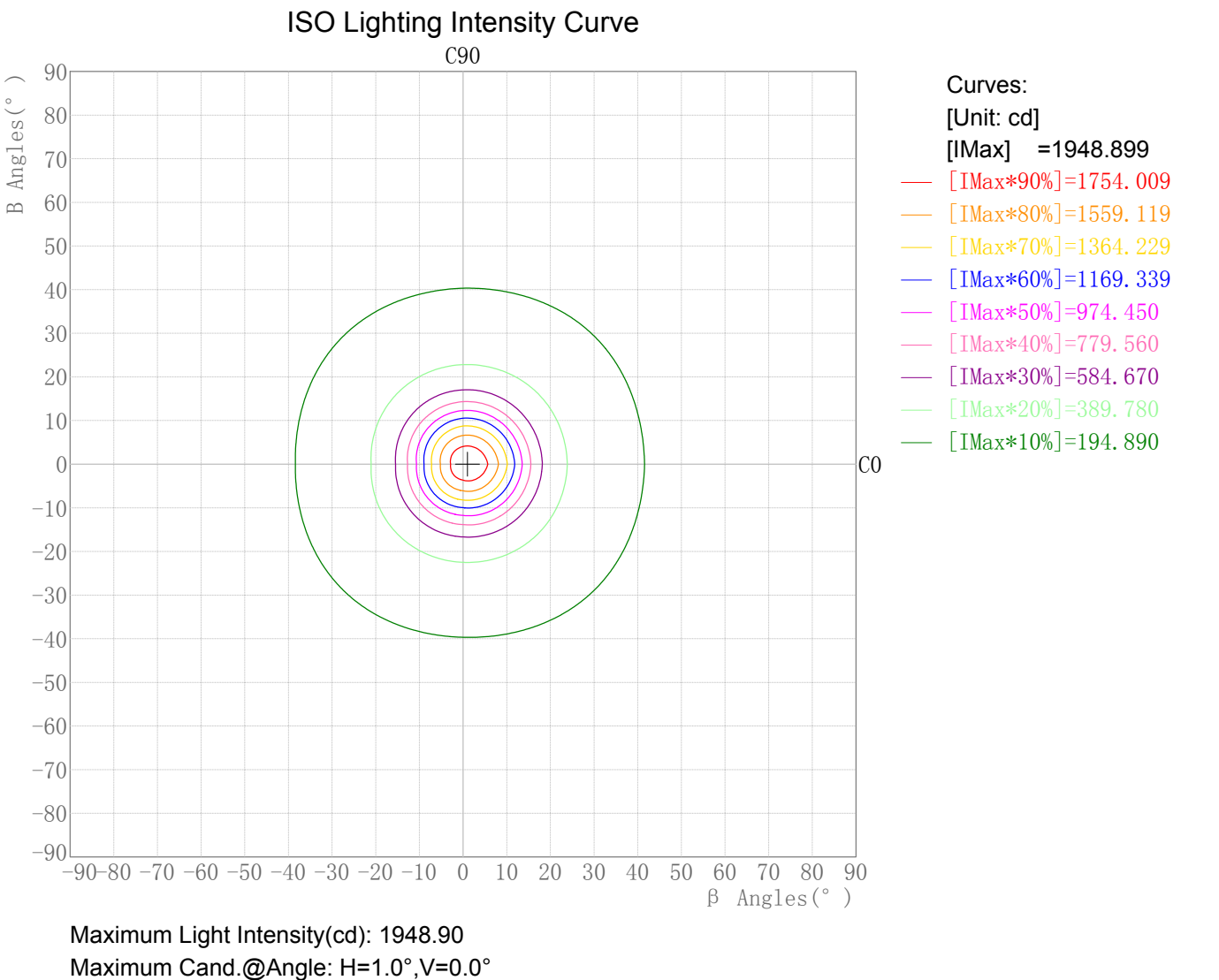
| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp | Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0 | 1.83 | 1.83 | 0.23 | 0.23 | 47.0-48.0 | 3.67 | 738.41 | 0.46 | 92.10 |
| 1.0-2.0 | 5.43 | 7.26 | 0.68 | 0.91 | 48.0-49.0 | 2.95 | 741.37 | 0.37 | 92.47 |
| 2.0-3.0 | 8.83 | 16.09 | 1.10 | 2.01 | 49.0-50.0 | 2.50 | 743.86 | 0.31 | 92.78 |
| 3.0-4.0 | 11.96 | 28.05 | 1.49 | 3.50 | 50.0-51.0 | 2.21 | 746.07 | 0.28 | 93.06 |
| 4.0-5.0 | 14.77 | 42.82 | 1.84 | 5.34 | 51.0-52.0 | 2.01 | 748.08 | 0.25 | 93.31 |
| 5.0-6.0 | 17.22 | 60.04 | 2.15 | 7.49 | 52.0-53.0 | 1.86 | 749.94 | 0.23 | 93.54 |
| 6.0-7.0 | 19.30 | 79.34 | 2.41 | 9.90 | 53.0-54.0 | 1.75 | 751.69 | 0.22 | 93.76 |
| 7.0-8.0 | 20.96 | 100.30 | 2.61 | 12.51 | 54.0-55.0 | 1.65 | 753.33 | 0.21 | 93.97 |
| 8.0-9.0 | 22.14 | 122.44 | 2.76 | 15.27 | 55.0-56.0 | 1.56 | 754.89 | 0.19 | 94.16 |
| 9.0-10.0 | 22.80 | 145.23 | 2.84 | 18.12 | 56.0-57.0 | 1.47 | 756.36 | 0.18 | 94.34 |
| 10.0-11.0 | 22.97 | 168.20 | 2.86 | 20.98 | 57.0-58.0 | 1.39 | 757.75 | 0.17 | 94.52 |
| 11.0-12.0 | 22.74 | 190.94 | 2.84 | 23.82 | 58.0-59.0 | 1.32 | 759.08 | 0.17 | 94.68 |
| 12.0-13.0 | 22.21 | 213.15 | 2.77 | 26.59 | 59.0-60.0 | 1.26 | 760.34 | 0.16 | 94.84 |
| 13.0-14.0 | 21.50 | 234.65 | 2.68 | 29.27 | 60.0-61.0 | 1.20 | 761.53 | 0.15 | 94.99 |
| 14.0-15.0 | 20.69 | 255.34 | 2.58 | 31.85 | 61.0-62.0 | 1.15 | 762.68 | 0.14 | 95.13 |
| 15.0-16.0 | 19.84 | 275.18 | 2.47 | 34.32 | 62.0-63.0 | 1.10 | 763.78 | 0.14 | 95.27 |
| 16.0-17.0 | 19.01 | 294.19 | 2.37 | 36.70 | 63.0-64.0 | 1.06 | 764.84 | 0.13 | 95.40 |
| 17.0-18.0 | 18.27 | 312.46 | 2.28 | 38.97 | 64.0-65.0 | 1.02 | 765.86 | 0.13 | 95.53 |
| 18.0-19.0 | 17.65 | 330.11 | 2.20 | 41.18 | 65.0-66.0 | 0.99 | 766.84 | 0.12 | 95.65 |
| 19.0-20.0 | 17.17 | 347.28 | 2.14 | 43.32 | 66.0-67.0 | 0.96 | 767.80 | 0.12 | 95.77 |
| 20.0-21.0 | 16.82 | 364.10 | 2.10 | 45.42 | 67.0-68.0 | 0.93 | 768.73 | 0.12 | 95.89 |
| 21.0-22.0 | 16.59 | 380.69 | 2.07 | 47.48 | 68.0-69.0 | 0.90 | 769.63 | 0.11 | 96.00 |
| 22.0-23.0 | 16.46 | 397.15 | 2.05 | 49.54 | 69.0-70.0 | 0.88 | 770.51 | 0.11 | 96.11 |
| 23.0-24.0 | 16.40 | 413.55 | 2.05 | 51.58 | 70.0-71.0 | 0.85 | 771.36 | 0.11 | 96.21 |
| 24.0-25.0 | 16.39 | 429.93 | 2.04 | 53.63 | 71.0-72.0 | 0.83 | 772.18 | 0.10 | 96.32 |
| 25.0-26.0 | 16.39 | 446.33 | 2.04 | 55.67 | 72.0-73.0 | 0.80 | 772.98 | 0.10 | 96.42 |
| 26.0-27.0 | 16.41 | 462.74 | 2.05 | 57.72 | 73.0-74.0 | 0.78 | 773.76 | 0.10 | 96.51 |
| 27.0-28.0 | 16.43 | 479.17 | 2.05 | 59.77 | 74.0-75.0 | 0.76 | 774.52 | 0.09 | 96.61 |
| 28.0-29.0 | 16.46 | 495.63 | 2.05 | 61.82 | 75.0-76.0 | 0.74 | 775.26 | 0.09 | 96.70 |
| 29.0-30.0 | 16.49 | 512.12 | 2.06 | 63.88 | 76.0-77.0 | 0.73 | 775.99 | 0.09 | 96.79 |
| 30.0-31.0 | 16.52 | 528.64 | 2.06 | 65.94 | 77.0-78.0 | 0.72 | 776.72 | 0.09 | 96.88 |
| 31.0-32.0 | 16.55 | 545.18 | 2.06 | 68.00 | 78.0-79.0 | 0.71 | 777.43 | 0.09 | 96.97 |
| 32.0-33.0 | 16.56 | 561.75 | 2.07 | 70.07 | 79.0-80.0 | 0.70 | 778.13 | 0.09 | 97.06 |
| 33.0-34.0 | 16.56 | 578.31 | 2.07 | 72.13 | 80.0-81.0 | 0.68 | 778.81 | 0.08 | 97.14 |
| 34.0-35.0 | 16.52 | 594.83 | 2.06 | 74.19 | 81.0-82.0 | 0.65 | 779.46 | 0.08 | 97.23 |
| 35.0-36.0 | 16.40 | 611.23 | 2.05 | 76.24 | 82.0-83.0 | 0.62 | 780.08 | 0.08 | 97.30 |
| 36.0-37.0 | 16.16 | 627.39 | 2.02 | 78.26 | 83.0-84.0 | 0.58 | 780.66 | 0.07 | 97.37 |
| 37.0-38.0 | 15.74 | 643.13 | 1.96 | 80.22 | 84.0-85.0 | 0.54 | 781.20 | 0.07 | 97.44 |
| 38.0-39.0 | 15.09 | 658.22 | 1.88 | 82.10 | 85.0-86.0 | 0.49 | 781.70 | 0.06 | 97.50 |
| 39.0-40.0 | 14.20 | 672.42 | 1.77 | 83.87 | 86.0-87.0 | 0.45 | 782.15 | 0.06 | 97.56 |
| 40.0-41.0 | 13.09 | 685.51 | 1.63 | 85.51 | 87.0-88.0 | 0.40 | 782.55 | 0.05 | 97.61 |
| 41.0-42.0 | 11.81 | 697.32 | 1.47 | 86.98 | 88.0-89.0 | 0.36 | 782.90 | 0.04 | 97.65 |
| 42.0-43.0 | 10.41 | 707.73 | 1.30 | 88.28 | 89.0-90.0 | 0.33 | 783.23 | 0.04 | 97.69 |
| 43.0-44.0 | 8.93 | 716.66 | 1.11 | 89.39 | 90.0-91.0 | 0.31 | 783.54 | 0.04 | 97.73 |
| 44.0-45.0 | 7.42 | 724.09 | 0.93 | 90.32 | 91.0-92.0 | 0.30 | 783.84 | 0.04 | 97.77 |
| 45.0-46.0 | 5.97 | 730.06 | 0.75 | 91.06 | 92.0-93.0 | 0.29 | 784.13 | 0.04 | 97.81 |
| 46.0-47.0 | 4.69 | 734.75 | 0.58 | 91.65 | 93.0-94.0 | 0.28 | 784.42 | 0.04 | 97.84 |

