

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: P958885

Luminaire Tested: MMG-03W-935-60x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958885
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-935-60x60-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: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 119.4 lumens
Efficiency: N/A
Efficacy: 44.2 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

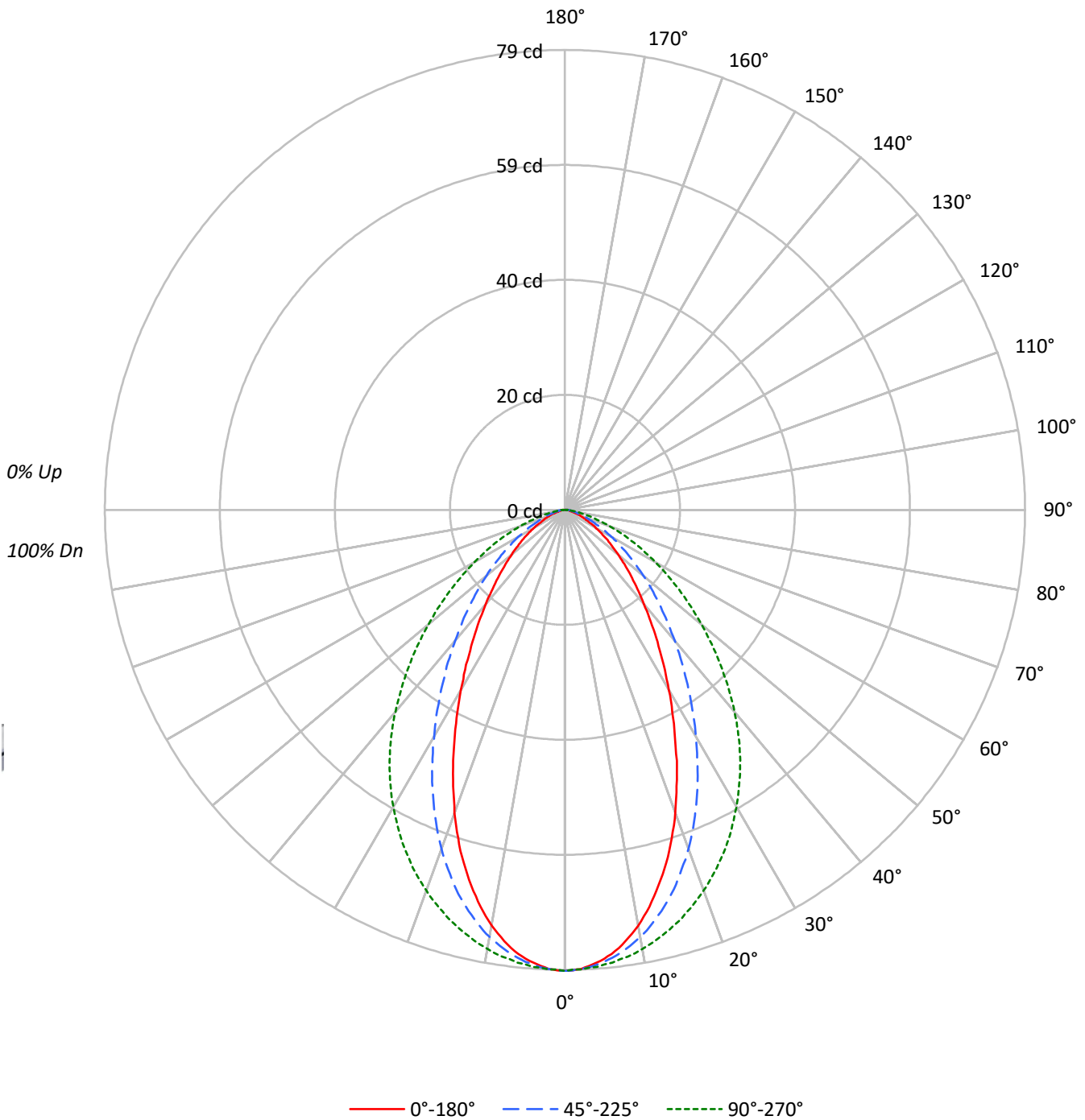
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	
2	103	96	91	86	101	95	90	85	91	87	83	88	85	81	85	82	80				78	
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71				69	
4	89	79	71	66	87	78	71	65	75	69	65	73	68	64	71	67	63				61	
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56				55	
6	77	66	58	53	76	65	58	52	63	57	52	62	56	51	60	55	51				49	
7	72	61	53	48	71	60	53	47	58	52	47	57	51	47	56	50	46				45	
8	68	56	48	43	67	55	48	43	54	48	43	53	47	43	52	47	43				41	
9	64	52	45	40	63	51	44	40	50	44	39	49	44	39	48	43	39				38	
10	60	49	41	37	59	48	41	37	47	41	36	46	40	36	45	40	36				35	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12373	12373	12373
5°	12048	11292	11093
10°	11331	10145	9974
15°	10246	8936	8939
20°	8933	7689	7977
25°	7460	6445	7071
30°	6138	5259	6196
35°	4985	4229	5363
40°	4016	3347	4531
45°	3257	2625	3732
50°	2625	2022	3004
55°	2112	1516	2352
60°	1633	1097	1779
65°	1250	750	1274
70°	925	499	841
75°	641	309	494
80°	485	185	236
85°	635	123	83

