

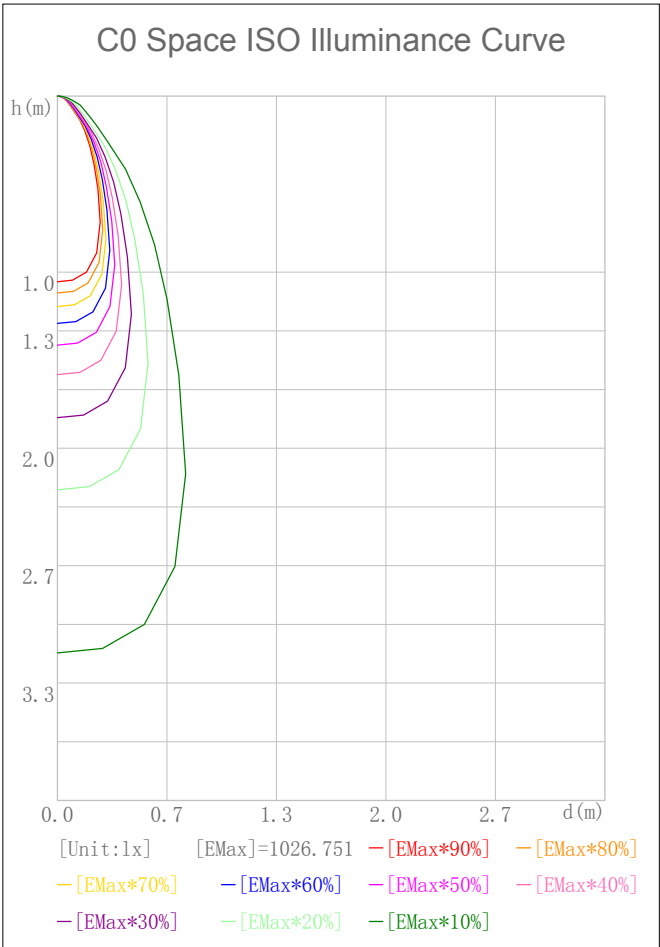
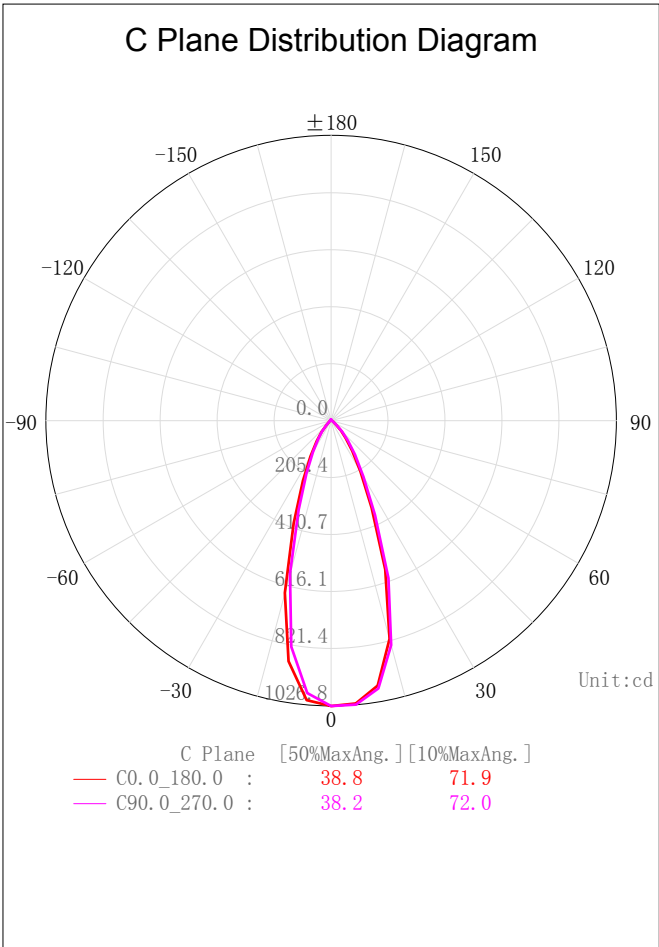
Indoor Luminaire Photometric Data

Description Information

| | | | |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name:WL02-09-DW-04 1800-3000K RA90 36D | | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | | Lamp Catalog: LED | Test Date: 2022/08/29 |
| Manufacture: Shenzhen Norming Lighting | | 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=5.0 | Temp. (°C): 25 | Humidity(%): 50.0 |

