

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: P592102

Luminaire Tested: **GRZ-15L-935-10x60-X-UNV-STD-2F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592102  
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-935-10x60-X-UNV-STD-2F  
Description: iO LED GRAZER WITH 10x60 OPTIC  
1500 LUMENS PER FOOT, 2 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

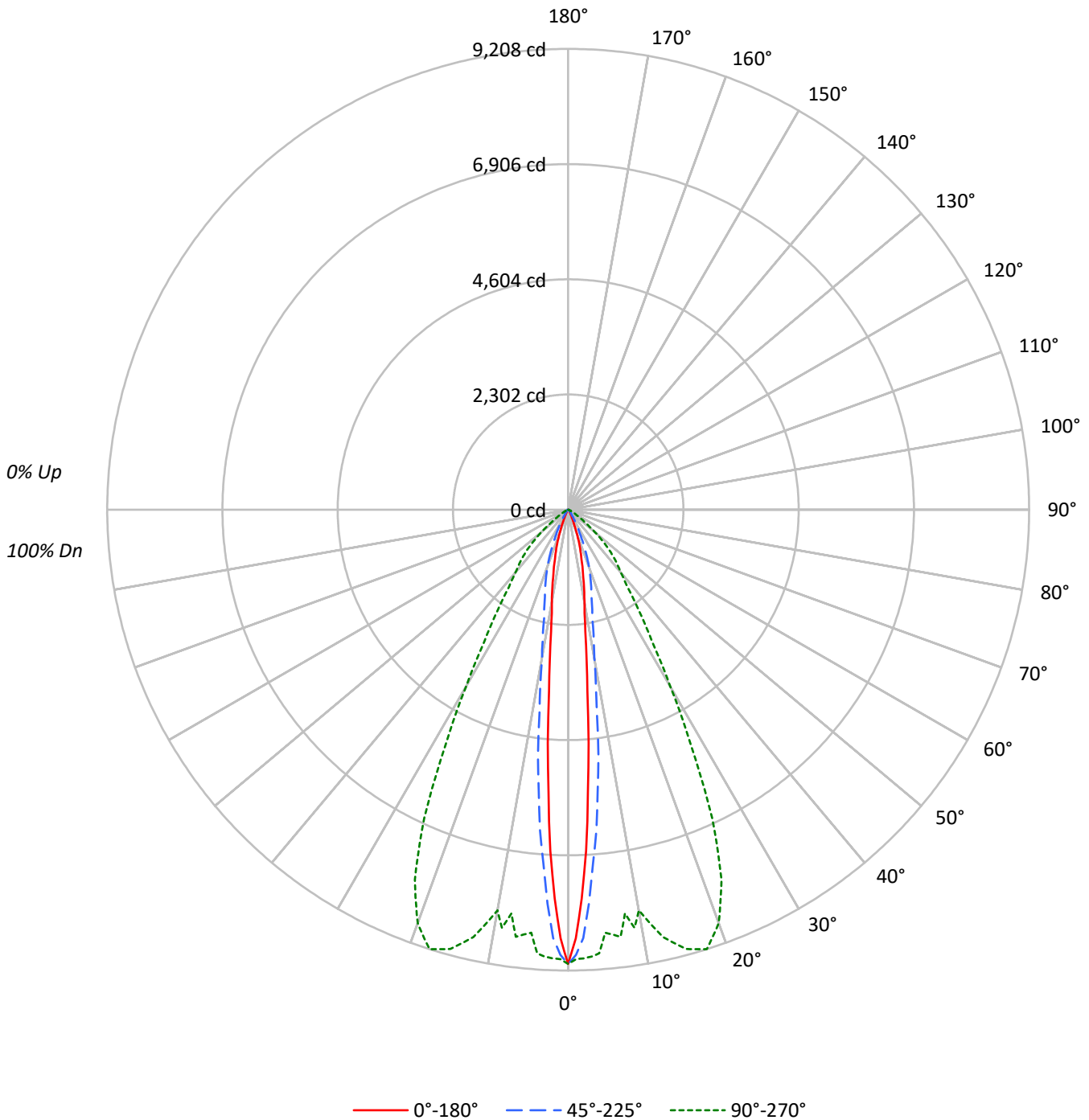
Lumens per Lamp: N/A  
Luminaire Lumens: 2816.0 lumens  
Efficiency: N/A  
Efficacy: 97.1 lumens/watt  
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31  
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')  
CIE Type: Direct

