

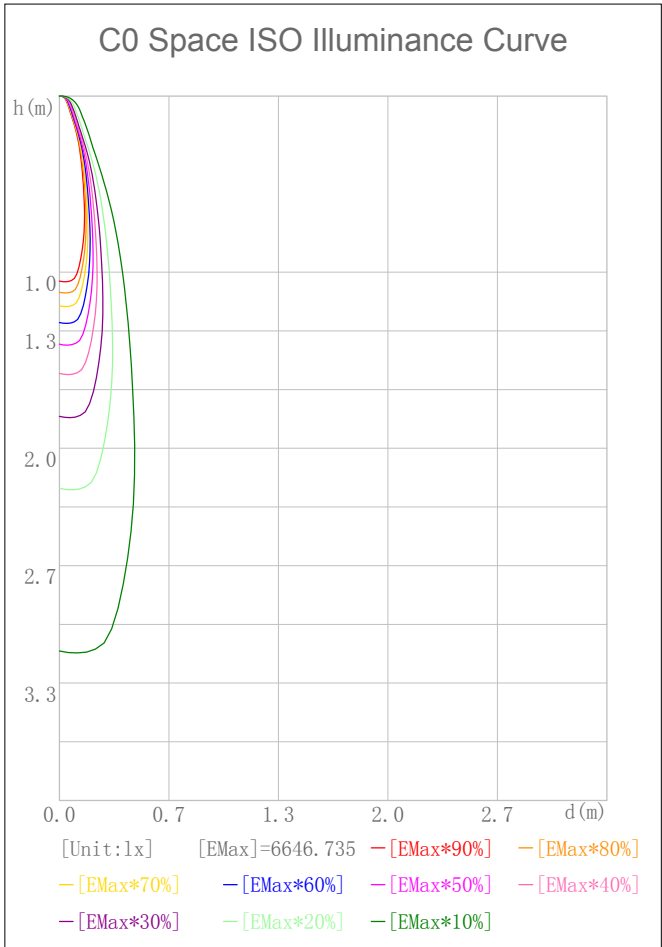
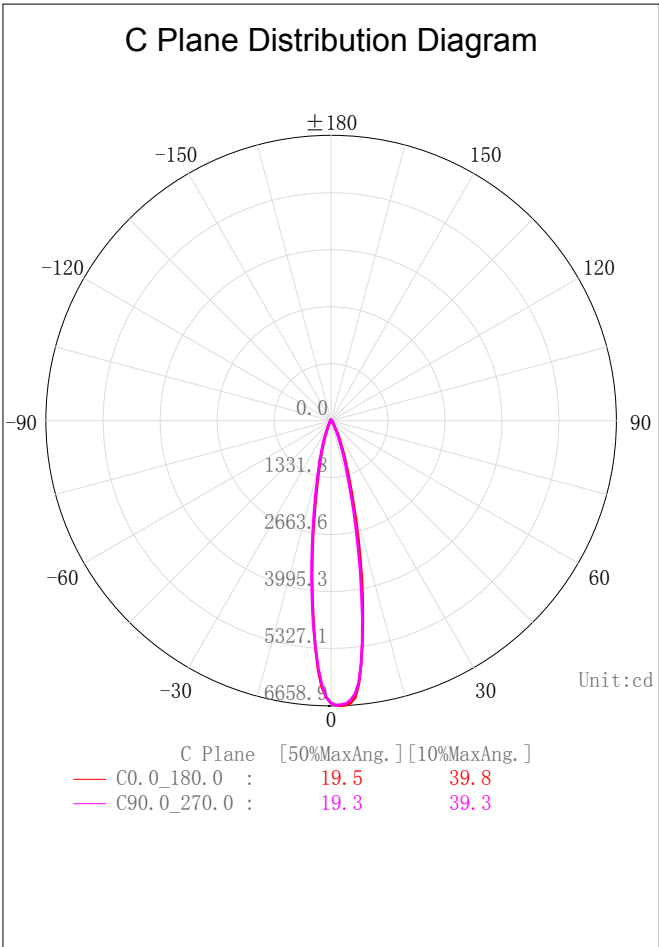
Indoor Luminaire Photometric Data

Description Information

| | | |
|---|-------------------------|-----------------------|
| Luminary Name: TR05-15-XX-01 2700K 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 |

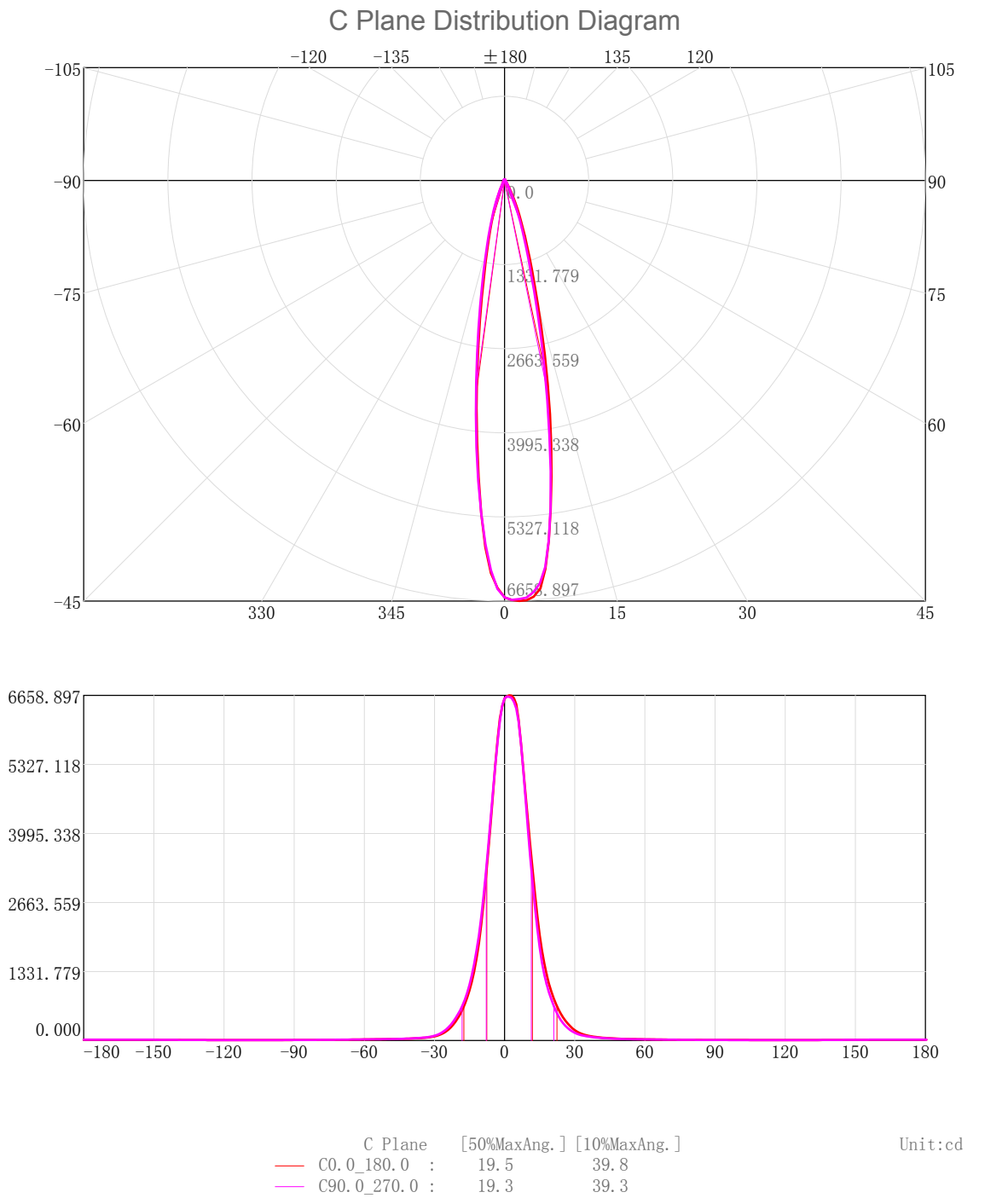
Character Parameter

| Lamp Speciality Parameter | Luminaire Speciality Parameter | |
|---|--------------------------------|--|
| Rated Flux(lm): 1264.160 | Luminary Flux(lm): 1264.163 | Field Angle(10%Imax): 39.8(°) |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 1183.671lm 93.63% |
| Rated Voltage(V): | Luminary EER(lm/W): 85.590 | Up Lumens&Percent: 80.492lm 6.37% |
| Tested Power(W): 14.770 | Max. Candela(cd): 6658.897 | S/MH: C0_a180=0.336 C90_270=0.331 |
| Lamps' Inside: 1 | Max Cand@Ang. (°): C=0.0 γ=2.0 | CIE Type: Semi-Direct |
| Tested Electrics (V, A, pf):240.1, 0.063, 0.967 | Beam Angle(50%Imax): 19.5(°) | ErP ϕ use(90°): 1077.009lm |
| Lamp Size (W*L*H):0.050m*0.000m*0.000m | Left=-7.6°, Right=11.9° | IRF(%): 1092.152 |



