

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: P958842

Luminaire Tested: MMG-03W-940-ASYM-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958842
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-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH ASYMMETRIC LAMBERTIAN OPTICS
3 WATTS PER FOOT
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 819.8 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: 4' x L: 0.07' x H: 0.09')
CIE Type: Semi-Direct

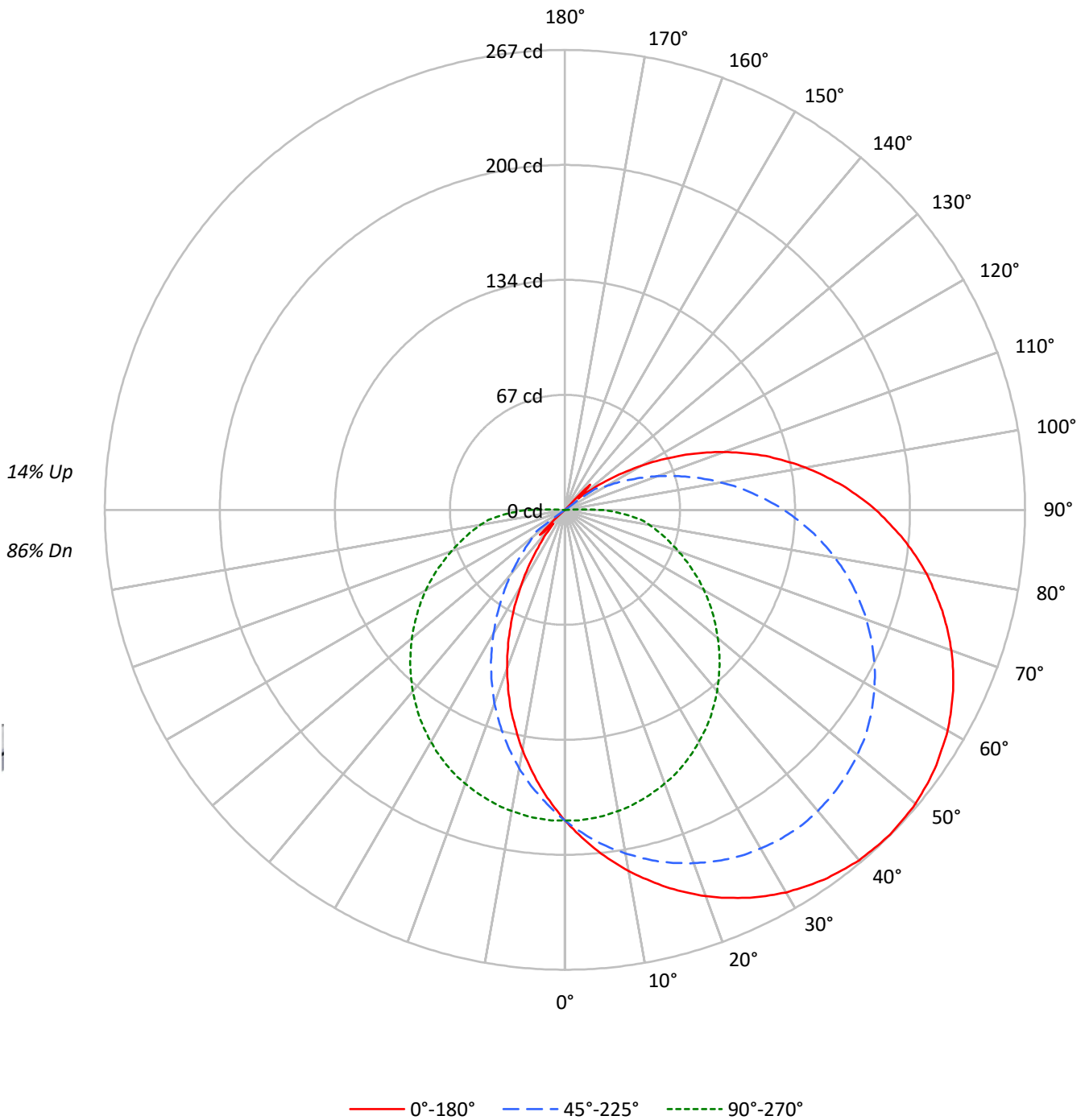
Input Watts (W): 10.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	7046	7046	7046	7046	7046
5°	6983	6998	7040	6070	5724
10°	6934	6941	7017	5224	4613
15°	6883	6901	6996	4453	3662
20°	6839	6852	6978	3754	2808
25°	6792	6812	6959	3091	2044
30°	6746	6761	6927	2463	1344
35°	6694	6716	6910	1906	736
40°	6642	6659	6882	1409	260
45°	6582	6594	6868	1002	508
50°	6519	6526	6862	719	0
55°	6447	6459	6912	0	0
60°	6372	6372	7013	0	0
65°	6286	6270	7194	0	0
70°	6193	6169	7551	0	0
75°	6087	6049	8289	0	0
80°	5973	5911	9952	0	0
85°	5839	5753	13475	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 37728 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	17.1	2.1
10°-20°	49.1	6.0
20°-30°	74.9	9.1
30°-40°	91.9	11.2
40°-50°	101.3	12.4
50°-60°	103.4	12.6
60°-70°	100.1	12.2
70°-80°	89.2	10.9
80°-90°	75.1	9.2
90°-100°	55.0	6.7
100°-110°	36.9	4.5
110°-120°	18.2	2.2
120°-130°	6.4	0.8
130°-140°	1.3	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°	141.1	17.2
0°-40°	233.0	28.4
0°-60°	437.7	53.4
0°-90°	702.0	85.6
90°-120°	110.1	13.4
90°-150°	117.8	14.4
90°-180°	118.0	14.4
0°-180°	819.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	180	180	180	180	180	
5°	197	192	180	167	162	19
15°	227	211	174	136	121	65
25°	249	224	163	102	75	115
35°	262	229	147	65	29	164
45°	267	226	127	34	21	206
55°	262	216	105	0	0	235
65°	249	197	81	0	0	246
75°	227	173	59	0	0	239
85°	197	144	37	0	0	164
90°	180	127	21	0	0	99
95°	162	109	0	0	0	128
105°	121	74	0	0	0	127
115°	75	41	0	0	0	74
125°	29	21	0	0	0	27
135°	21	0	0	0	0	8
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



