

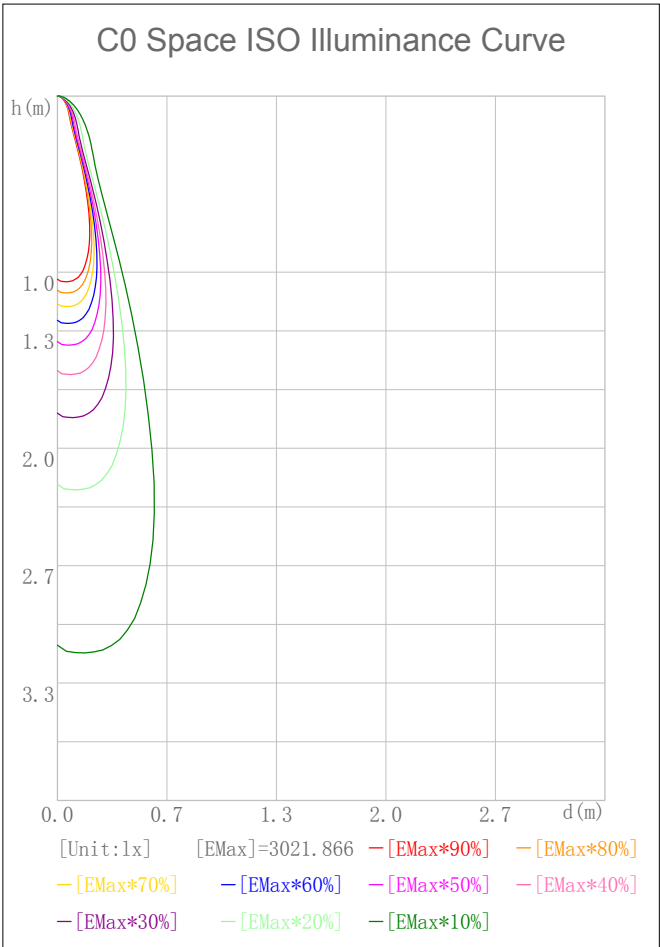
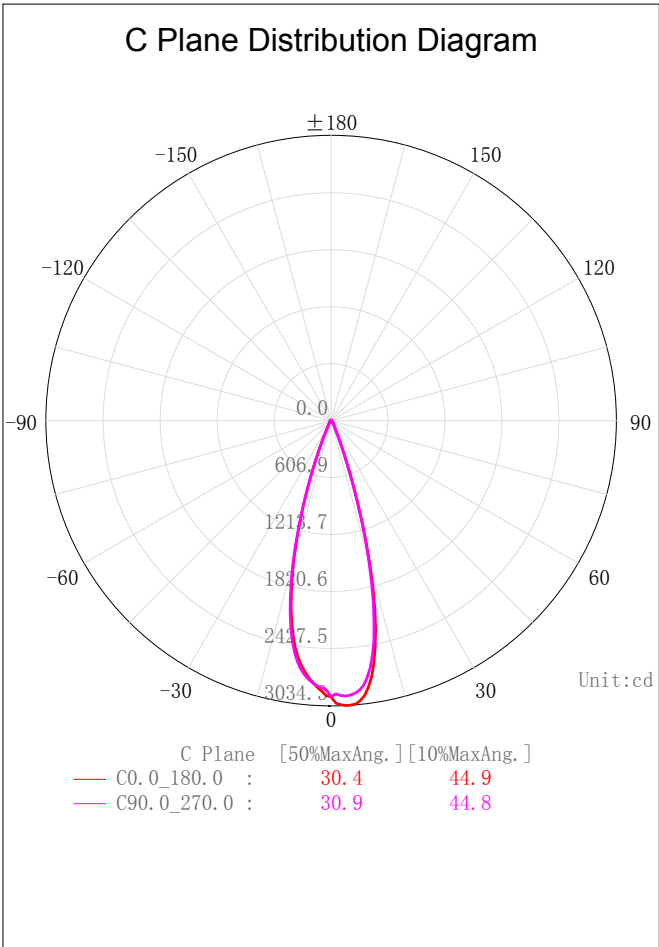
Indoor Luminaire Photometric Data

Description Information

| | | | |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name:DL52-09-XX-02 4000K RA90 24D | | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | | Lamp Catalog: LED | Test Date: 2021/10/28 |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | | Shld. Ang(°): | Test Machine:GON-2000 |
| Test Lab: Quality Department | | Frequency (Hz): | Lamp CCT (K): Ra: |
| Lum. Size (W*L*H):0.038m*0.038m*0.000m | | Lum. Area (m2):0.001 | Lum. W (kg): 0.000 |
| Test System: C, γ | Test Step: C=90.0 γ=1.0 | Temp. (°C): 25 | Humidity(%): 50.0 |

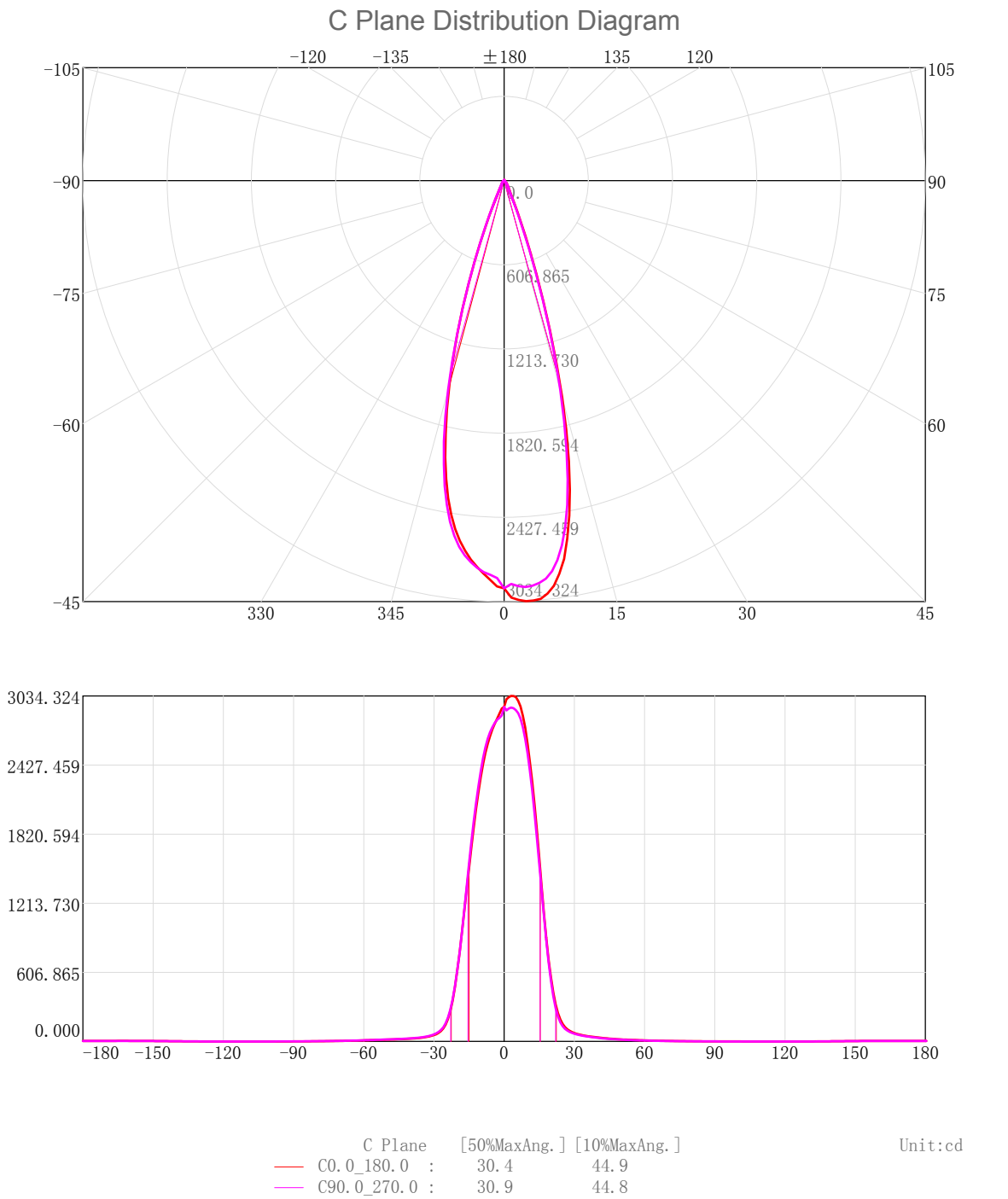
Character Parameter

| Lamp Speciality Parameter | | Luminaire Speciality Parameter | |
|---|--------------------------------|---------------------------------------|--|
| Rated Flux(lm): 836.430 | Luminary Flux(lm): 836.434 | Field Angle(10%Imax): 44.9(°) | |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 828.432lm 99.04% | |
| Rated Voltage(V): | Luminary EER(lm/W): 94.716 | Up Lumens&Percent: 8.002lm 0.96% | |
| Tested Power(W): 8.831 | Max. Candela(cd): 3034.324 | S/MH: C0_a180=0.525 C90_270=0.525 | |
| Lamps' Inside: 1 | Max Cand@Ang. (°): C=0.0 γ=3.0 | CIE Type: Semi-Direct | |
| Tested Electrics (V, A, pf):241.2, 0.040, 0.898 | Beam Angle(50%Imax): 30.4(°) | ErP ϕ use(90°): 791.650lm | |
| Lamp Size (W*L*H):0.038m*0.038m*0.000m | Left=-15.0°, Right=15.4° | IRF(%): 766.274 | |