Zonal Flux Tabulation - (Cont.)

| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp | Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|-------------|-------------------|-------------------|-----------|-----------|-------------|-------------------|-------------------|-----------|-----------|
| 94.0-95.0 | 0.28 | 784.69 | 0.03 | 97.88 | 141.0-142.0 | 0.25 | 795.25 | 0.03 | 99.19 |
| 95.0-96.0 | 0.27 | 784.96 | 0.03 | 97.91 | 142.0-143.0 | 0.26 | 795.51 | 0.03 | 99.23 |
| 96.0-97.0 | 0.26 | 785.22 | 0.03 | 97.94 | 143.0-144.0 | 0.26 | 795.76 | 0.03 | 99.26 |
| 97.0-98.0 | 0.26 | 785.48 | 0.03 | 97.98 | 144.0-145.0 | 0.26 | 796.02 | 0.03 | 99.29 |
| 98.0-99.0 | 0.25 | 785.73 | 0.03 | 98.01 | 145.0-146.0 | 0.26 | 796.28 | 0.03 | 99.32 |
| 99.0-100.0 | 0.24 | 785.97 | 0.03 | 98.04 | 146.0-147.0 | 0.26 | 796.54 | 0.03 | 99.35 |
| 100.0-101.0 | 0.24 | 786.21 | 0.03 | 98.07 | 147.0-148.0 | 0.26 | 796.79 | 0.03 | 99.39 |
| 101.0-102.0 | 0.23 | 786.45 | 0.03 | 98.10 | 148.0-149.0 | 0.25 | 797.05 | 0.03 | 99.42 |
| 102.0-103.0 | 0.23 | 786.68 | 0.03 | 98.12 | 149.0-150.0 | 0.25 | 797.30 | 0.03 | 99.45 |
| 103.0-104.0 | 0.23 | 786.90 | 0.03 | 98.15 | 150.0-151.0 | 0.25 | 797.55 | 0.03 | 99.48 |
| 104.0-105.0 | 0.22 | 787.13 | 0.03 | 98.18 | 151.0-152.0 | 0.25 | 797.80 | 0.03 | 99.51 |
| 105.0-106.0 | 0.22 | 787.35 | 0.03 | 98.21 | 152.0-153.0 | 0.24 | 798.04 | 0.03 | 99.54 |
| 106.0-107.0 | 0.22 | 787.56 | 0.03 | 98.24 | 153.0-154.0 | 0.24 | 798.28 | 0.03 | 99.57 |
| 107.0-108.0 | 0.22 | 787.78 | 0.03 | 98.26 | 154.0-155.0 | 0.23 | 798.51 | 0.03 | 99.60 |
| 108.0-109.0 | 0.21 | 787.99 | 0.03 | 98.29 | 155.0-156.0 | 0.23 | 798.74 | 0.03 | 99.63 |
| 109.0-110.0 | 0.21 | 788.21 | 0.03 | 98.32 | 156.0-157.0 | 0.22 | 798.96 | 0.03 | 99.66 |
| 110.0-111.0 | 0.21 | 788.42 | 0.03 | 98.34 | 157.0-158.0 | 0.22 | 799.18 | 0.03 | 99.68 |
| 111.0-112.0 | 0.21 | 788.63 | 0.03 | 98.37 | 158.0-159.0 | 0.21 | 799.39 | 0.03 | 99.71 |
| 112.0-113.0 | 0.21 | 788.83 | 0.03 | 98.39 | 159.0-160.0 | 0.20 | 799.59 | 0.03 | 99.74 |
| 113.0-114.0 | 0.21 | 789.04 | 0.03 | 98.42 | 160.0-161.0 | 0.20 | 799.79 | 0.02 | 99.76 |
| 114.0-115.0 | 0.21 | 789.25 | 0.03 | 98.45 | 161.0-162.0 | 0.19 | 799.97 | 0.02 | 99.78 |
| 115.0-116.0 | 0.21 | 789.46 | 0.03 | 98.47 | 162.0-163.0 | 0.18 | 800.15 | 0.02 | 99.81 |
| 116.0-117.0 | 0.21 | 789.66 | 0.03 | 98.50 | 163.0-164.0 | 0.17 | 800.32 | 0.02 | 99.83 |
| 117.0-118.0 | 0.21 | 789.87 | 0.03 | 98.52 | 164.0-165.0 | 0.16 | 800.49 | 0.02 | 99.85 |
| 118.0-119.0 | 0.21 | 790.08 | 0.03 | 98.55 | 165.0-166.0 | 0.15 | 800.64 | 0.02 | 99.87 |
| 119.0-120.0 | 0.21 | 790.28 | 0.03 | 98.57 | 166.0-167.0 | 0.14 | 800.78 | 0.02 | 99.88 |
| 120.0-121.0 | 0.21 | 790.49 | 0.03 | 98.60 | 167.0-168.0 | 0.13 | 800.92 | 0.02 | 99.90 |
| 121.0-122.0 | 0.21 | 790.70 | 0.03 | 98.63 | 168.0-169.0 | 0.12 | 801.04 | 0.02 | 99.92 |
| 122.0-123.0 | 0.21 | 790.90 | 0.03 | 98.65 | 169.0-170.0 | 0.11 | 801.16 | 0.01 | 99.93 |
| 123.0-124.0 | 0.21 | 791.11 | 0.03 | 98.68 | 170.0-171.0 | 0.10 | 801.26 | 0.01 | 99.94 |
| 124.0-125.0 | 0.21 | 791.32 | 0.03 | 98.70 | 171.0-172.0 | 0.09 | 801.35 | 0.01 | 99.96 |
| 125.0-126.0 | 0.21 | 791.53 | 0.03 | 98.73 | 172.0-173.0 | 0.08 | 801.44 | 0.01 | 99.97 |
| 126.0-127.0 | 0.21 | 791.74 | 0.03 | 98.76 | 173.0-174.0 | 0.07 | 801.51 | 0.01 | 99.97 |
| 127.0-128.0 | 0.21 | 791.96 | 0.03 | 98.78 | 174.0-175.0 | 0.06 | 801.57 | 0.01 | 99.98 |
| 128.0-129.0 | 0.22 | 792.17 | 0.03 | 98.81 | 175.0-176.0 | 0.05 | 801.62 | 0.01 | 99.99 |
| 129.0-130.0 | 0.22 | 792.39 | 0.03 | 98.84 | 176.0-177.0 | 0.04 | 801.66 | 0.00 | 99.99 |
| 130.0-131.0 | 0.22 | 792.61 | 0.03 | 98.87 | 177.0-178.0 | 0.03 | 801.69 | 0.00 | 100.00 |
| 131.0-132.0 | 0.22 | 792.84 | 0.03 | 98.89 | 178.0-179.0 | 0.02 | 801.70 | 0.00 | 100.00 |
| 132.0-133.0 | 0.23 | 793.06 | 0.03 | 98.92 | 179.0-180.0 | 0.01 | 801.71 | 0.00 | 100.00 |
| 133.0-134.0 | 0.23 | 793.29 | 0.03 | 98.95 | | | | | |
| 134.0-135.0 | 0.23 | 793.53 | 0.03 | 98.98 | | | | | |
| 135.0-136.0 | 0.24 | 793.76 | 0.03 | 99.01 | | | | | |
| 136.0-137.0 | 0.24 | 794.00 | 0.03 | 99.04 | | | | | |
| 137.0-138.0 | 0.24 | 794.25 | 0.03 | 99.07 | | | | | |
| 138.0-139.0 | 0.25 | 794.49 | 0.03 | 99.10 | | | | | |
| 139.0-140.0 | 0.25 | 794.74 | 0.03 | 99.13 | | | | | |
| 140.0-141.0 | 0.25 | 795.00 | 0.03 | 99.16 | | | | | |

