

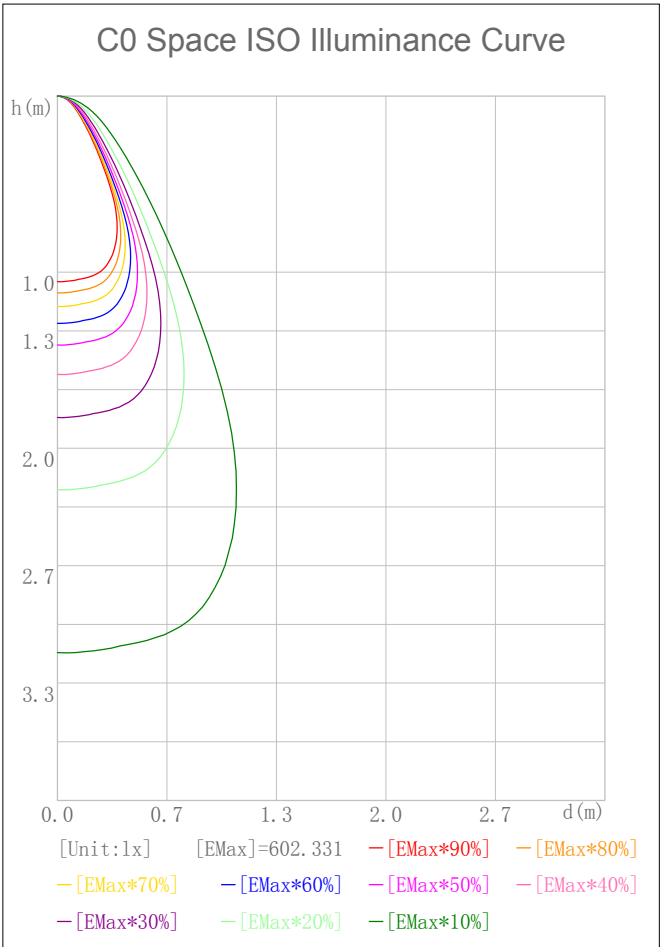
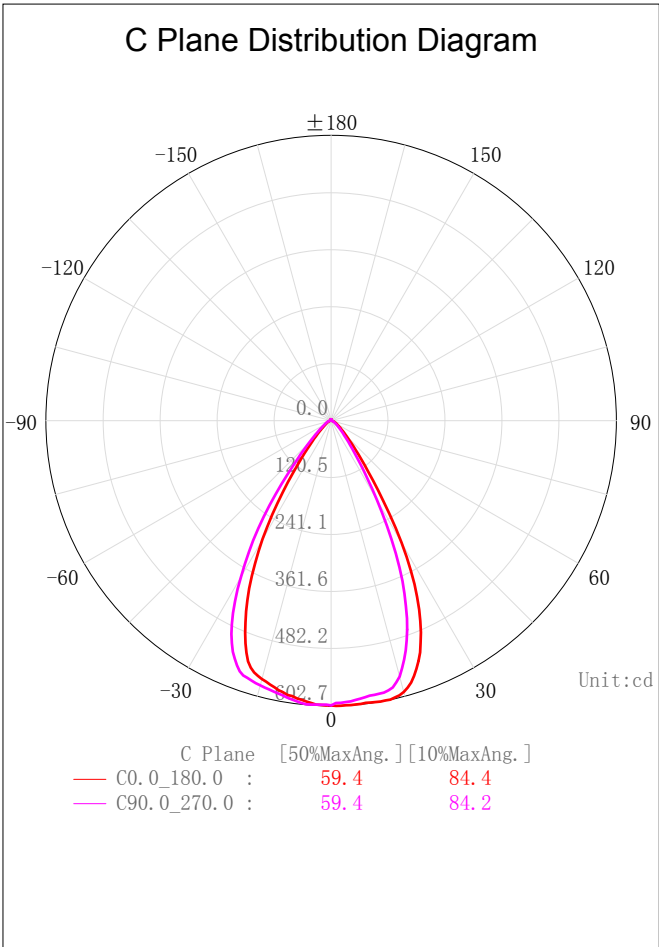
Indoor Luminaire Photometric Data

Description Information

|   |                         |                      |                       |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name:WL02-06-XX-01 4000K RA90 60D      |                         | Lum. Catalog:        | Test ID: 01           |
| Lamp Name:                                      |                         | Lamp Catalog: LED    | Test Date: 2021/10/28 |
| 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):0.076m*0.076m*0.000m          |                         | 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     |

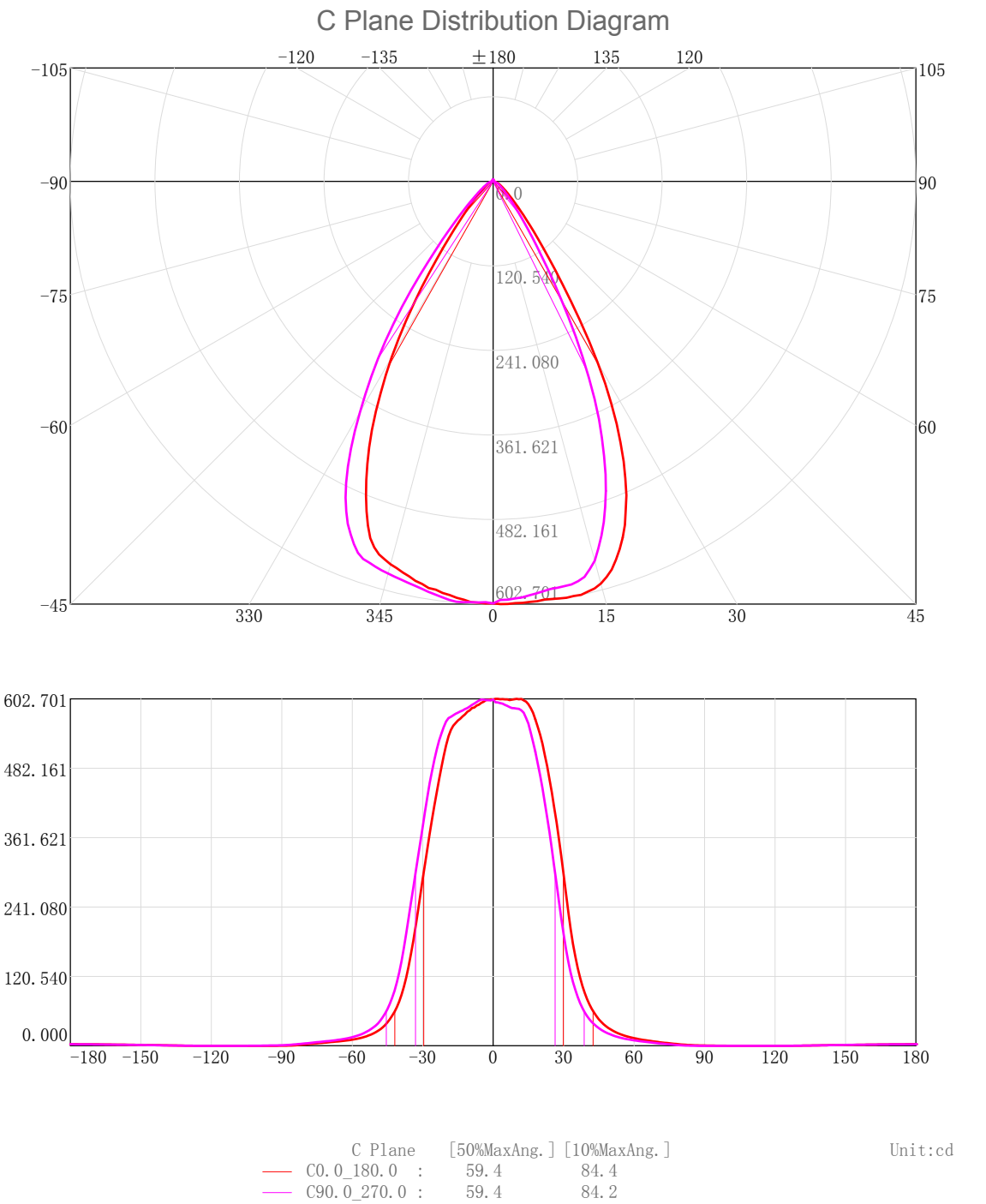
Character Parameter

| Lamp Speciality Parameter                       |                                 | Luminaire Speciality Parameter        |  |
|---|---------------------------------|---------------------------------------|--|
| Rated Flux(lm): 584.180                         | Luminary Flux(lm): 584.176      | Field Angle(10%Imax): 84.4(°)         |  |
| Rated Power(W):                                 | Luminary Efficiency: 100.00%    | Down Lumens&Percent: 580.860lm 99.43% |  |
| Rated Voltage(V):                               | Luminary EER(lm/W): 93.995      | Up Lumens&Percent: 3.316lm 0.57%      |  |
| Tested Power(W): 6.215                          | Max. Candela(cd): 602.701       | S/MH: C0_a180=0.963 C90_270=0.960     |  |
| Lamps' Inside: 1                                | Max Cand@Ang. (°): C=0.0 γ=10.0 | CIE Type: Semi-Direct                 |  |
| Tested Electrics (V, A, pf):241.0, 0.030, 0.843 | Beam Angle(50%Imax): 59.4(°)    | ErP ϕ use(90°): 518.336lm             |  |
| Lamp Size (W*L*H):0.076m*0.076m*0.000m          | Left=-29.5°, Right=29.9°        | IRF(%): 225.030                       |  |



