

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: P958832

Luminaire Tested: MMG-03W-930-30x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958832
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-930-30x60-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: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 521.8 lumens
Efficiency: N/A
Efficacy: 48.3 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

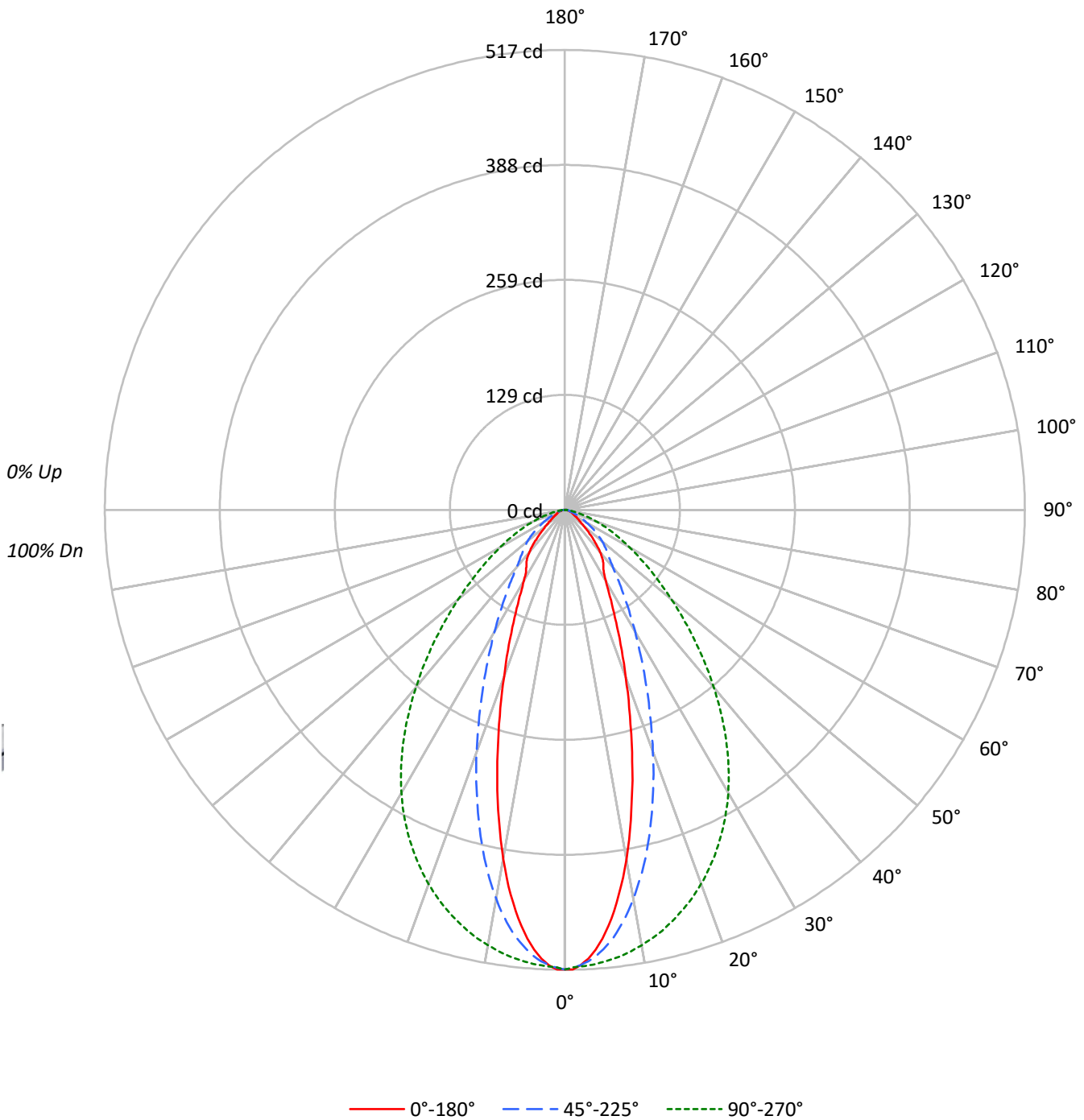
Input Watts (W): 10.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20180	20180	20180
5°	18940	18044	18041
10°	15745	15226	16179
15°	11772	12095	14458
20°	8253	9087	12825
25°	5705	6580	11232
30°	4099	4694	9660
35°	3542	3357	8073
40°	3090	2457	6512
45°	2304	1963	5069
50°	1582	1609	3834
55°	1196	1211	2846
60°	957	842	2077
65°	866	553	1464
70°	831	358	957
75°	671	234	548
80°	622	156	264
85°	829	116	98

