

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: P958896

Luminaire Tested: MMG-05W-930-30x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P958896  
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-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.  
5 WATTS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 233.7 lumens  
Efficiency: N/A  
Efficacy: 51.9 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

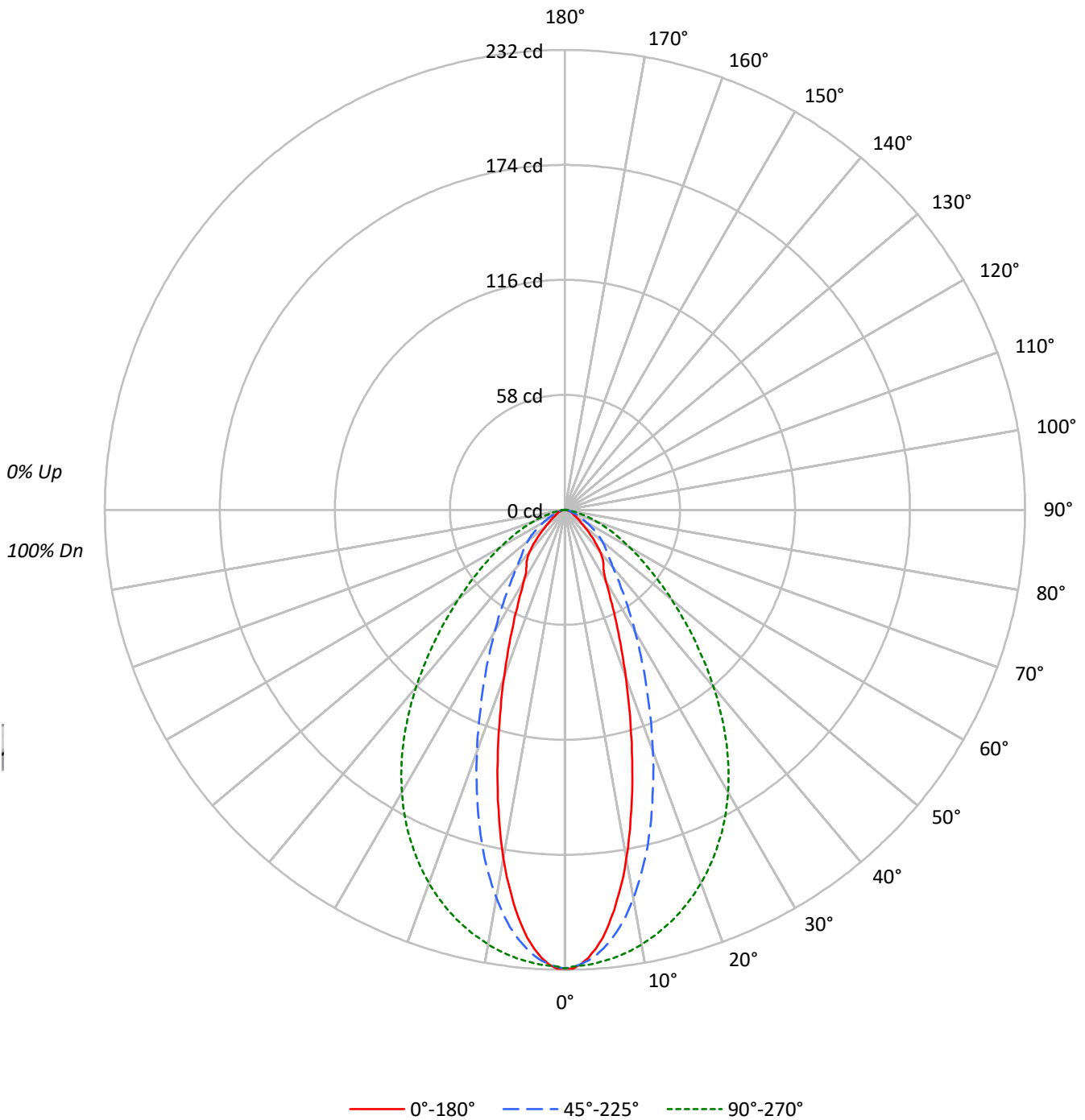
Input Watts (W): 4.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	36151	36151	36151
5°	33747	32209	32318
10°	27897	27084	28985
15°	20730	21453	25905
20°	14448	16085	22979
25°	9930	11617	20119
30°	7083	8269	17305
35°	6083	5899	14466
40°	5253	4307	11663
45°	3888	3435	9082
50°	2647	2804	6873
55°	1967	2110	5097
60°	1552	1466	3716
65°	1375	959	2620
70°	1258	614	1712
75°	961	403	977
80°	849	271	471
85°	908	199	177

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 9082 cd/sqm



TEST NUMBER: P958896

CATALOG NUMBER: MMG-05W-930-30x60-ID-X-X-1F-1-UNV-STD-X

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	20.5	8.8
10°-20°	46.9	20.1
20°-30°	50.1	21.4
30°-40°	43.0	18.4
40°-50°	33.1	14.2
50°-60°	21.6	9.2
60°-70°	11.9	5.1
70°-80°	5.0	2.1
80°-90°	1.6	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°	117.5	50.3
0°-40°	160.5	68.7
0°-60°	215.2	92.1
0°-90°	233.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	233.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	231	231	231	231	231	
5°	217	218	222	226	228	19
15°	131	140	166	198	213	36
25°	60	68	97	149	184	28
35°	34	35	51	99	142	21
45°	19	23	30	63	92	15
55°	8	10	18	38	52	7
65°	4	5	8	20	26	4
75°	2	2	3	7	9	2
85°	1	1	1	2	2	1
90°	1	1	1	1	1	



