

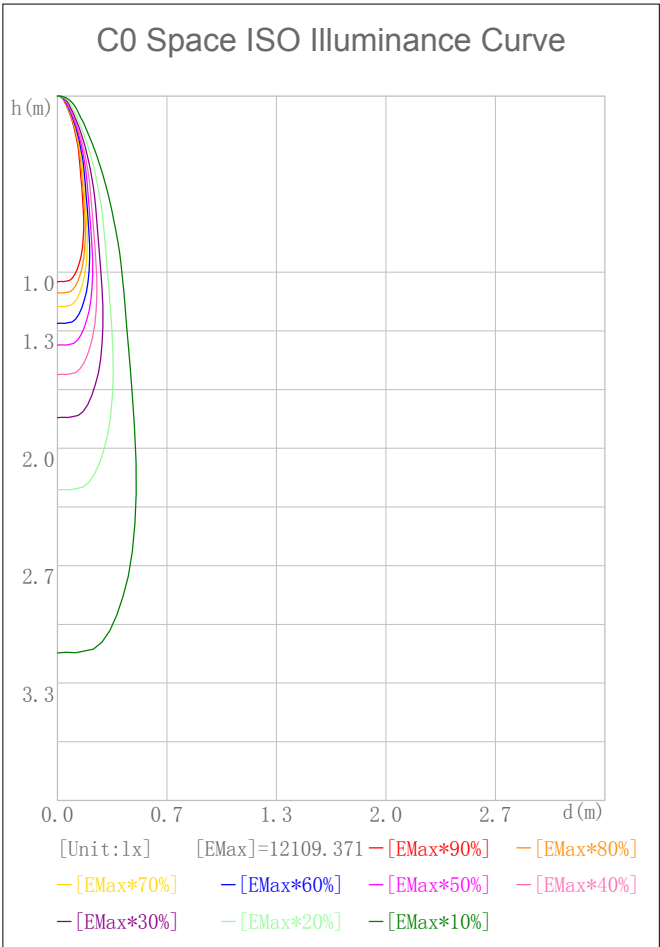
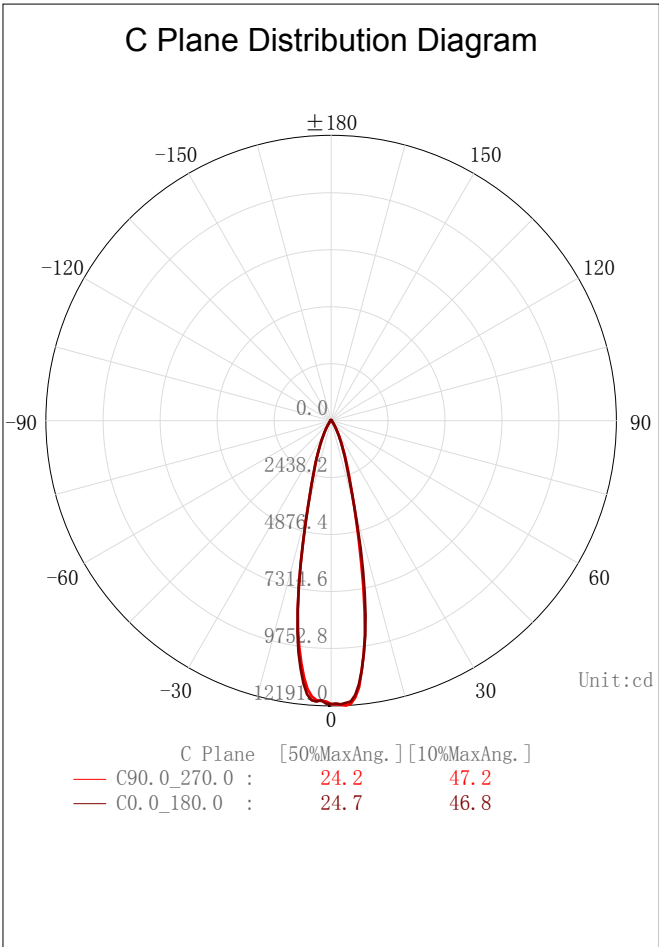
Indoor Luminaire Photometric Data

Description Information

| | | | |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name: TR05-35-XX-01 4000K RA90 24D | | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | | Lamp Catalog: LED | Test Date: 2019/11/26 |
| 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):0.070m*0.070m*0.266m | | Lum. Area (m2):0.024 | Lum. W(kg): 0.000 |
| Test System: C, γ | Test Step: C=90.0 γ=1.0 | Temp. (°C): 25 | Humidity(%): 50.0 |

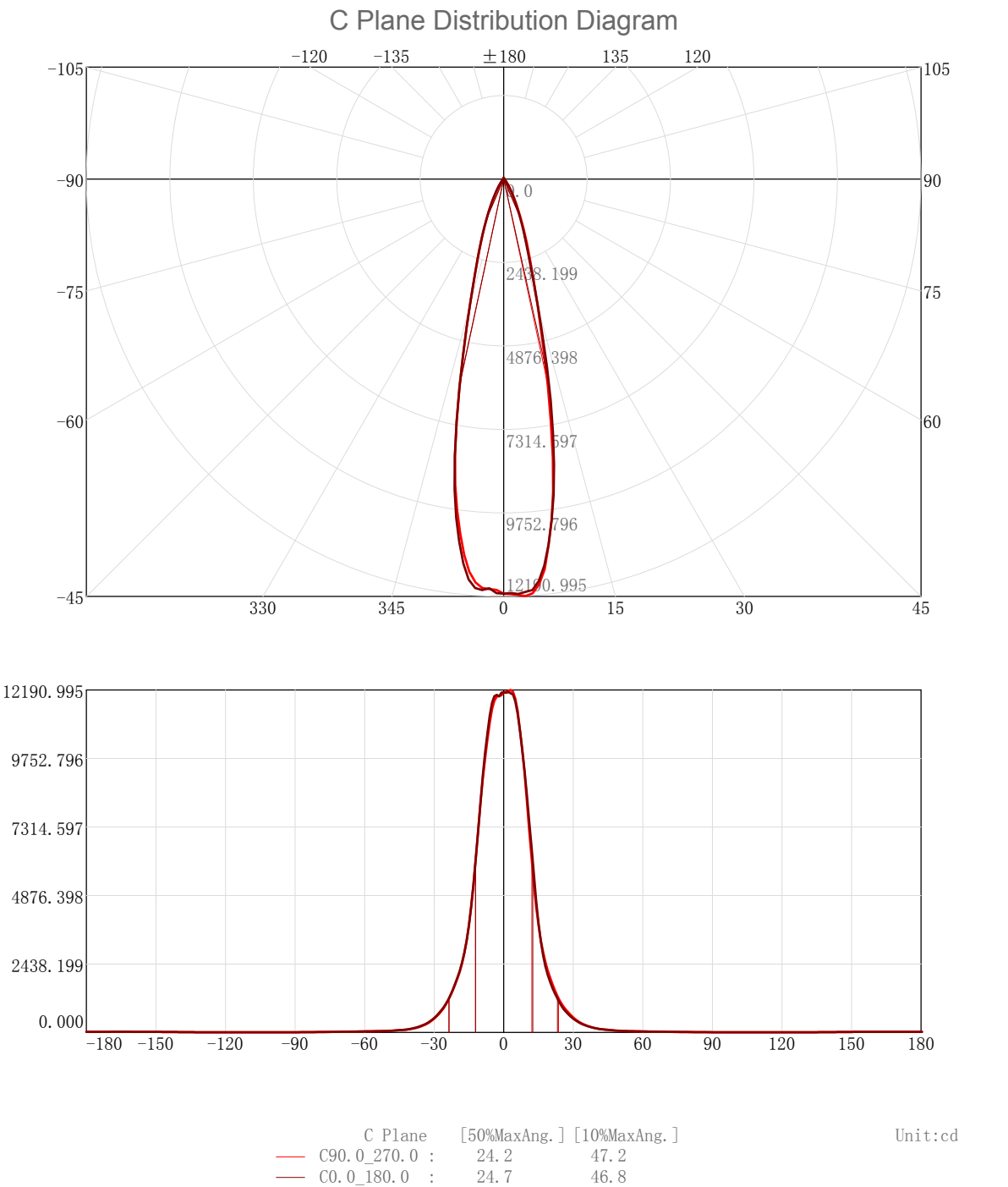
Character Parameter

| Lamp Speciality Parameter | | Luminaire Speciality Parameter | |
|---|---------------------------------|--|--|
| Rated Flux(lm): 3038.370 | Luminary Flux(lm): 3038.368 | Field Angle(10%Imax): 47.2(°) | |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 2959.311lm 97.40% | |
| Rated Voltage(V): | Luminary EER(lm/W): 89.575 | Up Lumens&Percent: 79.057lm 2.60% | |
| Tested Power(W): 33.920 | Max. Candela(cd): 12190.995 | S/MH: C0_a180=0.423 C90_270=0.416 | |
| Lamps' Inside: 1 | Max Cand@Ang. (°): C=90.0 γ=3.0 | CIE Type: Semi-Direct | |
| Tested Electrics (V, A, pf):240.0, 0.143, 0.987 | Beam Angle(50%Imax): 24.2(°) | ErP ϕ use(90°): 2822.368lm | |
| Lamp Size(W*L*H):0.070m*0.070m*0.266m | Left=-12.1°, Right=12.1° | IRF(%): 888.019 | |



