

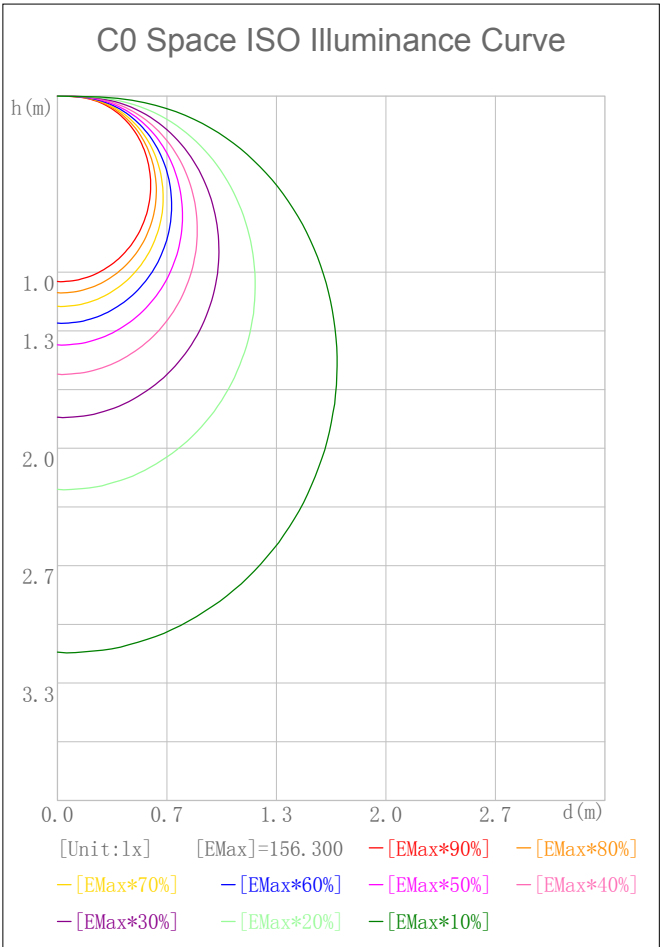
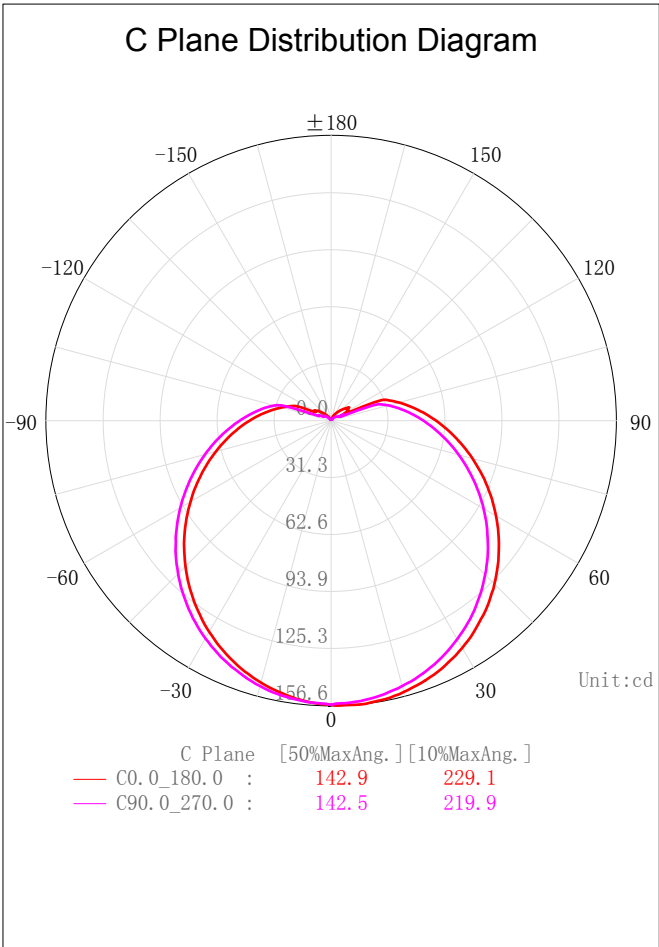
Indoor Luminaire Photometric Data

Description Information

|   |                         |                      |                       |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name:WL02-09-XX-03 4000K RA90 150D |                         | Lum. Catalog:        | Test ID: 01           |
| Lamp Name:                                  |                         | Lamp Catalog: LED    | Test Date: 2022/01/19 |
| Manufacture: Shenzhen Norming Lightin       |                         | Shld. Ang(°):        | Test Machine:GON-2000 |
| Test Lab: Quality Department                |                         | Frequency (Hz):      | Lamp CCT (K): Ra:     |
| Lum. Size (W*L*H):0.100m*-0.100m*0.000m     |                         | Lum. Area (m2):0.008 | Lum. W (kg): 0.000    |
| Test System: C, γ                           | Test Step: C=90.0 γ=1.0 | Temp. (°C): 25       | Humidity(%):          |

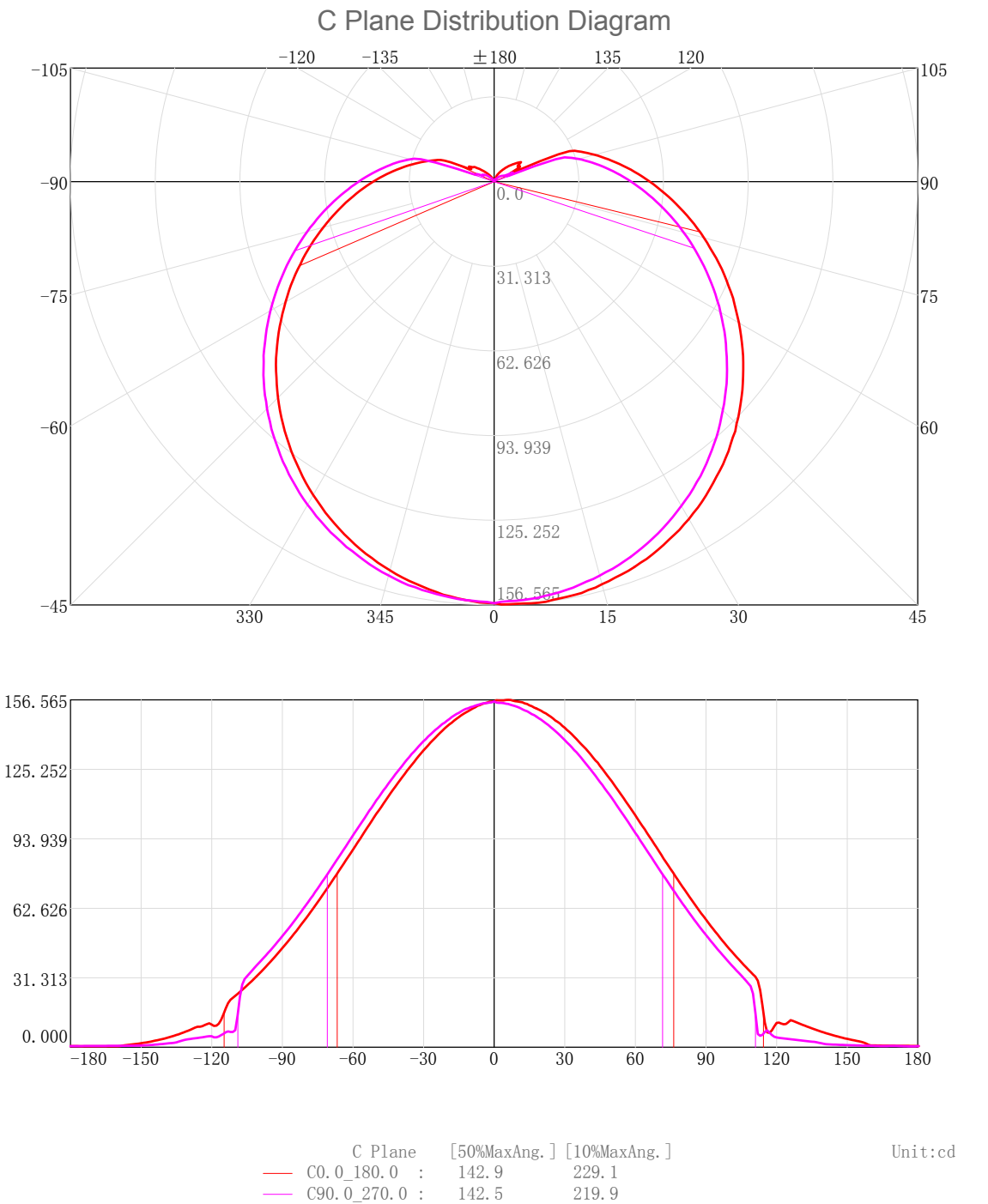
Character Parameter

| Lamp Speciality Parameter                       |                                | Luminaire Speciality Parameter        |  |
|---|--------------------------------|---------------------------------------|--|
| Rated Flux(lm): 726.320                         | Luminary Flux(lm): 726.319     | Field Angle(10%Imax): 229.1(°)        |  |
| Rated Power(W):                                 | Luminary Efficiency: 100.00%   | Down Lumens&Percent: 619.756lm 85.33% |  |
| Rated Voltage(V):                               | Luminary EER(lm/W): 83.880     | Up Lumens&Percent: 106.564lm 14.67%   |  |
| Tested Power(W): 8.659                          | Max. Candela(cd): 156.565      | S/MH: C0_a180=1.329 C90_270=1.323     |  |
| Lamps' Inside: 1                                | Max Cand@Ang. (°): C=0.0 γ=6.0 | CIE Type: General Diffuse             |  |
| Tested Electrics (V, A, pf):241.1, 0.039, 0.901 | Beam Angle(50%Imax): 142.9(°)  | ErP ϕ use(120°): 389.771lm            |  |
| Lamp Size(W*L*H):0.100m*-0.100m*0.000m          | Left=-66.7°, Right=76.3°       | IRF(%): 95.916                        |  |



