

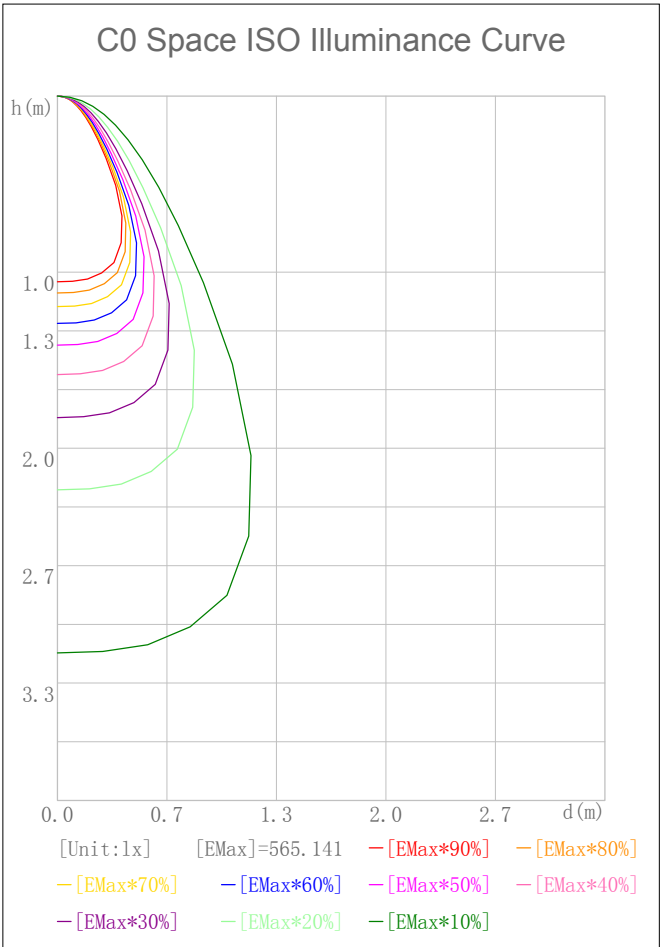
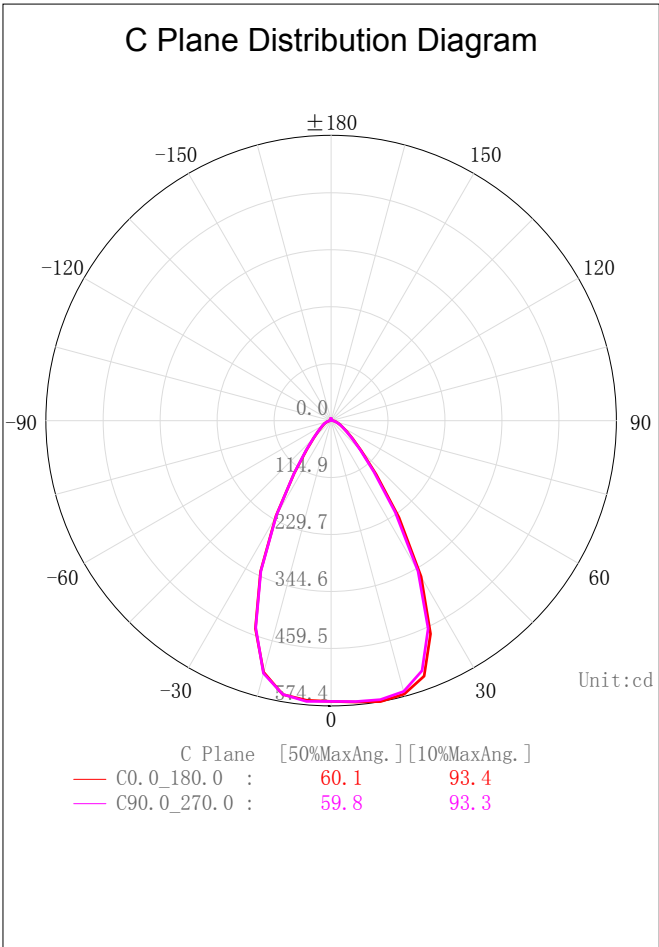
Indoor Luminaire Photometric Data

Description Information

| | | | |
|---|-------------------------|----------------------|-----------------------|
| Luminary Name:TR09-09-DW-01 1800-3000K RA90 60D | | 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):0.076m*0.076m*0.000m | | Lum. Area (m2):0.006 | Lum. W(kg): 0.000 |
| Test System: C, γ | Test Step: C=90.0 γ=5.0 | Temp. (°C): 25 | Humidity(%): 50.0 |