2D Plane Light Intensity Distribution Curve

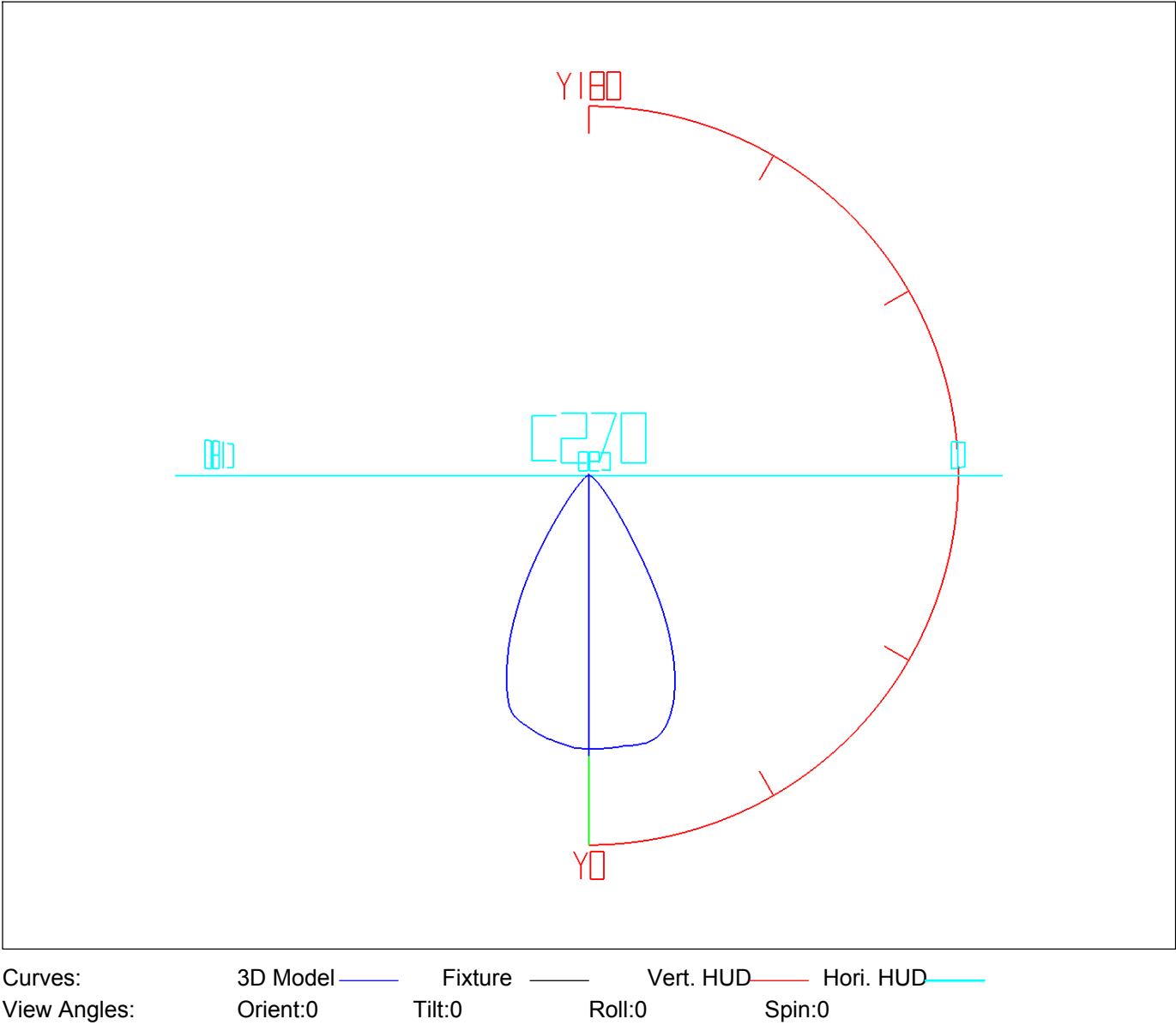
|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28        |