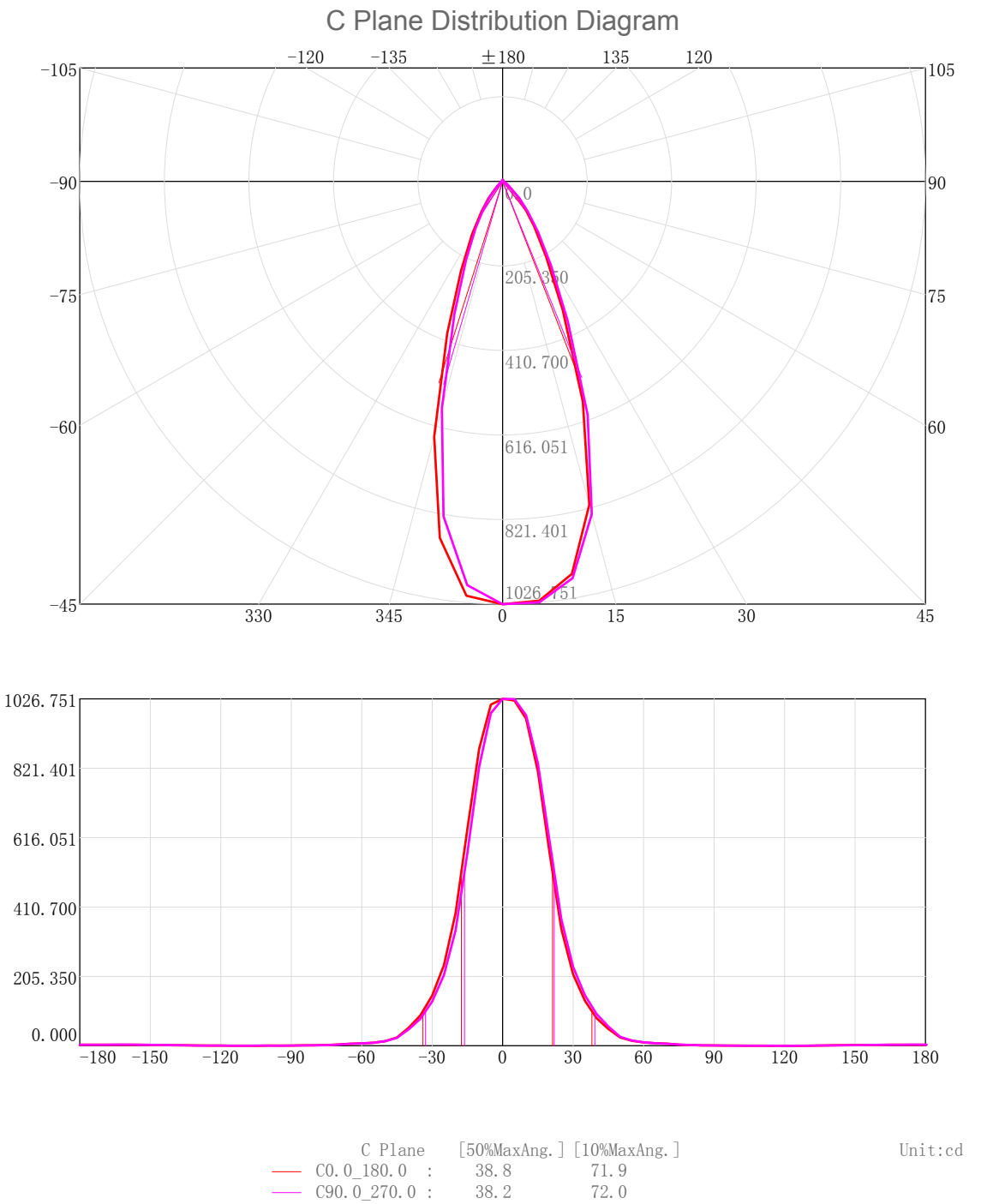
Character Parameter

| Lamp Speciality Parameter | | Luminaire Speciality Parameter | |
|---|--------------------------------|---------------------------------------|--|
| Rated Flux(lm): 565.110 | Luminary Flux(lm): 565.113 | Field Angle(10%Imax): 71.9(°) | |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 558.086lm 98.76% | |
| Rated Voltage(V): | Luminary EER(lm/W): 68.267 | Up Lumens&Percent: 7.027lm 1.24% | |
| Tested Power(W): 8.278 | Max. Candela(cd): 1026.751 | S/MH: C0_a180=0.641 C90_270=0.627 | |
| Lamps' Inside: 1 | Max Cand@Ang. (°): C=0.0 γ=0.0 | CIE Type: Semi-Direct | |
| Tested Electrics (V, A, pf):240.1, 0.038, 0.892 | Beam Angle(50%Imax): 38.8(°) | ErP Φ use(90°): 528.915lm | |
| Lamp Size (W*L*H):0.038m*0.038m*0.000m | Left=-17.6°, Right=21.3° | IRF(%): 376.444 | |



2D Plane Light Intensity Distribution Curve

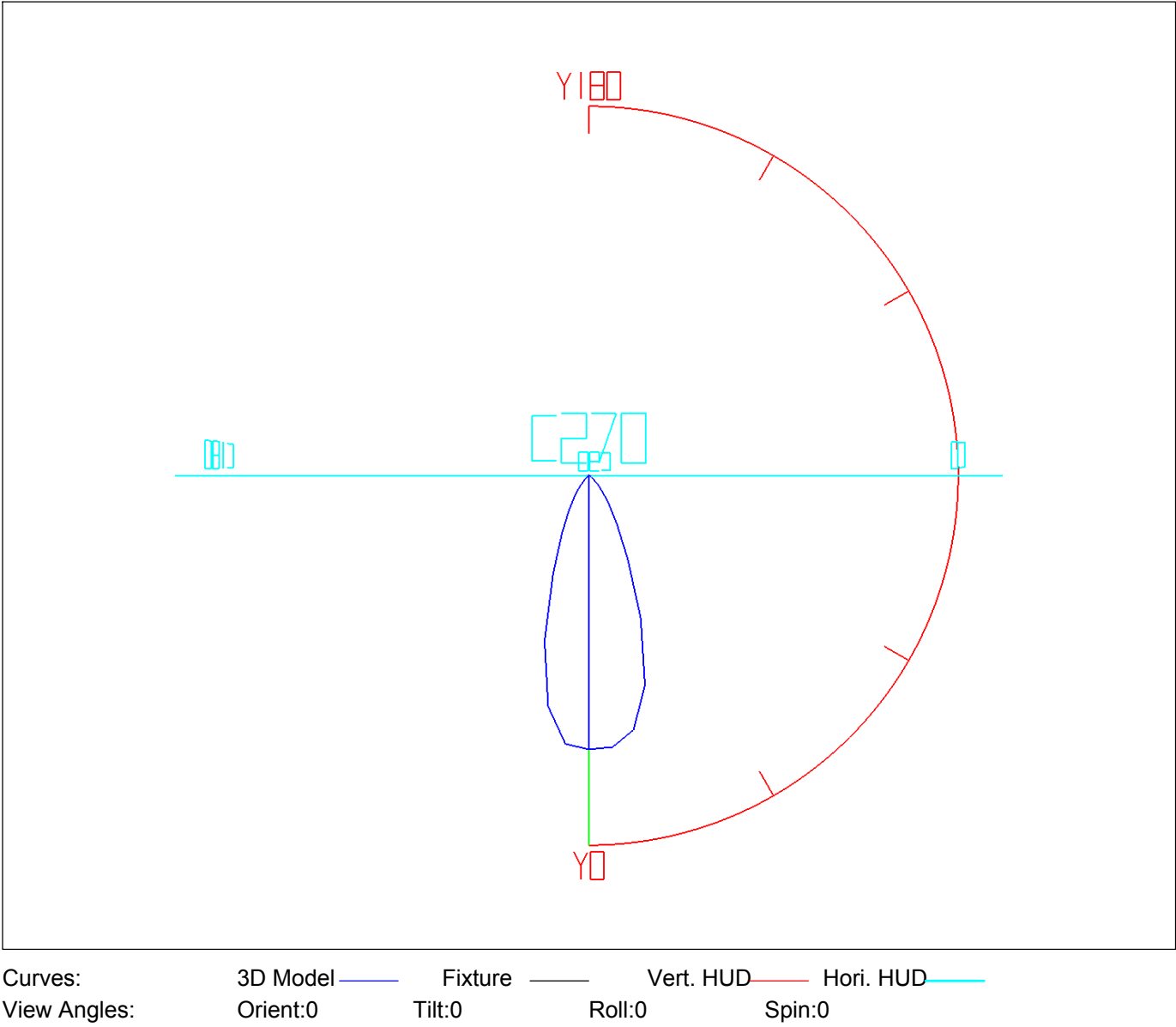
| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |



3D Light Intensity Distribution Modal

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

3D Light Intensity Distribution Modal

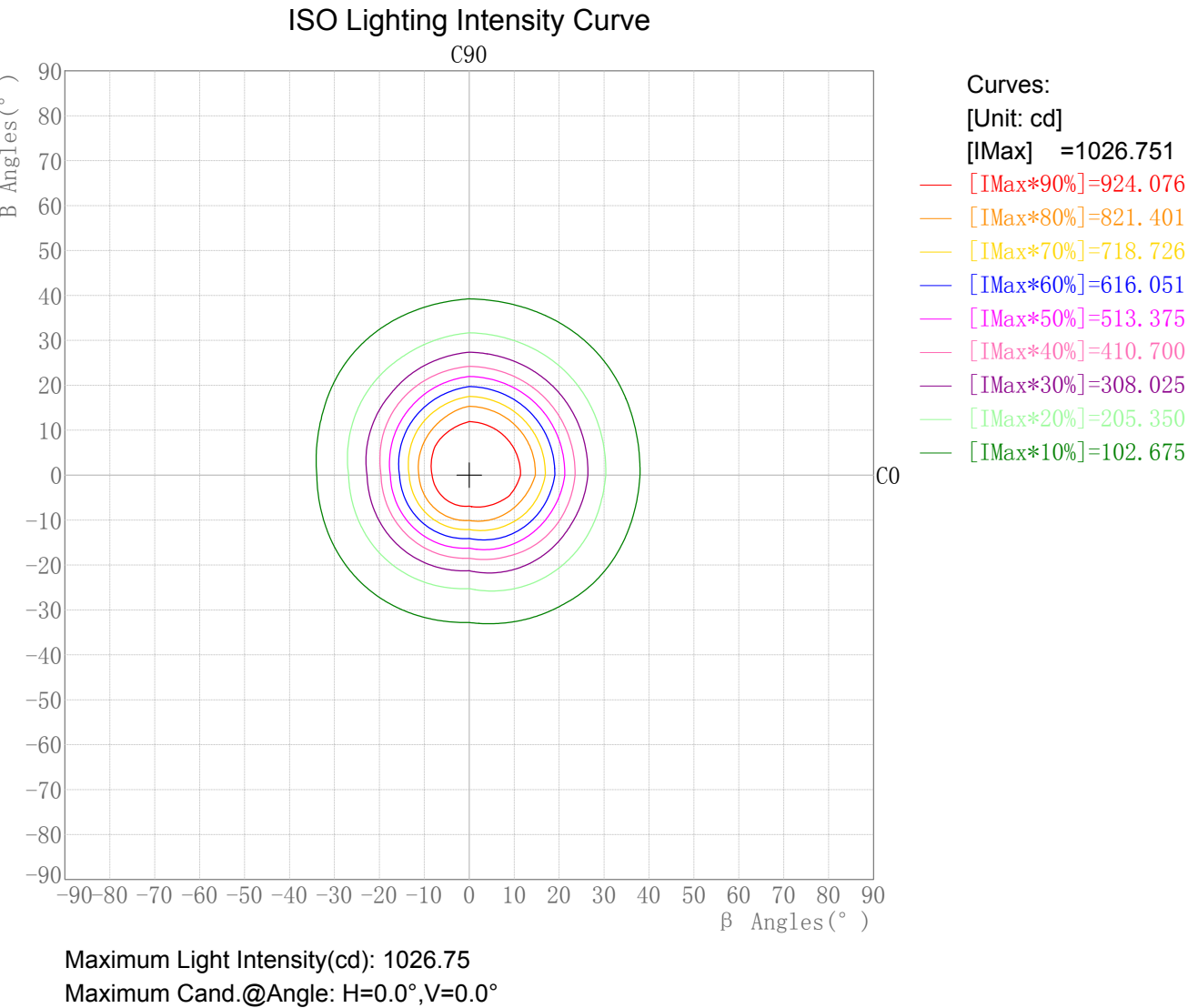


Zonal Flux Tabulation

| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|-------------|-------------------|-------------------|-----------|-----------|
| 0.0-5.0 | 24.35 | 24.35 | 4.31 | 4.31 |
| 5.0-10.0 | 68.80 | 93.15 | 12.17 | 16.48 |
| 10.0-15.0 | 96.57 | 189.72 | 17.09 | 33.57 |
| 15.0-20.0 | 98.25 | 287.97 | 17.39 | 50.96 |
| 20.0-25.0 | 80.65 | 368.62 | 14.27 | 65.23 |
| 25.0-30.0 | 59.89 | 428.51 | 10.60 | 75.83 |
| 30.0-35.0 | 43.36 | 471.87 | 7.67 | 83.50 |
| 35.0-40.0 | 30.54 | 502.40 | 5.40 | 88.90 |
| 40.0-45.0 | 20.09 | 522.49 | 3.55 | 92.46 |
| 45.0-50.0 | 11.84 | 534.33 | 2.09 | 94.55 |
| 50.0-55.0 | 7.00 | 541.33 | 1.24 | 95.79 |
| 55.0-60.0 | 4.92 | 546.25 | 0.87 | 96.66 |
| 60.0-65.0 | 3.82 | 550.07 | 0.68 | 97.34 |
| 65.0-70.0 | 2.99 | 553.06 | 0.53 | 97.87 |
| 70.0-75.0 | 2.08 | 555.14 | 0.37 | 98.24 |
| 75.0-80.0 | 1.35 | 556.49 | 0.24 | 98.47 |
| 80.0-85.0 | 0.95 | 557.44 | 0.17 | 98.64 |
| 85.0-90.0 | 0.65 | 558.09 | 0.11 | 98.76 |
| 90.0-95.0 | 0.48 | 558.56 | 0.08 | 98.84 |
| 95.0-100.0 | 0.40 | 558.96 | 0.07 | 98.91 |
| 100.0-105.0 | 0.30 | 559.26 | 0.05 | 98.97 |
| 105.0-110.0 | 0.20 | 559.46 | 0.04 | 99.00 |
| 110.0-115.0 | 0.17 | 559.64 | 0.03 | 99.03 |
| 115.0-120.0 | 0.18 | 559.81 | 0.03 | 99.06 |
| 120.0-125.0 | 0.22 | 560.03 | 0.04 | 99.10 |
| 125.0-130.0 | 0.30 | 560.32 | 0.05 | 99.15 |
| 130.0-135.0 | 0.44 | 560.76 | 0.08 | 99.23 |
| 135.0-140.0 | 0.54 | 561.31 | 0.10 | 99.33 |
| 140.0-145.0 | 0.61 | 561.92 | 0.11 | 99.43 |
| 145.0-150.0 | 0.68 | 562.59 | 0.12 | 99.55 |
| 150.0-155.0 | 0.67 | 563.26 | 0.12 | 99.67 |
| 155.0-160.0 | 0.62 | 563.88 | 0.11 | 99.78 |
| 160.0-165.0 | 0.53 | 564.40 | 0.09 | 99.87 |
| 165.0-170.0 | 0.39 | 564.79 | 0.07 | 99.94 |
| 170.0-175.0 | 0.24 | 565.03 | 0.04 | 99.99 |
| 175.0-180.0 | 0.08 | 565.11 | 0.01 | 100.00 |

