

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: P592007

Luminaire Tested: **GRZ-10L-927-10x60-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P592007  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/2/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: iO LED  
Catalog Number: GRZ-10L-927-10x60-X-UNV-STD-4F  
Description: iO LED GRAZER WITH 10x60 OPTIC  
1000 LUMENS PER FOOT, 4 FOOT FIXTURE  
SUMULATED RESULTS  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

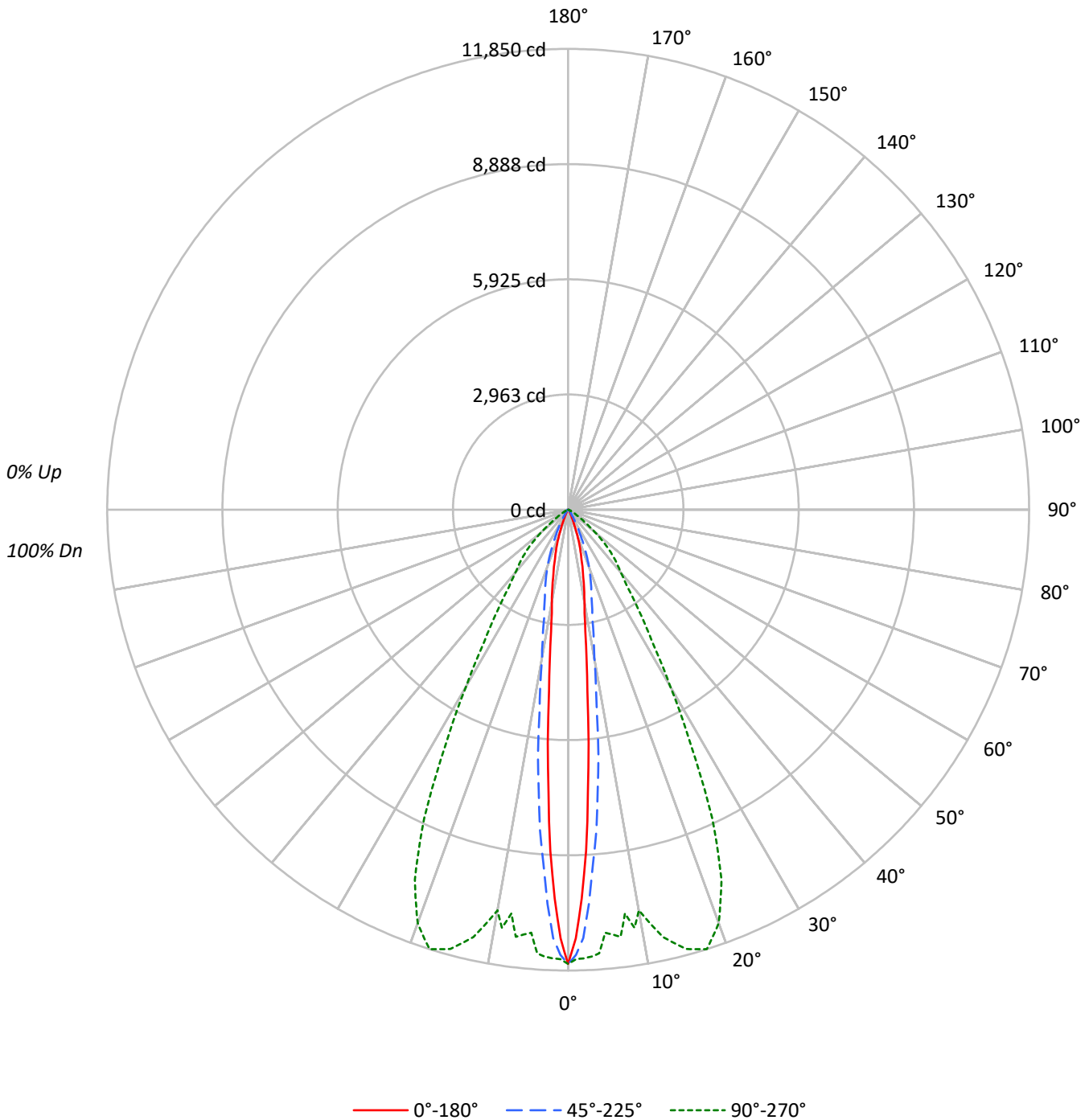
Lumens per Lamp: N/A  
Luminaire Lumens: 3624.0 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 38  
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	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	111	109	106	111	109	107	105	105	103	102	101	100	99	98	97	96	94				94
2	108	104	100	97	106	102	98	95	99	96	93	96	93	91	93	91	89	88				88
3	103	97	92	89	101	96	91	88	93	90	86	91	88	85	89	86	84	82				82
4	98	91	86	82	97	90	85	82	88	84	81	86	83	80	84	81	79	77				77
5	94	86	81	77	92	85	80	76	83	79	76	82	78	75	80	77	74	73				73
6	90	82	76	72	88	81	75	72	79	75	71	78	74	71	77	73	70	69				69
7	86	77	72	68	85	77	71	68	75	71	67	74	70	67	73	69	67	65				65
8	82	74	68	64	81	73	68	64	72	67	64	71	67	64	70	66	63	62				62
9	79	70	65	61	78	70	64	61	69	64	61	68	64	60	67	63	60	59				59
10	76	67	62	58	75	67	61	58	66	61	58	65	61	58	64	60	58	56				56

