

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: P958890

Luminaire Tested: MMG-03W-940-ASYM-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958890
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-940-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: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 205.0 lumens
Efficiency: N/A
Efficacy: 75.9 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

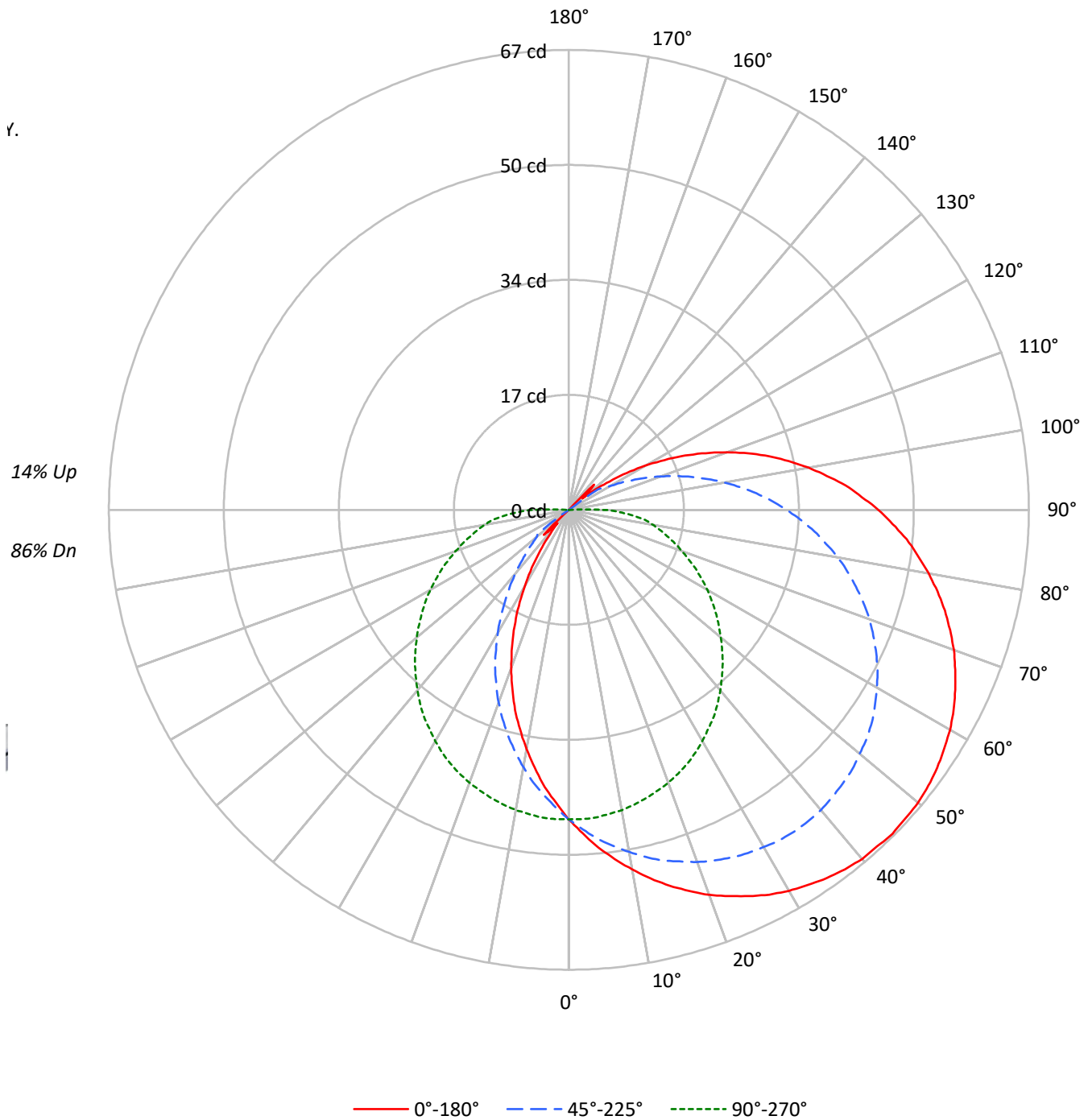
Input Watts (W): 2.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20				
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°	7046	7046	7046	7046	7046
5°	6990	6972	7005	6045	5731
10°	6927	6890	6939	5188	4609
15°	6886	6841	6878	4410	3668
20°	6842	6771	6821	3708	2808
25°	6787	6709	6764	3048	2044
30°	6743	6641	6688	2424	1347
35°	6691	6591	6623	1867	736
40°	6642	6523	6528	1382	260
45°	6585	6437	6453	982	513
50°	6519	6354	6376	701	0
55°	6445	6284	6337	0	0
60°	6370	6176	6343	0	0
65°	6281	6074	6375	0	0
70°	6196	5961	6476	0	0
75°	6089	5818	6776	0	0
80°	5967	5677	7519	0	0
85°	5845	5502	8531	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 9524 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.3	2.1
10°-20°	12.3	6.0
20°-30°	18.7	9.1
30°-40°	23.0	11.2
40°-50°	25.3	12.4
50°-60°	25.8	12.6
60°-70°	25.0	12.2
70°-80°	22.3	10.9
80°-90°	18.8	9.2
90°-100°	13.8	6.7
100°-110°	9.2	4.5
110°-120°	4.5	2.2
120°-130°	1.6	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°	35.3	17.2
0°-40°	58.2	28.4
0°-60°	109.4	53.4
0°-90°	175.5	85.6
90°-120°	27.5	13.4
90°-150°	29.5	14.4
90°-180°	29.0	14.1
0°-180°	205.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	45	45	45	45	45	
5°	49	48	45	42	40	5
15°	57	53	44	34	30	16
25°	62	56	41	25	19	29
35°	66	57	37	16	7	41
45°	67	56	32	9	5	52
55°	66	54	26	0	0	59
65°	62	49	20	0	0	62
75°	57	43	15	0	0	60
85°	49	36	9	0	0	41
90°	45	32	5	0	0	25
95°	40	27	0	0	0	32
105°	30	18	0	0	0	32
115°	19	10	0	0	0	19
125°	7	5	0	0	0	7
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°	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1
2.5°	47.2	47.1	46.6	45.9	45.1	44.2	43.4	42.9	42.7
5°	49.4	49.0	48.1	46.6	45.0	43.2	41.7	40.8	40.5
7.5°	51.3	50.8	49.4	47.3	44.7	42.2	40.0	38.5	37.9
10°	53.2	52.6	50.6	47.8	44.4	41.0	38.1	36.1	35.4
12.5°	55.0	54.2	51.8	48.2	44.0	39.8	36.1	33.7	32.8
15°	56.7	55.7	52.9	48.5	43.5	38.4	34.1	31.2	30.2
17.5°	58.2	57.1	53.7	48.8	42.9	37.0	32.0	28.6	27.4
