

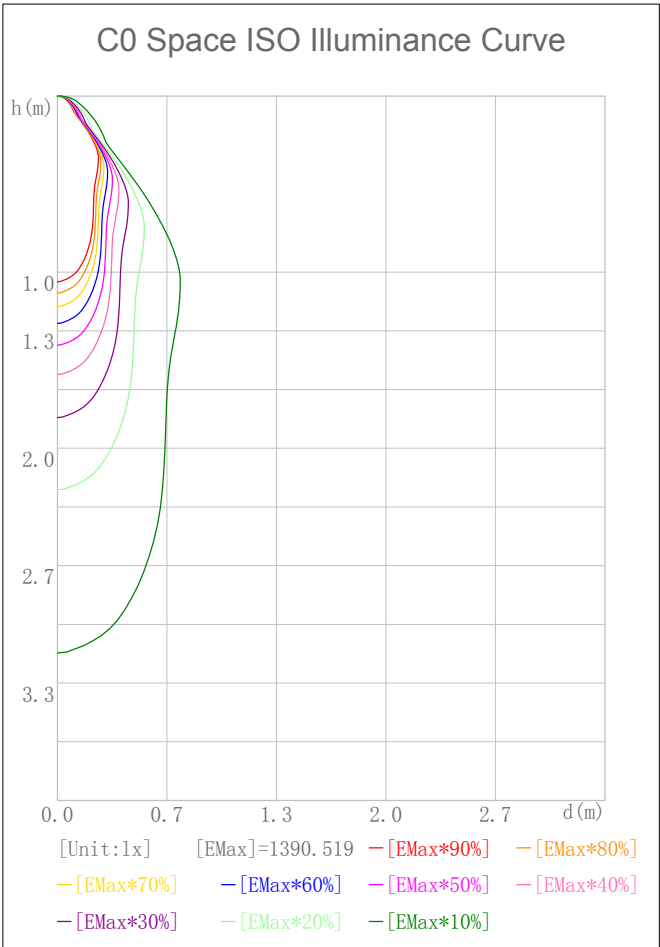
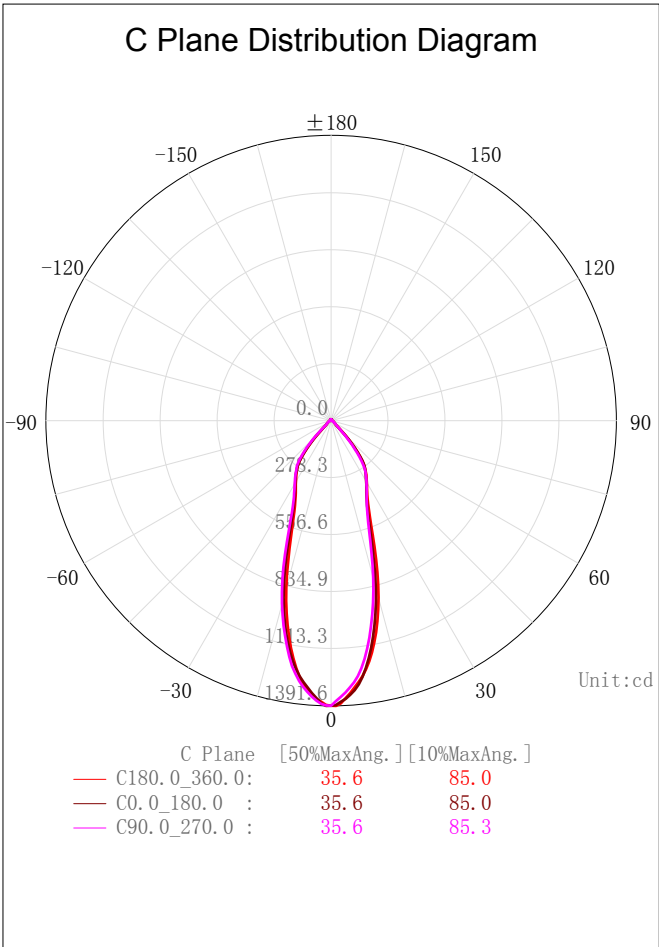
Indoor Luminaire Photometric Data

Description Information

|   |                         |                       |
|---|-------------------------|-----------------------|
| Luminary Name: MD10-09-XX-02 4000K RA90 38D     | Lum. Catalog:           | Test ID: 01           |
| Lamp Name:                                      | Lamp Catalog: LED       | Test Date: 2019/12/03 |
| 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*0.060m          | Lum. Area (m2):0.005    | 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): 866.850                         | Luminary Flux(lm): 866.847       | Field Angle(10%Imax): 85.0(°)         |
| Rated Power(W):                                 | Luminary Efficiency: 100.00%     | Down Lumens&Percent: 848.056lm 97.83% |
| Rated Voltage(V):                               | Luminary EER(lm/W): 93.906       | Up Lumens&Percent: 18.791lm 2.17%     |
| Tested Power(W): 9.231                          | Max. Candela(cd): 1391.581       | S/MH: C0_a180=0.586 C90_270=0.584     |
| Lamps' Inside: 1                                | Max Cand@Ang. (°): C=180.0 γ=1.0 | CIE Type: Semi-Direct                 |
| Tested Electrics (V, A, pf):241.1, 0.041, 0.922 | Beam Angle(50%Imax): 35.6(°)     | ErP ϕ use(90°): 775.859lm             |
| Lamp Size (W*L*H):0.050m*0.050m*0.060m          | Left=-17.3°, Right=18.3°         | IRF(%): 361.517                       |



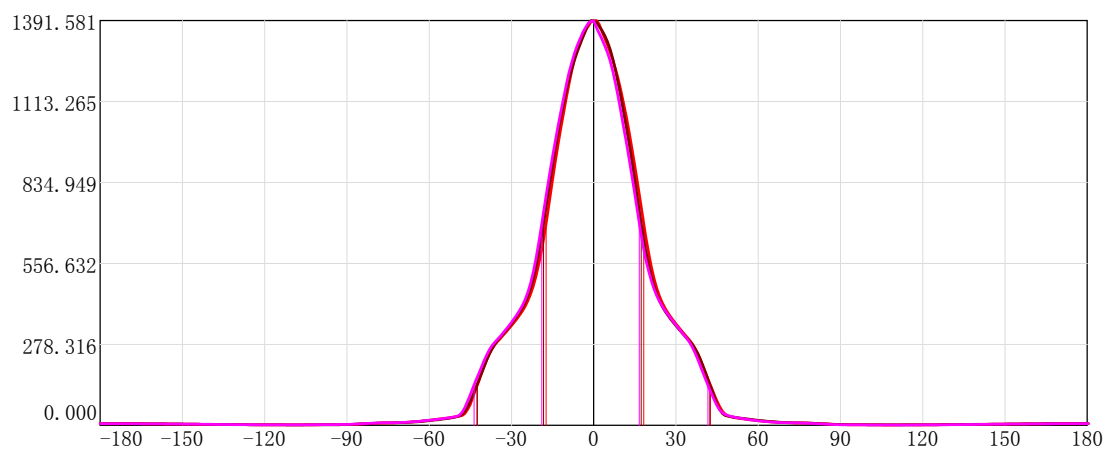
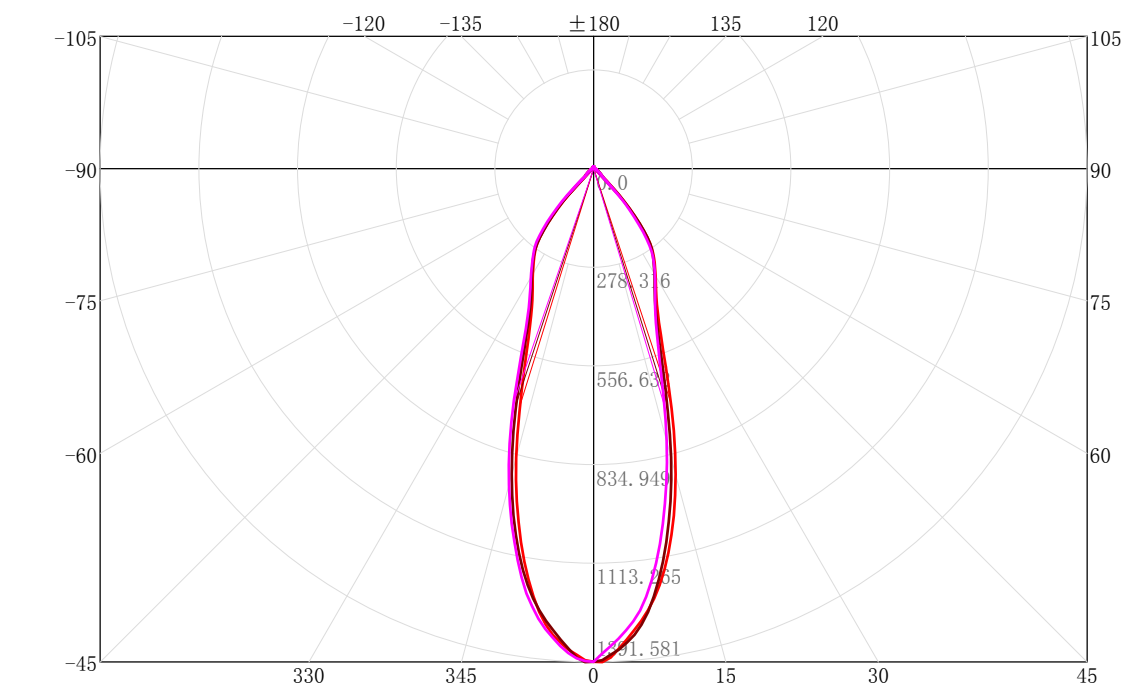
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 38D.IES

