

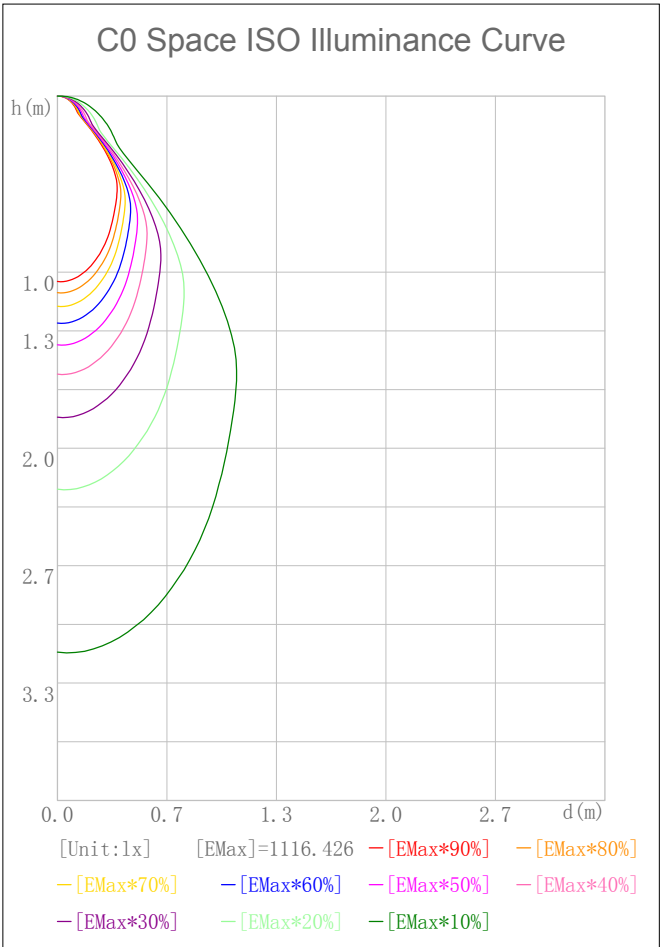
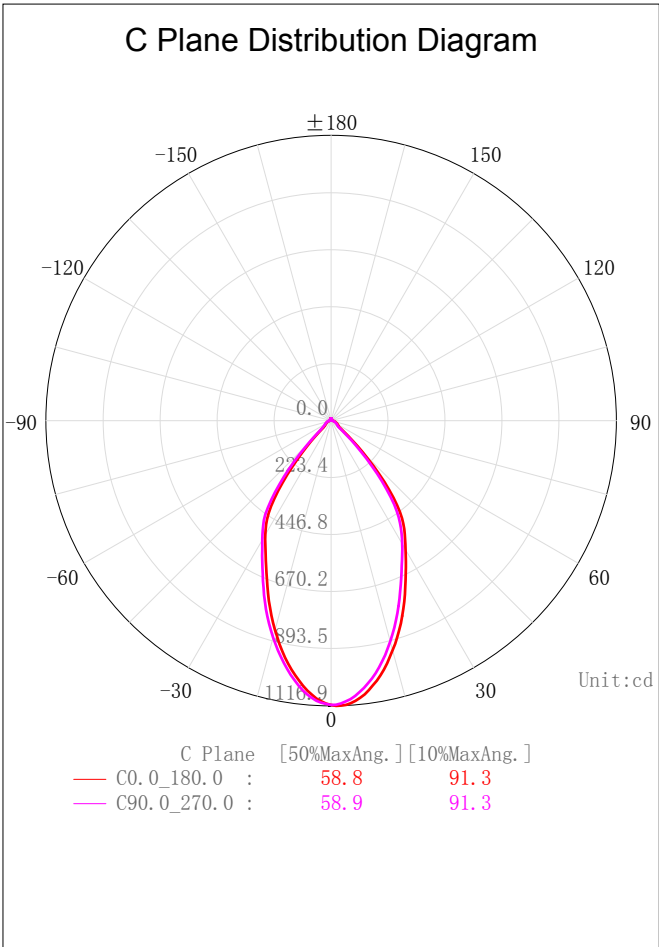
Indoor Luminaire Photometric Data

Description Information

|   |                         |                       |
|---|-------------------------|-----------------------|
| Luminary Name: MD10-13-XX-02 3000K RA90 60D     | Lum. Catalog:           | Test ID: 01           |
| Lamp Name:                                      | Lamp Catalog: LED       | Test Date: 2019/12/23 |
| 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):0.050m*0.050m*0.750m          | Lum. Area (m2):0.040    | Lum. W(kg): 0.000     |
| Test System: C, γ                               | Test Step: C=90.0 γ=1.0 | Temp. (°C): 25        |
|   |                         | Humidity(%):          |

Character Parameter

| Lamp Speciality Parameter                | Luminaire Speciality Parameter |  |
|--|--------------------------------|--|
| Rated Flux(lm): 1128.670                 | Luminary Flux(lm): 1128.672    | Field Angle(10%Imax): 91.3(°)          |
| Rated Power(W):                          | Luminary Efficiency: 100.00%   | Down Lumens&Percent: 1099.711lm 97.43% |
| Rated Voltage(V):                        | Luminary EER(lm/W): 89.364     | Up Lumens&Percent: 28.961lm 2.57%      |
| Tested Power(W): 12.630                  | Max. Candela(cd): 1116.936     | S/MH: C0_a180=0.827 C90_270=0.824      |
| Lamps' Inside: 1                         | Max Cand@Ang. (°): C=0.0 γ=1.0 | CIE Type: Semi-Direct                  |
| Tested Electrics (V, A, pf):240.4, 0.055 | Beam Angle(50%Imax): 58.8(°)   | ErP ϕ use(90°): 986.284lm              |
| Lamp Size (W*L*H):0.050m*0.050m*0.750m   | Left=-27.4°, Right=31.4°       | IRF(%): 215.601                        |



