

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: P958839

Luminaire Tested: MMG-03W-940-10x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P958839  
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-940-10x60-ID-X-X-4F-4-UNV-STD-X  
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 10x60 DEGREE OPTICS  
3 WATTS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 338.0 lumens  
Efficiency: N/A  
Efficacy: 31.3 lumens/watt  
Spacing Criteria (0/90/45): 0.18 / 0.91 / 0.25  
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 4' x H: 0.09')  
CIE Type: Direct

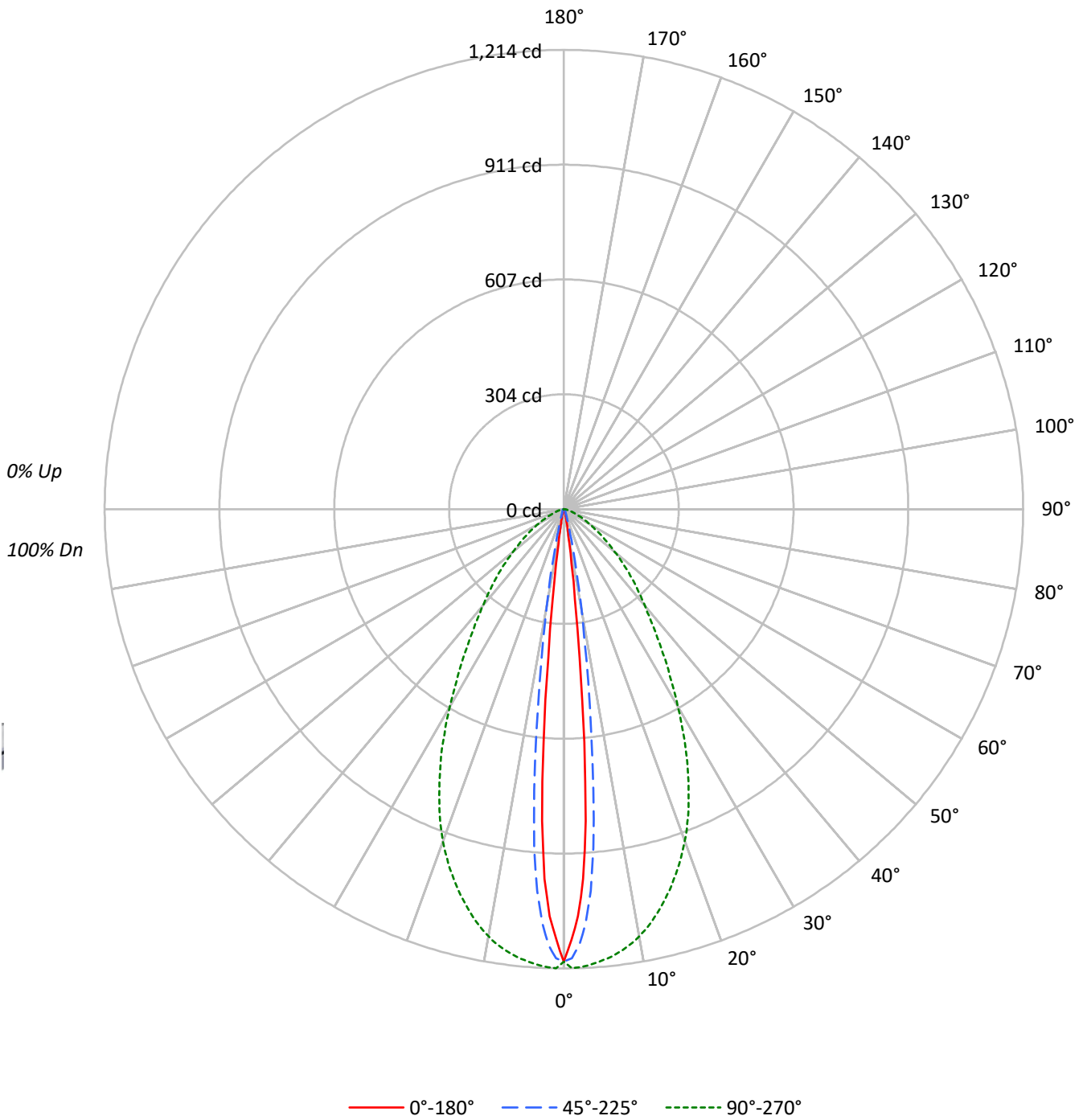
Input Watts (W): 10.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92				92
2	106	101	96	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84				84
3	100	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77
4	95	87	81	76	93	86	80	76	84	79	75	81	77	74	80	76	73	72				72
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	67				67
6	86	76	70	65	84	75	70	65	74	69	65	73	68	64	71	67	64	62				62
7	82	72	66	61	80	71	65	61	70	65	61	69	64	60	68	63	60	59				59
8	78	68	62	58	77	68	62	58	66	61	57	65	61	57	64	60	57	55				55
9	75	65	59	55	73	64	59	55	63	58	54	62	58	54	62	57	54	53				53
10	72	62	56	52	71	61	56	52	61	55	52	60	55	52	59	55	52	50				50

