

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
(formerly Eaton)

Brand: iO LED

Report Number: P592118

Luminaire Tested: **GRZ-15L-940-10x60-X-UNV-STD-2F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592118
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-18)
Test Lab: INNOVATION CENTER
Issue Date: 2/2/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: iO LED
Catalog Number: GRZ-15L-940-10x60-X-UNV-STD-2F
Description: iO LED GRAZER WITH 10x60 OPTIC
1500 LUMENS PER FOOT, 2 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

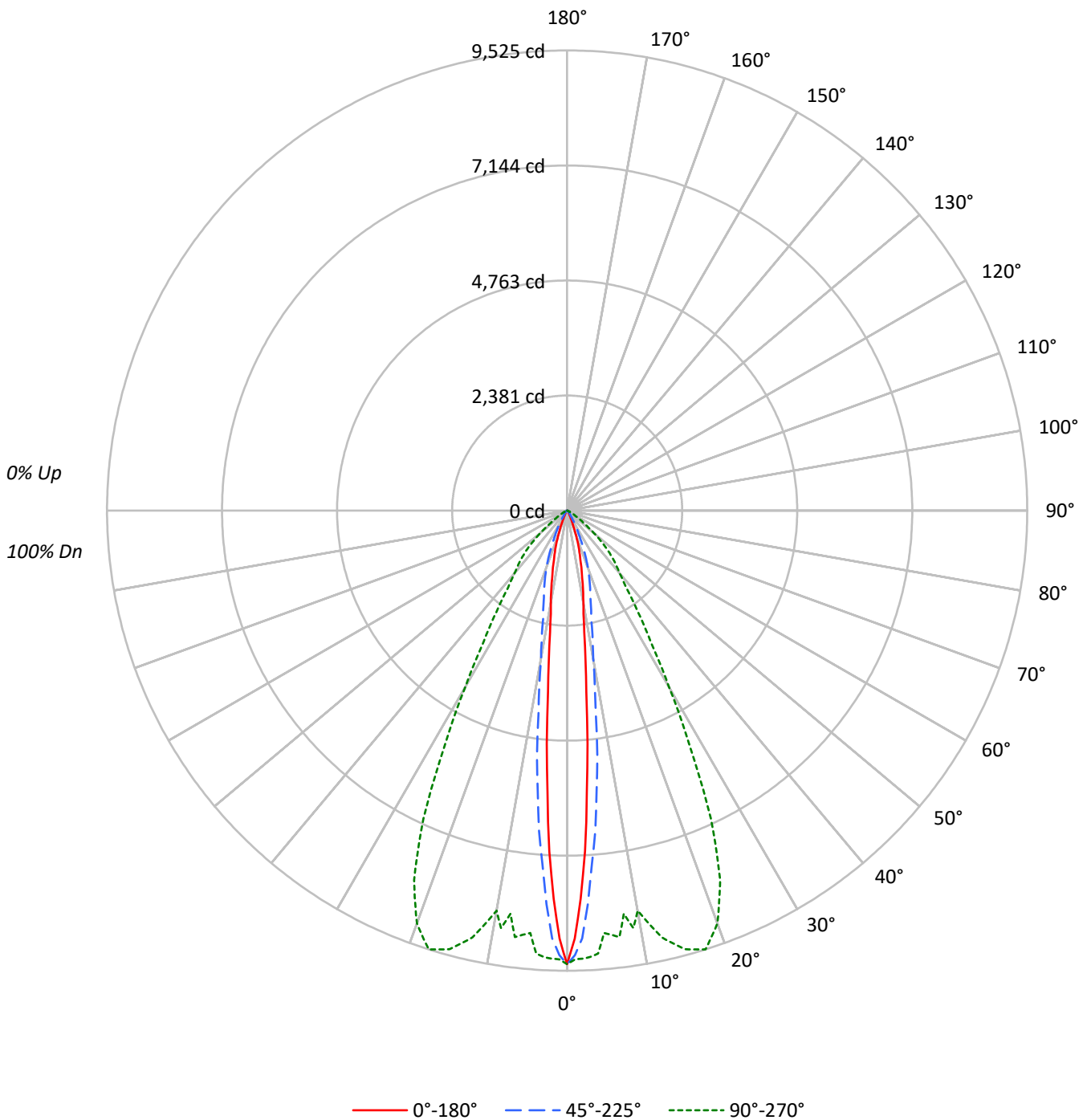
Lumens per Lamp: N/A
Luminaire Lumens: 2913.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 29
Input Voltage (V): 120
Input Current (A_{in}): 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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	114	111	109	106	111	109	107	105	105	103	102	101	100	99	98	97	96	94					94			
2	108	104	100	97	106	102	98	95	99	96	93	96	93	91	93	91	89	88					88			
3	103	97	92	89	101	96	91	88	93	90	86	91	88	85	89	86	84	82					82			
4	98	91	86	82	97	90	85	82	88	84	81	86	83	80	84	81	79	77					77			
5	94	86	81	77	92	85	80	76	83	79	76	82	78	75	80	77	74	73					73			
6	90	82	76	72	88	81	75	72	79	75	71	78	74	71	77	73	70	69					69			
7	86	77	72	68	85	77	71	68	75	71	67	74	70	67	73	69	67	65					65			
8	82	74	68	64	81	73	68	64	72	67	64	71	67	64	70	66	63	62					62			
9	79	70	65	61	78	70	64	61	69	64	61	68	64	60	67	63	60	59					59			
10	76	67	62	58	75	67	61	58	66	61	58	65	61	58	64	60	58	56					56			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	303180	303180	303180
5°	157028	215881	284452
10°	63537	101950	275635
15°	35547	62275	314246
20°	17364	42931	312524
25°	6232	23245	250742
30°	3311	10765	157236
35°	2298	5034	100464
40°	1990	3044	71151
45°	1776	2662	56796
50°	1673	2788	36120
55°	1407	2657	17503
60°	1434	1970	8964
