

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: P592038

Luminaire Tested: **GRZ-10L-935-10x60-X-UNV-STD-2F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592038
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-935-10x60-X-UNV-STD-2F
Description: iO LED GRAZER WITH 10x60 OPTIC
1000 LUMENS PER FOOT, 2 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

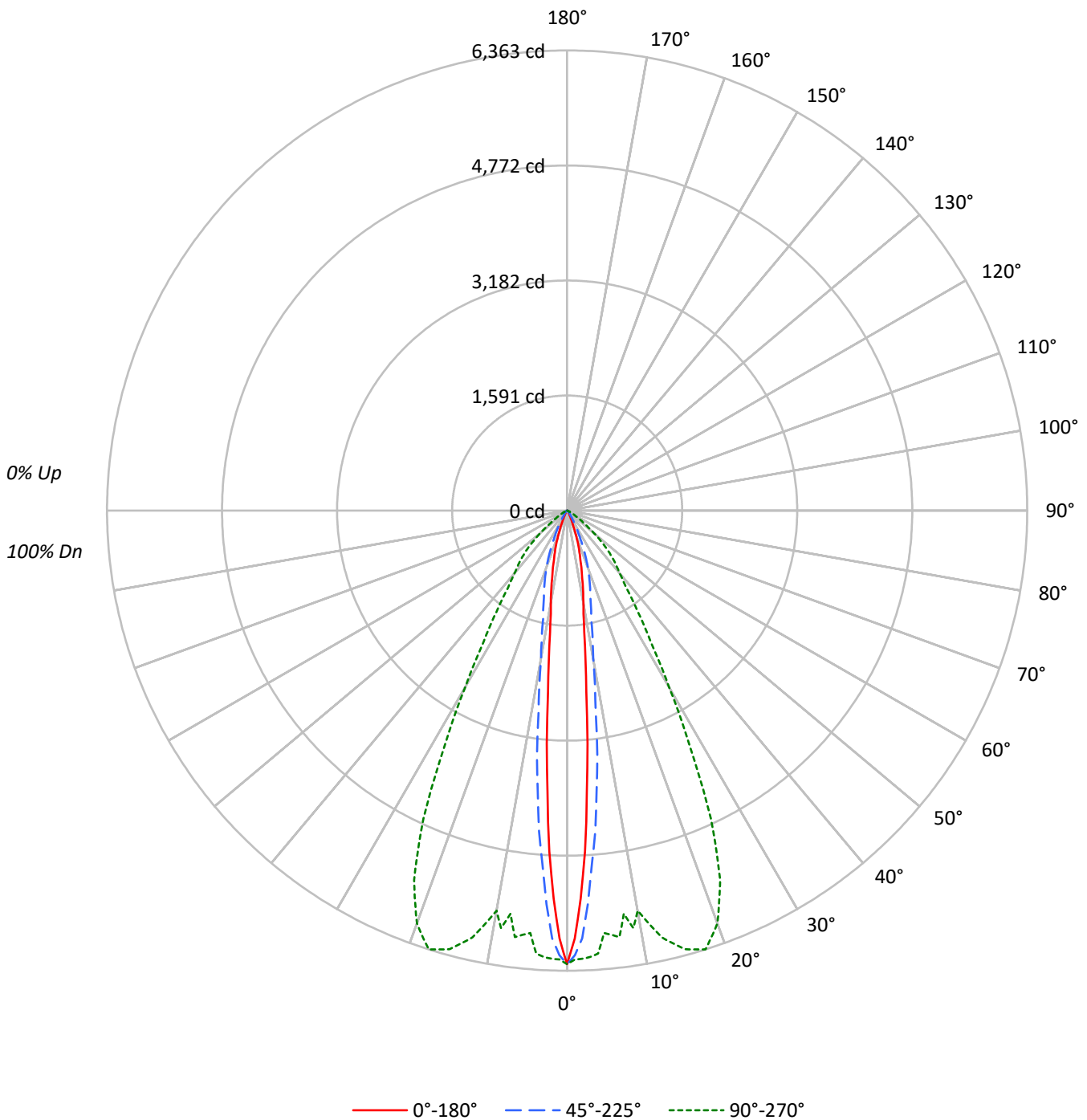
Lumens per Lamp: N/A
Luminaire Lumens: 1946.0 lumens
Efficiency: N/A
Efficacy: 101.9 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	109	106	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	108	104	100	97	106	102	98	95	99	96	93	96	93	91	93	91	89	88
3	103	97	92	89	101	96	91	88	93	90	86	91	88	85	89	86	84	82
4	98	91	86	82	97	90	85	82	88	84	81	86	83	80	84	81	79	77
5	94	86	81	77	92	85	80	76	83	79	76	82	78	75	80	77	74	73
6	90	82	76	72	88	81	75	72	79	75	71	78	74	71	77	73	70	69
7	86	77	72	68	85	77	71	68	75	71	67	74	70	67	73	69	67	65
8	82	74	68	64	81	73	68	64	72	67	64	71	67	64	70	66	63	62
9	79	70	65	61	78	70	64	61	69	64	61	68	64	60	67	63	60	59
10	76	67	62	58	75	67	61	58	66	61	58	65	61	58	64	60	58	56

