

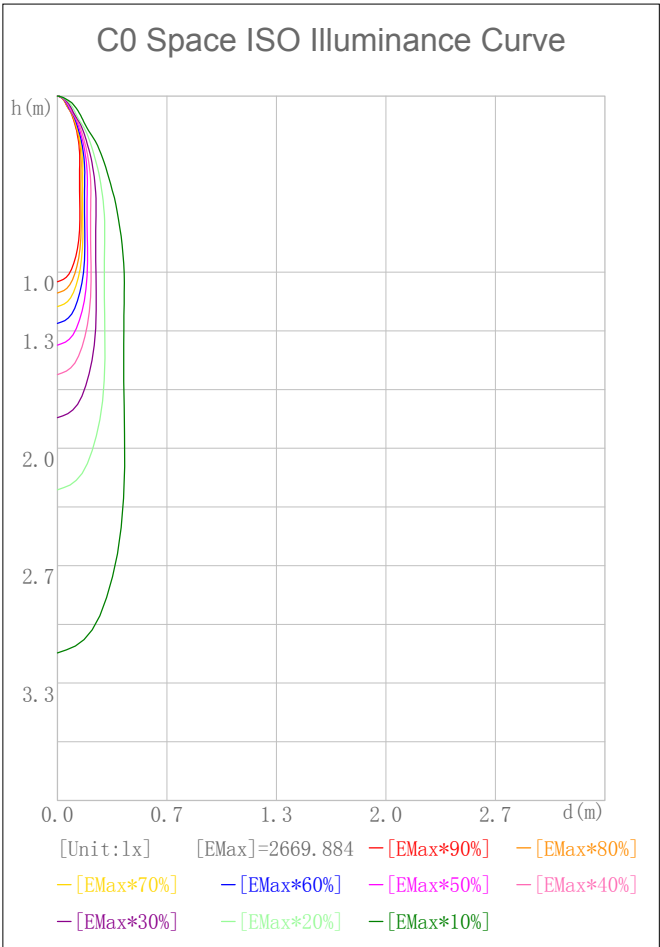
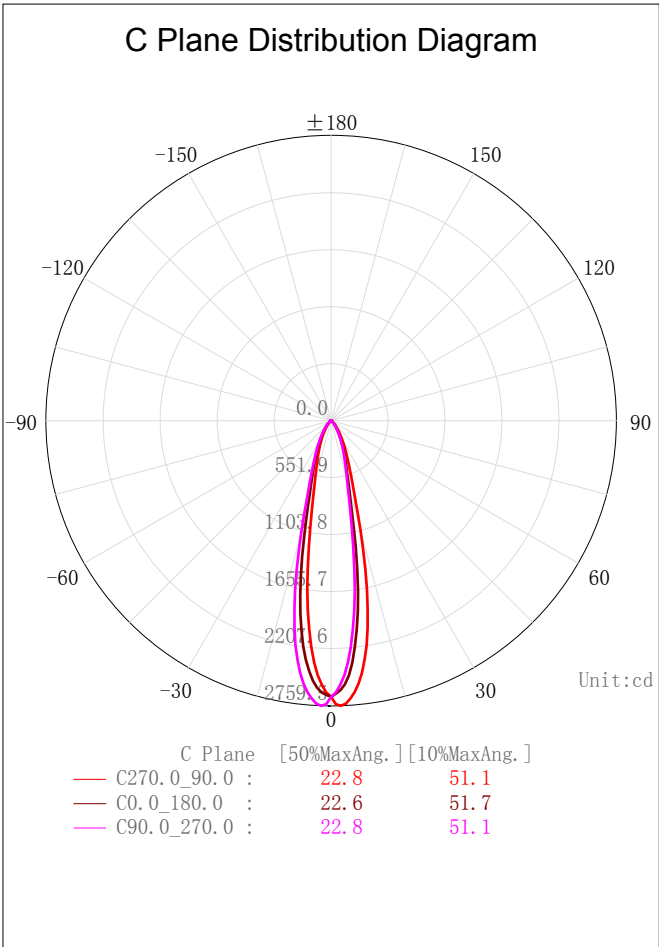
Indoor Luminaire Photometric Data

Description Information

|   |                         |                      |                       |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name:SD09-09-XX-04 2700K RA90 24D      |                         | Lum. Catalog:        | Test ID: 01           |
| Lamp Name:                                      |                         | Lamp Catalog: LED    | Test Date: 2021/11/16 |
| Manufacture: Shenzhen Norming Lighting Co., Ltd |                         | Shld.Ang(°):         | Test Machine:GON-2000 |
| Test Lab: Quality Department                    |                         | Frequency (Hz):      | Lamp CCT (K): Ra:     |
| Lum. Size (W*L*H):0.038m*0.038m*0.000m          |                         | Lum. Area (m2):0.001 | Lum. W (kg): 0.000    |
| Test System: C, γ                               | Test Step: C=90.0 γ=1.0 | Temp. (°C): 25       | Humidity(%): 50.0     |

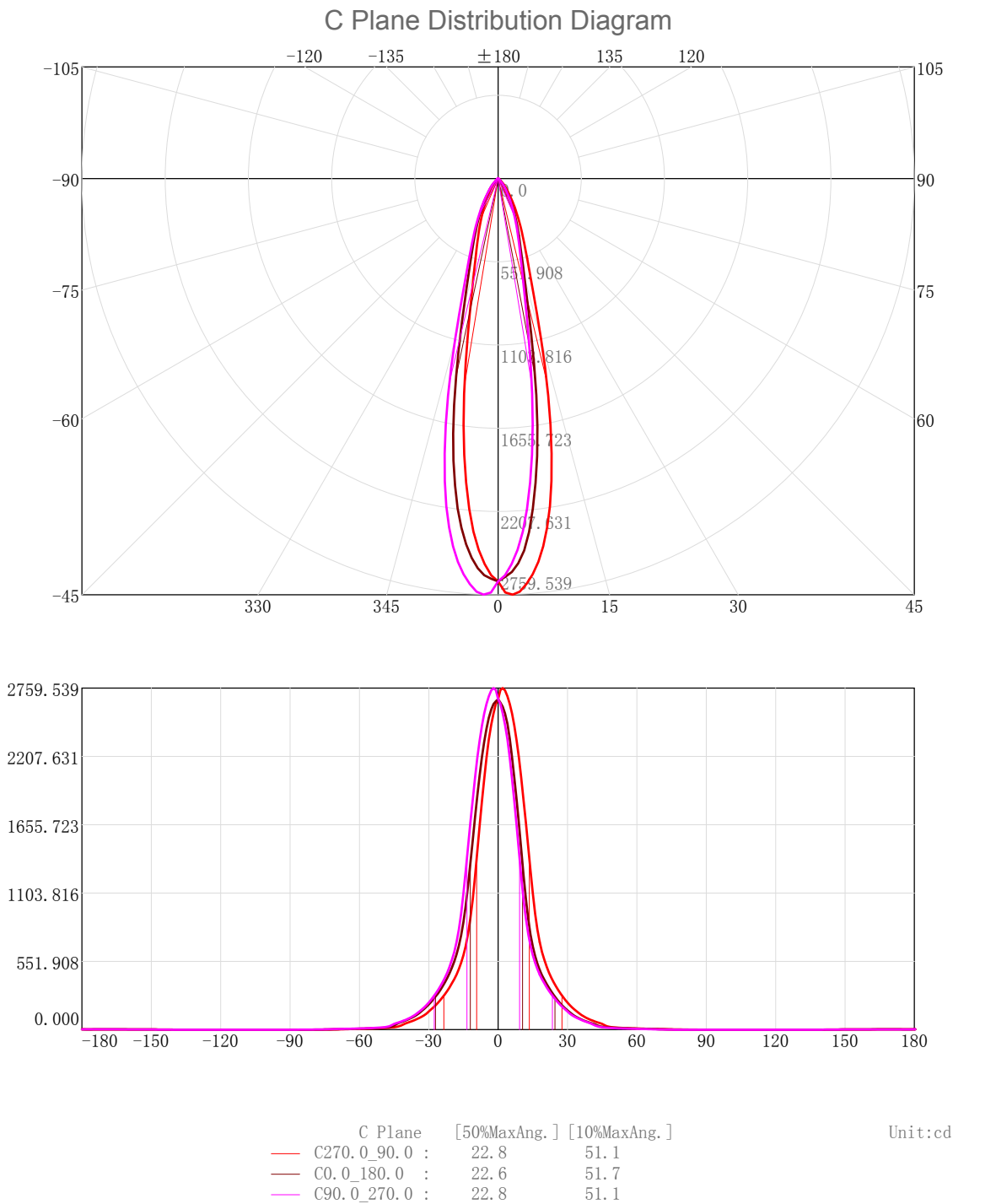
Character Parameter

| Lamp Speciality Parameter                       |                                  | Luminaire Speciality Parameter        |  |
|---|----------------------------------|---------------------------------------|--|
| Rated Flux(lm): 692.360                         | Luminary Flux(lm): 692.357       | Field Angle(10%Imax): 51.1(°)         |  |
| Rated Power(W):                                 | Luminary Efficiency: 100.00%     | Down Lumens&Percent: 689.456lm 99.58% |  |
| Rated Voltage(V):                               | Luminary EER(lm/W): 78.347       | Up Lumens&Percent: 2.901lm 0.42%      |  |
| Tested Power(W): 8.837                          | Max. Candela(cd): 2759.539       | S/MH: C0_a180=0.386 C90_270=0.397     |  |
| Lamps' Inside: 1                                | Max Cand@Ang. (°): C=270.0 γ=2.0 | CIE Type: Semi-Direct                 |  |
| Tested Electrics (V, A, pf):240.8, 0.040, 0.900 | Beam Angle(50%Imax): 22.8(°)     | ErP ϕ use(90°): 649.002lm             |  |
| Lamp Size (W*L*H):0.038m*0.038m*0.000m          | Left=-9.3°, Right=13.5°          | IRF(%): 898.133                       |  |



