

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: P958883

Luminaire Tested: MMG-03W-935-10x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958883
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-935-10x60-ID-X-X-1F-1-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 10x60 DEGREE OPTICS. INPUT WATTAGE IN IES FILE REPRESENTS CONSUMPTION IN A RUN, INDIVIDUAL FIXTURE MAY VARY.
3 WATTS PER FOOT
Light Source: #
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 79.0 lumens
Efficiency: N/A
Efficacy: 29.2 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.91 / 0.25
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 1' x H: 0.09')
CIE Type: Direct

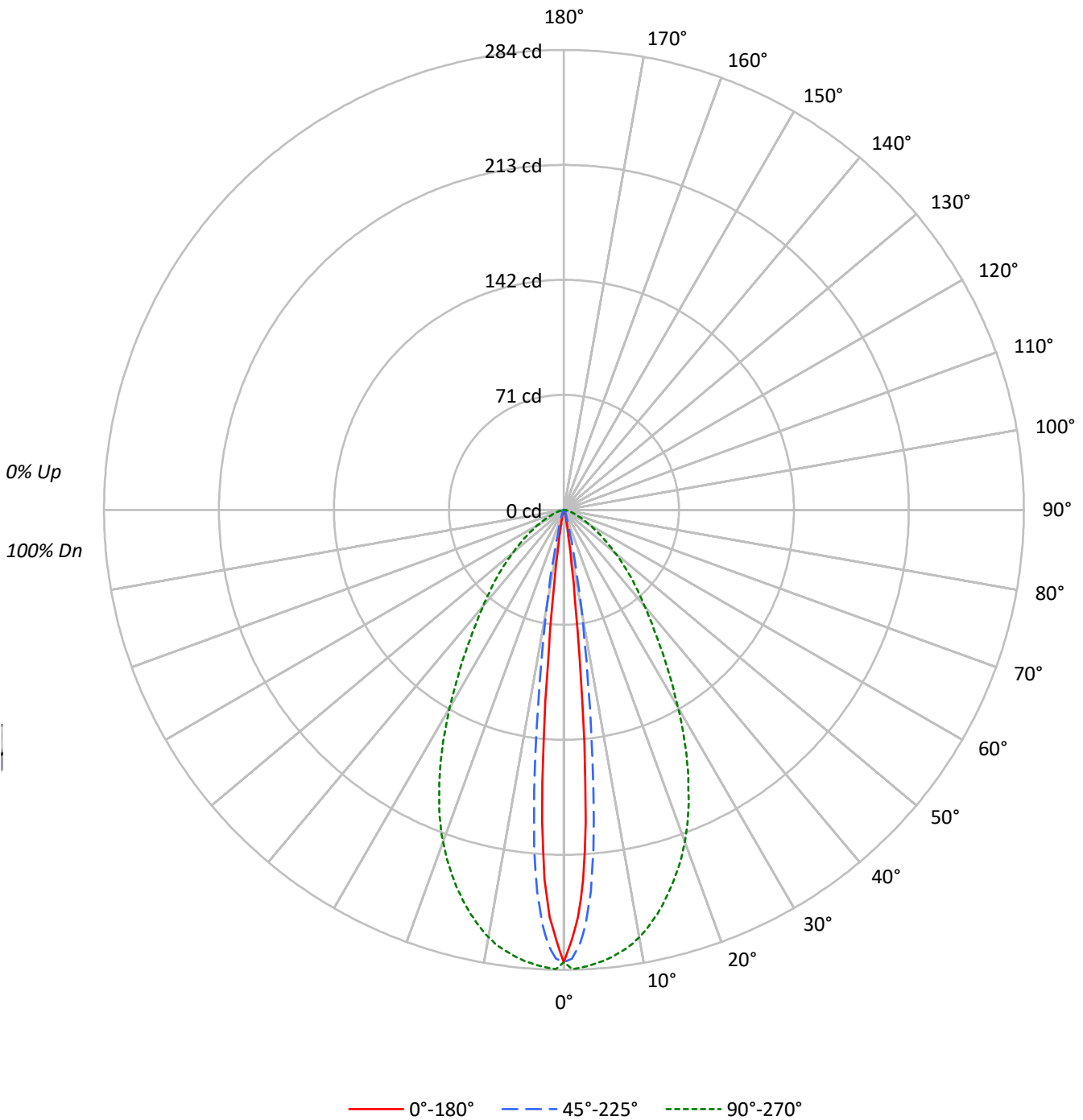
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									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	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	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92																												
2	106	101	96	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84																												
3	100	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77																												
4	95	87	81	76	93	86	80	76	84	79	75	81	77	74	80	76	73	72																												
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	67																												
6	86	76	70	65	84	75	70	65	74	69	65	73	68	64	71	67	64	62																												
7	82	72	66	61	80	71	65	61	70	65	61	69	64	60	68	63	60	59																												
8	78	68	62	58	77	68	62	58	66	61	57	65	61	57	64	60	57	55																												
9	75	65	59	55	73	64	59	55	63	58	54	62	58	54	62	57	54	53																												
10	72	62	56	52	71	61	56	52	61	55	52	60	55	52	59	55	52	50																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	43649	43649	43649
5°	22493	30441	39548
10°	2219	8374	34896
15°	585	1642	29937
20°	290	570	25008
25°	216	288	19835
30°	206	187	14833
35°	162	150	10675
40°	133	137	7762
45°	122	137	5726
50°	132	126	4045
55°	121	105	2785
60°	109	83	1809
65°	125	74	1113
70°	111	51	643
75°	137	40	333
80°	121	43	157
85°	182	31	59