## 2D Plane Light Intensity Distribution Curve

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |

C Plane Distribution Diagram



| C Plane        | [50%MaxAng.] | [10%MaxAng.] |
|----------------|--------------|--------------|
| C180.0_360.0 : | 35.6         | 85.0         |
| C0.0_180.0 :   | 35.6         | 85.0         |
| C90.0_270.0 :  | 35.6         | 85.3         |

Unit:cd

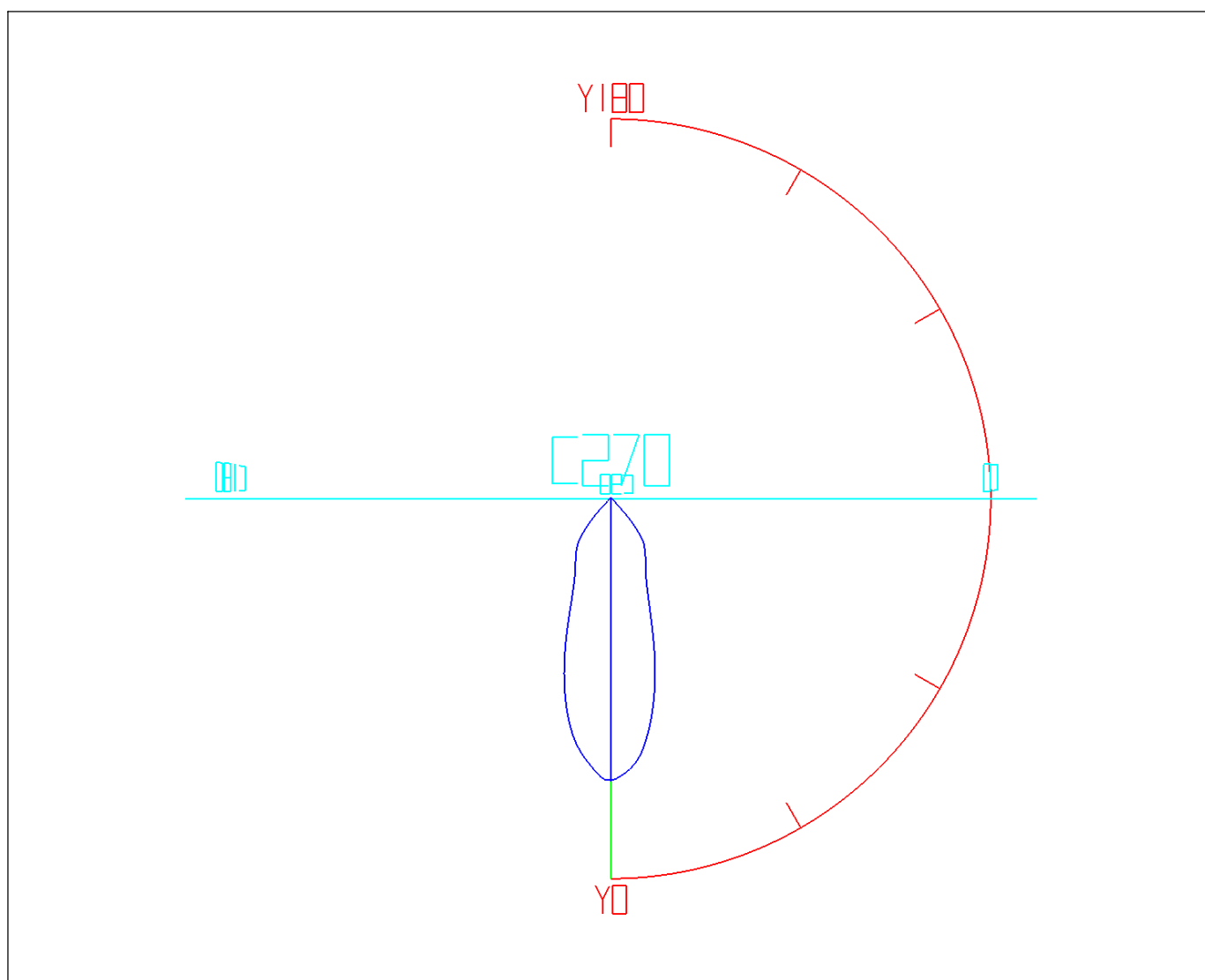
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 38D.IES