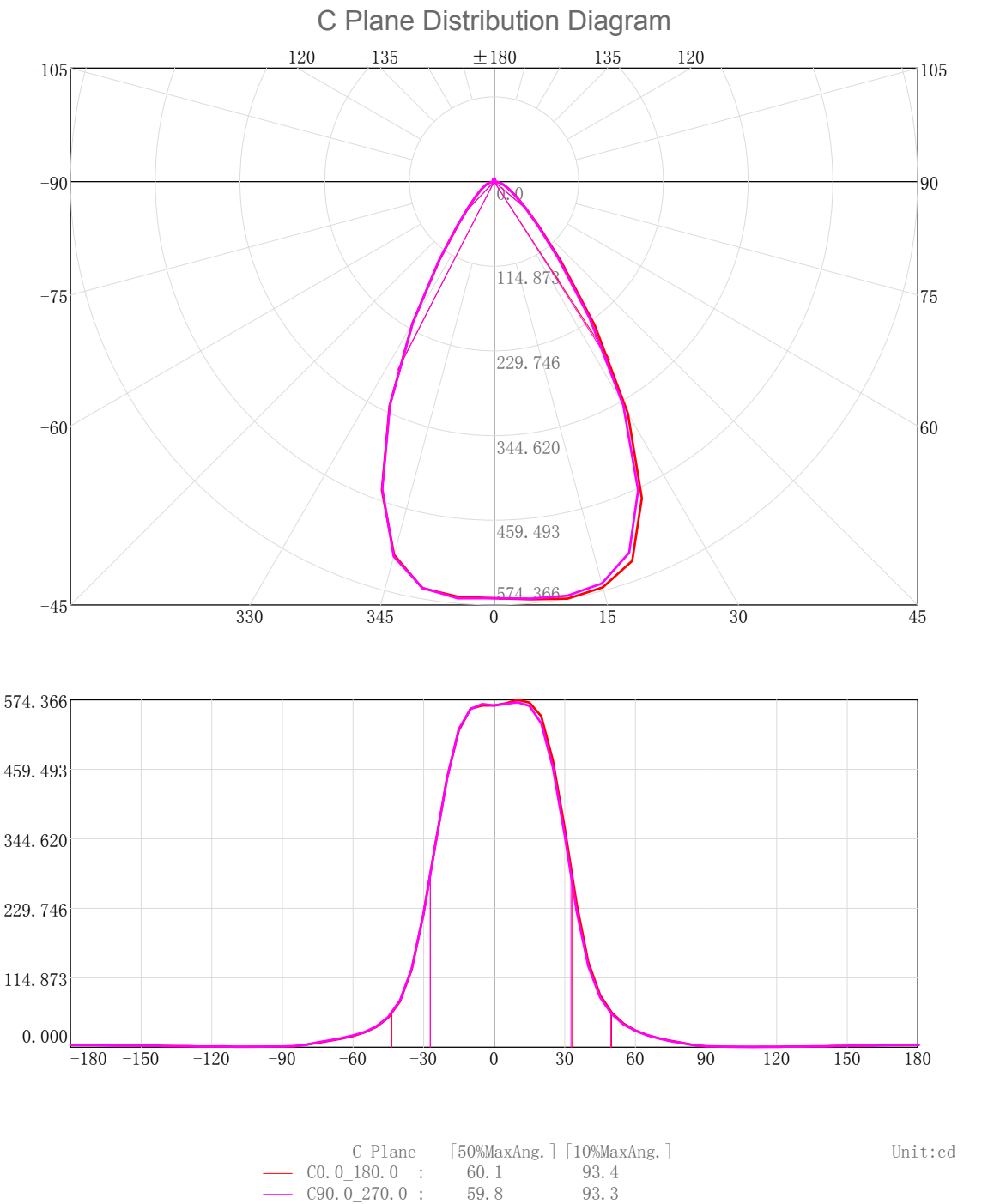
Character Parameter

| Lamp Speciality Parameter | | Luminaire Speciality Parameter | |
|---|---------------------------------|---------------------------------------|--|
| Rated Flux(lm): 630.210 | Luminary Flux(lm): 630.212 | Field Angle(10%Imax): 93.4(°) | |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 619.421lm 98.29% | |
| Rated Voltage(V): | Luminary EER(lm/W): 76.159 | Up Lumens&Percent: 10.792lm 1.71% | |
| Tested Power(W): 8.275 | Max. Candela(cd): 574.366 | S/MH: C0_a180=0.969 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):240.0, 0.038, 0.891 | Beam Angle(50%Imax): 60.1(°) | ErP ϕ use(90°): 534.749lm | |
| Lamp Size (W*L*H):0.076m*0.076m*0.000m | Left=-27.1°, Right=33.0° | IRF(%): 195.104 | |



2D Plane Light Intensity Distribution Curve

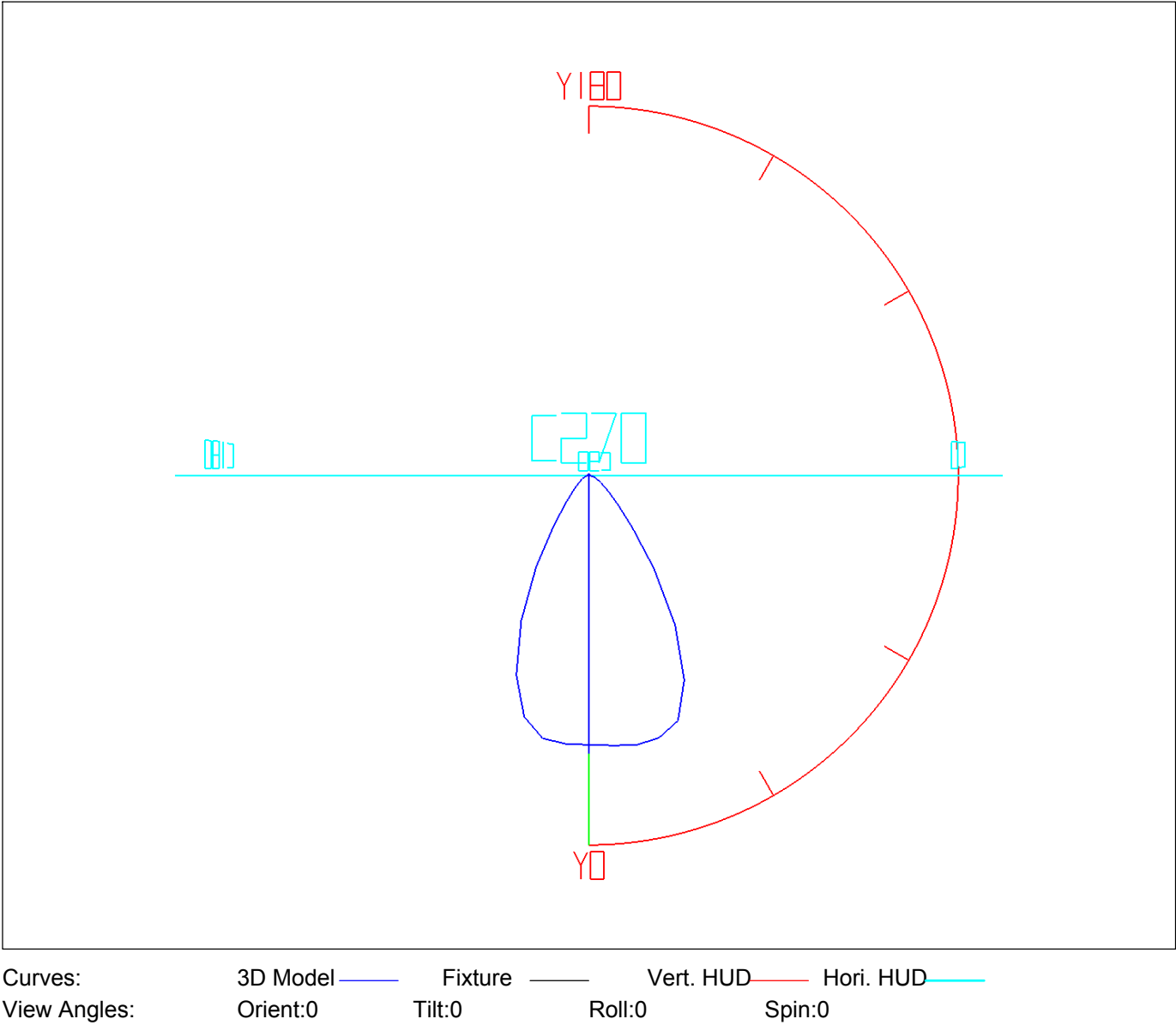
| | | |
|---|-----------------------|-----------------------------|
| Lum. Name:TR09-09-DW-01 1800-3000K RA90 60D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date:2022/08/29 |



