

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: P958879

Luminaire Tested: MMG-03W-930-10x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958879
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-930-10x60-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: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 78.1 lumens
Efficiency: N/A
Efficacy: 28.9 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

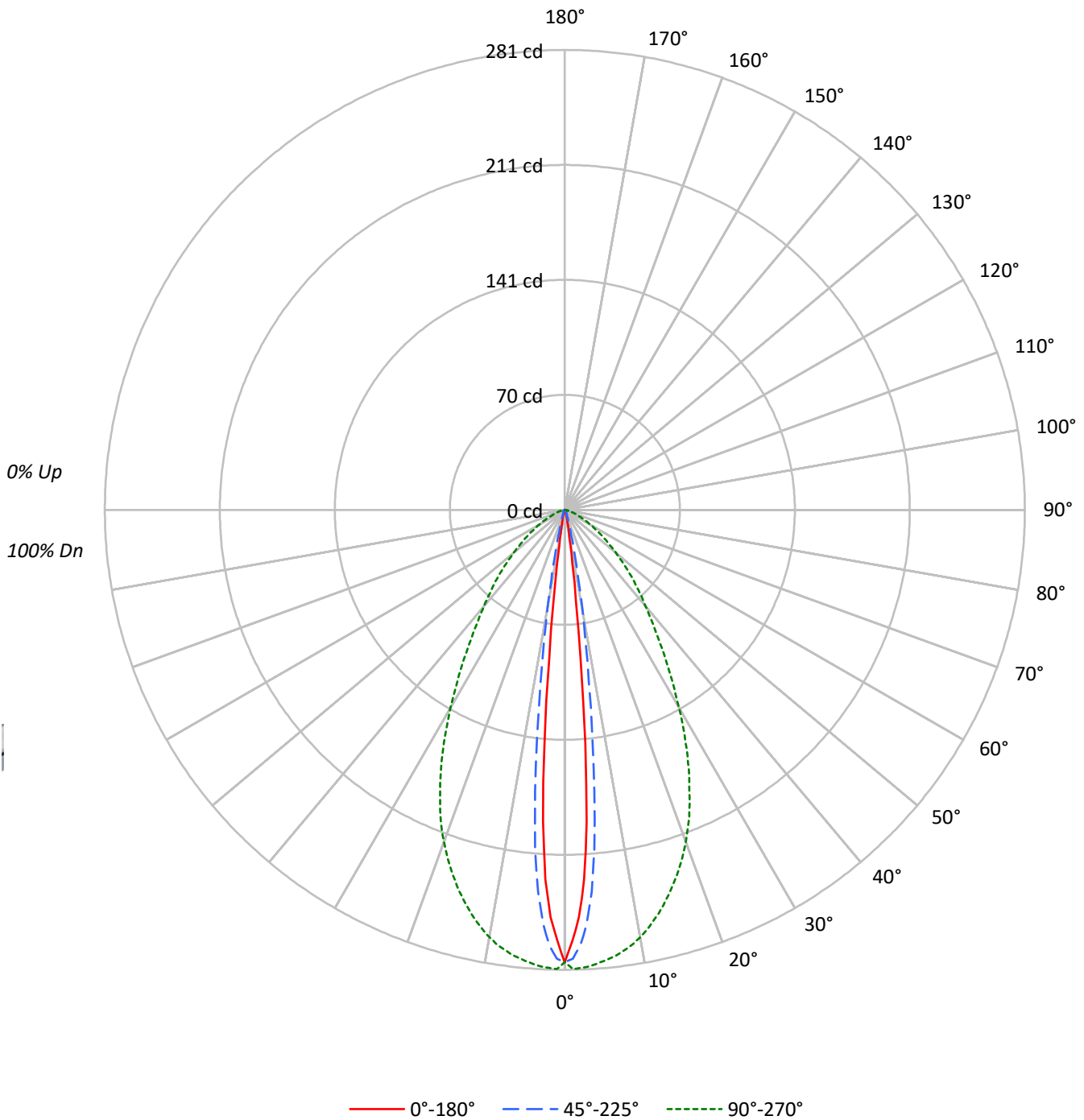
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20	
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	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°	43196	43196	43196
5°	22259	30122	39138
10°	2204	8293	34532
15°	569	1629	29633
20°	290	558	24755
25°	216	288	19628
30°	206	187	14675
35°	162	150	10573
40°	133	137	7682
45°	122	137	5666
50°	110	126	3996
55°	121	105	2755
60°	109	83	1789
65°	125	61	1102
70°	111	51	633
75°	137	40	322
80°	121	43	157
85°	182	31	59