## 3D Light Intensity Distribution Modal

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |

## 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

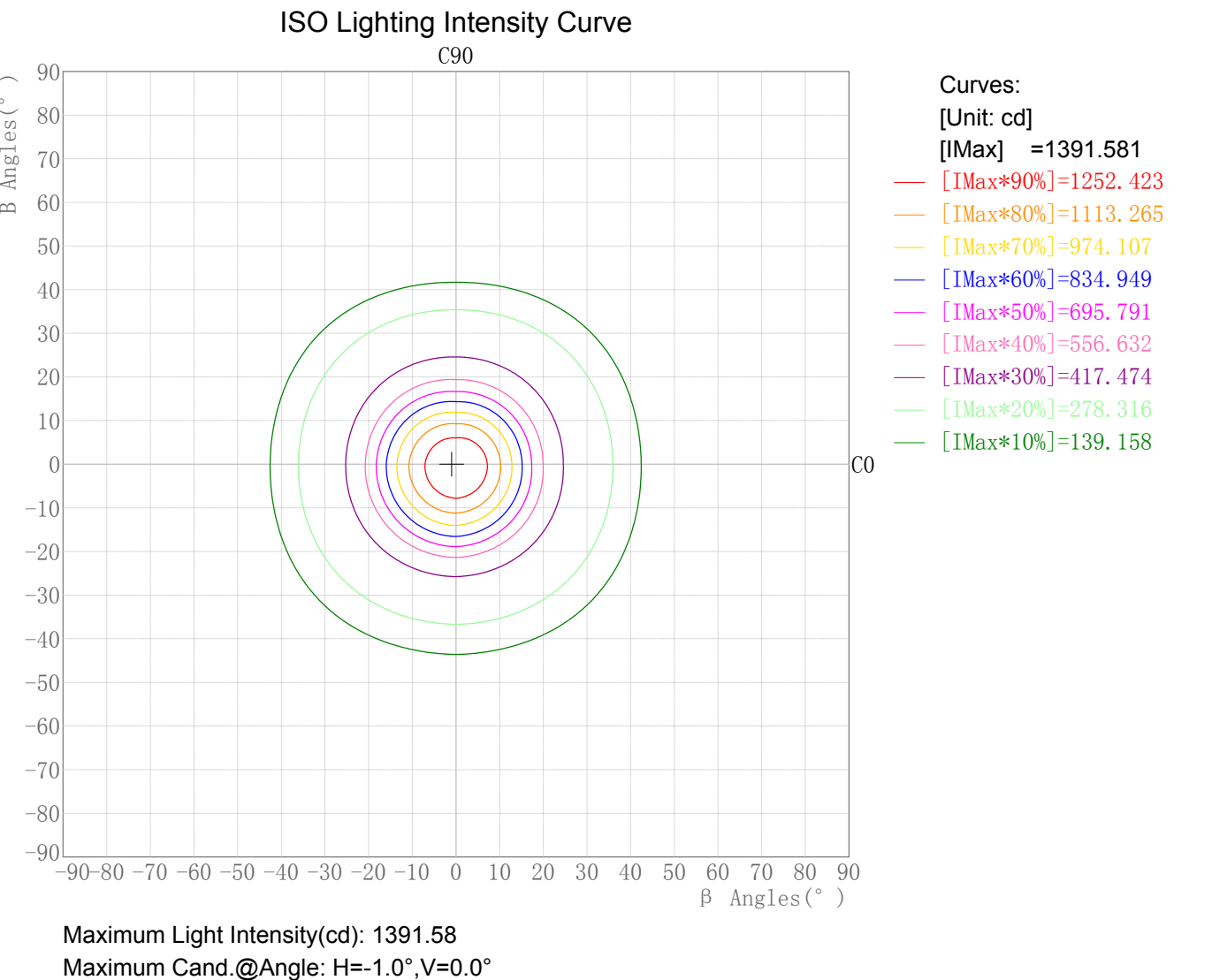
| Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp | Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0   | 1.33              | 1.33              | 0.15      | 0.15      | 47.0-48.0 | 3.53              | 794.42            | 0.41      | 91.64     |
| 1.0-2.0   | 3.95              | 5.28              | 0.46      | 0.61      | 48.0-49.0 | 2.97              | 797.39            | 0.34      | 91.99     |
| 2.0-3.0   | 6.51              | 11.79             | 0.75      | 1.36      | 49.0-50.0 | 2.67              | 800.06            | 0.31      | 92.30     |
| 3.0-4.0   | 8.98              | 20.78             | 1.04      | 2.40      | 50.0-51.0 | 2.51              | 802.57            | 0.29      | 92.58     |
| 4.0-5.0   | 11.36             | 32.14             | 1.31      | 3.71      | 51.0-52.0 | 2.39              | 804.95            | 0.28      | 92.86     |
| 5.0-6.0   | 13.62             | 45.76             | 1.57      | 5.28      | 52.0-53.0 | 2.28              | 807.23            | 0.26      | 93.12     |
| 6.0-7.0   | 15.74             | 61.50             | 1.82      | 7.09      | 53.0-54.0 | 2.18              | 809.41            | 0.25      | 93.37     |
| 7.0-8.0   | 17.66             | 79.17             | 2.04      | 9.13      | 54.0-55.0 | 2.09              | 811.50            | 0.24      | 93.62     |
| 8.0-9.0   | 19.38             | 98.54             | 2.24      | 11.37     | 55.0-56.0 | 2.00              | 813.51            | 0.23      | 93.85     |
| 9.0-10.0  | 20.86             | 119.41            | 2.41      | 13.77     | 56.0-57.0 | 1.91              | 815.42            | 0.22      | 94.07     |
| 10.0-11.0 | 22.09             | 141.50            | 2.55      | 16.32     | 57.0-58.0 | 1.83              | 817.25            | 0.21      | 94.28     |
| 11.0-12.0 | 23.06             | 164.56            | 2.66      | 18.98     | 58.0-59.0 | 1.74              | 818.99            | 0.20      | 94.48     |
| 12.0-13.0 | 23.80             | 188.37            | 2.75      | 21.73     | 59.0-60.0 | 1.65              | 820.64            | 0.19      | 94.67     |
| 13.0-14.0 | 24.29             | 212.66            | 2.80      | 24.53     | 60.0-61.0 | 1.57              | 822.20            | 0.18      | 94.85     |
| 14.0-15.0 | 24.50             | 237.16            | 2.83      | 27.36     | 61.0-62.0 | 1.48              | 823.69            | 0.17      | 95.02     |
| 15.0-16.0 | 24.43             | 261.59            | 2.82      | 30.18     | 62.0-63.0 | 1.41              | 825.09            | 0.16      | 95.18     |
| 16.0-17.0 | 24.09             | 285.69            | 2.78      | 32.96     | 63.0-64.0 | 1.34              | 826.44            | 0.15      | 95.34     |
| 17.0-18.0 | 23.54             | 309.23            | 2.72      | 35.67     | 64.0-65.0 | 1.28              | 827.71            | 0.15      | 95.49     |
| 18.0-19.0 | 22.84             | 332.07            | 2.64      | 38.31     | 65.0-66.0 | 1.22              | 828.93            | 0.14      | 95.63     |
| 19.0-20.0 | 22.07             | 354.14            | 2.55      | 40.85     | 66.0-67.0 | 1.17              | 830.10            | 0.13      | 95.76     |
| 20.0-21.0 | 21.31             | 375.45            | 2.46      | 43.31     | 67.0-68.0 | 1.12              | 831.22            | 0.13      | 95.89     |
| 21.0-22.0 | 20.66             | 396.11            | 2.38      | 45.70     | 68.0-69.0 | 1.07              | 832.29            | 0.12      | 96.01     |
| 22.0-23.0 | 20.14             | 416.25            | 2.32      | 48.02     | 69.0-70.0 | 1.03              | 833.32            | 0.12      | 96.13     |
| 23.0-24.0 | 19.76             | 436.01            | 2.28      | 50.30     | 70.0-71.0 | 1.00              | 834.32            | 0.12      | 96.25     |
| 24.0-25.0 | 19.51             | 455.53            | 2.25      | 52.55     | 71.0-72.0 | 0.97              | 835.29            | 0.11      | 96.36     |
| 25.0-26.0 | 19.36             | 474.89            | 2.23      | 54.78     | 72.0-73.0 | 0.96              | 836.25            | 0.11      | 96.47     |
| 26.0-27.0 | 19.27             | 494.16            | 2.22      | 57.01     | 73.0-74.0 | 0.95              | 837.20            | 0.11      | 96.58     |
| 27.0-28.0 | 19.20             | 513.36            | 2.21      | 59.22     | 74.0-75.0 | 0.95              | 838.15            | 0.11      | 96.69     |
| 28.0-29.0 | 19.15             | 532.51            | 2.21      | 61.43     | 75.0-76.0 | 0.94              | 839.09            | 0.11      | 96.80     |
| 29.0-30.0 | 19.10             | 551.61            | 2.20      | 63.63     | 76.0-77.0 | 0.92              | 840.00            | 0.11      | 96.90     |
| 30.0-31.0 | 19.03             | 570.64            | 2.20      | 65.83     | 77.0-78.0 | 0.89              | 840.90            | 0.10      | 97.01     |
| 31.0-32.0 | 18.93             | 589.57            | 2.18      | 68.01     | 78.0-79.0 | 0.86              | 841.76            | 0.10      | 97.11     |
| 32.0-33.0 | 18.80             | 608.37            | 2.17      | 70.18     | 79.0-80.0 | 0.82              | 842.58            | 0.09      | 97.20     |
| 33.0-34.0 | 18.63             | 627.01            | 2.15      | 72.33     | 80.0-81.0 | 0.77              | 843.35            | 0.09      | 97.29     |
| 34.0-35.0 | 18.41             | 645.42            | 2.12      | 74.46     | 81.0-82.0 | 0.72              | 844.08            | 0.08      | 97.37     |
| 35.0-36.0 | 18.11             | 663.53            | 2.09      | 76.54     | 82.0-83.0 | 0.67              | 844.75            | 0.08      | 97.45     |
| 36.0-37.0 | 17.64             | 681.17            | 2.04      | 78.58     | 83.0-84.0 | 0.63              | 845.38            | 0.07      | 97.52     |
| 37.0-38.0 | 16.95             | 698.12            | 1.96      | 80.54     | 84.0-85.0 | 0.58              | 845.95            | 0.07      | 97.59     |
| 38.0-39.0 | 16.00             | 714.12            | 1.85      | 82.38     | 85.0-86.0 | 0.52              | 846.47            | 0.06      | 97.65     |
| 39.0-40.0 | 14.81             | 728.93            | 1.71      | 84.09     | 86.0-87.0 | 0.46              | 846.93            | 0.05      | 97.70     |
| 40.0-41.0 | 13.45             | 742.38            | 1.55      | 85.64     | 87.0-88.0 | 0.41              | 847.34            | 0.05      | 97.75     |
| 41.0-42.0 | 11.97             | 754.36            | 1.38      | 87.02     | 88.0-89.0 | 0.37              | 847.71            | 0.04      | 97.79     |
| 42.0-43.0 | 10.42             | 764.77            | 1.20      | 88.22     | 89.0-90.0 | 0.34              | 848.06            | 0.04      | 97.83     |
| 43.0-44.0 | 8.81              | 773.59            | 1.02      | 89.24     | 90.0-91.0 | 0.32              | 848.38            | 0.04      | 97.87     |
| 44.0-45.0 | 7.18              | 780.76            | 0.83      | 90.07     | 91.0-92.0 | 0.31              | 848.68            | 0.04      | 97.90     |
| 45.0-46.0 | 5.68              | 786.44            | 0.66      | 90.72     | 92.0-93.0 | 0.30              | 848.98            | 0.03      | 97.94     |
| 46.0-47.0 | 4.45              | 790.89            | 0.51      | 91.24     | 93.0-94.0 | 0.29              | 849.27            | 0.03      | 97.97     |

