

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: P591941

Luminaire Tested: **GRZ-05L-927-10x30-X-UNV-STD-4F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P591941
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-927-10x30-X-UNV-STD-4F
Description: iO LED GRAZER WITH 10x30 OPTIC
500 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

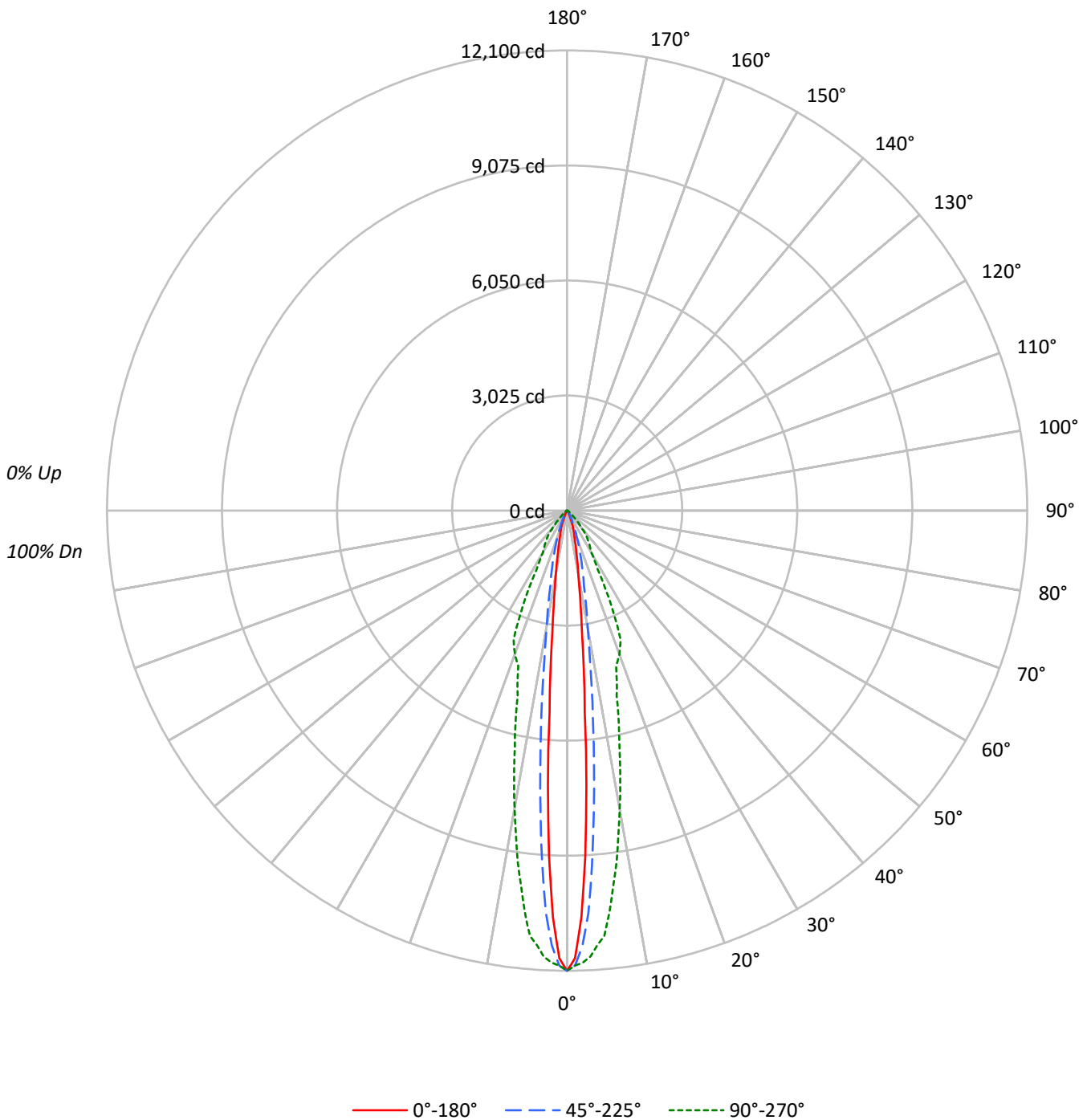
Lumens per Lamp: N/A
Luminaire Lumens: 1918.0 lumens
Efficiency: N/A
Efficacy: 99.4 lumens/watt
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V): 120
Input Current (A_{in}): 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°	195371	195371	195371
5°	86532	129928	181993
10°	28075	50688	130485
15°	12251	25041	84125
20°	6899	12809	69056
25°	2471	5678	48888
30°	1510	2921	23635
35°	1135	1880	18954
40°	911	1366	12524
45°	781	822	6373
50°	904	497	2984
55°	963	405	1469
60°	814	349	872
65°	688	413	688
70°	595	425	595
75°	449	337	449
80°	335	335	335
85°	333	333	333



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	643.6	33.6
10°-20°	628.5	32.8
20°-30°	352.3	18.4
30°-40°	159.1	8.3
40°-50°	80.4	4.2
50°-60°	30.0	1.6
60°-70°	14.9	0.8
70°-80°	7.7	0.4
80°-90°	1.5	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°	1624.4	84.7
0°-40°	1783.4	93.0
0°-60°	1893.9	98.7
0°-90°	1918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1918.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	12100	12100	12100	12100	12100	
5°	5339	6122	8016	10290	11229	408
15°	733	904	1498	3276	5033	226
25°	139	155	319	1190	2744	79
35°	58	39	95	379	962	37
45°	34	30	36	171	279	29
55°	34	17	14	53	52	29
65°	18	14	11	16	18	18
75°	7	9	5	6	7	8
85°	2	2	2	0	2	1
90°	0	0	0	0	0	