TEST NUMBER: P958896

CATALOG NUMBER: MMG-05W-930-30x60-ID-X-X-1F-1-UNV-STD-X

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	231.4	231.4	231.4	231.4	231.4
1°	231.5	231.0	230.6	230.4	230.4
2°	229.4	229.2	229.4	229.8	230.1
3°	226.3	226.5	227.6	228.9	229.7
4°	222.0	222.8	225.3	227.8	229.1
5°	216.8	218.1	222.2	226.4	228.4
6°	210.6	212.7	218.6	224.8	227.6
7°	203.5	206.5	214.5	222.9	226.6
8°	195.5	199.6	209.8	220.6	225.4
9°	187.5	192.0	204.6	218.0	224.1
10°	178.5	184.3	198.9	215.3	222.6
11°	169.2	175.7	192.8	212.2	221.0
12°	159.6	167.1	186.5	208.9	219.3
13°	150.1	158.0	180.2	205.4	217.4
14°	140.6	149.3	173.1	201.7	215.4
15°	131.1	140.4	165.9	197.8	213.3
16°	122.0	131.4	158.7	193.5	211.0
17°	113.0	122.8	151.3	189.1	208.6
18°	105.0	114.4	144.2	184.5	206.0
19°	97.2	106.7	137.1	179.8	203.3
20°	89.6	99.2	129.7	175.0	200.5
21°	82.9	92.1	122.6	170.1	197.5
22°	76.3	85.4	115.8	165.1	194.3
23°	70.4	79.3	109.1	159.9	191.1
24°	64.8	73.4	102.8	154.7	187.6
25°	59.9	68.0	96.8	149.4	184.1
26°	55.2	62.8	91.1	144.0	180.5
27°	51.1	58.2	85.5	138.6	176.7
28°	47.3	54.0	80.2	133.3	172.8
29°	44.0	50.2	75.3	128.3	168.7
30°	41.2	46.6	70.6	123.3	164.5
31°	38.9	43.4	66.3	118.3	160.1
32°	37.1	40.8	62.1	113.3	155.7
33°	35.8	38.5	58.2	108.5	151.1
34°	34.7	36.8	54.6	103.8	146.4
35°	33.8	35.3	51.2	99.2	141.6
36°	32.9	34.2	47.9	94.9	136.7
37°	31.8	33.3	45.1	90.7	131.7
38°	30.6	32.3	42.3	86.7	126.7
39°	29.2	31.4	39.9	82.9	121.7
40°	27.6	30.2	37.7	79.3	116.6
41°	26.0	29.0	35.8	75.7	111.6
42°	24.3	27.6	34.1	72.3	106.6
43°	22.5	26.1	32.6	68.9	101.6
44°	20.7	24.4	31.3	65.8	96.7

TEST NUMBER: P958896

CATALOG NUMBER: MMG-05W-930-30x60-ID-X-X-1F-1-UNV-STD-X

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
45°	19.1	22.8	30.1	62.8	92.0
46°	17.4	21.2	28.9	59.9	87.4
47°	15.8	19.6	27.9	57.1	82.8
48°	14.4	18.1	26.8	54.4	78.3
49°	13.1	16.6	25.6	51.8	74.1
50°	12.0	15.1	24.4	49.3	70.0
51°	11.0	13.8	23.2	46.9	66.0
52°	10.1	12.6	21.9	44.6	62.2
53°	9.4	11.6	20.7	42.3	58.6
54°	8.7	10.7	19.4	40.1	55.1
55°	8.1	9.8	18.1	38.0	51.8
56°	7.5	9.1	16.9	35.8	48.6
57°	7.0	8.4	15.6	33.8	45.7
58°	6.5	7.8	14.4	31.9	42.8
59°	6.0	7.2	13.3	30.1	40.1
60°	5.7	6.6	12.3	28.2	37.4
61°	5.3	6.2	11.2	26.4	34.9
62°	5.0	5.7	10.3	24.6	32.6
63°	4.8	5.3	9.4	23.0	30.3
64°	4.6	4.9	8.6	21.3	28.0
65°	4.4	4.6	7.8	19.8	25.9
66°	4.2	4.4	7.1	18.2	23.9
67°	4.1	4.1	6.5	16.7	21.9
68°	3.9	3.9	5.9	15.3	20.1
69°	3.7	3.7	5.3	13.9	18.2
70°	3.4	3.5	4.8	12.6	16.5
71°	3.2	3.3	4.4	11.4	14.9
72°	2.9	3.0	4.0	10.2	13.3
73°	2.6	2.8	3.6	9.1	11.9
74°	2.4	2.6	3.3	8.0	10.5
75°	2.1	2.4	3.0	7.1	9.1
76°	2.0	2.2	2.7	6.2	8.0
77°	1.8	2.0	2.5	5.5	6.9
78°	1.6	1.8	2.3	4.8	5.9
79°	1.5	1.7	2.1	4.1	5.0
80°	1.4	1.5	1.9	3.6	4.2
81°	1.3	1.4	1.8	3.2	3.5
82°	1.2	1.3	1.6	2.8	2.9
83°	1.2	1.2	1.5	2.4	2.3
84°	1.1	1.2	1.4	2.1	1.9
85°	1.0	1.1	1.3	1.9	1.5
86°	1.0	1.0	1.2	1.7	1.1
87°	1.0	1.0	1.1	1.5	0.9
88°	1.0	0.9	1.0	1.4	0.7
89°	1.0	0.9	1.0	1.3	0.6



TEST NUMBER: P958896

CATALOG NUMBER: MMG-05W-930-30x60-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)