

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: P958893

Luminaire Tested: MMG-05W-927-60x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958893
SCALED TEST REPORT
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: iO LED
Catalog Number: MMG-05W-927-60x60-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.
5 WATTS PER FOOT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 211.1 lumens
Efficiency: N/A
Efficacy: 46.9 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

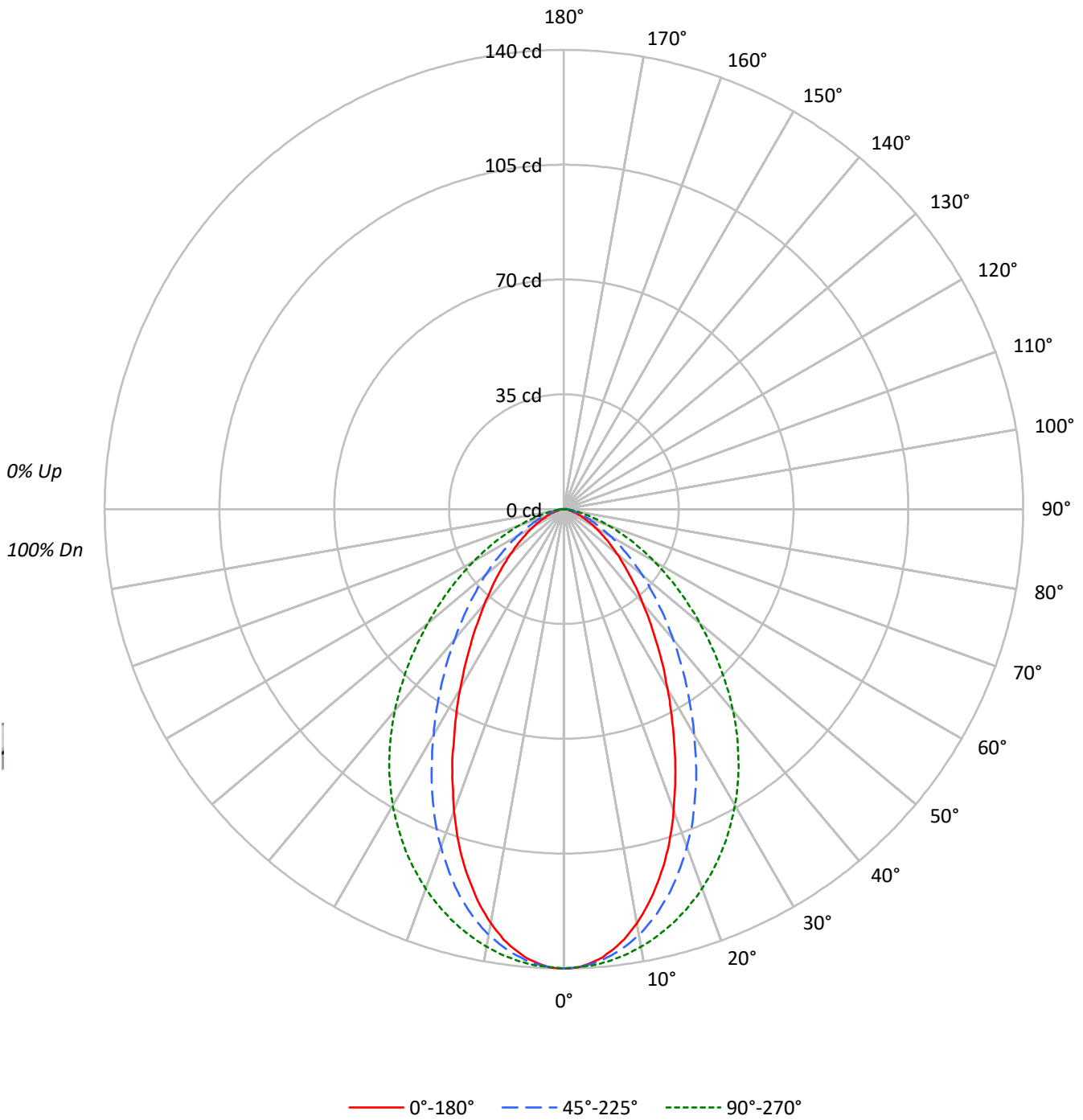
Input Watts (W): 4.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P958893

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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°	21872	21872	21872
5°	21325	19975	19640
10°	20036	17947	17644
15°	18137	15802	15813
20°	15786	13592	14108
25°	13213	11401	12502
30°	10866	9299	10972
35°	8818	7489	9480
40°	7118	5918	8022
45°	5761	4634	6604
50°	4633	3574	5312
55°	3715	2670	4162
60°	2886	1943	3150
65°	2219	1328	2266
70°	1628	870	1484
75°	1099	551	870
80°	910	342	415
85°	1089	215	154

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 6604 cd/sqm



TEST NUMBER: P958893

CATALOG NUMBER: MMG-05W-927-60x60-ID-X-X-1F-1-UNV-STD-X

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.0	6.1
10°-20°	34.2	16.2
20°-30°	44.0	20.8
30°-40°	42.4	20.1
40°-50°	34.1	16.2
50°-60°	23.5	11.1
60°-70°	13.1	6.2
70°-80°	5.3	2.5
80°-90°	1.7	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°	91.2	43.2
0°-40°	133.6	63.3
0°-60°	191.1	90.5
0°-90°	211.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	211.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	140	140	140	140	140	
5°	137	137	138	138	139	13
15°	115	117	122	128	130	32
25°	80	84	95	108	114	37
35°	49	53	65	83	93	31
45°	28	31	41	57	67	22
55°	15	17	23	36	42	14
65°	7	8	11	19	22	7
75°	2	3	4	7	8	3
85°	1	1	1	2	1	1
90°	1	1	1	1	1	