2D Plane Light Intensity Distribution Curve

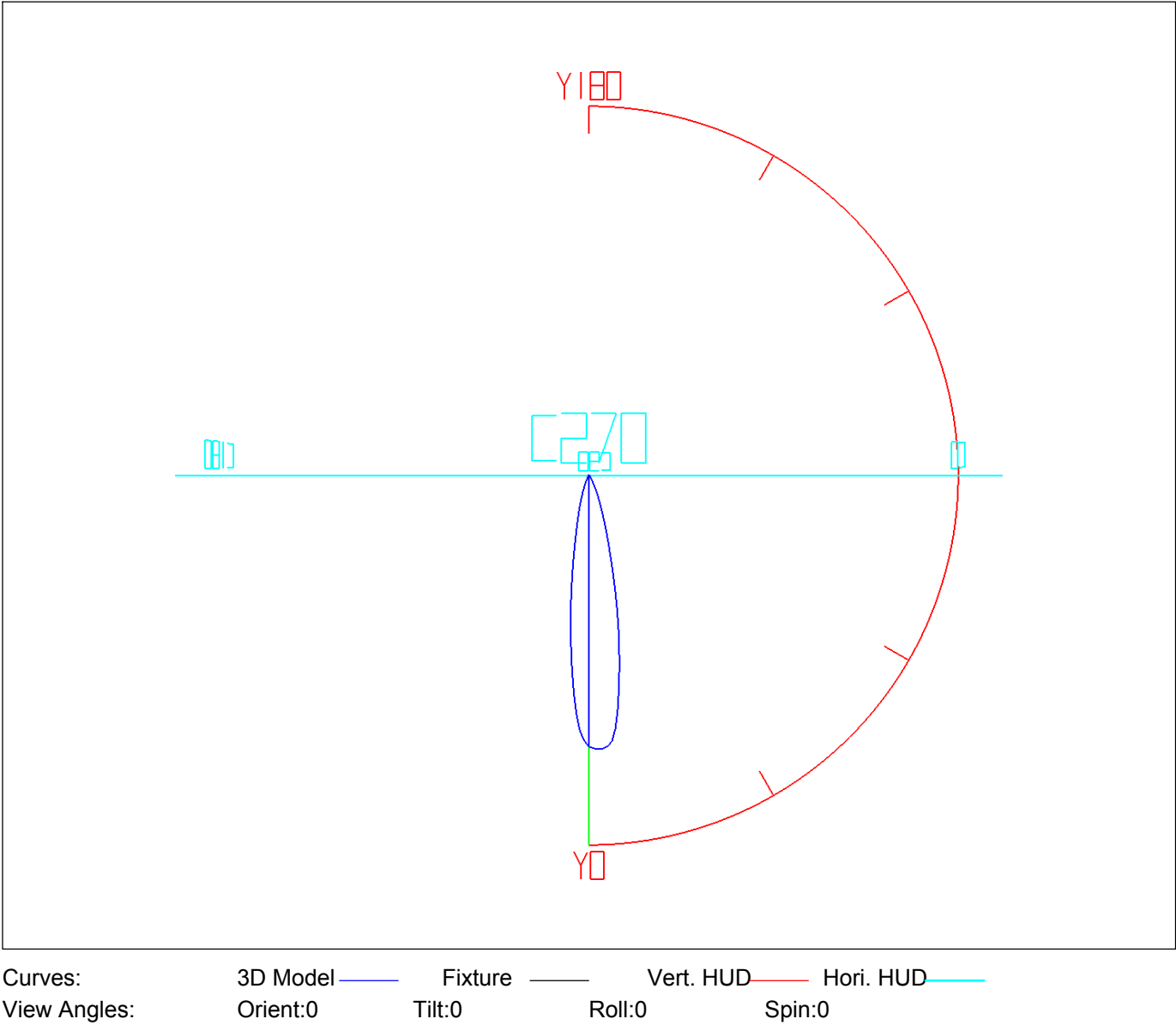
| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:TR05-15-XX-01 2700K RA90 15D | Lum. Catalog: | Test ID:01 |
| Lamp Name: | Lamp Catalog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date:2020/07/09 |



3D Light Intensity Distribution Modal

| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:TR05-15-XX-01 2700K 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 2700K 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 | 6.29 | 6.29 | 0.50 | 0.50 | 47.0-48.0 | 2.76 | 1101.33 | 0.22 | 87.12 |
| 1.0-2.0 | 18.61 | 24.90 | 1.47 | 1.97 | 48.0-49.0 | 2.69 | 1104.02 | 0.21 | 87.33 |
| 2.0-3.0 | 30.20 | 55.11 | 2.39 | 4.36 | 49.0-50.0 | 2.63 | 1106.64 | 0.21 | 87.54 |
| 3.0-4.0 | 40.62 | 95.72 | 3.21 | 7.57 | 50.0-51.0 | 2.58 | 1109.22 | 0.20 | 87.74 |
| 4.0-5.0 | 49.54 | 145.26 | 3.92 | 11.49 | 51.0-52.0 | 2.53 | 1111.75 | 0.20 | 87.94 |
| 5.0-6.0 | 56.64 | 201.90 | 4.48 | 15.97 | 52.0-53.0 | 2.49 | 1114.25 | 0.20 | 88.14 |
| 6.0-7.0 | 61.43 | 263.33 | 4.86 | 20.83 | 53.0-54.0 | 2.46 | 1116.71 | 0.19 | 88.34 |
| 7.0-8.0 | 63.85 | 327.18 | 5.05 | 25.88 | 54.0-55.0 | 2.43 | 1119.13 | 0.19 | 88.53 |
| 8.0-9.0 | 64.20 | 391.37 | 5.08 | 30.96 | 55.0-56.0 | 2.39 | 1121.52 | 0.19 | 88.72 |
| 9.0-10.0 | 62.89 | 454.26 | 4.97 | 35.93 | 56.0-57.0 | 2.36 | 1123.89 | 0.19 | 88.90 |
| 10.0-11.0 | 60.36 | 514.62 | 4.77 | 40.71 | 57.0-58.0 | 2.33 | 1126.21 | 0.18 | 89.09 |
| 11.0-12.0 | 56.91 | 571.53 | 4.50 | 45.21 | 58.0-59.0 | 2.30 | 1128.51 | 0.18 | 89.27 |
| 12.0-13.0 | 52.88 | 624.41 | 4.18 | 49.39 | 59.0-60.0 | 2.27 | 1130.78 | 0.18 | 89.45 |
| 13.0-14.0 | 48.55 | 672.96 | 3.84 | 53.23 | 60.0-61.0 | 2.24 | 1133.02 | 0.18 | 89.63 |
| 14.0-15.0 | 44.12 | 717.07 | 3.49 | 56.72 | 61.0-62.0 | 2.20 | 1135.23 | 0.17 | 89.80 |
| 15.0-16.0 | 39.88 | 756.95 | 3.15 | 59.88 | 62.0-63.0 | 2.17 | 1137.40 | 0.17 | 89.97 |
| 16.0-17.0 | 36.06 | 793.01 | 2.85 | 62.73 | 63.0-64.0 | 2.14 | 1139.54 | 0.17 | 90.14 |
| 17.0-18.0 | 32.62 | 825.63 | 2.58 | 65.31 | 64.0-65.0 | 2.10 | 1141.64 | 0.17 | 90.31 |
| 18.0-19.0 | 29.47 | 855.11 | 2.33 | 67.64 | 65.0-66.0 | 2.06 | 1143.70 | 0.16 | 90.47 |
| 19.0-20.0 | 26.53 | 881.64 | 2.10 | 69.74 | 66.0-67.0 | 2.03 | 1145.73 | 0.16 | 90.63 |
| 20.0-21.0 | 23.79 | 905.43 | 1.88 | 71.62 | 67.0-68.0 | 1.99 | 1147.72 | 0.16 | 90.79 |
| 21.0-22.0 | 21.22 | 926.65 | 1.68 | 73.30 | 68.0-69.0 | 1.96 | 1149.68 | 0.15 | 90.94 |
| 22.0-23.0 | 18.81 | 945.46 | 1.49 | 74.79 | 69.0-70.0 | 1.92 | 1151.60 | 0.15 | 91.10 |
| 23.0-24.0 | 16.62 | 962.08 | 1.31 | 76.10 | 70.0-71.0 | 1.89 | 1153.48 | 0.15 | 91.24 |
| 24.0-25.0 | 14.66 | 976.73 | 1.16 | 77.26 | 71.0-72.0 | 1.85 | 1155.33 | 0.15 | 91.39 |
| 25.0-26.0 | 12.90 | 989.63 | 1.02 | 78.28 | 72.0-73.0 | 1.82 | 1157.15 | 0.14 | 91.54 |
| 26.0-27.0 | 11.31 | 1000.94 | 0.89 | 79.18 | 73.0-74.0 | 1.79 | 1158.94 | 0.14 | 91.68 |
| 27.0-28.0 | 9.93 | 1010.87 | 0.79 | 79.96 | 74.0-75.0 | 1.75 | 1160.69 | 0.14 | 91.82 |
| 28.0-29.0 | 8.74 | 1019.61 | 0.69 | 80.65 | 75.0-76.0 | 1.72 | 1162.41 | 0.14 | 91.95 |
| 29.0-30.0 | 7.72 | 1027.33 | 0.61 | 81.27 | 76.0-77.0 | 1.69 | 1164.11 | 0.13 | 92.09 |
| 30.0-31.0 | 6.88 | 1034.21 | 0.54 | 81.81 | 77.0-78.0 | 1.66 | 1165.77 | 0.13 | 92.22 |
| 31.0-32.0 | 6.19 | 1040.39 | 0.49 | 82.30 | 78.0-79.0 | 1.64 | 1167.40 | 0.13 | 92.35 |
| 32.0-33.0 | 5.62 | 1046.02 | 0.44 | 82.74 | 79.0-80.0 | 1.61 | 1169.01 | 0.13 | 92.47 |
| 33.0-34.0 | 5.19 | 1051.20 | 0.41 | 83.15 | 80.0-81.0 | 1.58 | 1170.59 | 0.12 | 92.60 |
| 34.0-35.0 | 4.82 | 1056.03 | 0.38 | 83.54 | 81.0-82.0 | 1.55 | 1172.14 | 0.12 | 92.72 |
| 35.0-36.0 | 4.52 | 1060.54 | 0.36 | 83.89 | 82.0-83.0 | 1.52 | 1173.67 | 0.12 | 92.84 |
| 36.0-37.0 | 4.26 | 1064.80 | 0.34 | 84.23 | 83.0-84.0 | 1.50 | 1175.17 | 0.12 | 92.96 |
| 37.0-38.0 | 4.05 | 1068.85 | 0.32 | 84.55 | 84.0-85.0 | 1.47 | 1176.64 | 0.12 | 93.08 |
| 38.0-39.0 | 3.86 | 1072.71 | 0.31 | 84.86 | 85.0-86.0 | 1.45 | 1178.09 | 0.11 | 93.19 |
| 39.0-40.0 | 3.68 | 1076.40 | 0.29 | 85.15 | 86.0-87.0 | 1.43 | 1179.52 | 0.11 | 93.30 |
| 40.0-41.0 | 3.53 | 1079.92 | 0.28 | 85.43 | 87.0-88.0 | 1.40 | 1180.92 | 0.11 | 93.42 |
| 41.0-42.0 | 3.39 | 1083.32 | 0.27 | 85.69 | 88.0-89.0 | 1.38 | 1182.30 | 0.11 | 93.52 |
| 42.0-43.0 | 3.27 | 1086.59 | 0.26 | 85.95 | 89.0-90.0 | 1.37 | 1183.67 | 0.11 | 93.63 |
| 43.0-44.0 | 3.15 | 1089.74 | 0.25 | 86.20 | 90.0-91.0 | 1.35 | 1185.02 | 0.11 | 93.74 |
| 44.0-45.0 | 3.04 | 1092.78 | 0.24 | 86.44 | 91.0-92.0 | 1.34 | 1186.36 | 0.11 | 93.85 |
| 45.0-46.0 | 2.94 | 1095.72 | 0.23 | 86.68 | 92.0-93.0 | 1.33 | 1187.68 | 0.10 | 93.95 |
| 46.0-47.0 | 2.85 | 1098.56 | 0.23 | 86.90 | 93.0-94.0 | 1.31 | 1188.99 | 0.10 | 94.05 |