2D Plane Light Intensity Distribution Curve

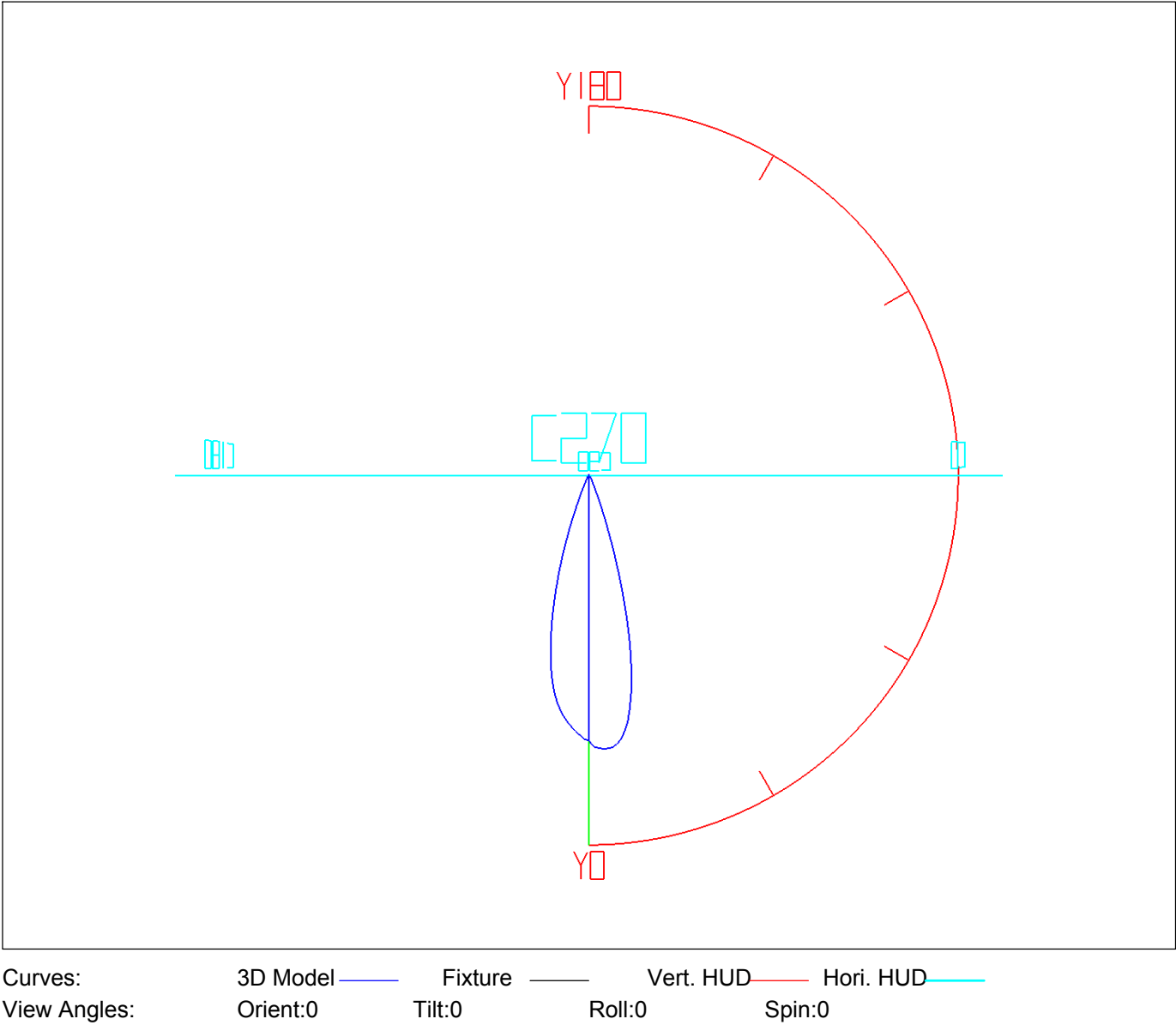
| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |



3D Light Intensity Distribution Modal

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |

3D Light Intensity Distribution Modal



IES Indoor Report

Photometric Filename:DL52-09-XX-02 4000K RA90 24D.IES

Zonal Flux Tabulation

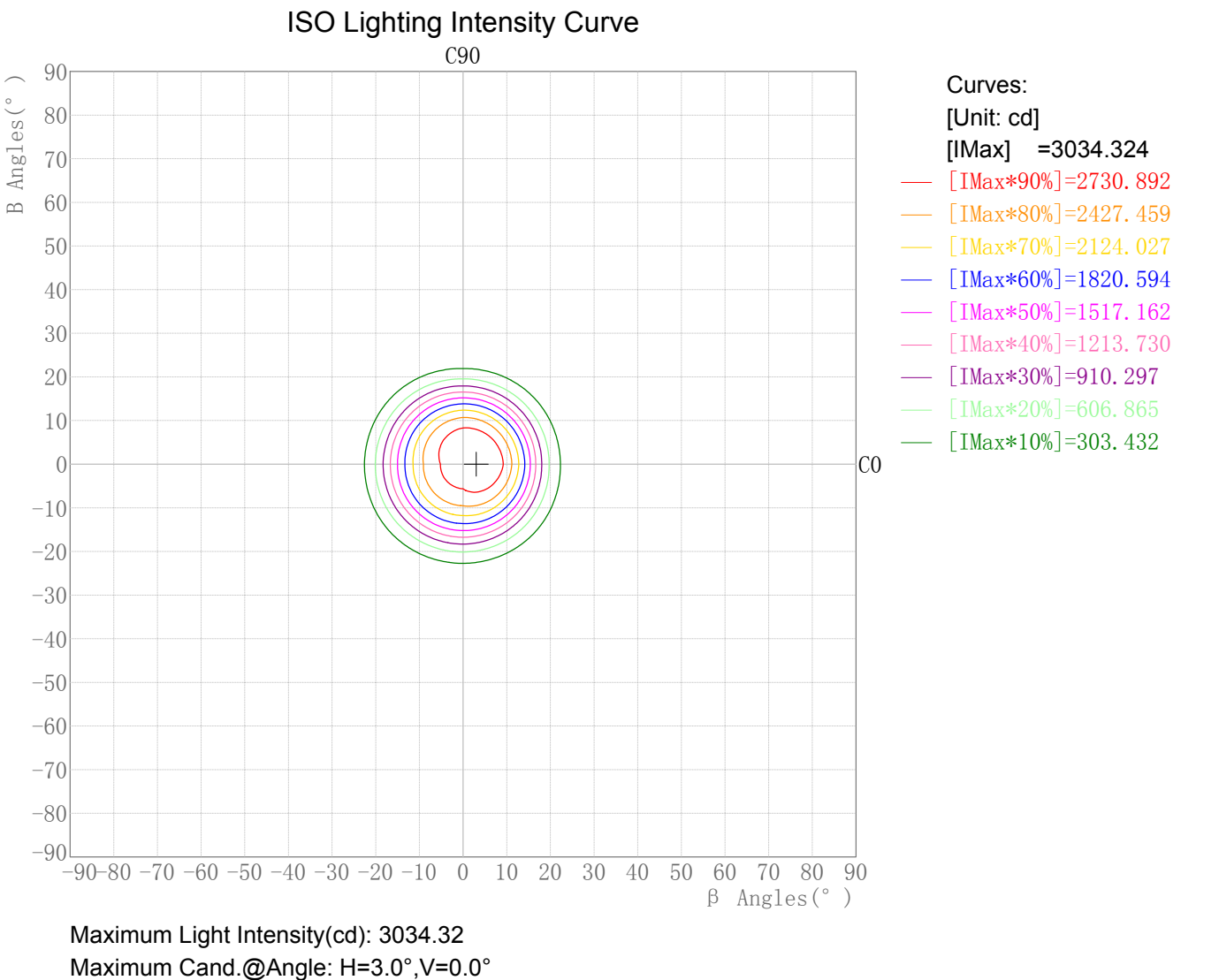
| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp | Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0 | 2.81 | 2.81 | 0.34 | 0.34 | 47.0-48.0 | 1.60 | 801.06 | 0.19 | 95.77 |
| 1.0-2.0 | 8.39 | 11.19 | 1.00 | 1.34 | 48.0-49.0 | 1.54 | 802.61 | 0.18 | 95.96 |
| 2.0-3.0 | 13.93 | 25.12 | 1.67 | 3.00 | 49.0-50.0 | 1.48 | 804.09 | 0.18 | 96.13 |
| 3.0-4.0 | 19.39 | 44.51 | 2.32 | 5.32 | 50.0-51.0 | 1.43 | 805.52 | 0.17 | 96.30 |
| 4.0-5.0 | 24.72 | 69.23 | 2.95 | 8.28 | 51.0-52.0 | 1.38 | 806.90 | 0.16 | 96.47 |
| 5.0-6.0 | 29.83 | 99.06 | 3.57 | 11.84 | 52.0-53.0 | 1.32 | 808.22 | 0.16 | 96.63 |
| 6.0-7.0 | 34.64 | 133.70 | 4.14 | 15.98 | 53.0-54.0 | 1.27 | 809.48 | 0.15 | 96.78 |
| 7.0-8.0 | 38.99 | 172.69 | 4.66 | 20.65 | 54.0-55.0 | 1.21 | 810.69 | 0.14 | 96.92 |
| 8.0-9.0 | 42.72 | 215.41 | 5.11 | 25.75 | 55.0-56.0 | 1.16 | 811.85 | 0.14 | 97.06 |
| 9.0-10.0 | 45.69 | 261.11 | 5.46 | 31.22 | 56.0-57.0 | 1.10 | 812.96 | 0.13 | 97.19 |
| 10.0-11.0 | 47.77 | 308.87 | 5.71 | 36.93 | 57.0-58.0 | 1.05 | 814.01 | 0.13 | 97.32 |
| 11.0-12.0 | 48.86 | 357.73 | 5.84 | 42.77 | 58.0-59.0 | 1.00 | 815.00 | 0.12 | 97.44 |
| 12.0-13.0 | 48.90 | 406.64 | 5.85 | 48.62 | 59.0-60.0 | 0.94 | 815.95 | 0.11 | 97.55 |
| 13.0-14.0 | 47.90 | 454.54 | 5.73 | 54.34 | 60.0-61.0 | 0.89 | 816.84 | 0.11 | 97.66 |
| 14.0-15.0 | 45.82 | 500.35 | 5.48 | 59.82 | 61.0-62.0 | 0.85 | 817.69 | 0.10 | 97.76 |
| 15.0-16.0 | 42.70 | 543.06 | 5.11 | 64.93 | 62.0-63.0 | 0.80 | 818.49 | 0.10 | 97.85 |
| 16.0-17.0 | 38.75 | 581.81 | 4.63 | 69.56 | 63.0-64.0 | 0.76 | 819.24 | 0.09 | 97.94 |
| 17.0-18.0 | 34.21 | 616.02 | 4.09 | 73.65 | 64.0-65.0 | 0.71 | 819.95 | 0.09 | 98.03 |
| 18.0-19.0 | 29.32 | 645.34 | 3.50 | 77.15 | 65.0-66.0 | 0.67 | 820.63 | 0.08 | 98.11 |
| 19.0-20.0 | 24.43 | 669.76 | 2.92 | 80.07 | 66.0-67.0 | 0.63 | 821.26 | 0.08 | 98.19 |
| 20.0-21.0 | 19.84 | 689.60 | 2.37 | 82.45 | 67.0-68.0 | 0.60 | 821.86 | 0.07 | 98.26 |
| 21.0-22.0 | 15.76 | 705.36 | 1.88 | 84.33 | 68.0-69.0 | 0.56 | 822.42 | 0.07 | 98.32 |
| 22.0-23.0 | 12.40 | 717.76 | 1.48 | 85.81 | 69.0-70.0 | 0.53 | 822.95 | 0.06 | 98.39 |
| 23.0-24.0 | 9.76 | 727.52 | 1.17 | 86.98 | 70.0-71.0 | 0.50 | 823.44 | 0.06 | 98.45 |
| 24.0-25.0 | 7.79 | 735.31 | 0.93 | 87.91 | 71.0-72.0 | 0.46 | 823.91 | 0.06 | 98.50 |
| 25.0-26.0 | 6.36 | 741.67 | 0.76 | 88.67 | 72.0-73.0 | 0.44 | 824.34 | 0.05 | 98.55 |
| 26.0-27.0 | 5.34 | 747.01 | 0.64 | 89.31 | 73.0-74.0 | 0.41 | 824.75 | 0.05 | 98.60 |
| 27.0-28.0 | 4.62 | 751.63 | 0.55 | 89.86 | 74.0-75.0 | 0.38 | 825.14 | 0.05 | 98.65 |
| 28.0-29.0 | 4.11 | 755.74 | 0.49 | 90.35 | 75.0-76.0 | 0.36 | 825.49 | 0.04 | 98.69 |
| 29.0-30.0 | 3.74 | 759.48 | 0.45 | 90.80 | 76.0-77.0 | 0.34 | 825.83 | 0.04 | 98.73 |
| 30.0-31.0 | 3.45 | 762.93 | 0.41 | 91.21 | 77.0-78.0 | 0.31 | 826.15 | 0.04 | 98.77 |
| 31.0-32.0 | 3.21 | 766.14 | 0.38 | 91.60 | 78.0-79.0 | 0.29 | 826.44 | 0.03 | 98.81 |
| 32.0-33.0 | 3.01 | 769.15 | 0.36 | 91.96 | 79.0-80.0 | 0.27 | 826.71 | 0.03 | 98.84 |
| 33.0-34.0 | 2.84 | 771.99 | 0.34 | 92.30 | 80.0-81.0 | 0.25 | 826.96 | 0.03 | 98.87 |
| 34.0-35.0 | 2.70 | 774.69 | 0.32 | 92.62 | 81.0-82.0 | 0.23 | 827.19 | 0.03 | 98.90 |
| 35.0-36.0 | 2.57 | 777.26 | 0.31 | 92.93 | 82.0-83.0 | 0.21 | 827.40 | 0.03 | 98.92 |
| 36.0-37.0 | 2.45 | 779.71 | 0.29 | 93.22 | 83.0-84.0 | 0.19 | 827.60 | 0.02 | 98.94 |
| 37.0-38.0 | 2.35 | 782.06 | 0.28 | 93.50 | 84.0-85.0 | 0.18 | 827.77 | 0.02 | 98.97 |
| 38.0-39.0 | 2.25 | 784.31 | 0.27 | 93.77 | 85.0-86.0 | 0.16 | 827.93 | 0.02 | 98.98 |
| 39.0-40.0 | 2.17 | 786.48 | 0.26 | 94.03 | 86.0-87.0 | 0.14 | 828.08 | 0.02 | 99.00 |
| 40.0-41.0 | 2.08 | 788.56 | 0.25 | 94.28 | 87.0-88.0 | 0.13 | 828.21 | 0.02 | 99.02 |
| 41.0-42.0 | 2.00 | 790.55 | 0.24 | 94.52 | 88.0-89.0 | 0.12 | 828.33 | 0.01 | 99.03 |
| 42.0-43.0 | 1.92 | 792.47 | 0.23 | 94.74 | 89.0-90.0 | 0.11 | 828.43 | 0.01 | 99.04 |
| 43.0-44.0 | 1.85 | 794.32 | 0.22 | 94.97 | 90.0-91.0 | 0.10 | 828.53 | 0.01 | 99.06 |
| 44.0-45.0 | 1.78 | 796.10 | 0.21 | 95.18 | 91.0-92.0 | 0.09 | 828.62 | 0.01 | 99.07 |
| 45.0-46.0 | 1.72 | 797.81 | 0.21 | 95.38 | 92.0-93.0 | 0.08 | 828.70 | 0.01 | 99.08 |
| 46.0-47.0 | 1.66 | 799.47 | 0.20 | 95.58 | 93.0-94.0 | 0.07 | 828.77 | 0.01 | 99.08 |

