

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: P958833

Luminaire Tested: MMG-03W-930-60x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958833
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-930-60x60-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 60x60 DEGREE OPTICS
3 WATTS PER FOOT
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 472.4 lumens
Efficiency: N/A
Efficacy: 43.7 lumens/watt
Spacing Criteria (0/90/45): 0.83 / 1.12 / 1.01
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 4' x H: 0.09')
CIE Type: Direct

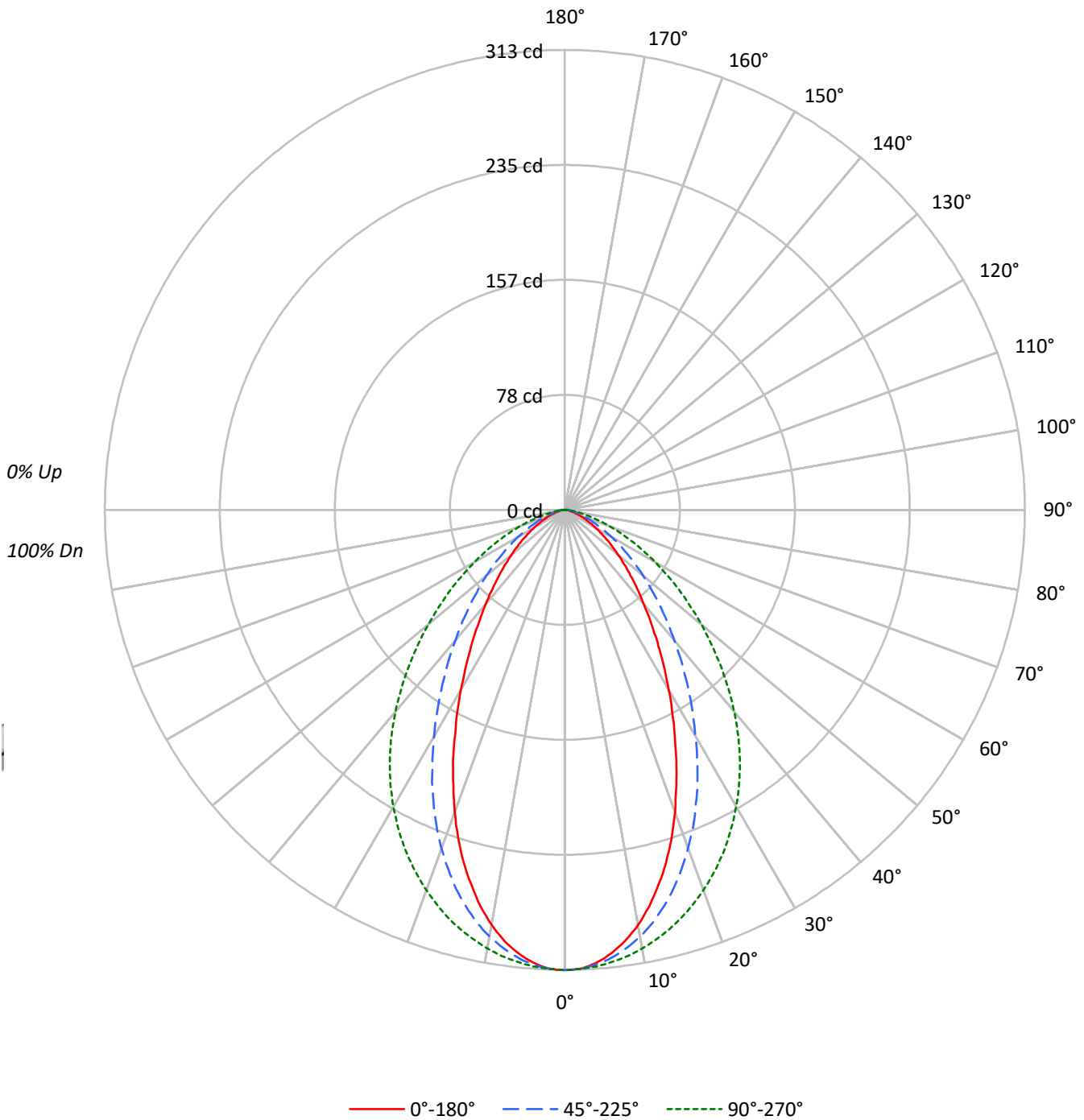
Input Watts (W): 10.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89			89	
2	103	96	91	86	101	95	90	85	91	87	83	88	85	81	85	82	80	78			78	
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71	69			69	
4	89	79	71	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61			61	
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55			55	
6	77	66	58	53	76	65	58	52	63	57	52	62	56	51	60	55	51	49			49	
7	72	61	53	48	71	60	53	47	58	52	47	57	51	47	56	51	46	45			45	
8	68	56	48	43	67	55	48	43	54	48	43	53	47	43	52	47	43	41			41	
9	64	52	45	40	63	51	44	40	50	44	39	49	44	39	48	43	39	38			38	
10	60	49	41	37	59	48	41	37	47	41	36	46	40	36	45	40	36	35			35	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12236	12236	12236
5°	11994	11217	10984
10°	11335	10108	9870
15°	10320	8925	8848
20°	9036	7697	7894
25°	7608	6477	6997
30°	6299	5293	6136
35°	5153	4270	5302
40°	4192	3379	4486
45°	3423	2656	3697
50°	2785	2049	2972
55°	2267	1538	2330
60°	1793	1121	1761
65°	1405	769	1264
70°	1057	507	830
75°	755	325	486
80°	662	197	230
85°	937	124	86