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	46719	46719	46719
5°	24203	32698	42332
10°	2406	9032	37351
15°	631	1776	32044
20°	318	615	26767
25°	230	314	21229
30°	232	208	15872
35°	179	167	11429
40°	150	155	8310
45°	141	146	6128
50°	142	136	4325
55°	132	114	2984
60°	128	92	1930
65°	159	76	1188
70°	151	63	682
75°	154	52	354
80°	181	45	168
85°	252	40	62

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 6128 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.1	20.4
10°-20°	77.3	22.9
20°-30°	64.6	19.1
30°-40°	48.4	14.3
40°-50°	36.4	10.8
50°-60°	24.2	7.2
60°-70°	12.2	3.6
70°-80°	4.5	1.3
80°-90°	1.5	0.4
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°	210.9	62.4
0°-40°	259.3	76.7
0°-60°	319.9	94.6
0°-90°	338.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	338.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	618	683	899	1119	1197	37
15°	16	20	54	463	1055	5
25°	5	6	10	152	777	3
35°	4	5	6	69	448	2
45°	3	3	5	55	248	2
55°	2	2	4	41	121	2
65°	2	2	2	20	47	2
75°	1	1	2	6	13	1
85°	1	1	1	2	2	1
90°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1196.2	1196.2	1196.2	1196.2	1196.2
1°	1138.8	1163.4	1187.3	1205.2	1214.1
2°	1077.1	1102.7	1153.6	1197.1	1211.7
3°	978.4	1012.3	1096.0	1177.7	1208.1
4°	826.1	869.2	1012.3	1150.5	1202.7
5°	618.5	682.9	899.0	1118.7	1196.7
6°	396.1	474.8	747.5	1080.4	1190.1
7°	241.7	318.8	596.9	1031.5	1181.2
8°	145.8	209.6	457.8	977.4	1171.8
9°	91.3	131.1	348.6	910.2	1160.8
10°	60.9	83.5	263.5	825.5	1147.4
11°	43.1	58.5	189.1	755.3	1131.8
12°	32.2	42.4	139.1	678.5	1114.9
13°	24.1	31.2	98.0	591.1	1096.2
14°	19.4	24.3	69.5	528.9	1076.6
15°	15.7	19.6	54.4	463.2	1055.4
16°	13.0	16.5	42.1	418.8	1033.7
17°	10.7	13.7	33.0	369.6	1010.4
18°	9.4	11.4	27.1	332.0	986.9
19°	8.3	10.1	22.7	292.9	961.2
20°	7.7	8.8	19.6	264.7	934.2
21°	7.0	8.0	16.8	236.5	906.2
22°	6.5	7.4	15.0	208.0	876.2
23°	6.1	6.8	13.0	188.9	843.2
24°	5.7	6.5	11.3	168.5	809.9
