

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: P591973

Luminaire Tested: **GRZ-05L-935-10x30-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P591973  
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-935-10x30-X-UNV-STD-4F  
Description: iO LED GRAZER WITH 10x30 OPTIC  
500 LUMENS PER FOOT, 4 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

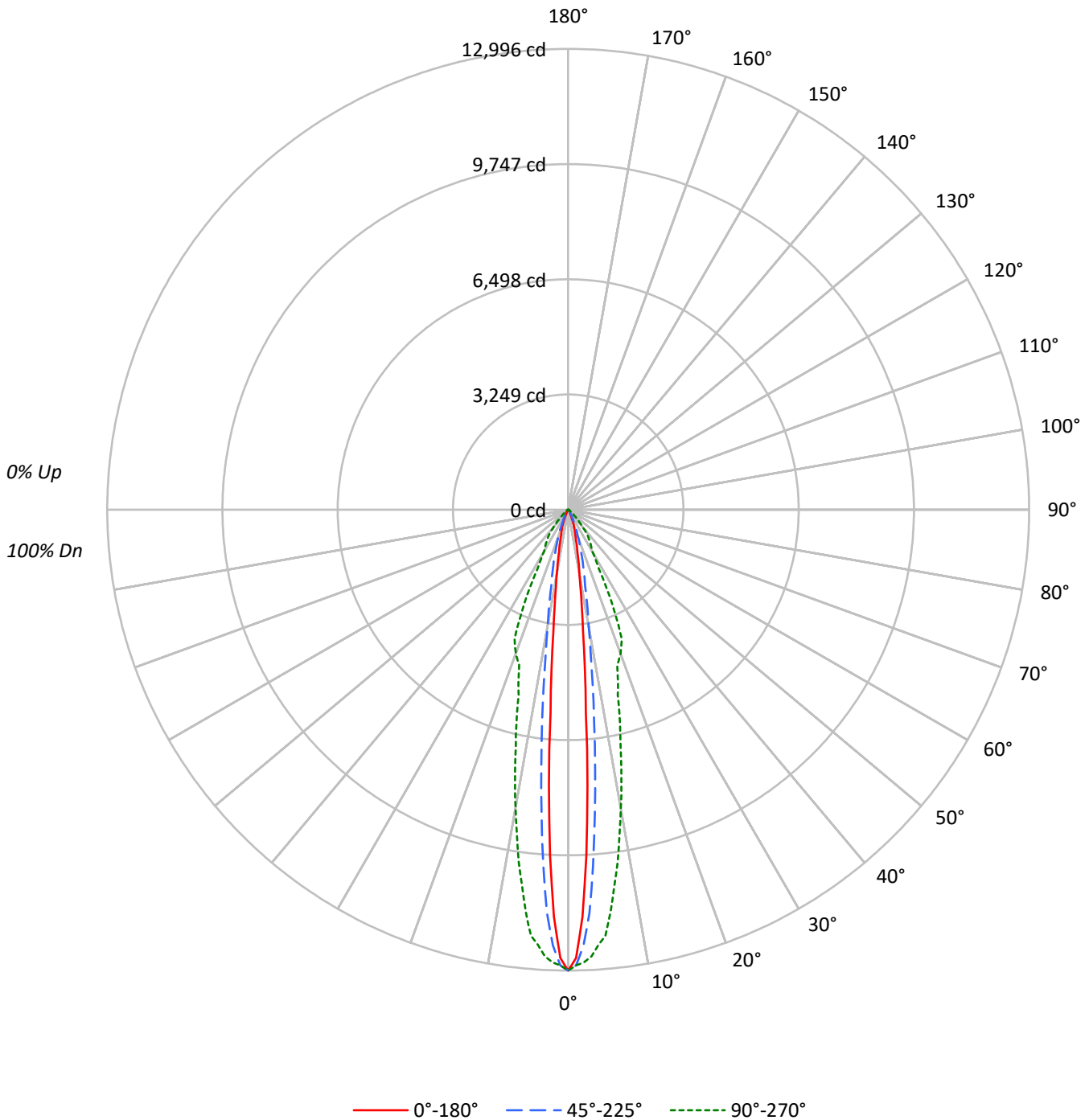
Lumens per Lamp: N/A  
Luminaire Lumens: 2060.0 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.3  
Input Voltage (V): 120  
Input Current (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°	209836	209836	209836
5°	92937	139547	195466
10°	30154	54441	140147
15°	13157	26897	90355
20°	7411	13758	74168
25°	2653	6098	52508
30°	1622	3138	25383
35°	1220	2020	20355
40°	978	1467	13451
45°	838	884	6846
50°	972	535	3205
55°	1033	436	1579
60°	875	375	936
65°	737	443	737
70°	637	458	637
75°	480	362	480
80°	363	363	363
85°	352	352	352



