

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: P958900

Luminaire Tested: MMG-05W-935-30x60-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958900
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-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: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 236.2 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: 1' x H: 0.09')
CIE Type: Direct

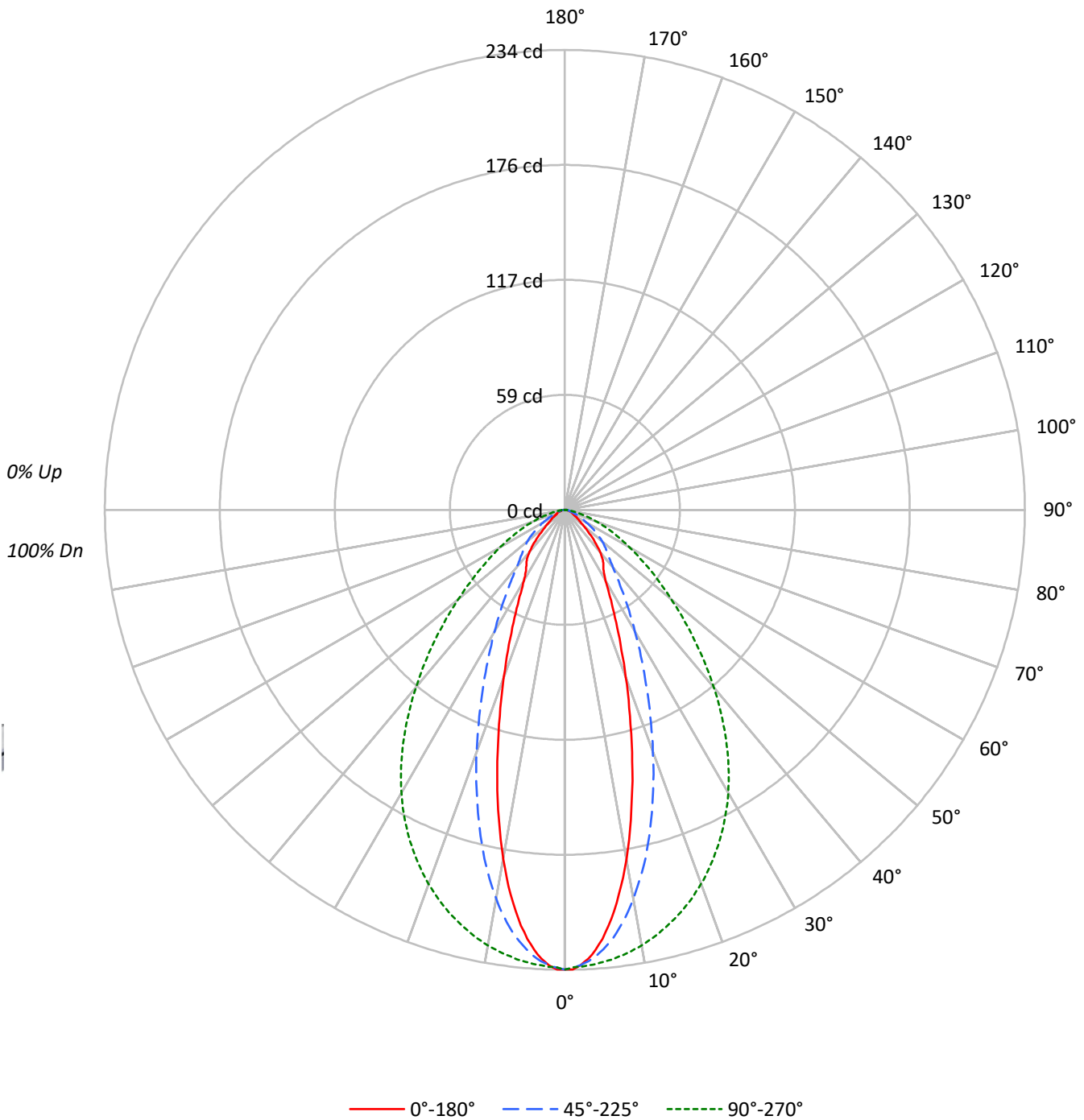
Input Watts (W): 4.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P958900

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-1F-1-UNV-STD-X

Luminous Intensity Polar Plot





TEST NUMBER: P958900

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-1F-1-UNV-STD-X

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°	36541	36541	36541
5°	34105	32542	32657
10°	28194	27370	29297
15°	20951	21686	26172
20°	14609	16246	23220
25°	10030	11737	20338
30°	7152	8351	17484
35°	6137	5957	14619
40°	5310	4353	11783
45°	3929	3470	9181
50°	2669	2838	6942
55°	1991	2133	5156
60°	1552	1478	3756
65°	1375	971	2650
70°	1295	627	1733
75°	1007	403	988
80°	849	271	482
85°	908	199	177

MAXIMUM LUMINANCE 45°-90°:

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



TEST NUMBER: P958900

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-1F-1-UNV-STD-X

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.7	8.8
10°-20°	47.4	20.1
20°-30°	50.6	21.4
30°-40°	43.4	18.4
40°-50°	33.5	14.2
50°-60°	21.8	9.3
60°-70°	12.0	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°	118.7	50.3
0°-40°	162.2	68.7
0°-60°	217.5	92.1
0°-90°	236.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	236.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	234	234	234	234	234	
5°	219	220	224	229	231	20
15°	132	142	168	200	216	36
25°	60	69	98	151	186	28
35°	34	36	52	100	143	21
45°	19	23	30	64	93	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	