2D Plane Light Intensity Distribution Curve

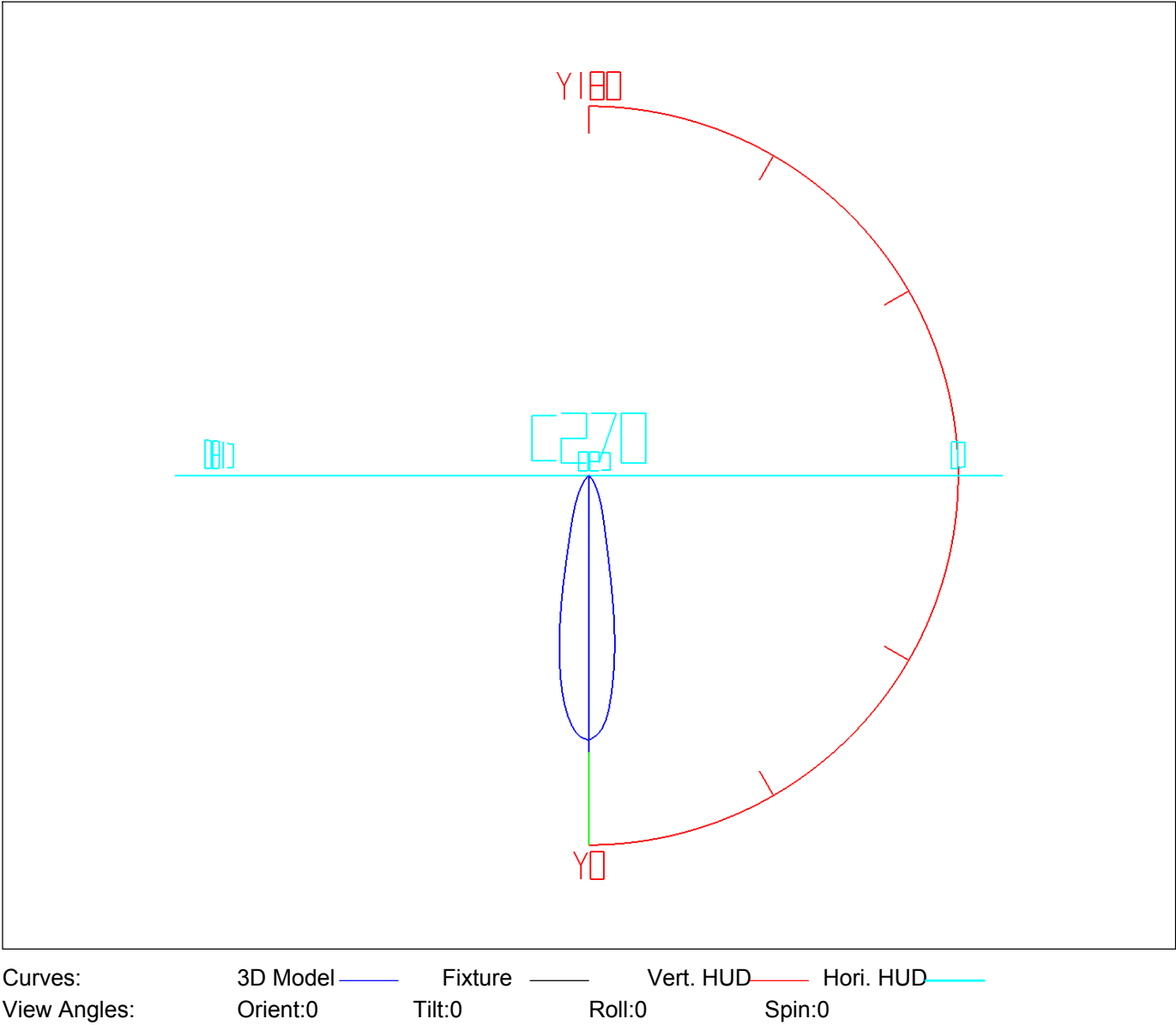
|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16        |



3D Light Intensity Distribution Modal

|   |                       |                             |
|---|-----------------------|-----------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catelog:         | Test ID: 01                 |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16       |

