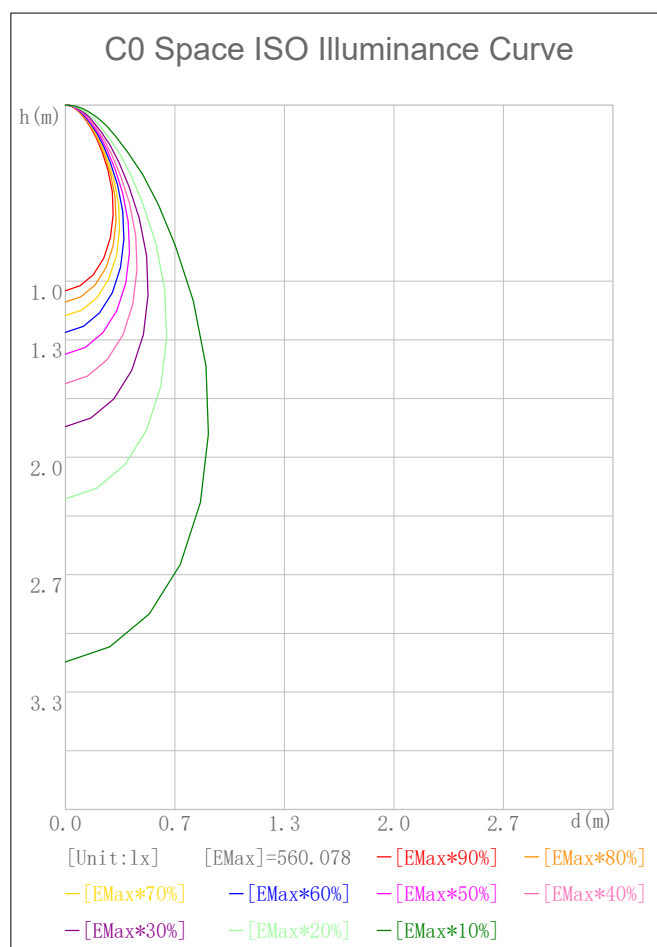
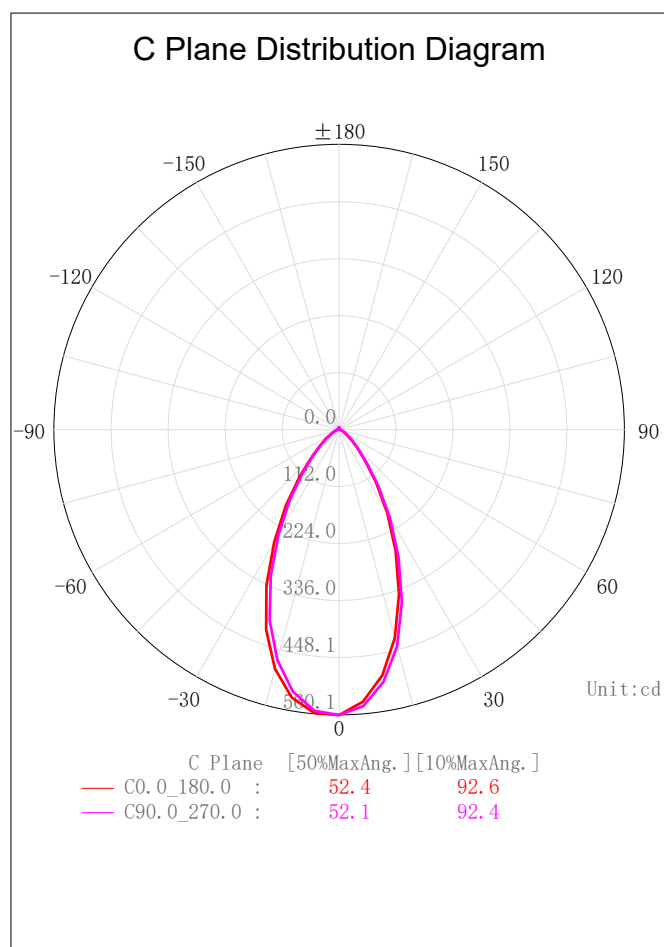


Photometric Filename:DL52-09-DW-02 1800-3000K RA90 50D.IES

Description Information

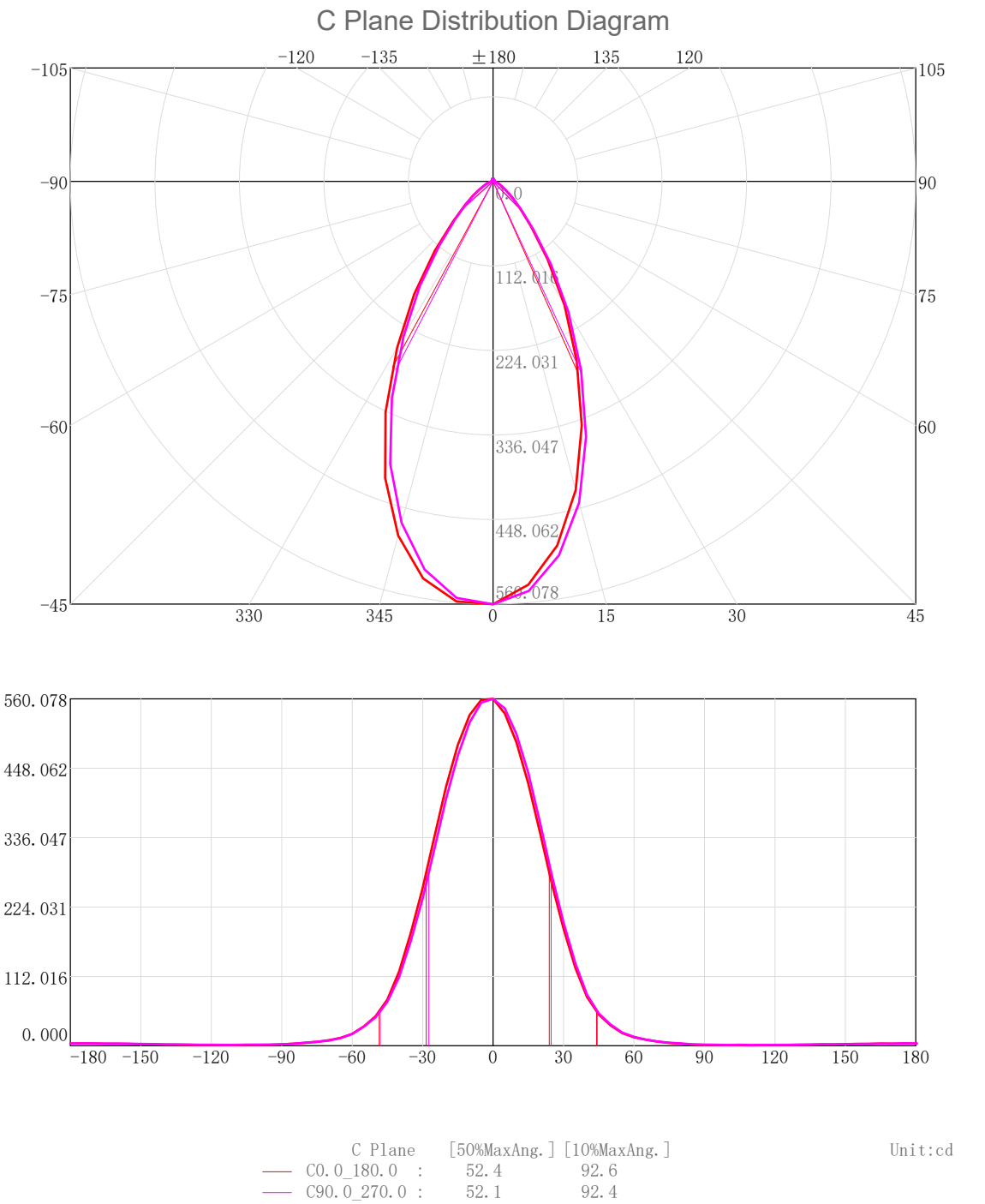
| | | | |
|---|-------------------------|---------------------|-----------------------|
| Luminary Name: DL52-09-DW-02 3000K RA90 50D | | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | | Lamp Catalog: LED | Test Date: 2022/08/16 |
| Manufacture: Shenzhen Norming Lighting | | Shld. Ang(°): | Test Machine:GON-2000 |
| Test Lab: Quality Department | | Frequency(Hz): | Lamp CCT(K): Ra: |
| Lum. Size(W*L*H):0.039m*0.039m*0.000m | | Lum. Area(m2):0.002 | Lum. W(kg): 0.000 |
| Test System: C, γ | Test Step: C=90.0 γ=5.0 | Temp. (°C): 25 | Humidity(%): 50.0 |

