

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: P958852

Luminaire Tested: MMG-05W-935-30x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958852
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-935-30x60-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: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 944.8 lumens
Efficiency: N/A
Efficacy: 52.5 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

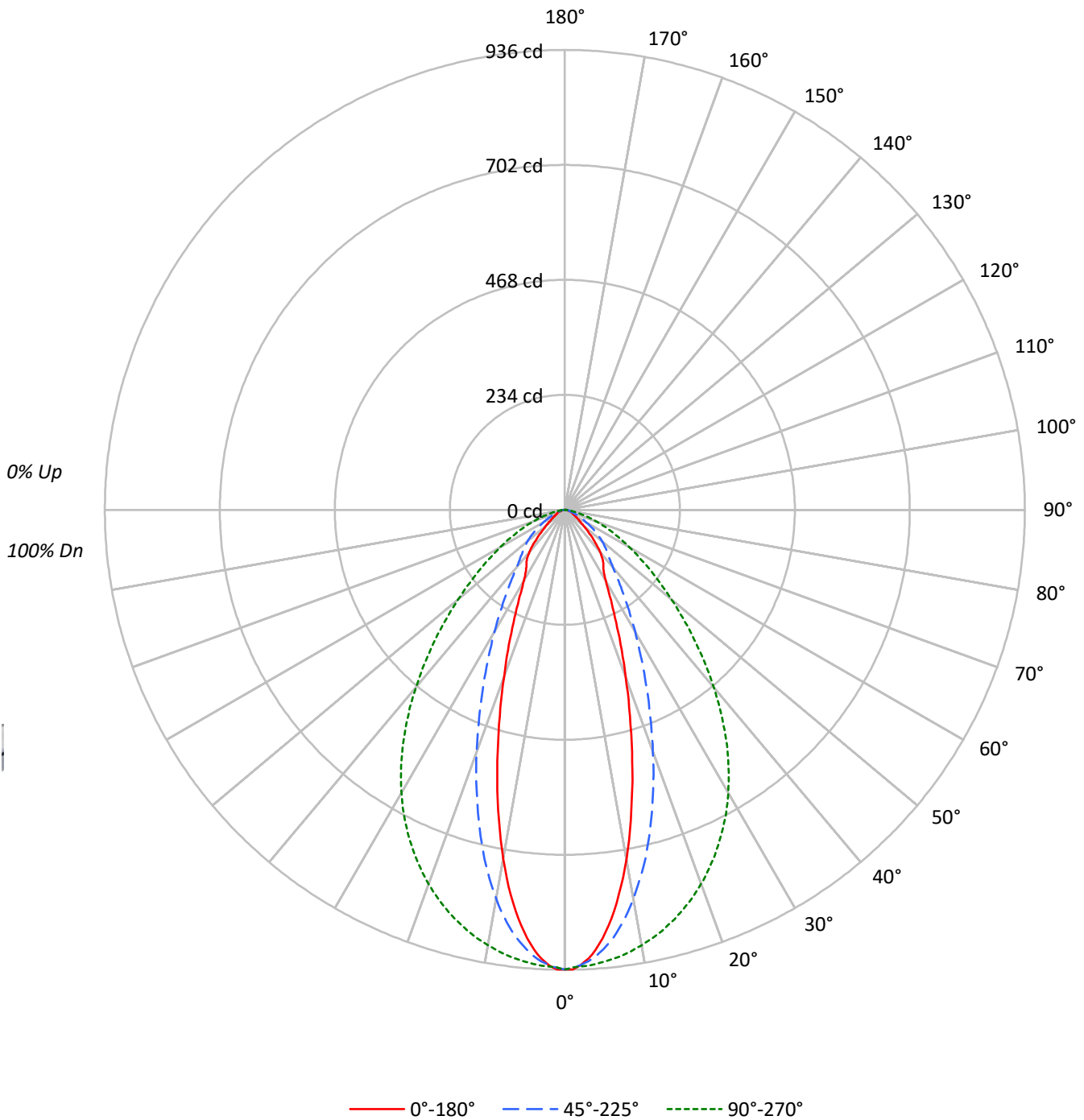
Input Watts (W): 18
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P958852

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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°	36537	36537	36537
5°	34288	32669	32661
10°	28507	27565	29294
15°	21308	21895	26178
20°	14938	16451	23217
25°	10326	11912	20335
30°	7422	8498	17487
35°	6412	6076	14616
40°	5590	4450	11788
45°	4170	3556	9181
50°	2868	2912	6942
55°	2167	2194	5154
60°	1725	1521	3759
65°	1564	1000	2650
70°	1499	649	1733
75°	1202	426	993
80°	1104	283	477
85°	1513	208	175

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 9181 cd/sqm



TEST NUMBER: P958852

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-4F-4-UNV-STD-X

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.9	8.8
10°-20°	189.6	20.1
20°-30°	202.6	21.4
30°-40°	173.7	18.4
40°-50°	133.9	14.2
50°-60°	87.4	9.2
60°-70°	48.0	5.1
70°-80°	20.1	2.1
80°-90°	6.6	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°	475.0	50.3
0°-40°	648.7	68.7
0°-60°	870.0	92.1
0°-90°	944.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	944.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	936	936	936	936	936	
5°	876	882	898	915	923	79
15°	530	568	671	799	862	146
25°	242	275	391	604	744	113
35°	136	143	207	401	572	85
45°	77	92	122	254	372	60
55°	33	40	73	154	210	30
65°	18	19	32	80	105	18
75°	9	10	12	29	37	10
85°	4	4	5	8	6	5
90°	4	4	4	4	4	



