

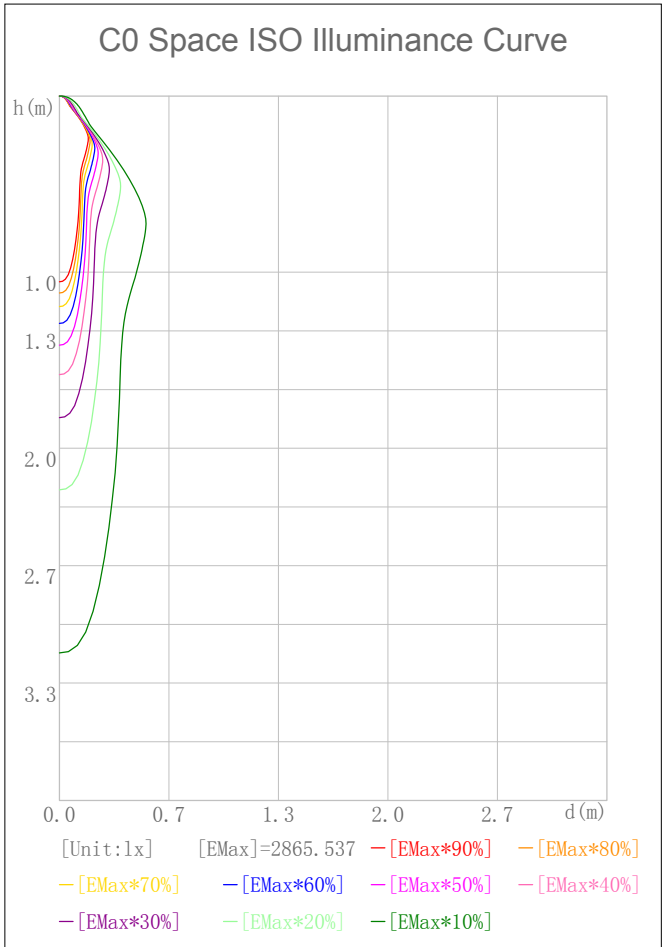
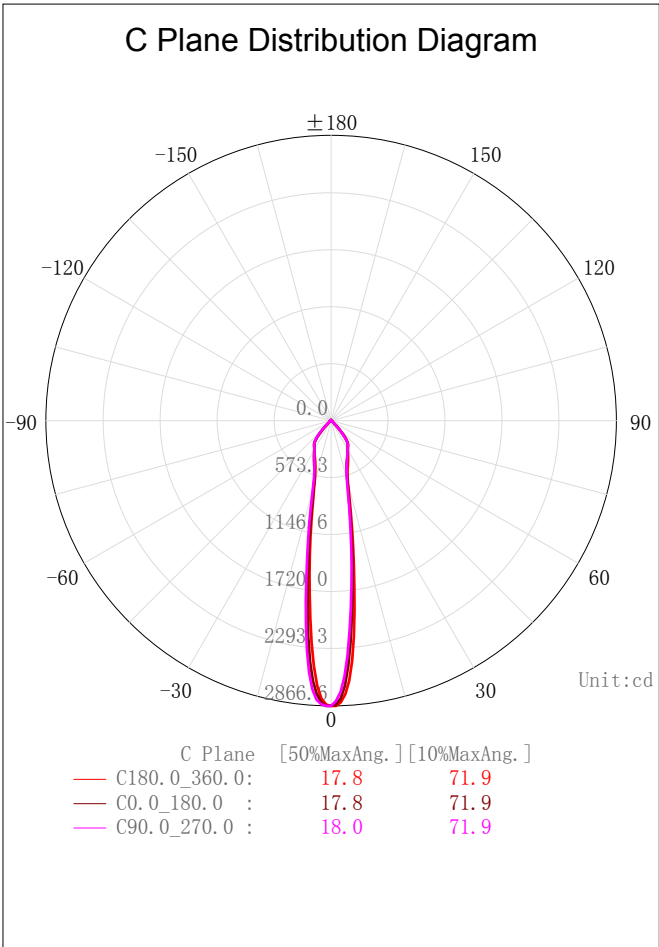
Indoor Luminaire Photometric Data

Description Information

|   |                         |                       |
|---|-------------------------|-----------------------|
| Luminary Name: MD10-09-XX-02 4000K RA90 15D     | 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): 871.240                         | Luminary Flux(lm): 871.236       | Field Angle(10%Imax): 71.9(°)         |
| Rated Power(W):                                 | Luminary Efficiency: 100.00%     | Down Lumens&Percent: 852.656lm 97.87% |
| Rated Voltage(V):                               | Luminary EER(lm/W): 94.106       | Up Lumens&Percent: 18.580lm 2.13%     |
| Tested Power(W): 9.258                          | Max. Candela(cd): 2866.602       | S/MH: C0_a180=0.304 C90_270=0.307     |
| Lamps' Inside: 1                                | Max Cand@Ang. (°): C=180.0 γ=1.0 | CIE Type: Semi-Direct                 |
| Tested Electrics (V, A, pf):241.5, 0.041, 0.921 | Beam Angle(50%Imax): 17.8(°)     | ErP Φ use(90°): 792.003lm             |
| Lamp Size (W*L*H):0.050m*0.050m*0.060m          | Left=-8.6°, Right=9.2°           | IRF(%): 738.811                       |



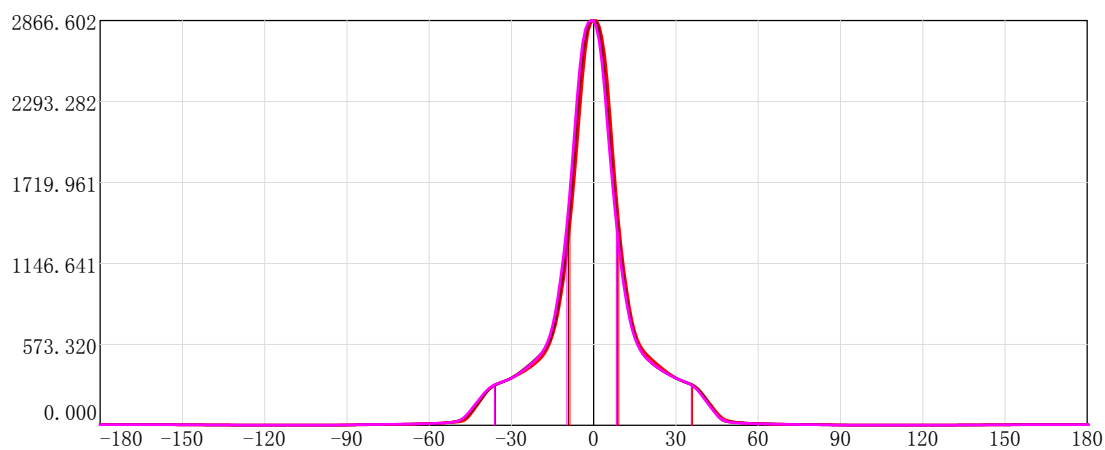
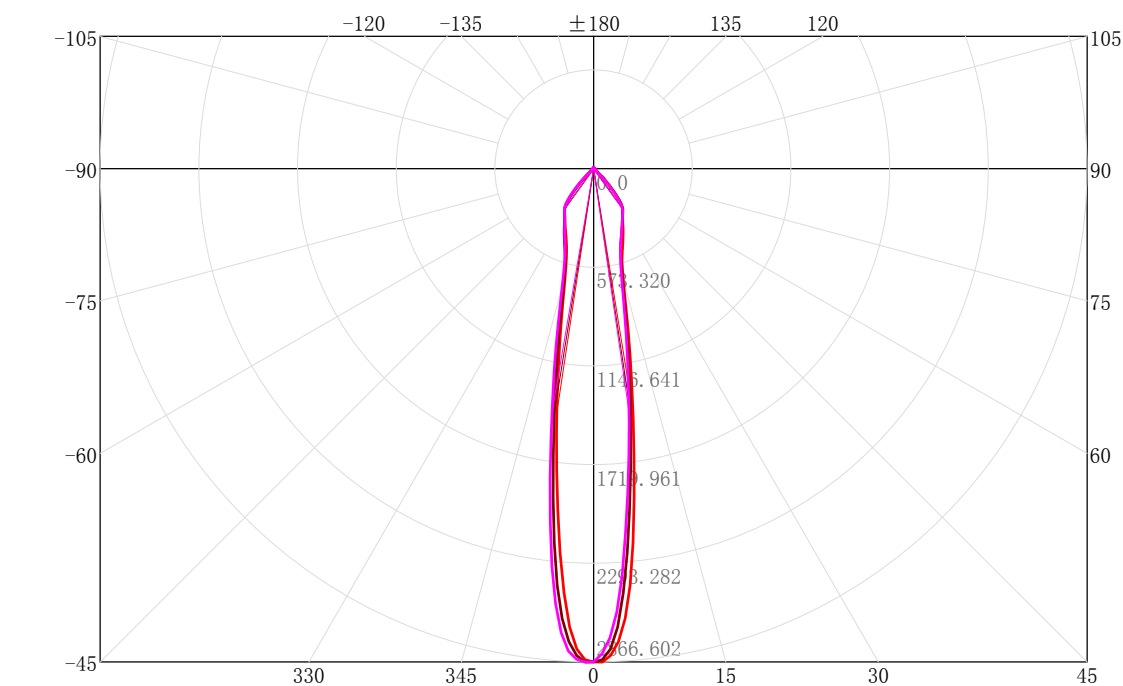
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 15D.IES

