

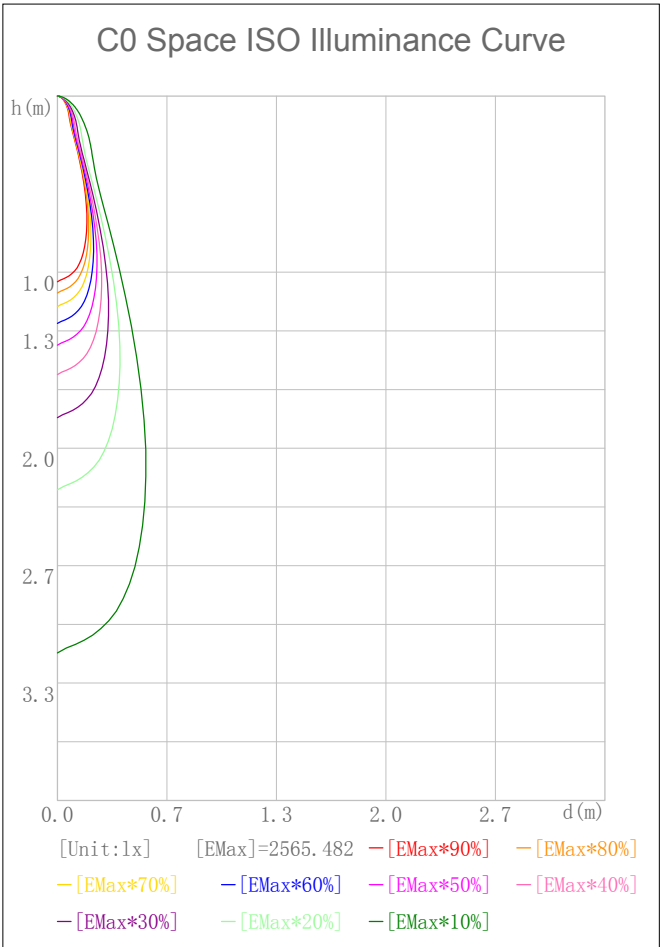
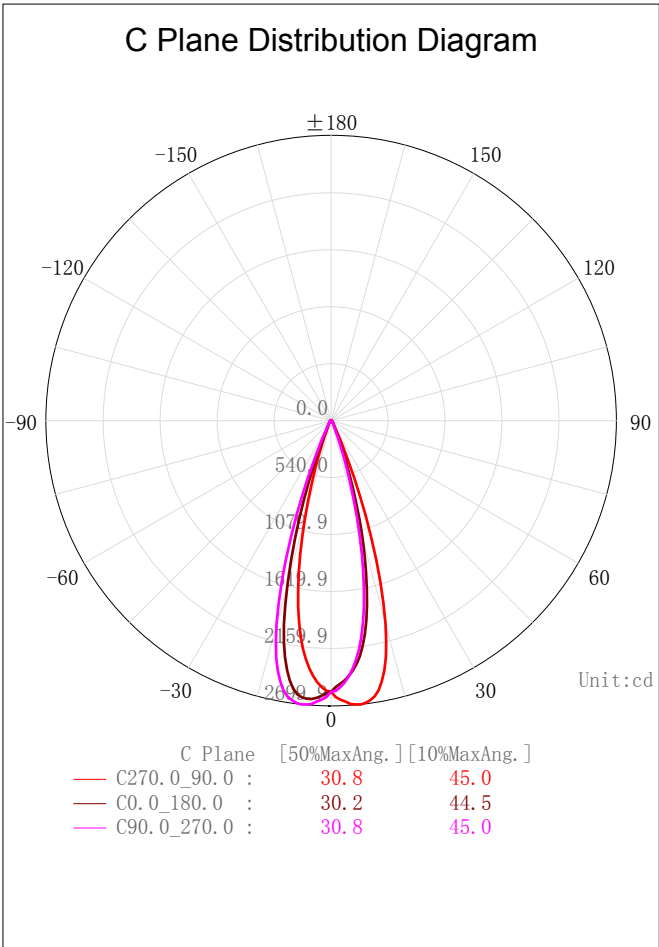
Indoor Luminaire Photometric Data

Description Information

| | | | |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name:WL02-09-XX-02 2700K RA90 24D | | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | | Lamp Catalog: LED | Test Date: 2021/11/16 |
| 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 |

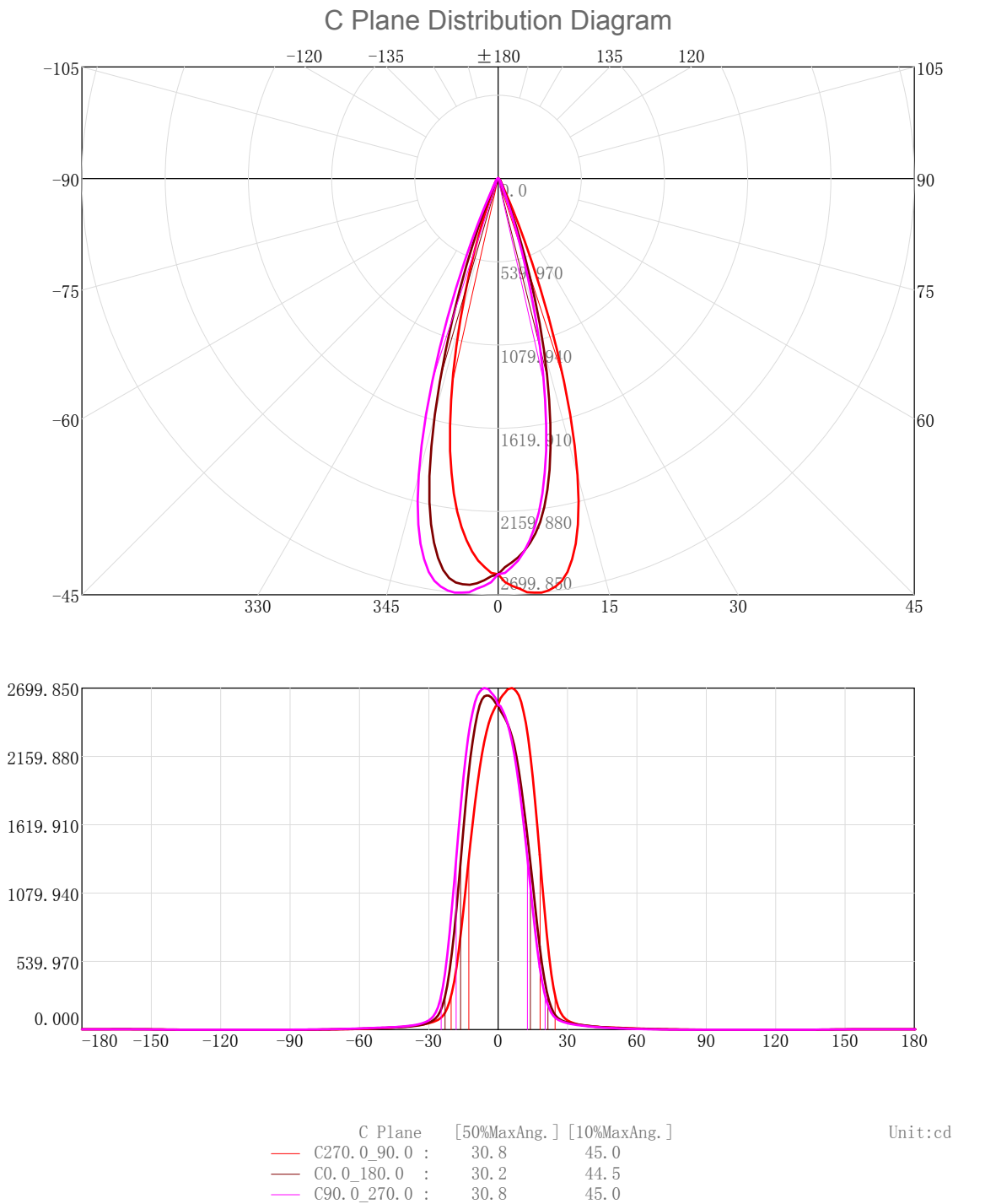
Character Parameter

| Lamp Speciality Parameter | | Luminaire Speciality Parameter | |
|---|----------------------------------|---------------------------------------|--|
| Rated Flux(lm): 748.980 | Luminary Flux(lm): 748.979 | Field Angle(10%Imax): 45.0(°) | |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 744.952lm 99.46% | |
| Rated Voltage(V): | Luminary EER(lm/W): 84.764 | Up Lumens&Percent: 4.027lm 0.54% | |
| Tested Power(W): 8.836 | Max. Candela(cd): 2699.850 | S/MH: C0_a180=0.521 C90_270=0.538 | |
| Lamps' Inside: 1 | Max Cand@Ang. (°): C=270.0 γ=6.0 | CIE Type: Semi-Direct | |
| Tested Electrics (V, A, pf):240.8, 0.040, 0.901 | Beam Angle(50%Imax): 30.8(°) | ErP ϕ use(90°): 699.418lm | |
| Lamp Size (W*L*H):0.038m*0.038m*0.000m | Left=-12.7°, Right=18.2° | IRF(%): 808.989 | |