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CATALOG NUMBER: GRZ-05L-927-10x30-X-UNV-STD-4F

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	12100.4	12100.4	12100.4	12100.4	12100.4	12100.4	12100.4	12100.4	12100.4	12100.4	12100.4
1°	11770.9	11772.7	11860.9	11803.3	11943.8	11963.6	11945.6	11978.0	11987.0	11936.6	11963.6
2°	10694.1	10726.5	10778.7	11081.3	11219.9	11445.0	11634.1	11796.1	11866.3	11895.2	11891.6
3°	9104.1	9082.5	9340.0	9629.9	10126.9	10598.7	11063.3	11369.4	11639.5	11725.9	11742.1
4°	7251.3	7166.6	7607.8	7852.7	8524.3	9372.4	10200.7	10861.6	11306.3	11490.0	11446.8
5°	5339.0	5488.4	5796.3	6230.3	6963.1	8016.5	9123.9	10114.3	10816.6	11126.3	11228.9
6°	4159.5	4130.7	4379.2	4908.6	5648.7	6779.5	8045.3	9287.8	10161.1	10533.9	10622.1
7°	3208.8	3190.8	3437.5	3813.8	4435.0	5598.2	6999.2	8450.5	9521.9	9943.2	9939.6
8°	2542.5	2531.7	2702.8	2999.9	3586.9	4570.1	5963.8	7528.6	8756.6	9323.8	9323.8
9°	2054.6	2078.0	2182.4	2445.3	2908.1	3731.0	5097.7	6747.1	8007.5	8562.1	8610.8
10°	1712.4	1725.0	1809.7	2025.7	2411.1	3091.7	4283.8	5837.7	7269.3	7971.5	7958.9
12.5°	1111.0	1138.0	1199.2	1337.9	1618.8	2043.7	2846.8	4092.9	5540.6	6242.9	6361.7
15°	732.9	738.3	813.9	934.5	1157.8	1498.1	2060.0	2989.1	4136.1	4932.0	5032.8
17.5°	547.4	552.8	570.8	642.8	806.7	1096.6	1552.2	2272.4	3361.8	4164.9	4280.2
20°	401.5	383.5	378.1	419.6	547.4	745.5	1132.6	1771.8	2728.0	3812.0	4019.1
22.5°	234.1	230.5	221.5	255.7	352.9	489.8	770.7	1323.5	2306.6	3394.2	3680.5
25°	138.7	135.0	133.2	162.1	221.5	318.7	525.8	1001.2	1755.6	2495.7	2744.2
27.5°	100.8	97.2	88.2	100.8	145.9	219.7	370.9	723.9	1204.6	1604.4	1739.4
30°	81.0	77.4	61.2	66.6	100.8	156.7	271.9	500.6	855.3	1192.0	1267.7
32.5°	68.4	64.8	46.8	48.6	70.2	118.8	212.5	385.3	691.5	1031.8	1116.4
35°	57.6	54.0	37.8	39.6	54.0	95.4	174.7	316.9	567.2	887.7	961.6
37.5°	48.6	45.0	32.4	34.2	46.8	79.2	158.5	273.7	470.0	729.3	801.3
40°	43.2	39.6	28.8	32.4	43.2	64.8	140.5	232.3	385.3	563.6	594.2
42.5°	37.8	34.2	28.8	32.4	39.6	50.4	102.6	185.5	313.3	405.1	430.4
45°	34.2	32.4	27.0	30.6	34.2	36.0	64.8	144.1	252.1	279.1	279.1
47.5°	36.0	32.4	25.2	27.0	27.0	27.0	39.6	113.4	196.3	189.1	183.7
50°	36.0	30.6	23.4	21.6	21.6	19.8	27.0	88.2	145.9	120.6	118.8
52.5°	36.0	30.6	21.6	19.8	18.0	16.2	19.8	66.6	102.6	77.4	77.4
55°	34.2	28.8	18.0	16.2	14.4	14.4	16.2	46.8	70.2	54.0	52.2
57.5°	30.6	25.2	16.2	14.4	14.4	12.6	12.6	30.6	54.0	41.4	36.0
60°	25.2	21.6	14.4	14.4	14.4	10.8	10.8	19.8	43.2	30.6	27.0
62.5°	21.6	18.0	14.4	14.4	14.4	10.8	9.0	14.4	36.0	25.2	21.6
65°	18.0	14.4	12.6	14.4	14.4	10.8	7.2	10.8	30.6	19.8	18.0
67.5°	14.4	12.6	10.8	12.6	12.6	9.0	5.4	7.2	25.2	16.2	14.4
70°	12.6	10.8	9.0	10.8	12.6	9.0	5.4	7.2	19.8	12.6	12.6
72.5°	9.0	9.0	9.0	10.8	10.8	7.2	3.6	5.4	16.2	10.8	10.8
75°	7.2	7.2	7.2	9.0	9.0	5.4	3.6	3.6	12.6	9.0	7.2
77.5°	5.4	5.4	5.4	7.2	7.2	3.6	1.8	3.6	9.0	5.4	5.4
80°	3.6	3.6	3.6	5.4	5.4	3.6	1.8	1.8	5.4	3.6	3.6
82.5°	1.8	1.8	1.8	3.6	3.6	1.8	1.8	1.8	1.8	1.8	1.8
85°	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	1.8	1.8	1.8
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)