## 2D Plane Light Intensity Distribution Curve

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | 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 : | 17.8         | 71.9         |
| C0.0_180.0 :   | 17.8         | 71.9         |
| C90.0_270.0 :  | 18.0         | 71.9         |

Unit:cd

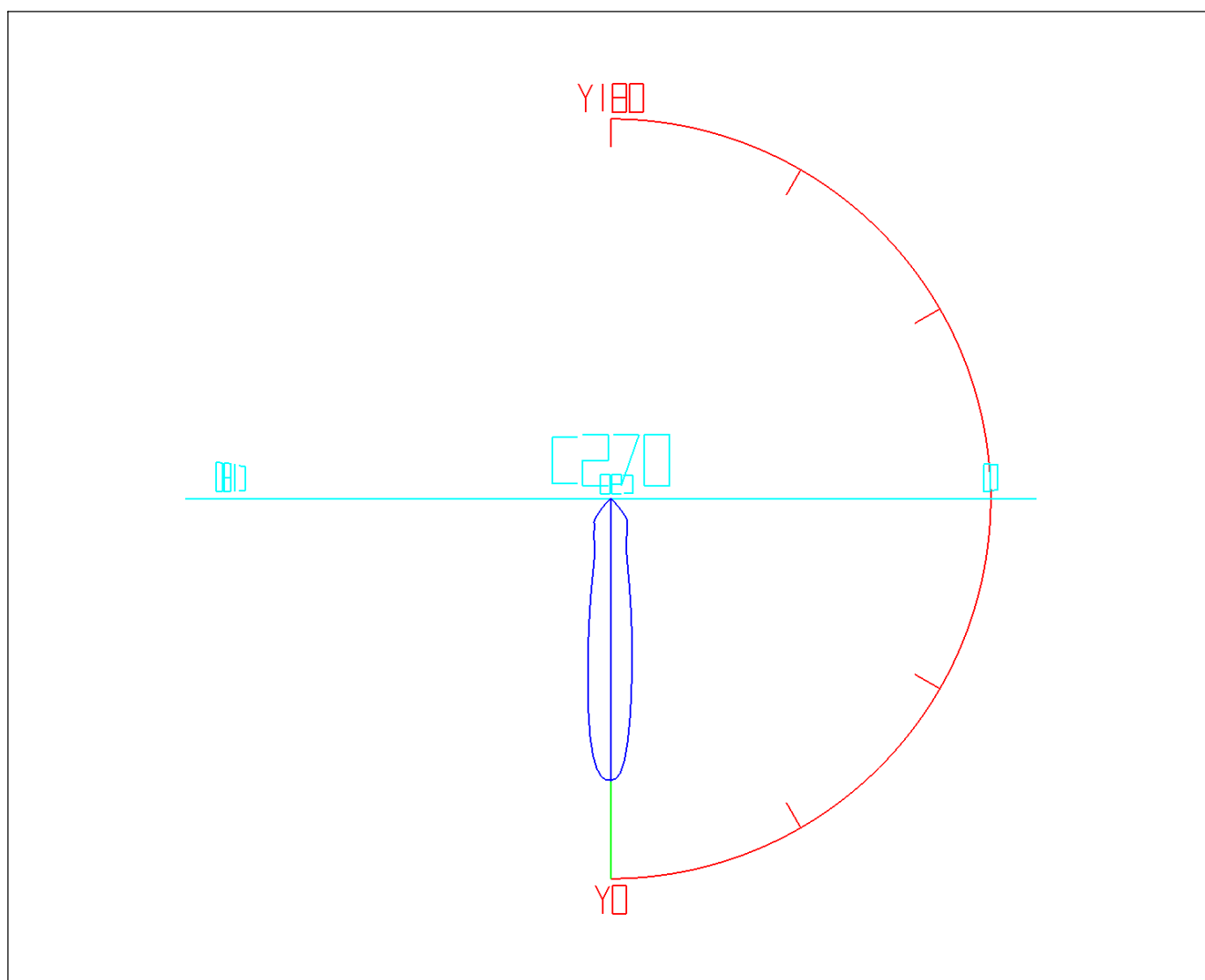
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 15D.IES

## 3D Light Intensity Distribution Modal

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | 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   | 2.74              | 2.74              | 0.31      | 0.31      | 47.0-48.0 | 3.42              | 809.36            | 0.39      | 92.90     |
| 1.0-2.0   | 8.11              | 10.85             | 0.93      | 1.24      | 48.0-49.0 | 2.76              | 812.12            | 0.32      | 93.21     |
| 2.0-3.0   | 13.16             | 24.00             | 1.51      | 2.75      | 49.0-50.0 | 2.35              | 814.46            | 0.27      | 93.48     |
| 3.0-4.0   | 17.54             | 41.54             | 2.01      | 4.77      | 50.0-51.0 | 2.07              | 816.53            | 0.24      | 93.72     |
| 4.0-5.0   | 20.96             | 62.51             | 2.41      | 7.17      | 51.0-52.0 | 1.88              | 818.41            | 0.22      | 93.94     |
| 5.0-6.0   | 23.29             | 85.79             | 2.67      | 9.85      | 52.0-53.0 | 1.74              | 820.15            | 0.20      | 94.14     |
| 6.0-7.0   | 24.57             | 110.36            | 2.82      | 12.67     | 53.0-54.0 | 1.63              | 821.78            | 0.19      | 94.32     |
| 7.0-8.0   | 25.00             | 135.36            | 2.87      | 15.54     | 54.0-55.0 | 1.54              | 823.31            | 0.18      | 94.50     |
| 8.0-9.0   | 24.80             | 160.16            | 2.85      | 18.38     | 55.0-56.0 | 1.46              | 824.77            | 0.17      | 94.67     |
| 9.0-10.0  | 24.15             | 184.31            | 2.77      | 21.15     | 56.0-57.0 | 1.39              | 826.16            | 0.16      | 94.83     |
| 10.0-11.0 | 23.25             | 207.56            | 2.67      | 23.82     | 57.0-58.0 | 1.32              | 827.48            | 0.15      | 94.98     |
| 11.0-12.0 | 22.18             | 229.74            | 2.55      | 26.37     | 58.0-59.0 | 1.26              | 828.74            | 0.15      | 95.12     |
| 12.0-13.0 | 21.03             | 250.76            | 2.41      | 28.78     | 59.0-60.0 | 1.21              | 829.96            | 0.14      | 95.26     |
| 13.0-14.0 | 19.93             | 270.70            | 2.29      | 31.07     | 60.0-61.0 | 1.17              | 831.12            | 0.13      | 95.40     |
| 14.0-15.0 | 19.03             | 289.72            | 2.18      | 33.25     | 61.0-62.0 | 1.13              | 832.25            | 0.13      | 95.52     |
| 15.0-16.0 | 18.37             | 308.09            | 2.11      | 35.36     | 62.0-63.0 | 1.09              | 833.34            | 0.13      | 95.65     |
| 16.0-17.0 | 17.96             | 326.06            | 2.06      | 37.42     | 63.0-64.0 | 1.05              | 834.39            | 0.12      | 95.77     |
| 17.0-18.0 | 17.77             | 343.83            | 2.04      | 39.46     | 64.0-65.0 | 1.02              | 835.41            | 0.12      | 95.89     |
| 18.0-19.0 | 17.73             | 361.56            | 2.03      | 41.50     | 65.0-66.0 | 0.99              | 836.40            | 0.11      | 96.00     |
| 19.0-20.0 | 17.78             | 379.34            | 2.04      | 43.54     | 66.0-67.0 | 0.96              | 837.36            | 0.11      | 96.11     |
| 20.0-21.0 | 17.88             | 397.22            | 2.05      | 45.59     | 67.0-68.0 | 0.93              | 838.28            | 0.11      | 96.22     |
| 21.0-22.0 | 18.00             | 415.22            | 2.07      | 47.66     | 68.0-69.0 | 0.90              | 839.19            | 0.10      | 96.32     |
| 22.0-23.0 | 18.11             | 433.33            | 2.08      | 49.74     | 69.0-70.0 | 0.88              | 840.06            | 0.10      | 96.42     |
| 23.0-24.0 | 18.21             | 451.54            | 2.09      | 51.83     | 70.0-71.0 | 0.85              | 840.91            | 0.10      | 96.52     |
| 24.0-25.0 | 18.29             | 469.82            | 2.10      | 53.93     | 71.0-72.0 | 0.83              | 841.74            | 0.09      | 96.61     |
| 25.0-26.0 | 18.33             | 488.15            | 2.10      | 56.03     | 72.0-73.0 | 0.80              | 842.54            | 0.09      | 96.71     |
| 26.0-27.0 | 18.35             | 506.50            | 2.11      | 58.14     | 73.0-74.0 | 0.78              | 843.33            | 0.09      | 96.80     |
| 27.0-28.0 | 18.35             | 524.85            | 2.11      | 60.24     | 74.0-75.0 | 0.76              | 844.08            | 0.09      | 96.88     |
| 28.0-29.0 | 18.35             | 543.20            | 2.11      | 62.35     | 75.0-76.0 | 0.74              | 844.82            | 0.08      | 96.97     |
| 29.0-30.0 | 18.36             | 561.56            | 2.11      | 64.46     | 76.0-77.0 | 0.72              | 845.54            | 0.08      | 97.05     |
| 30.0-31.0 | 18.39             | 579.94            | 2.11      | 66.57     | 77.0-78.0 | 0.70              | 846.23            | 0.08      | 97.13     |
| 31.0-32.0 | 18.44             | 598.38            | 2.12      | 68.68     | 78.0-79.0 | 0.67              | 846.91            | 0.08      | 97.21     |
| 32.0-33.0 | 18.50             | 616.88            | 2.12      | 70.80     | 79.0-80.0 | 0.66              | 847.57            | 0.08      | 97.28     |
| 33.0-34.0 | 18.54             | 635.42            | 2.13      | 72.93     | 80.0-81.0 | 0.64              | 848.20            | 0.07      | 97.36     |
| 34.0-35.0 | 18.56             | 653.98            | 2.13      | 75.06     | 81.0-82.0 | 0.62              | 848.83            | 0.07      | 97.43     |
| 35.0-36.0 | 18.49             | 672.48            | 2.12      | 77.19     | 82.0-83.0 | 0.61              | 849.44            | 0.07      | 97.50     |
| 36.0-37.0 | 18.25             | 690.72            | 2.09      | 79.28     | 83.0-84.0 | 0.59              | 850.02            | 0.07      | 97.56     |
| 37.0-38.0 | 17.72             | 708.44            | 2.03      | 81.31     | 84.0-85.0 | 0.56              | 850.58            | 0.06      | 97.63     |
| 38.0-39.0 | 16.86             | 725.30            | 1.93      | 83.25     | 85.0-86.0 | 0.52              | 851.10            | 0.06      | 97.69     |
| 39.0-40.0 | 15.67             | 740.97            | 1.80      | 85.05     | 86.0-87.0 | 0.47              | 851.56            | 0.05      | 97.74     |
| 40.0-41.0 | 14.24             | 755.21            | 1.63      | 86.68     | 87.0-88.0 | 0.41              | 851.97            | 0.05      | 97.79     |
| 41.0-42.0 | 12.67             | 767.88            | 1.45      | 88.14     | 88.0-89.0 | 0.36              | 852.33            | 0.04      | 97.83     |
| 42.0-43.0 | 10.99             | 778.87            | 1.26      | 89.40     | 89.0-90.0 | 0.33              | 852.66            | 0.04      | 97.87     |
| 43.0-44.0 | 9.25              | 788.12            | 1.06      | 90.46     | 90.0-91.0 | 0.31              | 852.96            | 0.04      | 97.90     |
| 44.0-45.0 | 7.51              | 795.63            | 0.86      | 91.32     | 91.0-92.0 | 0.30              | 853.26            | 0.03      | 97.94     |
| 45.0-46.0 | 5.86              | 801.49            | 0.67      | 91.99     | 92.0-93.0 | 0.29              | 853.55            | 0.03      | 97.97     |
| 46.0-47.0 | 4.45              | 805.94            | 0.51      | 92.50     | 93.0-94.0 | 0.28              | 853.83            | 0.03      | 98.00     |