2D Plane Light Intensity Distribution Curve

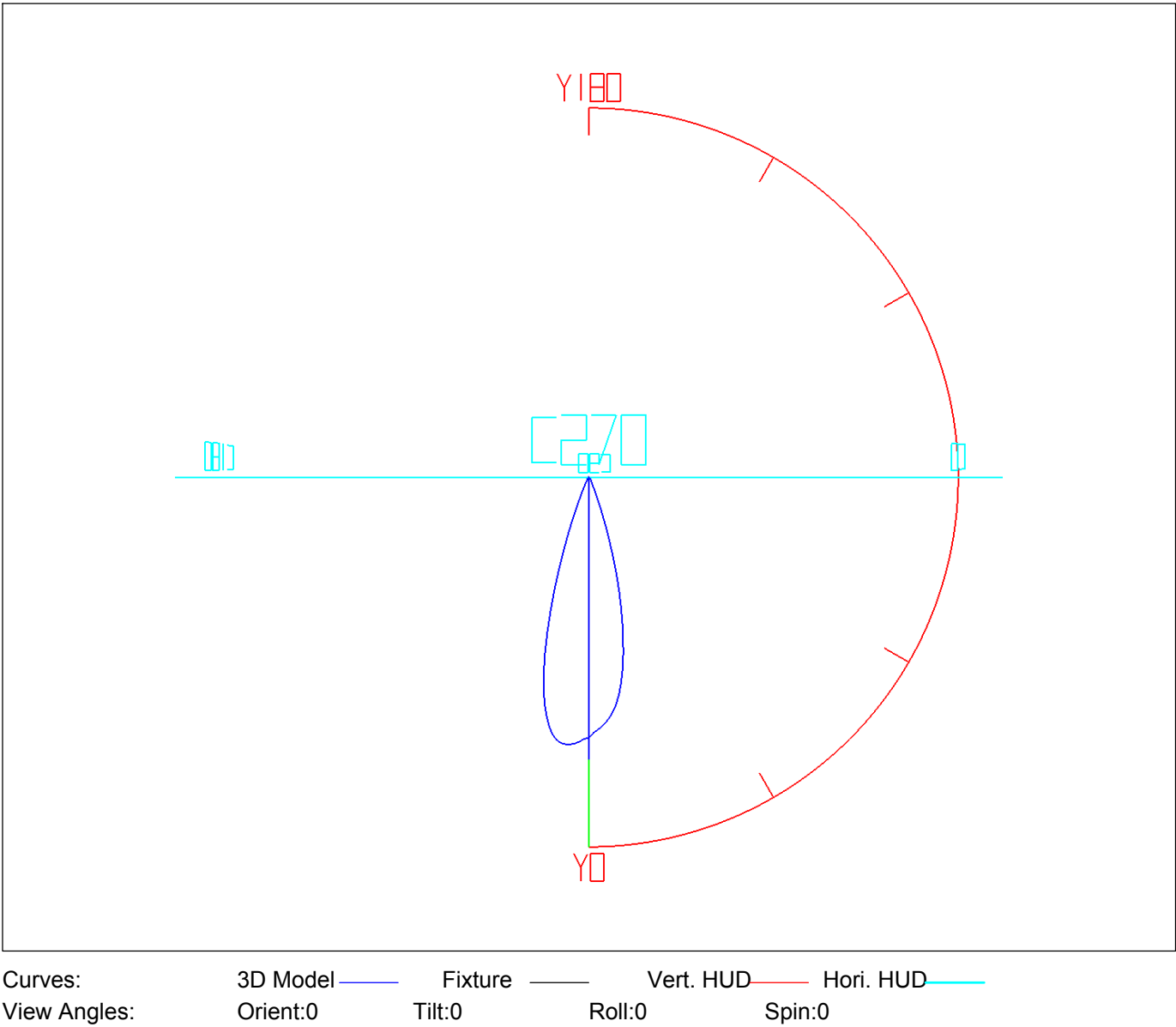
| | | |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-02 2700K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16 |



3D Light Intensity Distribution Modal

| | | |
|---|-----------------------|-----------------------------|
| Lum. Name: WL02-09-XX-02 2700K RA90 24D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16 |

