

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: P958892

Luminaire Tested: MMG-05W-927-30x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958892
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-927-30x60-ID-X-X-1F-1-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 30x60 DEGREE OPTICS. INPUT WATTAGE IN IES FILE REPRESENTS CONSUMPTION IN A RUN, INDIVIDUAL FIXTURE MAY VARY.
5 WATTS PER FOOT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 233.2 lumens
Efficiency: N/A
Efficacy: 51.8 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.09 / 0.76
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 1' x H: 0.09')
CIE Type: Direct

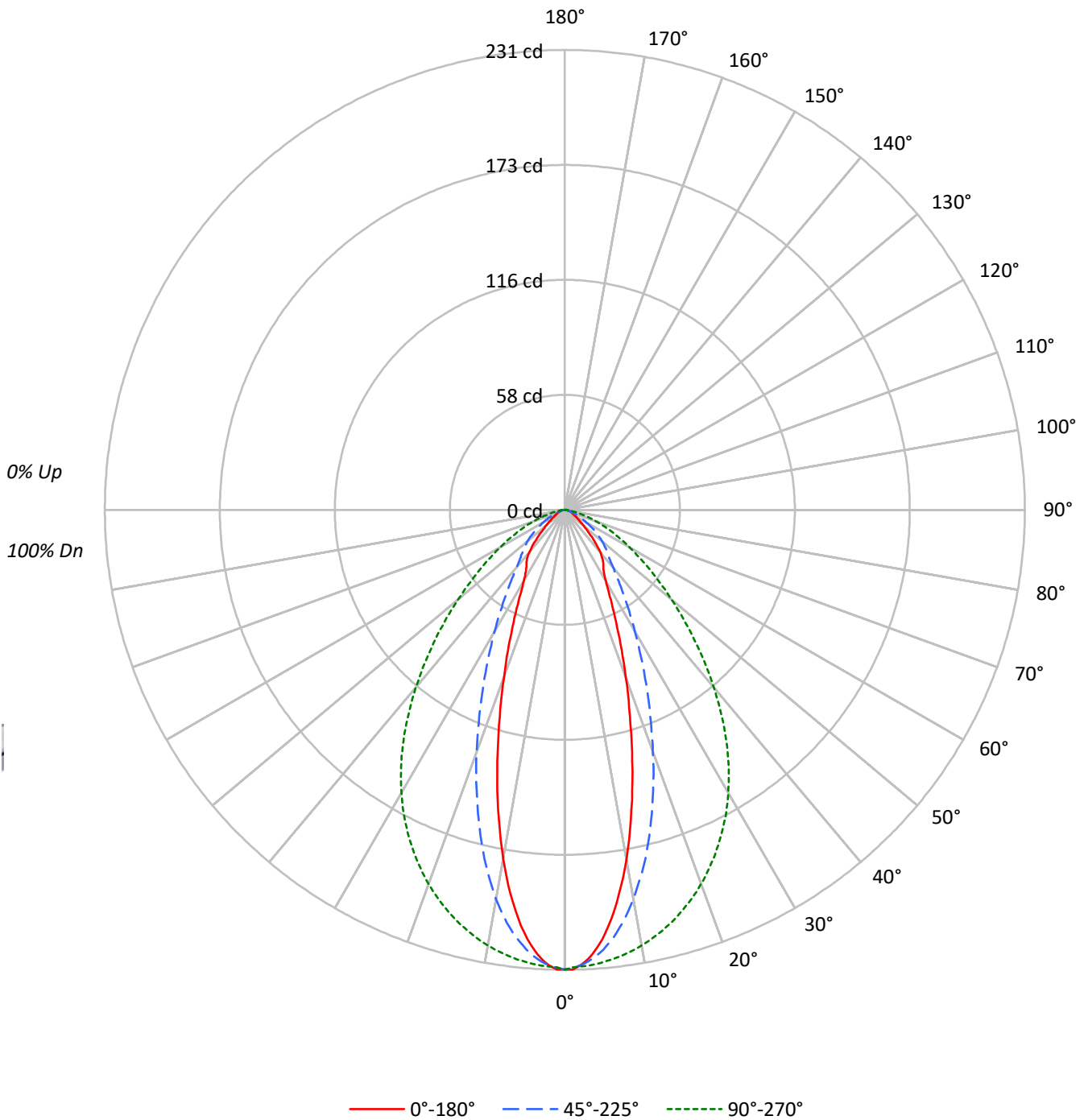
Input Watts (W): 4.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	36072	36072	36072
5°	33669	32137	32247
10°	27834	27029	28920
15°	20682	21414	25844
20°	14415	16047	22922
25°	9897	11593	20076
30°	7066	8245	17263
35°	6065	5888	14435
40°	5253	4307	11643
45°	3868	3424	9062
50°	2647	2804	6853
55°	1967	2110	5087
60°	1552	1455	3706
65°	1375	959	2620
70°	1258	614	1712
75°	961	403	977
80°	849	271	471
85°	908	199	177