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   | 0.28              | 849.55            | 0.03      | 98.00     | 141.0-142.0 | 0.26              | 860.21            | 0.03      | 99.23     |
| 95.0-96.0   | 0.27              | 849.82            | 0.03      | 98.04     | 142.0-143.0 | 0.26              | 860.47            | 0.03      | 99.26     |
| 96.0-97.0   | 0.27              | 850.08            | 0.03      | 98.07     | 143.0-144.0 | 0.26              | 860.74            | 0.03      | 99.29     |
| 97.0-98.0   | 0.26              | 850.34            | 0.03      | 98.10     | 144.0-145.0 | 0.26              | 861.00            | 0.03      | 99.33     |
| 98.0-99.0   | 0.25              | 850.60            | 0.03      | 98.12     | 145.0-146.0 | 0.26              | 861.26            | 0.03      | 99.36     |
| 99.0-100.0  | 0.25              | 850.84            | 0.03      | 98.15     | 146.0-147.0 | 0.26              | 861.53            | 0.03      | 99.39     |
| 100.0-101.0 | 0.24              | 851.08            | 0.03      | 98.18     | 147.0-148.0 | 0.26              | 861.79            | 0.03      | 99.42     |
| 101.0-102.0 | 0.24              | 851.32            | 0.03      | 98.21     | 148.0-149.0 | 0.26              | 862.05            | 0.03      | 99.45     |
| 102.0-103.0 | 0.23              | 851.55            | 0.03      | 98.23     | 149.0-150.0 | 0.26              | 862.30            | 0.03      | 99.48     |
| 103.0-104.0 | 0.23              | 851.77            | 0.03      | 98.26     | 150.0-151.0 | 0.25              | 862.56            | 0.03      | 99.50     |
| 104.0-105.0 | 0.22              | 851.99            | 0.03      | 98.29     | 151.0-152.0 | 0.25              | 862.81            | 0.03      | 99.53     |
| 105.0-106.0 | 0.22              | 852.21            | 0.03      | 98.31     | 152.0-153.0 | 0.25              | 863.06            | 0.03      | 99.56     |
| 106.0-107.0 | 0.22              | 852.43            | 0.02      | 98.34     | 153.0-154.0 | 0.24              | 863.30            | 0.03      | 99.59     |
| 107.0-108.0 | 0.21              | 852.64            | 0.02      | 98.36     | 154.0-155.0 | 0.24              | 863.54            | 0.03      | 99.62     |
| 108.0-109.0 | 0.21              | 852.85            | 0.02      | 98.39     | 155.0-156.0 | 0.23              | 863.77            | 0.03      | 99.64     |
| 109.0-110.0 | 0.21              | 853.06            | 0.02      | 98.41     | 156.0-157.0 | 0.23              | 864.00            | 0.03      | 99.67     |
| 110.0-111.0 | 0.21              | 853.27            | 0.02      | 98.43     | 157.0-158.0 | 0.22              | 864.22            | 0.03      | 99.70     |
| 111.0-112.0 | 0.21              | 853.47            | 0.02      | 98.46     | 158.0-159.0 | 0.22              | 864.44            | 0.02      | 99.72     |
| 112.0-113.0 | 0.21              | 853.68            | 0.02      | 98.48     | 159.0-160.0 | 0.21              | 864.65            | 0.02      | 99.75     |
| 113.0-114.0 | 0.20              | 853.88            | 0.02      | 98.50     | 160.0-161.0 | 0.20              | 864.85            | 0.02      | 99.77     |
| 114.0-115.0 | 0.20              | 854.09            | 0.02      | 98.53     | 161.0-162.0 | 0.19              | 865.04            | 0.02      | 99.79     |
| 115.0-116.0 | 0.20              | 854.29            | 0.02      | 98.55     | 162.0-163.0 | 0.19              | 865.23            | 0.02      | 99.81     |
| 116.0-117.0 | 0.20              | 854.49            | 0.02      | 98.57     | 163.0-164.0 | 0.18              | 865.40            | 0.02      | 99.83     |
| 117.0-118.0 | 0.20              | 854.70            | 0.02      | 98.60     | 164.0-165.0 | 0.17              | 865.57            | 0.02      | 99.85     |
| 118.0-119.0 | 0.20              | 854.90            | 0.02      | 98.62     | 165.0-166.0 | 0.16              | 865.73            | 0.02      | 99.87     |
| 119.0-120.0 | 0.21              | 855.11            | 0.02      | 98.65     | 166.0-167.0 | 0.15              | 865.88            | 0.02      | 99.89     |
| 120.0-121.0 | 0.21              | 855.32            | 0.02      | 98.67     | 167.0-168.0 | 0.14              | 866.02            | 0.02      | 99.90     |
| 121.0-122.0 | 0.21              | 855.52            | 0.02      | 98.69     | 168.0-169.0 | 0.13              | 866.15            | 0.01      | 99.92     |
| 122.0-123.0 | 0.21              | 855.73            | 0.02      | 98.72     | 169.0-170.0 | 0.12              | 866.27            | 0.01      | 99.93     |
| 123.0-124.0 | 0.21              | 855.94            | 0.02      | 98.74     | 170.0-171.0 | 0.11              | 866.38            | 0.01      | 99.95     |
| 124.0-125.0 | 0.21              | 856.16            | 0.02      | 98.77     | 171.0-172.0 | 0.10              | 866.47            | 0.01      | 99.96     |
| 125.0-126.0 | 0.21              | 856.37            | 0.02      | 98.79     | 172.0-173.0 | 0.09              | 866.56            | 0.01      | 99.97     |
| 126.0-127.0 | 0.22              | 856.59            | 0.03      | 98.82     | 173.0-174.0 | 0.08              | 866.63            | 0.01      | 99.98     |
| 127.0-128.0 | 0.22              | 856.81            | 0.03      | 98.84     | 174.0-175.0 | 0.06              | 866.70            | 0.01      | 99.98     |
| 128.0-129.0 | 0.22              | 857.03            | 0.03      | 98.87     | 175.0-176.0 | 0.05              | 866.75            | 0.01      | 99.99     |
| 129.0-130.0 | 0.23              | 857.25            | 0.03      | 98.89     | 176.0-177.0 | 0.04              | 866.79            | 0.00      | 99.99     |
| 130.0-131.0 | 0.23              | 857.48            | 0.03      | 98.92     | 177.0-178.0 | 0.03              | 866.82            | 0.00      | 100.00    |
| 131.0-132.0 | 0.23              | 857.71            | 0.03      | 98.95     | 178.0-179.0 | 0.02              | 866.84            | 0.00      | 100.00    |
| 132.0-133.0 | 0.24              | 857.95            | 0.03      | 98.97     | 179.0-180.0 | 0.01              | 866.85            | 0.00      | 100.00    |
| 133.0-134.0 | 0.24              | 858.19            | 0.03      | 99.00     |             |                   |                   |           |           |
| 134.0-135.0 | 0.24              | 858.43            | 0.03      | 99.03     |             |                   |                   |           |           |
| 135.0-136.0 | 0.25              | 858.68            | 0.03      | 99.06     |             |                   |                   |           |           |
| 136.0-137.0 | 0.25              | 858.92            | 0.03      | 99.09     |             |                   |                   |           |           |
| 137.0-138.0 | 0.25              | 859.18            | 0.03      | 99.11     |             |                   |                   |           |           |
| 138.0-139.0 | 0.26              | 859.43            | 0.03      | 99.14     |             |                   |                   |           |           |
| 139.0-140.0 | 0.26              | 859.69            | 0.03      | 99.17     |             |                   |                   |           |           |
| 140.0-141.0 | 0.26              | 859.95            | 0.03      | 99.20     |             |                   |                   |           |           |

Rectangle ISO Lighting Intensity Diagram

|  |                       |                           |
|--|-----------------------|---------------------------|
| Lum. Name:MD10-09-XX-02 4000K RA90 38D         | 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:2019/12/03      |



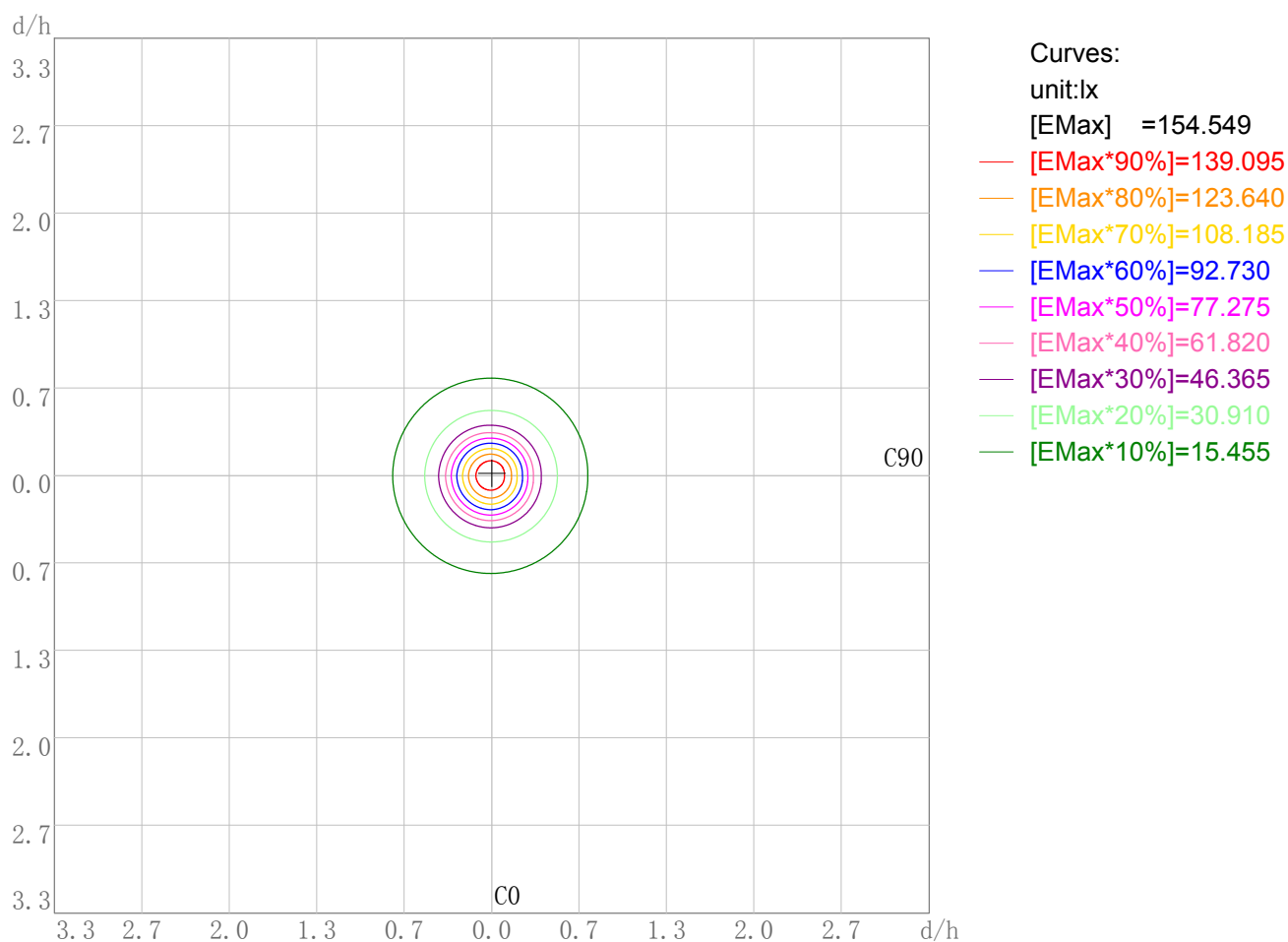
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 38D.IES