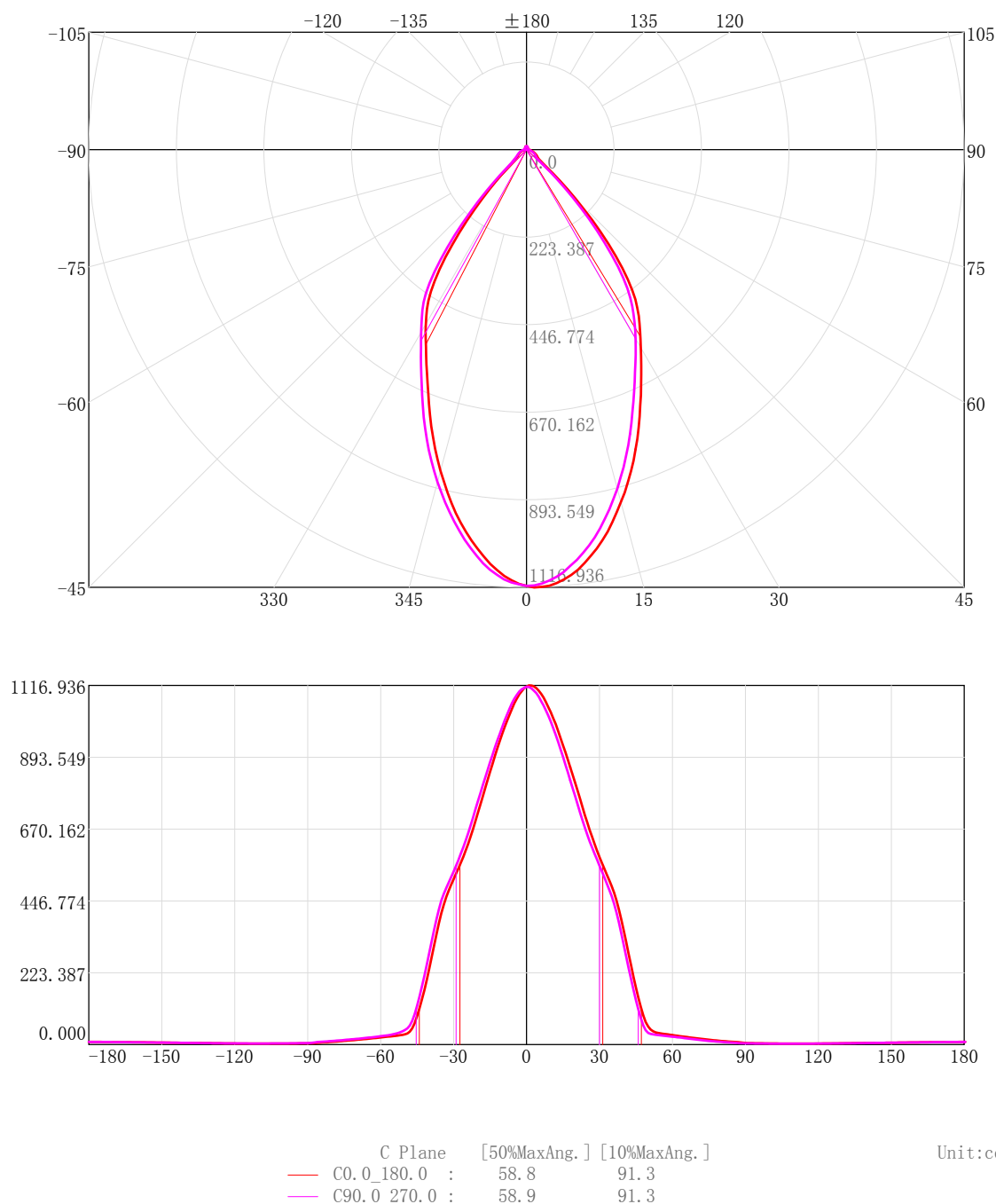
# IES Indoor Report

Photometric Filename:MD10-13-XX-02 3000K RA90 60D.IES

## 2D Plane Light Intensity Distribution Curve

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

C Plane Distribution Diagram



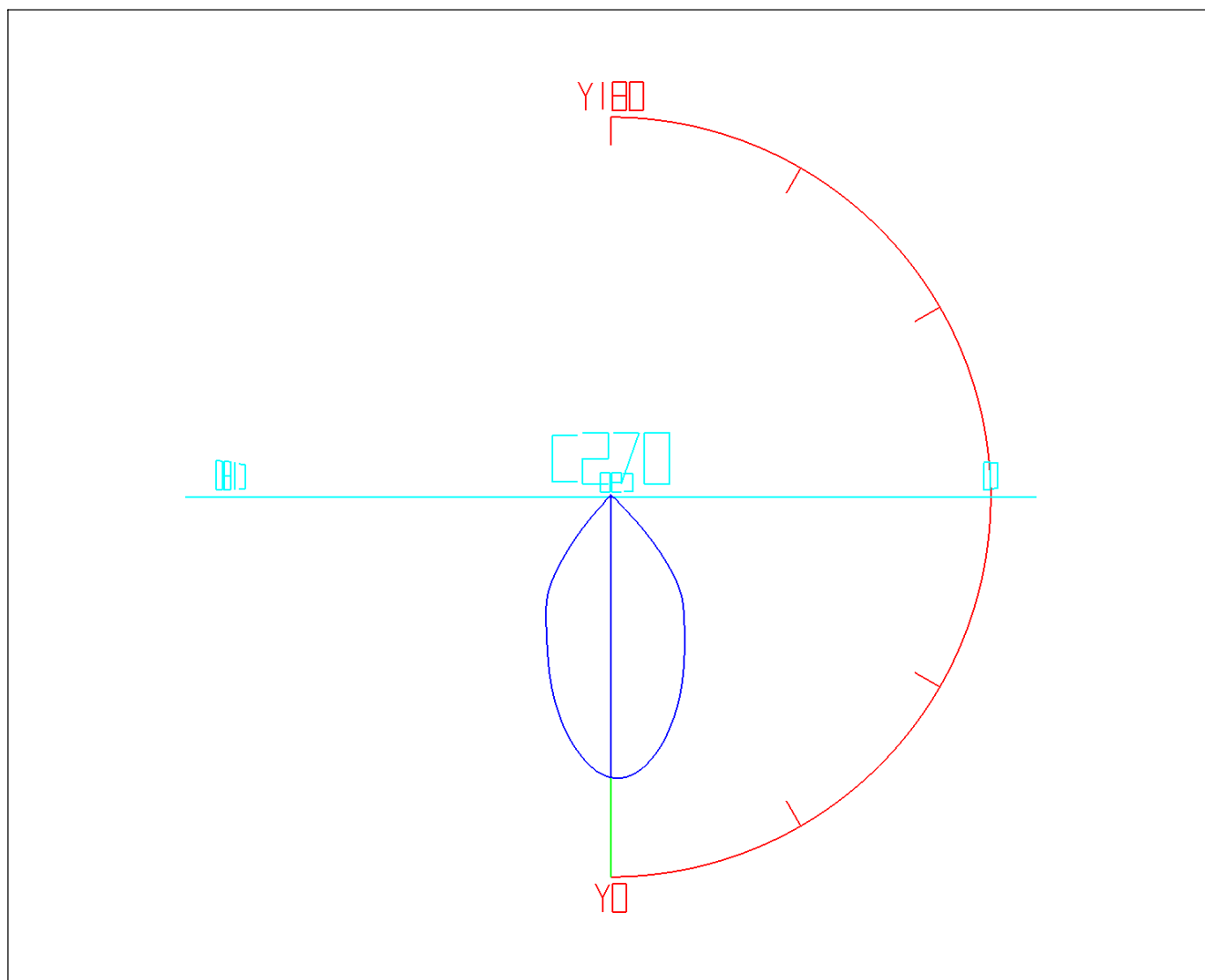
# IES Indoor Report

Photometric Filename:MD10-13-XX-02 3000K RA90 60D.IES

## 3D Light Intensity Distribution Modal

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

## 3D Light Intensity Distribution Modal



Curves: 3D Model — Fixture — Vert. HUD — Hori. HUD —  
View Angles: Orient:0 Tilt:0 Roll:0 Spin:0