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   | 0.27              | 854.10            | 0.03      | 98.03     | 141.0-142.0 | 0.26              | 864.43            | 0.03      | 99.22     |
| 95.0-96.0   | 0.26              | 854.37            | 0.03      | 98.06     | 142.0-143.0 | 0.27              | 864.70            | 0.03      | 99.25     |
| 96.0-97.0   | 0.25              | 854.62            | 0.03      | 98.09     | 143.0-144.0 | 0.27              | 864.97            | 0.03      | 99.28     |
| 97.0-98.0   | 0.25              | 854.87            | 0.03      | 98.12     | 144.0-145.0 | 0.27              | 865.24            | 0.03      | 99.31     |
| 98.0-99.0   | 0.24              | 855.11            | 0.03      | 98.15     | 145.0-146.0 | 0.27              | 865.51            | 0.03      | 99.34     |
| 99.0-100.0  | 0.23              | 855.34            | 0.03      | 98.18     | 146.0-147.0 | 0.27              | 865.78            | 0.03      | 99.37     |
| 100.0-101.0 | 0.23              | 855.57            | 0.03      | 98.20     | 147.0-148.0 | 0.27              | 866.05            | 0.03      | 99.40     |
| 101.0-102.0 | 0.22              | 855.80            | 0.03      | 98.23     | 148.0-149.0 | 0.27              | 866.32            | 0.03      | 99.44     |
| 102.0-103.0 | 0.22              | 856.02            | 0.03      | 98.25     | 149.0-150.0 | 0.27              | 866.59            | 0.03      | 99.47     |
| 103.0-104.0 | 0.22              | 856.23            | 0.02      | 98.28     | 150.0-151.0 | 0.26              | 866.85            | 0.03      | 99.50     |
| 104.0-105.0 | 0.21              | 856.45            | 0.02      | 98.30     | 151.0-152.0 | 0.26              | 867.11            | 0.03      | 99.53     |
| 105.0-106.0 | 0.21              | 856.66            | 0.02      | 98.33     | 152.0-153.0 | 0.26              | 867.37            | 0.03      | 99.56     |
| 106.0-107.0 | 0.21              | 856.87            | 0.02      | 98.35     | 153.0-154.0 | 0.25              | 867.62            | 0.03      | 99.58     |
| 107.0-108.0 | 0.21              | 857.07            | 0.02      | 98.37     | 154.0-155.0 | 0.25              | 867.87            | 0.03      | 99.61     |
| 108.0-109.0 | 0.20              | 857.28            | 0.02      | 98.40     | 155.0-156.0 | 0.24              | 868.10            | 0.03      | 99.64     |
| 109.0-110.0 | 0.20              | 857.48            | 0.02      | 98.42     | 156.0-157.0 | 0.23              | 868.34            | 0.03      | 99.67     |
| 110.0-111.0 | 0.20              | 857.68            | 0.02      | 98.44     | 157.0-158.0 | 0.23              | 868.57            | 0.03      | 99.69     |
| 111.0-112.0 | 0.20              | 857.88            | 0.02      | 98.47     | 158.0-159.0 | 0.22              | 868.79            | 0.03      | 99.72     |
| 112.0-113.0 | 0.20              | 858.08            | 0.02      | 98.49     | 159.0-160.0 | 0.21              | 869.00            | 0.02      | 99.74     |
| 113.0-114.0 | 0.20              | 858.28            | 0.02      | 98.51     | 160.0-161.0 | 0.21              | 869.20            | 0.02      | 99.77     |
| 114.0-115.0 | 0.20              | 858.48            | 0.02      | 98.54     | 161.0-162.0 | 0.20              | 869.40            | 0.02      | 99.79     |
| 115.0-116.0 | 0.20              | 858.68            | 0.02      | 98.56     | 162.0-163.0 | 0.19              | 869.59            | 0.02      | 99.81     |
| 116.0-117.0 | 0.20              | 858.88            | 0.02      | 98.58     | 163.0-164.0 | 0.18              | 869.77            | 0.02      | 99.83     |
| 117.0-118.0 | 0.20              | 859.08            | 0.02      | 98.60     | 164.0-165.0 | 0.17              | 869.94            | 0.02      | 99.85     |
| 118.0-119.0 | 0.20              | 859.28            | 0.02      | 98.63     | 165.0-166.0 | 0.16              | 870.10            | 0.02      | 99.87     |
| 119.0-120.0 | 0.20              | 859.48            | 0.02      | 98.65     | 166.0-167.0 | 0.15              | 870.26            | 0.02      | 99.89     |
| 120.0-121.0 | 0.20              | 859.68            | 0.02      | 98.67     | 167.0-168.0 | 0.14              | 870.40            | 0.02      | 99.90     |
| 121.0-122.0 | 0.20              | 859.88            | 0.02      | 98.70     | 168.0-169.0 | 0.13              | 870.53            | 0.02      | 99.92     |
| 122.0-123.0 | 0.20              | 860.08            | 0.02      | 98.72     | 169.0-170.0 | 0.12              | 870.65            | 0.01      | 99.93     |
| 123.0-124.0 | 0.20              | 860.28            | 0.02      | 98.74     | 170.0-171.0 | 0.11              | 870.76            | 0.01      | 99.95     |
| 124.0-125.0 | 0.21              | 860.49            | 0.02      | 98.77     | 171.0-172.0 | 0.10              | 870.86            | 0.01      | 99.96     |
| 125.0-126.0 | 0.21              | 860.70            | 0.02      | 98.79     | 172.0-173.0 | 0.09              | 870.95            | 0.01      | 99.97     |
| 126.0-127.0 | 0.21              | 860.91            | 0.02      | 98.81     | 173.0-174.0 | 0.08              | 871.02            | 0.01      | 99.98     |
| 127.0-128.0 | 0.21              | 861.12            | 0.02      | 98.84     | 174.0-175.0 | 0.06              | 871.09            | 0.01      | 99.98     |
| 128.0-129.0 | 0.21              | 861.33            | 0.02      | 98.86     | 175.0-176.0 | 0.05              | 871.14            | 0.01      | 99.99     |
| 129.0-130.0 | 0.22              | 861.55            | 0.02      | 98.89     | 176.0-177.0 | 0.04              | 871.18            | 0.00      | 99.99     |
| 130.0-131.0 | 0.22              | 861.77            | 0.03      | 98.91     | 177.0-178.0 | 0.03              | 871.21            | 0.00      | 100.00    |
| 131.0-132.0 | 0.22              | 861.99            | 0.03      | 98.94     | 178.0-179.0 | 0.02              | 871.23            | 0.00      | 100.00    |
| 132.0-133.0 | 0.23              | 862.22            | 0.03      | 98.96     | 179.0-180.0 | 0.01              | 871.24            | 0.00      | 100.00    |
| 133.0-134.0 | 0.23              | 862.45            | 0.03      | 98.99     |             |                   |                   |           |           |
| 134.0-135.0 | 0.23              | 862.68            | 0.03      | 99.02     |             |                   |                   |           |           |
| 135.0-136.0 | 0.24              | 862.92            | 0.03      | 99.04     |             |                   |                   |           |           |
| 136.0-137.0 | 0.24              | 863.16            | 0.03      | 99.07     |             |                   |                   |           |           |
| 137.0-138.0 | 0.25              | 863.41            | 0.03      | 99.10     |             |                   |                   |           |           |
| 138.0-139.0 | 0.25              | 863.66            | 0.03      | 99.13     |             |                   |                   |           |           |
| 139.0-140.0 | 0.25              | 863.91            | 0.03      | 99.16     |             |                   |                   |           |           |
| 140.0-141.0 | 0.26              | 864.17            | 0.03      | 99.19     |             |                   |                   |           |           |

