

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: P958874

Luminaire Tested: MMG-08W-940-ASYM-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958874
SCALED TEST REPORT
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: iO LED
Catalog Number: MMG-08W-940-ASYM-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH ASYMMETRIC LAMBERTIAN OPTICS
8 WATTS PER FOOT
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2340.3 lumens
Efficiency: N/A
Efficacy: 80.1 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

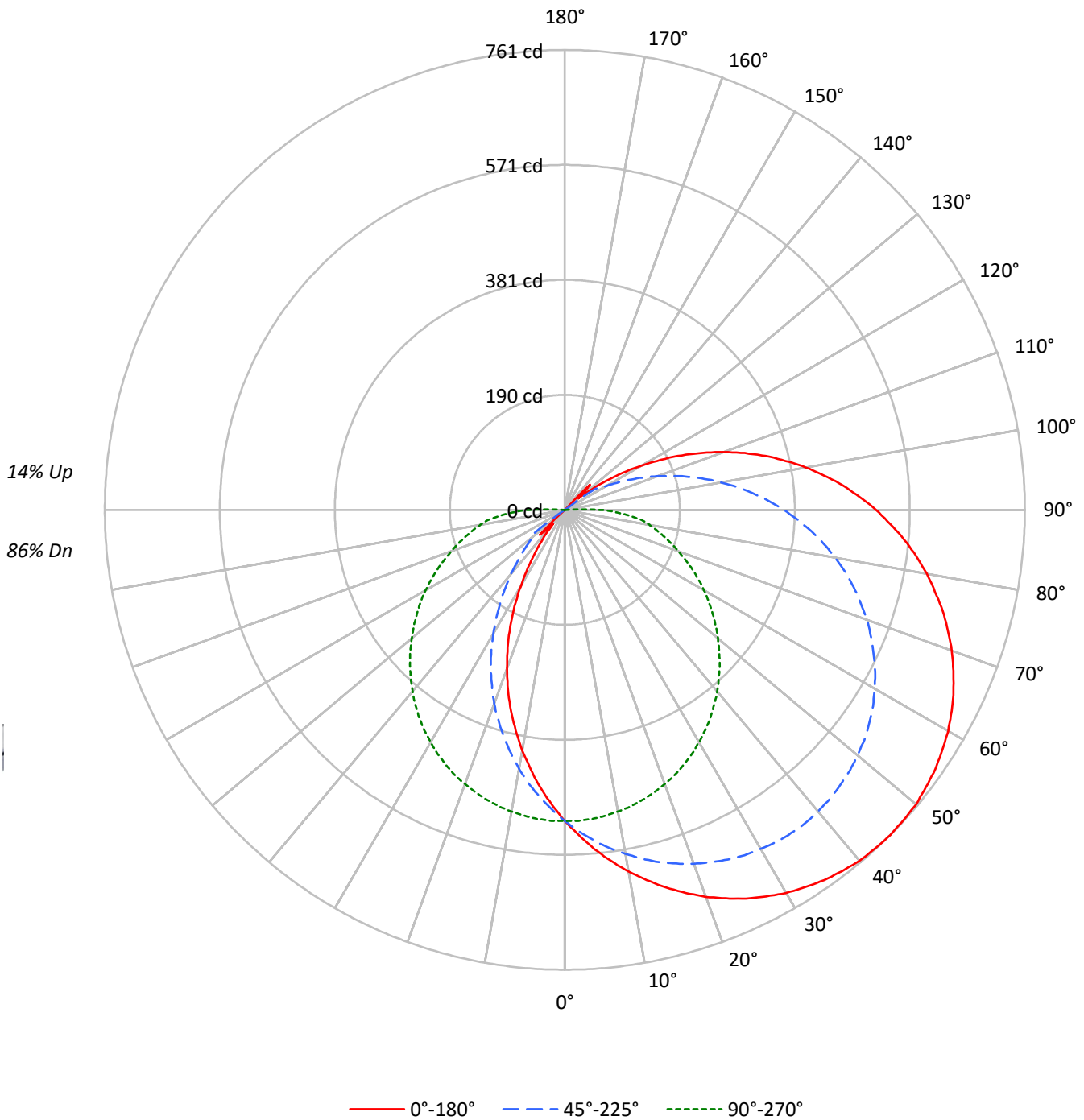
Input Watts (W): 29.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	20114	20114	20114	20114	20114
5°	19937	19972	20095	17331	16339
10°	19789	19815	20032	14914	13171
15°	19647	19704	19974	12709	10454
20°	19521	19562	19920	10716	8011
25°	19387	19439	19867	8824	5833
30°	19254	19298	19771	7032	3840
35°	19106	19177	19721	5439	2097
40°	18963	19011	19645	4027	745
45°	18786	18821	19599	2866	1451
50°	18613	18627	19584	2055	0
55°	18403	18440	19725	0	0
60°	18187	18186	20023	0	0
65°	17942	17901	20538	0	0
70°	17676	17616	21542	0	0
75°	17374	17263	23650	0	0
80°	17046	16874	28412	0	0
85°	16670	16420	38480	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 107691 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.8	2.1
10°-20°	140.1	6.0
20°-30°	213.9	9.1
30°-40°	262.4	11.2
40°-50°	289.2	12.4
50°-60°	295.1	12.6
60°-70°	285.7	12.2
70°-80°	254.5	10.9
80°-90°	214.4	9.2
90°-100°	157.0	6.7
100°-110°	105.4	4.5
110°-120°	51.9	2.2
120°-130°	18.3	0.8
130°-140°	3.6	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°	402.7	17.2
0°-40°	665.1	28.4
0°-60°	1249.4	53.4
0°-90°	2004.0	85.6
90°-120°	314.3	13.4
90°-150°	336.3	14.4
90°-180°	336.0	14.4
0°-180°	2340.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	515	515	515	515	515	
5°	564	549	514	476	462	55
15°	647	604	497	389	344	184
25°	710	638	466	290	214	329
35°	748	653	420	185	82	469
45°	761	644	362	98	59	588
55°	748	615	298	0	0	670
65°	710	564	232	0	0	703
75°	647	495	169	0	0	683
85°	564	410	107	0	0	469
90°	515	362	59	0	0	282
95°	462	312	0	0	0	365
105°	344	211	0	0	0	364
115°	214	117	0	0	0	212
125°	82	60	0	0	0	77
135°	59	0	0	0	0	23
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: P958874

