

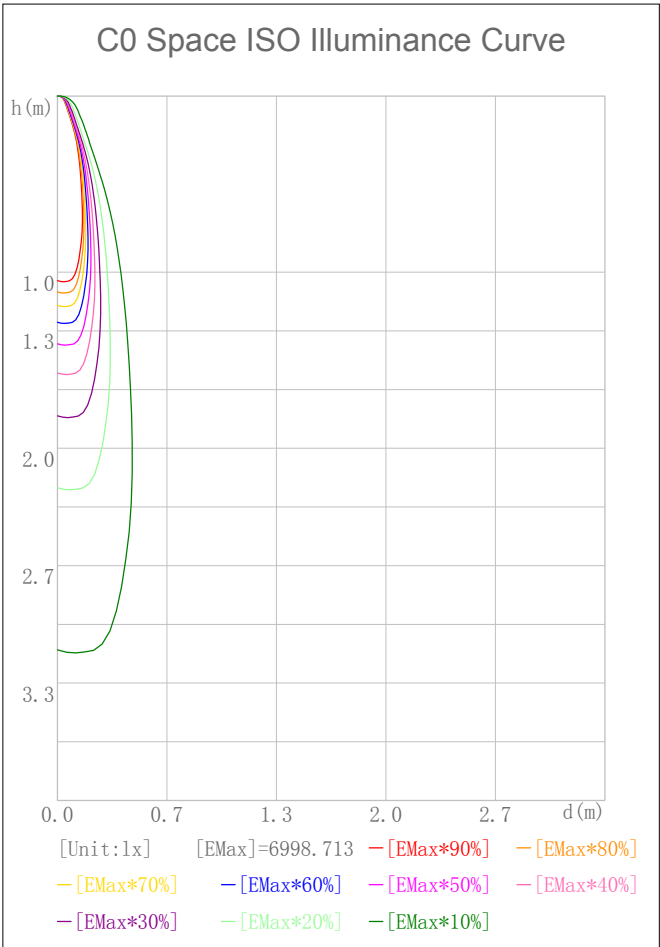
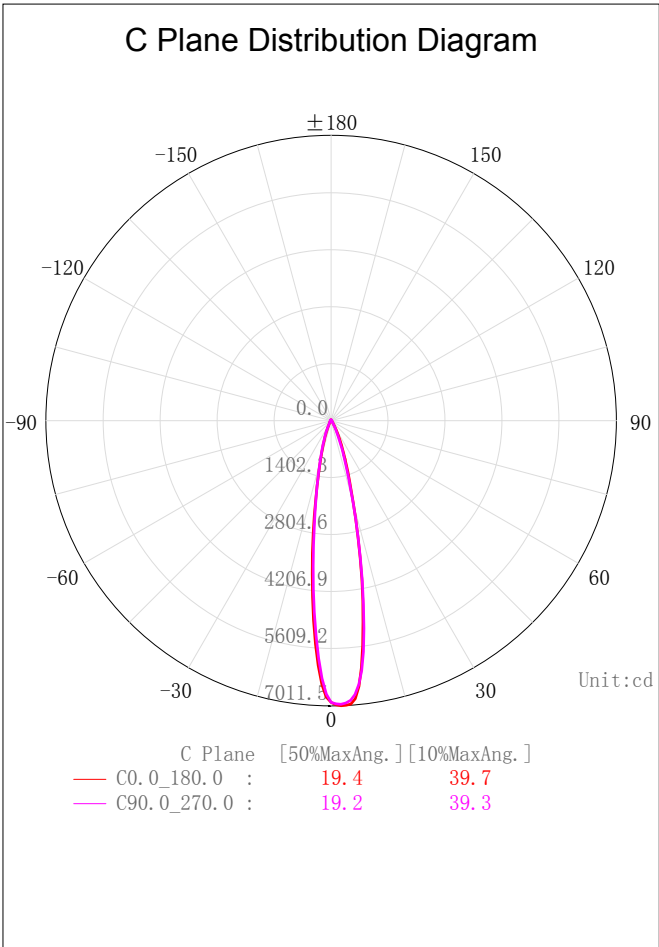
Indoor Luminaire Photometric Data

Description Information

| | | | |
|-------------------------------------------------|-------------------------|----------------------|-----------------------|
| Luminary Name: TR05-15-XX-01 3000K RA90 15D | | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | | Lamp Catalog: LED | Test Date: 2020/07/09 |
| 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):0.050m*0.000m*0.000m | | Lum. Area (m2):0.002 | Lum. W (kg): 0.000 |
| Test System: C, γ | Test Step: C=90.0 γ=1.0 | Temp. (°C): 25 | Humidity(%): 50.0 |

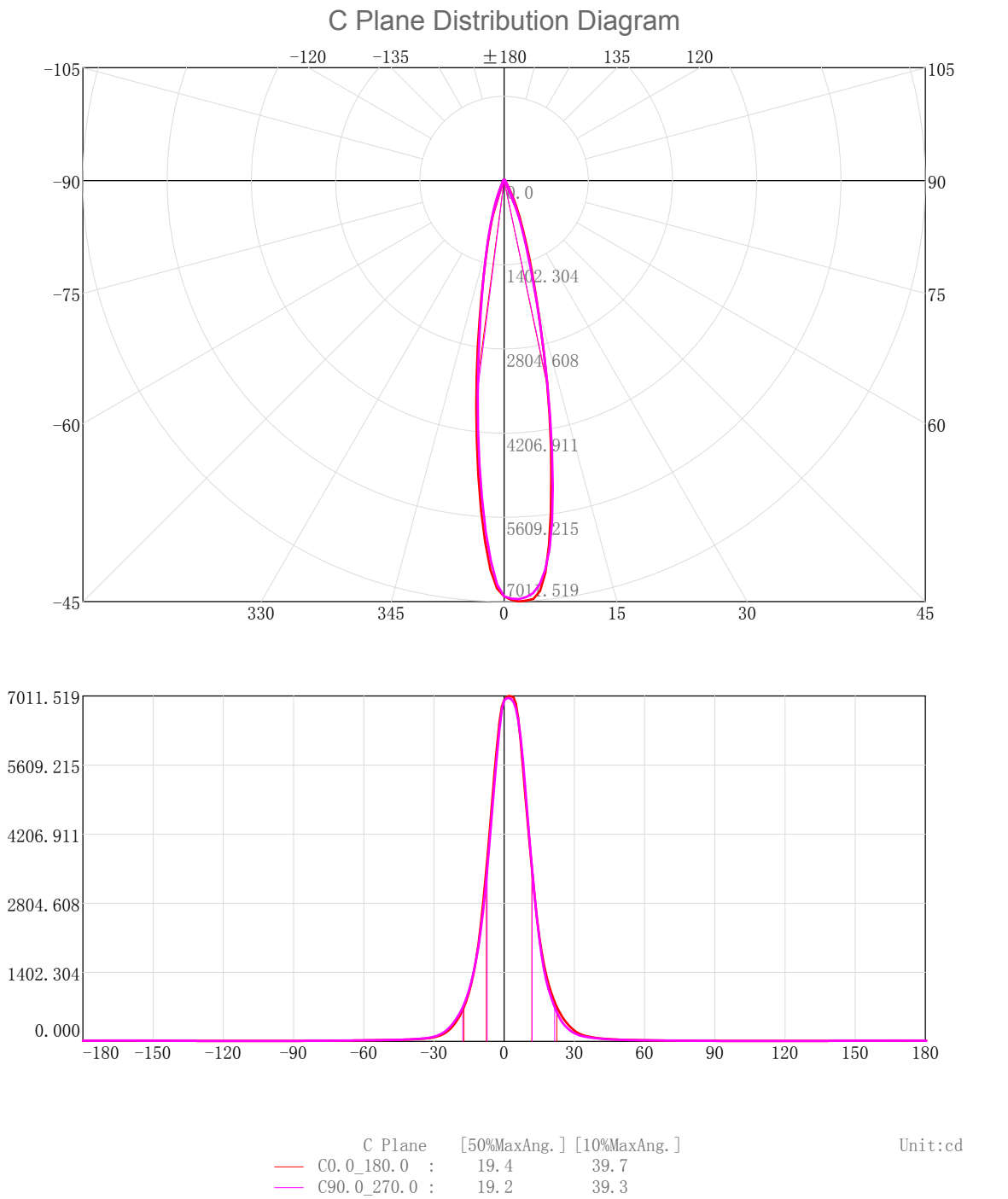
Character Parameter

| Lamp Speciality Parameter | | Luminaire Speciality Parameter | |
|-------------------------------------------------|--------------------------------|----------------------------------------|--|
| Rated Flux(lm): 1327.760 | Luminary Flux(lm): 1327.758 | Field Angle(10%Imax): 39.7(°) | |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 1247.763lm 93.98% | |
| Rated Voltage(V): | Luminary EER(lm/W): 89.896 | Up Lumens&Percent: 79.995lm 6.02% | |
| Tested Power(W): 14.770 | Max. Candela(cd): 7011.519 | S/MH: C0_a180=0.336 C90_270=0.330 | |
| Lamps' Inside: 1 | Max Cand@Ang. (°): C=0.0 γ=2.0 | CIE Type: Semi-Direct | |
| Tested Electrics (V, A, pf):239.9, 0.063, 0.965 | Beam Angle(50%Imax): 19.4(°) | ErP ϕ use(90°): 1148.629lm | |
| Lamp Size (W*L*H):0.050m*0.000m*0.000m | Left=-7.6°, Right=11.9° | IRF(%): 1084.523 | |