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 | 0.07 | 828.84 | 0.01 | 99.09 | 141.0-142.0 | 0.16 | 830.73 | 0.02 | 99.32 |
| 95.0-96.0 | 0.06 | 828.91 | 0.01 | 99.10 | 142.0-143.0 | 0.17 | 830.91 | 0.02 | 99.34 |
| 96.0-97.0 | 0.06 | 828.96 | 0.01 | 99.11 | 143.0-144.0 | 0.18 | 831.09 | 0.02 | 99.36 |
| 97.0-98.0 | 0.05 | 829.02 | 0.01 | 99.11 | 144.0-145.0 | 0.19 | 831.28 | 0.02 | 99.38 |
| 98.0-99.0 | 0.05 | 829.06 | 0.01 | 99.12 | 145.0-146.0 | 0.20 | 831.48 | 0.02 | 99.41 |
| 99.0-100.0 | 0.04 | 829.11 | 0.01 | 99.12 | 146.0-147.0 | 0.21 | 831.68 | 0.02 | 99.43 |
| 100.0-101.0 | 0.04 | 829.15 | 0.00 | 99.13 | 147.0-148.0 | 0.21 | 831.89 | 0.03 | 99.46 |
| 101.0-102.0 | 0.04 | 829.18 | 0.00 | 99.13 | 148.0-149.0 | 0.22 | 832.11 | 0.03 | 99.48 |
| 102.0-103.0 | 0.03 | 829.21 | 0.00 | 99.14 | 149.0-150.0 | 0.22 | 832.33 | 0.03 | 99.51 |
| 103.0-104.0 | 0.03 | 829.24 | 0.00 | 99.14 | 150.0-151.0 | 0.22 | 832.55 | 0.03 | 99.54 |
| 104.0-105.0 | 0.03 | 829.27 | 0.00 | 99.14 | 151.0-152.0 | 0.22 | 832.77 | 0.03 | 99.56 |
| 105.0-106.0 | 0.02 | 829.29 | 0.00 | 99.15 | 152.0-153.0 | 0.22 | 833.00 | 0.03 | 99.59 |
| 106.0-107.0 | 0.02 | 829.31 | 0.00 | 99.15 | 153.0-154.0 | 0.22 | 833.22 | 0.03 | 99.62 |
| 107.0-108.0 | 0.02 | 829.33 | 0.00 | 99.15 | 154.0-155.0 | 0.22 | 833.44 | 0.03 | 99.64 |
| 108.0-109.0 | 0.02 | 829.35 | 0.00 | 99.15 | 155.0-156.0 | 0.22 | 833.66 | 0.03 | 99.67 |
| 109.0-110.0 | 0.02 | 829.37 | 0.00 | 99.16 | 156.0-157.0 | 0.22 | 833.88 | 0.03 | 99.69 |
| 110.0-111.0 | 0.01 | 829.38 | 0.00 | 99.16 | 157.0-158.0 | 0.21 | 834.09 | 0.03 | 99.72 |
| 111.0-112.0 | 0.01 | 829.39 | 0.00 | 99.16 | 158.0-159.0 | 0.20 | 834.29 | 0.02 | 99.74 |
| 112.0-113.0 | 0.01 | 829.40 | 0.00 | 99.16 | 159.0-160.0 | 0.20 | 834.49 | 0.02 | 99.77 |
| 113.0-114.0 | 0.01 | 829.41 | 0.00 | 99.16 | 160.0-161.0 | 0.19 | 834.68 | 0.02 | 99.79 |
| 114.0-115.0 | 0.01 | 829.42 | 0.00 | 99.16 | 161.0-162.0 | 0.18 | 834.86 | 0.02 | 99.81 |
| 115.0-116.0 | 0.01 | 829.42 | 0.00 | 99.16 | 162.0-163.0 | 0.17 | 835.04 | 0.02 | 99.83 |
| 116.0-117.0 | 0.01 | 829.43 | 0.00 | 99.16 | 163.0-164.0 | 0.16 | 835.20 | 0.02 | 99.85 |
| 117.0-118.0 | 0.00 | 829.44 | 0.00 | 99.16 | 164.0-165.0 | 0.15 | 835.35 | 0.02 | 99.87 |
| 118.0-119.0 | 0.00 | 829.44 | 0.00 | 99.16 | 165.0-166.0 | 0.14 | 835.50 | 0.02 | 99.89 |
| 119.0-120.0 | 0.00 | 829.44 | 0.00 | 99.16 | 166.0-167.0 | 0.13 | 835.63 | 0.02 | 99.90 |
| 120.0-121.0 | 0.00 | 829.45 | 0.00 | 99.17 | 167.0-168.0 | 0.12 | 835.75 | 0.01 | 99.92 |
| 121.0-122.0 | 0.00 | 829.45 | 0.00 | 99.17 | 168.0-169.0 | 0.11 | 835.86 | 0.01 | 99.93 |
| 122.0-123.0 | 0.00 | 829.45 | 0.00 | 99.17 | 169.0-170.0 | 0.10 | 835.96 | 0.01 | 99.94 |
| 123.0-124.0 | 0.00 | 829.46 | 0.00 | 99.17 | 170.0-171.0 | 0.09 | 836.05 | 0.01 | 99.95 |
| 124.0-125.0 | 0.01 | 829.46 | 0.00 | 99.17 | 171.0-172.0 | 0.08 | 836.13 | 0.01 | 99.96 |
| 125.0-126.0 | 0.01 | 829.47 | 0.00 | 99.17 | 172.0-173.0 | 0.07 | 836.20 | 0.01 | 99.97 |
| 126.0-127.0 | 0.01 | 829.48 | 0.00 | 99.17 | 173.0-174.0 | 0.06 | 836.26 | 0.01 | 99.98 |
| 127.0-128.0 | 0.01 | 829.50 | 0.00 | 99.17 | 174.0-175.0 | 0.05 | 836.32 | 0.01 | 99.99 |
| 128.0-129.0 | 0.02 | 829.52 | 0.00 | 99.17 | 175.0-176.0 | 0.04 | 836.36 | 0.01 | 99.99 |
| 129.0-130.0 | 0.03 | 829.54 | 0.00 | 99.18 | 176.0-177.0 | 0.03 | 836.39 | 0.00 | 100.00 |
| 130.0-131.0 | 0.04 | 829.58 | 0.00 | 99.18 | 177.0-178.0 | 0.02 | 836.41 | 0.00 | 100.00 |
| 131.0-132.0 | 0.05 | 829.63 | 0.01 | 99.19 | 178.0-179.0 | 0.01 | 836.43 | 0.00 | 100.00 |
| 132.0-133.0 | 0.06 | 829.69 | 0.01 | 99.19 | 179.0-180.0 | 0.00 | 836.43 | 0.00 | 100.00 |
| 133.0-134.0 | 0.07 | 829.75 | 0.01 | 99.20 | | | | | |
| 134.0-135.0 | 0.08 | 829.83 | 0.01 | 99.21 | | | | | |
| 135.0-136.0 | 0.09 | 829.93 | 0.01 | 99.22 | | | | | |
| 136.0-137.0 | 0.10 | 830.03 | 0.01 | 99.24 | | | | | |
| 137.0-138.0 | 0.12 | 830.15 | 0.01 | 99.25 | | | | | |
| 138.0-139.0 | 0.13 | 830.28 | 0.02 | 99.26 | | | | | |
| 139.0-140.0 | 0.14 | 830.42 | 0.02 | 99.28 | | | | | |
| 140.0-141.0 | 0.15 | 830.57 | 0.02 | 99.30 | | | | | |

Rectangle ISO Lighting Intensity Diagram

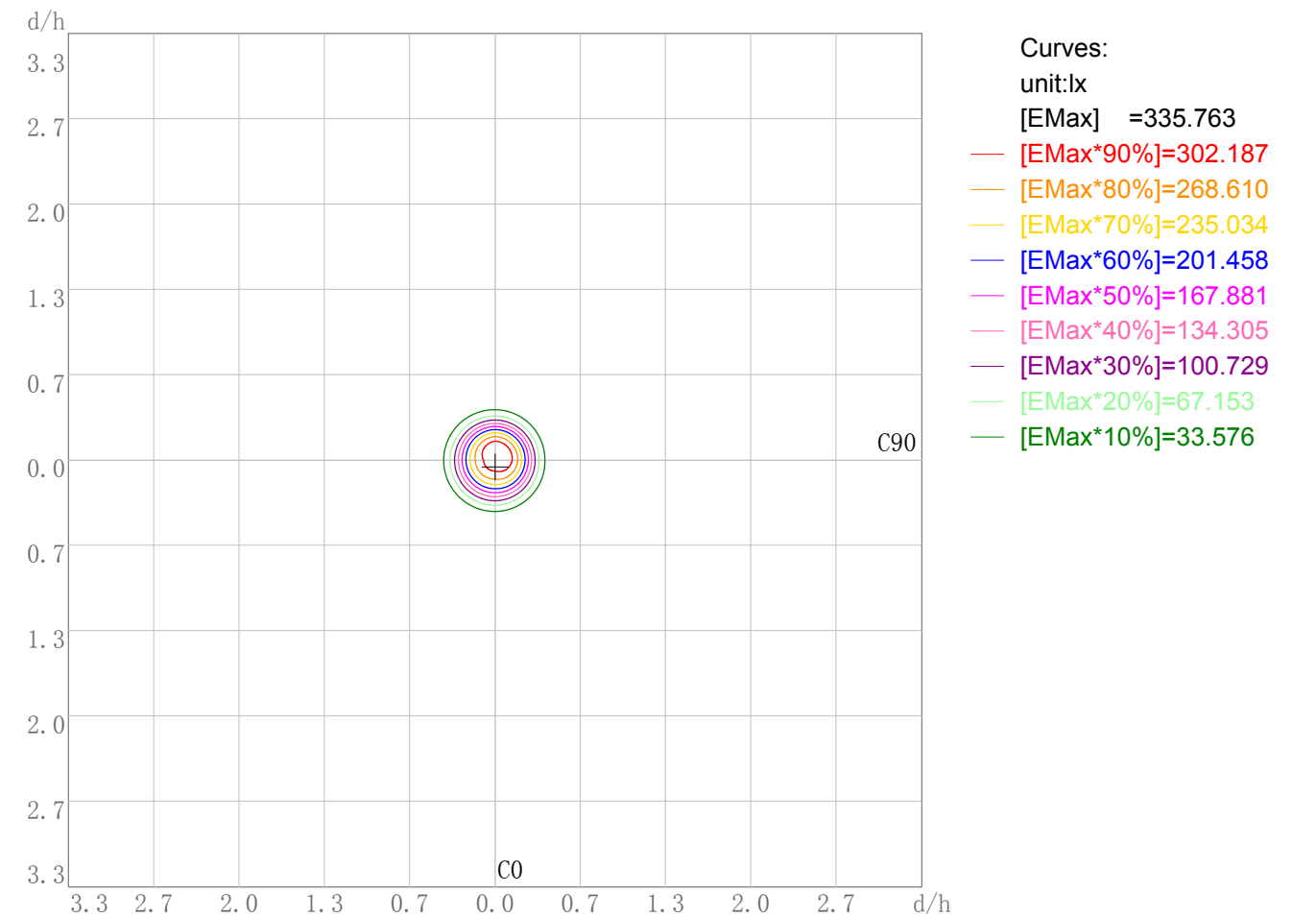
| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |



Plane ISO-Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 335.76
Working Plane Maximum Illuminance Position(d/h):H0.0 V0.1