| Lamp Speciality Parameter | Luminaire Speciality Parameter | |
|--|----------------------------------|---------------------------------------|
| Rated Flux(lm): 519.130 | Luminary Flux(lm): 519.135 | Field Angle(10%Imax): 92.6(°) |
| Rated Power(W): | Luminary Efficiency: 100.00% | Down Lumens&Percent: 506.792lm 97.62% |
| Rated Voltage(V): | Luminary EER(lm/W): 62.735 | Up Lumens&Percent: 12.343lm 2.38% |
| Tested Power(W): 8.275 | Max. Candela(cd): 560.078 | S/MH: C0_a180=0.804 C90_270=0.802 |
| Lamps' Inside: 1 | Max. Cand@Ang. (°): C=0.0 γ=0.0 | CIE Type: Semi-Direct |
| Tested Electrics(V, A, pf):240.2, 0.038, 0.891 | Beam Angle(50%Imax): 52.4(°) | ErP Φuse(90°): 443.941lm |
| Lamp Size(W*L*H):0.039m*0.039m*0.000m | Left=-28.4° , Right=23.9° | IRF(%) : 267.967 |



2D Plane Light Intensity Distribution Curve

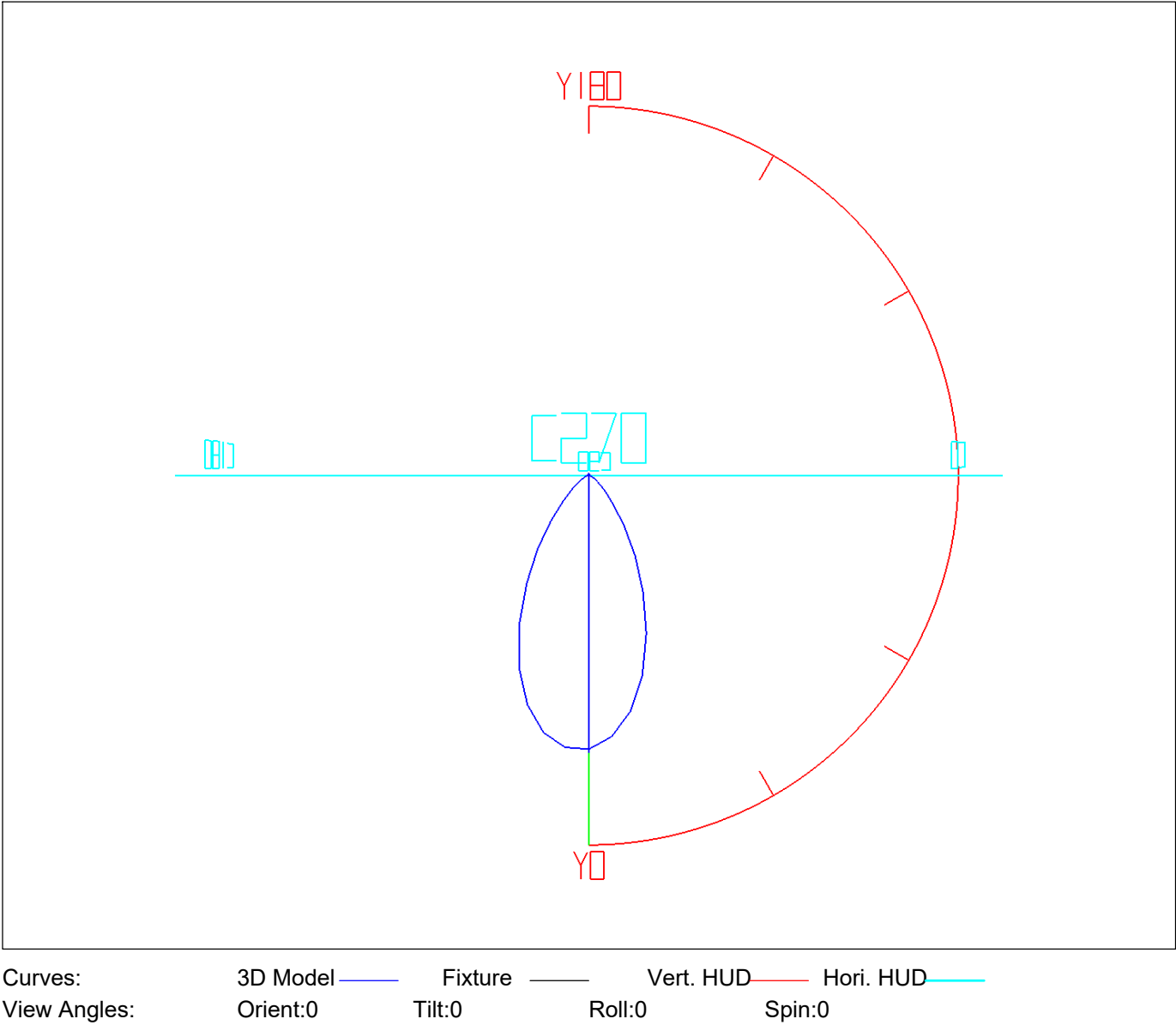
| | | |
|--|-----------------------|------------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catalog: | Test ID:01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/16 |