3D Light Intensity Distribution Modal

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: TR09-09-DW-01 1800-3000K RA90 60D | 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

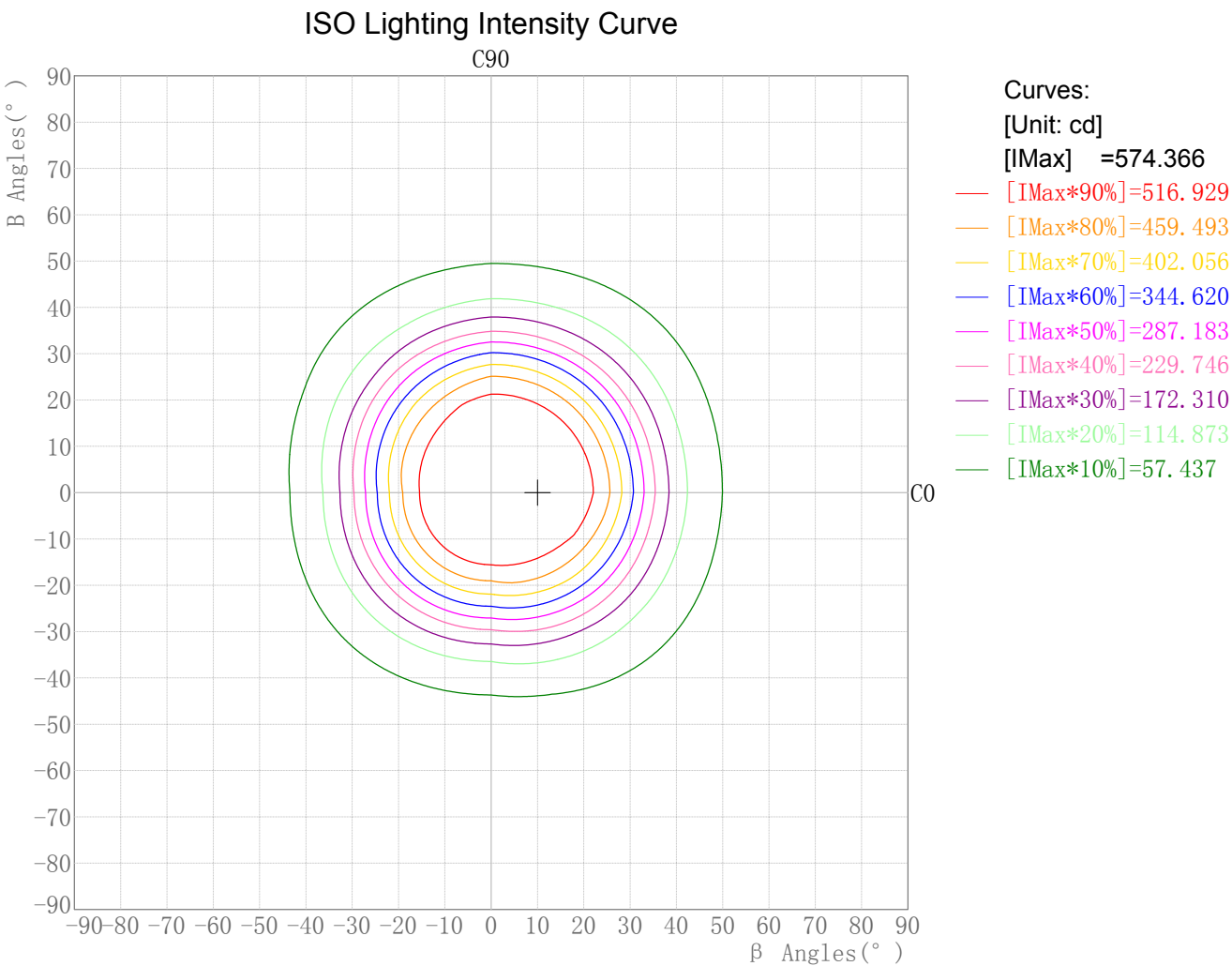


Zonal Flux Tabulation

| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|-------------|-------------------|-------------------|-----------|-----------|
| 0.0-5.0 | 13.54 | 13.54 | 2.15 | 2.15 |
| 5.0-10.0 | 40.54 | 54.08 | 6.43 | 8.58 |
| 10.0-15.0 | 65.97 | 120.05 | 10.47 | 19.05 |
| 15.0-20.0 | 85.64 | 205.69 | 13.59 | 32.64 |
| 20.0-25.0 | 93.80 | 299.48 | 14.88 | 47.52 |
| 25.0-30.0 | 87.30 | 386.78 | 13.85 | 61.37 |
| 30.0-35.0 | 69.08 | 455.87 | 10.96 | 72.34 |
| 35.0-40.0 | 48.04 | 503.91 | 7.62 | 79.96 |
| 40.0-45.0 | 32.29 | 536.20 | 5.12 | 85.08 |
| 45.0-50.0 | 22.65 | 558.85 | 3.59 | 88.68 |
| 50.0-55.0 | 16.69 | 575.54 | 2.65 | 91.33 |
| 55.0-60.0 | 12.76 | 588.30 | 2.02 | 93.35 |
| 60.0-65.0 | 9.96 | 598.26 | 1.58 | 94.93 |
| 65.0-70.0 | 7.75 | 606.01 | 1.23 | 96.16 |
| 70.0-75.0 | 5.84 | 611.85 | 0.93 | 97.09 |
| 75.0-80.0 | 4.02 | 615.87 | 0.64 | 97.72 |
| 80.0-85.0 | 2.32 | 618.19 | 0.37 | 98.09 |
| 85.0-90.0 | 1.23 | 619.42 | 0.20 | 98.29 |
| 90.0-95.0 | 0.86 | 620.28 | 0.14 | 98.42 |
| 95.0-100.0 | 0.67 | 620.94 | 0.11 | 98.53 |
| 100.0-105.0 | 0.53 | 621.47 | 0.08 | 98.61 |
| 105.0-110.0 | 0.50 | 621.97 | 0.08 | 98.69 |
| 110.0-115.0 | 0.56 | 622.52 | 0.09 | 98.78 |
| 115.0-120.0 | 0.60 | 623.13 | 0.10 | 98.88 |
| 120.0-125.0 | 0.60 | 623.73 | 0.10 | 98.97 |
| 125.0-130.0 | 0.64 | 624.37 | 0.10 | 99.07 |
| 130.0-135.0 | 0.71 | 625.08 | 0.11 | 99.19 |
| 135.0-140.0 | 0.72 | 625.81 | 0.11 | 99.30 |
| 140.0-145.0 | 0.78 | 626.58 | 0.12 | 99.42 |
| 145.0-150.0 | 0.81 | 627.39 | 0.13 | 99.55 |
| 150.0-155.0 | 0.76 | 628.15 | 0.12 | 99.67 |
| 155.0-160.0 | 0.67 | 628.82 | 0.11 | 99.78 |
| 160.0-165.0 | 0.57 | 629.39 | 0.09 | 99.87 |
| 165.0-170.0 | 0.45 | 629.84 | 0.07 | 99.94 |
| 170.0-175.0 | 0.28 | 630.12 | 0.04 | 99.98 |
| 175.0-180.0 | 0.10 | 630.21 | 0.02 | 100.00 |

