

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: P958880

Luminaire Tested: MMG-03W-930-30x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P958880  
SCALED TEST REPORT  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/31/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: iO LED  
Catalog Number: MMG-03W-930-30x60-ID-X-X-1F-1-UNV-STD-X  
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 30x60 DEGREE OPTICS. INPUT WATTAGE IN IES FILE REPRESENTS CONSUMPTION IN A RUN, INDIVIDUAL FIXTURE MAY VARY.  
3 WATTS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

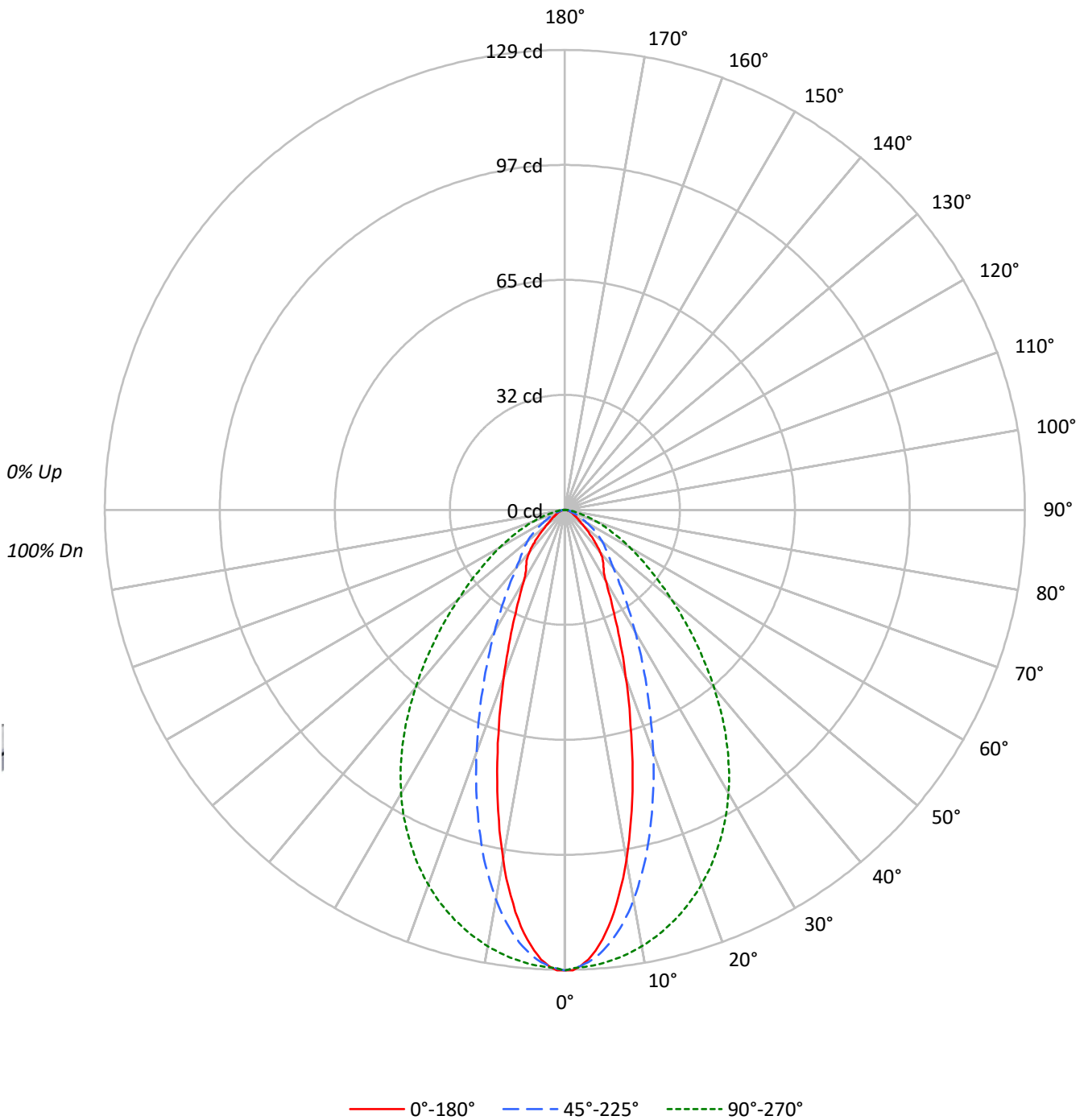
Lumens per Lamp: N/A  
Luminaire Lumens: 130.4 lumens  
Efficiency: N/A  
Efficacy: 48.3 lumens/watt  
Spacing Criteria (0/90/45): 0.55 / 1.09 / 0.76  
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 1' x H: 0.09')  
CIE Type: Direct  
  
