

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: P958914

Luminaire Tested: MMG-08W-930-ASYM-ID-X-X-1F-1-UNV-STD-X

Issue Date: 1/31/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P958914  
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-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 8 WATTS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

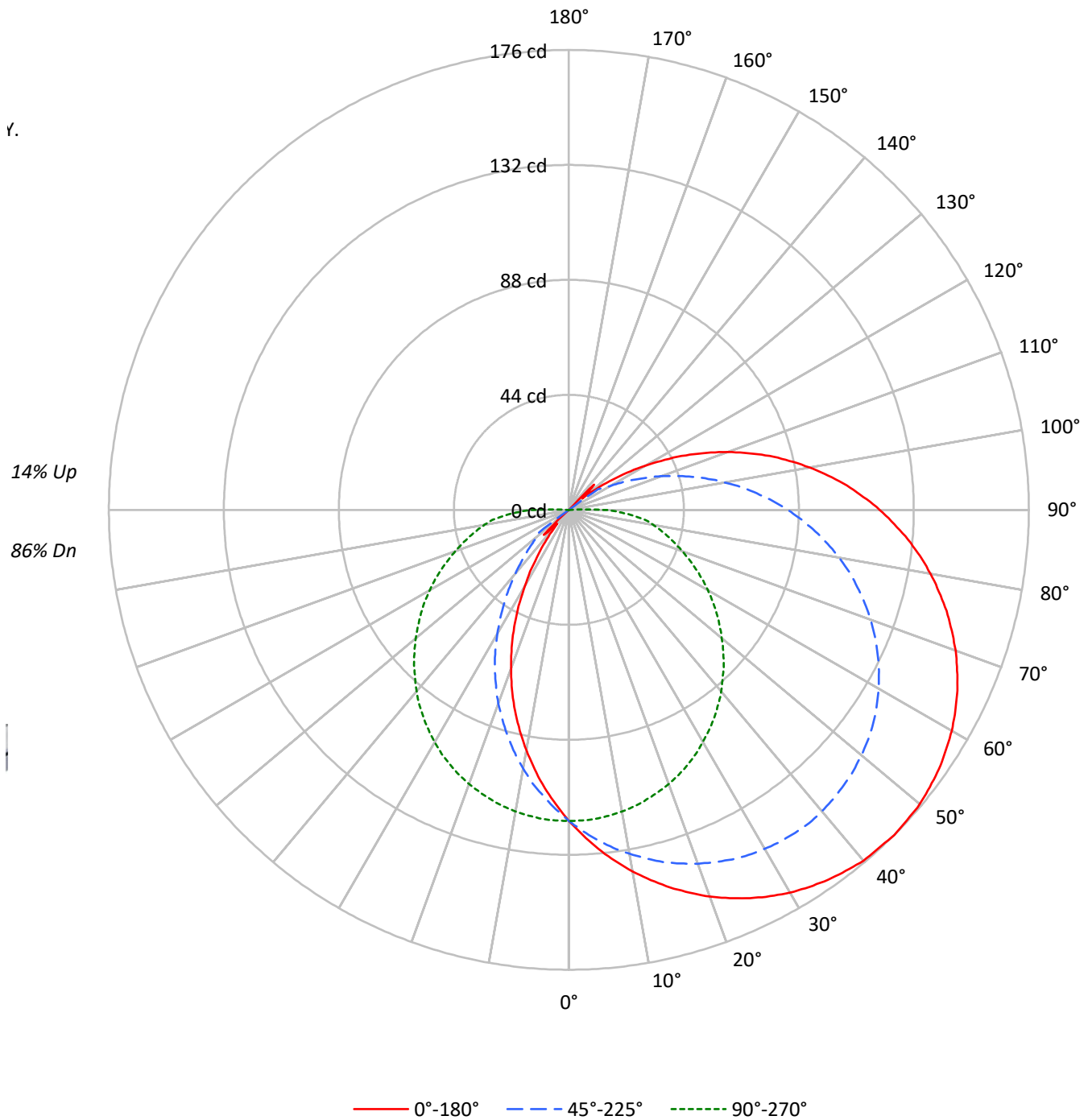
Lumens per Lamp: N/A  
Luminaire Lumens: 541.0 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.28 / 1.46  
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 0.07' x H: 0.09')  
CIE Type: Semi-Direct  
  
