

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: P958841

Luminaire Tested: MMG-03W-940-60x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958841
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-940-60x60-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: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 510.9 lumens
Efficiency: N/A
Efficacy: 47.3 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

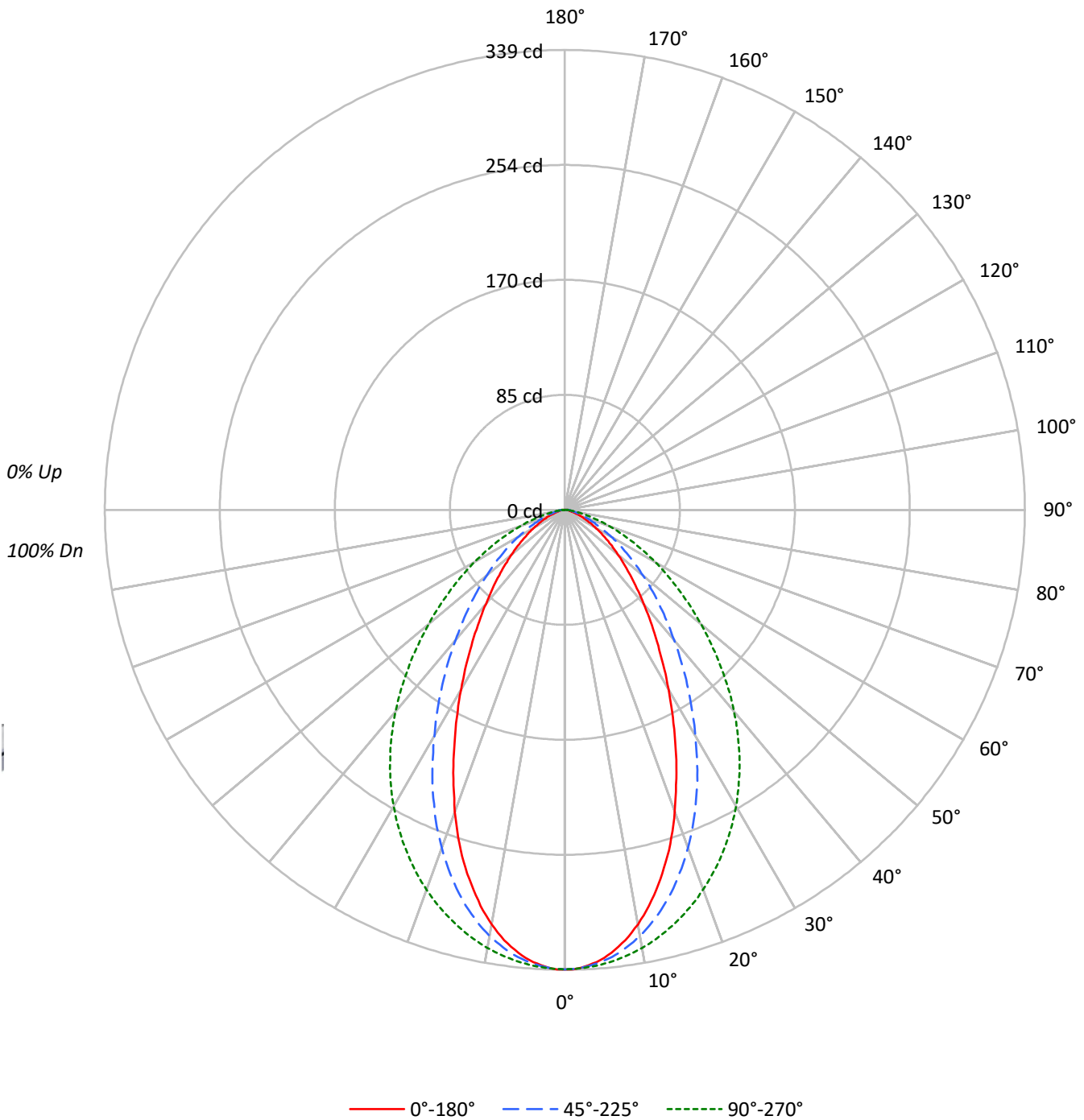
Input Watts (W): 10.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13232	13232	13232
5°	12972	12130	11879
10°	12260	10931	10674
15°	11161	9650	9567
20°	9775	8324	8535
25°	8227	7003	7565
30°	6812	5725	6635
35°	5572	4619	5734
40°	4533	3656	4851
45°	3699	2872	3998
50°	3010	2214	3213
55°	2452	1664	2519
60°	1944	1211	1905
65°	1511	832	1368
70°	1143	550	898
75°	811	349	526
80°	702	212	250
85°	1009	136	92

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 4212 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.4	6.1
10°-20°	82.8	16.2
20°-30°	106.5	20.8
30°-40°	102.6	20.1
40°-50°	82.5	16.2
50°-60°	56.8	11.1
60°-70°	31.6	6.2
70°-80°	12.8	2.5
80°-90°	4.0	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°	220.7	43.2
0°-40°	323.2	63.3
0°-60°	462.5	90.5
0°-90°	510.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	510.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	332	332	334	335	336	31
15°	278	282	296	309	315	77
25°	193	203	230	262	277	88
35°	119	128	157	200	224	74
45°	68	75	98	138	162	53
55°	37	41	56	86	102	33
65°	17	19	26	45	54	17
75°	6	7	10	17	20	7
85°	3	3	3	4	3	3
90°	2	2	2	2	2	