Input Watts (W): 2.7  
Input Voltage (V): 120  
Input Current (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





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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 |    |    |    |   |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 94  | 93  | 92  | 90  |    |    |    |   |
| 2   | 104 | 98  | 93  | 88  | 102 | 96  | 91  | 87  | 93  | 89  | 85  | 90  | 86  | 84  | 87  | 84  | 82  | 80  |    |    |    |   |
| 3   | 97  | 89  | 83  | 78  | 95  | 88  | 82  | 77  | 85  | 80  | 76  | 82  | 78  | 75  | 80  | 76  | 73  | 72  |    |    |    |   |
| 4   | 91  | 81  | 75  | 69  | 89  | 80  | 74  | 69  | 78  | 72  | 68  | 76  | 71  | 67  | 74  | 70  | 66  | 64  |    |    |    |   |
| 5   | 85  | 75  | 68  | 62  | 83  | 74  | 67  | 62  | 72  | 66  | 61  | 70  | 65  | 61  | 68  | 64  | 60  | 59  |    |    |    |   |
| 6   | 80  | 69  | 62  | 57  | 78  | 68  | 61  | 56  | 67  | 61  | 56  | 65  | 60  | 56  | 64  | 59  | 55  | 53  |    |    |    |   |
| 7   | 75  | 64  | 57  | 52  | 74  | 63  | 57  | 52  | 62  | 56  | 51  | 61  | 55  | 51  | 60  | 55  | 51  | 49  |    |    |    |   |
| 8   | 71  | 60  | 53  | 48  | 70  | 59  | 52  | 48  | 58  | 52  | 47  | 57  | 51  | 47  | 56  | 51  | 47  | 45  |    |    |    |   |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 47  | 44  | 42  |    |    |    |   |
| 10  | 64  | 53  | 46  | 41  | 63  | 52  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 50  | 44  | 41  | 39  |    |    |    |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 20184 | 20184 | 20184 |
| 5°  | 18835 | 17974 | 18041 |
| 10° | 15566 | 15115 | 16185 |
| 15° | 11575 | 11974 | 14465 |
| 20° | 8062  | 8979  | 12825 |
| 25° | 5537  | 6481  | 11235 |
| 30° | 3954  | 4615  | 9657  |
| 35° | 3383  | 3295  | 8070  |
| 40° | 2931  | 2410  | 6512  |
| 45° | 2158  | 1917  | 5074  |
| 50° | 1478  | 1563  | 3829  |
| 55° | 1093  | 1177  | 2844  |
| 60° | 871   | 811   | 2077  |
| 65° | 750   | 541   | 1467  |
| 70° | 703   | 345   | 955   |
| 75° | 549   | 228   | 548   |
| 80° | 485   | 157   | 258   |
| 85° | 545   | 107   | 95    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5074 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 11.4   | 8.8       |
| 10°-20°   | 26.2   | 20.1      |
| 20°-30°   | 28.0   | 21.4      |
| 30°-40°   | 24.0   | 18.4      |
| 40°-50°   | 18.5   | 14.2      |
| 50°-60°   | 12.1   | 9.2       |
| 60°-70°   | 6.6    | 5.1       |
| 70°-80°   | 2.8    | 2.1       |
| 80°-90°   | 0.9    | 0.7       |
| 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°    | 65.6   | 50.3      |
| 0°-40°    | 89.6   | 68.7      |
| 0°-60°    | 120.1  | 92.1      |
| 0°-90°    | 130.4  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 130.4  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 129 | 129   | 129 | 129   | 129 |      |
| 5°  | 121 | 122   | 124 | 126   | 128 | 11   |
| 15° | 73  | 78    | 93  | 110   | 119 | 20   |
| 25° | 33  | 38    | 54  | 83    | 103 | 16   |
| 35° | 19  | 20    | 29  | 55    | 79  | 12   |
| 45° | 11  | 13    | 17  | 35    | 51  | 8    |
| 55° | 4   | 6     | 10  | 21    | 29  | 4    |
| 65° | 2   | 3     | 4   | 11    | 14  | 2    |
| 75° | 1   | 1     | 2   | 4     | 5   | 1    |
| 85° | 1   | 1     | 1   | 1     | 1   | 1    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |

TEST NUMBER: P958880

CATALOG NUMBER: MMG-03W-930-30x60-ID-X-X-1F-1-UNV-STD-X

**CANDELA DISTRIBUTION (FULL):**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-----|-------|-------|-------|-------|-------|
| 0°  | 129.2 | 129.2 | 129.2 | 129.2 | 129.2 |
| 1°  | 129.2 | 128.9 | 128.7 | 128.6 | 128.6 |
| 2°  | 128.0 | 127.9 | 128.0 | 128.2 | 128.4 |
| 3°  | 126.3 | 126.4 | 127.0 | 127.8 | 128.2 |
| 4°  | 123.9 | 124.4 | 125.7 | 127.2 | 127.9 |
| 5°  | 121.0 | 121.8 | 124.0 | 126.4 | 127.5 |
| 6°  | 117.5 | 118.7 | 122.0 | 125.5 | 127.0 |
| 7°  | 113.6 | 115.3 | 119.7 | 124.4 | 126.5 |
| 8°  | 109.1 | 111.4 | 117.1 | 123.1 | 125.8 |
| 9°  | 104.7 | 107.2 | 114.2 | 121.7 | 125.1 |
| 10° | 99.6  | 102.9 | 111.0 | 120.1 | 124.3 |
| 11° | 94.4  | 98.1  | 107.6 | 118.4 | 123.4 |
| 12° | 89.1  | 93.3  | 104.1 | 116.6 | 122.4 |
| 13° | 83.8  | 88.2  | 100.6 | 114.6 | 121.4 |
| 14° | 78.5  | 83.3  | 96.6  | 112.6 | 120.2 |
| 15° | 73.2  | 78.4  | 92.6  | 110.4 | 119.1 |
| 16° | 68.1  | 73.4  | 88.6  | 108.0 | 117.8 |
| 17° | 63.1  | 68.6  | 84.5  | 105.5 | 116.4 |
| 18° | 58.6  | 63.9  | 80.5  | 103.0 | 115.0 |
| 19° | 54.2  | 59.6  | 76.5  | 100.3 | 113.5 |
| 20° | 50.0  | 55.3  | 72.4  | 97.7  | 111.9 |
| 21° | 46.3  | 51.4  | 68.4  | 94.9  | 110.2 |
| 22° | 42.6  | 47.7  | 64.6  | 92.1  | 108.5 |
| 23° | 39.3  | 44.3  | 60.9  | 89.3  | 106.7 |
| 24° | 36.2  | 40.9  | 57.4  | 86.3  | 104.7 |
| 25° | 33.4  | 38.0  | 54.0  | 83.4  | 102.8 |
| 26° | 30.8  | 35.1  | 50.8  | 80.4  | 100.7 |
| 27° | 28.5  | 32.5  | 47.7  | 77.3  | 98.6  |
| 28° | 26.4  | 30.1  | 44.8  | 74.4  | 96.5  |
| 29° | 24.6  | 28.0  | 42.0  | 71.6  | 94.2  |
| 30° | 23.0  | 26.0  | 39.4  | 68.8  | 91.8  |
| 31° | 21.7  | 24.2  | 37.0  | 66.0  | 89.4  |
| 32° | 20.7  | 22.8  | 34.6  | 63.3  | 86.9  |
| 33° | 20.0  | 21.5  | 32.5  | 60.6  | 84.3  |
| 34° | 19.4  | 20.5  | 30.5  | 57.9  | 81.7  |
| 35° | 18.8  | 19.7  | 28.6  | 55.4  | 79.0  |
| 36° | 18.3  | 19.1  | 26.7  | 53.0  | 76.3  |
| 37° | 17.8  | 18.6  | 25.2  | 50.6  | 73.5  |
| 38° | 17.1  | 18.0  | 23.6  | 48.4  | 70.7  |
| 39° | 16.3  | 17.5  | 22.3  | 46.3  | 67.9  |
| 40° | 15.4  | 16.9  | 21.1  | 44.3  | 65.1  |
| 41° | 14.5  | 16.2  | 20.0  | 42.3  | 62.3  |
| 42° | 13.5  | 15.4  | 19.0  | 40.3  | 59.5  |
| 43° | 12.5  | 14.6  | 18.2  | 38.5  | 56.7  |
| 44° | 11.6  | 13.6  | 17.5  | 36.7  | 54.0  |