CATALOG NUMBER: MMG-08W-940-ASYM-ID-X-X-4F-4-UNV-STD-X

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	515.0	515.0	515.0	515.0	515.0	515.0	515.0	515.0	515.0
2.5°	538.9	537.5	532.4	524.4	515.0	504.8	496.1	490.3	488.1
5°	563.6	560.0	549.1	532.4	513.5	493.2	476.5	465.6	461.9
7.5°	586.1	580.3	564.3	539.7	510.6	481.5	456.9	439.4	432.9
10°	607.9	600.7	578.1	545.5	507.0	468.5	435.1	412.5	404.6
12.5°	627.5	618.8	591.2	550.5	502.6	453.9	412.5	384.9	374.1
15°	647.1	635.5	603.6	554.2	496.8	438.7	389.3	356.6	344.3
17.5°	664.6	651.5	613.7	557.1	490.3	422.7	365.3	326.8	312.3
20°	681.3	666.0	623.2	559.3	483.0	406.0	341.4	296.3	279.6
22.5°	695.8	679.1	631.2	560.0	475.0	388.6	315.2	265.8	246.9
25°	709.6	690.7	638.4	559.3	465.6	371.1	289.8	234.6	213.5
27.5°	721.2	700.9	644.2	557.8	455.4	352.3	262.9	203.4	180.1
30°	732.1	710.3	647.9	554.9	443.8	333.4	236.1	172.9	146.0
32.5°	740.1	717.6	651.5	550.5	432.2	313.8	210.6	142.4	114.0
35°	748.1	722.7	653.0	545.5	419.8	293.4	185.2	114.0	82.1
37.5°	753.2	727.0	653.7	539.7	406.0	273.8	160.5	87.2	55.9
40°	758.3	729.9	651.5	532.4	392.2	253.5	138.0	64.6	29.8
42.5°	759.7	731.4	648.6	524.4	377.0	233.9	116.2	47.9	44.3
45°	761.2	731.4	644.2	514.2	362.4	215.0	98.1	53.7	58.8
47.5°	759.7	729.2	639.2	504.1	346.5	196.8	80.6	0.0	0.0
50°	758.3	724.9	631.9	492.4	330.5	178.7	69.7	0.0	0.0
52.5°	753.2	719.8	624.6	480.1	314.5	162.0	64.6	0.0	0.0
55°	748.1	714.0	615.2	466.3	298.5	145.3	0.0	0.0	0.0
57.5°	740.1	705.3	604.3	451.8	282.5	130.7	0.0	0.0	0.0
60°	732.1	695.8	591.9	436.5	265.8	116.9	0.0	0.0	0.0
62.5°	721.2	684.9	578.9	421.3	249.1	103.9	0.0	0.0	0.0
65°	709.6	671.8	563.6	404.6	232.4	87.9	0.0	0.0	0.0
67.5°	695.8	658.0	548.4	387.9	215.7	70.5	0.0	0.0	0.0
70°	681.3	642.8	531.7	370.4	199.7	0.0	0.0	0.0	0.0
72.5°	664.6	625.4	513.5	351.5	184.5	0.0	0.0	0.0	0.0
75°	647.1	607.9	494.6	332.7	169.2	0.0	0.0	0.0	0.0
77.5°	627.5	588.3	475.0	313.0	155.4	0.0	0.0	0.0	0.0
80°	607.9	568.7	453.9	294.2	141.6	0.0	0.0	0.0	0.0
82.5°	586.1	546.2	432.2	274.5	127.8	0.0	0.0	0.0	0.0
85°	563.6	523.7	409.6	254.9	106.8	0.0	0.0	0.0	0.0
87.5°	538.9	499.7	385.7	235.3	82.8	0.0	0.0	0.0	0.0
90°	515.0	475.0	362.4	215.7	58.8	0.0	0.0	0.0	0.0
92.5°	488.1	448.9	337.7	197.6	0.0	0.0	0.0	0.0	0.0
95°	461.9	422.0	312.3	179.4	0.0	0.0	0.0	0.0	0.0
97.5°	432.9	394.4	287.6	160.5	0.0	0.0	0.0	0.0	0.0
100°	404.6	366.1	262.2	143.8	0.0	0.0	0.0	0.0	0.0
102.5°	374.1	336.3	236.8	126.4	0.0	0.0	0.0	0.0	0.0
105°	344.3	306.5	211.4	108.2	0.0	0.0	0.0	0.0	0.0
107.5°	312.3	275.3	186.7	86.4	0.0	0.0	0.0	0.0	0.0
110°	279.6	244.0	162.7	66.1	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°	246.9	213.5	139.5	0.0	0.0	0.0	0.0	0.0	0.0
115°	213.5	182.3	116.9	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	179.4	152.5	96.6	0.0	0.0	0.0	0.0	0.0	0.0
120°	146.0	124.2	77.7	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	114.0	95.9	68.3	0.0	0.0	0.0	0.0	0.0	0.0
125°	82.1	73.4	59.6	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	55.9	50.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	29.8	53.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	44.3	58.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	58.8	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)