

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: iO LED

Report Number: P958861

Luminaire Tested: MMG-08W-927-60x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P958861  
SCALED TEST REPORT  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/31/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: iO LED  
Catalog Number: MMG-08W-927-60x60-ID-X-X-4F-4-UNV-STD-X  
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 60x60 DEGREE OPTICS  
8 WATTS PER FOOT  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1345.5 lumens  
Efficiency: N/A  
Efficacy: 46.1 lumens/watt  
Spacing Criteria (0/90/45): 0.83 / 1.12 / 1.01  
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 4' x H: 0.09')  
CIE Type: Direct

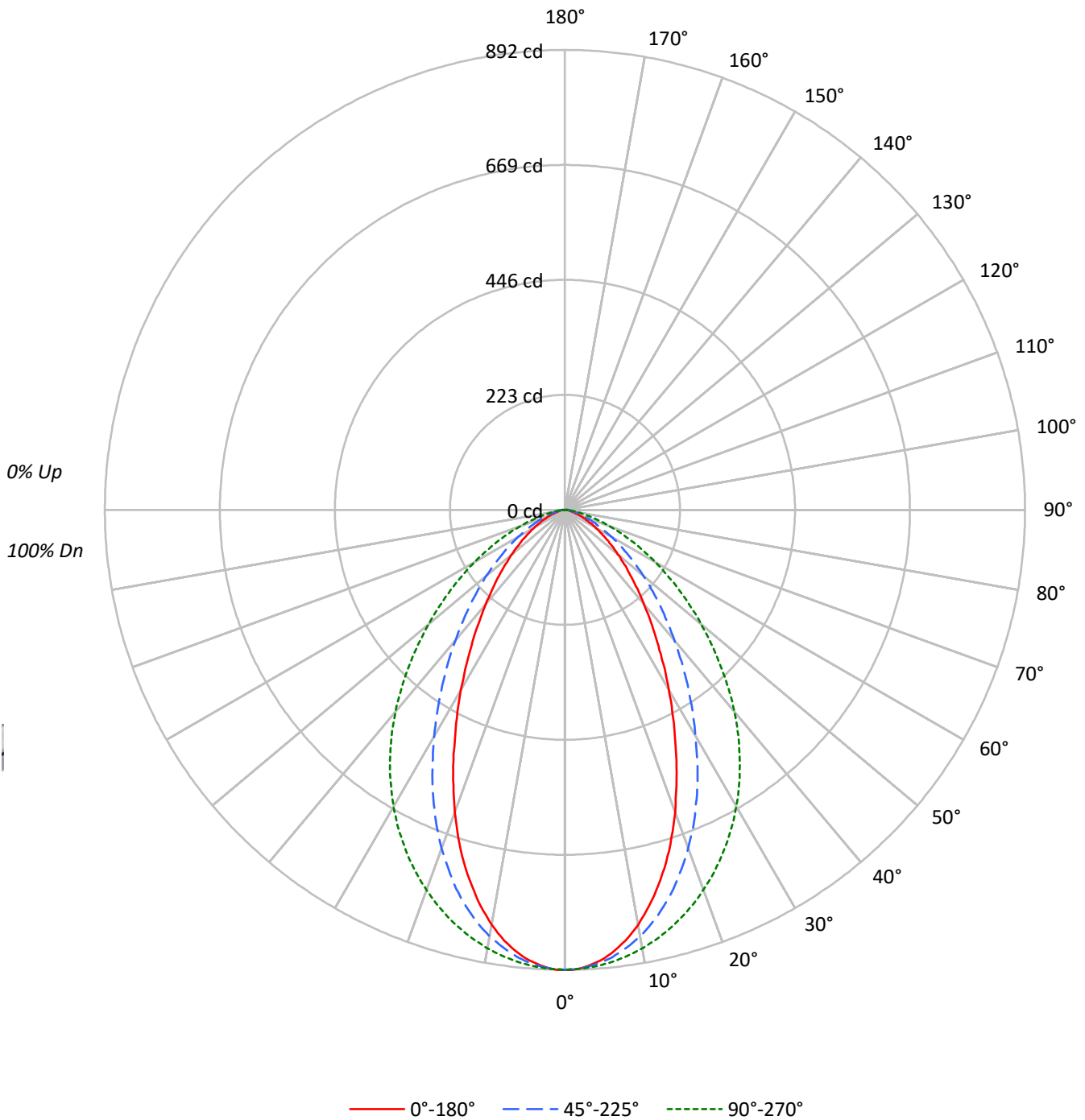
Input Watts (W): 29.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P958861

