

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: P958870

Luminaire Tested: MMG-08W-935-ASYM-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958870
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-935-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: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2186.7 lumens
Efficiency: N/A
Efficacy: 74.9 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

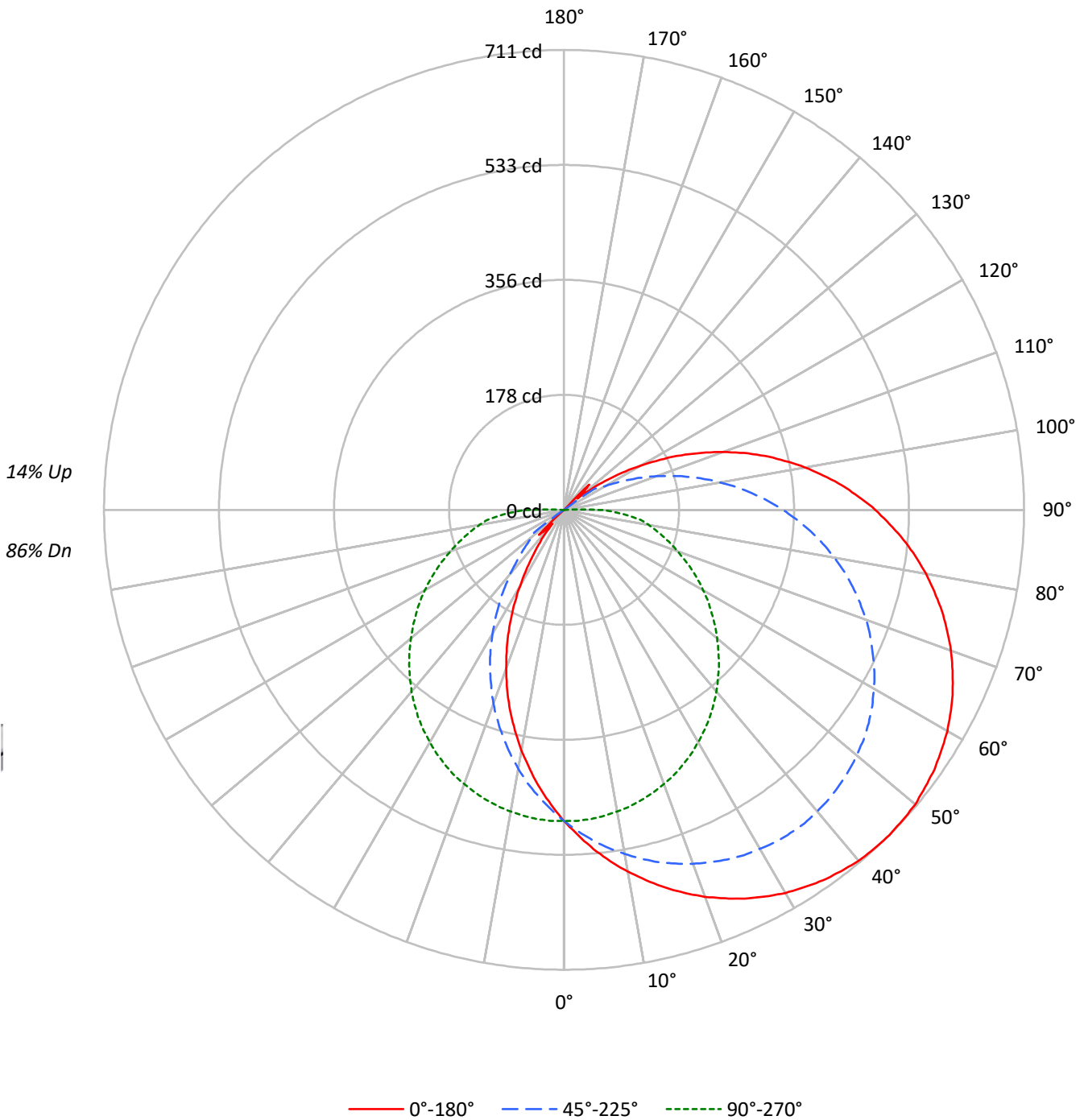
Input Watts (W): 29.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	18794	18794	18794	18794	18794
5°	18628	18662	18776	16193	15267
10°	18490	18516	18716	13933	12305
15°	18360	18412	18663	11876	9767
20°	18240	18278	18613	10013	7487
25°	18114	18163	18561	8246	5451
30°	17992	18032	18475	6571	3587
35°	17852	17917	18429	5083	1959
40°	17717	17765	18357	3761	695
45°	17552	17588	18312	2676	1357
50°	17391	17404	18298	1922	0
55°	17195	17229	18430	0	0
60°	16995	16994	18712	0	0
65°	16764	16726	19195	0	0
70°	16516	16460	20129	0	0
75°	16236	16133	22099	0	0
80°	15927	15770	26546	0	0
85°	15576	15346	35958	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 100731 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.6	2.1
10°-20°	130.9	6.0
20°-30°	199.8	9.1
30°-40°	245.1	11.2
40°-50°	270.2	12.4
50°-60°	275.8	12.6
60°-70°	267.0	12.2
70°-80°	237.8	10.9
80°-90°	200.3	9.2
90°-100°	146.7	6.7
100°-110°	98.5	4.5
110°-120°	48.5	2.2
120°-130°	17.1	0.8
130°-140°	3.4	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°	376.3	17.2
0°-40°	621.4	28.4
0°-60°	1167.4	53.4
0°-90°	1872.5	85.6
90°-120°	293.7	13.4
90°-150°	314.2	14.4
90°-180°	314.0	14.4
0°-180°	2186.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	481	481	481	481	481	
5°	527	513	480	445	432	51
15°	605	564	464	364	322	172
25°	663	596	435	271	200	307
35°	699	610	392	173	77	439
45°	711	602	339	92	55	550
55°	699	575	279	0	0	626
65°	663	527	217	0	0	657
75°	605	462	158	0	0	638
85°	527	383	100	0	0	438
90°	481	339	55	0	0	263
95°	432	292	0	0	0	341
105°	322	198	0	0	0	340
115°	200	109	0	0	0	198
125°	77	56	0	0	0	72
135°	55	0	0	0	0	22
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°	481.2	481.2	481.2	481.2	481.2	481.2	481.2	481.2	481.2
2.5°	503.6	502.2	497.5	490.0	481.2	471.7	463.5	458.1	456.1
5°	526.6	523.2	513.1	497.5	479.8	460.8	445.2	435.0	431.6
7.5°	547.7	542.2	527.3	504.2	477.1	449.9	426.9	410.6	404.5
10°	568.0	561.2	540.2	509.7	473.7	437.7	406.5	385.5	378.0
12.5°	586.4	578.2	552.4	514.4	469.6	424.2	385.5	359.7	349.5
15°	604.7	593.8	564.0	517.8	464.2	409.9	363.8	333.2	321.7
17.5°	621.0	608.8	573.5	520.5	458.1	395.0	341.4	305.4	291.8