65°	1482	1276	4455
70°	1577	1048	2625
75°	1385	1036	1734
80°	1041	1041	1041
85°	1037	1037	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	561.6	19.3
10°-20°	895.1	30.7
20°-30°	753.3	25.9
30°-40°	380.7	13.1
40°-50°	193.1	6.6
50°-60°	87.3	3.0
60°-70°	29.0	1.0
70°-80°	11.1	0.4
80°-90°	1.9	0.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
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°	2210.0	75.9
0°-40°	2590.6	88.9
0°-60°	2871.0	98.6
0°-90°	2913.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2913.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9389	9389	9389	9389	9389	
5°	4844	5257	6660	8131	8775	362
15°	1063	1257	1863	4456	9400	300
25°	175	239	652	2303	7037	97
35°	58	68	128	965	2548	39
45°	39	44	58	300	1244	30
55°	25	32	47	115	311	24
65°	19	17	17	33	58	19
75°	11	11	8	11	14	12
85°	3	3	3	0	0	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	9388.8	9388.8	9388.8	9388.8	9388.8	9388.8	9388.8	9388.8	9388.8	9388.8	9388.8
1°	8861.4	9208.4	9452.7	9094.5	9372.2	9202.8	9319.4	9130.6	9261.1	9366.6	9291.7
2°	8042.4	8483.8	8469.9	8428.3	8500.5	8858.6	9183.4	9152.8	9297.2	9236.1	9280.5
3°	7059.7	7295.6	7373.4	7492.7	7803.7	8156.2	8556.0	8908.5	9266.7	9338.8	9250.0
4°	5846.5	5932.6	6196.3	6229.6	6820.9	7323.4	7998.0	8397.7	9105.7	9222.2	9191.7
5°	4844.3	4819.3	5069.2	5319.0	6057.5	6659.9	7487.2	7903.6	8814.2	9130.6	8775.3
6°	3767.2	3969.8	4211.4	4444.6	5083.1	5843.7	6732.1	7681.5	8719.8	9002.9	8830.8
7°	3134.2	3175.9	3353.5	3536.8	4228.0	5130.3	5893.7	7095.7	8234.0	8814.2	8894.7
8°	2542.9	2542.9	2773.3	2939.9	3597.8	4244.7	5455.1	6548.9	7961.9	8808.6	8428.3
9°	2165.4	2215.3	2323.6	2587.3	2973.2	3672.8	4713.8	6049.2	7753.7	8647.6	8747.5
10°	1937.7	2004.4	2062.7	2162.6	2576.2	3109.2	4183.6	5563.3	7576.0	8655.9	8406.1
12.5°	1438.0	1474.1	1543.5	1660.1	1973.8	2298.6	3148.1	4605.6	6715.4	8805.8	9047.4
