

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: P958889

Luminaire Tested: MMG-03W-940-60x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958889
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-940-60x60-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: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 127.7 lumens
Efficiency: N/A
Efficacy: 47.3 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

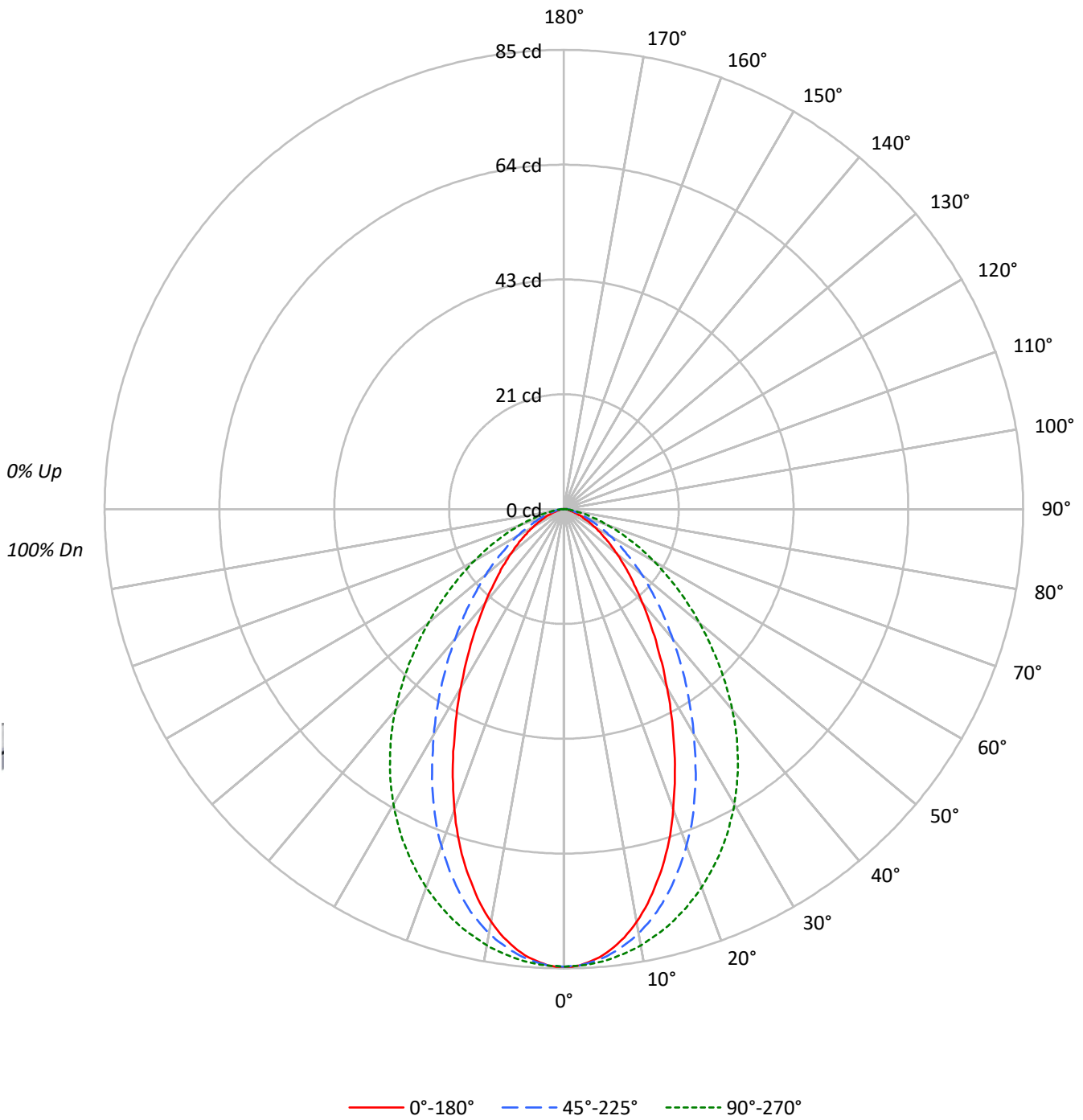
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P958889

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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	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°	13232	13232	13232
5°	12904	12089	11886
10°	12128	10853	10677
15°	10974	9556	9570
20°	9546	8222	8538
25°	7991	6901	7563
30°	6568	5633	6638
35°	5345	4528	5731
40°	4301	3576	4851
45°	3481	2808	3998
50°	2802	2160	3211
55°	2258	1620	2519
60°	1742	1180	1908
65°	1344	811	1365
70°	962	524	892
75°	687	336	526
80°	546	200	247
85°	635	123	95

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 3998 cd/sqm



TEST NUMBER: P958889

CATALOG NUMBER: MMG-03W-940-60x60-ID-X-X-1F-1-UNV-STD-X

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.8	6.1
10°-20°	20.7	16.2
20°-30°	26.6	20.8
30°-40°	25.6	20.1
40°-50°	20.6	16.2
50°-60°	14.2	11.1
60°-70°	7.9	6.2
70°-80°	3.2	2.5
80°-90°	1.0	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°	55.2	43.2
0°-40°	80.8	63.3
0°-60°	115.6	90.5
0°-90°	127.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	127.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	85	85	85	85	85	
5°	83	83	83	84	84	8
15°	69	71	74	77	79	19
25°	48	51	58	66	69	22
35°	30	32	39	50	56	19
45°	17	19	25	35	40	13
55°	9	10	14	22	26	8
65°	4	5	7	11	14	4
75°	2	2	2	4	5	2
85°	1	1	1	1	1	1
90°	1	1	1	1	1	

