

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: P592021

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

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592021
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-10L-930-10x30-X-UNV-STD-4F
Description: iO LED GRAZER WITH 10x30 OPTIC
1000 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

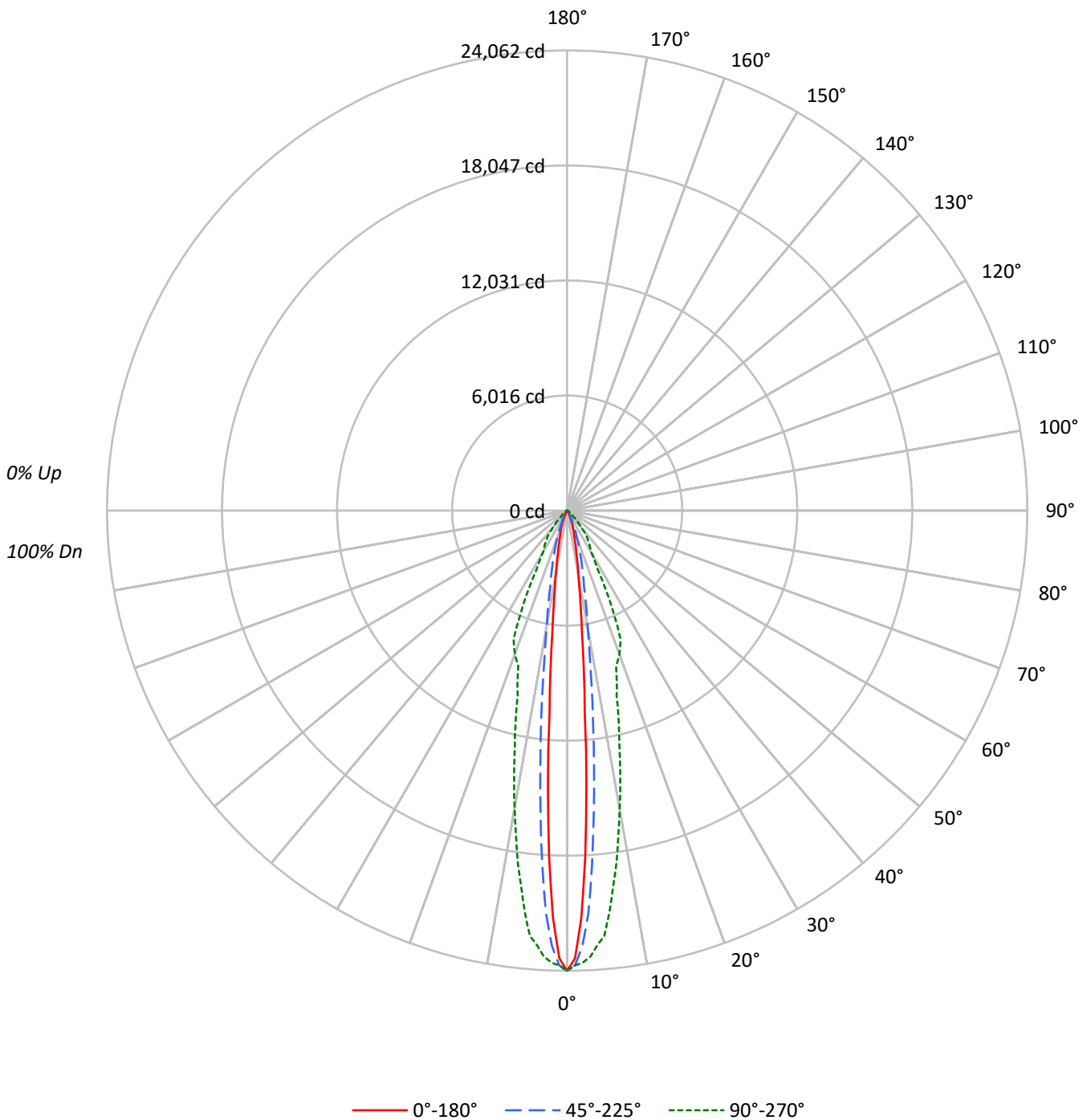
Lumens per Lamp: N/A
Luminaire Lumens: 3814.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 38
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