25°	5.4	6.0	10.3	152.1	777.0
26°	5.2	5.7	9.5	136.9	743.7
27°	5.2	5.4	8.7	124.6	708.9
28°	5.2	5.3	8.0	113.2	673.1
29°	5.2	5.0	7.5	102.7	638.2
30°	5.2	5.0	7.0	94.2	603.5
31°	5.0	5.0	6.8	87.9	569.1
32°	4.9	5.0	6.4	81.8	536.4
33°	4.5	5.0	6.2	76.5	506.6
34°	4.0	5.0	6.0	72.4	477.0
35°	3.8	4.9	5.7	69.0	447.5
36°	3.5	4.6	5.6	65.9	420.1
37°	3.4	4.3	5.5	64.2	396.4
38°	3.2	4.0	5.4	62.1	373.9
39°	3.1	3.8	5.4	60.7	351.6
40°	3.0	3.6	5.3	59.5	332.3
41°	2.9	3.5	5.3	58.2	314.3
42°	2.9	3.3	5.2	57.4	296.3
43°	2.8	3.2	5.2	56.5	280.1
44°	2.7	3.2	5.2	55.7	264.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
45°	2.6	3.1	5.0	54.9	248.3
46°	2.6	2.9	5.0	54.0	232.4
47°	2.5	2.9	4.9	53.3	217.1
48°	2.5	2.8	4.7	52.0	202.8
49°	2.4	2.6	4.6	51.1	188.7
50°	2.4	2.6	4.6	49.9	176.2
51°	2.4	2.5	4.4	48.4	163.5
52°	2.2	2.5	4.3	46.7	151.5
53°	2.1	2.4	4.1	44.8	140.3
54°	2.1	2.4	4.0	43.0	130.4
55°	2.0	2.2	3.8	40.8	121.3
56°	1.9	2.2	3.7	38.7	111.0
57°	1.8	2.1	3.5	36.6	101.1
58°	1.8	2.0	3.3	34.3	92.9
59°	1.7	1.9	3.2	32.1	85.3
60°	1.7	1.8	3.0	29.9	77.7
61°	1.7	1.8	2.9	27.8	70.8
62°	1.6	1.7	2.7	25.6	64.1
63°	1.7	1.7	2.6	23.7	57.9
64°	1.7	1.6	2.5	21.8	52.2
65°	1.8	1.6	2.4	19.8	47.0
66°	1.7	1.6	2.3	18.0	42.2
67°	1.6	1.6	2.1	16.3	37.7
68°	1.5	1.5	2.1	14.6	33.6
69°	1.4	1.5	1.9	13.1	29.8
70°	1.4	1.4	1.9	11.6	26.3
71°	1.3	1.3	1.8	10.3	23.3
72°	1.3	1.3	1.8	9.1	20.4
73°	1.2	1.3	1.6	8.1	17.7
74°	1.2	1.2	1.6	7.1	15.2
75°	1.1	1.2	1.5	6.2	13.2
76°	1.0	1.1	1.5	5.4	11.3
77°	1.0	1.0	1.4	4.7	9.7
78°	1.0	1.0	1.3	4.1	8.2
79°	0.9	0.9	1.3	3.5	7.1
80°	0.9	0.9	1.2	3.2	6.0
81°	0.8	0.8	1.2	2.8	4.9
82°	0.7	0.7	1.2	2.5	4.0
83°	0.7	0.7	1.0	2.3	3.3
84°	0.7	0.7	1.0	2.1	2.6
85°	0.7	0.7	1.0	2.0	2.1
86°	0.7	0.7	1.0	1.9	1.6
87°	0.7	0.6	1.0	1.8	1.3
88°	0.6	0.6	1.0	1.6	1.0
89°	0.6	0.6	1.0	1.5	1.0



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**CANDELA DISTRIBUTION (continued):**

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

(END OF REPORT)