Rectangle ISO Lighting Intensity Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

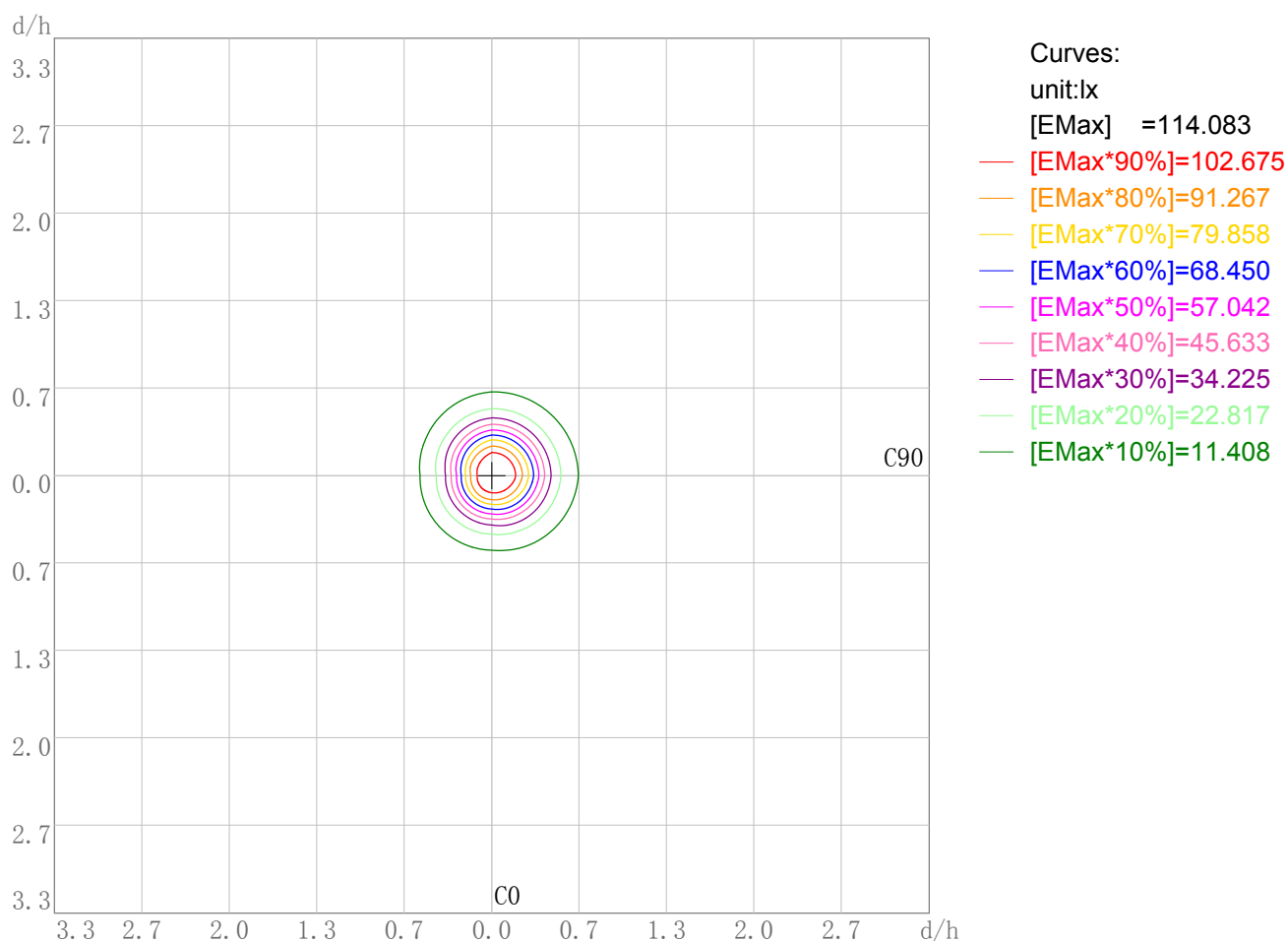


Photometric Filename:WL02-09-DW-04 1800-3000K RA90 36D.IES

Plane ISO-Illuminance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

Plane ISO-Illuminance Curve

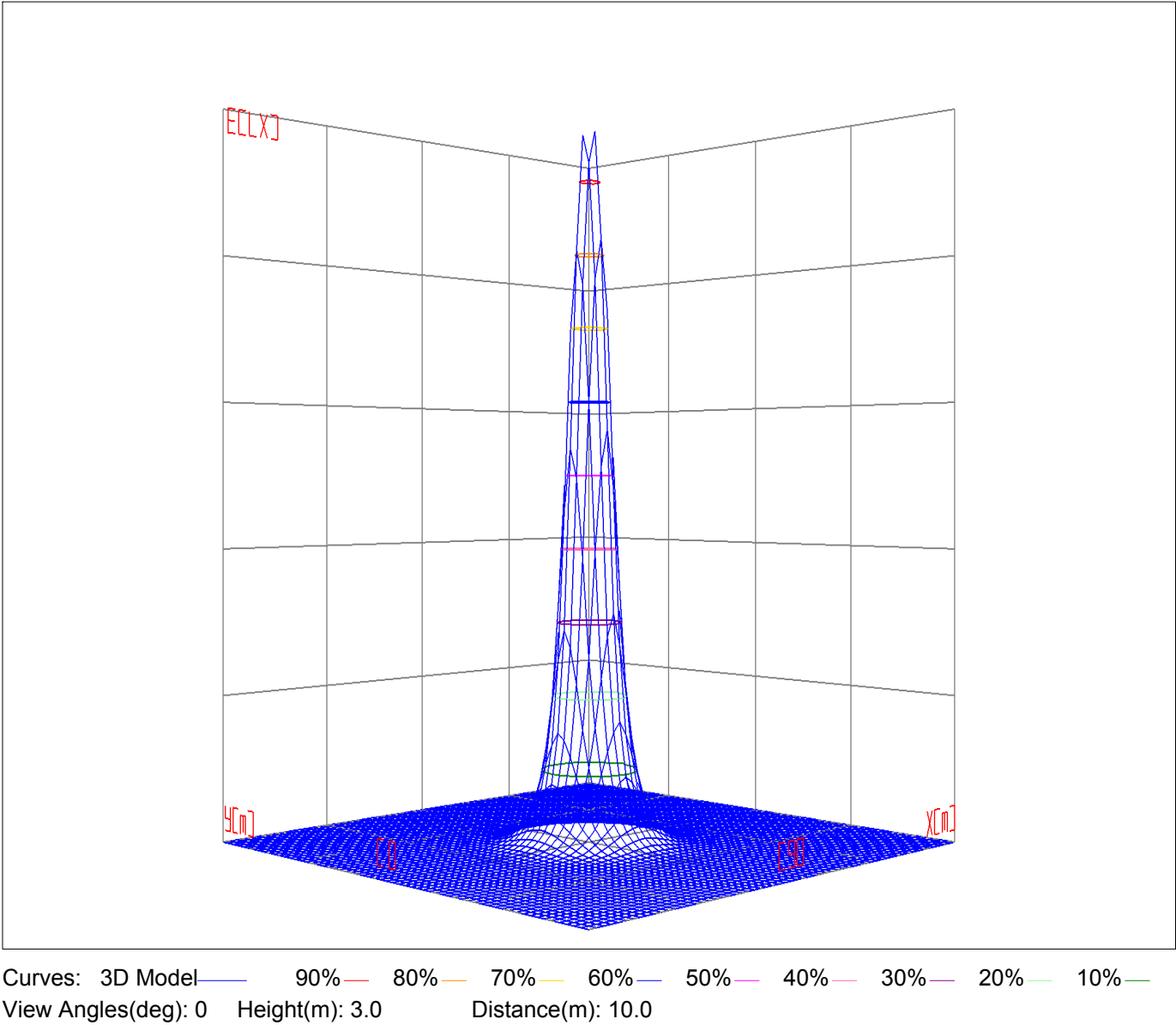


Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 114.08
Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