3D Light Intensity Distribution Modal

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28        |

3D Light Intensity Distribution Modal



Zonal Flux Tabulation

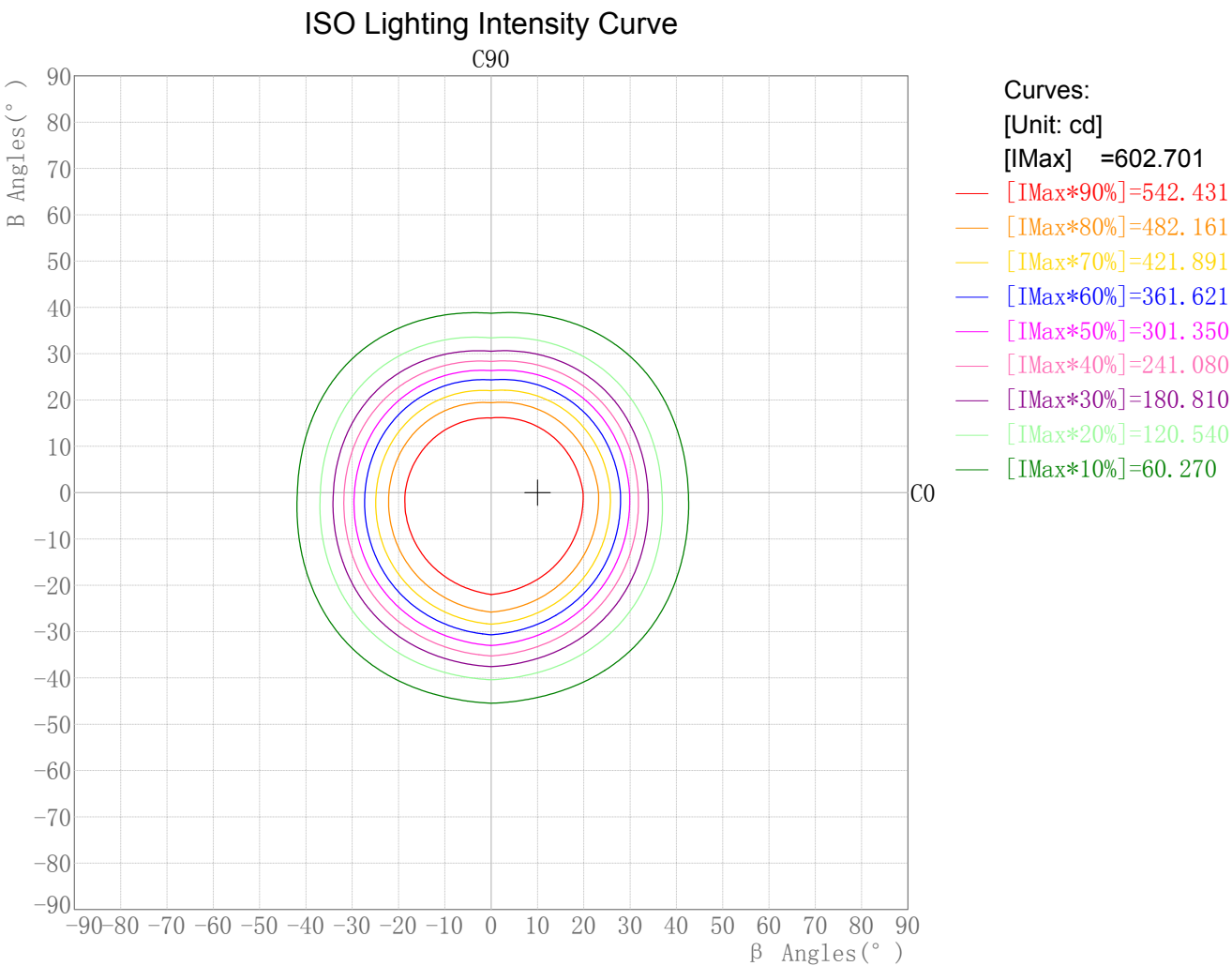
| Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp | Zone(γ)   | Zone Flux<br>(lm) | Sums Flux<br>(lm) | Zone%Lamp | Sums%Lamp |
|-----------|-------------------|-------------------|-----------|-----------|-----------|-------------------|-------------------|-----------|-----------|
| 0.0-1.0   | 0.58              | 0.58              | 0.10      | 0.10      | 47.0-48.0 | 2.79              | 544.83            | 0.48      | 93.26     |
| 1.0-2.0   | 1.72              | 2.30              | 0.29      | 0.39      | 48.0-49.0 | 2.55              | 547.38            | 0.44      | 93.70     |
| 2.0-3.0   | 2.87              | 5.17              | 0.49      | 0.88      | 49.0-50.0 | 2.34              | 549.73            | 0.40      | 94.10     |
| 3.0-4.0   | 4.01              | 9.18              | 0.69      | 1.57      | 50.0-51.0 | 2.17              | 551.89            | 0.37      | 94.47     |
| 4.0-5.0   | 5.15              | 14.33             | 0.88      | 2.45      | 51.0-52.0 | 2.01              | 553.90            | 0.34      | 94.82     |
| 5.0-6.0   | 6.27              | 20.60             | 1.07      | 3.53      | 52.0-53.0 | 1.87              | 555.77            | 0.32      | 95.14     |
| 6.0-7.0   | 7.39              | 27.99             | 1.26      | 4.79      | 53.0-54.0 | 1.74              | 557.51            | 0.30      | 95.43     |
| 7.0-8.0   | 8.49              | 36.49             | 1.45      | 6.25      | 54.0-55.0 | 1.62              | 559.13            | 0.28      | 95.71     |
| 8.0-9.0   | 9.60              | 46.08             | 1.64      | 7.89      | 55.0-56.0 | 1.52              | 560.65            | 0.26      | 95.97     |
| 9.0-10.0  | 10.70             | 56.78             | 1.83      | 9.72      | 56.0-57.0 | 1.42              | 562.07            | 0.24      | 96.22     |
| 10.0-11.0 | 11.78             | 68.56             | 2.02      | 11.74     | 57.0-58.0 | 1.34              | 563.41            | 0.23      | 96.45     |
| 11.0-12.0 | 12.84             | 81.40             | 2.20      | 13.93     | 58.0-59.0 | 1.26              | 564.67            | 0.22      | 96.66     |
| 12.0-13.0 | 13.88             | 95.28             | 2.38      | 16.31     | 59.0-60.0 | 1.19              | 565.87            | 0.20      | 96.86     |
| 13.0-14.0 | 14.88             | 110.16            | 2.55      | 18.86     | 60.0-61.0 | 1.13              | 566.99            | 0.19      | 97.06     |
| 14.0-15.0 | 15.83             | 126.00            | 2.71      | 21.57     | 61.0-62.0 | 1.07              | 568.06            | 0.18      | 97.24     |
| 15.0-16.0 | 16.72             | 142.72            | 2.86      | 24.43     | 62.0-63.0 | 1.01              | 569.07            | 0.17      | 97.41     |
| 16.0-17.0 | 17.54             | 160.26            | 3.00      | 27.43     | 63.0-64.0 | 0.96              | 570.02            | 0.16      | 97.58     |
| 17.0-18.0 | 18.28             | 178.54            | 3.13      | 30.56     | 64.0-65.0 | 0.91              | 570.93            | 0.16      | 97.73     |
| 18.0-19.0 | 18.92             | 197.46            | 3.24      | 33.80     | 65.0-66.0 | 0.86              | 571.80            | 0.15      | 97.88     |
| 19.0-20.0 | 19.43             | 216.89            | 3.33      | 37.13     | 66.0-67.0 | 0.82              | 572.62            | 0.14      | 98.02     |
| 20.0-21.0 | 19.80             | 236.69            | 3.39      | 40.52     | 67.0-68.0 | 0.78              | 573.39            | 0.13      | 98.15     |
| 21.0-22.0 | 20.01             | 256.70            | 3.42      | 43.94     | 68.0-69.0 | 0.73              | 574.12            | 0.13      | 98.28     |
| 22.0-23.0 | 20.09             | 276.79            | 3.44      | 47.38     | 69.0-70.0 | 0.69              | 574.81            | 0.12      | 98.40     |
| 23.0-24.0 | 20.04             | 296.82            | 3.43      | 50.81     | 70.0-71.0 | 0.65              | 575.46            | 0.11      | 98.51     |
| 24.0-25.0 | 19.83             | 316.65            | 3.39      | 54.20     | 71.0-72.0 | 0.61              | 576.07            | 0.10      | 98.61     |
| 25.0-26.0 | 19.46             | 336.11            | 3.33      | 57.53     | 72.0-73.0 | 0.57              | 576.64            | 0.10      | 98.71     |
| 26.0-27.0 | 18.91             | 355.02            | 3.24      | 60.77     | 73.0-74.0 | 0.53              | 577.16            | 0.09      | 98.80     |
| 27.0-28.0 | 18.21             | 373.23            | 3.12      | 63.89     | 74.0-75.0 | 0.49              | 577.65            | 0.08      | 98.88     |
| 28.0-29.0 | 17.37             | 390.60            | 2.97      | 66.86     | 75.0-76.0 | 0.45              | 578.10            | 0.08      | 98.96     |
| 29.0-30.0 | 16.43             | 407.02            | 2.81      | 69.67     | 76.0-77.0 | 0.41              | 578.51            | 0.07      | 99.03     |
| 30.0-31.0 | 15.38             | 422.40            | 2.63      | 72.31     | 77.0-78.0 | 0.37              | 578.88            | 0.06      | 99.09     |
| 31.0-32.0 | 14.26             | 436.65            | 2.44      | 74.75     | 78.0-79.0 | 0.33              | 579.22            | 0.06      | 99.15     |
| 32.0-33.0 | 13.12             | 449.77            | 2.25      | 76.99     | 79.0-80.0 | 0.29              | 579.51            | 0.05      | 99.20     |
| 33.0-34.0 | 11.99             | 461.77            | 2.05      | 79.05     | 80.0-81.0 | 0.25              | 579.76            | 0.04      | 99.24     |
| 34.0-35.0 | 10.90             | 472.66            | 1.87      | 80.91     | 81.0-82.0 | 0.22              | 579.98            | 0.04      | 99.28     |
| 35.0-36.0 | 9.84              | 482.51            | 1.68      | 82.60     | 82.0-83.0 | 0.19              | 580.17            | 0.03      | 99.31     |
| 36.0-37.0 | 8.84              | 491.35            | 1.51      | 84.11     | 83.0-84.0 | 0.16              | 580.33            | 0.03      | 99.34     |
| 37.0-38.0 | 7.91              | 499.26            | 1.35      | 85.46     | 84.0-85.0 | 0.13              | 580.46            | 0.02      | 99.36     |
| 38.0-39.0 | 7.06              | 506.33            | 1.21      | 86.67     | 85.0-86.0 | 0.11              | 580.57            | 0.02      | 99.38     |
| 39.0-40.0 | 6.30              | 512.63            | 1.08      | 87.75     | 86.0-87.0 | 0.09              | 580.66            | 0.02      | 99.40     |
| 40.0-41.0 | 5.63              | 518.26            | 0.96      | 88.72     | 87.0-88.0 | 0.08              | 580.74            | 0.01      | 99.41     |
| 41.0-42.0 | 5.05              | 523.31            | 0.86      | 89.58     | 88.0-89.0 | 0.06              | 580.80            | 0.01      | 99.42     |
| 42.0-43.0 | 4.54              | 527.85            | 0.78      | 90.36     | 89.0-90.0 | 0.06              | 580.86            | 0.01      | 99.43     |
| 43.0-44.0 | 4.09              | 531.94            | 0.70      | 91.06     | 90.0-91.0 | 0.05              | 580.91            | 0.01      | 99.44     |
| 44.0-45.0 | 3.70              | 535.64            | 0.63      | 91.69     | 91.0-92.0 | 0.04              | 580.95            | 0.01      | 99.45     |
| 45.0-46.0 | 3.35              | 538.99            | 0.57      | 92.27     | 92.0-93.0 | 0.04              | 580.99            | 0.01      | 99.45     |
| 46.0-47.0 | 3.05              | 542.05            | 0.52      | 92.79     | 93.0-94.0 | 0.03              | 581.02            | 0.01      | 99.46     |