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 5666 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	16.0	20.4
10°-20°	17.9	22.9
20°-30°	14.9	19.1
30°-40°	11.2	14.3
40°-50°	8.4	10.8
50°-60°	5.6	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°	48.8	62.4
0°-40°	59.9	76.7
0°-60°	74.0	94.6
0°-90°	78.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	78.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	276	276	276	276	276	
5°	143	158	208	259	277	9
15°	4	4	13	107	244	1
25°	1	1	2	35	180	1
35°	1	1	1	16	104	1
45°	1	1	1	13	57	0
55°	0	0	1	9	28	0
65°	0	0	0	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°	276.5	276.5	276.5	276.5	276.5
1°	263.3	268.9	274.4	278.6	280.6
2°	249.0	254.9	266.7	276.7	280.1
3°	226.2	234.0	253.4	272.2	279.3
4°	190.9	200.9	234.0	265.9	278.0
5°	143.0	157.9	207.8	258.6	276.6
6°	91.6	109.8	172.8	249.7	275.1
7°	55.9	73.7	138.0	238.4	273.1
8°	33.7	48.5	105.8	225.9	270.9
9°	21.1	30.3	80.6	210.4	268.3
10°	14.1	19.3	60.9	190.8	265.2
11°	10.0	13.5	43.7	174.6	261.6
12°	7.5	9.8	32.2	156.8	257.7
13°	5.6	7.2	22.6	136.6	253.4
14°	4.5	5.6	16.1	122.3	248.9
15°	3.6	4.5	12.6	107.1	244.0
16°	3.0	3.8	9.7	96.8	239.0
17°	2.5	3.2	7.6	85.4	233.6
18°	2.2	2.6	6.3	76.7	228.1
19°	1.9	2.3	5.2	67.7	222.2
20°	1.8	2.0	4.5	61.2	216.0
21°	1.6	1.9	3.9	54.7	209.5
22°	1.5	1.7	3.5	48.1	202.6
23°	1.4	1.6	3.0	43.7	194.9
24°	1.3	1.5	2.6	39.0	187.2
25°	1.3	1.4	2.4	35.1	179.6
26°	1.2	1.3	2.2	31.6	171.9
27°	1.2	1.3	2.0	28.8	163.9
28°	1.2	1.2	1.9	26.2	155.6
29°	1.2	1.2	1.7	23.7	147.5
30°	1.2	1.2	1.6	21.8	139.5
31°	1.2	1.2	1.6	20.3	131.5
32°	1.1	1.2	1.5	18.9	124.0
33°	1.0	1.2	1.4	17.7	117.1
34°	0.9	1.2	1.4	16.7	110.3
35°	0.9	1.1	1.3	15.9	103.5
36°	0.8	1.1	1.3	15.2	97.1
37°	0.8	1.0	1.3	14.8	91.6
38°	0.7	0.9	1.3	14.4	86.4
39°	0.7	0.9	1.2	14.0	81.3
40°	0.7	0.8	1.2	13.7	76.8
41°	0.7	0.8	1.2	13.5	72.7
42°	0.7	0.8	1.2	13.3	68.5
43°	0.6	0.7	1.2	13.1	64.7
44°	0.6	0.7	1.2	12.9	61.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	0.6	0.7	1.2	12.7	57.4
46°	0.6	0.7	1.2	12.5	53.7
47°	0.6	0.7	1.1	12.3	50.2
48°	0.6	0.6	1.1	12.0	46.9
49°	0.6	0.6	1.1	11.8	43.6
50°	0.5	0.6	1.1	11.5	40.7
51°	0.5	0.6	1.0	11.2	37.8
52°	0.5	0.6	1.0	10.8	35.0
53°	0.5	0.6	1.0	10.4	32.4
54°	0.5	0.5	0.9	9.9	30.1
55°	0.5	0.5	0.9	9.4	28.0
56°	0.4	0.5	0.9	8.9	25.7
57°	0.4	0.5	0.8	8.5	23.4
58°	0.4	0.5	0.8	7.9	21.5
59°	0.4	0.4	0.7	7.4	19.7
60°	0.4	0.4	0.7	6.9	18.0
61°	0.4	0.4	0.7	6.4	16.4
62°	0.4	0.4	0.6	5.9	14.8
63°	0.4	0.4	0.6	5.5	13.4
64°	0.4	0.4	0.6	5.0	12.1
65°	0.4	0.4	0.5	4.6	10.9
66°	0.4	0.4	0.5	4.2	9.7
67°	0.4	0.4	0.5	3.8	8.7
68°	0.4	0.4	0.5	3.4	7.8
69°	0.3	0.3	0.4	3.0	6.9
70°	0.3	0.3	0.4	2.7	6.1
71°	0.3	0.3	0.4	2.4	5.4
72°	0.3	0.3	0.4	2.1	4.7
73°	0.3	0.3	0.4	1.9	4.1
74°	0.3	0.3	0.4	1.6	3.5
75°	0.3	0.3	0.3	1.4	3.0
76°	0.2	0.3	0.3	1.3	2.6
77°	0.2	0.2	0.3	1.1	2.2
78°	0.2	0.2	0.3	1.0	1.9
79°	0.2	0.2	0.3	0.8	1.6
80°	0.2	0.2	0.3	0.7	1.4
81°	0.2	0.2	0.3	0.6	1.1
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)