20°	636.6	622.3	582.3	522.6	451.3	379.4	319.0	276.9	261.3
22.5°	650.1	634.5	589.7	523.2	443.8	363.1	294.5	248.4	230.7
25°	663.0	645.4	596.5	522.6	435.0	346.8	270.8	219.2	199.5
27.5°	673.9	654.9	602.0	521.2	425.5	329.1	245.7	190.0	168.3
30°	684.1	663.7	605.4	518.5	414.7	311.5	220.6	161.5	136.4
32.5°	691.5	670.5	608.8	514.4	403.8	293.2	196.8	133.0	106.5
35°	699.0	675.3	610.1	509.7	392.3	274.2	173.1	106.5	76.7
37.5°	703.8	679.3	610.8	504.2	379.4	255.9	150.0	81.4	52.3
40°	708.5	682.0	608.8	497.5	366.5	236.8	128.9	60.4	27.8
42.5°	709.9	683.4	606.0	490.0	352.2	218.5	108.6	44.8	41.4
45°	711.2	683.4	602.0	480.5	338.6	200.9	91.6	50.2	55.0
47.5°	709.9	681.4	597.2	471.0	323.7	183.9	75.3	0.0	0.0
50°	708.5	677.3	590.4	460.1	308.8	166.9	65.2	0.0	0.0
52.5°	703.8	672.5	583.6	448.6	293.9	151.3	60.4	0.0	0.0
55°	699.0	667.1	574.8	435.7	278.9	135.7	0.0	0.0	0.0
57.5°	691.5	659.0	564.6	422.1	264.0	122.2	0.0	0.0	0.0
60°	684.1	650.1	553.1	407.9	248.4	109.3	0.0	0.0	0.0
62.5°	673.9	640.0	540.9	393.6	232.8	97.0	0.0	0.0	0.0
65°	663.0	627.8	526.6	378.0	217.2	82.1	0.0	0.0	0.0
67.5°	650.1	614.9	512.4	362.4	201.6	65.8	0.0	0.0	0.0
70°	636.6	600.6	496.8	346.1	186.6	0.0	0.0	0.0	0.0
72.5°	621.0	584.3	479.8	328.5	172.4	0.0	0.0	0.0	0.0
75°	604.7	568.0	462.2	310.8	158.1	0.0	0.0	0.0	0.0
77.5°	586.4	549.7	443.8	292.5	145.2	0.0	0.0	0.0	0.0
80°	568.0	531.4	424.2	274.9	132.3	0.0	0.0	0.0	0.0
82.5°	547.7	510.3	403.8	256.5	119.4	0.0	0.0	0.0	0.0
85°	526.6	489.3	382.8	238.2	99.8	0.0	0.0	0.0	0.0
87.5°	503.6	466.9	360.4	219.9	77.4	0.0	0.0	0.0	0.0
90°	481.2	443.8	338.6	201.6	55.0	0.0	0.0	0.0	0.0
92.5°	456.1	419.4	315.6	184.6	0.0	0.0	0.0	0.0	0.0
95°	431.6	394.3	291.8	167.6	0.0	0.0	0.0	0.0	0.0
97.5°	404.5	368.5	268.7	150.0	0.0	0.0	0.0	0.0	0.0
100°	378.0	342.0	245.0	134.4	0.0	0.0	0.0	0.0	0.0
102.5°	349.5	314.2	221.2	118.1	0.0	0.0	0.0	0.0	0.0
105°	321.7	286.4	197.5	101.1	0.0	0.0	0.0	0.0	0.0
107.5°	291.8	257.2	174.4	80.8	0.0	0.0	0.0	0.0	0.0
110°	261.3	228.0	152.0	61.8	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°	230.7	199.5	130.3	0.0	0.0	0.0	0.0	0.0	0.0
115°	199.5	170.3	109.3	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	167.6	142.5	90.3	0.0	0.0	0.0	0.0	0.0	0.0
120°	136.4	116.0	72.6	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	106.5	89.6	63.8	0.0	0.0	0.0	0.0	0.0	0.0
125°	76.7	68.5	55.6	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	52.3	46.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	27.8	50.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	41.4	55.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	55.0	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)