Rectangle ISO Lighting Intensity Diagram

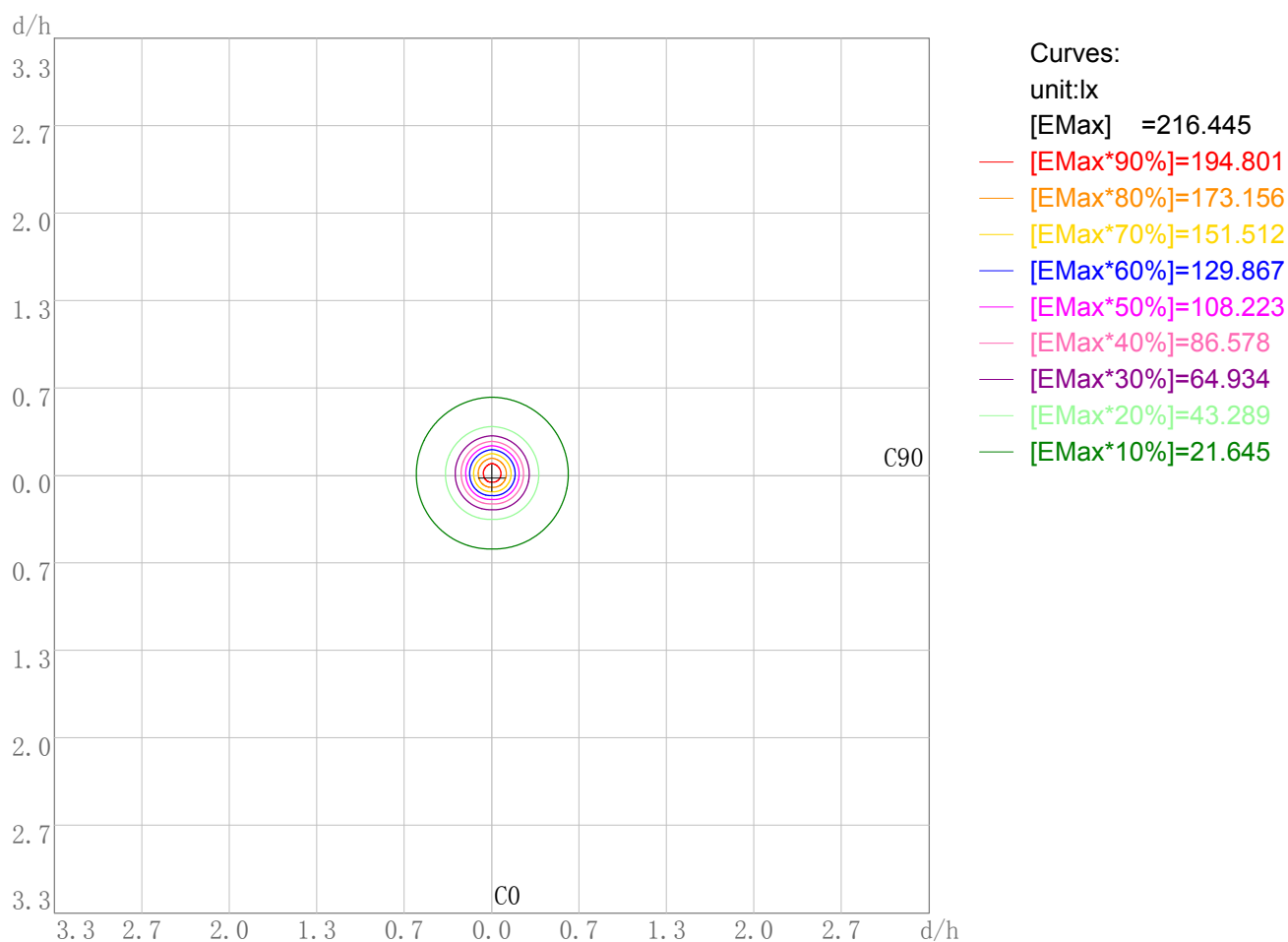
| | | |
|--|-----------------------|---------------------------|
| Lum. Name:MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID:01 |
| Lamp Name: | Lamp Catalog:LED | Test Lab:Quality peatment |
| Manufacture:Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date:2019/12/13 |