3D Light Intensity Distribution Modal



Zonal Flux Tabulation

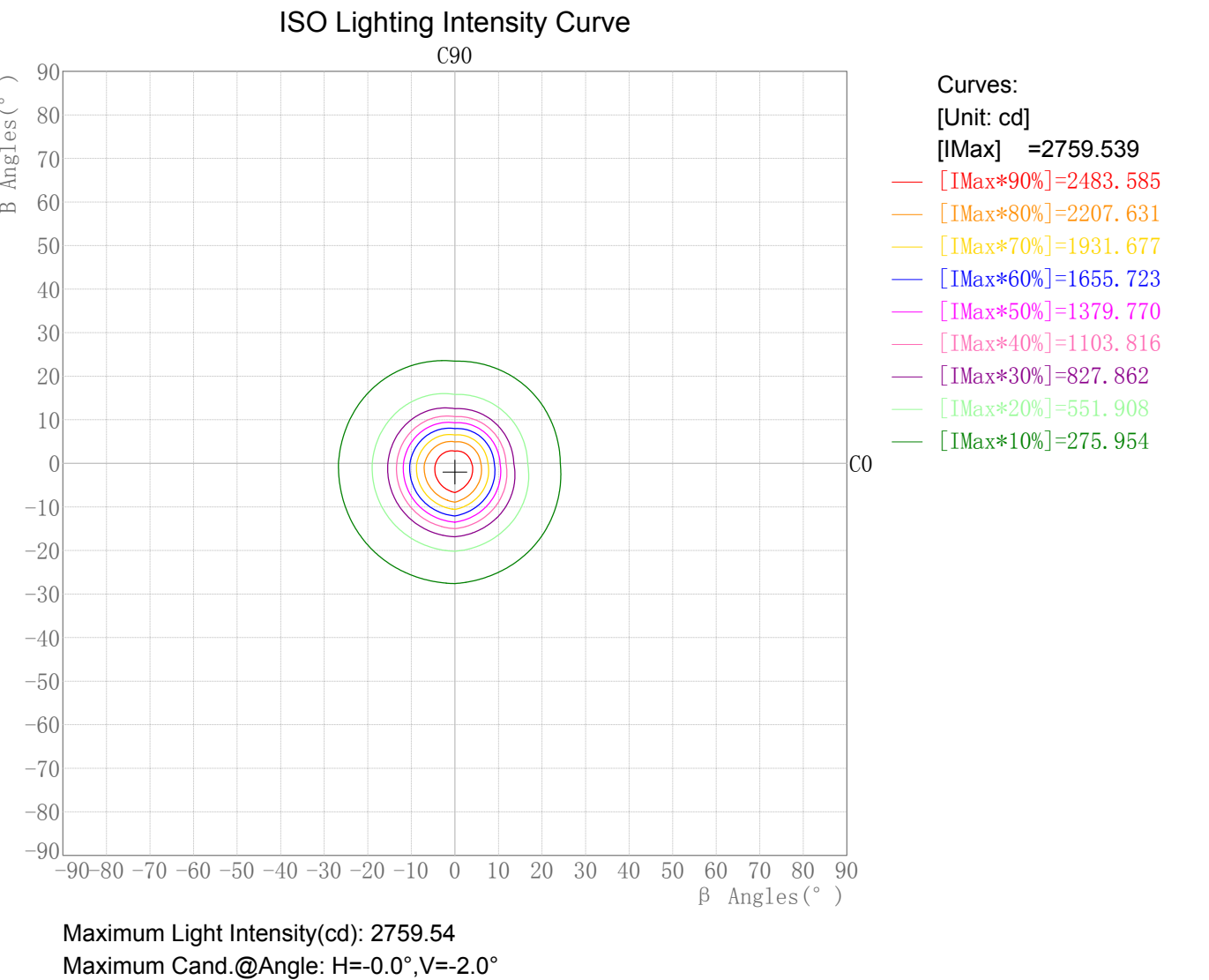
| Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp | Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0   | 2.55              | 2.55              | 0.37      | 0.37      | 47.0-48.0 | 1.64              | 667.68            | 0.24      | 96.44     |
| 1.0-2.0   | 7.62              | 10.17             | 1.10      | 1.47      | 48.0-49.0 | 1.48              | 669.16            | 0.21      | 96.65     |
| 2.0-3.0   | 12.50             | 22.67             | 1.81      | 3.27      | 49.0-50.0 | 1.37              | 670.54            | 0.20      | 96.85     |
| 3.0-4.0   | 17.05             | 39.72             | 2.46      | 5.74      | 50.0-51.0 | 1.29              | 671.83            | 0.19      | 97.03     |
| 4.0-5.0   | 21.13             | 60.84             | 3.05      | 8.79      | 51.0-52.0 | 1.22              | 673.05            | 0.18      | 97.21     |
| 5.0-6.0   | 24.60             | 85.44             | 3.55      | 12.34     | 52.0-53.0 | 1.16              | 674.21            | 0.17      | 97.38     |
| 6.0-7.0   | 27.38             | 112.82            | 3.95      | 16.29     | 53.0-54.0 | 1.10              | 675.30            | 0.16      | 97.54     |
| 7.0-8.0   | 29.40             | 142.22            | 4.25      | 20.54     | 54.0-55.0 | 1.04              | 676.35            | 0.15      | 97.69     |
| 8.0-9.0   | 30.57             | 172.79            | 4.42      | 24.96     | 55.0-56.0 | 0.99              | 677.34            | 0.14      | 97.83     |
| 9.0-10.0  | 30.86             | 203.65            | 4.46      | 29.41     | 56.0-57.0 | 0.95              | 678.29            | 0.14      | 97.97     |
| 10.0-11.0 | 30.31             | 233.96            | 4.38      | 33.79     | 57.0-58.0 | 0.91              | 679.20            | 0.13      | 98.10     |
| 11.0-12.0 | 29.10             | 263.06            | 4.20      | 37.99     | 58.0-59.0 | 0.87              | 680.07            | 0.13      | 98.22     |
| 12.0-13.0 | 27.49             | 290.55            | 3.97      | 41.97     | 59.0-60.0 | 0.83              | 680.89            | 0.12      | 98.34     |
| 13.0-14.0 | 25.71             | 316.26            | 3.71      | 45.68     | 60.0-61.0 | 0.79              | 681.68            | 0.11      | 98.46     |
| 14.0-15.0 | 23.93             | 340.19            | 3.46      | 49.13     | 61.0-62.0 | 0.75              | 682.43            | 0.11      | 98.57     |
| 15.0-16.0 | 22.27             | 362.46            | 3.22      | 52.35     | 62.0-63.0 | 0.71              | 683.14            | 0.10      | 98.67     |
| 16.0-17.0 | 20.81             | 383.27            | 3.01      | 55.36     | 63.0-64.0 | 0.67              | 683.81            | 0.10      | 98.76     |
| 17.0-18.0 | 19.59             | 402.86            | 2.83      | 58.19     | 64.0-65.0 | 0.64              | 684.45            | 0.09      | 98.86     |
| 18.0-19.0 | 18.57             | 421.43            | 2.68      | 60.87     | 65.0-66.0 | 0.61              | 685.06            | 0.09      | 98.95     |
| 19.0-20.0 | 17.67             | 439.10            | 2.55      | 63.42     | 66.0-67.0 | 0.57              | 685.63            | 0.08      | 99.03     |
| 20.0-21.0 | 16.86             | 455.97            | 2.44      | 65.86     | 67.0-68.0 | 0.53              | 686.16            | 0.08      | 99.10     |
| 21.0-22.0 | 16.10             | 472.07            | 2.33      | 68.18     | 68.0-69.0 | 0.48              | 686.64            | 0.07      | 99.17     |
| 22.0-23.0 | 15.36             | 487.42            | 2.22      | 70.40     | 69.0-70.0 | 0.43              | 687.06            | 0.06      | 99.24     |
| 23.0-24.0 | 14.64             | 502.06            | 2.11      | 72.51     | 70.0-71.0 | 0.37              | 687.44            | 0.05      | 99.29     |
| 24.0-25.0 | 13.91             | 515.97            | 2.01      | 74.52     | 71.0-72.0 | 0.32              | 687.76            | 0.05      | 99.34     |
| 25.0-26.0 | 13.17             | 529.14            | 1.90      | 76.43     | 72.0-73.0 | 0.28              | 688.04            | 0.04      | 99.38     |
| 26.0-27.0 | 12.43             | 541.58            | 1.80      | 78.22     | 73.0-74.0 | 0.24              | 688.28            | 0.03      | 99.41     |
| 27.0-28.0 | 11.71             | 553.28            | 1.69      | 79.91     | 74.0-75.0 | 0.20              | 688.48            | 0.03      | 99.44     |
| 28.0-29.0 | 11.00             | 564.28            | 1.59      | 81.50     | 75.0-76.0 | 0.18              | 688.66            | 0.03      | 99.46     |
| 29.0-30.0 | 10.31             | 574.59            | 1.49      | 82.99     | 76.0-77.0 | 0.15              | 688.81            | 0.02      | 99.49     |
| 30.0-31.0 | 9.61              | 584.20            | 1.39      | 84.38     | 77.0-78.0 | 0.13              | 688.93            | 0.02      | 99.50     |
| 31.0-32.0 | 8.92              | 593.13            | 1.29      | 85.67     | 78.0-79.0 | 0.11              | 689.04            | 0.02      | 99.52     |
| 32.0-33.0 | 8.28              | 601.40            | 1.20      | 86.86     | 79.0-80.0 | 0.09              | 689.13            | 0.01      | 99.53     |
| 33.0-34.0 | 7.67              | 609.08            | 1.11      | 87.97     | 80.0-81.0 | 0.07              | 689.20            | 0.01      | 99.54     |
| 34.0-35.0 | 7.10              | 616.17            | 1.03      | 89.00     | 81.0-82.0 | 0.06              | 689.27            | 0.01      | 99.55     |
| 35.0-36.0 | 6.56              | 622.74            | 0.95      | 89.94     | 82.0-83.0 | 0.05              | 689.32            | 0.01      | 99.56     |
| 36.0-37.0 | 6.07              | 628.81            | 0.88      | 90.82     | 83.0-84.0 | 0.04              | 689.36            | 0.01      | 99.57     |
| 37.0-38.0 | 5.62              | 634.43            | 0.81      | 91.63     | 84.0-85.0 | 0.03              | 689.39            | 0.00      | 99.57     |
| 38.0-39.0 | 5.20              | 639.63            | 0.75      | 92.38     | 85.0-86.0 | 0.02              | 689.41            | 0.00      | 99.57     |
| 39.0-40.0 | 4.80              | 644.43            | 0.69      | 93.08     | 86.0-87.0 | 0.02              | 689.43            | 0.00      | 99.58     |
| 40.0-41.0 | 4.39              | 648.82            | 0.63      | 93.71     | 87.0-88.0 | 0.01              | 689.44            | 0.00      | 99.58     |
| 41.0-42.0 | 3.95              | 652.77            | 0.57      | 94.28     | 88.0-89.0 | 0.01              | 689.45            | 0.00      | 99.58     |
| 42.0-43.0 | 3.49              | 656.26            | 0.50      | 94.79     | 89.0-90.0 | 0.01              | 689.46            | 0.00      | 99.58     |
| 43.0-44.0 | 3.05              | 659.31            | 0.44      | 95.23     | 90.0-91.0 | 0.00              | 689.46            | 0.00      | 99.58     |
| 44.0-45.0 | 2.63              | 661.94            | 0.38      | 95.61     | 91.0-92.0 | 0.00              | 689.46            | 0.00      | 99.58     |
| 45.0-46.0 | 2.23              | 664.17            | 0.32      | 95.93     | 92.0-93.0 | 0.00              | 689.46            | 0.00      | 99.58     |
| 46.0-47.0 | 1.88              | 666.05            | 0.27      | 96.20     | 93.0-94.0 | 0.00              | 689.46            | 0.00      | 99.58     |