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| RF  | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |    |    | 20 |     |
| RC  | 80  |     |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |    |    | 10 | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 0  |     |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    | 100 |
| 1   | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 94  | 92  | 90  | 89  |    |    |    | 89  |
| 2   | 103 | 96  | 91  | 86  | 101 | 95  | 90  | 85  | 91  | 87  | 83  | 88  | 85  | 81  | 85  | 82  | 80  | 78  |    |    |    | 78  |
| 3   | 96  | 87  | 80  | 75  | 93  | 85  | 79  | 74  | 83  | 77  | 73  | 80  | 75  | 72  | 78  | 74  | 71  | 69  |    |    |    | 69  |
| 4   | 89  | 79  | 71  | 66  | 87  | 78  | 71  | 65  | 75  | 69  | 65  | 73  | 68  | 64  | 71  | 67  | 63  | 61  |    |    |    | 61  |
| 5   | 83  | 72  | 64  | 58  | 81  | 71  | 64  | 58  | 69  | 62  | 58  | 67  | 61  | 57  | 65  | 60  | 56  | 55  |    |    |    | 55  |
| 6   | 77  | 66  | 58  | 53  | 76  | 65  | 58  | 52  | 63  | 57  | 52  | 62  | 56  | 51  | 60  | 55  | 51  | 49  |    |    |    | 49  |
| 7   | 72  | 61  | 53  | 48  | 71  | 60  | 53  | 47  | 58  | 52  | 47  | 57  | 51  | 47  | 56  | 51  | 46  | 45  |    |    |    | 45  |
| 8   | 68  | 56  | 48  | 43  | 67  | 55  | 48  | 43  | 54  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 43  | 41  |    |    |    | 41  |
| 9   | 64  | 52  | 45  | 40  | 63  | 51  | 44  | 40  | 50  | 44  | 39  | 49  | 44  | 39  | 48  | 43  | 39  | 38  |    |    |    | 38  |
| 10  | 60  | 49  | 41  | 37  | 59  | 48  | 41  | 37  | 47  | 41  | 36  | 46  | 40  | 36  | 45  | 40  | 36  | 35  |    |    |    | 35  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 34850 | 34850 | 34850 |
| 5°  | 34163 | 31949 | 31285 |
| 10° | 32284 | 28786 | 28109 |
| 15° | 29393 | 25417 | 25198 |
| 20° | 25740 | 21925 | 22480 |
| 25° | 21668 | 18443 | 19925 |
| 30° | 17945 | 15080 | 17474 |
| 35° | 14676 | 12164 | 15101 |
| 40° | 11941 | 9627  | 12776 |
| 45° | 9751  | 7564  | 10528 |
| 50° | 7922  | 5834  | 8463  |
| 55° | 6456  | 4379  | 6632  |
| 60° | 5107  | 3192  | 5018  |
| 65° | 3994  | 2192  | 3603  |
| 70° | 3010  | 1445  | 2364  |
| 75° | 2139  | 921   | 1385  |
| 80° | 1866  | 561   | 659   |
| 85° | 2666  | 357   | 240   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 10989 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 82.6   | 6.1       |
| 10°-20°   | 218.0  | 16.2      |
| 20°-30°   | 280.5  | 20.8      |
| 30°-40°   | 270.1  | 20.1      |
| 40°-50°   | 217.3  | 16.2      |
| 50°-60°   | 149.5  | 11.1      |
| 60°-70°   | 83.3   | 6.2       |
| 70°-80°   | 33.6   | 2.5       |
| 80°-90°   | 10.5   | 0.8       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 581.1  | 43.2      |
| 0°-40°    | 851.3  | 63.3      |
| 0°-60°    | 1218.1 | 90.5      |
| 0°-90°    | 1345.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1345.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 892 | 892   | 892 | 892   | 892 |      |
| 5°  | 873 | 874   | 878 | 883   | 884 | 82   |
| 15° | 731 | 744   | 779 | 814   | 830 | 203  |
| 25° | 508 | 535   | 606 | 690   | 729 | 233  |
| 35° | 312 | 337   | 414 | 526   | 591 | 196  |
| 45° | 180 | 198   | 259 | 364   | 427 | 140  |
| 55° | 98  | 108   | 146 | 228   | 270 | 88   |
| 65° | 45  | 51    | 69  | 119   | 142 | 45   |
| 75° | 15  | 19    | 26  | 44    | 52  | 17   |
| 85° | 7   | 7     | 9   | 12    | 8   | 8    |
| 90° | 6   | 6     | 6   | 6     | 6   |      |



