

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: P958856

Luminaire Tested: MMG-05W-940-30x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958856
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-940-30x60-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 30x60 DEGREE OPTICS
5 WATTS PER FOOT
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1011.1 lumens
Efficiency: N/A
Efficacy: 56.2 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

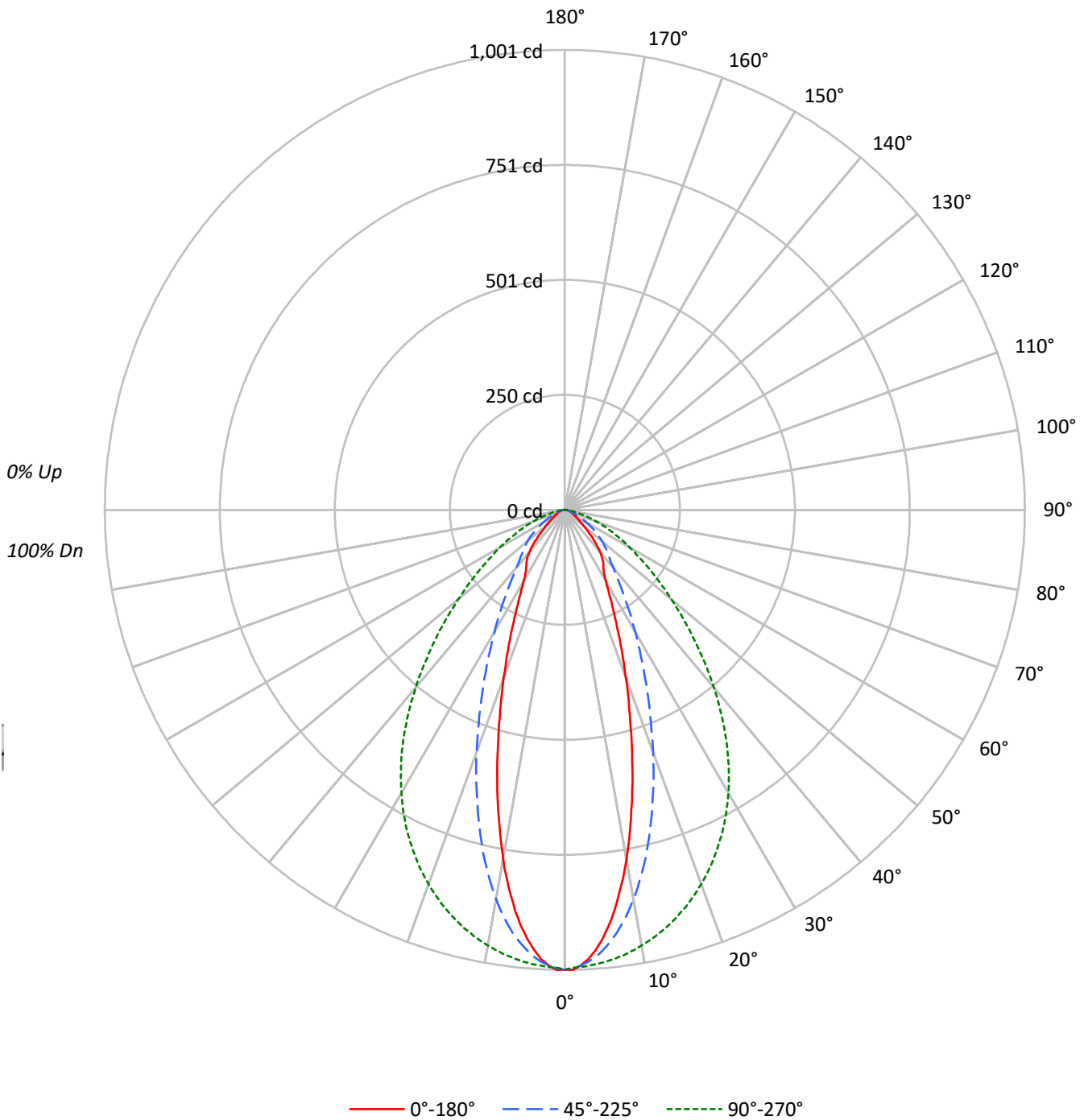
Input Watts (W): 18
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	39103	39103	39103
5°	36698	34964	34957
10°	30510	29499	31351
15°	22808	23432	28018
20°	15990	17606	24847
25°	11051	12749	21764
30°	7943	9096	18715
35°	6863	6502	15643
40°	5986	4762	12616
45°	4462	3807	9825
50°	3069	3119	7428
55°	2319	2347	5515
60°	1846	1628	4022
65°	1679	1074	2837
70°	1607	696	1855
75°	1286	457	1063
80°	1184	305	510
85°	1621	220	186

