

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: P591989

Luminaire Tested: **GRZ-05L-940-10x30-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P591989  
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-05L-940-10x30-X-UNV-STD-4F  
Description: iO LED GRAZER WITH 10x30 OPTIC  
500 LUMENS PER FOOT, 4 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

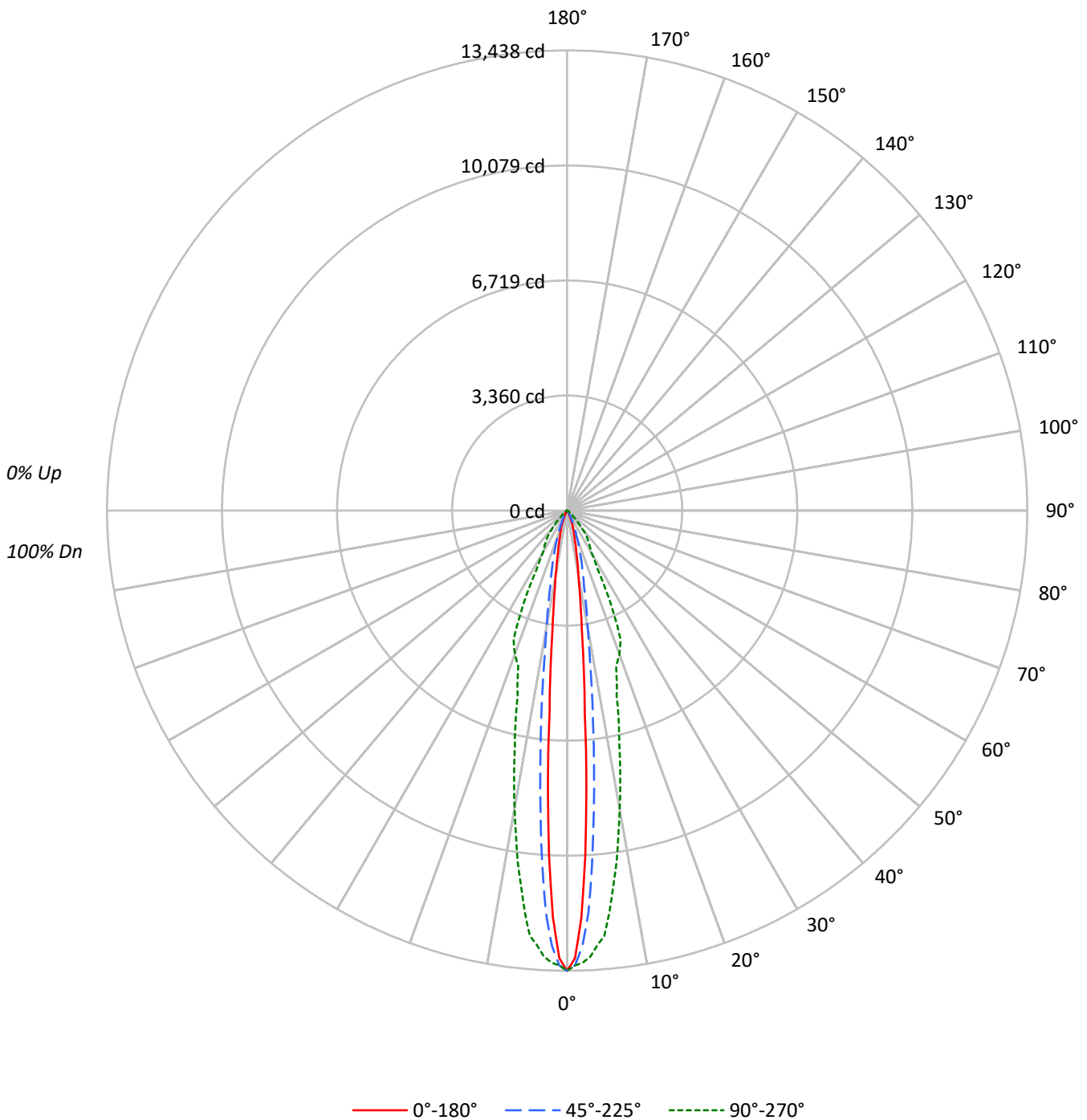
Lumens per Lamp: N/A  
Luminaire Lumens: 2130.0 lumens  
Efficiency: N/A  
Efficacy: 110.4 lumens/watt  
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.3  
Input Voltage (V): 120  
Input Current (Ain): 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°	216966	216966	216966
5°	96096	144289	202109
10°	31178	56292	144908
15°	13605	27809	93424
20°	7661	14225	76689
25°	2744	6305	54291
30°	1678	3244	26246
35°	1261	2089	21047
40°	1012	1518	13909
45°	868	913	7078
50°	1005	553	3316
55°	1070	450	1633
60°	904	388	969
65°	764	458	764
70°	661	472	661
75°	499	374	499
80°	372	372	372
85°	371	371	371



