

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: P958878

Luminaire Tested: MMG-03W-927-ASYM-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958878
SCALED TEST REPORT
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: iO LED
Catalog Number: MMG-03W-927-ASYM-ID-X-X-1F-1-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH ASYMMETRIC LAMBERTIAN OPTICS. INPUT WATTAGE IN IES FILE REPRESENTS CONSUMPTION IN A RUN, INDIVIDUAL FIXTURE MAY VARY 3 WATTS PER FOOT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 189.1 lumens
Efficiency: N/A
Efficacy: 70.0 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.28 / 1.46
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 0.07' x H: 0.09')
CIE Type: Semi-Direct

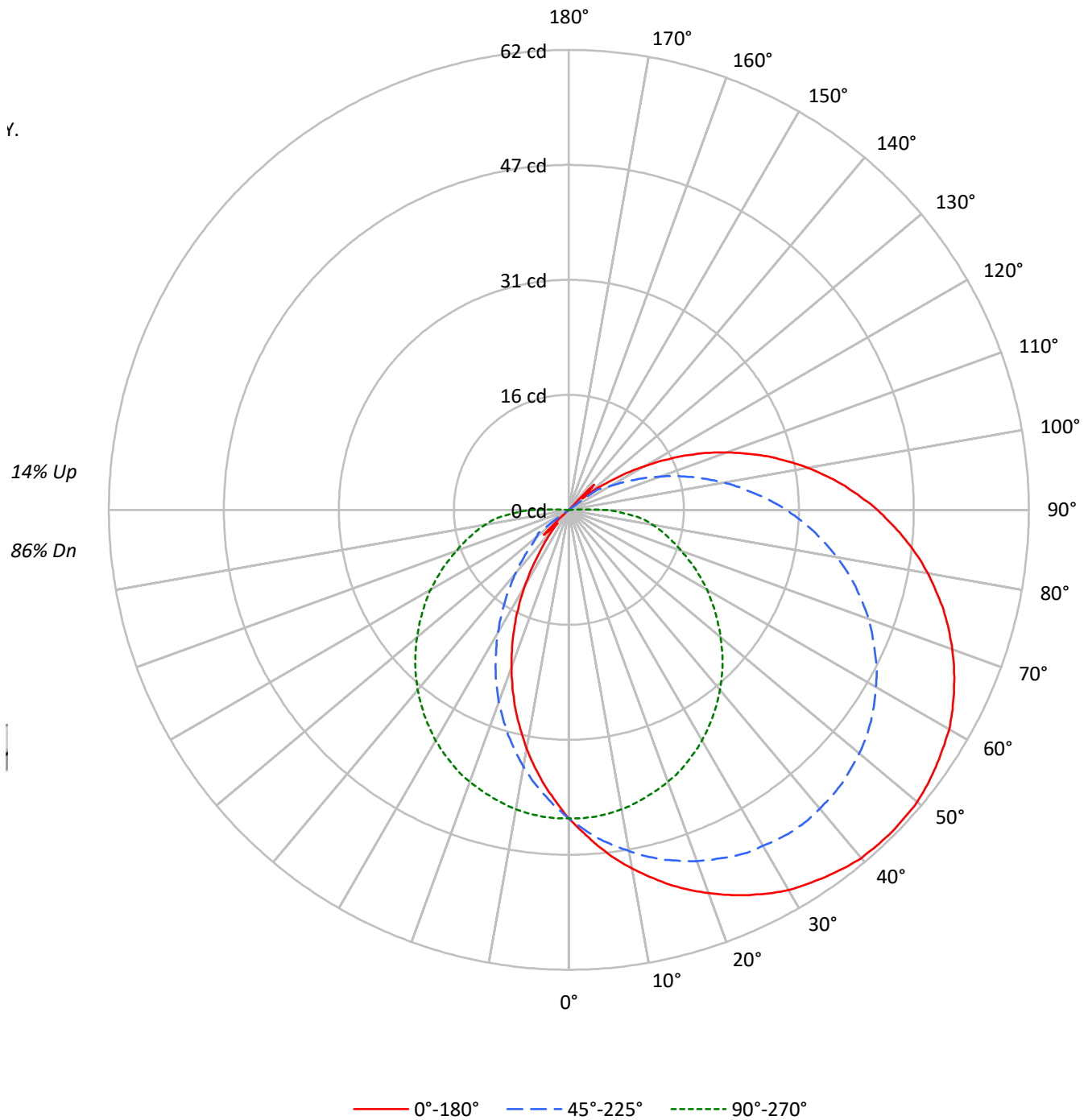
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20				
RC	80					70					50					30				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	116	116	116	116	111	111	111	111	103	103	103	96	96	96	89	89	89	86		
1	102	95	89	84	97	91	86	82	84	80	76	78	75	71	72	69	67	63		
2	91	81	73	66	87	78	70	64	72	66	60	66	61	57	61	57	53	50		
3	82	70	61	53	78	67	59	52	62	55	49	57	51	46	53	48	44	41		
4	75	61	52	44	71	59	50	43	55	47	41	51	44	39	47	41	37	34		
5	68	54	45	37	65	52	43	37	49	41	35	45	38	33	42	36	31	29		
6	63	49	39	32	60	47	38	32	44	36	30	41	34	29	38	32	27	25		
7	58	44	35	28	56	42	34	28	40	32	26	37	30	25	34	29	24	22		
8	54	40	31	25	52	39	30	24	36	29	23	34	27	22	31	26	21	19		
9	50	37	28	22	48	35	27	22	33	26	21	31	25	20	29	23	19	17		
10	47	34	25	20	45	33	25	20	31	24	19	29	23	18	27	21	17	16		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6499	6499	6499	6499	6499
5°	6438	6436	6460	5581	5278
10°	6393	6359	6408	4793	4258
15°	6352	6311	6341	4073	3376
20°	6303	6250	6289	3423	2590
25°	6262	6193	6233	2808	1891
30°	6228	6125	6172	2237	1241
35°	6170	6084	6101	1728	674
40°	6132	6009	6033	1279	240