Zonal Flux Tabulation

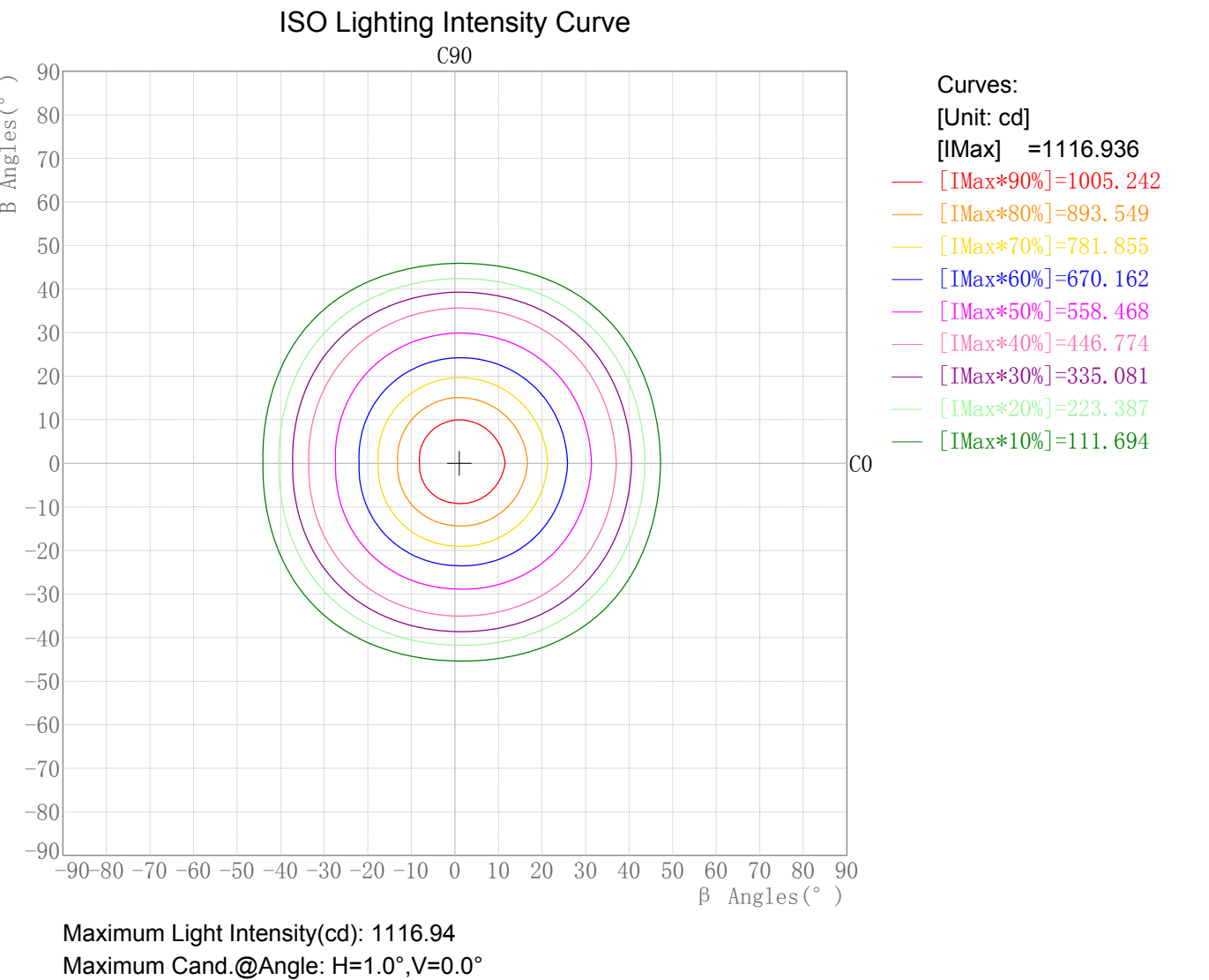
| Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp | Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0   | 1.06              | 1.06              | 0.09      | 0.09      | 47.0-48.0 | 5.83              | 1019.49           | 0.52      | 90.33     |
| 1.0-2.0   | 3.18              | 4.25              | 0.28      | 0.38      | 48.0-49.0 | 4.65              | 1024.15           | 0.41      | 90.74     |
| 2.0-3.0   | 5.28              | 9.53              | 0.47      | 0.84      | 49.0-50.0 | 3.87              | 1028.02           | 0.34      | 91.08     |
| 3.0-4.0   | 7.34              | 16.86             | 0.65      | 1.49      | 50.0-51.0 | 3.42              | 1031.44           | 0.30      | 91.39     |
| 4.0-5.0   | 9.34              | 26.20             | 0.83      | 2.32      | 51.0-52.0 | 3.16              | 1034.61           | 0.28      | 91.67     |
| 5.0-6.0   | 11.28             | 37.48             | 1.00      | 3.32      | 52.0-53.0 | 2.99              | 1037.60           | 0.27      | 91.93     |
| 6.0-7.0   | 13.14             | 50.62             | 1.16      | 4.48      | 53.0-54.0 | 2.88              | 1040.49           | 0.26      | 92.19     |
| 7.0-8.0   | 14.92             | 65.54             | 1.32      | 5.81      | 54.0-55.0 | 2.80              | 1043.29           | 0.25      | 92.44     |
| 8.0-9.0   | 16.62             | 82.16             | 1.47      | 7.28      | 55.0-56.0 | 2.73              | 1046.02           | 0.24      | 92.68     |
| 9.0-10.0  | 18.23             | 100.40            | 1.62      | 8.90      | 56.0-57.0 | 2.67              | 1048.69           | 0.24      | 92.91     |
| 10.0-11.0 | 19.74             | 120.14            | 1.75      | 10.64     | 57.0-58.0 | 2.61              | 1051.29           | 0.23      | 93.14     |
| 11.0-12.0 | 21.14             | 141.28            | 1.87      | 12.52     | 58.0-59.0 | 2.55              | 1053.85           | 0.23      | 93.37     |
| 12.0-13.0 | 22.44             | 163.71            | 1.99      | 14.51     | 59.0-60.0 | 2.49              | 1056.34           | 0.22      | 93.59     |
| 13.0-14.0 | 23.61             | 187.33            | 2.09      | 16.60     | 60.0-61.0 | 2.43              | 1058.76           | 0.22      | 93.81     |
| 14.0-15.0 | 24.69             | 212.02            | 2.19      | 18.79     | 61.0-62.0 | 2.36              | 1061.13           | 0.21      | 94.02     |
| 15.0-16.0 | 25.67             | 237.70            | 2.27      | 21.06     | 62.0-63.0 | 2.30              | 1063.42           | 0.20      | 94.22     |
| 16.0-17.0 | 26.54             | 264.24            | 2.35      | 23.41     | 63.0-64.0 | 2.23              | 1065.65           | 0.20      | 94.42     |
| 17.0-18.0 | 27.30             | 291.54            | 2.42      | 25.83     | 64.0-65.0 | 2.16              | 1067.81           | 0.19      | 94.61     |
| 18.0-19.0 | 27.95             | 319.49            | 2.48      | 28.31     | 65.0-66.0 | 2.09              | 1069.90           | 0.19      | 94.79     |
| 19.0-20.0 | 28.49             | 347.98            | 2.52      | 30.83     | 66.0-67.0 | 2.02              | 1071.91           | 0.18      | 94.97     |
| 20.0-21.0 | 28.93             | 376.91            | 2.56      | 33.39     | 67.0-68.0 | 1.94              | 1073.86           | 0.17      | 95.14     |
| 21.0-22.0 | 29.26             | 406.17            | 2.59      | 35.99     | 68.0-69.0 | 1.87              | 1075.73           | 0.17      | 95.31     |
| 22.0-23.0 | 29.52             | 435.68            | 2.62      | 38.60     | 69.0-70.0 | 1.80              | 1077.53           | 0.16      | 95.47     |
| 23.0-24.0 | 29.71             | 465.39            | 2.63      | 41.23     | 70.0-71.0 | 1.73              | 1079.25           | 0.15      | 95.62     |
| 24.0-25.0 | 29.86             | 495.25            | 2.65      | 43.88     | 71.0-72.0 | 1.66              | 1080.91           | 0.15      | 95.77     |
| 25.0-26.0 | 29.98             | 525.23            | 2.66      | 46.54     | 72.0-73.0 | 1.59              | 1082.49           | 0.14      | 95.91     |
| 26.0-27.0 | 30.05             | 555.28            | 2.66      | 49.20     | 73.0-74.0 | 1.52              | 1084.01           | 0.13      | 96.04     |
| 27.0-28.0 | 30.09             | 585.36            | 2.67      | 51.86     | 74.0-75.0 | 1.45              | 1085.46           | 0.13      | 96.17     |
| 28.0-29.0 | 30.10             | 615.46            | 2.67      | 54.53     | 75.0-76.0 | 1.38              | 1086.84           | 0.12      | 96.29     |
| 29.0-30.0 | 30.07             | 645.53            | 2.66      | 57.19     | 76.0-77.0 | 1.31              | 1088.16           | 0.12      | 96.41     |
| 30.0-31.0 | 30.01             | 675.54            | 2.66      | 59.85     | 77.0-78.0 | 1.25              | 1089.41           | 0.11      | 96.52     |
| 31.0-32.0 | 29.89             | 705.42            | 2.65      | 62.50     | 78.0-79.0 | 1.18              | 1090.59           | 0.10      | 96.63     |
| 32.0-33.0 | 29.67             | 735.10            | 2.63      | 65.13     | 79.0-80.0 | 1.12              | 1091.71           | 0.10      | 96.73     |
| 33.0-34.0 | 29.34             | 764.44            | 2.60      | 67.73     | 80.0-81.0 | 1.06              | 1092.78           | 0.09      | 96.82     |
| 34.0-35.0 | 28.82             | 793.26            | 2.55      | 70.28     | 81.0-82.0 | 1.00              | 1093.78           | 0.09      | 96.91     |
| 35.0-36.0 | 28.03             | 821.29            | 2.48      | 72.77     | 82.0-83.0 | 0.94              | 1094.72           | 0.08      | 96.99     |
| 36.0-37.0 | 26.92             | 848.21            | 2.39      | 75.15     | 83.0-84.0 | 0.89              | 1095.61           | 0.08      | 97.07     |
| 37.0-38.0 | 25.50             | 873.72            | 2.26      | 77.41     | 84.0-85.0 | 0.84              | 1096.46           | 0.07      | 97.15     |
| 38.0-39.0 | 23.82             | 897.54            | 2.11      | 79.52     | 85.0-86.0 | 0.79              | 1097.25           | 0.07      | 97.22     |
| 39.0-40.0 | 21.92             | 919.46            | 1.94      | 81.46     | 86.0-87.0 | 0.72              | 1097.97           | 0.06      | 97.28     |
| 40.0-41.0 | 19.87             | 939.33            | 1.76      | 83.22     | 87.0-88.0 | 0.64              | 1098.61           | 0.06      | 97.34     |
| 41.0-42.0 | 17.72             | 957.05            | 1.57      | 84.79     | 88.0-89.0 | 0.58              | 1099.18           | 0.05      | 97.39     |
| 42.0-43.0 | 15.52             | 972.57            | 1.37      | 86.17     | 89.0-90.0 | 0.53              | 1099.71           | 0.05      | 97.43     |
| 43.0-44.0 | 13.32             | 985.89            | 1.18      | 87.35     | 90.0-91.0 | 0.50              | 1100.21           | 0.04      | 97.48     |
| 44.0-45.0 | 11.20             | 997.09            | 0.99      | 88.34     | 91.0-92.0 | 0.49              | 1100.70           | 0.04      | 97.52     |
| 45.0-46.0 | 9.20              | 1006.29           | 0.81      | 89.16     | 92.0-93.0 | 0.47              | 1101.17           | 0.04      | 97.56     |
| 46.0-47.0 | 7.37              | 1013.66           | 0.65      | 89.81     | 93.0-94.0 | 0.46              | 1101.64           | 0.04      | 97.60     |

Zonal Flux Tabulation - (Cont.)