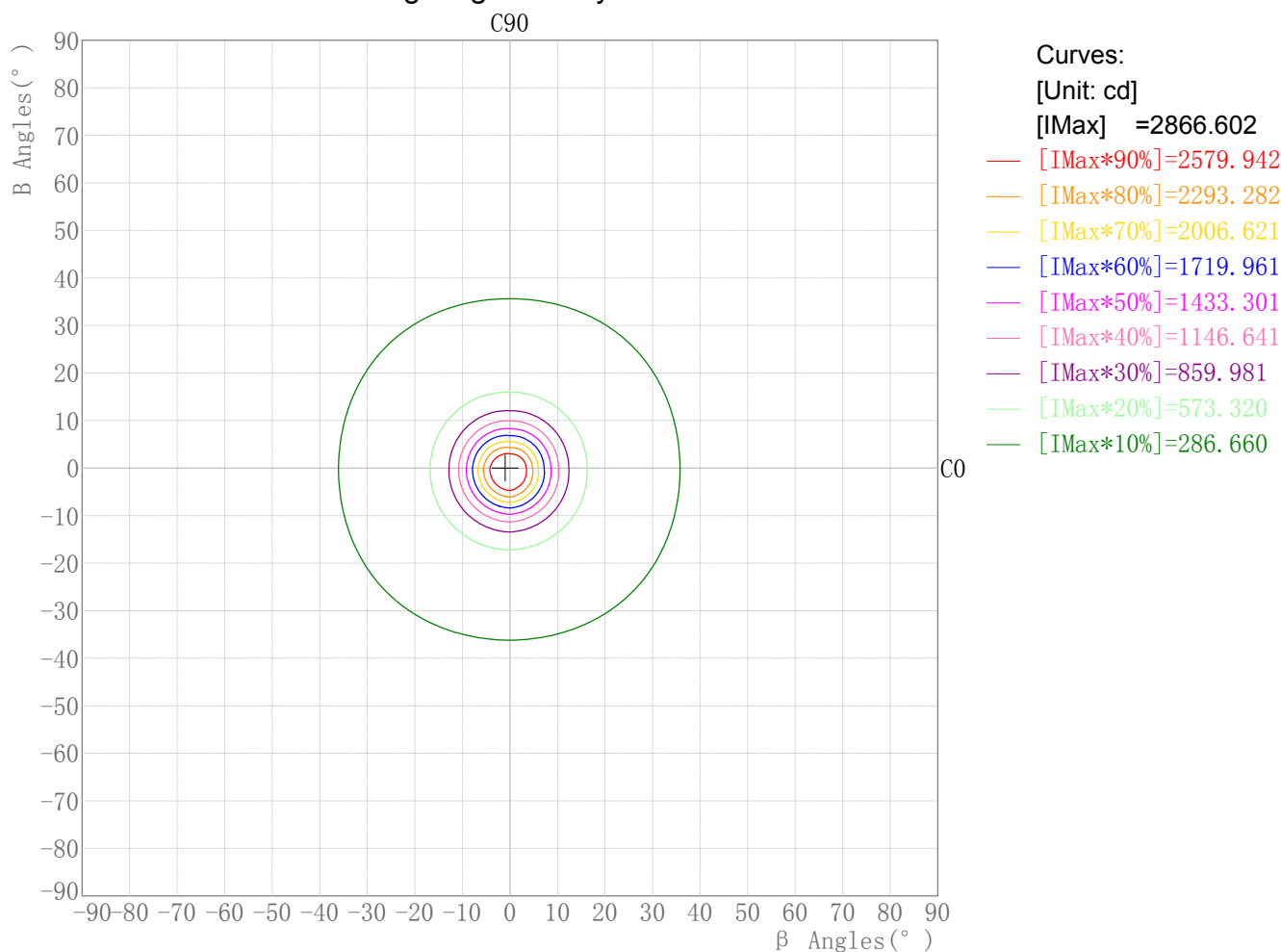
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 15D.IES

## Rectangle ISO Lighting Intensity Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | 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      |

### ISO Lighting Intensity Curve



Maximum Light Intensity(cd): 2866.60

Maximum Cand.@Angle: H=-1.0°,V=0.0°

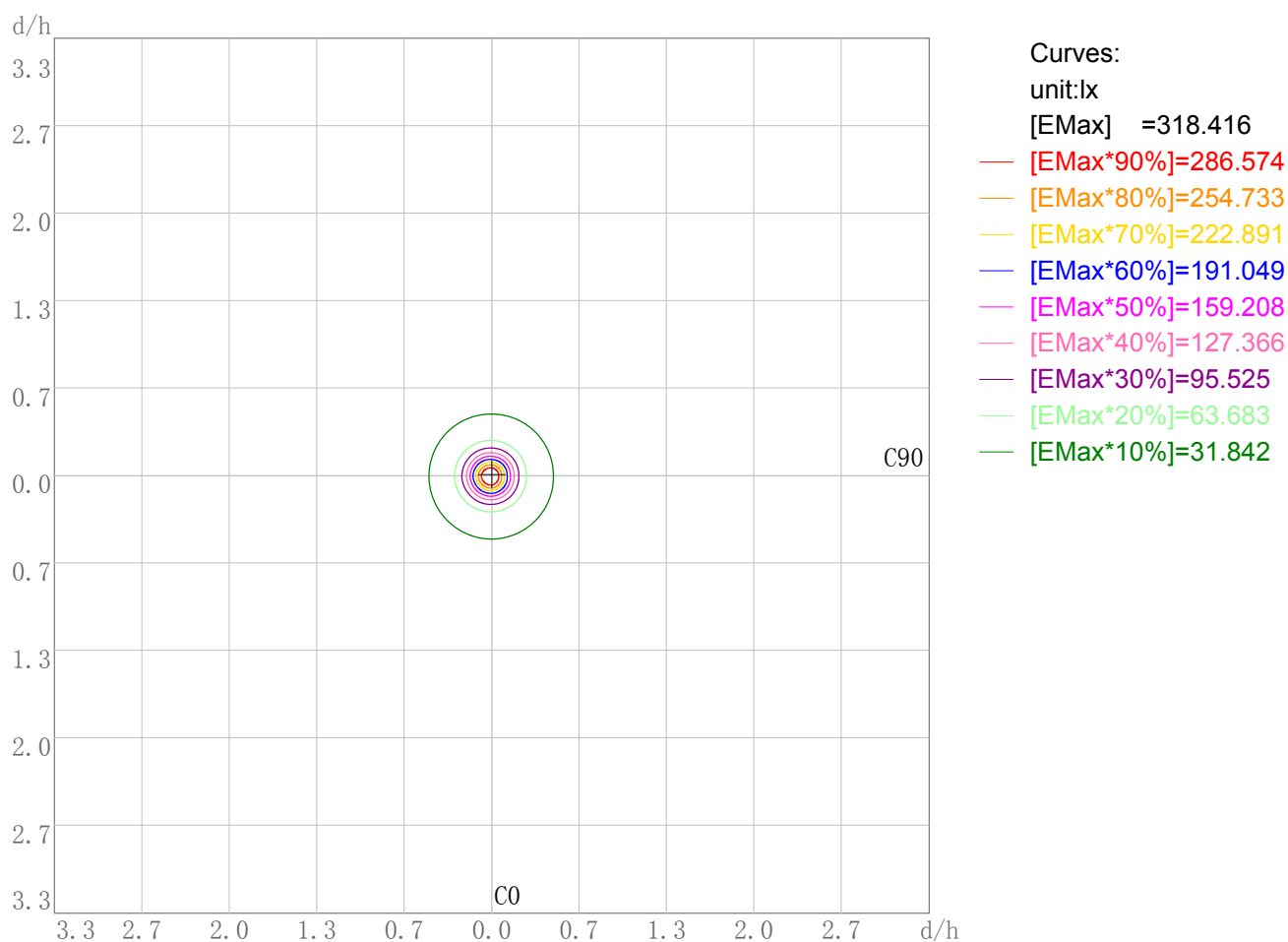
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 15D.IES