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 9062 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.5	8.8
10°-20°	46.8	20.1
20°-30°	50.0	21.4
30°-40°	42.9	18.4
40°-50°	33.1	14.2
50°-60°	21.6	9.3
60°-70°	11.9	5.1
70°-80°	5.0	2.1
80°-90°	1.6	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°	117.3	50.3
0°-40°	160.1	68.7
0°-60°	214.8	92.1
0°-90°	233.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	233.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	231	231	231	231	231	
5°	216	218	222	226	228	19
15°	131	140	166	197	213	36
25°	60	68	97	149	184	28
35°	34	35	51	99	141	21
45°	19	23	30	63	92	15
55°	8	10	18	38	52	7
65°	4	5	8	20	26	4
75°	2	2	3	7	9	2
85°	1	1	1	2	2	1
90°	1	1	1	1	1	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	230.9	230.9	230.9	230.9	230.9
1°	231.0	230.5	230.0	229.9	229.9
2°	228.9	228.7	228.9	229.2	229.6
3°	225.8	226.0	227.1	228.4	229.2
4°	221.6	222.3	224.8	227.3	228.6
5°	216.3	217.7	221.7	225.9	227.9
6°	210.1	212.2	218.1	224.3	227.1
7°	203.1	206.1	214.0	222.4	226.1
8°	195.1	199.1	209.3	220.1	224.9
9°	187.1	191.6	204.1	217.5	223.6
10°	178.1	183.9	198.5	214.8	222.1
11°	168.8	175.3	192.4	211.7	220.6
12°	159.2	166.7	186.1	208.4	218.8
13°	149.8	157.7	179.8	204.9	217.0
14°	140.3	149.0	172.7	201.3	215.0
15°	130.8	140.1	165.6	197.3	212.8
16°	121.7	131.1	158.4	193.1	210.5
17°	112.8	122.6	151.0	188.7	208.1
18°	104.8	114.2	143.9	184.1	205.5
19°	97.0	106.5	136.8	179.4	202.9
20°	89.4	98.9	129.4	174.6	200.0
21°	82.7	91.9	122.3	169.7	197.0
22°	76.2	85.2	115.5	164.7	193.9
23°	70.3	79.1	108.9	159.6	190.7
24°	64.7	73.2	102.6	154.3	187.2
25°	59.7	67.9	96.6	149.0	183.7
26°	55.1	62.7	90.9	143.7	180.1
27°	51.0	58.1	85.3	138.3	176.3
28°	47.2	53.9	80.0	133.0	172.4
29°	43.9	50.1	75.1	128.0	168.4
30°	41.1	46.5	70.4	123.0	164.1
31°	38.8	43.3	66.2	118.0	159.8
32°	37.0	40.7	61.9	113.1	155.3
33°	35.7	38.4	58.1	108.3	150.8
34°	34.6	36.7	54.4	103.6	146.1
35°	33.7	35.2	51.1	99.0	141.3
36°	32.8	34.2	47.8	94.7	136.4
37°	31.8	33.2	45.0	90.5	131.4
38°	30.5	32.2	42.2	86.5	126.4
39°	29.1	31.3	39.8	82.7	121.4
40°	27.6	30.2	37.7	79.1	116.4
41°	25.9	29.0	35.7	75.5	111.3
42°	24.2	27.6	34.0	72.1	106.4
43°	22.4	26.0	32.5	68.8	101.4
44°	20.7	24.4	31.3	65.7	96.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	19.0	22.8	30.0	62.6	91.8
46°	17.4	21.2	28.9	59.8	87.2
47°	15.8	19.6	27.8	57.0	82.6
48°	14.4	18.1	26.7	54.3	78.2
49°	13.1	16.5	25.5	51.7	73.9
50°	12.0	15.1	24.4	49.2	69.8
51°	10.9	13.7	23.2	46.8	65.9
52°	10.1	12.6	21.9	44.5	62.1
53°	9.4	11.6	20.6	42.2	58.5
54°	8.7	10.6	19.3	40.0	55.0
55°	8.1	9.8	18.1	37.9	51.7
56°	7.5	9.1	16.8	35.8	48.5
57°	7.0	8.4	15.6	33.8	45.6
58°	6.5	7.8	14.4	31.9	42.7
59°	6.0	7.2	13.3	30.0	40.0
60°	5.7	6.6	12.2	28.1	37.3
61°	5.3	6.1	11.2	26.3	34.9
62°	5.0	5.7	10.3	24.6	32.5
63°	4.8	5.3	9.4	22.9	30.2
64°	4.6	4.9	8.5	21.3	28.0
65°	4.4	4.6	7.8	19.7	25.9
66°	4.2	4.3	7.1	18.2	23.8
67°	4.1	4.1	6.4	16.7	21.9
68°	3.9	3.9	5.8	15.2	20.0
69°	3.6	3.6	5.3	13.9	18.2
70°	3.4	3.5	4.8	12.6	16.5
71°	3.2	3.3	4.4	11.3	14.8
72°	2.9	3.0	4.0	10.2	13.3
73°	2.6	2.8	3.6	9.1	11.8
74°	2.4	2.6	3.3	8.0	10.4
75°	2.1	2.4	3.0	7.1	9.1
76°	1.9	2.2	2.7	6.2	8.0
77°	1.8	2.0	2.5	5.5	6.9
78°	1.6	1.8	2.3	4.7	5.9
79°	1.5	1.7	2.1	4.1	5.0
80°	1.4	1.5	1.9	3.6	4.2
81°	1.3	1.4	1.8	3.2	3.5
82°	1.2	1.3	1.6	2.8	2.9
83°	1.2	1.2	1.5	2.4	2.3
84°	1.1	1.2	1.4	2.1	1.9
85°	1.0	1.1	1.3	1.9	1.5
86°	1.0	1.0	1.2	1.7	1.1
87°	1.0	1.0	1.1	1.5	0.9
88°	1.0	0.9	1.0	1.4	0.7
89°	1.0	0.9	1.0	1.3	0.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	0.9	0.9	0.9	0.9	0.9

(END OF REPORT)