TEST NUMBER: P592021
CATALOG NUMBER: GRZ-10L-930-10x30-X-UNV-STD-4F

Luminous Intensity Polar Plot





TEST NUMBER: P592021

CATALOG NUMBER: GRZ-10L-930-10x30-X-UNV-STD-4F

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	114	112	110	108	112	110	108	106	106	104	103		102	101	100		99	98	97	95
2	110	106	102	100	108	104	101	99	101	99	96		98	96	94		95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91		94	92	90		92	90	88	87
4	102	96	91	88	100	95	91	87	93	89	86		91	88	85		89	86	84	83
5	98	92	87	83	97	91	86	83	89	85	82		87	84	82		86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79		84	81	78		83	80	78	77
7	92	84	80	76	91	84	79	76	83	79	76		82	78	75		81	77	75	74
8	89	81	77	73	88	81	76	73	80	76	73		79	75	73		78	75	72	71
9	86	79	74	71	85	78	74	71	77	73	71		77	73	70		76	73	70	69
10	84	76	72	69	83	76	71	68	75	71	68		74	71	68		74	70	68	67

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	388503	388503	388503
5°	172070	258366	361898
10°	55828	100796	259474
15°	24359	49797	167288
20°	13720	25471	137319
25°	4912	11291	97214
30°	3003	5807	46997
35°	2259	3741	37688
40°	1811	2717	24904
45°	1553	1635	12673
50°	1798	990	5935
55°	1914	805	2922
60°	1618	694	1734
65°	1368	821	1368
70°	1185	845	1185
75°	892	667	892
80°	669	669	669
85°	667	667	667



TEST NUMBER: P592021

CATALOG NUMBER: GRZ-10L-930-10x30-X-UNV-STD-4F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1279.8	33.6
10°-20°	1249.9	32.8
20°-30°	700.5	18.4
30°-40°	316.3	8.3
40°-50°	160.0	4.2
50°-60°	59.6	1.6
60°-70°	29.6	0.8
70°-80°	15.3	0.4
80°-90°	3.0	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°	3230.2	84.7
0°-40°	3546.5	93.0
0°-60°	3766.0	98.7
0°-90°	3814.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3814.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	24062	24062	24062	24062	24062	
5°	10617	12173	15941	20462	22329	811
15°	1457	1798	2979	6514	10008	450
25°	276	308	634	2366	5457	156
35°	115	78	190	755	1912	73
45°	68	59	72	340	555	57
55°	68	33	29	105	104	58
65°	36	28	22	31	36	36
75°	14	17	11	12	14	16
85°	4	4	4	1	4	3
90°	0	0	0	0	0	