## Plane ISO-Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | 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

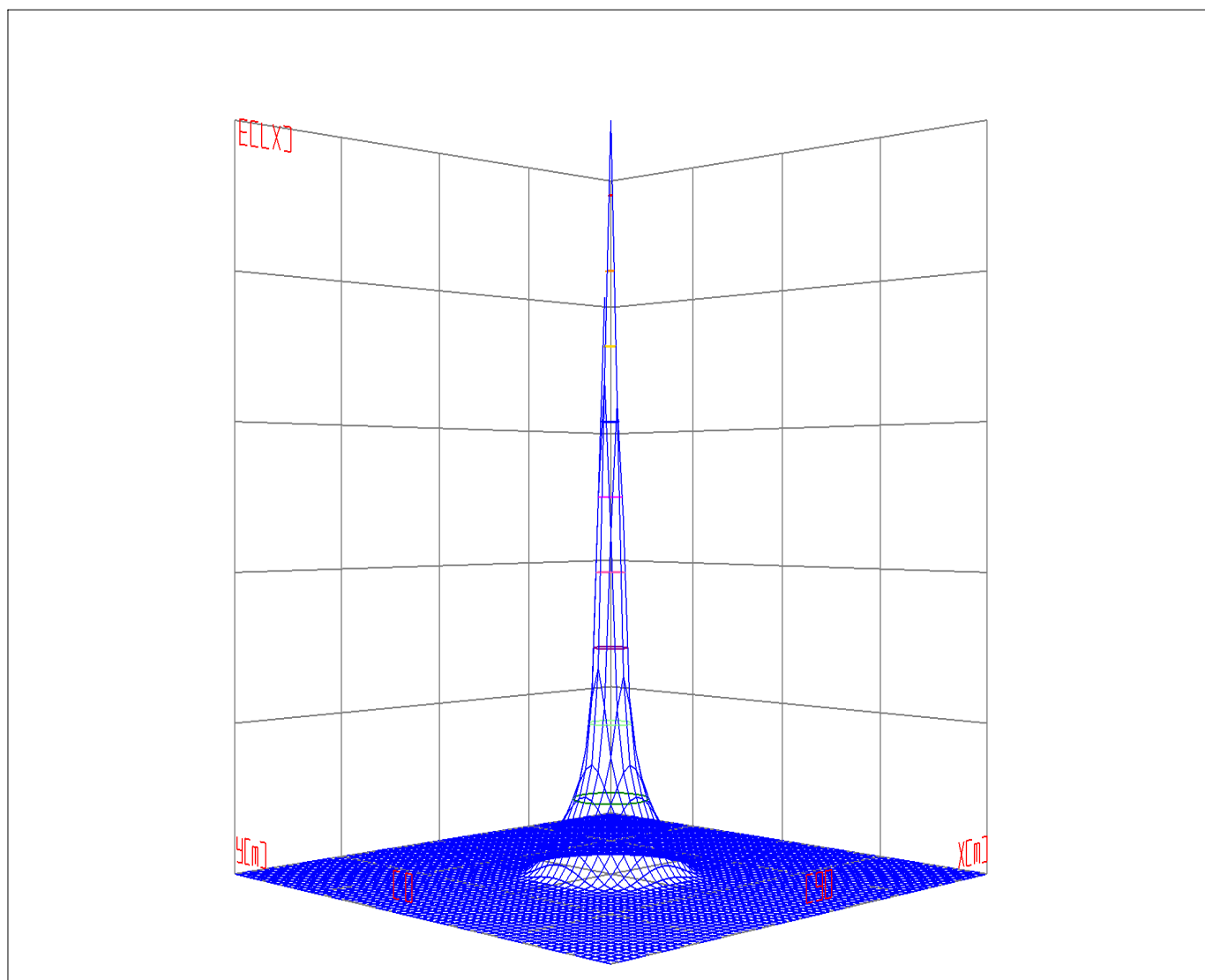
Working Plane Maximum Illuminance(lx): 318.42

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 15D         | 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



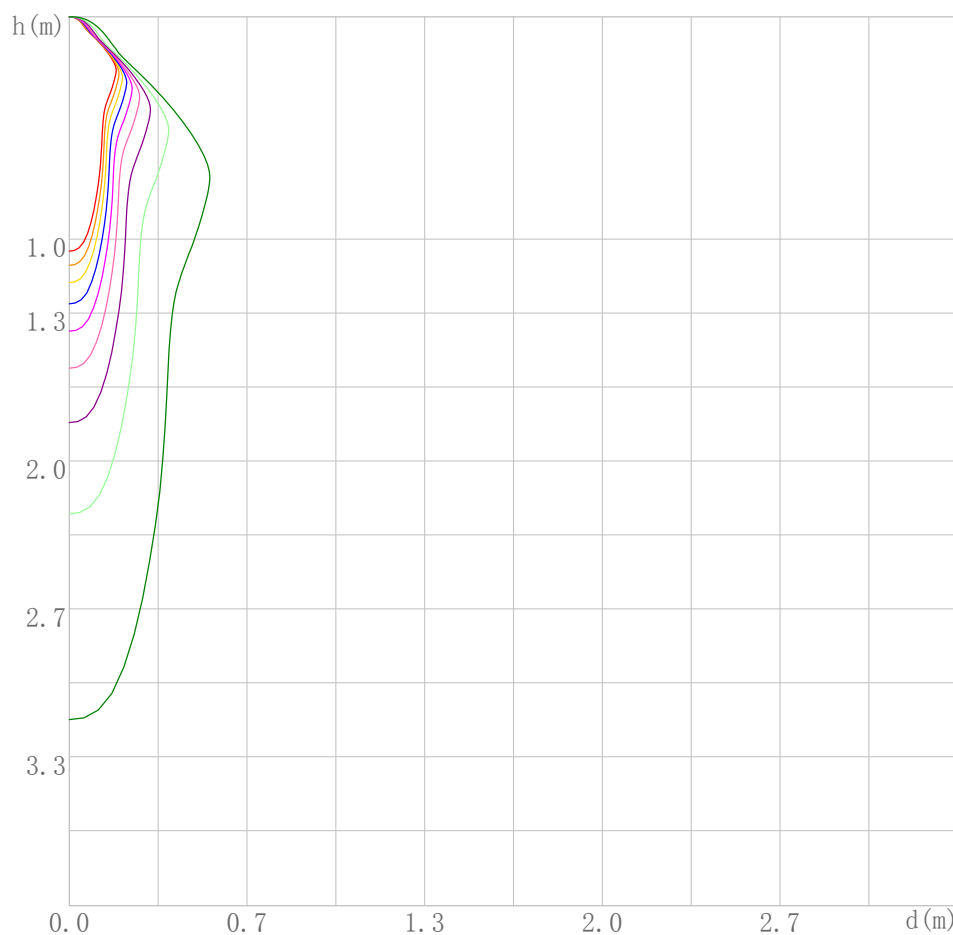
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 15D.IES

## Space ISO Illuminance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | 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



Curves:

[Unit: lx]