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   | 0.00              | 689.46            | 0.00      | 99.58     | 141.0-142.0 | 0.05              | 689.60            | 0.01      | 99.60     |
| 95.0-96.0   | 0.00              | 689.46            | 0.00      | 99.58     | 142.0-143.0 | 0.06              | 689.66            | 0.01      | 99.61     |
| 96.0-97.0   | 0.00              | 689.46            | 0.00      | 99.58     | 143.0-144.0 | 0.07              | 689.72            | 0.01      | 99.62     |
| 97.0-98.0   | 0.00              | 689.46            | 0.00      | 99.58     | 144.0-145.0 | 0.07              | 689.80            | 0.01      | 99.63     |
| 98.0-99.0   | 0.00              | 689.46            | 0.00      | 99.58     | 145.0-146.0 | 0.08              | 689.88            | 0.01      | 99.64     |
| 99.0-100.0  | 0.00              | 689.46            | 0.00      | 99.58     | 146.0-147.0 | 0.09              | 689.97            | 0.01      | 99.65     |
| 100.0-101.0 | 0.00              | 689.46            | 0.00      | 99.58     | 147.0-148.0 | 0.09              | 690.06            | 0.01      | 99.67     |
| 101.0-102.0 | 0.00              | 689.46            | 0.00      | 99.58     | 148.0-149.0 | 0.10              | 690.16            | 0.01      | 99.68     |
| 102.0-103.0 | 0.00              | 689.46            | 0.00      | 99.58     | 149.0-150.0 | 0.10              | 690.26            | 0.01      | 99.70     |
| 103.0-104.0 | 0.00              | 689.46            | 0.00      | 99.58     | 150.0-151.0 | 0.11              | 690.37            | 0.02      | 99.71     |
| 104.0-105.0 | 0.00              | 689.46            | 0.00      | 99.58     | 151.0-152.0 | 0.11              | 690.47            | 0.02      | 99.73     |
| 105.0-106.0 | 0.00              | 689.46            | 0.00      | 99.58     | 152.0-153.0 | 0.11              | 690.58            | 0.02      | 99.74     |
| 106.0-107.0 | 0.00              | 689.46            | 0.00      | 99.58     | 153.0-154.0 | 0.11              | 690.69            | 0.02      | 99.76     |
| 107.0-108.0 | 0.00              | 689.46            | 0.00      | 99.58     | 154.0-155.0 | 0.11              | 690.80            | 0.02      | 99.77     |
| 108.0-109.0 | 0.00              | 689.46            | 0.00      | 99.58     | 155.0-156.0 | 0.11              | 690.91            | 0.02      | 99.79     |
| 109.0-110.0 | 0.00              | 689.46            | 0.00      | 99.58     | 156.0-157.0 | 0.11              | 691.01            | 0.02      | 99.81     |
| 110.0-111.0 | 0.00              | 689.46            | 0.00      | 99.58     | 157.0-158.0 | 0.10              | 691.12            | 0.02      | 99.82     |
| 111.0-112.0 | 0.00              | 689.46            | 0.00      | 99.58     | 158.0-159.0 | 0.10              | 691.22            | 0.01      | 99.84     |
| 112.0-113.0 | 0.00              | 689.46            | 0.00      | 99.58     | 159.0-160.0 | 0.10              | 691.32            | 0.01      | 99.85     |
| 113.0-114.0 | 0.00              | 689.46            | 0.00      | 99.58     | 160.0-161.0 | 0.10              | 691.42            | 0.01      | 99.86     |
| 114.0-115.0 | 0.00              | 689.46            | 0.00      | 99.58     | 161.0-162.0 | 0.09              | 691.51            | 0.01      | 99.88     |
| 115.0-116.0 | 0.00              | 689.46            | 0.00      | 99.58     | 162.0-163.0 | 0.09              | 691.60            | 0.01      | 99.89     |
| 116.0-117.0 | 0.00              | 689.46            | 0.00      | 99.58     | 163.0-164.0 | 0.08              | 691.68            | 0.01      | 99.90     |
| 117.0-118.0 | 0.00              | 689.46            | 0.00      | 99.58     | 164.0-165.0 | 0.08              | 691.76            | 0.01      | 99.91     |
| 118.0-119.0 | 0.00              | 689.46            | 0.00      | 99.58     | 165.0-166.0 | 0.08              | 691.84            | 0.01      | 99.92     |
| 119.0-120.0 | 0.00              | 689.46            | 0.00      | 99.58     | 166.0-167.0 | 0.07              | 691.91            | 0.01      | 99.93     |
| 120.0-121.0 | 0.00              | 689.46            | 0.00      | 99.58     | 167.0-168.0 | 0.07              | 691.98            | 0.01      | 99.94     |
| 121.0-122.0 | 0.00              | 689.46            | 0.00      | 99.58     | 168.0-169.0 | 0.06              | 692.04            | 0.01      | 99.95     |
| 122.0-123.0 | 0.00              | 689.46            | 0.00      | 99.58     | 169.0-170.0 | 0.06              | 692.09            | 0.01      | 99.96     |
| 123.0-124.0 | 0.00              | 689.46            | 0.00      | 99.58     | 170.0-171.0 | 0.05              | 692.14            | 0.01      | 99.97     |
| 124.0-125.0 | 0.00              | 689.46            | 0.00      | 99.58     | 171.0-172.0 | 0.05              | 692.19            | 0.01      | 99.98     |
| 125.0-126.0 | 0.00              | 689.46            | 0.00      | 99.58     | 172.0-173.0 | 0.04              | 692.23            | 0.01      | 99.98     |
| 126.0-127.0 | 0.00              | 689.46            | 0.00      | 99.58     | 173.0-174.0 | 0.03              | 692.26            | 0.00      | 99.99     |
| 127.0-128.0 | 0.00              | 689.46            | 0.00      | 99.58     | 174.0-175.0 | 0.03              | 692.29            | 0.00      | 99.99     |
| 128.0-129.0 | 0.00              | 689.46            | 0.00      | 99.58     | 175.0-176.0 | 0.02              | 692.31            | 0.00      | 99.99     |
| 129.0-130.0 | 0.00              | 689.46            | 0.00      | 99.58     | 176.0-177.0 | 0.02              | 692.33            | 0.00      | 100.00    |
| 130.0-131.0 | 0.00              | 689.46            | 0.00      | 99.58     | 177.0-178.0 | 0.01              | 692.35            | 0.00      | 100.00    |
| 131.0-132.0 | 0.00              | 689.46            | 0.00      | 99.58     | 178.0-179.0 | 0.01              | 692.35            | 0.00      | 100.00    |
| 132.0-133.0 | 0.00              | 689.46            | 0.00      | 99.58     | 179.0-180.0 | 0.00              | 692.36            | 0.00      | 100.00    |
| 133.0-134.0 | 0.00              | 689.46            | 0.00      | 99.58     |             |                   |                   |           |           |
| 134.0-135.0 | 0.00              | 689.46            | 0.00      | 99.58     |             |                   |                   |           |           |
| 135.0-136.0 | 0.00              | 689.46            | 0.00      | 99.58     |             |                   |                   |           |           |
| 136.0-137.0 | 0.00              | 689.46            | 0.00      | 99.58     |             |                   |                   |           |           |
| 137.0-138.0 | 0.01              | 689.47            | 0.00      | 99.58     |             |                   |                   |           |           |
| 138.0-139.0 | 0.02              | 689.49            | 0.00      | 99.59     |             |                   |                   |           |           |
| 139.0-140.0 | 0.03              | 689.52            | 0.00      | 99.59     |             |                   |                   |           |           |
| 140.0-141.0 | 0.04              | 689.55            | 0.01      | 99.59     |             |                   |                   |           |           |

Rectangle ISO Lighting Intensity Diagram

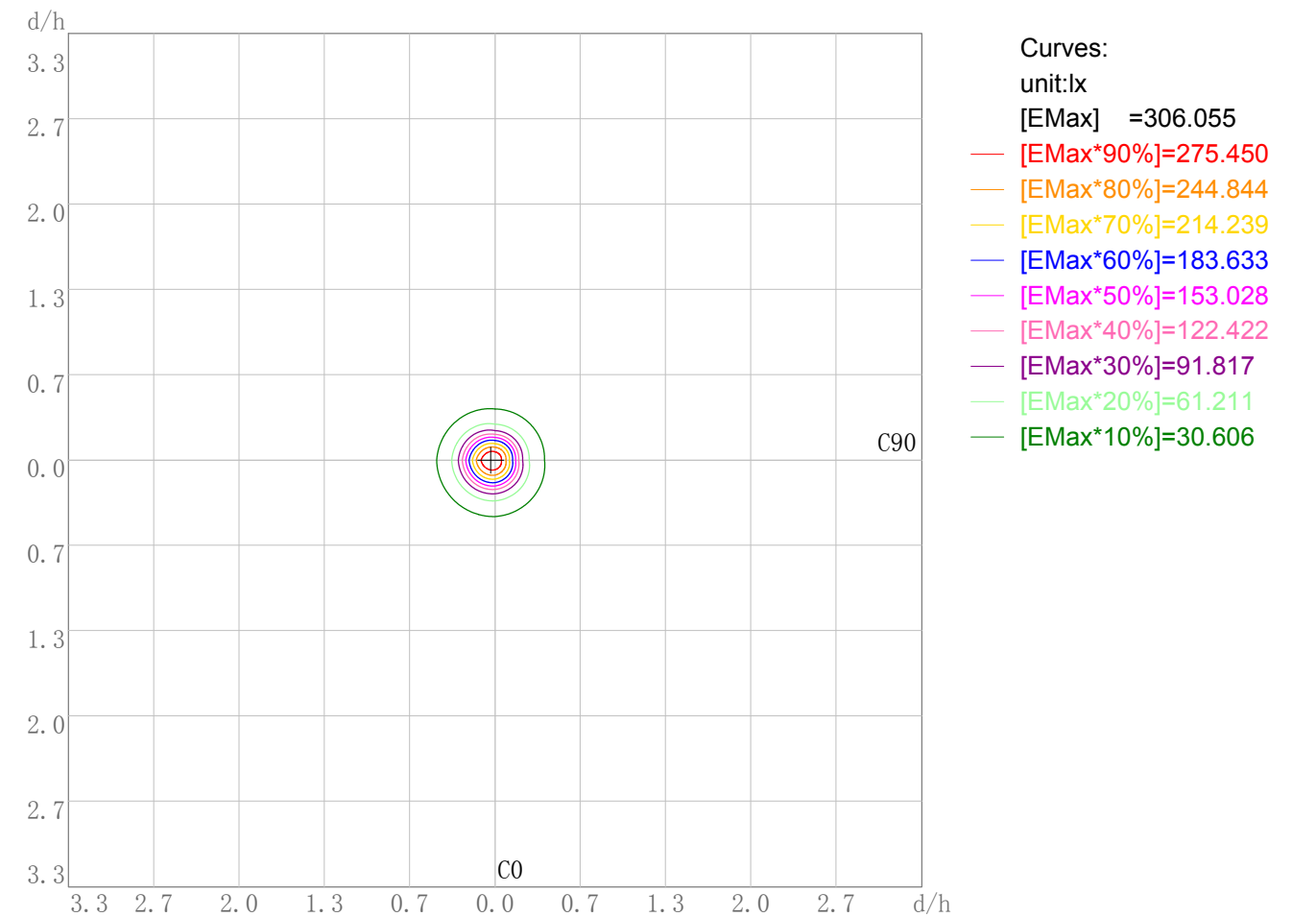
|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16        |



Plane ISO-Illuminance Diagram

|   |                       |                             |
|---|-----------------------|-----------------------------|
| Lum. Name:SD09-09-XX-04 2700K RA90 24D          | Lum. Catalog:         | Test ID:01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16       |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

