

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: P958853

Luminaire Tested: MMG-05W-935-60x60-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958853
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-935-60x60-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH 60x60 DEGREE OPTICS
5 WATTS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 855.3 lumens
Efficiency: N/A
Efficacy: 47.5 lumens/watt
Spacing Criteria (0/90/45): 0.83 / 1.12 / 1.01
Luminous Opening: Rectangular w/ Sides (W: 0.07' x L: 4' x H: 0.09')
CIE Type: Direct

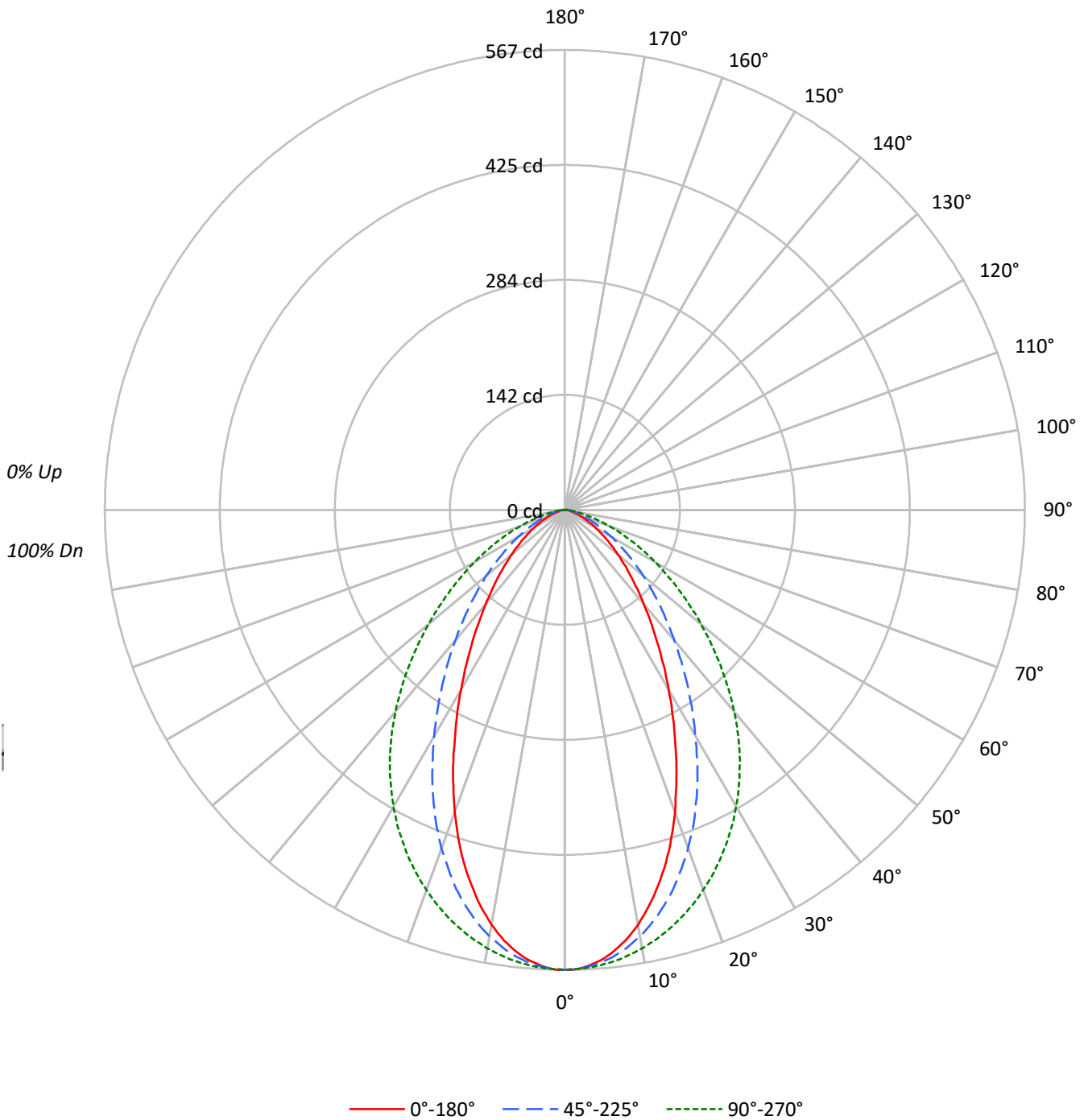
Input Watts (W): 18
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P958853