[EMax] =2865.537

— [EMax\*90%]=2578.983

— [EMax\*80%]=2292.430

— [EMax\*70%]=2005.876

— [EMax\*60%]=1719.322

— [EMax\*50%]=1432.769

— [EMax\*40%]=1146.215

— [EMax\*30%]=859.661

— [EMax\*20%]=573.107

— [EMax\*10%]=286.554

Space Plane Maximum Illuminance and @Angle:2865.54lx,0.0deg

Plane Maximum Lighting Intensity and @Angle:2865.537cd,0deg

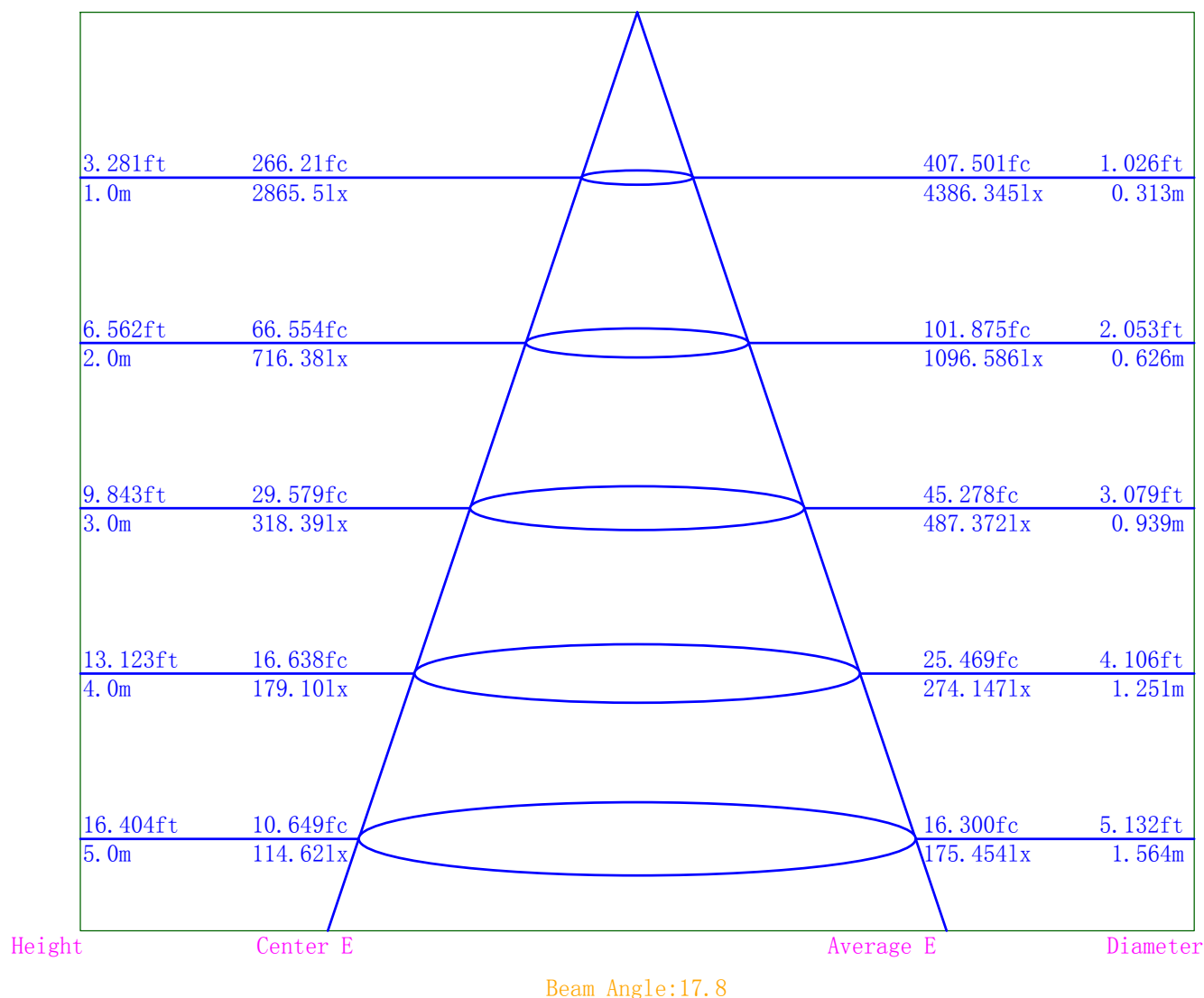
# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 15D.IES

## Illuminance-Distance Diagram

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | 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



Indoor Luminance Limiting Curves

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | Lum. Catelog:         | Test ID: 01                |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: QQualty peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/03      |

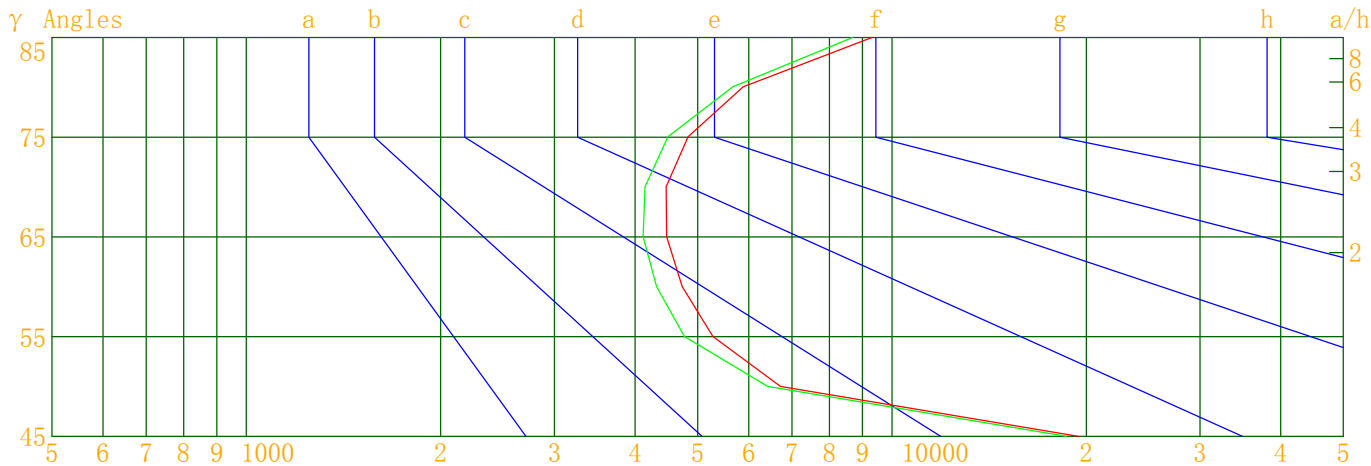
Glare Grade Table

| 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        | 19433 | 6718 | 5279 | 4733 | 4478 | 4469 | 4832 | 5882 | 9306 |
| C90       | 18630 | 6419 | 4769 | 4320 | 4116 | 4145 | 4497 | 5669 | 8687 |

Luminance Limiting Curve



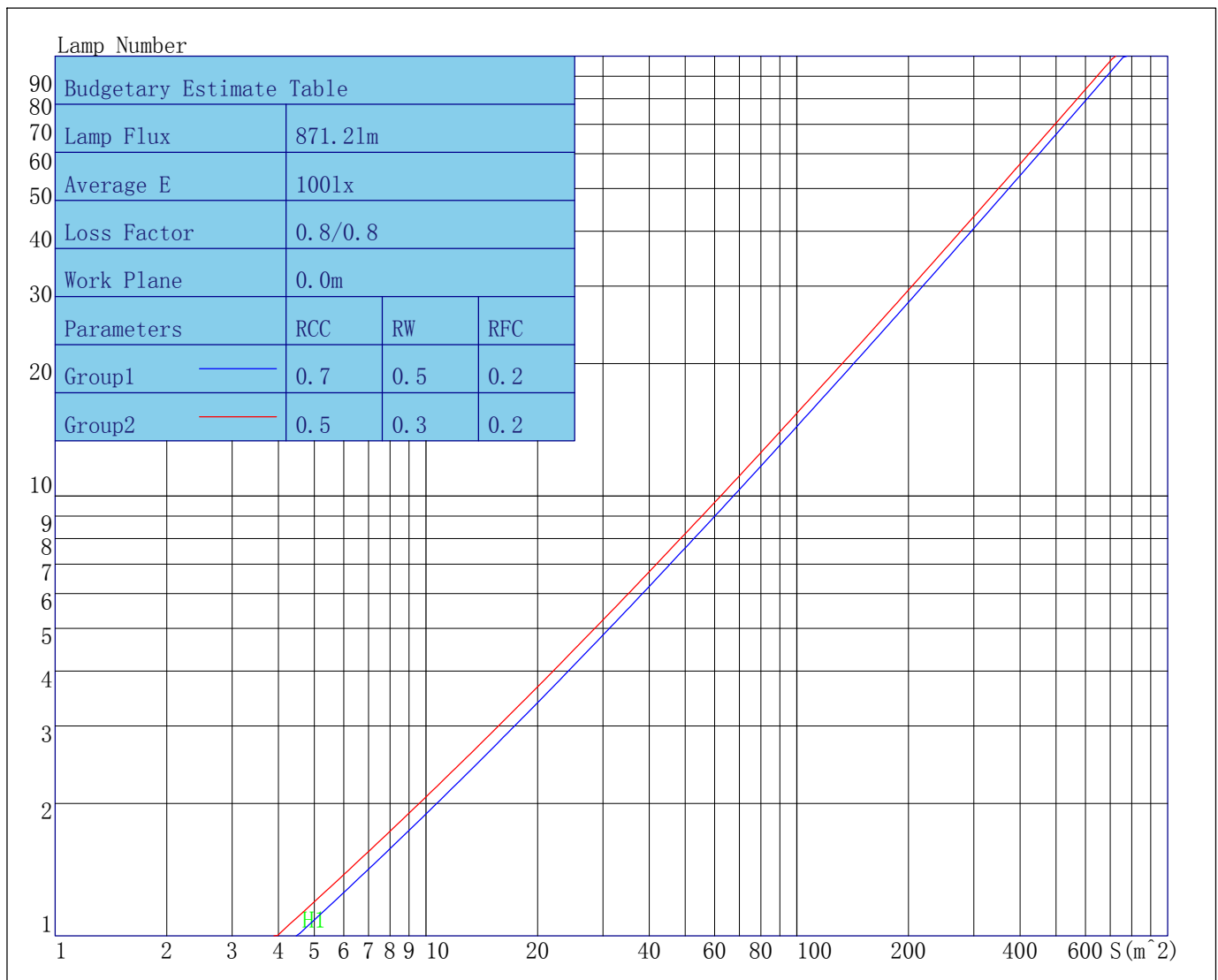
Luminous Size: Length(m)=0.050 Width(m)=0.050 Height(m)=0.060 Area(m^2)=0.005500  
Luminous Type: Without Luminous Side  
Luminous Curves: C0-C180 Color: C90-C270 Color:

# IES Indoor Report

Photometric Filename:MD10-09-XX-02 4000K RA90 15D.IES

## Indoor Budgetary Estimate Table

|   |                       |                            |
|---|-----------------------|----------------------------|
| Lum. Name: MD10-09-XX-02 4000K RA90 15D         | 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 15D         | Lum. Catelog:         | Test ID: 01                |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: QQualty peatment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2019/12/03      |

| 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   | 113   | 110 | 107 | 105 | 110 | 107 | 105 | 103 | 103 | 101 | 99  | 99  | 97  | 96  | 95  | 94  | 93  | 91 |
| 2   | 107   | 102 | 98  | 94  | 105 | 100 | 96  | 93  | 96  | 93  | 91  | 93  | 91  | 89  | 90  | 88  | 86  | 85 |
| 3   | 102   | 95  | 90  | 86  | 99  | 94  | 89  | 85  | 91  | 87  | 84  | 88  | 85  | 82  | 85  | 83  | 80  | 79 |
| 4   | 97  | 89  | 83  | 79  | 95  | 88  | 83  | 79  | 85  | 81  | 77  | 83  | 79  | 76  | 81  | 78  | 75  | 74 |
| 5   | 92  | 84  | 78  | 74  | 90  | 83  | 77  | 73  | 81  | 76  | 72  | 79  | 75  | 71  | 77  | 73  | 71  | 69 |
| 6   | 88  | 79  | 73  | 69  | 86  | 78  | 72  | 68  | 76  | 71  | 68  | 75  | 70  | 67  | 73  | 69  | 66  | 65 |
| 7   | 84  | 74  | 69  | 64  | 82  | 74  | 68  | 64  | 72  | 67  | 64  | 71  | 67  | 63  | 70  | 66  | 63  | 61 |
| 8   | 80  | 71  | 65  | 61  | 79  | 70  | 64  | 61  | 69  | 64  | 60  | 68  | 63  | 60  | 66  | 62  | 59  | 58 |
| 9   | 76  | 67  | 61  | 58  | 75  | 67  | 61  | 57  | 65  | 61  | 57  | 64  | 60  | 57  | 63  | 59  | 57  | 55 |
| 10  | 73  | 64  | 58  | 55  | 72  | 64  | 58  | 55  | 63  | 58  | 54  | 62  | 57  | 54  | 61  | 57  | 54  | 53 |

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.

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

Candela Tabulation

| V/H    | C0.0    | C90.0   | C180.0  | C270.0  |
|--------|---------|---------|---------|---------|
| γ 0.0  | 2865.54 | 2865.54 | 2865.54 | 2865.54 |
| γ 1.0  | 2853.20 | 2817.57 | 2866.60 | 2865.74 |
| γ 2.0  | 2792.67 | 2727.09 | 2829.81 | 2851.47 |
| γ 3.0  | 2666.50 | 2578.21 | 2751.15 | 2805.83 |
| γ 4.0  | 2470.56 | 2369.75 | 2619.25 | 2702.14 |
| γ 5.0  | 2238.53 | 2125.76 | 2428.35 | 2535.68 |
| γ 6.0  | 1995.25 | 1895.20 | 2185.37 | 2319.78 |
| γ 7.0  | 1760.39 | 1681.99 | 1927.80 | 2068.34 |
| γ 8.0  | 1549.16 | 1482.90 | 1686.44 | 1814.92 |
| γ 9.0  | 1360.90 | 1298.56 | 1465.31 | 1580.22 |
| γ 10.0 | 1185.98 | 1135.74 | 1272.21 | 1375.93 |
| γ 11.0 | 1033.57 | 992.13  | 1109.11 | 1201.47 |
| γ 12.0 | 903.73  | 866.37  | 965.92  | 1044.38 |
| γ 13.0 | 793.20  | 763.64  | 839.45  | 910.62  |
| γ 14.0 | 704.65  | 681.73  | 738.55  | 796.94  |
| γ 15.0 | 636.30  | 619.27  | 662.43  | 704.13  |
| γ 16.0 | 582.58  | 571.21  | 605.53  | 633.61  |
| γ 17.0 | 540.35  | 534.66  | 564.40  | 581.83  |
| γ 18.0 | 507.88  | 505.64  | 534.11  | 542.30  |
| γ 19.0 | 482.70  | 481.45  | 509.95  | 511.82  |
| γ 20.0 | 461.42  | 462.04  | 489.53  | 486.88  |
| γ 21.0 | 443.73  | 443.78  | 471.19  | 466.26  |
| γ 22.0 | 427.81  | 428.42  | 453.37  | 447.93  |
| γ 23.0 | 413.52  | 414.30  | 436.61  | 430.68  |
| γ 24.0 | 400.72  | 400.94  | 420.36  | 414.61  |
| γ 25.0 | 388.04  | 387.93  | 404.70  | 399.60  |
| γ 26.0 | 376.05  | 376.03  | 389.28  | 384.46  |
| γ 27.0 | 364.97  | 364.45  | 374.28  | 370.06  |
| γ 28.0 | 354.21  | 353.47  | 360.54  | 356.85  |
| γ 29.0 | 344.16  | 343.45  | 348.25  | 344.72  |
| γ 30.0 | 334.65  | 333.88  | 336.71  | 334.10  |
| γ 31.0 | 325.50  | 325.76  | 326.79  | 325.26  |
| γ 32.0 | 317.51  | 318.06  | 318.38  | 317.05  |
| γ 33.0 | 309.50  | 310.50  | 310.33  | 310.10  |
| γ 34.0 | 301.64  | 302.58  | 303.19  | 303.25  |
| γ 35.0 | 293.48  | 294.00  | 296.21  | 296.33  |
| γ 36.0 | 284.79  | 282.31  | 287.51  | 288.76  |
| γ 37.0 | 273.35  | 266.63  | 275.64  | 278.77  |
| γ 38.0 | 257.41  | 246.51  | 259.49  | 265.36  |
| γ 39.0 | 236.79  | 223.13  | 239.16  | 247.42  |
| γ 40.0 | 211.25  | 197.58  | 215.76  | 226.27  |
| γ 41.0 | 183.95  | 172.04  | 190.61  | 202.64  |
| γ 42.0 | 155.89  | 146.28  | 164.61  | 178.41  |
| γ 43.0 | 128.38  | 120.50  | 139.00  | 153.60  |
| γ 44.0 | 101.22  | 95.70   | 113.59  | 128.83  |
| γ 45.0 | 75.58   | 72.45   | 89.61   | 104.51  |
| γ 46.0 | 53.60   | 53.17   | 68.69   | 81.43   |

Candela Tabulation - (Cont.)

| V/H    | C0.0  | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 37.51 | 39.67 | 52.42  | 61.03  |
| γ 48.0 | 29.05 | 31.53 | 41.11  | 45.81  |
| γ 49.0 | 25.59 | 26.58 | 33.93  | 35.37  |
| γ 50.0 | 23.75 | 22.69 | 29.09  | 28.23  |
| γ 51.0 | 21.80 | 19.77 | 25.78  | 24.15  |
| γ 52.0 | 20.13 | 18.17 | 23.09  | 21.94  |
| γ 53.0 | 18.77 | 16.85 | 20.95  | 20.18  |
| γ 54.0 | 17.60 | 15.93 | 19.05  | 18.68  |
| γ 55.0 | 16.66 | 15.05 | 17.45  | 17.41  |
| γ 56.0 | 15.72 | 14.27 | 16.11  | 16.34  |
| γ 57.0 | 14.99 | 13.63 | 14.75  | 15.40  |
| γ 58.0 | 14.20 | 12.93 | 13.77  | 14.57  |
| γ 59.0 | 13.59 | 12.39 | 12.84  | 13.88  |
| γ 60.0 | 13.02 | 11.88 | 11.98  | 13.15  |
| γ 61.0 | 12.46 | 11.39 | 11.42  | 12.59  |
| γ 62.0 | 11.90 | 10.90 | 10.94  | 12.05  |
| γ 63.0 | 11.38 | 10.44 | 10.48  | 11.56  |
| γ 64.0 | 10.89 | 9.99  | 10.08  | 11.05  |
| γ 65.0 | 10.41 | 9.57  | 9.74   | 10.62  |
| γ 66.0 | 9.98  | 9.16  | 9.40   | 10.22  |
| γ 67.0 | 9.55  | 8.79  | 9.12   | 9.85   |
| γ 68.0 | 9.14  | 8.43  | 8.86   | 9.52   |
| γ 69.0 | 8.77  | 8.11  | 8.60   | 9.22   |
| γ 70.0 | 8.41  | 7.80  | 8.38   | 8.93   |
| γ 71.0 | 8.07  | 7.48  | 8.17   | 8.65   |
| γ 72.0 | 7.76  | 7.19  | 7.95   | 8.39   |
| γ 73.0 | 7.44  | 6.91  | 7.75   | 8.15   |
| γ 74.0 | 7.14  | 6.65  | 7.53   | 7.91   |
| γ 75.0 | 6.88  | 6.40  | 7.32   | 7.66   |
| γ 76.0 | 6.60  | 6.20  | 7.10   | 7.42   |
| γ 77.0 | 6.34  | 5.97  | 6.92   | 7.21   |
| γ 78.0 | 6.09  | 5.74  | 6.72   | 7.00   |
| γ 79.0 | 5.82  | 5.54  | 6.55   | 6.78   |
| γ 80.0 | 5.62  | 5.41  | 6.36   | 6.57   |
| γ 81.0 | 5.42  | 5.28  | 6.23   | 6.38   |
| γ 82.0 | 5.29  | 5.13  | 6.12   | 6.25   |
| γ 83.0 | 5.05  | 4.86  | 5.98   | 6.05   |
| γ 84.0 | 4.87  | 4.65  | 5.75   | 5.84   |
| γ 85.0 | 4.46  | 4.16  | 5.52   | 5.57   |
| γ 86.0 | 4.06  | 3.64  | 5.13   | 5.30   |
| γ 87.0 | 3.69  | 3.04  | 4.42   | 4.83   |
| γ 88.0 | 3.34  | 2.56  | 3.66   | 4.22   |
| γ 89.0 | 3.15  | 2.46  | 2.93   | 3.78   |
| γ 90.0 | 3.06  | 2.39  | 2.67   | 3.34   |
| γ 91.0 | 2.97  | 2.33  | 2.56   | 3.21   |
| γ 92.0 | 2.88  | 2.25  | 2.48   | 3.11   |
| γ 93.0 | 2.80  | 2.19  | 2.39   | 3.01   |



Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0  | 2.72 | 2.13  | 2.32   | 2.90   |
| γ 95.0  | 2.65 | 2.07  | 2.24   | 2.82   |
| γ 96.0  | 2.58 | 2.02  | 2.17   | 2.72   |
| γ 97.0  | 2.51 | 1.97  | 2.10   | 2.64   |
| γ 98.0  | 2.46 | 1.92  | 2.04   | 2.56   |
| γ 99.0  | 2.41 | 1.89  | 2.00   | 2.49   |
| γ 100.0 | 2.35 | 1.86  | 1.94   | 2.44   |
| γ 101.0 | 2.31 | 1.82  | 1.91   | 2.38   |
| γ 102.0 | 2.28 | 1.80  | 1.88   | 2.34   |
| γ 103.0 | 2.24 | 1.78  | 1.85   | 2.30   |
| γ 104.0 | 2.21 | 1.77  | 1.84   | 2.26   |
| γ 105.0 | 2.19 | 1.77  | 1.82   | 2.23   |
| γ 106.0 | 2.18 | 1.76  | 1.81   | 2.20   |
| γ 107.0 | 2.15 | 1.74  | 1.80   | 2.19   |
| γ 108.0 | 2.15 | 1.75  | 1.80   | 2.18   |
| γ 109.0 | 2.13 | 1.74  | 1.81   | 2.18   |
| γ 110.0 | 2.12 | 1.76  | 1.81   | 2.17   |
| γ 111.0 | 2.12 | 1.75  | 1.82   | 2.17   |
| γ 112.0 | 2.12 | 1.76  | 1.84   | 2.17   |
| γ 113.0 | 2.11 | 1.76  | 1.85   | 2.19   |
| γ 114.0 | 2.12 | 1.77  | 1.87   | 2.19   |
| γ 115.0 | 2.12 | 1.78  | 1.90   | 2.21   |
| γ 116.0 | 2.11 | 1.79  | 1.93   | 2.23   |
| γ 117.0 | 2.12 | 1.80  | 1.96   | 2.24   |
| γ 118.0 | 2.13 | 1.82  | 2.00   | 2.27   |
| γ 119.0 | 2.15 | 1.84  | 2.02   | 2.30   |
| γ 120.0 | 2.15 | 1.87  | 2.07   | 2.33   |
| γ 121.0 | 2.18 | 1.90  | 2.11   | 2.36   |
| γ 122.0 | 2.20 | 1.93  | 2.15   | 2.39   |
| γ 123.0 | 2.25 | 1.96  | 2.20   | 2.44   |
| γ 124.0 | 2.28 | 2.01  | 2.25   | 2.47   |
| γ 125.0 | 2.33 | 2.06  | 2.31   | 2.51   |
| γ 126.0 | 2.38 | 2.11  | 2.36   | 2.56   |
| γ 127.0 | 2.43 | 2.18  | 2.41   | 2.62   |
| γ 128.0 | 2.48 | 2.24  | 2.48   | 2.66   |
| γ 129.0 | 2.55 | 2.31  | 2.54   | 2.72   |
| γ 130.0 | 2.62 | 2.39  | 2.61   | 2.78   |
| γ 131.0 | 2.69 | 2.45  | 2.69   | 2.85   |
| γ 132.0 | 2.77 | 2.56  | 2.77   | 2.92   |
| γ 133.0 | 2.86 | 2.64  | 2.86   | 2.99   |
| γ 134.0 | 2.95 | 2.74  | 2.95   | 3.08   |
| γ 135.0 | 3.04 | 2.85  | 3.06   | 3.18   |
| γ 136.0 | 3.14 | 2.96  | 3.17   | 3.29   |
| γ 137.0 | 3.26 | 3.08  | 3.28   | 3.40   |
| γ 138.0 | 3.37 | 3.21  | 3.42   | 3.52   |
| γ 139.0 | 3.50 | 3.34  | 3.55   | 3.64   |
| γ 140.0 | 3.63 | 3.47  | 3.69   | 3.77   |

Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 3.76 | 3.60  | 3.84   | 3.91   |
| γ 142.0 | 3.89 | 3.75  | 3.97   | 4.04   |
| γ 143.0 | 4.03 | 3.87  | 4.11   | 4.17   |
| γ 144.0 | 4.16 | 4.01  | 4.25   | 4.30   |
| γ 145.0 | 4.28 | 4.14  | 4.38   | 4.42   |
| γ 146.0 | 4.41 | 4.26  | 4.51   | 4.54   |
| γ 147.0 | 4.53 | 4.38  | 4.62   | 4.66   |
| γ 148.0 | 4.63 | 4.48  | 4.72   | 4.77   |
| γ 149.0 | 4.75 | 4.59  | 4.82   | 4.86   |
| γ 150.0 | 4.85 | 4.68  | 4.91   | 4.95   |
| γ 151.0 | 4.94 | 4.77  | 5.01   | 5.03   |
| γ 152.0 | 5.03 | 4.86  | 5.09   | 5.11   |
| γ 153.0 | 5.12 | 4.93  | 5.16   | 5.18   |
| γ 154.0 | 5.19 | 5.01  | 5.24   | 5.24   |
| γ 155.0 | 5.27 | 5.08  | 5.30   | 5.30   |
| γ 156.0 | 5.35 | 5.14  | 5.38   | 5.37   |
| γ 157.0 | 5.42 | 5.20  | 5.45   | 5.43   |
| γ 158.0 | 5.50 | 5.27  | 5.51   | 5.49   |
| γ 159.0 | 5.56 | 5.33  | 5.59   | 5.54   |
| γ 160.0 | 5.64 | 5.40  | 5.65   | 5.60   |
| γ 161.0 | 5.70 | 5.48  | 5.71   | 5.65   |
| γ 162.0 | 5.76 | 5.54  | 5.76   | 5.70   |
| γ 163.0 | 5.83 | 5.61  | 5.83   | 5.75   |
| γ 164.0 | 5.89 | 5.69  | 5.89   | 5.80   |
| γ 165.0 | 5.96 | 5.74  | 5.95   | 5.84   |
| γ 166.0 | 6.00 | 5.81  | 6.00   | 5.89   |
| γ 167.0 | 6.05 | 5.86  | 6.05   | 5.92   |
| γ 168.0 | 6.10 | 5.92  | 6.10   | 5.96   |
| γ 169.0 | 6.14 | 5.96  | 6.12   | 5.99   |
| γ 170.0 | 6.17 | 5.99  | 6.16   | 6.02   |
| γ 171.0 | 6.19 | 6.02  | 6.19   | 6.03   |
| γ 172.0 | 6.21 | 6.04  | 6.21   | 6.04   |
| γ 173.0 | 6.22 | 6.06  | 6.22   | 6.05   |
| γ 174.0 | 6.23 | 6.05  | 6.22   | 6.05   |
| γ 175.0 | 6.23 | 6.07  | 6.23   | 6.06   |
| γ 176.0 | 6.23 | 6.06  | 6.22   | 6.06   |
| γ 177.0 | 6.24 | 6.06  | 6.22   | 6.07   |
| γ 178.0 | 6.24 | 6.06  | 6.22   | 6.07   |
| γ 179.0 | 6.23 | 6.04  | 6.23   | 6.09   |
| γ 180.0 | 6.18 | 6.18  | 6.18   | 6.18   |