

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: P592054

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

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592054  
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-10L-940-10x60-X-UNV-STD-2F  
Description: iO LED GRAZER WITH 10x60 OPTIC  
1000 LUMENS PER FOOT, 2 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

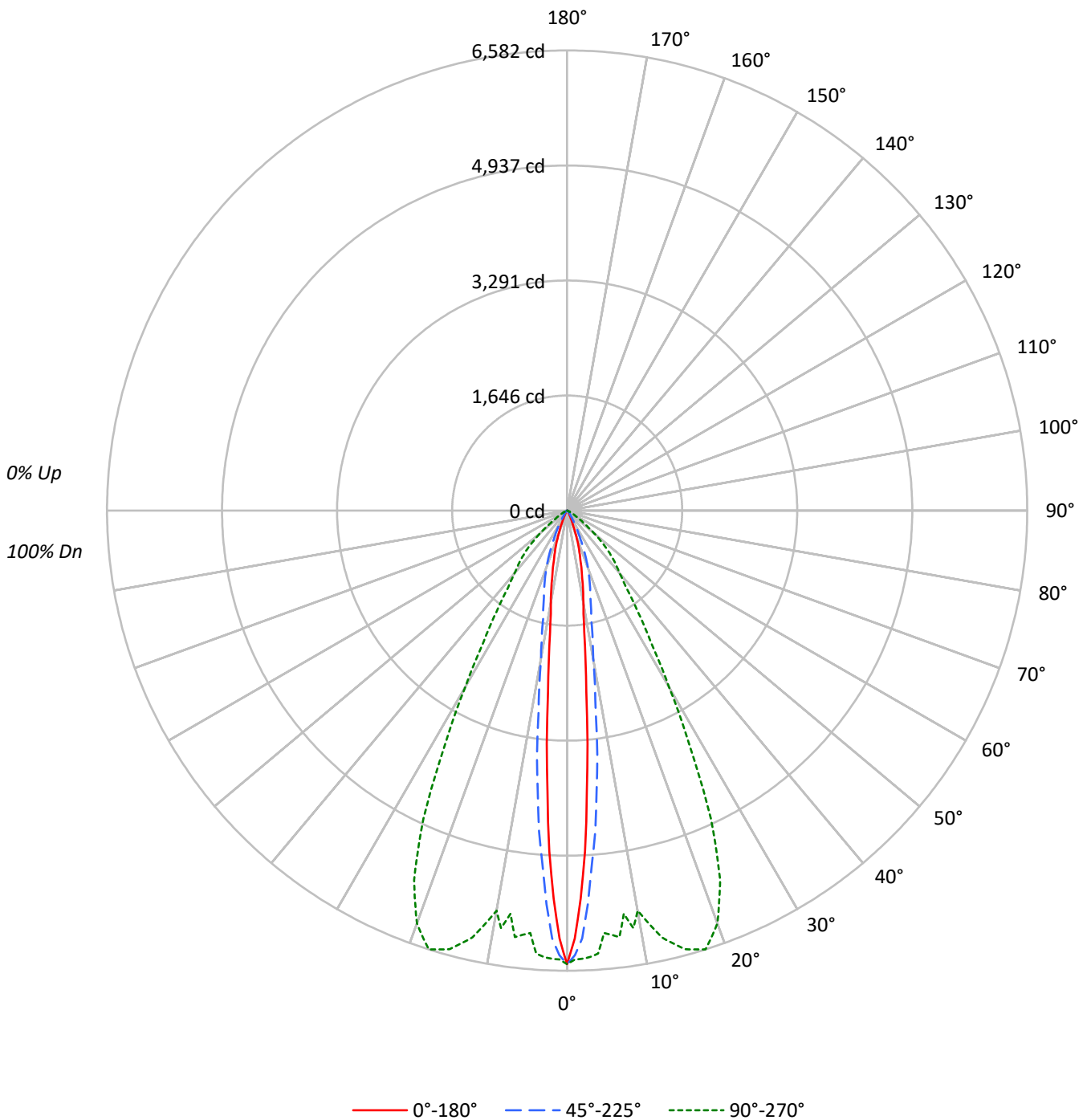
Lumens per Lamp: N/A  
Luminaire Lumens: 2013.0 lumens  
Efficiency: N/A  
Efficacy: 105.4 lumens/watt  
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31  
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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



TEST NUMBER: P592054  
CATALOG NUMBER: GRZ-10L-940-10x60-X-UNV-STD-2F

### Luminous Intensity Polar Plot





TEST NUMBER: P592054

CATALOG NUMBER: GRZ-10L-940-10x60-X-UNV-STD-2F

**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°	209508	209508	209508
5°	108513	149184	196568
10°	43906	70452	190473
15°	24562	43035	217156
20°	11997	29667	215968
25°	4308	16062	173275
30°	2289	7439	108659
35°	1589	3477	69424
40°	1374	2103	49168
45°	1228	1840	39247
50°	1155	1929	24963
55°	974	1835	12099
60°	988	1363	6194
65°	1024	879	3079
70°	1086	727	1813
75°	961	724	1198
80°	707	707	707
85°	704	704	0



TEST NUMBER: P592054

CATALOG NUMBER: GRZ-10L-940-10x60-X-UNV-STD-2F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	388.1	19.3
10°-20°	618.5	30.7
20°-30°	520.6	25.9
30°-40°	263.0	13.1
40°-50°	133.4	6.6
50°-60°	60.3	3.0
60°-70°	20.1	1.0
70°-80°	7.7	0.4
80°-90°	1.3	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°	1527.2	75.9
0°-40°	1790.2	88.9
0°-60°	1984.0	98.6
0°-90°	2013.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2013.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6488	6488	6488	6488	6488	
5°	3348	3633	4602	5619	6064	250
15°	735	869	1287	3079	6496	207
25°	121	165	451	1592	4863	67
35°	40	47	88	667	1761	27
45°	27	30	40	208	859	21
55°	17	22	33	79	215	16
65°	13	12	12	23	40	13
75°	8	8	6	8	10	8
85°	2	2	2	0	0	2
90°	0	0	0	0	0	