3D Plane ISO Illuminance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

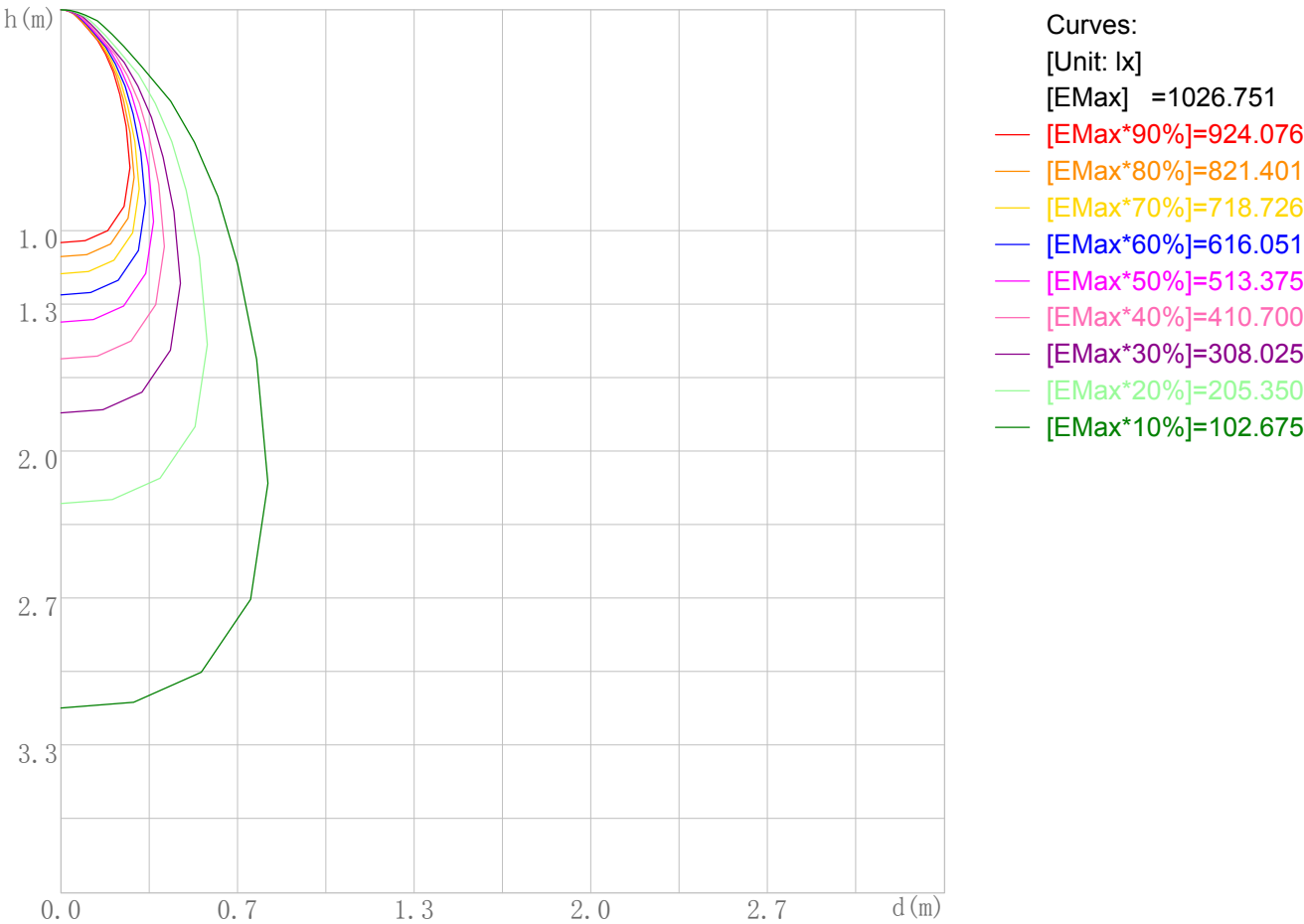
3D Plane Illuminance Modal



Space ISO Illuminance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

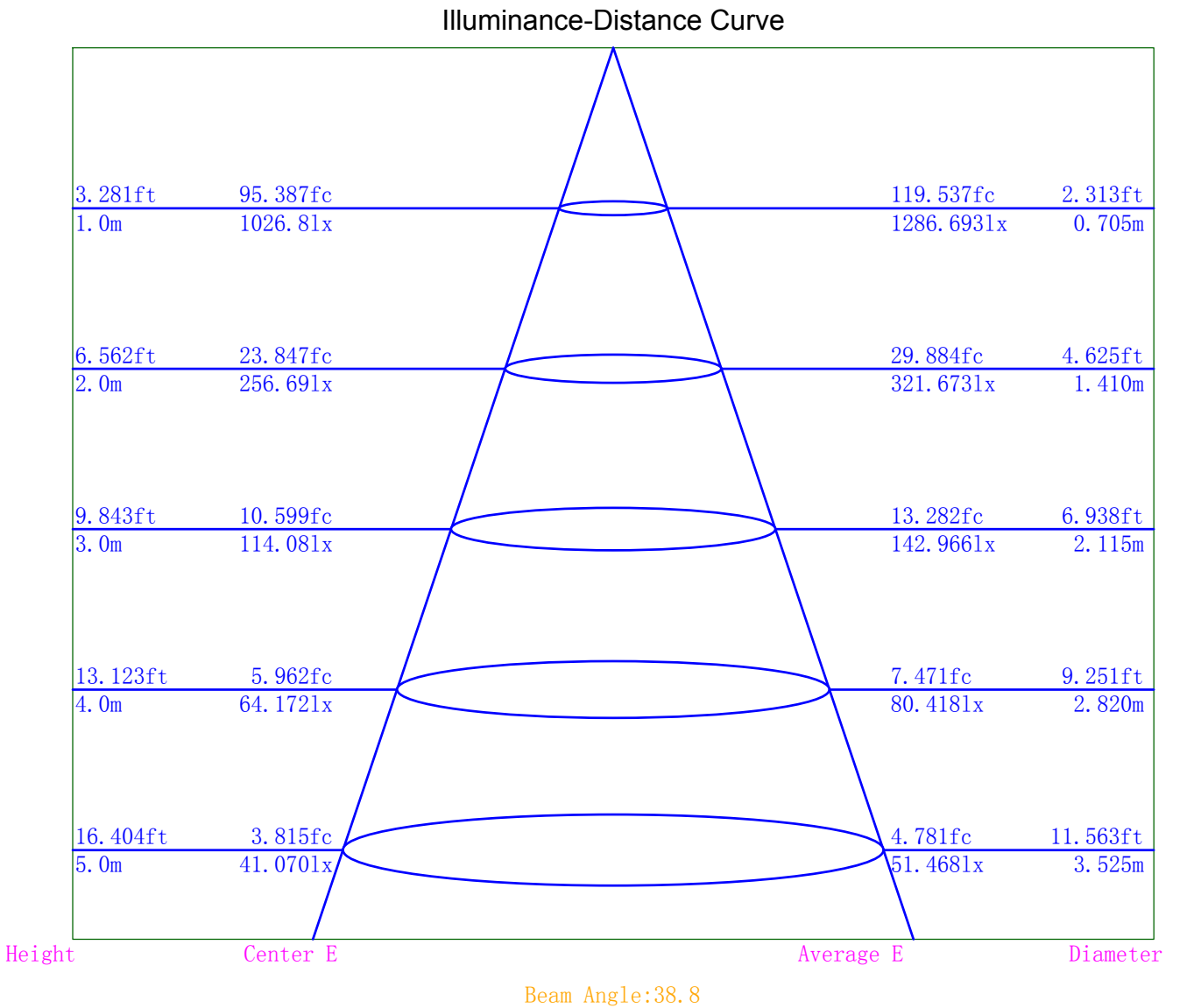
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:1026.75lx,0.0deg
Plane Maximum Lighting Intensity and @Angle:1026.751cd,0eg

