

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: P958843

Luminaire Tested: MMG-05W-927-10x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958843
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-927-10x60-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 10x60 DEGREE OPTICS
5 WATTS PER FOOT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 558.7 lumens
Efficiency: N/A
Efficacy: 31.0 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.91 / 0.25
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 4' x H: 0.09')
CIE Type: Direct

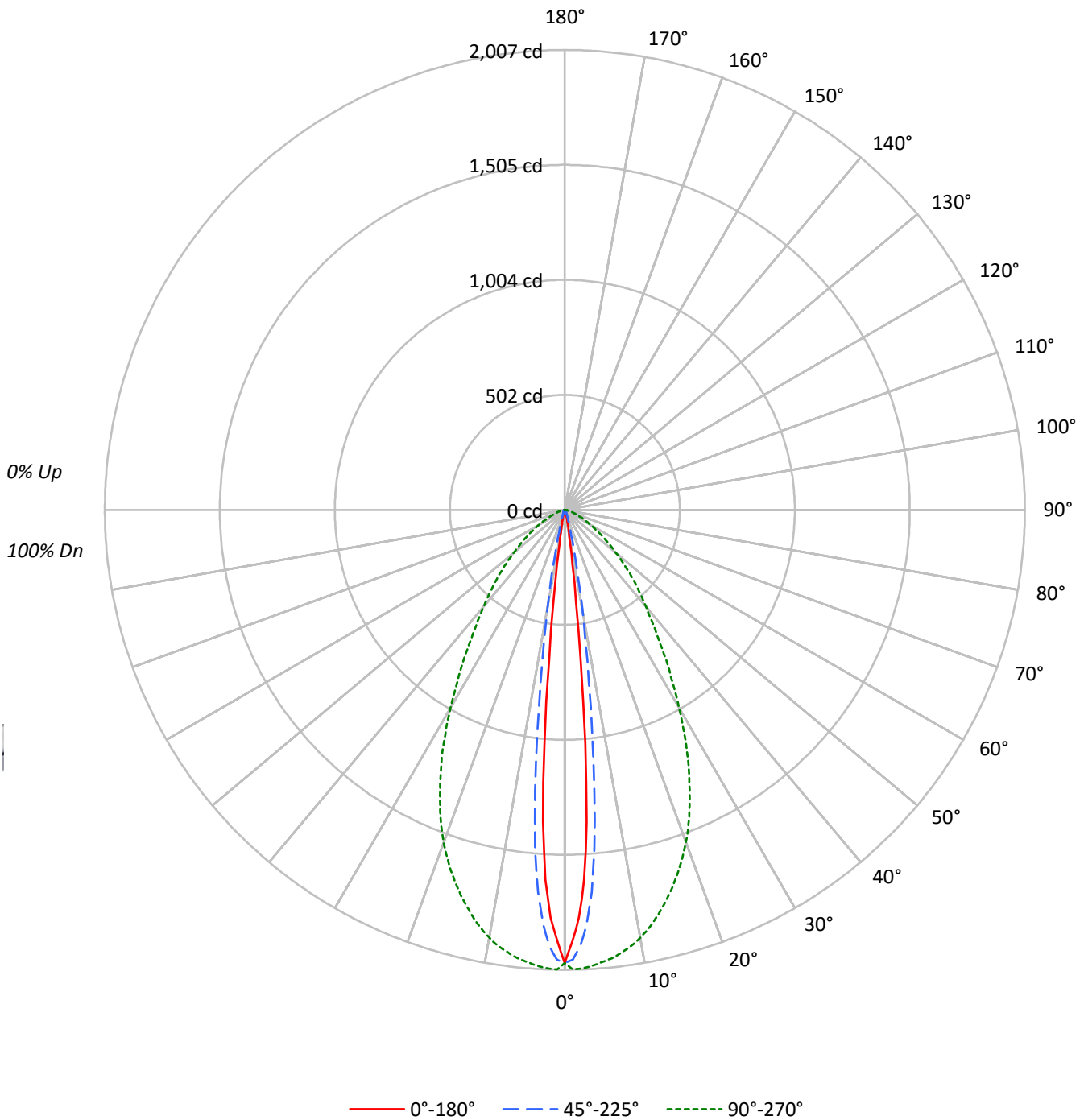
Input Watts (W): 18
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92				92
2	106	101	96	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84				84
3	100	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77
4	95	87	81	76	93	86	80	76	84	79	75	81	77	74	80	76	73	72				72
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	67				67
6	86	76	70	65	84	75	70	65	74	69	65	73	68	64	71	67	64	62				62
7	82	72	66	61	80	71	65	61	70	65	61	69	64	60	68	63	60	59				59
8	78	68	62	58	77	68	62	58	66	61	57	65	61	57	64	60	57	55				55
9	75	65	59	55	73	64	59	55	63	58	54	62	58	54	62	57	54	53				53
10	72	62	56	52	71	61	56	52	61	55	52	60	55	52	59	55	52	50				50