Plane ISO-Illuminance Diagram

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

Working Plane Maximum Illuminance(lx): 216.45

Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

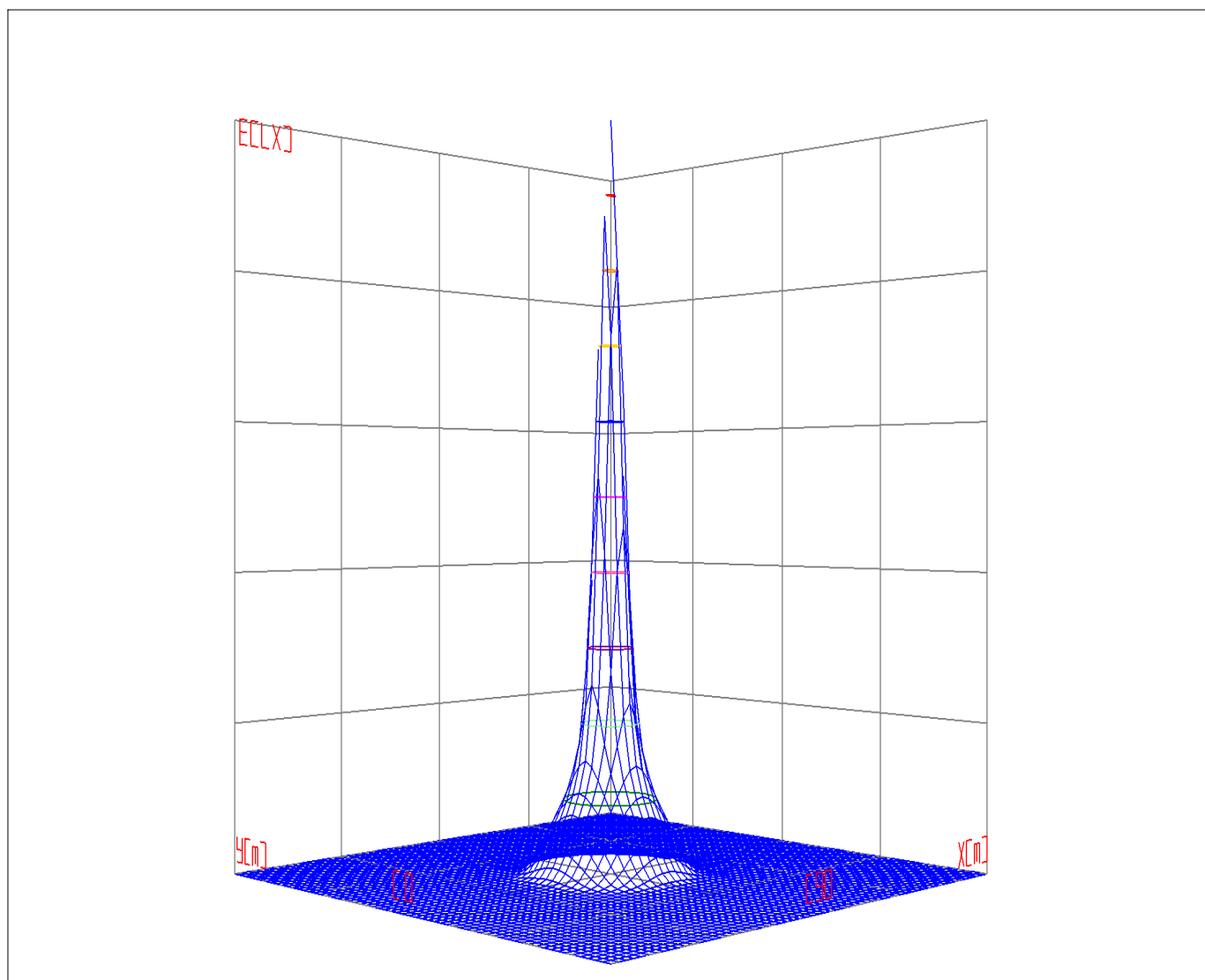
IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

3D Plane ISO Illuminance Diagram

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

3D Plane Illuminance Modal

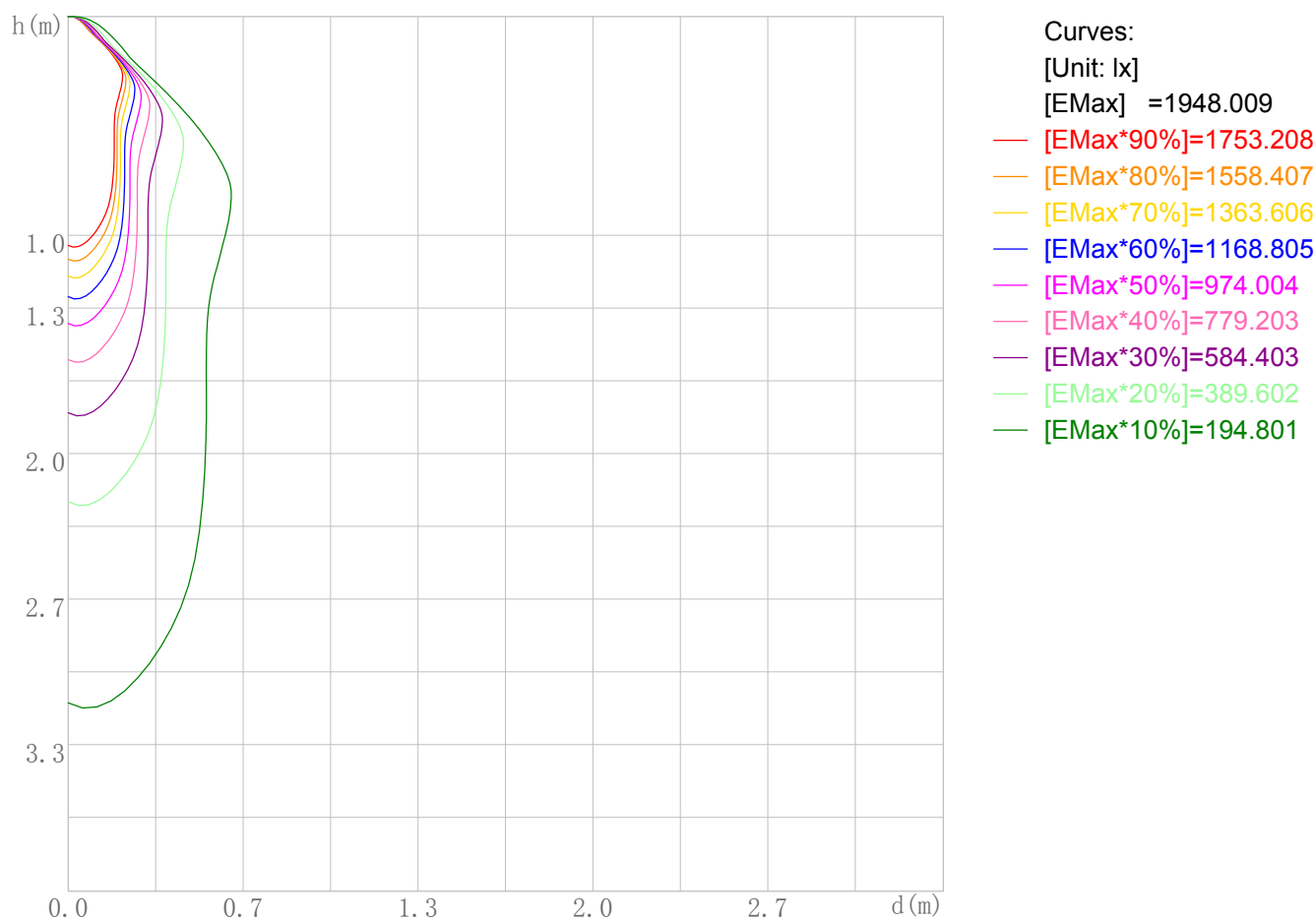


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:1948.01lx,1.0deg
Plane Maximum Lighting Intensity and @Angle:1948.899cd,0deg