IES Indoor Report

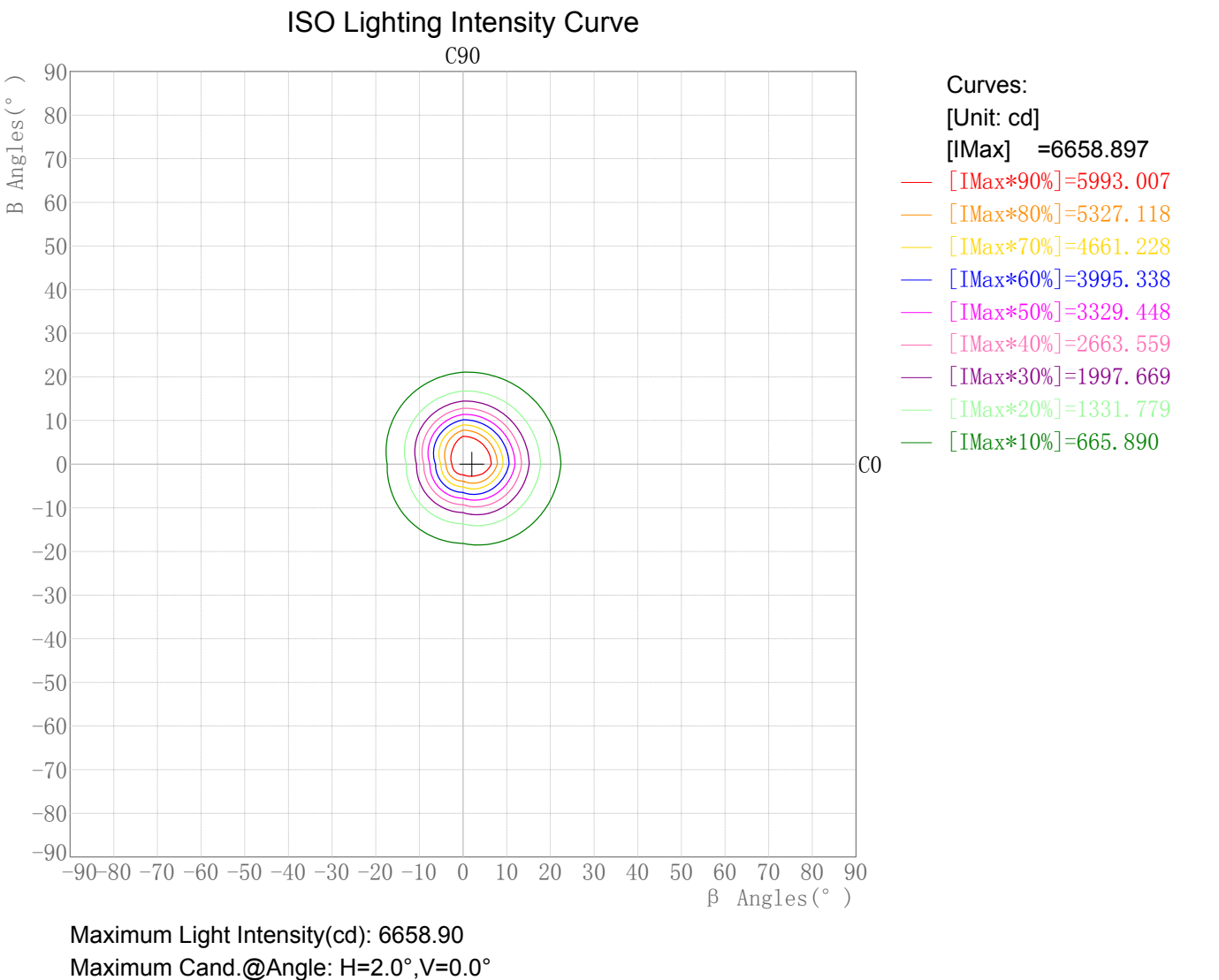
Photometric Filename:TR05-15-XX-01 2700K RA90 15D.IES