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	77226	77226	77226
5°	40005	54049	69970
10°	3979	14928	61736
15°	1045	2935	52967
20°	528	1017	44245
25°	384	518	35089
30°	383	346	26234
35°	291	279	18894
40°	250	257	13734
45°	238	242	10129
50°	231	221	7148
55°	218	189	4932
60°	211	154	3192
65°	256	124	1962
70°	248	106	1131
75°	252	84	585
80°	301	71	278
85°	432	68	101

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 10129 cd/sqm



TEST NUMBER: P958843

CATALOG NUMBER: MMG-05W-927-10x60-ID-X-X-4F-4-UNV-STD-X

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.2	20.4
10°-20°	127.7	22.9
20°-30°	106.7	19.1
30°-40°	79.9	14.3
40°-50°	60.1	10.8
50°-60°	40.1	7.2
60°-70°	20.1	3.6
70°-80°	7.4	1.3
80°-90°	2.4	0.4
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°	348.7	62.4
0°-40°	428.6	76.7
0°-60°	528.8	94.6
0°-90°	558.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	558.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1977	1977	1977	1977	1977	
5°	1022	1129	1486	1849	1978	61
15°	26	32	90	766	1744	9
25°	9	10	17	251	1284	4
35°	6	8	10	114	740	4
45°	4	5	8	91	410	3
55°	3	4	6	67	200	3
65°	3	3	4	33	78	3
75°	2	2	2	10	22	2
85°	1	1	2	3	3	1
90°	2	2	2	2	2	



TEST NUMBER: P958843

CATALOG NUMBER: MMG-05W-927-10x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1977.3	1977.3	1977.3	1977.3	1977.3
1°	1882.4	1923.0	1962.5	1992.0	2006.7
2°	1780.3	1822.7	1906.7	1978.8	2002.8
3°	1617.2	1673.2	1811.6	1946.6	1996.9
4°	1365.4	1436.7	1673.2	1901.6	1987.9
5°	1022.3	1128.8	1486.0	1849.1	1978.0
6°	654.7	784.9	1235.5	1785.8	1967.1
7°	399.5	527.0	986.6	1705.0	1952.5
8°	241.0	346.5	756.7	1615.5	1936.9
9°	150.8	216.7	576.1	1504.6	1918.8
10°	100.7	138.0	435.5	1364.4	1896.5
11°	71.3	96.7	312.6	1248.4	1870.9
12°	53.3	70.1	229.9	1121.5	1842.9
13°	39.9	51.6	161.9	977.1	1811.9
14°	32.0	40.1	114.8	874.2	1779.5
15°	26.0	32.4	89.9	765.7	1744.5
16°	21.4	27.2	69.6	692.2	1708.7
17°	17.8	22.6	54.5	610.9	1670.1
18°	15.6	18.9	44.8	548.8	1631.3
19°	13.7	16.7	37.5	484.2	1588.7
20°	12.8	14.5	32.4	437.6	1544.2
21°	11.6	13.3	27.7	390.9	1497.9
22°	10.7	12.2	24.8	343.8	1448.4
23°	10.1	11.2	21.4	312.3	1393.7
24°	9.5	10.7	18.7	278.6	1338.6
25°	9.0	10.0	17.0	251.3	1284.3
26°	8.6	9.5	15.7	226.3	1229.3
27°	8.5	9.0	14.4	206.0	1171.7
28°	8.5	8.8	13.3	187.1	1112.6
29°	8.5	8.3	12.4	169.8	1054.8
30°	8.6	8.3	11.6	155.7	997.5
31°	8.3	8.3	11.2	145.3	940.6
32°	8.0	8.3	10.6	135.2	886.7
33°	7.4	8.3	10.2	126.5	837.3
34°	6.7	8.3	9.9	119.7	788.4
35°	6.2	8.0	9.5	114.0	739.8
36°	5.8	7.7	9.2	108.9	694.4
37°	5.6	7.1	9.1	106.1	655.2
38°	5.4	6.6	9.0	102.7	618.0
39°	5.1	6.2	8.9	100.4	581.1
40°	5.0	6.0	8.8	98.3	549.2
41°	4.9	5.7	8.8	96.2	519.6
42°	4.7	5.5	8.5	94.9	489.8
43°	4.6	5.4	8.5	93.4	463.0
44°	4.5	5.2	8.5	92.1	437.6