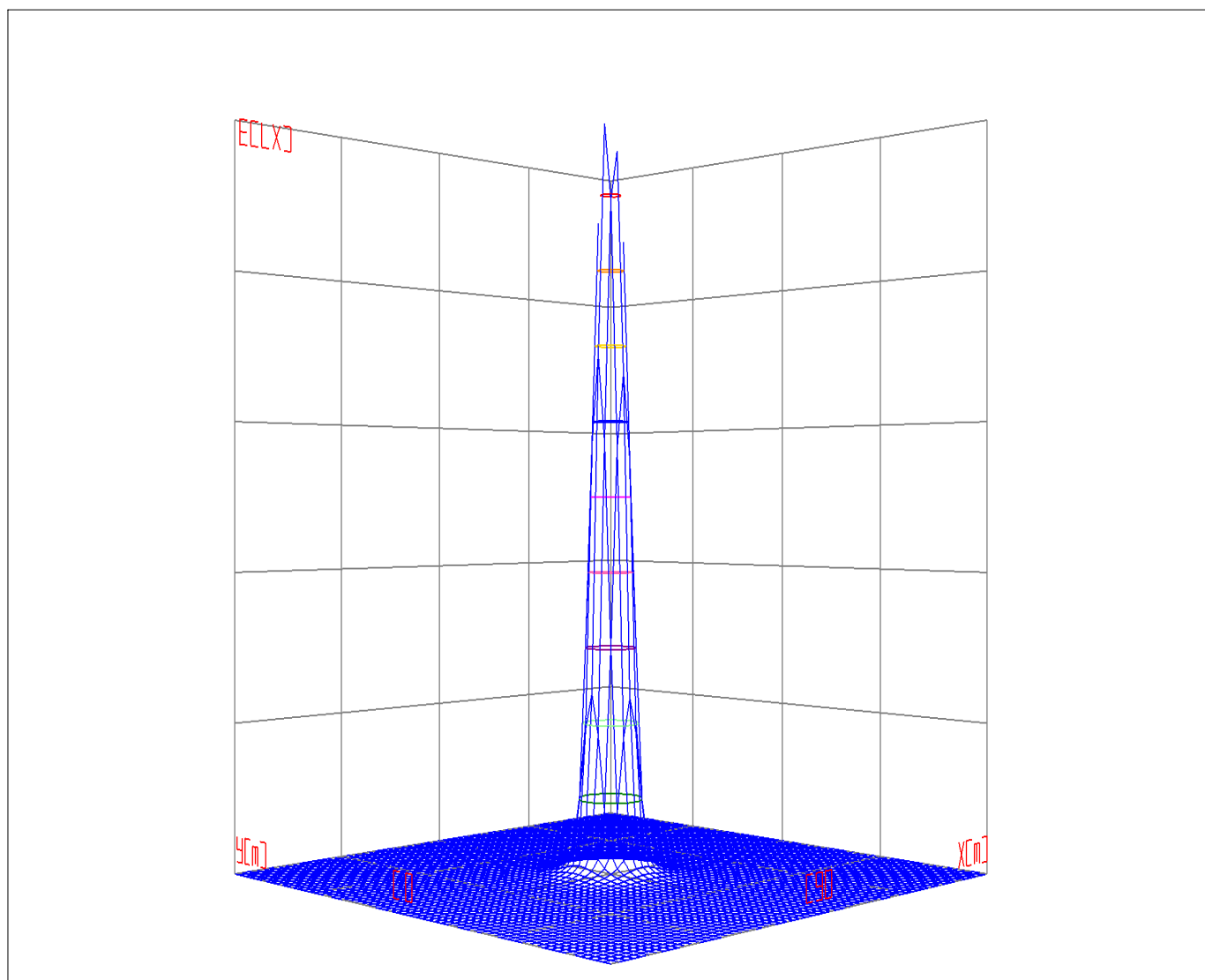
IES Indoor Report

Photometric Filename:DL52-09-XX-02 4000K RA90 24D.IES

3D Plane ISO Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |

3D Plane Illuminance Modal

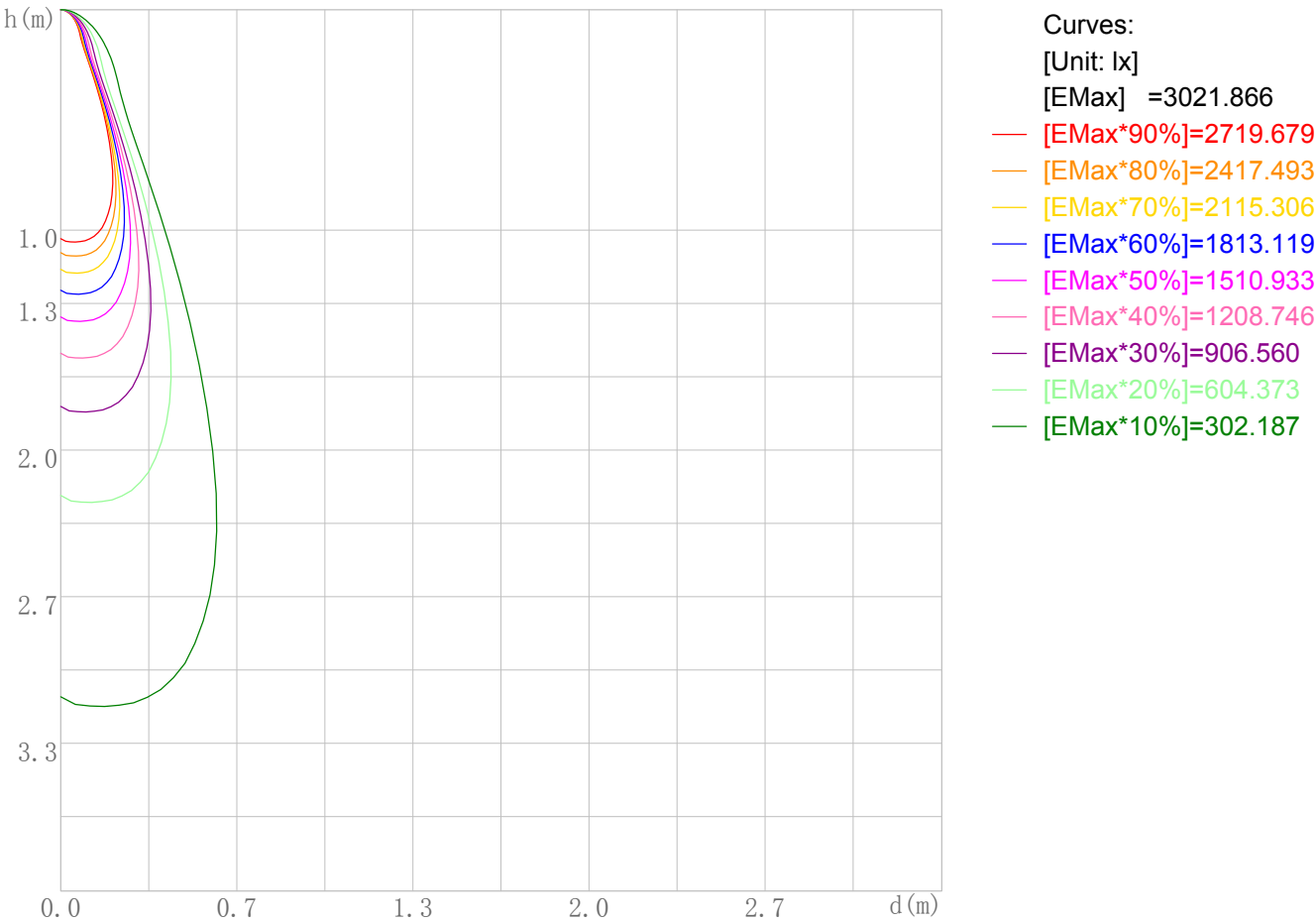


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |

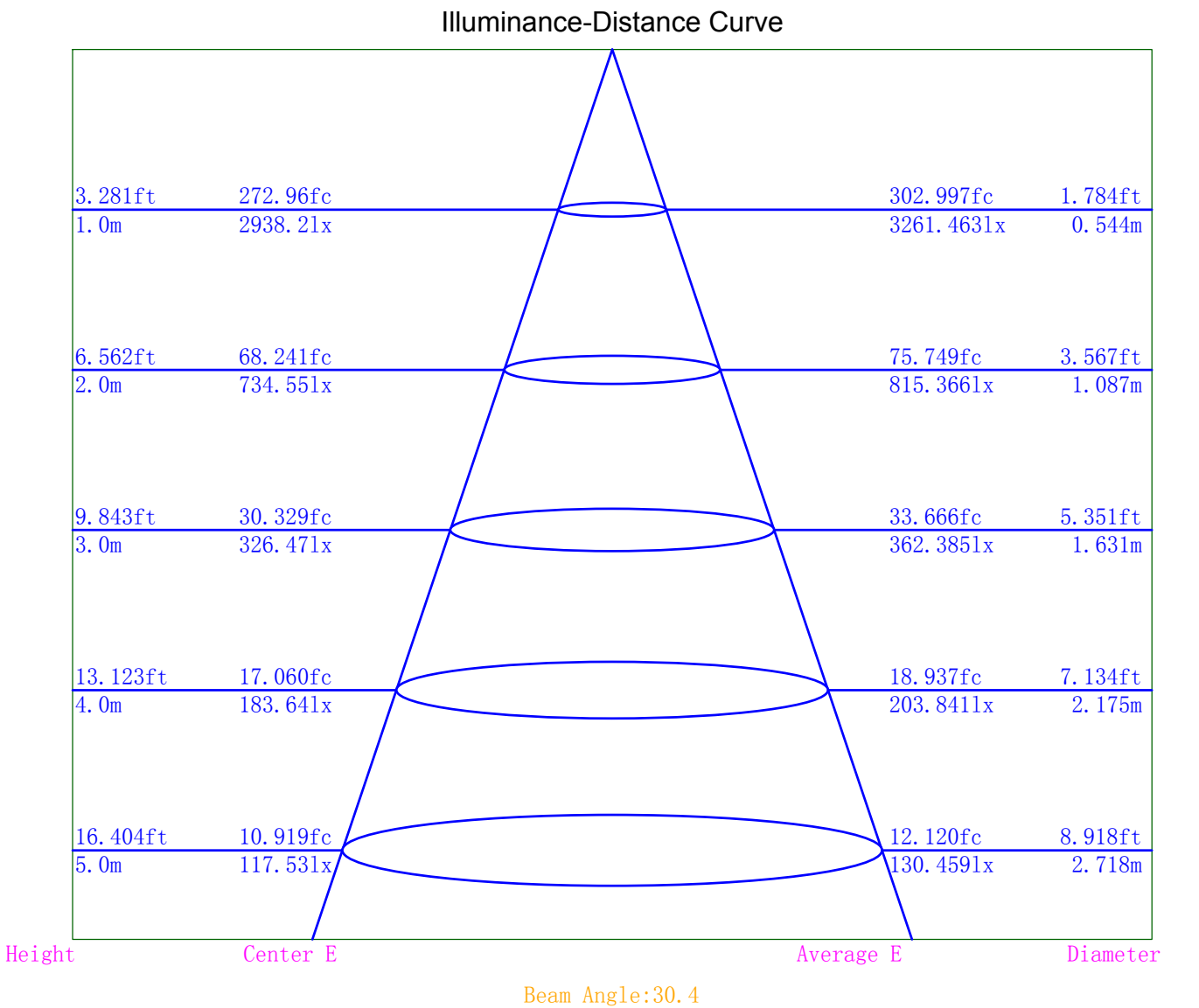
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:3021.87lx,3.0deg
Plane Maximum Lighting Intensity and @Angle:3034.324cd,0deg