| Zone(γ)     | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp | Zone(γ)     | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp |
|-------------|-------------------|-------------------|-----------|-----------|-------------|-------------------|-------------------|-----------|-----------|
| 94.0-95.0   | 0.45              | 1102.09           | 0.04      | 97.64     | 141.0-142.0 | 0.38              | 1119.58           | 0.03      | 99.19     |
| 95.0-96.0   | 0.44              | 1102.53           | 0.04      | 97.68     | 142.0-143.0 | 0.38              | 1119.96           | 0.03      | 99.23     |
| 96.0-97.0   | 0.43              | 1102.96           | 0.04      | 97.72     | 143.0-144.0 | 0.38              | 1120.34           | 0.03      | 99.26     |
| 97.0-98.0   | 0.42              | 1103.38           | 0.04      | 97.76     | 144.0-145.0 | 0.38              | 1120.72           | 0.03      | 99.30     |
| 98.0-99.0   | 0.41              | 1103.79           | 0.04      | 97.80     | 145.0-146.0 | 0.37              | 1121.09           | 0.03      | 99.33     |
| 99.0-100.0  | 0.40              | 1104.19           | 0.04      | 97.83     | 146.0-147.0 | 0.37              | 1121.46           | 0.03      | 99.36     |
| 100.0-101.0 | 0.40              | 1104.59           | 0.04      | 97.87     | 147.0-148.0 | 0.36              | 1121.83           | 0.03      | 99.39     |
| 101.0-102.0 | 0.39              | 1104.98           | 0.03      | 97.90     | 148.0-149.0 | 0.36              | 1122.18           | 0.03      | 99.43     |
| 102.0-103.0 | 0.38              | 1105.36           | 0.03      | 97.93     | 149.0-150.0 | 0.35              | 1122.54           | 0.03      | 99.46     |
| 103.0-104.0 | 0.38              | 1105.74           | 0.03      | 97.97     | 150.0-151.0 | 0.35              | 1122.89           | 0.03      | 99.49     |
| 104.0-105.0 | 0.37              | 1106.11           | 0.03      | 98.00     | 151.0-152.0 | 0.34              | 1123.23           | 0.03      | 99.52     |
| 105.0-106.0 | 0.37              | 1106.47           | 0.03      | 98.03     | 152.0-153.0 | 0.33              | 1123.56           | 0.03      | 99.55     |
| 106.0-107.0 | 0.36              | 1106.84           | 0.03      | 98.07     | 153.0-154.0 | 0.33              | 1123.89           | 0.03      | 99.58     |
| 107.0-108.0 | 0.36              | 1107.19           | 0.03      | 98.10     | 154.0-155.0 | 0.32              | 1124.21           | 0.03      | 99.60     |
| 108.0-109.0 | 0.36              | 1107.55           | 0.03      | 98.13     | 155.0-156.0 | 0.31              | 1124.52           | 0.03      | 99.63     |
| 109.0-110.0 | 0.35              | 1107.90           | 0.03      | 98.16     | 156.0-157.0 | 0.31              | 1124.83           | 0.03      | 99.66     |
| 110.0-111.0 | 0.35              | 1108.25           | 0.03      | 98.19     | 157.0-158.0 | 0.30              | 1125.13           | 0.03      | 99.69     |
| 111.0-112.0 | 0.35              | 1108.60           | 0.03      | 98.22     | 158.0-159.0 | 0.29              | 1125.41           | 0.03      | 99.71     |
| 112.0-113.0 | 0.35              | 1108.95           | 0.03      | 98.25     | 159.0-160.0 | 0.28              | 1125.69           | 0.02      | 99.74     |
| 113.0-114.0 | 0.35              | 1109.30           | 0.03      | 98.28     | 160.0-161.0 | 0.27              | 1125.96           | 0.02      | 99.76     |
| 114.0-115.0 | 0.35              | 1109.65           | 0.03      | 98.31     | 161.0-162.0 | 0.26              | 1126.22           | 0.02      | 99.78     |
| 115.0-116.0 | 0.35              | 1110.00           | 0.03      | 98.35     | 162.0-163.0 | 0.25              | 1126.47           | 0.02      | 99.80     |
| 116.0-117.0 | 0.35              | 1110.35           | 0.03      | 98.38     | 163.0-164.0 | 0.24              | 1126.71           | 0.02      | 99.83     |
| 117.0-118.0 | 0.35              | 1110.70           | 0.03      | 98.41     | 164.0-165.0 | 0.23              | 1126.93           | 0.02      | 99.85     |
| 118.0-119.0 | 0.35              | 1111.05           | 0.03      | 98.44     | 165.0-166.0 | 0.21              | 1127.15           | 0.02      | 99.86     |
| 119.0-120.0 | 0.35              | 1111.40           | 0.03      | 98.47     | 166.0-167.0 | 0.20              | 1127.35           | 0.02      | 99.88     |
| 120.0-121.0 | 0.35              | 1111.75           | 0.03      | 98.50     | 167.0-168.0 | 0.19              | 1127.54           | 0.02      | 99.90     |
| 121.0-122.0 | 0.35              | 1112.11           | 0.03      | 98.53     | 168.0-169.0 | 0.18              | 1127.71           | 0.02      | 99.92     |
| 122.0-123.0 | 0.36              | 1112.46           | 0.03      | 98.56     | 169.0-170.0 | 0.16              | 1127.87           | 0.01      | 99.93     |
| 123.0-124.0 | 0.36              | 1112.82           | 0.03      | 98.60     | 170.0-171.0 | 0.15              | 1128.02           | 0.01      | 99.94     |
| 124.0-125.0 | 0.36              | 1113.18           | 0.03      | 98.63     | 171.0-172.0 | 0.13              | 1128.16           | 0.01      | 99.95     |
| 125.0-126.0 | 0.36              | 1113.54           | 0.03      | 98.66     | 172.0-173.0 | 0.12              | 1128.28           | 0.01      | 99.97     |
| 126.0-127.0 | 0.36              | 1113.91           | 0.03      | 98.69     | 173.0-174.0 | 0.10              | 1128.38           | 0.01      | 99.97     |
| 127.0-128.0 | 0.37              | 1114.27           | 0.03      | 98.72     | 174.0-175.0 | 0.09              | 1128.47           | 0.01      | 99.98     |
| 128.0-129.0 | 0.37              | 1114.64           | 0.03      | 98.76     | 175.0-176.0 | 0.07              | 1128.54           | 0.01      | 99.99     |
| 129.0-130.0 | 0.37              | 1115.01           | 0.03      | 98.79     | 176.0-177.0 | 0.06              | 1128.60           | 0.01      | 99.99     |
| 130.0-131.0 | 0.37              | 1115.39           | 0.03      | 98.82     | 177.0-178.0 | 0.04              | 1128.64           | 0.00      | 100.00    |
| 131.0-132.0 | 0.38              | 1115.76           | 0.03      | 98.86     | 178.0-179.0 | 0.02              | 1128.66           | 0.00      | 100.00    |
| 132.0-133.0 | 0.38              | 1116.14           | 0.03      | 98.89     | 179.0-180.0 | 0.01              | 1128.67           | 0.00      | 100.00    |
| 133.0-134.0 | 0.38              | 1116.52           | 0.03      | 98.92     |             |                   |                   |           |           |
| 134.0-135.0 | 0.38              | 1116.90           | 0.03      | 98.96     |             |                   |                   |           |           |
| 135.0-136.0 | 0.38              | 1117.28           | 0.03      | 98.99     |             |                   |                   |           |           |
| 136.0-137.0 | 0.38              | 1117.66           | 0.03      | 99.02     |             |                   |                   |           |           |
| 137.0-138.0 | 0.38              | 1118.05           | 0.03      | 99.06     |             |                   |                   |           |           |
| 138.0-139.0 | 0.38              | 1118.43           | 0.03      | 99.09     |             |                   |                   |           |           |
| 139.0-140.0 | 0.38              | 1118.82           | 0.03      | 99.13     |             |                   |                   |           |           |
| 140.0-141.0 | 0.38              | 1119.20           | 0.03      | 99.16     |             |                   |                   |           |           |

Rectangle ISO Lighting Intensity Diagram

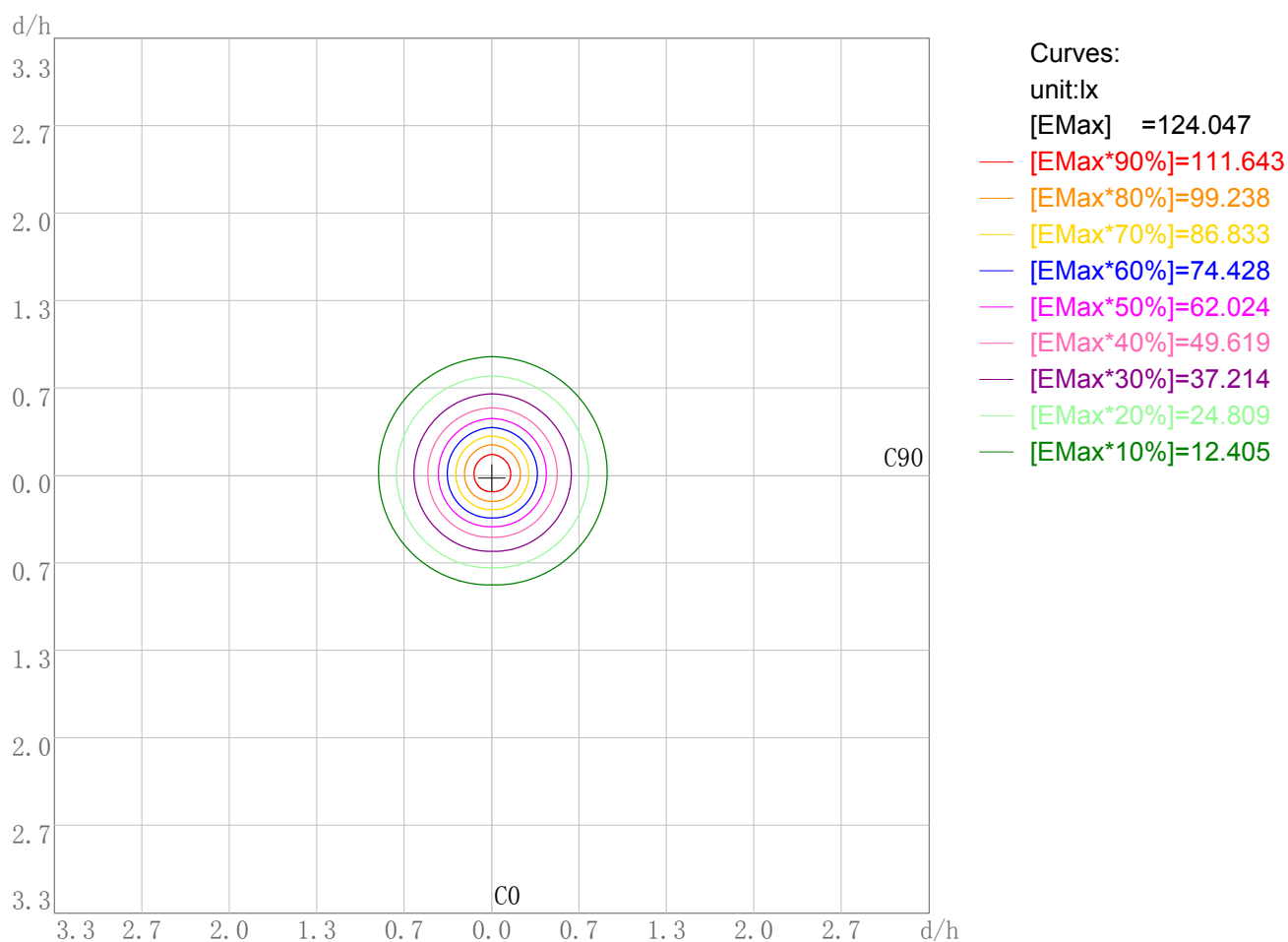
|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name:MD10-13-XX-02 3000K RA90 60D          | Lum. Catalog:         | Test ID:01                 |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/23      |



