

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: P958881

Luminaire Tested: MMG-03W-930-60x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P958881  
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-930-60x60-ID-X-X-1F-1-UNV-STD-X  
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 60x60 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**

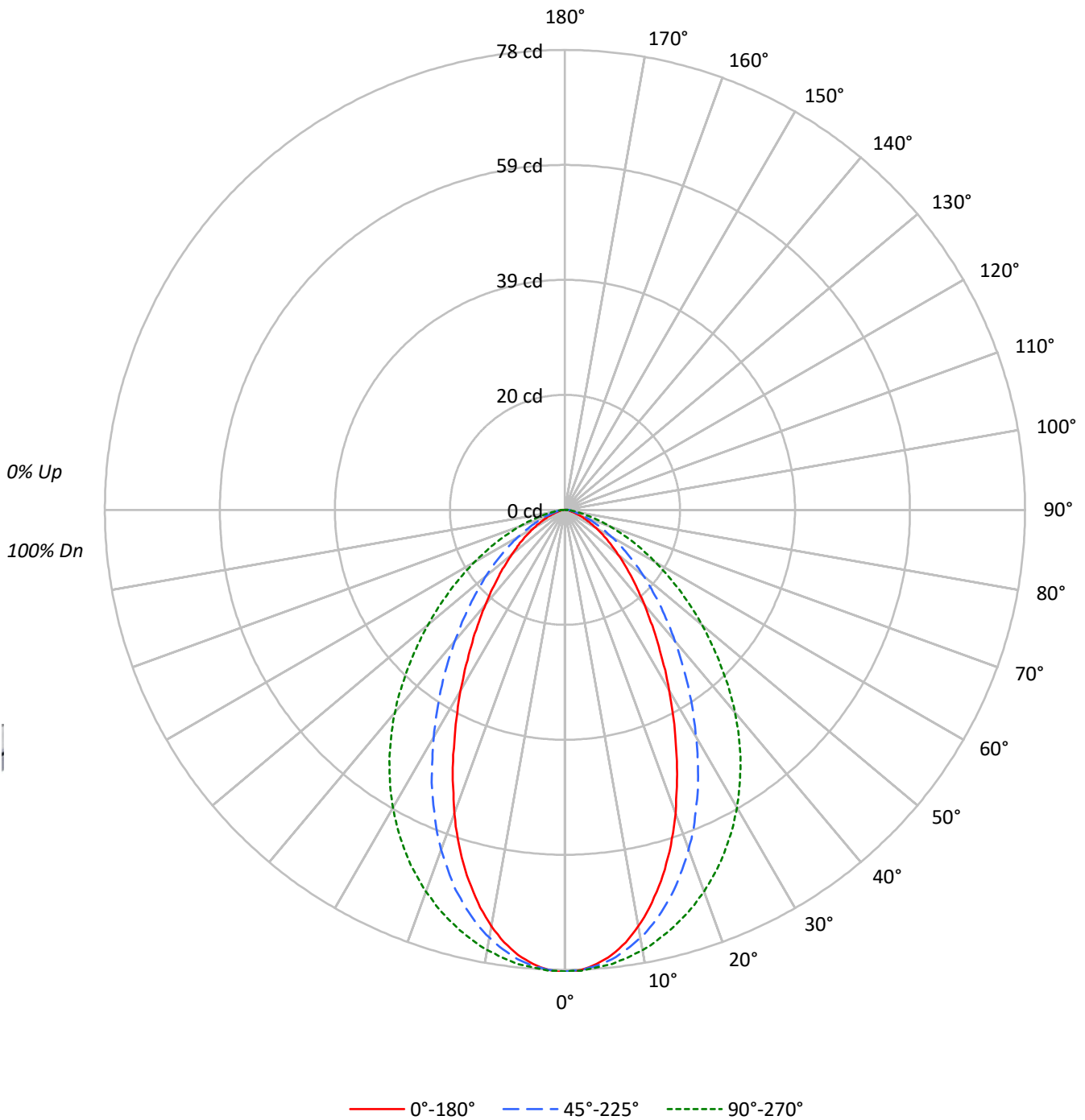
Lumens per Lamp: N/A  
Luminaire Lumens: 118.1 lumens  
Efficiency: N/A  
Efficacy: 43.7 lumens/watt  
Spacing Criteria (0/90/45): 0.83 / 1.12 / 1.01  
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 1' x H: 0.09')  
CIE Type: Direct  
  
Input Watts (W): 2.7  
Input Voltage (V): 120  
Input Current (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				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	49	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	40	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°	12232	12232	12232
5°	11924	11176	10980
10°	11206	10036	9870
15°	10151	8832	8841
20°	8836	7602	7897
25°	7394	6385	6994
30°	6086	5200	6133
35°	4931	4194	5302
40°	3978	3313	4481
45°	3216	2591	3692
50°	2581	1999	2975
55°	2088	1492	2332
60°	1633	1085	1759
65°	1250	750	1264
70°	888	486	830
75°	595	309	483
80°	485	185	236
85°	545	123	83