15°	1063.3	1074.4	1171.5	1285.3	1549.1	1862.8	2431.9	3822.7	6357.3	9069.6	9399.9
17.5°	785.6	799.5	863.4	968.9	1149.3	1546.3	2093.2	3156.4	5940.9	9050.1	9524.8
20°	505.3	521.9	585.8	669.0	885.6	1249.3	1760.1	2604.0	5330.1	8400.5	9094.5
22.5°	299.8	316.5	338.7	419.2	621.8	935.6	1449.1	2240.3	4244.7	7534.4	8278.4
25°	174.9	172.1	197.1	252.6	380.3	652.4	1182.6	1915.5	3467.4	6498.9	7037.4
27.5°	113.8	116.6	127.7	155.5	236.0	438.6	932.8	1646.2	2723.4	4949.8	5496.7
30°	88.8	88.8	94.4	108.3	152.7	288.7	702.4	1371.4	2245.9	3778.3	4216.9
32.5°	69.4	72.2	75.0	83.3	108.3	188.8	505.3	1096.6	1829.5	2851.1	3209.2
35°	58.3	61.1	63.9	69.4	86.1	127.7	344.2	805.1	1446.4	2162.6	2548.5
37.5°	52.7	52.7	55.5	58.3	72.2	91.6	224.9	549.7	1104.9	1779.5	2007.1
40°	47.2	47.2	50.0	52.7	63.9	72.2	138.8	360.9	860.6	1468.6	1687.9
42.5°	41.6	44.4	47.2	47.2	55.5	63.9	97.2	269.3	699.6	1313.1	1465.8
45°	38.9	38.9	41.6	44.4	52.7	58.3	75.0	208.2	577.4	1104.9	1243.7
47.5°	36.1	36.1	38.9	41.6	50.0	55.5	61.1	161.0	483.0	893.9	991.1
50°	33.3	33.3	36.1	41.6	47.2	55.5	50.0	122.1	385.9	669.0	719.0
52.5°	27.8	30.5	33.3	36.1	41.6	52.7	41.6	94.4	319.3	469.2	471.9
55°	25.0	25.0	27.8	33.3	36.1	47.2	33.3	69.4	249.9	322.0	310.9
57.5°	25.0	22.2	25.0	27.8	30.5	41.6	25.0	52.7	186.0	216.5	199.9
60°	22.2	22.2	22.2	22.2	25.0	30.5	19.4	41.6	136.0	144.4	138.8
62.5°	19.4	19.4	19.4	19.4	19.4	25.0	16.7	30.5	91.6	91.6	86.1
65°	19.4	19.4	16.7	16.7	16.7	16.7	13.9	25.0	58.3	58.3	58.3
67.5°	19.4	16.7	16.7	13.9	13.9	13.9	11.1	19.4	36.1	41.6	38.9
70°	16.7	16.7	13.9	13.9	11.1	11.1	11.1	16.7	25.0	27.8	27.8
72.5°	13.9	13.9	13.9	11.1	11.1	8.3	8.3	13.9	19.4	19.4	19.4
75°	11.1	11.1	11.1	11.1	8.3	8.3	5.6	11.1	11.1	13.9	13.9
77.5°	8.3	8.3	8.3	8.3	8.3	5.6	5.6	8.3	8.3	8.3	8.3
80°	5.6	5.6	5.6	5.6	5.6	5.6	2.8	5.6	5.6	5.6	5.6
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	2.8	2.8	2.8	2.8	2.8	2.8	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)