TEST NUMBER: P958842

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	180.4	180.4	180.4	180.4	180.4	180.4	180.4	180.4	180.4
2.5°	188.8	188.3	186.5	183.7	180.4	176.8	173.8	171.7	171.0
5°	197.4	196.2	192.4	186.5	179.9	172.8	166.9	163.1	161.8
7.5°	205.3	203.3	197.7	189.0	178.9	168.7	160.0	153.9	151.6
10°	213.0	210.4	202.5	191.1	177.6	164.1	152.4	144.5	141.7
12.5°	219.8	216.8	207.1	192.9	176.1	159.0	144.5	134.9	131.0
15°	226.7	222.6	211.4	194.1	174.0	153.7	136.4	124.9	120.6
17.5°	232.8	228.2	215.0	195.2	171.7	148.1	128.0	114.5	109.4
20°	238.7	233.3	218.3	195.9	169.2	142.2	119.6	103.8	98.0
22.5°	243.8	237.9	221.1	196.2	166.4	136.1	110.4	93.1	86.5
25°	248.6	242.0	223.7	195.9	163.1	130.0	101.5	82.2	74.8
27.5°	252.7	245.5	225.7	195.4	159.5	123.4	92.1	71.2	63.1
30°	256.5	248.8	227.0	194.4	155.5	116.8	82.7	60.6	51.1
32.5°	259.3	251.4	228.2	192.9	151.4	109.9	73.8	49.9	39.9
35°	262.1	253.2	228.7	191.1	147.1	102.8	64.9	39.9	28.8
37.5°	263.9	254.7	229.0	189.0	142.2	95.9	56.2	30.5	19.6
40°	265.6	255.7	228.2	186.5	137.4	88.8	48.3	22.6	10.4
42.5°	266.1	256.2	227.2	183.7	132.1	81.9	40.7	16.8	15.5
45°	266.7	256.2	225.7	180.1	127.0	75.3	34.3	18.8	20.6
47.5°	266.1	255.5	223.9	176.6	121.4	69.0	28.2	0.0	0.0
50°	265.6	253.9	221.4	172.5	115.8	62.6	24.4	0.0	0.0
52.5°	263.9	252.1	218.8	168.2	110.2	56.7	22.6	0.0	0.0
55°	262.1	250.1	215.5	163.3	104.6	50.9	0.0	0.0	0.0
57.5°	259.3	247.1	211.7	158.3	99.0	45.8	0.0	0.0	0.0
60°	256.5	243.8	207.4	152.9	93.1	41.0	0.0	0.0	0.0
62.5°	252.7	239.9	202.8	147.6	87.3	36.4	0.0	0.0	0.0
65°	248.6	235.4	197.4	141.7	81.4	30.8	0.0	0.0	0.0
67.5°	243.8	230.5	192.1	135.9	75.6	24.7	0.0	0.0	0.0
70°	238.7	225.2	186.2	129.8	70.0	0.0	0.0	0.0	0.0
72.5°	232.8	219.1	179.9	123.1	64.6	0.0	0.0	0.0	0.0
75°	226.7	213.0	173.3	116.5	59.3	0.0	0.0	0.0	0.0
77.5°	219.8	206.1	166.4	109.7	54.4	0.0	0.0	0.0	0.0
80°	213.0	199.2	159.0	103.0	49.6	0.0	0.0	0.0	0.0
82.5°	205.3	191.3	151.4	96.2	44.8	0.0	0.0	0.0	0.0
85°	197.4	183.4	143.5	89.3	37.4	0.0	0.0	0.0	0.0
87.5°	188.8	175.1	135.1	82.4	29.0	0.0	0.0	0.0	0.0
90°	180.4	166.4	127.0	75.6	20.6	0.0	0.0	0.0	0.0
92.5°	171.0	157.2	118.3	69.2	0.0	0.0	0.0	0.0	0.0
95°	161.8	147.8	109.4	62.8	0.0	0.0	0.0	0.0	0.0
97.5°	151.6	138.2	100.8	56.2	0.0	0.0	0.0	0.0	0.0
100°	141.7	128.2	91.9	50.4	0.0	0.0	0.0	0.0	0.0
102.5°	131.0	117.8	82.9	44.3	0.0	0.0	0.0	0.0	0.0
105°	120.6	107.4	74.0	37.9	0.0	0.0	0.0	0.0	0.0
107.5°	109.4	96.4	65.4	30.3	0.0	0.0	0.0	0.0	0.0
110°	98.0	85.5	57.0	23.2	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°	86.5	74.8	48.9	0.0	0.0	0.0	0.0	0.0	0.0
115°	74.8	63.9	41.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	62.8	53.4	33.8	0.0	0.0	0.0	0.0	0.0	0.0
120°	51.1	43.5	27.2	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	39.9	33.6	23.9	0.0	0.0	0.0	0.0	0.0	0.0
125°	28.8	25.7	20.9	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	19.6	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	10.4	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	15.5	20.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	20.6	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)