Illuminance-Distance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |



Indoor Luminance Limiting Curves

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |

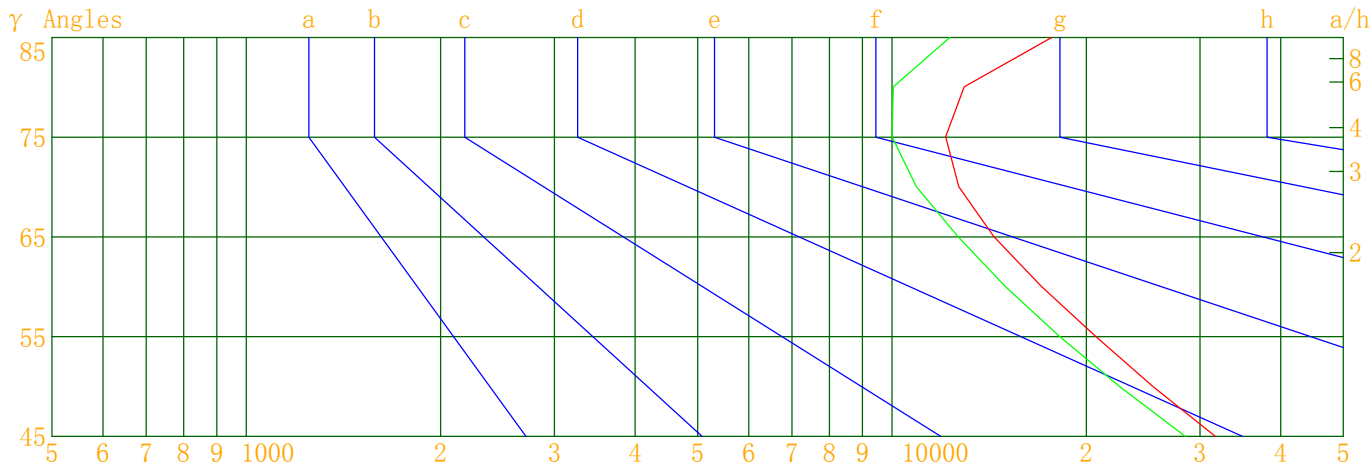
Glare Grade Table

| 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 | 31694 | 25343 | 20689 | 17044 | 14379 | 12689 | 12108 | 12938 | 17674 |
| C90 | 28455 | 22509 | 18178 | 14979 | 12654 | 10910 | 10002 | 10049 | 12292 |

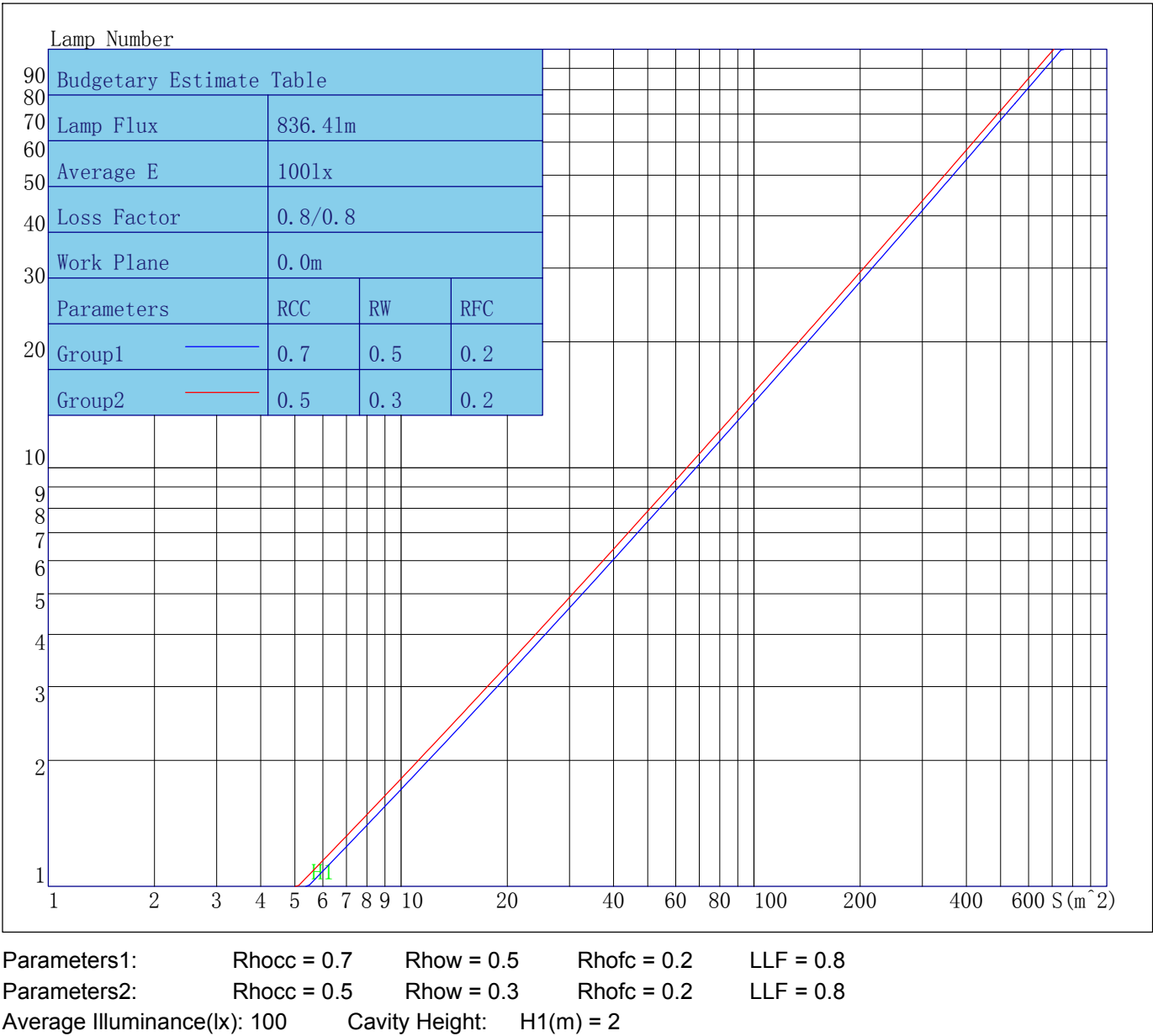
Luminance Limiting Curve



Luminous Size: Length(m)=-0.038 Width(m)=-0.038 Height(m)=0.000 Area(m^2)=0.001134
Luminous Type: Without Luminous Side
Luminous Curves: C0-C180 Color: C90-C270 Color:

Indoor Budgetary Estimate Table

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |



Indoor Coefficient of Utilization Table

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |

| 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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 101 | 101 | 101 | 99 |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 98 | 97 | 97 | 95 |
| 2 | 110 | 106 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 99 | 97 | 98 | 96 | 95 | 95 | 94 | 93 | 91 |
| 3 | 106 | 101 | 98 | 94 | 104 | 100 | 96 | 94 | 97 | 94 | 92 | 95 | 93 | 91 | 93 | 91 | 89 | 88 |
| 4 | 103 | 97 | 93 | 90 | 101 | 96 | 92 | 89 | 94 | 91 | 88 | 92 | 89 | 87 | 90 | 88 | 86 | 85 |
| 5 | 100 | 93 | 89 | 86 | 98 | 92 | 88 | 85 | 91 | 87 | 84 | 89 | 86 | 84 | 87 | 85 | 83 | 82 |
| 6 | 96 | 90 | 85 | 82 | 95 | 89 | 85 | 82 | 88 | 84 | 81 | 86 | 83 | 81 | 85 | 82 | 80 | 79 |
| 7 | 94 | 87 | 82 | 79 | 92 | 86 | 82 | 79 | 85 | 81 | 79 | 84 | 81 | 78 | 83 | 80 | 78 | 77 |
| 8 | 91 | 84 | 80 | 77 | 90 | 83 | 79 | 76 | 82 | 79 | 76 | 81 | 78 | 76 | 81 | 78 | 75 | 74 |
| 9 | 88 | 81 | 77 | 74 | 87 | 81 | 77 | 74 | 80 | 76 | 74 | 79 | 76 | 74 | 78 | 75 | 73 | 72 |
| 10 | 86 | 79 | 75 | 72 | 85 | 79 | 75 | 72 | 78 | 74 | 72 | 77 | 74 | 72 | 76 | 73 | 71 | 70 |