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 | 1.30 | 1190.30 | 0.10 | 94.16 | 141.0-142.0 | 0.98 | 1241.71 | 0.08 | 98.22 |
| 95.0-96.0 | 1.29 | 1191.59 | 0.10 | 94.26 | 142.0-143.0 | 0.98 | 1242.69 | 0.08 | 98.30 |
| 96.0-97.0 | 1.28 | 1192.87 | 0.10 | 94.36 | 143.0-144.0 | 0.97 | 1243.66 | 0.08 | 98.38 |
| 97.0-98.0 | 1.27 | 1194.14 | 0.10 | 94.46 | 144.0-145.0 | 0.97 | 1244.62 | 0.08 | 98.45 |
| 98.0-99.0 | 1.26 | 1195.41 | 0.10 | 94.56 | 145.0-146.0 | 0.96 | 1245.59 | 0.08 | 98.53 |
| 99.0-100.0 | 1.25 | 1196.66 | 0.10 | 94.66 | 146.0-147.0 | 0.96 | 1246.54 | 0.08 | 98.61 |
| 100.0-101.0 | 1.25 | 1197.90 | 0.10 | 94.76 | 147.0-148.0 | 0.95 | 1247.49 | 0.07 | 98.68 |
| 101.0-102.0 | 1.24 | 1199.14 | 0.10 | 94.86 | 148.0-149.0 | 0.93 | 1248.42 | 0.07 | 98.76 |
| 102.0-103.0 | 1.23 | 1200.37 | 0.10 | 94.95 | 149.0-150.0 | 0.92 | 1249.34 | 0.07 | 98.83 |
| 103.0-104.0 | 1.22 | 1201.58 | 0.10 | 95.05 | 150.0-151.0 | 0.90 | 1250.25 | 0.07 | 98.90 |
| 104.0-105.0 | 1.21 | 1202.79 | 0.10 | 95.15 | 151.0-152.0 | 0.89 | 1251.13 | 0.07 | 98.97 |
| 105.0-106.0 | 1.20 | 1204.00 | 0.10 | 95.24 | 152.0-153.0 | 0.87 | 1252.00 | 0.07 | 99.04 |
| 106.0-107.0 | 1.20 | 1205.19 | 0.09 | 95.34 | 153.0-154.0 | 0.84 | 1252.84 | 0.07 | 99.10 |
| 107.0-108.0 | 1.19 | 1206.38 | 0.09 | 95.43 | 154.0-155.0 | 0.82 | 1253.67 | 0.07 | 99.17 |
| 108.0-109.0 | 1.18 | 1207.56 | 0.09 | 95.52 | 155.0-156.0 | 0.80 | 1254.46 | 0.06 | 99.23 |
| 109.0-110.0 | 1.17 | 1208.73 | 0.09 | 95.61 | 156.0-157.0 | 0.77 | 1255.23 | 0.06 | 99.29 |
| 110.0-111.0 | 1.16 | 1209.88 | 0.09 | 95.71 | 157.0-158.0 | 0.74 | 1255.98 | 0.06 | 99.35 |
| 111.0-112.0 | 1.15 | 1211.03 | 0.09 | 95.80 | 158.0-159.0 | 0.72 | 1256.69 | 0.06 | 99.41 |
| 112.0-113.0 | 1.14 | 1212.17 | 0.09 | 95.89 | 159.0-160.0 | 0.69 | 1257.38 | 0.05 | 99.46 |
| 113.0-114.0 | 1.13 | 1213.30 | 0.09 | 95.98 | 160.0-161.0 | 0.66 | 1258.03 | 0.05 | 99.52 |
| 114.0-115.0 | 1.12 | 1214.42 | 0.09 | 96.07 | 161.0-162.0 | 0.62 | 1258.66 | 0.05 | 99.56 |
| 115.0-116.0 | 1.11 | 1215.53 | 0.09 | 96.15 | 162.0-163.0 | 0.59 | 1259.25 | 0.05 | 99.61 |
| 116.0-117.0 | 1.10 | 1216.63 | 0.09 | 96.24 | 163.0-164.0 | 0.56 | 1259.81 | 0.04 | 99.66 |
| 117.0-118.0 | 1.09 | 1217.71 | 0.09 | 96.33 | 164.0-165.0 | 0.53 | 1260.34 | 0.04 | 99.70 |
| 118.0-119.0 | 1.08 | 1218.79 | 0.09 | 96.41 | 165.0-166.0 | 0.49 | 1260.83 | 0.04 | 99.74 |
| 119.0-120.0 | 1.07 | 1219.85 | 0.08 | 96.50 | 166.0-167.0 | 0.46 | 1261.29 | 0.04 | 99.77 |
| 120.0-121.0 | 1.05 | 1220.91 | 0.08 | 96.58 | 167.0-168.0 | 0.43 | 1261.72 | 0.03 | 99.81 |
| 121.0-122.0 | 1.04 | 1221.95 | 0.08 | 96.66 | 168.0-169.0 | 0.39 | 1262.11 | 0.03 | 99.84 |
| 122.0-123.0 | 1.03 | 1222.98 | 0.08 | 96.74 | 169.0-170.0 | 0.36 | 1262.47 | 0.03 | 99.87 |
| 123.0-124.0 | 1.02 | 1224.01 | 0.08 | 96.82 | 170.0-171.0 | 0.32 | 1262.80 | 0.03 | 99.89 |
| 124.0-125.0 | 1.01 | 1225.02 | 0.08 | 96.90 | 171.0-172.0 | 0.29 | 1263.08 | 0.02 | 99.91 |
| 125.0-126.0 | 1.01 | 1226.03 | 0.08 | 96.98 | 172.0-173.0 | 0.25 | 1263.34 | 0.02 | 99.93 |
| 126.0-127.0 | 1.00 | 1227.03 | 0.08 | 97.06 | 173.0-174.0 | 0.22 | 1263.56 | 0.02 | 99.95 |
| 127.0-128.0 | 0.99 | 1228.03 | 0.08 | 97.14 | 174.0-175.0 | 0.19 | 1263.74 | 0.01 | 99.97 |
| 128.0-129.0 | 0.99 | 1229.01 | 0.08 | 97.22 | 175.0-176.0 | 0.15 | 1263.89 | 0.01 | 99.98 |
| 129.0-130.0 | 0.98 | 1230.00 | 0.08 | 97.30 | 176.0-177.0 | 0.12 | 1264.01 | 0.01 | 99.99 |
| 130.0-131.0 | 0.98 | 1230.98 | 0.08 | 97.38 | 177.0-178.0 | 0.08 | 1264.10 | 0.01 | 99.99 |
| 131.0-132.0 | 0.98 | 1231.96 | 0.08 | 97.45 | 178.0-179.0 | 0.05 | 1264.15 | 0.00 | 100.00 |
| 132.0-133.0 | 0.97 | 1232.93 | 0.08 | 97.53 | 179.0-180.0 | 0.02 | 1264.16 | 0.00 | 100.00 |
| 133.0-134.0 | 0.97 | 1233.90 | 0.08 | 97.61 | | | | | |
| 134.0-135.0 | 0.97 | 1234.88 | 0.08 | 97.68 | | | | | |
| 135.0-136.0 | 0.97 | 1235.85 | 0.08 | 97.76 | | | | | |
| 136.0-137.0 | 0.97 | 1236.83 | 0.08 | 97.84 | | | | | |
| 137.0-138.0 | 0.97 | 1237.80 | 0.08 | 97.91 | | | | | |
| 138.0-139.0 | 0.98 | 1238.78 | 0.08 | 97.99 | | | | | |
| 139.0-140.0 | 0.98 | 1239.76 | 0.08 | 98.07 | | | | | |
| 140.0-141.0 | 0.98 | 1240.73 | 0.08 | 98.15 | | | | | |

Rectangle ISO Lighting Intensity Diagram

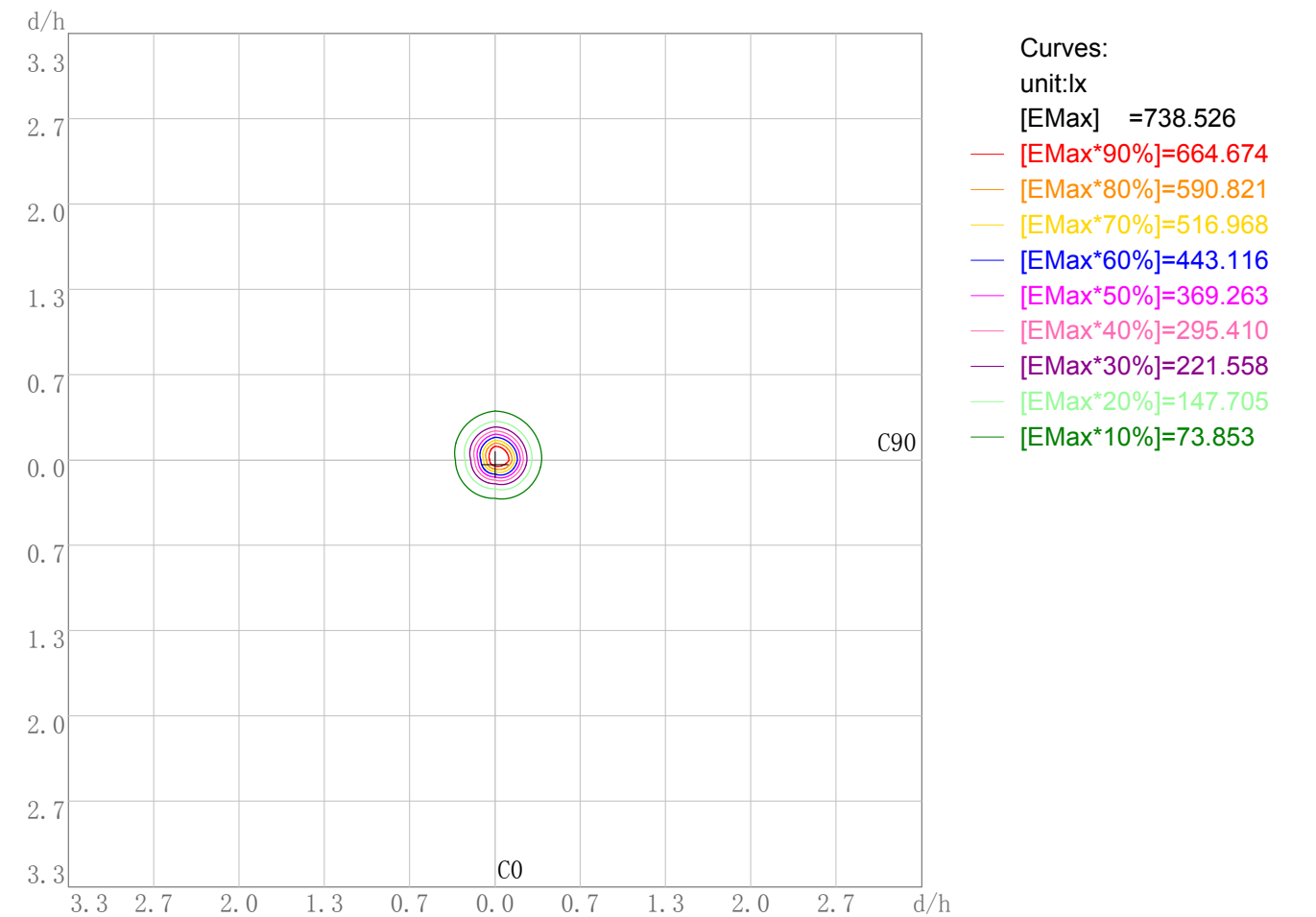
| | | |
|---|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 2700K RA90 15D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2020/07/09 |



Plane ISO-Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name:TR05-15-XX-01 2700K 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): 738.53
Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