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 3846 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.0	6.1
10°-20°	76.5	16.2
20°-30°	98.5	20.8
30°-40°	94.8	20.1
40°-50°	76.3	16.2
50°-60°	52.5	11.1
60°-70°	29.2	6.2
70°-80°	11.8	2.5
80°-90°	3.7	0.8
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°	204.0	43.2
0°-40°	298.9	63.3
0°-60°	427.7	90.5
0°-90°	472.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	472.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	313	313	313	313	313	
5°	306	307	308	310	310	29
15°	257	261	273	286	291	71
25°	178	188	213	242	256	82
35°	110	118	145	185	208	69
45°	63	70	91	128	150	49
55°	34	38	51	80	95	31
65°	16	18	24	42	50	16
75°	5	6	9	15	18	6
85°	3	3	3	4	3	3
90°	2	2	2	2	2	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	313.3	313.3	313.3	313.3	313.3
1°	313.2	313.1	313.0	312.9	312.9
2°	312.3	312.3	312.3	312.5	312.6
3°	310.8	310.9	311.4	311.8	312.1
4°	308.9	309.2	310.0	311.0	311.4
5°	306.5	307.0	308.4	309.9	310.5
6°	303.5	304.3	306.4	308.5	309.4
7°	300.0	301.0	304.0	306.9	308.1
8°	296.2	297.6	301.2	305.0	306.7
9°	291.7	293.6	298.1	303.0	305.0
10°	286.9	289.1	294.9	300.6	303.2
11°	281.5	284.3	291.2	298.2	301.1
12°	275.9	279.0	287.2	295.4	298.9
13°	269.6	273.4	282.8	292.5	296.6
14°	263.1	267.4	278.2	289.3	294.0
15°	256.7	261.1	273.4	285.9	291.4
16°	249.6	254.8	268.3	282.3	288.5
17°	242.5	248.2	262.7	278.7	285.5
18°	234.8	241.2	257.0	274.8	282.3
19°	227.0	234.0	251.2	270.7	278.9
20°	219.1	226.5	245.2	266.4	275.5
21°	210.5	218.9	239.1	261.9	271.9
22°	202.5	210.8	232.9	257.1	268.1
23°	194.6	202.8	226.2	252.3	264.2
24°	186.7	195.2	219.3	247.4	260.2
25°	178.3	187.7	212.7	242.3	256.1
26°	170.5	179.9	205.9	237.1	251.7
27°	163.2	172.0	198.7	231.7	247.3
28°	155.7	165.1	191.7	226.1	242.8
29°	148.6	157.5	184.7	220.3	238.0
30°	141.4	150.7	177.7	214.5	233.3
