

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: P592022

Luminaire Tested: **GRZ-10L-930-10x60-X-UNV-STD-2F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592022  
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-930-10x60-X-UNV-STD-2F  
Description: iO LED GRAZER WITH 10x60 OPTIC  
1000 LUMENS PER FOOT, 2 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

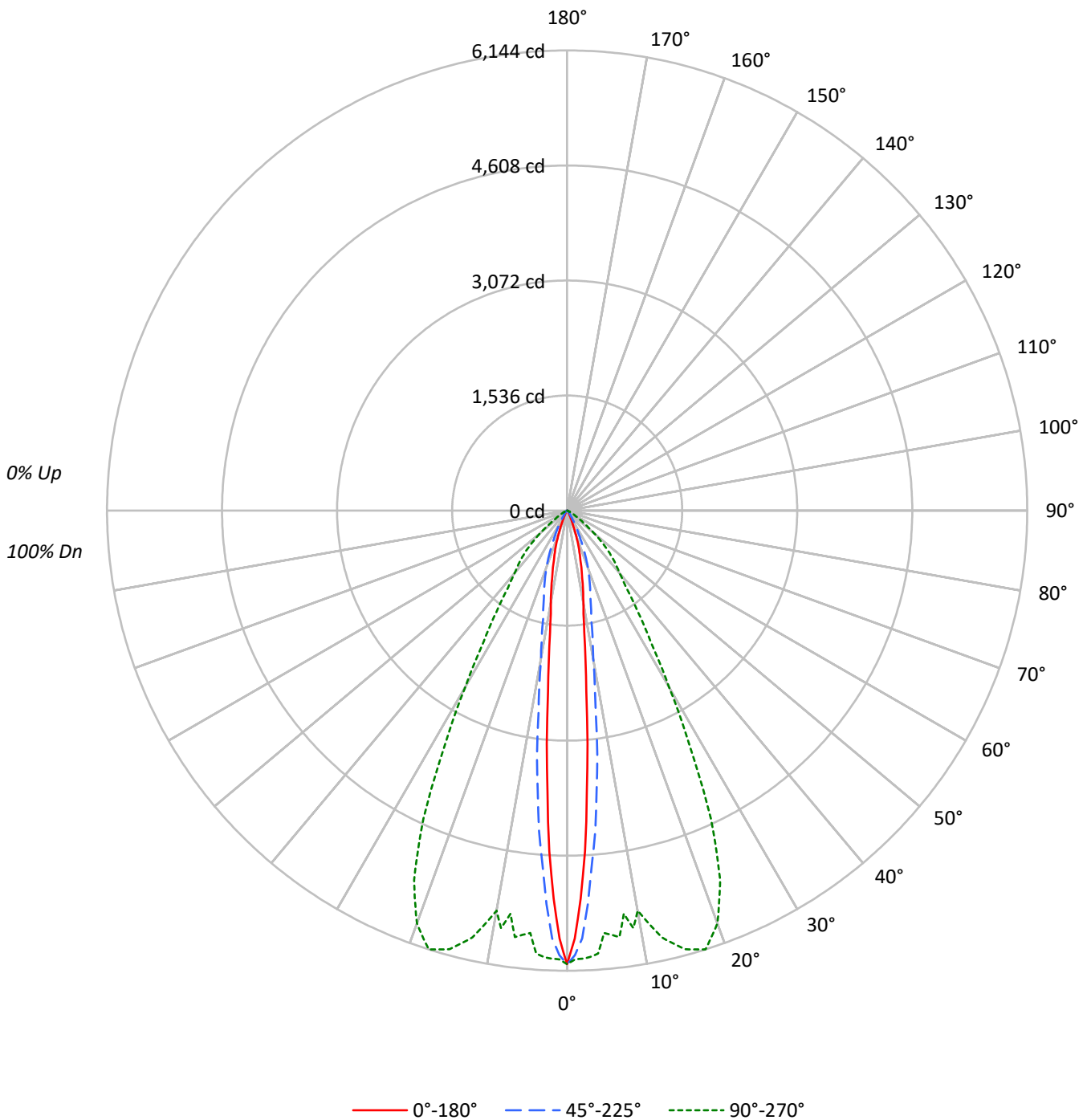
Lumens per Lamp: N/A  
Luminaire Lumens: 1879.0 lumens  
Efficiency: N/A  
Efficacy: 98.4 lumens/watt  
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31  
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')  
CIE Type: Direct