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 9825 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	8.8
10°-20°	202.9	20.1
20°-30°	216.8	21.4
30°-40°	185.9	18.4
40°-50°	143.3	14.2
50°-60°	93.5	9.2
60°-70°	51.4	5.1
70°-80°	21.6	2.1
80°-90°	7.0	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°	508.4	50.3
0°-40°	694.3	68.7
0°-60°	931.1	92.1
0°-90°	1011.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1011.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1001	1001	1001	1001	1001	
5°	938	944	961	980	988	84
15°	567	607	718	856	923	156
25°	259	294	419	646	797	121
35°	146	153	221	429	612	91
45°	82	99	130	272	398	64
55°	35	42	78	164	224	32
65°	19	20	34	85	112	19
75°	9	10	13	31	40	10
85°	4	5	6	8	6	5
90°	4	4	4	4	4	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1001.2	1001.2	1001.2	1001.2	1001.2
1°	1001.3	999.2	997.4	996.9	996.7
2°	992.4	991.5	992.4	994.0	995.5
3°	979.1	980.0	984.7	990.3	993.7
4°	960.6	963.9	974.6	985.6	991.2
5°	937.8	943.7	961.3	979.6	988.2
6°	910.9	920.1	945.7	972.3	984.5
7°	880.6	893.5	927.8	964.2	980.1
8°	845.9	863.4	907.5	954.4	975.1
9°	811.2	830.7	885.0	943.1	969.4
10°	772.2	797.2	860.6	931.2	963.1
11°	732.0	760.0	834.3	918.0	956.2
12°	690.4	722.9	807.0	903.8	948.9
13°	649.3	683.6	779.4	888.5	940.7
14°	608.1	645.8	748.7	872.6	932.0
15°	567.3	607.3	717.8	855.5	922.8
16°	527.7	568.6	686.7	837.3	912.7
17°	488.9	531.4	654.6	818.1	902.3
18°	454.3	495.0	623.8	798.1	891.1
19°	420.4	461.8	593.0	777.7	879.5
20°	387.7	428.9	560.9	757.0	867.2
21°	358.5	398.5	530.3	735.8	854.3
22°	330.2	369.3	500.8	714.2	840.7
23°	304.6	343.1	472.1	691.9	826.8
24°	280.5	317.4	444.6	669.2	811.7
25°	259.0	294.2	418.7	646.1	796.6
26°	238.8	271.8	394.0	622.9	780.9
27°	221.0	252.0	369.7	599.4	764.5
28°	204.6	233.7	347.1	576.6	747.6
29°	190.4	217.0	325.8	554.9	730.0
30°	178.3	201.7	305.4	533.4	711.6
31°	168.4	187.9	286.9	511.7	692.8
32°	160.3	176.4	268.5	490.3	673.4
33°	154.7	166.7	252.0	469.4	653.6
34°	150.2	159.0	236.0	449.1	633.3
35°	146.1	152.8	221.4	429.3	612.5
36°	142.1	148.1	207.3	410.7	591.3
37°	137.7	143.9	195.0	392.3	569.8
38°	132.3	139.8	183.0	375.1	548.1
39°	126.3	135.7	172.5	358.7	526.4
40°	119.5	130.8	163.2	343.1	504.5
41°	112.3	125.5	154.8	327.5	482.7
42°	105.0	119.5	147.4	312.6	461.2
43°	97.2	112.9	141.1	298.3	439.6
44°	89.7	105.8	135.6	284.8	418.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	82.5	98.8	130.3	271.6	398.1
46°	75.4	91.8	125.1	259.1	377.9
47°	68.3	84.9	120.5	247.1	358.1
48°	62.2	78.3	115.8	235.4	338.9
49°	56.7	71.6	110.8	224.3	320.4
50°	51.8	65.4	105.8	213.5	302.6
51°	47.5	59.6	100.5	202.8	285.6
52°	43.8	54.6	94.9	192.8	269.3
53°	40.6	50.1	89.4	182.9	253.6
54°	37.7	46.2	83.9	173.4	238.5
55°	35.1	42.5	78.3	164.3	224.2
56°	32.4	39.3	72.9	155.1	210.4
57°	30.3	36.4	67.5	146.4	197.5
58°	28.2	33.6	62.4	138.2	185.0
59°	26.1	31.1	57.6	130.0	173.3
60°	24.5	28.7	53.0	121.8	161.9
61°	22.9	26.6	48.5	114.1	151.1
62°	21.6	24.8	44.6	106.5	140.8
63°	20.7	22.9	40.6	99.3	130.9
64°	19.8	21.4	37.1	92.2	121.3
65°	19.0	20.0	33.8	85.4	112.2
66°	18.2	18.9	30.6	78.7	103.4
67°	17.7	17.8	28.0	72.3	94.9
68°	16.9	16.9	25.3	66.1	86.8
69°	15.8	15.8	22.9	60.1	78.9
70°	14.9	15.0	21.0	54.6	71.5
71°	13.7	14.1	19.0	49.2	64.3
72°	12.5	13.2	17.3	44.0	57.6
73°	11.3	12.3	15.7	39.3	51.3
74°	10.3	11.3	14.2	34.8	45.2
75°	9.2	10.3	13.1	30.7	39.6
76°	8.4	9.5	11.9	27.0	34.5
77°	7.6	8.7	10.8	23.7	29.8
78°	6.9	7.9	9.9	20.6	25.6
79°	6.5	7.3	9.0	17.9	21.8
80°	5.9	6.6	8.2	15.7	18.2
81°	5.5	6.1	7.6	13.7	15.2
82°	5.3	5.7	7.0	12.0	12.5
83°	5.0	5.3	6.5	10.5	10.2
84°	4.7	5.0	6.1	9.2	8.0
85°	4.5	4.7	5.5	8.3	6.3
86°	4.5	4.5	5.1	7.4	4.9
87°	4.4	4.2	4.9	6.6	3.7
88°	4.2	4.1	4.5	6.1	2.9
89°	4.2	4.0	4.4	5.5	2.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	4.1	4.1	4.1	4.1	4.1

(END OF REPORT)