3D Light Intensity Distribution Modal



IES Indoor Report

Photometric Filename:WL02-09-XX-02 2700K RA90 24D.IES

Zonal Flux Tabulation

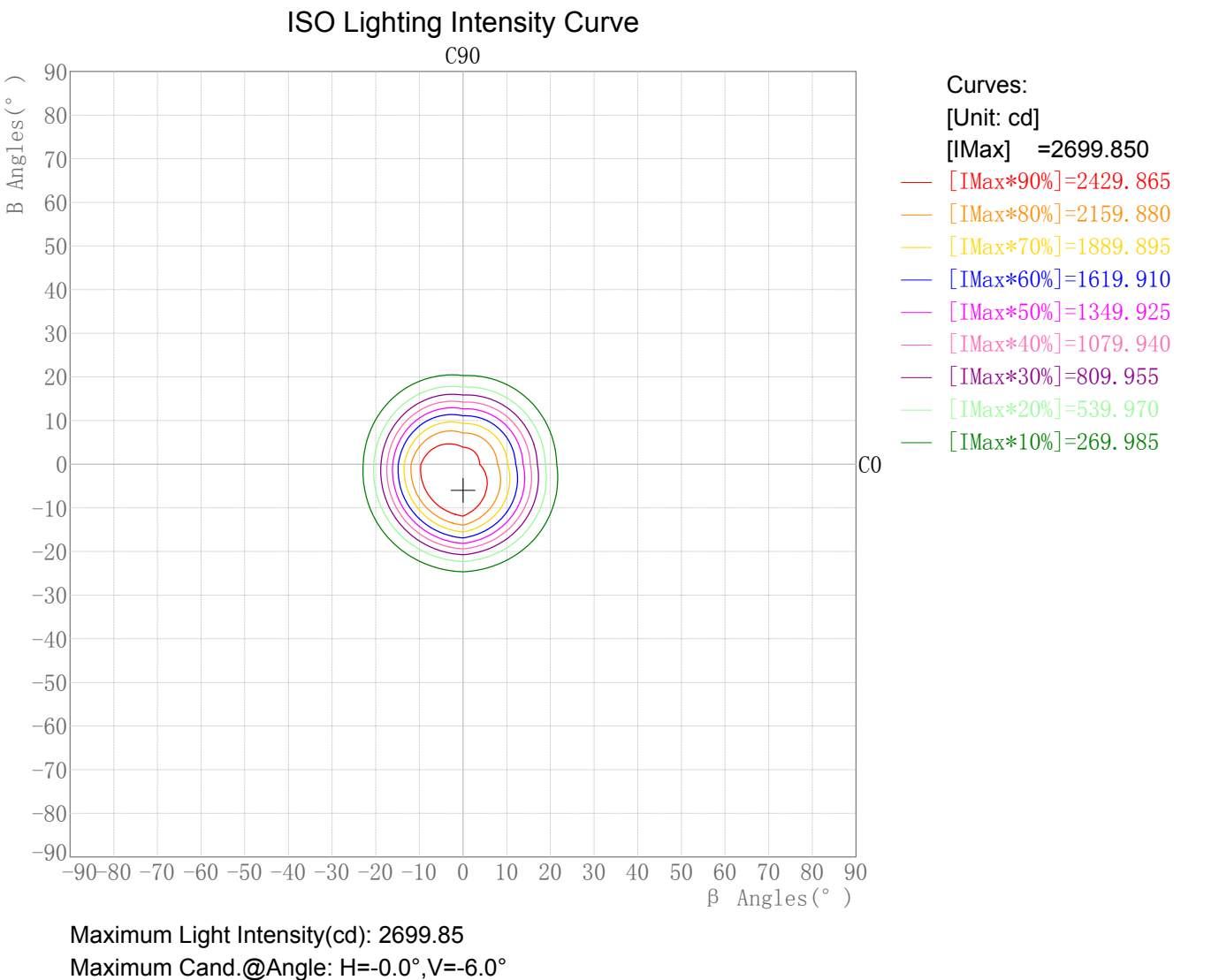
| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp | Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0 | 2.46 | 2.46 | 0.33 | 0.33 | 47.0-48.0 | 1.36 | 724.13 | 0.18 | 96.68 |
| 1.0-2.0 | 7.37 | 9.83 | 0.98 | 1.31 | 48.0-49.0 | 1.31 | 725.44 | 0.17 | 96.86 |
| 2.0-3.0 | 12.25 | 22.08 | 1.64 | 2.95 | 49.0-50.0 | 1.26 | 726.71 | 0.17 | 97.03 |
| 3.0-4.0 | 17.08 | 39.16 | 2.28 | 5.23 | 50.0-51.0 | 1.21 | 727.92 | 0.16 | 97.19 |
| 4.0-5.0 | 21.76 | 60.92 | 2.91 | 8.13 | 51.0-52.0 | 1.17 | 729.09 | 0.16 | 97.34 |
| 5.0-6.0 | 26.25 | 87.18 | 3.51 | 11.64 | 52.0-53.0 | 1.12 | 730.21 | 0.15 | 97.49 |
| 6.0-7.0 | 30.48 | 117.65 | 4.07 | 15.71 | 53.0-54.0 | 1.07 | 731.28 | 0.14 | 97.64 |
| 7.0-8.0 | 34.30 | 151.95 | 4.58 | 20.29 | 54.0-55.0 | 1.02 | 732.29 | 0.14 | 97.77 |
| 8.0-9.0 | 37.60 | 189.55 | 5.02 | 25.31 | 55.0-56.0 | 0.97 | 733.26 | 0.13 | 97.90 |
| 9.0-10.0 | 40.29 | 229.84 | 5.38 | 30.69 | 56.0-57.0 | 0.92 | 734.18 | 0.12 | 98.02 |
| 10.0-11.0 | 42.24 | 272.08 | 5.64 | 36.33 | 57.0-58.0 | 0.87 | 735.04 | 0.12 | 98.14 |
| 11.0-12.0 | 43.38 | 315.46 | 5.79 | 42.12 | 58.0-59.0 | 0.82 | 735.86 | 0.11 | 98.25 |
| 12.0-13.0 | 43.64 | 359.10 | 5.83 | 47.95 | 59.0-60.0 | 0.77 | 736.63 | 0.10 | 98.35 |
| 13.0-14.0 | 42.95 | 402.05 | 5.73 | 53.68 | 60.0-61.0 | 0.72 | 737.35 | 0.10 | 98.45 |
| 14.0-15.0 | 41.33 | 443.38 | 5.52 | 59.20 | 61.0-62.0 | 0.68 | 738.03 | 0.09 | 98.54 |
| 15.0-16.0 | 38.84 | 482.22 | 5.19 | 64.38 | 62.0-63.0 | 0.63 | 738.66 | 0.08 | 98.62 |
| 16.0-17.0 | 35.58 | 517.80 | 4.75 | 69.13 | 63.0-64.0 | 0.59 | 739.25 | 0.08 | 98.70 |
| 17.0-18.0 | 31.75 | 549.55 | 4.24 | 73.37 | 64.0-65.0 | 0.55 | 739.80 | 0.07 | 98.77 |
| 18.0-19.0 | 27.57 | 577.12 | 3.68 | 77.05 | 65.0-66.0 | 0.51 | 740.31 | 0.07 | 98.84 |
| 19.0-20.0 | 23.30 | 600.42 | 3.11 | 80.17 | 66.0-67.0 | 0.48 | 740.79 | 0.06 | 98.91 |
| 20.0-21.0 | 19.19 | 619.62 | 2.56 | 82.73 | 67.0-68.0 | 0.44 | 741.24 | 0.06 | 98.97 |
| 21.0-22.0 | 15.48 | 635.09 | 2.07 | 84.79 | 68.0-69.0 | 0.41 | 741.65 | 0.05 | 99.02 |
| 22.0-23.0 | 12.29 | 647.38 | 1.64 | 86.43 | 69.0-70.0 | 0.38 | 742.03 | 0.05 | 99.07 |
| 23.0-24.0 | 9.69 | 657.07 | 1.29 | 87.73 | 70.0-71.0 | 0.35 | 742.38 | 0.05 | 99.12 |
| 24.0-25.0 | 7.68 | 664.74 | 1.02 | 88.75 | 71.0-72.0 | 0.32 | 742.70 | 0.04 | 99.16 |
| 25.0-26.0 | 6.18 | 670.92 | 0.83 | 89.58 | 72.0-73.0 | 0.29 | 742.99 | 0.04 | 99.20 |
| 26.0-27.0 | 5.11 | 676.03 | 0.68 | 90.26 | 73.0-74.0 | 0.27 | 743.26 | 0.04 | 99.24 |
| 27.0-28.0 | 4.36 | 680.39 | 0.58 | 90.84 | 74.0-75.0 | 0.24 | 743.50 | 0.03 | 99.27 |
| 28.0-29.0 | 3.82 | 684.22 | 0.51 | 91.35 | 75.0-76.0 | 0.22 | 743.72 | 0.03 | 99.30 |
| 29.0-30.0 | 3.43 | 687.64 | 0.46 | 91.81 | 76.0-77.0 | 0.20 | 743.92 | 0.03 | 99.32 |
| 30.0-31.0 | 3.13 | 690.77 | 0.42 | 92.23 | 77.0-78.0 | 0.18 | 744.10 | 0.02 | 99.35 |
| 31.0-32.0 | 2.90 | 693.67 | 0.39 | 92.62 | 78.0-79.0 | 0.16 | 744.26 | 0.02 | 99.37 |
| 32.0-33.0 | 2.70 | 696.37 | 0.36 | 92.98 | 79.0-80.0 | 0.14 | 744.40 | 0.02 | 99.39 |
| 33.0-34.0 | 2.54 | 698.91 | 0.34 | 93.32 | 80.0-81.0 | 0.12 | 744.52 | 0.02 | 99.40 |
| 34.0-35.0 | 2.40 | 701.31 | 0.32 | 93.64 | 81.0-82.0 | 0.10 | 744.62 | 0.01 | 99.42 |
| 35.0-36.0 | 2.27 | 703.59 | 0.30 | 93.94 | 82.0-83.0 | 0.08 | 744.70 | 0.01 | 99.43 |
| 36.0-37.0 | 2.16 | 705.75 | 0.29 | 94.23 | 83.0-84.0 | 0.07 | 744.77 | 0.01 | 99.44 |
| 37.0-38.0 | 2.06 | 707.80 | 0.27 | 94.50 | 84.0-85.0 | 0.06 | 744.82 | 0.01 | 99.44 |
| 38.0-39.0 | 1.96 | 709.77 | 0.26 | 94.76 | 85.0-86.0 | 0.04 | 744.87 | 0.01 | 99.45 |
| 39.0-40.0 | 1.88 | 711.64 | 0.25 | 95.01 | 86.0-87.0 | 0.03 | 744.90 | 0.00 | 99.46 |
| 40.0-41.0 | 1.80 | 713.44 | 0.24 | 95.25 | 87.0-88.0 | 0.02 | 744.92 | 0.00 | 99.46 |
| 41.0-42.0 | 1.72 | 715.16 | 0.23 | 95.48 | 88.0-89.0 | 0.02 | 744.94 | 0.00 | 99.46 |
| 42.0-43.0 | 1.65 | 716.80 | 0.22 | 95.70 | 89.0-90.0 | 0.01 | 744.95 | 0.00 | 99.46 |
| 43.0-44.0 | 1.58 | 718.38 | 0.21 | 95.91 | 90.0-91.0 | 0.01 | 744.96 | 0.00 | 99.46 |
| 44.0-45.0 | 1.52 | 719.90 | 0.20 | 96.12 | 91.0-92.0 | 0.00 | 744.96 | 0.00 | 99.46 |
| 45.0-46.0 | 1.46 | 721.37 | 0.20 | 96.31 | 92.0-93.0 | 0.00 | 744.96 | 0.00 | 99.46 |
| 46.0-47.0 | 1.41 | 722.78 | 0.19 | 96.50 | 93.0-94.0 | 0.00 | 744.96 | 0.00 | 99.46 |