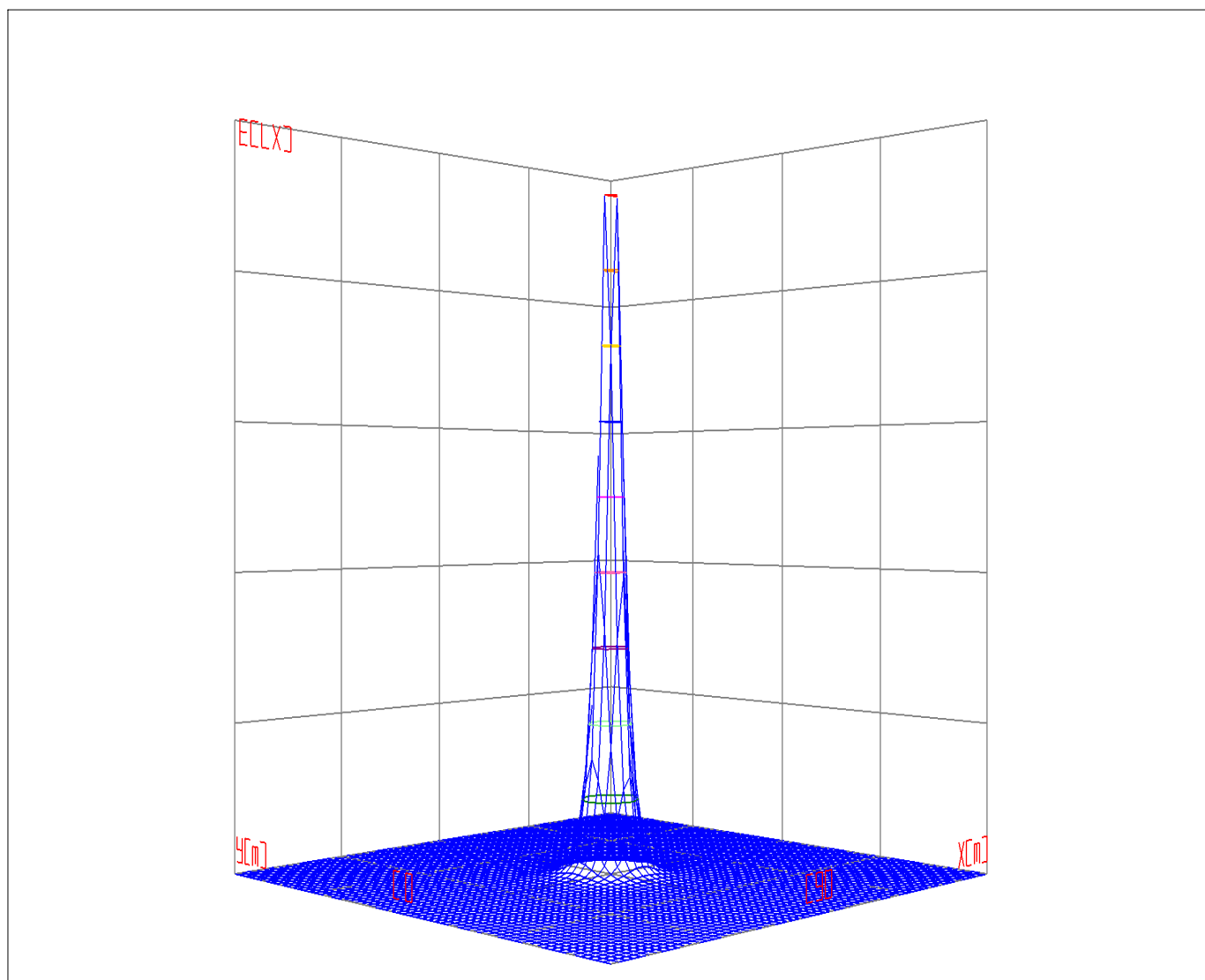
IES Indoor Report

Photometric Filename:TR05-15-XX-01 2700K RA90 15D.IES

3D Plane ISO Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 2700K 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

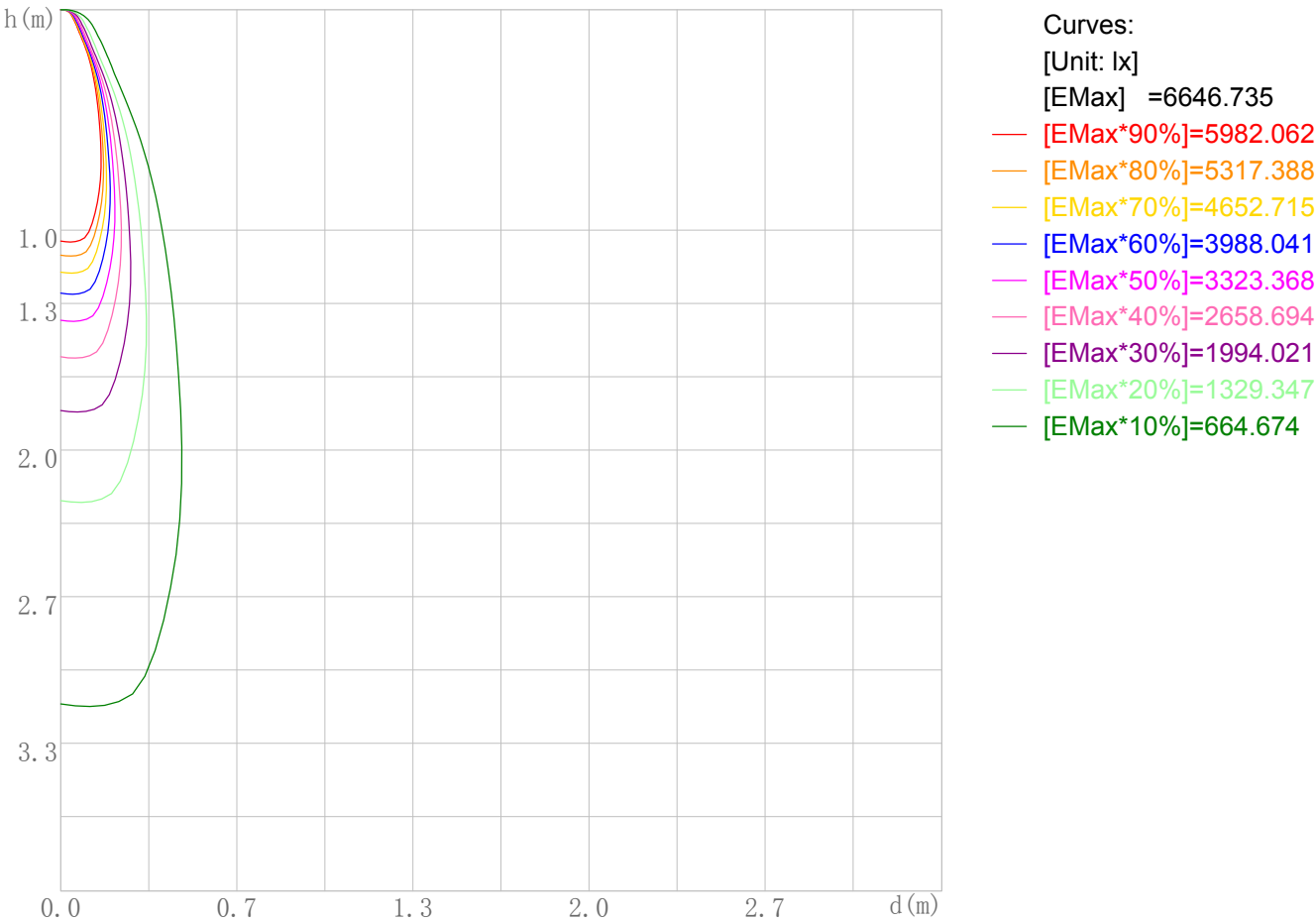


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:TR05-15-XX-01 2700K 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 |

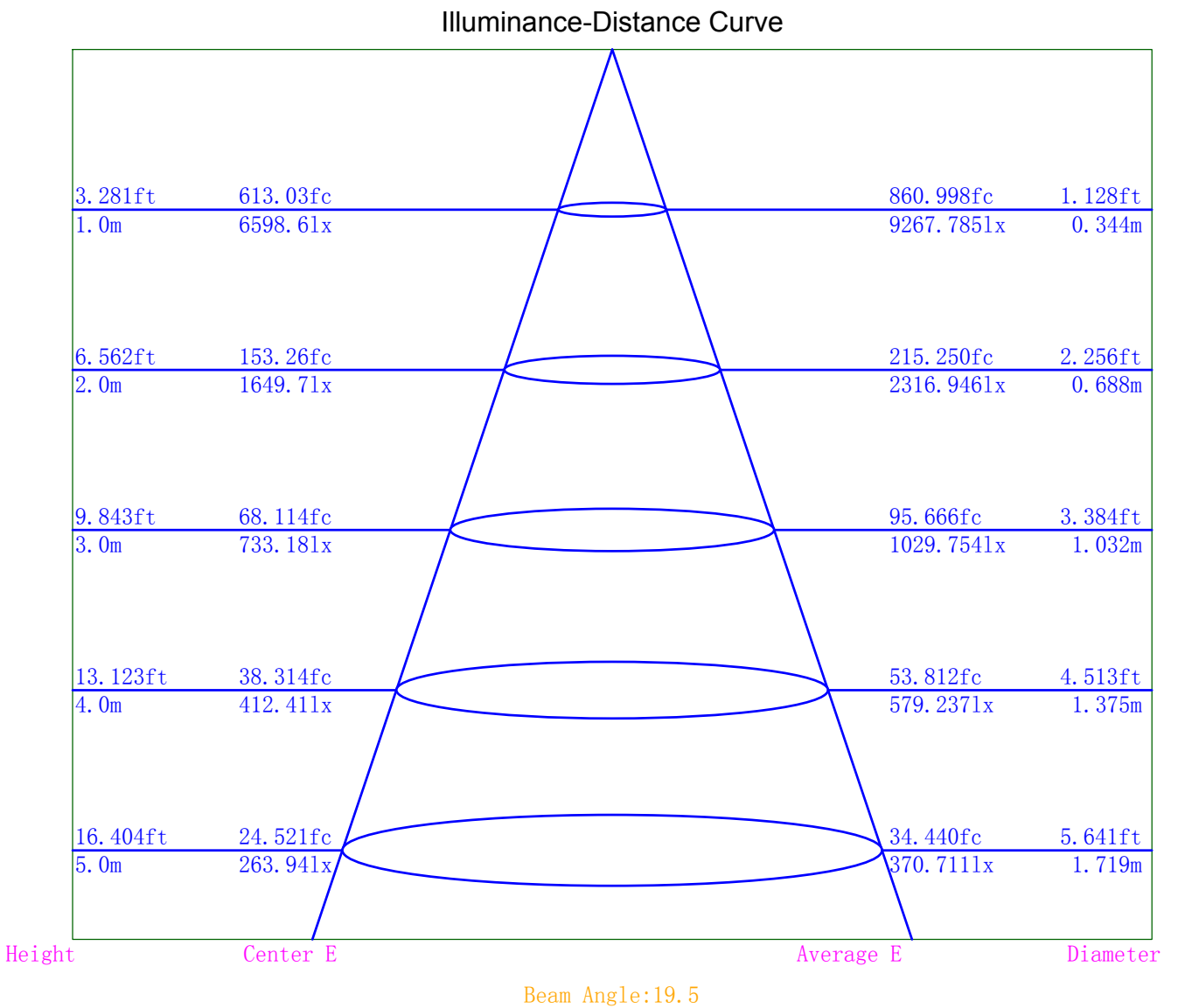
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:6646.74lx,2.0deg
Plane Maximum Lighting Intensity and @Angle:6658.897cd,0eg