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

	0°	45°	90°
0°	188590	188590	188590
5°	97678	134286	176941
10°	39523	63417	171455
15°	22111	38736	195473
20°	10801	26704	194403
25°	3877	14459	155972
30°	2060	6697	97808
35°	1429	3132	62492
40°	1237	1893	44259
45°	1105	1655	35331
50°	1040	1736	22468
55°	875	1652	10888
60°	891	1227	5577
65°	925	791	2770
70°	977	651	1629
75°	861	649	1079
80°	642	642	642
85°	648	648	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	698.7	19.3
10°-20°	1113.5	30.7
20°-30°	937.2	25.9
30°-40°	473.6	13.1
40°-50°	240.2	6.6
50°-60°	108.6	3.0
60°-70°	36.1	1.0
70°-80°	13.8	0.4
80°-90°	2.4	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°	2749.4	75.9
0°-40°	3222.9	88.9
0°-60°	3571.8	98.6
0°-90°	3624.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3624.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	11680	11680	11680	11680	11680	
5°	6027	6540	8285	10116	10917	451
15°	1323	1564	2317	5544	11694	373
25°	218	297	812	2866	8755	121
35°	72	85	159	1201	3170	48
45°	48	54	72	374	1547	38
55°	31	40	59	142	387	29
65°	24	21	21	41	72	24
75°	14	14	10	14	17	15
85°	4	4	4	0	0	3
90°	0	0	0	0	0	