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 | 0.00 | 744.96 | 0.00 | 99.46 | 141.0-142.0 | 0.08 | 745.25 | 0.01 | 99.50 |
| 95.0-96.0 | 0.00 | 744.96 | 0.00 | 99.46 | 142.0-143.0 | 0.09 | 745.34 | 0.01 | 99.51 |
| 96.0-97.0 | 0.00 | 744.96 | 0.00 | 99.46 | 143.0-144.0 | 0.10 | 745.43 | 0.01 | 99.53 |
| 97.0-98.0 | 0.00 | 744.96 | 0.00 | 99.46 | 144.0-145.0 | 0.10 | 745.54 | 0.01 | 99.54 |
| 98.0-99.0 | 0.00 | 744.96 | 0.00 | 99.46 | 145.0-146.0 | 0.11 | 745.65 | 0.02 | 99.56 |
| 99.0-100.0 | 0.00 | 744.96 | 0.00 | 99.46 | 146.0-147.0 | 0.12 | 745.77 | 0.02 | 99.57 |
| 100.0-101.0 | 0.00 | 744.96 | 0.00 | 99.46 | 147.0-148.0 | 0.13 | 745.90 | 0.02 | 99.59 |
| 101.0-102.0 | 0.00 | 744.96 | 0.00 | 99.46 | 148.0-149.0 | 0.13 | 746.03 | 0.02 | 99.61 |
| 102.0-103.0 | 0.00 | 744.96 | 0.00 | 99.46 | 149.0-150.0 | 0.14 | 746.17 | 0.02 | 99.62 |
| 103.0-104.0 | 0.00 | 744.96 | 0.00 | 99.46 | 150.0-151.0 | 0.14 | 746.31 | 0.02 | 99.64 |
| 104.0-105.0 | 0.00 | 744.96 | 0.00 | 99.46 | 151.0-152.0 | 0.15 | 746.46 | 0.02 | 99.66 |
| 105.0-106.0 | 0.00 | 744.96 | 0.00 | 99.46 | 152.0-153.0 | 0.15 | 746.61 | 0.02 | 99.68 |
| 106.0-107.0 | 0.00 | 744.96 | 0.00 | 99.46 | 153.0-154.0 | 0.15 | 746.76 | 0.02 | 99.70 |
| 107.0-108.0 | 0.00 | 744.96 | 0.00 | 99.46 | 154.0-155.0 | 0.15 | 746.91 | 0.02 | 99.72 |
| 108.0-109.0 | 0.00 | 744.96 | 0.00 | 99.46 | 155.0-156.0 | 0.15 | 747.06 | 0.02 | 99.74 |
| 109.0-110.0 | 0.00 | 744.96 | 0.00 | 99.46 | 156.0-157.0 | 0.15 | 747.21 | 0.02 | 99.76 |
| 110.0-111.0 | 0.00 | 744.96 | 0.00 | 99.46 | 157.0-158.0 | 0.15 | 747.35 | 0.02 | 99.78 |
| 111.0-112.0 | 0.00 | 744.96 | 0.00 | 99.46 | 158.0-159.0 | 0.14 | 747.50 | 0.02 | 99.80 |
| 112.0-113.0 | 0.00 | 744.96 | 0.00 | 99.46 | 159.0-160.0 | 0.14 | 747.63 | 0.02 | 99.82 |
| 113.0-114.0 | 0.00 | 744.96 | 0.00 | 99.46 | 160.0-161.0 | 0.13 | 747.77 | 0.02 | 99.84 |
| 114.0-115.0 | 0.00 | 744.96 | 0.00 | 99.46 | 161.0-162.0 | 0.13 | 747.89 | 0.02 | 99.85 |
| 115.0-116.0 | 0.00 | 744.96 | 0.00 | 99.46 | 162.0-163.0 | 0.12 | 748.01 | 0.02 | 99.87 |
| 116.0-117.0 | 0.00 | 744.96 | 0.00 | 99.46 | 163.0-164.0 | 0.11 | 748.13 | 0.02 | 99.89 |
| 117.0-118.0 | 0.00 | 744.96 | 0.00 | 99.46 | 164.0-165.0 | 0.11 | 748.23 | 0.01 | 99.90 |
| 118.0-119.0 | 0.00 | 744.96 | 0.00 | 99.46 | 165.0-166.0 | 0.10 | 748.33 | 0.01 | 99.91 |
| 119.0-120.0 | 0.00 | 744.96 | 0.00 | 99.46 | 166.0-167.0 | 0.09 | 748.42 | 0.01 | 99.93 |
| 120.0-121.0 | 0.00 | 744.96 | 0.00 | 99.46 | 167.0-168.0 | 0.08 | 748.51 | 0.01 | 99.94 |
| 121.0-122.0 | 0.00 | 744.96 | 0.00 | 99.46 | 168.0-169.0 | 0.08 | 748.58 | 0.01 | 99.95 |
| 122.0-123.0 | 0.00 | 744.96 | 0.00 | 99.46 | 169.0-170.0 | 0.07 | 748.65 | 0.01 | 99.96 |
| 123.0-124.0 | 0.00 | 744.96 | 0.00 | 99.46 | 170.0-171.0 | 0.06 | 748.72 | 0.01 | 99.96 |
| 124.0-125.0 | 0.00 | 744.96 | 0.00 | 99.46 | 171.0-172.0 | 0.06 | 748.77 | 0.01 | 99.97 |
| 125.0-126.0 | 0.00 | 744.96 | 0.00 | 99.46 | 172.0-173.0 | 0.05 | 748.82 | 0.01 | 99.98 |
| 126.0-127.0 | 0.00 | 744.96 | 0.00 | 99.46 | 173.0-174.0 | 0.04 | 748.86 | 0.01 | 99.98 |
| 127.0-128.0 | 0.00 | 744.96 | 0.00 | 99.46 | 174.0-175.0 | 0.04 | 748.90 | 0.00 | 99.99 |
| 128.0-129.0 | 0.00 | 744.96 | 0.00 | 99.46 | 175.0-176.0 | 0.03 | 748.93 | 0.00 | 99.99 |
| 129.0-130.0 | 0.00 | 744.96 | 0.00 | 99.46 | 176.0-177.0 | 0.02 | 748.95 | 0.00 | 100.00 |
| 130.0-131.0 | 0.00 | 744.96 | 0.00 | 99.46 | 177.0-178.0 | 0.02 | 748.97 | 0.00 | 100.00 |
| 131.0-132.0 | 0.00 | 744.96 | 0.00 | 99.46 | 178.0-179.0 | 0.01 | 748.98 | 0.00 | 100.00 |
| 132.0-133.0 | 0.00 | 744.96 | 0.00 | 99.46 | 179.0-180.0 | 0.00 | 748.98 | 0.00 | 100.00 |
| 133.0-134.0 | 0.00 | 744.96 | 0.00 | 99.46 | | | | | |
| 134.0-135.0 | 0.00 | 744.96 | 0.00 | 99.46 | | | | | |
| 135.0-136.0 | 0.01 | 744.97 | 0.00 | 99.46 | | | | | |
| 136.0-137.0 | 0.02 | 744.99 | 0.00 | 99.47 | | | | | |
| 137.0-138.0 | 0.03 | 745.02 | 0.00 | 99.47 | | | | | |
| 138.0-139.0 | 0.04 | 745.06 | 0.01 | 99.48 | | | | | |
| 139.0-140.0 | 0.05 | 745.11 | 0.01 | 99.48 | | | | | |
| 140.0-141.0 | 0.06 | 745.17 | 0.01 | 99.49 | | | | | |

Rectangle ISO Lighting Intensity Diagram

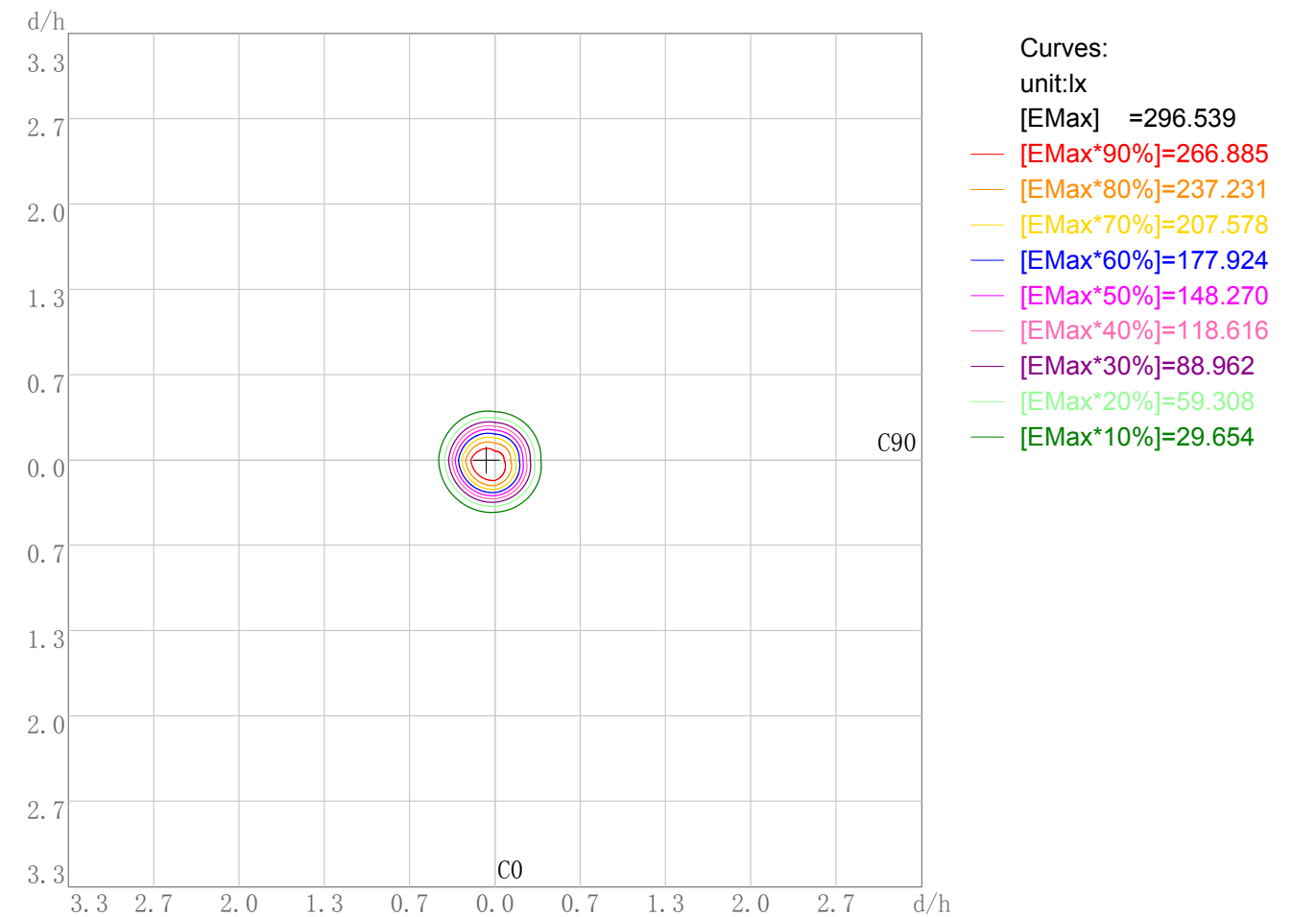
| | | |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-02 2700K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16 |