Illuminance-Distance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |



Indoor Luminance Limiting Curves

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

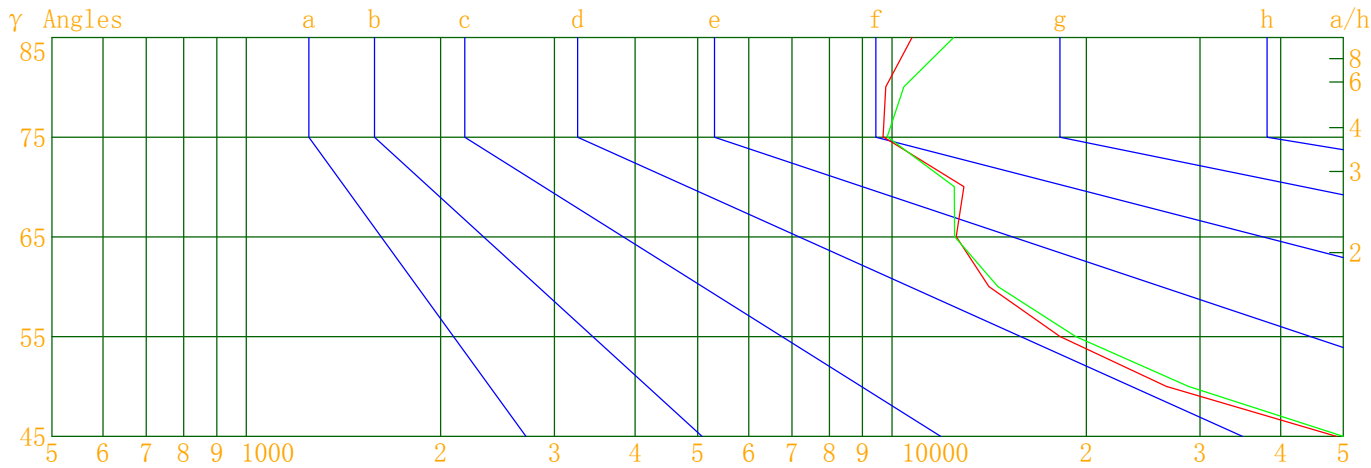
Glare Grade Table

| 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 | 48775 | 26607 | 18202 | 14126 | 12575 | 12924 | 9686 | 9779 | 10743 |
| C90 | 56183 | 28793 | 19249 | 14589 | 12506 | 12491 | 9833 | 10433 | 12459 |

