

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: P958846

Luminaire Tested: MMG-05W-927-ASYM-ID-X-X-4F-4-UNV-STD-X

Issue Date: 1/31/2025

Test Information

Test Method: LM-79-2019
Report Number: P958846
SCALED TEST REPORT
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: iO LED
Catalog Number: MMG-05W-927-ASYM-ID-X-X-4F-4-UNV-STD-X
Description: iO LED MiniO-Graze LINEAR LIGHTING WITH ASYMMETRIC LAMBERTIAN OPTICS
5 WATTS PER FOOT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1355.1 lumens
Efficiency: N/A
Efficacy: 75.3 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

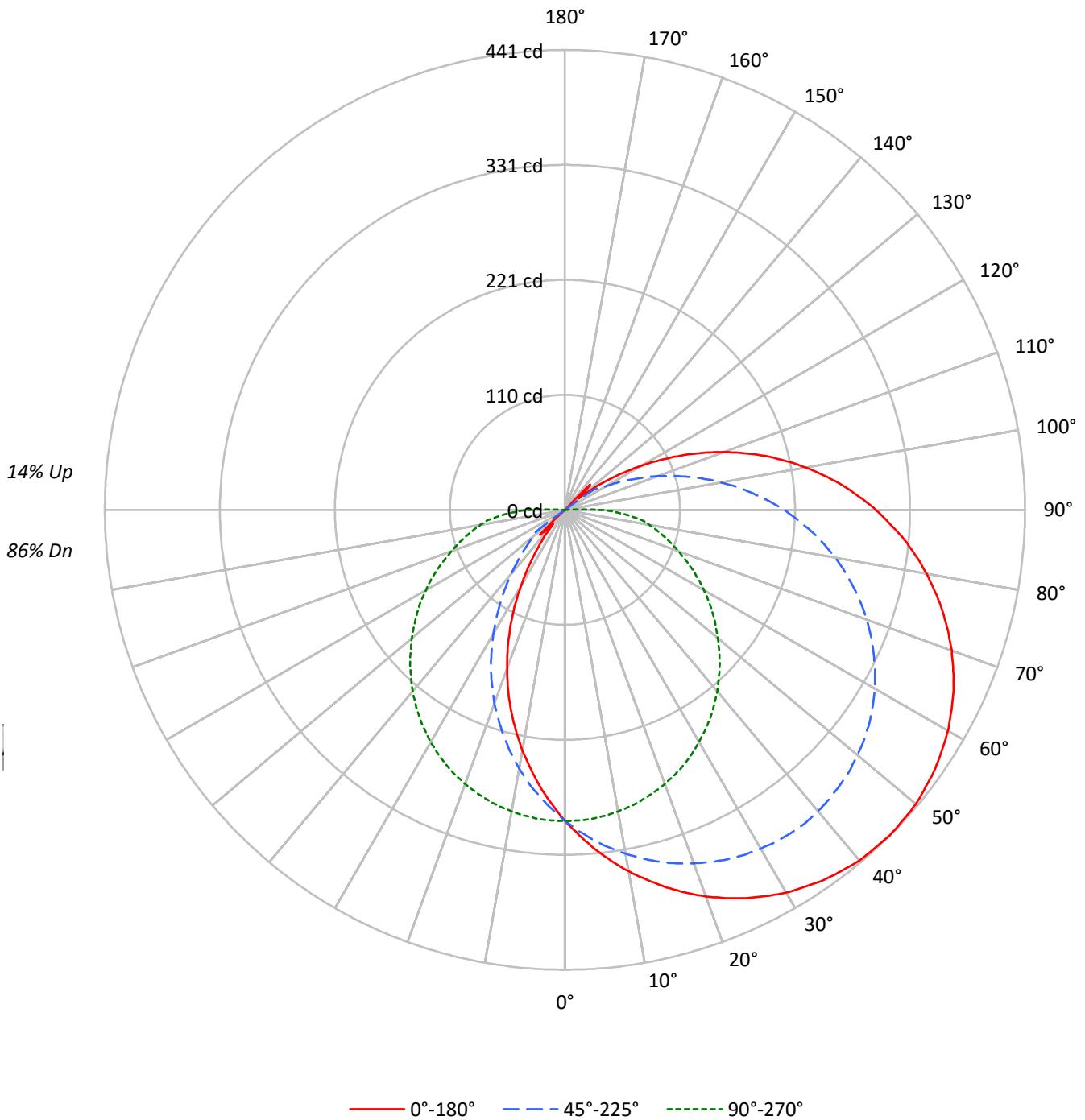
Input Watts (W): 18
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	11647	11647	11647	11647	11647
5°	11546	11563	11634	10035	9463
10°	11459	11476	11600	8634	7627
15°	11377	11409	11567	7358	6051
20°	11303	11325	11536	6206	4639
25°	11226	11257	11504	5109	3377
30°	11149	11172	11449	4072	2222
35°	11064	11104	11420	3148	1213
40°	10980	11007	11375	2332	430
45°	10879	10898	11352	1660	842
50°	10778	10786	11341	1191	0
55°	10656	10677	11425	0	0
60°	10531	10532	11593	0	0
65°	10390	10367	11895	0	0