Plane ISO-Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-02 2700K 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: 2021/11/16 |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

Working Plane Maximum Illuminance(lx): 296.54

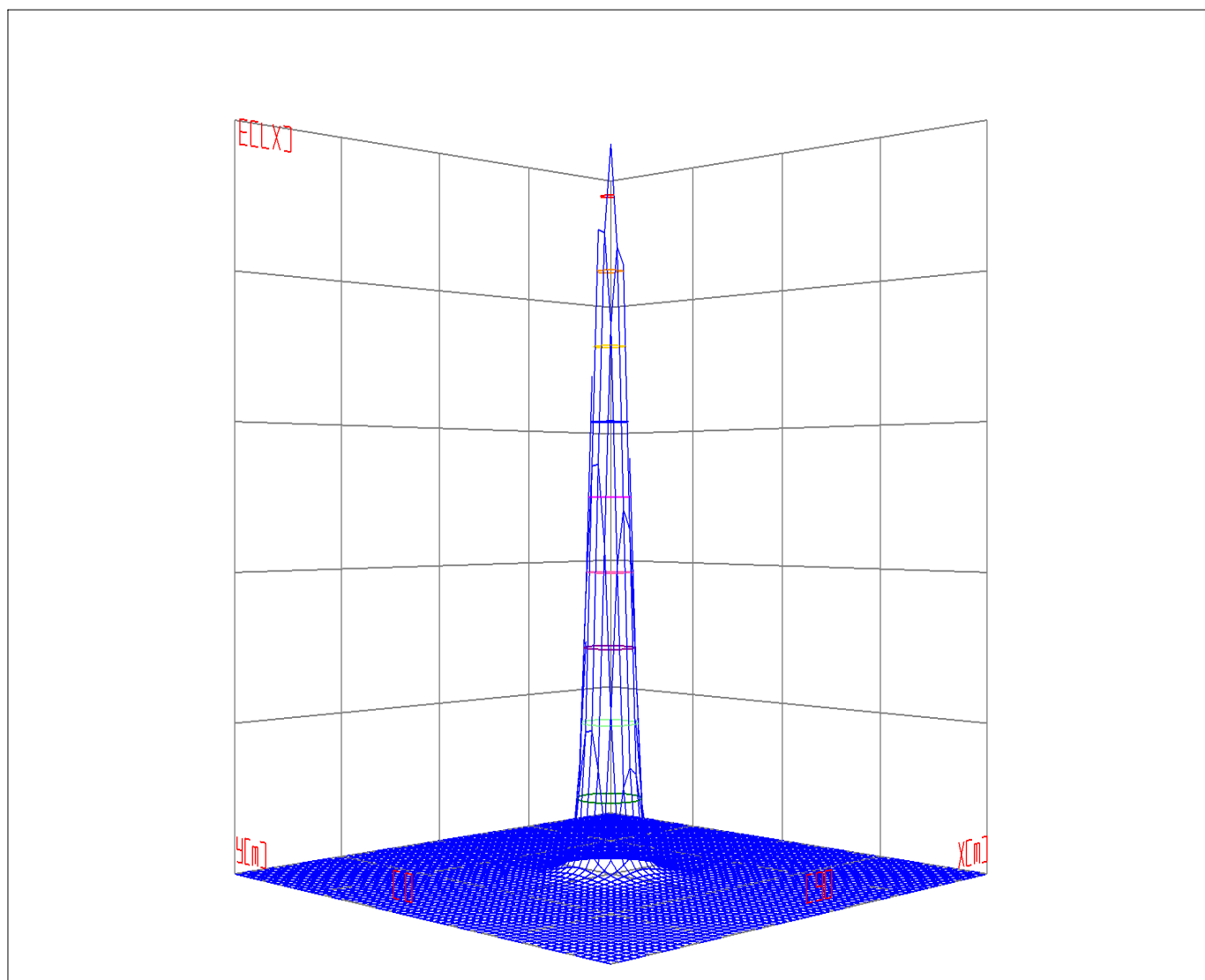
Working Plane Maximum Illuminance Position(d/h):H-0.1 V-0.0

Photometric Filename:WL02-09-XX-02 2700K RA90 24D.IES

3D Plane ISO Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-02 2700K 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: 2021/11/16 |

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

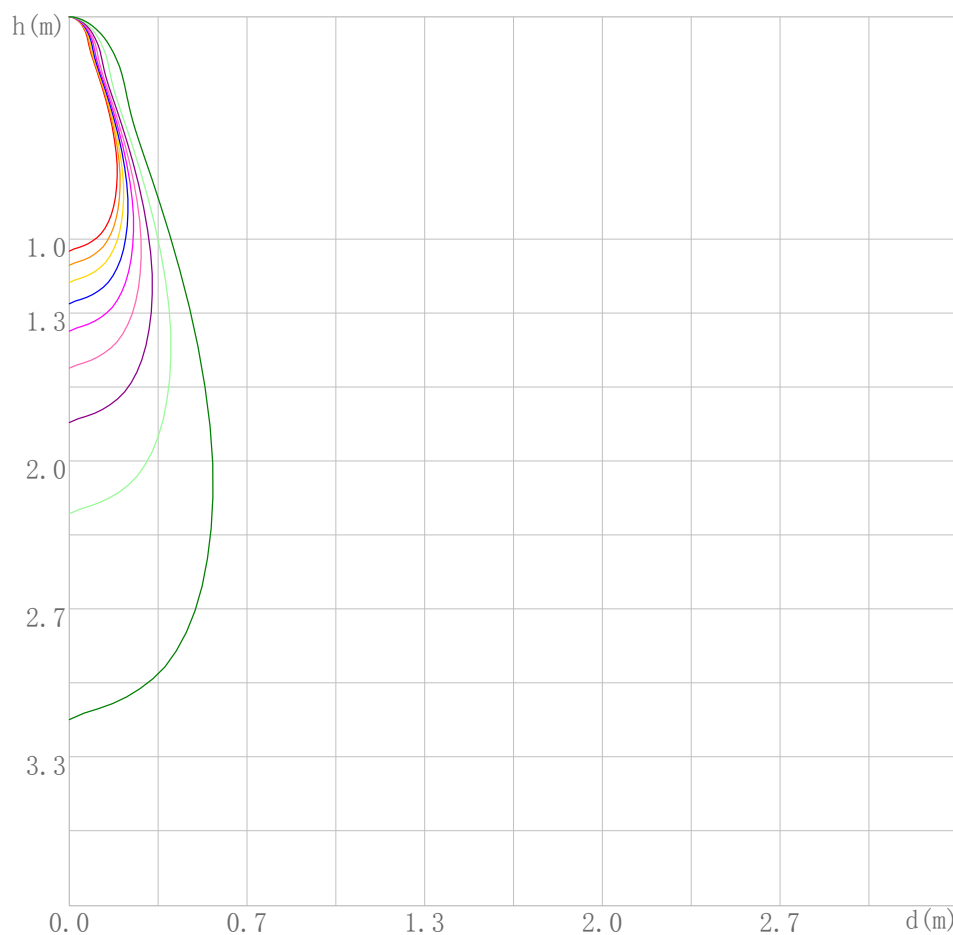
IES Indoor Report

Photometric Filename:WL02-09-XX-02 2700K RA90 24D.IES

Space ISO Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-02 2700K 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: 2021/11/16 |

Space ISO Illuminance Curve



Curves:

[Unit: lx]

