

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: P958886

Luminaire Tested: MMG-03W-935-ASYM-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958886
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-935-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: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 191.5 lumens
Efficiency: N/A
Efficacy: 70.9 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

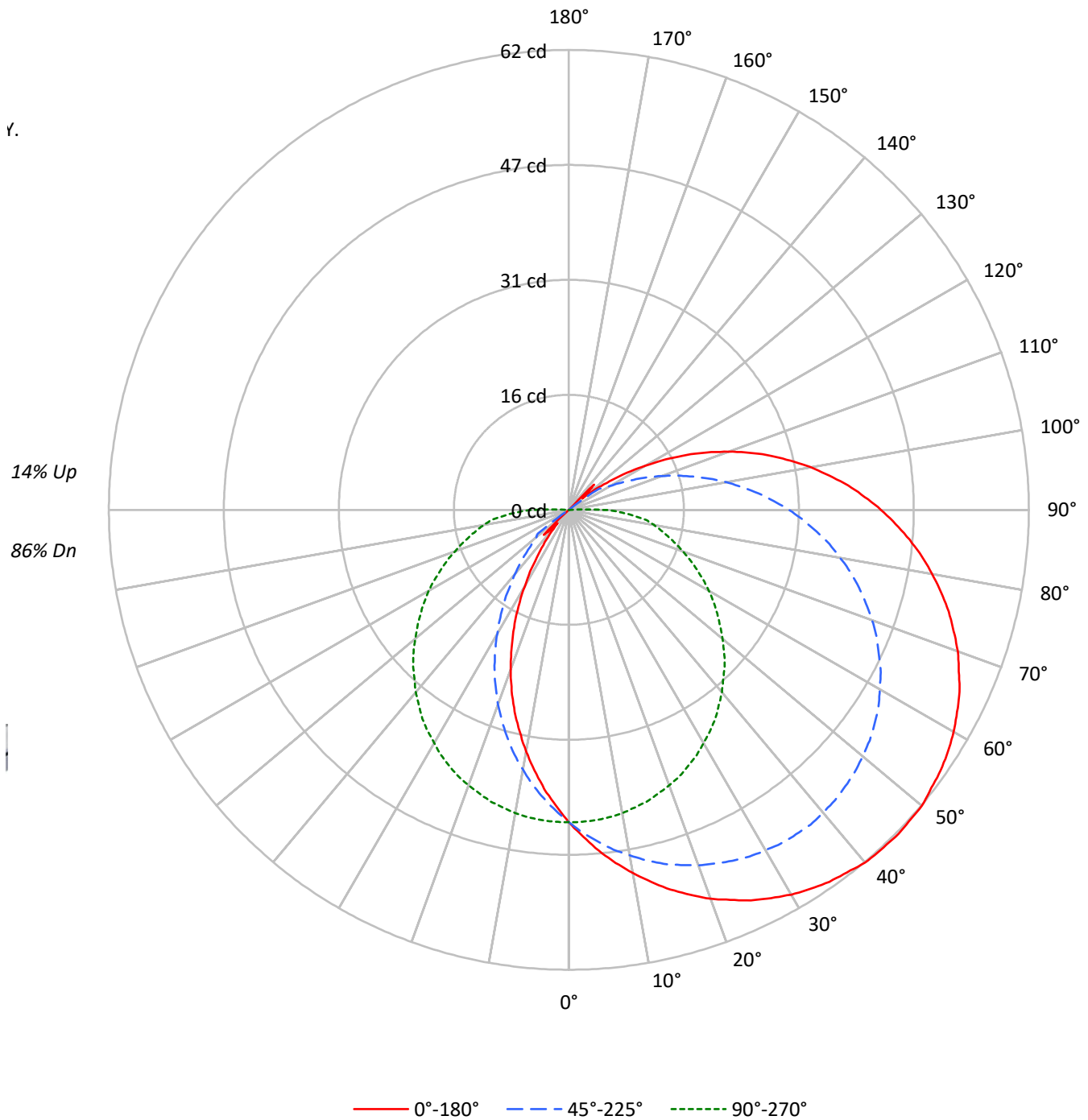
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	116	116	116	116	111	111	111	111	103	103	103	96	96	96	89	89	89	86				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	50	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°	6577	6577	6577	6577	6577
5°	6523	6508	6538	5653	5349
10°	6471	6441	6486	4848	4310
15°	6437	6388	6436	4125	3425
20°	6395	6325	6369	3460	2625
25°	6349	6265	6316	2844	1912
30°	6301	6207	6241	2260	1252
35°	6252	6153	6191	1751	684
40°	6212	6089	6109	1291	240
45°	6150	6015	6046	913	474
50°	6097	5941	5957	655	0
55°	6022	5864	5924	0	0
60°	5952	5770	5935	0	0
65°	5876	5668	5937	0	0
70°	5791	5564	6032	0	0
75°	5692	5442	6318	0	0
80°	5574	5292	7034	0	0
85°	5454	5134	7896	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°	4.0	2.1
10°-20°	11.5	6.0
20°-30°	17.5	9.1
30°-40°	21.5	11.2
40°-50°	23.7	12.4
50°-60°	24.1	12.6
60°-70°	23.4	12.2
70°-80°	20.8	10.9
80°-90°	17.6	9.2
90°-100°	12.9	6.7
100°-110°	8.6	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°	33.0	17.2
0°-40°	54.4	28.4
0°-60°	102.2	53.4
0°-90°	164.0	85.6
90°-120°	25.7	13.4
90°-150°	27.5	14.4
90°-180°	28.0	14.6
0°-180°	191.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	42	42	42	42	42	
5°	46	45	42	39	38	5
15°	53	49	41	32	28	15
25°	58	52	38	24	18	27
35°	61	53	34	15	7	38
45°	62	53	30	8	5	48
55°	61	50	24	0	0	55
65°	58	46	19	0	0	58
75°	53	40	14	0	0	56
85°	46	34	9	0	0	38
90°	42	30	5	0	0	23
95°	38	26	0	0	0	30
105°	28	17	0	0	0	30
115°	18	10	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°	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1
2.5°	44.1	44.0	43.6	42.9	42.1	41.3	40.6	40.1	39.9
5°	46.1	45.8	44.9	43.6	42.0	40.4	39.0	38.1	37.8
7.5°	48.0	47.5	46.2	44.2	41.8	39.4	37.4	36.0	35.4
10°	49.7	49.2	47.3	44.6	41.5	38.3	35.6	33.8	33.1
12.5°	51.4	50.6	48.4	45.1	41.1	37.1	33.8	31.5	30.6