TEST NUMBER: P958889

CATALOG NUMBER: MMG-03W-940-60x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	84.7	84.7	84.7	84.7	84.7
1°	84.7	84.7	84.6	84.6	84.6
2°	84.5	84.5	84.5	84.5	84.5
3°	84.0	84.1	84.2	84.3	84.4
4°	83.5	83.6	83.8	84.1	84.2
5°	82.9	83.0	83.4	83.8	84.0
6°	82.1	82.3	82.8	83.4	83.7
7°	81.1	81.4	82.2	83.0	83.3
8°	80.1	80.5	81.4	82.5	82.9
9°	78.9	79.4	80.6	81.9	82.5
10°	77.6	78.2	79.7	81.3	82.0
11°	76.1	76.9	78.7	80.6	81.4
12°	74.6	75.4	77.6	79.9	80.8
13°	72.9	73.9	76.5	79.1	80.2
14°	71.1	72.3	75.2	78.2	79.5
15°	69.4	70.6	73.9	77.3	78.8
16°	67.5	68.9	72.5	76.3	78.0
17°	65.6	67.1	71.0	75.4	77.2
18°	63.5	65.2	69.5	74.3	76.3
19°	61.4	63.3	67.9	73.2	75.4
20°	59.2	61.2	66.3	72.0	74.5
21°	56.9	59.2	64.7	70.8	73.5
22°	54.8	57.0	63.0	69.5	72.5
23°	52.6	54.8	61.2	68.2	71.4
24°	50.5	52.8	59.3	66.9	70.4
25°	48.2	50.7	57.5	65.5	69.2
26°	46.1	48.6	55.7	64.1	68.1
27°	44.1	46.5	53.7	62.6	66.9
28°	42.1	44.6	51.8	61.1	65.6
29°	40.2	42.6	49.9	59.6	64.4
30°	38.2	40.8	48.1	58.0	63.1
31°	36.3	38.9	46.3	56.4	61.7
32°	34.7	37.1	44.5	54.8	60.4
33°	32.8	35.3	42.7	53.2	59.0
34°	31.1	33.7	41.0	51.6	57.6
35°	29.7	32.0	39.3	50.0	56.1
36°	28.1	30.3	37.6	48.3	54.6
37°	26.6	28.9	36.0	46.7	53.2
38°	25.2	27.5	34.4	45.1	51.6
39°	23.9	26.0	32.8	43.5	50.1
40°	22.6	24.7	31.3	42.0	48.5
41°	21.4	23.4	29.9	40.4	46.9
42°	20.3	22.2	28.5	38.9	45.3
43°	19.1	21.0	27.1	37.5	43.7
44°	18.1	19.9	25.8	36.0	42.1



TEST NUMBER: P958889

CATALOG NUMBER: MMG-03W-940-60x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	17.1	18.8	24.6	34.6	40.5
46°	16.2	17.7	23.3	33.1	38.9
47°	15.3	16.8	22.1	31.7	37.3
48°	14.3	15.8	21.0	30.3	35.8
49°	13.6	14.9	19.9	29.0	34.2
50°	12.7	14.1	18.8	27.7	32.7
51°	12.0	13.2	17.8	26.4	31.3
52°	11.3	12.4	16.7	25.2	29.8
53°	10.6	11.6	15.7	24.0	28.4
54°	9.9	10.9	14.8	22.8	27.0
55°	9.3	10.3	13.9	21.6	25.6
56°	8.6	9.6	13.0	20.4	24.2
57°	8.1	8.9	12.2	19.3	22.9
58°	7.5	8.3	11.4	18.2	21.6
59°	7.0	7.7	10.6	17.1	20.4
60°	6.4	7.2	9.9	16.0	19.2
61°	6.0	6.7	9.1	15.0	18.0
62°	5.5	6.1	8.4	14.1	16.8
63°	5.1	5.7	7.8	13.1	15.7
64°	4.7	5.2	7.1	12.2	14.6
65°	4.3	4.8	6.6	11.3	13.5
66°	3.9	4.4	6.0	10.4	12.5
67°	3.6	4.0	5.5	9.5	11.5
68°	3.3	3.7	5.0	8.7	10.5
69°	2.9	3.4	4.6	8.0	9.5
70°	2.6	3.1	4.1	7.2	8.6
71°	2.4	2.8	3.8	6.6	7.8
72°	2.1	2.5	3.4	5.9	7.0
73°	1.8	2.2	3.1	5.3	6.2
74°	1.6	2.0	2.8	4.7	5.5
75°	1.5	1.8	2.5	4.2	4.9
76°	1.3	1.6	2.2	3.6	4.2
77°	1.2	1.4	2.0	3.2	3.7
78°	1.1	1.3	1.8	2.8	3.1
79°	1.0	1.1	1.6	2.5	2.6
80°	0.9	1.0	1.4	2.1	2.2
81°	0.8	0.9	1.3	1.9	1.9
82°	0.8	0.8	1.2	1.6	1.5
83°	0.8	0.8	1.0	1.4	1.2
84°	0.7	0.7	1.0	1.3	1.0
85°	0.7	0.7	0.8	1.1	0.8
86°	0.7	0.7	0.8	1.0	0.6
87°	0.7	0.6	0.7	0.9	0.5
88°	0.7	0.6	0.7	0.8	0.3
89°	0.6	0.6	0.6	0.7	0.3



TEST NUMBER: P958889

CATALOG NUMBER: MMG-03W-940-60x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	0.6	0.6	0.6	0.6	0.6

(END OF REPORT)