## Plane ISO-Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |

## Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

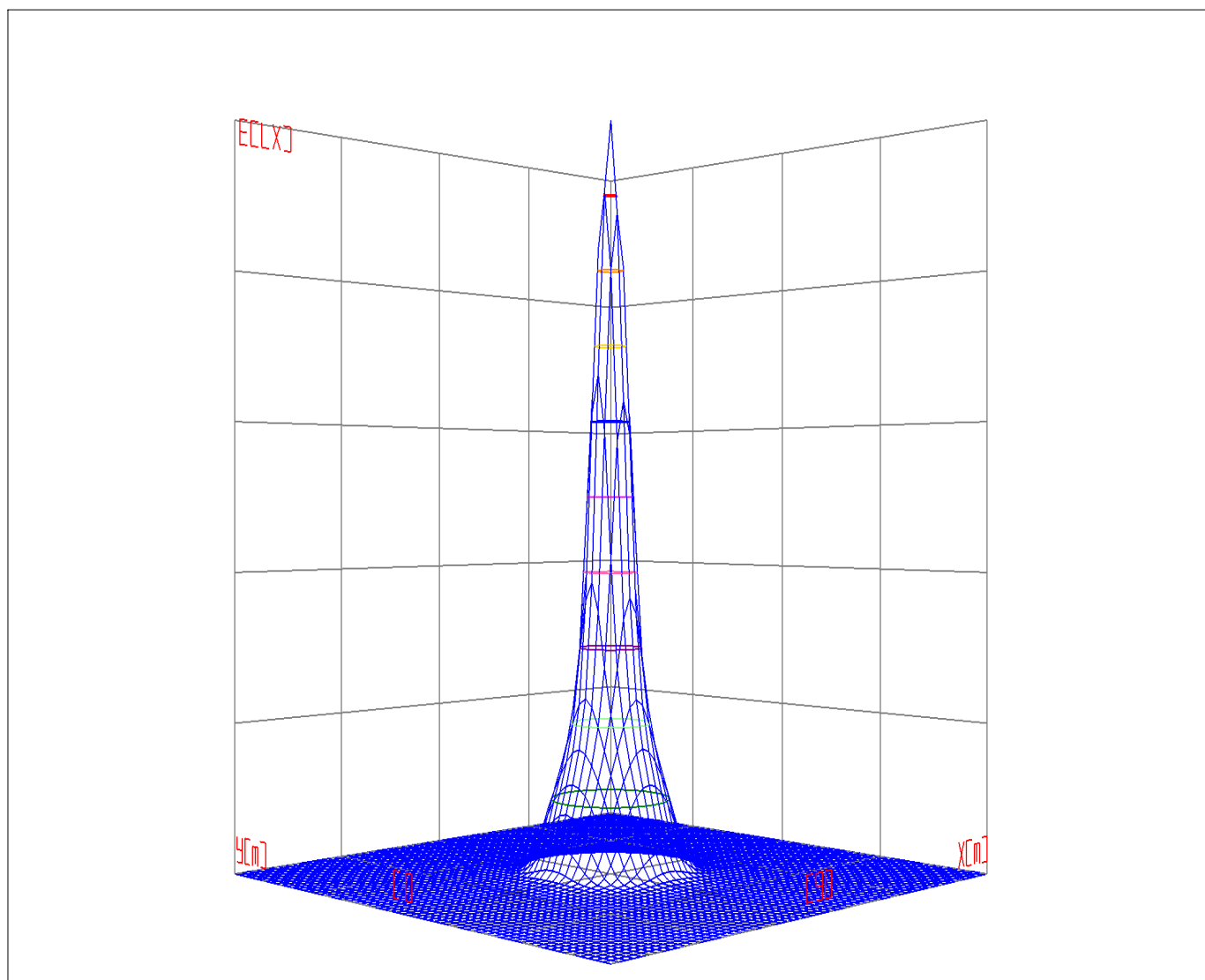
Working Plane Maximum Illuminance(lx): 154.55

Working Plane Maximum Illuminance Position(d/h):H0.0 V-0.0

### 3D Plane ISO Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |

### 3D Plane Illuminance Modal



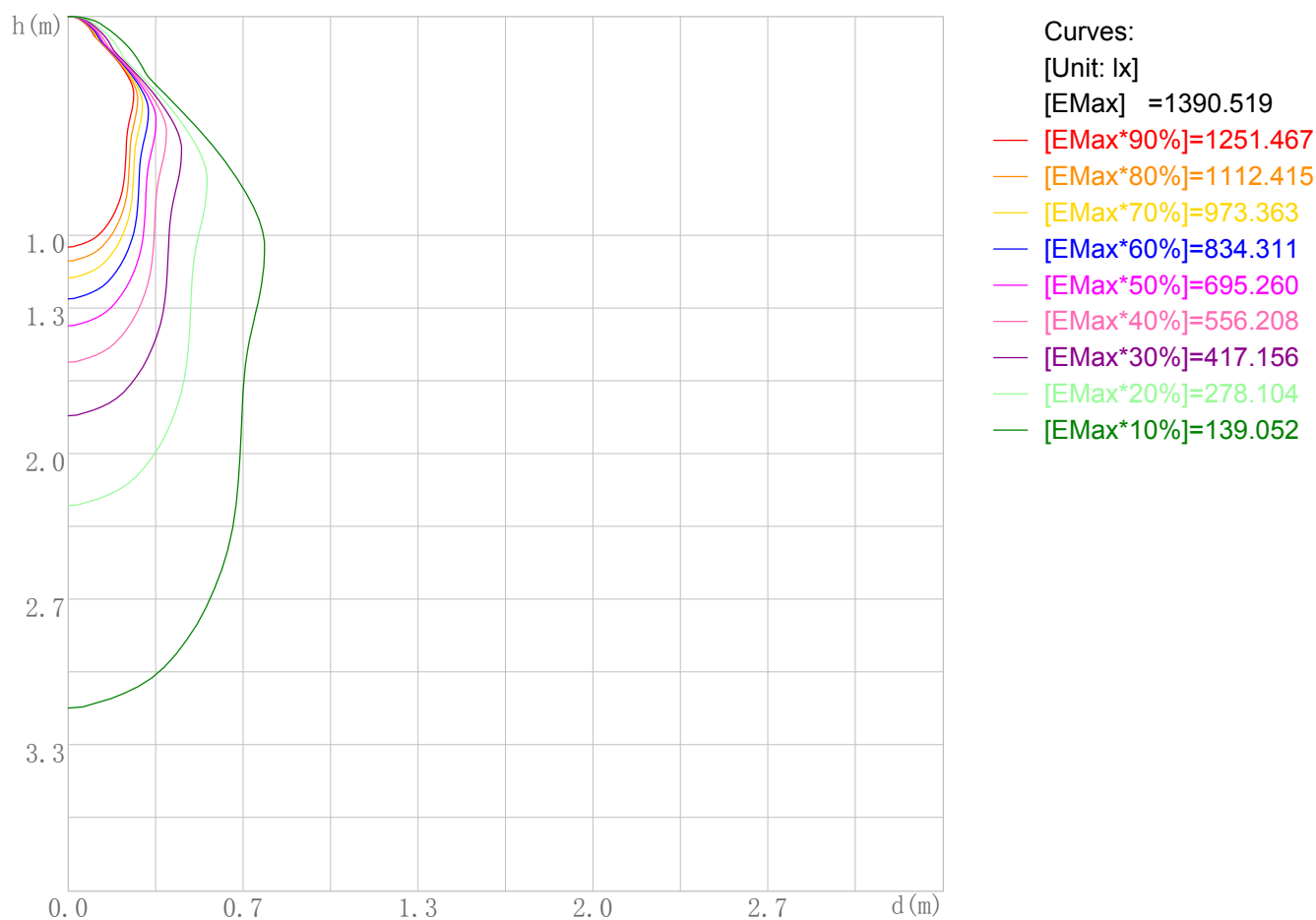
Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
 View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0