Working Plane Maximum Illuminance(lx): 306.06

Working Plane Maximum Illuminance Position(d/h):H-0.0 V-0.0

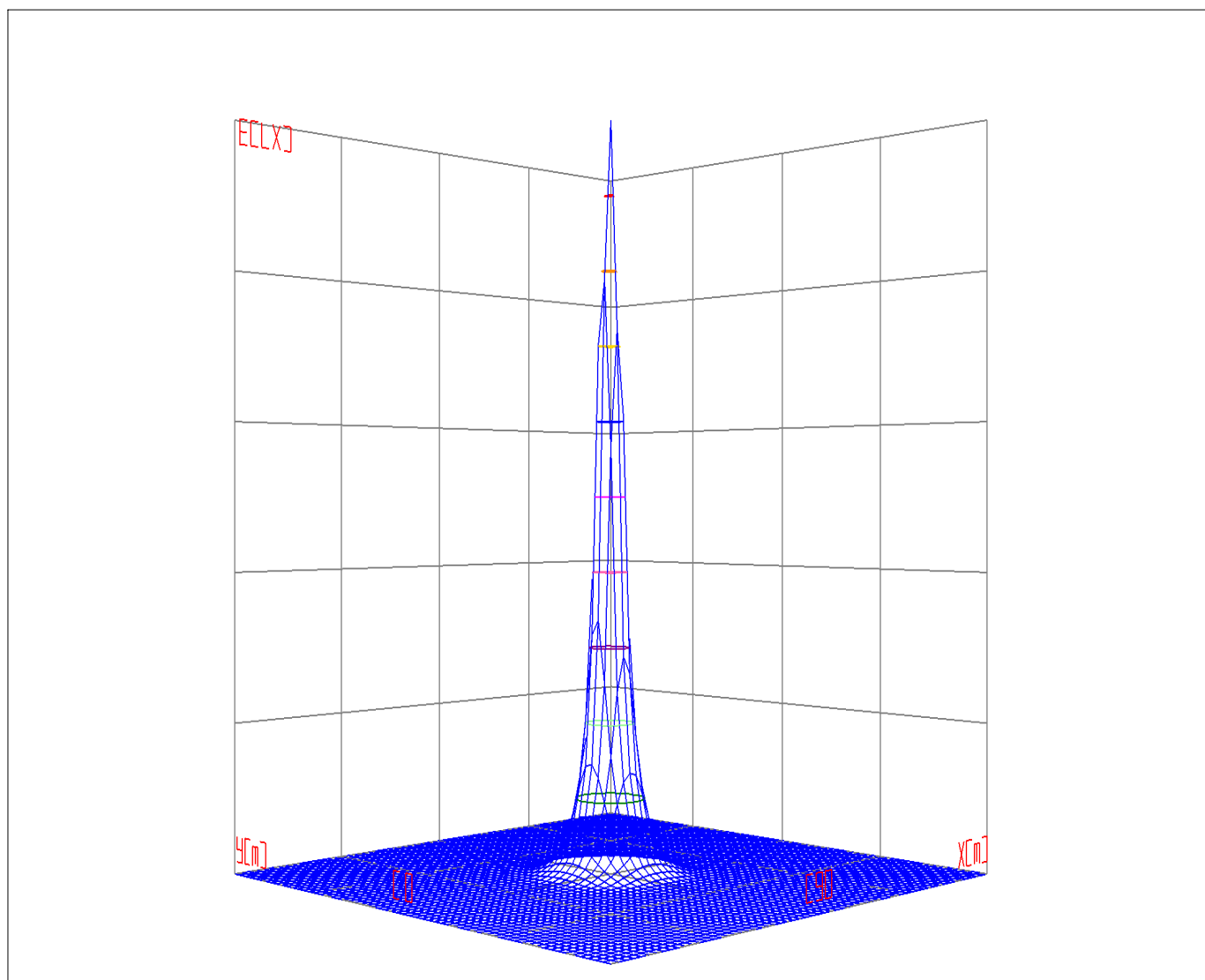
# IES Indoor Report

Photometric Filename:SD09-09-XX-04 2700K RA90 24D.IES

## 3D Plane ISO Illuminance Diagram

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16        |

## 3D Plane Illuminance Modal



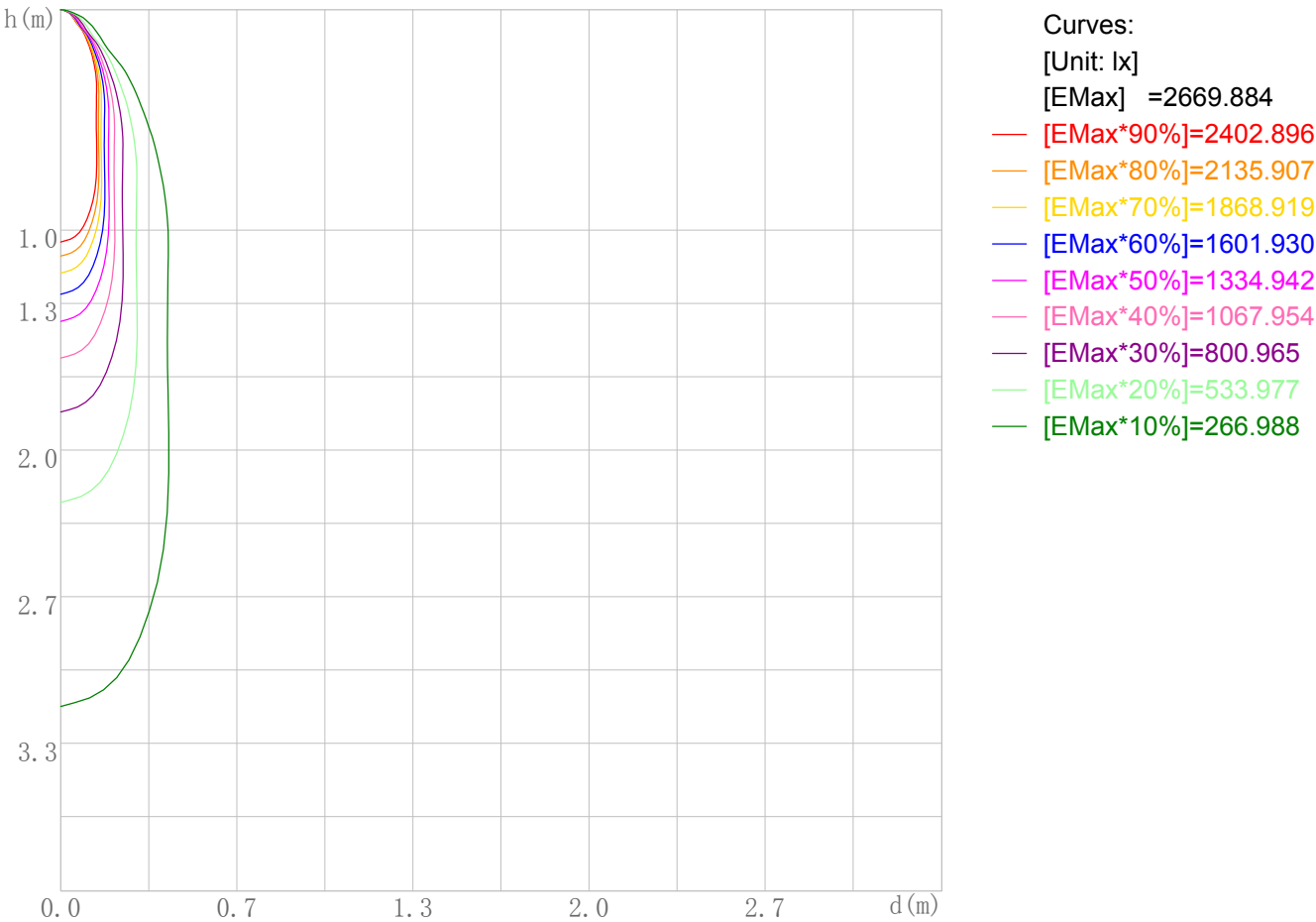
Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0



Space ISO Illuminance Diagram

|   |                       |                             |
|---|-----------------------|-----------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catelog:         | Test ID: 01                 |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16       |