Rectangle ISO Lighting Intensity Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: TR09-09-DW-01 1800-3000K RA90 60D | 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 |

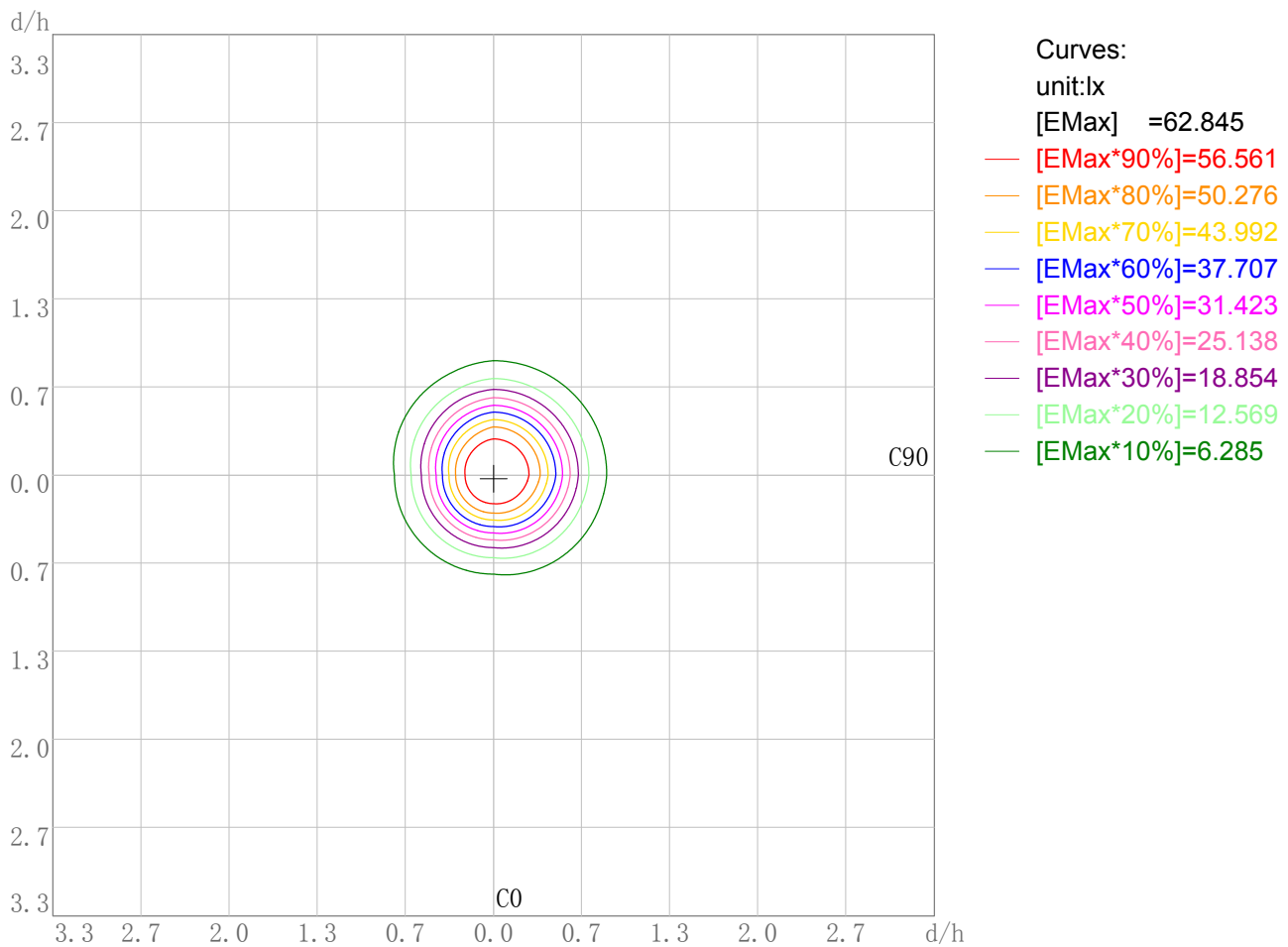


Photometric Filename:TR09-09-DW-01 1800-3000K RA90 60D.IES

Plane ISO-Illuminance Diagram

| | | |
|--|------------------------|------------------------------|
| Lum. Name: TR09-09-DW-01 1800-3000K RA90 60D | 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