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	714.7	33.6
10°-20°	698.0	32.8
20°-30°	391.2	18.4
30°-40°	176.6	8.3
40°-50°	89.3	4.2
50°-60°	33.3	1.6
60°-70°	16.6	0.8
70°-80°	8.6	0.4
80°-90°	1.7	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°	1803.9	84.7
0°-40°	1980.6	93.0
0°-60°	2103.2	98.7
0°-90°	2130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2130.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	13438	13438	13438	13438	13438	
5°	5929	6798	8903	11427	12470	453
15°	814	1004	1664	3638	5589	252
25°	154	172	354	1321	3048	87
35°	64	44	106	421	1068	41
45°	38	33	40	190	310	32
55°	38	18	16	58	58	33
65°	20	16	12	18	20	20
75°	8	10	6	6	8	9
85°	2	2	2	0	2	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°	13437.9	13437.9	13437.9	13437.9	13437.9	13437.9	13437.9	13437.9	13437.9	13437.9	13437.9
1°	13072.0	13074.0	13172.0	13108.0	13263.9	13285.9	13265.9	13301.9	13311.9	13255.9	13285.9
2°	11876.2	11912.1	11970.1	12306.1	12460.1	12710.0	12920.0	13100.0	13178.0	13209.9	13205.9
3°	10110.4	10086.4	10372.4	10694.3	11246.3	11770.2	12286.1	12626.0	12926.0	13022.0	13040.0
4°	8052.7	7958.8	8448.7	8720.6	9466.5	10408.4	11328.2	12062.1	12556.0	12760.0	12712.0
5°	5929.1	6095.1	6437.0	6918.9	7732.8	8902.6	10132.4	11232.3	12012.1	12356.1	12470.1
6°	4619.3	4587.3	4863.2	5451.2	6273.0	7528.8	8934.6	10314.4	11284.2	11698.2	11796.2
7°	3563.4	3543.4	3817.4	4235.3	4925.2	6217.0	7772.8	9384.5	10574.4	11042.3	11038.3
8°	2823.6	2811.6	3001.5	3331.5	3983.4	5075.2	6623.0	8360.7	9724.5	10354.4	10354.4
9°	2281.6	2307.6	2423.6	2715.6	3229.5	4143.4	5661.1	7492.8	8892.6	9508.5	9562.5
10°	1901.7	1915.7	2009.7	2249.7	2677.6	3433.5	4757.3	6483.0	8072.7	8852.6	8838.6
12.5°	1233.8	1263.8	1331.8	1485.8	1797.7	2269.6	3161.5	4545.3	6153.0	6932.9	7064.9
15°	813.9	819.9	903.9	1037.8	1285.8	1663.7	2287.6	3319.5	4593.3	5477.1	5589.1
17.5°	607.9	613.9	633.9	713.9	895.9	1217.8	1723.7	2523.6	3733.4	4625.3	4753.3
20°	445.9	425.9	419.9	465.9	607.9	827.9	1257.8	1967.7	3029.5	4233.3	4463.3
22.5°	260.0	256.0	246.0	284.0	391.9	543.9	855.9	1469.8	2561.6	3769.4	4087.4
25°	154.0	150.0	148.0	180.0	246.0	353.9	583.9	1111.8	1949.7	2771.6	3047.5
27.5°	112.0	108.0	98.0	112.0	162.0	244.0	411.9	803.9	1337.8	1781.7	1931.7
30°	90.0	86.0	68.0	74.0	112.0	174.0	302.0	555.9	949.9	1323.8	1407.8
32.5°	76.0	72.0	52.0	54.0	78.0	132.0	236.0	427.9	767.9	1145.8	1239.8
35°	64.0	60.0	42.0	44.0	60.0	106.0	194.0	351.9	629.9	985.8	1067.8
37.5°	54.0	50.0	36.0	38.0	52.0	88.0	176.0	304.0	521.9	809.9	889.9
40°	48.0	44.0	32.0	36.0	48.0	72.0	156.0	258.0	427.9	625.9	659.9
42.5°	42.0	38.0	32.0	36.0	44.0	56.0	114.0	206.0	347.9	449.9	477.9
45°	38.0	36.0	30.0	34.0	38.0	40.0	72.0	160.0	280.0	310.0	310.0
47.5°	40.0	36.0	28.0	30.0	30.0	30.0	44.0	126.0	218.0	210.0	204.0
50°	40.0	34.0	26.0	24.0	24.0	22.0	30.0	98.0	162.0	134.0	132.0
52.5°	40.0	34.0	24.0	22.0	20.0	18.0	22.0	74.0	114.0	86.0	86.0
55°	38.0	32.0	20.0	18.0	16.0	16.0	18.0	52.0	78.0	60.0	58.0
57.5°	34.0	28.0	18.0	16.0	16.0	14.0	14.0	34.0	60.0	46.0	40.0
60°	28.0	24.0	16.0	16.0	16.0	12.0	12.0	22.0	48.0	34.0	30.0
62.5°	24.0	20.0	16.0	16.0	16.0	12.0	10.0	16.0	40.0	28.0	24.0
65°	20.0	16.0	14.0	16.0	16.0	12.0	8.0	12.0	34.0	22.0	20.0
67.5°	16.0	14.0	12.0	14.0	14.0	10.0	6.0	8.0	28.0	18.0	16.0
70°	14.0	12.0	10.0	12.0	14.0	10.0	6.0	8.0	22.0	14.0	14.0
72.5°	10.0	10.0	10.0	12.0	12.0	8.0	4.0	6.0	18.0	12.0	12.0
75°	8.0	8.0	8.0	10.0	10.0	6.0	4.0	4.0	14.0	10.0	8.0
77.5°	6.0	6.0	6.0	8.0	8.0	4.0	2.0	4.0	10.0	6.0	6.0
80°	4.0	4.0	4.0	6.0	6.0	4.0	2.0	2.0	6.0	4.0	4.0
82.5°	2.0	2.0	2.0	4.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0
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)