2D Plane Light Intensity Distribution Curve

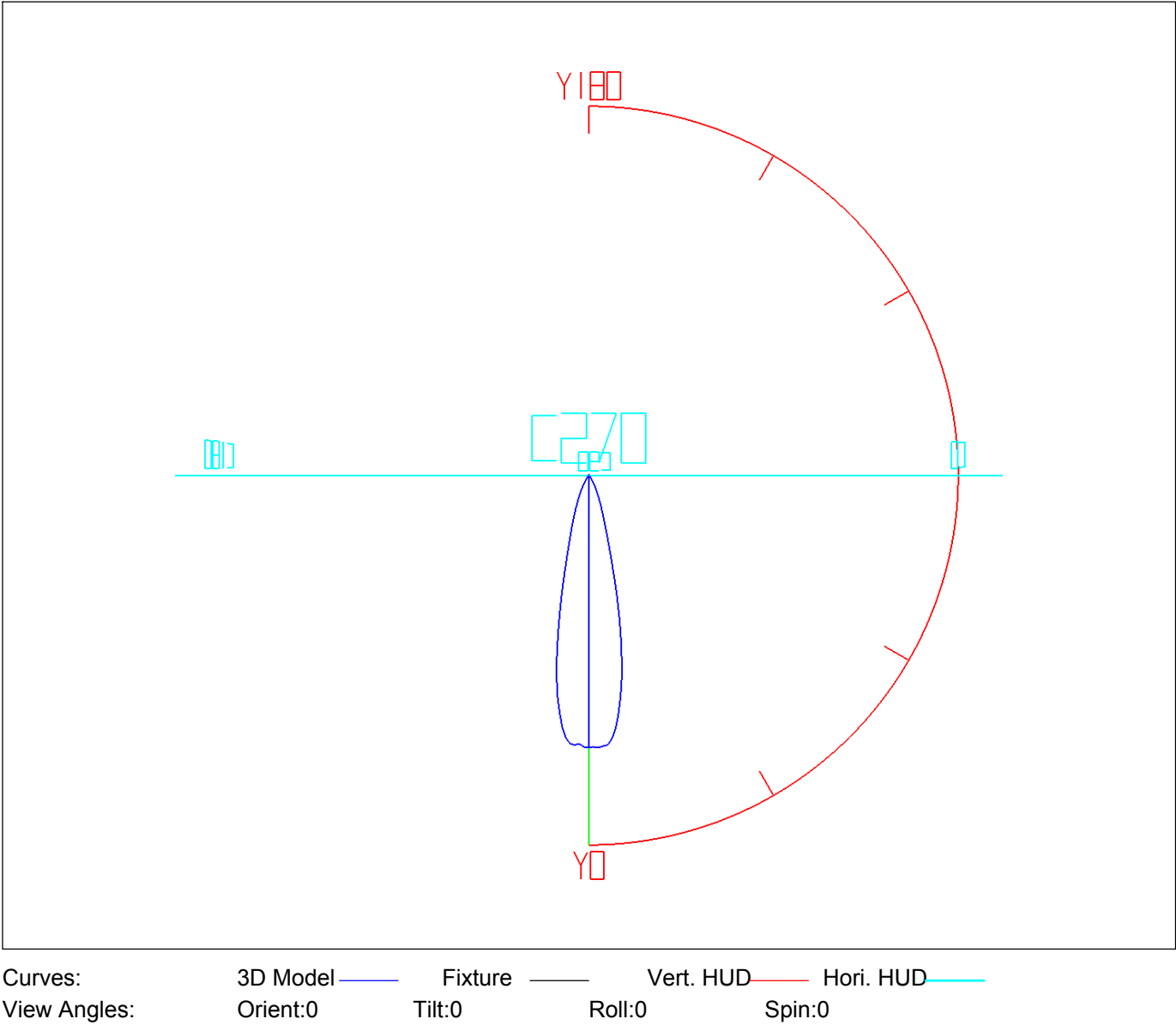
| | | |
|--|-----------------------|---------------------------|
| Lum. Name:TR05-35-XX-01 4000K RA90 24D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:QQualty peatment |
| Manufacture:Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date:2019/11/26 |



3D Light Intensity Distribution Modal

| | | |
|--|-----------------------|---------------------------|
| Lum. Name:TR05-35-XX-01 4000K RA90 24D | 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:2019/11/26 |