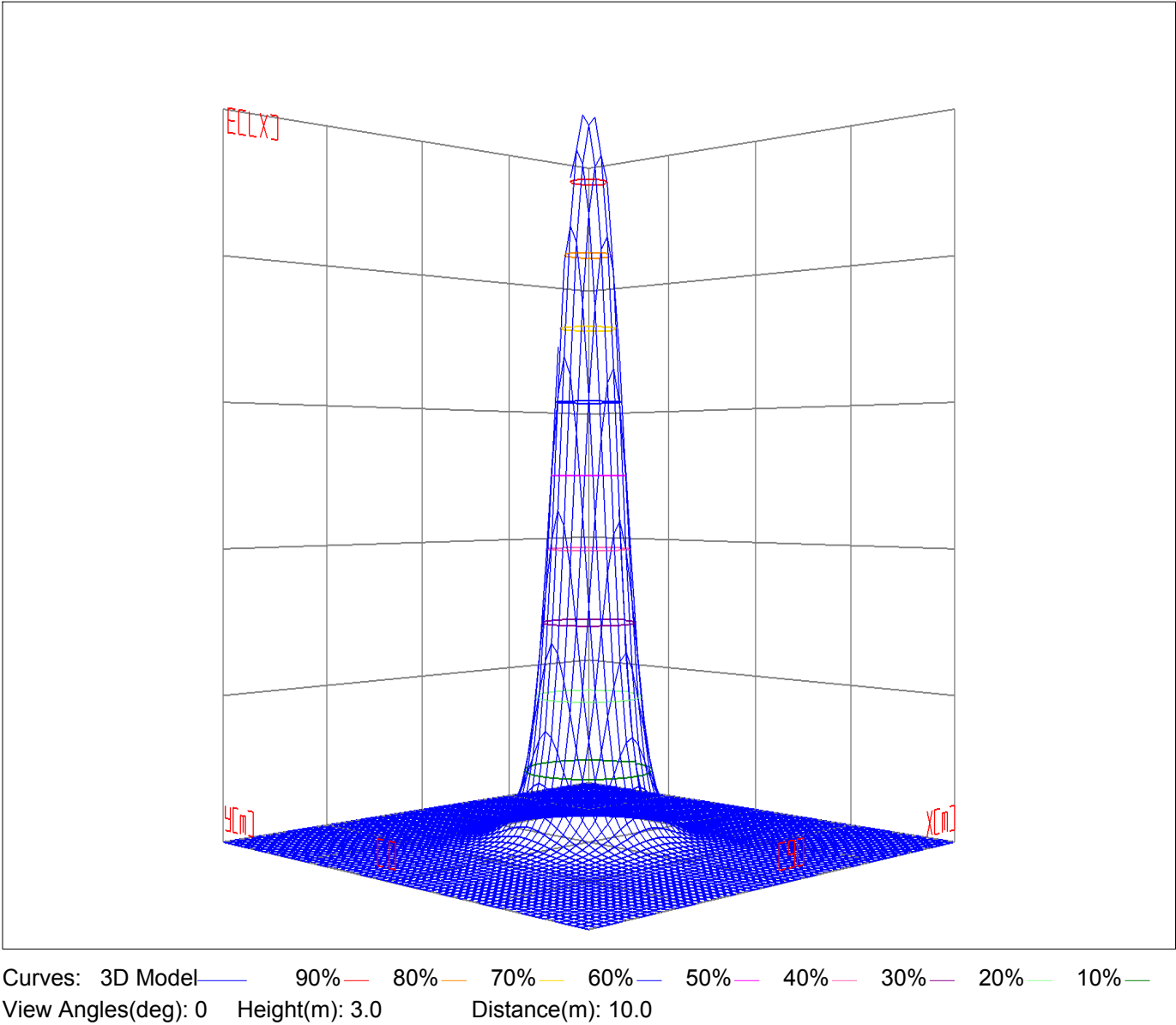
Working Plane Maximum Illuminance(lx): 62.85

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

3D Plane ISO Illuminance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: TR09-09-DW-01 1800-3000K RA90 60D | 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 |

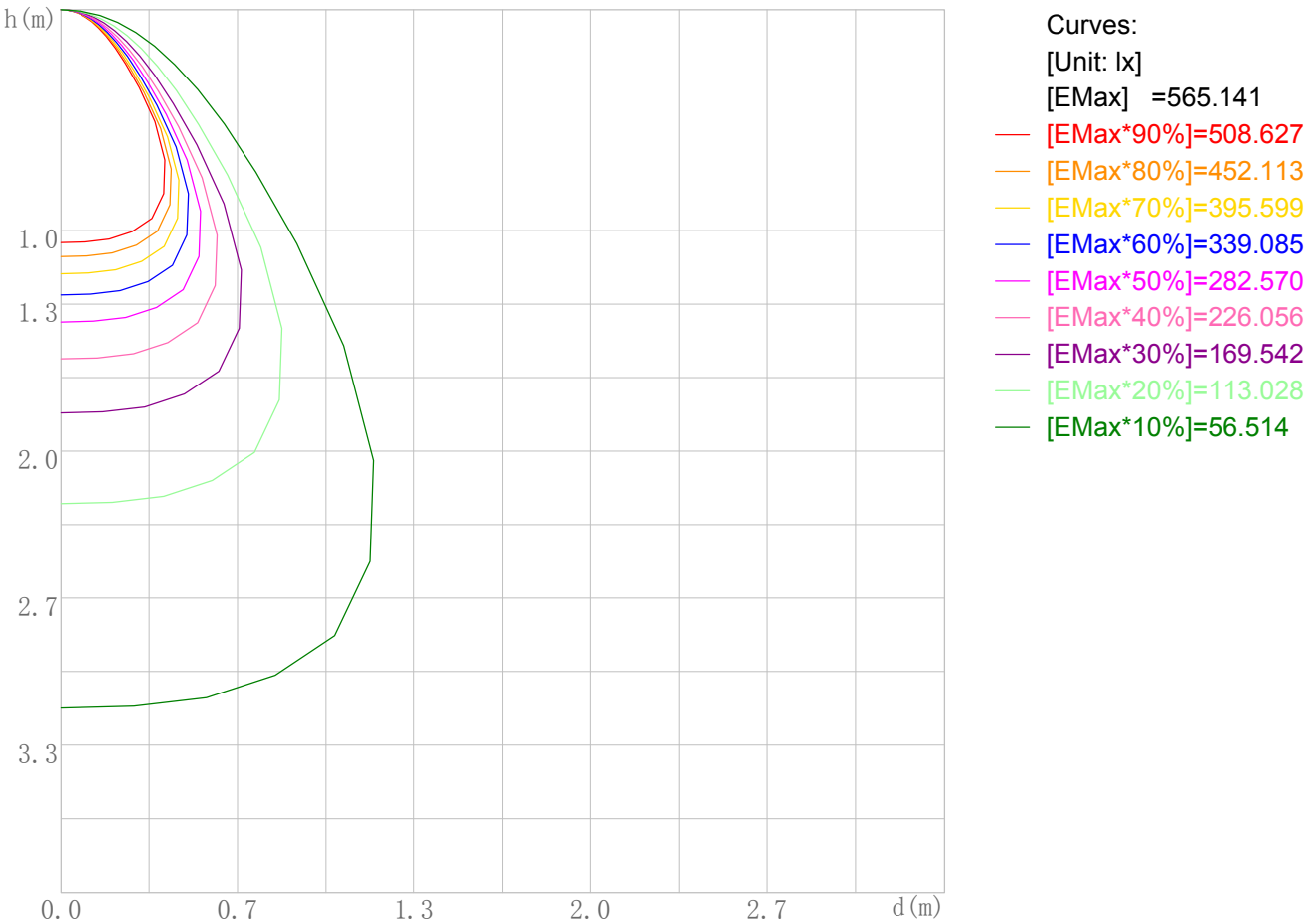
3D Plane Illuminance Modal



Space ISO Illuminance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: TR09-09-DW-01 1800-3000K RA90 60D | 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 |