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



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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°	195565	195565	195565
5°	101290	139252	183482
10°	40984	65763	177793
15°	22927	40170	202701
20°	11199	27691	201590
25°	4019	14993	161738
30°	2137	6943	101425
35°	1482	3248	64804
40°	1281	1964	45893
45°	1146	1717	36634
50°	1080	1798	23300
55°	906	1711	11294
60°	924	1272	5780
65°	955	818	2873
70°	1010	680	1690
75°	898	674	1123
80°	669	669	669
85°	667	667	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	362.3	19.3
10°-20°	577.4	30.7
20°-30°	485.9	25.9
30°-40°	245.5	13.1
40°-50°	124.5	6.6
50°-60°	56.3	3.0
60°-70°	18.7	1.0
70°-80°	7.2	0.4
80°-90°	1.2	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°	1425.5	75.9
0°-40°	1671.1	88.9
0°-60°	1851.9	98.6
0°-90°	1879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1879.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6056	6056	6056	6056	6056	
5°	3125	3391	4296	5245	5660	234
15°	686	811	1202	2875	6063	193
25°	113	154	421	1486	4539	63
35°	38	44	82	623	1644	25
45°	25	28	38	194	802	20
55°	16	21	30	74	201	15
65°	12	11	11	21	38	12
75°	7	7	5	7	9	8
85°	2	2	2	0	0	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°	6056.2	6056.2	6056.2	6056.2	6056.2	6056.2	6056.2	6056.2	6056.2	6056.2	6056.2
1°	5715.9	5939.8	6097.3	5866.3	6045.4	5936.2	6011.4	5889.6	5973.8	6041.8	5993.5
2°	5187.7	5472.4	5463.4	5436.6	5483.1	5714.1	5923.6	5903.9	5997.1	5957.7	5986.3
3°	4553.8	4706.0	4756.1	4833.1	5033.7	5261.1	5518.9	5746.4	5977.4	6023.9	5966.6
4°	3771.2	3826.7	3996.8	4018.3	4399.8	4723.9	5159.0	5416.9	5873.5	5948.7	5929.0
5°	3124.8	3108.7	3269.8	3431.0	3907.3	4295.9	4829.5	5098.1	5685.5	5889.6	5660.4
6°	2430.0	2560.7	2716.5	2866.9	3278.8	3769.4	4342.5	4954.9	5624.6	5807.2	5696.2
7°	2021.7	2048.6	2163.2	2281.4	2727.2	3309.2	3801.7	4577.0	5311.2	5685.5	5737.4
8°	1640.3	1640.3	1788.9	1896.4	2320.8	2738.0	3518.7	4224.3	5135.7	5681.9	5436.6
9°	1396.7	1429.0	1498.8	1668.9	1917.8	2369.1	3040.6	3901.9	5001.4	5578.0	5642.5
10°	1249.9	1292.9	1330.5	1395.0	1661.8	2005.6	2698.6	3588.6	4886.8	5583.4	5422.2
12.5°	927.6	950.9	995.6	1070.8	1273.2	1482.7	2030.7	2970.8	4331.7	5680.1	5835.9
15°	685.8	693.0	755.7	829.1	999.2	1201.6	1568.7	2465.8	4100.7	5850.2	6063.3
17.5°	506.8	515.7	556.9	625.0	741.4	997.4	1350.2	2036.0	3832.1	5837.7	6143.9
20°	325.9	336.7	377.8	431.6	571.2	805.8	1135.3	1679.7	3438.1	5418.7	5866.3
22.5°	193.4	204.1	218.5	270.4	401.1	603.5	934.7	1445.1	2738.0	4860.0	5339.9
25°	112.8	111.0	127.1	163.0	245.3	420.8	762.8	1235.6	2236.6	4192.0	4539.4
27.5°	73.4	75.2	82.4	100.3	152.2	282.9	601.7	1061.9	1756.7	3192.8	3545.6
30°	57.3	57.3	60.9	69.8	98.5	186.2	453.0	884.6	1448.7	2437.1	2720.1
32.5°	44.8	46.6	48.3	53.7	69.8	121.8	325.9	707.3	1180.1	1839.1	2070.1
35°	37.6	39.4	41.2	44.8	55.5	82.4	222.0	519.3	933.0	1395.0	1643.9
37.5°	34.0	34.0	35.8	37.6	46.6	59.1	145.0	354.6	712.7	1147.8	1294.7
40°	30.4	30.4	32.2	34.0	41.2	46.6	89.5	232.8	555.1	947.3	1088.7
42.5°	26.9	28.7	30.4	30.4	35.8	41.2	62.7	173.7	451.3	847.0	945.5
45°	25.1	25.1	26.9	28.7	34.0	37.6	48.3	134.3	372.5	712.7	802.2
47.5°	23.3	23.3	25.1	26.9	32.2	35.8	39.4	103.9	311.6	576.6	639.3
50°	21.5	21.5	23.3	26.9	30.4	35.8	32.2	78.8	248.9	431.6	463.8
52.5°	17.9	19.7	21.5	23.3	26.9	34.0	26.9	60.9	205.9	302.6	304.4
55°	16.1	16.1	17.9	21.5	23.3	30.4	21.5	44.8	161.2	207.7	200.6
57.5°	16.1	14.3	16.1	17.9	19.7	26.9	16.1	34.0	120.0	139.7	128.9
60°	14.3	14.3	14.3	14.3	16.1	19.7	12.5	26.9	87.7	93.1	89.5
62.5°	12.5	12.5	12.5	12.5	12.5	16.1	10.7	19.7	59.1	59.1	55.5
65°	12.5	12.5	10.7	10.7	10.7	10.7	9.0	16.1	37.6	37.6	37.6
67.5°	12.5	10.7	10.7	9.0	9.0	9.0	7.2	12.5	23.3	26.9	25.1
70°	10.7	10.7	9.0	9.0	7.2	7.2	7.2	10.7	16.1	17.9	17.9
72.5°	9.0	9.0	9.0	7.2	7.2	5.4	5.4	9.0	12.5	12.5	12.5
75°	7.2	7.2	7.2	7.2	5.4	5.4	3.6	7.2	7.2	9.0	9.0
77.5°	5.4	5.4	5.4	5.4	5.4	3.6	3.6	5.4	5.4	5.4	5.4
80°	3.6	3.6	3.6	3.6	3.6	3.6	1.8	3.6	3.6	3.6	3.6
82.5°	1.8	1.8	1.8	1.8	1.8	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	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)