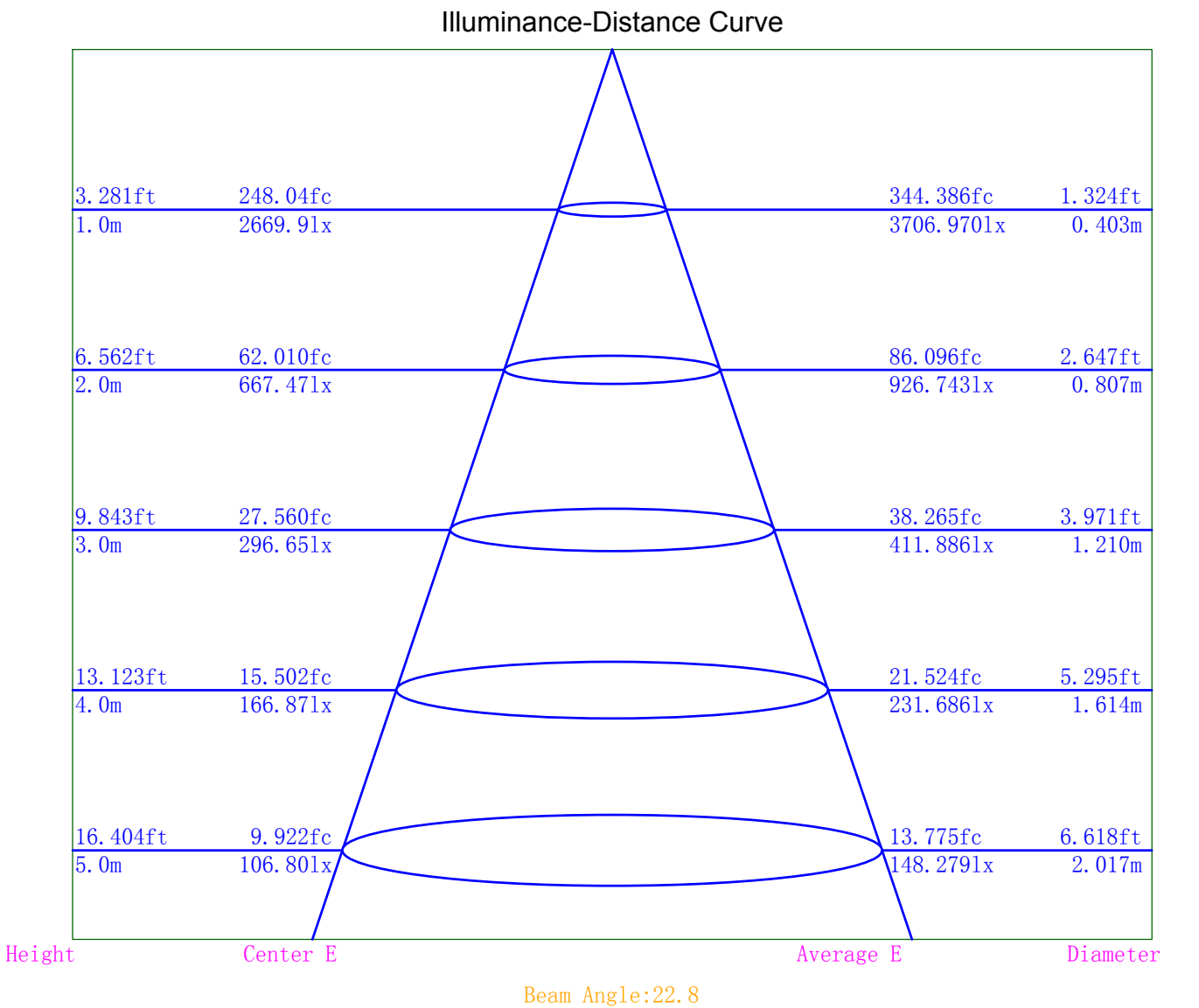
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:2669.88lx,0.0deg  
Plane Maximum Lighting Intensity and @Angle:2669.884cd,0deg

Illuminance-Distance Diagram

|   |                       |                             |
|---|-----------------------|-----------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catelog:         | Test ID: 01                 |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16       |



Indoor Luminance Limiting Curves

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16        |

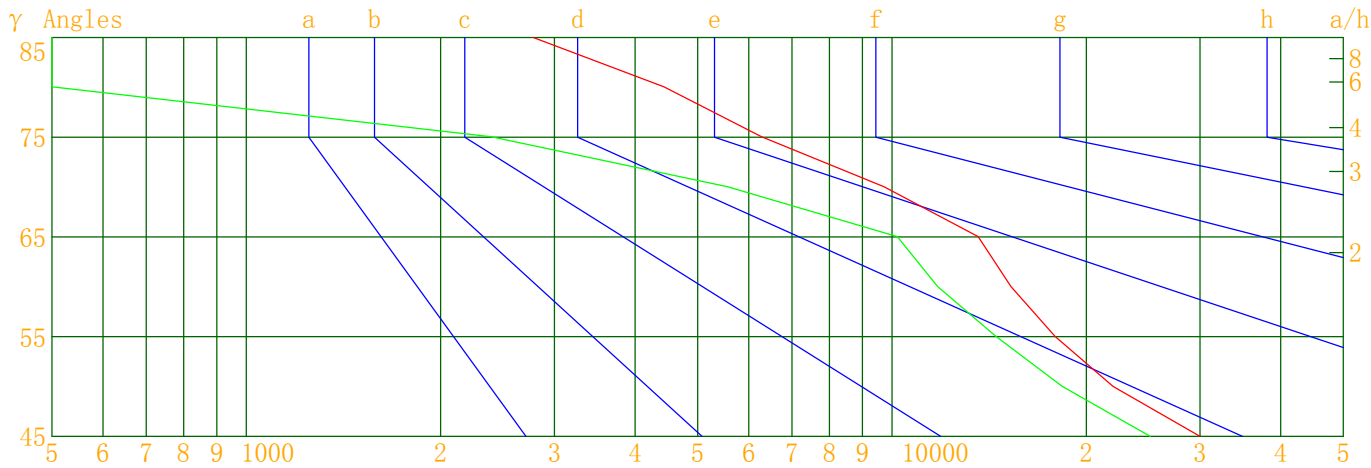
Glare Grade Table

| 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        | 29996 | 22000 | 17898 | 15286 | 13595 | 9714 | 6282 | 4433 | 2782 |
| C90       | 25122 | 18357 | 14492 | 11770 | 10190 | 5558 | 2395 | 0    | 0    |

Luminance Limiting Curve



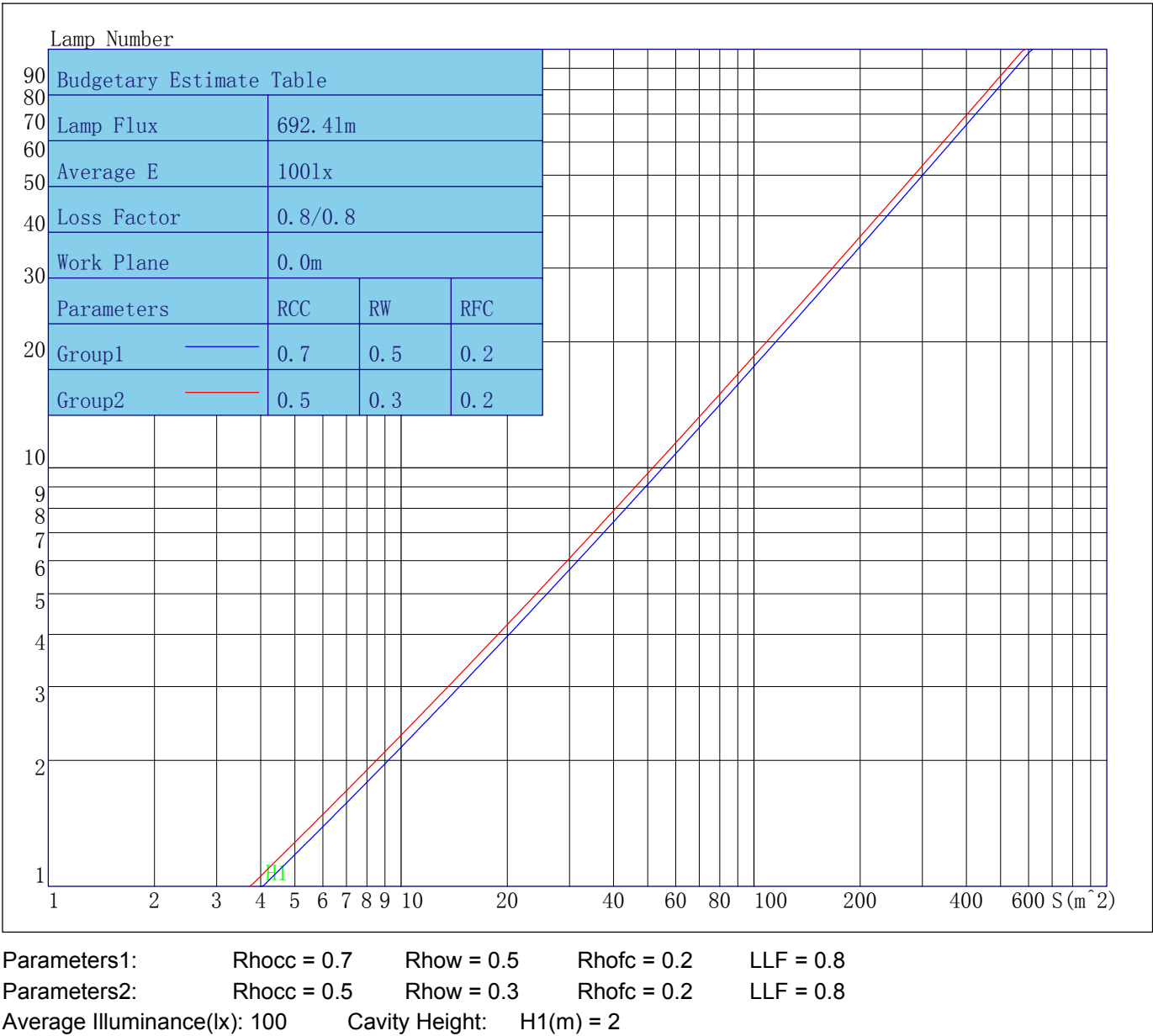
Luminous Size: Length(m)=-0.038 Width(m)=-0.038 Height(m)=0.000 Area(m^2)=0.001134

Luminous Type: Without Luminous Side

Luminous Curves: C0-C180 Color: C90-C270 Color:

Indoor Budgetary Estimate Table

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16        |



Indoor Coefficient of Utilization Table

|   |                       |                             |
|---|-----------------------|-----------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catelog:         | Test ID: 01                 |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16       |

| 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 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 114   | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 99  | 98  | 97  | 97  | 95  |
| 2   | 110   | 105 | 102 | 99  | 107 | 104 | 101 | 98  | 100 | 98  | 96  | 97  | 95  | 94  | 95  | 93  | 92  | 90  |
| 3   | 105   | 100 | 96  | 92  | 103 | 98  | 95  | 91  | 96  | 93  | 90  | 93  | 91  | 89  | 91  | 89  | 87  | 86  |
| 4   | 101   | 95  | 90  | 87  | 99  | 94  | 89  | 86  | 92  | 88  | 85  | 90  | 87  | 84  | 88  | 85  | 83  | 82  |
| 5   | 97  | 90  | 86  | 82  | 96  | 90  | 85  | 82  | 88  | 84  | 81  | 86  | 83  | 80  | 85  | 82  | 79  | 78  |
| 6   | 94  | 86  | 82  | 78  | 92  | 86  | 81  | 78  | 84  | 80  | 77  | 83  | 79  | 77  | 82  | 79  | 76  | 75  |
| 7   | 91  | 83  | 78  | 75  | 89  | 82  | 78  | 74  | 81  | 77  | 74  | 80  | 76  | 74  | 79  | 76  | 73  | 72  |
| 8   | 87  | 80  | 75  | 72  | 86  | 79  | 75  | 71  | 78  | 74  | 71  | 77  | 73  | 71  | 76  | 73  | 70  | 69  |
| 9   | 85  | 77  | 72  | 69  | 84  | 76  | 72  | 69  | 75  | 71  | 68  | 75  | 71  | 68  | 74  | 70  | 68  | 67  |
| 10  | 82  | 74  | 69  | 66  | 81  | 74  | 69  | 66  | 73  | 69  | 66  | 72  | 68  | 66  | 72  | 68  | 66  | 65  |

Unified Glare Rating Table

|   |                       |                             |
|---|-----------------------|-----------------------------|
| Lum. Name: SD09-09-XX-04 2700K RA90 24D         | Lum. Catelog:         | Test ID: 01                 |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Deparment |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/11/16       |

Unified Glare Rating Table

|   |                 |      |      |      |      |               |      |      |      |      |
|---|-----------------|------|------|------|------|---------------|------|------|------|------|
| Ceiling RCC                                       | 0.70            | 0.70 | 0.50 | 0.50 | 0.30 | 0.70          | 0.70 | 0.50 | 0.50 | 0.30 |
| Wall RW   | 0.50            | 0.30 | 0.50 | 0.30 | 0.30 | 0.50          | 0.30 | 0.50 | 0.30 | 0.30 |
| Floor RFC   | 0.20            | 0.20 | 0.20 | 0.20 | 0.20 | 0.20          | 0.20 | 0.20 | 0.20 | 0.20 |
| Room Size   | Vewed crosswise |      |      |      |      | Vewed endwise |      |      |      |      |
| X=2H    Y=2H                                      | 18.5            | 19.5 | 18.9 | 19.9 | 20.2 | 17.8          | 18.8 | 18.2 | 19.1 | 19.5 |
|   | 18.7            | 19.6 | 19.1 | 20.0 | 20.3 | 17.8          | 18.7 | 18.2 | 19.1 | 19.4 |
|   | 18.7            | 19.5 | 19.1 | 19.9 | 20.3 | 17.8          | 18.6 | 18.2 | 18.9 | 19.3 |
|   | 18.6            | 19.4 | 19.1 | 19.8 | 20.2 | 17.7          | 18.4 | 18.1 | 18.8 | 19.2 |
|   | 18.6            | 19.3 | 19.0 | 19.7 | 20.1 | 17.6          | 18.3 | 18.0 | 18.7 | 19.1 |
|   | 18.6            | 19.2 | 19.0 | 19.6 | 20.1 | 17.5          | 18.2 | 18.0 | 18.6 | 19.0 |
| X=4H    Y=2H                                      | 18.5            | 19.3 | 18.9 | 19.7 | 20.1 | 17.7          | 18.6 | 18.2 | 18.9 | 19.3 |
|   | 18.8            | 19.4 | 19.2 | 19.9 | 20.3 | 17.8          | 18.5 | 18.2 | 18.9 | 19.3 |
|   | 18.8            | 19.4 | 19.2 | 19.8 | 20.3 | 17.7          | 18.3 | 18.2 | 18.8 | 19.2 |
|   | 18.7            | 19.2 | 19.2 | 19.7 | 20.2 | 17.6          | 18.2 | 18.1 | 18.6 | 19.1 |
|   | 18.7            | 19.2 | 19.2 | 19.6 | 20.1 | 17.6          | 18.0 | 18.0 | 18.5 | 19.0 |
|   | 18.6            | 19.0 | 19.1 | 19.5 | 20.0 | 17.5          | 17.9 | 18.0 | 18.4 | 18.9 |
| X=8H    Y=4H                                      | 18.6            | 19.1 | 19.1 | 19.6 | 20.1 | 17.6          | 18.1 | 18.1 | 18.5 | 19.0 |
|   | 18.6            | 19.0 | 19.1 | 19.5 | 20.1 | 17.5          | 17.9 | 18.0 | 18.4 | 18.9 |
|   | 18.6            | 18.9 | 19.1 | 19.5 | 20.0 | 17.4          | 17.8 | 17.9 | 18.3 | 18.8 |
|   | 18.5            | 18.9 | 19.1 | 19.4 | 20.0 | 17.4          | 17.7 | 17.9 | 18.2 | 18.8 |
| X=12H    Y=4H                                     | 18.6            | 19.0 | 19.1 | 19.5 | 20.0 | 17.5          | 18.0 | 18.0 | 18.5 | 18.9 |
|   | 18.6            | 18.9 | 19.1 | 19.4 | 20.0 | 17.4          | 17.8 | 18.0 | 18.3 | 18.8 |
|   | 18.5            | 18.9 | 19.1 | 19.4 | 20.0 | 17.4          | 17.7 | 17.9 | 18.2 | 18.8 |
| Variations with the objerver position at spacings |                 |      |      |      |      |               |      |      |      |      |
| S=1.0H  | 0.7/-0.7        |      |      |      |      | 1.9/-2.7      |      |      |      |      |
| S=1.5H  | 1.5/-1.7        |      |      |      |      | 2.9/-4.5      |      |      |      |      |
| S=2.0H  | 2.6/-3.3        |      |      |      |      | 4.0/-7.0      |      |      |      |      |
| Reduced UGR Table:                                |                 |      |      |      |      |               |      |      |      |      |
| Nordic Standard Table:                            | BK0             |      |      |      |      | BK0           |      |      |      |      |
| Correction Value                                  | 0.6             |      |      |      |      | 0.3           |      |      |      |      |

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

IES Indoor Report

Photometric Filename:SD09-09-XX-04 2700K RA90 24D.IES

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Candela Tabulation

| V/H    | C0.0    | C90.0   | C180.0  | C270.0  |
|--------|---------|---------|---------|---------|
| γ 0.0  | 2669.88 | 2669.88 | 2669.88 | 2669.88 |
| γ 1.0  | 2641.28 | 2630.43 | 2652.45 | 2743.75 |
| γ 2.0  | 2609.24 | 2555.88 | 2630.82 | 2759.54 |
| γ 3.0  | 2554.02 | 2464.25 | 2585.85 | 2741.45 |
| γ 4.0  | 2471.26 | 2345.25 | 2519.89 | 2693.21 |
| γ 5.0  | 2352.35 | 2198.18 | 2432.73 | 2632.19 |
| γ 6.0  | 2200.65 | 2025.68 | 2326.42 | 2554.35 |
| γ 7.0  | 2033.60 | 1844.07 | 2202.66 | 2455.46 |
| γ 8.0  | 1857.33 | 1648.63 | 2053.51 | 2334.83 |
| γ 9.0  | 1663.56 | 1443.28 | 1891.19 | 2197.41 |
| γ 10.0 | 1457.73 | 1237.50 | 1715.56 | 2034.77 |
| γ 11.0 | 1249.64 | 1051.49 | 1529.18 | 1856.45 |
| γ 12.0 | 1054.46 | 896.12  | 1340.97 | 1670.29 |
| γ 13.0 | 892.64  | 772.94  | 1162.19 | 1476.09 |
| γ 14.0 | 767.27  | 676.75  | 1001.48 | 1284.11 |
| γ 15.0 | 671.40  | 601.55  | 869.45  | 1101.21 |
| γ 16.0 | 595.92  | 540.48  | 762.15  | 938.18  |
| γ 17.0 | 533.78  | 489.20  | 676.81  | 808.60  |
| γ 18.0 | 481.99  | 445.47  | 608.35  | 708.05  |
| γ 19.0 | 439.14  | 407.85  | 550.43  | 627.61  |
| γ 20.0 | 402.09  | 373.60  | 499.77  | 562.28  |
| γ 21.0 | 369.13  | 341.90  | 456.17  | 507.98  |
| γ 22.0 | 338.54  | 313.36  | 417.42  | 460.08  |
| γ 23.0 | 308.84  | 286.87  | 382.98  | 419.56  |
| γ 24.0 | 281.19  | 262.80  | 351.27  | 384.21  |
| γ 25.0 | 255.82  | 239.89  | 321.18  | 350.90  |
| γ 26.0 | 232.32  | 217.71  | 293.95  | 320.41  |
| γ 27.0 | 209.50  | 197.82  | 269.19  | 291.62  |
| γ 28.0 | 189.63  | 179.99  | 246.16  | 265.63  |
| γ 29.0 | 172.03  | 163.63  | 223.95  | 241.16  |
| γ 30.0 | 155.90  | 146.74  | 203.99  | 219.47  |
| γ 31.0 | 141.01  | 130.09  | 185.65  | 198.78  |
| γ 32.0 | 124.92  | 116.96  | 168.32  | 180.26  |
| γ 33.0 | 112.12  | 105.55  | 152.32  | 163.33  |
| γ 34.0 | 100.99  | 95.82   | 136.05  | 147.90  |
| γ 35.0 | 91.18   | 86.76   | 122.36  | 133.02  |
| γ 36.0 | 82.53   | 78.53   | 110.70  | 119.35  |
| γ 37.0 | 74.71   | 70.89   | 100.41  | 107.58  |
| γ 38.0 | 67.49   | 63.87   | 91.12   | 97.50   |
| γ 39.0 | 60.87   | 57.28   | 82.79   | 88.43   |
| γ 40.0 | 54.70   | 51.06   | 74.94   | 80.16   |
| γ 41.0 | 49.01   | 42.99   | 67.61   | 72.63   |
| γ 42.0 | 42.69   | 33.52   | 60.70   | 65.76   |
| γ 43.0 | 34.31   | 26.77   | 54.06   | 59.34   |
| γ 44.0 | 27.81   | 22.83   | 44.98   | 53.30   |
| γ 45.0 | 24.06   | 20.15   | 34.14   | 46.59   |
| γ 46.0 | 21.58   | 18.19   | 26.10   | 36.81   |