2D Plane Light Intensity Distribution Curve

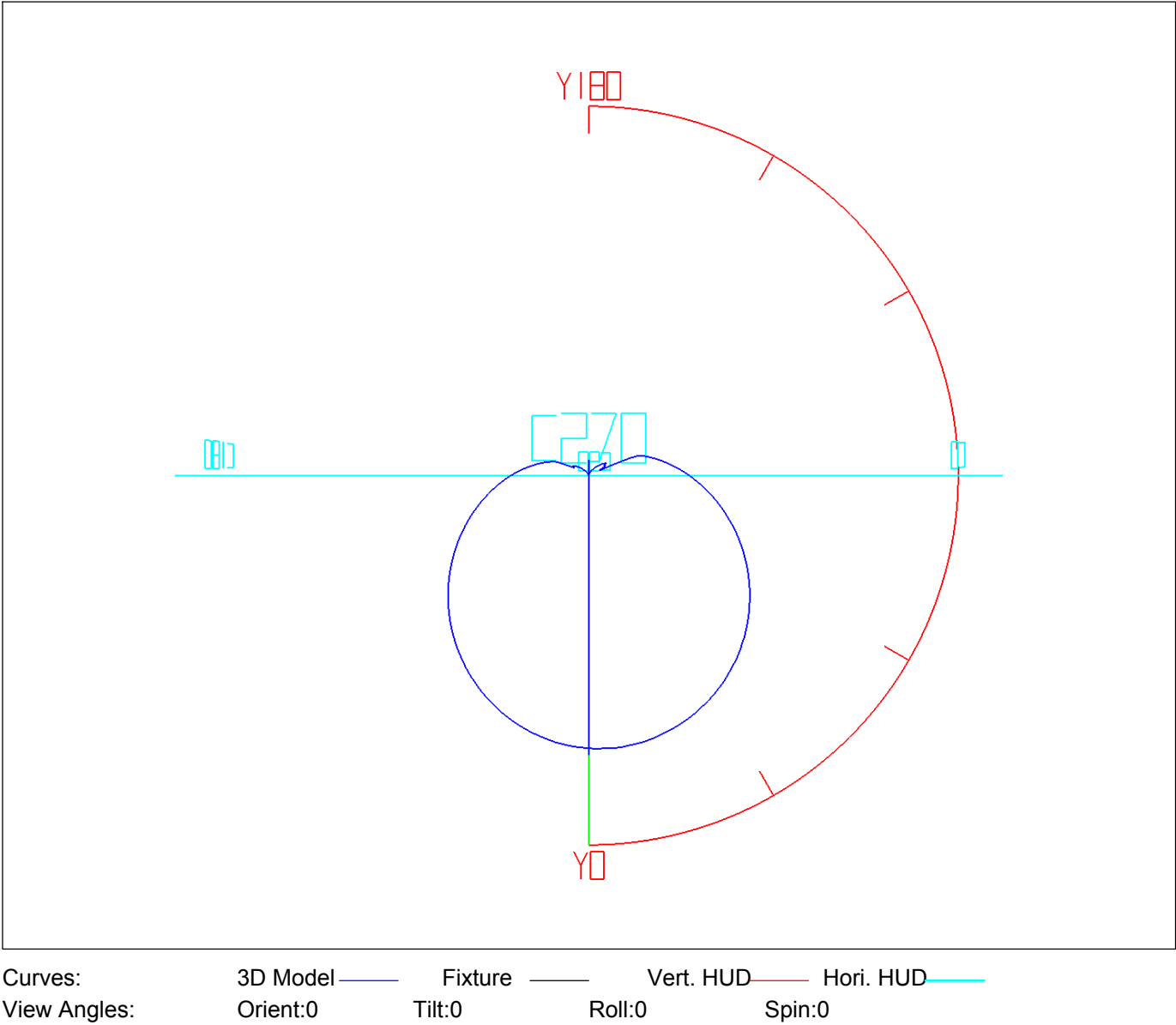
|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |



3D Light Intensity Distribution Modal

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |

3D Light Intensity Distribution Modal



IES Indoor Report

Photometric Filename:WL02-09-XX-03 4000K RA90 150D.IES

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   | 0.15              | 0.15              | 0.02      | 0.02      | 47.0-48.0 | 9.37              | 280.43            | 1.29      | 38.61     |
| 1.0-2.0   | 0.45              | 0.60              | 0.06      | 0.08      | 48.0-49.0 | 9.39              | 289.82            | 1.29      | 39.90     |
| 2.0-3.0   | 0.74              | 1.34              | 0.10      | 0.18      | 49.0-50.0 | 9.42              | 299.24            | 1.30      | 41.20     |
| 3.0-4.0   | 1.04              | 2.38              | 0.14      | 0.33      | 50.0-51.0 | 9.42              | 308.66            | 1.30      | 42.50     |
| 4.0-5.0   | 1.34              | 3.72              | 0.18      | 0.51      | 51.0-52.0 | 9.42              | 318.09            | 1.30      | 43.79     |
| 5.0-6.0   | 1.63              | 5.35              | 0.22      | 0.74      | 52.0-53.0 | 9.42              | 327.50            | 1.30      | 45.09     |
| 6.0-7.0   | 1.92              | 7.27              | 0.26      | 1.00      | 53.0-54.0 | 9.41              | 336.91            | 1.30      | 46.39     |
| 7.0-8.0   | 2.21              | 9.48              | 0.30      | 1.31      | 54.0-55.0 | 9.39              | 346.30            | 1.29      | 47.68     |
| 8.0-9.0   | 2.50              | 11.98             | 0.34      | 1.65      | 55.0-56.0 | 9.36              | 355.66            | 1.29      | 48.97     |
| 9.0-10.0  | 2.78              | 14.77             | 0.38      | 2.03      | 56.0-57.0 | 9.33              | 364.98            | 1.28      | 50.25     |
| 10.0-11.0 | 3.07              | 17.83             | 0.42      | 2.46      | 57.0-58.0 | 9.28              | 374.27            | 1.28      | 51.53     |
| 11.0-12.0 | 3.35              | 21.18             | 0.46      | 2.92      | 58.0-59.0 | 9.23              | 383.50            | 1.27      | 52.80     |
| 12.0-13.0 | 3.62              | 24.80             | 0.50      | 3.41      | 59.0-60.0 | 9.18              | 392.68            | 1.26      | 54.06     |
| 13.0-14.0 | 3.89              | 28.69             | 0.54      | 3.95      | 60.0-61.0 | 9.12              | 401.81            | 1.26      | 55.32     |
| 14.0-15.0 | 4.16              | 32.85             | 0.57      | 4.52      | 61.0-62.0 | 9.06              | 410.86            | 1.25      | 56.57     |
| 15.0-16.0 | 4.42              | 37.27             | 0.61      | 5.13      | 62.0-63.0 | 8.99              | 419.85            | 1.24      | 57.80     |
| 16.0-17.0 | 4.68              | 41.94             | 0.64      | 5.77      | 63.0-64.0 | 8.91              | 428.76            | 1.23      | 59.03     |
| 17.0-18.0 | 4.93              | 46.87             | 0.68      | 6.45      | 64.0-65.0 | 8.83              | 437.59            | 1.22      | 60.25     |
| 18.0-19.0 | 5.18              | 52.05             | 0.71      | 7.17      | 65.0-66.0 | 8.74              | 446.32            | 1.20      | 61.45     |
| 19.0-20.0 | 5.42              | 57.48             | 0.75      | 7.91      | 66.0-67.0 | 8.64              | 454.96            | 1.19      | 62.64     |
| 20.0-21.0 | 5.66              | 63.13             | 0.78      | 8.69      | 67.0-68.0 | 8.54              | 463.51            | 1.18      | 63.82     |
| 21.0-22.0 | 5.89              | 69.03             | 0.81      | 9.50      | 68.0-69.0 | 8.44              | 471.95            | 1.16      | 64.98     |
| 22.0-23.0 | 6.12              | 75.14             | 0.84      | 10.35     | 69.0-70.0 | 8.33              | 480.28            | 1.15      | 66.13     |
| 23.0-24.0 | 6.34              | 81.48             | 0.87      | 11.22     | 70.0-71.0 | 8.22              | 488.50            | 1.13      | 67.26     |
| 24.0-25.0 | 6.55              | 88.02             | 0.90      | 12.12     | 71.0-72.0 | 8.10              | 496.61            | 1.12      | 68.37     |
| 25.0-26.0 | 6.75              | 94.78             | 0.93      | 13.05     | 72.0-73.0 | 7.98              | 504.59            | 1.10      | 69.47     |
| 26.0-27.0 | 6.95              | 101.73            | 0.96      | 14.01     | 73.0-74.0 | 7.86              | 512.45            | 1.08      | 70.55     |
| 27.0-28.0 | 7.15              | 108.88            | 0.98      | 14.99     | 74.0-75.0 | 7.73              | 520.18            | 1.06      | 71.62     |
| 28.0-29.0 | 7.33              | 116.21            | 1.01      | 16.00     | 75.0-76.0 | 7.61              | 527.79            | 1.05      | 72.67     |
| 29.0-30.0 | 7.51              | 123.71            | 1.03      | 17.03     | 76.0-77.0 | 7.48              | 535.27            | 1.03      | 73.70     |
| 30.0-31.0 | 7.68              | 131.39            | 1.06      | 18.09     | 77.0-78.0 | 7.35              | 542.61            | 1.01      | 74.71     |
| 31.0-32.0 | 7.84              | 139.24            | 1.08      | 19.17     | 78.0-79.0 | 7.21              | 549.83            | 0.99      | 75.70     |
| 32.0-33.0 | 8.00              | 147.24            | 1.10      | 20.27     | 79.0-80.0 | 7.07              | 556.90            | 0.97      | 76.67     |
| 33.0-34.0 | 8.15              | 155.38            | 1.12      | 21.39     | 80.0-81.0 | 6.93              | 563.83            | 0.95      | 77.63     |
| 34.0-35.0 | 8.29              | 163.67            | 1.14      | 22.53     | 81.0-82.0 | 6.79              | 570.62            | 0.93      | 78.56     |
| 35.0-36.0 | 8.42              | 172.09            | 1.16      | 23.69     | 82.0-83.0 | 6.65              | 577.27            | 0.92      | 79.48     |
| 36.0-37.0 | 8.54              | 180.63            | 1.18      | 24.87     | 83.0-84.0 | 6.50              | 583.77            | 0.90      | 80.37     |
| 37.0-38.0 | 8.66              | 189.28            | 1.19      | 26.06     | 84.0-85.0 | 6.36              | 590.13            | 0.88      | 81.25     |
| 38.0-39.0 | 8.76              | 198.05            | 1.21      | 27.27     | 85.0-86.0 | 6.22              | 596.35            | 0.86      | 82.11     |
| 39.0-40.0 | 8.86              | 206.91            | 1.22      | 28.49     | 86.0-87.0 | 6.07              | 602.42            | 0.84      | 82.94     |
| 40.0-41.0 | 8.96              | 215.87            | 1.23      | 29.72     | 87.0-88.0 | 5.92              | 608.34            | 0.82      | 83.76     |
| 41.0-42.0 | 9.04              | 224.91            | 1.24      | 30.97     | 88.0-89.0 | 5.78              | 614.12            | 0.80      | 84.55     |
| 42.0-43.0 | 9.11              | 234.02            | 1.25      | 32.22     | 89.0-90.0 | 5.64              | 619.76            | 0.78      | 85.33     |
| 43.0-44.0 | 9.18              | 243.21            | 1.26      | 33.48     | 90.0-91.0 | 5.49              | 625.25            | 0.76      | 86.08     |
| 44.0-45.0 | 9.24              | 252.45            | 1.27      | 34.76     | 91.0-92.0 | 5.35              | 630.59            | 0.74      | 86.82     |
| 45.0-46.0 | 9.29              | 261.73            | 1.28      | 36.04     | 92.0-93.0 | 5.20              | 635.79            | 0.72      | 87.54     |
| 46.0-47.0 | 9.33              | 271.06            | 1.28      | 37.32     | 93.0-94.0 | 5.06              | 640.85            | 0.70      | 88.23     |