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 3732 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.3	6.1
10°-20°	19.3	16.2
20°-30°	24.9	20.8
30°-40°	24.0	20.1
40°-50°	19.3	16.2
50°-60°	13.3	11.1
60°-70°	7.4	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°	51.5	43.2
0°-40°	75.5	63.3
0°-60°	108.0	90.5
0°-90°	119.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	119.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	79	79	79	79	79	
5°	77	78	78	78	78	7
15°	65	66	69	72	74	18
25°	45	47	54	61	65	21
35°	28	30	37	47	52	17
45°	16	18	23	32	38	12
55°	9	10	13	20	24	8
65°	4	4	6	10	13	4
75°	1	2	2	4	5	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°	79.2	79.2	79.2	79.2	79.2
1°	79.1	79.1	79.1	79.0	79.0
2°	78.9	78.9	78.9	78.9	79.0
3°	78.5	78.5	78.7	78.8	78.8
4°	78.0	78.1	78.3	78.6	78.7
5°	77.4	77.6	77.9	78.3	78.4
6°	76.7	76.9	77.4	77.9	78.2
7°	75.8	76.1	76.8	77.5	77.8
8°	74.8	75.2	76.1	77.1	77.5
9°	73.7	74.2	75.3	76.5	77.1
10°	72.5	73.0	74.5	76.0	76.6
11°	71.1	71.8	73.6	75.3	76.1
12°	69.7	70.5	72.5	74.6	75.5
13°	68.1	69.1	71.4	73.9	74.9
14°	66.5	67.5	70.3	73.1	74.3
15°	64.8	66.0	69.1	72.2	73.6
16°	63.1	64.4	67.8	71.3	72.9
17°	61.3	62.7	66.4	70.4	72.1
18°	59.3	60.9	64.9	69.4	71.3
19°	57.4	59.1	63.5	68.4	70.5
20°	55.4	57.2	62.0	67.3	69.6
21°	53.2	55.3	60.4	66.2	68.7
22°	51.2	53.3	58.8	64.9	67.7
23°	49.2	51.2	57.1	63.7	66.8
24°	47.2	49.3	55.4	62.5	65.7
25°	45.0	47.4	53.7	61.2	64.7
26°	43.1	45.5	52.0	59.9	63.6
27°	41.2	43.4	50.2	58.5	62.5
28°	39.3	41.7	48.4	57.1	61.3
29°	37.5	39.8	46.7	55.7	60.1
30°	35.7	38.1	44.9	54.2	58.9
31°	33.9	36.4	43.3	52.7	57.7
32°	32.4	34.7	41.6	51.2	56.4
33°	30.7	33.0	39.9	49.7	55.1
34°	29.1	31.5	38.3	48.2	53.8
35°	27.7	29.9	36.7	46.7	52.5
36°	26.3	28.3	35.1	45.1	51.1
37°	24.9	27.0	33.7	43.7	49.7
38°	23.6	25.6	32.2	42.2	48.2
39°	22.3	24.3	30.7	40.7	46.8
40°	21.1	23.1	29.3	39.2	45.3
41°	20.0	21.9	27.9	37.8	43.8
42°	18.9	20.7	26.6	36.4	42.3
43°	17.9	19.6	25.4	35.0	40.8
44°	16.9	18.6	24.1	33.7	39.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	16.0	17.6	23.0	32.3	37.8
46°	15.1	16.6	21.8	30.9	36.4
47°	14.3	15.7	20.7	29.6	34.9
48°	13.4	14.8	19.6	28.3	33.4
49°	12.7	14.0	18.6	27.1	32.0
50°	11.9	13.1	17.6	25.9	30.6
51°	11.2	12.3	16.6	24.7	29.2
52°	10.5	11.6	15.6	23.6	27.9
53°	9.9	10.9	14.7	22.4	26.5
54°	9.3	10.2	13.8	21.3	25.2
55°	8.7	9.6	13.0	20.2	23.9
56°	8.1	9.0	12.1	19.1	22.7
57°	7.5	8.4	11.4	18.0	21.4
58°	7.0	7.8	10.6	17.0	20.2
59°	6.5	7.2	9.9	16.0	19.0
60°	6.0	6.7	9.2	15.0	17.9
61°	5.6	6.2	8.5	14.0	16.8
62°	5.2	5.7	7.9	13.1	15.7
63°	4.7	5.3	7.3	12.2	14.6
64°	4.3	4.9	6.7	11.4	13.7
65°	4.0	4.5	6.1	10.5	12.6
66°	3.7	4.1	5.6	9.7	11.7
67°	3.4	3.8	5.1	8.9	10.7
68°	3.0	3.4	4.7	8.2	9.8
69°	2.8	3.1	4.3	7.5	8.9
70°	2.5	2.9	3.9	6.8	8.1
71°	2.2	2.6	3.5	6.1	7.3
72°	1.9	2.3	3.2	5.5	6.6
73°	1.7	2.1	2.9	4.9	5.8
74°	1.5	1.9	2.6	4.4	5.2
75°	1.4	1.7	2.3	3.9	4.6
76°	1.2	1.5	2.1	3.4	4.0
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	2.5
80°	0.8	1.0	1.3	2.0	2.1
81°	0.8	0.9	1.2	1.8	1.7
82°	0.7	0.8	1.1	1.5	1.4
83°	0.7	0.7	1.0	1.3	1.2
84°	0.7	0.7	0.9	1.2	0.9
85°	0.7	0.7	0.8	1.0	0.7
86°	0.6	0.6	0.7	0.9	0.6
87°	0.6	0.6	0.7	0.8	0.4
88°	0.6	0.6	0.6	0.7	0.3
89°	0.6	0.6	0.6	0.7	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)