

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: P958836

Luminaire Tested: MMG-03W-935-30x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958836
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-935-30x60-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 30x60 DEGREE OPTICS
3 WATTS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 527.3 lumens
Efficiency: N/A
Efficacy: 48.8 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.09 / 0.76
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 4' x H: 0.09')
CIE Type: Direct

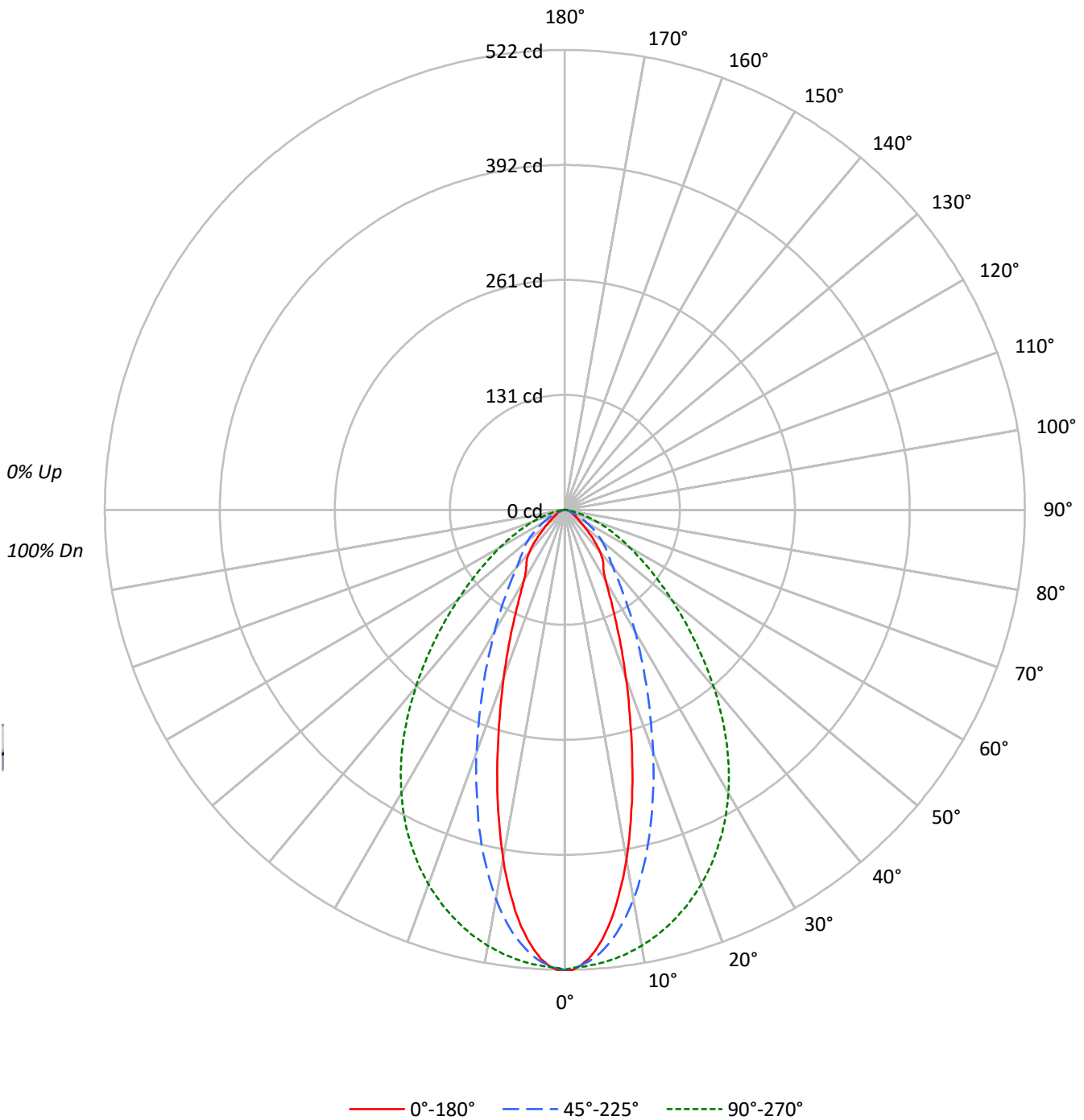
Input Watts (W): 10.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90				
2	104	98	93	88	102	96	91	87	93	89	85	90	86	84	87	84	82	80				
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	72				
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64				
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	59				
6	80	69	62	57	78	68	61	56	67	61	56	65	60	56	64	59	55	53				
7	75	64	57	52	74	63	57	52	62	56	51	61	55	51	60	55	51	49				
8	71	60	53	48	70	59	52	48	58	52	47	57	51	47	56	51	47	45				
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42				
10	64	53	46	41	63	52	46	41	51	45	41	50	45	41	50	44	41	39				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20395	20395	20395
5°	19140	18233	18228
10°	15911	15383	16351
15°	11892	12222	14610
20°	8339	9181	12959
25°	5765	6647	11349
30°	4143	4745	9760
35°	3580	3392	8157
40°	3120	2483	6579
45°	2325	1984	5124
50°	1600	1627	3873
55°	1209	1223	2876
60°	964	848	2097
65°	875	559	1479
70°	841	361	968
75°	671	237	553
80°	622	160	266
85°	829	116	98