[EMax] =2565.482

— [EMax*90%]=2308.934

— [EMax*80%]=2052.386

— [EMax*70%]=1795.837

— [EMax*60%]=1539.289

— [EMax*50%]=1282.741

— [EMax*40%]=1026.193

— [EMax*30%]=769.645

— [EMax*20%]=513.096

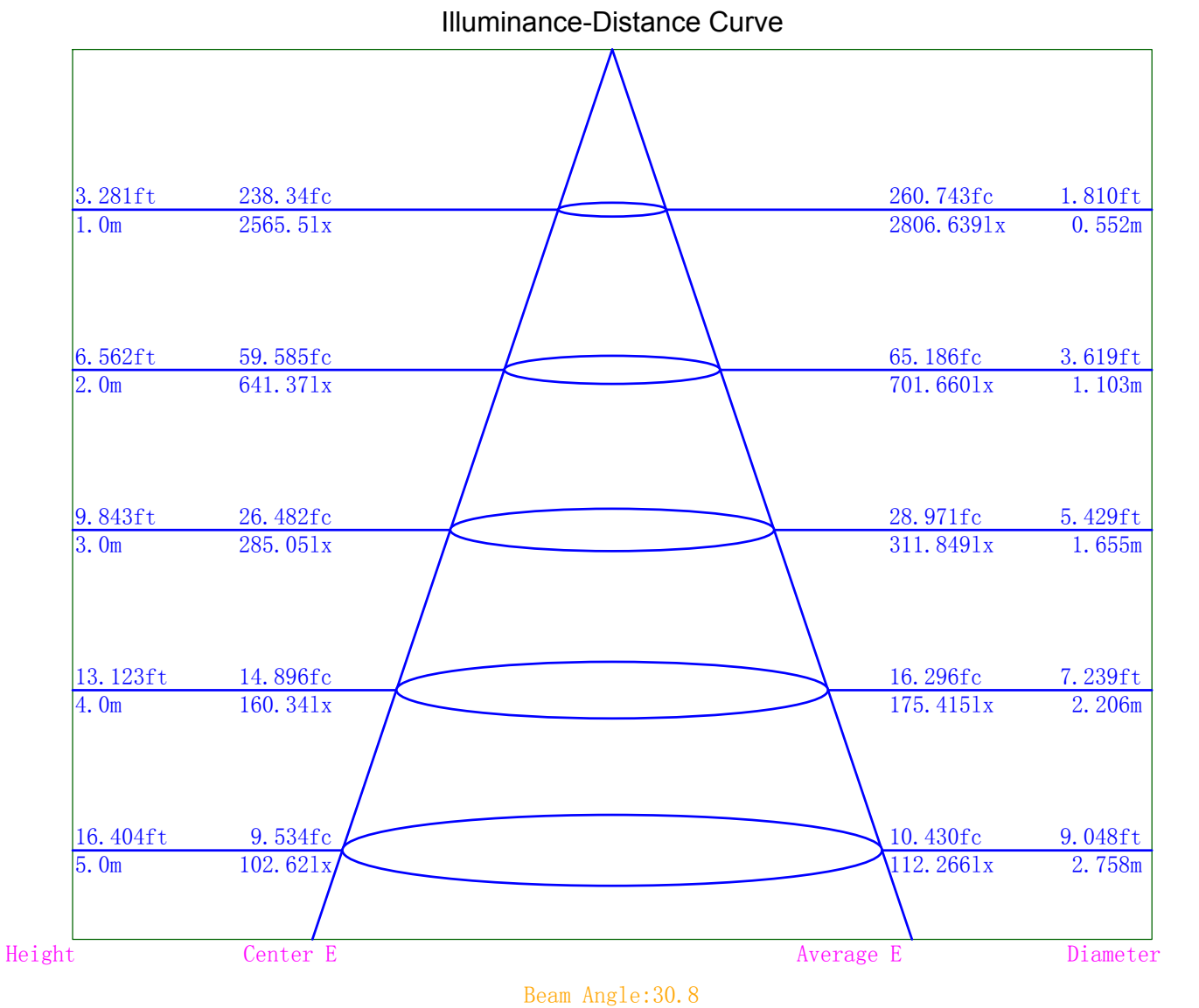
— [EMax*10%]=256.548

Space Plane Maximum Illuminance and @Angle:2565.48lx,0.0deg

Plane Maximum Lighting Intensity and @Angle:2565.482cd,0deg

Illuminance-Distance Diagram

| | | |
|---|-----------------------|--------------------------------|
| Lum. Name: WL02-09-XX-02 2700K RA90 24D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16 |



Indoor Luminance Limiting Curves

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-02 2700K 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: 2021/11/16 |

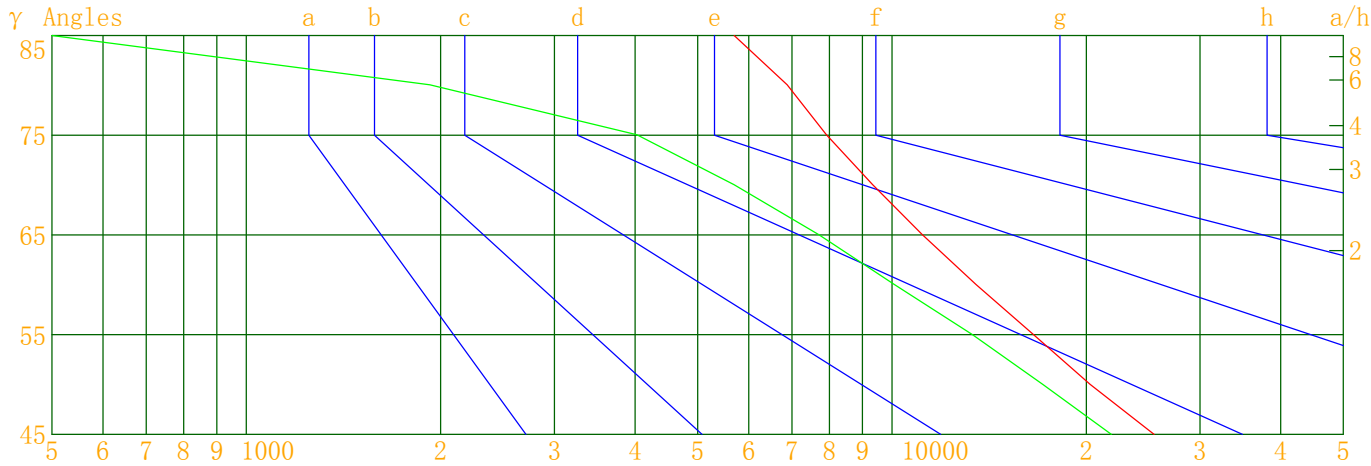
Glare Grade Table

| 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 | 25471 | 20279 | 16553 | 13500 | 11139 | 9333 | 7914 | 6880 | 5696 |
| C90 | 21867 | 17125 | 13311 | 10087 | 7699 | 5692 | 4027 | 1924 | 0 |

Luminance Limiting Curve



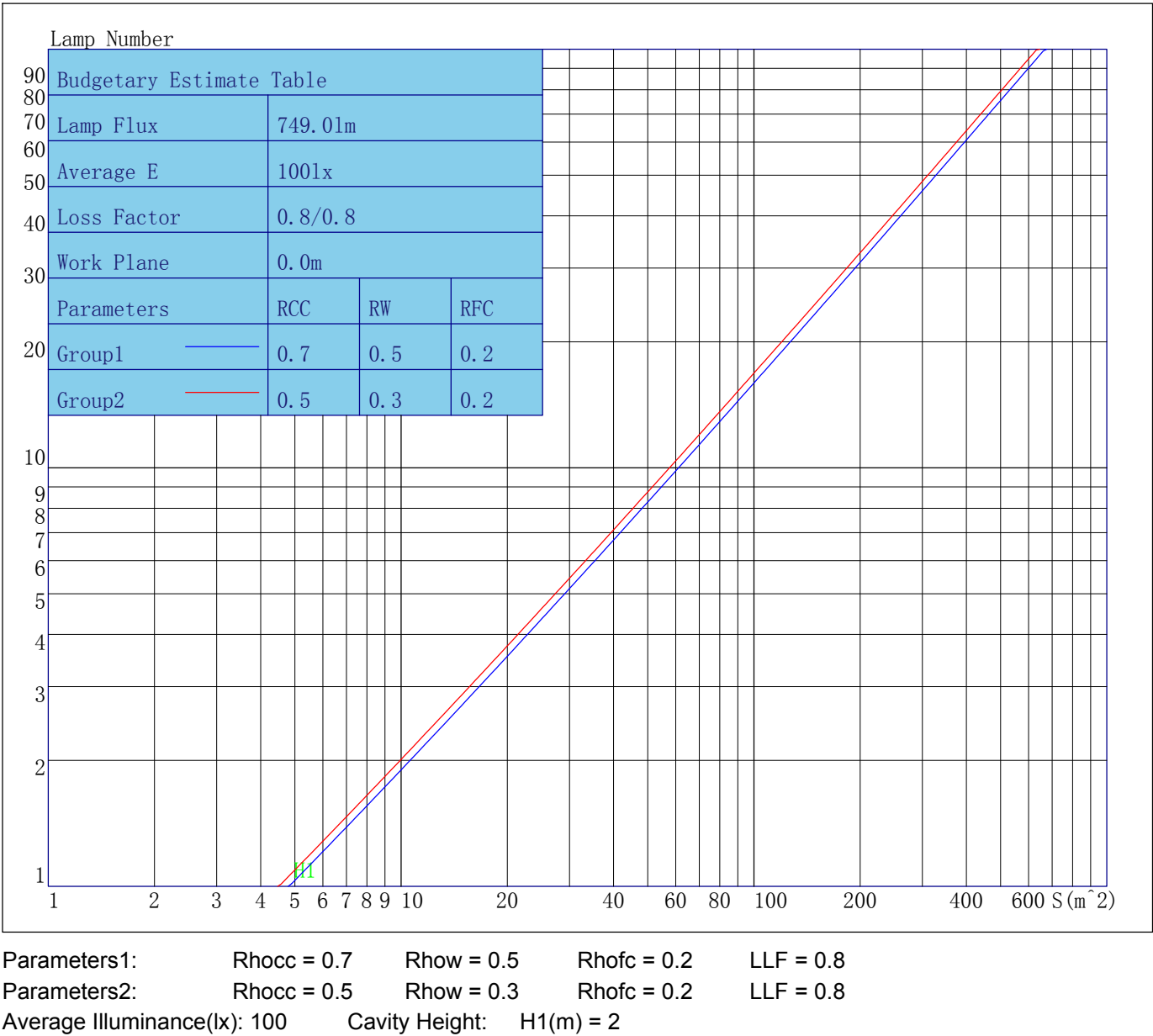
Luminous Size: Length(m)=-0.038 Width(m)=-0.038 Height(m)=0.000 Area(m^2)=0.001134