3D Light Intensity Distribution Modal



IES Indoor Report

Photometric Filename:TR05-35-XX-01 4000K RA90 24D.IES

Zonal Flux Tabulation

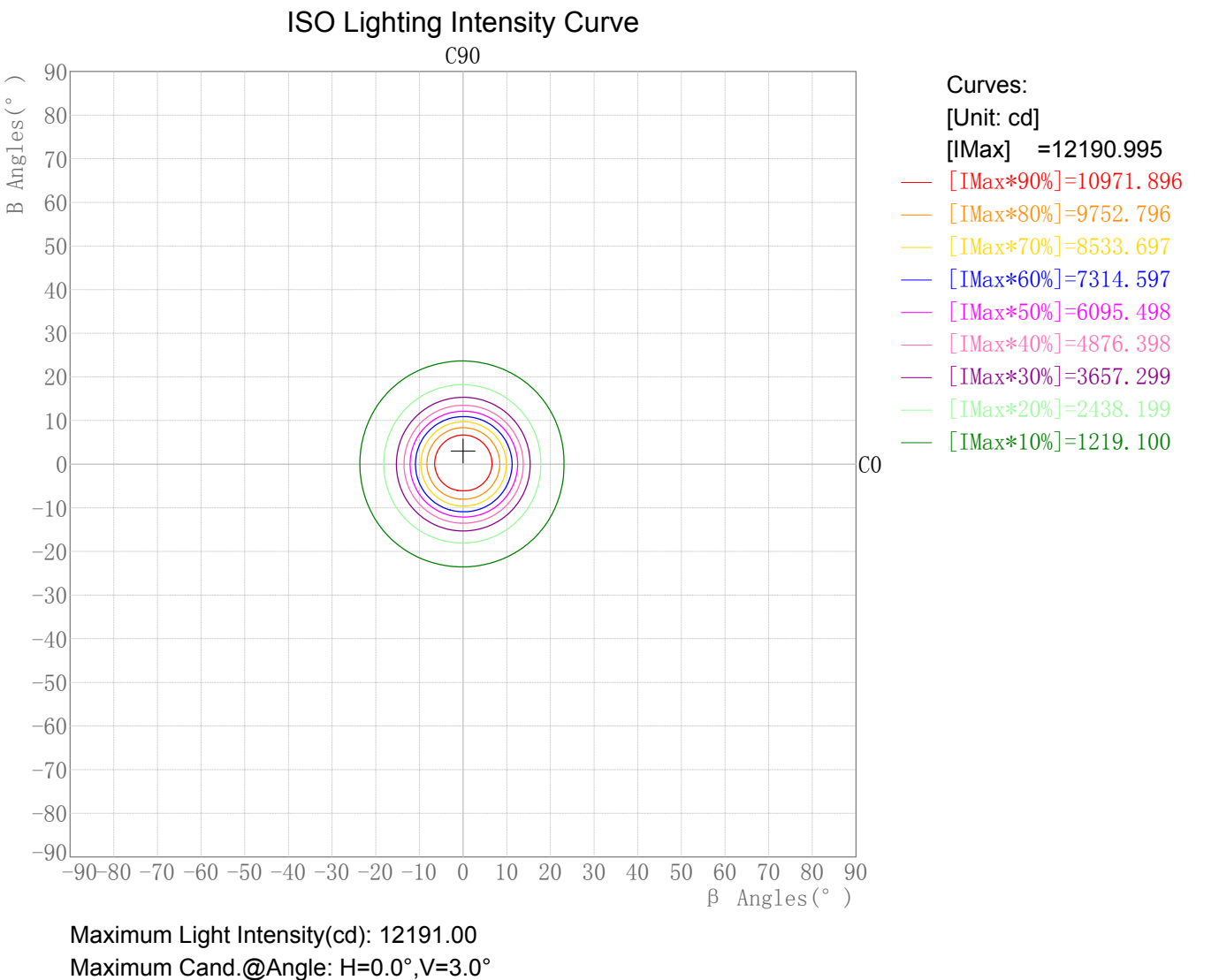
| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp | Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0 | 11.57 | 11.57 | 0.38 | 0.38 | 47.0-48.0 | 5.77 | 2834.66 | 0.19 | 93.30 |
| 1.0-2.0 | 34.63 | 46.21 | 1.14 | 1.52 | 48.0-49.0 | 5.35 | 2840.01 | 0.18 | 93.47 |
| 2.0-3.0 | 57.67 | 103.88 | 1.90 | 3.42 | 49.0-50.0 | 5.06 | 2845.07 | 0.17 | 93.64 |
| 3.0-4.0 | 80.48 | 184.36 | 2.65 | 6.07 | 50.0-51.0 | 4.85 | 2849.92 | 0.16 | 93.80 |
| 4.0-5.0 | 101.99 | 286.35 | 3.36 | 9.42 | 51.0-52.0 | 4.68 | 2854.60 | 0.15 | 93.95 |
| 5.0-6.0 | 120.89 | 407.25 | 3.98 | 13.40 | 52.0-53.0 | 4.54 | 2859.13 | 0.15 | 94.10 |
| 6.0-7.0 | 136.12 | 543.36 | 4.48 | 17.88 | 53.0-54.0 | 4.42 | 2863.56 | 0.15 | 94.25 |
| 7.0-8.0 | 147.56 | 690.92 | 4.86 | 22.74 | 54.0-55.0 | 4.31 | 2867.87 | 0.14 | 94.39 |
| 8.0-9.0 | 155.28 | 846.20 | 5.11 | 27.85 | 55.0-56.0 | 4.22 | 2872.09 | 0.14 | 94.53 |
| 9.0-10.0 | 158.17 | 1004.37 | 5.21 | 33.06 | 56.0-57.0 | 4.12 | 2876.21 | 0.14 | 94.66 |
| 10.0-11.0 | 155.71 | 1160.08 | 5.12 | 38.18 | 57.0-58.0 | 4.03 | 2880.23 | 0.13 | 94.80 |
| 11.0-12.0 | 148.73 | 1308.81 | 4.89 | 43.08 | 58.0-59.0 | 3.93 | 2884.17 | 0.13 | 94.92 |
| 12.0-13.0 | 138.57 | 1447.37 | 4.56 | 47.64 | 59.0-60.0 | 3.83 | 2888.00 | 0.13 | 95.05 |
| 13.0-14.0 | 126.77 | 1574.14 | 4.17 | 51.81 | 60.0-61.0 | 3.74 | 2891.74 | 0.12 | 95.17 |
| 14.0-15.0 | 114.94 | 1689.08 | 3.78 | 55.59 | 61.0-62.0 | 3.63 | 2895.37 | 0.12 | 95.29 |
| 15.0-16.0 | 104.08 | 1793.17 | 3.43 | 59.02 | 62.0-63.0 | 3.53 | 2898.90 | 0.12 | 95.41 |
| 16.0-17.0 | 94.73 | 1887.90 | 3.12 | 62.14 | 63.0-64.0 | 3.43 | 2902.33 | 0.11 | 95.52 |
| 17.0-18.0 | 86.89 | 1974.79 | 2.86 | 65.00 | 64.0-65.0 | 3.33 | 2905.65 | 0.11 | 95.63 |
| 18.0-19.0 | 80.14 | 2054.93 | 2.64 | 67.63 | 65.0-66.0 | 3.22 | 2908.87 | 0.11 | 95.74 |
| 19.0-20.0 | 74.24 | 2129.17 | 2.44 | 70.08 | 66.0-67.0 | 3.11 | 2911.98 | 0.10 | 95.84 |
| 20.0-21.0 | 68.79 | 2197.96 | 2.26 | 72.34 | 67.0-68.0 | 3.00 | 2914.98 | 0.10 | 95.94 |
| 21.0-22.0 | 63.55 | 2261.51 | 2.09 | 74.43 | 68.0-69.0 | 2.90 | 2917.88 | 0.10 | 96.03 |
| 22.0-23.0 | 58.37 | 2319.88 | 1.92 | 76.35 | 69.0-70.0 | 2.80 | 2920.68 | 0.09 | 96.13 |
| 23.0-24.0 | 53.26 | 2373.14 | 1.75 | 78.11 | 70.0-71.0 | 2.70 | 2923.38 | 0.09 | 96.22 |
| 24.0-25.0 | 48.38 | 2421.53 | 1.59 | 79.70 | 71.0-72.0 | 2.61 | 2925.99 | 0.09 | 96.30 |
| 25.0-26.0 | 43.91 | 2465.44 | 1.45 | 81.14 | 72.0-73.0 | 2.52 | 2928.51 | 0.08 | 96.38 |
| 26.0-27.0 | 39.87 | 2505.31 | 1.31 | 82.46 | 73.0-74.0 | 2.43 | 2930.94 | 0.08 | 96.46 |
| 27.0-28.0 | 36.19 | 2541.50 | 1.19 | 83.65 | 74.0-75.0 | 2.34 | 2933.29 | 0.08 | 96.54 |
| 28.0-29.0 | 32.74 | 2574.24 | 1.08 | 84.72 | 75.0-76.0 | 2.26 | 2935.54 | 0.07 | 96.62 |
| 29.0-30.0 | 29.52 | 2603.76 | 0.97 | 85.70 | 76.0-77.0 | 2.17 | 2937.72 | 0.07 | 96.69 |
| 30.0-31.0 | 26.54 | 2630.29 | 0.87 | 86.57 | 77.0-78.0 | 2.09 | 2939.81 | 0.07 | 96.76 |
| 31.0-32.0 | 23.79 | 2654.08 | 0.78 | 87.35 | 78.0-79.0 | 2.02 | 2941.83 | 0.07 | 96.82 |
| 32.0-33.0 | 21.30 | 2675.38 | 0.70 | 88.05 | 79.0-80.0 | 1.94 | 2943.76 | 0.06 | 96.89 |
| 33.0-34.0 | 19.11 | 2694.49 | 0.63 | 88.68 | 80.0-81.0 | 1.86 | 2945.63 | 0.06 | 96.95 |
| 34.0-35.0 | 17.18 | 2711.68 | 0.57 | 89.25 | 81.0-82.0 | 1.79 | 2947.42 | 0.06 | 97.01 |
| 35.0-36.0 | 15.46 | 2727.13 | 0.51 | 89.76 | 82.0-83.0 | 1.72 | 2949.14 | 0.06 | 97.06 |
| 36.0-37.0 | 13.93 | 2741.06 | 0.46 | 90.21 | 83.0-84.0 | 1.65 | 2950.79 | 0.05 | 97.12 |
| 37.0-38.0 | 12.58 | 2753.64 | 0.41 | 90.63 | 84.0-85.0 | 1.59 | 2952.38 | 0.05 | 97.17 |
| 38.0-39.0 | 11.39 | 2765.02 | 0.37 | 91.00 | 85.0-86.0 | 1.52 | 2953.90 | 0.05 | 97.22 |
| 39.0-40.0 | 10.31 | 2775.34 | 0.34 | 91.34 | 86.0-87.0 | 1.45 | 2955.35 | 0.05 | 97.27 |
| 40.0-41.0 | 9.36 | 2784.70 | 0.31 | 91.65 | 87.0-88.0 | 1.38 | 2956.73 | 0.05 | 97.31 |
| 41.0-42.0 | 8.56 | 2793.26 | 0.28 | 91.93 | 88.0-89.0 | 1.32 | 2958.04 | 0.04 | 97.36 |
| 42.0-43.0 | 7.96 | 2801.21 | 0.26 | 92.19 | 89.0-90.0 | 1.27 | 2959.31 | 0.04 | 97.40 |
| 43.0-44.0 | 7.50 | 2808.72 | 0.25 | 92.44 | 90.0-91.0 | 1.23 | 2960.54 | 0.04 | 97.44 |
| 44.0-45.0 | 7.13 | 2815.85 | 0.23 | 92.68 | 91.0-92.0 | 1.20 | 2961.75 | 0.04 | 97.48 |
| 45.0-46.0 | 6.75 | 2822.60 | 0.22 | 92.90 | 92.0-93.0 | 1.18 | 2962.92 | 0.04 | 97.52 |
| 46.0-47.0 | 6.28 | 2828.88 | 0.21 | 93.11 | 93.0-94.0 | 1.15 | 2964.07 | 0.04 | 97.55 |

