

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: P592020

Luminaire Tested: **GRZ-10L-930-10x30-X-UNV-STD-2F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592020  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/2/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: iO LED  
Catalog Number: GRZ-10L-930-10x30-X-UNV-STD-2F  
Description: iO LED GRAZER WITH 10x30 OPTIC  
1000 LUMENS PER FOOT, 2 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

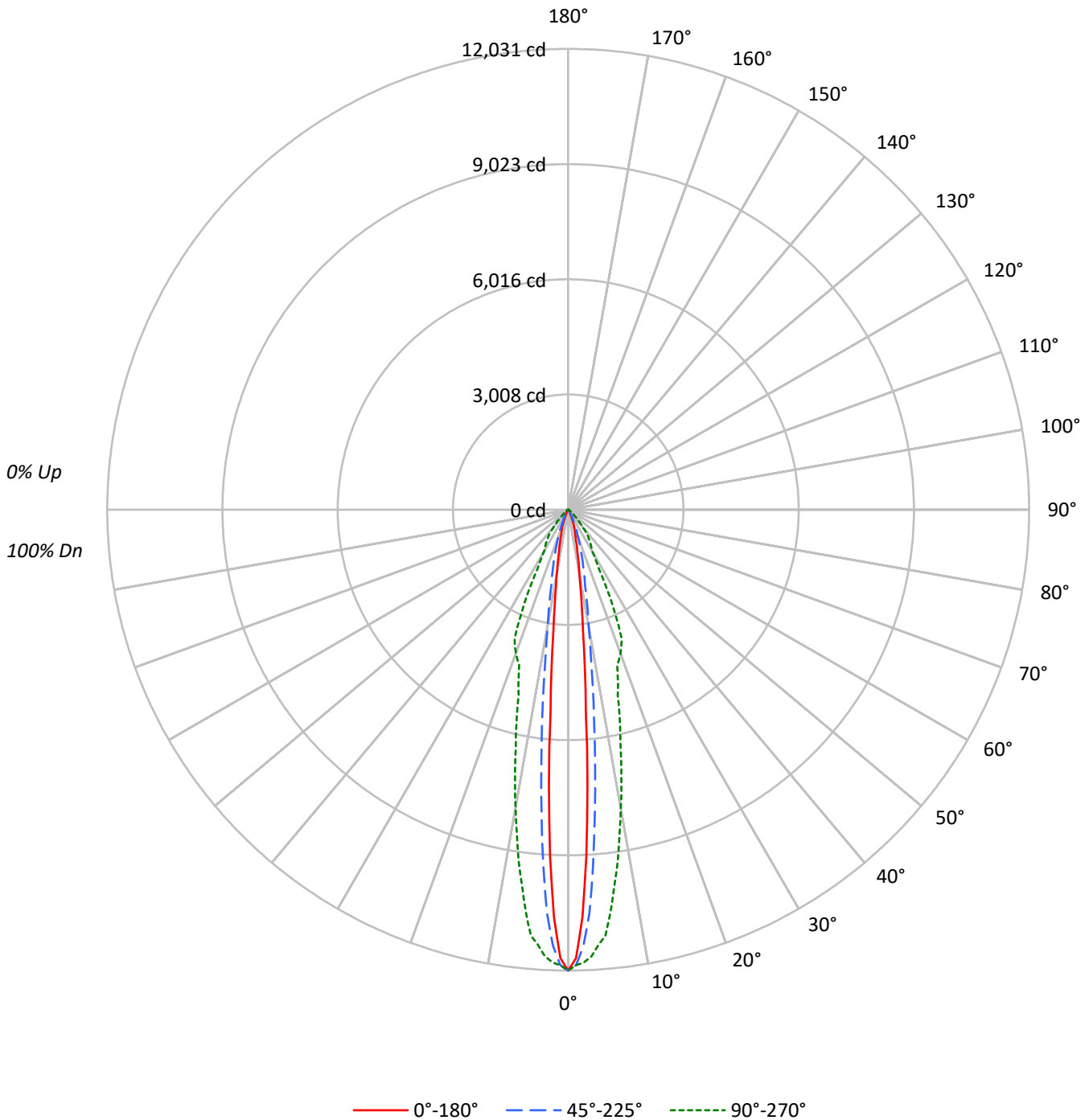
Lumens per Lamp: N/A  
Luminaire Lumens: 1907.0 lumens  
Efficiency: N/A  
Efficacy: 99.8 lumens/watt  
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26  
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')  
CIE Type: Direct