Input Watts (W): 7.3  
Input Voltage (V): 120  
Input 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		
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°	18591	18591	18591	18591	18591
5°	18437	18395	18477	15960	15112
10°	18295	18192	18317	13699	12175
15°	18169	18039	18152	11638	9667
20°	18051	17871	17995	9785	7404
25°	17923	17714	17838	8041	5399
30°	17800	17545	17640	6395	3545
35°	17663	17387	17457	4931	1941
40°	17535	17204	17262	3644	690
45°	17375	16995	17059	2591	1343
50°	17211	16788	16855	1850	0
55°	17013	16577	16753	0	0
60°	16813	16310	16715	0	0
65°	16587	16020	16781	0	0
70°	16345	15721	17096	0	0
75°	16066	15358	17902	0	0
80°	15759	14964	19827	0	0
85°	15416	14514	22418	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 90°  
 Luminance: 24908 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	11.3	2.1
10°-20°	32.4	6.0
20°-30°	49.4	9.1
30°-40°	60.6	11.2
40°-50°	66.8	12.4
50°-60°	68.2	12.6
60°-70°	66.1	12.2
70°-80°	58.8	10.9
80°-90°	49.6	9.2
90°-100°	36.3	6.7
100°-110°	24.4	4.5
110°-120°	12.0	2.2
120°-130°	4.2	0.8
130°-140°	0.8	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°	93.1	17.2
0°-40°	153.7	28.4
0°-60°	288.8	53.4
0°-90°	463.2	85.6
90°-120°	72.7	13.4
90°-150°	77.7	14.4
90°-180°	78.0	14.4
0°-180°	541.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	119	119	119	119	119	
5°	130	127	119	110	107	13
15°	150	140	115	90	80	43
25°	164	148	108	67	49	76
35°	173	151	97	43	19	108
45°	176	149	84	23	14	136
55°	173	142	69	0	0	155
65°	164	130	54	0	0	162
75°	150	114	39	0	0	158
85°	130	95	25	0	0	108
90°	119	84	14	0	0	65
95°	107	72	0	0	0	84
105°	80	49	0	0	0	84
115°	49	27	0	0	0	49
125°	19	14	0	0	0	18
135°	14	0	0	0	0	5
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°	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0
2.5°	124.6	124.2	123.1	121.2	119.0	116.7	114.7	113.3	112.8
5°	130.3	129.4	126.9	123.1	118.7	114.0	110.1	107.6	106.8
7.5°	135.5	134.1	130.5	124.7	118.0	111.3	105.6	101.6	100.1
10°	140.5	138.8	133.6	126.1	117.2	108.3	100.6	95.4	93.5
12.5°	145.1	143.0	136.7	127.3	116.2	104.9	95.4	89.0	86.5
15°	149.6	146.9	139.5	128.1	114.8	101.4	90.0	82.4	79.6
17.5°	153.6	150.6	141.9	128.8	113.3	97.7	84.4	75.6	72.2
20°	157.5	154.0	144.1	129.3	111.6	93.9	78.9	68.5	64.6
22.5°	160.8	157.0	145.9	129.4	109.8	89.8	72.9	61.4	57.1
25°	164.0	159.7	147.6	129.3	107.6	85.8	67.0	54.2	49.4
27.5°	166.7	162.0	148.9	128.9	105.3	81.4	60.8	47.0	41.6
30°	169.2	164.2	149.8	128.3	102.6	77.1	54.6	40.0	33.7
32.5°	171.1	165.9	150.6	127.3	99.9	72.5	48.7	32.9	26.4
35°	172.9	167.1	150.9	126.1	97.0	67.8	42.8	26.4	19.0
37.5°	174.1	168.1	151.1	124.7	93.9	63.3	37.1	20.1	12.9
40°	175.3	168.7	150.6	123.1	90.7	58.6	31.9	14.9	6.9
42.5°	175.6	169.1	149.9	121.2	87.1	54.1	26.9	11.1	10.2
45°	176.0	169.1	148.9	118.9	83.8	49.7	22.7	12.4	13.6
47.5°	175.6	168.6	147.7	116.5	80.1	45.5	18.6	0.0	0.0
50°	175.3	167.6	146.1	113.8	76.4	41.3	16.1	0.0	0.0
52.5°	174.1	166.4	144.4	111.0	72.7	37.4	14.9	0.0	0.0
55°	172.9	165.0	142.2	107.8	69.0	33.6	0.0	0.0	0.0
57.5°	171.1	163.0	139.7	104.4	65.3	30.2	0.0	0.0	0.0
60°	169.2	160.8	136.8	100.9	61.4	27.0	0.0	0.0	0.0
62.5°	166.7	158.3	133.8	97.4	57.6	24.0	0.0	0.0	0.0
65°	164.0	155.3	130.3	93.5	53.7	20.3	0.0	0.0	0.0
67.5°	160.8	152.1	126.8	89.7	49.9	16.3	0.0	0.0	0.0
70°	157.5	148.6	122.9	85.6	46.2	0.0	0.0	0.0	0.0
72.5°	153.6	144.6	118.7	81.3	42.6	0.0	0.0	0.0	0.0
75°	149.6	140.5	114.3	76.9	39.1	0.0	0.0	0.0	0.0
77.5°	145.1	136.0	109.8	72.4	35.9	0.0	0.0	0.0	0.0
80°	140.5	131.5	104.9	68.0	32.7	0.0	0.0	0.0	0.0
82.5°	135.5	126.3	99.9	63.5	29.5	0.0	0.0	0.0	0.0
85°	130.3	121.1	94.7	58.9	24.7	0.0	0.0	0.0	0.0
87.5°	124.6	115.5	89.2	54.4	19.1	0.0	0.0	0.0	0.0
90°	119.0	109.8	83.8	49.9	13.6	0.0	0.0	0.0	0.0
92.5°	112.8	103.8	78.1	45.7	0.0	0.0	0.0	0.0	0.0
95°	106.8	97.5	72.2	41.5	0.0	0.0	0.0	0.0	0.0
97.5°	100.1	91.2	66.5	37.1	0.0	0.0	0.0	0.0	0.0
100°	93.5	84.6	60.6	33.2	0.0	0.0	0.0	0.0	0.0
102.5°	86.5	77.7	54.7	29.2	0.0	0.0	0.0	0.0	0.0
105°	79.6	70.9	48.9	25.0	0.0	0.0	0.0	0.0	0.0
107.5°	72.2	63.6	43.1	20.0	0.0	0.0	0.0	0.0	0.0
110°	64.6	56.4	37.6	15.3	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°	57.1	49.4	32.2	0.0	0.0	0.0	0.0	0.0	0.0
115°	49.4	42.1	27.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	41.5	35.3	22.3	0.0	0.0	0.0	0.0	0.0	0.0
120°	33.7	28.7	18.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	26.4	22.2	15.8	0.0	0.0	0.0	0.0	0.0	0.0
125°	19.0	17.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	12.9	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	6.9	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	10.2	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	13.6	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)