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	202537	202537	202537
5°	104902	144218	190023
10°	42446	68108	184135
15°	23746	41601	209929
20°	11598	28677	208779
25°	4162	15528	167507
30°	2211	7193	105042
35°	1533	3363	67114
40°	1328	2032	47533
45°	1187	1776	37940
50°	1120	1864	24129
55°	940	1773	11693
60°	956	1318	5987
65°	993	848	2972
70°	1048	699	1747
75°	923	699	1160
80°	688	688	688
85°	704	704	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	375.2	19.3
10°-20°	597.9	30.7
20°-30°	503.2	25.9
30°-40°	254.3	13.1
40°-50°	129.0	6.6
50°-60°	58.3	3.0
60°-70°	19.4	1.0
70°-80°	7.4	0.4
80°-90°	1.3	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°	1476.3	75.9
0°-40°	1730.6	88.9
0°-60°	1917.9	98.6
0°-90°	1946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1946.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6272	6272	6272	6272	6272	
5°	3236	3512	4449	5432	5862	242
15°	710	840	1244	2977	6280	200
25°	117	160	436	1539	4701	65
35°	39	45	85	645	1702	26
45°	26	29	39	201	831	20
55°	17	21	32	77	208	16
65°	13	11	11	22	39	13
75°	7	7	6	7	9	8
85°	2	2	2	0	0	2
90°	0	0	0	0	0	



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CATALOG NUMBER: GRZ-10L-935-10x60-X-UNV-STD-2F