Unified Glare Rating Table

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-XX-02 4000K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28 |

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 | 16.2 | 17.1 | 16.6 | 17.5 | 17.8 | 15.6 | 16.5 | 16.0 | 16.9 | 17.2 |
| | 16.8 | 17.6 | 17.2 | 18.0 | 18.4 | 16.1 | 17.0 | 16.5 | 17.3 | 17.7 |
| | 17.1 | 17.8 | 17.5 | 18.2 | 18.6 | 16.4 | 17.1 | 16.8 | 17.5 | 17.9 |
| | 17.3 | 18.1 | 17.8 | 18.4 | 18.9 | 16.6 | 17.3 | 17.0 | 17.7 | 18.1 |
| | 17.5 | 18.1 | 17.9 | 18.6 | 19.0 | 16.6 | 17.3 | 17.1 | 17.7 | 18.2 |
| | 17.6 | 18.3 | 18.1 | 18.7 | 19.1 | 16.7 | 17.4 | 17.2 | 17.8 | 18.2 |
| X=4H Y=2H | 16.4 | 17.2 | 16.8 | 17.5 | 17.9 | 15.8 | 16.6 | 16.2 | 17.0 | 17.4 |
| | 17.1 | 17.8 | 17.6 | 18.2 | 18.6 | 16.5 | 17.2 | 17.0 | 17.6 | 18.0 |
| | 17.5 | 18.1 | 18.0 | 18.5 | 19.0 | 16.8 | 17.4 | 17.3 | 17.9 | 18.3 |
| | 18.0 | 18.4 | 18.4 | 18.9 | 19.4 | 17.2 | 17.7 | 17.7 | 18.1 | 18.6 |
| | 18.2 | 18.6 | 18.7 | 19.1 | 19.6 | 17.3 | 17.8 | 17.8 | 18.2 | 18.7 |
| | 18.4 | 18.8 | 18.9 | 19.3 | 19.8 | 17.5 | 17.9 | 18.0 | 18.4 | 18.9 |
| X=8H Y=4H | 17.6 | 18.1 | 18.1 | 18.6 | 19.1 | 16.9 | 17.4 | 17.4 | 17.9 | 18.4 |
| | 18.2 | 18.6 | 18.7 | 19.1 | 19.6 | 17.4 | 17.8 | 17.9 | 18.3 | 18.8 |
| | 18.5 | 18.8 | 19.1 | 19.4 | 19.9 | 17.6 | 18.0 | 18.2 | 18.5 | 19.0 |
| | 18.9 | 19.2 | 19.5 | 19.7 | 20.3 | 17.9 | 18.2 | 18.4 | 18.7 | 19.3 |
| X=12H Y=4H | 17.6 | 18.0 | 18.1 | 18.5 | 19.0 | 16.9 | 17.3 | 17.4 | 17.8 | 18.3 |
| | 18.2 | 18.6 | 18.8 | 19.0 | 19.6 | 17.4 | 17.8 | 18.0 | 18.2 | 18.8 |
| | 18.6 | 18.9 | 19.2 | 19.4 | 20.0 | 17.7 | 18.0 | 18.3 | 18.5 | 19.1 |
| Variations with the objerver position at spacings | | | | | | | | | | |
| S=1.0H | 0.2/-0.2 | | | | | 0.4/-0.4 | | | | |
| S=1.5H | 0.5/-0.5 | | | | | 0.6/-0.7 | | | | |
| S=2.0H | 0.8/-0.8 | | | | | 1.0/-1.0 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 2.0 | | | | | 1.8 | | | | |

