

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: P958882

Luminaire Tested: MMG-03W-930-ASYM-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958882
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-930-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: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 189.5 lumens
Efficiency: N/A
Efficacy: 70.2 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

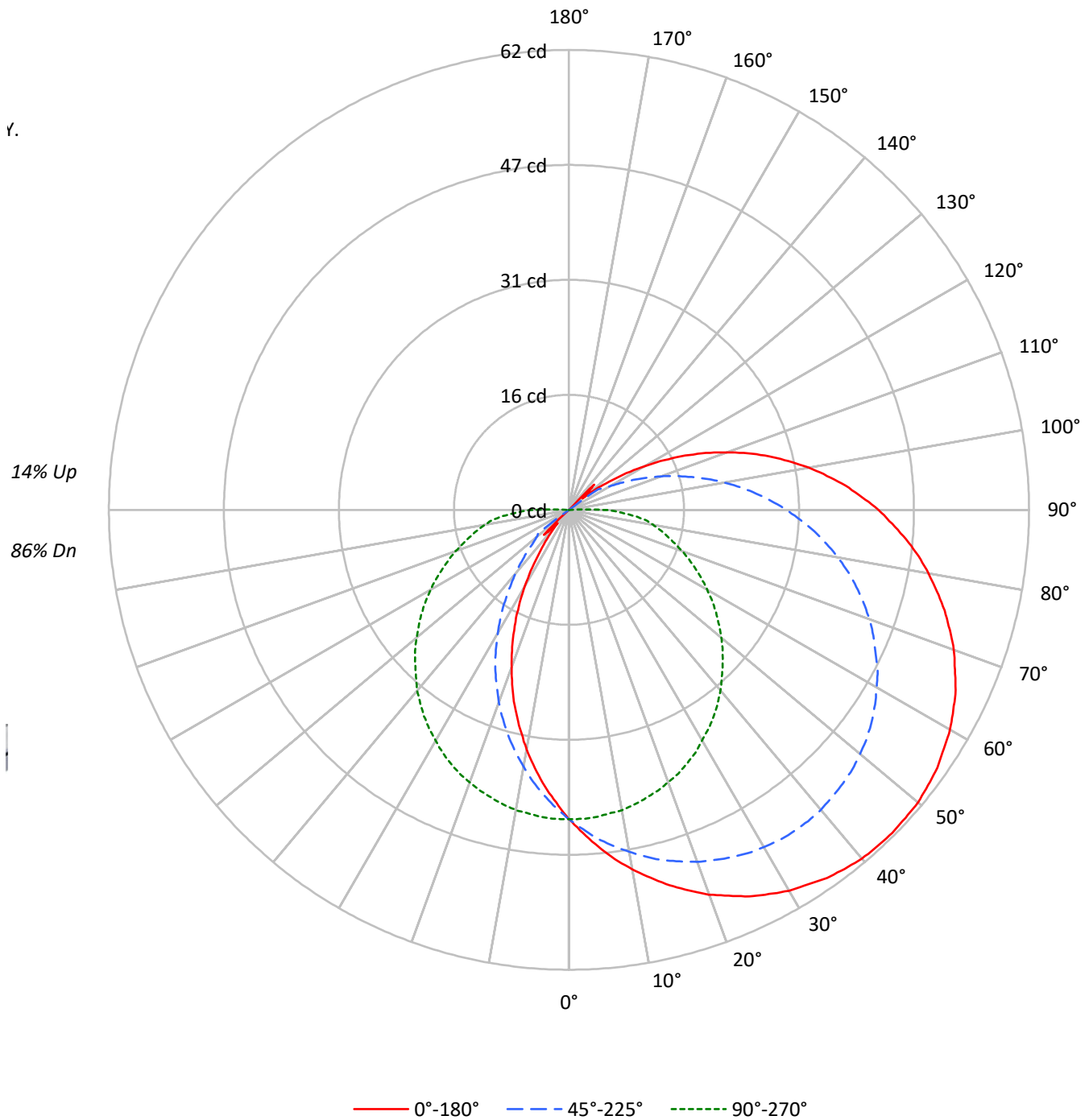
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6515	6515	6515	6515	6515
5°	6452	6450	6475	5595	5292
10°	6406	6373	6423	4793	4271
15°	6364	6323	6357	4073	3388
20°	6326	6263	6305	3423	2590
25°	6284	6205	6250	2820	1891
30°	6238	6149	6172	2237	1241
35°	6191	6095	6119	1728	674
40°	6142	6032	6052	1279	240
45°	6081	5958	5965	902	474
50°	6028	5883	5913	643	0
55°	5963	5806	5876	0	0
60°	5893	5711	5853	0	0
65°	5816	5606	5875	0	0
70°	5729	5513	5995	0	0
75°	5628	5388	6273	0	0
80°	5518	5250	6973	0	0
85°	5395	5088	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°	23.9	12.6
60°-70°	23.1	12.2
70°-80°	20.6	10.9
80°-90°	17.4	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°	32.6	17.2
0°-40°	53.9	28.4
0°-60°	101.2	53.4
0°-90°	162.3	85.6
90°-120°	25.5	13.4
90°-150°	27.2	14.4
90°-180°	27.0	14.2
0°-180°	189.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	42	42	42	42	42	
5°	46	44	42	39	37	4
15°	52	49	40	32	28	15
25°	58	52	38	24	17	27
35°	61	53	34	15	7	38
45°	62	52	29	8	5	48
55°	61	50	24	0	0	54
65°	58	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	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°	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7
2.5°	43.6	43.5	43.1	42.5	41.7	40.9	40.2	39.7	39.5
5°	45.6	45.3	44.5	43.1	41.6	39.9	38.6	37.7	37.4
7.5°	47.5	47.0	45.7	43.7	41.3	39.0	37.0	35.6	35.1
10°	49.2	48.6	46.8	44.2	41.1	37.9	35.2	33.4	32.8
12.5°	50.8	50.1	47.9	44.6	40.7	36.8	33.4	31.2	30.3
15°	52.4	51.5	48.9	44.9	40.2	35.5	31.5	28.9	27.9
17.5°	53.8	52.8	49.7	45.1	39.7	34.2	29.6	26.5	25.3
20°	55.2	53.9	50.5	45.3	39.1	32.9	27.6	24.0	22.6
