

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: P958848

Luminaire Tested: MMG-05W-930-30x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958848
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-930-30x60-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: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 934.9 lumens
Efficiency: N/A
Efficacy: 51.9 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

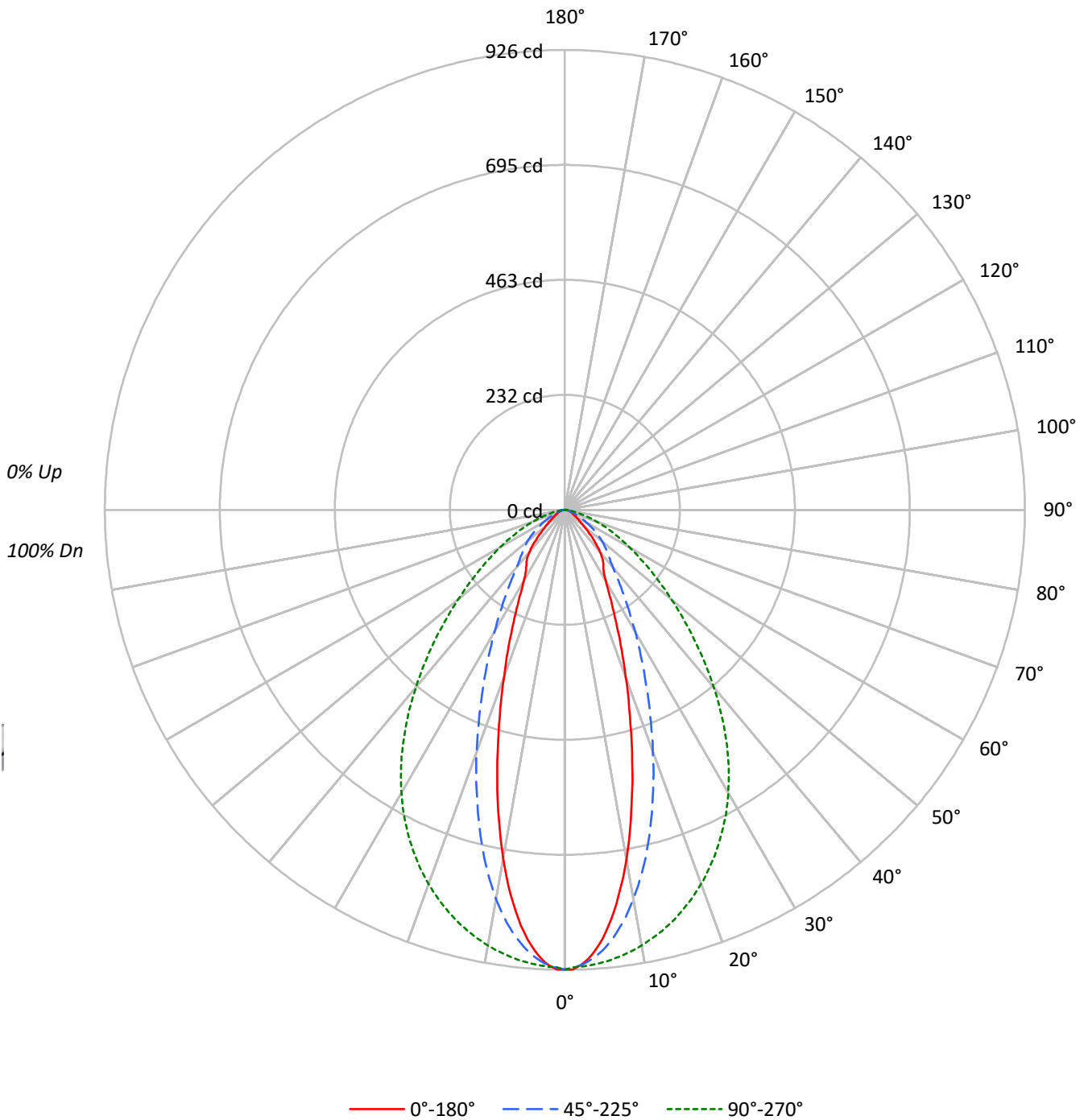
Input Watts (W): 18
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P958848

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	36154	36154	36154
5°	33932	32327	32321
10°	28210	27277	28988
15°	21087	21666	25905
20°	14781	16282	22976
25°	10219	11787	20122
30°	7342	8411	17305
35°	6347	6012	14463
40°	5535	4403	11666
45°	4126	3521	9085
50°	2838	2883	6868
55°	2141	2170	5099
60°	1710	1505	3719
65°	1555	991	2625
70°	1489	643	1715
75°	1188	422	983
80°	1104	283	471
85°	1477	204	175

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 9085 cd/sqm



TEST NUMBER: P958848

CATALOG NUMBER: MMG-05W-930-30x60-ID-X-X-4F-4-UNV-STD-X

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.0	8.8
10°-20°	187.6	20.1
20°-30°	200.5	21.4
30°-40°	171.9	18.4
40°-50°	132.5	14.2
50°-60°	86.5	9.2
60°-70°	47.5	5.1
70°-80°	19.9	2.1
80°-90°	6.5	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°	470.0	50.3
0°-40°	641.9	68.7
0°-60°	860.9	92.1
0°-90°	934.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	934.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	926	926	926	926	926	
5°	867	873	889	906	914	78
15°	524	562	664	791	853	144
25°	240	272	387	597	736	112
35°	135	141	205	397	566	85
45°	76	91	120	251	368	59
55°	32	39	72	152	207	30
65°	18	18	31	79	104	18
75°	8	10	12	28	37	9
85°	4	4	5	8	6	5
90°	4	4	4	4	4	