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 5726 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	16.1	20.4
10°-20°	18.1	22.9
20°-30°	15.1	19.1
30°-40°	11.3	14.3
40°-50°	8.5	10.8
50°-60°	5.7	7.2
60°-70°	2.8	3.6
70°-80°	1.0	1.3
80°-90°	0.3	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°	49.3	62.4
0°-40°	60.6	76.7
0°-60°	74.7	94.6
0°-90°	79.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	79.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	279	279	279	279	279	
5°	144	160	210	261	280	9
15°	4	5	13	108	246	1
25°	1	1	2	36	182	1
35°	1	1	1	16	104	1
45°	1	1	1	13	58	0
55°	0	0	1	10	28	0
65°	0	0	1	5	11	0
75°	0	0	0	1	3	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	279.4	279.4	279.4	279.4	279.4
1°	266.0	271.8	277.3	281.5	283.6
2°	251.6	257.6	269.5	279.6	283.0
3°	228.5	236.5	256.0	275.1	282.2
4°	193.0	203.0	236.5	268.7	280.9
5°	144.5	159.5	210.0	261.3	279.5
6°	92.5	110.9	174.6	252.4	278.0
7°	56.5	74.5	139.4	241.0	275.9
8°	34.1	49.0	106.9	228.3	273.7
9°	21.3	30.6	81.4	212.6	271.2
10°	14.2	19.5	61.5	192.8	268.0
11°	10.1	13.7	44.2	176.4	264.4
12°	7.5	9.9	32.5	158.5	260.4
13°	5.6	7.3	22.9	138.1	256.1
14°	4.5	5.7	16.2	123.5	251.5
15°	3.7	4.6	12.7	108.2	246.5
16°	3.0	3.9	9.8	97.8	241.5
17°	2.5	3.2	7.7	86.3	236.0
18°	2.2	2.7	6.3	77.6	230.5
19°	1.9	2.4	5.3	68.4	224.5
20°	1.8	2.0	4.6	61.8	218.2
21°	1.6	1.9	3.9	55.2	211.7
22°	1.5	1.7	3.5	48.6	204.7
23°	1.4	1.6	3.0	44.1	197.0
24°	1.3	1.5	2.6	39.4	189.2
25°	1.3	1.4	2.4	35.5	181.5
26°	1.2	1.3	2.2	32.0	173.7
27°	1.2	1.3	2.0	29.1	165.6
28°	1.2	1.2	1.9	26.4	157.2
29°	1.2	1.2	1.8	24.0	149.1
30°	1.2	1.2	1.6	22.0	141.0