TEST NUMBER: P592007

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	11680.4	11680.4	11680.4	11680.4	11680.4	11680.4	11680.4	11680.4	11680.4	11680.4	11680.4
1°	11024.2	11455.9	11759.9	11314.3	11659.7	11449.0	11594.1	11359.2	11521.6	11652.8	11559.5
2°	10005.4	10554.5	10537.2	10485.4	10575.2	11020.8	11424.8	11386.9	11566.4	11490.5	11545.7
3°	8782.8	9076.3	9173.0	9321.5	9708.4	10147.0	10644.3	11082.9	11528.5	11618.3	11507.7
4°	7273.5	7380.6	7708.7	7750.1	8485.7	9110.9	9950.1	10447.4	11328.1	11473.2	11435.2
5°	6026.7	5995.6	6306.5	6617.3	7536.0	8285.4	9314.6	9832.7	10965.5	11359.2	10917.2
6°	4686.7	4938.8	5239.3	5529.4	6323.7	7270.0	8375.2	9556.4	10848.1	11200.4	10986.2
7°	3899.2	3951.0	4172.1	4400.0	5260.0	6382.4	7332.2	8827.7	10243.7	10965.5	11065.7
8°	3163.6	3163.6	3450.2	3657.5	4476.0	5280.7	6786.5	8147.3	9905.2	10958.6	10485.4
9°	2693.9	2756.1	2890.7	3218.9	3698.9	4569.2	5864.4	7525.6	9646.2	10758.3	10882.6
10°	2410.7	2493.6	2566.1	2690.4	3205.0	3868.1	5204.7	6921.2	9425.2	10768.6	10457.8
12.5°	1789.0	1833.9	1920.3	2065.3	2455.6	2859.7	3916.5	5729.7	8354.5	10955.1	11255.6
15°	1322.8	1336.6	1457.5	1599.1	1927.2	2317.4	3025.4	4755.7	7909.0	11283.2	11694.2
17.5°	977.4	994.7	1074.1	1205.3	1429.8	1923.7	2604.1	3926.9	7390.9	11259.1	11849.7
20°	628.6	649.3	728.7	832.3	1101.7	1554.2	2189.6	3239.6	6631.1	10450.9	11314.3
22.5°	373.0	393.7	421.4	521.5	773.6	1163.9	1802.8	2787.1	5280.7	9373.3	10298.9
25°	217.6	214.1	245.2	314.3	473.2	811.6	1471.3	2383.1	4313.7	8085.1	8755.1
27.5°	141.6	145.1	158.9	193.4	293.6	545.7	1160.4	2048.0	3388.1	6158.0	6838.3
30°	110.5	110.5	117.4	134.7	190.0	359.2	873.8	1706.1	2794.0	4700.5	5246.2
32.5°	86.3	89.8	93.2	103.6	134.7	234.9	628.6	1364.2	2276.0	3547.0	3992.5
35°	72.5	76.0	79.4	86.3	107.1	158.9	428.3	1001.6	1799.4	2690.4	3170.5
37.5°	65.6	65.6	69.1	72.5	89.8	114.0	279.7	683.8	1374.6	2213.8	2497.0
40°	58.7	58.7	62.2	65.6	79.4	89.8	172.7	449.0	1070.6	1827.0	2099.9
42.5°	51.8	55.3	58.7	58.7	69.1	79.4	120.9	335.0	870.3	1633.6	1823.6
45°	48.4	48.4	51.8	55.3	65.6	72.5	93.2	259.0	718.4	1374.6	1547.3
47.5°	44.9	44.9	48.4	51.8	62.2	69.1	76.0	200.3	600.9	1112.1	1233.0
50°	41.4	41.4	44.9	51.8	58.7	69.1	62.2	152.0	480.1	832.3	894.5
52.5°	34.5	38.0	41.4	44.9	51.8	65.6	51.8	117.4	397.2	583.7	587.1
55°	31.1	31.1	34.5	41.4	44.9	58.7	41.4	86.3	310.8	400.6	386.8
57.5°	31.1	27.6	31.1	34.5	38.0	51.8	31.1	65.6	231.4	269.4	248.7
60°	27.6	27.6	27.6	27.6	31.1	38.0	24.2	51.8	169.2	179.6	172.7
62.5°	24.2	24.2	24.2	24.2	24.2	31.1	20.7	38.0	114.0	114.0	107.1
65°	24.2	24.2	20.7	20.7	20.7	20.7	17.3	31.1	72.5	72.5	72.5
67.5°	24.2	20.7	20.7	17.3	17.3	17.3	13.8	24.2	44.9	51.8	48.4
70°	20.7	20.7	17.3	17.3	13.8	13.8	13.8	20.7	31.1	34.5	34.5
72.5°	17.3	17.3	17.3	13.8	13.8	10.4	10.4	17.3	24.2	24.2	24.2
75°	13.8	13.8	13.8	13.8	10.4	10.4	6.9	13.8	13.8	17.3	17.3
77.5°	10.4	10.4	10.4	10.4	10.4	6.9	6.9	10.4	10.4	10.4	10.4
80°	6.9	6.9	6.9	6.9	6.9	6.9	3.5	6.9	6.9	6.9	6.9
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	3.5	3.5	3.5	3.5	3.5	3.5	0.0	0.0	0.0	0.0	0.0
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)