TEST NUMBER: P958848

CATALOG NUMBER: MMG-05W-930-30x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	925.7	925.7	925.7	925.7	925.7
1°	925.9	923.9	922.2	921.7	921.6
2°	917.6	916.7	917.6	919.0	920.5
3°	905.3	906.1	910.5	915.6	918.8
4°	888.2	891.2	901.1	911.4	916.5
5°	867.1	872.6	888.8	905.8	913.7
6°	842.2	850.8	874.4	899.0	910.3
7°	814.2	826.1	857.8	891.5	906.2
8°	782.1	798.3	839.1	882.5	901.6
9°	750.1	768.1	818.3	872.0	896.4
10°	714.0	737.1	795.8	861.0	890.5
11°	676.8	702.8	771.4	848.8	884.2
12°	638.4	668.4	746.2	835.6	877.3
13°	600.3	632.0	720.7	821.5	869.8
14°	562.3	597.2	692.3	806.9	861.7
15°	524.5	561.6	663.7	791.0	853.2
16°	487.9	525.7	635.0	774.2	843.9
17°	452.1	491.3	605.2	756.4	834.3
18°	420.0	457.7	576.8	738.0	823.9
19°	388.7	427.0	548.3	719.1	813.2
20°	358.4	396.6	518.7	699.9	801.9
21°	331.5	368.4	490.4	680.3	789.9
22°	305.3	341.5	463.1	660.3	777.4
23°	281.6	317.2	436.5	639.7	764.4
24°	259.3	293.5	411.1	618.7	750.5
25°	239.5	272.0	387.1	597.4	736.5
26°	220.8	251.3	364.3	576.0	722.0
27°	204.3	233.0	341.9	554.3	706.9
28°	189.2	216.0	320.9	533.2	691.3
29°	176.1	200.7	301.3	513.0	675.0
30°	164.8	186.5	282.4	493.2	658.0
31°	155.7	173.7	265.3	473.2	640.6
32°	148.3	163.1	248.2	453.3	622.7
33°	143.0	154.1	233.0	434.0	604.4
34°	138.9	147.0	218.2	415.3	585.6
35°	135.1	141.3	204.7	397.0	566.3
36°	131.4	136.9	191.7	379.8	546.7
37°	127.3	133.0	180.3	362.7	526.8
38°	122.3	129.2	169.2	346.9	506.8
39°	116.8	125.5	159.5	331.6	486.7
40°	110.5	120.9	150.9	317.2	466.5
41°	103.9	116.1	143.1	302.9	446.4
42°	97.0	110.5	136.3	289.1	426.5
43°	89.9	104.4	130.5	275.8	406.5
44°	82.9	97.8	125.3	263.3	387.0



TEST NUMBER: P958848

CATALOG NUMBER: MMG-05W-930-30x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	76.3	91.3	120.5	251.2	368.1
46°	69.7	84.9	115.7	239.6	349.4
47°	63.2	78.5	111.4	228.5	331.1
48°	57.5	72.4	107.0	217.6	313.3
49°	52.4	66.2	102.4	207.4	296.3
50°	47.9	60.5	97.8	197.4	279.8
51°	43.9	55.1	92.9	187.5	264.1
52°	40.5	50.5	87.8	178.2	249.0
53°	37.6	46.3	82.7	169.1	234.5
54°	34.9	42.7	77.5	160.3	220.6
55°	32.4	39.3	72.4	151.9	207.3
56°	30.0	36.3	67.4	143.4	194.6
57°	28.0	33.7	62.4	135.3	182.6
58°	26.1	31.1	57.7	127.8	171.1
59°	24.1	28.8	53.3	120.2	160.2
60°	22.7	26.6	49.0	112.7	149.7
61°	21.2	24.6	44.9	105.5	139.7
62°	20.0	22.9	41.2	98.5	130.2
63°	19.1	21.2	37.6	91.8	121.1
64°	18.3	19.8	34.3	85.2	112.2
65°	17.6	18.5	31.2	79.0	103.8
66°	16.8	17.4	28.3	72.8	95.6
67°	16.3	16.5	25.8	66.8	87.8
68°	15.6	15.6	23.4	61.1	80.2
69°	14.6	14.6	21.2	55.6	72.9
70°	13.8	13.9	19.4	50.5	66.1
71°	12.7	13.0	17.6	45.5	59.5
72°	11.6	12.2	16.0	40.7	53.3
73°	10.5	11.3	14.5	36.3	47.4
74°	9.5	10.5	13.2	32.2	41.8
75°	8.5	9.5	12.1	28.4	36.6
76°	7.8	8.8	11.0	25.0	31.9
77°	7.1	8.0	10.0	21.9	27.6
78°	6.3	7.3	9.1	19.0	23.7
79°	6.0	6.7	8.3	16.6	20.1
80°	5.5	6.1	7.6	14.5	16.8
81°	5.1	5.6	7.1	12.7	14.0
82°	4.9	5.2	6.5	11.1	11.6
83°	4.6	4.9	6.0	9.8	9.4
84°	4.4	4.6	5.6	8.5	7.4
85°	4.1	4.4	5.1	7.7	5.9
86°	4.1	4.1	4.8	6.8	4.5
87°	4.0	3.9	4.5	6.1	3.4
88°	3.9	3.8	4.1	5.6	2.7
89°	3.9	3.7	4.0	5.1	2.3



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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)