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



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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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103		102	101	100		99	98	97	95
2	110	106	102	100	108	104	101	99	101	99	96		98	96	94		95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91		94	92	90		92	90	88	87
4	102	96	91	88	100	95	91	87	93	89	86		91	88	85		89	86	84	83
5	98	92	87	83	97	91	86	83	89	85	82		87	84	82		86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79		84	81	78		83	80	78	77
7	92	84	80	76	91	84	79	76	83	79	76		82	78	75		81	77	75	74
8	89	81	77	73	88	81	76	73	80	76	73		79	75	73		78	75	72	71
9	86	79	74	71	85	78	74	71	77	73	71		77	73	70		76	73	70	69
10	84	76	72	69	83	76	71	68	75	71	68		74	71	68		74	70	68	67

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	388501	388501	388501
5°	172069	258367	361898
10°	55828	100796	259476
15°	24361	49799	167288
20°	13718	25471	137319
25°	4913	11291	97216
30°	3005	5809	46997
35°	2259	3741	37686
40°	1813	2719	24904
45°	1553	1635	12673
50°	1798	990	5938
55°	1914	805	2922
60°	1621	691	1737
65°	1368	818	1368
70°	1180	850	1180
75°	898	674	898
80°	669	669	669
85°	667	667	667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	639.9	33.6
10°-20°	624.9	32.8
20°-30°	350.2	18.4
30°-40°	158.1	8.3
40°-50°	80.0	4.2
50°-60°	29.8	1.6
60°-70°	14.8	0.8
70°-80°	7.7	0.4
80°-90°	1.5	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°	1615.1	84.7
0°-40°	1773.2	93.0
0°-60°	1883.0	98.7
0°-90°	1907.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1907.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12031	12031	12031	12031	12031	
5°	5308	6087	7971	10231	11164	406
15°	729	899	1490	3257	5004	225
25°	138	154	317	1183	2728	78
35°	57	39	95	377	956	36
45°	34	30	36	170	278	28
55°	34	17	14	52	52	29
65°	18	14	11	16	18	18
75°	7	9	5	6	7	8
85°	2	2	2	0	2	1
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°	12031.0	12031.0	12031.0	12031.0	12031.0	12031.0	12031.0	12031.0	12031.0	12031.0	12031.0
1°	11703.4	11705.2	11792.9	11735.6	11875.3	11895.0	11877.1	11909.3	11918.2	11868.1	11895.0
2°	10632.8	10665.0	10716.9	11017.7	11155.6	11379.4	11567.3	11728.5	11798.3	11826.9	11823.4
3°	9051.9	9030.4	9286.5	9574.7	10068.8	10537.9	10999.8	11304.2	11572.7	11658.6	11674.8
4°	7209.7	7125.5	7564.2	7807.6	8475.4	9318.7	10142.2	10799.3	11241.5	11424.1	11381.1