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   | 0.03              | 581.04            | 0.00      | 99.46     | 141.0-142.0 | 0.07              | 581.79            | 0.01      | 99.59     |
| 95.0-96.0   | 0.02              | 581.07            | 0.00      | 99.47     | 142.0-143.0 | 0.07              | 581.87            | 0.01      | 99.60     |
| 96.0-97.0   | 0.02              | 581.09            | 0.00      | 99.47     | 143.0-144.0 | 0.07              | 581.94            | 0.01      | 99.62     |
| 97.0-98.0   | 0.02              | 581.11            | 0.00      | 99.47     | 144.0-145.0 | 0.08              | 582.02            | 0.01      | 99.63     |
| 98.0-99.0   | 0.01              | 581.12            | 0.00      | 99.48     | 145.0-146.0 | 0.08              | 582.10            | 0.01      | 99.64     |
| 99.0-100.0  | 0.01              | 581.13            | 0.00      | 99.48     | 146.0-147.0 | 0.08              | 582.18            | 0.01      | 99.66     |
| 100.0-101.0 | 0.01              | 581.14            | 0.00      | 99.48     | 147.0-148.0 | 0.08              | 582.26            | 0.01      | 99.67     |
| 101.0-102.0 | 0.01              | 581.15            | 0.00      | 99.48     | 148.0-149.0 | 0.08              | 582.34            | 0.01      | 99.69     |
| 102.0-103.0 | 0.01              | 581.15            | 0.00      | 99.48     | 149.0-150.0 | 0.08              | 582.43            | 0.01      | 99.70     |
| 103.0-104.0 | 0.00              | 581.16            | 0.00      | 99.48     | 150.0-151.0 | 0.09              | 582.51            | 0.01      | 99.71     |
| 104.0-105.0 | 0.00              | 581.16            | 0.00      | 99.48     | 151.0-152.0 | 0.09              | 582.60            | 0.01      | 99.73     |
| 105.0-106.0 | 0.00              | 581.16            | 0.00      | 99.48     | 152.0-153.0 | 0.09              | 582.69            | 0.01      | 99.74     |
| 106.0-107.0 | 0.00              | 581.16            | 0.00      | 99.48     | 153.0-154.0 | 0.09              | 582.77            | 0.01      | 99.76     |
| 107.0-108.0 | 0.00              | 581.17            | 0.00      | 99.48     | 154.0-155.0 | 0.09              | 582.86            | 0.01      | 99.77     |
| 108.0-109.0 | 0.00              | 581.17            | 0.00      | 99.48     | 155.0-156.0 | 0.09              | 582.94            | 0.01      | 99.79     |
| 109.0-110.0 | 0.00              | 581.17            | 0.00      | 99.48     | 156.0-157.0 | 0.08              | 583.03            | 0.01      | 99.80     |
| 110.0-111.0 | 0.00              | 581.17            | 0.00      | 99.48     | 157.0-158.0 | 0.08              | 583.11            | 0.01      | 99.82     |
| 111.0-112.0 | 0.00              | 581.17            | 0.00      | 99.48     | 158.0-159.0 | 0.08              | 583.19            | 0.01      | 99.83     |
| 112.0-113.0 | 0.00              | 581.17            | 0.00      | 99.48     | 159.0-160.0 | 0.08              | 583.27            | 0.01      | 99.84     |
| 113.0-114.0 | 0.00              | 581.17            | 0.00      | 99.48     | 160.0-161.0 | 0.08              | 583.35            | 0.01      | 99.86     |
| 114.0-115.0 | 0.00              | 581.17            | 0.00      | 99.48     | 161.0-162.0 | 0.08              | 583.42            | 0.01      | 99.87     |
| 115.0-116.0 | 0.00              | 581.17            | 0.00      | 99.48     | 162.0-163.0 | 0.07              | 583.50            | 0.01      | 99.88     |
| 116.0-117.0 | 0.00              | 581.17            | 0.00      | 99.48     | 163.0-164.0 | 0.07              | 583.57            | 0.01      | 99.90     |
| 117.0-118.0 | 0.00              | 581.17            | 0.00      | 99.48     | 164.0-165.0 | 0.07              | 583.64            | 0.01      | 99.91     |
| 118.0-119.0 | 0.00              | 581.17            | 0.00      | 99.48     | 165.0-166.0 | 0.06              | 583.70            | 0.01      | 99.92     |
| 119.0-120.0 | 0.00              | 581.17            | 0.00      | 99.48     | 166.0-167.0 | 0.06              | 583.76            | 0.01      | 99.93     |
| 120.0-121.0 | 0.00              | 581.17            | 0.00      | 99.48     | 167.0-168.0 | 0.06              | 583.82            | 0.01      | 99.94     |
| 121.0-122.0 | 0.00              | 581.17            | 0.00      | 99.48     | 168.0-169.0 | 0.05              | 583.87            | 0.01      | 99.95     |
| 122.0-123.0 | 0.00              | 581.17            | 0.00      | 99.48     | 169.0-170.0 | 0.05              | 583.92            | 0.01      | 99.96     |
| 123.0-124.0 | 0.00              | 581.17            | 0.00      | 99.48     | 170.0-171.0 | 0.05              | 583.97            | 0.01      | 99.96     |
| 124.0-125.0 | 0.00              | 581.17            | 0.00      | 99.48     | 171.0-172.0 | 0.04              | 584.01            | 0.01      | 99.97     |
| 125.0-126.0 | 0.00              | 581.17            | 0.00      | 99.48     | 172.0-173.0 | 0.04              | 584.05            | 0.01      | 99.98     |
| 126.0-127.0 | 0.01              | 581.18            | 0.00      | 99.49     | 173.0-174.0 | 0.03              | 584.08            | 0.01      | 99.98     |
| 127.0-128.0 | 0.01              | 581.19            | 0.00      | 99.49     | 174.0-175.0 | 0.03              | 584.11            | 0.00      | 99.99     |
| 128.0-129.0 | 0.02              | 581.20            | 0.00      | 99.49     | 175.0-176.0 | 0.02              | 584.13            | 0.00      | 99.99     |
| 129.0-130.0 | 0.02              | 581.22            | 0.00      | 99.49     | 176.0-177.0 | 0.02              | 584.15            | 0.00      | 100.00    |
| 130.0-131.0 | 0.02              | 581.25            | 0.00      | 99.50     | 177.0-178.0 | 0.01              | 584.17            | 0.00      | 100.00    |
| 131.0-132.0 | 0.03              | 581.28            | 0.00      | 99.50     | 178.0-179.0 | 0.01              | 584.17            | 0.00      | 100.00    |
| 132.0-133.0 | 0.03              | 581.31            | 0.01      | 99.51     | 179.0-180.0 | 0.00              | 584.18            | 0.00      | 100.00    |
| 133.0-134.0 | 0.04              | 581.35            | 0.01      | 99.52     |             |                   |                   |           |           |
| 134.0-135.0 | 0.04              | 581.39            | 0.01      | 99.52     |             |                   |                   |           |           |
| 135.0-136.0 | 0.05              | 581.44            | 0.01      | 99.53     |             |                   |                   |           |           |
| 136.0-137.0 | 0.05              | 581.49            | 0.01      | 99.54     |             |                   |                   |           |           |
| 137.0-138.0 | 0.05              | 581.54            | 0.01      | 99.55     |             |                   |                   |           |           |
| 138.0-139.0 | 0.06              | 581.60            | 0.01      | 99.56     |             |                   |                   |           |           |
| 139.0-140.0 | 0.06              | 581.66            | 0.01      | 99.57     |             |                   |                   |           |           |
| 140.0-141.0 | 0.07              | 581.73            | 0.01      | 99.58     |             |                   |                   |           |           |

Rectangle ISO Lighting Intensity Diagram

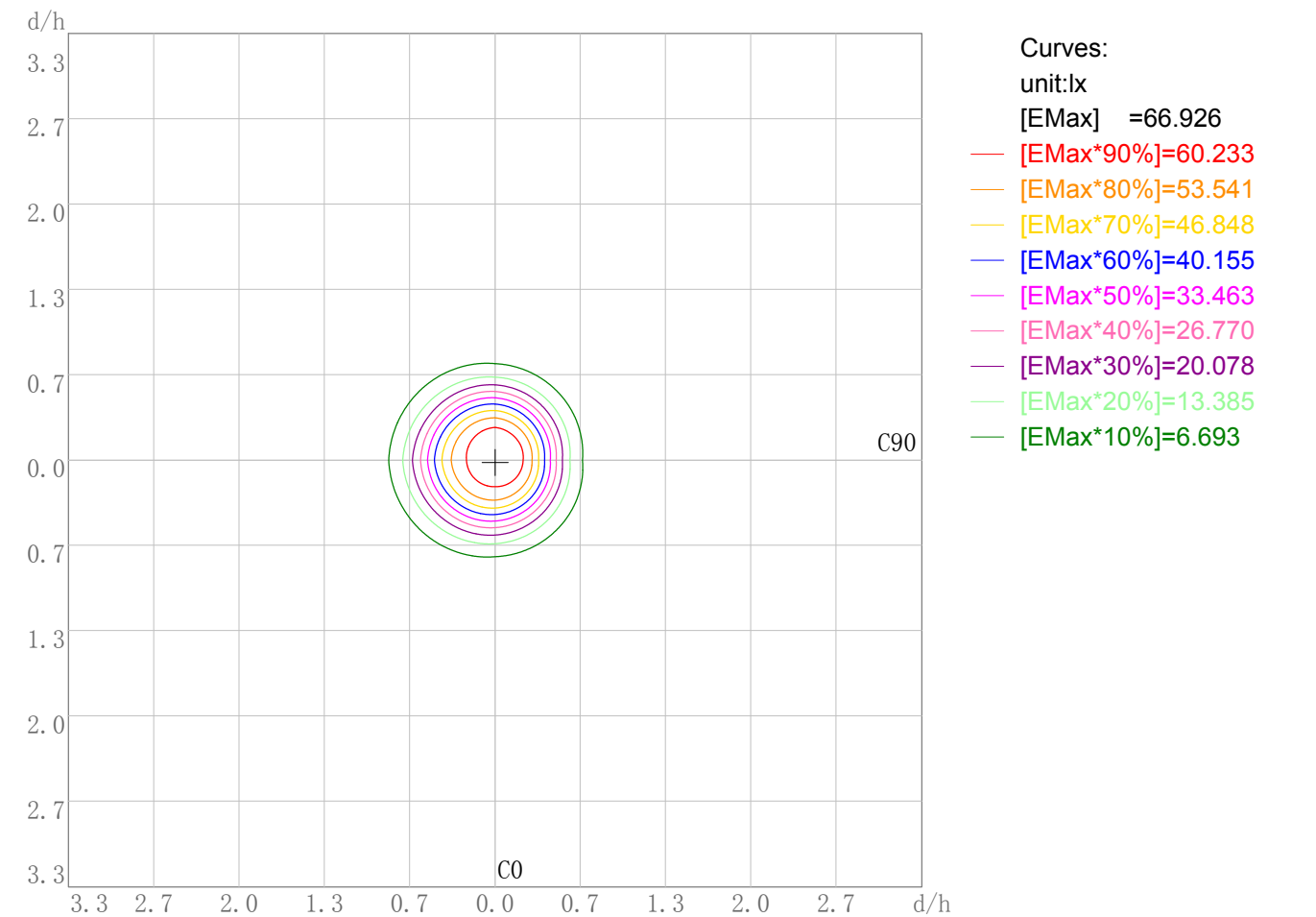
|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28        |



Plane ISO-Illuminance Diagram

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | 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: 2021/10/28        |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00  
Working Plane Maximum Illuminance(lx): 66.93  
Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