2D Plane Light Intensity Distribution Curve

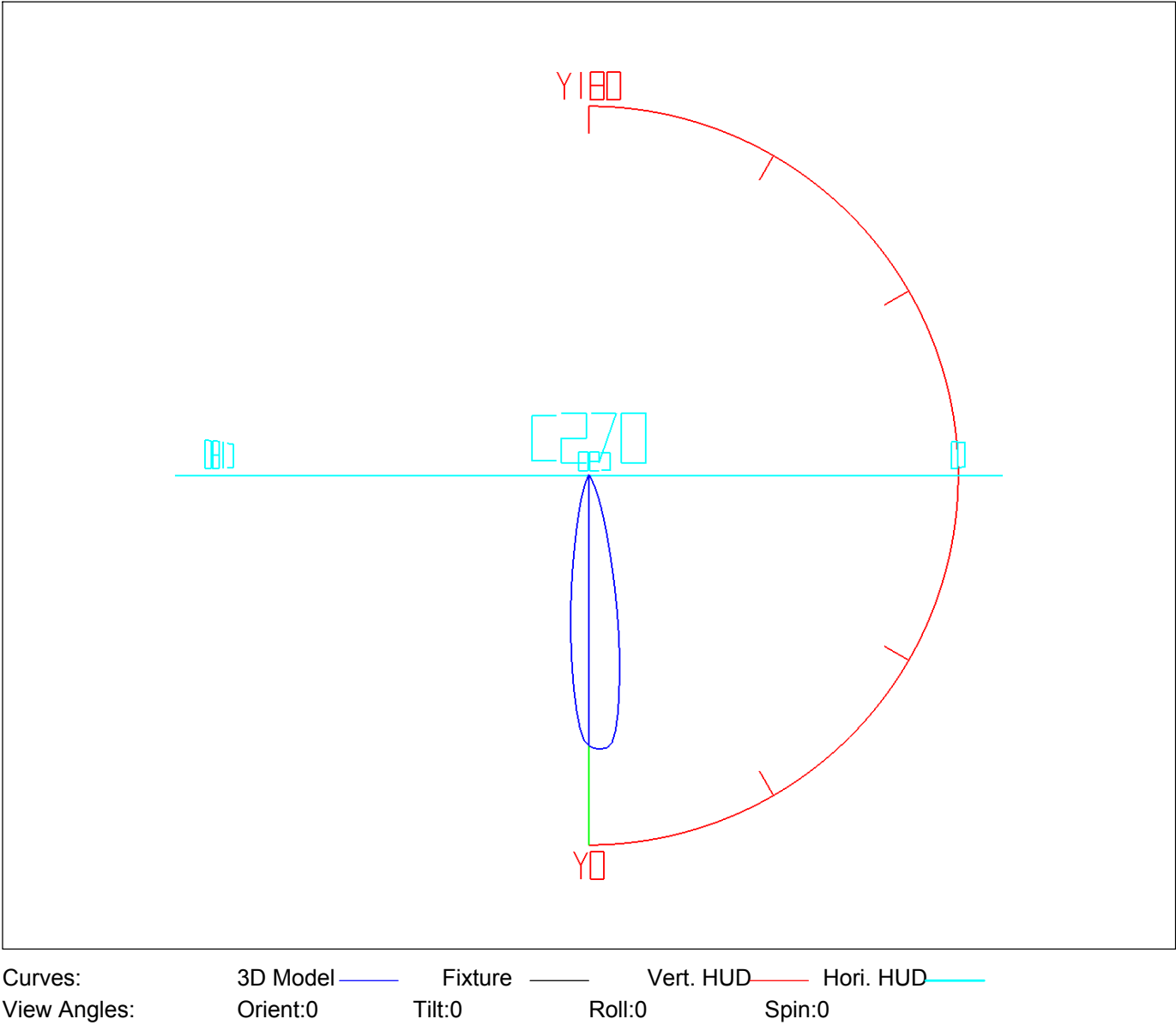
| | | |
|------------------------------------------------|-----------------------|-----------------------------|
| Lum. Name:TR05-15-XX-01 3000K RA90 15D | Lum. Catalog: | Test ID:01 |
| Lamp Name: | Lamp Catalog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date:2020/07/09 |



3D Light Intensity Distribution Modal

| | | |
|------------------------------------------------|-----------------------|-----------------------------|
| Lum. Name:TR05-15-XX-01 3000K RA90 15D | 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:2020/07/09 |

3D Light Intensity Distribution Modal



IES Indoor Report

Photometric Filename:TR05-15-XX-01 3000K RA90 15D.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 | 6.60 | 6.60 | 0.50 | 0.50 | 47.0-48.0 | 2.89 | 1164.01 | 0.22 | 87.67 |
| 1.0-2.0 | 19.47 | 26.07 | 1.47 | 1.96 | 48.0-49.0 | 2.81 | 1166.82 | 0.21 | 87.88 |
| 2.0-3.0 | 31.47 | 57.53 | 2.37 | 4.33 | 49.0-50.0 | 2.74 | 1169.56 | 0.21 | 88.08 |
| 3.0-4.0 | 42.25 | 99.78 | 3.18 | 7.51 | 50.0-51.0 | 2.67 | 1172.23 | 0.20 | 88.29 |
| 4.0-5.0 | 51.55 | 151.33 | 3.88 | 11.40 | 51.0-52.0 | 2.62 | 1174.84 | 0.20 | 88.48 |
| 5.0-6.0 | 58.94 | 210.27 | 4.44 | 15.84 | 52.0-53.0 | 2.57 | 1177.42 | 0.19 | 88.68 |
| 6.0-7.0 | 64.10 | 274.37 | 4.83 | 20.66 | 53.0-54.0 | 2.53 | 1179.95 | 0.19 | 88.87 |
| 7.0-8.0 | 66.92 | 341.30 | 5.04 | 25.70 | 54.0-55.0 | 2.50 | 1182.45 | 0.19 | 89.06 |
| 8.0-9.0 | 67.52 | 408.82 | 5.09 | 30.79 | 55.0-56.0 | 2.46 | 1184.91 | 0.19 | 89.24 |
| 9.0-10.0 | 66.39 | 475.21 | 5.00 | 35.79 | 56.0-57.0 | 2.42 | 1187.33 | 0.18 | 89.42 |
| 10.0-11.0 | 63.92 | 539.13 | 4.81 | 40.60 | 57.0-58.0 | 2.39 | 1189.72 | 0.18 | 89.60 |
| 11.0-12.0 | 60.33 | 599.47 | 4.54 | 45.15 | 58.0-59.0 | 2.36 | 1192.09 | 0.18 | 89.78 |
| 12.0-13.0 | 56.11 | 655.57 | 4.23 | 49.37 | 59.0-60.0 | 2.32 | 1194.41 | 0.18 | 89.96 |
| 13.0-14.0 | 51.57 | 707.14 | 3.88 | 53.26 | 60.0-61.0 | 2.29 | 1196.70 | 0.17 | 90.13 |
| 14.0-15.0 | 46.94 | 754.08 | 3.54 | 56.79 | 61.0-62.0 | 2.25 | 1198.94 | 0.17 | 90.30 |
| 15.0-16.0 | 42.49 | 796.57 | 3.20 | 59.99 | 62.0-63.0 | 2.21 | 1201.15 | 0.17 | 90.46 |
| 16.0-17.0 | 38.36 | 834.93 | 2.89 | 62.88 | 63.0-64.0 | 2.17 | 1203.33 | 0.16 | 90.63 |
| 17.0-18.0 | 34.63 | 869.55 | 2.61 | 65.49 | 64.0-65.0 | 2.14 | 1205.47 | 0.16 | 90.79 |
| 18.0-19.0 | 31.27 | 900.83 | 2.36 | 67.85 | 65.0-66.0 | 2.10 | 1207.56 | 0.16 | 90.95 |
| 19.0-20.0 | 28.20 | 929.02 | 2.12 | 69.97 | 66.0-67.0 | 2.06 | 1209.62 | 0.16 | 91.10 |
| 20.0-21.0 | 25.32 | 954.35 | 1.91 | 71.88 | 67.0-68.0 | 2.03 | 1211.65 | 0.15 | 91.26 |
| 21.0-22.0 | 22.62 | 976.97 | 1.70 | 73.58 | 68.0-69.0 | 1.98 | 1213.63 | 0.15 | 91.40 |
| 22.0-23.0 | 20.08 | 997.05 | 1.51 | 75.09 | 69.0-70.0 | 1.95 | 1215.58 | 0.15 | 91.55 |
| 23.0-24.0 | 17.75 | 1014.79 | 1.34 | 76.43 | 70.0-71.0 | 1.91 | 1217.49 | 0.14 | 91.70 |
| 24.0-25.0 | 15.65 | 1030.44 | 1.18 | 77.61 | 71.0-72.0 | 1.87 | 1219.36 | 0.14 | 91.84 |
| 25.0-26.0 | 13.79 | 1044.23 | 1.04 | 78.65 | 72.0-73.0 | 1.84 | 1221.20 | 0.14 | 91.97 |
| 26.0-27.0 | 12.13 | 1056.36 | 0.91 | 79.56 | 73.0-74.0 | 1.81 | 1223.01 | 0.14 | 92.11 |
| 27.0-28.0 | 10.69 | 1067.05 | 0.80 | 80.36 | 74.0-75.0 | 1.77 | 1224.78 | 0.13 | 92.24 |
| 28.0-29.0 | 9.44 | 1076.49 | 0.71 | 81.08 | 75.0-76.0 | 1.74 | 1226.52 | 0.13 | 92.37 |
| 29.0-30.0 | 8.37 | 1084.86 | 0.63 | 81.71 | 76.0-77.0 | 1.71 | 1228.22 | 0.13 | 92.50 |
| 30.0-31.0 | 7.46 | 1092.32 | 0.56 | 82.27 | 77.0-78.0 | 1.67 | 1229.90 | 0.13 | 92.63 |
| 31.0-32.0 | 6.70 | 1099.02 | 0.50 | 82.77 | 78.0-79.0 | 1.64 | 1231.54 | 0.12 | 92.75 |
| 32.0-33.0 | 6.09 | 1105.11 | 0.46 | 83.23 | 79.0-80.0 | 1.61 | 1233.15 | 0.12 | 92.87 |
| 33.0-34.0 | 5.61 | 1110.71 | 0.42 | 83.65 | 80.0-81.0 | 1.58 | 1234.73 | 0.12 | 92.99 |
| 34.0-35.0 | 5.21 | 1115.92 | 0.39 | 84.05 | 81.0-82.0 | 1.55 | 1236.29 | 0.12 | 93.11 |
| 35.0-36.0 | 4.86 | 1120.78 | 0.37 | 84.41 | 82.0-83.0 | 1.52 | 1237.81 | 0.11 | 93.23 |
| 36.0-37.0 | 4.57 | 1125.35 | 0.34 | 84.76 | 83.0-84.0 | 1.50 | 1239.31 | 0.11 | 93.34 |
| 37.0-38.0 | 4.33 | 1129.68 | 0.33 | 85.08 | 84.0-85.0 | 1.47 | 1240.78 | 0.11 | 93.45 |
| 38.0-39.0 | 4.12 | 1133.80 | 0.31 | 85.39 | 85.0-86.0 | 1.44 | 1242.22 | 0.11 | 93.56 |
| 39.0-40.0 | 3.93 | 1137.73 | 0.30 | 85.69 | 86.0-87.0 | 1.42 | 1243.64 | 0.11 | 93.66 |
| 40.0-41.0 | 3.75 | 1141.48 | 0.28 | 85.97 | 87.0-88.0 | 1.39 | 1245.03 | 0.10 | 93.77 |
| 41.0-42.0 | 3.60 | 1145.08 | 0.27 | 86.24 | 88.0-89.0 | 1.37 | 1246.41 | 0.10 | 93.87 |
| 42.0-43.0 | 3.46 | 1148.54 | 0.26 | 86.50 | 89.0-90.0 | 1.36 | 1247.76 | 0.10 | 93.98 |
| 43.0-44.0 | 3.32 | 1151.86 | 0.25 | 86.75 | 90.0-91.0 | 1.34 | 1249.10 | 0.10 | 94.08 |
| 44.0-45.0 | 3.19 | 1155.05 | 0.24 | 86.99 | 91.0-92.0 | 1.32 | 1250.42 | 0.10 | 94.18 |
| 45.0-46.0 | 3.08 | 1158.13 | 0.23 | 87.22 | 92.0-93.0 | 1.31 | 1251.73 | 0.10 | 94.27 |
| 46.0-47.0 | 2.98 | 1161.12 | 0.22 | 87.45 | 93.0-94.0 | 1.30 | 1253.03 | 0.10 | 94.37 |