TEST NUMBER: P958900

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	233.9	233.9	233.9	233.9	233.9
1°	233.9	233.4	233.0	232.9	232.8
2°	231.8	231.6	231.8	232.2	232.6
3°	228.7	228.9	230.0	231.3	232.1
4°	224.4	225.2	227.7	230.2	231.5
5°	219.1	220.4	224.5	228.8	230.8
6°	212.8	214.9	220.9	227.1	230.0
7°	205.7	208.7	216.7	225.2	228.9
8°	197.6	201.7	212.0	222.9	227.8
9°	189.5	194.1	206.7	220.3	226.5
10°	180.4	186.2	201.0	217.5	225.0
11°	171.0	177.5	194.9	214.4	223.4
12°	161.3	168.9	188.5	211.1	221.6
13°	151.7	159.7	182.1	207.5	219.7
14°	142.1	150.9	174.9	203.8	217.7
15°	132.5	141.9	167.7	199.8	215.5
16°	123.3	132.8	160.4	195.6	213.2
17°	114.2	124.1	152.9	191.1	210.8
18°	106.1	115.6	145.7	186.4	208.2
19°	98.2	107.9	138.5	181.7	205.4
20°	90.6	100.2	131.0	176.8	202.6
21°	83.7	93.1	123.9	171.9	199.6
22°	77.1	86.3	117.0	166.8	196.4
23°	71.2	80.1	110.3	161.6	193.1
24°	65.5	74.1	103.9	156.3	189.6
25°	60.5	68.7	97.8	150.9	186.1
26°	55.8	63.5	92.0	145.5	182.4
27°	51.6	58.9	86.4	140.0	178.6
28°	47.8	54.6	81.1	134.7	174.6
29°	44.5	50.7	76.1	129.6	170.5
30°	41.6	47.1	71.3	124.6	166.2
31°	39.3	43.9	67.0	119.5	161.8
32°	37.5	41.2	62.7	114.5	157.3
33°	36.1	38.9	58.9	109.7	152.7
34°	35.1	37.1	55.1	104.9	147.9
35°	34.1	35.7	51.7	100.3	143.1
36°	33.2	34.6	48.4	95.9	138.1
37°	32.2	33.6	45.6	91.6	133.1
38°	30.9	32.6	42.8	87.6	128.0
39°	29.5	31.7	40.3	83.8	123.0
40°	27.9	30.6	38.1	80.1	117.8
41°	26.2	29.3	36.2	76.5	112.8
42°	24.5	27.9	34.4	73.0	107.7
43°	22.7	26.4	33.0	69.7	102.7
44°	20.9	24.7	31.7	66.5	97.8



TEST NUMBER: P958900

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	19.3	23.1	30.4	63.5	93.0
46°	17.6	21.4	29.2	60.5	88.3
47°	16.0	19.8	28.2	57.7	83.7
48°	14.5	18.3	27.0	55.0	79.2
49°	13.2	16.7	25.9	52.4	74.8
50°	12.1	15.3	24.7	49.9	70.7
51°	11.1	13.9	23.5	47.4	66.7
52°	10.2	12.8	22.2	45.0	62.9
53°	9.5	11.7	20.9	42.7	59.2
54°	8.8	10.8	19.6	40.5	55.7
55°	8.2	9.9	18.3	38.4	52.4
56°	7.6	9.2	17.0	36.2	49.2
57°	7.1	8.5	15.8	34.2	46.1
58°	6.6	7.9	14.6	32.3	43.2
59°	6.1	7.3	13.5	30.4	40.5
60°	5.7	6.7	12.4	28.5	37.8
61°	5.4	6.2	11.3	26.6	35.3
62°	5.1	5.8	10.4	24.9	32.9
63°	4.8	5.4	9.5	23.2	30.6
64°	4.6	5.0	8.7	21.5	28.3
65°	4.4	4.7	7.9	20.0	26.2
66°	4.3	4.4	7.1	18.4	24.1
67°	4.1	4.2	6.5	16.9	22.2
68°	3.9	3.9	5.9	15.4	20.3
69°	3.7	3.7	5.4	14.0	18.4
70°	3.5	3.5	4.9	12.8	16.7
71°	3.2	3.3	4.4	11.5	15.0
72°	2.9	3.1	4.0	10.3	13.5
73°	2.6	2.9	3.7	9.2	12.0
74°	2.4	2.6	3.3	8.1	10.6
75°	2.2	2.4	3.0	7.2	9.2
76°	2.0	2.2	2.8	6.3	8.1
77°	1.8	2.0	2.5	5.5	7.0
78°	1.6	1.8	2.3	4.8	6.0
79°	1.5	1.7	2.1	4.2	5.1
80°	1.4	1.5	1.9	3.7	4.3
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	2.5	2.4
84°	1.1	1.2	1.4	2.2	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	1.0	1.0	1.4	0.7
89°	1.0	0.9	1.0	1.3	0.6



TEST NUMBER: P958900

CATALOG NUMBER: MMG-05W-935-30x60-ID-X-X-1F-1-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	1.0	1.0	1.0	1.0	1.0

(END OF REPORT)