IES Indoor Report

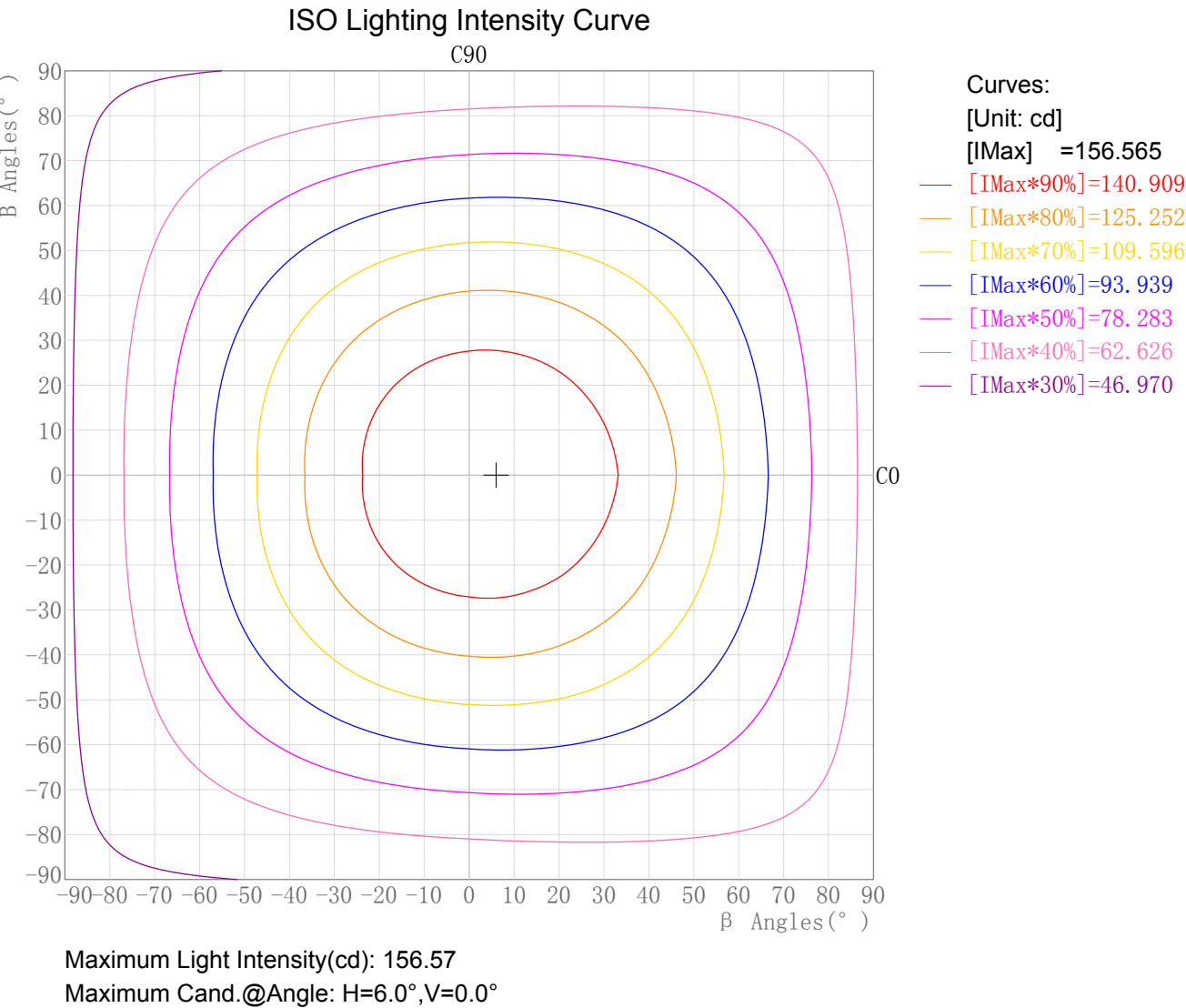
Photometric Filename:WL02-09-XX-03 4000K RA90 150D.IES