IES Indoor Report

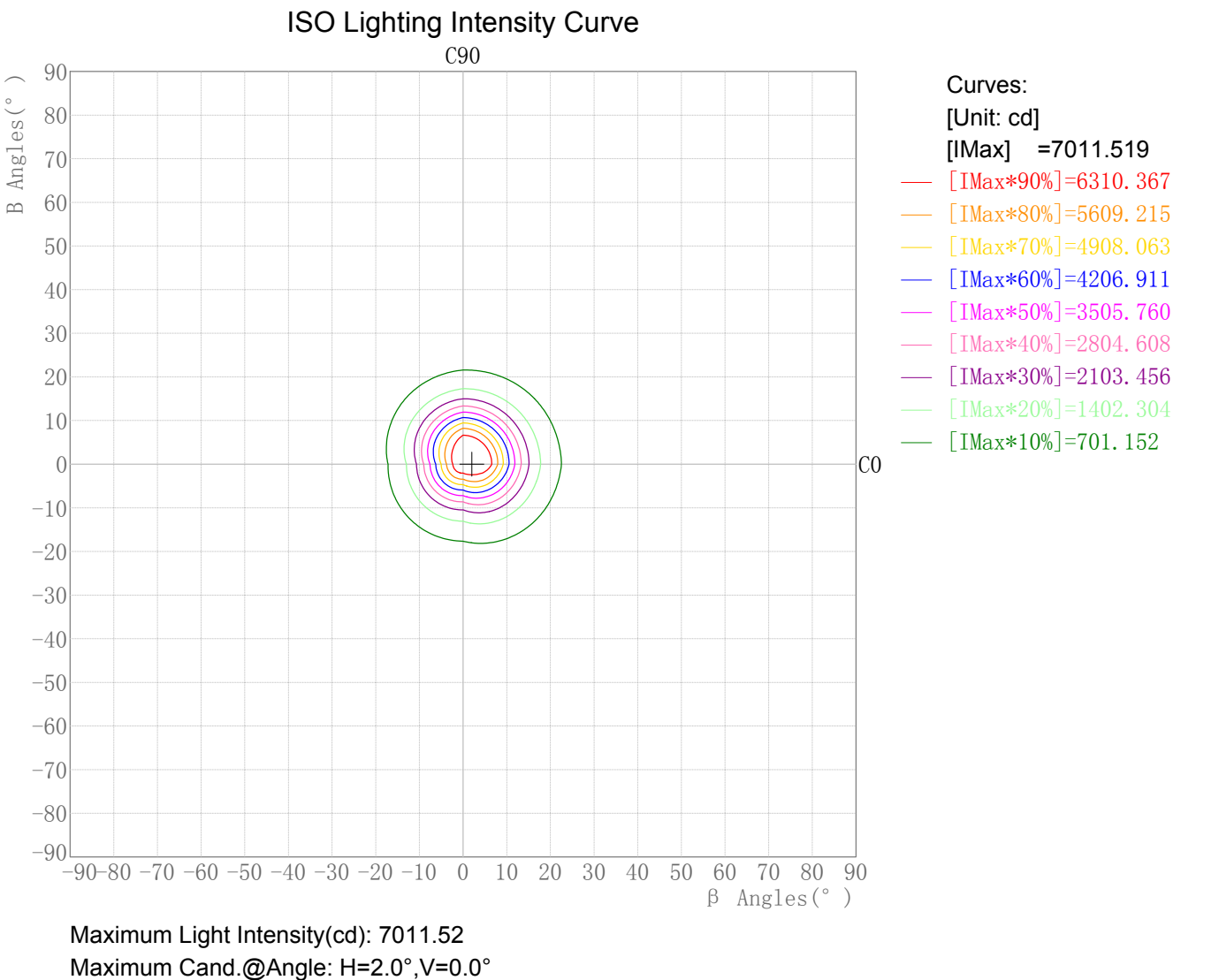
Photometric Filename:TR05-15-XX-01 3000K RA90 15D.IES