## Space ISO Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |

## Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:1390.52lx,0.0deg

Plane Maximum Lighting Intensity and @Angle:1390.519cd,0deg

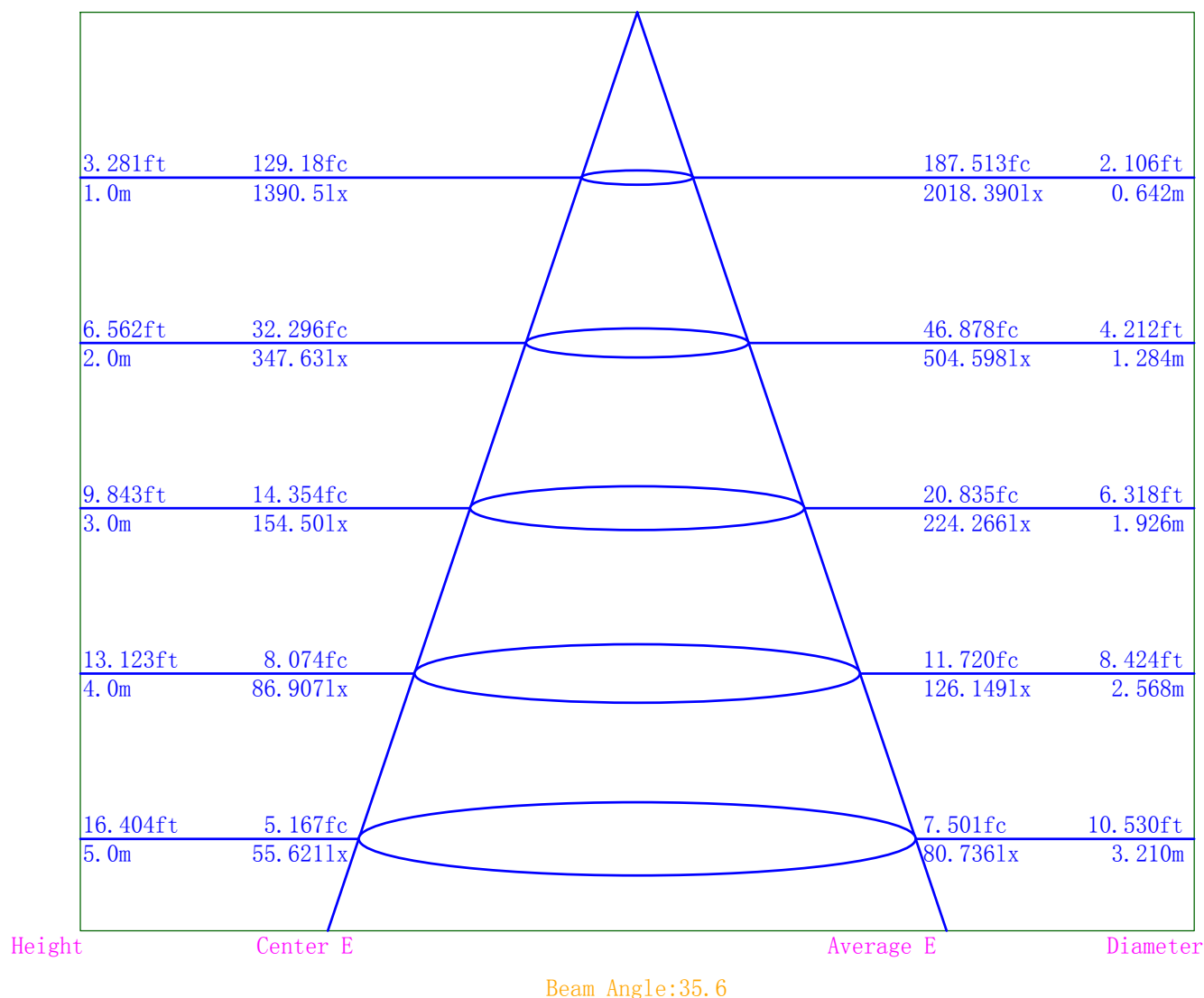
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 38D.IES

## Illuminance-Distance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |

Illuminance-Distance Curve



# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 38D.IES

## Indoor Luminance Limiting Curves

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |

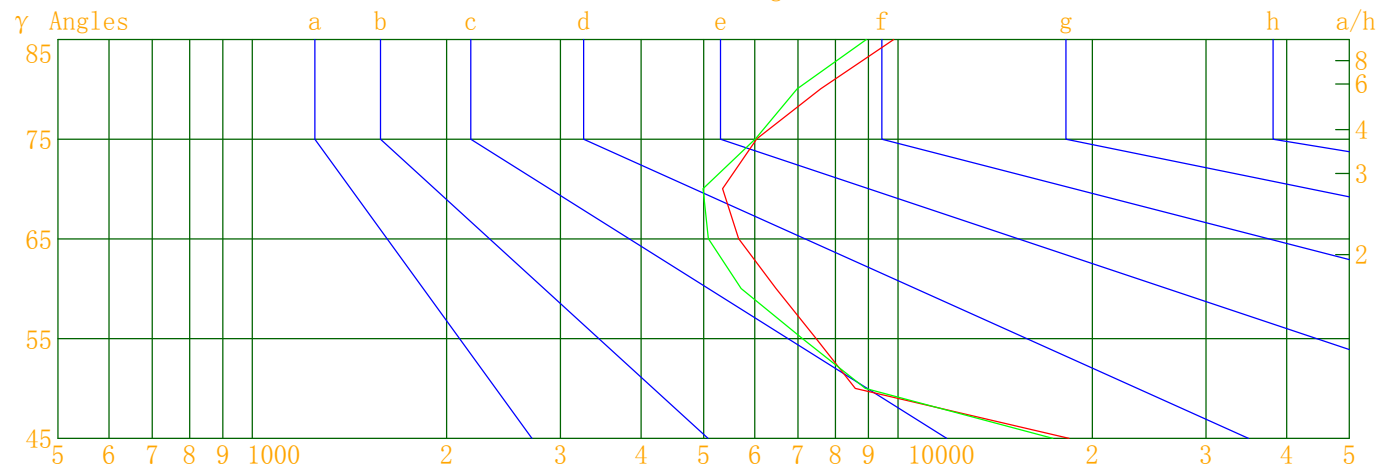
Glare Grade Table

| 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        | 18398 | 8585 | 7467 | 6472 | 5665 | 5351 | 6046 | 7593 | 9851 |
| C90       | 17372 | 8904 | 7108 | 5718 | 5086 | 4989 | 6019 | 6979 | 8933 |

Luminance Limiting Curve



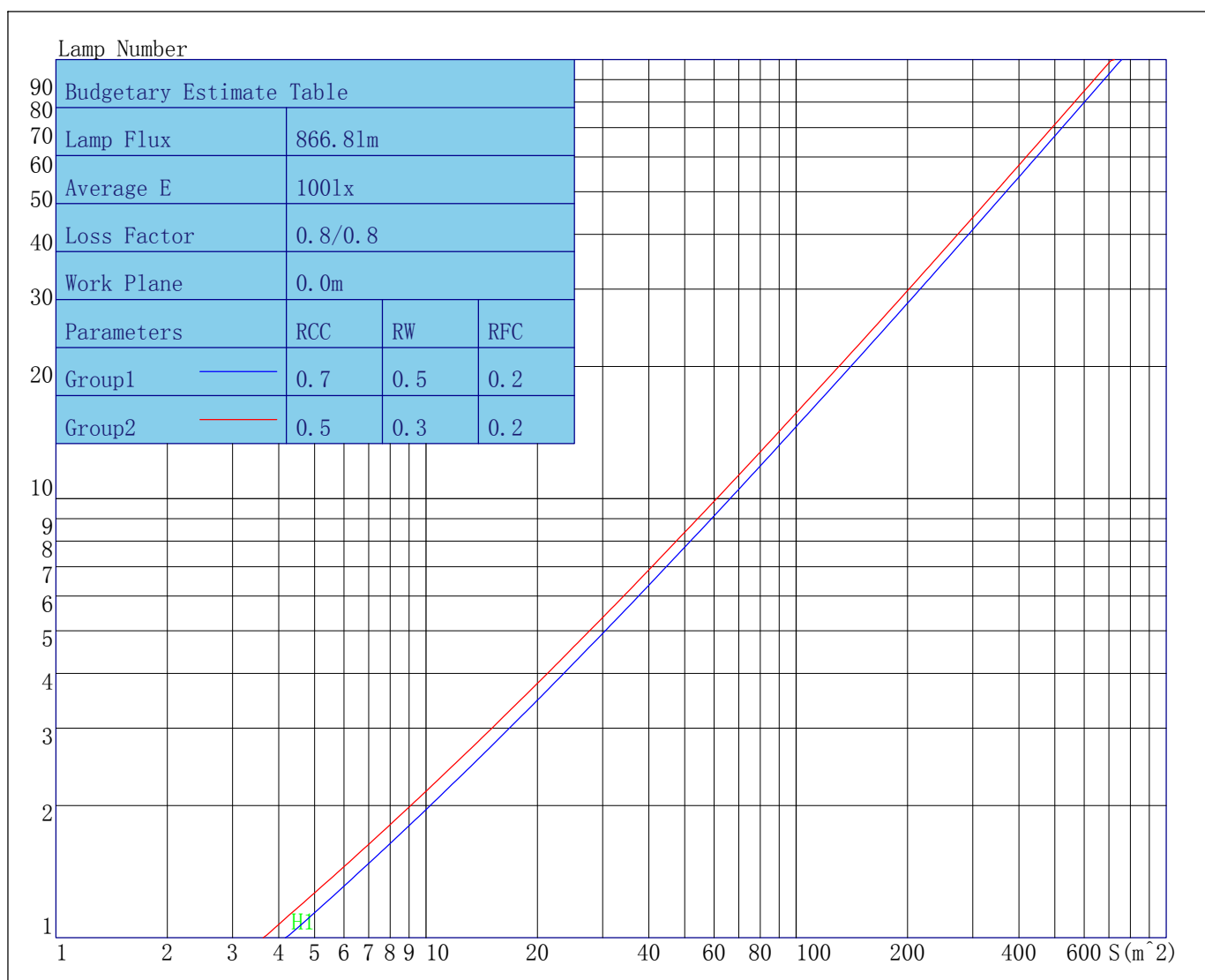
Luminous Size: Length(m)=0.050 Width(m)=0.050 Height(m)=0.060 Area(m<sup>2</sup>)=0.005500  
Luminous Type: Without Luminous Side  
Luminous Curves: C0-C180 Color: — C90-C270 Color: —

# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 38D.IES

## Indoor Budgetary Estimate Table

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | 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: 2019/12/03      |



Parameters1: Rhocc = 0.7 Rhow = 0.5 Rhofc = 0.2 LLF = 0.8  
Parameters2: Rhocc = 0.5 Rhow = 0.3 Rhofc = 0.2 LLF = 0.8  
Average Illuminance(lx): 100 Cavity Height: H1(m) = 2

Indoor Coefficient of Utilization Table

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 38D         | Lum. Catelog:         | Test ID: 01                |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/03      |

| Coefficients of Utilization - Zonal Cavity Method |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Coef.   | Effective Floor Cavity Reflectance RFC=0.20 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| RhoCC (%)   | 80  |     |     |     | 70  |     |     |     | 50  |     |     | 30  |     |     | 10  |     |     | 0  |
| RhoW (%)  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 0  |
| RCR   | Coefficient of Utilization(%)               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 0   | 119   | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 110 | 110 | 110 | 105 | 105 | 105 | 100 | 100 | 100 | 98 |
| 1   | 112   | 109 | 107 | 104 | 110 | 107 | 105 | 102 | 102 | 101 | 99  | 98  | 97  | 95  | 95  | 93  | 92  | 90 |
| 2   | 106   | 101 | 97  | 93  | 104 | 99  | 95  | 92  | 96  | 92  | 90  | 92  | 90  | 87  | 89  | 87  | 85  | 83 |
| 3   | 101   | 94  | 89  | 84  | 99  | 92  | 88  | 84  | 89  | 85  | 82  | 87  | 83  | 80  | 84  | 81  | 79  | 77 |
| 4   | 95  | 88  | 82  | 77  | 93  | 86  | 81  | 77  | 84  | 79  | 76  | 82  | 78  | 74  | 79  | 76  | 73  | 72 |
| 5   | 91  | 82  | 76  | 71  | 89  | 81  | 75  | 71  | 79  | 74  | 70  | 77  | 73  | 69  | 75  | 71  | 68  | 67 |
| 6   | 86  | 77  | 71  | 66  | 84  | 76  | 70  | 66  | 74  | 69  | 65  | 72  | 68  | 65  | 71  | 67  | 64  | 62 |
| 7   | 82  | 72  | 66  | 62  | 80  | 71  | 66  | 61  | 70  | 65  | 61  | 69  | 64  | 61  | 67  | 63  | 60  | 59 |
| 8   | 78  | 68  | 62  | 58  | 76  | 67  | 62  | 58  | 66  | 61  | 57  | 65  | 60  | 57  | 64  | 60  | 57  | 55 |
| 9   | 74  | 64  | 58  | 54  | 73  | 64  | 58  | 54  | 63  | 58  | 54  | 62  | 57  | 54  | 61  | 56  | 53  | 52 |
| 10  | 71  | 61  | 55  | 51  | 70  | 61  | 55  | 51  | 60  | 55  | 51  | 59  | 54  | 51  | 58  | 54  | 50  | 49 |

Unified Glare Rating Table

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

Unified Glare Rating Table

Table with 11 columns for room dimensions and UGR values. Includes sections for variations with observer position and reduced UGR table.

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  | 1390.52 | 1390.52 | 1390.52 | 1390.52 |
| γ 1.0  | 1386.56 | 1367.70 | 1391.58 | 1388.68 |
| γ 2.0  | 1371.76 | 1348.03 | 1379.36 | 1381.71 |
| γ 3.0  | 1358.40 | 1328.14 | 1355.40 | 1367.64 |
| γ 4.0  | 1340.33 | 1305.36 | 1331.69 | 1349.32 |
| γ 5.0  | 1319.73 | 1281.65 | 1307.18 | 1327.36 |
| γ 6.0  | 1293.23 | 1253.21 | 1282.58 | 1305.20 |
| γ 7.0  | 1259.65 | 1216.62 | 1255.27 | 1278.64 |
| γ 8.0  | 1218.32 | 1173.42 | 1224.42 | 1246.65 |
| γ 9.0  | 1172.96 | 1126.28 | 1189.14 | 1212.89 |
| γ 10.0 | 1125.38 | 1075.03 | 1149.13 | 1170.49 |
| γ 11.0 | 1073.31 | 1021.29 | 1103.74 | 1124.44 |
| γ 12.0 | 1018.58 | 966.89  | 1055.90 | 1075.68 |
| γ 13.0 | 962.96  | 911.10  | 1004.39 | 1027.72 |
| γ 14.0 | 905.01  | 854.27  | 949.47  | 976.48  |
| γ 15.0 | 843.29  | 794.64  | 892.76  | 923.27  |
| γ 16.0 | 779.24  | 734.57  | 833.72  | 868.41  |
| γ 17.0 | 715.03  | 674.03  | 773.21  | 810.29  |
| γ 18.0 | 655.61  | 619.36  | 711.94  | 751.45  |
| γ 19.0 | 601.25  | 571.70  | 650.87  | 689.78  |
| γ 20.0 | 554.29  | 531.24  | 595.03  | 628.80  |
| γ 21.0 | 513.16  | 497.54  | 545.99  | 573.97  |
| γ 22.0 | 479.14  | 469.29  | 505.49  | 527.38  |
| γ 23.0 | 451.40  | 445.66  | 471.84  | 489.16  |
| γ 24.0 | 428.39  | 426.68  | 444.67  | 457.87  |
| γ 25.0 | 409.35  | 410.54  | 422.39  | 432.84  |
| γ 26.0 | 393.33  | 395.83  | 404.09  | 412.63  |
| γ 27.0 | 378.89  | 382.23  | 387.63  | 395.59  |
| γ 28.0 | 365.95  | 369.09  | 373.97  | 380.18  |
| γ 29.0 | 354.31  | 357.07  | 361.12  | 366.68  |
| γ 30.0 | 342.60  | 345.20  | 349.05  | 353.93  |
| γ 31.0 | 331.64  | 333.69  | 337.57  | 341.73  |
| γ 32.0 | 320.45  | 321.83  | 326.16  | 330.02  |
| γ 33.0 | 310.04  | 310.16  | 315.41  | 318.21  |
| γ 34.0 | 299.08  | 298.96  | 304.01  | 307.15  |
| γ 35.0 | 288.60  | 284.87  | 292.52  | 296.46  |
| γ 36.0 | 277.78  | 268.19  | 280.09  | 286.14  |
| γ 37.0 | 263.68  | 248.43  | 264.63  | 274.99  |
| γ 38.0 | 246.22  | 226.36  | 246.24  | 260.64  |
| γ 39.0 | 225.49  | 202.53  | 224.69  | 242.74  |
| γ 40.0 | 201.54  | 178.33  | 201.56  | 221.96  |
| γ 41.0 | 176.32  | 154.71  | 177.42  | 199.29  |
| γ 42.0 | 149.84  | 131.36  | 152.95  | 176.37  |
| γ 43.0 | 123.75  | 108.61  | 128.74  | 153.21  |
| γ 44.0 | 97.84   | 86.94   | 105.02  | 129.70  |
| γ 45.0 | 71.55   | 67.56   | 82.92   | 105.66  |
| γ 46.0 | 54.43   | 52.74   | 63.67   | 82.31   |

Candela Tabulation - (Cont.)