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   | 4.91              | 645.76            | 0.68      | 88.91     | 141.0-142.0 | 0.22              | 724.25            | 0.03      | 99.71     |
| 95.0-96.0   | 4.77              | 650.53            | 0.66      | 89.57     | 142.0-143.0 | 0.20              | 724.45            | 0.03      | 99.74     |
| 96.0-97.0   | 4.62              | 655.16            | 0.64      | 90.20     | 143.0-144.0 | 0.18              | 724.63            | 0.03      | 99.77     |
| 97.0-98.0   | 4.48              | 659.64            | 0.62      | 90.82     | 144.0-145.0 | 0.17              | 724.80            | 0.02      | 99.79     |
| 98.0-99.0   | 4.34              | 663.98            | 0.60      | 91.42     | 145.0-146.0 | 0.15              | 724.96            | 0.02      | 99.81     |
| 99.0-100.0  | 4.21              | 668.19            | 0.58      | 92.00     | 146.0-147.0 | 0.14              | 725.10            | 0.02      | 99.83     |
| 100.0-101.0 | 4.07              | 672.26            | 0.56      | 92.56     | 147.0-148.0 | 0.13              | 725.23            | 0.02      | 99.85     |
| 101.0-102.0 | 3.93              | 676.19            | 0.54      | 93.10     | 148.0-149.0 | 0.12              | 725.34            | 0.02      | 99.87     |
| 102.0-103.0 | 3.80              | 679.99            | 0.52      | 93.62     | 149.0-150.0 | 0.11              | 725.45            | 0.01      | 99.88     |
| 103.0-104.0 | 3.66              | 683.65            | 0.50      | 94.13     | 150.0-151.0 | 0.10              | 725.55            | 0.01      | 99.89     |
| 104.0-105.0 | 3.53              | 687.18            | 0.49      | 94.61     | 151.0-152.0 | 0.09              | 725.64            | 0.01      | 99.91     |
| 105.0-106.0 | 3.39              | 690.56            | 0.47      | 95.08     | 152.0-153.0 | 0.08              | 725.72            | 0.01      | 99.92     |
| 106.0-107.0 | 3.24              | 693.80            | 0.45      | 95.52     | 153.0-154.0 | 0.07              | 725.79            | 0.01      | 99.93     |
| 107.0-108.0 | 3.03              | 696.83            | 0.42      | 95.94     | 154.0-155.0 | 0.07              | 725.86            | 0.01      | 99.94     |
| 108.0-109.0 | 2.75              | 699.58            | 0.38      | 96.32     | 155.0-156.0 | 0.06              | 725.92            | 0.01      | 99.95     |
| 109.0-110.0 | 2.43              | 702.01            | 0.33      | 96.65     | 156.0-157.0 | 0.05              | 725.97            | 0.01      | 99.95     |
| 110.0-111.0 | 2.12              | 704.13            | 0.29      | 96.94     | 157.0-158.0 | 0.04              | 726.02            | 0.01      | 99.96     |
| 111.0-112.0 | 1.80              | 705.93            | 0.25      | 97.19     | 158.0-159.0 | 0.04              | 726.05            | 0.00      | 99.96     |
| 112.0-113.0 | 1.55              | 707.48            | 0.21      | 97.41     | 159.0-160.0 | 0.03              | 726.08            | 0.00      | 99.97     |
| 113.0-114.0 | 1.34              | 708.82            | 0.18      | 97.59     | 160.0-161.0 | 0.02              | 726.11            | 0.00      | 99.97     |
| 114.0-115.0 | 1.09              | 709.92            | 0.15      | 97.74     | 161.0-162.0 | 0.02              | 726.13            | 0.00      | 99.97     |
| 115.0-116.0 | 0.88              | 710.80            | 0.12      | 97.86     | 162.0-163.0 | 0.02              | 726.15            | 0.00      | 99.98     |
| 116.0-117.0 | 0.75              | 711.55            | 0.10      | 97.97     | 163.0-164.0 | 0.02              | 726.17            | 0.00      | 99.98     |
| 117.0-118.0 | 0.68              | 712.23            | 0.09      | 98.06     | 164.0-165.0 | 0.02              | 726.19            | 0.00      | 99.98     |
| 118.0-119.0 | 0.67              | 712.91            | 0.09      | 98.15     | 165.0-166.0 | 0.02              | 726.21            | 0.00      | 99.98     |
| 119.0-120.0 | 0.71              | 713.61            | 0.10      | 98.25     | 166.0-167.0 | 0.02              | 726.22            | 0.00      | 99.99     |
| 120.0-121.0 | 0.73              | 714.35            | 0.10      | 98.35     | 167.0-168.0 | 0.01              | 726.24            | 0.00      | 99.99     |
| 121.0-122.0 | 0.72              | 715.06            | 0.10      | 98.45     | 168.0-169.0 | 0.01              | 726.25            | 0.00      | 99.99     |
| 122.0-123.0 | 0.69              | 715.75            | 0.09      | 98.54     | 169.0-170.0 | 0.01              | 726.26            | 0.00      | 99.99     |
| 123.0-124.0 | 0.66              | 716.41            | 0.09      | 98.64     | 170.0-171.0 | 0.01              | 726.28            | 0.00      | 99.99     |
| 124.0-125.0 | 0.65              | 717.06            | 0.09      | 98.72     | 171.0-172.0 | 0.01              | 726.28            | 0.00      | 100.00    |
| 125.0-126.0 | 0.65              | 717.71            | 0.09      | 98.81     | 172.0-173.0 | 0.01              | 726.29            | 0.00      | 100.00    |
| 126.0-127.0 | 0.64              | 718.34            | 0.09      | 98.90     | 173.0-174.0 | 0.01              | 726.30            | 0.00      | 100.00    |
| 127.0-128.0 | 0.60              | 718.95            | 0.08      | 98.98     | 174.0-175.0 | 0.01              | 726.31            | 0.00      | 100.00    |
| 128.0-129.0 | 0.57              | 719.52            | 0.08      | 99.06     | 175.0-176.0 | 0.00              | 726.31            | 0.00      | 100.00    |
| 129.0-130.0 | 0.54              | 720.06            | 0.07      | 99.14     | 176.0-177.0 | 0.00              | 726.31            | 0.00      | 100.00    |
| 130.0-131.0 | 0.51              | 720.56            | 0.07      | 99.21     | 177.0-178.0 | 0.00              | 726.32            | 0.00      | 100.00    |
| 131.0-132.0 | 0.47              | 721.04            | 0.07      | 99.27     | 178.0-179.0 | 0.00              | 726.32            | 0.00      | 100.00    |
| 132.0-133.0 | 0.44              | 721.48            | 0.06      | 99.33     | 179.0-180.0 | 0.00              | 726.32            | 0.00      | 100.00    |
| 133.0-134.0 | 0.41              | 721.89            | 0.06      | 99.39     |             |                   |                   |           |           |
| 134.0-135.0 | 0.38              | 722.27            | 0.05      | 99.44     |             |                   |                   |           |           |
| 135.0-136.0 | 0.35              | 722.63            | 0.05      | 99.49     |             |                   |                   |           |           |
| 136.0-137.0 | 0.33              | 722.96            | 0.05      | 99.54     |             |                   |                   |           |           |
| 137.0-138.0 | 0.30              | 723.26            | 0.04      | 99.58     |             |                   |                   |           |           |
| 138.0-139.0 | 0.28              | 723.54            | 0.04      | 99.62     |             |                   |                   |           |           |
| 139.0-140.0 | 0.26              | 723.80            | 0.04      | 99.65     |             |                   |                   |           |           |
| 140.0-141.0 | 0.24              | 724.03            | 0.03      | 99.69     |             |                   |                   |           |           |

Rectangle ISO Lighting Intensity Diagram

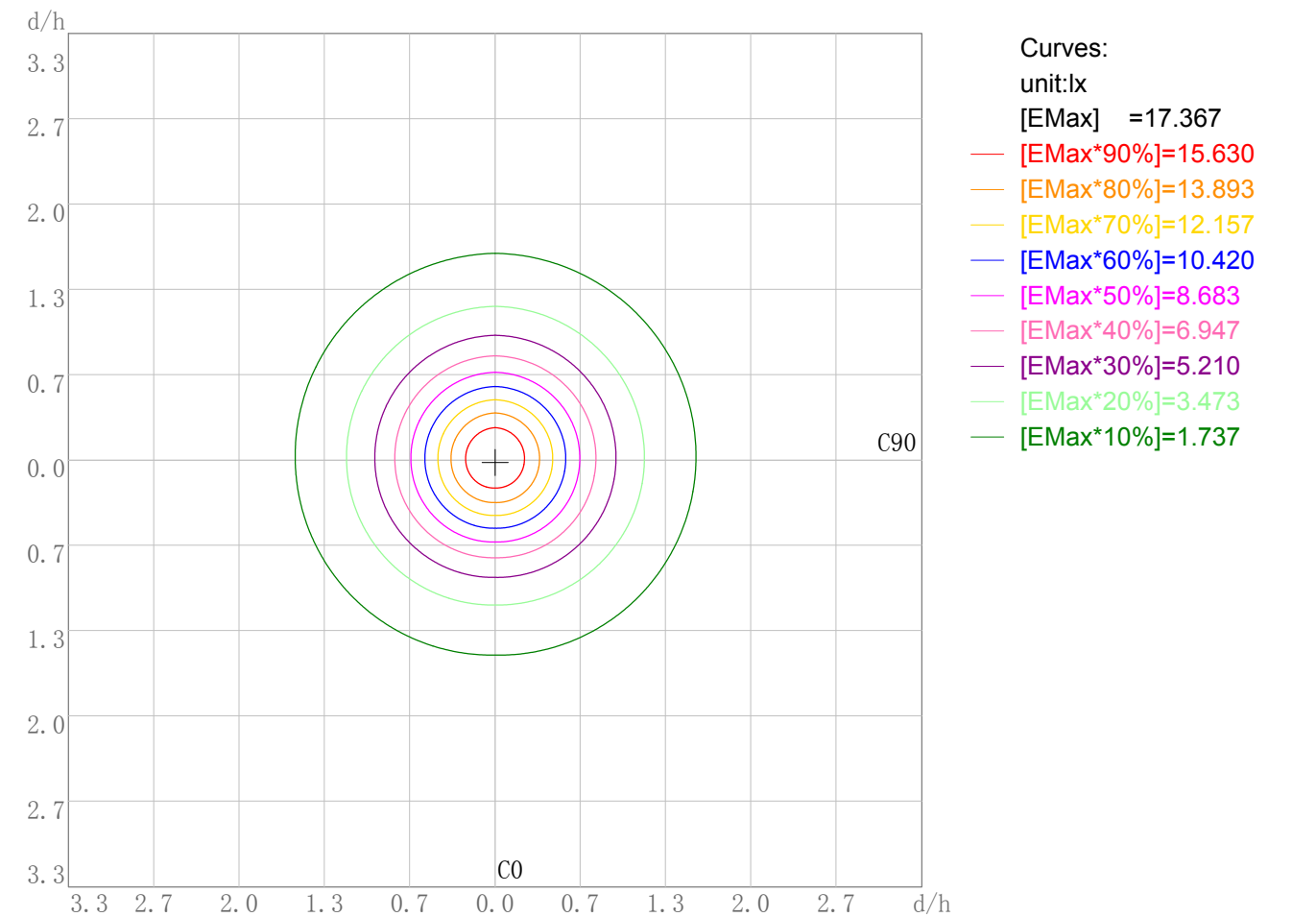
|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |



Plane ISO-Illuminance Diagram

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

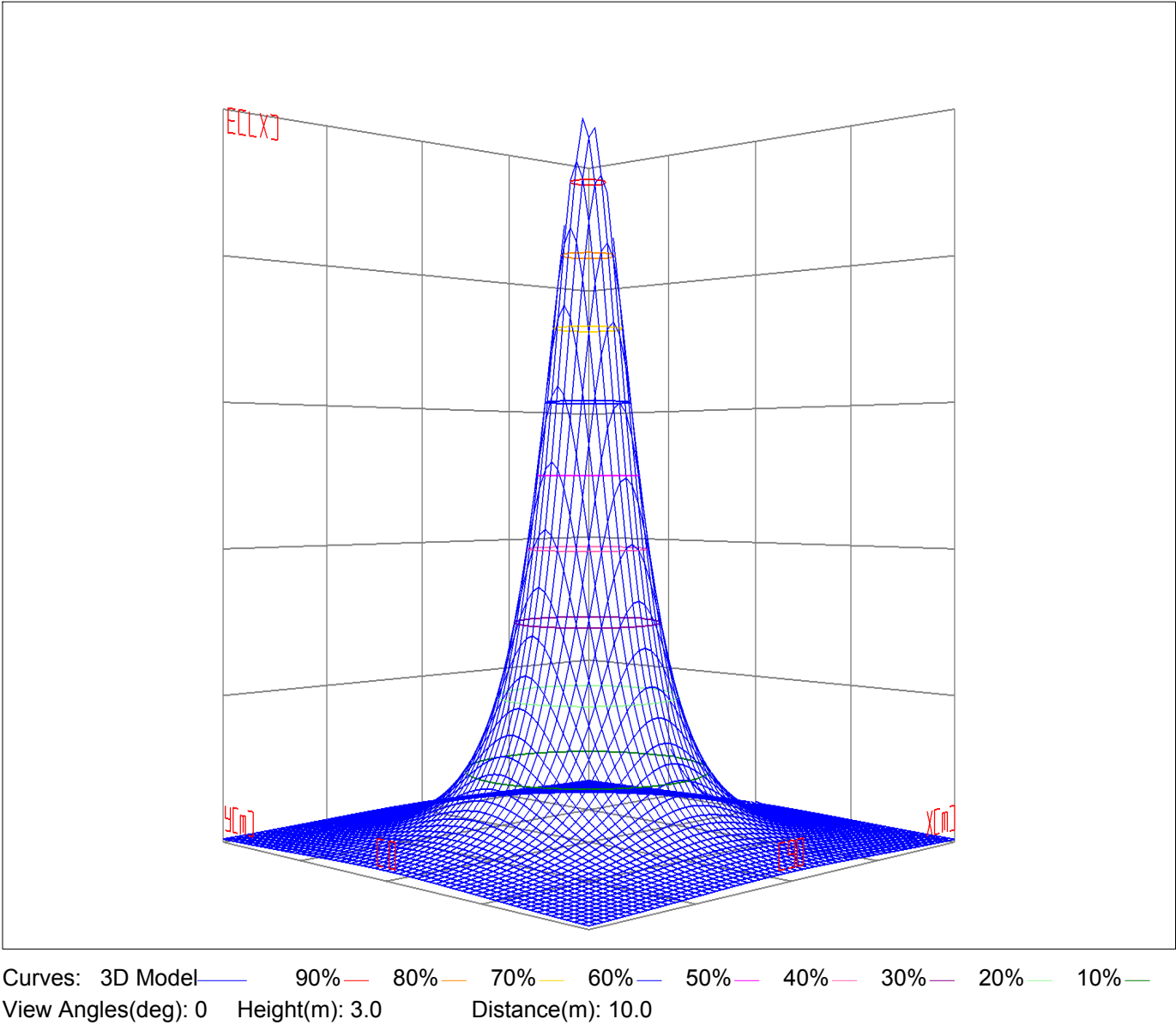
Working Plane Maximum Illuminance(lx): 17.37

Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

3D Plane ISO Illuminance Diagram

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |

3D Plane Illuminance Modal

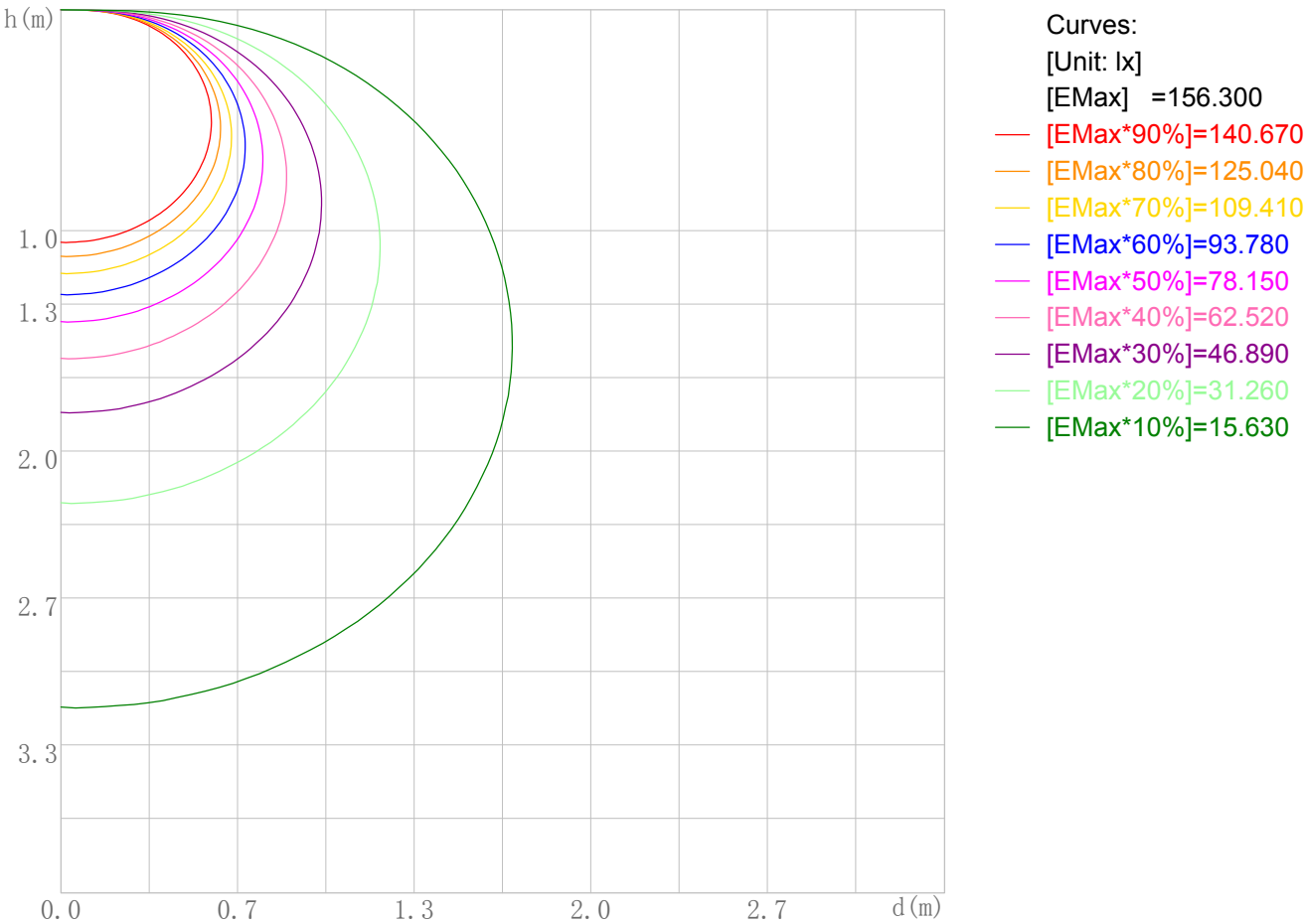




Space ISO Illuminance Diagram

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |

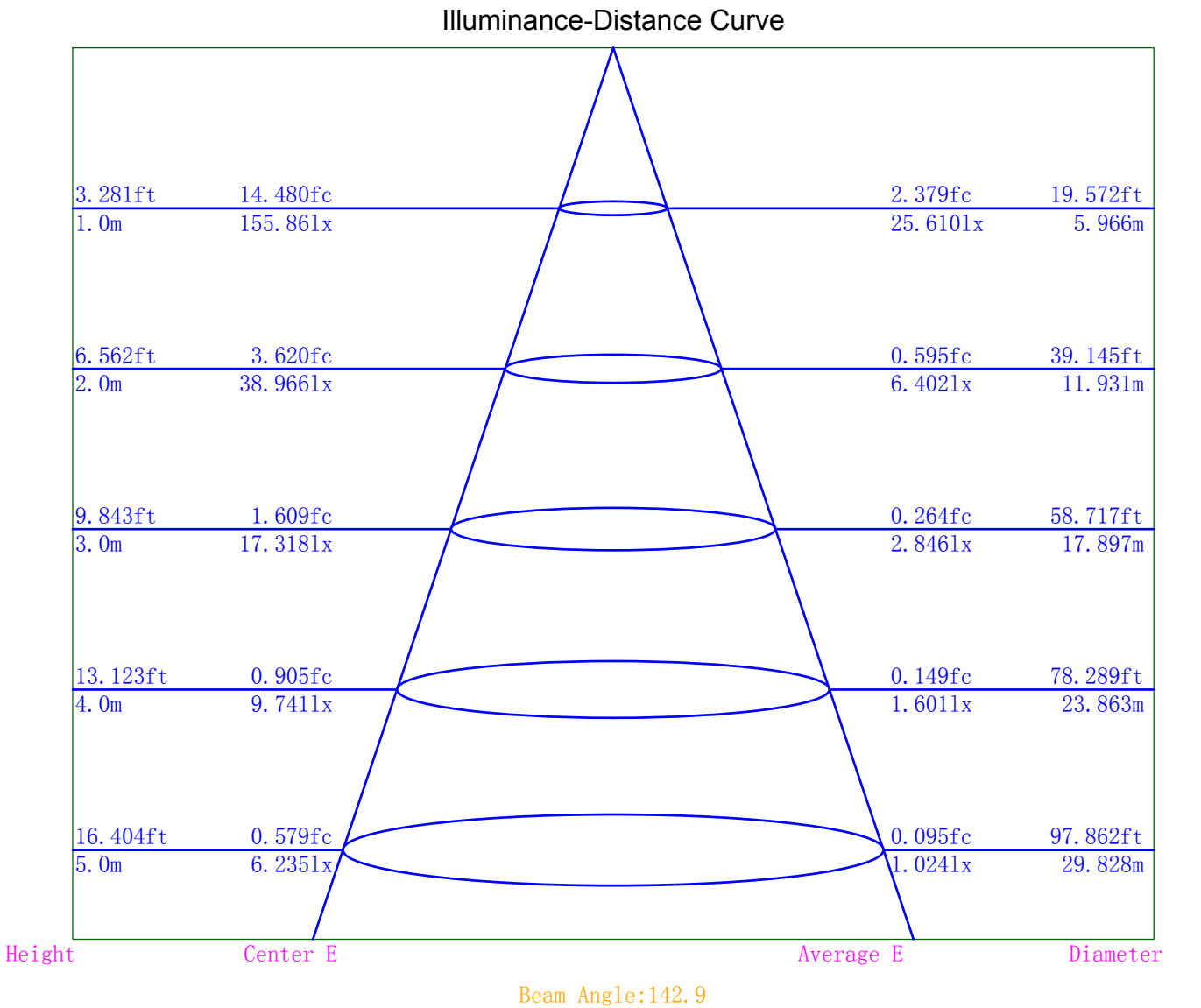
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:156.30lx,1.0deg  
Plane Maximum Lighting Intensity and @Angle:156.565cd,0deg