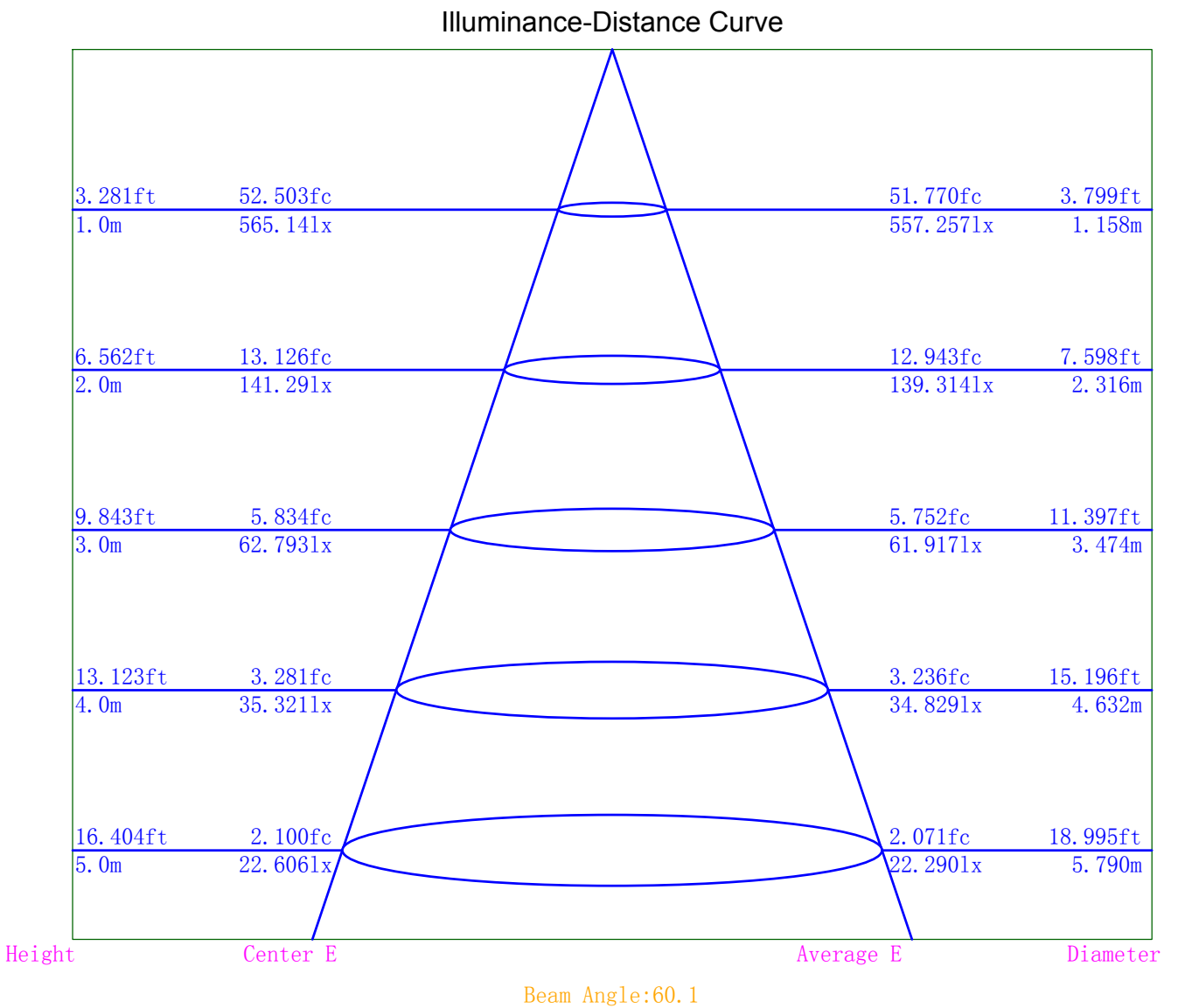
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:565.14lx,0.0deg
Plane Maximum Lighting Intensity and @Angle:574.366cd,0deg

Illuminance-Distance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: TR09-09-DW-01 1800-3000K RA90 60D | 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: TR09-09-DW-01 1800-3000K RA90 60D | 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 |

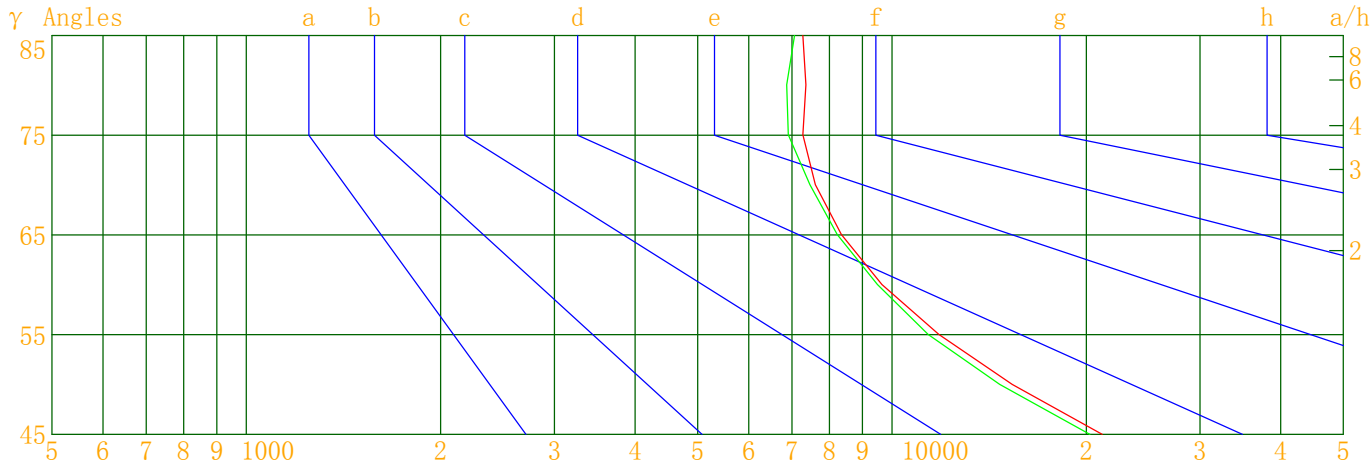
Glare Grade Table

| 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 | 21166 | 15359 | 11821 | 9648 | 8353 | 7609 | 7278 | 7358 | 7278 |
| C90 | 20249 | 14689 | 11380 | 9496 | 8226 | 7463 | 6909 | 6869 | 7064 |