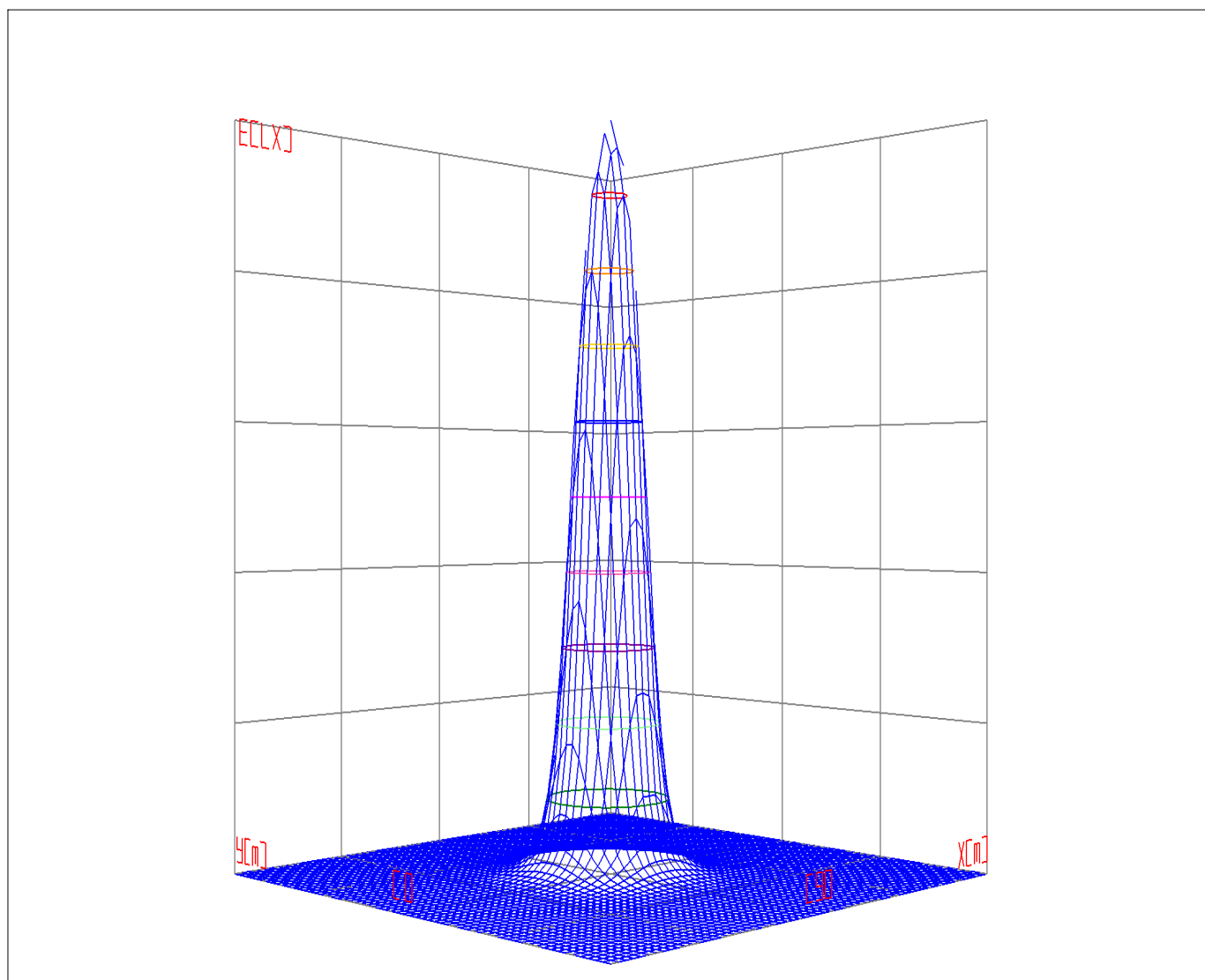
# IES Indoor Report

Photometric Filename:WL02-06-XX-01 4000K RA90 60D.IES

## 3D Plane ISO Illuminance Diagram

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | 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: 2021/10/28        |

## 3D Plane Illuminance Modal



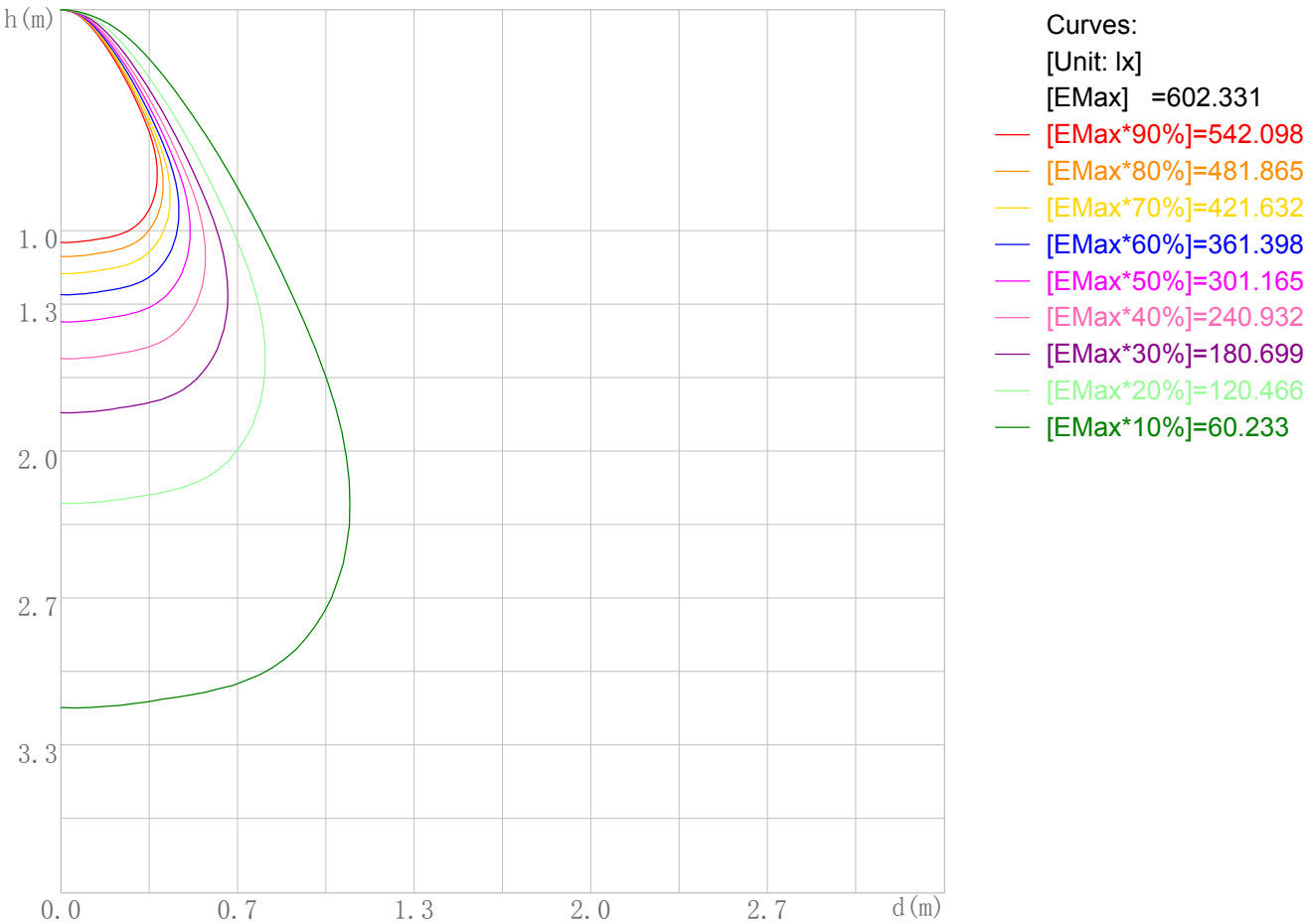
Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0



Space ISO Illuminance Diagram

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | 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: 2021/10/28        |

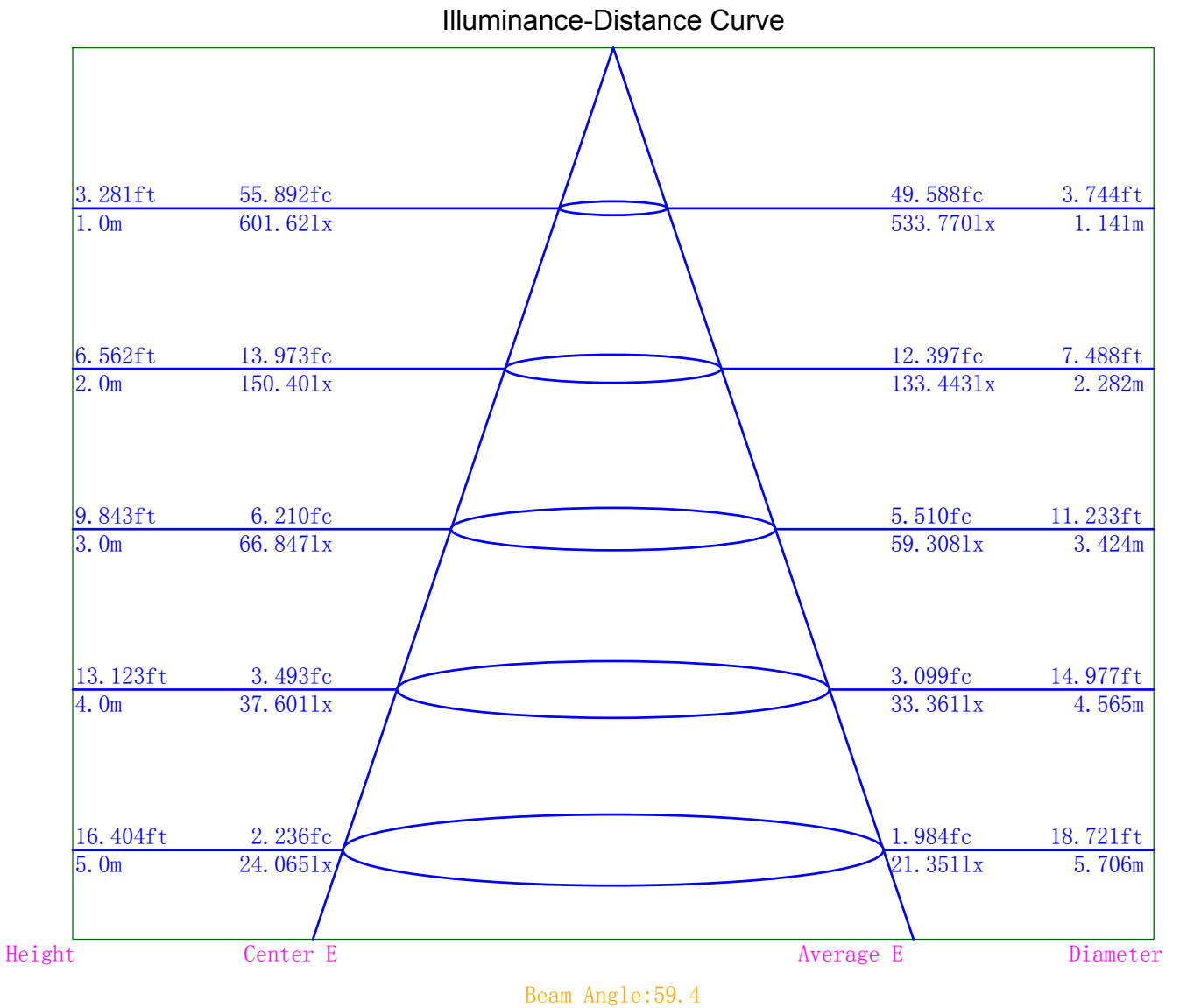
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:602.33lx,1.0deg  
Plane Maximum Lighting Intensity and @Angle:602.701cd,0deg