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	6272.1	6272.1	6272.1	6272.1	6272.1	6272.1	6272.1	6272.1	6272.1	6272.1	6272.1
1°	5919.7	6151.6	6314.8	6075.5	6261.0	6147.8	6225.7	6099.6	6186.8	6257.3	6207.2
2°	5372.6	5667.5	5658.2	5630.4	5678.6	5917.9	6134.9	6114.5	6210.9	6170.1	6199.8
3°	4716.1	4873.8	4925.7	5005.4	5213.2	5448.7	5715.7	5951.3	6190.5	6238.7	6179.4
4°	3905.7	3963.2	4139.4	4161.6	4556.6	4892.3	5343.0	5610.0	6082.9	6160.8	6140.4
5°	3236.2	3219.5	3386.4	3553.3	4046.6	4449.1	5001.7	5279.9	5888.2	6099.6	5862.2
6°	2516.6	2652.0	2813.4	2969.1	3395.7	3903.8	4497.3	5131.6	5825.2	6014.3	5899.3
7°	2093.8	2121.6	2240.3	2362.7	2824.5	3427.2	3937.2	4740.2	5500.6	5888.2	5942.0
8°	1698.8	1698.8	1852.7	1964.0	2403.5	2835.6	3644.2	4374.9	5318.9	5884.5	5630.4
9°	1446.6	1479.9	1552.3	1728.4	1986.2	2453.6	3149.0	4041.1	5179.8	5776.9	5843.7
10°	1294.5	1339.0	1377.9	1444.7	1721.0	2077.1	2794.8	3716.5	5061.1	5782.5	5615.6
12.5°	960.7	984.8	1031.1	1109.0	1318.6	1535.6	2103.1	3076.7	4486.2	5882.6	6044.0
15°	710.3	717.7	782.6	858.7	1034.8	1244.4	1624.6	2553.7	4246.9	6058.8	6279.5
17.5°	524.8	534.1	576.8	647.2	767.8	1033.0	1398.3	2108.6	3968.7	6045.8	6363.0
20°	337.5	348.7	391.3	446.9	591.6	834.5	1175.8	1739.6	3560.7	5611.9	6075.5
22.5°	200.3	211.4	226.3	280.0	415.4	625.0	968.1	1496.6	2835.6	5033.3	5530.3
25°	116.8	115.0	131.7	168.8	254.1	435.8	790.0	1279.6	2316.3	4341.5	4701.3
27.5°	76.0	77.9	85.3	103.9	157.6	293.0	623.1	1099.8	1819.3	3306.7	3672.0
30°	59.3	59.3	63.1	72.3	102.0	192.9	469.2	916.1	1500.3	2524.0	2817.1
32.5°	46.4	48.2	50.1	55.6	72.3	126.1	337.5	732.5	1222.2	1904.6	2143.9
35°	38.9	40.8	42.7	46.4	57.5	85.3	230.0	537.8	966.2	1444.7	1702.5
37.5°	35.2	35.2	37.1	38.9	48.2	61.2	150.2	367.2	738.1	1188.8	1340.8
40°	31.5	31.5	33.4	35.2	42.7	48.2	92.7	241.1	574.9	981.1	1127.6
42.5°	27.8	29.7	31.5	31.5	37.1	42.7	64.9	179.9	467.3	877.2	979.2
45°	26.0	26.0	27.8	29.7	35.2	38.9	50.1	139.1	385.7	738.1	830.8
47.5°	24.1	24.1	26.0	27.8	33.4	37.1	40.8	107.6	322.7	597.2	662.1
50°	22.3	22.3	24.1	27.8	31.5	37.1	33.4	81.6	257.8	446.9	480.3
52.5°	18.5	20.4	22.3	24.1	27.8	35.2	27.8	63.1	213.3	313.4	315.3
55°	16.7	16.7	18.5	22.3	24.1	31.5	22.3	46.4	166.9	215.1	207.7
57.5°	16.7	14.8	16.7	18.5	20.4	27.8	16.7	35.2	124.3	144.7	133.5
60°	14.8	14.8	14.8	14.8	16.7	20.4	13.0	27.8	90.9	96.4	92.7
62.5°	13.0	13.0	13.0	13.0	13.0	16.7	11.1	20.4	61.2	61.2	57.5
65°	13.0	13.0	11.1	11.1	11.1	11.1	9.3	16.7	38.9	38.9	38.9
67.5°	13.0	11.1	11.1	9.3	9.3	9.3	7.4	13.0	24.1	27.8	26.0
70°	11.1	11.1	9.3	9.3	7.4	7.4	7.4	11.1	16.7	18.5	18.5
72.5°	9.3	9.3	9.3	7.4	7.4	5.6	5.6	9.3	13.0	13.0	13.0
75°	7.4	7.4	7.4	7.4	5.6	5.6	3.7	7.4	7.4	9.3	9.3
77.5°	5.6	5.6	5.6	5.6	5.6	3.7	3.7	5.6	5.6	5.6	5.6
80°	3.7	3.7	3.7	3.7	3.7	3.7	1.9	3.7	3.7	3.7	3.7
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
85°	1.9	1.9	1.9	1.9	1.9	1.9	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)