TEST NUMBER: P958880

CATALOG NUMBER: MMG-03W-930-30x60-ID-X-X-1F-1-UNV-STD-X

**CANDELA DISTRIBUTION (continued):**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  |
|-----|------|-------|------|-------|------|
| 45° | 10.6 | 12.7  | 16.8 | 35.0  | 51.4 |
| 46° | 9.7  | 11.8  | 16.1 | 33.4  | 48.8 |
| 47° | 8.8  | 11.0  | 15.5 | 31.9  | 46.2 |
| 48° | 8.0  | 10.1  | 14.9 | 30.4  | 43.7 |
| 49° | 7.3  | 9.2   | 14.3 | 28.9  | 41.3 |
| 50° | 6.7  | 8.4   | 13.6 | 27.5  | 39.0 |
| 51° | 6.1  | 7.7   | 13.0 | 26.2  | 36.8 |
| 52° | 5.6  | 7.0   | 12.2 | 24.9  | 34.7 |
| 53° | 5.2  | 6.5   | 11.5 | 23.6  | 32.7 |
| 54° | 4.9  | 6.0   | 10.8 | 22.4  | 30.8 |
| 55° | 4.5  | 5.5   | 10.1 | 21.2  | 28.9 |
| 56° | 4.2  | 5.1   | 9.4  | 20.0  | 27.2 |
| 57° | 3.9  | 4.7   | 8.7  | 18.9  | 25.5 |
| 58° | 3.6  | 4.3   | 8.0  | 17.8  | 23.9 |
| 59° | 3.4  | 4.0   | 7.4  | 16.8  | 22.4 |
| 60° | 3.2  | 3.7   | 6.8  | 15.7  | 20.9 |
| 61° | 3.0  | 3.4   | 6.3  | 14.7  | 19.5 |
| 62° | 2.8  | 3.2   | 5.8  | 13.7  | 18.2 |
| 63° | 2.7  | 3.0   | 5.2  | 12.8  | 16.9 |
| 64° | 2.6  | 2.8   | 4.8  | 11.9  | 15.7 |
| 65° | 2.4  | 2.6   | 4.4  | 11.0  | 14.5 |
| 66° | 2.3  | 2.4   | 3.9  | 10.2  | 13.3 |
| 67° | 2.3  | 2.3   | 3.6  | 9.3   | 12.2 |
| 68° | 2.2  | 2.2   | 3.3  | 8.5   | 11.2 |
| 69° | 2.0  | 2.0   | 3.0  | 7.8   | 10.2 |
| 70° | 1.9  | 1.9   | 2.7  | 7.0   | 9.2  |
| 71° | 1.8  | 1.8   | 2.4  | 6.3   | 8.3  |
| 72° | 1.6  | 1.7   | 2.2  | 5.7   | 7.4  |
| 73° | 1.5  | 1.6   | 2.0  | 5.1   | 6.6  |
| 74° | 1.3  | 1.5   | 1.8  | 4.5   | 5.8  |
| 75° | 1.2  | 1.3   | 1.7  | 4.0   | 5.1  |
| 76° | 1.1  | 1.2   | 1.5  | 3.5   | 4.5  |
| 77° | 1.0  | 1.1   | 1.4  | 3.1   | 3.8  |
| 78° | 0.9  | 1.0   | 1.3  | 2.7   | 3.3  |
| 79° | 0.8  | 0.9   | 1.2  | 2.3   | 2.8  |
| 80° | 0.8  | 0.9   | 1.1  | 2.0   | 2.3  |
| 81° | 0.7  | 0.8   | 1.0  | 1.8   | 2.0  |
| 82° | 0.7  | 0.7   | 0.9  | 1.5   | 1.6  |
| 83° | 0.6  | 0.7   | 0.8  | 1.4   | 1.3  |
| 84° | 0.6  | 0.6   | 0.8  | 1.2   | 1.0  |
| 85° | 0.6  | 0.6   | 0.7  | 1.1   | 0.8  |
| 86° | 0.6  | 0.6   | 0.7  | 1.0   | 0.6  |
| 87° | 0.6  | 0.5   | 0.6  | 0.9   | 0.5  |
| 88° | 0.5  | 0.5   | 0.6  | 0.8   | 0.4  |
| 89° | 0.5  | 0.5   | 0.6  | 0.7   | 0.3  |



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CATALOG NUMBER: MMG-03W-930-30x60-ID-X-X-1F-1-UNV-STD-X

**CANDELA DISTRIBUTION (continued):**

|     | 0°  | 22.5° | 45° | 67.5° | 90° |
|-----|-----|-------|-----|-------|-----|
| 90° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 |

(END OF REPORT)