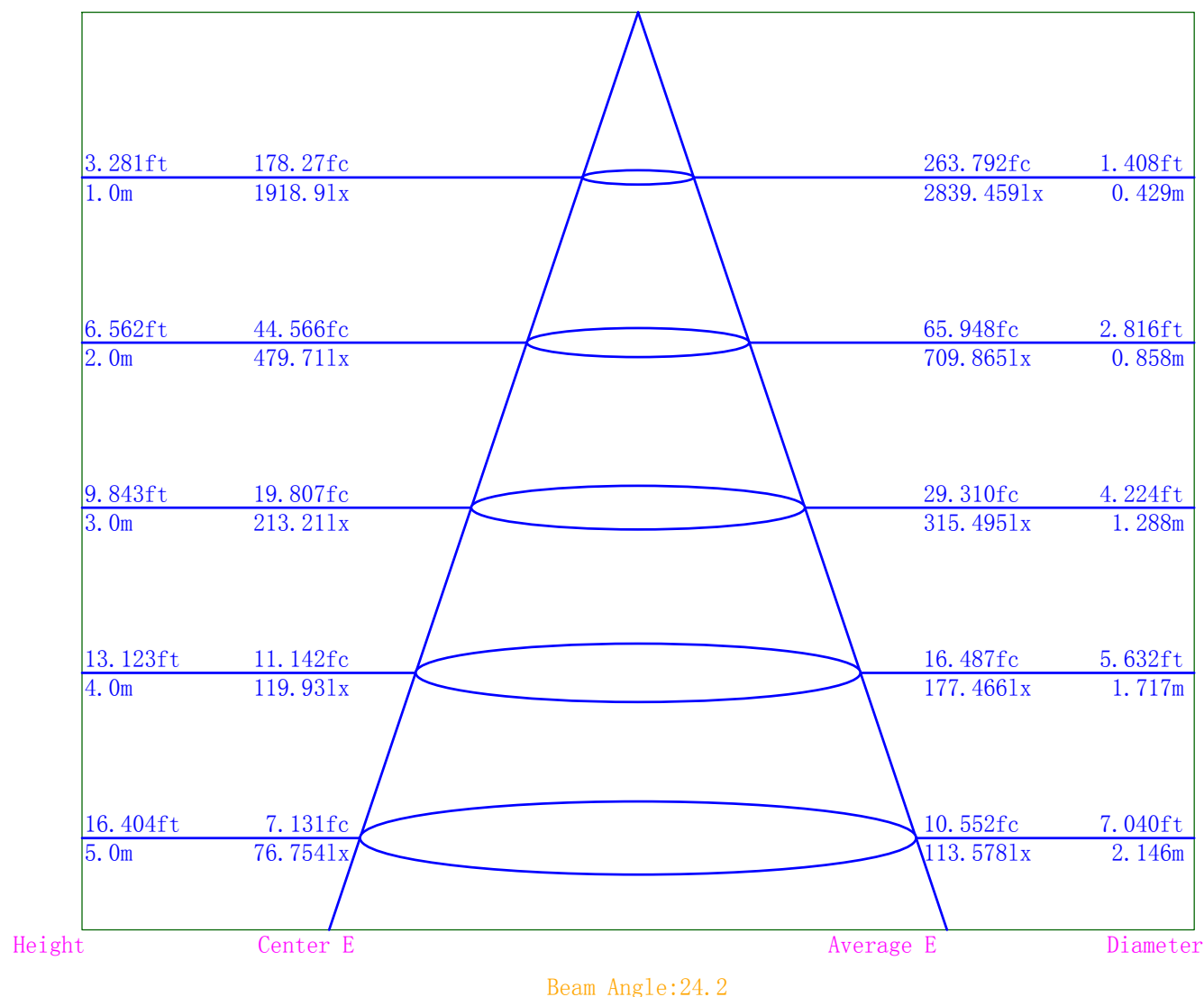
IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

Illuminance-Distance Diagram

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

Illuminance-Distance Curve



IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

Indoor Luminance Limiting Curves

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

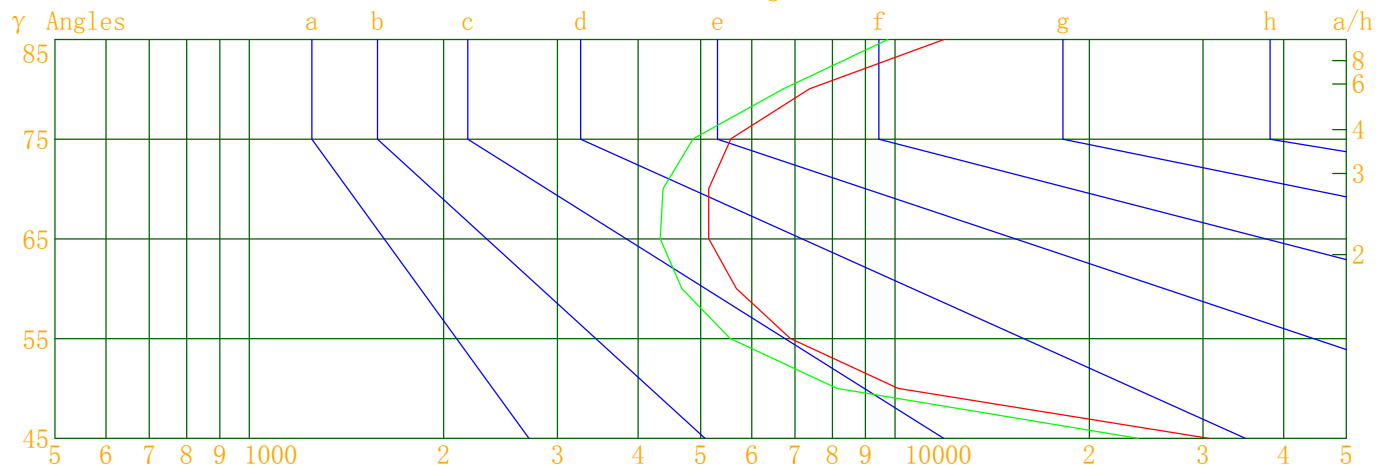
Glare Grade Table

| 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 | a | | | | 2000 | 1000 | 500 | <=300 |
| | | | b | c | d | e | f | g | h |

Luminance Table

| Gama(deg) | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|-----------|-------|-------|------|------|------|------|------|------|-------|
| C0 | 30620 | 10118 | 6885 | 5681 | 5147 | 5147 | 5570 | 7373 | 11901 |
| C90 | 23809 | 8134 | 5555 | 4676 | 4330 | 4373 | 4869 | 6720 | 9751 |

