

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: P592004

Luminaire Tested: **GRZ-10L-927-10x30-X-UNV-STD-2F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592004  
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-927-10x30-X-UNV-STD-2F  
Description: iO LED GRAZER WITH 10x30 OPTIC  
1000 LUMENS PER FOOT, 2 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

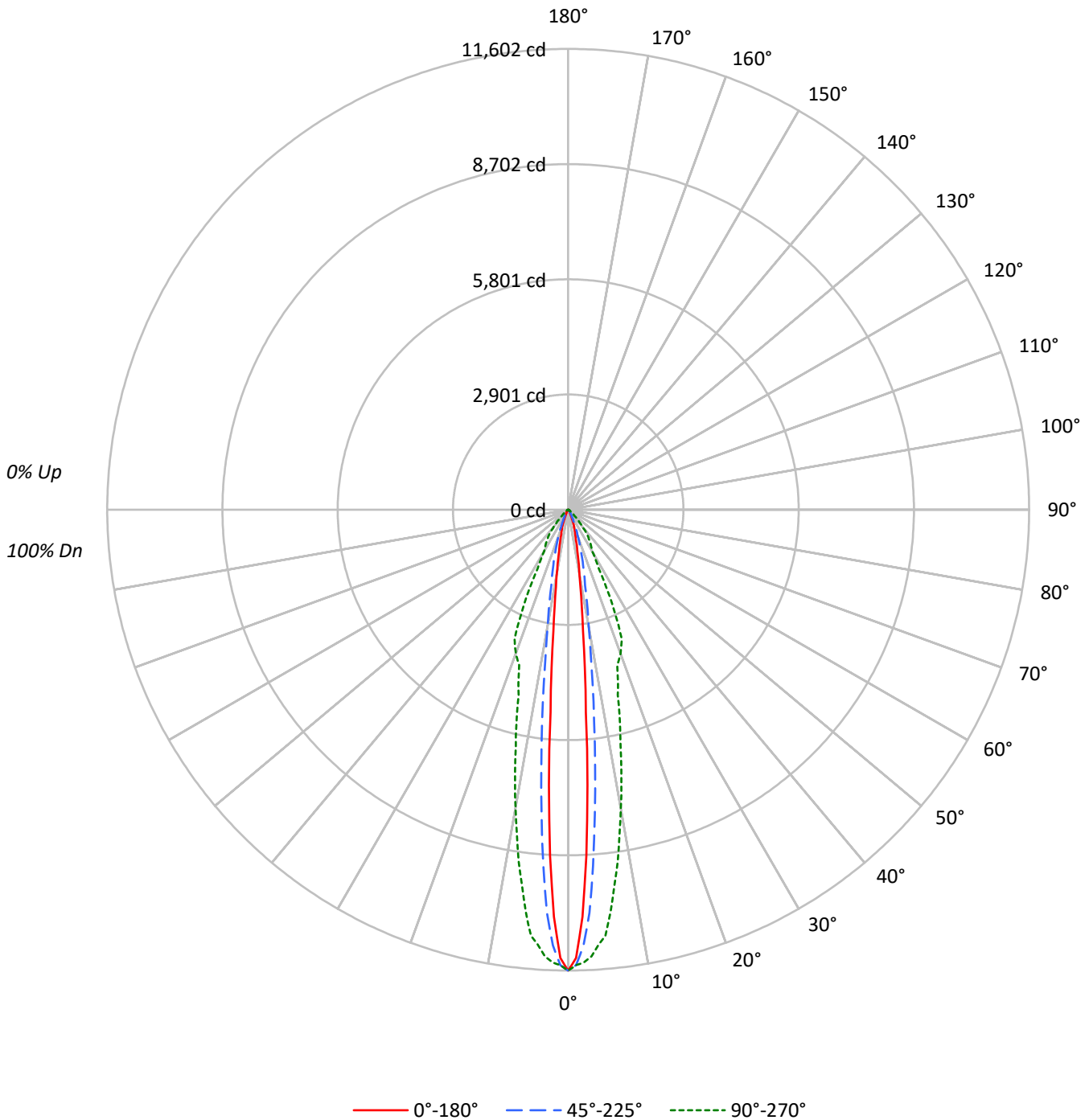
Lumens per Lamp: N/A  
Luminaire Lumens: 1839.0 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26  
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')  
CIE Type: Direct

