

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: P592087

Luminaire Tested: **GRZ-15L-930-10x60-X-UNV-STD-4F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592087
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-15L-930-10x60-X-UNV-STD-4F
Description: iO LED GRAZER WITH 10x60 OPTIC
1500 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

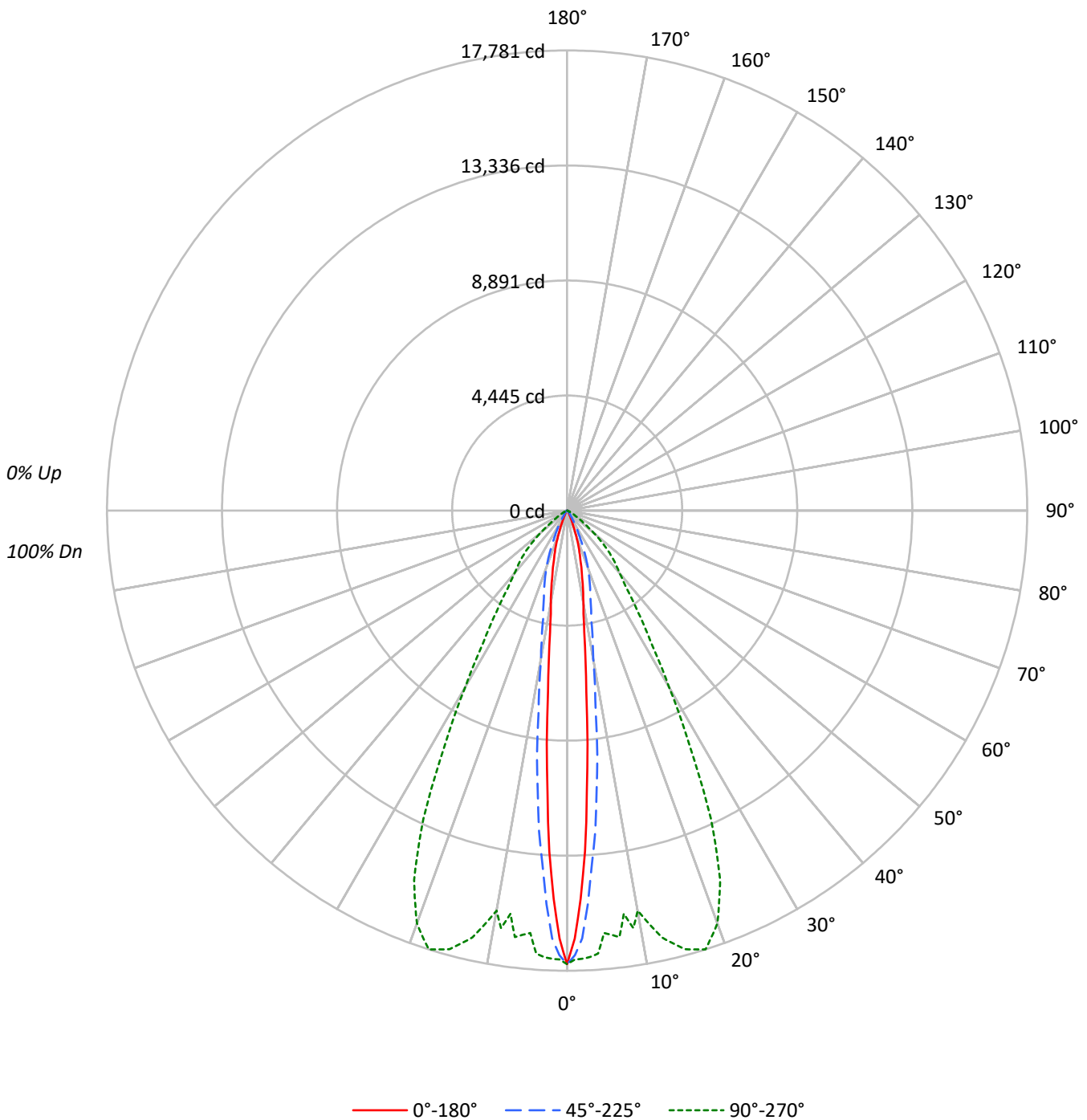
Lumens per Lamp: N/A
Luminaire Lumens: 5438.0 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 56
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: P592087
CATALOG NUMBER: GRZ-15L-930-10x60-X-UNV-STD-4F

Luminous Intensity Polar Plot





TEST NUMBER: P592087

CATALOG NUMBER: GRZ-15L-930-10x60-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	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°	282990	282990	282990
5°	146571	201503	265508
10°	59307	95163	257277
15°	33178	58126	293319
20°	16206	40070	291712
25°	5817	21697	234044
30°	3091	10049	146766
35°	2144	4699	93772
40°	1857	2839	66411
45°	1658	2484	53013
50°	1562	2602	33717
55°	1312	2480	16338
60°	1340	1841	8367
65°	1387	1188	4157
70°	1468	977	2445
75°	1291	967	1616
80°	967	967	967
85°	963	963	0



TEST NUMBER: P592087

CATALOG NUMBER: GRZ-15L-930-10x60-X-UNV-STD-4F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1048.4	19.3
10°-20°	1670.9	30.7
20°-30°	1406.3	25.9
30°-40°	710.6	13.1
40°-50°	360.4	6.6
50°-60°	163.0	3.0
60°-70°	54.2	1.0
70°-80°	20.6	0.4
80°-90°	3.5	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°	4125.6	75.9
0°-40°	4836.2	88.9
0°-60°	5359.6	98.6
0°-90°	5438.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5438.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	17527	17527	17527	17527	17527	
5°	9043	9813	12433	15179	16382	676
15°	1985	2346	3477	8319	17548	559
25°	326	446	1218	4300	13138	181
35°	109	127	238	1802	4758	72
45°	73	82	109	561	2322	56
55°	47	60	88	214	580	44
65°	36	31	31	62	109	36
75°	21	21	16	21	26	22
85°	5	5	5	0	0	4
90°	0	0	0	0	0	