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 | 1.13 | 2965.20 | 0.04 | 97.59 | 141.0-142.0 | 1.13 | 3007.69 | 0.04 | 98.99 |
| 95.0-96.0 | 1.10 | 2966.30 | 0.04 | 97.63 | 142.0-143.0 | 1.15 | 3008.85 | 0.04 | 99.03 |
| 96.0-97.0 | 1.08 | 2967.38 | 0.04 | 97.66 | 143.0-144.0 | 1.17 | 3010.02 | 0.04 | 99.07 |
| 97.0-98.0 | 1.05 | 2968.43 | 0.03 | 97.70 | 144.0-145.0 | 1.19 | 3011.21 | 0.04 | 99.11 |
| 98.0-99.0 | 1.04 | 2969.47 | 0.03 | 97.73 | 145.0-146.0 | 1.21 | 3012.42 | 0.04 | 99.15 |
| 99.0-100.0 | 1.02 | 2970.48 | 0.03 | 97.77 | 146.0-147.0 | 1.22 | 3013.63 | 0.04 | 99.19 |
| 100.0-101.0 | 1.00 | 2971.49 | 0.03 | 97.80 | 147.0-148.0 | 1.22 | 3014.85 | 0.04 | 99.23 |
| 101.0-102.0 | 0.98 | 2972.47 | 0.03 | 97.83 | 148.0-149.0 | 1.23 | 3016.08 | 0.04 | 99.27 |
| 102.0-103.0 | 0.97 | 2973.44 | 0.03 | 97.86 | 149.0-150.0 | 1.22 | 3017.30 | 0.04 | 99.31 |
| 103.0-104.0 | 0.95 | 2974.39 | 0.03 | 97.89 | 150.0-151.0 | 1.22 | 3018.52 | 0.04 | 99.35 |
| 104.0-105.0 | 0.94 | 2975.32 | 0.03 | 97.93 | 151.0-152.0 | 1.21 | 3019.72 | 0.04 | 99.39 |
| 105.0-106.0 | 0.92 | 2976.25 | 0.03 | 97.96 | 152.0-153.0 | 1.19 | 3020.92 | 0.04 | 99.43 |
| 106.0-107.0 | 0.91 | 2977.16 | 0.03 | 97.99 | 153.0-154.0 | 1.17 | 3022.09 | 0.04 | 99.46 |
| 107.0-108.0 | 0.90 | 2978.05 | 0.03 | 98.01 | 154.0-155.0 | 1.15 | 3023.24 | 0.04 | 99.50 |
| 108.0-109.0 | 0.89 | 2978.94 | 0.03 | 98.04 | 155.0-156.0 | 1.12 | 3024.36 | 0.04 | 99.54 |
| 109.0-110.0 | 0.88 | 2979.82 | 0.03 | 98.07 | 156.0-157.0 | 1.09 | 3025.45 | 0.04 | 99.57 |
| 110.0-111.0 | 0.87 | 2980.68 | 0.03 | 98.10 | 157.0-158.0 | 1.06 | 3026.51 | 0.03 | 99.61 |
| 111.0-112.0 | 0.85 | 2981.54 | 0.03 | 98.13 | 158.0-159.0 | 1.02 | 3027.53 | 0.03 | 99.64 |
| 112.0-113.0 | 0.84 | 2982.38 | 0.03 | 98.16 | 159.0-160.0 | 0.98 | 3028.51 | 0.03 | 99.68 |
| 113.0-114.0 | 0.83 | 2983.21 | 0.03 | 98.18 | 160.0-161.0 | 0.94 | 3029.45 | 0.03 | 99.71 |
| 114.0-115.0 | 0.82 | 2984.04 | 0.03 | 98.21 | 161.0-162.0 | 0.90 | 3030.36 | 0.03 | 99.74 |
| 115.0-116.0 | 0.81 | 2984.85 | 0.03 | 98.24 | 162.0-163.0 | 0.86 | 3031.22 | 0.03 | 99.76 |
| 116.0-117.0 | 0.80 | 2985.65 | 0.03 | 98.26 | 163.0-164.0 | 0.81 | 3032.03 | 0.03 | 99.79 |
| 117.0-118.0 | 0.80 | 2986.45 | 0.03 | 98.29 | 164.0-165.0 | 0.77 | 3032.80 | 0.03 | 99.82 |
| 118.0-119.0 | 0.79 | 2987.24 | 0.03 | 98.32 | 165.0-166.0 | 0.72 | 3033.52 | 0.02 | 99.84 |
| 119.0-120.0 | 0.78 | 2988.02 | 0.03 | 98.34 | 166.0-167.0 | 0.67 | 3034.19 | 0.02 | 99.86 |
| 120.0-121.0 | 0.78 | 2988.80 | 0.03 | 98.37 | 167.0-168.0 | 0.62 | 3034.82 | 0.02 | 99.88 |
| 121.0-122.0 | 0.77 | 2989.57 | 0.03 | 98.39 | 168.0-169.0 | 0.57 | 3035.39 | 0.02 | 99.90 |
| 122.0-123.0 | 0.77 | 2990.34 | 0.03 | 98.42 | 169.0-170.0 | 0.52 | 3035.91 | 0.02 | 99.92 |
| 123.0-124.0 | 0.77 | 2991.12 | 0.03 | 98.44 | 170.0-171.0 | 0.47 | 3036.38 | 0.02 | 99.93 |
| 124.0-125.0 | 0.78 | 2991.89 | 0.03 | 98.47 | 171.0-172.0 | 0.42 | 3036.80 | 0.01 | 99.95 |
| 125.0-126.0 | 0.78 | 2992.68 | 0.03 | 98.50 | 172.0-173.0 | 0.37 | 3037.17 | 0.01 | 99.96 |
| 126.0-127.0 | 0.79 | 2993.47 | 0.03 | 98.52 | 173.0-174.0 | 0.32 | 3037.49 | 0.01 | 99.97 |
| 127.0-128.0 | 0.80 | 2994.26 | 0.03 | 98.55 | 174.0-175.0 | 0.27 | 3037.76 | 0.01 | 99.98 |
| 128.0-129.0 | 0.81 | 2995.08 | 0.03 | 98.58 | 175.0-176.0 | 0.22 | 3037.98 | 0.01 | 99.99 |
| 129.0-130.0 | 0.83 | 2995.90 | 0.03 | 98.60 | 176.0-177.0 | 0.17 | 3038.15 | 0.01 | 99.99 |
| 130.0-131.0 | 0.84 | 2996.74 | 0.03 | 98.63 | 177.0-178.0 | 0.12 | 3038.27 | 0.00 | 100.00 |
| 131.0-132.0 | 0.86 | 2997.61 | 0.03 | 98.66 | 178.0-179.0 | 0.07 | 3038.34 | 0.00 | 100.00 |
| 132.0-133.0 | 0.89 | 2998.50 | 0.03 | 98.69 | 179.0-180.0 | 0.02 | 3038.37 | 0.00 | 100.00 |
| 133.0-134.0 | 0.91 | 2999.41 | 0.03 | 98.72 | | | | | |
| 134.0-135.0 | 0.94 | 3000.34 | 0.03 | 98.75 | | | | | |
| 135.0-136.0 | 0.97 | 3001.31 | 0.03 | 98.78 | | | | | |
| 136.0-137.0 | 0.99 | 3002.30 | 0.03 | 98.81 | | | | | |
| 137.0-138.0 | 1.02 | 3003.33 | 0.03 | 98.85 | | | | | |
| 138.0-139.0 | 1.05 | 3004.38 | 0.03 | 98.88 | | | | | |
| 139.0-140.0 | 1.08 | 3005.46 | 0.04 | 98.92 | | | | | |
| 140.0-141.0 | 1.11 | 3006.56 | 0.04 | 98.95 | | | | | |

Rectangle ISO Lighting Intensity Diagram

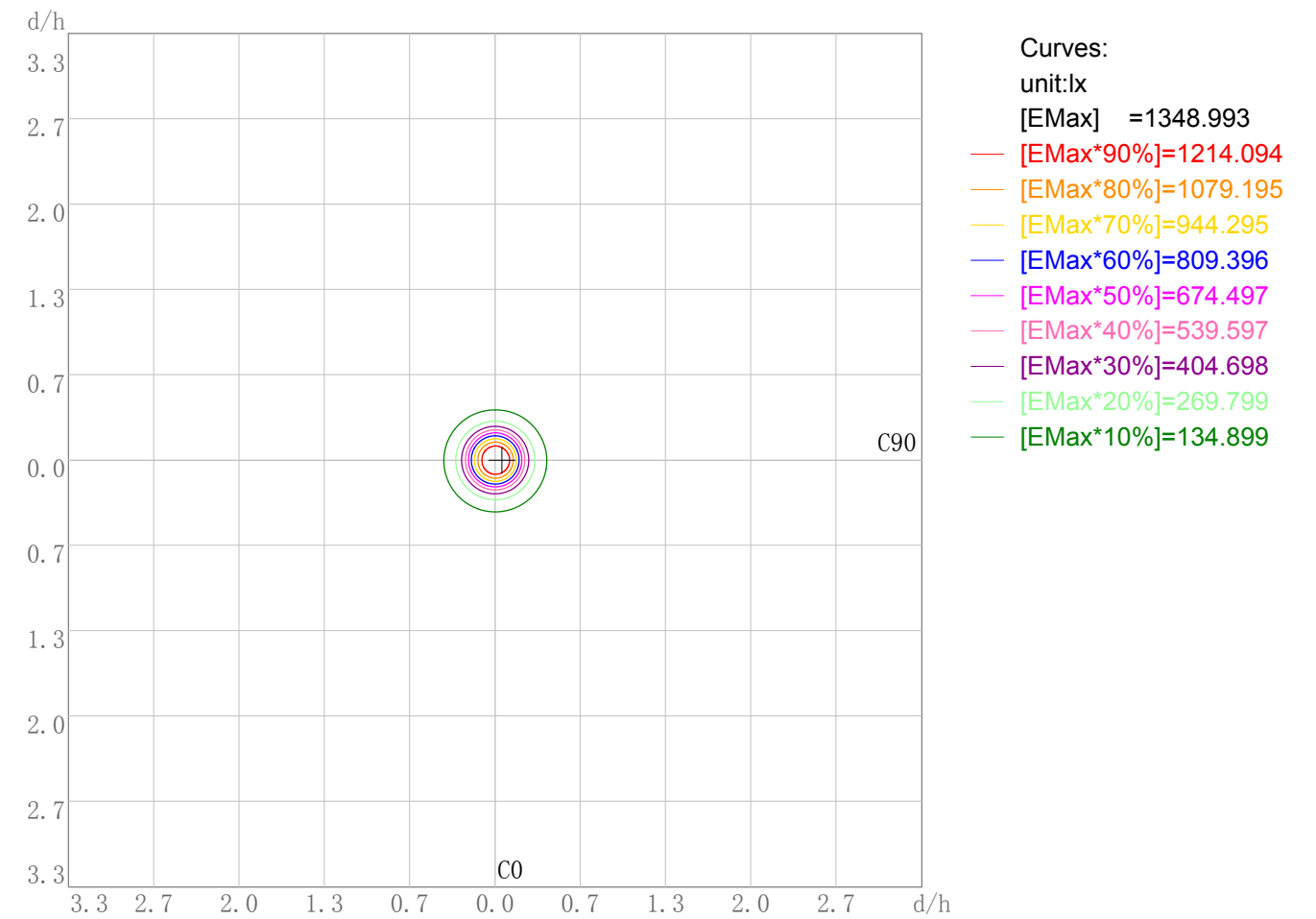
| | | |
|--|-----------------------|---------------------------|
| Lum. Name:TR05-35-XX-01 4000K RA90 24D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality peatment |
| Manufacture:Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date:2019/11/26 |



Plane ISO-Illuminance Diagram

| | | |
|--|-----------------------|---------------------------|
| Lum. Name:TR05-35-XX-01 4000K RA90 24D | 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:2019/11/26 |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 1348.99
Working Plane Maximum Illuminance Position(d/h):H0.1 V0.0