20°	59.7	58.3	54.6	49.0	42.3	35.6	29.9	26.0	24.5
22.5°	60.9	59.5	55.3	49.0	41.6	34.0	27.6	23.3	21.6
25°	62.1	60.5	55.9	49.0	40.8	32.5	25.4	20.5	18.7
27.5°	63.2	61.4	56.4	48.9	39.9	30.9	23.0	17.8	15.8
30°	64.1	62.2	56.7	48.6	38.9	29.2	20.7	15.1	12.8
32.5°	64.8	62.8	57.1	48.2	37.8	27.5	18.4	12.5	10.0
35°	65.5	63.3	57.2	47.8	36.8	25.7	16.2	10.0	7.2
37.5°	66.0	63.7	57.2	47.3	35.6	24.0	14.1	7.6	4.9
40°	66.4	63.9	57.1	46.6	34.3	22.2	12.1	5.7	2.6
42.5°	66.5	64.1	56.8	45.9	33.0	20.5	10.2	4.2	3.9
45°	66.7	64.1	56.4	45.0	31.7	18.8	8.6	4.7	5.2
47.5°	66.5	63.9	56.0	44.1	30.3	17.2	7.1	0.0	0.0
50°	66.4	63.5	55.3	43.1	28.9	15.6	6.1	0.0	0.0
52.5°	66.0	63.0	54.7	42.0	27.5	14.2	5.7	0.0	0.0
55°	65.5	62.5	53.9	40.8	26.1	12.7	0.0	0.0	0.0
57.5°	64.8	61.8	52.9	39.6	24.7	11.4	0.0	0.0	0.0
60°	64.1	60.9	51.8	38.2	23.3	10.2	0.0	0.0	0.0
62.5°	63.2	60.0	50.7	36.9	21.8	9.1	0.0	0.0	0.0
65°	62.1	58.8	49.4	35.4	20.4	7.7	0.0	0.0	0.0
67.5°	60.9	57.6	48.0	34.0	18.9	6.2	0.0	0.0	0.0
70°	59.7	56.3	46.6	32.4	17.5	0.0	0.0	0.0	0.0
72.5°	58.2	54.8	45.0	30.8	16.2	0.0	0.0	0.0	0.0
75°	56.7	53.2	43.3	29.1	14.8	0.0	0.0	0.0	0.0
77.5°	55.0	51.5	41.6	27.4	13.6	0.0	0.0	0.0	0.0
80°	53.2	49.8	39.8	25.8	12.4	0.0	0.0	0.0	0.0
82.5°	51.3	47.8	37.8	24.0	11.2	0.0	0.0	0.0	0.0
85°	49.4	45.9	35.9	22.3	9.4	0.0	0.0	0.0	0.0
87.5°	47.2	43.8	33.8	20.6	7.3	0.0	0.0	0.0	0.0
90°	45.1	41.6	31.7	18.9	5.2	0.0	0.0	0.0	0.0
92.5°	42.7	39.3	29.6	17.3	0.0	0.0	0.0	0.0	0.0
95°	40.5	37.0	27.4	15.7	0.0	0.0	0.0	0.0	0.0
97.5°	37.9	34.5	25.2	14.1	0.0	0.0	0.0	0.0	0.0
100°	35.4	32.1	23.0	12.6	0.0	0.0	0.0	0.0	0.0
102.5°	32.8	29.5	20.7	11.1	0.0	0.0	0.0	0.0	0.0
105°	30.2	26.8	18.5	9.5	0.0	0.0	0.0	0.0	0.0
107.5°	27.4	24.1	16.3	7.6	0.0	0.0	0.0	0.0	0.0
110°	24.5	21.4	14.2	5.8	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°	21.6	18.7	12.2	0.0	0.0	0.0	0.0	0.0	0.0
115°	18.7	16.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	15.7	13.4	8.5	0.0	0.0	0.0	0.0	0.0	0.0
120°	12.8	10.9	6.8	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	10.0	8.4	6.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	7.2	6.4	5.2	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	4.9	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	2.6	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	3.9	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	5.2	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)