

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: P958887

Luminaire Tested: MMG-03W-940-10x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958887
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-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: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 84.5 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: 1' x H: 0.09')
CIE Type: Direct

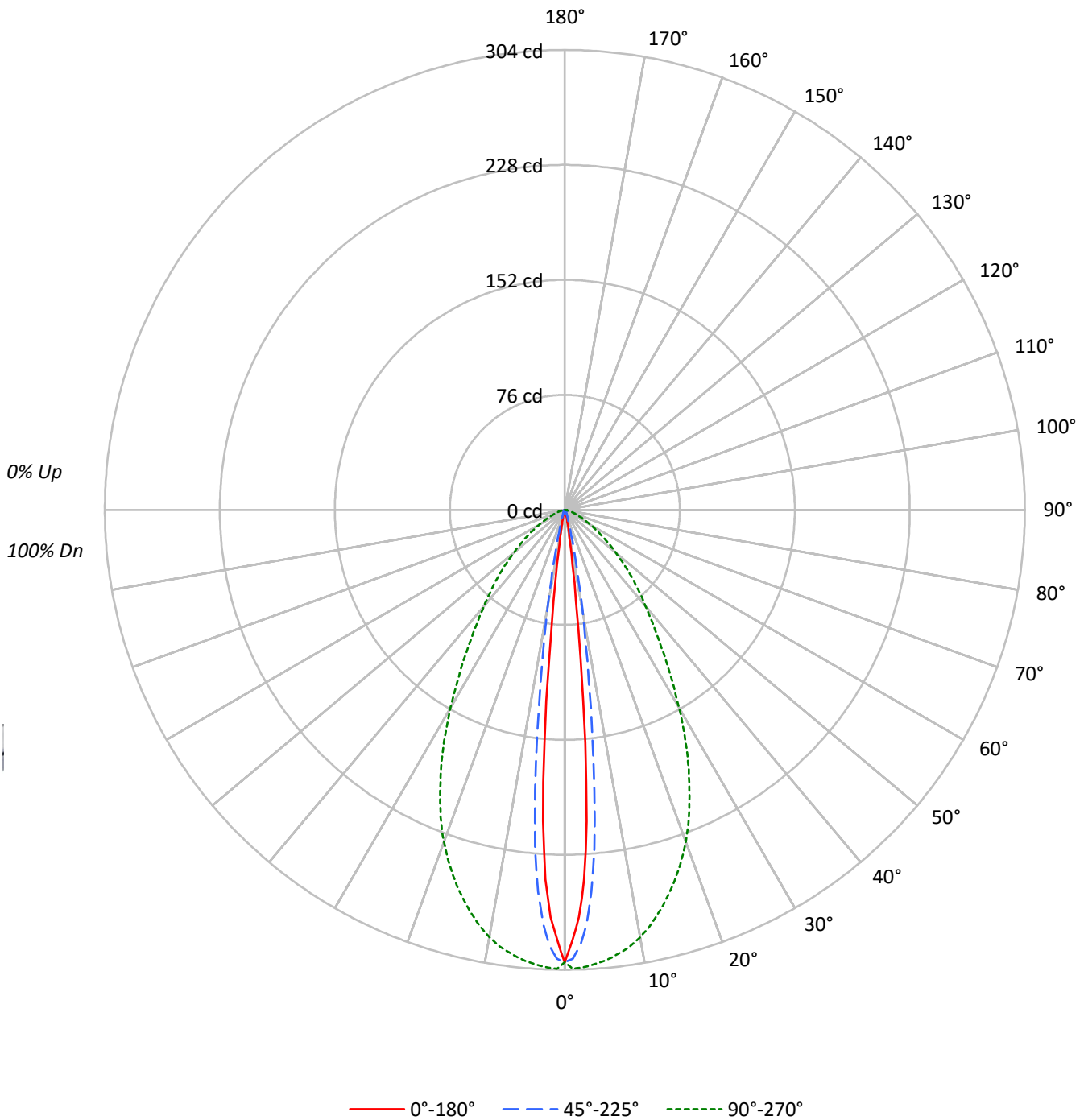
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	46727	46727	46727
5°	24065	32571	42336
10°	2376	8973	37344
15°	617	1759	32038
20°	306	608	26773
25°	232	312	21223
30°	224	199	15875
35°	162	161	11431
40°	152	149	8312
45°	142	148	6130
50°	132	126	4320
55°	121	117	2981
60°	109	95	1928
65°	125	74	1183
70°	111	64	685
75°	137	54	354
80°	121	43	168
85°	182	46	59