5°	5308.3	5456.9	5763.1	6194.5	6923.2	7970.6	9071.6	10056.3	10754.5	11062.5	11164.5
6°	4135.7	4107.0	4354.1	4880.4	5616.3	6740.6	7999.2	9234.5	10102.8	10473.4	10561.2
7°	3190.4	3172.5	3417.7	3791.9	4409.6	5566.1	6959.0	8402.0	9467.3	9886.2	9882.6
8°	2527.9	2517.2	2687.3	2982.7	3566.3	4543.9	5929.6	7485.4	8706.4	9270.3	9270.3
9°	2042.8	2066.0	2169.9	2431.3	2891.4	3709.6	5068.4	6708.4	7961.6	8513.0	8561.4
10°	1702.6	1715.1	1799.3	2014.1	2397.3	3074.0	4259.2	5804.3	7227.6	7925.8	7913.3
12.5°	1104.6	1131.5	1192.4	1330.2	1609.5	2032.0	2830.5	4069.4	5508.9	6207.1	6325.2
15°	728.7	734.0	809.2	929.2	1151.2	1489.6	2048.1	2972.0	4112.4	4903.7	5004.0
17.5°	544.3	549.6	567.5	639.1	802.1	1090.3	1543.3	2259.4	3342.6	4141.0	4255.6
20°	399.2	381.3	376.0	417.1	544.3	741.2	1126.1	1761.7	2712.4	3790.1	3996.0
22.5°	232.7	229.2	220.2	254.2	350.9	487.0	766.3	1315.9	2293.4	3374.8	3659.4
25°	137.9	134.3	132.5	161.1	220.2	316.9	522.8	995.4	1745.6	2481.4	2728.5
27.5°	100.3	96.7	87.7	100.3	145.0	218.4	368.8	719.7	1197.7	1595.2	1729.5
30°	80.6	77.0	60.9	66.2	100.3	155.8	270.3	497.7	850.4	1185.2	1260.4
32.5°	68.0	64.5	46.5	48.3	69.8	118.2	211.3	383.1	687.5	1025.9	1110.0
35°	57.3	53.7	37.6	39.4	53.7	94.9	173.7	315.1	564.0	882.6	956.0
37.5°	48.3	44.8	32.2	34.0	46.5	78.8	157.5	272.1	467.3	725.1	796.7
40°	43.0	39.4	28.6	32.2	43.0	64.5	139.6	231.0	383.1	560.4	590.8
42.5°	37.6	34.0	28.6	32.2	39.4	50.1	102.0	184.4	311.5	402.8	427.9
45°	34.0	32.2	26.9	30.4	34.0	35.8	64.5	143.2	250.6	277.5	277.5
47.5°	35.8	32.2	25.1	26.9	26.9	26.9	39.4	112.8	195.1	188.0	182.6
50°	35.8	30.4	23.3	21.5	21.5	19.7	26.9	87.7	145.0	120.0	118.2
52.5°	35.8	30.4	21.5	19.7	17.9	16.1	19.7	66.2	102.0	77.0	77.0
55°	34.0	28.6	17.9	16.1	14.3	14.3	16.1	46.5	69.8	53.7	51.9
57.5°	30.4	25.1	16.1	14.3	14.3	12.5	12.5	30.4	53.7	41.2	35.8
60°	25.1	21.5	14.3	14.3	14.3	10.7	10.7	19.7	43.0	30.4	26.9
62.5°	21.5	17.9	14.3	14.3	14.3	10.7	9.0	14.3	35.8	25.1	21.5
65°	17.9	14.3	12.5	14.3	14.3	10.7	7.2	10.7	30.4	19.7	17.9
67.5°	14.3	12.5	10.7	12.5	12.5	9.0	5.4	7.2	25.1	16.1	14.3
70°	12.5	10.7	9.0	10.7	12.5	9.0	5.4	7.2	19.7	12.5	12.5
72.5°	9.0	9.0	9.0	10.7	10.7	7.2	3.6	5.4	16.1	10.7	10.7
75°	7.2	7.2	7.2	9.0	9.0	5.4	3.6	3.6	12.5	9.0	7.2
77.5°	5.4	5.4	5.4	7.2	7.2	3.6	1.8	3.6	9.0	5.4	5.4
80°	3.6	3.6	3.6	5.4	5.4	3.6	1.8	1.8	5.4	3.6	3.6
82.5°	1.8	1.8	1.8	3.6	3.6	1.8	1.8	1.8	1.8	1.8	1.8
85°	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	1.8	1.8	1.8
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)