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

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

	0°	45°	90°
0°	374648	374648	374648
5°	165933	249152	348993
10°	53838	97202	250222
15°	23492	48020	161320
20°	13230	24563	132422
25°	4735	10889	93749
30°	2897	5601	45323
35°	2176	3607	36342
40°	1745	2622	24015
45°	1498	1576	12221
50°	1733	955	5722
55°	1847	777	2821
60°	1563	672	1673
65°	1322	795	1322
70°	1142	812	1142
75°	861	649	861
80°	651	651	651
85°	630	630	630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	617.1	33.6
10°-20°	602.6	32.8
20°-30°	337.7	18.4
30°-40°	152.5	8.3
40°-50°	77.1	4.2
50°-60°	28.8	1.6
60°-70°	14.3	0.8
70°-80°	7.4	0.4
80°-90°	1.4	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°	1557.5	84.7
0°-40°	1710.0	93.0
0°-60°	1815.9	98.7
0°-90°	1839.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1839.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	11602	11602	11602	11602	11602	
5°	5119	5870	7686	9866	10766	391
15°	703	867	1436	3141	4826	217
25°	133	148	306	1141	2631	75
35°	55	38	92	364	922	35
45°	33	29	34	164	268	27
55°	33	16	14	50	50	28
65°	17	13	10	15	17	17
75°	7	8	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°	11602.0	11602.0	11602.0	11602.0	11602.0	11602.0	11602.0	11602.0	11602.0	11602.0	11602.0
1°	11286.1	11287.8	11372.4	11317.2	11451.8	11470.8	11453.6	11484.6	11493.3	11444.9	11470.8
2°	10253.6	10284.7	10334.8	10624.8	10757.8	10973.6	11154.9	11310.3	11377.6	11405.2	11401.8
3°	8729.1	8708.4	8955.3	9233.3	9709.8	10162.1	10607.6	10901.1	11160.0	11242.9	11258.5
4°	6952.6	6871.4	7294.4	7529.2	8173.2	8986.4	9780.6	10414.2	10840.6	11016.7	10975.3
5°	5119.0	5262.3	5557.6	5973.7	6676.3	7686.3	8748.1	9697.7	10371.0	10668.0	10766.4
6°	3988.2	3960.6	4198.8	4706.4	5416.0	6500.2	7714.0	8905.2	9742.6	10100.0	10184.6
7°	3076.6	3059.3	3295.9	3656.7	4252.4	5367.7	6710.9	8102.4	9129.7	9533.7	9530.2
8°	2437.8	2427.4	2591.5	2876.3	3439.2	4381.8	5718.1	7218.5	8395.9	8939.8	8939.8
9°	1969.9	1992.4	2092.5	2344.6	2788.3	3577.3	4887.7	6469.2	7677.7	8209.5	8256.1
10°	1641.9	1654.0	1735.1	1942.3	2311.8	2964.4	4107.3	5597.3	6969.8	7643.2	7631.1
12.5°	1065.2	1091.1	1149.8	1282.8	1552.1	1959.6	2729.6	3924.3	5312.4	5985.7	6099.7
15°	702.7	707.9	780.4	896.0	1110.1	1436.4	1975.1	2866.0	3965.8	4728.9	4825.5
17.5°	524.9	530.0	547.3	616.4	773.5	1051.4	1488.2	2178.8	3223.4	3993.4	4103.9
20°	385.0	367.7	362.6	402.3	524.9	714.8	1086.0	1698.9	2615.6	3655.0	3853.5
22.5°	224.4	221.0	212.4	245.2	338.4	469.6	738.9	1269.0	2211.6	3254.4	3529.0
25°	132.9	129.5	127.8	155.4	212.4	305.6	504.1	959.9	1683.3	2392.9	2631.2
27.5°	96.7	93.2	84.6	96.7	139.8	210.6	355.7	694.0	1155.0	1538.3	1667.8
30°	77.7	74.2	58.7	63.9	96.7	150.2	260.7	480.0	820.1	1142.9	1215.5
32.5°	65.6	62.2	44.9	46.6	67.3	113.9	203.7	369.5	663.0	989.3	1070.4
35°	55.2	51.8	36.3	38.0	51.8	91.5	167.5	303.9	543.8	851.2	921.9
37.5°	46.6	43.2	31.1	32.8	44.9	76.0	151.9	262.4	450.6	699.2	768.3
40°	41.4	38.0	27.6	31.1	41.4	62.2	134.7	222.7	369.5	540.4	569.7
42.5°	36.3	32.8	27.6	31.1	38.0	48.3	98.4	177.8	300.4	388.5	412.6
45°	32.8	31.1	25.9	29.4	32.8	34.5	62.2	138.1	241.7	267.6	267.6
47.5°	34.5	31.1	24.2	25.9	25.9	25.9	38.0	108.8	188.2	181.3	176.1
50°	34.5	29.4	22.4	20.7	20.7	19.0	25.9	84.6	139.8	115.7	113.9
52.5°	34.5	29.4	20.7	19.0	17.3	15.5	19.0	63.9	98.4	74.2	74.2
55°	32.8	27.6	17.3	15.5	13.8	13.8	15.5	44.9	67.3	51.8	50.1
57.5°	29.4	24.2	15.5	13.8	13.8	12.1	12.1	29.4	51.8	39.7	34.5
60°	24.2	20.7	13.8	13.8	13.8	10.4	10.4	19.0	41.4	29.4	25.9
62.5°	20.7	17.3	13.8	13.8	13.8	10.4	8.6	13.8	34.5	24.2	20.7
65°	17.3	13.8	12.1	13.8	13.8	10.4	6.9	10.4	29.4	19.0	17.3
67.5°	13.8	12.1	10.4	12.1	12.1	8.6	5.2	6.9	24.2	15.5	13.8
70°	12.1	10.4	8.6	10.4	12.1	8.6	5.2	6.9	19.0	12.1	12.1
72.5°	8.6	8.6	8.6	10.4	10.4	6.9	3.5	5.2	15.5	10.4	10.4
75°	6.9	6.9	6.9	8.6	8.6	5.2	3.5	3.5	12.1	8.6	6.9
77.5°	5.2	5.2	5.2	6.9	6.9	3.5	1.7	3.5	8.6	5.2	5.2
80°	3.5	3.5	3.5	5.2	5.2	3.5	1.7	1.7	5.2	3.5	3.5
82.5°	1.7	1.7	1.7	3.5	3.5	1.7	1.7	1.7	1.7	1.7	1.7
85°	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0	1.7	1.7	1.7
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)