TEST NUMBER: P958852

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	935.5	935.5	935.5	935.5	935.5
1°	935.6	933.7	931.9	931.4	931.3
2°	927.3	926.4	927.3	928.7	930.2
3°	914.8	915.7	920.1	925.3	928.5
4°	897.6	900.6	910.6	921.0	926.1
5°	876.2	881.8	898.2	915.3	923.3
6°	851.1	859.7	883.6	908.5	919.9
7°	822.8	834.8	866.9	900.9	915.8
8°	790.4	806.8	847.9	891.8	911.1
9°	758.0	776.2	827.0	881.2	905.8
10°	721.5	744.9	804.2	870.1	899.9
11°	683.9	710.2	779.5	857.8	893.5
12°	645.1	675.4	754.0	844.5	886.6
13°	606.7	638.7	728.3	830.2	879.0
14°	568.2	603.5	699.6	815.4	870.8
15°	530.0	567.5	670.7	799.4	862.2
16°	493.1	531.3	641.7	782.4	852.8
17°	456.8	496.5	611.6	764.4	843.1
18°	424.4	462.5	582.9	745.8	832.6
19°	392.8	431.5	554.1	726.7	821.8
20°	362.2	400.8	524.1	707.3	810.3
21°	335.0	372.3	495.5	687.5	798.3
22°	308.5	345.1	467.9	667.3	785.6
23°	284.6	320.6	441.1	646.5	772.5
24°	262.1	296.6	415.5	625.3	758.5
25°	242.0	274.9	391.2	603.7	744.3
26°	223.1	253.9	368.1	582.0	729.6
27°	206.5	235.4	345.5	560.1	714.4
28°	191.2	218.3	324.3	538.8	698.6
29°	177.9	202.8	304.4	518.5	682.1
30°	166.6	188.5	285.3	498.4	664.9
31°	157.3	175.6	268.1	478.2	647.3
32°	149.8	164.9	250.8	458.1	629.2
33°	144.5	155.7	235.4	438.6	610.7
34°	140.3	148.6	220.5	419.6	591.8
35°	136.5	142.8	206.9	401.2	572.3
36°	132.8	138.4	193.7	383.8	552.5
37°	128.6	134.4	182.2	366.5	532.4
38°	123.6	130.6	171.0	350.5	512.2
39°	118.0	126.8	161.2	335.1	491.8
40°	111.6	122.2	152.5	320.6	471.4
41°	105.0	117.3	144.6	306.0	451.1
42°	98.1	111.6	137.7	292.1	431.0
43°	90.8	105.5	131.8	278.7	410.8
44°	83.8	98.8	126.7	266.1	391.1



TEST NUMBER: P958852

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	77.1	92.3	121.7	253.8	372.0
46°	70.5	85.8	116.9	242.1	353.1
47°	63.8	79.3	112.6	230.9	334.6
48°	58.2	73.2	108.2	219.9	316.6
49°	53.0	66.9	103.5	209.6	299.4
50°	48.4	61.1	98.8	199.5	282.8
51°	44.4	55.7	93.9	189.5	266.9
52°	40.9	51.0	88.7	180.1	251.6
53°	37.9	46.8	83.5	170.9	236.9
54°	35.2	43.1	78.4	162.0	222.9
55°	32.8	39.7	73.2	153.5	209.5
56°	30.3	36.7	68.1	144.9	196.6
57°	28.3	34.0	63.1	136.8	184.6
58°	26.4	31.4	58.3	129.1	172.9
59°	24.4	29.1	53.8	121.5	161.9
60°	22.9	26.9	49.5	113.8	151.3
61°	21.4	24.9	45.3	106.6	141.2
62°	20.2	23.2	41.6	99.6	131.6
63°	19.3	21.4	37.9	92.8	122.3
64°	18.5	20.0	34.6	86.1	113.4
65°	17.7	18.7	31.5	79.8	104.8
66°	17.0	17.6	28.6	73.6	96.6
67°	16.5	16.6	26.1	67.5	88.7
68°	15.8	15.8	23.7	61.7	81.1
69°	14.8	14.8	21.4	56.2	73.7
70°	13.9	14.0	19.6	51.0	66.8
71°	12.8	13.2	17.7	46.0	60.1
72°	11.7	12.3	16.1	41.2	53.8
73°	10.6	11.5	14.7	36.7	47.9
74°	9.6	10.6	13.3	32.5	42.3
75°	8.6	9.6	12.2	28.7	37.0
76°	7.9	8.9	11.1	25.3	32.3
77°	7.1	8.1	10.1	22.2	27.8
78°	6.4	7.4	9.2	19.2	23.9
79°	6.0	6.8	8.4	16.8	20.3
80°	5.5	6.2	7.6	14.7	17.0
81°	5.2	5.7	7.1	12.8	14.2
82°	4.9	5.3	6.5	11.2	11.7
83°	4.7	4.9	6.0	9.9	9.5
84°	4.4	4.7	5.7	8.6	7.5
85°	4.2	4.4	5.2	7.8	5.9
86°	4.2	4.2	4.8	6.9	4.6
87°	4.1	3.9	4.6	6.2	3.4
88°	3.9	3.8	4.2	5.7	2.7
89°	3.9	3.7	4.1	5.2	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)