

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: P958845

Luminaire Tested: MMG-05W-927-60x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958845
SCALED TEST REPORT
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: iO LED
Catalog Number: MMG-05W-927-60x60-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 60x60 DEGREE OPTICS
5 WATTS PER FOOT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 844.5 lumens
Efficiency: N/A
Efficacy: 46.9 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

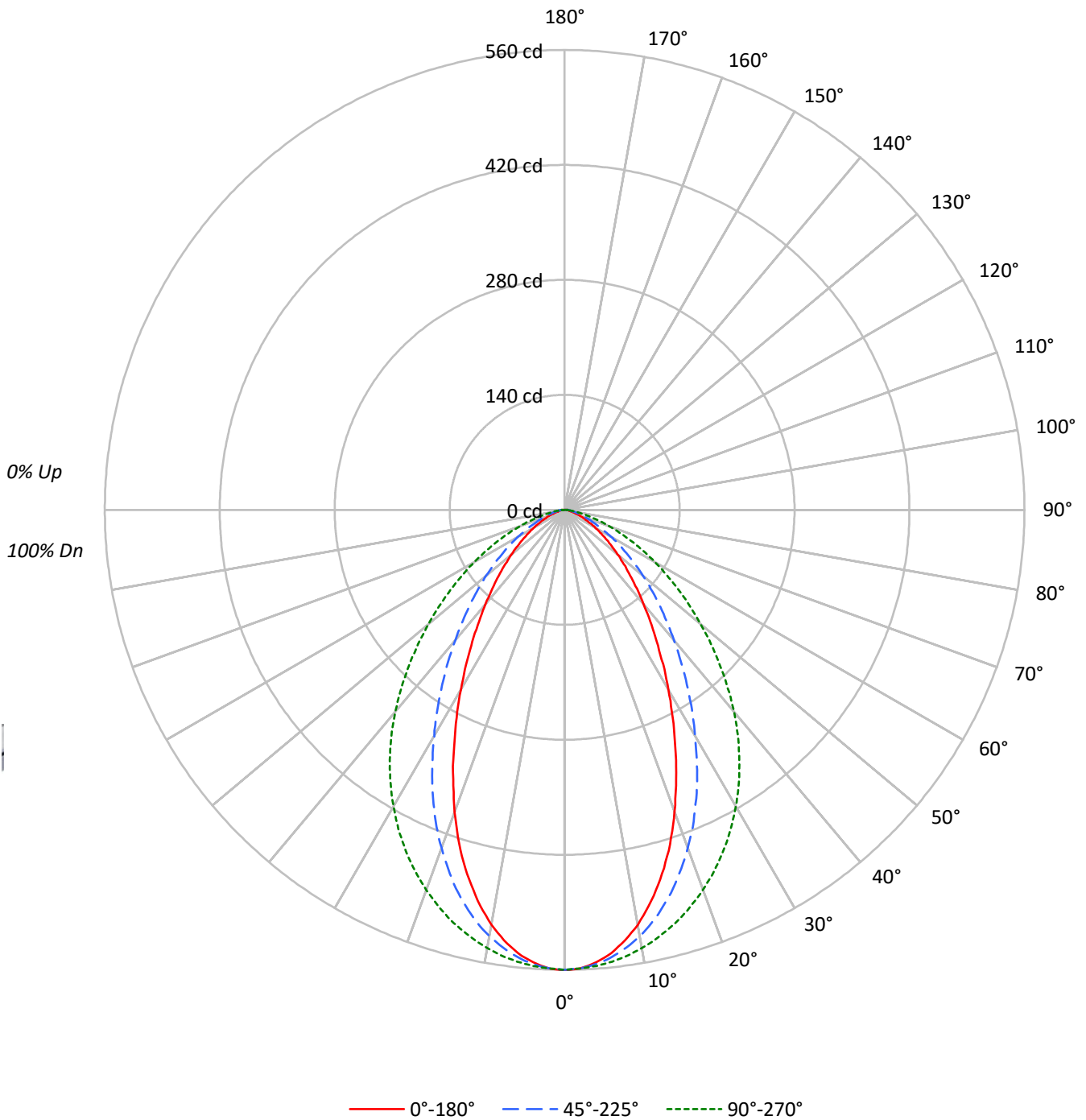
Input Watts (W): 18
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	21875	21875	21875
5°	21441	20052	19636
10°	20265	18067	17640
15°	18450	15953	15816
20°	16155	13761	14108
25°	13599	11577	12508
30°	11262	9463	10967
35°	9212	7636	9478
40°	7493	6040	8020
45°	6117	4748	6607
50°	4971	3661	5312
55°	4051	2749	4162
60°	3209	2003	3150
65°	2501	1375	2260
70°	1888	908	1484
75°	1342	576	870
80°	1164	353	412
85°	1657	224	151