Illuminance-Distance Diagram

|   |                       |                                 |
|---|-----------------------|---------------------------------|
| Lum. Name:    WL02-06-XX-01 4000K RA90 60D      | Lum. Catelog:         | Test ID:    01                  |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab:    Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28           |



Indoor Luminance Limiting Curves

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | 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: 2021/10/28        |

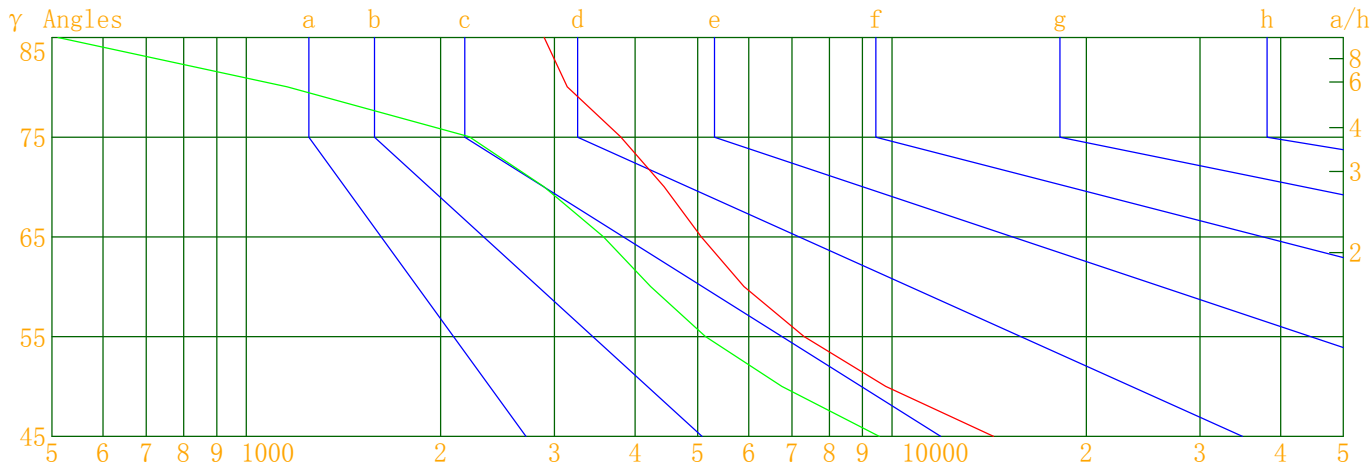
Glare Grade Table

| 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        | 14362 | 9782 | 7308 | 5899 | 5063 | 4437 | 3799 | 3141 | 2893 |
| C90       | 9555  | 6751 | 5141 | 4230 | 3572 | 2890 | 2215 | 1156 | 511  |

Luminance Limiting Curve



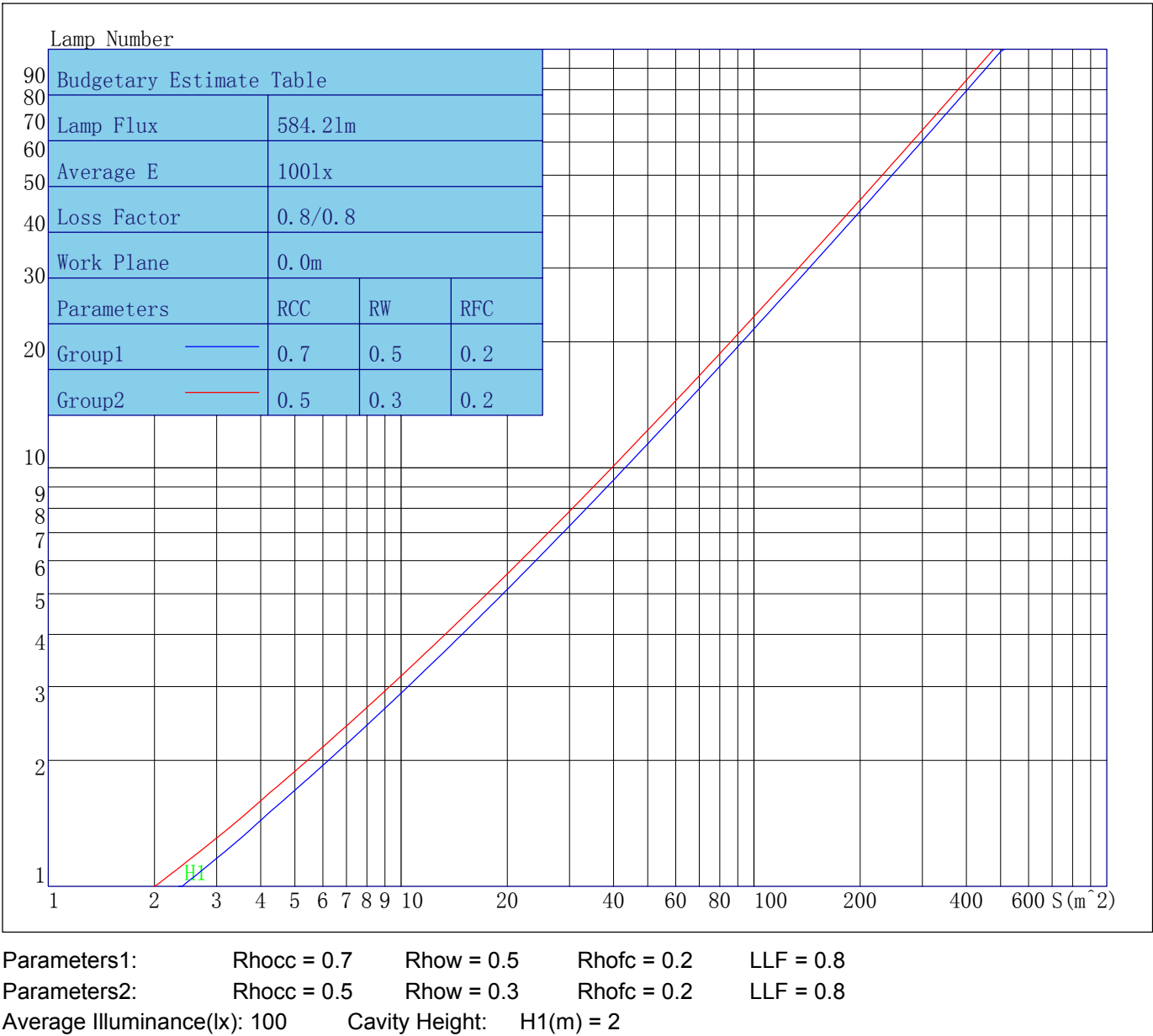
Luminous Size: Length(m)=-0.076 Width(m)=-0.076 Height(m)=0.000 Area(m^2)=0.004536

Luminous Type: Without Luminous Side

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

Indoor Budgetary Estimate Table

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | 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: 2021/10/28        |



Indoor Coefficient of Utilization Table

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28        |

| 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 | 99 |
| 1   | 113   | 110 | 107 | 105 | 110 | 108 | 105 | 103 | 104 | 102 | 100 | 100 | 98  | 97  | 96  | 95  | 94  | 92 |
| 2   | 107   | 102 | 98  | 94  | 105 | 100 | 96  | 93  | 97  | 94  | 91  | 94  | 91  | 89  | 91  | 89  | 87  | 85 |
| 3   | 101   | 95  | 89  | 85  | 99  | 93  | 88  | 84  | 90  | 86  | 83  | 88  | 84  | 82  | 86  | 83  | 80  | 79 |
| 4   | 96  | 88  | 82  | 78  | 94  | 87  | 82  | 77  | 85  | 80  | 76  | 83  | 79  | 75  | 81  | 77  | 74  | 73 |
| 5   | 91  | 82  | 76  | 72  | 89  | 81  | 76  | 71  | 79  | 74  | 71  | 78  | 73  | 70  | 76  | 72  | 69  | 68 |
| 6   | 86  | 77  | 71  | 66  | 85  | 76  | 70  | 66  | 75  | 69  | 66  | 73  | 69  | 65  | 72  | 68  | 65  | 63 |
| 7   | 82  | 72  | 66  | 62  | 81  | 72  | 66  | 62  | 70  | 65  | 61  | 69  | 64  | 61  | 68  | 64  | 60  | 59 |
| 8   | 78  | 68  | 62  | 58  | 77  | 67  | 62  | 58  | 66  | 61  | 57  | 65  | 60  | 57  | 64  | 60  | 57  | 55 |
| 9   | 74  | 64  | 58  | 54  | 73  | 64  | 58  | 54  | 63  | 57  | 54  | 62  | 57  | 54  | 61  | 57  | 53  | 52 |
| 10  | 71  | 61  | 55  | 51  | 70  | 60  | 55  | 51  | 59  | 54  | 51  | 59  | 54  | 50  | 58  | 53  | 50  | 49 |