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 3692 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	7.3	6.1
10°-20°	19.1	16.2
20°-30°	24.6	20.9
30°-40°	23.7	20.1
40°-50°	19.1	16.2
50°-60°	13.1	11.1
60°-70°	7.3	6.2
70°-80°	3.0	2.5
80°-90°	0.9	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°	51.0	43.2
0°-40°	74.7	63.3
0°-60°	106.9	90.5
0°-90°	118.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	118.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	78	78	78	78	78	
5°	77	77	77	78	78	7
15°	64	65	68	72	73	18
25°	45	47	53	61	64	20
35°	27	30	36	46	52	17
45°	16	17	23	32	37	12
55°	9	10	13	20	24	8
65°	4	4	6	10	12	4
75°	1	2	2	4	4	2
85°	1	1	1	1	1	1
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	78.3	78.3	78.3	78.3	78.3
1°	78.3	78.3	78.2	78.2	78.2
2°	78.1	78.1	78.1	78.1	78.2
3°	77.7	77.7	77.8	78.0	78.0
4°	77.2	77.3	77.5	77.7	77.8
5°	76.6	76.7	77.1	77.5	77.6
6°	75.9	76.1	76.6	77.1	77.4
7°	75.0	75.3	76.0	76.7	77.0
8°	74.1	74.4	75.3	76.2	76.7
9°	72.9	73.4	74.5	75.7	76.2
10°	71.7	72.3	73.7	75.2	75.8
11°	70.4	71.1	72.8	74.5	75.3
12°	69.0	69.8	71.8	73.9	74.7
13°	67.4	68.4	70.7	73.1	74.1
14°	65.8	66.8	69.5	72.3	73.5
15°	64.2	65.3	68.3	71.5	72.8
16°	62.4	63.7	67.1	70.6	72.1
17°	60.6	62.0	65.7	69.7	71.4
18°	58.7	60.3	64.2	68.7	70.6
19°	56.8	58.5	62.8	67.7	69.7
20°	54.8	56.6	61.3	66.6	68.9
21°	52.6	54.7	59.8	65.5	68.0
22°	50.6	52.7	58.2	64.3	67.0
23°	48.7	50.7	56.5	63.1	66.1
24°	46.7	48.8	54.8	61.8	65.1
25°	44.6	46.9	53.2	60.6	64.0
26°	42.6	45.0	51.5	59.3	62.9
27°	40.8	43.0	49.7	57.9	61.8
28°	38.9	41.3	47.9	56.5	60.7
29°	37.1	39.4	46.2	55.1	59.5
30°	35.4	37.7	44.4	53.6	58.3
31°	33.6	36.0	42.8	52.1	57.1
32°	32.1	34.3	41.1	50.6	55.8
33°	30.3	32.6	39.5	49.2	54.5
34°	28.8	31.1	37.9	47.7	53.2
35°	27.4	29.6	36.4	46.2	51.9
36°	26.0	28.1	34.8	44.7	50.5
37°	24.6	26.7	33.3	43.2	49.1
38°	23.3	25.4	31.8	41.7	47.7
39°	22.1	24.1	30.4	40.3	46.3
40°	20.9	22.8	29.0	38.8	44.8
41°	19.8	21.6	27.6	37.4	43.4
42°	18.7	20.5	26.4	36.0	41.9
43°	17.7	19.4	25.1	34.6	40.4
44°	16.7	18.4	23.9	33.3	38.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
45°	15.8	17.4	22.7	31.9	37.4
46°	15.0	16.4	21.6	30.6	36.0
47°	14.1	15.5	20.4	29.3	34.5
48°	13.3	14.6	19.4	28.1	33.1
49°	12.5	13.8	18.4	26.8	31.7
50°	11.7	13.0	17.4	25.7	30.3
51°	11.1	12.2	16.4	24.4	28.9
52°	10.4	11.5	15.5	23.3	27.6
53°	9.8	10.8	14.6	22.1	26.2
54°	9.2	10.1	13.7	21.1	24.9
55°	8.6	9.5	12.8	20.0	23.7
56°	8.0	8.9	12.0	18.9	22.4
57°	7.5	8.3	11.3	17.8	21.2
58°	6.9	7.7	10.5	16.8	20.0
59°	6.4	7.1	9.8	15.8	18.8
60°	6.0	6.6	9.1	14.8	17.7
61°	5.5	6.2	8.4	13.9	16.6
62°	5.1	5.7	7.8	13.0	15.5
63°	4.7	5.3	7.2	12.1	14.5
64°	4.3	4.8	6.6	11.2	13.5
65°	4.0	4.5	6.1	10.4	12.5
66°	3.6	4.1	5.5	9.6	11.5
67°	3.3	3.7	5.1	8.8	10.6
68°	3.0	3.4	4.6	8.1	9.7
69°	2.7	3.1	4.2	7.4	8.8
70°	2.4	2.8	3.8	6.7	8.0
71°	2.2	2.6	3.5	6.1	7.2
72°	1.9	2.3	3.1	5.4	6.5
73°	1.7	2.1	2.8	4.9	5.8
74°	1.5	1.8	2.6	4.3	5.1
75°	1.3	1.6	2.3	3.8	4.5
76°	1.2	1.5	2.1	3.4	3.9
77°	1.1	1.3	1.9	3.0	3.4
78°	1.0	1.2	1.7	2.6	2.9
79°	0.9	1.1	1.5	2.3	2.4
80°	0.8	1.0	1.3	2.0	2.1
81°	0.8	0.9	1.2	1.7	1.7
82°	0.7	0.8	1.1	1.5	1.4
83°	0.7	0.7	1.0	1.3	1.1
84°	0.7	0.7	0.9	1.2	0.9
85°	0.6	0.6	0.8	1.0	0.7
86°	0.6	0.6	0.7	0.9	0.5
87°	0.6	0.6	0.6	0.8	0.4
88°	0.6	0.6	0.6	0.7	0.3
89°	0.6	0.5	0.6	0.6	0.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
90°	0.5	0.5	0.5	0.5	0.5

(END OF REPORT)