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 | 1.29 | 1254.32 | 0.10 | 94.47 | 141.0-142.0 | 0.98 | 1305.18 | 0.07 | 98.30 |
| 95.0-96.0 | 1.28 | 1255.60 | 0.10 | 94.57 | 142.0-143.0 | 0.97 | 1306.15 | 0.07 | 98.37 |
| 96.0-97.0 | 1.27 | 1256.87 | 0.10 | 94.66 | 143.0-144.0 | 0.97 | 1307.12 | 0.07 | 98.45 |
| 97.0-98.0 | 1.26 | 1258.13 | 0.09 | 94.76 | 144.0-145.0 | 0.97 | 1308.09 | 0.07 | 98.52 |
| 98.0-99.0 | 1.25 | 1259.37 | 0.09 | 94.85 | 145.0-146.0 | 0.96 | 1309.06 | 0.07 | 98.59 |
| 99.0-100.0 | 1.24 | 1260.61 | 0.09 | 94.94 | 146.0-147.0 | 0.96 | 1310.01 | 0.07 | 98.66 |
| 100.0-101.0 | 1.23 | 1261.84 | 0.09 | 95.04 | 147.0-148.0 | 0.95 | 1310.96 | 0.07 | 98.73 |
| 101.0-102.0 | 1.22 | 1263.06 | 0.09 | 95.13 | 148.0-149.0 | 0.94 | 1311.89 | 0.07 | 98.81 |
| 102.0-103.0 | 1.21 | 1264.27 | 0.09 | 95.22 | 149.0-150.0 | 0.92 | 1312.82 | 0.07 | 98.87 |
| 103.0-104.0 | 1.20 | 1265.48 | 0.09 | 95.31 | 150.0-151.0 | 0.91 | 1313.72 | 0.07 | 98.94 |
| 104.0-105.0 | 1.19 | 1266.67 | 0.09 | 95.40 | 151.0-152.0 | 0.89 | 1314.61 | 0.07 | 99.01 |
| 105.0-106.0 | 1.19 | 1267.86 | 0.09 | 95.49 | 152.0-153.0 | 0.87 | 1315.49 | 0.07 | 99.08 |
| 106.0-107.0 | 1.18 | 1269.04 | 0.09 | 95.58 | 153.0-154.0 | 0.85 | 1316.33 | 0.06 | 99.14 |
| 107.0-108.0 | 1.17 | 1270.21 | 0.09 | 95.67 | 154.0-155.0 | 0.83 | 1317.16 | 0.06 | 99.20 |
| 108.0-109.0 | 1.16 | 1271.36 | 0.09 | 95.75 | 155.0-156.0 | 0.80 | 1317.96 | 0.06 | 99.26 |
| 109.0-110.0 | 1.15 | 1272.51 | 0.09 | 95.84 | 156.0-157.0 | 0.78 | 1318.74 | 0.06 | 99.32 |
| 110.0-111.0 | 1.14 | 1273.66 | 0.09 | 95.93 | 157.0-158.0 | 0.75 | 1319.49 | 0.06 | 99.38 |
| 111.0-112.0 | 1.14 | 1274.79 | 0.09 | 96.01 | 158.0-159.0 | 0.72 | 1320.21 | 0.05 | 99.43 |
| 112.0-113.0 | 1.12 | 1275.92 | 0.08 | 96.10 | 159.0-160.0 | 0.69 | 1320.90 | 0.05 | 99.48 |
| 113.0-114.0 | 1.11 | 1277.03 | 0.08 | 96.18 | 160.0-161.0 | 0.66 | 1321.57 | 0.05 | 99.53 |
| 114.0-115.0 | 1.10 | 1278.13 | 0.08 | 96.26 | 161.0-162.0 | 0.63 | 1322.20 | 0.05 | 99.58 |
| 115.0-116.0 | 1.09 | 1279.23 | 0.08 | 96.34 | 162.0-163.0 | 0.60 | 1322.79 | 0.05 | 99.63 |
| 116.0-117.0 | 1.08 | 1280.31 | 0.08 | 96.43 | 163.0-164.0 | 0.57 | 1323.36 | 0.04 | 99.67 |
| 117.0-118.0 | 1.07 | 1281.38 | 0.08 | 96.51 | 164.0-165.0 | 0.53 | 1323.89 | 0.04 | 99.71 |
| 118.0-119.0 | 1.06 | 1282.44 | 0.08 | 96.59 | 165.0-166.0 | 0.50 | 1324.39 | 0.04 | 99.75 |
| 119.0-120.0 | 1.05 | 1283.49 | 0.08 | 96.67 | 166.0-167.0 | 0.47 | 1324.86 | 0.04 | 99.78 |
| 120.0-121.0 | 1.04 | 1284.54 | 0.08 | 96.74 | 167.0-168.0 | 0.43 | 1325.29 | 0.03 | 99.81 |
| 121.0-122.0 | 1.03 | 1285.57 | 0.08 | 96.82 | 168.0-169.0 | 0.40 | 1325.69 | 0.03 | 99.84 |
| 122.0-123.0 | 1.02 | 1286.58 | 0.08 | 96.90 | 169.0-170.0 | 0.36 | 1326.05 | 0.03 | 99.87 |
| 123.0-124.0 | 1.01 | 1287.59 | 0.08 | 96.97 | 170.0-171.0 | 0.33 | 1326.37 | 0.02 | 99.90 |
| 124.0-125.0 | 1.00 | 1288.60 | 0.08 | 97.05 | 171.0-172.0 | 0.29 | 1326.67 | 0.02 | 99.92 |
| 125.0-126.0 | 1.00 | 1289.59 | 0.08 | 97.13 | 172.0-173.0 | 0.26 | 1326.92 | 0.02 | 99.94 |
| 126.0-127.0 | 0.99 | 1290.58 | 0.07 | 97.20 | 173.0-174.0 | 0.22 | 1327.15 | 0.02 | 99.95 |
| 127.0-128.0 | 0.98 | 1291.57 | 0.07 | 97.27 | 174.0-175.0 | 0.19 | 1327.33 | 0.01 | 99.97 |
| 128.0-129.0 | 0.98 | 1292.55 | 0.07 | 97.35 | 175.0-176.0 | 0.15 | 1327.49 | 0.01 | 99.98 |
| 129.0-130.0 | 0.97 | 1293.52 | 0.07 | 97.42 | 176.0-177.0 | 0.12 | 1327.61 | 0.01 | 99.99 |
| 130.0-131.0 | 0.97 | 1294.49 | 0.07 | 97.49 | 177.0-178.0 | 0.09 | 1327.69 | 0.01 | 99.99 |
| 131.0-132.0 | 0.97 | 1295.46 | 0.07 | 97.57 | 178.0-179.0 | 0.05 | 1327.74 | 0.00 | 100.00 |
| 132.0-133.0 | 0.97 | 1296.43 | 0.07 | 97.64 | 179.0-180.0 | 0.02 | 1327.76 | 0.00 | 100.00 |
| 133.0-134.0 | 0.97 | 1297.40 | 0.07 | 97.71 | | | | | |
| 134.0-135.0 | 0.97 | 1298.36 | 0.07 | 97.79 | | | | | |
| 135.0-136.0 | 0.97 | 1299.33 | 0.07 | 97.86 | | | | | |
| 136.0-137.0 | 0.97 | 1300.30 | 0.07 | 97.93 | | | | | |
| 137.0-138.0 | 0.97 | 1301.27 | 0.07 | 98.01 | | | | | |
| 138.0-139.0 | 0.97 | 1302.24 | 0.07 | 98.08 | | | | | |
| 139.0-140.0 | 0.98 | 1303.22 | 0.07 | 98.15 | | | | | |
| 140.0-141.0 | 0.98 | 1304.20 | 0.07 | 98.23 | | | | | |

Rectangle ISO Lighting Intensity Diagram

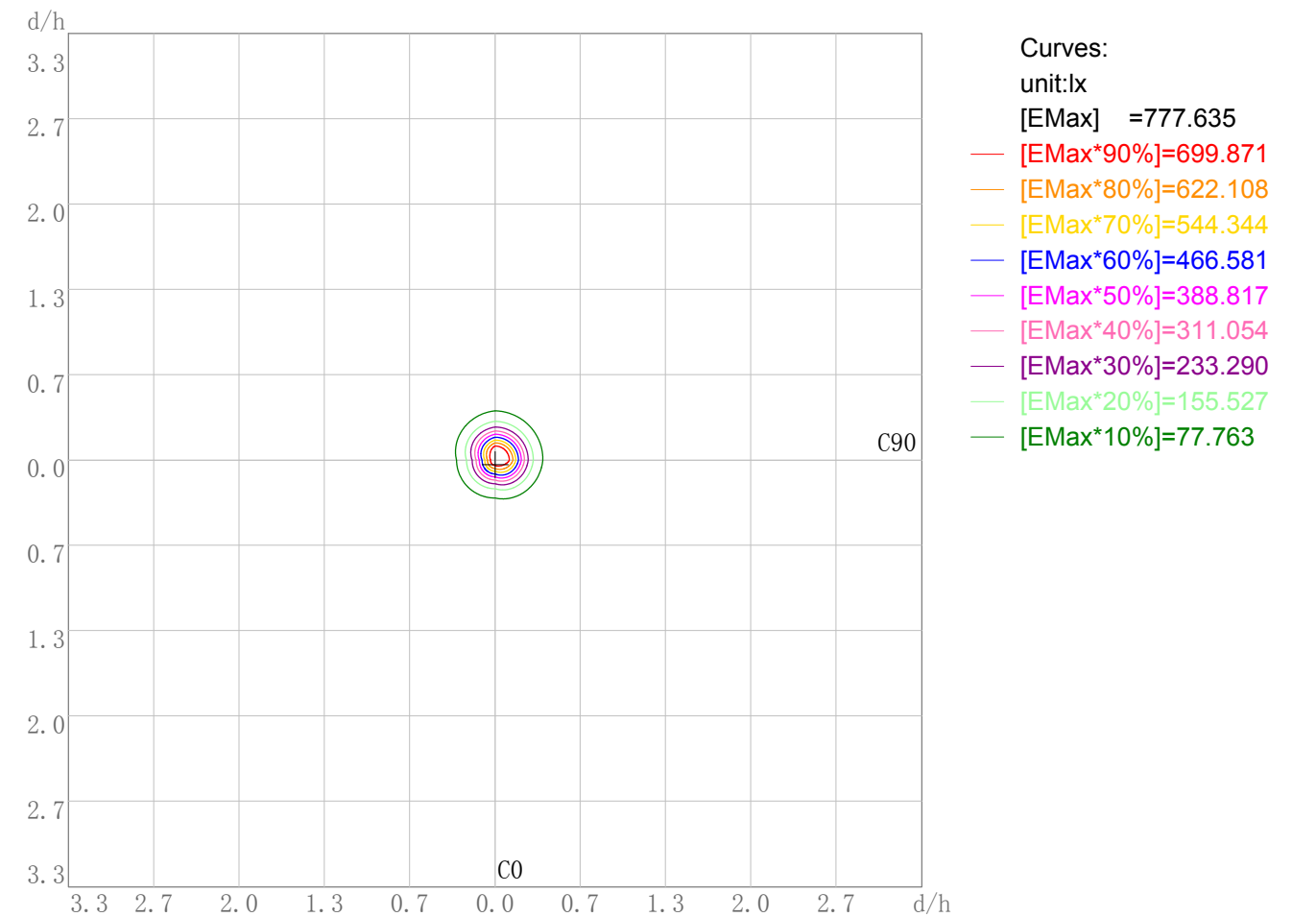
| | | |
|------------------------------------------------|-----------------------|-----------------------------|
| Lum. Name:TR05-15-XX-01 3000K RA90 15D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date:2020/07/09 |



Plane ISO-Illuminance Diagram

| | | |
|-------------------------------------------------|-----------------------|------------------------------|
| Lum. Name:TR05-15-XX-01 3000K RA90 15D | 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: 2020/07/09 |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