3D Light Intensity Distribution Modal

| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date:2022/08/16 |

3D Light Intensity Distribution Modal

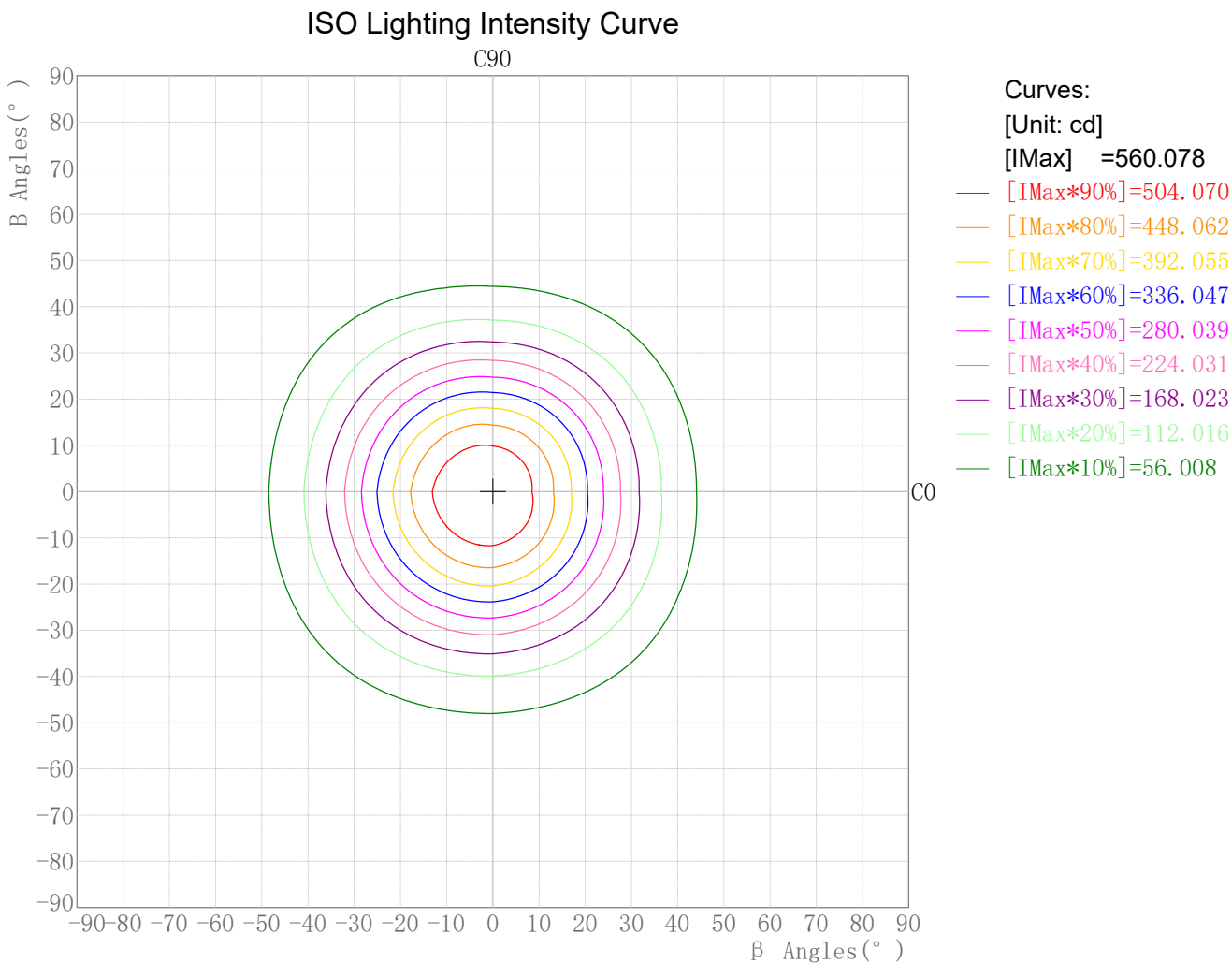


Zonal Flux Tabulation

| Zone(γ) | Zone Flux (lm) | Sums Flux (lm) | Zone%Lamp | Sums%Lamp |
|---------------|-------------------|-------------------|-----------|-----------|
| 0. 0-5. 0 | 13. 25 | 13. 25 | 2. 55 | 2. 55 |
| 5. 0-10. 0 | 37. 93 | 51. 18 | 7. 31 | 9. 86 |
| 10. 0-15. 0 | 57. 34 | 108. 52 | 11. 04 | 20. 90 |
| 15. 0-20. 0 | 68. 77 | 177. 30 | 13. 25 | 34. 15 |
| 20. 0-25. 0 | 71. 14 | 248. 44 | 13. 70 | 47. 86 |
| 25. 0-30. 0 | 65. 58 | 314. 02 | 12. 63 | 60. 49 |
| 30. 0-35. 0 | 54. 89 | 368. 90 | 10. 57 | 71. 06 |
| 35. 0-40. 0 | 41. 86 | 410. 77 | 8. 06 | 79. 13 |
| 40. 0-45. 0 | 29. 70 | 440. 47 | 5. 72 | 84. 85 |
| 45. 0-50. 0 | 20. 72 | 461. 19 | 3. 99 | 88. 84 |
| 50. 0-55. 0 | 14. 45 | 475. 64 | 2. 78 | 91. 62 |
| 55. 0-60. 0 | 9. 90 | 485. 54 | 1. 91 | 93. 53 |
| 60. 0-65. 0 | 6. 83 | 492. 36 | 1. 31 | 94. 84 |
| 65. 0-70. 0 | 4. 88 | 497. 25 | 0. 94 | 95. 78 |
| 70. 0-75. 0 | 3. 55 | 500. 80 | 0. 68 | 96. 47 |
| 75. 0-80. 0 | 2. 69 | 503. 49 | 0. 52 | 96. 99 |
| 80. 0-85. 0 | 1. 95 | 505. 44 | 0. 38 | 97. 36 |
| 85. 0-90. 0 | 1. 35 | 506. 79 | 0. 26 | 97. 62 |
| 90. 0-95. 0 | 1. 05 | 507. 84 | 0. 20 | 97. 83 |
| 95. 0-100. 0 | 0. 88 | 508. 73 | 0. 17 | 98. 00 |
| 100. 0-105. 0 | 0. 83 | 509. 56 | 0. 16 | 98. 16 |
| 105. 0-110. 0 | 0. 74 | 510. 30 | 0. 14 | 98. 30 |
| 110. 0-115. 0 | 0. 66 | 510. 96 | 0. 13 | 98. 43 |
| 115. 0-120. 0 | 0. 71 | 511. 67 | 0. 14 | 98. 56 |
| 120. 0-125. 0 | 0. 72 | 512. 39 | 0. 14 | 98. 70 |
| 125. 0-130. 0 | 0. 74 | 513. 13 | 0. 14 | 98. 84 |
| 130. 0-135. 0 | 0. 78 | 513. 91 | 0. 15 | 98. 99 |
| 135. 0-140. 0 | 0. 81 | 514. 72 | 0. 16 | 99. 15 |
| 140. 0-145. 0 | 0. 81 | 515. 53 | 0. 16 | 99. 31 |
| 145. 0-150. 0 | 0. 78 | 516. 31 | 0. 15 | 99. 46 |
| 150. 0-155. 0 | 0. 75 | 517. 07 | 0. 15 | 99. 60 |
| 155. 0-160. 0 | 0. 69 | 517. 76 | 0. 13 | 99. 74 |
| 160. 0-165. 0 | 0. 58 | 518. 33 | 0. 11 | 99. 85 |
| 165. 0-170. 0 | 0. 43 | 518. 77 | 0. 08 | 99. 93 |
| 170. 0-175. 0 | 0. 27 | 519. 04 | 0. 05 | 99. 98 |
| 175. 0-180. 0 | 0. 09 | 519. 13 | 0. 02 | 100. 00 |