15°	53.0	52.0	49.4	45.3	40.7	35.9	31.9	29.2	28.2
17.5°	54.4	53.3	50.2	45.6	40.1	34.6	29.9	26.7	25.6
20°	55.8	54.5	51.0	45.8	39.5	33.2	27.9	24.2	22.9
22.5°	56.9	55.6	51.6	45.8	38.9	31.8	25.8	21.8	20.2
25°	58.1	56.5	52.2	45.8	38.1	30.4	23.7	19.2	17.5
27.5°	59.0	57.4	52.7	45.6	37.3	28.8	21.5	16.6	14.7
30°	59.9	58.1	53.0	45.4	36.3	27.3	19.3	14.1	11.9
32.5°	60.6	58.7	53.3	45.1	35.4	25.7	17.2	11.6	9.3
35°	61.2	59.1	53.4	44.6	34.4	24.0	15.2	9.3	6.7
37.5°	61.6	59.5	53.5	44.2	33.2	22.4	13.1	7.1	4.6
40°	62.1	59.7	53.3	43.6	32.1	20.7	11.3	5.3	2.4
42.5°	62.2	59.9	53.1	42.9	30.8	19.1	9.5	3.9	3.6
45°	62.3	59.9	52.7	42.1	29.7	17.6	8.0	4.4	4.8
47.5°	62.2	59.7	52.3	41.2	28.4	16.1	6.6	0.0	0.0
50°	62.1	59.3	51.7	40.3	27.0	14.6	5.7	0.0	0.0
52.5°	61.6	58.9	51.1	39.3	25.7	13.3	5.3	0.0	0.0
55°	61.2	58.4	50.3	38.2	24.4	11.9	0.0	0.0	0.0
57.5°	60.6	57.7	49.5	37.0	23.1	10.7	0.0	0.0	0.0
60°	59.9	56.9	48.4	35.7	21.8	9.6	0.0	0.0	0.0
62.5°	59.0	56.0	47.4	34.5	20.4	8.5	0.0	0.0	0.0
65°	58.1	55.0	46.1	33.1	19.0	7.2	0.0	0.0	0.0
67.5°	56.9	53.8	44.9	31.7	17.7	5.8	0.0	0.0	0.0
70°	55.8	52.6	43.5	30.3	16.3	0.0	0.0	0.0	0.0
72.5°	54.4	51.2	42.0	28.8	15.1	0.0	0.0	0.0	0.0
75°	53.0	49.7	40.5	27.2	13.8	0.0	0.0	0.0	0.0
77.5°	51.4	48.1	38.9	25.6	12.7	0.0	0.0	0.0	0.0
80°	49.7	46.5	37.1	24.1	11.6	0.0	0.0	0.0	0.0
82.5°	48.0	44.7	35.4	22.5	10.5	0.0	0.0	0.0	0.0
85°	46.1	42.9	33.5	20.9	8.7	0.0	0.0	0.0	0.0
87.5°	44.1	40.9	31.6	19.3	6.8	0.0	0.0	0.0	0.0
90°	42.1	38.9	29.7	17.7	4.8	0.0	0.0	0.0	0.0
92.5°	39.9	36.7	27.6	16.2	0.0	0.0	0.0	0.0	0.0
95°	37.8	34.5	25.6	14.7	0.0	0.0	0.0	0.0	0.0
97.5°	35.4	32.3	23.5	13.1	0.0	0.0	0.0	0.0	0.0
100°	33.1	30.0	21.5	11.8	0.0	0.0	0.0	0.0	0.0
102.5°	30.6	27.5	19.4	10.3	0.0	0.0	0.0	0.0	0.0
105°	28.2	25.1	17.3	8.9	0.0	0.0	0.0	0.0	0.0
107.5°	25.6	22.5	15.3	7.1	0.0	0.0	0.0	0.0	0.0
110°	22.9	20.0	13.3	5.4	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°	20.2	17.5	11.4	0.0	0.0	0.0	0.0	0.0	0.0
115°	17.5	14.9	9.6	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	14.7	12.5	7.9	0.0	0.0	0.0	0.0	0.0	0.0
120°	11.9	10.2	6.4	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	9.3	7.8	5.6	0.0	0.0	0.0	0.0	0.0	0.0
125°	6.7	6.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	4.6	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	2.4	4.4	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)