Working Plane Maximum Illuminance(lx): 777.63

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

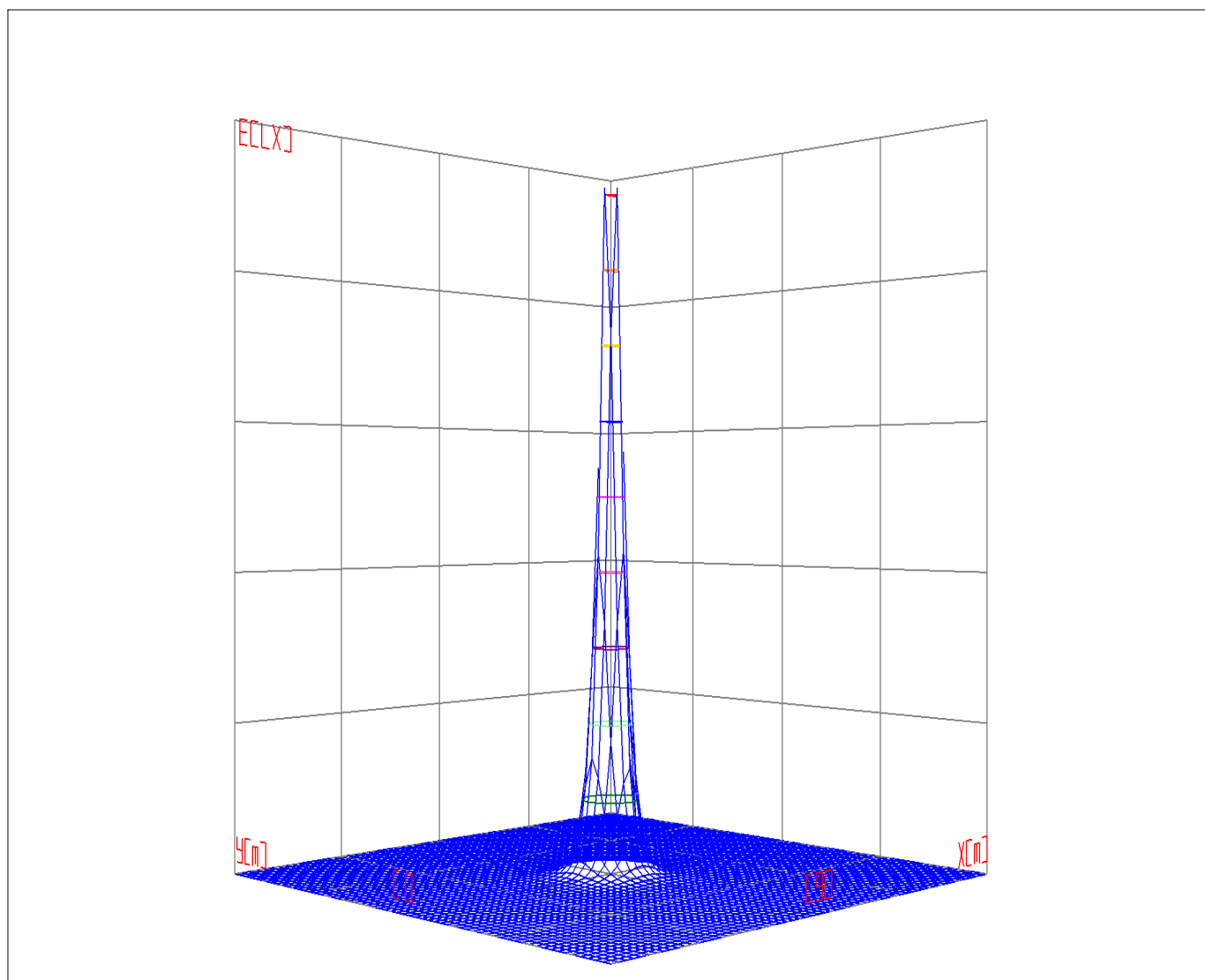
IES Indoor Report

Photometric Filename:TR05-15-XX-01 3000K RA90 15D.IES

3D Plane ISO Illuminance Diagram

| | | |
|-------------------------------------------------|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 3000K RA90 15D | 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: 2020/07/09 |

3D Plane Illuminance Modal

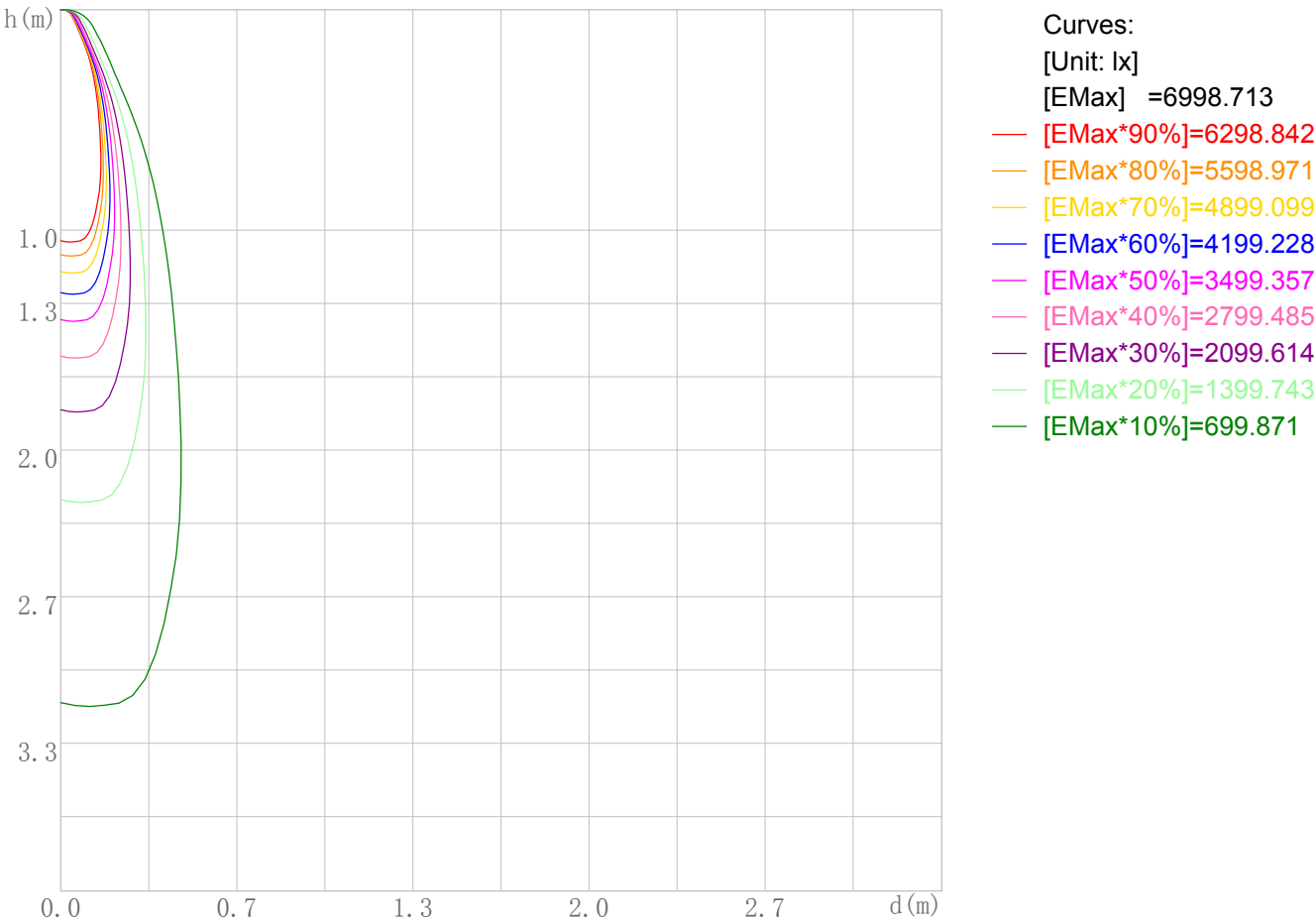


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

| | | |
|-------------------------------------------------|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 3000K RA90 15D | 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: 2020/07/09 |

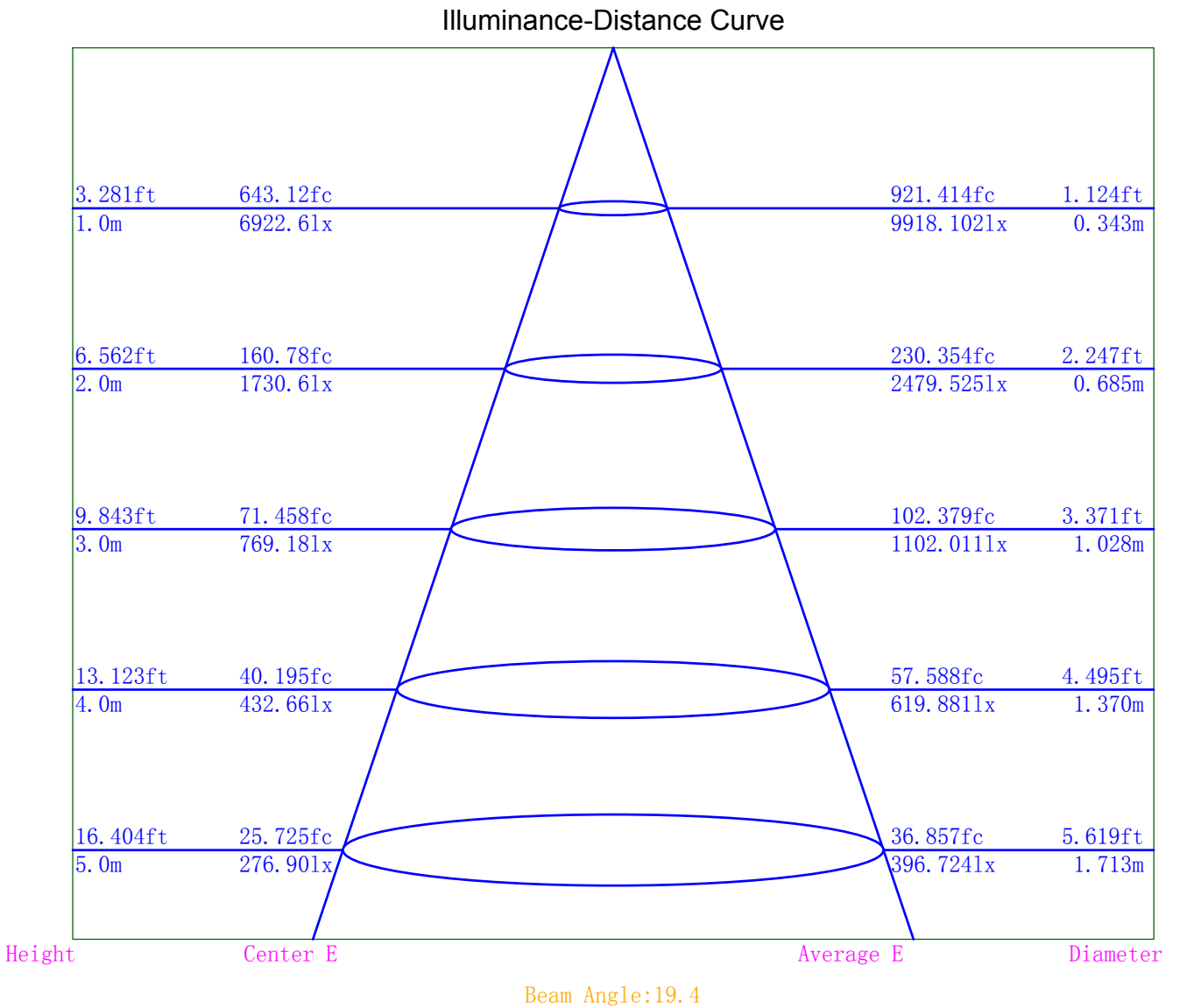
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:6998.71lx,2.0deg
Plane Maximum Lighting Intensity and @Angle:7011.519cd,0deg