Luminance Limiting Curve



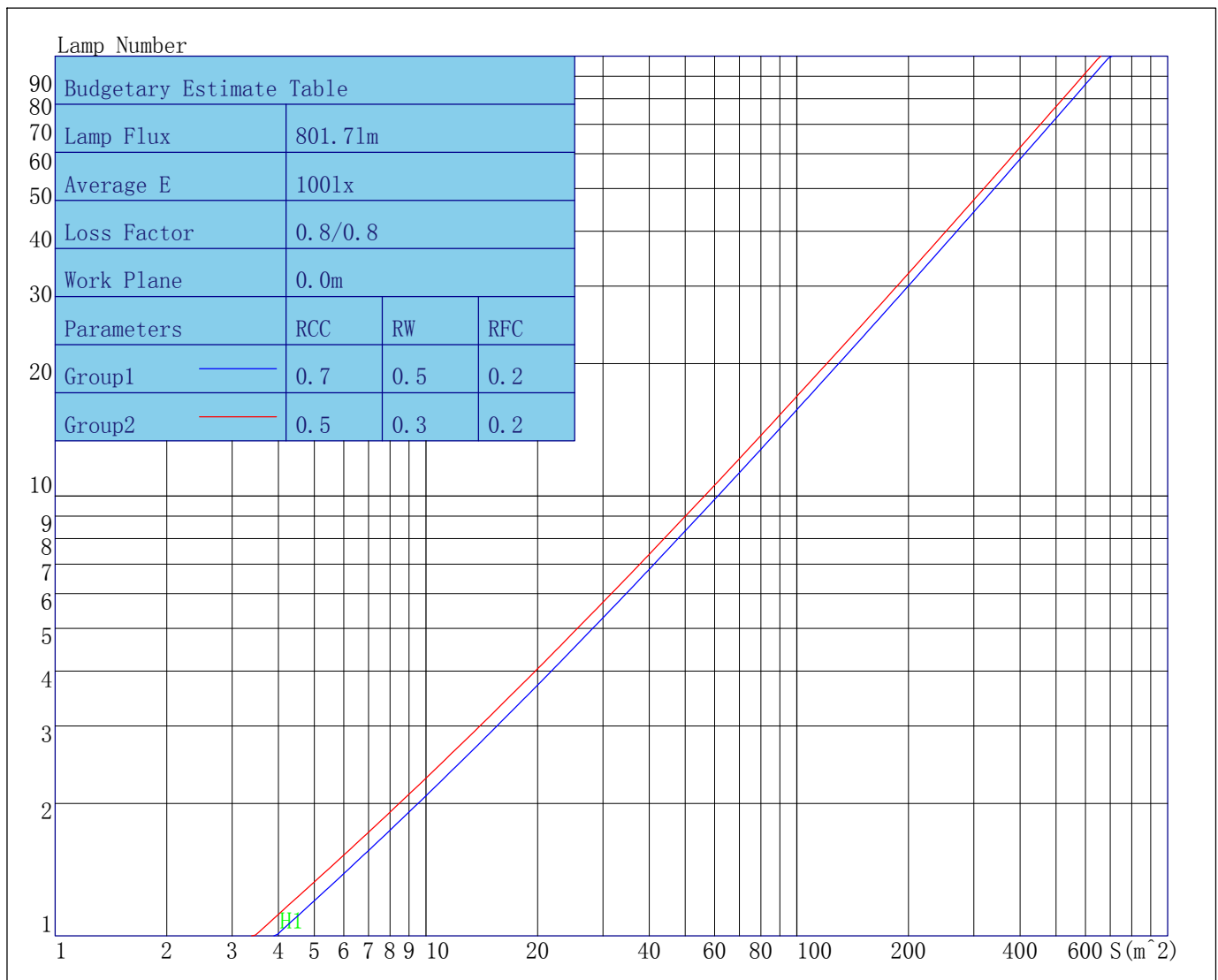
Luminous Size: Length(m)=0.050 Width(m)=0.050 Height(m)=0.060 Area(m^2)=0.005500
Luminous Type: Without Luminous Side
Luminous Curves: C0-C180 Color: — C90-C270 Color: —

IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

Indoor Budgetary Estimate Table

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |



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

IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

Indoor Coefficient of Utilization Table

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

| Coefficients of Utilization – Zonal Cavity Method | | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Coef. | 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 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 105 | 105 | 105 | 100 | 100 | 100 | 98 |
| 1 | 113 | 110 | 107 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 99 | 99 | 97 | 96 | 95 | 94 | 93 | 91 |
| 2 | 107 | 102 | 97 | 94 | 104 | 100 | 96 | 93 | 96 | 93 | 90 | 93 | 90 | 88 | 90 | 88 | 86 | 84 |
| 3 | 101 | 95 | 89 | 85 | 99 | 93 | 88 | 84 | 90 | 86 | 83 | 87 | 84 | 81 | 85 | 82 | 80 | 78 |
| 4 | 96 | 88 | 83 | 78 | 94 | 87 | 82 | 78 | 85 | 80 | 77 | 82 | 79 | 75 | 80 | 77 | 74 | 73 |
| 5 | 91 | 83 | 77 | 73 | 90 | 82 | 76 | 72 | 80 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 70 | 68 |
| 6 | 87 | 78 | 72 | 68 | 85 | 77 | 71 | 67 | 75 | 70 | 67 | 74 | 69 | 66 | 72 | 68 | 65 | 64 |
| 7 | 83 | 74 | 68 | 63 | 81 | 73 | 67 | 63 | 71 | 66 | 63 | 70 | 65 | 62 | 69 | 65 | 62 | 60 |
| 8 | 79 | 70 | 64 | 60 | 78 | 69 | 63 | 59 | 68 | 63 | 59 | 66 | 62 | 59 | 65 | 61 | 58 | 57 |
| 9 | 76 | 66 | 60 | 56 | 74 | 65 | 60 | 56 | 64 | 59 | 56 | 63 | 59 | 56 | 62 | 58 | 55 | 54 |
| 10 | 72 | 63 | 57 | 53 | 71 | 62 | 57 | 53 | 61 | 56 | 53 | 60 | 56 | 53 | 60 | 55 | 52 | 51 |

Unified Glare Rating Table

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 2700K RA90 25D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: QQualty peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/13 |

Unified Glare Rating Table

| | | | | | | | | | | |
|--|-----------------|------|------|------|------|---------------|------|------|------|------|
| Ceiling RCC | 0.70 | 0.70 | 0.50 | 0.50 | 0.30 | 0.70 | 0.70 | 0.50 | 0.50 | 0.30 |
| Wall RW | 0.50 | 0.30 | 0.50 | 0.30 | 0.30 | 0.50 | 0.30 | 0.50 | 0.30 | 0.30 |
| Floor RFC | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Room Size | Vewed crosswise | | | | | Vewed endwise | | | | |
| X=2H Y=2H | 19.7 | 20.8 | 20.1 | 21.1 | 21.5 | 19.0 | 20.1 | 19.4 | 20.5 | 20.8 |
| | 19.7 | 20.7 | 20.1 | 21.0 | 21.5 | 19.0 | 20.0 | 19.5 | 20.4 | 20.8 |
| | 19.8 | 20.7 | 20.2 | 21.1 | 21.5 | 19.1 | 20.0 | 19.5 | 20.4 | 20.8 |
| | 19.9 | 20.7 | 20.4 | 21.1 | 21.6 | 19.2 | 20.0 | 19.7 | 20.5 | 20.9 |
| | 20.0 | 20.8 | 20.5 | 21.2 | 21.7 | 19.3 | 20.1 | 19.8 | 20.5 | 21.0 |
| | 20.2 | 20.9 | 20.7 | 21.4 | 21.8 | 19.5 | 20.2 | 20.0 | 20.6 | 21.1 |
| X=4H Y=2H | 19.5 | 20.4 | 19.9 | 20.8 | 21.2 | 18.8 | 19.7 | 19.3 | 20.1 | 20.6 |
| | 19.6 | 20.3 | 20.1 | 20.8 | 21.2 | 18.9 | 19.7 | 19.4 | 20.1 | 20.6 |
| | 19.7 | 20.4 | 20.2 | 20.9 | 21.4 | 19.1 | 19.7 | 19.5 | 20.2 | 20.7 |
| | 20.0 | 20.6 | 20.5 | 21.1 | 21.6 | 19.4 | 19.9 | 19.9 | 20.4 | 20.9 |
| | 20.2 | 20.8 | 20.8 | 21.3 | 21.8 | 19.6 | 20.1 | 20.1 | 20.6 | 21.1 |
| | 20.5 | 21.0 | 21.1 | 21.5 | 22.1 | 19.8 | 20.3 | 20.3 | 20.8 | 21.3 |
| X=8H Y=4H | 19.7 | 20.2 | 20.2 | 20.7 | 21.3 | 19.0 | 19.6 | 19.6 | 20.1 | 20.6 |
| | 20.1 | 20.6 | 20.7 | 21.1 | 21.7 | 19.5 | 19.9 | 20.0 | 20.5 | 21.0 |
| | 20.5 | 20.9 | 21.1 | 21.4 | 22.0 | 19.8 | 20.2 | 20.4 | 20.8 | 21.3 |
| | 21.0 | 21.3 | 21.5 | 21.8 | 22.5 | 20.2 | 20.6 | 20.8 | 21.1 | 21.7 |
| X=12H Y=4H | 19.7 | 20.2 | 20.2 | 20.7 | 21.2 | 19.0 | 19.5 | 19.6 | 20.0 | 20.5 |
| | 20.2 | 20.6 | 20.7 | 21.1 | 21.7 | 19.5 | 19.9 | 20.1 | 20.4 | 21.0 |
| | 20.6 | 20.9 | 21.2 | 21.5 | 22.1 | 19.9 | 20.3 | 20.5 | 20.8 | 21.4 |
| Variations with the objverver position at spacings | | | | | | | | | | |
| S=1.0H | 0.1/-0.1 | | | | | 0.1/-0.2 | | | | |
| S=1.5H | 0.2/-0.2 | | | | | 0.2/-0.2 | | | | |
| S=2.0H | 0.1/-0.2 | | | | | 0.2/-0.2 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 1.3 | | | | | 1.2 | | | | |

o the CIE Pub.117, data has been corrected, refers to the lamp's lumens 8.2flm.