CATALOG NUMBER: MMG-05W-935-60x60-ID-X-X-4F-4-UNV-STD-X

Luminous Intensity Polar Plot





TEST NUMBER: P958853

CATALOG NUMBER: MMG-05W-935-60x60-ID-X-X-4F-4-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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89				89
2	103	96	91	86	101	95	90	85	91	87	83	88	85	81	85	82	80	78				78
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71	69				69
4	89	79	71	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61				61
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55				55
6	77	66	58	53	76	65	58	52	63	57	52	62	56	51	60	55	51	49				49
7	72	61	53	48	71	60	53	47	58	52	47	57	51	47	56	51	46	45				45
8	68	56	48	43	67	55	48	43	54	48	43	53	47	43	52	47	43	41				41
9	64	52	45	40	63	51	44	40	50	44	39	49	44	39	48	43	39	38				38
10	60	49	41	37	59	48	41	37	47	41	36	46	40	36	45	40	36	35				35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22153	22153	22153
5°	21715	20310	19887
10°	20522	18297	17868
15°	18683	16156	16019
20°	16361	13937	14289
25°	13774	11723	12666
30°	11405	9585	11106
35°	9330	7732	9600
40°	7588	6119	8122
45°	6198	4809	6693
50°	5037	3708	5380
55°	4104	2785	4216
60°	3247	2028	3190
65°	2536	1394	2291
70°	1909	918	1502
75°	1356	586	881
80°	1184	357	418
85°	1693	229	154

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 6960 cd/sqm



TEST NUMBER: P958853

CATALOG NUMBER: MMG-05W-935-60x60-ID-X-X-4F-4-UNV-STD-X

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.5	6.1
10°-20°	138.6	16.2
20°-30°	178.3	20.8
30°-40°	171.7	20.1
40°-50°	138.2	16.2
50°-60°	95.0	11.1
60°-70°	52.9	6.2
70°-80°	21.4	2.5
80°-90°	6.7	0.8
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°	369.4	43.2
0°-40°	541.1	63.3
0°-60°	774.3	90.5
0°-90°	855.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	855.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	567	567	567	567	567	
5°	555	556	558	561	562	52
15°	465	473	495	518	528	129
25°	323	340	385	439	464	148
35°	199	214	263	334	376	124
45°	115	126	165	231	271	89
55°	62	69	93	145	171	56
65°	29	32	44	75	91	29
75°	10	12	17	28	33	11
85°	5	5	6	8	5	5
90°	4	4	4	4	4	



TEST NUMBER: P958853

CATALOG NUMBER: MMG-05W-935-60x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	567.2	567.2	567.2	567.2	567.2
1°	567.1	566.9	566.6	566.5	566.5
2°	565.5	565.5	565.5	565.8	566.0
3°	562.8	562.9	563.8	564.5	565.0
4°	559.3	559.8	561.3	563.0	563.8
5°	554.9	555.8	558.4	561.1	562.2
6°	549.5	551.0	554.7	558.6	560.2
7°	543.1	545.1	550.4	555.7	557.9
8°	536.3	538.9	545.3	552.2	555.3
9°	528.1	531.5	539.6	548.5	552.2
10°	519.4	523.5	533.8	544.3	548.9
11°	509.6	514.7	527.3	539.9	545.2
12°	499.5	505.1	519.9	534.8	541.2
13°	488.1	495.0	512.0	529.5	536.9
14°	476.4	484.1	503.7	523.9	532.4
15°	464.7	472.7	494.9	517.7	527.6
16°	451.9	461.4	485.8	511.2	522.3
17°	439.1	449.3	475.6	504.6	516.8
18°	425.2	436.8	465.2	497.6	511.1
19°	411.0	423.6	454.7	490.1	505.0
20°	396.7	410.0	444.0	482.3	498.7
21°	381.2	396.3	432.9	474.1	492.2
22°	366.7	381.7	421.6	465.5	485.4
23°	352.4	367.1	409.5	456.8	478.4
24°	338.1	353.5	397.1	447.8	471.1
25°	322.8	339.8	385.0	438.7	463.6
26°	308.8	325.8	372.8	429.2	455.7
27°	295.4	311.3	359.8	419.5	447.7
28°	281.9	298.9	347.1	409.3	439.6
29°	269.0	285.2	334.4	398.9	431.0
30°	256.0	272.9	321.8	388.3	422.3
31°	243.2	260.7	310.2	377.5	413.5
32°	232.1	248.4	297.9	366.8	404.2
33°	219.8	236.3	286.1	356.1	395.0
34°	208.5	225.5	274.3	345.2	385.5
35°	198.6	214.0	263.3	334.5	375.9
36°	188.3	203.2	251.8	323.5	365.9
37°	178.2	193.6	241.2	312.9	355.9
38°	169.0	183.8	230.6	302.1	345.7
39°	159.9	174.3	219.9	291.5	335.4
40°	151.5	165.3	209.7	281.2	324.8
41°	143.4	156.6	200.1	270.8	314.2
42°	135.8	148.6	190.8	260.7	303.5
43°	128.1	140.7	181.7	250.8	292.6
44°	121.2	133.2	172.7	241.2	281.9