TEST NUMBER: P958843

CATALOG NUMBER: MMG-05W-927-10x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	4.4	5.1	8.3	90.8	410.4
46°	4.3	4.9	8.3	89.3	384.2
47°	4.1	4.7	8.0	88.1	358.9
48°	4.1	4.6	7.8	86.0	335.3
49°	4.0	4.4	7.7	84.4	311.9
50°	3.9	4.4	7.5	82.5	291.2
51°	3.9	4.1	7.3	80.0	270.2
52°	3.6	4.1	7.1	77.1	250.5
53°	3.5	4.0	6.8	74.1	232.0
54°	3.4	3.9	6.6	71.0	215.6
55°	3.3	3.6	6.3	67.4	200.5
56°	3.2	3.6	6.1	64.0	183.4
57°	2.9	3.4	5.8	60.5	167.1
58°	2.9	3.3	5.5	56.7	153.5
59°	2.8	3.2	5.4	53.0	141.0
60°	2.8	3.0	5.0	49.4	128.5
61°	2.8	2.9	4.7	46.0	117.0
62°	2.7	2.8	4.5	42.3	106.0
63°	2.8	2.8	4.4	39.2	95.7
64°	2.8	2.7	4.1	36.0	86.2
65°	2.9	2.7	3.9	32.7	77.6
66°	2.8	2.7	3.8	29.7	69.7
67°	2.7	2.7	3.5	26.9	62.3
68°	2.6	2.6	3.4	24.1	55.5
69°	2.3	2.4	3.2	21.7	49.3
70°	2.3	2.3	3.2	19.2	43.6
71°	2.2	2.2	2.9	17.0	38.6
72°	2.1	2.2	2.9	15.1	33.7
73°	1.9	2.1	2.7	13.4	29.2
74°	1.9	1.9	2.7	11.7	25.2
75°	1.8	1.9	2.4	10.2	21.8
76°	1.7	1.8	2.4	9.0	18.7
77°	1.6	1.6	2.3	7.8	16.1
78°	1.6	1.6	2.2	6.8	13.6
79°	1.5	1.5	2.2	5.8	11.7
80°	1.5	1.5	1.9	5.2	9.9
81°	1.3	1.3	1.9	4.6	8.2
82°	1.2	1.2	1.9	4.1	6.7
83°	1.2	1.2	1.7	3.8	5.5
84°	1.2	1.2	1.7	3.5	4.4
85°	1.2	1.1	1.7	3.3	3.4
86°	1.1	1.1	1.7	3.2	2.7
87°	1.1	1.0	1.7	2.9	2.2
88°	1.0	1.0	1.6	2.7	1.7
89°	1.0	1.0	1.6	2.6	1.6



TEST NUMBER: P958843

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	1.5	1.5	1.5	1.5	1.5

(END OF REPORT)