45°	6071	5946	5965	902	474
50°	6019	5872	5890	643	0
55°	5943	5794	5851	0	0
60°	5883	5699	5853	0	0
65°	5795	5594	5875	0	0
70°	5708	5500	5958	0	0
75°	5617	5375	6273	0	0
80°	5507	5235	6912	0	0
85°	5383	5073	7805	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 8791 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.9	2.1
10°-20°	11.3	6.0
20°-30°	17.3	9.1
30°-40°	21.2	11.2
40°-50°	23.4	12.4
50°-60°	23.8	12.6
60°-70°	23.1	12.2
70°-80°	20.6	10.9
80°-90°	17.3	9.2
90°-100°	12.7	6.7
100°-110°	8.5	4.5
110°-120°	4.2	2.2
120°-130°	1.5	0.8
130°-140°	0.3	0.2
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°	32.5	17.2
0°-40°	53.7	28.4
0°-60°	100.9	53.4
0°-90°	161.9	85.6
90°-120°	25.4	13.4
90°-150°	27.2	14.4
90°-180°	27.0	14.3
0°-180°	189.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	42	42	42	42	42	
5°	46	44	42	38	37	4
15°	52	49	40	32	28	15
25°	57	52	38	23	17	27
35°	60	53	34	15	7	38
45°	62	52	29	8	5	48
55°	60	50	24	0	0	54
65°	57	46	19	0	0	57
75°	52	40	14	0	0	55
85°	46	33	9	0	0	38
90°	42	29	5	0	0	23
95°	37	25	0	0	0	30
105°	28	17	0	0	0	29
115°	17	9	0	0	0	17
125°	7	5	0	0	0	6
135°	5	0	0	0	0	2
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6
2.5°	43.5	43.4	43.0	42.4	41.6	40.8	40.1	39.6	39.4
5°	45.5	45.2	44.4	43.0	41.5	39.8	38.5	37.6	37.3
7.5°	47.4	46.9	45.6	43.6	41.3	38.9	36.9	35.5	35.0
10°	49.1	48.5	46.7	44.1	41.0	37.9	35.2	33.3	32.7
12.5°	50.7	50.0	47.8	44.5	40.6	36.7	33.3	31.1	30.2
15°	52.3	51.3	48.8	44.8	40.1	35.4	31.5	28.8	27.8
17.5°	53.7	52.6	49.6	45.0	39.6	34.2	29.5	26.4	25.2
20°	55.0	53.8	50.4	45.2	39.0	32.8	27.6	23.9	22.6
22.5°	56.2	54.9	51.0	45.2	38.4	31.4	25.5	21.5	20.0
25°	57.3	55.8	51.6	45.2	37.6	30.0	23.4	19.0	17.3
27.5°	58.3	56.6	52.1	45.1	36.8	28.5	21.2	16.4	14.6
30°	59.2	57.4	52.3	44.8	35.9	26.9	19.1	14.0	11.8
32.5°	59.8	58.0	52.6	44.5	34.9	25.4	17.0	11.5	9.2
35°	60.4	58.4	52.8	44.1	33.9	23.7	15.0	9.2	6.6