Rectangle ISO Lighting Intensity Diagram

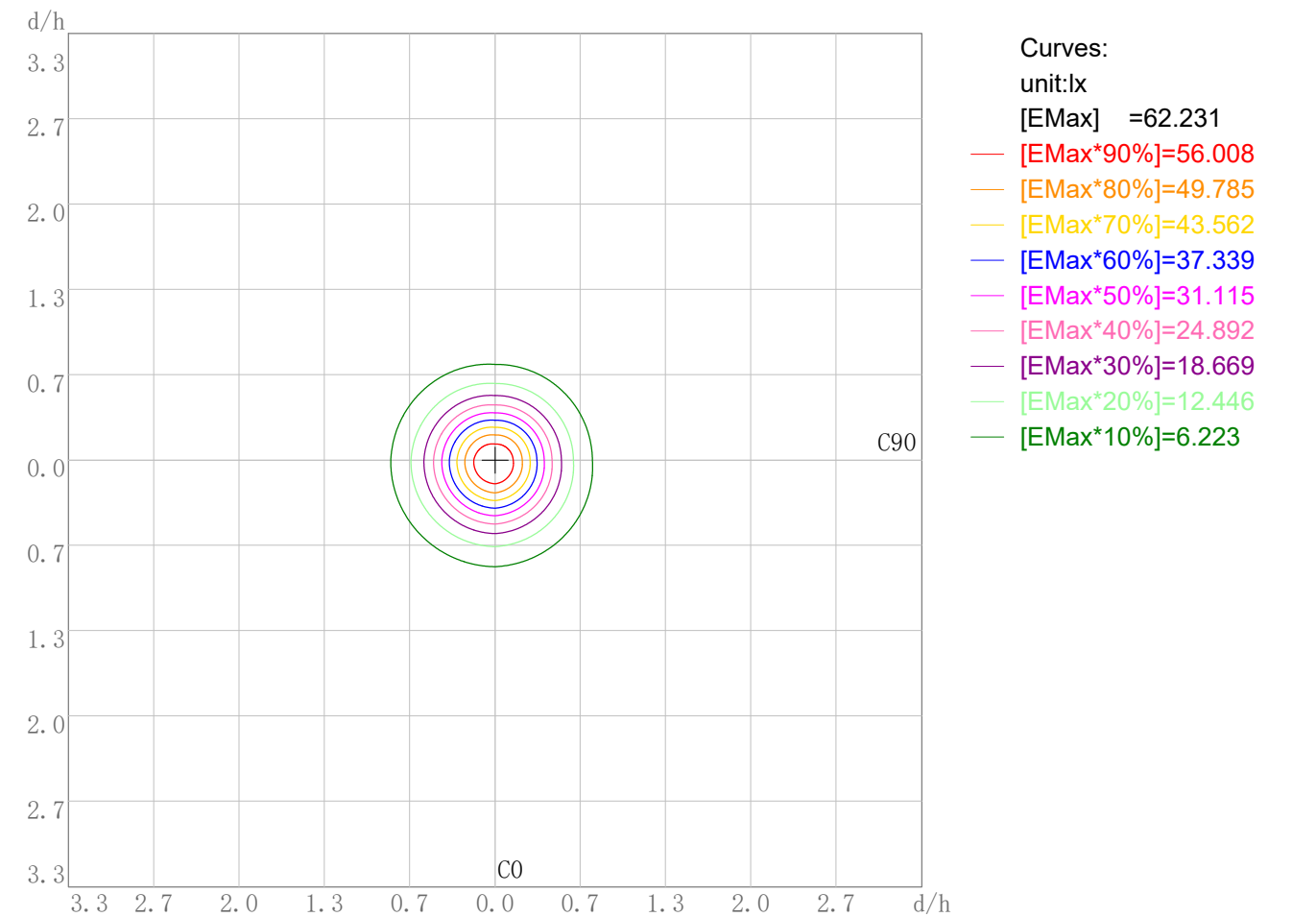
| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date:2022/08/16 |



Plane ISO-Illuminance Diagram

| | | |
|--|-----------------------|------------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catalog: | Test ID:01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/16 |