Luminance Limiting Curve



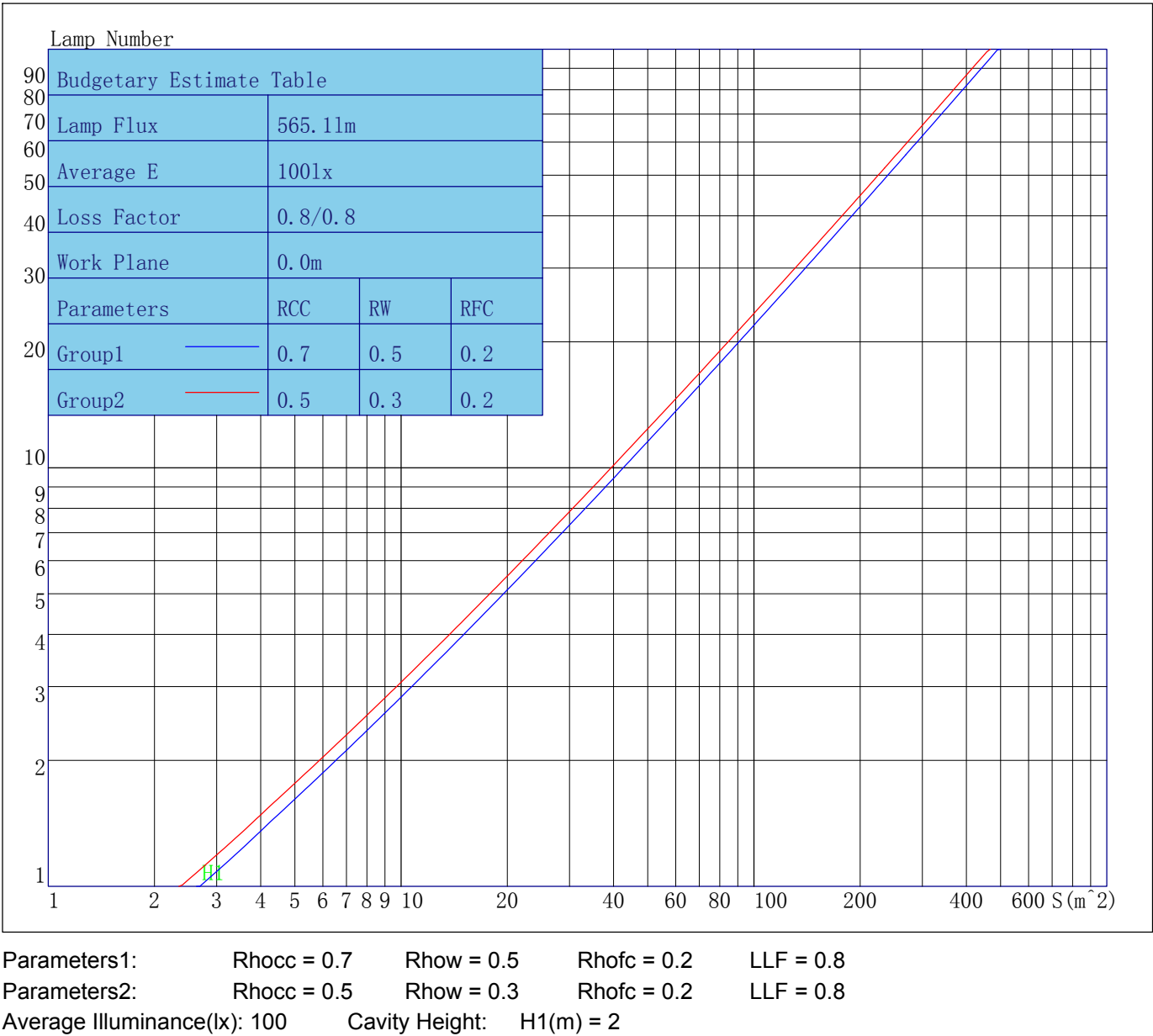
Luminous Size: Length(m)=0.038 Width(m)=0.038 Height(m)=0.000 Area(m^2)=0.001444

Luminous Type: Without Luminous Side

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

Indoor Budgetary Estimate Table

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |



Indoor Coefficient of Utilization Table

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

| Coefficients of Utilization - Zonal Cavity Method | | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Coef. | Effective Floor Cavity Reflectance RFC=0.20 | | | | | | | | | | | | | | | | | |
| RhoCC (%) | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| RhoW (%) | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | Coefficient of Utilization(%) | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 110 | 110 | 110 | 105 | 105 | 105 | 101 | 101 | 101 | 99 |
| 1 | 113 | 111 | 108 | 106 | 111 | 108 | 106 | 104 | 104 | 102 | 101 | 100 | 99 | 97 | 96 | 95 | 94 | 93 |
| 2 | 108 | 103 | 99 | 96 | 106 | 101 | 98 | 95 | 98 | 95 | 92 | 95 | 92 | 90 | 92 | 90 | 88 | 87 |
| 3 | 103 | 97 | 92 | 88 | 101 | 95 | 91 | 87 | 92 | 89 | 86 | 90 | 87 | 84 | 87 | 85 | 83 | 81 |
| 4 | 98 | 91 | 86 | 81 | 96 | 90 | 85 | 81 | 87 | 83 | 80 | 85 | 82 | 79 | 83 | 80 | 78 | 76 |
| 5 | 94 | 86 | 80 | 76 | 92 | 85 | 79 | 76 | 83 | 78 | 75 | 81 | 77 | 74 | 79 | 76 | 73 | 72 |
| 6 | 89 | 81 | 75 | 71 | 88 | 80 | 75 | 71 | 79 | 74 | 70 | 77 | 73 | 70 | 76 | 72 | 69 | 68 |
| 7 | 85 | 77 | 71 | 67 | 84 | 76 | 71 | 67 | 75 | 70 | 67 | 73 | 69 | 66 | 72 | 69 | 66 | 64 |
| 8 | 82 | 73 | 67 | 64 | 81 | 72 | 67 | 63 | 71 | 66 | 63 | 70 | 66 | 63 | 69 | 65 | 62 | 61 |
| 9 | 79 | 70 | 64 | 60 | 77 | 69 | 64 | 60 | 68 | 63 | 60 | 67 | 63 | 60 | 66 | 62 | 59 | 58 |
| 10 | 75 | 66 | 61 | 57 | 74 | 66 | 61 | 57 | 65 | 60 | 57 | 64 | 60 | 57 | 63 | 60 | 57 | 55 |

Unified Glare Rating Table

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: WL02-09-DW-04 1800-3000K RA90 36D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/29 |