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 6130 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	17.3	20.4
10°-20°	19.3	22.9
20°-30°	16.1	19.1
30°-40°	12.1	14.3
40°-50°	9.1	10.8
50°-60°	6.1	7.2
60°-70°	3.0	3.6
70°-80°	1.1	1.3
80°-90°	0.4	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
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0°-30°	52.7	62.4
0°-40°	64.8	76.7
0°-60°	80.0	94.7
0°-90°	84.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	84.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	299	299	299	299	299	
5°	155	171	225	280	299	9
15°	4	5	14	116	264	1
25°	1	2	3	38	194	1
35°	1	1	1	17	112	1
45°	1	1	1	14	62	1
55°	0	1	1	10	30	0
65°	0	0	1	5	12	0
75°	0	0	0	2	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°	299.1	299.1	299.1	299.1	299.1
1°	284.7	290.9	296.8	301.3	303.5
2°	269.3	275.7	288.4	299.3	302.9
3°	244.6	253.1	274.0	294.4	302.0
4°	206.5	217.3	253.1	287.6	300.7
5°	154.6	170.7	224.7	279.7	299.2
6°	99.0	118.7	186.9	270.1	297.5
7°	60.4	79.7	149.2	257.9	295.3
8°	36.4	52.4	114.4	244.3	293.0
9°	22.8	32.8	87.1	227.6	290.2
10°	15.2	20.9	65.9	206.4	286.8
11°	10.8	14.6	47.3	188.8	283.0
12°	8.1	10.6	34.8	169.6	278.7
13°	6.0	7.8	24.5	147.8	274.0
14°	4.8	6.1	17.4	132.2	269.1
15°	3.9	4.9	13.6	115.8	263.8
16°	3.2	4.1	10.5	104.7	258.4
17°	2.7	3.4	8.2	92.4	252.6
18°	2.4	2.9	6.8	83.0	246.7
19°	2.1	2.5	5.7	73.2	240.3
20°	1.9	2.2	4.9	66.2	233.6
21°	1.7	2.0	4.2	59.1	226.6
22°	1.6	1.8	3.8	52.0	219.1
23°	1.5	1.7	3.2	47.2	210.8
24°	1.4	1.6	2.8	42.1	202.5
25°	1.4	1.5	2.6	38.0	194.2
26°	1.3	1.4	2.4	34.2	185.9
27°	1.3	1.4	2.2	31.1	177.2
28°	1.3	1.3	2.0	28.3	168.3
29°	1.3	1.3	1.9	25.7	159.5
30°	1.3	1.3	1.7	23.6	150.9
31°	1.3	1.3	1.7	22.0	142.3
32°	1.2	1.3	1.6	20.4	134.1
33°	1.1	1.3	1.5	19.1	126.6
34°	1.0	1.3	1.5	18.1	119.2
35°	0.9	1.2	1.4	17.2	111.9
36°	0.9	1.2	1.4	16.5	105.0
37°	0.8	1.1	1.4	16.0	99.1
38°	0.8	1.0	1.4	15.5	93.5
39°	0.8	0.9	1.3	15.2	87.9
40°	0.8	0.9	1.3	14.9	83.1
41°	0.7	0.9	1.3	14.6	78.6
42°	0.7	0.8	1.3	14.4	74.1
43°	0.7	0.8	1.3	14.1	70.0
44°	0.7	0.8	1.3	13.9	66.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	0.7	0.8	1.3	13.7	62.1
46°	0.6	0.7	1.3	13.5	58.1
47°	0.6	0.7	1.2	13.3	54.3
48°	0.6	0.7	1.2	13.0	50.7
49°	0.6	0.7	1.2	12.8	47.2
50°	0.6	0.7	1.1	12.5	44.0
51°	0.6	0.6	1.1	12.1	40.9
52°	0.6	0.6	1.1	11.7	37.9
53°	0.5	0.6	1.0	11.2	35.1
54°	0.5	0.6	1.0	10.7	32.6
55°	0.5	0.6	1.0	10.2	30.3
56°	0.5	0.6	0.9	9.7	27.7
57°	0.4	0.5	0.9	9.1	25.3
58°	0.4	0.5	0.8	8.6	23.2
59°	0.4	0.5	0.8	8.0	21.3
60°	0.4	0.5	0.8	7.5	19.4
61°	0.4	0.4	0.7	7.0	17.7
62°	0.4	0.4	0.7	6.4	16.0
63°	0.4	0.4	0.7	5.9	14.5
64°	0.4	0.4	0.6	5.4	13.0
65°	0.4	0.4	0.6	4.9	11.7
66°	0.4	0.4	0.6	4.5	10.5
67°	0.4	0.4	0.5	4.1	9.4
68°	0.4	0.4	0.5	3.6	8.4
69°	0.3	0.4	0.5	3.3	7.5
70°	0.3	0.3	0.5	2.9	6.6
71°	0.3	0.3	0.4	2.6	5.8
72°	0.3	0.3	0.4	2.3	5.1
73°	0.3	0.3	0.4	2.0	4.4
74°	0.3	0.3	0.4	1.8	3.8
75°	0.3	0.3	0.4	1.5	3.3
76°	0.3	0.3	0.4	1.4	2.8
77°	0.2	0.2	0.3	1.2	2.4
78°	0.2	0.2	0.3	1.0	2.1
79°	0.2	0.2	0.3	0.9	1.8
80°	0.2	0.2	0.3	0.8	1.5
81°	0.2	0.2	0.3	0.7	1.2
82°	0.2	0.2	0.3	0.6	1.0
83°	0.2	0.2	0.3	0.6	0.8
84°	0.2	0.2	0.3	0.5	0.7
85°	0.2	0.2	0.3	0.5	0.5
86°	0.2	0.2	0.3	0.5	0.4
87°	0.2	0.1	0.3	0.4	0.3
88°	0.1	0.1	0.2	0.4	0.3
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)