31°	1.2	1.2	1.6	20.5	132.9
32°	1.1	1.2	1.5	19.1	125.3
33°	1.0	1.2	1.4	17.9	118.3
34°	0.9	1.2	1.4	16.9	111.4
35°	0.9	1.1	1.3	16.1	104.5
36°	0.8	1.1	1.3	15.4	98.1
37°	0.8	1.0	1.3	15.0	92.6
38°	0.8	0.9	1.3	14.5	87.3
39°	0.7	0.9	1.3	14.2	82.1
40°	0.7	0.8	1.2	13.9	77.6
41°	0.7	0.8	1.2	13.6	73.4
42°	0.7	0.8	1.2	13.4	69.2
43°	0.7	0.8	1.2	13.2	65.4
44°	0.6	0.7	1.2	13.0	61.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	0.6	0.7	1.2	12.8	58.0
46°	0.6	0.7	1.2	12.6	54.3
47°	0.6	0.7	1.1	12.4	50.7
48°	0.6	0.7	1.1	12.2	47.4
49°	0.6	0.6	1.1	11.9	44.1
50°	0.6	0.6	1.1	11.7	41.2
51°	0.6	0.6	1.0	11.3	38.2
52°	0.5	0.6	1.0	10.9	35.4
53°	0.5	0.6	1.0	10.5	32.8
54°	0.5	0.6	0.9	10.0	30.5
55°	0.5	0.5	0.9	9.5	28.3
56°	0.4	0.5	0.9	9.0	25.9
57°	0.4	0.5	0.8	8.5	23.6
58°	0.4	0.5	0.8	8.0	21.7
59°	0.4	0.4	0.8	7.5	19.9
60°	0.4	0.4	0.7	7.0	18.2
61°	0.4	0.4	0.7	6.5	16.5
62°	0.4	0.4	0.6	6.0	15.0
63°	0.4	0.4	0.6	5.5	13.5
64°	0.4	0.4	0.6	5.1	12.2
65°	0.4	0.4	0.6	4.6	11.0
66°	0.4	0.4	0.5	4.2	9.9
67°	0.4	0.4	0.5	3.8	8.8
68°	0.4	0.4	0.5	3.4	7.8
69°	0.3	0.3	0.4	3.1	7.0
70°	0.3	0.3	0.4	2.7	6.2
71°	0.3	0.3	0.4	2.4	5.4
72°	0.3	0.3	0.4	2.1	4.8
73°	0.3	0.3	0.4	1.9	4.1
74°	0.3	0.3	0.4	1.7	3.6
75°	0.3	0.3	0.3	1.4	3.1
76°	0.2	0.3	0.3	1.3	2.6
77°	0.2	0.2	0.3	1.1	2.3
78°	0.2	0.2	0.3	1.0	1.9
79°	0.2	0.2	0.3	0.8	1.7
80°	0.2	0.2	0.3	0.7	1.4
81°	0.2	0.2	0.3	0.7	1.2
82°	0.2	0.2	0.3	0.6	0.9
83°	0.2	0.2	0.2	0.5	0.8
84°	0.2	0.2	0.2	0.5	0.6
85°	0.2	0.2	0.2	0.5	0.5
86°	0.2	0.2	0.2	0.4	0.4
87°	0.2	0.1	0.2	0.4	0.3
88°	0.1	0.1	0.2	0.4	0.2
89°	0.1	0.1	0.2	0.4	0.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	0.2	0.2	0.2	0.2	0.2

(END OF REPORT)