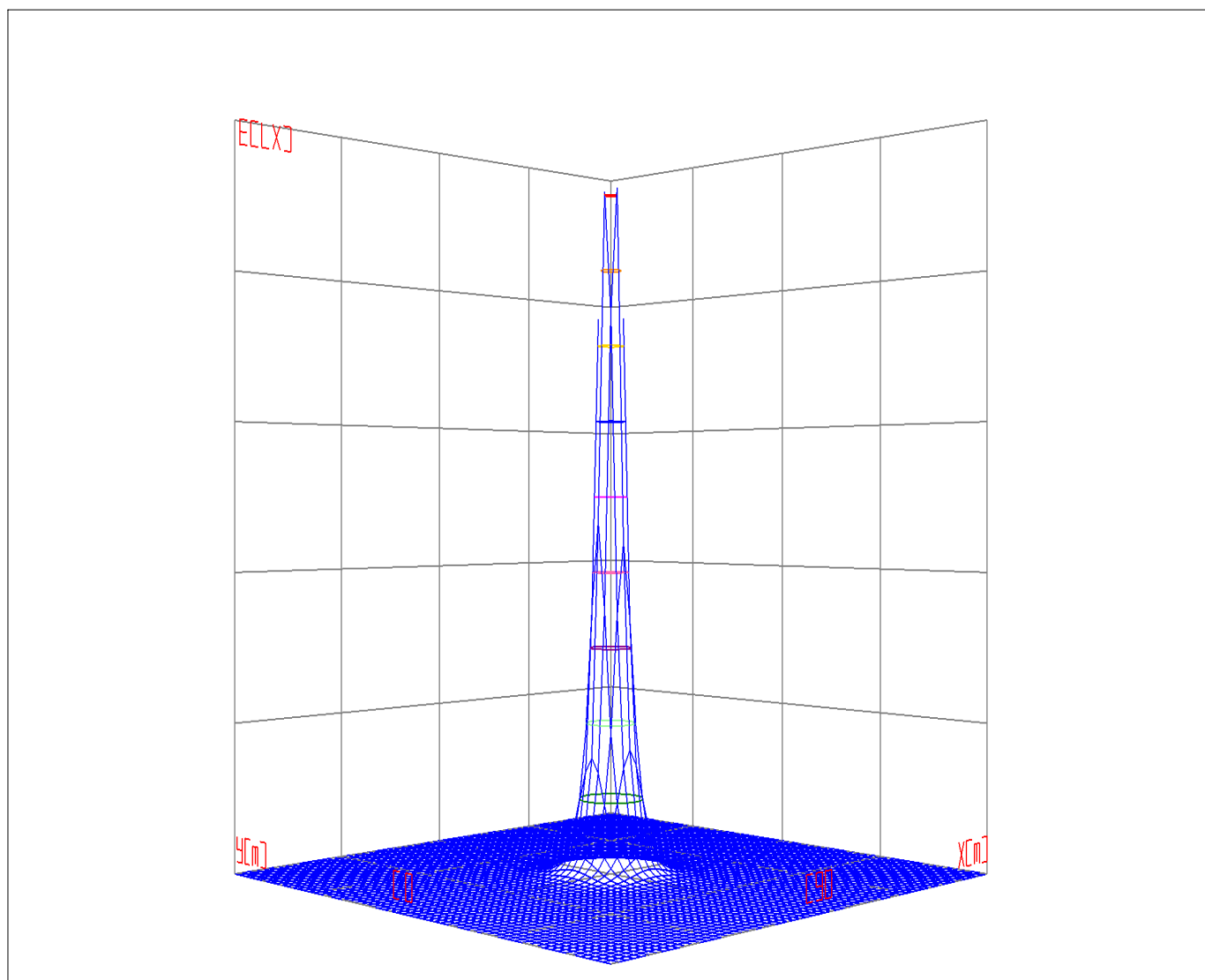
IES Indoor Report

Photometric Filename:TR05-35-XX-01 4000K RA90 24D.IES

3D Plane ISO Illuminance Diagram

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: TR05-35-XX-01 4000K RA90 24D | 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: 2019/11/26 |

3D Plane Illuminance Modal

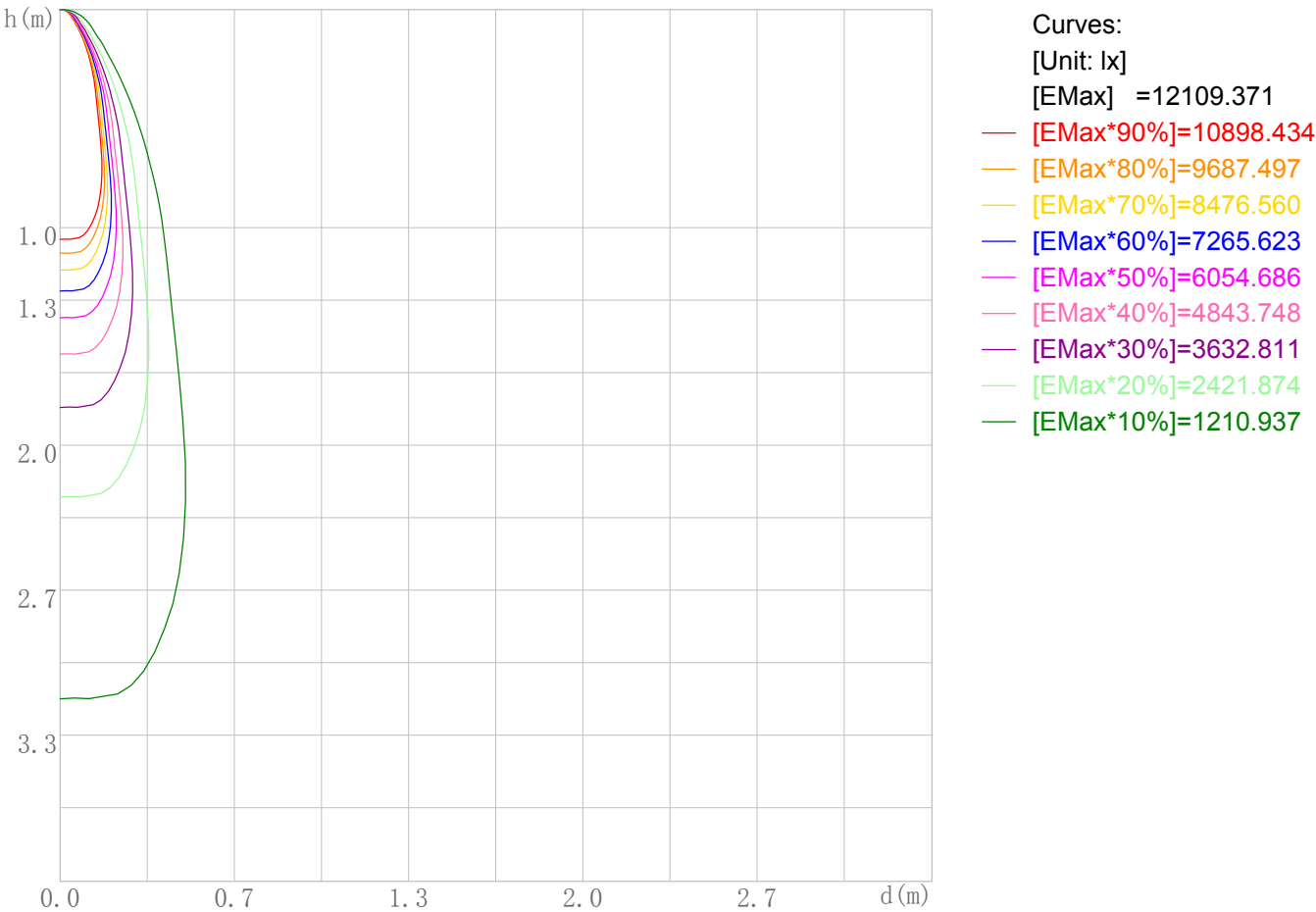


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

| | | |
|--|-----------------------|---------------------------|
| Lum. Name:TR05-35-XX-01 4000K RA90 24D | 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:2019/11/26 |

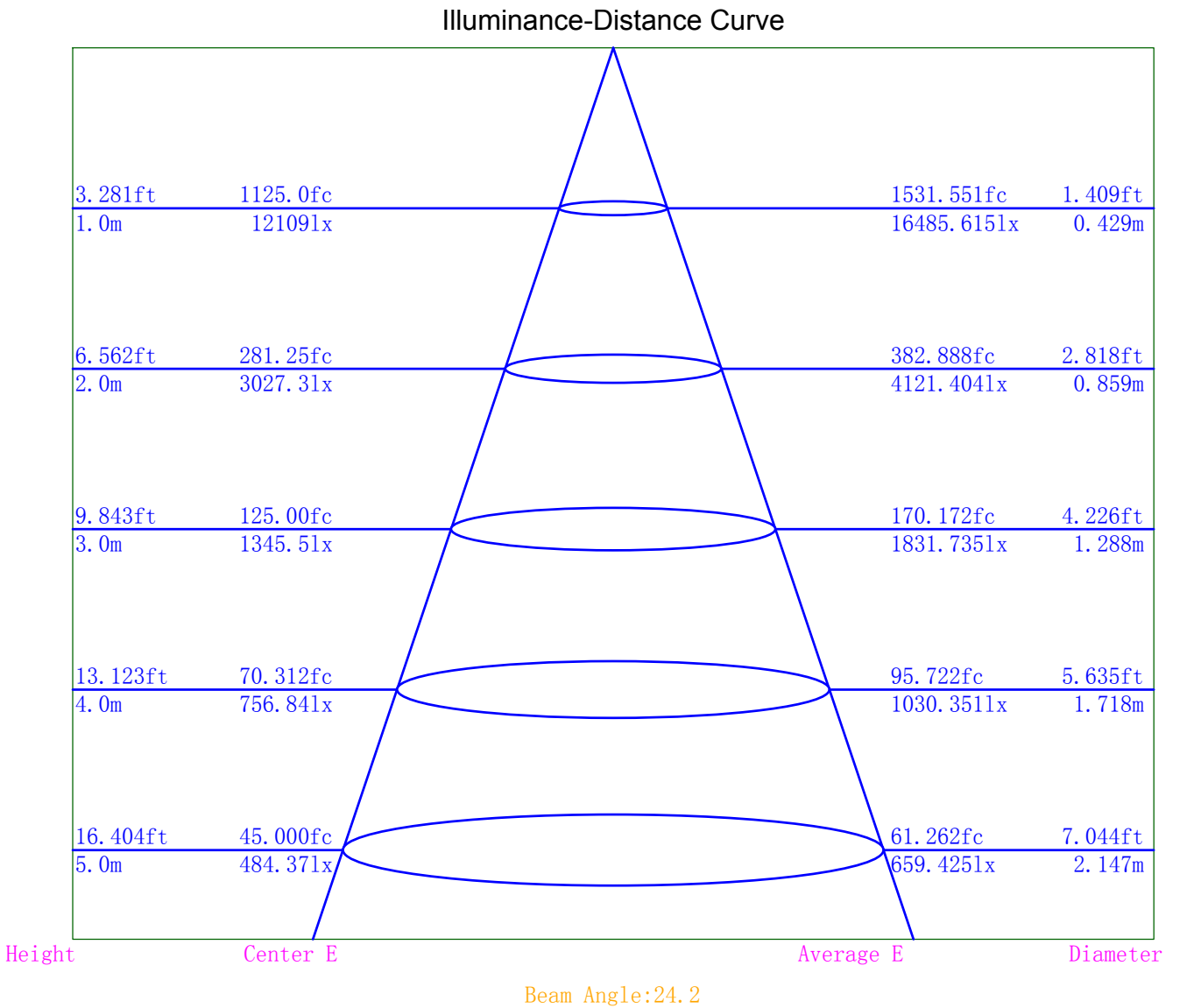
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:12109.37lx,0.0deg
Plane Maximum Lighting Intensity and @Angle:12124.707cd,0eg