Illuminance-Distance Diagram

| | | |
|-------------------------------------------------|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 3000K RA90 15D | 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: 2020/07/09 |



Indoor Luminance Limiting Curves

| | | |
|-------------------------------------------------|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 3000K RA90 15D | 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: 2020/07/09 |

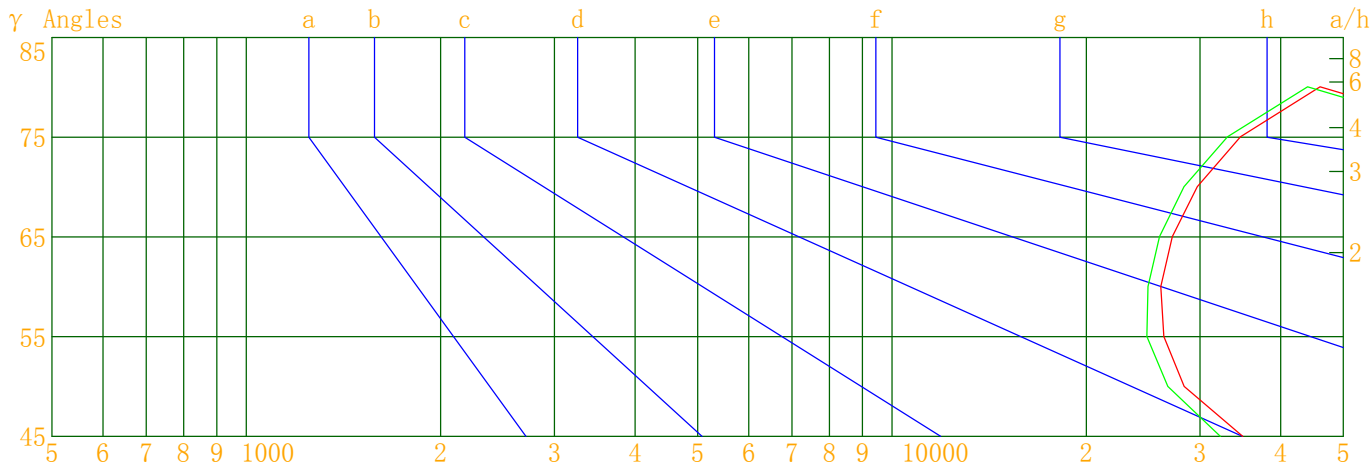
Glare Grade Table

| 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 | 34934 | 28345 | 26372 | 26085 | 27176 | 29703 | 34650 | 46023 | 82277 |
| C90 | 32252 | 26743 | 24814 | 24920 | 25967 | 28339 | 33094 | 44035 | 78800 |

Luminance Limiting Curve



Luminous Size:

Length(m)=0.000

Width(m)=-0.050

Height(m)=0.000

Area(m^2)=0.001963

Luminous Type:

Without Luminous Side

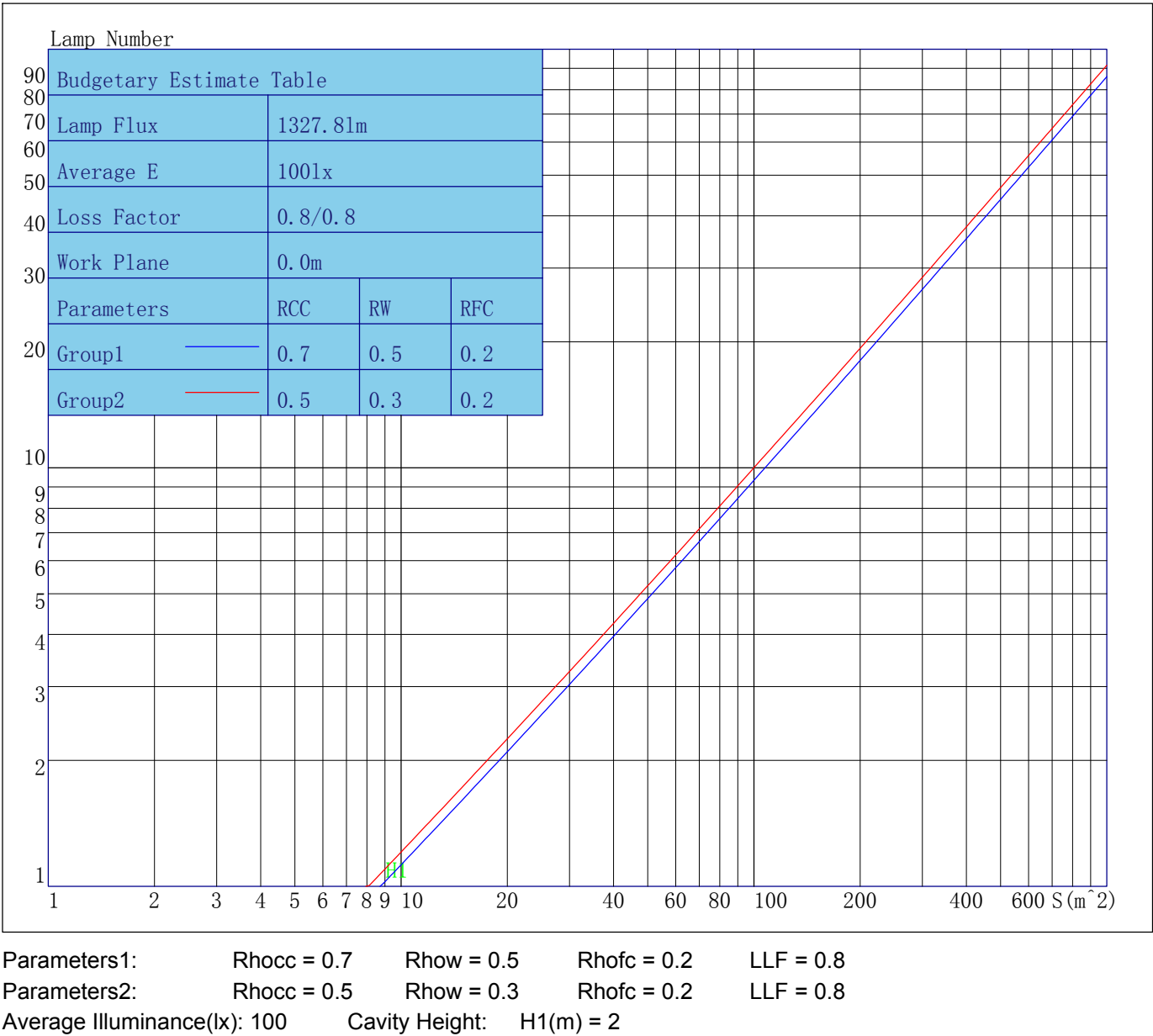
Luminous Curves:

C0-C180 Color: —

C90-C270 Color: —

Indoor Budgetary Estimate Table

| | | |
|-------------------------------------------------|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 3000K RA90 15D | 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: 2020/07/09 |



Indoor Coefficient of Utilization Table

| | | |
|-------------------------------------------------|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 3000K RA90 15D | 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: 2020/07/09 |

| 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 | 114 | 114 | 114 | 114 | 108 | 108 | 108 | 102 | 102 | 102 | 97 | 97 | 97 | 94 |
| 1 | 112 | 110 | 107 | 105 | 109 | 107 | 105 | 103 | 102 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 89 |
| 2 | 108 | 103 | 100 | 97 | 105 | 101 | 98 | 95 | 97 | 94 | 92 | 93 | 91 | 89 | 90 | 88 | 87 | 85 |
| 3 | 104 | 98 | 94 | 90 | 101 | 96 | 92 | 89 | 93 | 90 | 87 | 90 | 87 | 85 | 87 | 85 | 83 | 81 |
| 4 | 100 | 93 | 89 | 85 | 98 | 92 | 88 | 84 | 89 | 86 | 83 | 87 | 84 | 81 | 84 | 82 | 80 | 78 |
| 5 | 96 | 90 | 85 | 81 | 94 | 88 | 84 | 81 | 86 | 82 | 79 | 84 | 81 | 78 | 82 | 79 | 77 | 76 |
| 6 | 93 | 86 | 81 | 78 | 92 | 85 | 81 | 77 | 83 | 79 | 76 | 81 | 78 | 75 | 79 | 77 | 75 | 73 |
| 7 | 90 | 83 | 78 | 75 | 89 | 82 | 78 | 75 | 80 | 77 | 74 | 79 | 76 | 73 | 77 | 75 | 72 | 71 |
| 8 | 88 | 80 | 76 | 72 | 86 | 80 | 75 | 72 | 78 | 74 | 72 | 77 | 73 | 71 | 75 | 73 | 70 | 69 |
| 9 | 85 | 78 | 73 | 70 | 84 | 77 | 73 | 70 | 76 | 72 | 69 | 75 | 71 | 69 | 74 | 71 | 68 | 67 |
| 10 | 83 | 76 | 71 | 68 | 82 | 75 | 71 | 68 | 74 | 70 | 68 | 73 | 70 | 67 | 72 | 69 | 67 | 66 |