22.5°	56.3	55.0	51.1	45.3	38.5	31.5	25.5	21.5	20.0
25°	57.5	55.9	51.7	45.3	37.7	30.1	23.5	19.0	17.3
27.5°	58.4	56.8	52.2	45.2	36.9	28.5	21.3	16.5	14.6
30°	59.3	57.5	52.5	44.9	35.9	27.0	19.1	14.0	11.8
32.5°	59.9	58.1	52.8	44.6	35.0	25.4	17.1	11.5	9.2
35°	60.6	58.5	52.9	44.2	34.0	23.8	15.0	9.2	6.6
37.5°	61.0	58.9	52.9	43.7	32.9	22.2	13.0	7.1	4.5
40°	61.4	59.1	52.8	43.1	31.8	20.5	11.2	5.2	2.4
42.5°	61.5	59.2	52.5	42.5	30.5	18.9	9.4	3.9	3.6
45°	61.6	59.2	52.2	41.6	29.3	17.4	7.9	4.4	4.8
47.5°	61.5	59.1	51.8	40.8	28.1	15.9	6.5	0.0	0.0
50°	61.4	58.7	51.2	39.9	26.8	14.5	5.6	0.0	0.0
52.5°	61.0	58.3	50.6	38.9	25.5	13.1	5.2	0.0	0.0
55°	60.6	57.8	49.8	37.8	24.2	11.8	0.0	0.0	0.0
57.5°	59.9	57.1	48.9	36.6	22.9	10.6	0.0	0.0	0.0
60°	59.3	56.3	47.9	35.3	21.5	9.5	0.0	0.0	0.0
62.5°	58.4	55.5	46.9	34.1	20.2	8.4	0.0	0.0	0.0
65°	57.5	54.4	45.6	32.8	18.8	7.1	0.0	0.0	0.0
67.5°	56.3	53.3	44.4	31.4	17.5	5.7	0.0	0.0	0.0
70°	55.2	52.1	43.1	30.0	16.2	0.0	0.0	0.0	0.0
72.5°	53.8	50.6	41.6	28.5	14.9	0.0	0.0	0.0	0.0
75°	52.4	49.2	40.1	26.9	13.7	0.0	0.0	0.0	0.0
77.5°	50.8	47.6	38.5	25.3	12.6	0.0	0.0	0.0	0.0
80°	49.2	46.1	36.8	23.8	11.5	0.0	0.0	0.0	0.0
82.5°	47.5	44.2	35.0	22.2	10.4	0.0	0.0	0.0	0.0
85°	45.6	42.4	33.2	20.6	8.6	0.0	0.0	0.0	0.0
87.5°	43.6	40.5	31.2	19.1	6.7	0.0	0.0	0.0	0.0
90°	41.7	38.5	29.3	17.5	4.8	0.0	0.0	0.0	0.0
92.5°	39.5	36.3	27.3	16.0	0.0	0.0	0.0	0.0	0.0
95°	37.4	34.2	25.3	14.5	0.0	0.0	0.0	0.0	0.0
97.5°	35.1	31.9	23.3	13.0	0.0	0.0	0.0	0.0	0.0
100°	32.8	29.6	21.2	11.6	0.0	0.0	0.0	0.0	0.0
102.5°	30.3	27.2	19.2	10.2	0.0	0.0	0.0	0.0	0.0
105°	27.9	24.8	17.1	8.8	0.0	0.0	0.0	0.0	0.0
107.5°	25.3	22.3	15.1	7.0	0.0	0.0	0.0	0.0	0.0
110°	22.6	19.8	13.2	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°	20.0	17.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0
115°	17.3	14.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	14.5	12.4	7.8	0.0	0.0	0.0	0.0	0.0	0.0
120°	11.8	10.1	6.3	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	9.2	7.8	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	4.1	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)