TEST NUMBER: P958893

CATALOG NUMBER: MMG-05W-927-60x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	140.0	140.0	140.0	140.0	140.0
1°	140.0	139.9	139.9	139.8	139.8
2°	139.6	139.6	139.6	139.7	139.7
3°	138.9	139.0	139.2	139.3	139.5
4°	138.1	138.2	138.6	139.0	139.2
5°	137.0	137.2	137.8	138.5	138.8
6°	135.6	136.0	136.9	137.9	138.3
7°	134.1	134.5	135.9	137.2	137.7
8°	132.4	133.0	134.6	136.3	137.1
9°	130.3	131.2	133.2	135.4	136.3
10°	128.2	129.2	131.8	134.4	135.5
11°	125.8	127.1	130.2	133.3	134.6
12°	123.3	124.7	128.3	132.0	133.6
13°	120.5	122.2	126.4	130.7	132.5
14°	117.6	119.5	124.3	129.3	131.4
15°	114.7	116.7	122.2	127.8	130.2
16°	111.6	113.9	119.9	126.2	128.9
17°	108.4	110.9	117.4	124.6	127.6
18°	105.0	107.8	114.8	122.8	126.1
19°	101.5	104.6	112.3	121.0	124.7
20°	97.9	101.2	109.6	119.1	123.1
21°	94.1	97.8	106.9	117.0	121.5
22°	90.5	94.2	104.1	114.9	119.8
23°	87.0	90.6	101.1	112.8	118.1
24°	83.5	87.3	98.0	110.5	116.3
25°	79.7	83.9	95.0	108.3	114.4
26°	76.2	80.4	92.0	106.0	112.5
27°	72.9	76.9	88.8	103.6	110.5
28°	69.6	73.8	85.7	101.0	108.5
29°	66.4	70.4	82.5	98.5	106.4
30°	63.2	67.4	79.4	95.9	104.3
31°	60.0	64.4	76.6	93.2	102.1
32°	57.3	61.3	73.5	90.5	99.8
33°	54.3	58.3	70.6	87.9	97.5
34°	51.5	55.7	67.7	85.2	95.2
35°	49.0	52.8	65.0	82.6	92.8
36°	46.5	50.1	62.2	79.9	90.3
37°	44.0	47.8	59.5	77.2	87.9
38°	41.7	45.4	56.9	74.6	85.3
39°	39.5	43.0	54.3	72.0	82.8
40°	37.4	40.8	51.8	69.4	80.2
41°	35.4	38.7	49.4	66.8	77.6
42°	33.5	36.7	47.1	64.4	74.9
43°	31.6	34.7	44.9	61.9	72.2
44°	29.9	32.9	42.6	59.5	69.6



TEST NUMBER: P958893

CATALOG NUMBER: MMG-05W-927-60x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	28.3	31.1	40.6	57.1	66.9
46°	26.7	29.3	38.6	54.7	64.3
47°	25.2	27.7	36.6	52.4	61.7
48°	23.7	26.1	34.7	50.1	59.2
49°	22.4	24.7	32.8	48.0	56.6
50°	21.0	23.2	31.1	45.9	54.1
51°	19.8	21.8	29.4	43.7	51.7
52°	18.6	20.6	27.7	41.7	49.3
53°	17.5	19.2	26.0	39.6	46.9
54°	16.4	18.1	24.5	37.7	44.6
55°	15.3	17.0	22.9	35.8	42.3
56°	14.3	15.9	21.5	33.8	40.1
57°	13.3	14.8	20.1	31.9	37.9
58°	12.4	13.8	18.8	30.1	35.8
59°	11.5	12.8	17.5	28.3	33.7
60°	10.6	11.9	16.3	26.5	31.7
61°	9.9	11.0	15.1	24.8	29.7
62°	9.1	10.2	13.9	23.2	27.8
63°	8.4	9.4	12.8	21.7	25.9
64°	7.7	8.7	11.8	20.1	24.1
65°	7.1	8.0	10.8	18.6	22.4
66°	6.5	7.3	9.9	17.2	20.6
67°	5.9	6.7	9.1	15.8	18.9
68°	5.4	6.1	8.3	14.4	17.3
69°	4.9	5.6	7.5	13.2	15.8
70°	4.4	5.0	6.8	12.0	14.3
71°	3.9	4.6	6.2	10.8	12.9
72°	3.4	4.1	5.6	9.7	11.6
73°	3.0	3.7	5.1	8.7	10.3
74°	2.7	3.3	4.6	7.7	9.1
75°	2.4	2.9	4.1	6.9	8.1
76°	2.1	2.6	3.7	6.0	7.0
77°	1.9	2.3	3.3	5.3	6.1
78°	1.8	2.1	3.0	4.7	5.1
79°	1.6	1.9	2.7	4.1	4.3
80°	1.5	1.7	2.4	3.5	3.7
81°	1.4	1.6	2.2	3.1	3.1
82°	1.3	1.4	1.9	2.7	2.5
83°	1.2	1.3	1.7	2.4	2.0
84°	1.2	1.2	1.6	2.1	1.6
85°	1.2	1.2	1.4	1.9	1.3
86°	1.1	1.1	1.3	1.6	1.0
87°	1.1	1.0	1.2	1.4	0.8
88°	1.1	1.0	1.1	1.3	0.6
89°	1.1	1.0	1.0	1.2	0.5



TEST NUMBER: P958893

CATALOG NUMBER: MMG-05W-927-60x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	0.9	0.9	0.9	0.9	0.9

(END OF REPORT)