Luminous Type: Without Luminous Side

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

Indoor Budgetary Estimate Table

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-02 2700K 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: 2021/11/16 |



Indoor Coefficient of Utilization Table

| | | |
|---|-----------------------|-----------------------------|
| Lum. Name: WL02-09-XX-02 2700K RA90 24D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16 |

| 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 | 102 | 102 | 102 | 99 |
| 1 | 115 | 112 | 110 | 108 | 112 | 110 | 108 | 107 | 106 | 105 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 |
| 2 | 110 | 107 | 103 | 101 | 108 | 105 | 102 | 100 | 102 | 99 | 97 | 99 | 97 | 95 | 96 | 95 | 93 | 92 |
| 3 | 107 | 102 | 98 | 95 | 105 | 100 | 97 | 94 | 98 | 95 | 93 | 95 | 93 | 91 | 93 | 91 | 90 | 88 |
| 4 | 103 | 97 | 93 | 90 | 101 | 96 | 92 | 89 | 94 | 91 | 88 | 92 | 90 | 87 | 91 | 88 | 86 | 85 |
| 5 | 100 | 94 | 89 | 86 | 98 | 93 | 89 | 86 | 91 | 88 | 85 | 89 | 86 | 84 | 88 | 85 | 83 | 82 |
| 6 | 97 | 90 | 86 | 83 | 95 | 89 | 85 | 82 | 88 | 84 | 82 | 87 | 84 | 81 | 86 | 83 | 81 | 80 |
| 7 | 94 | 87 | 83 | 80 | 93 | 86 | 82 | 79 | 85 | 82 | 79 | 84 | 81 | 79 | 83 | 80 | 78 | 77 |
| 8 | 91 | 84 | 80 | 77 | 90 | 84 | 80 | 77 | 83 | 79 | 76 | 82 | 79 | 76 | 81 | 78 | 76 | 75 |
| 9 | 89 | 82 | 77 | 74 | 88 | 81 | 77 | 74 | 80 | 77 | 74 | 80 | 76 | 74 | 79 | 76 | 74 | 73 |
| 10 | 86 | 79 | 75 | 72 | 85 | 79 | 75 | 72 | 78 | 74 | 72 | 77 | 74 | 72 | 77 | 74 | 72 | 71 |

Unified Glare Rating Table

| | | |
|---|-----------------------|-----------------------------|
| Lum. Name: WL02-09-XX-02 2700K RA90 24D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16 |

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 | 15.1 | 16.1 | 15.5 | 16.4 | 16.7 | 14.1 | 15.0 | 14.4 | 15.4 | 15.7 |
| | 15.6 | 16.5 | 16.0 | 16.8 | 17.2 | 14.3 | 15.2 | 14.7 | 15.5 | 15.9 |
| | 15.7 | 16.6 | 16.2 | 16.9 | 17.3 | 14.3 | 15.1 | 14.7 | 15.5 | 15.9 |
| | 15.8 | 16.6 | 16.3 | 17.0 | 17.4 | 14.3 | 15.0 | 14.7 | 15.4 | 15.8 |
| | 15.9 | 16.6 | 16.3 | 17.0 | 17.4 | 14.2 | 14.9 | 14.7 | 15.3 | 15.8 |
| | 15.9 | 16.5 | 16.3 | 16.9 | 17.4 | 14.2 | 14.8 | 14.6 | 15.2 | 15.7 |
| X=4H Y=2H | 15.3 | 16.1 | 15.7 | 16.4 | 16.8 | 14.2 | 15.0 | 14.6 | 15.4 | 15.8 |
| | 15.9 | 16.6 | 16.3 | 17.0 | 17.4 | 14.6 | 15.3 | 15.0 | 15.7 | 16.1 |
| | 16.1 | 16.7 | 16.6 | 17.2 | 17.6 | 14.6 | 15.3 | 15.1 | 15.7 | 16.1 |
| | 16.3 | 16.8 | 16.8 | 17.3 | 17.8 | 14.6 | 15.1 | 15.1 | 15.6 | 16.1 |
| | 16.3 | 16.8 | 16.8 | 17.3 | 17.8 | 14.5 | 15.0 | 15.0 | 15.5 | 16.0 |
| | 16.4 | 16.8 | 16.9 | 17.3 | 17.8 | 14.5 | 14.9 | 15.0 | 15.4 | 15.9 |
| X=8H Y=4H | 16.1 | 16.6 | 16.6 | 17.1 | 17.6 | 14.6 | 15.1 | 15.1 | 15.6 | 16.1 |
| | 16.4 | 16.8 | 16.9 | 17.3 | 17.8 | 14.6 | 15.0 | 15.1 | 15.5 | 16.1 |
| | 16.5 | 16.8 | 17.0 | 17.4 | 17.9 | 14.5 | 14.9 | 15.1 | 15.4 | 16.0 |
| | 16.5 | 16.9 | 17.1 | 17.4 | 18.0 | 14.5 | 14.8 | 15.0 | 15.3 | 15.9 |
| X=12H Y=4H | 16.1 | 16.5 | 16.6 | 17.0 | 17.5 | 14.6 | 15.0 | 15.1 | 15.5 | 16.0 |
| | 16.4 | 16.7 | 16.9 | 17.2 | 17.8 | 14.6 | 14.9 | 15.1 | 15.4 | 16.0 |
| | 16.5 | 16.8 | 17.0 | 17.3 | 17.9 | 14.5 | 14.8 | 15.1 | 15.4 | 15.9 |
| Variations with the objverver position at spacings | | | | | | | | | | |
| S=1.0H | 0.5/-0.5 | | | | | 1.2/-1.5 | | | | |
| S=1.5H | 1.0/-1.1 | | | | | 1.8/-2.4 | | | | |
| S=2.0H | 1.5/-1.6 | | | | | 2.4/-3.3 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 1.3 | | | | | 0.8 | | | | |