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 5124 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.2	8.8
10°-20°	105.8	20.1
20°-30°	113.1	21.4
30°-40°	97.0	18.4
40°-50°	74.8	14.2
50°-60°	48.8	9.2
60°-70°	26.8	5.1
70°-80°	11.3	2.1
80°-90°	3.7	0.7
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°	265.1	50.3
0°-40°	362.1	68.7
0°-60°	485.6	92.1
0°-90°	527.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	527.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	522	522	522	522	522	
5°	489	492	501	511	515	44
15°	296	317	374	446	481	81
25°	135	153	218	337	415	63
35°	76	80	116	224	319	48
45°	43	52	68	142	208	33
55°	18	22	41	86	117	17
65°	10	10	18	45	58	10
75°	5	5	7	16	21	5
85°	2	2	3	4	3	3
90°	2	2	2	2	2	



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CATALOG NUMBER: MMG-03W-935-30x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	522.2	522.2	522.2	522.2	522.2
1°	522.2	521.1	520.2	519.9	519.8
2°	517.5	517.1	517.5	518.4	519.2
3°	510.6	511.1	513.6	516.4	518.2
4°	501.0	502.7	508.3	514.0	516.9
5°	489.1	492.2	501.3	510.9	515.3
6°	475.0	479.9	493.2	507.1	513.4
7°	459.2	466.0	483.8	502.8	511.1
8°	441.1	450.3	473.3	497.7	508.5
9°	423.1	433.2	461.6	491.8	505.6
10°	402.7	415.8	448.8	485.6	502.3
11°	381.7	396.4	435.1	478.8	498.7
12°	360.1	377.0	420.9	471.3	494.9
13°	338.6	356.5	406.5	463.4	490.6
14°	317.2	336.8	390.5	455.1	486.0
15°	295.8	316.7	374.4	446.2	481.2
16°	275.2	296.5	358.1	436.7	476.0
17°	255.0	277.1	341.4	426.6	470.6
18°	236.9	258.2	325.3	416.3	464.7
19°	219.2	240.8	309.2	405.6	458.7
20°	202.2	223.7	292.5	394.8	452.3
21°	187.0	207.8	276.6	383.7	445.5
22°	172.2	192.6	261.2	372.4	438.5
23°	158.9	178.9	246.2	360.8	431.2
24°	146.3	165.5	231.9	349.0	423.3
25°	135.1	153.4	218.3	337.0	415.4
26°	124.5	141.7	205.5	324.9	407.2
27°	115.3	131.4	192.8	312.6	398.7
28°	106.7	121.9	181.0	300.7	389.9
29°	99.3	113.2	169.9	289.4	380.7
30°	93.0	105.2	159.3	278.2	371.1
31°	87.8	98.0	149.6	266.9	361.3
32°	83.6	92.0	140.0	255.7	351.2
33°	80.7	86.9	131.4	244.8	340.9
34°	78.3	82.9	123.1	234.2	330.3
35°	76.2	79.7	115.5	223.9	319.4
36°	74.1	77.2	108.1	214.2	308.4
37°	71.8	75.0	101.7	204.6	297.1
38°	69.0	72.9	95.4	195.6	285.9
39°	65.9	70.8	89.9	187.0	274.5
40°	62.3	68.2	85.1	178.9	263.1
41°	58.6	65.5	80.7	170.8	251.8
42°	54.7	62.3	76.9	163.0	240.5
43°	50.7	58.9	73.6	155.6	229.3
44°	46.8	55.2	70.7	148.5	218.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	43.0	51.5	67.9	141.7	207.6
46°	39.3	47.9	65.3	135.1	197.1
47°	35.6	44.3	62.9	128.9	186.8
48°	32.5	40.8	60.4	122.8	176.7
49°	29.6	37.3	57.8	117.0	167.1
50°	27.0	34.1	55.2	111.3	157.8
51°	24.8	31.1	52.4	105.8	149.0
52°	22.8	28.5	49.5	100.5	140.4
53°	21.2	26.1	46.6	95.4	132.2
54°	19.7	24.1	43.7	90.4	124.4
55°	18.3	22.1	40.8	85.7	116.9
56°	16.9	20.5	38.0	80.9	109.8
57°	15.8	19.0	35.2	76.3	103.0
58°	14.7	17.5	32.5	72.1	96.5
59°	13.6	16.2	30.1	67.8	90.4
60°	12.8	15.0	27.6	63.5	84.4
61°	12.0	13.9	25.3	59.5	78.8
62°	11.3	12.9	23.2	55.6	73.4
63°	10.8	12.0	21.2	51.8	68.3
64°	10.3	11.1	19.3	48.1	63.3
65°	9.9	10.5	17.6	44.6	58.5
66°	9.5	9.8	16.0	41.1	53.9
67°	9.2	9.3	14.6	37.7	49.5
68°	8.8	8.8	13.2	34.5	45.2
69°	8.3	8.3	12.0	31.4	41.1
70°	7.8	7.8	10.9	28.5	37.3
71°	7.2	7.4	9.9	25.7	33.6
72°	6.5	6.9	9.0	23.0	30.1
73°	5.9	6.4	8.2	20.5	26.8
74°	5.4	5.9	7.4	18.2	23.6
75°	4.8	5.4	6.8	16.0	20.6
76°	4.4	5.0	6.2	14.1	18.0
77°	4.0	4.5	5.6	12.4	15.5
78°	3.6	4.1	5.2	10.7	13.3
79°	3.4	3.8	4.7	9.4	11.3
80°	3.1	3.4	4.3	8.2	9.5
81°	2.9	3.2	4.0	7.2	7.9
82°	2.8	3.0	3.6	6.3	6.5
83°	2.6	2.8	3.4	5.5	5.3
84°	2.5	2.6	3.2	4.8	4.2
85°	2.3	2.5	2.9	4.3	3.3
86°	2.3	2.3	2.7	3.9	2.5
87°	2.3	2.2	2.5	3.4	1.9
88°	2.2	2.1	2.3	3.2	1.5
89°	2.2	2.1	2.3	2.9	1.3



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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)