| V/H    | C0.0  | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 40.94 | 43.43 | 48.55  | 61.01  |
| γ 48.0 | 34.37 | 37.90 | 38.35  | 44.85  |
| γ 49.0 | 31.87 | 34.22 | 32.82  | 34.93  |
| γ 50.0 | 30.35 | 31.48 | 29.79  | 30.71  |
| γ 51.0 | 28.81 | 29.23 | 27.59  | 28.93  |
| γ 52.0 | 27.37 | 27.33 | 25.75  | 27.37  |
| γ 53.0 | 26.07 | 25.55 | 24.26  | 25.87  |
| γ 54.0 | 24.73 | 23.96 | 22.97  | 24.60  |
| γ 55.0 | 23.56 | 22.42 | 21.76  | 23.38  |
| γ 56.0 | 22.30 | 20.96 | 20.62  | 22.22  |
| γ 57.0 | 21.25 | 19.55 | 19.48  | 21.12  |
| γ 58.0 | 20.03 | 18.14 | 18.44  | 19.99  |
| γ 59.0 | 18.90 | 16.83 | 17.38  | 19.00  |
| γ 60.0 | 17.80 | 15.72 | 16.33  | 17.82  |
| γ 61.0 | 16.68 | 14.76 | 15.29  | 16.81  |
| γ 62.0 | 15.69 | 13.89 | 14.31  | 15.79  |
| γ 63.0 | 14.80 | 13.13 | 13.45  | 14.83  |
| γ 64.0 | 13.94 | 12.45 | 12.72  | 13.96  |
| γ 65.0 | 13.17 | 11.82 | 12.05  | 13.18  |
| γ 66.0 | 12.44 | 11.23 | 11.47  | 12.44  |
| γ 67.0 | 11.78 | 10.69 | 10.93  | 11.78  |
| γ 68.0 | 11.17 | 10.16 | 10.47  | 11.19  |
| γ 69.0 | 10.60 | 9.74  | 10.05  | 10.68  |
| γ 70.0 | 10.06 | 9.39  | 9.66   | 10.21  |
| γ 71.0 | 9.60  | 9.19  | 9.32   | 9.83   |
| γ 72.0 | 9.21  | 9.08  | 9.10   | 9.61   |
| γ 73.0 | 8.92  | 8.96  | 9.01   | 9.50   |
| γ 74.0 | 8.76  | 8.82  | 8.98   | 9.47   |
| γ 75.0 | 8.61  | 8.57  | 8.98   | 9.41   |
| γ 76.0 | 8.50  | 8.32  | 8.87   | 9.24   |
| γ 77.0 | 8.24  | 7.88  | 8.75   | 9.09   |
| γ 78.0 | 8.03  | 7.71  | 8.42   | 8.74   |
| γ 79.0 | 7.57  | 7.14  | 8.10   | 8.38   |
| γ 80.0 | 7.25  | 6.66  | 7.56   | 7.94   |
| γ 81.0 | 6.77  | 6.18  | 7.36   | 7.60   |
| γ 82.0 | 6.15  | 5.74  | 6.68   | 6.97   |
| γ 83.0 | 5.75  | 5.39  | 6.24   | 6.72   |
| γ 84.0 | 5.29  | 4.86  | 5.74   | 6.13   |
| γ 85.0 | 4.72  | 4.28  | 5.46   | 5.70   |
| γ 86.0 | 4.17  | 3.62  | 4.92   | 5.17   |
| γ 87.0 | 3.76  | 3.04  | 4.22   | 4.75   |
| γ 88.0 | 3.45  | 2.59  | 3.74   | 4.32   |
| γ 89.0 | 3.25  | 2.51  | 3.23   | 3.98   |
| γ 90.0 | 3.15  | 2.43  | 2.87   | 3.55   |
| γ 91.0 | 3.06  | 2.35  | 2.62   | 3.29   |
| γ 92.0 | 2.97  | 2.29  | 2.55   | 3.18   |
| γ 93.0 | 2.89  | 2.23  | 2.46   | 3.10   |



Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0  | 2.81 | 2.17  | 2.40   | 3.01   |
| γ 95.0  | 2.74 | 2.12  | 2.33   | 2.92   |
| γ 96.0  | 2.67 | 2.07  | 2.28   | 2.85   |
| γ 97.0  | 2.61 | 2.02  | 2.22   | 2.77   |
| γ 98.0  | 2.55 | 1.98  | 2.17   | 2.70   |
| γ 99.0  | 2.49 | 1.94  | 2.12   | 2.63   |
| γ 100.0 | 2.44 | 1.90  | 2.08   | 2.58   |
| γ 101.0 | 2.40 | 1.87  | 2.04   | 2.52   |
| γ 102.0 | 2.35 | 1.85  | 2.00   | 2.47   |
| γ 103.0 | 2.31 | 1.82  | 1.98   | 2.43   |
| γ 104.0 | 2.28 | 1.80  | 1.95   | 2.39   |
| γ 105.0 | 2.24 | 1.79  | 1.93   | 2.34   |
| γ 106.0 | 2.21 | 1.78  | 1.92   | 2.31   |
| γ 107.0 | 2.20 | 1.77  | 1.90   | 2.30   |
| γ 108.0 | 2.17 | 1.77  | 1.89   | 2.28   |
| γ 109.0 | 2.16 | 1.76  | 1.89   | 2.26   |
| γ 110.0 | 2.15 | 1.76  | 1.90   | 2.25   |
| γ 111.0 | 2.15 | 1.77  | 1.91   | 2.25   |
| γ 112.0 | 2.15 | 1.77  | 1.92   | 2.24   |
| γ 113.0 | 2.15 | 1.78  | 1.94   | 2.25   |
| γ 114.0 | 2.13 | 1.79  | 1.96   | 2.25   |
| γ 115.0 | 2.15 | 1.82  | 1.97   | 2.26   |
| γ 116.0 | 2.15 | 1.83  | 2.00   | 2.28   |
| γ 117.0 | 2.17 | 1.87  | 2.02   | 2.30   |
| γ 118.0 | 2.20 | 1.89  | 2.06   | 2.32   |
| γ 119.0 | 2.21 | 1.92  | 2.09   | 2.34   |
| γ 120.0 | 2.24 | 1.95  | 2.13   | 2.37   |
| γ 121.0 | 2.27 | 1.99  | 2.17   | 2.40   |
| γ 122.0 | 2.30 | 2.02  | 2.21   | 2.42   |
| γ 123.0 | 2.34 | 2.07  | 2.25   | 2.46   |
| γ 124.0 | 2.37 | 2.12  | 2.30   | 2.51   |
| γ 125.0 | 2.42 | 2.16  | 2.36   | 2.55   |
| γ 126.0 | 2.48 | 2.22  | 2.42   | 2.61   |
| γ 127.0 | 2.52 | 2.29  | 2.48   | 2.65   |
| γ 128.0 | 2.58 | 2.36  | 2.56   | 2.71   |
| γ 129.0 | 2.65 | 2.44  | 2.63   | 2.78   |
| γ 130.0 | 2.71 | 2.52  | 2.71   | 2.84   |
| γ 131.0 | 2.80 | 2.60  | 2.79   | 2.91   |
| γ 132.0 | 2.89 | 2.70  | 2.88   | 2.99   |
| γ 133.0 | 2.97 | 2.80  | 2.97   | 3.07   |
| γ 134.0 | 3.07 | 2.89  | 3.07   | 3.16   |
| γ 135.0 | 3.16 | 2.99  | 3.17   | 3.25   |
| γ 136.0 | 3.26 | 3.09  | 3.28   | 3.34   |
| γ 137.0 | 3.36 | 3.20  | 3.38   | 3.45   |
| γ 138.0 | 3.47 | 3.31  | 3.49   | 3.55   |
| γ 139.0 | 3.58 | 3.42  | 3.61   | 3.65   |
| γ 140.0 | 3.69 | 3.53  | 3.72   | 3.74   |

# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 38D.IES

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## Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 3.80 | 3.64  | 3.82   | 3.85   |
| γ 142.0 | 3.90 | 3.76  | 3.93   | 3.96   |
| γ 143.0 | 4.01 | 3.86  | 4.04   | 4.06   |
| γ 144.0 | 4.11 | 3.96  | 4.14   | 4.16   |
| γ 145.0 | 4.20 | 4.06  | 4.25   | 4.26   |
| γ 146.0 | 4.30 | 4.16  | 4.35   | 4.35   |
| γ 147.0 | 4.41 | 4.25  | 4.44   | 4.45   |
| γ 148.0 | 4.49 | 4.34  | 4.54   | 4.54   |
| γ 149.0 | 4.58 | 4.43  | 4.64   | 4.64   |
| γ 150.0 | 4.67 | 4.52  | 4.72   | 4.72   |
| γ 151.0 | 4.77 | 4.62  | 4.82   | 4.80   |
| γ 152.0 | 4.86 | 4.70  | 4.90   | 4.89   |
| γ 153.0 | 4.95 | 4.79  | 4.99   | 4.97   |
| γ 154.0 | 5.02 | 4.88  | 5.08   | 5.05   |
| γ 155.0 | 5.12 | 4.98  | 5.16   | 5.13   |
| γ 156.0 | 5.21 | 5.06  | 5.24   | 5.20   |
| γ 157.0 | 5.28 | 5.13  | 5.32   | 5.27   |
| γ 158.0 | 5.37 | 5.21  | 5.39   | 5.35   |
| γ 159.0 | 5.44 | 5.29  | 5.47   | 5.41   |
| γ 160.0 | 5.50 | 5.36  | 5.55   | 5.48   |
| γ 161.0 | 5.59 | 5.43  | 5.61   | 5.53   |
| γ 162.0 | 5.65 | 5.50  | 5.67   | 5.58   |
| γ 163.0 | 5.71 | 5.55  | 5.73   | 5.63   |
| γ 164.0 | 5.75 | 5.61  | 5.79   | 5.70   |
| γ 165.0 | 5.81 | 5.66  | 5.84   | 5.74   |
| γ 166.0 | 5.86 | 5.70  | 5.88   | 5.78   |
| γ 167.0 | 5.91 | 5.74  | 5.92   | 5.82   |
| γ 168.0 | 5.95 | 5.78  | 5.95   | 5.85   |
| γ 169.0 | 5.99 | 5.82  | 5.99   | 5.88   |
| γ 170.0 | 6.03 | 5.86  | 6.03   | 5.92   |
| γ 171.0 | 6.07 | 5.90  | 6.06   | 5.95   |
| γ 172.0 | 6.12 | 5.96  | 6.09   | 5.98   |
| γ 173.0 | 6.16 | 5.99  | 6.13   | 6.00   |
| γ 174.0 | 6.19 | 6.03  | 6.16   | 6.04   |
| γ 175.0 | 6.23 | 6.07  | 6.19   | 6.07   |
| γ 176.0 | 6.25 | 6.09  | 6.21   | 6.11   |
| γ 177.0 | 6.28 | 6.11  | 6.24   | 6.14   |
| γ 178.0 | 6.29 | 6.13  | 6.26   | 6.16   |
| γ 179.0 | 6.30 | 6.13  | 6.27   | 6.19   |
| γ 180.0 | 6.25 | 6.25  | 6.25   | 6.25   |