TEST NUMBER: P958853

CATALOG NUMBER: MMG-05W-935-60x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
45°	114.6	126.0	164.6	231.4	271.2
46°	108.3	118.6	156.3	221.8	260.6
47°	102.3	112.4	148.1	212.4	250.1
48°	96.0	105.8	140.7	203.2	239.6
49°	90.8	100.0	133.1	194.4	229.3
50°	85.0	94.1	125.8	185.8	219.2
51°	80.3	88.5	119.0	177.0	209.3
52°	75.4	83.3	112.1	168.8	199.6
53°	70.7	77.9	105.5	160.4	190.0
54°	66.4	73.3	99.1	152.5	180.6
55°	62.1	68.7	92.9	144.9	171.4
56°	57.9	64.3	87.0	136.9	162.4
57°	54.0	59.9	81.6	129.1	153.5
58°	50.3	55.8	76.1	121.8	144.9
59°	46.6	51.7	71.0	114.5	136.5
60°	43.1	48.0	66.0	107.4	128.4
61°	39.9	44.6	61.1	100.7	120.4
62°	37.0	41.2	56.4	94.1	112.6
63°	33.9	38.1	52.0	87.7	105.0
64°	31.2	35.1	47.8	81.4	97.8
65°	28.7	32.3	43.9	75.4	90.6
66°	26.4	29.6	40.2	69.6	83.5
67°	24.0	27.0	36.7	63.9	76.8
68°	21.8	24.6	33.5	58.5	70.2
69°	19.7	22.5	30.6	53.5	63.9
70°	17.7	20.5	27.7	48.5	57.9
71°	15.8	18.5	25.1	43.9	52.4
72°	13.9	16.8	22.8	39.4	46.9
73°	12.3	15.0	20.6	35.2	41.8
74°	11.0	13.3	18.5	31.3	37.0
75°	9.7	11.8	16.8	27.8	32.8
76°	8.6	10.6	15.0	24.4	28.3
77°	7.9	9.5	13.6	21.6	24.6
78°	7.1	8.5	12.1	19.0	20.8
79°	6.4	7.6	10.8	16.5	17.6
80°	5.9	6.9	9.6	14.3	14.9
81°	5.5	6.3	8.7	12.6	12.4
82°	5.3	5.7	7.9	10.8	10.2
83°	5.1	5.3	7.0	9.6	8.3
84°	4.8	4.9	6.4	8.4	6.7
85°	4.7	4.7	5.7	7.5	5.2
86°	4.4	4.4	5.2	6.5	3.9
87°	4.4	4.2	4.7	5.8	3.1
88°	4.4	4.2	4.4	5.2	2.3
89°	4.3	3.9	4.2	4.7	2.0



TEST NUMBER: P958853

CATALOG NUMBER: MMG-05W-935-60x60-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
90°	3.8	3.8	3.8	3.8	3.8

(END OF REPORT)