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

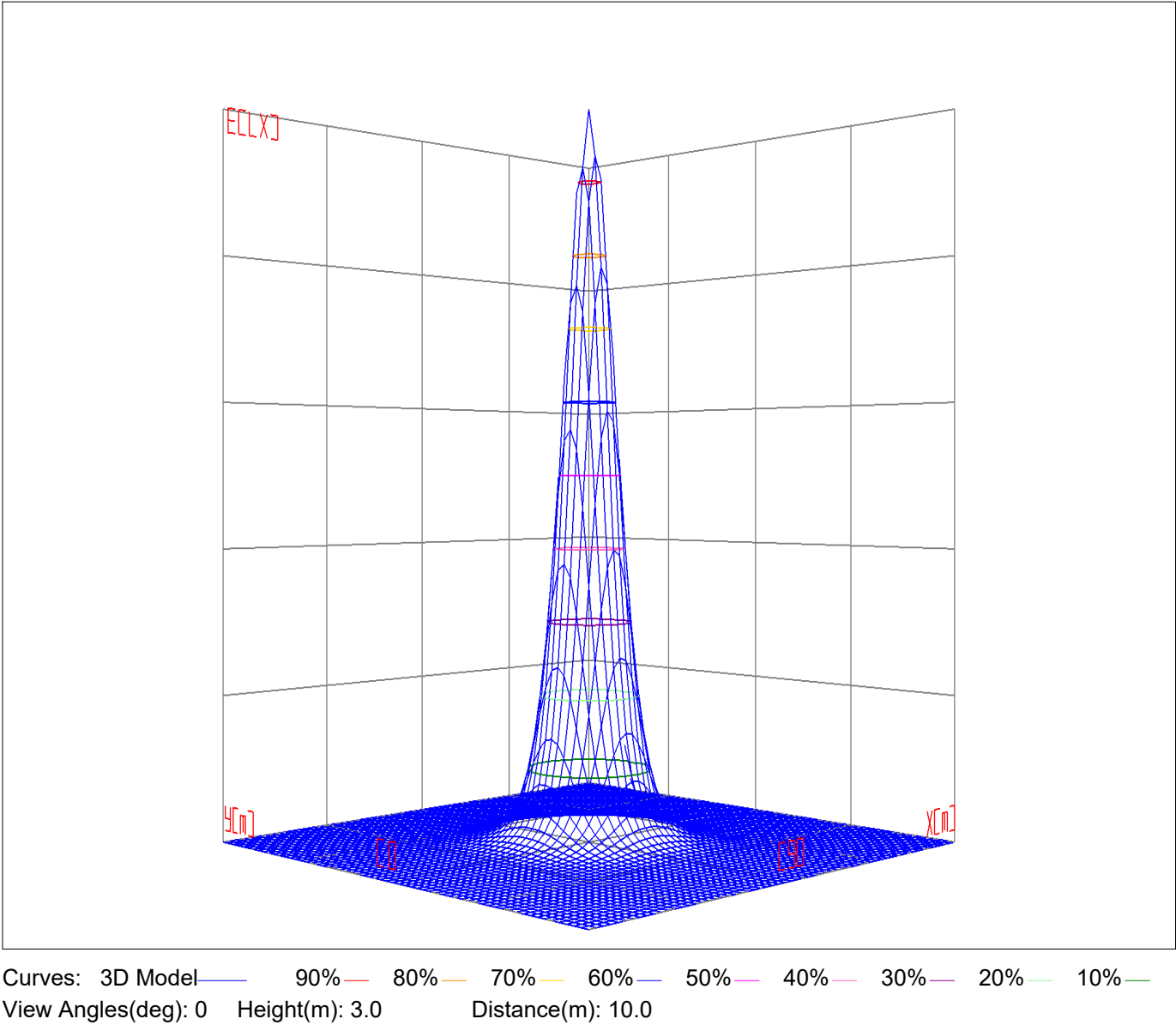
Working Plane Maximum Illuminance(lx): 62.23

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

3D Plane ISO Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-DW-02 3000K RA90 50D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/16 |

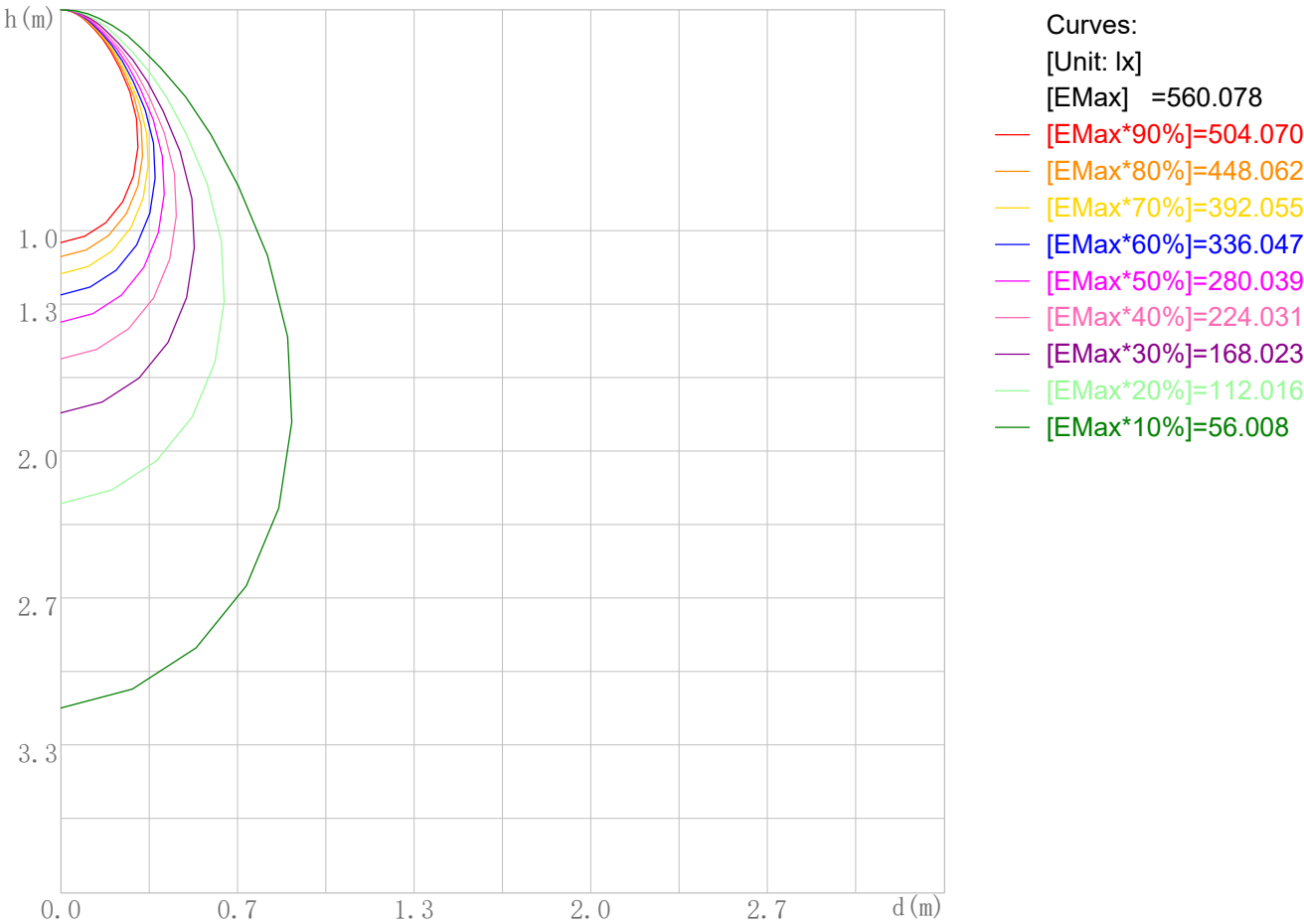
3D Plane Illuminance Modal



Space ISO Illuminance Diagram

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-DW-02 3000K RA90 50D | Lum. Catelog: | Test ID: 01 |
| Lamp Name: | Lamp Catelog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/16 |