Luminance Limiting Curve



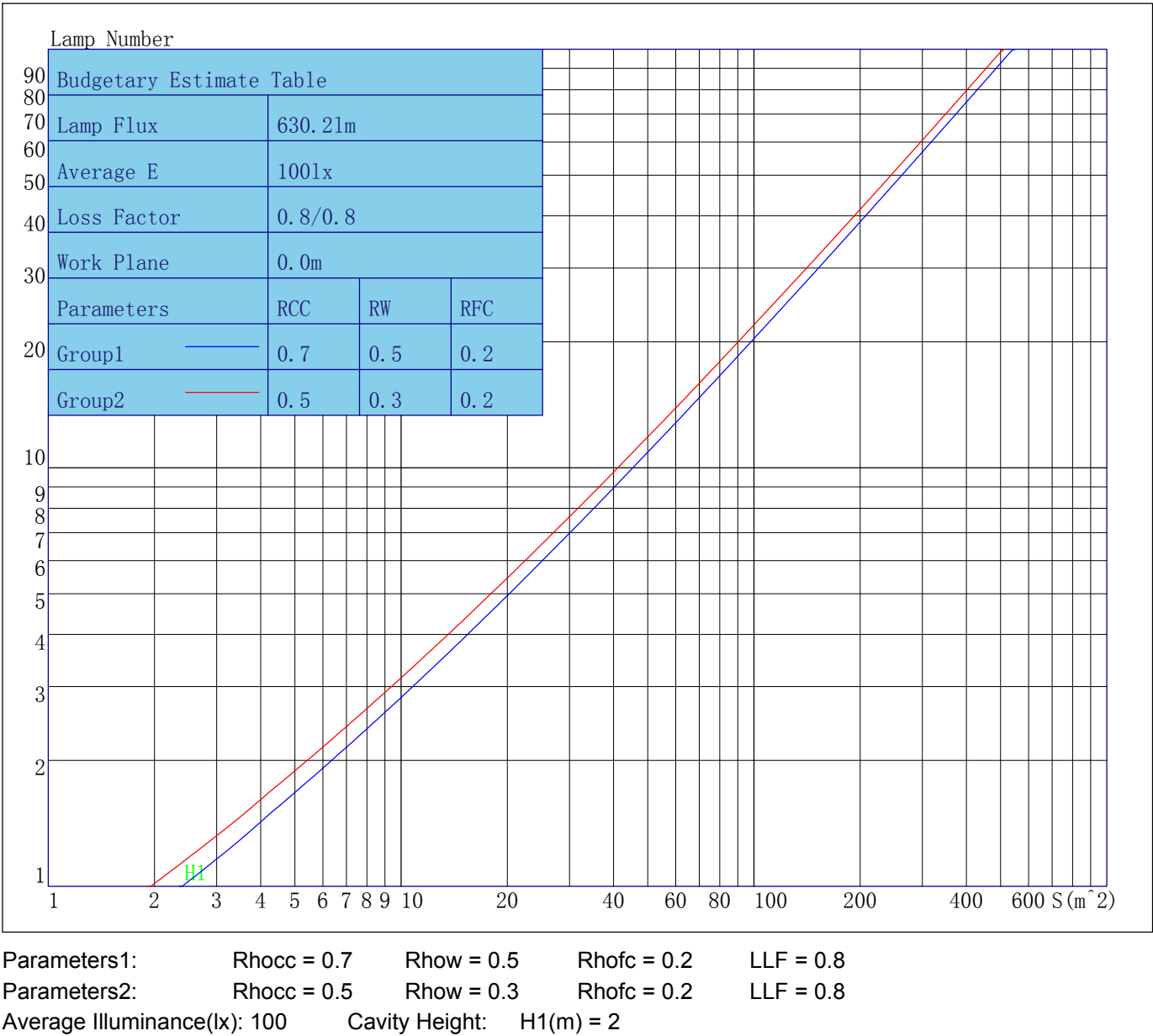
Luminous Size: Length(m)=0.076Width(m)=0.076Height(m)=0.000Area(m^2)=0.005776

Luminous Type: Without Luminous Side

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

Indoor Budgetary Estimate Table

| | | |
|--|-----------------------|------------------------------|
| Lum. Name: TR09-09-DW-01 1800-3000K RA90 60D | 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: TR09-09-DW-01 1800-3000K RA90 60D | 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 | 100 | 100 | 100 | 98 |
| 1 | 112 | 109 | 106 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98 | 98 | 96 | 95 | 94 | 93 | 92 | 90 |
| 2 | 105 | 100 | 95 | 91 | 103 | 98 | 94 | 90 | 94 | 91 | 88 | 91 | 88 | 86 | 88 | 86 | 84 | 82 |
| 3 | 99 | 92 | 86 | 82 | 97 | 90 | 85 | 81 | 87 | 83 | 79 | 85 | 81 | 78 | 82 | 79 | 76 | 75 |
| 4 | 94 | 85 | 79 | 74 | 91 | 84 | 78 | 73 | 81 | 76 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 68 |
| 5 | 88 | 79 | 72 | 67 | 86 | 78 | 72 | 67 | 76 | 70 | 66 | 74 | 69 | 66 | 72 | 68 | 65 | 63 |
| 6 | 83 | 73 | 67 | 62 | 82 | 73 | 66 | 62 | 71 | 65 | 61 | 69 | 64 | 61 | 68 | 63 | 60 | 58 |
| 7 | 79 | 69 | 62 | 57 | 77 | 68 | 62 | 57 | 66 | 61 | 57 | 65 | 60 | 56 | 64 | 59 | 56 | 54 |
| 8 | 75 | 64 | 58 | 53 | 73 | 64 | 57 | 53 | 62 | 57 | 53 | 61 | 56 | 52 | 60 | 55 | 52 | 51 |
| 9 | 71 | 60 | 54 | 50 | 70 | 60 | 54 | 50 | 59 | 53 | 49 | 58 | 53 | 49 | 57 | 52 | 49 | 47 |
| 10 | 67 | 57 | 51 | 46 | 66 | 56 | 50 | 46 | 55 | 50 | 46 | 55 | 49 | 46 | 54 | 49 | 46 | 44 |

Unified Glare Rating Table

| | | |
|---|-----------------------|-----------------------------|
| Lum. Name:TR09-09-DW-01 1800-3000K RA90 60D | 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 |

