

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: P591953

Luminaire Tested: **GRZ-05L-930-10x10-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P591953  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/2/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: iO LED  
Catalog Number: GRZ-05L-930-10x10-X-UNV-STD-4F  
Description: iO LED GRAZER WITH 10x10 OPTIC  
500 LUMENS PER FOOT, 4 FOOT FIXTURE  
SCALED BASED ON PHOTOMETRIC TESTING  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

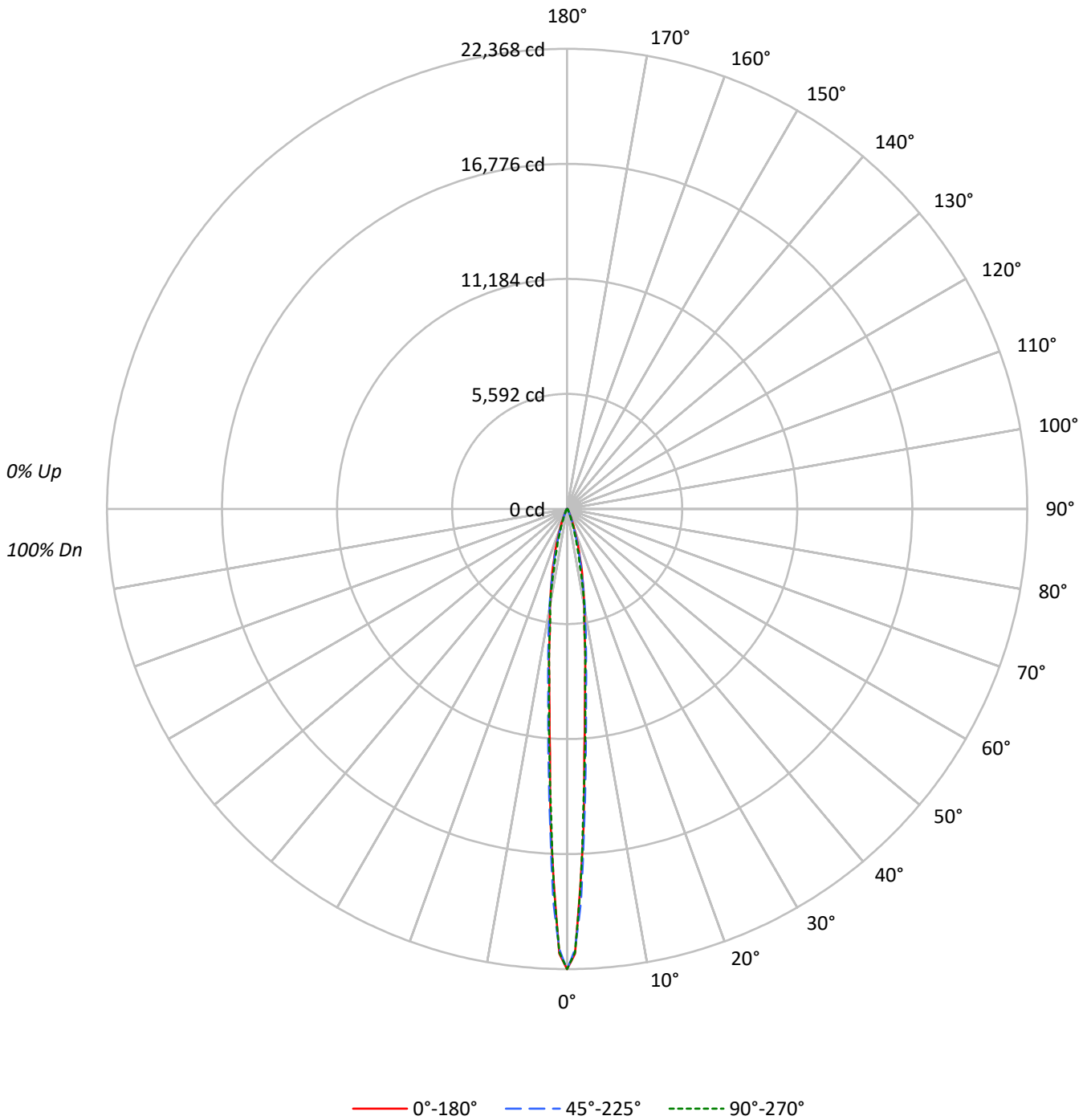
Lumens per Lamp: N/A  
Luminaire Lumens: 1790.0 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Spacing Criteria (0/90/45): 0.15 / 0.16 / 0.22  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