Illuminance-Distance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 2700K 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 Luminance Limiting Curves

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 2700K 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 |

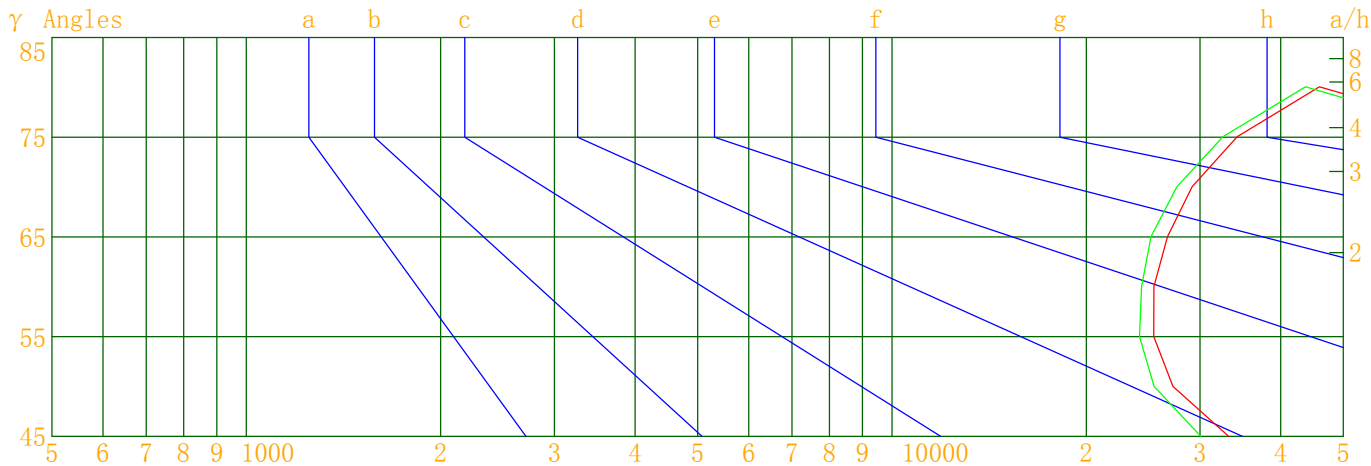
Glare Grade Table

| 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 | 33217 | 27238 | 25429 | 25455 | 26721 | 29162 | 34245 | 45924 | 83153 |
| C90 | 30089 | 25464 | 24177 | 24357 | 25191 | 27633 | 32553 | 43689 | 78829 |

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

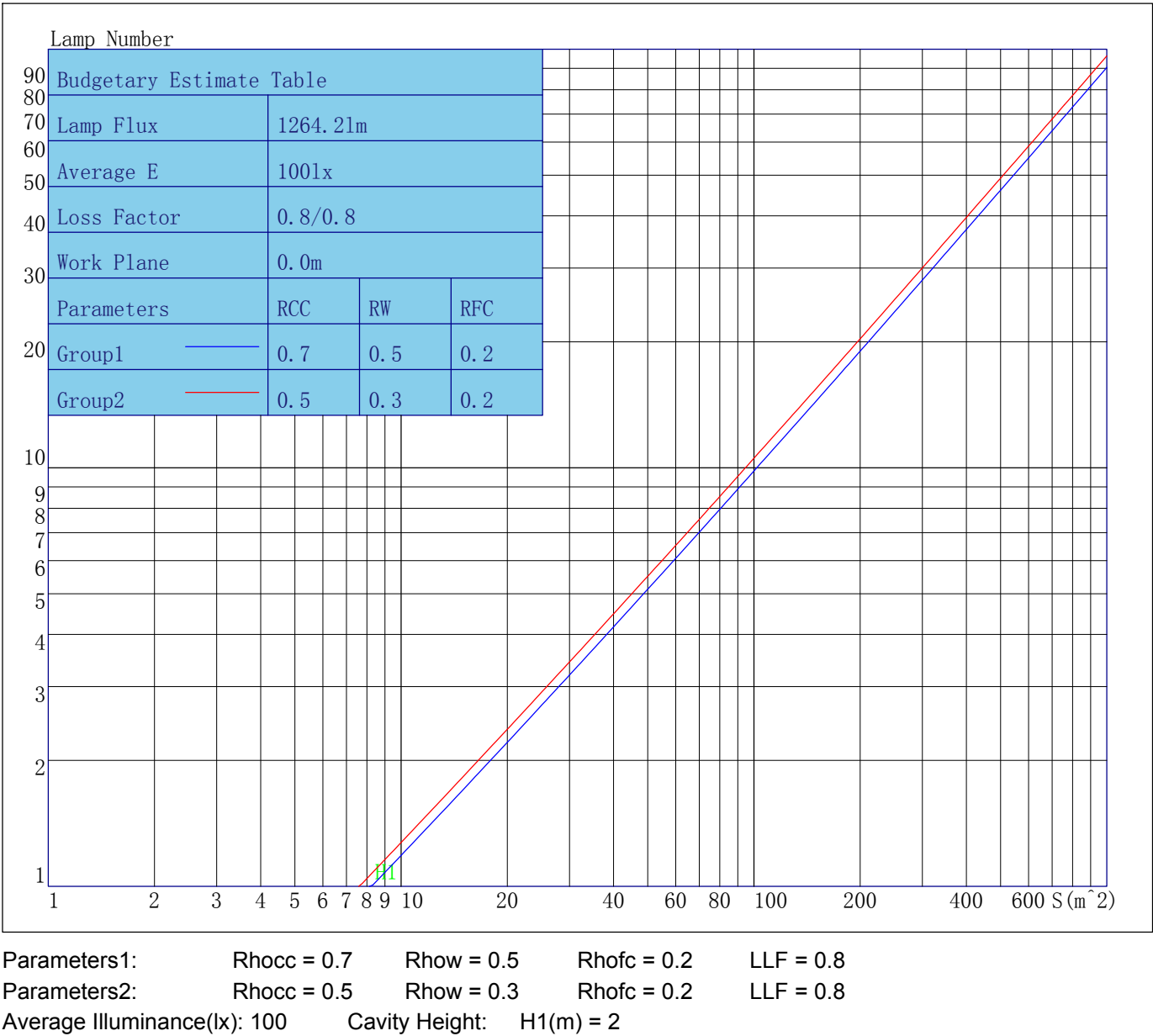
Luminous Curves:

C0-C180 Color: —

C90-C270 Color: —

Indoor Budgetary Estimate Table

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 2700K 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 2700K 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 | 96 | 96 | 96 | 94 |
| 1 | 112 | 110 | 107 | 105 | 109 | 107 | 105 | 103 | 102 | 100 | 98 | 97 | 96 | 94 | 92 | 91 | 91 | 88 |
| 2 | 108 | 103 | 99 | 96 | 105 | 101 | 98 | 95 | 97 | 94 | 92 | 93 | 91 | 89 | 89 | 88 | 86 | 84 |
| 3 | 103 | 98 | 93 | 90 | 101 | 96 | 92 | 89 | 93 | 89 | 87 | 89 | 87 | 85 | 86 | 84 | 83 | 81 |
| 4 | 100 | 93 | 89 | 85 | 97 | 92 | 88 | 84 | 89 | 85 | 83 | 86 | 83 | 81 | 84 | 81 | 79 | 78 |
| 5 | 96 | 89 | 85 | 81 | 94 | 88 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 78 | 81 | 79 | 77 | 75 |
| 6 | 93 | 86 | 81 | 78 | 91 | 85 | 80 | 77 | 83 | 79 | 76 | 81 | 78 | 75 | 79 | 76 | 74 | 73 |
| 7 | 90 | 83 | 78 | 75 | 89 | 82 | 78 | 74 | 80 | 76 | 74 | 79 | 75 | 73 | 77 | 74 | 72 | 71 |
| 8 | 88 | 80 | 75 | 72 | 86 | 79 | 75 | 72 | 78 | 74 | 71 | 76 | 73 | 71 | 75 | 72 | 70 | 69 |
| 9 | 85 | 78 | 73 | 70 | 84 | 77 | 73 | 70 | 76 | 72 | 69 | 74 | 71 | 69 | 73 | 70 | 68 | 67 |
| 10 | 83 | 75 | 71 | 68 | 82 | 75 | 71 | 68 | 74 | 70 | 67 | 73 | 69 | 67 | 72 | 69 | 67 | 65 |