Unified Glare Rating Table

| | | |
|------------------------------------------------|-----------------------|-----------------------------|
| Lum. Name:TR05-15-XX-01 3000K RA90 15D | 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:2020/07/09 |

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 | 18.0 | 19.0 | 18.5 | 19.4 | 19.9 | 17.6 | 18.5 | 18.0 | 19.0 | 19.4 |
| | 19.7 | 20.5 | 20.2 | 21.0 | 21.5 | 19.3 | 20.1 | 19.8 | 20.6 | 21.1 |
| | 20.7 | 21.5 | 21.2 | 21.9 | 22.5 | 20.3 | 21.1 | 20.8 | 21.6 | 22.1 |
| | 21.9 | 22.6 | 22.4 | 23.1 | 23.6 | 21.5 | 22.3 | 22.1 | 22.8 | 23.3 |
| | 22.6 | 23.3 | 23.1 | 23.8 | 24.3 | 22.3 | 22.9 | 22.8 | 23.5 | 24.0 |
| | 23.4 | 24.1 | 24.0 | 24.6 | 25.2 | 23.1 | 23.8 | 23.7 | 24.3 | 24.8 |
| X=4H Y=2H | 18.5 | 19.3 | 19.0 | 19.8 | 20.3 | 18.1 | 18.9 | 18.6 | 19.4 | 19.9 |
| | 20.5 | 21.1 | 21.0 | 21.7 | 22.2 | 20.2 | 20.8 | 20.7 | 21.3 | 21.9 |
| | 21.7 | 22.3 | 22.2 | 22.8 | 23.4 | 21.4 | 22.0 | 21.9 | 22.5 | 23.1 |
| | 23.1 | 23.6 | 23.7 | 24.2 | 24.8 | 22.8 | 23.4 | 23.4 | 23.9 | 24.5 |
| | 23.9 | 24.4 | 24.5 | 25.0 | 25.6 | 23.7 | 24.1 | 24.2 | 24.7 | 25.3 |
| | 24.9 | 25.4 | 25.5 | 25.9 | 26.6 | 24.7 | 25.1 | 25.2 | 25.7 | 26.3 |
| X=8H Y=4H | 22.2 | 22.6 | 22.7 | 23.2 | 23.8 | 21.9 | 22.4 | 22.5 | 22.9 | 23.5 |
| | 23.9 | 24.3 | 24.5 | 24.9 | 25.5 | 23.6 | 24.0 | 24.2 | 24.6 | 25.3 |
| | 24.9 | 25.2 | 25.5 | 25.9 | 26.5 | 24.6 | 25.0 | 25.3 | 25.6 | 26.2 |
| | 26.1 | 26.4 | 26.7 | 27.0 | 27.7 | 25.9 | 26.2 | 26.5 | 26.8 | 27.5 |
| X=12H Y=4H | 22.3 | 22.7 | 22.9 | 23.3 | 23.9 | 22.0 | 22.4 | 22.6 | 23.0 | 23.6 |
| | 24.1 | 24.4 | 24.7 | 25.0 | 25.7 | 23.9 | 24.2 | 24.5 | 24.8 | 25.5 |
| | 25.2 | 25.5 | 25.9 | 26.1 | 26.8 | 25.0 | 25.3 | 25.6 | 25.9 | 26.6 |
| Variations with the objerver position at spacings | | | | | | | | | | |
| S=1.0H | 0.0/-0.0 | | | | | 0.1/-0.1 | | | | |
| S=1.5H | 0.1/-0.1 | | | | | 0.1/-0.1 | | | | |
| S=2.0H | 0.1/-0.1 | | | | | 0.1/-0.1 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 4.9 | | | | | 5.0 | | | | |