TEST NUMBER: P958861

CATALOG NUMBER: MMG-08W-927-60x60-ID-X-X-4F-4-UNV-STD-X

**CANDELA DISTRIBUTION (FULL):**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-----|-------|-------|-------|-------|-------|
| 0°  | 892.3 | 892.3 | 892.3 | 892.3 | 892.3 |
| 1°  | 892.2 | 891.8 | 891.4 | 891.2 | 891.2 |
| 2°  | 889.6 | 889.6 | 889.6 | 890.0 | 890.4 |
| 3°  | 885.4 | 885.6 | 886.9 | 888.1 | 888.9 |
| 4°  | 879.9 | 880.7 | 883.0 | 885.8 | 886.9 |
| 5°  | 873.0 | 874.3 | 878.4 | 882.7 | 884.4 |
| 6°  | 864.4 | 866.8 | 872.6 | 878.8 | 881.3 |
| 7°  | 854.4 | 857.5 | 865.8 | 874.1 | 877.6 |
| 8°  | 843.7 | 847.8 | 857.8 | 868.7 | 873.5 |
| 9°  | 830.7 | 836.1 | 848.9 | 862.9 | 868.7 |
| 10° | 817.1 | 823.5 | 839.8 | 856.3 | 863.5 |
| 11° | 801.6 | 809.8 | 829.6 | 849.3 | 857.7 |
| 12° | 785.7 | 794.7 | 817.9 | 841.4 | 851.5 |
| 13° | 767.9 | 778.8 | 805.5 | 833.0 | 844.7 |
| 14° | 749.5 | 761.5 | 792.3 | 824.1 | 837.5 |
| 15° | 731.1 | 743.7 | 778.6 | 814.4 | 829.9 |
| 16° | 710.9 | 725.9 | 764.2 | 804.2 | 821.6 |
| 17° | 690.8 | 706.9 | 748.1 | 793.9 | 813.1 |
| 18° | 668.9 | 687.1 | 731.9 | 782.8 | 804.0 |
| 19° | 646.6 | 666.4 | 715.4 | 771.0 | 794.5 |
| 20° | 624.1 | 645.0 | 698.5 | 758.8 | 784.6 |
| 21° | 599.7 | 623.5 | 681.1 | 745.8 | 774.3 |
| 22° | 576.8 | 600.5 | 663.3 | 732.3 | 763.7 |
| 23° | 554.3 | 577.6 | 644.3 | 718.7 | 752.6 |
| 24° | 531.8 | 556.1 | 624.7 | 704.5 | 741.2 |
| 25° | 507.8 | 534.6 | 605.7 | 690.2 | 729.3 |
| 26° | 485.7 | 512.5 | 586.5 | 675.3 | 716.9 |
| 27° | 464.8 | 489.8 | 566.0 | 660.0 | 704.3 |
| 28° | 443.5 | 470.2 | 546.0 | 643.9 | 691.6 |
| 29° | 423.1 | 448.7 | 526.0 | 627.6 | 678.0 |
| 30° | 402.8 | 429.3 | 506.3 | 610.9 | 664.4 |
| 31° | 382.6 | 410.1 | 488.0 | 593.9 | 650.5 |
| 32° | 365.2 | 390.7 | 468.7 | 577.0 | 635.9 |
| 33° | 345.8 | 371.7 | 450.1 | 560.1 | 621.4 |
| 34° | 327.9 | 354.7 | 431.4 | 543.1 | 606.5 |
| 35° | 312.4 | 336.7 | 414.2 | 526.2 | 591.3 |
| 36° | 296.2 | 319.6 | 396.2 | 509.0 | 575.6 |
| 37° | 280.3 | 304.5 | 379.5 | 492.3 | 559.9 |
| 38° | 265.9 | 289.2 | 362.8 | 475.2 | 543.9 |
| 39° | 251.6 | 274.3 | 346.0 | 458.6 | 527.6 |
| 40° | 238.4 | 260.1 | 329.9 | 442.3 | 510.9 |
| 41° | 225.6 | 246.3 | 314.8 | 426.0 | 494.2 |
| 42° | 213.6 | 233.7 | 300.2 | 410.1 | 477.4 |
| 43° | 201.6 | 221.3 | 285.9 | 394.6 | 460.3 |
| 44° | 190.7 | 209.5 | 271.7 | 379.5 | 443.5 |