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 | 19.9 | 21.1 | 20.3 | 21.4 | 21.8 | 19.7 | 20.9 | 20.1 | 21.2 | 21.6 |
| | 20.4 | 21.4 | 20.8 | 21.7 | 22.1 | 20.2 | 21.2 | 20.6 | 21.5 | 21.9 |
| | 20.6 | 21.5 | 21.0 | 21.9 | 22.3 | 20.4 | 21.3 | 20.8 | 21.7 | 22.1 |
| | 20.8 | 21.6 | 21.2 | 22.0 | 22.5 | 20.6 | 21.4 | 21.0 | 21.8 | 22.3 |
| | 20.9 | 21.7 | 21.3 | 22.1 | 22.5 | 20.6 | 21.4 | 21.1 | 21.9 | 22.3 |
| | 20.9 | 21.7 | 21.4 | 22.1 | 22.6 | 20.7 | 21.5 | 21.2 | 21.9 | 22.4 |
| X=4H Y=2H | 20.0 | 20.9 | 20.4 | 21.3 | 21.7 | 19.8 | 20.7 | 20.2 | 21.1 | 21.5 |
| | 20.6 | 21.3 | 21.0 | 21.8 | 22.2 | 20.4 | 21.2 | 20.8 | 21.6 | 22.0 |
| | 20.9 | 21.6 | 21.4 | 22.0 | 22.5 | 20.7 | 21.4 | 21.2 | 21.8 | 22.3 |
| | 21.2 | 21.8 | 21.7 | 22.3 | 22.8 | 21.0 | 21.6 | 21.5 | 22.1 | 22.6 |
| | 21.4 | 21.9 | 21.9 | 22.4 | 22.9 | 21.1 | 21.7 | 21.6 | 22.2 | 22.7 |
| | 21.5 | 22.0 | 22.0 | 22.5 | 23.0 | 21.3 | 21.7 | 21.8 | 22.2 | 22.8 |
| X=8H Y=4H | 21.0 | 21.5 | 21.5 | 22.0 | 22.5 | 20.8 | 21.3 | 21.3 | 21.8 | 22.3 |
| | 21.4 | 21.8 | 21.9 | 22.4 | 22.9 | 21.2 | 21.6 | 21.7 | 22.2 | 22.7 |
| | 21.6 | 22.0 | 22.1 | 22.5 | 23.1 | 21.4 | 21.8 | 21.9 | 22.3 | 22.9 |
| | 21.8 | 22.1 | 22.3 | 22.7 | 23.3 | 21.6 | 21.9 | 22.1 | 22.4 | 23.1 |
| X=12H Y=4H | 20.9 | 21.4 | 21.4 | 21.9 | 22.4 | 20.7 | 21.2 | 21.3 | 21.7 | 22.3 |
| | 21.4 | 21.8 | 22.0 | 22.3 | 22.9 | 21.2 | 21.6 | 21.7 | 22.1 | 22.7 |
| | 21.6 | 22.0 | 22.2 | 22.5 | 23.1 | 21.4 | 21.8 | 22.0 | 22.3 | 22.9 |
| Variations with the objverver position at spacings | | | | | | | | | | |
| S=1.0H | 0.4/-0.4 | | | | | 0.4/-0.4 | | | | |
| S=1.5H | 0.7/-0.7 | | | | | 0.7/-0.8 | | | | |
| S=2.0H | 0.9/-1.0 | | | | | 1.0/-1.1 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 1.5 | | | | | 1.5 | | | | |

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 | 565.14 | 565.14 | 565.14 | 565.14 |
| γ 5.0 | 568.63 | 567.73 | 565.16 | 567.48 |
| γ 10.0 | 574.37 | 570.29 | 559.93 | 559.49 |
| γ 15.0 | 569.71 | 564.41 | 524.04 | 526.43 |
| γ 20.0 | 547.39 | 535.59 | 445.25 | 443.52 |
| γ 25.0 | 473.75 | 461.93 | 335.49 | 334.27 |
| γ 30.0 | 362.43 | 350.12 | 221.08 | 220.28 |
| γ 35.0 | 238.19 | 225.52 | 128.77 | 130.16 |
| γ 40.0 | 141.16 | 134.28 | 76.05 | 77.71 |
| γ 45.0 | 86.45 | 82.70 | 49.06 | 50.14 |
| γ 50.0 | 57.03 | 54.53 | 33.73 | 34.73 |
| γ 55.0 | 39.16 | 37.70 | 24.74 | 25.45 |
| γ 60.0 | 27.86 | 27.42 | 18.70 | 19.78 |
| γ 65.0 | 20.39 | 20.08 | 14.40 | 15.24 |
| γ 70.0 | 15.03 | 14.74 | 10.90 | 11.62 |
| γ 75.0 | 10.88 | 10.33 | 7.49 | 8.35 |
| γ 80.0 | 7.38 | 6.89 | 4.65 | 4.10 |
| γ 85.0 | 3.66 | 3.56 | 1.89 | 2.04 |
| γ 90.0 | 1.80 | 1.76 | 1.61 | 1.70 |
| γ 95.0 | 1.28 | 1.64 | 1.37 | 1.34 |
| γ 100.0 | 1.05 | 0.88 | 1.19 | 1.05 |
| γ 105.0 | 0.85 | 0.88 | 1.09 | 0.91 |
| γ 110.0 | 1.01 | 0.78 | 0.93 | 1.13 |
| γ 115.0 | 1.12 | 0.77 | 1.74 | 1.32 |
| γ 120.0 | 1.00 | 0.99 | 1.68 | 1.32 |
| γ 125.0 | 1.36 | 1.10 | 1.63 | 1.36 |
| γ 130.0 | 1.31 | 1.12 | 2.01 | 1.92 |
| γ 135.0 | 1.75 | 1.68 | 2.10 | 2.14 |
| γ 140.0 | 1.85 | 1.62 | 2.26 | 2.24 |
| γ 145.0 | 2.35 | 2.35 | 3.01 | 2.95 |
| γ 150.0 | 2.57 | 2.58 | 3.23 | 2.96 |
| γ 155.0 | 3.09 | 3.18 | 3.53 | 2.91 |
| γ 160.0 | 3.33 | 3.04 | 3.51 | 2.95 |
| γ 165.0 | 3.80 | 3.64 | 3.81 | 3.36 |
| γ 170.0 | 3.96 | 3.85 | 3.95 | 3.77 |
| γ 175.0 | 3.90 | 4.08 | 3.87 | 3.82 |
| γ 180.0 | 4.20 | 4.20 | 4.20 | 4.20 |