Illuminance-Distance Diagram

|   |                       |                                 |
|---|-----------------------|---------------------------------|
| Lum. Name:    WL02-09-XX-03 4000K RA90 150D | Lum. Catelog:         | Test ID:    01                  |
| Lamp Name:                                  | Lamp Catelog: LED     | Test Lab:    Quality Department |
| Manufacture: Shenzhen Norming Lightin       | Test Machine:GON-2000 | Test Date: 2022/01/19           |



Indoor Luminance Limiting Curves

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |

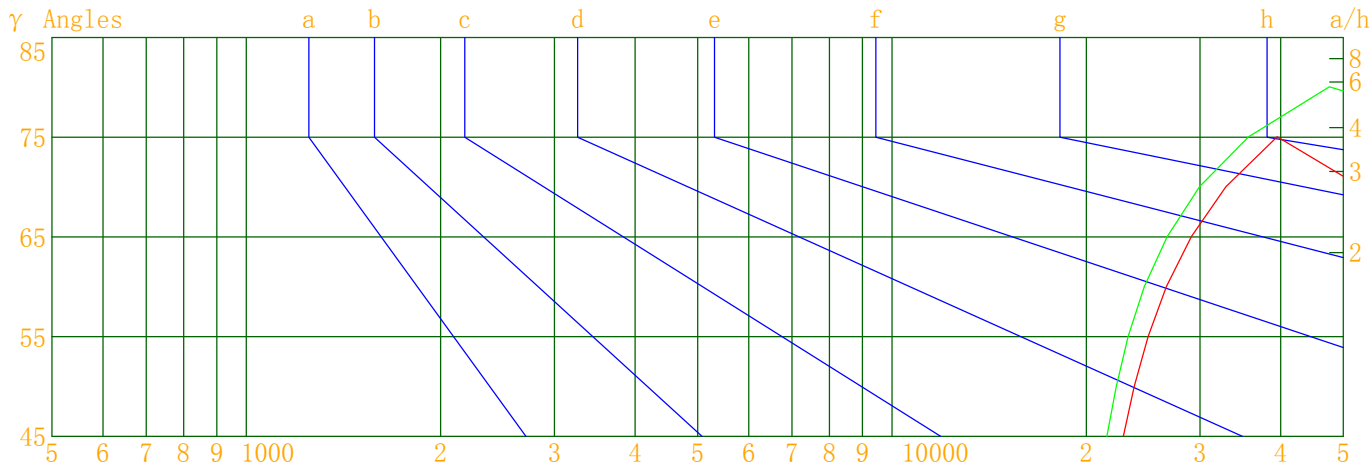
Glare Grade Table

| 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        | 22818 | 23730 | 24934 | 26614 | 29080 | 32911 | 39491 | 53108 | 94647 |
| C90       | 21522 | 22249 | 23217 | 24588 | 26677 | 29941 | 35676 | 47570 | 84014 |

Luminance Limiting Curve



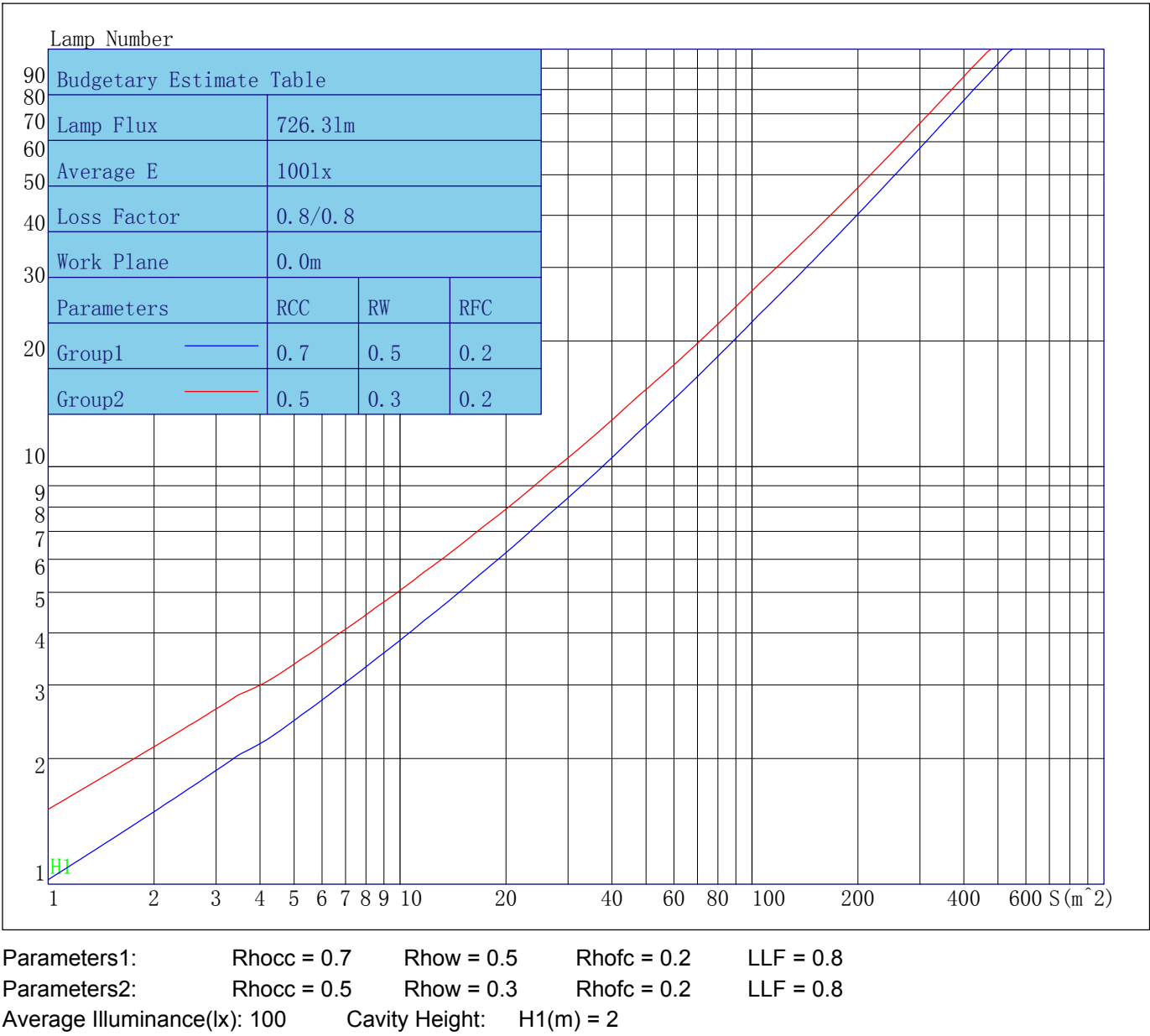
Luminous Size: Length(m)=-0.100 Width(m)=-0.100 Height(m)=0.000 Area(m^2)=0.007854

Luminous Type: Without Luminous Side

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

Indoor Budgetary Estimate Table

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catalog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catalog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |



Indoor Coefficient of Utilization Table

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |

| 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   | 116   | 116 | 116 | 116 | 111 | 111 | 111 | 111 | 103 | 103 | 103 | 95 | 95 | 95 | 89 | 89 | 89 | 85 |
| 1   | 102   | 95  | 90  | 85  | 97  | 92  | 87  | 82  | 85  | 80  | 77  | 78 | 75 | 72 | 72 | 69 | 67 | 64 |
| 2   | 91  | 81  | 73  | 66  | 87  | 78  | 71  | 64  | 72  | 66  | 61  | 66 | 61 | 57 | 61 | 57 | 54 | 50 |
| 3   | 82  | 70  | 61  | 54  | 78  | 68  | 59  | 52  | 62  | 55  | 49  | 58 | 52 | 47 | 53 | 48 | 44 | 41 |
| 4   | 75  | 62  | 52  | 45  | 71  | 59  | 50  | 43  | 55  | 47  | 41  | 51 | 44 | 39 | 47 | 41 | 37 | 34 |
| 5   | 69  | 55  | 45  | 38  | 65  | 53  | 44  | 37  | 49  | 41  | 35  | 45 | 39 | 33 | 42 | 36 | 32 | 29 |
| 6   | 63  | 49  | 39  | 32  | 60  | 47  | 38  | 32  | 44  | 36  | 30  | 41 | 34 | 29 | 38 | 32 | 27 | 25 |
| 7   | 58  | 44  | 35  | 28  | 56  | 43  | 34  | 28  | 40  | 32  | 27  | 37 | 30 | 25 | 34 | 29 | 24 | 22 |
| 8   | 54  | 40  | 31  | 25  | 52  | 39  | 30  | 25  | 36  | 29  | 23  | 34 | 27 | 22 | 31 | 26 | 21 | 19 |
| 9   | 51  | 37  | 28  | 22  | 48  | 35  | 27  | 22  | 33  | 26  | 21  | 31 | 25 | 20 | 29 | 23 | 19 | 17 |
| 10  | 47  | 34  | 25  | 20  | 45  | 33  | 25  | 20  | 31  | 24  | 19  | 29 | 23 | 18 | 27 | 21 | 17 | 15 |

Unified Glare Rating Table

|  |                       |                              |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-XX-03 4000K RA90 150D | Lum. Catelog:         | Test ID: 01                  |
| Lamp Name:                               | Lamp Catelog: LED     | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lightin    | Test Machine:GON-2000 | Test Date: 2022/01/19        |