37.5°	60.9	58.7	52.8	43.6	32.8	22.1	13.0	7.0	4.5
40°	61.3	59.0	52.6	43.0	31.7	20.5	11.2	5.2	2.4
42.5°	61.4	59.1	52.4	42.4	30.5	18.9	9.4	3.9	3.6
45°	61.5	59.1	52.1	41.5	29.3	17.4	7.9	4.3	4.8
47.5°	61.4	58.9	51.6	40.7	28.0	15.9	6.5	0.0	0.0
50°	61.3	58.6	51.1	39.8	26.7	14.4	5.6	0.0	0.0
52.5°	60.9	58.2	50.5	38.8	25.4	13.1	5.2	0.0	0.0
55°	60.4	57.7	49.7	37.7	24.1	11.7	0.0	0.0	0.0
57.5°	59.8	57.0	48.8	36.5	22.8	10.6	0.0	0.0	0.0
60°	59.2	56.2	47.8	35.3	21.5	9.4	0.0	0.0	0.0
62.5°	58.3	55.3	46.8	34.0	20.1	8.4	0.0	0.0	0.0
65°	57.3	54.3	45.5	32.7	18.8	7.1	0.0	0.0	0.0
67.5°	56.2	53.2	44.3	31.3	17.4	5.7	0.0	0.0	0.0
70°	55.0	51.9	43.0	29.9	16.1	0.0	0.0	0.0	0.0
72.5°	53.7	50.5	41.5	28.4	14.9	0.0	0.0	0.0	0.0
75°	52.3	49.1	40.0	26.9	13.7	0.0	0.0	0.0	0.0
77.5°	50.7	47.5	38.4	25.3	12.6	0.0	0.0	0.0	0.0
80°	49.1	45.9	36.7	23.8	11.4	0.0	0.0	0.0	0.0
82.5°	47.4	44.1	34.9	22.2	10.3	0.0	0.0	0.0	0.0
85°	45.5	42.3	33.1	20.6	8.6	0.0	0.0	0.0	0.0
87.5°	43.5	40.4	31.2	19.0	6.7	0.0	0.0	0.0	0.0
90°	41.6	38.4	29.3	17.4	4.8	0.0	0.0	0.0	0.0
92.5°	39.4	36.3	27.3	16.0	0.0	0.0	0.0	0.0	0.0
95°	37.3	34.1	25.2	14.5	0.0	0.0	0.0	0.0	0.0
97.5°	35.0	31.9	23.2	13.0	0.0	0.0	0.0	0.0	0.0
100°	32.7	29.6	21.2	11.6	0.0	0.0	0.0	0.0	0.0
102.5°	30.2	27.2	19.1	10.2	0.0	0.0	0.0	0.0	0.0
105°	27.8	24.8	17.1	8.7	0.0	0.0	0.0	0.0	0.0
107.5°	25.2	22.2	15.1	7.0	0.0	0.0	0.0	0.0	0.0
110°	22.6	19.7	13.1	5.3	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	20.0	17.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0
115°	17.3	14.7	9.4	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	14.5	12.3	7.8	0.0	0.0	0.0	0.0	0.0	0.0
120°	11.8	10.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	9.2	7.7	5.5	0.0	0.0	0.0	0.0	0.0	0.0
125°	6.6	5.9	4.8	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	2.4	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	3.6	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)