

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: P591972

Luminaire Tested: **GRZ-05L-935-10x30-X-UNV-STD-2F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P591972  
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-2F  
Description: iO LED GRAZER WITH 10x30 OPTIC  
500 LUMENS PER FOOT, 2 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

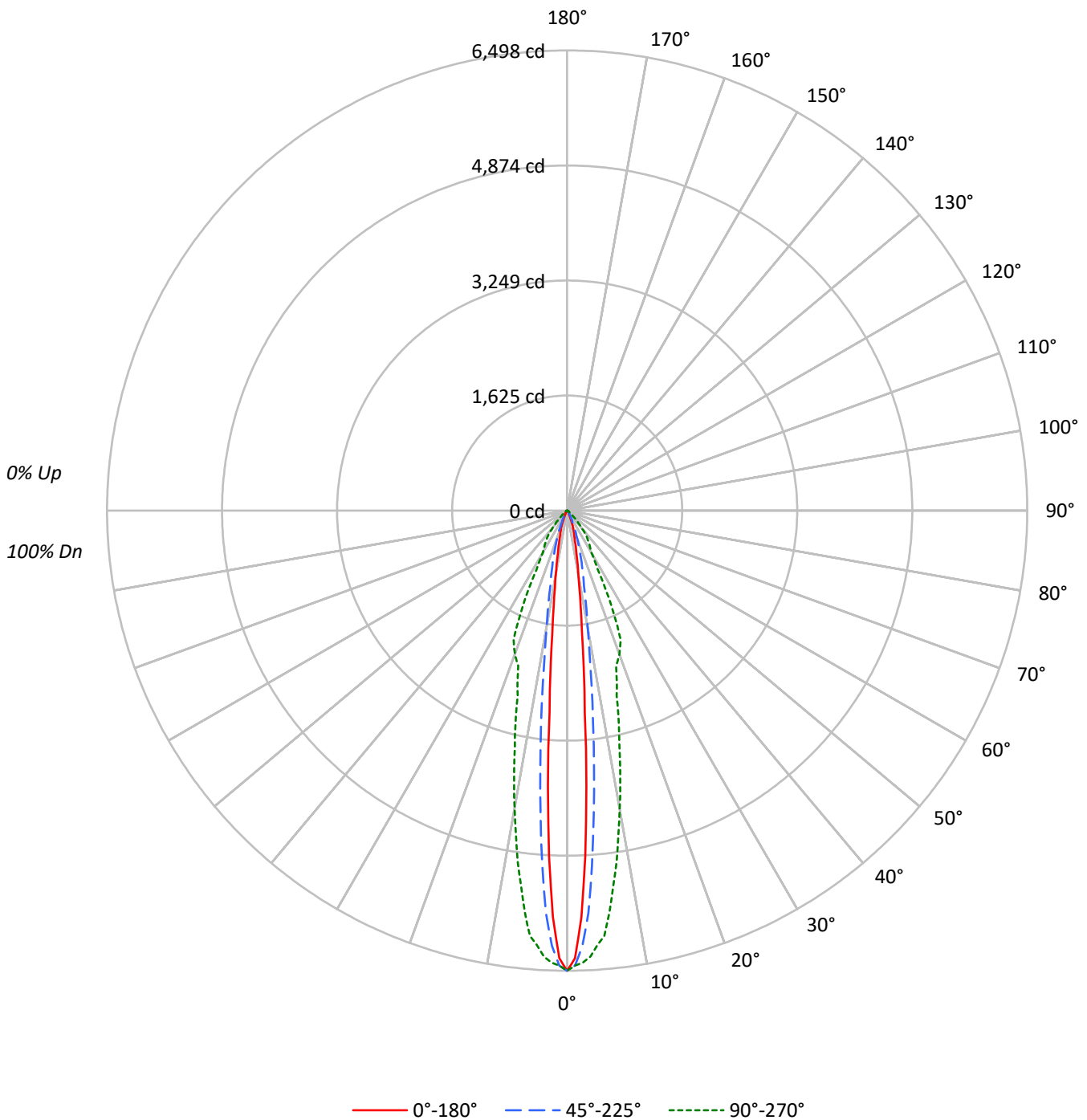
Lumens per Lamp: N/A  
Luminaire Lumens: 1030.0 lumens  
Efficiency: N/A  
Efficacy: 107.3 lumens/watt  
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26  
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 9.6  
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°	209835	209835	209835
5°	92937	139547	195466
10°	30154	54441	140147
15°	13158	26895	90353
20°	7409	13756	74168
25°	2654	6100	52508
30°	1622	3136	25385
35°	1218	2022	20357
40°	978	1467	13451
45°	840	881	6846
50°	970	533	3205
55°	1036	434	1576
60°	872	375	936
65°	741	443	741
70°	642	453	642
75°	487	362	487
80°	353	353	353
85°	371	371	371