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CATALOG NUMBER: MMG-03W-940-60x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	338.8	338.8	338.8	338.8	338.8
1°	338.8	338.6	338.5	338.4	338.4
2°	337.8	337.8	337.8	338.0	338.1
3°	336.2	336.3	336.8	337.2	337.5
4°	334.1	334.4	335.3	336.3	336.8
5°	331.5	332.0	333.5	335.2	335.8
6°	328.2	329.1	331.3	333.7	334.6
7°	324.4	325.6	328.8	331.9	333.2
8°	320.4	321.9	325.7	329.9	331.7
9°	315.4	317.5	322.4	327.6	329.9
10°	310.3	312.7	318.9	325.1	327.9
11°	304.4	307.5	315.0	322.5	325.7
12°	298.4	301.7	310.6	319.5	323.3
13°	291.6	295.7	305.9	316.3	320.7
14°	284.6	289.2	300.9	312.9	318.0
15°	277.6	282.4	295.6	309.3	315.1
16°	270.0	275.6	290.2	305.3	312.0
17°	262.3	268.4	284.1	301.4	308.7
18°	254.0	260.9	277.9	297.3	305.3
19°	245.5	253.0	271.6	292.8	301.7
20°	237.0	244.9	265.2	288.1	297.9
21°	227.7	236.8	258.6	283.2	294.0
22°	219.0	228.0	251.8	278.0	290.0
23°	210.5	219.3	244.6	272.9	285.8
24°	201.9	211.1	237.2	267.5	281.4
25°	192.8	203.0	230.0	262.1	276.9
26°	184.4	194.6	222.7	256.4	272.2
27°	176.5	186.0	214.9	250.6	267.4
28°	168.4	178.5	207.3	244.5	262.6
29°	160.7	170.4	199.7	238.3	257.4
30°	152.9	163.0	192.2	232.0	252.3
31°	145.3	155.7	185.3	225.5	247.0
32°	138.7	148.4	178.0	219.1	241.5
33°	131.3	141.2	170.9	212.7	235.9
34°	124.5	134.7	163.8	206.2	230.3
35°	118.6	127.8	157.3	199.8	224.5
36°	112.5	121.4	150.4	193.3	218.6
37°	106.4	115.6	144.1	186.9	212.6
38°	101.0	109.8	137.8	180.5	206.5
39°	95.5	104.1	131.4	174.1	200.3
40°	90.5	98.8	125.3	167.9	194.0
41°	85.7	93.5	119.5	161.8	187.7
42°	81.1	88.8	114.0	155.7	181.3
43°	76.5	84.0	108.6	149.8	174.8
44°	72.4	79.6	103.2	144.1	168.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	68.4	75.3	98.3	138.2	162.0
46°	64.7	70.9	93.4	132.5	155.7
47°	61.1	67.1	88.5	126.9	149.4
48°	57.3	63.2	84.0	121.4	143.1
49°	54.2	59.8	79.5	116.1	137.0
50°	50.8	56.2	75.1	111.0	130.9
51°	48.0	52.8	71.1	105.8	125.0
52°	45.0	49.8	67.0	100.8	119.2
53°	42.2	46.5	63.0	95.8	113.5
54°	39.7	43.8	59.2	91.1	107.9
55°	37.1	41.1	55.5	86.5	102.4
56°	34.6	38.4	52.0	81.8	97.0
57°	32.2	35.8	48.7	77.1	91.7
58°	30.0	33.3	45.5	72.8	86.5
59°	27.8	30.9	42.4	68.4	81.5
60°	25.8	28.7	39.4	64.2	76.7
61°	23.8	26.6	36.5	60.1	71.9
62°	22.1	24.6	33.7	56.2	67.3
63°	20.2	22.7	31.1	52.4	62.7
64°	18.6	21.0	28.6	48.6	58.4
65°	17.1	19.3	26.2	45.0	54.1
66°	15.7	17.7	24.0	41.6	49.9
67°	14.4	16.1	21.9	38.2	45.9
68°	13.0	14.7	20.0	35.0	41.9
69°	11.8	13.5	18.3	31.9	38.2
70°	10.6	12.2	16.6	29.0	34.6
71°	9.4	11.0	15.0	26.2	31.3
72°	8.3	10.0	13.6	23.6	28.0
73°	7.4	9.0	12.3	21.0	24.9
74°	6.6	7.9	11.0	18.7	22.1
75°	5.8	7.1	10.0	16.6	19.6
76°	5.2	6.3	9.0	14.6	16.9
77°	4.7	5.7	8.1	12.9	14.7
78°	4.3	5.1	7.2	11.3	12.4
79°	3.8	4.6	6.5	9.9	10.5
80°	3.5	4.1	5.7	8.5	8.9
81°	3.3	3.8	5.2	7.5	7.4
82°	3.2	3.4	4.7	6.5	6.1
83°	3.0	3.2	4.2	5.7	4.9
84°	2.9	2.9	3.8	5.0	4.0
85°	2.8	2.8	3.4	4.5	3.1
86°	2.6	2.6	3.1	3.9	2.4
87°	2.6	2.5	2.8	3.5	1.8
88°	2.6	2.5	2.6	3.1	1.4
89°	2.6	2.4	2.5	2.8	1.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	2.3	2.3	2.3	2.3	2.3

(END OF REPORT)