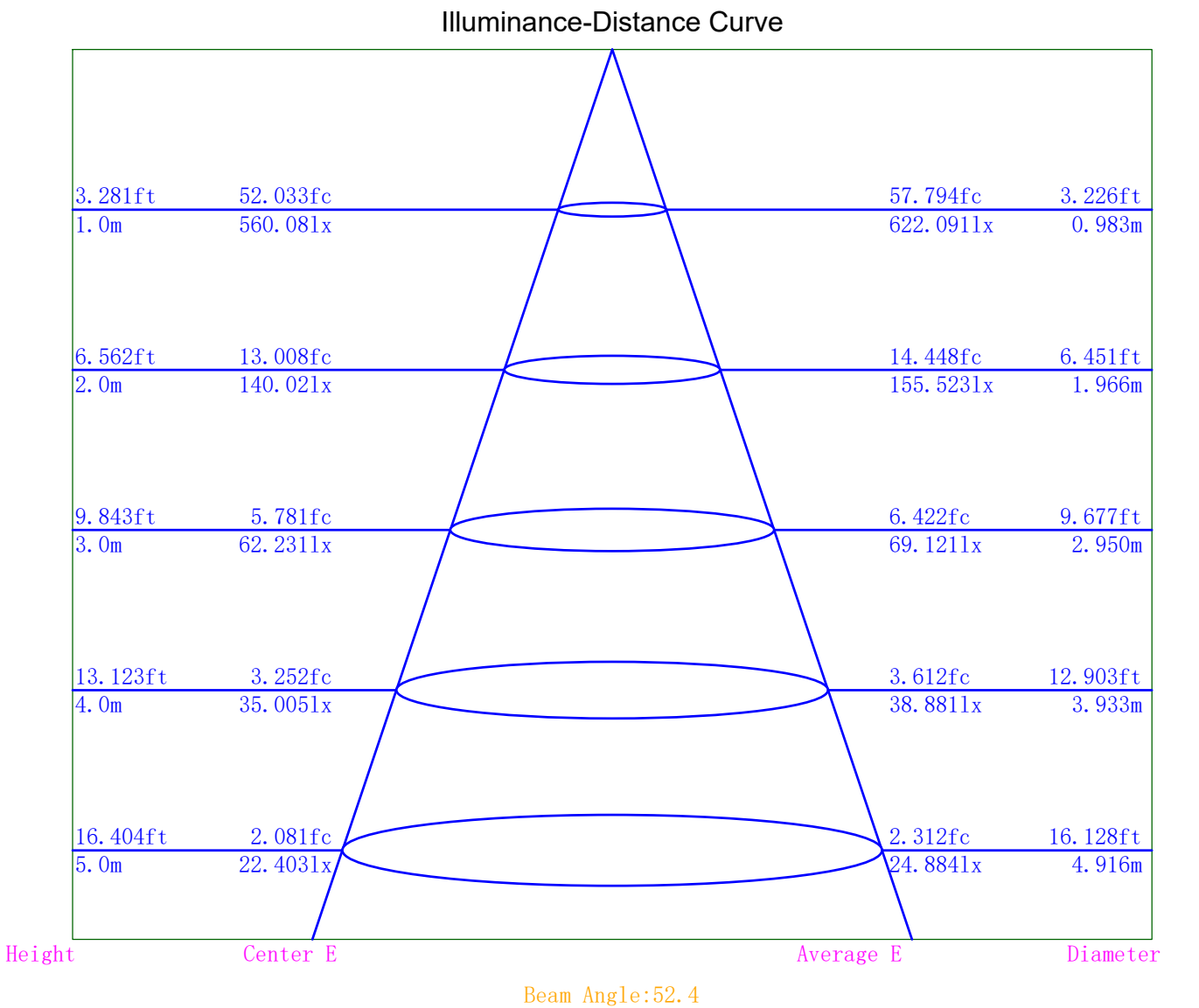
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:560.08lx,0.0deg
Plane Maximum Lighting Intensity and @Angle:560.078cd,0deg

Illuminance-Distance Diagram

| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date:2022/08/16 |



Indoor Luminance Limiting Curves

| | | |
|---|-----------------------|------------------------------|
| Lum. Name: DL52-09-DW-02 3000K RA90 50D | Lum. Catalog: | Test ID: 01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/16 |

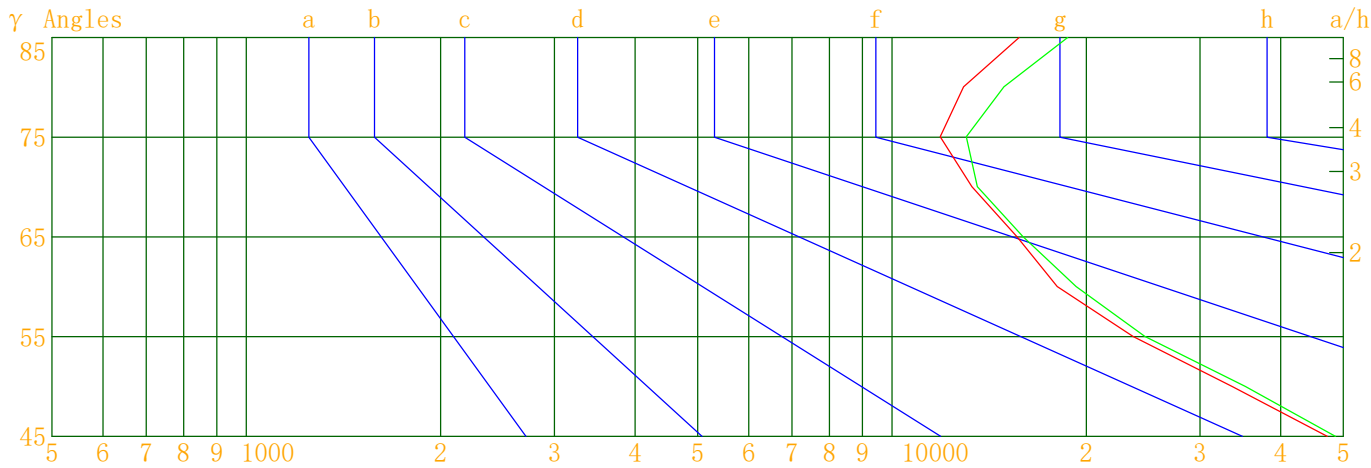
Glare Grade Table

| GI | Quality | Using Illuminance | | | | | | | |
|------|---------|-------------------|------|------|-------|-------|-------|-------|-------|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.2 | D | | | | 2000 | 1000 | 500 | <=300 | |
| 2.55 | E | a | | | | 2000 | 1000 | 500 | <=300 |
| | | | b | c | d | e | f | g | h |

Luminance Table

| Gama(deg) | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C0 | 47216 | 33634 | 23630 | 18032 | 15616 | 13295 | 11878 | 12911 | 15736 |
| C90 | 48614 | 35250 | 24642 | 19283 | 15950 | 13556 | 13034 | 14910 | 18708 |