Unified Glare Rating Table

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: TR05-15-XX-01 2700K RA90 15D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 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 | 17.8 | 18.8 | 18.3 | 19.3 | 19.7 | 17.4 | 18.4 | 17.9 | 18.8 | 19.3 |
| | 19.6 | 20.4 | 20.1 | 20.9 | 21.4 | 19.2 | 20.0 | 19.7 | 20.5 | 21.0 |
| | 20.6 | 21.4 | 21.1 | 21.9 | 22.5 | 20.2 | 21.1 | 20.8 | 21.5 | 22.1 |
| | 21.9 | 22.6 | 22.4 | 23.1 | 23.7 | 21.5 | 22.3 | 22.0 | 22.8 | 23.3 |
| | 22.6 | 23.3 | 23.1 | 23.8 | 24.4 | 22.2 | 23.0 | 22.8 | 23.5 | 24.0 |
| | 23.5 | 24.2 | 24.0 | 24.7 | 25.2 | 23.1 | 23.8 | 23.7 | 24.3 | 24.9 |
| X=4H Y=2H | 18.4 | 19.2 | 18.9 | 19.7 | 20.2 | 18.0 | 18.8 | 18.5 | 19.3 | 19.8 |
| | 20.4 | 21.1 | 20.9 | 21.6 | 22.2 | 20.1 | 20.7 | 20.6 | 21.3 | 21.8 |
| | 21.7 | 22.3 | 22.2 | 22.8 | 23.4 | 21.3 | 21.9 | 21.9 | 22.5 | 23.1 |
| | 23.1 | 23.7 | 23.7 | 24.2 | 24.9 | 22.8 | 23.4 | 23.4 | 23.9 | 24.5 |
| | 24.0 | 24.5 | 24.6 | 25.1 | 25.7 | 23.7 | 24.2 | 24.3 | 24.7 | 25.4 |
| | 25.0 | 25.4 | 25.6 | 26.0 | 26.7 | 24.7 | 25.1 | 25.3 | 25.7 | 26.3 |
| X=8H Y=4H | 22.2 | 22.7 | 22.7 | 23.2 | 23.8 | 21.9 | 22.4 | 22.4 | 22.9 | 23.5 |
| | 23.9 | 24.3 | 24.5 | 24.9 | 25.6 | 23.6 | 24.0 | 24.2 | 24.6 | 25.3 |
| | 25.0 | 25.3 | 25.6 | 25.9 | 26.6 | 24.7 | 25.0 | 25.3 | 25.7 | 26.3 |
| | 26.2 | 26.5 | 26.8 | 27.1 | 27.9 | 25.9 | 26.2 | 26.6 | 26.9 | 27.6 |
| 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 | 24.5 | 24.8 | 25.1 | 25.8 | 23.9 | 24.2 | 24.5 | 24.8 | 25.5 |
| | 25.3 | 25.6 | 25.9 | 26.2 | 26.9 | 25.0 | 25.4 | 25.7 | 26.0 | 26.7 |
| 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 | 5.0 | | | | | 5.1 | | | | |