Illuminance-Distance Diagram

| | | |
|--|-----------------------|---------------------------|
| Lum. Name:TR05-35-XX-01 4000K RA90 24D | 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:2019/11/26 |



Indoor Luminance Limiting Curves

| | | |
|--|-----------------------|---------------------------|
| Lum. Name:TR05-35-XX-01 4000K RA90 24D | 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:2019/11/26 |

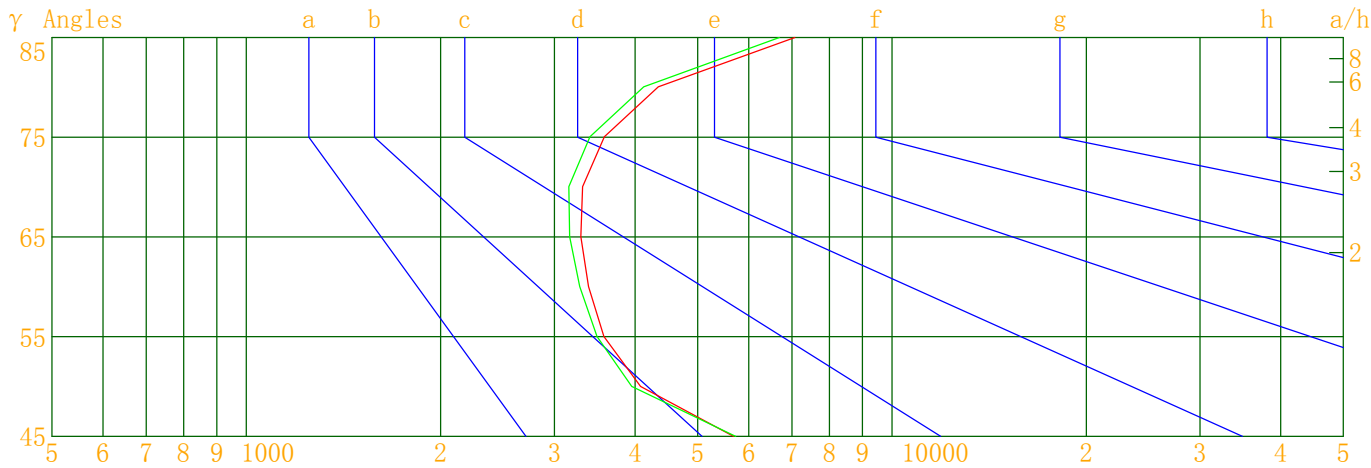
Glare Grade Table

| 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 | 5684 | 4079 | 3579 | 3389 | 3297 | 3318 | 3586 | 4345 | 7074 |
| C90 | 5726 | 3954 | 3493 | 3283 | 3167 | 3159 | 3407 | 4127 | 6692 |

Luminance Limiting Curve



Luminous Size:

Length(m)=0.070

Width(m)=0.070

Height(m)=0.266

Area(m^2)=0.023520

Luminous Type:

Without Luminous Side

Luminous Curves:

C0-C180 Color: —

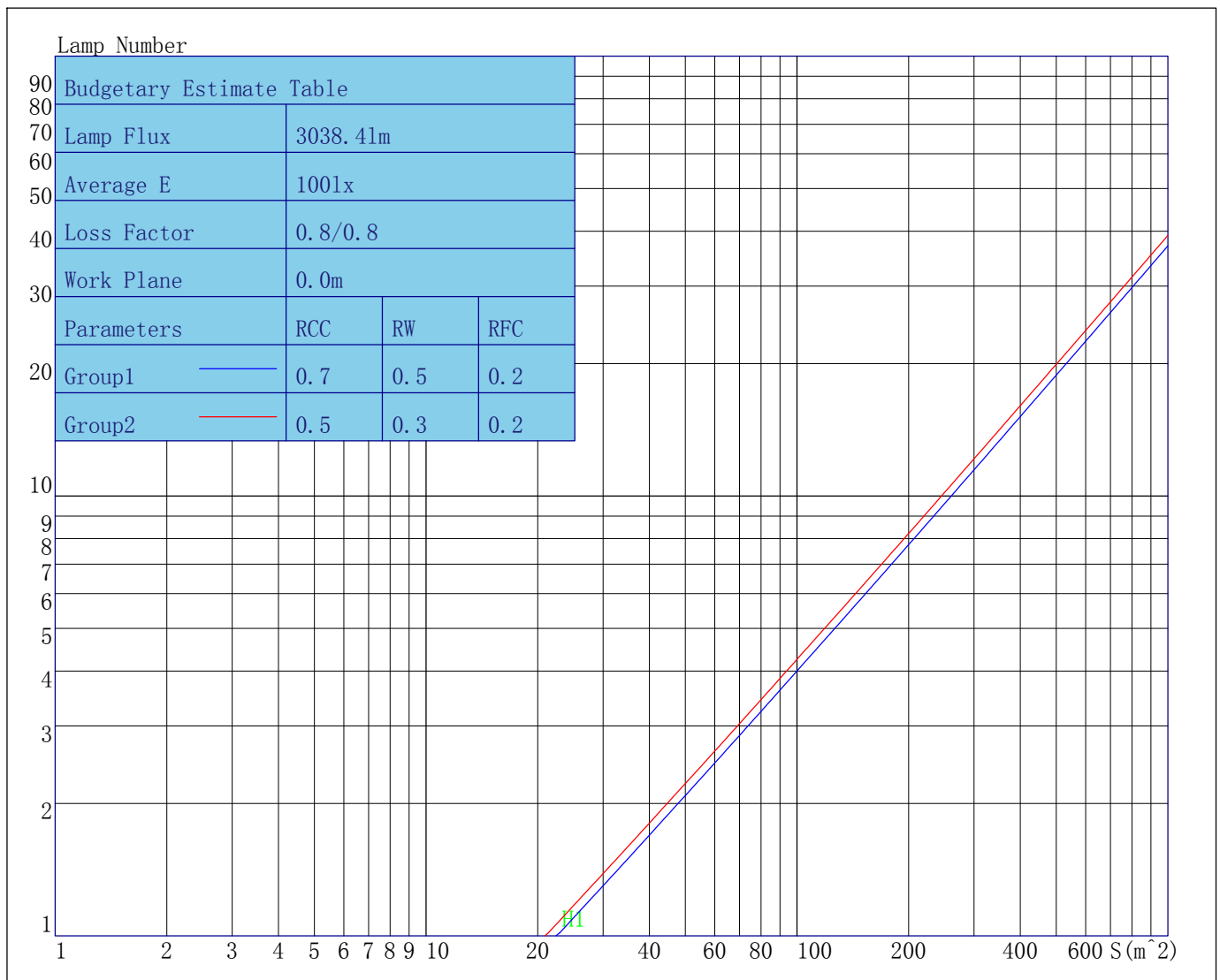
C90-C270 Color: —

IES Indoor Report

Photometric Filename:TR05-35-XX-01 4000K RA90 24D.IES

Indoor Budgetary Estimate Table

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: TR05-35-XX-01 4000K RA90 24D | 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: 2019/11/26 |



Indoor Coefficient of Utilization Table

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: TR05-35-XX-01 4000K RA90 24D | 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: 2019/11/26 |

| 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 | 104 | 104 | 104 | 100 | 100 | 100 | 97 |
| 1 | 114 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 104 | 103 | 101 | 100 | 99 | 98 | 96 | 95 | 95 | 93 |
| 2 | 109 | 105 | 102 | 99 | 107 | 103 | 100 | 97 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 92 | 90 | 89 |
| 3 | 105 | 100 | 96 | 92 | 103 | 98 | 94 | 91 | 95 | 92 | 90 | 93 | 90 | 88 | 90 | 88 | 86 | 85 |
| 4 | 101 | 95 | 91 | 87 | 99 | 94 | 90 | 87 | 92 | 88 | 85 | 89 | 86 | 84 | 87 | 85 | 83 | 82 |
| 5 | 98 | 91 | 87 | 83 | 96 | 90 | 86 | 83 | 88 | 85 | 82 | 86 | 83 | 81 | 85 | 82 | 80 | 79 |
| 6 | 95 | 88 | 83 | 80 | 93 | 87 | 82 | 79 | 85 | 81 | 78 | 84 | 80 | 78 | 82 | 79 | 77 | 76 |
| 7 | 92 | 84 | 80 | 76 | 90 | 84 | 79 | 76 | 82 | 78 | 76 | 81 | 78 | 75 | 80 | 77 | 75 | 73 |
| 8 | 89 | 81 | 77 | 74 | 88 | 81 | 77 | 74 | 80 | 76 | 73 | 79 | 75 | 73 | 78 | 75 | 72 | 71 |
| 9 | 86 | 79 | 74 | 71 | 85 | 78 | 74 | 71 | 77 | 73 | 71 | 76 | 73 | 70 | 75 | 72 | 70 | 69 |
| 10 | 84 | 76 | 72 | 69 | 83 | 76 | 72 | 69 | 75 | 71 | 69 | 74 | 71 | 68 | 73 | 70 | 68 | 67 |