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 | 2938.19 | 2938.19 | 2938.19 | 2938.19 |
| γ 1.0 | 3005.45 | 2906.99 | 2924.29 | 2864.18 |
| γ 2.0 | 3023.09 | 2924.04 | 2879.03 | 2842.42 |
| γ 3.0 | 3034.32 | 2931.92 | 2835.79 | 2825.06 |
| γ 4.0 | 3032.98 | 2926.22 | 2790.09 | 2796.43 |
| γ 5.0 | 3025.19 | 2909.86 | 2741.15 | 2759.22 |
| γ 6.0 | 2991.48 | 2883.32 | 2682.13 | 2715.92 |
| γ 7.0 | 2942.49 | 2835.16 | 2614.36 | 2658.57 |
| γ 8.0 | 2860.27 | 2761.38 | 2535.00 | 2582.93 |
| γ 9.0 | 2760.00 | 2660.52 | 2437.58 | 2489.29 |
| γ 10.0 | 2617.98 | 2535.91 | 2322.00 | 2373.27 |
| γ 11.0 | 2458.47 | 2381.38 | 2189.43 | 2243.31 |
| γ 12.0 | 2277.09 | 2200.46 | 2039.21 | 2089.34 |
| γ 13.0 | 2074.78 | 1999.35 | 1874.58 | 1928.24 |
| γ 14.0 | 1852.46 | 1785.17 | 1703.55 | 1750.77 |
| γ 15.0 | 1616.31 | 1561.78 | 1519.72 | 1559.97 |
| γ 16.0 | 1367.72 | 1334.11 | 1336.74 | 1360.91 |
| γ 17.0 | 1130.36 | 1109.44 | 1152.01 | 1162.95 |
| γ 18.0 | 914.16 | 895.12 | 967.08 | 968.03 |
| γ 19.0 | 721.84 | 699.83 | 786.02 | 788.14 |
| γ 20.0 | 561.89 | 531.52 | 623.44 | 626.13 |
| γ 21.0 | 429.94 | 396.48 | 476.98 | 485.57 |
| γ 22.0 | 326.80 | 294.39 | 357.30 | 370.18 |
| γ 23.0 | 249.36 | 220.88 | 265.88 | 278.63 |
| γ 24.0 | 193.88 | 169.07 | 197.99 | 210.65 |
| γ 25.0 | 154.47 | 134.97 | 148.79 | 160.60 |
| γ 26.0 | 126.62 | 111.88 | 115.04 | 124.72 |
| γ 27.0 | 107.26 | 95.62 | 91.04 | 100.53 |
| γ 28.0 | 93.06 | 83.96 | 75.15 | 83.53 |
| γ 29.0 | 82.44 | 75.17 | 64.14 | 71.53 |
| γ 30.0 | 74.00 | 67.89 | 56.06 | 62.58 |
| γ 31.0 | 67.43 | 62.11 | 49.91 | 55.25 |
| γ 32.0 | 61.97 | 57.43 | 44.71 | 49.34 |
| γ 33.0 | 57.31 | 53.21 | 40.43 | 44.56 |
| γ 34.0 | 53.09 | 49.31 | 36.97 | 40.87 |
| γ 35.0 | 49.36 | 45.90 | 34.15 | 37.67 |
| γ 36.0 | 46.04 | 42.79 | 31.66 | 34.97 |
| γ 37.0 | 43.18 | 39.88 | 29.61 | 32.63 |
| γ 38.0 | 40.43 | 37.24 | 27.85 | 30.71 |
| γ 39.0 | 37.91 | 34.76 | 26.29 | 29.01 |
| γ 40.0 | 35.46 | 32.48 | 24.91 | 27.50 |
| γ 41.0 | 33.15 | 30.19 | 23.72 | 26.15 |
| γ 42.0 | 30.90 | 28.11 | 22.66 | 24.96 |
| γ 43.0 | 28.89 | 26.17 | 21.66 | 23.85 |
| γ 44.0 | 27.04 | 24.43 | 20.71 | 22.84 |
| γ 45.0 | 25.42 | 22.82 | 19.86 | 21.93 |
| γ 46.0 | 23.78 | 21.35 | 19.15 | 21.16 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 22.35 | 19.94 | 18.42 | 20.39 |
| γ 48.0 | 20.94 | 18.66 | 17.77 | 19.63 |
| γ 49.0 | 19.65 | 17.49 | 17.04 | 18.89 |
| γ 50.0 | 18.48 | 16.41 | 16.38 | 18.14 |
| γ 51.0 | 17.32 | 15.36 | 15.68 | 17.46 |
| γ 52.0 | 16.26 | 14.40 | 15.03 | 16.71 |
| γ 53.0 | 15.24 | 13.48 | 14.36 | 15.99 |
| γ 54.0 | 14.30 | 12.60 | 13.72 | 15.20 |
| γ 55.0 | 13.46 | 11.82 | 13.00 | 14.46 |
| γ 56.0 | 12.60 | 11.10 | 12.32 | 13.73 |
| γ 57.0 | 11.77 | 10.37 | 11.66 | 13.00 |
| γ 58.0 | 11.03 | 9.70 | 11.01 | 12.25 |
| γ 59.0 | 10.32 | 9.08 | 10.34 | 11.52 |
| γ 60.0 | 9.66 | 8.49 | 9.71 | 10.81 |
| γ 61.0 | 9.03 | 7.95 | 9.13 | 10.14 |
| γ 62.0 | 8.44 | 7.43 | 8.56 | 9.52 |
| γ 63.0 | 7.89 | 6.95 | 8.03 | 8.93 |
| γ 64.0 | 7.38 | 6.49 | 7.51 | 8.38 |
| γ 65.0 | 6.89 | 6.07 | 7.05 | 7.86 |
| γ 66.0 | 6.45 | 5.62 | 6.59 | 7.38 |
| γ 67.0 | 6.02 | 5.24 | 6.17 | 6.91 |
| γ 68.0 | 5.65 | 4.89 | 5.73 | 6.48 |
| γ 69.0 | 5.29 | 4.57 | 5.35 | 6.08 |
| γ 70.0 | 4.92 | 4.23 | 5.02 | 5.72 |
| γ 71.0 | 4.61 | 3.90 | 4.68 | 5.33 |
| γ 72.0 | 4.32 | 3.63 | 4.32 | 4.96 |
| γ 73.0 | 4.05 | 3.39 | 3.99 | 4.66 |
| γ 74.0 | 3.80 | 3.16 | 3.72 | 4.35 |
| γ 75.0 | 3.55 | 2.94 | 3.45 | 4.07 |
| γ 76.0 | 3.34 | 2.72 | 3.20 | 3.81 |
| γ 77.0 | 3.14 | 2.52 | 2.96 | 3.55 |
| γ 78.0 | 2.94 | 2.32 | 2.74 | 3.31 |
| γ 79.0 | 2.74 | 2.14 | 2.51 | 3.07 |
| γ 80.0 | 2.55 | 1.98 | 2.29 | 2.85 |
| γ 81.0 | 2.37 | 1.80 | 2.08 | 2.62 |
| γ 82.0 | 2.20 | 1.65 | 1.89 | 2.41 |
| γ 83.0 | 2.05 | 1.49 | 1.71 | 2.22 |
| γ 84.0 | 1.90 | 1.35 | 1.53 | 2.03 |
| γ 85.0 | 1.75 | 1.22 | 1.35 | 1.86 |
| γ 86.0 | 1.61 | 1.09 | 1.19 | 1.69 |
| γ 87.0 | 1.48 | 0.97 | 1.05 | 1.52 |
| γ 88.0 | 1.36 | 0.84 | 0.91 | 1.36 |
| γ 89.0 | 1.28 | 0.76 | 0.76 | 1.23 |
| γ 90.0 | 1.20 | 0.69 | 0.65 | 1.13 |
| γ 91.0 | 1.13 | 0.64 | 0.58 | 1.03 |
| γ 92.0 | 1.07 | 0.58 | 0.51 | 0.95 |
| γ 93.0 | 1.00 | 0.53 | 0.44 | 0.88 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0 | 0.94 | 0.49 | 0.39 | 0.80 |
| γ 95.0 | 0.89 | 0.45 | 0.33 | 0.74 |
| γ 96.0 | 0.84 | 0.41 | 0.28 | 0.68 |
| γ 97.0 | 0.79 | 0.39 | 0.22 | 0.61 |
| γ 98.0 | 0.74 | 0.35 | 0.18 | 0.56 |
| γ 99.0 | 0.69 | 0.33 | 0.14 | 0.52 |
| γ 100.0 | 0.66 | 0.31 | 0.10 | 0.47 |
| γ 101.0 | 0.62 | 0.29 | 0.07 | 0.42 |
| γ 102.0 | 0.58 | 0.26 | 0.03 | 0.39 |
| γ 103.0 | 0.54 | 0.24 | 0.00 | 0.36 |
| γ 104.0 | 0.51 | 0.20 | 0.00 | 0.34 |
| γ 105.0 | 0.46 | 0.18 | 0.00 | 0.30 |
| γ 106.0 | 0.42 | 0.16 | 0.00 | 0.29 |
| γ 107.0 | 0.39 | 0.12 | 0.00 | 0.28 |
| γ 108.0 | 0.35 | 0.09 | 0.00 | 0.25 |
| γ 109.0 | 0.32 | 0.07 | 0.00 | 0.24 |
| γ 110.0 | 0.27 | 0.04 | 0.00 | 0.24 |
| γ 111.0 | 0.25 | 0.00 | 0.00 | 0.23 |
| γ 112.0 | 0.20 | 0.00 | 0.00 | 0.22 |
| γ 113.0 | 0.16 | 0.00 | 0.00 | 0.21 |
| γ 114.0 | 0.14 | 0.00 | 0.00 | 0.20 |
| γ 115.0 | 0.09 | 0.00 | 0.00 | 0.19 |
| γ 116.0 | 0.07 | 0.00 | 0.00 | 0.19 |
| γ 117.0 | 0.03 | 0.00 | 0.00 | 0.18 |
| γ 118.0 | 0.00 | 0.00 | 0.00 | 0.17 |
| γ 119.0 | 0.00 | 0.00 | 0.00 | 0.16 |
| γ 120.0 | 0.00 | 0.00 | 0.00 | 0.16 |
| γ 121.0 | 0.00 | 0.00 | 0.00 | 0.17 |
| γ 122.0 | 0.00 | 0.00 | 0.00 | 0.17 |
| γ 123.0 | 0.00 | 0.00 | 0.00 | 0.18 |
| γ 124.0 | 0.00 | 0.00 | 0.00 | 0.20 |
| γ 125.0 | 0.00 | 0.00 | 0.05 | 0.25 |
| γ 126.0 | 0.00 | 0.00 | 0.11 | 0.29 |
| γ 127.0 | 0.02 | 0.00 | 0.18 | 0.36 |
| γ 128.0 | 0.09 | 0.00 | 0.27 | 0.44 |
| γ 129.0 | 0.16 | 0.00 | 0.37 | 0.53 |
| γ 130.0 | 0.26 | 0.10 | 0.49 | 0.66 |
| γ 131.0 | 0.37 | 0.21 | 0.63 | 0.78 |
| γ 132.0 | 0.49 | 0.35 | 0.78 | 0.92 |
| γ 133.0 | 0.62 | 0.50 | 0.94 | 1.07 |
| γ 134.0 | 0.77 | 0.65 | 1.12 | 1.23 |
| γ 135.0 | 0.94 | 0.83 | 1.29 | 1.41 |
| γ 136.0 | 1.12 | 1.01 | 1.47 | 1.58 |
| γ 137.0 | 1.29 | 1.21 | 1.67 | 1.77 |
| γ 138.0 | 1.47 | 1.40 | 1.88 | 1.95 |
| γ 139.0 | 1.67 | 1.60 | 2.08 | 2.15 |
| γ 140.0 | 1.87 | 1.81 | 2.28 | 2.35 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 2.08 | 2.01 | 2.48 | 2.54 |
| γ 142.0 | 2.28 | 2.22 | 2.69 | 2.75 |
| γ 143.0 | 2.49 | 2.42 | 2.91 | 2.95 |
| γ 144.0 | 2.70 | 2.63 | 3.11 | 3.15 |
| γ 145.0 | 2.91 | 2.82 | 3.31 | 3.35 |
| γ 146.0 | 3.12 | 3.01 | 3.51 | 3.53 |
| γ 147.0 | 3.31 | 3.21 | 3.70 | 3.71 |
| γ 148.0 | 3.50 | 3.40 | 3.88 | 3.89 |
| γ 149.0 | 3.69 | 3.57 | 4.07 | 4.06 |
| γ 150.0 | 3.88 | 3.74 | 4.24 | 4.23 |
| γ 151.0 | 4.05 | 3.91 | 4.41 | 4.38 |
| γ 152.0 | 4.23 | 4.08 | 4.57 | 4.54 |
| γ 153.0 | 4.39 | 4.23 | 4.72 | 4.67 |
| γ 154.0 | 4.54 | 4.38 | 4.86 | 4.79 |
| γ 155.0 | 4.68 | 4.49 | 4.98 | 4.91 |
| γ 156.0 | 4.79 | 4.62 | 5.09 | 5.01 |
| γ 157.0 | 4.91 | 4.73 | 5.18 | 5.09 |
| γ 158.0 | 4.99 | 4.82 | 5.26 | 5.16 |
| γ 159.0 | 5.08 | 4.88 | 5.32 | 5.22 |
| γ 160.0 | 5.14 | 4.95 | 5.36 | 5.27 |
| γ 161.0 | 5.20 | 4.98 | 5.41 | 5.29 |
| γ 162.0 | 5.21 | 5.00 | 5.43 | 5.30 |
| γ 163.0 | 5.22 | 5.02 | 5.43 | 5.31 |
| γ 164.0 | 5.24 | 5.00 | 5.43 | 5.28 |
| γ 165.0 | 5.22 | 4.98 | 5.41 | 5.26 |
| γ 166.0 | 5.19 | 4.95 | 5.37 | 5.22 |
| γ 167.0 | 5.17 | 4.91 | 5.31 | 5.15 |
| γ 168.0 | 5.14 | 4.88 | 5.27 | 5.09 |
| γ 169.0 | 5.11 | 4.86 | 5.21 | 5.03 |
| γ 170.0 | 5.09 | 4.84 | 5.17 | 4.96 |
| γ 171.0 | 5.07 | 4.82 | 5.10 | 4.91 |
| γ 172.0 | 5.05 | 4.82 | 5.06 | 4.87 |
| γ 173.0 | 5.05 | 4.86 | 5.02 | 4.85 |
| γ 174.0 | 5.04 | 4.87 | 4.99 | 4.83 |
| γ 175.0 | 5.04 | 4.89 | 4.97 | 4.83 |
| γ 176.0 | 5.04 | 4.93 | 4.97 | 4.85 |
| γ 177.0 | 5.05 | 4.97 | 4.95 | 4.88 |
| γ 178.0 | 5.04 | 4.96 | 4.98 | 4.90 |
| γ 179.0 | 5.01 | 4.95 | 4.98 | 4.96 |
| γ 180.0 | 4.99 | 4.99 | 4.99 | 4.99 |