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                                      | 22.5            | 24.0 | 23.1 | 24.6 | 25.2 | 22.1          | 23.6 | 22.7 | 24.2 | 24.8 |
|   | 25.1            | 26.5 | 25.7 | 27.1 | 27.8 | 24.6          | 26.0 | 25.2 | 26.6 | 27.3 |
|   | 26.6            | 27.8 | 27.2 | 28.4 | 29.1 | 26.0          | 27.3 | 26.6 | 27.9 | 28.6 |
|   | 28.1            | 29.3 | 28.7 | 29.9 | 30.6 | 27.5          | 28.7 | 28.1 | 29.3 | 30.1 |
|   | 29.0            | 30.1 | 29.6 | 30.8 | 31.5 | 28.3          | 29.5 | 29.0 | 30.1 | 30.9 |
|   | 30.0            | 31.1 | 30.6 | 31.7 | 32.4 | 29.3          | 30.4 | 29.9 | 31.0 | 31.8 |
| X=4H    Y=2H                                      | 23.5            | 24.8 | 24.1 | 25.4 | 26.1 | 23.1          | 24.4 | 23.7 | 25.0 | 25.7 |
|   | 26.3            | 27.4 | 26.9 | 28.1 | 28.8 | 25.9          | 27.0 | 26.5 | 27.6 | 28.3 |
|   | 27.9            | 28.9 | 28.5 | 29.6 | 30.3 | 27.4          | 28.4 | 28.0 | 29.1 | 29.8 |
|   | 29.6            | 30.5 | 30.3 | 31.2 | 32.0 | 29.1          | 30.0 | 29.7 | 30.7 | 31.4 |
|   | 30.6            | 31.5 | 31.2 | 32.1 | 32.9 | 30.0          | 30.9 | 30.7 | 31.5 | 32.3 |
|   | 31.7            | 32.5 | 32.4 | 33.2 | 34.0 | 31.1          | 31.9 | 31.7 | 32.5 | 33.3 |
| X=8H    Y=4H                                      | 28.5            | 29.4 | 29.2 | 30.1 | 30.8 | 28.1          | 28.9 | 28.7 | 29.6 | 30.4 |
|   | 30.5            | 31.3 | 31.2 | 32.0 | 32.9 | 30.0          | 30.8 | 30.7 | 31.5 | 32.4 |
|   | 31.7            | 32.4 | 32.4 | 33.1 | 33.9 | 31.1          | 31.8 | 31.8 | 32.5 | 33.3 |
|   | 33.0            | 33.6 | 33.7 | 34.3 | 35.2 | 32.4          | 33.0 | 33.1 | 33.7 | 34.6 |
| X=12H    Y=4H                                     | 28.7            | 29.5 | 29.4 | 30.2 | 31.0 | 28.2          | 29.0 | 28.9 | 29.7 | 30.5 |
|   | 30.8            | 31.5 | 31.5 | 32.2 | 33.0 | 30.3          | 31.0 | 31.0 | 31.7 | 32.5 |
|   | 32.1            | 32.7 | 32.8 | 33.4 | 34.2 | 31.5          | 32.1 | 32.2 | 32.8 | 33.7 |
| Variations with the objerver position at spacings |                 |      |      |      |      |               |      |      |      |      |
| S=1.0H  | 0.0/-0.0        |      |      |      |      | 0.1/-0.1      |      |      |      |      |
| S=1.5H  | 0.1/-0.1        |      |      |      |      | 0.1/-0.1      |      |      |      |      |
| S=2.0H  | 0.1/-0.1        |      |      |      |      | 0.1/-0.1      |      |      |      |      |
| Reduced UGR Table:                                |                 |      |      |      |      |               |      |      |      |      |
| Nordic Standard Table:                            | BK0             |      |      |      |      | BK0           |      |      |      |      |
| Correction Value                                  | 5.9             |      |      |      |      | 5.8           |      |      |      |      |

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

IES Indoor Report

Photometric Filename:WL02-09-XX-03 4000K RA90 150D.IES

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Candela Tabulation

| V/H    | C0.0   | C90.0  | C180.0 | C270.0 |
|--------|--------|--------|--------|--------|
| γ 0.0  | 155.86 | 155.86 | 155.86 | 155.86 |
| γ 1.0  | 156.37 | 155.35 | 155.75 | 155.44 |
| γ 2.0  | 156.34 | 155.18 | 155.68 | 155.32 |
| γ 3.0  | 156.33 | 155.21 | 155.32 | 155.13 |
| γ 4.0  | 156.34 | 155.06 | 155.02 | 155.07 |
| γ 5.0  | 156.52 | 154.86 | 154.69 | 154.88 |
| γ 6.0  | 156.57 | 154.72 | 154.23 | 154.56 |
| γ 7.0  | 156.52 | 154.34 | 153.89 | 154.26 |
| γ 8.0  | 156.18 | 154.04 | 153.25 | 153.94 |
| γ 9.0  | 155.98 | 153.72 | 152.71 | 153.56 |
| γ 10.0 | 155.82 | 153.33 | 152.09 | 153.28 |
| γ 11.0 | 155.66 | 152.93 | 151.50 | 152.79 |
| γ 12.0 | 155.47 | 152.31 | 150.90 | 152.51 |
| γ 13.0 | 154.93 | 151.77 | 150.28 | 151.96 |
| γ 14.0 | 154.70 | 151.42 | 149.57 | 151.38 |
| γ 15.0 | 154.10 | 150.80 | 148.79 | 150.71 |
| γ 16.0 | 153.69 | 150.12 | 148.03 | 150.21 |
| γ 17.0 | 153.09 | 149.68 | 147.24 | 149.48 |
| γ 18.0 | 152.64 | 149.04 | 146.30 | 148.80 |
| γ 19.0 | 152.20 | 148.30 | 145.57 | 147.97 |
| γ 20.0 | 151.62 | 147.62 | 144.60 | 147.18 |
| γ 21.0 | 150.95 | 146.80 | 143.68 | 146.31 |
| γ 22.0 | 150.45 | 146.01 | 142.63 | 145.67 |
| γ 23.0 | 149.70 | 145.23 | 141.66 | 144.72 |
| γ 24.0 | 148.99 | 144.33 | 140.59 | 143.82 |
| γ 25.0 | 148.21 | 143.44 | 139.50 | 143.03 |
| γ 26.0 | 147.31 | 142.50 | 138.43 | 141.99 |
| γ 27.0 | 146.58 | 141.55 | 137.34 | 141.00 |
| γ 28.0 | 145.86 | 140.51 | 136.09 | 140.04 |
| γ 29.0 | 144.83 | 139.46 | 134.89 | 138.89 |
| γ 30.0 | 143.99 | 138.42 | 133.77 | 137.95 |
| γ 31.0 | 142.98 | 137.34 | 132.56 | 136.83 |
| γ 32.0 | 142.08 | 136.34 | 131.33 | 135.74 |
| γ 33.0 | 141.10 | 135.23 | 130.01 | 134.47 |
| γ 34.0 | 140.00 | 133.99 | 128.60 | 133.32 |
| γ 35.0 | 138.84 | 132.95 | 127.25 | 132.20 |
| γ 36.0 | 137.72 | 131.68 | 125.96 | 130.85 |
| γ 37.0 | 136.56 | 130.45 | 124.62 | 129.66 |
| γ 38.0 | 135.55 | 129.09 | 123.17 | 128.33 |
| γ 39.0 | 134.46 | 127.79 | 121.76 | 126.91 |
| γ 40.0 | 133.21 | 126.47 | 120.37 | 125.64 |
| γ 41.0 | 132.02 | 125.22 | 118.93 | 124.33 |
| γ 42.0 | 130.64 | 123.82 | 117.47 | 123.01 |
| γ 43.0 | 129.30 | 122.41 | 115.98 | 121.47 |
| γ 44.0 | 128.28 | 120.93 | 114.49 | 120.12 |
| γ 45.0 | 126.72 | 119.52 | 112.96 | 118.70 |
| γ 46.0 | 125.44 | 118.17 | 111.37 | 117.14 |

Candela Tabulation - (Cont.)