Unified Glare Rating Table

| | | |
|---|-----------------------|----------------------------|
| Lum. Name: TR05-35-XX-01 4000K RA90 24D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/11/26 |

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 | 11.1 | 12.1 | 11.6 | 12.5 | 12.8 | 11.2 | 12.1 | 11.6 | 12.5 | 12.9 |
| | 12.1 | 12.9 | 12.5 | 13.3 | 13.7 | 12.0 | 12.8 | 12.4 | 13.2 | 13.7 |
| | 12.6 | 13.4 | 13.1 | 13.8 | 14.2 | 12.5 | 13.3 | 13.0 | 13.7 | 14.2 |
| | 13.3 | 14.0 | 13.7 | 14.4 | 14.9 | 13.1 | 13.8 | 13.6 | 14.3 | 14.7 |
| | 13.7 | 14.3 | 14.1 | 14.8 | 15.2 | 13.5 | 14.2 | 14.0 | 14.6 | 15.1 |
| | 14.1 | 14.8 | 14.6 | 15.2 | 15.7 | 13.9 | 14.6 | 14.4 | 15.0 | 15.5 |
| X=4H Y=2H | 11.4 | 12.1 | 11.8 | 12.6 | 13.0 | 11.4 | 12.2 | 11.8 | 12.6 | 13.0 |
| | 12.6 | 13.2 | 13.0 | 13.7 | 14.1 | 12.5 | 13.1 | 13.0 | 13.6 | 14.1 |
| | 13.3 | 13.9 | 13.8 | 14.3 | 14.9 | 13.2 | 13.7 | 13.7 | 14.2 | 14.7 |
| | 14.2 | 14.7 | 14.7 | 15.2 | 15.7 | 14.0 | 14.5 | 14.5 | 15.0 | 15.5 |
| | 14.7 | 15.1 | 15.2 | 15.6 | 16.2 | 14.5 | 14.9 | 15.0 | 15.4 | 16.0 |
| | 15.3 | 15.7 | 15.8 | 16.2 | 16.8 | 15.1 | 15.5 | 15.6 | 16.0 | 16.5 |
| X=8H Y=4H | 13.6 | 14.0 | 14.1 | 14.5 | 15.1 | 13.5 | 13.9 | 14.0 | 14.4 | 14.9 |
| | 14.7 | 15.1 | 15.3 | 15.6 | 16.2 | 14.5 | 14.9 | 15.1 | 15.4 | 16.0 |
| | 15.4 | 15.7 | 16.0 | 16.3 | 16.8 | 15.2 | 15.5 | 15.8 | 16.1 | 16.6 |
| | 16.2 | 16.5 | 16.8 | 17.0 | 17.7 | 16.0 | 16.3 | 16.6 | 16.8 | 17.4 |
| X=12H Y=4H | 13.6 | 14.0 | 14.2 | 14.5 | 15.1 | 13.5 | 13.9 | 14.0 | 14.4 | 15.0 |
| | 14.8 | 15.2 | 15.4 | 15.7 | 16.3 | 14.7 | 15.0 | 15.2 | 15.5 | 16.1 |
| | 15.6 | 15.9 | 16.2 | 16.4 | 17.1 | 15.4 | 15.7 | 16.0 | 16.2 | 16.9 |
| Variations with the objerver position at spacings | | | | | | | | | | |
| S=1.0H | 0.1/-0.1 | | | | | 0.2/-0.2 | | | | |
| S=1.5H | 0.2/-0.3 | | | | | 0.3/-0.3 | | | | |
| S=2.0H | 0.3/-0.3 | | | | | 0.3/-0.3 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 3.3 | | | | | 3.2 | | | | |