Luminance Limiting Curve



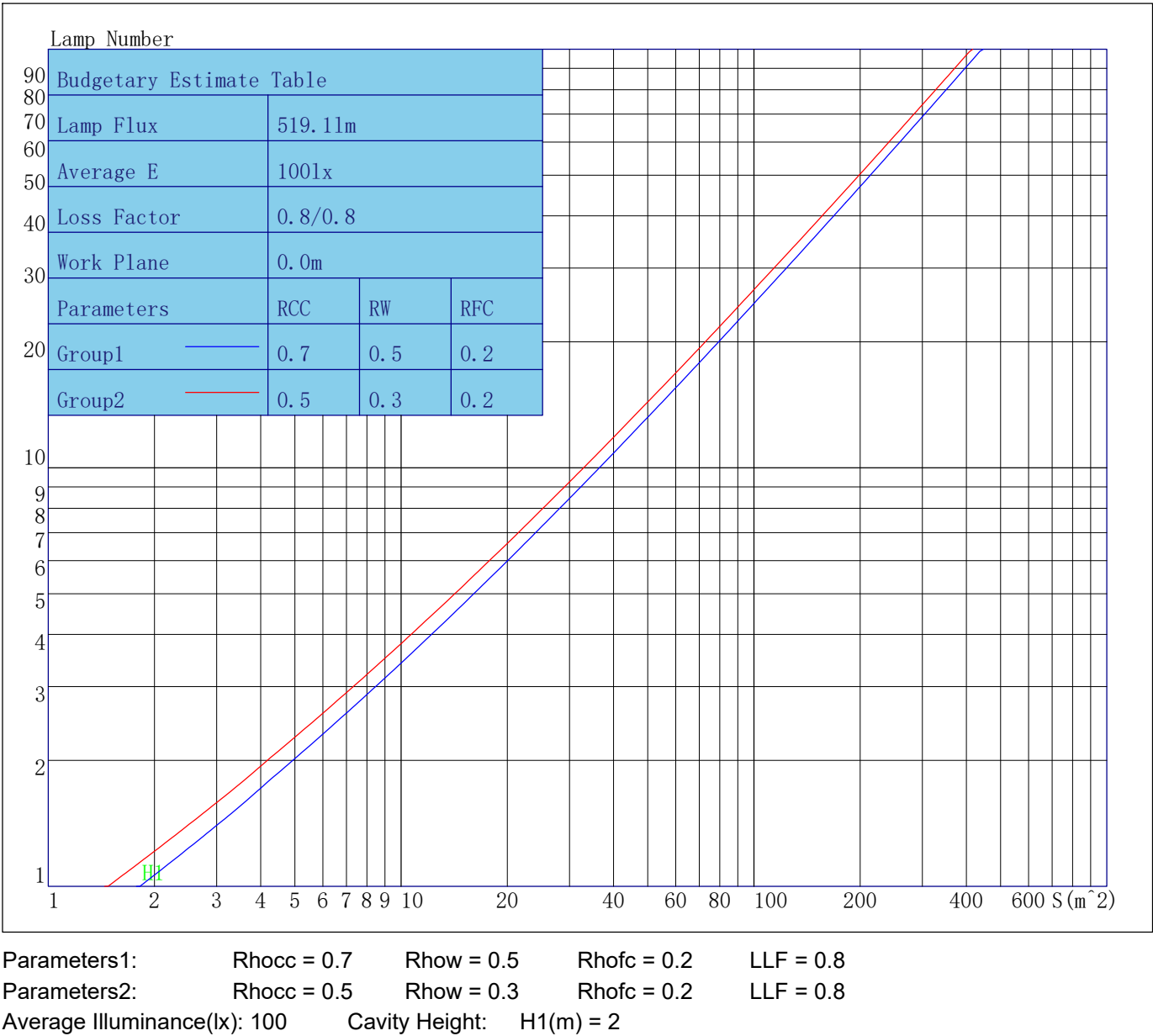
Luminous Size: Length(m)=0.039 Width(m)=0.039 Height(m)=0.000 Area(m^2)=0.001521

Luminous Type: Without Luminous Side

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

Indoor Budgetary Estimate Table

| | | |
|--|-----------------------|------------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catalog: | Test ID:01 |
| Lamp Name: | Lamp Catalog: LED | Test Lab: Quality Department |
| Manufacture: Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date: 2022/08/16 |



Indoor Coefficient of Utilization Table

| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date:2022/08/16 |

| Coefficients of Utilization - Zonal Cavity Method | | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Coef. | Effective Floor Cavity Reflectance RFC=0.20 | | | | | | | | | | | | | | | | | |
| RhoCC (%) | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| RhoW (%) | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | Coefficient of Utilization(%) | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 105 | 105 | 105 | 100 | 100 | 100 | 98 |
| 1 | 112 | 109 | 106 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98 | 98 | 96 | 94 | 94 | 93 | 91 | 89 |
| 2 | 105 | 100 | 95 | 91 | 103 | 98 | 94 | 90 | 94 | 91 | 88 | 91 | 88 | 86 | 88 | 85 | 83 | 82 |
| 3 | 99 | 92 | 86 | 82 | 97 | 90 | 85 | 81 | 87 | 83 | 80 | 85 | 81 | 78 | 82 | 79 | 76 | 75 |
| 4 | 94 | 85 | 79 | 74 | 92 | 84 | 78 | 74 | 81 | 76 | 73 | 79 | 75 | 71 | 77 | 73 | 70 | 69 |
| 5 | 88 | 79 | 73 | 68 | 87 | 78 | 72 | 67 | 76 | 71 | 67 | 74 | 69 | 66 | 72 | 68 | 65 | 63 |
| 6 | 84 | 74 | 67 | 62 | 82 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 68 | 64 | 60 | 59 |
| 7 | 79 | 69 | 62 | 58 | 78 | 68 | 62 | 58 | 67 | 61 | 57 | 65 | 60 | 57 | 64 | 59 | 56 | 55 |
| 8 | 75 | 65 | 58 | 54 | 74 | 64 | 58 | 54 | 63 | 57 | 53 | 61 | 56 | 53 | 60 | 56 | 52 | 51 |
| 9 | 71 | 61 | 55 | 50 | 70 | 60 | 54 | 50 | 59 | 54 | 50 | 58 | 53 | 49 | 57 | 52 | 49 | 48 |
| 10 | 68 | 57 | 51 | 47 | 67 | 57 | 51 | 47 | 56 | 50 | 47 | 55 | 50 | 46 | 54 | 49 | 46 | 45 |

Unified Glare Rating Table

| | | |
|--|-----------------------|-----------------------------|
| Lum. Name:DL52-09-DW-02 3000K RA90 50D | Lum. Catelog: | Test ID:01 |
| Lamp Name: | Lamp Catelog:LED | Test Lab:Quality Department |
| Manufacture:Shenzhen Norming Lighting | Test Machine:GON-2000 | Test Date:2022/08/16 |