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

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

	0°	45°	90°
0°	293086	293086	293086
5°	151800	208691	274980
10°	61422	98556	266457
15°	34360	60199	303782
20°	16783	41502	302119
25°	6025	22472	242394
30°	3203	10407	152001
35°	2223	4865	97117
40°	1922	2942	68782
45°	1717	2576	54906
50°	1618	2698	34920
55°	1362	2567	16923
60°	1389	1905	8667
65°	1436	1230	4309
70°	1520	1010	2530
75°	1335	1011	1672
80°	1004	1004	1004
85°	1000	1000	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	542.9	19.3
10°-20°	865.3	30.7
20°-30°	728.2	25.9
30°-40°	368.0	13.1
40°-50°	186.7	6.6
50°-60°	84.4	3.0
60°-70°	28.1	1.0
70°-80°	10.7	0.4
80°-90°	1.8	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°	2136.4	75.9
0°-40°	2504.4	88.9
0°-60°	2775.4	98.6
0°-90°	2816.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2816.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9076	9076	9076	9076	9076	
5°	4683	5082	6438	7860	8483	350
15°	1028	1215	1801	4308	9087	290
25°	169	231	631	2227	6803	94
35°	56	66	123	933	2464	37
45°	38	42	56	291	1202	29
55°	24	31	46	111	301	23
65°	19	16	16	32	56	19
75°	11	11	8	11	13	11
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°	9076.2	9076.2	9076.2	9076.2	9076.2	9076.2	9076.2	9076.2	9076.2	9076.2	9076.2
1°	8566.3	8901.7	9137.9	8791.7	9060.1	8896.4	9009.1	8826.6	8952.7	9054.7	8982.2
2°	7774.6	8201.3	8187.9	8147.6	8217.4	8563.6	8877.6	8848.1	8987.6	8928.6	8971.5
3°	6824.6	7052.7	7127.8	7243.2	7543.8	7884.6	8271.1	8611.9	8958.1	9027.9	8942.0
4°	5651.8	5735.0	5990.0	6022.2	6593.8	7079.5	7731.7	8118.1	8802.4	8915.2	8885.6
5°	4683.0	4658.9	4900.4	5141.9	5855.8	6438.1	7237.9	7640.4	8520.7	8826.6	8483.1
6°	3641.7	3837.7	4071.1	4296.6	4913.8	5649.1	6507.9	7425.7	8429.4	8703.1	8536.8
7°	3029.9	3070.1	3241.9	3419.0	4087.2	4959.4	5697.4	6859.5	7959.8	8520.7	8598.5
8°	2458.2	2458.2	2681.0	2842.0	3478.0	4103.3	5273.4	6330.8	7696.8	8515.3	8147.6
9°	2093.3	2141.6	2246.2	2501.2	2874.2	3550.5	4556.9	5847.7	7495.5	8359.6	8456.2
10°	1873.2	1937.6	1994.0	2090.6	2490.4	3005.7	4044.3	5378.1	7323.7	8367.7	8126.2
12.5°	1390.1	1425.0	1492.1	1604.8	1908.1	2222.1	3043.3	4452.2	6491.8	8512.6	8746.1
15°	1027.8	1038.6	1132.5	1242.5	1497.5	1800.7	2350.9	3695.4	6145.6	8767.6	9086.9
17.5°	759.5	772.9	834.6	936.6	1111.0	1494.8	2023.5	3051.3	5743.1	8748.8	9207.7
20°	488.4	504.5	566.3	646.8	856.1	1207.7	1701.4	2517.3	5152.6	8120.8	8791.7
22.5°	289.8	305.9	327.4	405.2	601.1	904.4	1400.9	2165.7	4103.3	7283.5	8002.7
25°	169.1	166.4	190.5	244.2	367.7	630.7	1143.2	1851.7	3351.9	6282.5	6803.1
27.5°	110.0	112.7	123.4	150.3	228.1	424.0	901.7	1591.4	2632.7	4785.0	5313.7
30°	85.9	85.9	91.2	104.7	147.6	279.1	679.0	1325.7	2171.1	3652.5	4076.5
32.5°	67.1	69.8	72.5	80.5	104.7	182.5	488.4	1060.1	1768.5	2756.1	3102.3
35°	56.4	59.0	61.7	67.1	83.2	123.4	332.8	778.3	1398.2	2090.6	2463.6
37.5°	51.0	51.0	53.7	56.4	69.8	88.6	217.4	531.4	1068.1	1720.2	1940.3
40°	45.6	45.6	48.3	51.0	61.7	69.8	134.2	348.9	831.9	1419.7	1631.7
42.5°	40.3	42.9	45.6	45.6	53.7	61.7	93.9	260.3	676.3	1269.4	1417.0
45°	37.6	37.6	40.3	42.9	51.0	56.4	72.5	201.3	558.2	1068.1	1202.3
47.5°	34.9	34.9	37.6	40.3	48.3	53.7	59.0	155.7	467.0	864.1	958.1
50°	32.2	32.2	34.9	40.3	45.6	53.7	48.3	118.1	373.0	646.8	695.1
52.5°	26.8	29.5	32.2	34.9	40.3	51.0	40.3	91.2	308.6	453.5	456.2
55°	24.2	24.2	26.8	32.2	34.9	45.6	32.2	67.1	241.5	311.3	300.6
57.5°	24.2	21.5	24.2	26.8	29.5	40.3	24.2	51.0	179.8	209.3	193.2
60°	21.5	21.5	21.5	21.5	24.2	29.5	18.8	40.3	131.5	139.6	134.2
62.5°	18.8	18.8	18.8	18.8	18.8	24.2	16.1	29.5	88.6	88.6	83.2
65°	18.8	18.8	16.1	16.1	16.1	16.1	13.4	24.2	56.4	56.4	56.4
67.5°	18.8	16.1	16.1	13.4	13.4	13.4	10.7	18.8	34.9	40.3	37.6
70°	16.1	16.1	13.4	13.4	10.7	10.7	10.7	16.1	24.2	26.8	26.8
72.5°	13.4	13.4	13.4	10.7	10.7	8.1	8.1	13.4	18.8	18.8	18.8
75°	10.7	10.7	10.7	10.7	8.1	8.1	5.4	10.7	10.7	13.4	13.4
77.5°	8.1	8.1	8.1	8.1	8.1	5.4	5.4	8.1	8.1	8.1	8.1
80°	5.4	5.4	5.4	5.4	5.4	5.4	2.7	5.4	5.4	5.4	5.4
82.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
85°	2.7	2.7	2.7	2.7	2.7	2.7	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)