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	691.3	33.6
10°-20°	675.1	32.8
20°-30°	378.3	18.4
30°-40°	170.8	8.3
40°-50°	86.4	4.2
50°-60°	32.2	1.6
60°-70°	16.0	0.8
70°-80°	8.3	0.4
80°-90°	1.6	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°	1744.7	84.7
0°-40°	1915.5	93.0
0°-60°	2034.1	98.7
0°-90°	2060.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2060.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12996	12996	12996	12996	12996	
5°	5734	6575	8610	11052	12060	438
15°	787	971	1609	3518	5406	243
25°	149	166	342	1278	2947	84
35°	62	42	102	408	1033	39
45°	37	32	39	184	300	31
55°	37	18	16	57	56	32
65°	19	15	12	17	19	19
75°	8	9	6	6	8	8
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°	12996.3	12996.3	12996.3	12996.3	12996.3	12996.3	12996.3	12996.3	12996.3	12996.3	12996.3
1°	12642.4	12644.3	12739.1	12677.2	12828.0	12849.3	12830.0	12864.8	12874.5	12820.3	12849.3
2°	11485.9	11520.7	11576.8	11901.7	12050.6	12292.3	12495.4	12669.4	12744.9	12775.8	12772.0
3°	9778.2	9755.0	10031.5	10342.9	10876.7	11383.4	11882.3	12211.1	12501.2	12594.0	12611.4
4°	7788.1	7697.2	8171.0	8434.1	9155.4	10066.3	10956.0	11665.7	12143.4	12340.7	12294.3
5°	5734.2	5894.7	6225.5	6691.5	7478.7	8610.0	9799.4	10863.1	11617.4	11950.0	12060.2
6°	4467.5	4436.5	4703.4	5272.0	6066.9	7281.4	8641.0	9975.4	10913.4	11313.7	11408.5
7°	3446.3	3427.0	3692.0	4096.2	4763.4	6012.7	7517.3	9076.1	10226.8	10679.4	10675.5
8°	2730.8	2719.2	2902.9	3222.0	3852.5	4908.4	6405.3	8085.9	9404.9	10014.1	10014.1
9°	2206.7	2231.8	2344.0	2626.3	3123.4	4007.2	5475.1	7246.6	8600.4	9196.0	9248.3
10°	1839.2	1852.7	1943.6	2175.7	2589.6	3320.6	4600.9	6269.9	7807.4	8561.7	8548.2
12.5°	1193.3	1222.3	1288.0	1436.9	1738.6	2195.1	3057.6	4395.9	5950.8	6705.1	6832.7
15°	787.1	792.9	874.2	1003.7	1243.5	1609.1	2212.5	3210.4	4442.3	5297.1	5405.5
17.5°	587.9	593.7	613.1	690.4	866.4	1177.8	1667.1	2440.7	3610.7	4473.3	4597.1
20°	431.3	411.9	406.1	450.6	587.9	800.7	1216.5	1903.0	2930.0	4094.2	4316.6
22.5°	251.4	247.5	237.9	274.6	379.1	526.0	827.7	1421.5	2477.4	3645.5	3953.0
25°	148.9	145.0	143.1	174.1	237.9	342.3	564.7	1075.3	1885.6	2680.5	2947.4
27.5°	108.3	104.4	94.8	108.3	156.7	235.9	398.4	777.5	1293.8	1723.2	1868.2
30°	87.0	83.2	65.8	71.6	108.3	168.3	292.0	537.6	918.6	1280.3	1361.5
32.5°	73.5	69.6	50.3	52.2	75.4	127.6	228.2	413.9	742.6	1108.2	1199.1
35°	61.9	58.0	40.6	42.5	58.0	102.5	187.6	340.4	609.2	953.4	1032.7
37.5°	52.2	48.3	34.8	36.7	50.3	85.1	170.2	294.0	504.8	783.3	860.6
40°	46.4	42.5	30.9	34.8	46.4	69.6	150.8	249.5	413.9	605.3	638.2
42.5°	40.6	36.7	30.9	34.8	42.5	54.2	110.2	199.2	336.5	435.1	462.2
45°	36.7	34.8	29.0	32.9	36.7	38.7	69.6	154.7	270.8	299.8	299.8
47.5°	38.7	34.8	27.1	29.0	29.0	29.0	42.5	121.8	210.8	203.1	197.3
50°	38.7	32.9	25.1	23.2	23.2	21.3	29.0	94.8	156.7	129.6	127.6
52.5°	38.7	32.9	23.2	21.3	19.3	17.4	21.3	71.6	110.2	83.2	83.2
55°	36.7	30.9	19.3	17.4	15.5	15.5	17.4	50.3	75.4	58.0	56.1
57.5°	32.9	27.1	17.4	15.5	15.5	13.5	13.5	32.9	58.0	44.5	38.7
60°	27.1	23.2	15.5	15.5	15.5	11.6	11.6	21.3	46.4	32.9	29.0
62.5°	23.2	19.3	15.5	15.5	15.5	11.6	9.7	15.5	38.7	27.1	23.2
65°	19.3	15.5	13.5	15.5	15.5	11.6	7.7	11.6	32.9	21.3	19.3
67.5°	15.5	13.5	11.6	13.5	13.5	9.7	5.8	7.7	27.1	17.4	15.5
70°	13.5	11.6	9.7	11.6	13.5	9.7	5.8	7.7	21.3	13.5	13.5
72.5°	9.7	9.7	9.7	11.6	11.6	7.7	3.9	5.8	17.4	11.6	11.6
75°	7.7	7.7	7.7	9.7	9.7	5.8	3.9	3.9	13.5	9.7	7.7
77.5°	5.8	5.8	5.8	7.7	7.7	3.9	1.9	3.9	9.7	5.8	5.8
80°	3.9	3.9	3.9	5.8	5.8	3.9	1.9	1.9	5.8	3.9	3.9
82.5°	1.9	1.9	1.9	3.9	3.9	1.9	1.9	1.9	1.9	1.9	1.9
85°	1.9	1.9	1.9	1.9	1.9	1.9	0.0	0.0	1.9	1.9	1.9
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)