Candela Tabulation - (Cont.)

| V/H    | C0.0  | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 19.70 | 16.63 | 21.15  | 28.85  |
| γ 48.0 | 18.27 | 15.36 | 18.10  | 24.00  |
| γ 49.0 | 17.08 | 14.32 | 16.15  | 20.99  |
| γ 50.0 | 16.04 | 13.38 | 14.87  | 18.92  |
| γ 51.0 | 15.09 | 12.48 | 13.91  | 17.40  |
| γ 52.0 | 14.18 | 11.42 | 13.12  | 16.15  |
| γ 53.0 | 13.29 | 10.61 | 12.40  | 15.16  |
| γ 54.0 | 12.33 | 9.94  | 11.68  | 14.28  |
| γ 55.0 | 11.64 | 9.43  | 10.73  | 13.47  |
| γ 56.0 | 11.07 | 8.96  | 10.10  | 12.62  |
| γ 57.0 | 10.52 | 8.42  | 9.60   | 11.81  |
| γ 58.0 | 9.96  | 7.81  | 9.17   | 11.19  |
| γ 59.0 | 9.33  | 7.18  | 8.80   | 10.71  |
| γ 60.0 | 8.67  | 6.67  | 8.35   | 10.28  |
| γ 61.0 | 8.06  | 6.28  | 7.82   | 9.81   |
| γ 62.0 | 7.60  | 5.94  | 7.25   | 9.27   |
| γ 63.0 | 7.21  | 5.61  | 6.74   | 8.67   |
| γ 64.0 | 6.88  | 5.29  | 6.39   | 8.15   |
| γ 65.0 | 6.52  | 4.88  | 6.06   | 7.71   |
| γ 66.0 | 6.13  | 4.37  | 5.77   | 7.34   |
| γ 67.0 | 5.67  | 3.70  | 5.43   | 7.03   |
| γ 68.0 | 5.03  | 3.09  | 5.04   | 6.69   |
| γ 69.0 | 4.32  | 2.59  | 4.49   | 6.30   |
| γ 70.0 | 3.77  | 2.16  | 3.79   | 5.81   |
| γ 71.0 | 3.28  | 1.76  | 3.23   | 5.11   |
| γ 72.0 | 2.85  | 1.43  | 2.75   | 4.40   |
| γ 73.0 | 2.46  | 1.14  | 2.32   | 3.85   |
| γ 74.0 | 2.13  | 0.90  | 1.95   | 3.37   |
| γ 75.0 | 1.84  | 0.70  | 1.64   | 2.95   |
| γ 76.0 | 1.61  | 0.52  | 1.37   | 2.57   |
| γ 77.0 | 1.39  | 0.36  | 1.15   | 2.25   |
| γ 78.0 | 1.20  | 0.22  | 0.94   | 1.98   |
| γ 79.0 | 1.04  | 0.09  | 0.77   | 1.75   |
| γ 80.0 | 0.87  | 0.00  | 0.60   | 1.52   |
| γ 81.0 | 0.74  | 0.00  | 0.44   | 1.33   |
| γ 82.0 | 0.61  | 0.00  | 0.31   | 1.16   |
| γ 83.0 | 0.49  | 0.00  | 0.19   | 1.00   |
| γ 84.0 | 0.38  | 0.00  | 0.07   | 0.85   |
| γ 85.0 | 0.28  | 0.00  | 0.00   | 0.71   |
| γ 86.0 | 0.19  | 0.00  | 0.00   | 0.58   |
| γ 87.0 | 0.09  | 0.00  | 0.00   | 0.46   |
| γ 88.0 | 0.02  | 0.00  | 0.00   | 0.34   |
| γ 89.0 | 0.00  | 0.00  | 0.00   | 0.24   |
| γ 90.0 | 0.00  | 0.00  | 0.00   | 0.14   |
| γ 91.0 | 0.00  | 0.00  | 0.00   | 0.04   |
| γ 92.0 | 0.00  | 0.00  | 0.00   | 0.00   |
| γ 93.0 | 0.00  | 0.00  | 0.00   | 0.00   |

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Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0  | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 95.0  | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 96.0  | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 97.0  | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 98.0  | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 99.0  | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 100.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 101.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 102.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 103.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 104.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 105.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 106.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 107.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 108.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 109.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 110.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 111.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 112.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 113.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 114.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 115.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 116.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 117.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 118.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 119.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 120.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 121.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 122.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 123.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 124.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 125.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 126.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 127.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 128.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 129.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 130.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 131.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 132.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 133.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 134.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 135.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 136.0 | 0.00 | 0.00  | 0.00   | 0.00   |
| γ 137.0 | 0.08 | 0.07  | 0.07   | 0.00   |
| γ 138.0 | 0.21 | 0.21  | 0.21   | 0.05   |
| γ 139.0 | 0.35 | 0.37  | 0.36   | 0.19   |
| γ 140.0 | 0.50 | 0.52  | 0.52   | 0.33   |

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Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 0.65 | 0.67  | 0.68   | 0.48   |
| γ 142.0 | 0.81 | 0.84  | 0.84   | 0.63   |
| γ 143.0 | 0.97 | 0.99  | 1.00   | 0.78   |
| γ 144.0 | 1.12 | 1.13  | 1.15   | 0.94   |
| γ 145.0 | 1.27 | 1.28  | 1.30   | 1.09   |
| γ 146.0 | 1.42 | 1.41  | 1.45   | 1.24   |
| γ 147.0 | 1.56 | 1.54  | 1.59   | 1.39   |
| γ 148.0 | 1.69 | 1.66  | 1.74   | 1.53   |
| γ 149.0 | 1.82 | 1.77  | 1.87   | 1.67   |
| γ 150.0 | 1.94 | 1.88  | 1.99   | 1.80   |
| γ 151.0 | 2.05 | 1.96  | 2.10   | 1.90   |
| γ 152.0 | 2.15 | 2.04  | 2.20   | 2.01   |
| γ 153.0 | 2.23 | 2.11  | 2.29   | 2.12   |
| γ 154.0 | 2.31 | 2.18  | 2.37   | 2.20   |
| γ 155.0 | 2.39 | 2.24  | 2.44   | 2.28   |
| γ 156.0 | 2.45 | 2.29  | 2.50   | 2.34   |
| γ 157.0 | 2.52 | 2.34  | 2.56   | 2.41   |
| γ 158.0 | 2.56 | 2.38  | 2.61   | 2.46   |
| γ 159.0 | 2.61 | 2.42  | 2.67   | 2.52   |
| γ 160.0 | 2.66 | 2.48  | 2.70   | 2.56   |
| γ 161.0 | 2.69 | 2.50  | 2.75   | 2.61   |
| γ 162.0 | 2.73 | 2.54  | 2.78   | 2.66   |
| γ 163.0 | 2.77 | 2.57  | 2.80   | 2.70   |
| γ 164.0 | 2.78 | 2.60  | 2.84   | 2.73   |
| γ 165.0 | 2.80 | 2.62  | 2.86   | 2.77   |
| γ 166.0 | 2.83 | 2.63  | 2.88   | 2.79   |
| γ 167.0 | 2.82 | 2.64  | 2.90   | 2.82   |
| γ 168.0 | 2.83 | 2.65  | 2.89   | 2.84   |
| γ 169.0 | 2.82 | 2.65  | 2.89   | 2.86   |
| γ 170.0 | 2.81 | 2.64  | 2.87   | 2.86   |
| γ 171.0 | 2.79 | 2.63  | 2.85   | 2.87   |
| γ 172.0 | 2.77 | 2.62  | 2.82   | 2.86   |
| γ 173.0 | 2.75 | 2.62  | 2.81   | 2.86   |
| γ 174.0 | 2.74 | 2.63  | 2.77   | 2.84   |
| γ 175.0 | 2.71 | 2.64  | 2.74   | 2.83   |
| γ 176.0 | 2.71 | 2.65  | 2.72   | 2.82   |
| γ 177.0 | 2.72 | 2.67  | 2.71   | 2.82   |
| γ 178.0 | 2.72 | 2.70  | 2.70   | 2.81   |
| γ 179.0 | 2.72 | 2.73  | 2.71   | 2.82   |
| γ 180.0 | 2.74 | 2.74  | 2.74   | 2.74   |