Unified Glare Rating Table

|   |                       |                              |
|---|-----------------------|------------------------------|
| Lum. Name: WL02-06-XX-01 4000K RA90 60D         | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                                      | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting Co., Ltd | Test Machine:GON-2000 | Test Date: 2021/10/28        |

Unified Glare Rating Table

|   |                 |      |      |      |      |               |      |      |      |      |
|---|-----------------|------|------|------|------|---------------|------|------|------|------|
| Ceiling RCC                                       | 0.70            | 0.70 | 0.50 | 0.50 | 0.30 | 0.70          | 0.70 | 0.50 | 0.50 | 0.30 |
| Wall RW   | 0.50            | 0.30 | 0.50 | 0.30 | 0.30 | 0.50          | 0.30 | 0.50 | 0.30 | 0.30 |
| Floor RFC   | 0.20            | 0.20 | 0.20 | 0.20 | 0.20 | 0.20          | 0.20 | 0.20 | 0.20 | 0.20 |
| Room Size   | Vewed crosswise |      |      |      |      | Vewed endwise |      |      |      |      |
| X=2H    Y=2H                                      | 17.7            | 18.8 | 18.1 | 19.1 | 19.5 | 15.3          | 16.4 | 15.7 | 16.8 | 17.1 |
|   | 17.9            | 18.9 | 18.3 | 19.2 | 19.6 | 15.5          | 16.5 | 15.9 | 16.8 | 17.2 |
|   | 18.0            | 18.9 | 18.4 | 19.2 | 19.6 | 15.6          | 16.5 | 16.0 | 16.8 | 17.2 |
|   | 18.0            | 18.8 | 18.4 | 19.2 | 19.6 | 15.5          | 16.3 | 15.9 | 16.7 | 17.1 |
|   | 18.0            | 18.8 | 18.4 | 19.2 | 19.6 | 15.5          | 16.3 | 15.9 | 16.7 | 17.1 |
|   | 17.9            | 18.7 | 18.4 | 19.1 | 19.5 | 15.4          | 16.2 | 15.9 | 16.6 | 17.0 |
| X=4H    Y=2H                                      | 17.6            | 18.5 | 18.1 | 18.9 | 19.3 | 15.3          | 16.3 | 15.8 | 16.6 | 17.0 |
|   | 17.9            | 18.7 | 18.3 | 19.1 | 19.5 | 15.6          | 16.4 | 16.1 | 16.8 | 17.2 |
|   | 18.0            | 18.7 | 18.5 | 19.2 | 19.6 | 15.7          | 16.4 | 16.2 | 16.8 | 17.3 |
|   | 18.1            | 18.7 | 18.6 | 19.2 | 19.7 | 15.7          | 16.3 | 16.2 | 16.8 | 17.2 |
|   | 18.1            | 18.7 | 18.6 | 19.1 | 19.6 | 15.7          | 16.2 | 16.1 | 16.7 | 17.2 |
|   | 18.1            | 18.6 | 18.6 | 19.1 | 19.6 | 15.6          | 16.1 | 16.1 | 16.6 | 17.1 |
| X=8H    Y=4H                                      | 18.0            | 18.6 | 18.5 | 19.0 | 19.5 | 15.7          | 16.3 | 16.2 | 16.7 | 17.2 |
|   | 18.1            | 18.6 | 18.7 | 19.1 | 19.7 | 15.7          | 16.2 | 16.2 | 16.7 | 17.2 |
|   | 18.2            | 18.6 | 18.7 | 19.1 | 19.6 | 15.7          | 16.1 | 16.2 | 16.6 | 17.1 |
|   | 18.2            | 18.6 | 18.7 | 19.1 | 19.7 | 15.6          | 16.0 | 16.2 | 16.5 | 17.1 |
| X=12H    Y=4H                                     | 18.0            | 18.5 | 18.5 | 18.9 | 19.4 | 15.7          | 16.2 | 16.2 | 16.6 | 17.1 |
|   | 18.1            | 18.5 | 18.7 | 19.0 | 19.6 | 15.7          | 16.1 | 16.2 | 16.6 | 17.1 |
|   | 18.2            | 18.5 | 18.7 | 19.1 | 19.6 | 15.7          | 16.0 | 16.2 | 16.5 | 17.1 |
| Variations with the objerver position at spacings |                 |      |      |      |      |               |      |      |      |      |
| S=1.0H  | 0.5/-0.6        |      |      |      |      | 1.0/-1.2      |      |      |      |      |
| S=1.5H  | 1.0/-1.2        |      |      |      |      | 1.5/-2.0      |      |      |      |      |
| S=2.0H  | 1.3/-1.6        |      |      |      |      | 2.0/-2.6      |      |      |      |      |
| Reduced UGR Table:                                |                 |      |      |      |      |               |      |      |      |      |
| Nordic Standard Table:                            | BK0             |      |      |      |      | BK0           |      |      |      |      |
| Correction Value                                  | 0.8             |      |      |      |      | 0.7           |      |      |      |      |

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  | 601.62 | 601.62 | 601.62 | 601.62 |
| γ 1.0  | 602.61 | 596.67 | 601.68 | 599.79 |
| γ 2.0  | 602.64 | 596.57 | 600.83 | 600.45 |
| γ 3.0  | 602.00 | 595.25 | 600.69 | 600.53 |
| γ 4.0  | 602.29 | 594.42 | 597.80 | 601.26 |
| γ 5.0  | 601.68 | 592.31 | 595.71 | 601.53 |
| γ 6.0  | 601.64 | 590.44 | 592.79 | 599.82 |
| γ 7.0  | 600.55 | 588.52 | 591.08 | 597.20 |
| γ 8.0  | 601.20 | 586.62 | 587.71 | 594.68 |
| γ 9.0  | 601.91 | 586.42 | 586.79 | 592.12 |
| γ 10.0 | 602.70 | 585.81 | 582.62 | 589.30 |
| γ 11.0 | 601.97 | 585.27 | 580.21 | 586.86 |
| γ 12.0 | 602.54 | 582.64 | 575.61 | 584.77 |
| γ 13.0 | 600.10 | 578.61 | 572.16 | 582.57 |
| γ 14.0 | 597.89 | 569.67 | 568.08 | 580.74 |
| γ 15.0 | 593.41 | 559.85 | 565.01 | 578.70 |
| γ 16.0 | 586.70 | 544.32 | 560.63 | 576.71 |
| γ 17.0 | 578.53 | 527.98 | 556.11 | 574.13 |
| γ 18.0 | 567.01 | 510.63 | 548.51 | 571.47 |
| γ 19.0 | 554.41 | 490.81 | 537.85 | 569.24 |
| γ 20.0 | 540.18 | 469.57 | 521.93 | 563.35 |
| γ 21.0 | 524.48 | 447.32 | 503.75 | 553.92 |
| γ 22.0 | 504.71 | 422.19 | 483.73 | 542.46 |
| γ 23.0 | 486.09 | 396.83 | 462.75 | 530.40 |
| γ 24.0 | 463.12 | 371.16 | 440.53 | 514.86 |
| γ 25.0 | 440.45 | 342.32 | 418.17 | 497.50 |
| γ 26.0 | 414.38 | 311.80 | 394.37 | 477.98 |
| γ 27.0 | 387.92 | 281.32 | 367.98 | 456.15 |
| γ 28.0 | 358.97 | 250.94 | 341.64 | 431.64 |
| γ 29.0 | 329.29 | 221.39 | 315.23 | 406.54 |
| γ 30.0 | 297.56 | 194.12 | 289.47 | 379.82 |
| γ 31.0 | 265.30 | 168.74 | 261.66 | 353.45 |
| γ 32.0 | 233.13 | 146.47 | 234.18 | 327.70 |
| γ 33.0 | 203.52 | 127.24 | 207.58 | 301.65 |
| γ 34.0 | 177.24 | 110.90 | 182.50 | 274.63 |
| γ 35.0 | 154.57 | 97.03  | 158.63 | 247.85 |
| γ 36.0 | 135.10 | 84.90  | 137.17 | 221.12 |
| γ 37.0 | 118.61 | 74.43  | 118.32 | 194.84 |
| γ 38.0 | 104.19 | 65.70  | 102.34 | 169.89 |
| γ 39.0 | 91.85  | 58.16  | 88.64  | 147.07 |
| γ 40.0 | 81.25  | 51.73  | 76.99  | 127.22 |
| γ 41.0 | 72.16  | 46.19  | 67.23  | 110.19 |
| γ 42.0 | 64.24  | 41.39  | 58.99  | 95.50  |
| γ 43.0 | 57.41  | 37.31  | 52.13  | 83.02  |
| γ 44.0 | 51.40  | 33.73  | 46.08  | 72.61  |
| γ 45.0 | 46.07  | 30.65  | 40.73  | 63.72  |
| γ 46.0 | 41.59  | 27.90  | 35.99  | 56.31  |

Candela Tabulation - (Cont.)