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 Y=3H Y=4H Y=6H Y=8H Y=12H | 20.8 | 21.8 | 21.2 | 22.1 | 22.5 | 21.3 | 22.3 | 21.7 | 22.7 | 23.0 |
| | 21.0 | 21.8 | 21.4 | 22.2 | 22.6 | 21.4 | 22.3 | 21.9 | 22.7 | 23.1 |
| | 21.0 | 21.8 | 21.5 | 22.2 | 22.6 | 21.5 | 22.3 | 21.9 | 22.7 | 23.1 |
| | 21.1 | 21.8 | 21.5 | 22.2 | 22.6 | 21.5 | 22.2 | 22.0 | 22.6 | 23.1 |
| | 21.1 | 21.7 | 21.5 | 22.2 | 22.6 | 21.5 | 22.2 | 22.0 | 22.6 | 23.1 |
| | 21.1 | 21.7 | 21.5 | 22.1 | 22.6 | 21.5 | 22.2 | 22.0 | 22.6 | 23.1 |
| X=4H Y=2H Y=3H Y=4H Y=6H Y=8H Y=12H | 20.7 | 21.5 | 21.1 | 21.8 | 22.3 | 21.2 | 22.0 | 21.6 | 22.4 | 22.8 |
| | 21.0 | 21.6 | 21.4 | 22.0 | 22.5 | 21.4 | 22.0 | 21.8 | 22.5 | 22.9 |
| | 21.1 | 21.6 | 21.5 | 22.1 | 22.6 | 21.5 | 22.1 | 22.0 | 22.5 | 23.0 |
| | 21.2 | 21.7 | 21.7 | 22.1 | 22.6 | 21.6 | 22.1 | 22.1 | 22.6 | 23.1 |
| | 21.2 | 21.7 | 21.7 | 22.1 | 22.6 | 21.6 | 22.1 | 22.1 | 22.6 | 23.1 |
| | 21.3 | 21.6 | 21.8 | 22.2 | 22.7 | 21.7 | 22.1 | 22.2 | 22.6 | 23.1 |
| X=8H Y=4H Y=6H Y=8H Y=12H | 21.0 | 21.5 | 21.5 | 21.9 | 22.4 | 21.4 | 21.9 | 21.9 | 22.3 | 22.8 |
| | 21.2 | 21.5 | 21.7 | 22.1 | 22.6 | 21.6 | 21.9 | 22.1 | 22.5 | 23.0 |
| | 21.3 | 21.6 | 21.8 | 22.1 | 22.7 | 21.7 | 22.0 | 22.2 | 22.5 | 23.1 |
| | 21.4 | 21.7 | 21.9 | 22.2 | 22.8 | 21.8 | 22.1 | 22.4 | 22.6 | 23.2 |
| X=12H Y=4H Y=6H Y=8H | 21.0 | 21.3 | 21.5 | 21.9 | 22.4 | 21.4 | 21.8 | 21.9 | 22.3 | 22.8 |
| | 21.2 | 21.5 | 21.7 | 22.0 | 22.5 | 21.6 | 21.9 | 22.1 | 22.4 | 22.9 |
| | 21.3 | 21.5 | 21.8 | 22.1 | 22.7 | 21.7 | 22.0 | 22.2 | 22.5 | 23.1 |
| Variations with the objerver position at spacings | | | | | | | | | | |
| S=1.0H | 0.3/-0.3 | | | | | 0.3/-0.3 | | | | |
| S=1.5H | 0.8/-0.8 | | | | | 0.7/-0.6 | | | | |
| S=2.0H | 1.0/-1.3 | | | | | 0.9/-1.1 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 0.9 | | | | | 0.8 | | | | |

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 | 1026.75 | 1026.75 | 1026.75 | 1026.75 |
| γ 5.0 | 1021.87 | 1025.94 | 1009.85 | 984.14 |
| γ 10.0 | 967.87 | 978.38 | 878.89 | 825.68 |
| γ 15.0 | 812.66 | 836.39 | 641.54 | 570.46 |
| γ 20.0 | 569.37 | 603.40 | 392.93 | 341.65 |
| γ 25.0 | 345.82 | 374.60 | 238.68 | 209.33 |
| γ 30.0 | 211.42 | 233.76 | 148.36 | 131.04 |
| γ 35.0 | 133.41 | 149.60 | 90.11 | 80.13 |
| γ 40.0 | 82.17 | 94.26 | 53.73 | 48.69 |
| γ 45.0 | 49.80 | 57.37 | 24.56 | 23.40 |
| γ 50.0 | 24.70 | 26.73 | 13.82 | 13.98 |
| γ 55.0 | 15.08 | 15.94 | 9.45 | 9.12 |
| γ 60.0 | 10.20 | 10.53 | 7.36 | 7.46 |
| γ 65.0 | 7.67 | 7.63 | 6.04 | 5.91 |
| γ 70.0 | 6.38 | 6.17 | 3.90 | 3.60 |
| γ 75.0 | 3.62 | 3.67 | 2.39 | 2.07 |
| γ 80.0 | 2.45 | 2.62 | 1.73 | 1.63 |
| γ 85.0 | 1.35 | 1.57 | 1.42 | 1.15 |
| γ 90.0 | 1.26 | 1.10 | 0.73 | 0.89 |
| γ 95.0 | 0.75 | 0.86 | 0.78 | 0.60 |
| γ 100.0 | 0.77 | 0.39 | 0.91 | 0.82 |
| γ 105.0 | 0.21 | 0.49 | 0.20 | 0.70 |
| γ 110.0 | 0.25 | 0.52 | 0.29 | 0.41 |
| γ 115.0 | 0.12 | 0.34 | 0.34 | 0.44 |
| γ 120.0 | 0.27 | 0.10 | 0.65 | 0.62 |
| γ 125.0 | 0.16 | 0.23 | 0.93 | 0.77 |
| γ 130.0 | 0.51 | 0.52 | 1.39 | 0.94 |
| γ 135.0 | 0.89 | 1.02 | 1.81 | 1.67 |
| γ 140.0 | 1.61 | 1.03 | 1.81 | 1.85 |
| γ 145.0 | 1.93 | 1.79 | 2.33 | 2.27 |
| γ 150.0 | 2.38 | 2.23 | 2.72 | 2.69 |
| γ 155.0 | 2.68 | 2.29 | 3.05 | 3.09 |
| γ 160.0 | 2.89 | 2.86 | 3.12 | 3.51 |
| γ 165.0 | 3.36 | 3.08 | 3.14 | 3.58 |
| γ 170.0 | 3.27 | 3.38 | 3.31 | 3.29 |
| γ 175.0 | 3.40 | 3.56 | 3.26 | 3.20 |
| γ 180.0 | 3.41 | 3.41 | 3.41 | 3.41 |