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	345.6	33.6
10°-20°	337.5	32.8
20°-30°	189.2	18.4
30°-40°	85.4	8.3
40°-50°	43.2	4.2
50°-60°	16.1	1.6
60°-70°	8.0	0.8
70°-80°	4.1	0.4
80°-90°	0.8	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°	872.3	84.7
0°-40°	957.7	93.0
0°-60°	1017.0	98.7
0°-90°	1030.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1030.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6498	6498	6498	6498	6498	
5°	2867	3288	4305	5526	6030	219
15°	394	486	804	1759	2703	122
25°	74	83	171	639	1474	42
35°	31	21	51	204	516	20
45°	18	16	19	92	150	15
55°	18	9	8	28	28	16
65°	10	7	6	8	10	10
75°	4	5	3	3	4	4
85°	1	1	1	0	1	1
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°	6498.1	6498.1	6498.1	6498.1	6498.1	6498.1	6498.1	6498.1	6498.1	6498.1	6498.1
1°	6321.2	6322.2	6369.5	6338.6	6414.0	6424.7	6415.0	6432.4	6437.2	6410.1	6424.7
2°	5742.9	5760.3	5788.4	5950.8	6025.3	6146.2	6247.7	6334.7	6372.4	6387.9	6386.0
3°	4889.1	4877.5	5015.8	5171.4	5438.3	5691.7	5941.2	6105.5	6250.6	6297.0	6305.7
4°	3894.1	3848.6	4085.5	4217.0	4577.7	5033.2	5478.0	5832.9	6071.7	6170.3	6147.1
5°	2867.1	2947.4	3112.7	3345.8	3739.3	4305.0	4899.7	5431.6	5808.7	5975.0	6030.1
6°	2233.7	2218.3	2351.7	2636.0	3033.4	3640.7	4320.5	4987.7	5456.7	5656.9	5704.3
7°	1723.2	1713.5	1846.0	2048.1	2381.7	3006.4	3758.7	4538.1	5113.4	5339.7	5337.8
8°	1365.4	1359.6	1451.4	1611.0	1926.2	2454.2	3202.7	4043.0	4702.5	5007.1	5007.1
9°	1103.3	1115.9	1172.0	1313.2	1561.7	2003.6	2737.5	3623.3	4300.2	4598.0	4624.1
10°	919.6	926.4	971.8	1087.9	1294.8	1660.3	2300.5	3135.0	3903.7	4280.8	4274.1
12.5°	596.6	611.1	644.0	718.5	869.3	1097.5	1528.8	2198.0	2975.4	3352.5	3416.4
15°	393.6	396.5	437.1	501.9	621.8	804.5	1106.2	1605.2	2221.2	2648.6	2702.7
17.5°	294.0	296.9	306.5	345.2	433.2	588.9	833.5	1220.3	1805.4	2236.6	2298.5
20°	215.6	206.0	203.1	225.3	294.0	400.3	608.2	951.5	1465.0	2047.1	2158.3
22.5°	125.7	123.8	118.9	137.3	189.5	263.0	413.9	710.7	1238.7	1822.8	1976.5
25°	74.5	72.5	71.6	87.0	118.9	171.2	282.4	537.6	942.8	1340.2	1473.7
27.5°	54.2	52.2	47.4	54.2	78.3	118.0	199.2	388.7	646.9	861.6	934.1
30°	43.5	41.6	32.9	35.8	54.2	84.1	146.0	268.8	459.3	640.1	680.8
32.5°	36.7	34.8	25.1	26.1	37.7	63.8	114.1	206.9	371.3	554.1	599.5
35°	30.9	29.0	20.3	21.3	29.0	51.3	93.8	170.2	304.6	476.7	516.4
37.5°	26.1	24.2	17.4	18.4	25.1	42.5	85.1	147.0	252.4	391.6	430.3
40°	23.2	21.3	15.5	17.4	23.2	34.8	75.4	124.7	206.9	302.7	319.1
42.5°	20.3	18.4	15.5	17.4	21.3	27.1	55.1	99.6	168.3	217.6	231.1
45°	18.4	17.4	14.5	16.4	18.4	19.3	34.8	77.4	135.4	149.9	149.9
47.5°	19.3	17.4	13.5	14.5	14.5	14.5	21.3	60.9	105.4	101.5	98.6
50°	19.3	16.4	12.6	11.6	11.6	10.6	14.5	47.4	78.3	64.8	63.8
52.5°	19.3	16.4	11.6	10.6	9.7	8.7	10.6	35.8	55.1	41.6	41.6
55°	18.4	15.5	9.7	8.7	7.7	7.7	8.7	25.1	37.7	29.0	28.0
57.5°	16.4	13.5	8.7	7.7	7.7	6.8	6.8	16.4	29.0	22.2	19.3
60°	13.5	11.6	7.7	7.7	7.7	5.8	5.8	10.6	23.2	16.4	14.5
62.5°	11.6	9.7	7.7	7.7	7.7	5.8	4.8	7.7	19.3	13.5	11.6
65°	9.7	7.7	6.8	7.7	7.7	5.8	3.9	5.8	16.4	10.6	9.7
67.5°	7.7	6.8	5.8	6.8	6.8	4.8	2.9	3.9	13.5	8.7	7.7
70°	6.8	5.8	4.8	5.8	6.8	4.8	2.9	3.9	10.6	6.8	6.8
72.5°	4.8	4.8	4.8	5.8	5.8	3.9	1.9	2.9	8.7	5.8	5.8
75°	3.9	3.9	3.9	4.8	4.8	2.9	1.9	1.9	6.8	4.8	3.9
77.5°	2.9	2.9	2.9	3.9	3.9	1.9	1.0	1.9	4.8	2.9	2.9
80°	1.9	1.9	1.9	2.9	2.9	1.9	1.0	1.0	2.9	1.9	1.9
82.5°	1.0	1.0	1.0	1.9	1.9	1.0	1.0	1.0	1.0	1.0	1.0
85°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0
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)