

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: P591957

Luminaire Tested: **GRZ-05L-930-10x30-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P591957  
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-930-10x30-X-UNV-STD-4F  
Description: iO LED GRAZER WITH 10x30 OPTIC  
500 LUMENS PER FOOT, 4 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

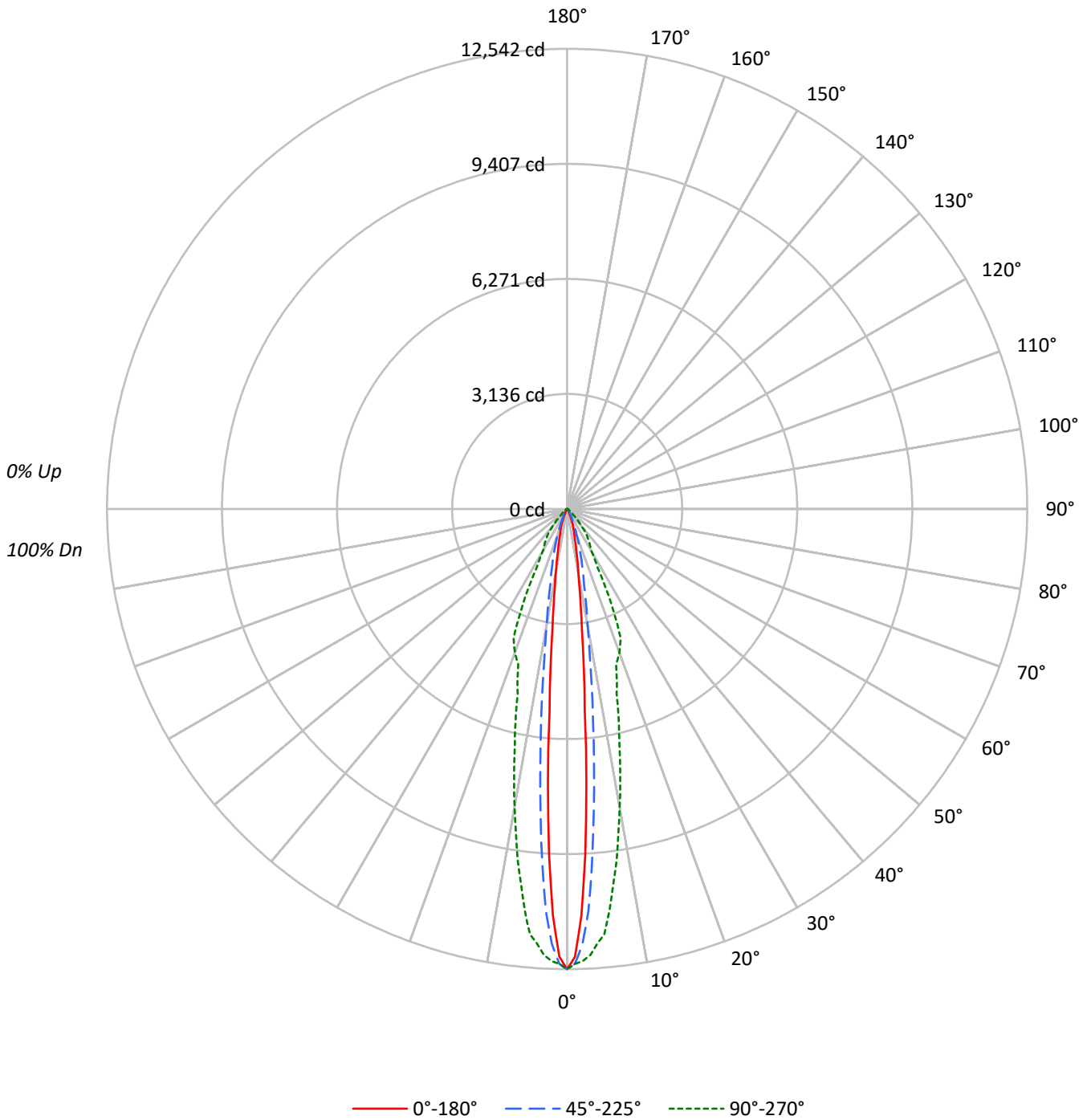
Lumens per Lamp: N/A  
Luminaire Lumens: 1988.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

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	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	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95					95			
2	110	106	102	100	108	104	101	99	101	99	96	98	96	94	95	94	92	91					91			
3	106	100	96	93	104	99	95	92	97	93	91	94	92	90	92	90	88	87					87			
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83					83			
5	98	92	87	83	97	91	86	83	89	85	82	87	84	82	86	83	81	80					80			
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77					77			
7	92	84	80	76	91	84	79	76	83	79	76	82	78	75	81	77	75	74					74			
8	89	81	77	73	88	81	76	73	80	76	73	79	75	73	78	75	72	71					71			
9	86	79	74	71	85	78	74	71	77	73	71	77	73	70	76	73	70	69					69			
10	84	76	72	69	83	76	71	68	75	71	68	74	71	68	74	70	68	67					67			

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

	0°	45°	90°
0°	202503	202503	202503
5°	89689	134670	188634
10°	29099	52539	135248
15°	12697	25956	87196
20°	7151	13277	71577
25°	2560	5884	50673
30°	1566	3028	24496
35°	1177	1949	19643
40°	944	1416	12981
45°	811	852	6606
50°	937	515	3095
55°	999	419	1523
60°	843	362	904
65°	714	428	714
70°	618	439	618
75°	468	349	468
80°	344	344	344
85°	352	352	352