Candela Tabulation

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|---------|---------|---------|---------|
| γ 0.0 | 1918.85 | 1918.85 | 1918.85 | 1918.85 |
| γ 1.0 | 1948.90 | 1908.77 | 1876.23 | 1900.38 |
| γ 2.0 | 1944.96 | 1874.85 | 1813.58 | 1857.17 |
| γ 3.0 | 1915.28 | 1820.75 | 1742.33 | 1798.71 |
| γ 4.0 | 1866.45 | 1757.95 | 1662.83 | 1729.90 |
| γ 5.0 | 1801.85 | 1686.68 | 1576.19 | 1651.45 |
| γ 6.0 | 1730.77 | 1606.88 | 1484.03 | 1568.04 |
| γ 7.0 | 1652.31 | 1524.76 | 1386.93 | 1482.61 |
| γ 8.0 | 1568.49 | 1436.46 | 1277.71 | 1385.74 |
| γ 9.0 | 1478.21 | 1338.63 | 1162.13 | 1279.42 |
| γ 10.0 | 1378.68 | 1228.55 | 1046.08 | 1164.96 |
| γ 11.0 | 1267.58 | 1117.20 | 939.14 | 1051.86 |
| γ 12.0 | 1151.26 | 1004.91 | 841.51 | 946.88 |
| γ 13.0 | 1034.95 | 900.08 | 755.16 | 852.25 |
| γ 14.0 | 925.62 | 806.40 | 677.44 | 766.45 |
| γ 15.0 | 826.66 | 723.04 | 610.54 | 691.51 |
| γ 16.0 | 738.48 | 649.38 | 553.26 | 623.22 |
| γ 17.0 | 660.31 | 586.27 | 506.88 | 566.01 |
| γ 18.0 | 593.47 | 533.65 | 468.17 | 517.85 |
| γ 19.0 | 538.20 | 490.58 | 436.70 | 479.06 |
| γ 20.0 | 493.35 | 455.59 | 411.40 | 446.68 |
| γ 21.0 | 457.64 | 427.89 | 390.65 | 420.46 |
| γ 22.0 | 429.10 | 405.14 | 373.21 | 398.71 |
| γ 23.0 | 406.11 | 386.34 | 358.39 | 380.60 |
| γ 24.0 | 387.44 | 370.70 | 345.04 | 365.17 |
| γ 25.0 | 371.98 | 357.47 | 333.06 | 351.61 |
| γ 26.0 | 358.98 | 344.50 | 322.15 | 338.42 |
| γ 27.0 | 346.95 | 333.43 | 311.67 | 327.25 |
| γ 28.0 | 335.53 | 322.62 | 302.39 | 316.65 |
| γ 29.0 | 325.29 | 312.93 | 294.02 | 307.26 |
| γ 30.0 | 315.53 | 303.79 | 285.52 | 298.17 |
| γ 31.0 | 307.24 | 295.74 | 277.95 | 290.16 |
| γ 32.0 | 298.68 | 288.04 | 270.19 | 282.31 |
| γ 33.0 | 291.11 | 280.59 | 262.65 | 275.34 |
| γ 34.0 | 283.25 | 273.38 | 254.85 | 267.91 |
| γ 35.0 | 275.67 | 265.99 | 245.66 | 260.84 |
| γ 36.0 | 267.53 | 258.19 | 234.66 | 251.78 |
| γ 37.0 | 259.91 | 249.22 | 220.66 | 240.21 |
| γ 38.0 | 251.10 | 236.82 | 202.91 | 225.41 |
| γ 39.0 | 239.98 | 220.80 | 183.11 | 208.26 |
| γ 40.0 | 224.95 | 201.87 | 161.42 | 188.08 |
| γ 41.0 | 206.80 | 180.91 | 139.11 | 167.10 |
| γ 42.0 | 185.76 | 158.80 | 116.73 | 145.29 |
| γ 43.0 | 164.30 | 136.28 | 94.35 | 122.86 |
| γ 44.0 | 141.20 | 114.18 | 72.68 | 100.58 |
| γ 45.0 | 119.08 | 92.59 | 53.73 | 78.62 |
| γ 46.0 | 96.77 | 72.50 | 39.08 | 58.61 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 76.38 | 55.15 | 29.39 | 43.41 |
| γ 48.0 | 58.44 | 42.19 | 24.43 | 33.50 |
| γ 49.0 | 45.02 | 33.81 | 22.15 | 28.07 |
| γ 50.0 | 35.77 | 28.76 | 20.57 | 25.34 |
| γ 51.0 | 30.07 | 25.47 | 19.06 | 23.49 |
| γ 52.0 | 26.97 | 22.75 | 17.74 | 21.74 |
| γ 53.0 | 25.04 | 20.34 | 16.52 | 20.27 |
| γ 54.0 | 23.22 | 18.82 | 15.37 | 18.87 |
| γ 55.0 | 21.72 | 17.52 | 14.37 | 17.65 |
| γ 56.0 | 20.20 | 16.42 | 13.37 | 16.50 |
| γ 57.0 | 18.92 | 15.36 | 12.54 | 15.40 |
| γ 58.0 | 17.73 | 14.45 | 11.76 | 14.46 |
| γ 59.0 | 16.58 | 13.63 | 11.05 | 13.59 |
| γ 60.0 | 15.62 | 12.86 | 10.41 | 12.76 |
| γ 61.0 | 14.72 | 12.16 | 9.88 | 12.04 |
| γ 62.0 | 13.90 | 11.52 | 9.43 | 11.41 |
| γ 63.0 | 13.16 | 10.98 | 9.04 | 10.91 |
| γ 64.0 | 12.52 | 10.52 | 8.66 | 10.41 |
| γ 65.0 | 11.96 | 10.06 | 8.35 | 10.02 |
| γ 66.0 | 11.43 | 9.65 | 8.07 | 9.63 |
| γ 67.0 | 10.96 | 9.28 | 7.82 | 9.31 |
| γ 68.0 | 10.49 | 8.91 | 7.57 | 8.99 |
| γ 69.0 | 10.09 | 8.56 | 7.34 | 8.72 |
| γ 70.0 | 9.68 | 8.23 | 7.12 | 8.44 |
| γ 71.0 | 9.29 | 7.92 | 6.91 | 8.19 |
| γ 72.0 | 8.93 | 7.61 | 6.70 | 7.94 |
| γ 73.0 | 8.57 | 7.34 | 6.51 | 7.69 |
| γ 74.0 | 8.23 | 7.09 | 6.34 | 7.44 |
| γ 75.0 | 7.93 | 6.93 | 6.23 | 7.21 |
| γ 76.0 | 7.63 | 6.81 | 6.19 | 7.02 |
| γ 77.0 | 7.39 | 6.77 | 6.15 | 6.89 |
| γ 78.0 | 7.22 | 6.73 | 6.08 | 6.80 |
| γ 79.0 | 7.14 | 6.51 | 5.91 | 6.67 |
| γ 80.0 | 7.04 | 6.42 | 5.67 | 6.51 |
| γ 81.0 | 6.95 | 6.11 | 5.36 | 6.28 |
| γ 82.0 | 6.69 | 5.82 | 5.02 | 5.96 |
| γ 83.0 | 6.38 | 5.45 | 4.61 | 5.66 |
| γ 84.0 | 6.11 | 5.04 | 4.18 | 5.25 |
| γ 85.0 | 5.70 | 4.67 | 3.74 | 4.84 |
| γ 86.0 | 5.32 | 4.26 | 3.34 | 4.34 |
| γ 87.0 | 4.84 | 3.71 | 2.96 | 3.96 |
| γ 88.0 | 4.28 | 3.20 | 2.67 | 3.53 |
| γ 89.0 | 3.87 | 2.63 | 2.58 | 3.32 |
| γ 90.0 | 3.33 | 2.48 | 2.50 | 3.20 |
| γ 91.0 | 3.19 | 2.41 | 2.43 | 3.11 |
| γ 92.0 | 3.10 | 2.35 | 2.35 | 3.03 |
| γ 93.0 | 3.01 | 2.28 | 2.29 | 2.93 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0 | 2.93 | 2.23 | 2.23 | 2.85 |
| γ 95.0 | 2.86 | 2.17 | 2.17 | 2.78 |
| γ 96.0 | 2.78 | 2.12 | 2.12 | 2.69 |
| γ 97.0 | 2.72 | 2.07 | 2.08 | 2.64 |
| γ 98.0 | 2.65 | 2.03 | 2.04 | 2.58 |
| γ 99.0 | 2.60 | 2.00 | 2.01 | 2.53 |
| γ 100.0 | 2.53 | 1.96 | 1.97 | 2.47 |
| γ 101.0 | 2.48 | 1.93 | 1.95 | 2.42 |
| γ 102.0 | 2.44 | 1.90 | 1.92 | 2.38 |
| γ 103.0 | 2.39 | 1.88 | 1.90 | 2.35 |
| γ 104.0 | 2.37 | 1.87 | 1.89 | 2.32 |
| γ 105.0 | 2.33 | 1.85 | 1.88 | 2.30 |
| γ 106.0 | 2.30 | 1.83 | 1.88 | 2.28 |
| γ 107.0 | 2.28 | 1.84 | 1.88 | 2.26 |
| γ 108.0 | 2.25 | 1.82 | 1.89 | 2.25 |
| γ 109.0 | 2.24 | 1.83 | 1.90 | 2.25 |
| γ 110.0 | 2.23 | 1.83 | 1.91 | 2.24 |
| γ 111.0 | 2.22 | 1.83 | 1.93 | 2.25 |
| γ 112.0 | 2.21 | 1.83 | 1.94 | 2.25 |
| γ 113.0 | 2.20 | 1.83 | 1.97 | 2.26 |
| γ 114.0 | 2.19 | 1.84 | 1.99 | 2.27 |
| γ 115.0 | 2.19 | 1.85 | 2.02 | 2.29 |
| γ 116.0 | 2.18 | 1.86 | 2.04 | 2.30 |
| γ 117.0 | 2.19 | 1.87 | 2.07 | 2.32 |
| γ 118.0 | 2.19 | 1.89 | 2.11 | 2.33 |
| γ 119.0 | 2.20 | 1.90 | 2.13 | 2.36 |
| γ 120.0 | 2.20 | 1.93 | 2.18 | 2.39 |
| γ 121.0 | 2.22 | 1.94 | 2.22 | 2.41 |
| γ 122.0 | 2.23 | 1.97 | 2.27 | 2.45 |
| γ 123.0 | 2.26 | 2.00 | 2.31 | 2.47 |
| γ 124.0 | 2.27 | 2.04 | 2.36 | 2.52 |
| γ 125.0 | 2.31 | 2.08 | 2.41 | 2.56 |
| γ 126.0 | 2.33 | 2.11 | 2.47 | 2.60 |
| γ 127.0 | 2.38 | 2.16 | 2.53 | 2.65 |
| γ 128.0 | 2.42 | 2.22 | 2.61 | 2.71 |
| γ 129.0 | 2.47 | 2.28 | 2.68 | 2.77 |
| γ 130.0 | 2.53 | 2.34 | 2.76 | 2.83 |
| γ 131.0 | 2.59 | 2.41 | 2.84 | 2.91 |
| γ 132.0 | 2.65 | 2.50 | 2.93 | 2.98 |
| γ 133.0 | 2.73 | 2.58 | 3.03 | 3.08 |
| γ 134.0 | 2.80 | 2.66 | 3.13 | 3.15 |
| γ 135.0 | 2.89 | 2.77 | 3.24 | 3.25 |
| γ 136.0 | 2.97 | 2.86 | 3.35 | 3.35 |
| γ 137.0 | 3.06 | 2.96 | 3.46 | 3.46 |
| γ 138.0 | 3.15 | 3.07 | 3.58 | 3.56 |
| γ 139.0 | 3.25 | 3.17 | 3.70 | 3.67 |
| γ 140.0 | 3.37 | 3.29 | 3.81 | 3.77 |