| V/H    | C0.0   | C90.0  | C180.0 | C270.0 |
|--------|--------|--------|--------|--------|
| γ 47.0 | 123.99 | 116.63 | 109.86 | 115.84 |
| γ 48.0 | 122.60 | 115.22 | 108.26 | 114.30 |
| γ 49.0 | 121.21 | 113.85 | 106.77 | 112.77 |
| γ 50.0 | 119.80 | 112.32 | 105.25 | 111.33 |
| γ 51.0 | 118.29 | 110.74 | 103.68 | 109.64 |
| γ 52.0 | 116.77 | 109.16 | 102.00 | 108.05 |
| γ 53.0 | 115.27 | 107.64 | 100.39 | 106.71 |
| γ 54.0 | 113.80 | 106.04 | 98.80  | 105.00 |
| γ 55.0 | 112.32 | 104.59 | 97.22  | 103.36 |
| γ 56.0 | 110.73 | 103.03 | 95.55  | 101.79 |
| γ 57.0 | 109.21 | 101.50 | 93.87  | 100.27 |
| γ 58.0 | 107.63 | 99.74  | 92.29  | 98.60  |
| γ 59.0 | 106.06 | 98.15  | 90.59  | 97.03  |
| γ 60.0 | 104.51 | 96.56  | 89.00  | 95.44  |
| γ 61.0 | 102.84 | 95.09  | 87.38  | 93.83  |
| γ 62.0 | 101.25 | 93.33  | 85.85  | 92.21  |
| γ 63.0 | 99.71  | 91.79  | 84.30  | 90.54  |
| γ 64.0 | 98.25  | 90.18  | 82.59  | 88.98  |
| γ 65.0 | 96.52  | 88.55  | 81.04  | 87.37  |
| γ 66.0 | 94.84  | 86.90  | 79.38  | 85.73  |
| γ 67.0 | 93.30  | 85.31  | 77.69  | 84.14  |
| γ 68.0 | 91.67  | 83.70  | 76.25  | 82.58  |
| γ 69.0 | 90.11  | 82.05  | 74.66  | 80.95  |
| γ 70.0 | 88.41  | 80.43  | 73.04  | 79.36  |
| γ 71.0 | 86.79  | 78.87  | 71.54  | 77.74  |
| γ 72.0 | 85.06  | 77.26  | 70.01  | 76.18  |
| γ 73.0 | 83.40  | 75.74  | 68.38  | 74.63  |
| γ 74.0 | 81.89  | 74.11  | 66.86  | 73.05  |
| γ 75.0 | 80.28  | 72.52  | 65.36  | 71.49  |
| γ 76.0 | 78.75  | 70.95  | 63.85  | 70.06  |
| γ 77.0 | 77.08  | 69.54  | 62.40  | 68.40  |
| γ 78.0 | 75.58  | 67.92  | 60.94  | 67.05  |
| γ 79.0 | 73.98  | 66.38  | 59.44  | 65.50  |
| γ 80.0 | 72.43  | 64.88  | 58.03  | 64.07  |
| γ 81.0 | 70.85  | 63.37  | 56.60  | 62.57  |
| γ 82.0 | 69.29  | 61.88  | 55.27  | 61.01  |
| γ 83.0 | 67.77  | 60.39  | 53.82  | 59.63  |
| γ 84.0 | 66.25  | 58.95  | 52.44  | 58.19  |
| γ 85.0 | 64.79  | 57.51  | 51.19  | 56.80  |
| γ 86.0 | 63.30  | 56.11  | 49.83  | 55.40  |
| γ 87.0 | 61.80  | 54.73  | 48.50  | 54.00  |
| γ 88.0 | 60.31  | 53.32  | 47.22  | 52.73  |
| γ 89.0 | 58.97  | 51.94  | 45.94  | 51.37  |
| γ 90.0 | 57.56  | 50.61  | 44.67  | 50.08  |
| γ 91.0 | 56.12  | 49.33  | 43.45  | 48.79  |
| γ 92.0 | 54.73  | 47.97  | 42.21  | 47.52  |
| γ 93.0 | 53.39  | 46.72  | 40.99  | 46.23  |

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IES Indoor Report

Photometric Filename:WL02-09-XX-03 4000K RA90 150D.IES

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Candela Tabulation - (Cont.)

| V/H     | C0.0  | C90.0 | C180.0 | C270.0 |
|---------|-------|-------|--------|--------|
| γ 94.0  | 52.03 | 45.41 | 39.78  | 44.99  |
| γ 95.0  | 50.79 | 44.14 | 38.62  | 43.77  |
| γ 96.0  | 49.35 | 42.91 | 37.43  | 42.55  |
| γ 97.0  | 48.05 | 41.67 | 36.26  | 41.35  |
| γ 98.0  | 46.80 | 40.44 | 35.14  | 40.20  |
| γ 99.0  | 45.51 | 39.26 | 34.06  | 39.03  |
| γ 100.0 | 44.25 | 38.08 | 33.00  | 37.93  |
| γ 101.0 | 43.12 | 36.88 | 31.90  | 36.84  |
| γ 102.0 | 41.87 | 35.75 | 30.85  | 35.63  |
| γ 103.0 | 40.72 | 34.58 | 29.81  | 34.38  |
| γ 104.0 | 39.57 | 33.49 | 28.82  | 33.20  |
| γ 105.0 | 38.38 | 32.38 | 27.85  | 32.01  |
| γ 106.0 | 37.19 | 31.17 | 26.89  | 30.73  |
| γ 107.0 | 36.16 | 29.98 | 25.94  | 28.25  |
| γ 108.0 | 35.04 | 28.79 | 24.99  | 22.76  |
| γ 109.0 | 33.96 | 27.57 | 24.08  | 14.29  |
| γ 110.0 | 32.89 | 24.20 | 23.21  | 7.71   |
| γ 111.0 | 31.86 | 15.81 | 22.32  | 6.96   |
| γ 112.0 | 30.04 | 6.00  | 21.39  | 6.93   |
| γ 113.0 | 25.81 | 5.19  | 19.90  | 7.16   |
| γ 114.0 | 18.74 | 5.64  | 17.57  | 6.80   |
| γ 115.0 | 11.13 | 6.96  | 14.82  | 6.07   |
| γ 116.0 | 6.77  | 7.69  | 12.36  | 5.53   |
| γ 117.0 | 6.56  | 6.61  | 10.65  | 4.89   |
| γ 118.0 | 7.59  | 5.56  | 9.77   | 4.55   |
| γ 119.0 | 9.45  | 4.78  | 9.66   | 4.55   |
| γ 120.0 | 11.00 | 4.46  | 10.30  | 5.00   |
| γ 121.0 | 11.14 | 4.30  | 10.85  | 5.01   |
| γ 122.0 | 10.72 | 4.16  | 10.45  | 4.87   |
| γ 123.0 | 10.38 | 4.03  | 10.02  | 4.70   |
| γ 124.0 | 10.51 | 3.89  | 9.56   | 4.54   |
| γ 125.0 | 11.35 | 3.76  | 9.25   | 4.40   |
| γ 126.0 | 12.27 | 3.63  | 9.25   | 4.24   |
| γ 127.0 | 11.89 | 3.51  | 8.90   | 4.09   |
| γ 128.0 | 11.45 | 3.39  | 8.41   | 3.94   |
| γ 129.0 | 11.02 | 3.28  | 7.95   | 3.78   |
| γ 130.0 | 10.58 | 3.15  | 7.50   | 3.62   |
| γ 131.0 | 10.16 | 3.02  | 7.09   | 3.44   |
| γ 132.0 | 9.75  | 2.90  | 6.67   | 3.21   |
| γ 133.0 | 9.35  | 2.80  | 6.29   | 2.93   |
| γ 134.0 | 8.95  | 2.67  | 5.91   | 2.62   |
| γ 135.0 | 8.56  | 2.56  | 5.55   | 2.25   |
| γ 136.0 | 8.18  | 2.45  | 5.21   | 2.07   |
| γ 137.0 | 7.82  | 2.30  | 4.88   | 1.95   |
| γ 138.0 | 7.44  | 2.07  | 4.57   | 1.83   |
| γ 139.0 | 7.08  | 1.85  | 4.27   | 1.72   |
| γ 140.0 | 6.73  | 1.59  | 3.99   | 1.61   |

Candela Tabulation - (Cont.)

| V/H     | C0.0 | C90.0 | C180.0 | C270.0 |
|---------|------|-------|--------|--------|
| γ 141.0 | 6.40 | 1.42  | 3.71   | 1.51   |
| γ 142.0 | 6.07 | 1.36  | 3.47   | 1.40   |
| γ 143.0 | 5.75 | 1.30  | 3.23   | 1.30   |
| γ 144.0 | 5.43 | 1.26  | 3.01   | 1.21   |
| γ 145.0 | 5.13 | 1.22  | 2.79   | 1.10   |
| γ 146.0 | 4.87 | 1.18  | 2.56   | 1.03   |
| γ 147.0 | 4.57 | 1.14  | 2.36   | 0.96   |
| γ 148.0 | 4.31 | 1.09  | 2.18   | 0.91   |
| γ 149.0 | 4.05 | 1.06  | 2.02   | 0.86   |
| γ 150.0 | 3.81 | 1.01  | 1.85   | 0.82   |
| γ 151.0 | 3.56 | 0.98  | 1.70   | 0.80   |
| γ 152.0 | 3.34 | 0.94  | 1.56   | 0.79   |
| γ 153.0 | 3.14 | 0.90  | 1.43   | 0.77   |
| γ 154.0 | 2.93 | 0.87  | 1.31   | 0.76   |
| γ 155.0 | 2.72 | 0.84  | 1.19   | 0.73   |
| γ 156.0 | 2.50 | 0.81  | 1.08   | 0.72   |
| γ 157.0 | 2.15 | 0.77  | 0.95   | 0.71   |
| γ 158.0 | 1.75 | 0.75  | 0.75   | 0.70   |
| γ 159.0 | 1.18 | 0.71  | 0.54   | 0.68   |
| γ 160.0 | 0.89 | 0.69  | 0.50   | 0.67   |
| γ 161.0 | 0.88 | 0.66  | 0.50   | 0.66   |
| γ 162.0 | 0.87 | 0.63  | 0.50   | 0.67   |
| γ 163.0 | 0.83 | 0.62  | 0.50   | 0.67   |
| γ 164.0 | 0.79 | 0.59  | 0.50   | 0.66   |
| γ 165.0 | 0.76 | 0.57  | 0.49   | 0.64   |
| γ 166.0 | 0.75 | 0.55  | 0.49   | 0.64   |
| γ 167.0 | 0.75 | 0.56  | 0.49   | 0.63   |
| γ 168.0 | 0.76 | 0.60  | 0.49   | 0.62   |
| γ 169.0 | 0.74 | 0.63  | 0.50   | 0.61   |
| γ 170.0 | 0.74 | 0.60  | 0.51   | 0.60   |
| γ 171.0 | 0.71 | 0.61  | 0.51   | 0.60   |
| γ 172.0 | 0.68 | 0.58  | 0.51   | 0.59   |
| γ 173.0 | 0.69 | 0.55  | 0.51   | 0.59   |
| γ 174.0 | 0.67 | 0.53  | 0.51   | 0.59   |
| γ 175.0 | 0.66 | 0.49  | 0.52   | 0.58   |
| γ 176.0 | 0.65 | 0.45  | 0.52   | 0.57   |
| γ 177.0 | 0.65 | 0.43  | 0.53   | 0.57   |
| γ 178.0 | 0.64 | 0.42  | 0.54   | 0.57   |
| γ 179.0 | 0.62 | 0.43  | 0.54   | 0.56   |
| γ 180.0 | 0.55 | 0.55  | 0.55   | 0.55   |