Unified Glare Rating Table

| | | | | | | | | | | |
|---|-----------------|------|------|------|------|---------------|------|------|------|------|
| Ceiling RCC | 0.70 | 0.70 | 0.50 | 0.50 | 0.30 | 0.70 | 0.70 | 0.50 | 0.50 | 0.30 |
| Wall RW | 0.50 | 0.30 | 0.50 | 0.30 | 0.30 | 0.50 | 0.30 | 0.50 | 0.30 | 0.30 |
| Floor RFC | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Room Size | Vewed crosswise | | | | | Vewed endwise | | | | |
| X=2H Y=2H | 21.6 | 22.7 | 22.0 | 23.1 | 23.5 | 21.9 | 23.0 | 22.3 | 23.4 | 23.7 |
| | 21.9 | 22.8 | 22.3 | 23.2 | 23.7 | 22.1 | 23.1 | 22.6 | 23.5 | 23.9 |
| | 22.0 | 22.9 | 22.4 | 23.3 | 23.7 | 22.2 | 23.1 | 22.7 | 23.5 | 24.0 |
| | 22.1 | 22.9 | 22.5 | 23.3 | 23.8 | 22.4 | 23.2 | 22.8 | 23.6 | 24.1 |
| | 22.1 | 22.9 | 22.6 | 23.4 | 23.8 | 22.5 | 23.2 | 22.9 | 23.7 | 24.1 |
| | 22.2 | 22.9 | 22.7 | 23.4 | 23.9 | 22.5 | 23.3 | 23.0 | 23.7 | 24.2 |
| X=4H Y=2H | 21.7 | 22.6 | 22.1 | 23.0 | 23.4 | 21.9 | 22.8 | 22.4 | 23.2 | 23.7 |
| | 22.1 | 22.8 | 22.5 | 23.2 | 23.7 | 22.3 | 23.0 | 22.8 | 23.5 | 23.9 |
| | 22.2 | 22.9 | 22.7 | 23.3 | 23.9 | 22.5 | 23.1 | 23.0 | 23.6 | 24.1 |
| | 22.4 | 23.0 | 23.0 | 23.5 | 24.0 | 22.7 | 23.3 | 23.3 | 23.8 | 24.3 |
| | 22.5 | 23.1 | 23.1 | 23.6 | 24.1 | 22.9 | 23.4 | 23.4 | 23.9 | 24.4 |
| | 22.7 | 23.1 | 23.2 | 23.6 | 24.2 | 23.0 | 23.5 | 23.6 | 24.0 | 24.5 |
| X=8H Y=4H | 22.3 | 22.8 | 22.8 | 23.3 | 23.8 | 22.5 | 23.0 | 23.0 | 23.5 | 24.1 |
| | 22.6 | 23.0 | 23.1 | 23.5 | 24.1 | 22.9 | 23.3 | 23.4 | 23.8 | 24.4 |
| | 22.8 | 23.1 | 23.3 | 23.7 | 24.3 | 23.1 | 23.5 | 23.7 | 24.0 | 24.6 |
| | 23.0 | 23.3 | 23.5 | 23.8 | 24.5 | 23.4 | 23.7 | 23.9 | 24.2 | 24.9 |
| X=12H Y=4H | 22.2 | 22.7 | 22.8 | 23.2 | 23.8 | 22.5 | 22.9 | 23.0 | 23.5 | 24.0 |
| | 22.6 | 23.0 | 23.2 | 23.5 | 24.1 | 22.9 | 23.3 | 23.5 | 23.8 | 24.4 |
| | 22.9 | 23.2 | 23.4 | 23.7 | 24.3 | 23.2 | 23.5 | 23.7 | 24.1 | 24.7 |
| Variations with the objerver position at spacings | | | | | | | | | | |
| S=1.0H | 0.3/-0.3 | | | | | 0.3/-0.3 | | | | |
| S=1.5H | 0.6/-0.6 | | | | | 0.5/-0.5 | | | | |
| S=2.0H | 1.0/-0.9 | | | | | 0.9/-0.8 | | | | |
| Reduced UGR Table: | | | | | | | | | | |
| Nordic Standard Table: | BK0 | | | | | BK0 | | | | |
| Correction Value | 1.3 | | | | | 1.3 | | | | |

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 | 560.08 | 560.08 | 560.08 | 560.08 |
| γ 5.0 | 536.33 | 544.56 | 558.35 | 553.78 |
| γ 10.0 | 489.77 | 502.86 | 534.06 | 521.97 |
| γ 15.0 | 423.21 | 440.52 | 485.68 | 468.22 |
| γ 20.0 | 343.89 | 360.07 | 417.98 | 398.45 |
| γ 25.0 | 262.38 | 275.91 | 337.20 | 317.35 |
| γ 30.0 | 189.23 | 199.35 | 254.12 | 237.35 |
| γ 35.0 | 126.09 | 133.44 | 182.21 | 169.12 |
| γ 40.0 | 79.12 | 82.76 | 120.09 | 110.87 |
| γ 45.0 | 50.78 | 52.28 | 74.70 | 71.10 |
| γ 50.0 | 32.88 | 34.46 | 47.79 | 46.13 |
| γ 55.0 | 20.61 | 21.50 | 31.50 | 30.92 |
| γ 60.0 | 13.71 | 14.66 | 19.36 | 19.01 |
| γ 65.0 | 10.04 | 10.25 | 12.93 | 12.35 |
| γ 70.0 | 6.92 | 7.05 | 9.06 | 8.51 |
| γ 75.0 | 4.68 | 5.13 | 6.47 | 6.57 |
| γ 80.0 | 3.41 | 3.94 | 4.97 | 5.04 |
| γ 85.0 | 2.09 | 2.48 | 3.48 | 3.34 |
| γ 90.0 | 1.47 | 1.93 | 2.48 | 2.47 |
| γ 95.0 | 1.63 | 1.69 | 1.74 | 1.95 |
| γ 100.0 | 1.08 | 1.43 | 1.67 | 1.82 |
| γ 105.0 | 1.16 | 1.75 | 1.56 | 1.91 |
| γ 110.0 | 0.90 | 1.42 | 1.18 | 1.50 |
| γ 115.0 | 1.07 | 1.58 | 1.35 | 1.50 |
| γ 120.0 | 1.45 | 1.45 | 1.55 | 1.77 |
| γ 125.0 | 1.46 | 1.48 | 1.41 | 1.84 |
| γ 130.0 | 1.99 | 1.63 | 1.57 | 2.20 |
| γ 135.0 | 1.93 | 2.06 | 1.99 | 2.12 |
| γ 140.0 | 2.36 | 2.50 | 2.27 | 2.30 |
| γ 145.0 | 2.30 | 2.36 | 2.55 | 2.81 |
| γ 150.0 | 2.78 | 2.76 | 2.53 | 3.04 |
| γ 155.0 | 3.12 | 3.08 | 3.05 | 3.46 |
| γ 160.0 | 3.19 | 3.24 | 3.39 | 3.81 |
| γ 165.0 | 3.70 | 3.59 | 3.41 | 3.76 |
| γ 170.0 | 3.64 | 3.50 | 3.66 | 3.93 |
| γ 175.0 | 3.78 | 4.18 | 4.03 | 3.95 |
| γ 180.0 | 3.81 | 3.81 | 3.81 | 3.81 |