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 5069 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.8	8.8
10°-20°	104.7	20.1
20°-30°	111.9	21.4
30°-40°	95.9	18.4
40°-50°	74.0	14.2
50°-60°	48.3	9.2
60°-70°	26.5	5.1
70°-80°	11.1	2.1
80°-90°	3.6	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°	262.4	50.3
0°-40°	358.3	68.7
0°-60°	480.5	92.1
0°-90°	521.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	521.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	517	517	517	517	517	
5°	484	487	496	506	510	43
15°	293	313	370	442	476	81
25°	134	152	216	333	411	62
35°	75	79	114	222	316	47
45°	43	51	67	140	205	33
55°	18	22	40	85	116	17
65°	10	10	17	44	58	10
75°	5	5	7	16	20	5
85°	2	2	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°	516.7	516.7	516.7	516.7	516.7
1°	516.8	515.7	514.7	514.5	514.4
2°	512.1	511.7	512.1	513.0	513.8
3°	505.3	505.7	508.2	511.1	512.8
4°	495.7	497.4	503.0	508.7	511.5
5°	484.0	487.0	496.1	505.5	510.0
6°	470.1	474.9	488.1	501.8	508.1
7°	454.4	461.1	478.8	497.6	505.8
8°	436.5	445.6	468.3	492.5	503.2
9°	418.6	428.7	456.8	486.7	500.3
10°	398.5	411.4	444.2	480.6	497.0
11°	377.7	392.2	430.6	473.8	493.5
12°	356.3	373.1	416.5	466.4	489.7
13°	335.1	352.8	402.2	458.5	485.5
14°	313.8	333.3	386.4	450.4	481.0
15°	292.8	313.4	370.5	441.5	476.2
16°	272.3	293.4	354.4	432.1	471.0
17°	252.3	274.2	337.8	422.2	465.7
18°	234.4	255.5	321.9	411.9	459.9
19°	216.9	238.3	306.0	401.4	453.9
20°	200.1	221.4	289.5	390.7	447.6
21°	185.0	205.6	273.7	379.7	440.9
22°	170.4	190.6	258.5	368.6	433.9
23°	157.2	177.1	243.6	357.1	426.7
24°	144.7	163.8	229.5	345.4	418.9
25°	133.7	151.8	216.1	333.4	411.1
26°	123.2	140.3	203.3	321.5	403.0
27°	114.1	130.0	190.8	309.4	394.6
28°	105.6	120.6	179.1	297.6	385.8
29°	98.3	112.0	168.2	286.4	376.7
30°	92.0	104.1	157.6	275.3	367.3
31°	86.9	97.0	148.1	264.1	357.5
32°	82.7	91.1	138.6	253.0	347.5
33°	79.8	86.0	130.0	242.3	337.3
34°	77.5	82.1	121.8	231.8	326.8
35°	75.4	78.9	114.3	221.6	316.1
36°	73.4	76.4	107.0	212.0	305.1
37°	71.0	74.2	100.6	202.4	294.0
38°	68.3	72.1	94.5	193.6	282.9
39°	65.2	70.0	89.0	185.1	271.7
40°	61.7	67.5	84.2	177.1	260.4
41°	58.0	64.8	79.9	169.0	249.1
42°	54.2	61.7	76.1	161.3	238.0
43°	50.2	58.3	72.8	153.9	226.9
44°	46.3	54.6	70.0	147.0	216.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	42.6	51.0	67.2	140.2	205.4
46°	38.9	47.4	64.6	133.7	195.0
47°	35.2	43.8	62.2	127.5	184.8
48°	32.1	40.4	59.7	121.5	174.9
49°	29.3	37.0	57.2	115.8	165.4
50°	26.7	33.8	54.6	110.2	156.2
51°	24.5	30.8	51.9	104.7	147.4
52°	22.6	28.2	49.0	99.5	139.0
53°	21.0	25.9	46.1	94.4	130.9
54°	19.5	23.8	43.3	89.5	123.1
55°	18.1	21.9	40.4	84.8	115.7
56°	16.7	20.3	37.6	80.0	108.6
57°	15.7	18.8	34.8	75.5	101.9
58°	14.6	17.4	32.2	71.3	95.5
59°	13.5	16.1	29.7	67.1	89.4
60°	12.7	14.8	27.4	62.9	83.6
61°	11.8	13.7	25.0	58.9	78.0
62°	11.2	12.8	23.0	55.0	72.7
63°	10.7	11.8	21.0	51.2	67.6
64°	10.2	11.0	19.1	47.6	62.6
65°	9.8	10.3	17.4	44.1	57.9
66°	9.4	9.7	15.8	40.6	53.4
67°	9.1	9.2	14.4	37.3	49.0
68°	8.7	8.7	13.1	34.1	44.8
69°	8.2	8.2	11.8	31.0	40.7
70°	7.7	7.8	10.8	28.2	36.9
71°	7.1	7.3	9.8	25.4	33.2
72°	6.5	6.8	8.9	22.7	29.7
73°	5.9	6.3	8.1	20.3	26.5
74°	5.3	5.9	7.3	18.0	23.3
75°	4.8	5.3	6.7	15.9	20.4
76°	4.4	4.9	6.1	14.0	17.8
77°	3.9	4.5	5.6	12.2	15.4
78°	3.5	4.1	5.1	10.6	13.2
79°	3.3	3.7	4.6	9.3	11.2
80°	3.1	3.4	4.2	8.1	9.4
81°	2.9	3.1	3.9	7.1	7.8
82°	2.7	2.9	3.6	6.2	6.5
83°	2.6	2.7	3.3	5.4	5.2
84°	2.4	2.6	3.1	4.8	4.2
85°	2.3	2.4	2.9	4.3	3.3
86°	2.3	2.3	2.7	3.8	2.5
87°	2.2	2.2	2.5	3.4	1.9
88°	2.2	2.1	2.3	3.1	1.5
89°	2.2	2.0	2.2	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)