70°	10235	10201	12481	0	0
75°	10060	9996	13698	0	0
80°	9870	9773	16453	0	0
85°	9654	9509	22266	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 62453 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.2	2.1
10°-20°	81.1	6.0
20°-30°	123.8	9.1
30°-40°	151.9	11.2
40°-50°	167.4	12.4
50°-60°	170.9	12.6
60°-70°	165.5	12.2
70°-80°	147.4	10.9
80°-90°	124.1	9.2
90°-100°	90.9	6.7
100°-110°	61.0	4.5
110°-120°	30.0	2.2
120°-130°	10.6	0.8
130°-140°	2.1	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°	233.2	17.2
0°-40°	385.1	28.4
0°-60°	723.4	53.4
0°-90°	1160.4	85.6
90°-120°	182.0	13.4
90°-150°	194.7	14.4
90°-180°	195.0	14.4
0°-180°	1355.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	298	298	298	298	298	
5°	326	318	297	276	268	32
15°	375	350	288	225	199	107
25°	411	370	270	168	124	190
35°	433	378	243	107	48	272
45°	441	373	210	57	34	341
55°	433	356	173	0	0	388
65°	411	326	135	0	0	407
75°	375	286	98	0	0	396
85°	326	237	62	0	0	272
90°	298	210	34	0	0	163
95°	268	181	0	0	0	212
105°	199	122	0	0	0	210
115°	124	68	0	0	0	123
125°	48	34	0	0	0	45
135°	34	0	0	0	0	14
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: P958846