## Plane ISO-Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

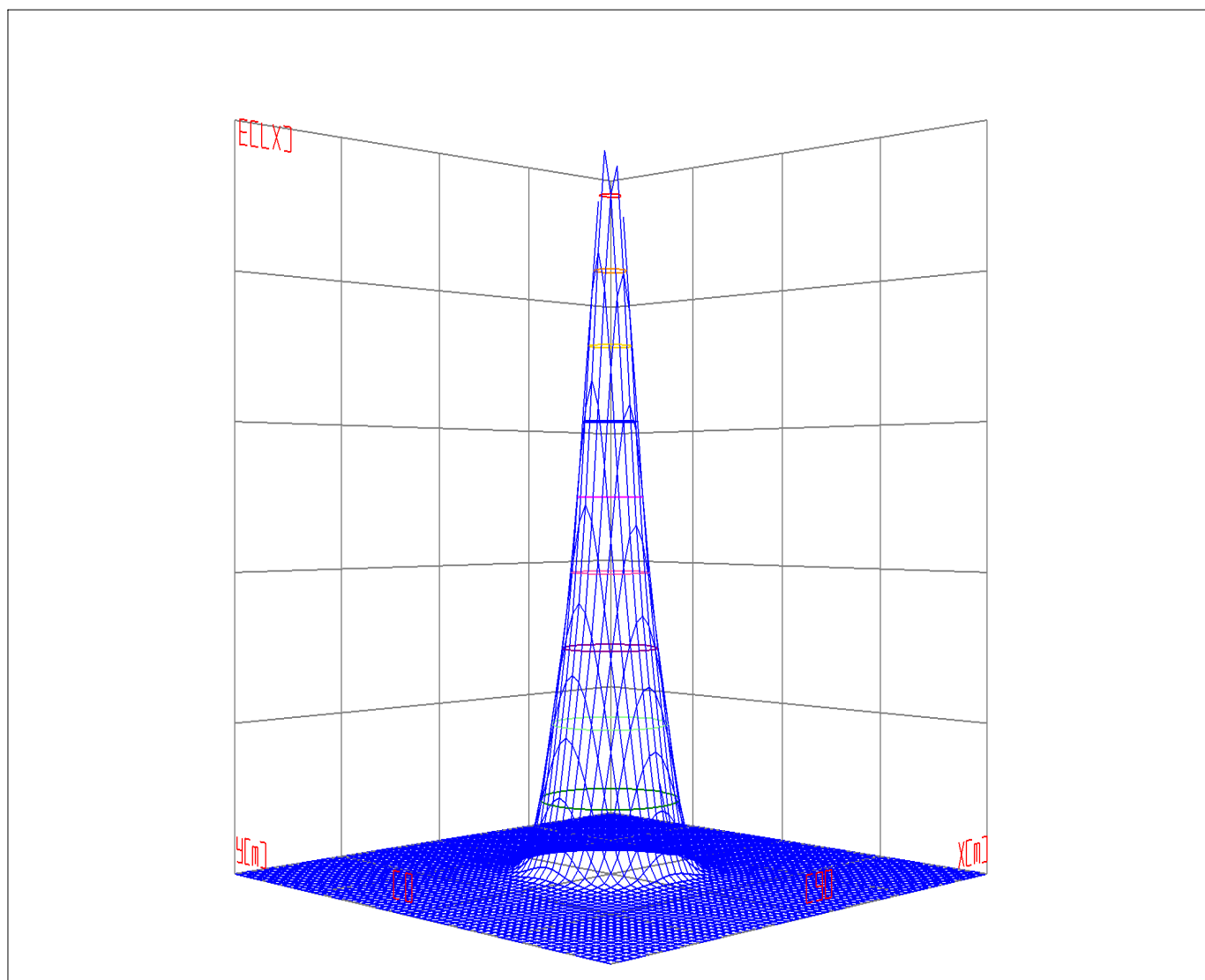
## Plane ISO-Illuminance Curve



### 3D Plane ISO Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

### 3D Plane Illuminance Modal



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



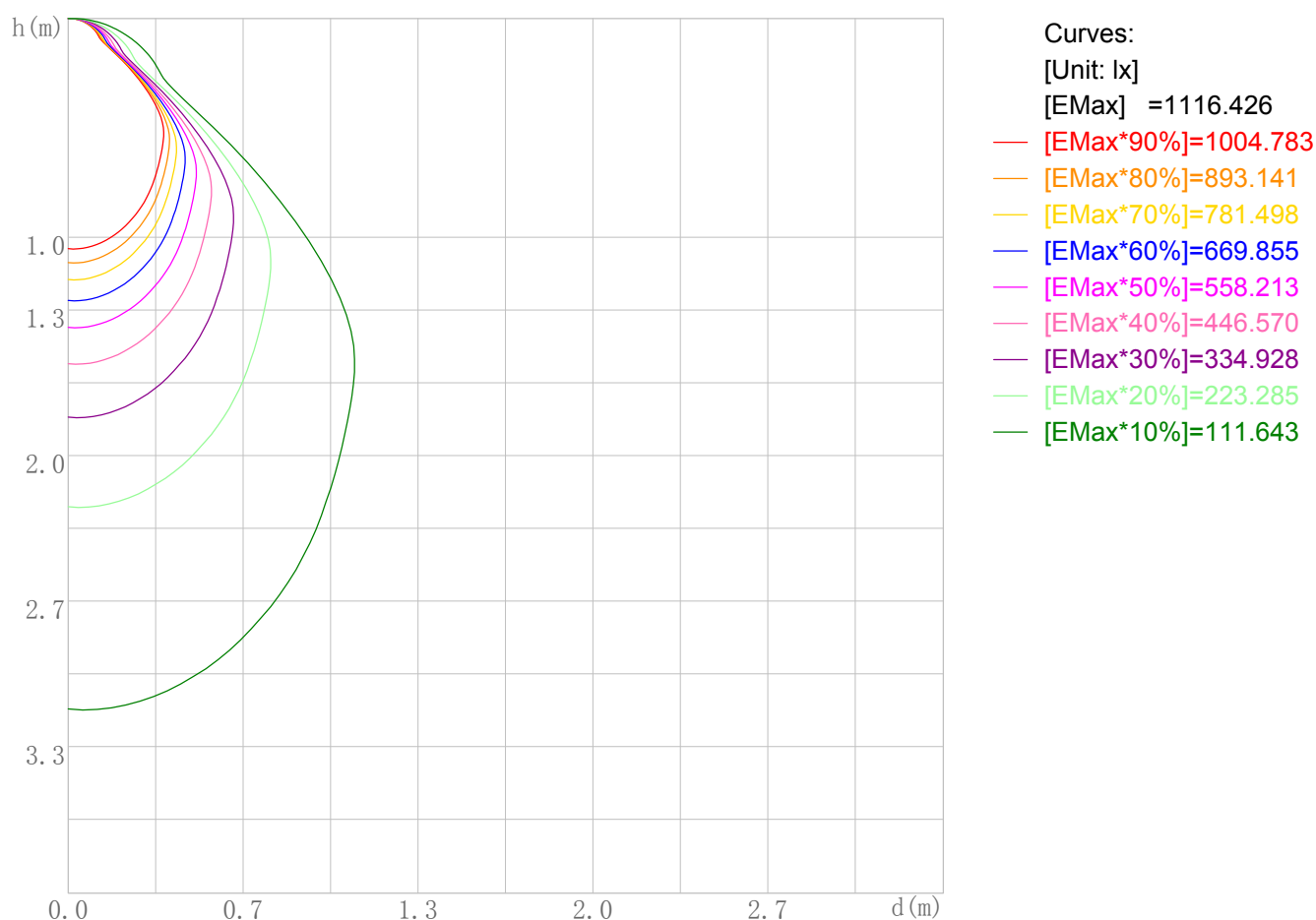
# IES Indoor Report

Photometric Filename:MD10-13-XX-02 3000K RA90 60D.IES

## Space ISO Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

## Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:1116.43lx,1.0deg  
Plane Maximum Lighting Intensity and @Angle:1116.936cd,0deg