TEST NUMBER: P592021

CATALOG NUMBER: GRZ-10L-930-10x30-X-UNV-STD-4F

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	24062.1	24062.1	24062.1	24062.1	24062.1	24062.1	24062.1	24062.1	24062.1	24062.1	24062.1
1°	23406.8	23410.4	23585.8	23471.3	23750.5	23789.9	23754.1	23818.6	23836.5	23736.2	23789.9
2°	21265.6	21330.0	21433.9	22035.4	22311.1	22758.7	23134.7	23456.9	23596.6	23653.9	23646.7
3°	18103.8	18060.9	18572.9	19149.4	20137.7	21075.8	21999.6	22608.3	23145.4	23317.3	23349.5
4°	14419.3	14251.0	15128.3	15615.3	16950.9	18637.4	20284.5	21598.6	22483.0	22848.2	22762.3
5°	10616.7	10913.9	11526.2	12389.1	13846.4	15941.1	18143.2	20112.6	21509.1	22124.9	22329.0
6°	8271.3	8214.0	8708.2	9760.9	11232.5	13481.2	15998.4	18469.1	20205.7	20946.9	21122.3
7°	6380.7	6344.9	6835.5	7583.8	8819.2	11132.3	13918.0	16804.1	18934.6	19772.4	19765.3
8°	5055.9	5034.4	5374.6	5965.4	7132.7	9087.7	11859.2	14970.8	17412.8	18540.7	18540.7
9°	4085.5	4132.1	4339.8	4862.5	5782.8	7419.1	10136.9	13416.7	15923.2	17026.1	17122.7
10°	3405.2	3430.3	3598.6	4028.2	4794.5	6148.0	8518.4	11608.5	14455.1	15851.6	15826.5
12.5°	2209.3	2263.0	2384.7	2660.4	3219.0	4064.1	5661.0	8138.9	11017.7	12414.2	12650.5
15°	1457.3	1468.1	1618.5	1858.4	2302.4	2979.1	4096.3	5943.9	8224.8	9807.4	10008.0
17.5°	1088.5	1099.3	1135.1	1278.3	1604.1	2180.6	3086.5	4518.8	6685.1	8282.1	8511.2
20°	798.5	762.7	751.9	834.3	1088.5	1482.4	2252.2	3523.4	5424.7	7580.3	7992.0
22.5°	465.5	458.3	440.4	508.5	701.8	973.9	1532.5	2631.8	4586.8	6749.6	7318.9
25°	275.7	268.5	265.0	322.3	440.4	633.8	1045.6	1990.8	3491.1	4962.8	5456.9
27.5°	200.5	193.4	175.5	200.5	290.0	436.8	737.6	1439.4	2395.5	3190.4	3458.9
30°	161.1	154.0	121.7	132.5	200.5	311.5	540.7	995.4	1700.8	2370.4	2520.8
32.5°	136.1	128.9	93.1	96.7	139.6	236.3	422.5	766.3	1375.0	2051.7	2220.0
35°	114.6	107.4	75.2	78.8	107.4	189.8	347.3	630.2	1127.9	1765.3	1912.1
37.5°	96.7	89.5	64.5	68.0	93.1	157.5	315.1	544.3	934.6	1450.2	1593.4
40°	85.9	78.8	57.3	64.5	85.9	128.9	279.3	461.9	766.3	1120.7	1181.6
42.5°	75.2	68.0	57.3	64.5	78.8	100.3	204.1	368.8	623.0	805.6	855.8
45°	68.0	64.5	53.7	60.9	68.0	71.6	128.9	286.5	501.3	555.0	555.0
47.5°	71.6	64.5	50.1	53.7	53.7	53.7	78.8	225.6	390.3	376.0	365.2
50°	71.6	60.9	46.5	43.0	43.0	39.4	53.7	175.5	290.0	239.9	236.3
52.5°	71.6	60.9	43.0	39.4	35.8	32.2	39.4	132.5	204.1	154.0	154.0
55°	68.0	57.3	35.8	32.2	28.6	28.6	32.2	93.1	139.6	107.4	103.8
57.5°	60.9	50.1	32.2	28.6	28.6	25.1	25.1	60.9	107.4	82.4	71.6
60°	50.1	43.0	28.6	28.6	28.6	21.5	21.5	39.4	85.9	60.9	53.7
62.5°	43.0	35.8	28.6	28.6	28.6	21.5	17.9	28.6	71.6	50.1	43.0
65°	35.8	28.6	25.1	28.6	28.6	21.5	14.3	21.5	60.9	39.4	35.8
67.5°	28.6	25.1	21.5	25.1	25.1	17.9	10.7	14.3	50.1	32.2	28.6
70°	25.1	21.5	17.9	21.5	25.1	17.9	10.7	14.3	39.4	25.1	25.1
72.5°	17.9	17.9	17.9	21.5	21.5	14.3	7.2	10.7	32.2	21.5	21.5
75°	14.3	14.3	14.3	17.9	17.9	10.7	7.2	7.2	25.1	17.9	14.3
77.5°	10.7	10.7	10.7	14.3	14.3	7.2	3.6	7.2	17.9	10.7	10.7
80°	7.2	7.2	7.2	10.7	10.7	7.2	3.6	3.6	10.7	7.2	7.2
82.5°	3.6	3.6	3.6	7.2	7.2	3.6	3.6	3.6	3.6	3.6	3.6
85°	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	3.6	3.6	3.6
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)