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	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	102	109	106	103	101	103	100	99	100	98	96	97	96	95	93
3	108	103	99	96	106	102	98	96	99	96	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	92	96	93	91	94	92	90	93	90	89	87
5	102	96	92	89	100	95	91	88	93	90	88	92	89	87	90	88	86	85
6	99	93	89	86	98	92	88	86	91	88	85	90	87	85	88	86	84	83
7	96	90	86	83	95	90	86	83	89	85	83	88	85	82	87	84	82	81
8	94	88	84	81	93	87	84	81	86	83	81	86	83	80	85	82	80	79
9	92	86	82	79	91	85	82	79	85	81	79	84	81	79	83	80	78	78
10	90	84	80	77	89	83	80	77	83	79	77	82	79	77	82	79	77	76

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

	0°	45°	90°
0°	361142	361142	361142
5°	159033	169767	163965
10°	78376	80684	79064
15°	39537	36430	31393
20°	16589	14051	11933
25°	6727	5630	4741
30°	3210	2864	2536
35°	2024	1774	1407
40°	1444	1319	991
45°	1295	1139	827
50°	1228	1080	638
55°	1101	963	552
60°	885	759	536
65°	860	749	562
70°	878	741	510
75°	792	730	487
80°	725	632	456
85°	537	537	371



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	840.6	47.0
10°-20°	621.6	34.7
20°-30°	169.6	9.5
30°-40°	60.0	3.3
40°-50°	37.8	2.1
50°-60°	28.0	1.6
60°-70°	18.4	1.0
70°-80°	11.1	0.6
80°-90°	2.9	0.2
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°	1631.8	91.2
0°-40°	1691.8	94.5
0°-60°	1757.6	98.2
0°-90°	1790.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1790.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	22368	22368	22368	22368	22368	
5°	9812	10246	10475	10086	10117	815
15°	2365	2335	2179	1929	1878	670
25°	378	371	316	280	266	199
35°	103	101	90	82	71	66
45°	57	55	50	42	36	44
55°	39	37	34	25	20	35
65°	22	20	20	17	15	22
75°	13	11	12	10	8	14
85°	3	2	3	2	2	3
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	22367.5	22367.5	22367.5	22367.5	22367.5
1°	21619.2	21186.9	21438.3	21428.5	21553.7
2°	18290.4	19644.2	19117.0	19059.3	18458.7
3°	15302.0	15900.7	15566.1	15762.7	14821.7
4°	11914.5	12661.8	12776.3	12519.0	12187.4
5°	9812.3	10245.7	10474.6	10086.2	10116.6
6°	8264.8	8813.6	8779.4	8790.1	8354.8
7°	7240.6	7526.3	7567.4	7318.9	7200.5
8°	6068.8	6560.8	6522.6	6335.8	6070.7
9°	5409.5	5711.7	5663.8	5330.2	5233.4
10°	4780.5	4946.8	4921.3	4554.5	4822.5
12.5°	3442.3	3457.9	3289.7	3090.1	2930.7
15°	2365.3	2335.0	2179.4	1929.0	1878.1
17.5°	1553.4	1557.3	1347.0	1158.2	1128.8
20°	965.5	971.4	817.8	713.1	694.5
22.5°	607.5	581.1	486.2	442.1	430.4
25°	377.6	370.7	316.0	279.8	266.1
27.5°	255.3	250.4	205.4	188.8	187.8
30°	172.2	179.0	153.6	139.9	136.0
32.5°	130.1	130.1	119.3	109.6	98.8
35°	102.7	100.8	90.0	82.2	71.4
37.5°	78.3	82.2	72.4	66.5	55.8
40°	68.5	68.5	62.6	54.8	47.0
42.5°	60.6	62.6	54.8	47.0	39.1
45°	56.7	54.8	49.9	42.1	36.2
47.5°	51.8	50.9	46.0	37.2	31.3
50°	48.9	47.0	43.0	33.3	25.4
52.5°	46.0	43.0	39.1	29.3	21.5
55°	39.1	37.2	34.2	25.4	19.6
57.5°	34.2	30.3	28.4	21.5	17.6
60°	27.4	24.5	23.5	19.6	16.6
62.5°	24.5	22.5	21.5	18.6	15.7
65°	22.5	19.6	19.6	16.6	14.7
67.5°	20.5	17.6	17.6	14.7	12.7
70°	18.6	15.7	15.7	12.7	10.8
72.5°	15.7	12.7	13.7	10.8	9.8
75°	12.7	10.8	11.7	9.8	7.8
77.5°	10.8	8.8	8.8	7.8	5.9
80°	7.8	6.8	6.8	5.9	4.9
82.5°	4.9	3.9	4.9	3.9	2.9
85°	2.9	2.0	2.9	2.0	2.0
87.5°	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)