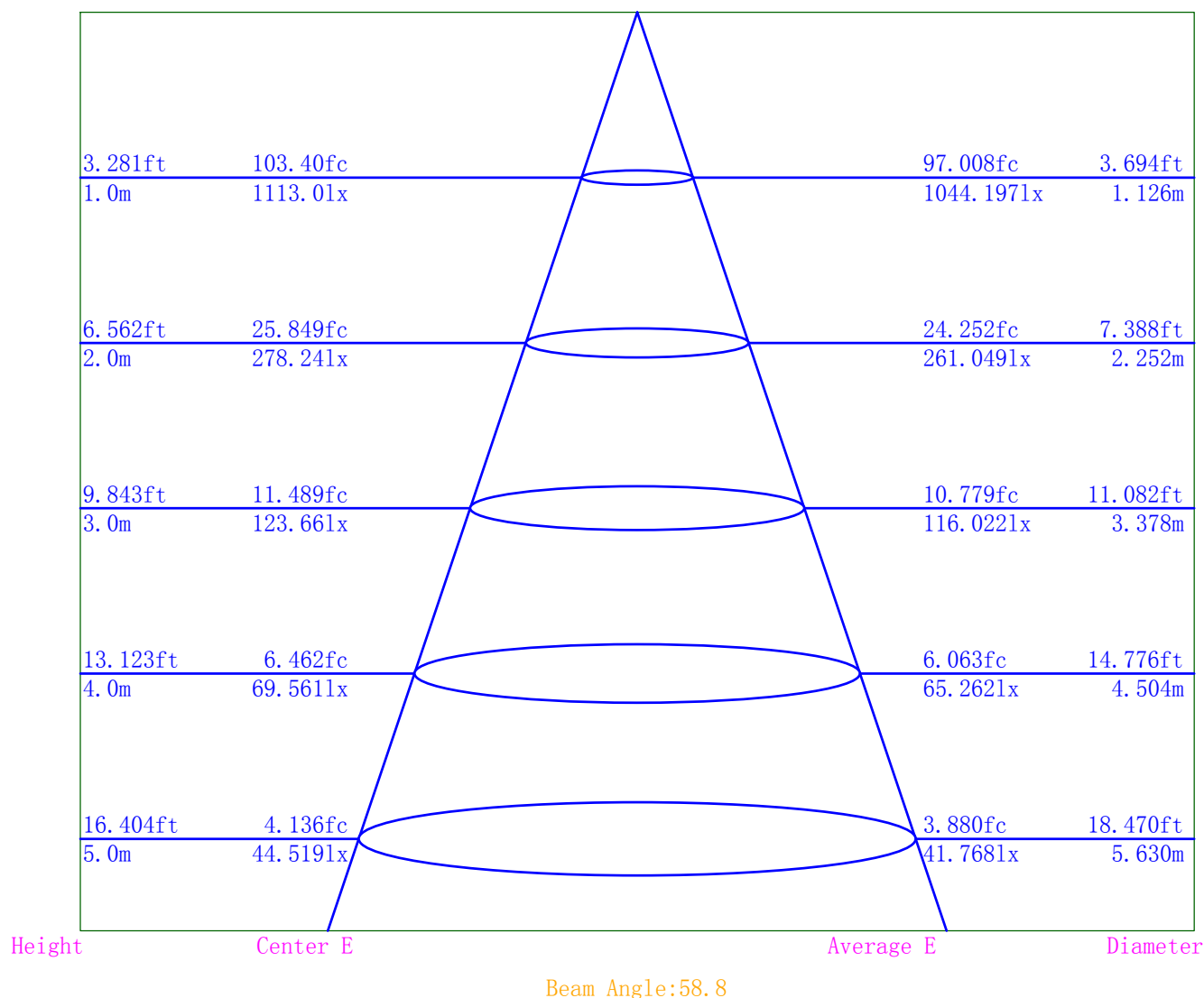
# IES Indoor Report

Photometric Filename:MD10-13-XX-02 3000K RA90 60D.IES

## Illuminance-Distance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

Illuminance-Distance Curve



# IES Indoor Report

Photometric Filename:MD10-13-XX-02 3000K RA90 60D.IES

## Indoor Luminance Limiting Curves

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

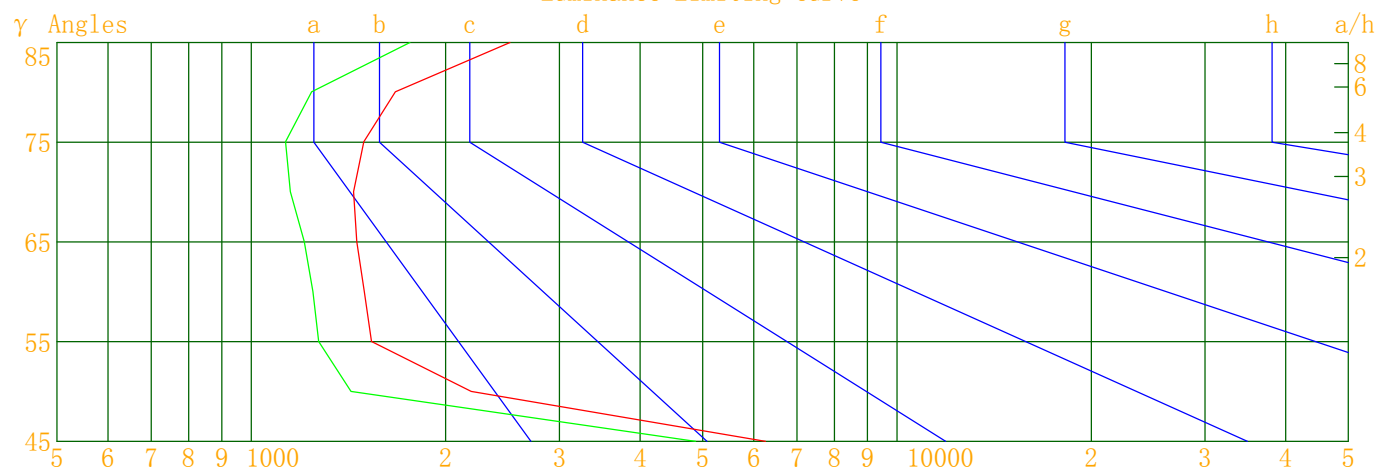
Glare Grade Table

| GI   | Quality | Using Illuminance |      |      |            |            |            |            |            |
|------|---------|-------------------|------|------|------------|------------|------------|------------|------------|
| 1.15 | A       | 2000              | 1000 | 500  | $\leq 300$ |            |            |            |            |
| 1.5  | B       |                   | 2000 | 1000 | 500        | $\leq 300$ |            |            |            |
| 1.85 | C       |                   |      | 2000 | 1000       | 500        | $\leq 300$ |            |            |
| 2.2  | D       |                   |      |      | 2000       | 1000       | 500        | $\leq 300$ |            |
| 2.55 | E       | a                 |      |      |            | 2000       | 1000       | 500        | $\leq 300$ |
|      |         |                   | b    | c    | d          | e          | f          | g          | h          |

Luminance Table

| Gama(deg) | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   |
|-----------|------|------|------|------|------|------|------|------|------|
| C0        | 6257 | 2191 | 1536 | 1496 | 1457 | 1440 | 1493 | 1671 | 2515 |
| C90       | 4876 | 1427 | 1271 | 1246 | 1208 | 1149 | 1130 | 1240 | 1761 |

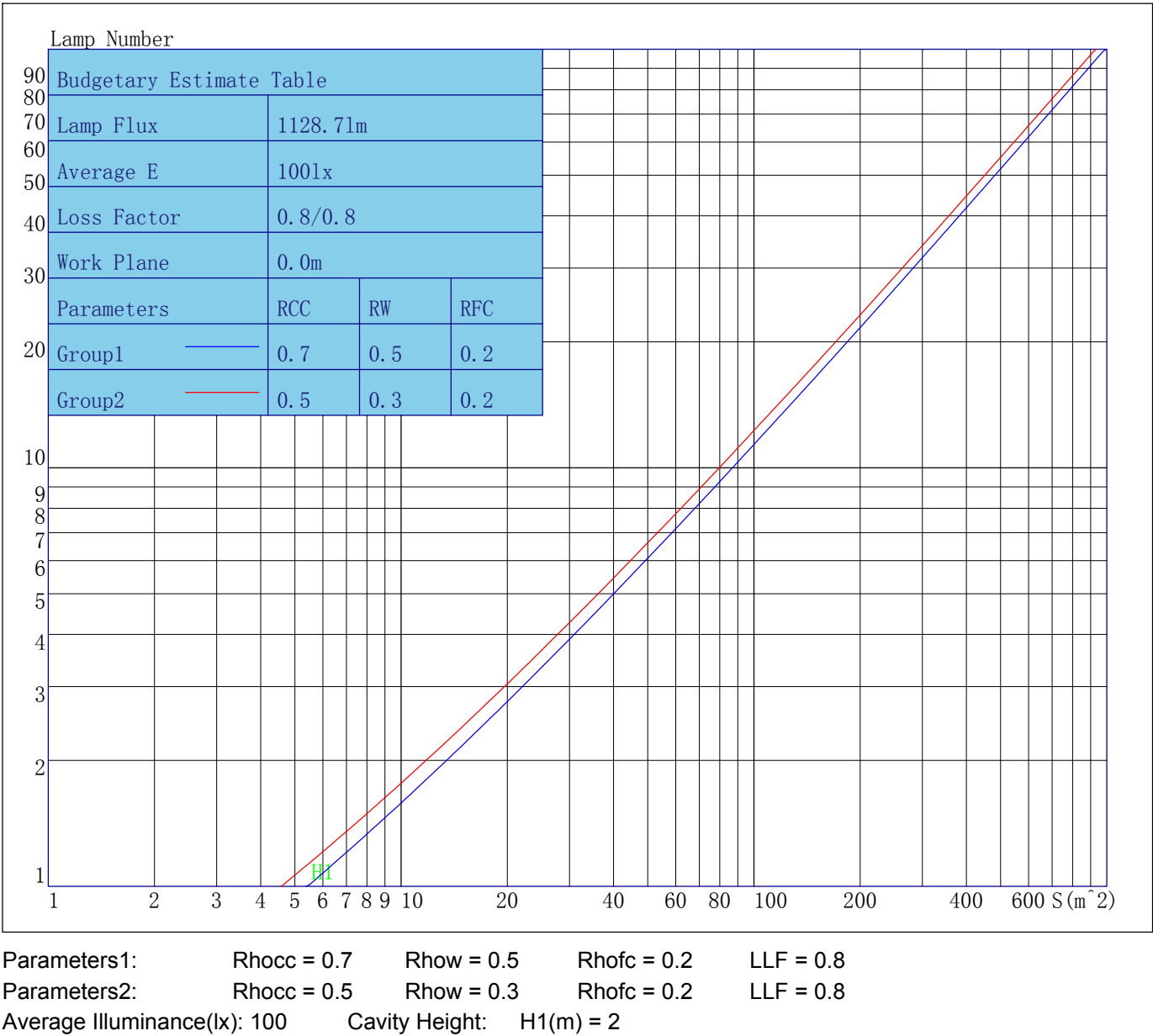
Luminance Limiting Curve



Luminous Size: Length(m)=0.050 Width(m)=0.050 Height(m)=0.750 Area(m<sup>2</sup>)=0.040000  
Luminous Type: Without Luminous Side  
Luminous Curves: C0-C180 Color: — C90-C270 Color: —

Indoor Budgetary Estimate Table

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |



Indoor Coefficient of Utilization Table

Table with 3 columns: Lum. Name, Lum. Catalog, Test ID; Lamp Name, Lamp Catalog, Test Lab; Manufacture, Test Machine, Test Date.

Table with 2 main sections: 'Coefficients of Utilization - Zonal Cavity Method' and 'Coefficient of Utilization(%)'. The first section includes RhoCC, RhoW, and RCR values. The second section is a grid of utilization coefficients for different room dimensions and reflectance levels.