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 | 12109.4 | 12109.4 | 12109.4 | 12109.4 |
| γ 1.0 | 12088.4 | 12122.6 | 12092.4 | 11998.1 |
| γ 2.0 | 12124.7 | 12153.3 | 11958.8 | 11981.5 |
| γ 3.0 | 12074.3 | 12191.0 | 12016.9 | 11958.2 |
| γ 4.0 | 12028.9 | 12125.2 | 11970.7 | 11807.4 |
| γ 5.0 | 11777.4 | 11875.7 | 11738.9 | 11510.8 |
| γ 6.0 | 11343.4 | 11453.8 | 11288.6 | 11028.1 |
| γ 7.0 | 10755.2 | 10757.5 | 10661.3 | 10430.8 |
| γ 8.0 | 10059.8 | 10054.7 | 9985.6 | 9765.8 |
| γ 9.0 | 9329.2 | 9233.1 | 9168.5 | 9043.6 |
| γ 10.0 | 8469.9 | 8263.4 | 8217.3 | 8187.1 |
| γ 11.0 | 7538.0 | 7214.0 | 7220.8 | 7222.2 |
| γ 12.0 | 6593.7 | 6214.2 | 6223.3 | 6195.5 |
| γ 13.0 | 5631.6 | 5268.8 | 5299.3 | 5278.3 |
| γ 14.0 | 4682.0 | 4467.9 | 4488.9 | 4498.9 |
| γ 15.0 | 3897.6 | 3833.7 | 3800.0 | 3820.4 |
| γ 16.0 | 3255.2 | 3282.5 | 3265.9 | 3258.3 |
| γ 17.0 | 2746.5 | 2871.7 | 2837.3 | 2815.9 |
| γ 18.0 | 2358.2 | 2506.1 | 2489.1 | 2454.8 |
| γ 19.0 | 2052.5 | 2211.8 | 2192.4 | 2160.2 |
| γ 20.0 | 1801.9 | 1954.3 | 1940.6 | 1910.2 |
| γ 21.0 | 1585.3 | 1725.4 | 1723.8 | 1688.9 |
| γ 22.0 | 1403.1 | 1519.9 | 1514.3 | 1489.0 |
| γ 23.0 | 1236.5 | 1328.3 | 1326.8 | 1309.3 |
| γ 24.0 | 1080.1 | 1163.5 | 1156.0 | 1143.8 |
| γ 25.0 | 939.9 | 1022.1 | 1015.5 | 990.8 |
| γ 26.0 | 821.4 | 902.5 | 891.2 | 857.7 |
| γ 27.0 | 722.9 | 797.0 | 780.1 | 746.2 |
| γ 28.0 | 636.1 | 702.3 | 682.5 | 650.0 |
| γ 29.0 | 559.1 | 614.9 | 594.8 | 566.2 |
| γ 30.0 | 491.7 | 536.9 | 516.6 | 493.1 |
| γ 31.0 | 432.4 | 468.2 | 447.6 | 427.9 |
| γ 32.0 | 380.6 | 407.5 | 389.2 | 367.9 |
| γ 33.0 | 334.4 | 356.5 | 338.6 | 317.1 |
| γ 34.0 | 296.1 | 312.3 | 295.7 | 275.4 |
| γ 35.0 | 261.9 | 273.7 | 258.7 | 239.4 |
| γ 36.0 | 232.3 | 240.4 | 226.3 | 208.8 |
| γ 37.0 | 206.5 | 212.0 | 198.8 | 183.0 |
| γ 38.0 | 184.0 | 187.1 | 175.0 | 161.2 |
| γ 39.0 | 164.6 | 165.1 | 154.4 | 142.8 |
| γ 40.0 | 147.2 | 146.0 | 135.8 | 126.9 |
| γ 41.0 | 131.9 | 130.8 | 119.3 | 113.4 |
| γ 42.0 | 119.2 | 119.3 | 106.1 | 103.0 |
| γ 43.0 | 109.2 | 110.3 | 96.7 | 95.3 |
| γ 44.0 | 101.2 | 102.6 | 89.9 | 89.6 |
| γ 45.0 | 94.5 | 95.2 | 84.4 | 84.7 |
| γ 46.0 | 87.8 | 86.5 | 77.9 | 79.6 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|------|-------|--------|--------|
| γ 47.0 | 80.0 | 76.3 | 70.6 | 73.2 |
| γ 48.0 | 72.1 | 68.9 | 64.0 | 66.2 |
| γ 49.0 | 66.0 | 63.9 | 59.3 | 61.0 |
| γ 50.0 | 61.7 | 59.8 | 56.3 | 57.6 |
| γ 51.0 | 58.2 | 56.5 | 53.7 | 54.8 |
| γ 52.0 | 55.2 | 53.6 | 51.5 | 52.6 |
| γ 53.0 | 52.6 | 51.3 | 49.8 | 50.8 |
| γ 54.0 | 50.4 | 49.1 | 48.1 | 49.1 |
| γ 55.0 | 48.3 | 47.1 | 46.7 | 47.7 |
| γ 56.0 | 46.4 | 45.4 | 45.3 | 46.3 |
| γ 57.0 | 44.7 | 43.6 | 44.0 | 45.0 |
| γ 58.0 | 43.1 | 41.8 | 42.6 | 43.7 |
| γ 59.0 | 41.4 | 40.2 | 41.2 | 42.4 |
| γ 60.0 | 39.9 | 38.6 | 39.8 | 41.1 |
| γ 61.0 | 38.4 | 37.1 | 38.5 | 39.8 |
| γ 62.0 | 36.8 | 35.5 | 37.1 | 38.5 |
| γ 63.0 | 35.4 | 34.1 | 35.8 | 37.0 |
| γ 64.0 | 34.1 | 32.8 | 34.5 | 35.8 |
| γ 65.0 | 32.8 | 31.5 | 33.1 | 34.4 |
| γ 66.0 | 31.4 | 30.1 | 31.6 | 33.1 |
| γ 67.0 | 30.0 | 28.8 | 30.3 | 31.7 |
| γ 68.0 | 28.8 | 27.7 | 29.0 | 30.5 |
| γ 69.0 | 27.7 | 26.5 | 27.8 | 29.2 |
| γ 70.0 | 26.7 | 25.4 | 26.7 | 28.0 |
| γ 71.0 | 25.6 | 24.4 | 25.6 | 26.9 |
| γ 72.0 | 24.5 | 23.4 | 24.6 | 25.8 |
| γ 73.0 | 23.6 | 22.5 | 23.5 | 24.7 |
| γ 74.0 | 22.7 | 21.6 | 22.5 | 23.8 |
| γ 75.0 | 21.8 | 20.7 | 21.5 | 22.7 |
| γ 76.0 | 21.0 | 19.9 | 20.6 | 21.8 |
| γ 77.0 | 20.1 | 19.1 | 19.8 | 20.8 |
| γ 78.0 | 19.2 | 18.3 | 19.0 | 20.0 |
| γ 79.0 | 18.6 | 17.6 | 18.2 | 19.2 |
| γ 80.0 | 17.7 | 16.9 | 17.3 | 18.4 |
| γ 81.0 | 17.1 | 16.2 | 16.6 | 17.6 |
| γ 82.0 | 16.4 | 15.5 | 15.9 | 16.8 |
| γ 83.0 | 15.7 | 14.9 | 15.3 | 16.1 |
| γ 84.0 | 15.2 | 14.3 | 14.6 | 15.4 |
| γ 85.0 | 14.5 | 13.7 | 13.9 | 14.7 |
| γ 86.0 | 13.9 | 13.2 | 13.3 | 14.0 |
| γ 87.0 | 13.3 | 12.5 | 12.6 | 13.3 |
| γ 88.0 | 12.6 | 11.9 | 12.0 | 12.6 |
| γ 89.0 | 12.2 | 11.4 | 11.5 | 12.0 |
| γ 90.0 | 11.8 | 11.2 | 11.0 | 11.6 |
| γ 91.0 | 11.5 | 10.9 | 10.7 | 11.3 |
| γ 92.0 | 11.3 | 10.7 | 10.5 | 11.0 |
| γ 93.0 | 11.0 | 10.5 | 10.2 | 10.6 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0 | 10.8 | 10.3 | 10.0 | 10.5 |
| γ 95.0 | 10.6 | 10.1 | 9.8 | 10.3 |
| γ 96.0 | 10.5 | 9.9 | 9.5 | 9.9 |
| γ 97.0 | 10.2 | 9.8 | 9.4 | 9.7 |
| γ 98.0 | 10.1 | 9.7 | 9.1 | 9.6 |
| γ 99.0 | 10.0 | 9.5 | 9.1 | 9.4 |
| γ 100.0 | 9.9 | 9.4 | 8.9 | 9.3 |
| γ 101.0 | 9.7 | 9.3 | 8.7 | 9.1 |
| γ 102.0 | 9.6 | 9.3 | 8.6 | 8.9 |
| γ 103.0 | 9.5 | 9.2 | 8.5 | 8.8 |
| γ 104.0 | 9.3 | 9.1 | 8.4 | 8.7 |
| γ 105.0 | 9.2 | 9.0 | 8.2 | 8.7 |
| γ 106.0 | 9.1 | 8.9 | 8.2 | 8.5 |
| γ 107.0 | 9.0 | 8.8 | 8.1 | 8.5 |
| γ 108.0 | 8.9 | 8.7 | 8.0 | 8.5 |
| γ 109.0 | 8.8 | 8.6 | 8.1 | 8.4 |
| γ 110.0 | 8.7 | 8.6 | 8.1 | 8.3 |
| γ 111.0 | 8.7 | 8.5 | 8.1 | 8.4 |
| γ 112.0 | 8.5 | 8.4 | 8.1 | 8.4 |
| γ 113.0 | 8.5 | 8.3 | 8.1 | 8.3 |
| γ 114.0 | 8.4 | 8.3 | 8.0 | 8.4 |
| γ 115.0 | 8.3 | 8.2 | 8.1 | 8.4 |
| γ 116.0 | 8.2 | 8.1 | 8.2 | 8.4 |
| γ 117.0 | 8.1 | 8.1 | 8.1 | 8.4 |
| γ 118.0 | 8.1 | 8.0 | 8.2 | 8.4 |
| γ 119.0 | 8.0 | 8.0 | 8.3 | 8.5 |
| γ 120.0 | 8.0 | 7.9 | 8.3 | 8.6 |
| γ 121.0 | 8.0 | 7.9 | 8.5 | 8.6 |
| γ 122.0 | 8.0 | 7.9 | 8.5 | 8.7 |
| γ 123.0 | 8.1 | 8.0 | 8.7 | 8.9 |
| γ 124.0 | 8.1 | 7.9 | 8.9 | 9.0 |
| γ 125.0 | 8.2 | 8.2 | 9.1 | 9.2 |
| γ 126.0 | 8.4 | 8.3 | 9.4 | 9.4 |
| γ 127.0 | 8.6 | 8.5 | 9.5 | 9.6 |
| γ 128.0 | 8.8 | 8.7 | 9.8 | 10.0 |
| γ 129.0 | 9.1 | 9.0 | 10.1 | 10.2 |
| γ 130.0 | 9.4 | 9.3 | 10.4 | 10.6 |
| γ 131.0 | 9.7 | 9.7 | 10.9 | 11.0 |
| γ 132.0 | 10.1 | 10.1 | 11.4 | 11.4 |
| γ 133.0 | 10.5 | 10.5 | 11.8 | 11.8 |
| γ 134.0 | 11.0 | 11.0 | 12.4 | 12.5 |
| γ 135.0 | 11.5 | 11.6 | 13.0 | 13.0 |
| γ 136.0 | 12.1 | 12.1 | 13.6 | 13.7 |
| γ 137.0 | 12.6 | 12.7 | 14.2 | 14.3 |
| γ 138.0 | 13.3 | 13.3 | 14.9 | 14.9 |
| γ 139.0 | 14.0 | 14.0 | 15.6 | 15.6 |
| γ 140.0 | 14.6 | 14.8 | 16.3 | 16.3 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 15.3 | 15.4 | 17.0 | 17.0 |
| γ 142.0 | 16.0 | 16.1 | 17.8 | 17.8 |
| γ 143.0 | 16.8 | 16.7 | 18.5 | 18.5 |
| γ 144.0 | 17.5 | 17.5 | 19.2 | 19.1 |
| γ 145.0 | 18.3 | 18.2 | 19.9 | 19.9 |
| γ 146.0 | 19.0 | 18.9 | 20.6 | 20.6 |
| γ 147.0 | 19.7 | 19.5 | 21.3 | 21.2 |
| γ 148.0 | 20.4 | 20.2 | 22.0 | 21.8 |
| γ 149.0 | 20.9 | 20.8 | 22.6 | 22.4 |
| γ 150.0 | 21.6 | 21.4 | 23.1 | 22.9 |
| γ 151.0 | 22.2 | 21.9 | 23.6 | 23.5 |
| γ 152.0 | 22.7 | 22.5 | 24.0 | 23.9 |
| γ 153.0 | 23.3 | 22.9 | 24.6 | 24.3 |
| γ 154.0 | 23.8 | 23.3 | 24.9 | 24.6 |
| γ 155.0 | 24.1 | 23.7 | 25.3 | 24.9 |
| γ 156.0 | 24.5 | 24.0 | 25.5 | 25.2 |
| γ 157.0 | 24.8 | 24.4 | 25.8 | 25.4 |
| γ 158.0 | 25.1 | 24.6 | 26.0 | 25.6 |
| γ 159.0 | 25.3 | 24.8 | 26.3 | 25.6 |
| γ 160.0 | 25.6 | 25.0 | 26.4 | 25.7 |
| γ 161.0 | 25.8 | 25.2 | 26.5 | 25.9 |
| γ 162.0 | 25.9 | 25.5 | 26.7 | 26.0 |
| γ 163.0 | 26.0 | 25.6 | 26.8 | 26.1 |
| γ 164.0 | 26.2 | 25.7 | 26.8 | 26.1 |
| γ 165.0 | 26.3 | 25.8 | 26.9 | 26.2 |
| γ 166.0 | 26.3 | 25.8 | 26.9 | 26.1 |
| γ 167.0 | 26.3 | 25.9 | 26.8 | 26.1 |
| γ 168.0 | 26.4 | 25.9 | 26.7 | 25.9 |
| γ 169.0 | 26.4 | 25.8 | 26.6 | 25.9 |
| γ 170.0 | 26.3 | 25.8 | 26.5 | 25.7 |
| γ 171.0 | 26.2 | 25.7 | 26.3 | 25.6 |
| γ 172.0 | 26.1 | 25.6 | 26.2 | 25.4 |
| γ 173.0 | 26.1 | 25.5 | 26.0 | 25.2 |
| γ 174.0 | 25.9 | 25.5 | 25.9 | 25.0 |
| γ 175.0 | 25.9 | 25.5 | 25.8 | 25.1 |
| γ 176.0 | 25.9 | 25.5 | 25.7 | 25.1 |
| γ 177.0 | 25.9 | 25.6 | 25.7 | 25.1 |
| γ 178.0 | 26.0 | 25.6 | 25.7 | 25.1 |
| γ 179.0 | 25.9 | 25.5 | 25.7 | 25.3 |
| γ 180.0 | 25.7 | 25.7 | 25.7 | 25.7 |