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 | 2565.48 | 2565.48 | 2565.48 | 2565.48 |
| γ 1.0 | 2520.51 | 2557.41 | 2579.30 | 2618.02 |
| γ 2.0 | 2491.65 | 2521.32 | 2606.66 | 2643.43 |
| γ 3.0 | 2460.58 | 2480.56 | 2627.70 | 2663.65 |
| γ 4.0 | 2421.05 | 2423.49 | 2640.25 | 2688.45 |
| γ 5.0 | 2372.45 | 2353.94 | 2640.92 | 2695.52 |
| γ 6.0 | 2314.60 | 2272.91 | 2633.49 | 2699.85 |
| γ 7.0 | 2244.02 | 2175.82 | 2609.44 | 2690.64 |
| γ 8.0 | 2150.84 | 2062.95 | 2563.67 | 2671.33 |
| γ 9.0 | 2042.77 | 1933.06 | 2490.92 | 2641.01 |
| γ 10.0 | 1919.22 | 1793.23 | 2397.28 | 2590.11 |
| γ 11.0 | 1779.12 | 1634.71 | 2283.05 | 2514.54 |
| γ 12.0 | 1628.66 | 1466.89 | 2144.94 | 2420.85 |
| γ 13.0 | 1471.57 | 1294.59 | 1979.65 | 2302.63 |
| γ 14.0 | 1309.63 | 1118.30 | 1788.78 | 2156.15 |
| γ 15.0 | 1147.48 | 945.01 | 1585.40 | 1991.09 |
| γ 16.0 | 977.86 | 782.89 | 1372.89 | 1800.91 |
| γ 17.0 | 811.55 | 630.88 | 1162.80 | 1599.51 |
| γ 18.0 | 657.16 | 495.27 | 961.27 | 1384.12 |
| γ 19.0 | 518.02 | 382.09 | 773.22 | 1167.34 |
| γ 20.0 | 399.30 | 291.47 | 604.25 | 956.86 |
| γ 21.0 | 302.93 | 221.97 | 462.69 | 759.04 |
| γ 22.0 | 229.27 | 170.36 | 347.76 | 586.61 |
| γ 23.0 | 175.13 | 133.38 | 258.89 | 441.08 |
| γ 24.0 | 135.80 | 107.79 | 193.24 | 327.11 |
| γ 25.0 | 108.93 | 90.46 | 146.02 | 240.88 |
| γ 26.0 | 90.88 | 78.29 | 113.49 | 178.26 |
| γ 27.0 | 78.62 | 69.29 | 91.04 | 135.75 |
| γ 28.0 | 69.67 | 62.35 | 75.44 | 106.70 |
| γ 29.0 | 62.86 | 56.13 | 64.06 | 87.21 |
| γ 30.0 | 57.37 | 51.16 | 55.30 | 73.73 |
| γ 31.0 | 52.71 | 47.22 | 48.57 | 63.82 |
| γ 32.0 | 48.79 | 43.83 | 43.15 | 56.27 |
| γ 33.0 | 45.44 | 40.68 | 38.73 | 50.12 |
| γ 34.0 | 42.45 | 37.88 | 35.23 | 45.14 |
| γ 35.0 | 39.67 | 35.33 | 32.26 | 41.03 |
| γ 36.0 | 37.18 | 32.92 | 29.70 | 37.51 |
| γ 37.0 | 34.88 | 30.74 | 27.57 | 34.44 |
| γ 38.0 | 32.68 | 28.71 | 25.75 | 31.78 |
| γ 39.0 | 30.63 | 26.74 | 24.22 | 29.48 |
| γ 40.0 | 28.70 | 24.93 | 22.91 | 27.51 |
| γ 41.0 | 26.86 | 23.15 | 21.75 | 25.83 |
| γ 42.0 | 25.05 | 21.58 | 20.69 | 24.33 |
| γ 43.0 | 23.36 | 20.09 | 19.72 | 23.01 |
| γ 44.0 | 21.81 | 18.77 | 18.88 | 21.81 |
| γ 45.0 | 20.43 | 17.54 | 18.16 | 20.74 |
| γ 46.0 | 19.12 | 16.38 | 17.48 | 19.82 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 17.90 | 15.30 | 16.79 | 19.03 |
| γ 48.0 | 16.76 | 14.31 | 16.11 | 18.27 |
| γ 49.0 | 15.73 | 13.38 | 15.47 | 17.58 |
| γ 50.0 | 14.78 | 12.48 | 14.81 | 16.88 |
| γ 51.0 | 13.91 | 11.65 | 14.14 | 16.17 |
| γ 52.0 | 13.08 | 10.84 | 13.48 | 15.48 |
| γ 53.0 | 12.27 | 10.07 | 12.78 | 14.82 |
| γ 54.0 | 11.48 | 9.36 | 12.08 | 14.11 |
| γ 55.0 | 10.77 | 8.66 | 11.37 | 13.42 |
| γ 56.0 | 10.10 | 7.98 | 10.71 | 12.68 |
| γ 57.0 | 9.41 | 7.36 | 10.01 | 11.95 |
| γ 58.0 | 8.80 | 6.77 | 9.32 | 11.28 |
| γ 59.0 | 8.20 | 6.23 | 8.65 | 10.60 |
| γ 60.0 | 7.66 | 5.72 | 8.03 | 9.94 |
| γ 61.0 | 7.13 | 5.26 | 7.43 | 9.29 |
| γ 62.0 | 6.65 | 4.83 | 6.86 | 8.69 |
| γ 63.0 | 6.17 | 4.41 | 6.31 | 8.11 |
| γ 64.0 | 5.74 | 4.04 | 5.82 | 7.56 |
| γ 65.0 | 5.34 | 3.69 | 5.33 | 7.05 |
| γ 66.0 | 4.95 | 3.37 | 4.89 | 6.57 |
| γ 67.0 | 4.59 | 3.07 | 4.46 | 6.11 |
| γ 68.0 | 4.25 | 2.77 | 4.09 | 5.69 |
| γ 69.0 | 3.96 | 2.46 | 3.75 | 5.26 |
| γ 70.0 | 3.62 | 2.21 | 3.44 | 4.88 |
| γ 71.0 | 3.30 | 1.98 | 3.11 | 4.53 |
| γ 72.0 | 3.04 | 1.76 | 2.79 | 4.19 |
| γ 73.0 | 2.80 | 1.55 | 2.52 | 3.84 |
| γ 74.0 | 2.55 | 1.36 | 2.27 | 3.51 |
| γ 75.0 | 2.32 | 1.18 | 2.03 | 3.24 |
| γ 76.0 | 2.12 | 1.00 | 1.81 | 2.98 |
| γ 77.0 | 1.91 | 0.84 | 1.59 | 2.71 |
| γ 78.0 | 1.72 | 0.66 | 1.38 | 2.47 |
| γ 79.0 | 1.52 | 0.52 | 1.18 | 2.24 |
| γ 80.0 | 1.36 | 0.38 | 1.00 | 2.02 |
| γ 81.0 | 1.18 | 0.25 | 0.82 | 1.80 |
| γ 82.0 | 1.01 | 0.10 | 0.64 | 1.61 |
| γ 83.0 | 0.87 | 0.00 | 0.48 | 1.40 |
| γ 84.0 | 0.71 | 0.00 | 0.34 | 1.21 |
| γ 85.0 | 0.56 | 0.00 | 0.20 | 1.04 |
| γ 86.0 | 0.43 | 0.00 | 0.06 | 0.87 |
| γ 87.0 | 0.31 | 0.00 | 0.00 | 0.71 |
| γ 88.0 | 0.19 | 0.00 | 0.00 | 0.56 |
| γ 89.0 | 0.10 | 0.00 | 0.00 | 0.43 |
| γ 90.0 | 0.04 | 0.00 | 0.00 | 0.28 |
| γ 91.0 | 0.00 | 0.00 | 0.00 | 0.16 |
| γ 92.0 | 0.00 | 0.00 | 0.00 | 0.07 |
| γ 93.0 | 0.00 | 0.00 | 0.00 | 0.00 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 95.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 96.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 97.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 98.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 99.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 100.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 101.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 102.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 103.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 104.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 105.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 106.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 107.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 108.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 109.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 110.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 111.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 112.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 113.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 114.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 115.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 116.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 117.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 118.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 119.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 120.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 121.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 122.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 123.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 124.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 125.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 126.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 127.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 128.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 129.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 130.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 131.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 132.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 133.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 134.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| γ 135.0 | 0.00 | 0.11 | 0.03 | 0.00 |
| γ 136.0 | 0.13 | 0.29 | 0.17 | 0.00 |
| γ 137.0 | 0.31 | 0.47 | 0.34 | 0.08 |
| γ 138.0 | 0.50 | 0.66 | 0.50 | 0.22 |
| γ 139.0 | 0.69 | 0.85 | 0.68 | 0.39 |
| γ 140.0 | 0.88 | 1.03 | 0.86 | 0.55 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 1.06 | 1.22 | 1.03 | 0.73 |
| γ 142.0 | 1.24 | 1.40 | 1.23 | 0.90 |
| γ 143.0 | 1.44 | 1.58 | 1.41 | 1.07 |
| γ 144.0 | 1.62 | 1.75 | 1.60 | 1.26 |
| γ 145.0 | 1.81 | 1.92 | 1.79 | 1.43 |
| γ 146.0 | 1.98 | 2.08 | 1.98 | 1.62 |
| γ 147.0 | 2.16 | 2.23 | 2.18 | 1.79 |
| γ 148.0 | 2.33 | 2.36 | 2.35 | 1.97 |
| γ 149.0 | 2.47 | 2.51 | 2.55 | 2.14 |
| γ 150.0 | 2.64 | 2.65 | 2.72 | 2.31 |
| γ 151.0 | 2.78 | 2.77 | 2.89 | 2.47 |
| γ 152.0 | 2.92 | 2.90 | 3.05 | 2.63 |
| γ 153.0 | 3.04 | 3.01 | 3.20 | 2.79 |
| γ 154.0 | 3.15 | 3.10 | 3.33 | 2.93 |
| γ 155.0 | 3.27 | 3.21 | 3.45 | 3.08 |
| γ 156.0 | 3.37 | 3.28 | 3.55 | 3.20 |
| γ 157.0 | 3.45 | 3.34 | 3.63 | 3.31 |
| γ 158.0 | 3.52 | 3.39 | 3.71 | 3.40 |
| γ 159.0 | 3.57 | 3.41 | 3.77 | 3.49 |
| γ 160.0 | 3.61 | 3.44 | 3.81 | 3.56 |
| γ 161.0 | 3.65 | 3.44 | 3.85 | 3.62 |
| γ 162.0 | 3.65 | 3.44 | 3.86 | 3.67 |
| γ 163.0 | 3.65 | 3.42 | 3.86 | 3.69 |
| γ 164.0 | 3.63 | 3.38 | 3.85 | 3.70 |
| γ 165.0 | 3.61 | 3.34 | 3.83 | 3.70 |
| γ 166.0 | 3.56 | 3.30 | 3.81 | 3.68 |
| γ 167.0 | 3.52 | 3.26 | 3.75 | 3.67 |
| γ 168.0 | 3.46 | 3.23 | 3.70 | 3.64 |
| γ 169.0 | 3.42 | 3.22 | 3.65 | 3.61 |
| γ 170.0 | 3.38 | 3.21 | 3.61 | 3.59 |
| γ 171.0 | 3.35 | 3.21 | 3.56 | 3.55 |
| γ 172.0 | 3.32 | 3.22 | 3.53 | 3.52 |
| γ 173.0 | 3.31 | 3.24 | 3.49 | 3.50 |
| γ 174.0 | 3.31 | 3.27 | 3.47 | 3.49 |
| γ 175.0 | 3.33 | 3.30 | 3.45 | 3.49 |
| γ 176.0 | 3.35 | 3.35 | 3.44 | 3.49 |
| γ 177.0 | 3.37 | 3.40 | 3.43 | 3.51 |
| γ 178.0 | 3.40 | 3.43 | 3.43 | 3.52 |
| γ 179.0 | 3.40 | 3.45 | 3.44 | 3.53 |
| γ 180.0 | 3.45 | 3.45 | 3.45 | 3.45 |