# IES Indoor Report

Photometric Filename:MD10-13-XX-02 3000K RA90 60D.IES

## Unified Glare Rating Table

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-13-XX-02 3000K RA90 60D         | 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: 2019/12/23      |

## Unified Glare Rating Table

|   |                 |      |      |      |      |               |      |      |      |      |
|---|-----------------|------|------|------|------|---------------|------|------|------|------|
| Ceiling RCC                                       | 0.70            | 0.70 | 0.50 | 0.50 | 0.30 | 0.70          | 0.70 | 0.50 | 0.50 | 0.30 |
| Wall RW   | 0.50            | 0.30 | 0.50 | 0.30 | 0.30 | 0.50          | 0.30 | 0.50 | 0.30 | 0.30 |
| Floor RFC   | 0.20            | 0.20 | 0.20 | 0.20 | 0.20 | 0.20          | 0.20 | 0.20 | 0.20 | 0.20 |
| Room Size   | Vewed crosswise |      |      |      |      | Vewed endwise |      |      |      |      |
| X=2H    Y=2H                                      | 15.1            | 16.1 | 15.5 | 16.5 | 16.9 | 14.3          | 15.4 | 14.8 | 15.8 | 16.2 |
|   | 15.2            | 16.2 | 15.6 | 16.5 | 17.0 | 14.4          | 15.4 | 14.9 | 15.8 | 16.2 |
|   | 15.3            | 16.2 | 15.8 | 16.6 | 17.1 | 14.5          | 15.4 | 15.0 | 15.8 | 16.3 |
|   | 15.5            | 16.3 | 15.9 | 16.7 | 17.2 | 14.6          | 15.4 | 15.1 | 15.8 | 16.3 |
|   | 15.6            | 16.3 | 16.1 | 16.8 | 17.3 | 14.6          | 15.4 | 15.1 | 15.9 | 16.3 |
|   | 15.7            | 16.4 | 16.2 | 16.9 | 17.4 | 14.7          | 15.5 | 15.2 | 15.9 | 16.4 |
| X=4H    Y=2H                                      | 14.9            | 15.8 | 15.4 | 16.2 | 16.7 | 14.2          | 15.1 | 14.7 | 15.5 | 15.9 |
|   | 15.2            | 15.9 | 15.6 | 16.4 | 16.8 | 14.4          | 15.1 | 14.9 | 15.6 | 16.1 |
|   | 15.4            | 16.0 | 15.9 | 16.5 | 17.0 | 14.6          | 15.2 | 15.0 | 15.7 | 16.2 |
|   | 15.7            | 16.3 | 16.2 | 16.8 | 17.3 | 14.8          | 15.3 | 15.3 | 15.8 | 16.4 |
|   | 15.9            | 16.4 | 16.4 | 16.9 | 17.4 | 14.9          | 15.4 | 15.4 | 15.9 | 16.4 |
|   | 16.1            | 16.6 | 16.6 | 17.1 | 17.6 | 15.0          | 15.5 | 15.5 | 16.0 | 16.5 |
| X=8H    Y=4H                                      | 15.4            | 15.9 | 15.9 | 16.4 | 17.0 | 14.6          | 15.1 | 15.1 | 15.6 | 16.1 |
|   | 15.8            | 16.2 | 16.4 | 16.8 | 17.4 | 14.9          | 15.3 | 15.4 | 15.8 | 16.4 |
|   | 16.1            | 16.5 | 16.7 | 17.0 | 17.6 | 15.1          | 15.4 | 15.6 | 16.0 | 16.6 |
|   | 16.5            | 16.8 | 17.0 | 17.4 | 18.0 | 15.3          | 15.7 | 15.9 | 16.2 | 16.8 |
| X=12H    Y=4H                                     | 15.4            | 15.8 | 15.9 | 16.4 | 16.9 | 14.5          | 15.0 | 15.1 | 15.5 | 16.1 |
|   | 15.8            | 16.2 | 16.4 | 16.7 | 17.3 | 14.9          | 15.3 | 15.5 | 15.8 | 16.4 |
|   | 16.2            | 16.5 | 16.7 | 17.1 | 17.7 | 15.1          | 15.5 | 15.7 | 16.0 | 16.7 |
| Variations with the objerver position at spacings |                 |      |      |      |      |               |      |      |      |      |
| S=1.0H  | 0.2/-0.2        |      |      |      |      | 0.3/-0.3      |      |      |      |      |
| S=1.5H  | 0.4/-0.4        |      |      |      |      | 0.5/-0.5      |      |      |      |      |
| S=2.0H  | 0.4/-0.5        |      |      |      |      | 0.6/-0.6      |      |      |      |      |
| Reduced UGR Table:                                |                 |      |      |      |      |               |      |      |      |      |
| Nordic Standard Table:                            | BKO             |      |      |      |      | BKO           |      |      |      |      |
| Correction Value                                  | 1.3             |      |      |      |      | 1.1           |      |      |      |      |

to 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  | 1112.97 | 1112.97 | 1112.97 | 1112.97 |
| γ 1.0  | 1116.94 | 1112.20 | 1108.16 | 1109.17 |
| γ 2.0  | 1116.34 | 1107.95 | 1099.04 | 1104.92 |
| γ 3.0  | 1114.19 | 1100.89 | 1089.26 | 1097.82 |
| γ 4.0  | 1108.40 | 1092.90 | 1075.46 | 1087.11 |
| γ 5.0  | 1100.52 | 1082.13 | 1061.29 | 1075.51 |
| γ 6.0  | 1090.88 | 1067.82 | 1043.80 | 1061.26 |
| γ 7.0  | 1079.52 | 1054.63 | 1025.56 | 1044.08 |
| γ 8.0  | 1065.04 | 1038.69 | 1007.05 | 1026.13 |
| γ 9.0  | 1048.99 | 1022.39 | 987.45  | 1008.07 |
| γ 10.0 | 1033.50 | 1004.26 | 966.64  | 987.56  |
| γ 11.0 | 1014.92 | 984.44  | 944.91  | 966.49  |
| γ 12.0 | 996.20  | 962.64  | 921.11  | 945.09  |
| γ 13.0 | 974.97  | 941.28  | 897.21  | 923.54  |
| γ 14.0 | 952.73  | 917.76  | 872.12  | 900.07  |
| γ 15.0 | 930.51  | 895.24  | 848.25  | 877.89  |
| γ 16.0 | 909.63  | 870.52  | 822.99  | 853.73  |
| γ 17.0 | 885.90  | 847.11  | 797.57  | 830.19  |
| γ 18.0 | 862.40  | 821.50  | 771.60  | 806.44  |
| γ 19.0 | 838.98  | 797.49  | 746.58  | 781.52  |
| γ 20.0 | 813.49  | 772.36  | 720.26  | 756.31  |
| γ 21.0 | 789.57  | 747.11  | 694.84  | 731.51  |
| γ 22.0 | 764.46  | 721.60  | 669.71  | 705.66  |
| γ 23.0 | 739.22  | 698.08  | 646.55  | 681.42  |
| γ 24.0 | 713.35  | 674.86  | 624.21  | 657.42  |
| γ 25.0 | 690.71  | 653.01  | 604.31  | 635.16  |
| γ 26.0 | 667.02  | 631.56  | 584.26  | 613.92  |
| γ 27.0 | 644.81  | 611.80  | 565.37  | 593.72  |
| γ 28.0 | 623.30  | 593.12  | 547.62  | 573.46  |
| γ 29.0 | 602.73  | 575.03  | 531.09  | 555.20  |
| γ 30.0 | 583.35  | 556.37  | 513.91  | 537.63  |
| γ 31.0 | 564.98  | 538.90  | 496.93  | 520.85  |
| γ 32.0 | 547.25  | 520.53  | 479.04  | 504.16  |
| γ 33.0 | 529.42  | 501.64  | 459.53  | 487.42  |
| γ 34.0 | 512.25  | 482.61  | 436.09  | 469.60  |
| γ 35.0 | 492.90  | 461.85  | 408.97  | 447.93  |
| γ 36.0 | 472.59  | 438.00  | 377.95  | 420.92  |
| γ 37.0 | 448.14  | 410.44  | 343.61  | 390.26  |
| γ 38.0 | 419.81  | 379.50  | 307.96  | 356.64  |
| γ 39.0 | 388.68  | 345.12  | 272.23  | 321.37  |
| γ 40.0 | 354.65  | 310.07  | 236.45  | 285.64  |
| γ 41.0 | 319.42  | 274.33  | 202.14  | 249.44  |
| γ 42.0 | 282.64  | 238.61  | 170.04  | 214.60  |
| γ 43.0 | 245.78  | 203.21  | 140.25  | 180.52  |
| γ 44.0 | 209.91  | 169.36  | 113.18  | 149.43  |
| γ 45.0 | 176.98  | 137.90  | 88.68   | 120.63  |
| γ 46.0 | 145.90  | 108.88  | 66.67   | 94.97   |