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

IES Indoor Report

Photometric Filename:TR05-15-XX-01 2700K RA90 15D.IES

Candela Tabulation

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|---------|---------|---------|---------|
| γ 0.0 | 6598.60 | 6598.60 | 6598.60 | 6598.60 |
| γ 1.0 | 6639.66 | 6638.62 | 6447.98 | 6464.46 |
| γ 2.0 | 6658.90 | 6629.45 | 6218.37 | 6169.45 |
| γ 3.0 | 6652.43 | 6612.64 | 5811.61 | 5762.95 |
| γ 4.0 | 6603.32 | 6532.33 | 5280.14 | 5280.44 |
| γ 5.0 | 6485.17 | 6403.02 | 4709.05 | 4770.72 |
| γ 6.0 | 6185.92 | 6149.80 | 4156.20 | 4249.14 |
| γ 7.0 | 5748.71 | 5735.04 | 3632.56 | 3728.08 |
| γ 8.0 | 5251.13 | 5226.63 | 3129.20 | 3234.54 |
| γ 9.0 | 4745.14 | 4660.03 | 2656.95 | 2780.94 |
| γ 10.0 | 4255.60 | 4085.75 | 2235.77 | 2378.13 |
| γ 11.0 | 3766.24 | 3543.85 | 1873.87 | 2023.36 |
| γ 12.0 | 3285.57 | 3029.22 | 1573.47 | 1728.27 |
| γ 13.0 | 2827.90 | 2571.12 | 1330.61 | 1475.73 |
| γ 14.0 | 2409.03 | 2161.60 | 1134.41 | 1261.23 |
| γ 15.0 | 2041.06 | 1801.63 | 968.47 | 1076.84 |
| γ 16.0 | 1740.31 | 1508.13 | 828.74 | 921.84 |
| γ 17.0 | 1491.12 | 1275.06 | 705.64 | 790.29 |
| γ 18.0 | 1279.22 | 1091.45 | 600.60 | 680.84 |
| γ 19.0 | 1097.91 | 931.83 | 509.17 | 585.58 |
| γ 20.0 | 945.18 | 794.50 | 431.45 | 502.86 |
| γ 21.0 | 816.49 | 673.41 | 363.44 | 429.03 |
| γ 22.0 | 704.80 | 567.00 | 305.08 | 363.85 |
| γ 23.0 | 608.63 | 475.87 | 254.52 | 305.84 |
| γ 24.0 | 524.49 | 401.26 | 212.99 | 256.91 |
| γ 25.0 | 450.38 | 338.94 | 178.04 | 215.81 |
| γ 26.0 | 385.67 | 286.44 | 149.06 | 180.95 |
| γ 27.0 | 329.20 | 242.21 | 125.43 | 150.73 |
| γ 28.0 | 280.77 | 206.13 | 106.96 | 126.85 |
| γ 29.0 | 238.02 | 176.15 | 92.54 | 108.06 |
| γ 30.0 | 202.96 | 151.41 | 81.07 | 93.78 |
| γ 31.0 | 173.56 | 131.22 | 72.55 | 82.42 |
| γ 32.0 | 150.08 | 115.57 | 65.10 | 73.09 |
| γ 33.0 | 130.29 | 103.23 | 59.49 | 66.67 |
| γ 34.0 | 114.52 | 93.99 | 55.58 | 61.57 |
| γ 35.0 | 101.66 | 85.13 | 52.03 | 56.97 |
| γ 36.0 | 92.00 | 77.76 | 48.63 | 53.03 |
| γ 37.0 | 84.00 | 71.81 | 45.75 | 49.71 |
| γ 38.0 | 77.07 | 66.53 | 43.44 | 46.85 |
| γ 39.0 | 70.77 | 61.70 | 41.40 | 44.47 |
| γ 40.0 | 65.12 | 57.27 | 39.63 | 42.25 |
| γ 41.0 | 60.26 | 53.62 | 38.03 | 40.29 |
| γ 42.0 | 56.01 | 50.11 | 36.62 | 38.62 |
| γ 43.0 | 52.41 | 47.08 | 35.26 | 36.93 |
| γ 44.0 | 49.19 | 44.30 | 33.86 | 35.17 |
| γ 45.0 | 46.12 | 41.78 | 32.51 | 33.43 |
| γ 46.0 | 43.54 | 39.58 | 31.31 | 32.15 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 40.96 | 37.41 | 30.18 | 31.08 |
| γ 48.0 | 38.48 | 35.42 | 29.44 | 30.32 |
| γ 49.0 | 36.22 | 33.61 | 28.86 | 29.67 |
| γ 50.0 | 34.38 | 32.14 | 28.23 | 29.01 |
| γ 51.0 | 32.96 | 30.87 | 27.56 | 28.35 |
| γ 52.0 | 31.67 | 29.90 | 26.94 | 27.80 |
| γ 53.0 | 30.71 | 28.85 | 26.34 | 27.21 |
| γ 54.0 | 29.62 | 28.06 | 25.86 | 26.65 |
| γ 55.0 | 28.64 | 27.23 | 25.28 | 26.09 |
| γ 56.0 | 27.83 | 26.46 | 24.69 | 25.59 |
| γ 57.0 | 27.01 | 25.75 | 24.16 | 25.01 |
| γ 58.0 | 26.26 | 25.14 | 23.61 | 24.50 |
| γ 59.0 | 25.66 | 24.51 | 23.11 | 24.00 |
| γ 60.0 | 24.99 | 23.91 | 22.63 | 23.40 |
| γ 61.0 | 24.38 | 23.34 | 22.00 | 22.84 |
| γ 62.0 | 23.80 | 22.81 | 21.47 | 22.33 |
| γ 63.0 | 23.31 | 22.25 | 20.93 | 21.74 |
| γ 64.0 | 22.69 | 21.74 | 20.47 | 21.27 |
| γ 65.0 | 22.17 | 20.90 | 19.91 | 20.66 |
| γ 66.0 | 21.65 | 20.48 | 19.44 | 20.08 |
| γ 67.0 | 21.13 | 19.96 | 18.97 | 19.60 |
| γ 68.0 | 20.57 | 19.52 | 18.43 | 19.12 |
| γ 69.0 | 20.08 | 18.99 | 17.99 | 18.67 |
| γ 70.0 | 19.58 | 18.56 | 17.53 | 18.18 |
| γ 71.0 | 19.16 | 18.11 | 17.05 | 17.77 |
| γ 72.0 | 18.67 | 17.73 | 16.67 | 17.26 |
| γ 73.0 | 18.20 | 17.30 | 16.28 | 16.94 |
| γ 74.0 | 17.88 | 16.94 | 15.89 | 16.46 |
| γ 75.0 | 17.40 | 16.54 | 15.58 | 16.11 |
| γ 76.0 | 17.10 | 16.18 | 15.15 | 15.77 |
| γ 77.0 | 16.68 | 15.78 | 14.89 | 15.40 |
| γ 78.0 | 16.29 | 15.54 | 14.53 | 15.11 |
| γ 79.0 | 15.95 | 15.22 | 14.29 | 14.82 |
| γ 80.0 | 15.66 | 14.90 | 14.00 | 14.51 |
| γ 81.0 | 15.32 | 14.60 | 13.70 | 14.19 |
| γ 82.0 | 14.96 | 14.27 | 13.40 | 13.96 |
| γ 83.0 | 14.68 | 14.03 | 13.08 | 13.72 |
| γ 84.0 | 14.53 | 13.77 | 12.90 | 13.40 |
| γ 85.0 | 14.23 | 13.49 | 12.59 | 13.15 |
| γ 86.0 | 13.88 | 13.28 | 12.46 | 12.94 |
| γ 87.0 | 13.66 | 13.08 | 12.22 | 12.71 |
| γ 88.0 | 13.32 | 12.79 | 12.09 | 12.52 |
| γ 89.0 | 13.15 | 12.61 | 12.02 | 12.47 |
| γ 90.0 | 12.97 | 12.37 | 11.93 | 12.31 |
| γ 91.0 | 12.70 | 12.17 | 11.80 | 12.21 |
| γ 92.0 | 12.69 | 12.16 | 11.64 | 12.13 |
| γ 93.0 | 12.54 | 12.08 | 11.60 | 11.94 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|-------|-------|--------|--------|
| γ 94.0 | 12.45 | 11.95 | 11.48 | 11.89 |
| γ 95.0 | 12.35 | 11.98 | 11.43 | 11.81 |
| γ 96.0 | 12.38 | 11.84 | 11.41 | 11.63 |
| γ 97.0 | 12.22 | 11.82 | 11.24 | 11.63 |
| γ 98.0 | 12.13 | 11.68 | 11.29 | 11.52 |
| γ 99.0 | 12.10 | 11.65 | 11.14 | 11.50 |
| γ 100.0 | 12.04 | 11.58 | 11.24 | 11.47 |
| γ 101.0 | 11.98 | 11.65 | 11.14 | 11.40 |
| γ 102.0 | 11.93 | 11.49 | 11.09 | 11.39 |
| γ 103.0 | 11.85 | 11.46 | 11.07 | 11.27 |
| γ 104.0 | 11.85 | 11.53 | 11.08 | 11.25 |
| γ 105.0 | 11.80 | 11.40 | 11.06 | 11.20 |
| γ 106.0 | 11.74 | 11.43 | 11.12 | 11.27 |
| γ 107.0 | 11.67 | 11.39 | 11.01 | 11.33 |
| γ 108.0 | 11.64 | 11.44 | 11.03 | 11.25 |
| γ 109.0 | 11.62 | 11.34 | 11.04 | 11.23 |
| γ 110.0 | 11.56 | 11.35 | 11.06 | 11.25 |
| γ 111.0 | 11.48 | 11.36 | 10.99 | 11.17 |
| γ 112.0 | 11.49 | 11.30 | 11.06 | 11.27 |
| γ 113.0 | 11.47 | 11.23 | 11.02 | 11.15 |
| γ 114.0 | 11.36 | 11.11 | 11.20 | 11.17 |
| γ 115.0 | 11.40 | 11.16 | 11.08 | 11.23 |
| γ 116.0 | 11.31 | 11.07 | 11.19 | 11.22 |
| γ 117.0 | 11.21 | 10.99 | 11.16 | 11.22 |
| γ 118.0 | 11.21 | 11.04 | 11.18 | 11.26 |
| γ 119.0 | 11.19 | 11.01 | 11.24 | 11.27 |
| γ 120.0 | 11.11 | 10.92 | 11.29 | 11.32 |
| γ 121.0 | 11.02 | 10.85 | 11.35 | 11.27 |
| γ 122.0 | 11.02 | 10.90 | 11.38 | 11.41 |
| γ 123.0 | 11.01 | 10.89 | 11.46 | 11.44 |
| γ 124.0 | 10.99 | 10.86 | 11.52 | 11.39 |
| γ 125.0 | 10.93 | 10.92 | 11.62 | 11.60 |
| γ 126.0 | 11.01 | 10.89 | 11.80 | 11.66 |
| γ 127.0 | 11.08 | 10.92 | 11.80 | 11.69 |
| γ 128.0 | 11.06 | 10.95 | 11.96 | 11.85 |
| γ 129.0 | 11.17 | 11.09 | 12.05 | 11.94 |
| γ 130.0 | 11.23 | 11.22 | 12.27 | 12.14 |
| γ 131.0 | 11.29 | 11.34 | 12.40 | 12.24 |
| γ 132.0 | 11.34 | 11.38 | 12.68 | 12.43 |
| γ 133.0 | 11.55 | 11.50 | 12.86 | 12.66 |
| γ 134.0 | 11.66 | 11.75 | 13.11 | 12.90 |
| γ 135.0 | 11.81 | 11.89 | 13.38 | 13.13 |
| γ 136.0 | 11.98 | 12.04 | 13.70 | 13.45 |
| γ 137.0 | 12.11 | 12.27 | 13.95 | 13.69 |
| γ 138.0 | 12.37 | 12.52 | 14.29 | 14.04 |
| γ 139.0 | 12.60 | 12.78 | 14.60 | 14.30 |
| γ 140.0 | 12.88 | 13.05 | 14.91 | 14.70 |

Candela Tabulation - (Cont.)

| V/H | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|-------|-------|--------|--------|
| γ 141.0 | 13.09 | 13.29 | 15.23 | 14.95 |
| γ 142.0 | 13.42 | 13.63 | 15.60 | 15.23 |
| γ 143.0 | 13.74 | 13.89 | 15.89 | 15.60 |
| γ 144.0 | 13.98 | 14.18 | 16.06 | 15.86 |
| γ 145.0 | 14.33 | 14.56 | 16.42 | 16.07 |
| γ 146.0 | 14.66 | 14.86 | 16.69 | 16.34 |
| γ 147.0 | 14.99 | 15.12 | 16.95 | 16.66 |
| γ 148.0 | 15.29 | 15.51 | 17.18 | 16.81 |
| γ 149.0 | 15.56 | 15.74 | 17.31 | 17.11 |
| γ 150.0 | 15.85 | 15.98 | 17.44 | 17.22 |
| γ 151.0 | 16.12 | 16.22 | 17.63 | 17.36 |
| γ 152.0 | 16.37 | 16.54 | 17.75 | 17.44 |
| γ 153.0 | 16.62 | 16.68 | 17.91 | 17.60 |
| γ 154.0 | 16.76 | 16.89 | 18.01 | 17.66 |
| γ 155.0 | 17.10 | 17.05 | 18.08 | 17.72 |
| γ 156.0 | 17.20 | 17.19 | 18.19 | 17.88 |
| γ 157.0 | 17.25 | 17.21 | 18.19 | 17.95 |
| γ 158.0 | 17.47 | 17.41 | 18.27 | 17.92 |
| γ 159.0 | 17.62 | 17.48 | 18.29 | 17.96 |
| γ 160.0 | 17.70 | 17.52 | 18.30 | 18.01 |
| γ 161.0 | 17.77 | 17.59 | 18.28 | 18.01 |
| γ 162.0 | 17.86 | 17.67 | 18.30 | 18.08 |
| γ 163.0 | 17.90 | 17.68 | 18.28 | 18.09 |
| γ 164.0 | 17.98 | 17.81 | 18.25 | 18.07 |
| γ 165.0 | 18.08 | 17.79 | 18.23 | 18.02 |
| γ 166.0 | 18.08 | 17.76 | 18.10 | 18.01 |
| γ 167.0 | 18.04 | 17.84 | 18.09 | 17.90 |
| γ 168.0 | 18.03 | 17.84 | 18.07 | 17.91 |
| γ 169.0 | 18.14 | 17.85 | 18.00 | 17.77 |
| γ 170.0 | 18.06 | 17.87 | 17.92 | 17.74 |
| γ 171.0 | 18.04 | 17.87 | 17.82 | 17.66 |
| γ 172.0 | 18.05 | 17.76 | 17.73 | 17.47 |
| γ 173.0 | 17.93 | 17.73 | 17.66 | 17.51 |
| γ 174.0 | 17.94 | 17.72 | 17.60 | 17.50 |
| γ 175.0 | 17.83 | 17.73 | 17.55 | 17.36 |
| γ 176.0 | 17.74 | 17.63 | 17.52 | 17.37 |
| γ 177.0 | 17.73 | 17.61 | 17.47 | 17.41 |
| γ 178.0 | 17.73 | 17.58 | 17.53 | 17.45 |
| γ 179.0 | 17.64 | 17.54 | 17.58 | 17.52 |
| γ 180.0 | 17.57 | 17.57 | 17.57 | 17.57 |