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 | 6922.60 | 6922.60 | 6922.60 | 6922.60 |
| γ 1.0 | 6984.04 | 6959.95 | 6791.79 | 6720.67 |
| γ 2.0 | 7011.52 | 6972.70 | 6485.41 | 6336.00 |
| γ 3.0 | 7004.01 | 6946.69 | 6022.10 | 5848.13 |
| γ 4.0 | 6983.00 | 6887.13 | 5497.09 | 5294.45 |
| γ 5.0 | 6857.06 | 6756.27 | 4924.15 | 4730.23 |
| γ 6.0 | 6565.16 | 6520.19 | 4351.35 | 4158.58 |
| γ 7.0 | 6119.86 | 6188.10 | 3803.86 | 3603.12 |
| γ 8.0 | 5584.03 | 5730.61 | 3288.41 | 3086.85 |
| γ 9.0 | 5022.81 | 5172.37 | 2804.56 | 2637.37 |
| γ 10.0 | 4493.35 | 4596.77 | 2363.21 | 2254.89 |
| γ 11.0 | 3960.27 | 4022.61 | 1973.99 | 1923.54 |
| γ 12.0 | 3430.03 | 3468.25 | 1650.46 | 1648.02 |
| γ 13.0 | 2944.59 | 2962.08 | 1393.70 | 1413.88 |
| γ 14.0 | 2504.86 | 2503.44 | 1180.40 | 1211.41 |
| γ 15.0 | 2136.45 | 2097.90 | 999.59 | 1042.11 |
| γ 16.0 | 1825.92 | 1753.67 | 848.84 | 895.57 |
| γ 17.0 | 1568.14 | 1468.87 | 721.51 | 770.52 |
| γ 18.0 | 1350.65 | 1243.40 | 612.69 | 664.56 |
| γ 19.0 | 1164.91 | 1061.59 | 518.54 | 573.14 |
| γ 20.0 | 1007.08 | 907.05 | 437.40 | 492.32 |
| γ 21.0 | 872.23 | 770.50 | 367.64 | 421.17 |
| γ 22.0 | 754.82 | 650.15 | 307.94 | 357.99 |
| γ 23.0 | 654.83 | 543.05 | 257.10 | 302.27 |
| γ 24.0 | 566.81 | 453.10 | 214.84 | 254.66 |
| γ 25.0 | 489.13 | 380.23 | 180.04 | 214.67 |
| γ 26.0 | 419.98 | 320.47 | 151.17 | 180.52 |
| γ 27.0 | 359.49 | 270.60 | 128.40 | 152.87 |
| γ 28.0 | 307.13 | 229.69 | 110.24 | 130.21 |
| γ 29.0 | 262.02 | 196.35 | 95.64 | 111.90 |
| γ 30.0 | 222.92 | 167.88 | 84.72 | 98.36 |
| γ 31.0 | 189.66 | 146.27 | 75.76 | 86.79 |
| γ 32.0 | 163.33 | 128.58 | 68.47 | 76.89 |
| γ 33.0 | 142.09 | 114.11 | 63.11 | 69.86 |
| γ 34.0 | 125.26 | 103.18 | 58.78 | 64.47 |
| γ 35.0 | 110.94 | 93.68 | 54.99 | 59.61 |
| γ 36.0 | 99.39 | 85.08 | 51.50 | 55.31 |
| γ 37.0 | 90.12 | 78.26 | 48.39 | 51.96 |
| γ 38.0 | 82.62 | 72.71 | 45.87 | 48.91 |
| γ 39.0 | 75.58 | 67.47 | 43.60 | 46.36 |
| γ 40.0 | 69.39 | 62.59 | 41.65 | 44.08 |
| γ 41.0 | 63.89 | 58.15 | 39.96 | 42.02 |
| γ 42.0 | 59.12 | 54.32 | 38.38 | 40.19 |
| γ 43.0 | 55.24 | 50.84 | 36.78 | 38.32 |
| γ 44.0 | 51.66 | 47.58 | 35.23 | 36.45 |
| γ 45.0 | 48.50 | 44.78 | 33.70 | 34.60 |
| γ 46.0 | 45.62 | 42.22 | 32.46 | 33.21 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 43.02 | 39.85 | 31.21 | 32.16 |
| γ 48.0 | 40.58 | 37.68 | 30.47 | 31.37 |
| γ 49.0 | 38.08 | 35.50 | 29.72 | 30.58 |
| γ 50.0 | 35.77 | 33.75 | 29.09 | 29.94 |
| γ 51.0 | 34.21 | 32.20 | 28.28 | 29.18 |
| γ 52.0 | 32.77 | 31.06 | 27.64 | 28.54 |
| γ 53.0 | 31.73 | 29.94 | 27.04 | 27.95 |
| γ 54.0 | 30.61 | 28.94 | 26.48 | 27.36 |
| γ 55.0 | 29.70 | 27.95 | 25.90 | 26.77 |
| γ 56.0 | 28.67 | 27.13 | 25.27 | 26.21 |
| γ 57.0 | 27.84 | 26.39 | 24.78 | 25.69 |
| γ 58.0 | 27.08 | 25.80 | 24.32 | 25.18 |
| γ 59.0 | 26.31 | 25.04 | 23.76 | 24.58 |
| γ 60.0 | 25.61 | 24.47 | 23.19 | 23.80 |
| γ 61.0 | 24.94 | 23.77 | 22.74 | 23.14 |
| γ 62.0 | 24.38 | 23.15 | 22.03 | 22.53 |
| γ 63.0 | 23.83 | 22.58 | 21.38 | 21.89 |
| γ 64.0 | 23.23 | 22.07 | 20.85 | 21.37 |
| γ 65.0 | 22.55 | 21.55 | 20.27 | 20.77 |
| γ 66.0 | 21.95 | 21.02 | 19.81 | 20.22 |
| γ 67.0 | 21.51 | 20.56 | 19.26 | 19.68 |
| γ 68.0 | 20.97 | 20.02 | 18.78 | 19.13 |
| γ 69.0 | 20.46 | 19.48 | 18.21 | 18.59 |
| γ 70.0 | 19.95 | 19.03 | 17.77 | 18.19 |
| γ 71.0 | 19.42 | 18.51 | 17.30 | 17.66 |
| γ 72.0 | 18.91 | 18.09 | 16.86 | 17.29 |
| γ 73.0 | 18.53 | 17.66 | 16.49 | 16.83 |
| γ 74.0 | 18.06 | 17.27 | 16.11 | 16.42 |
| γ 75.0 | 17.61 | 16.82 | 15.61 | 16.08 |
| γ 76.0 | 17.20 | 16.46 | 15.35 | 15.75 |
| γ 77.0 | 16.82 | 16.15 | 15.02 | 15.35 |
| γ 78.0 | 16.41 | 15.76 | 14.65 | 14.98 |
| γ 79.0 | 16.08 | 15.35 | 14.34 | 14.67 |
| γ 80.0 | 15.69 | 15.01 | 14.03 | 14.43 |
| γ 81.0 | 15.36 | 14.73 | 13.76 | 14.09 |
| γ 82.0 | 15.02 | 14.37 | 13.47 | 13.81 |
| γ 83.0 | 14.73 | 14.08 | 13.23 | 13.47 |
| γ 84.0 | 14.44 | 13.83 | 12.92 | 13.27 |
| γ 85.0 | 14.08 | 13.48 | 12.65 | 13.03 |
| γ 86.0 | 13.88 | 13.26 | 12.45 | 12.71 |
| γ 87.0 | 13.59 | 12.97 | 12.21 | 12.53 |
| γ 88.0 | 13.33 | 12.75 | 12.03 | 12.31 |
| γ 89.0 | 13.06 | 12.52 | 12.02 | 12.28 |
| γ 90.0 | 12.82 | 12.32 | 11.83 | 12.04 |
| γ 91.0 | 12.70 | 12.17 | 11.78 | 11.94 |
| γ 92.0 | 12.51 | 11.95 | 11.60 | 11.85 |
| γ 93.0 | 12.43 | 11.98 | 11.55 | 11.78 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|-------|-------|--------|--------|
| γ 94.0 | 12.38 | 11.86 | 11.46 | 11.65 |
| γ 95.0 | 12.27 | 11.80 | 11.43 | 11.53 |
| γ 96.0 | 12.15 | 11.74 | 11.39 | 11.48 |
| γ 97.0 | 12.11 | 11.59 | 11.21 | 11.43 |
| γ 98.0 | 11.97 | 11.50 | 11.23 | 11.35 |
| γ 99.0 | 11.95 | 11.47 | 11.08 | 11.30 |
| γ 100.0 | 11.87 | 11.45 | 11.11 | 11.21 |
| γ 101.0 | 11.86 | 11.42 | 11.05 | 11.22 |
| γ 102.0 | 11.82 | 11.35 | 11.08 | 11.17 |
| γ 103.0 | 11.77 | 11.30 | 11.01 | 11.11 |
| γ 104.0 | 11.68 | 11.30 | 10.98 | 11.12 |
| γ 105.0 | 11.65 | 11.23 | 11.02 | 11.07 |
| γ 106.0 | 11.59 | 11.25 | 11.00 | 11.05 |
| γ 107.0 | 11.53 | 11.25 | 10.95 | 11.07 |
| γ 108.0 | 11.50 | 11.10 | 10.94 | 11.05 |
| γ 109.0 | 11.41 | 11.10 | 10.93 | 10.97 |
| γ 110.0 | 11.38 | 11.21 | 10.97 | 10.97 |
| γ 111.0 | 11.42 | 11.13 | 11.01 | 11.05 |
| γ 112.0 | 11.40 | 11.07 | 10.98 | 10.97 |
| γ 113.0 | 11.31 | 10.99 | 11.01 | 10.99 |
| γ 114.0 | 11.23 | 11.01 | 11.03 | 11.05 |
| γ 115.0 | 11.22 | 10.89 | 11.06 | 10.99 |
| γ 116.0 | 11.19 | 10.88 | 11.10 | 11.06 |
| γ 117.0 | 11.06 | 10.82 | 11.10 | 11.11 |
| γ 118.0 | 11.04 | 10.75 | 11.17 | 11.08 |
| γ 119.0 | 10.98 | 10.79 | 11.20 | 11.05 |
| γ 120.0 | 11.01 | 10.75 | 11.24 | 11.11 |
| γ 121.0 | 10.88 | 10.71 | 11.33 | 11.16 |
| γ 122.0 | 10.85 | 10.73 | 11.28 | 11.17 |
| γ 123.0 | 10.83 | 10.69 | 11.36 | 11.23 |
| γ 124.0 | 10.81 | 10.65 | 11.54 | 11.27 |
| γ 125.0 | 10.89 | 10.68 | 11.61 | 11.42 |
| γ 126.0 | 10.84 | 10.72 | 11.65 | 11.50 |
| γ 127.0 | 10.90 | 10.77 | 11.78 | 11.59 |
| γ 128.0 | 10.99 | 10.73 | 11.97 | 11.78 |
| γ 129.0 | 11.02 | 10.88 | 12.08 | 11.83 |
| γ 130.0 | 11.02 | 10.92 | 12.24 | 12.01 |
| γ 131.0 | 11.18 | 11.02 | 12.46 | 12.20 |
| γ 132.0 | 11.30 | 11.18 | 12.65 | 12.48 |
| γ 133.0 | 11.38 | 11.27 | 12.94 | 12.67 |
| γ 134.0 | 11.48 | 11.43 | 13.18 | 12.89 |
| γ 135.0 | 11.61 | 11.60 | 13.50 | 13.23 |
| γ 136.0 | 11.85 | 11.79 | 13.69 | 13.52 |
| γ 137.0 | 12.00 | 12.03 | 13.98 | 13.87 |
| γ 138.0 | 12.27 | 12.23 | 14.34 | 14.12 |
| γ 139.0 | 12.50 | 12.53 | 14.75 | 14.40 |
| γ 140.0 | 12.77 | 12.79 | 15.11 | 14.82 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|-------|-------|--------|--------|
| γ 141.0 | 13.07 | 13.05 | 15.43 | 15.10 |
| γ 142.0 | 13.31 | 13.37 | 15.74 | 15.41 |
| γ 143.0 | 13.61 | 13.65 | 15.98 | 15.74 |
| γ 144.0 | 14.03 | 13.92 | 16.42 | 15.97 |
| γ 145.0 | 14.25 | 14.34 | 16.59 | 16.26 |
| γ 146.0 | 14.60 | 14.54 | 16.92 | 16.56 |
| γ 147.0 | 14.91 | 14.98 | 17.12 | 16.75 |
| γ 148.0 | 15.29 | 15.17 | 17.42 | 16.96 |
| γ 149.0 | 15.59 | 15.51 | 17.54 | 17.20 |
| γ 150.0 | 15.72 | 15.81 | 17.81 | 17.36 |
| γ 151.0 | 16.12 | 16.11 | 17.93 | 17.54 |
| γ 152.0 | 16.42 | 16.36 | 18.08 | 17.60 |
| γ 153.0 | 16.53 | 16.58 | 18.19 | 17.71 |
| γ 154.0 | 16.90 | 16.83 | 18.33 | 17.77 |
| γ 155.0 | 17.01 | 17.00 | 18.42 | 17.99 |
| γ 156.0 | 17.20 | 17.17 | 18.51 | 17.92 |
| γ 157.0 | 17.30 | 17.34 | 18.57 | 18.00 |
| γ 158.0 | 17.51 | 17.42 | 18.60 | 18.13 |
| γ 159.0 | 17.70 | 17.50 | 18.61 | 18.09 |
| γ 160.0 | 17.76 | 17.61 | 18.64 | 18.15 |
| γ 161.0 | 17.88 | 17.73 | 18.70 | 18.20 |
| γ 162.0 | 18.00 | 17.72 | 18.67 | 18.15 |
| γ 163.0 | 18.05 | 17.80 | 18.64 | 18.09 |
| γ 164.0 | 18.11 | 17.82 | 18.69 | 18.14 |
| γ 165.0 | 18.17 | 17.89 | 18.57 | 18.13 |
| γ 166.0 | 18.24 | 17.91 | 18.60 | 18.02 |
| γ 167.0 | 18.22 | 17.88 | 18.52 | 18.08 |
| γ 168.0 | 18.26 | 17.99 | 18.43 | 17.93 |
| γ 169.0 | 18.22 | 17.91 | 18.39 | 17.93 |
| γ 170.0 | 18.22 | 17.97 | 18.31 | 17.80 |
| γ 171.0 | 18.19 | 18.04 | 18.25 | 17.73 |
| γ 172.0 | 18.23 | 17.95 | 18.16 | 17.64 |
| γ 173.0 | 18.10 | 17.90 | 18.10 | 17.55 |
| γ 174.0 | 18.13 | 17.86 | 18.01 | 17.53 |
| γ 175.0 | 18.04 | 17.79 | 17.95 | 17.42 |
| γ 176.0 | 17.91 | 17.84 | 17.84 | 17.46 |
| γ 177.0 | 17.87 | 17.77 | 17.95 | 17.58 |
| γ 178.0 | 17.84 | 17.74 | 17.98 | 17.63 |
| γ 179.0 | 17.79 | 17.61 | 17.97 | 17.65 |
| γ 180.0 | 17.79 | 17.79 | 17.79 | 17.79 |