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 6960 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.9	6.1
10°-20°	136.8	16.2
20°-30°	176.1	20.8
30°-40°	169.5	20.1
40°-50°	136.4	16.2
50°-60°	93.8	11.1
60°-70°	52.3	6.2
70°-80°	21.1	2.5
80°-90°	6.6	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°	364.7	43.2
0°-40°	534.3	63.3
0°-60°	764.5	90.5
0°-90°	844.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	844.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	560	560	560	560	560	
5°	548	549	551	554	555	51
15°	459	467	489	511	521	128
25°	319	336	380	433	458	146
35°	196	211	260	330	371	123
45°	113	124	162	228	268	88
55°	61	68	92	143	169	55
65°	28	32	43	74	89	29
75°	10	12	16	28	32	11
85°	5	5	6	7	5	5
90°	4	4	4	4	4	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	560.1	560.1	560.1	560.1	560.1
1°	559.9	559.7	559.5	559.3	559.3
2°	558.4	558.4	558.4	558.6	558.9
3°	555.7	555.8	556.7	557.4	557.9
4°	552.3	552.8	554.2	555.9	556.7
5°	547.9	548.8	551.3	554.0	555.1
6°	542.6	544.0	547.7	551.6	553.1
7°	536.2	538.2	543.4	548.6	550.8
8°	529.5	532.1	538.4	545.2	548.3
9°	521.4	524.8	532.8	541.6	545.2
10°	512.9	516.9	527.1	537.4	541.9
11°	503.1	508.2	520.7	533.1	538.3
12°	493.2	498.8	513.4	528.1	534.4
13°	482.0	488.8	505.6	522.8	530.1
14°	470.4	478.0	497.3	517.2	525.6
15°	458.9	466.8	488.7	511.2	520.9
16°	446.2	455.6	479.7	504.7	515.7
17°	433.6	443.7	469.6	498.3	510.3
18°	419.8	431.2	459.3	491.3	504.6
19°	405.8	418.2	449.0	483.9	498.6
20°	391.7	404.8	438.4	476.3	492.4
21°	376.4	391.3	427.5	468.1	486.0
22°	362.0	376.9	416.3	459.6	479.3
23°	347.9	362.5	404.4	451.1	472.4
24°	333.8	349.0	392.1	442.2	465.2
25°	318.7	335.5	380.2	433.2	457.8
26°	304.9	321.6	368.1	423.8	450.0
27°	291.7	307.4	355.2	414.2	442.1
28°	278.3	295.1	342.7	404.1	434.0
29°	265.6	281.6	330.2	393.9	425.5
30°	252.8	269.5	317.7	383.4	417.0
31°	240.1	257.4	306.3	372.7	408.3
32°	229.2	245.2	294.1	362.1	399.1
33°	217.0	233.3	282.5	351.6	390.0
34°	205.8	222.6	270.8	340.9	380.6
35°	196.1	211.3	260.0	330.3	371.1
36°	185.9	200.6	248.6	319.4	361.3
37°	175.9	191.1	238.2	309.0	351.4
38°	166.9	181.5	227.7	298.3	341.3
39°	157.9	172.1	217.1	287.8	331.1
40°	149.6	163.3	207.0	277.6	320.7
41°	141.6	154.6	197.6	267.4	310.2
42°	134.1	146.7	188.4	257.4	299.6
43°	126.5	138.9	179.4	247.7	288.9
44°	119.7	131.5	170.6	238.2	278.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	113.1	124.4	162.5	228.5	267.7
46°	106.9	117.1	154.4	219.0	257.3
47°	101.0	110.9	146.2	209.7	246.9
48°	94.8	104.5	138.9	200.6	236.6
49°	89.7	98.8	131.4	192.0	226.4
50°	83.9	92.9	124.2	183.4	216.4
51°	79.3	87.3	117.5	174.8	206.7
52°	74.4	82.2	110.7	166.7	197.1
53°	69.8	76.9	104.1	158.4	187.6
54°	65.6	72.4	97.8	150.6	178.3
55°	61.3	67.9	91.7	143.1	169.2
56°	57.2	63.5	85.9	135.2	160.3
57°	53.3	59.1	80.5	127.5	151.6
58°	49.6	55.1	75.2	120.3	143.1
59°	46.0	51.1	70.1	113.0	134.8
60°	42.6	47.4	65.2	106.1	126.8
61°	39.4	44.0	60.3	99.4	118.9
62°	36.5	40.6	55.7	92.9	111.2
63°	33.5	37.6	51.3	86.6	103.6
64°	30.8	34.7	47.2	80.4	96.6
65°	28.3	31.9	43.3	74.4	89.4
66°	26.0	29.2	39.7	68.7	82.5
67°	23.7	26.6	36.3	63.1	75.8
68°	21.5	24.3	33.1	57.8	69.3
69°	19.5	22.3	30.2	52.8	63.1
70°	17.5	20.2	27.4	47.9	57.2
71°	15.6	18.2	24.8	43.3	51.7
72°	13.7	16.5	22.5	38.9	46.3
73°	12.2	14.8	20.3	34.8	41.2
74°	10.8	13.1	18.2	30.9	36.5
75°	9.6	11.7	16.5	27.5	32.4
76°	8.5	10.5	14.8	24.1	28.0
77°	7.8	9.4	13.4	21.3	24.3
78°	7.1	8.4	11.9	18.7	20.6
79°	6.3	7.5	10.7	16.3	17.4
80°	5.8	6.8	9.5	14.1	14.7
81°	5.5	6.2	8.6	12.4	12.3
82°	5.2	5.6	7.8	10.7	10.1
83°	5.0	5.2	6.9	9.5	8.2
84°	4.7	4.9	6.3	8.3	6.6
85°	4.6	4.6	5.6	7.4	5.1
86°	4.4	4.4	5.1	6.4	3.9
87°	4.4	4.1	4.6	5.7	3.0
88°	4.4	4.1	4.4	5.1	2.3
89°	4.3	3.9	4.1	4.6	1.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	3.8	3.8	3.8	3.8	3.8

(END OF REPORT)