| V/H    | C0.0  | C90.0 | C180.0 | C270.0 |
|--------|-------|-------|--------|--------|
| γ 47.0 | 37.61 | 25.49 | 32.16  | 49.85  |
| γ 48.0 | 34.19 | 23.27 | 28.92  | 44.13  |
| γ 49.0 | 31.16 | 21.40 | 26.19  | 39.17  |
| γ 50.0 | 28.52 | 19.69 | 23.69  | 35.13  |
| γ 51.0 | 26.13 | 18.16 | 21.54  | 31.96  |
| γ 52.0 | 24.10 | 16.76 | 19.60  | 29.09  |
| γ 53.0 | 22.21 | 15.50 | 17.99  | 26.45  |
| γ 54.0 | 20.51 | 14.38 | 16.53  | 24.18  |
| γ 55.0 | 19.02 | 13.38 | 15.27  | 22.13  |
| γ 56.0 | 17.66 | 12.46 | 14.15  | 20.32  |
| γ 57.0 | 16.44 | 11.65 | 13.18  | 18.74  |
| γ 58.0 | 15.31 | 10.92 | 12.27  | 17.33  |
| γ 59.0 | 14.30 | 10.23 | 11.47  | 16.11  |
| γ 60.0 | 13.38 | 9.59  | 10.73  | 15.02  |
| γ 61.0 | 12.53 | 8.97  | 10.08  | 14.03  |
| γ 62.0 | 11.74 | 8.41  | 9.55   | 13.13  |
| γ 63.0 | 11.02 | 7.88  | 9.02   | 12.34  |
| γ 64.0 | 10.34 | 7.36  | 8.55   | 11.61  |
| γ 65.0 | 9.71  | 6.85  | 8.11   | 10.98  |
| γ 66.0 | 9.10  | 6.38  | 7.68   | 10.38  |
| γ 67.0 | 8.52  | 5.91  | 7.28   | 9.85   |
| γ 68.0 | 7.98  | 5.42  | 6.91   | 9.35   |
| γ 69.0 | 7.43  | 4.92  | 6.55   | 8.88   |
| γ 70.0 | 6.88  | 4.48  | 6.21   | 8.41   |
| γ 71.0 | 6.30  | 4.08  | 5.82   | 8.00   |
| γ 72.0 | 5.80  | 3.70  | 5.44   | 7.57   |
| γ 73.0 | 5.33  | 3.32  | 5.07   | 7.15   |
| γ 74.0 | 4.89  | 2.96  | 4.70   | 6.75   |
| γ 75.0 | 4.46  | 2.60  | 4.32   | 6.34   |
| γ 76.0 | 4.05  | 2.27  | 3.94   | 5.90   |
| γ 77.0 | 3.66  | 1.93  | 3.57   | 5.46   |
| γ 78.0 | 3.32  | 1.48  | 3.25   | 5.07   |
| γ 79.0 | 2.95  | 1.15  | 2.87   | 4.64   |
| γ 80.0 | 2.47  | 0.91  | 2.46   | 4.22   |
| γ 81.0 | 2.04  | 0.69  | 2.12   | 3.81   |
| γ 82.0 | 1.79  | 0.49  | 1.84   | 3.41   |
| γ 83.0 | 1.54  | 0.37  | 1.40   | 3.04   |
| γ 84.0 | 1.33  | 0.29  | 1.02   | 2.71   |
| γ 85.0 | 1.14  | 0.20  | 0.79   | 2.34   |
| γ 86.0 | 1.01  | 0.13  | 0.59   | 1.88   |
| γ 87.0 | 0.90  | 0.07  | 0.44   | 1.60   |
| γ 88.0 | 0.80  | 0.01  | 0.34   | 1.38   |
| γ 89.0 | 0.73  | 0.00  | 0.27   | 1.17   |
| γ 90.0 | 0.65  | 0.00  | 0.21   | 1.01   |
| γ 91.0 | 0.59  | 0.00  | 0.14   | 0.91   |
| γ 92.0 | 0.51  | 0.00  | 0.09   | 0.82   |
| γ 93.0 | 0.46  | 0.00  | 0.05   | 0.74   |



Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 94.0  | 0.39 | 0.00  | 0.00   | 0.66   |
| γ 95.0  | 0.33 | 0.00  | 0.00   | 0.60   |
| γ 96.0  | 0.28 | 0.00  | 0.00   | 0.53   |
| γ 97.0  | 0.23 | 0.00  | 0.00   | 0.48   |
| γ 98.0  | 0.18 | 0.00  | 0.00   | 0.41   |
| γ 99.0  | 0.13 | 0.00  | 0.00   | 0.35   |
| γ 100.0 | 0.08 | 0.00  | 0.00   | 0.30   |
| γ 101.0 | 0.05 | 0.00  | 0.00   | 0.26   |
| γ 102.0 | 0.00 | 0.00  | 0.00   | 0.22   |
| γ 103.0 | 0.00 | 0.00  | 0.00   | 0.17   |
| γ 104.0 | 0.00 | 0.00  | 0.00   | 0.12   |
| γ 105.0 | 0.00 | 0.00  | 0.00   | 0.09   |
| γ 106.0 | 0.00 | 0.00  | 0.00   | 0.06   |
| γ 107.0 | 0.00 | 0.00  | 0.00   | 0.04   |
| 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   | 0.01   |
| γ 125.0 | 0.03 | 0.00  | 0.00   | 0.04   |
| γ 126.0 | 0.07 | 0.02  | 0.05   | 0.08   |
| γ 127.0 | 0.11 | 0.08  | 0.10   | 0.11   |
| γ 128.0 | 0.17 | 0.13  | 0.17   | 0.16   |
| γ 129.0 | 0.22 | 0.19  | 0.21   | 0.20   |
| γ 130.0 | 0.26 | 0.25  | 0.28   | 0.25   |
| γ 131.0 | 0.31 | 0.31  | 0.35   | 0.31   |
| γ 132.0 | 0.38 | 0.39  | 0.41   | 0.35   |
| γ 133.0 | 0.44 | 0.45  | 0.47   | 0.40   |
| γ 134.0 | 0.50 | 0.51  | 0.55   | 0.47   |
| γ 135.0 | 0.55 | 0.59  | 0.61   | 0.52   |
| γ 136.0 | 0.62 | 0.66  | 0.69   | 0.57   |
| γ 137.0 | 0.69 | 0.72  | 0.76   | 0.65   |
| γ 138.0 | 0.75 | 0.79  | 0.83   | 0.70   |
| γ 139.0 | 0.82 | 0.87  | 0.90   | 0.76   |
| γ 140.0 | 0.88 | 0.93  | 0.96   | 0.82   |

---

Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 0.96 | 1.00  | 1.03   | 0.89   |
| γ 142.0 | 1.02 | 1.07  | 1.11   | 0.95   |
| γ 143.0 | 1.09 | 1.14  | 1.17   | 1.02   |
| γ 144.0 | 1.15 | 1.20  | 1.25   | 1.08   |
| γ 145.0 | 1.23 | 1.27  | 1.31   | 1.14   |
| γ 146.0 | 1.29 | 1.33  | 1.38   | 1.20   |
| γ 147.0 | 1.35 | 1.40  | 1.45   | 1.28   |
| γ 148.0 | 1.41 | 1.47  | 1.52   | 1.33   |
| γ 149.0 | 1.48 | 1.53  | 1.58   | 1.40   |
| γ 150.0 | 1.53 | 1.58  | 1.64   | 1.46   |
| γ 151.0 | 1.59 | 1.63  | 1.72   | 1.53   |
| γ 152.0 | 1.66 | 1.70  | 1.77   | 1.59   |
| γ 153.0 | 1.71 | 1.75  | 1.83   | 1.64   |
| γ 154.0 | 1.78 | 1.79  | 1.88   | 1.71   |
| γ 155.0 | 1.83 | 1.85  | 1.93   | 1.76   |
| γ 156.0 | 1.89 | 1.89  | 1.98   | 1.81   |
| γ 157.0 | 1.93 | 1.95  | 2.03   | 1.87   |
| γ 158.0 | 1.99 | 2.00  | 2.08   | 1.93   |
| γ 159.0 | 2.04 | 2.05  | 2.13   | 1.98   |
| γ 160.0 | 2.10 | 2.10  | 2.18   | 2.02   |
| γ 161.0 | 2.14 | 2.15  | 2.22   | 2.07   |
| γ 162.0 | 2.20 | 2.19  | 2.25   | 2.11   |
| γ 163.0 | 2.25 | 2.26  | 2.30   | 2.17   |
| γ 164.0 | 2.30 | 2.29  | 2.35   | 2.21   |
| γ 165.0 | 2.35 | 2.33  | 2.39   | 2.24   |
| γ 166.0 | 2.39 | 2.38  | 2.43   | 2.29   |
| γ 167.0 | 2.44 | 2.42  | 2.47   | 2.34   |
| γ 168.0 | 2.49 | 2.46  | 2.51   | 2.38   |
| γ 169.0 | 2.54 | 2.51  | 2.55   | 2.43   |
| γ 170.0 | 2.57 | 2.54  | 2.59   | 2.47   |
| γ 171.0 | 2.61 | 2.57  | 2.62   | 2.51   |
| γ 172.0 | 2.64 | 2.60  | 2.64   | 2.56   |
| γ 173.0 | 2.67 | 2.62  | 2.68   | 2.58   |
| γ 174.0 | 2.70 | 2.65  | 2.70   | 2.62   |
| γ 175.0 | 2.71 | 2.67  | 2.72   | 2.64   |
| γ 176.0 | 2.75 | 2.69  | 2.73   | 2.67   |
| γ 177.0 | 2.76 | 2.69  | 2.76   | 2.70   |
| γ 178.0 | 2.76 | 2.69  | 2.76   | 2.74   |
| γ 179.0 | 2.77 | 2.70  | 2.78   | 2.75   |
| γ 180.0 | 2.76 | 2.76  | 2.76   | 2.76   |