TEST NUMBER: P958861

CATALOG NUMBER: MMG-08W-927-60x60-ID-X-X-4F-4-UNV-STD-X

**CANDELA DISTRIBUTION (continued):**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-----|-------|-------|-------|-------|-------|
| 45° | 180.3 | 198.3 | 258.9 | 364.0 | 426.6 |
| 46° | 170.4 | 186.6 | 246.0 | 348.9 | 409.9 |
| 47° | 160.9 | 176.8 | 233.0 | 334.1 | 393.5 |
| 48° | 151.0 | 166.5 | 221.3 | 319.6 | 377.0 |
| 49° | 142.8 | 157.4 | 209.3 | 305.8 | 360.7 |
| 50° | 133.7 | 148.1 | 197.9 | 292.3 | 344.8 |
| 51° | 126.4 | 139.2 | 187.2 | 278.5 | 329.3 |
| 52° | 118.6 | 131.0 | 176.4 | 265.5 | 314.0 |
| 53° | 111.3 | 122.5 | 165.9 | 252.4 | 298.9 |
| 54° | 104.5 | 115.3 | 155.8 | 239.9 | 284.1 |
| 55° | 97.7  | 108.2 | 146.1 | 227.9 | 269.6 |
| 56° | 91.1  | 101.2 | 136.8 | 215.3 | 255.5 |
| 57° | 84.9  | 94.2  | 128.3 | 203.1 | 241.5 |
| 58° | 79.1  | 87.8  | 119.8 | 191.7 | 227.9 |
| 59° | 73.3  | 81.4  | 111.6 | 180.1 | 214.8 |
| 60° | 67.8  | 75.6  | 103.9 | 169.0 | 202.0 |
| 61° | 62.8  | 70.2  | 96.1  | 158.4 | 189.4 |
| 62° | 58.1  | 64.7  | 88.8  | 148.1 | 177.2 |
| 63° | 53.3  | 59.9  | 81.8  | 138.0 | 165.1 |
| 64° | 49.0  | 55.2  | 75.2  | 128.1 | 153.9 |
| 65° | 45.2  | 50.8  | 69.0  | 118.6 | 142.5 |
| 66° | 41.5  | 46.5  | 63.2  | 109.5 | 131.4 |
| 67° | 37.8  | 42.4  | 57.8  | 100.6 | 120.8 |
| 68° | 34.3  | 38.8  | 52.7  | 92.1  | 110.5 |
| 69° | 31.0  | 35.5  | 48.1  | 84.1  | 100.6 |
| 70° | 27.9  | 32.2  | 43.6  | 76.4  | 91.1  |
| 71° | 24.8  | 29.1  | 39.5  | 69.0  | 82.4  |
| 72° | 21.9  | 26.4  | 35.9  | 62.0  | 73.8  |
| 73° | 19.4  | 23.6  | 32.4  | 55.4  | 65.7  |
| 74° | 17.3  | 20.9  | 29.1  | 49.2  | 58.1  |
| 75° | 15.3  | 18.6  | 26.4  | 43.8  | 51.6  |
| 76° | 13.6  | 16.7  | 23.6  | 38.4  | 44.6  |
| 77° | 12.4  | 14.9  | 21.3  | 33.9  | 38.8  |
| 78° | 11.2  | 13.4  | 19.0  | 29.8  | 32.8  |
| 79° | 10.1  | 12.0  | 17.1  | 26.0  | 27.7  |
| 80° | 9.3   | 10.9  | 15.1  | 22.5  | 23.5  |
| 81° | 8.7   | 9.9   | 13.8  | 19.8  | 19.6  |
| 82° | 8.3   | 8.9   | 12.4  | 17.1  | 16.1  |
| 83° | 7.9   | 8.3   | 11.0  | 15.1  | 13.0  |
| 84° | 7.6   | 7.8   | 10.1  | 13.2  | 10.5  |
| 85° | 7.4   | 7.4   | 8.9   | 11.8  | 8.1   |
| 86° | 7.0   | 7.0   | 8.1   | 10.3  | 6.2   |
| 87° | 7.0   | 6.6   | 7.4   | 9.1   | 4.8   |
| 88° | 7.0   | 6.6   | 7.0   | 8.1   | 3.7   |
| 89° | 6.8   | 6.2   | 6.6   | 7.4   | 3.1   |



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**CANDELA DISTRIBUTION (continued):**

|     | 0°  | 22.5° | 45° | 67.5° | 90° |
|-----|-----|-------|-----|-------|-----|
| 90° | 6.0 | 6.0   | 6.0 | 6.0   | 6.0 |

(END OF REPORT)