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	667.1	33.6
10°-20°	651.5	32.8
20°-30°	365.1	18.4
30°-40°	164.9	8.3
40°-50°	83.4	4.2
50°-60°	31.1	1.6
60°-70°	15.4	0.8
70°-80°	8.0	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°	1683.7	84.7
0°-40°	1848.6	93.0
0°-60°	1963.0	98.7
0°-90°	1988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1988.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12542	12542	12542	12542	12542	
5°	5534	6345	8309	10665	11639	423
15°	760	937	1553	3395	5216	235
25°	144	161	330	1233	2844	82
35°	60	41	99	393	997	38
45°	36	31	37	177	289	30
55°	36	17	15	55	54	30
65°	19	14	11	16	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°	12542.1	12542.1	12542.1	12542.1	12542.1	12542.1	12542.1	12542.1	12542.1	12542.1	12542.1
1°	12200.5	12202.4	12293.8	12234.1	12379.7	12400.2	12381.5	12415.1	12424.5	12372.2	12400.2
2°	11084.4	11118.0	11172.1	11485.7	11629.4	11862.7	12058.7	12226.6	12299.4	12329.3	12325.6
3°	9436.4	9414.0	9680.9	9981.4	10496.5	10985.5	11467.0	11784.3	12064.3	12153.8	12170.6
4°	7515.9	7428.2	7885.4	8139.3	8835.4	9714.5	10573.0	11258.0	11719.0	11909.4	11864.6
5°	5533.8	5688.7	6007.9	6457.7	7217.3	8309.1	9456.9	10483.4	11211.3	11532.3	11638.7
6°	4311.3	4281.5	4539.0	5087.7	5854.8	7026.9	8339.0	9626.8	10532.0	10918.3	11009.8
7°	3325.9	3307.2	3562.9	3953.0	4596.9	5802.6	7254.6	8758.9	9869.4	10306.1	10302.4
8°	2635.3	2624.1	2801.4	3109.4	3717.8	4736.9	6181.4	7803.3	9076.2	9664.1	9664.1
9°	2129.5	2153.8	2262.0	2534.5	3014.2	3867.1	5283.7	6993.3	8299.8	8874.6	8925.0
10°	1774.9	1788.0	1875.7	2099.7	2499.1	3204.6	4440.1	6050.8	7534.6	8262.4	8249.4
12.5°	1151.6	1179.6	1243.0	1386.7	1677.9	2118.3	2950.7	4242.3	5742.8	6470.7	6593.9
15°	759.6	765.2	843.6	968.6	1200.1	1552.8	2135.1	3098.2	4287.1	5112.0	5216.5
17.5°	567.4	573.0	591.6	666.3	836.1	1136.6	1608.8	2355.4	3484.5	4316.9	4436.4
20°	416.2	397.5	391.9	434.9	567.4	772.7	1174.0	1836.5	2827.6	3951.1	4165.8
22.5°	242.6	238.9	229.6	265.0	365.8	507.7	798.8	1371.8	2390.8	3518.1	3814.9
25°	143.7	140.0	138.1	168.0	229.6	330.3	545.0	1037.7	1819.7	2586.8	2844.4
27.5°	104.5	100.8	91.5	104.5	151.2	227.7	384.5	750.3	1248.6	1662.9	1802.9
30°	84.0	80.3	63.5	69.1	104.5	162.4	281.8	518.9	886.5	1235.5	1313.9
32.5°	70.9	67.2	48.5	50.4	72.8	123.2	220.2	399.4	716.7	1069.4	1157.2
35°	59.7	56.0	39.2	41.1	56.0	98.9	181.0	328.5	587.9	920.1	996.6
37.5°	50.4	46.7	33.6	35.5	48.5	82.1	164.2	283.7	487.1	755.9	830.5
40°	44.8	41.1	29.9	33.6	44.8	67.2	145.6	240.8	399.4	584.2	615.9
42.5°	39.2	35.5	29.9	33.6	41.1	52.3	106.4	192.2	324.7	419.9	446.1
45°	35.5	33.6	28.0	31.7	35.5	37.3	67.2	149.3	261.3	289.3	289.3
47.5°	37.3	33.6	26.1	28.0	28.0	28.0	41.1	117.6	203.4	196.0	190.4
50°	37.3	31.7	24.3	22.4	22.4	20.5	28.0	91.5	151.2	125.0	123.2
52.5°	37.3	31.7	22.4	20.5	18.7	16.8	20.5	69.1	106.4	80.3	80.3
55°	35.5	29.9	18.7	16.8	14.9	14.9	16.8	48.5	72.8	56.0	54.1
57.5°	31.7	26.1	16.8	14.9	14.9	13.1	13.1	31.7	56.0	42.9	37.3
60°	26.1	22.4	14.9	14.9	14.9	11.2	11.2	20.5	44.8	31.7	28.0
62.5°	22.4	18.7	14.9	14.9	14.9	11.2	9.3	14.9	37.3	26.1	22.4
65°	18.7	14.9	13.1	14.9	14.9	11.2	7.5	11.2	31.7	20.5	18.7
67.5°	14.9	13.1	11.2	13.1	13.1	9.3	5.6	7.5	26.1	16.8	14.9
70°	13.1	11.2	9.3	11.2	13.1	9.3	5.6	7.5	20.5	13.1	13.1
72.5°	9.3	9.3	9.3	11.2	11.2	7.5	3.7	5.6	16.8	11.2	11.2
75°	7.5	7.5	7.5	9.3	9.3	5.6	3.7	3.7	13.1	9.3	7.5
77.5°	5.6	5.6	5.6	7.5	7.5	3.7	1.9	3.7	9.3	5.6	5.6
80°	3.7	3.7	3.7	5.6	5.6	3.7	1.9	1.9	5.6	3.7	3.7
82.5°	1.9	1.9	1.9	3.7	3.7	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)