TEST NUMBER: P592087

CATALOG NUMBER: GRZ-15L-930-10x60-X-UNV-STD-4F

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	17527.1	17527.1	17527.1	17527.1	17527.1	17527.1	17527.1	17527.1	17527.1	17527.1	17527.1
1°	16542.4	17190.2	17646.3	16977.7	17496.0	17179.9	17397.5	17045.1	17288.7	17485.6	17345.7
2°	15013.6	15837.6	15811.7	15733.9	15868.7	16537.2	17143.6	17086.6	17356.1	17242.0	17325.0
3°	13179.0	13619.5	13764.6	13987.5	14567.9	15226.1	15972.3	16630.5	17299.0	17433.8	17268.0
4°	10914.3	11074.9	11567.2	11629.4	12733.3	13671.3	14930.7	15676.9	16998.5	17216.1	17159.1
5°	9043.4	8996.7	9463.2	9929.6	11308.1	12432.7	13977.1	14754.5	16454.3	17045.1	16381.8
6°	7032.6	7410.9	7861.8	8297.1	9489.1	10909.1	12567.5	14339.9	16278.1	16806.7	16485.4
7°	5851.0	5928.7	6260.4	6602.5	7892.9	9577.2	11002.4	13246.4	15371.2	16454.3	16604.6
8°	4747.1	4747.1	5177.3	5488.2	6716.5	7924.0	10183.5	12225.4	14863.3	16443.9	15733.9
9°	4042.3	4135.6	4337.7	4830.1	5550.4	6856.4	8799.8	11292.6	14474.6	16143.4	16329.9
10°	3617.4	3741.7	3850.6	4037.1	4809.3	5804.4	7810.0	10385.6	14142.9	16158.9	15692.5
12.5°	2684.5	2751.9	2881.4	3099.1	3684.7	4291.1	5876.9	8597.7	12536.4	16438.8	16889.6
15°	1984.9	2005.6	2187.0	2399.5	2891.8	3477.4	4539.8	7136.2	11867.8	16931.1	17547.8
17.5°	1466.6	1492.5	1611.7	1808.7	2145.5	2886.6	3907.6	5892.5	11090.5	16894.8	17781.0
20°	943.2	974.3	1093.5	1249.0	1653.2	2332.1	3285.7	4861.1	9950.3	15682.1	16977.7
22.5°	559.7	590.8	632.3	782.6	1160.9	1746.5	2705.2	4182.2	7924.0	14065.2	15454.1
25°	326.5	321.3	368.0	471.6	710.0	1217.9	2207.7	3575.9	6472.9	12132.1	13137.5
27.5°	212.5	217.7	238.4	290.2	440.5	818.8	1741.3	3073.2	5084.0	9240.3	10261.3
30°	165.8	165.8	176.2	202.1	285.0	539.0	1311.2	2560.1	4192.6	7053.3	7872.2
32.5°	129.6	134.7	139.9	155.5	202.1	352.4	943.2	2047.1	3415.2	5322.4	5990.9
35°	108.8	114.0	119.2	129.6	160.7	238.4	642.6	1502.9	2700.1	4037.1	4757.5
37.5°	98.5	98.5	103.6	108.8	134.7	171.0	419.8	1026.1	2062.6	3322.0	3746.9
40°	88.1	88.1	93.3	98.5	119.2	134.7	259.1	673.7	1606.6	2741.5	3150.9
42.5°	77.7	82.9	88.1	88.1	103.6	119.2	181.4	502.7	1306.0	2451.3	2736.3
45°	72.6	72.6	77.7	82.9	98.5	108.8	139.9	388.7	1078.0	2062.6	2321.7
47.5°	67.4	67.4	72.6	77.7	93.3	103.6	114.0	300.6	901.7	1668.8	1850.1
50°	62.2	62.2	67.4	77.7	88.1	103.6	93.3	228.0	720.4	1249.0	1342.3
52.5°	51.8	57.0	62.2	67.4	77.7	98.5	77.7	176.2	596.0	875.8	881.0
55°	46.6	46.6	51.8	62.2	67.4	88.1	62.2	129.6	466.4	601.2	580.4
57.5°	46.6	41.5	46.6	51.8	57.0	77.7	46.6	98.5	347.2	404.2	373.1
60°	41.5	41.5	41.5	41.5	46.6	57.0	36.3	77.7	253.9	269.5	259.1
62.5°	36.3	36.3	36.3	36.3	36.3	46.6	31.1	57.0	171.0	171.0	160.7
65°	36.3	36.3	31.1	31.1	31.1	31.1	25.9	46.6	108.8	108.8	108.8
67.5°	36.3	31.1	31.1	25.9	25.9	25.9	20.7	36.3	67.4	77.7	72.6
70°	31.1	31.1	25.9	25.9	20.7	20.7	20.7	31.1	46.6	51.8	51.8
72.5°	25.9	25.9	25.9	20.7	20.7	15.5	15.5	25.9	36.3	36.3	36.3
75°	20.7	20.7	20.7	20.7	15.5	15.5	10.4	20.7	20.7	25.9	25.9
77.5°	15.5	15.5	15.5	15.5	15.5	10.4	10.4	15.5	15.5	15.5	15.5
80°	10.4	10.4	10.4	10.4	10.4	10.4	5.2	10.4	10.4	10.4	10.4
82.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
85°	5.2	5.2	5.2	5.2	5.2	5.2	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)