TEST NUMBER: P592054

CATALOG NUMBER: GRZ-10L-940-10x60-X-UNV-STD-2F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	6488.0	6488.0	6488.0	6488.0	6488.0	6488.0	6488.0	6488.0	6488.0	6488.0	6488.0
1°	6123.6	6363.4	6532.2	6284.7	6476.5	6359.5	6440.1	6309.6	6399.8	6472.7	6420.9
2°	5557.6	5862.6	5853.1	5824.3	5874.2	6121.6	6346.1	6325.0	6424.7	6382.5	6413.2
3°	4878.5	5041.6	5095.3	5177.8	5392.6	5636.3	5912.5	6156.2	6403.6	6453.5	6392.1
4°	4040.2	4099.6	4281.9	4304.9	4713.5	5060.8	5526.9	5803.2	6292.4	6372.9	6351.8
5°	3347.6	3330.4	3503.0	3675.7	4186.0	4602.3	5173.9	5461.7	6090.9	6309.6	6064.1
6°	2603.3	2743.3	2910.2	3071.4	3512.6	4038.2	4652.1	5308.2	6025.7	6221.4	6102.4
7°	2165.9	2194.7	2317.4	2444.0	2921.7	3545.2	4072.8	4903.4	5690.0	6090.9	6146.6
8°	1757.3	1757.3	1916.5	2031.6	2486.3	2933.2	3769.7	4525.5	5502.0	6087.1	5824.3
9°	1496.4	1530.9	1605.7	1788.0	2054.6	2538.1	3257.5	4180.2	5358.1	5975.8	6044.9
10°	1339.0	1385.1	1425.4	1494.4	1780.3	2148.6	2891.0	3844.5	5235.3	5981.6	5808.9
12.5°	993.7	1018.7	1066.6	1147.2	1364.0	1588.4	2175.5	3182.6	4640.6	6085.2	6252.1
15°	734.7	742.4	809.6	888.2	1070.5	1287.3	1680.5	2641.6	4393.1	6267.4	6495.7
17.5°	542.9	552.5	596.6	669.5	794.2	1068.6	1446.5	2181.2	4105.4	6254.0	6582.1
20°	349.1	360.7	404.8	462.3	612.0	863.3	1216.3	1799.5	3683.3	5805.1	6284.7
22.5°	207.2	218.7	234.0	289.7	429.7	646.5	1001.4	1548.2	2933.2	5206.6	5720.7
25°	120.9	118.9	136.2	174.6	262.8	450.8	817.2	1323.7	2396.1	4491.0	4863.2
27.5°	78.7	80.6	88.2	107.4	163.1	303.1	644.6	1137.6	1882.0	3420.5	3798.4
30°	61.4	61.4	65.2	74.8	105.5	199.5	485.4	947.7	1552.0	2611.0	2914.1
32.5°	48.0	49.9	51.8	57.6	74.8	130.5	349.1	757.8	1264.2	1970.2	2217.7
35°	40.3	42.2	44.1	48.0	59.5	88.2	237.9	556.3	999.5	1494.4	1761.1
37.5°	36.4	36.4	38.4	40.3	49.9	63.3	155.4	379.8	763.5	1229.7	1387.0
40°	32.6	32.6	34.5	36.4	44.1	49.9	95.9	249.4	594.7	1014.8	1166.4
42.5°	28.8	30.7	32.6	32.6	38.4	44.1	67.1	186.1	483.4	907.4	1012.9
45°	26.9	26.9	28.8	30.7	36.4	40.3	51.8	143.9	399.0	763.5	859.4
47.5°	24.9	24.9	26.9	28.8	34.5	38.4	42.2	111.3	333.8	617.7	684.9
50°	23.0	23.0	24.9	28.8	32.6	38.4	34.5	84.4	266.7	462.3	496.9
52.5°	19.2	21.1	23.0	24.9	28.8	36.4	28.8	65.2	220.6	324.2	326.1
55°	17.3	17.3	19.2	23.0	24.9	32.6	23.0	48.0	172.7	222.5	214.9
57.5°	17.3	15.3	17.3	19.2	21.1	28.8	17.3	36.4	128.5	149.6	138.1
60°	15.3	15.3	15.3	15.3	17.3	21.1	13.4	28.8	94.0	99.8	95.9
62.5°	13.4	13.4	13.4	13.4	13.4	17.3	11.5	21.1	63.3	63.3	59.5
65°	13.4	13.4	11.5	11.5	11.5	11.5	9.6	17.3	40.3	40.3	40.3
67.5°	13.4	11.5	11.5	9.6	9.6	9.6	7.7	13.4	24.9	28.8	26.9
70°	11.5	11.5	9.6	9.6	7.7	7.7	7.7	11.5	17.3	19.2	19.2
72.5°	9.6	9.6	9.6	7.7	7.7	5.8	5.8	9.6	13.4	13.4	13.4
75°	7.7	7.7	7.7	7.7	5.8	5.8	3.8	7.7	7.7	9.6	9.6
77.5°	5.8	5.8	5.8	5.8	5.8	3.8	3.8	5.8	5.8	5.8	5.8
80°	3.8	3.8	3.8	3.8	3.8	3.8	1.9	3.8	3.8	3.8	3.8
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
85°	1.9	1.9	1.9	1.9	1.9	1.9	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)