CATALOG NUMBER: MMG-05W-927-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°	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2
2.5°	312.1	311.2	308.3	303.6	298.2	292.3	287.2	283.9	282.6
5°	326.4	324.3	317.9	308.3	297.3	285.6	275.9	269.6	267.5
7.5°	339.4	336.0	326.8	312.5	295.7	278.8	264.5	254.4	250.7
10°	352.0	347.8	334.8	315.8	293.6	271.3	251.9	238.9	234.3
12.5°	363.4	358.3	342.3	318.8	291.0	262.9	238.9	222.9	216.6
15°	374.7	368.0	349.5	320.9	287.7	254.0	225.4	206.5	199.3
17.5°	384.8	377.2	355.4	322.6	283.9	244.8	211.5	189.3	180.8
20°	394.5	385.7	360.8	323.8	279.7	235.1	197.7	171.6	161.9
22.5°	402.9	393.2	365.5	324.3	275.0	225.0	182.5	153.9	143.0
25°	410.9	400.0	369.7	323.8	269.6	214.9	167.8	135.8	123.6
27.5°	417.6	405.8	373.0	323.0	263.7	204.0	152.2	117.8	104.3
30°	423.9	411.3	375.1	321.3	257.0	193.0	136.7	100.1	84.5
32.5°	428.6	415.5	377.2	318.8	250.2	181.7	122.0	82.4	66.0
35°	433.2	418.5	378.1	315.8	243.1	169.9	107.2	66.0	47.5
37.5°	436.1	421.0	378.5	312.5	235.1	158.6	92.9	50.5	32.4
40°	439.1	422.7	377.2	308.3	227.1	146.8	79.9	37.4	17.2
42.5°	439.9	423.5	375.6	303.6	218.3	135.4	67.3	27.8	25.7
45°	440.8	423.5	373.0	297.8	209.9	124.5	56.8	31.1	34.1
47.5°	439.9	422.2	370.1	291.9	200.6	114.0	46.7	0.0	0.0
50°	439.1	419.7	365.9	285.1	191.4	103.5	40.4	0.0	0.0
52.5°	436.1	416.8	361.7	278.0	182.1	93.8	37.4	0.0	0.0
55°	433.2	413.4	356.2	270.0	172.9	84.1	0.0	0.0	0.0
57.5°	428.6	408.4	349.9	261.6	163.6	75.7	0.0	0.0	0.0
60°	423.9	402.9	342.8	252.8	153.9	67.7	0.0	0.0	0.0
62.5°	417.6	396.6	335.2	243.9	144.3	60.1	0.0	0.0	0.0
65°	410.9	389.0	326.4	234.3	134.6	50.9	0.0	0.0	0.0
67.5°	402.9	381.0	317.5	224.6	124.9	40.8	0.0	0.0	0.0
70°	394.5	372.2	307.9	214.5	115.7	0.0	0.0	0.0	0.0
72.5°	384.8	362.1	297.3	203.6	106.8	0.0	0.0	0.0	0.0
75°	374.7	352.0	286.4	192.6	98.0	0.0	0.0	0.0	0.0
77.5°	363.4	340.7	275.0	181.3	90.0	0.0	0.0	0.0	0.0
80°	352.0	329.3	262.9	170.3	82.0	0.0	0.0	0.0	0.0
82.5°	339.4	316.3	250.2	159.0	74.0	0.0	0.0	0.0	0.0
85°	326.4	303.2	237.2	147.6	61.8	0.0	0.0	0.0	0.0
87.5°	312.1	289.3	223.3	136.3	47.9	0.0	0.0	0.0	0.0
90°	298.2	275.0	209.9	124.9	34.1	0.0	0.0	0.0	0.0
92.5°	282.6	259.9	195.6	114.4	0.0	0.0	0.0	0.0	0.0
95°	267.5	244.3	180.8	103.9	0.0	0.0	0.0	0.0	0.0
97.5°	250.7	228.4	166.5	92.9	0.0	0.0	0.0	0.0	0.0
100°	234.3	212.0	151.8	83.3	0.0	0.0	0.0	0.0	0.0
102.5°	216.6	194.7	137.1	73.2	0.0	0.0	0.0	0.0	0.0
105°	199.3	177.5	122.4	62.7	0.0	0.0	0.0	0.0	0.0
107.5°	180.8	159.4	108.1	50.0	0.0	0.0	0.0	0.0	0.0
110°	161.9	141.3	94.2	38.3	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°	143.0	123.6	80.7	0.0	0.0	0.0	0.0	0.0	0.0
115°	123.6	105.6	67.7	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	103.9	88.3	55.9	0.0	0.0	0.0	0.0	0.0	0.0
120°	84.5	71.9	45.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	66.0	55.5	39.5	0.0	0.0	0.0	0.0	0.0	0.0
125°	47.5	42.5	34.5	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	32.4	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	17.2	31.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	25.7	34.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	34.1	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)