31°	134.3	144.0	171.3	208.5	228.4
32°	128.2	137.2	164.5	202.6	223.3
33°	121.4	130.5	158.0	196.7	218.2
34°	115.1	124.5	151.5	190.7	212.9
35°	109.7	118.2	145.4	184.8	207.6
36°	104.0	112.2	139.1	178.7	202.1
37°	98.4	106.9	133.2	172.8	196.6
38°	93.4	101.5	127.4	166.9	190.9
39°	88.3	96.3	121.5	161.0	185.2
40°	83.7	91.3	115.8	155.3	179.4
41°	79.2	86.5	110.5	149.6	173.5
42°	75.0	82.1	105.4	144.0	167.6
43°	70.8	77.7	100.4	138.5	161.6
44°	67.0	73.6	95.4	133.2	155.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	63.3	69.6	90.9	127.8	149.8
46°	59.8	65.5	86.4	122.5	143.9
47°	56.5	62.1	81.8	117.3	138.1
48°	53.0	58.5	77.7	112.2	132.4
49°	50.2	55.3	73.5	107.4	126.6
50°	47.0	52.0	69.5	102.6	121.1
51°	44.4	48.9	65.7	97.8	115.6
52°	41.6	46.0	61.9	93.2	110.2
53°	39.1	43.0	58.2	88.6	104.9
54°	36.7	40.5	54.7	84.2	99.8
55°	34.3	38.0	51.3	80.0	94.7
56°	32.0	35.5	48.0	75.6	89.7
57°	29.8	33.1	45.0	71.3	84.8
58°	27.8	30.8	42.1	67.3	80.0
59°	25.7	28.6	39.2	63.2	75.4
60°	23.8	26.5	36.5	59.3	70.9
61°	22.0	24.6	33.8	55.6	66.5
62°	20.4	22.7	31.2	52.0	62.2
63°	18.7	21.0	28.7	48.5	58.0
64°	17.2	19.4	26.4	45.0	54.0
65°	15.9	17.8	24.2	41.6	50.0
66°	14.6	16.3	22.2	38.4	46.1
67°	13.3	14.9	20.3	35.3	42.4
68°	12.0	13.6	18.5	32.3	38.8
69°	10.9	12.5	16.9	29.5	35.3
70°	9.8	11.3	15.3	26.8	32.0
71°	8.7	10.2	13.9	24.2	28.9
72°	7.7	9.3	12.6	21.8	25.9
73°	6.8	8.3	11.4	19.5	23.1
74°	6.1	7.3	10.2	17.3	20.4
75°	5.4	6.5	9.3	15.4	18.1
76°	4.8	5.9	8.3	13.5	15.7
77°	4.4	5.2	7.5	11.9	13.6
78°	3.9	4.7	6.7	10.5	11.5
79°	3.5	4.2	6.0	9.1	9.7
80°	3.3	3.8	5.3	7.9	8.2
81°	3.1	3.5	4.8	6.9	6.9
82°	2.9	3.1	4.4	6.0	5.6
83°	2.8	2.9	3.9	5.3	4.6
84°	2.7	2.7	3.5	4.6	3.7
85°	2.6	2.6	3.1	4.2	2.9
86°	2.4	2.4	2.9	3.6	2.2
87°	2.4	2.3	2.6	3.2	1.7
88°	2.4	2.3	2.4	2.9	1.3
89°	2.4	2.2	2.3	2.6	1.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	2.1	2.1	2.1	2.1	2.1

(END OF REPORT)