IES Indoor Report

Photometric Filename:MD10-09-XX-02 2700K RA90 25D.IES

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 3.47 | 3.40 | 3.92 | 3.88 |
| γ 142.0 | 3.58 | 3.51 | 4.04 | 3.99 |
| γ 143.0 | 3.69 | 3.62 | 4.14 | 4.11 |
| γ 144.0 | 3.80 | 3.74 | 4.25 | 4.20 |
| γ 145.0 | 3.91 | 3.85 | 4.37 | 4.31 |
| γ 146.0 | 4.02 | 3.95 | 4.46 | 4.40 |
| γ 147.0 | 4.12 | 4.05 | 4.56 | 4.50 |
| γ 148.0 | 4.22 | 4.15 | 4.65 | 4.58 |
| γ 149.0 | 4.33 | 4.25 | 4.75 | 4.66 |
| γ 150.0 | 4.43 | 4.34 | 4.81 | 4.75 |
| γ 151.0 | 4.53 | 4.42 | 4.90 | 4.82 |
| γ 152.0 | 4.61 | 4.51 | 4.98 | 4.90 |
| γ 153.0 | 4.70 | 4.59 | 5.05 | 4.97 |
| γ 154.0 | 4.79 | 4.67 | 5.11 | 5.03 |
| γ 155.0 | 4.88 | 4.76 | 5.19 | 5.10 |
| γ 156.0 | 4.95 | 4.83 | 5.25 | 5.15 |
| γ 157.0 | 5.04 | 4.89 | 5.32 | 5.22 |
| γ 158.0 | 5.11 | 4.97 | 5.38 | 5.26 |
| γ 159.0 | 5.18 | 5.03 | 5.43 | 5.32 |
| γ 160.0 | 5.25 | 5.09 | 5.49 | 5.36 |
| γ 161.0 | 5.31 | 5.15 | 5.55 | 5.43 |
| γ 162.0 | 5.38 | 5.22 | 5.59 | 5.45 |
| γ 163.0 | 5.45 | 5.27 | 5.65 | 5.50 |
| γ 164.0 | 5.51 | 5.34 | 5.68 | 5.55 |
| γ 165.0 | 5.57 | 5.38 | 5.72 | 5.59 |
| γ 166.0 | 5.61 | 5.44 | 5.76 | 5.61 |
| γ 167.0 | 5.66 | 5.48 | 5.79 | 5.65 |
| γ 168.0 | 5.71 | 5.53 | 5.80 | 5.67 |
| γ 169.0 | 5.74 | 5.57 | 5.83 | 5.69 |
| γ 170.0 | 5.77 | 5.59 | 5.84 | 5.72 |
| γ 171.0 | 5.81 | 5.63 | 5.86 | 5.74 |
| γ 172.0 | 5.84 | 5.66 | 5.88 | 5.74 |
| γ 173.0 | 5.86 | 5.68 | 5.88 | 5.75 |
| γ 174.0 | 5.89 | 5.70 | 5.90 | 5.77 |
| γ 175.0 | 5.90 | 5.73 | 5.91 | 5.78 |
| γ 176.0 | 5.92 | 5.74 | 5.93 | 5.80 |
| γ 177.0 | 5.94 | 5.76 | 5.94 | 5.83 |
| γ 178.0 | 5.97 | 5.78 | 5.95 | 5.84 |
| γ 179.0 | 5.98 | 5.80 | 5.97 | 5.86 |
| γ 180.0 | 5.93 | 5.93 | 5.93 | 5.93 |