# IES Indoor Report

Photometric Filename:MD10-13-XX-02 3000K RA90 60D.IES

## Candela Tabulation - (Cont.)

| V/H    | C0.0   | C90.0 | C180.0 | C270.0 |
|--------|--------|-------|--------|--------|
| γ 47.0 | 117.34 | 82.80 | 50.78  | 74.01  |
| γ 48.0 | 91.68  | 60.51 | 40.45  | 59.46  |
| γ 49.0 | 70.78  | 44.81 | 34.93  | 50.56  |
| γ 50.0 | 56.33  | 36.70 | 32.24  | 45.29  |
| γ 51.0 | 47.43  | 33.77 | 30.61  | 41.43  |
| γ 52.0 | 41.76  | 32.15 | 29.40  | 38.40  |
| γ 53.0 | 38.34  | 31.00 | 28.45  | 35.83  |
| γ 54.0 | 36.69  | 30.06 | 27.57  | 33.86  |
| γ 55.0 | 35.23  | 29.17 | 26.67  | 32.02  |
| γ 56.0 | 34.13  | 28.29 | 25.82  | 30.38  |
| γ 57.0 | 33.03  | 27.48 | 24.98  | 29.07  |
| γ 58.0 | 32.03  | 26.65 | 24.16  | 28.09  |
| γ 59.0 | 31.01  | 25.80 | 23.31  | 27.18  |
| γ 60.0 | 29.92  | 24.92 | 22.48  | 26.29  |
| γ 61.0 | 28.86  | 24.08 | 21.67  | 25.32  |
| γ 62.0 | 27.76  | 23.16 | 20.90  | 24.35  |
| γ 63.0 | 26.67  | 22.31 | 20.16  | 23.46  |
| γ 64.0 | 25.62  | 21.43 | 19.35  | 22.62  |
| γ 65.0 | 24.63  | 20.41 | 18.56  | 21.85  |
| γ 66.0 | 23.65  | 19.48 | 17.87  | 20.99  |
| γ 67.0 | 22.56  | 18.51 | 17.11  | 20.19  |
| γ 68.0 | 21.65  | 17.52 | 16.36  | 19.49  |
| γ 69.0 | 20.71  | 16.57 | 15.72  | 18.66  |
| γ 70.0 | 19.70  | 15.73 | 15.05  | 17.96  |
| γ 71.0 | 18.83  | 14.79 | 14.32  | 17.29  |
| γ 72.0 | 17.94  | 13.96 | 13.67  | 16.58  |
| γ 73.0 | 17.03  | 13.22 | 13.06  | 15.90  |
| γ 74.0 | 16.27  | 12.47 | 12.34  | 15.25  |
| γ 75.0 | 15.46  | 11.70 | 11.73  | 14.57  |
| γ 76.0 | 14.57  | 11.07 | 11.12  | 13.85  |
| γ 77.0 | 13.84  | 10.44 | 10.45  | 13.25  |
| γ 78.0 | 13.17  | 9.70  | 9.92   | 12.60  |
| γ 79.0 | 12.35  | 9.10  | 9.41   | 11.89  |
| γ 80.0 | 11.61  | 8.61  | 8.82   | 11.35  |
| γ 81.0 | 11.10  | 8.11  | 8.18   | 10.82  |
| γ 82.0 | 10.51  | 7.41  | 7.70   | 10.19  |
| γ 83.0 | 9.80   | 6.92  | 7.31   | 9.64   |
| γ 84.0 | 9.24   | 6.51  | 6.90   | 9.19   |
| γ 85.0 | 8.77   | 6.14  | 6.30   | 8.77   |
| γ 86.0 | 8.35   | 5.62  | 5.52   | 8.22   |
| γ 87.0 | 7.86   | 5.03  | 4.82   | 7.10   |
| γ 88.0 | 6.91   | 4.59  | 4.38   | 6.26   |
| γ 89.0 | 6.16   | 4.22  | 4.27   | 5.26   |
| γ 90.0 | 5.20   | 4.10  | 4.17   | 5.05   |
| γ 91.0 | 5.00   | 4.01  | 4.07   | 4.91   |
| γ 92.0 | 4.86   | 3.91  | 3.97   | 4.78   |
| γ 93.0 | 4.73   | 3.82  | 3.89   | 4.66   |



Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0  | 4.61 | 3.74  | 3.81   | 4.54   |
| γ 95.0  | 4.50 | 3.65  | 3.74   | 4.43   |
| γ 96.0  | 4.39 | 3.57  | 3.67   | 4.34   |
| γ 97.0  | 4.29 | 3.50  | 3.61   | 4.24   |
| γ 98.0  | 4.19 | 3.43  | 3.55   | 4.16   |
| γ 99.0  | 4.11 | 3.37  | 3.49   | 4.09   |
| γ 100.0 | 4.03 | 3.31  | 3.45   | 4.02   |
| γ 101.0 | 3.95 | 3.26  | 3.41   | 3.95   |
| γ 102.0 | 3.86 | 3.23  | 3.38   | 3.89   |
| γ 103.0 | 3.81 | 3.18  | 3.35   | 3.85   |
| γ 104.0 | 3.75 | 3.14  | 3.33   | 3.81   |
| γ 105.0 | 3.70 | 3.12  | 3.31   | 3.77   |
| γ 106.0 | 3.66 | 3.11  | 3.31   | 3.73   |
| γ 107.0 | 3.62 | 3.09  | 3.32   | 3.72   |
| γ 108.0 | 3.59 | 3.08  | 3.32   | 3.69   |
| γ 109.0 | 3.56 | 3.08  | 3.32   | 3.69   |
| γ 110.0 | 3.55 | 3.08  | 3.35   | 3.68   |
| γ 111.0 | 3.53 | 3.09  | 3.37   | 3.69   |
| γ 112.0 | 3.52 | 3.12  | 3.41   | 3.70   |
| γ 113.0 | 3.53 | 3.13  | 3.44   | 3.72   |
| γ 114.0 | 3.54 | 3.15  | 3.48   | 3.74   |
| γ 115.0 | 3.55 | 3.19  | 3.52   | 3.76   |
| γ 116.0 | 3.56 | 3.22  | 3.57   | 3.80   |
| γ 117.0 | 3.59 | 3.25  | 3.62   | 3.82   |
| γ 118.0 | 3.62 | 3.30  | 3.68   | 3.87   |
| γ 119.0 | 3.64 | 3.35  | 3.74   | 3.91   |
| γ 120.0 | 3.67 | 3.40  | 3.81   | 3.96   |
| γ 121.0 | 3.71 | 3.46  | 3.88   | 4.01   |
| γ 122.0 | 3.76 | 3.52  | 3.94   | 4.07   |
| γ 123.0 | 3.82 | 3.58  | 4.02   | 4.13   |
| γ 124.0 | 3.86 | 3.65  | 4.09   | 4.19   |
| γ 125.0 | 3.92 | 3.73  | 4.18   | 4.26   |
| γ 126.0 | 3.99 | 3.80  | 4.26   | 4.33   |
| γ 127.0 | 4.05 | 3.87  | 4.35   | 4.41   |
| γ 128.0 | 4.12 | 3.96  | 4.45   | 4.48   |
| γ 129.0 | 4.20 | 4.04  | 4.55   | 4.57   |
| γ 130.0 | 4.28 | 4.13  | 4.65   | 4.66   |
| γ 131.0 | 4.37 | 4.22  | 4.76   | 4.75   |
| γ 132.0 | 4.45 | 4.32  | 4.86   | 4.82   |
| γ 133.0 | 4.55 | 4.42  | 4.97   | 4.94   |
| γ 134.0 | 4.64 | 4.52  | 5.08   | 5.03   |
| γ 135.0 | 4.74 | 4.62  | 5.18   | 5.13   |
| γ 136.0 | 4.83 | 4.73  | 5.29   | 5.22   |
| γ 137.0 | 4.94 | 4.84  | 5.41   | 5.32   |
| γ 138.0 | 5.04 | 4.96  | 5.52   | 5.44   |
| γ 139.0 | 5.14 | 5.07  | 5.63   | 5.53   |
| γ 140.0 | 5.25 | 5.18  | 5.73   | 5.64   |

Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 5.34 | 5.28  | 5.84   | 5.74   |
| γ 142.0 | 5.46 | 5.40  | 5.94   | 5.82   |
| γ 143.0 | 5.56 | 5.51  | 6.06   | 5.93   |
| γ 144.0 | 5.66 | 5.61  | 6.14   | 6.03   |
| γ 145.0 | 5.76 | 5.71  | 6.24   | 6.11   |
| γ 146.0 | 5.86 | 5.80  | 6.32   | 6.19   |
| γ 147.0 | 5.95 | 5.91  | 6.41   | 6.28   |
| γ 148.0 | 6.05 | 6.00  | 6.49   | 6.36   |
| γ 149.0 | 6.14 | 6.09  | 6.58   | 6.44   |
| γ 150.0 | 6.22 | 6.17  | 6.66   | 6.52   |
| γ 151.0 | 6.30 | 6.26  | 6.75   | 6.60   |
| γ 152.0 | 6.40 | 6.35  | 6.84   | 6.68   |
| γ 153.0 | 6.48 | 6.44  | 6.93   | 6.76   |
| γ 154.0 | 6.58 | 6.54  | 7.02   | 6.86   |
| γ 155.0 | 6.67 | 6.64  | 7.11   | 6.94   |
| γ 156.0 | 6.77 | 6.73  | 7.19   | 7.03   |
| γ 157.0 | 6.88 | 6.84  | 7.29   | 7.10   |
| γ 158.0 | 6.97 | 6.92  | 7.38   | 7.20   |
| γ 159.0 | 7.07 | 7.02  | 7.47   | 7.29   |
| γ 160.0 | 7.18 | 7.13  | 7.55   | 7.37   |
| γ 161.0 | 7.26 | 7.22  | 7.66   | 7.46   |
| γ 162.0 | 7.36 | 7.31  | 7.72   | 7.55   |
| γ 163.0 | 7.45 | 7.42  | 7.81   | 7.63   |
| γ 164.0 | 7.55 | 7.51  | 7.89   | 7.71   |
| γ 165.0 | 7.64 | 7.59  | 7.97   | 7.79   |
| γ 166.0 | 7.74 | 7.69  | 8.05   | 7.86   |
| γ 167.0 | 7.83 | 7.77  | 8.13   | 7.95   |
| γ 168.0 | 7.91 | 7.86  | 8.19   | 8.03   |
| γ 169.0 | 8.00 | 7.93  | 8.26   | 8.09   |
| γ 170.0 | 8.09 | 8.01  | 8.33   | 8.16   |
| γ 171.0 | 8.18 | 8.09  | 8.41   | 8.24   |
| γ 172.0 | 8.25 | 8.16  | 8.47   | 8.30   |
| γ 173.0 | 8.32 | 8.23  | 8.53   | 8.35   |
| γ 174.0 | 8.41 | 8.30  | 8.57   | 8.41   |
| γ 175.0 | 8.47 | 8.36  | 8.63   | 8.46   |
| γ 176.0 | 8.53 | 8.41  | 8.65   | 8.51   |
| γ 177.0 | 8.57 | 8.46  | 8.68   | 8.56   |
| γ 178.0 | 8.62 | 8.50  | 8.72   | 8.57   |
| γ 179.0 | 8.66 | 8.52  | 8.71   | 8.59   |
| γ 180.0 | 8.65 | 8.65  | 8.65   | 8.65   |