

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: P592103

Luminaire Tested: **GRZ-15L-935-10x60-X-UNV-STD-4F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592103
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-935-10x60-X-UNV-STD-4F
Description: iO LED GRAZER WITH 10x60 OPTIC
1500 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

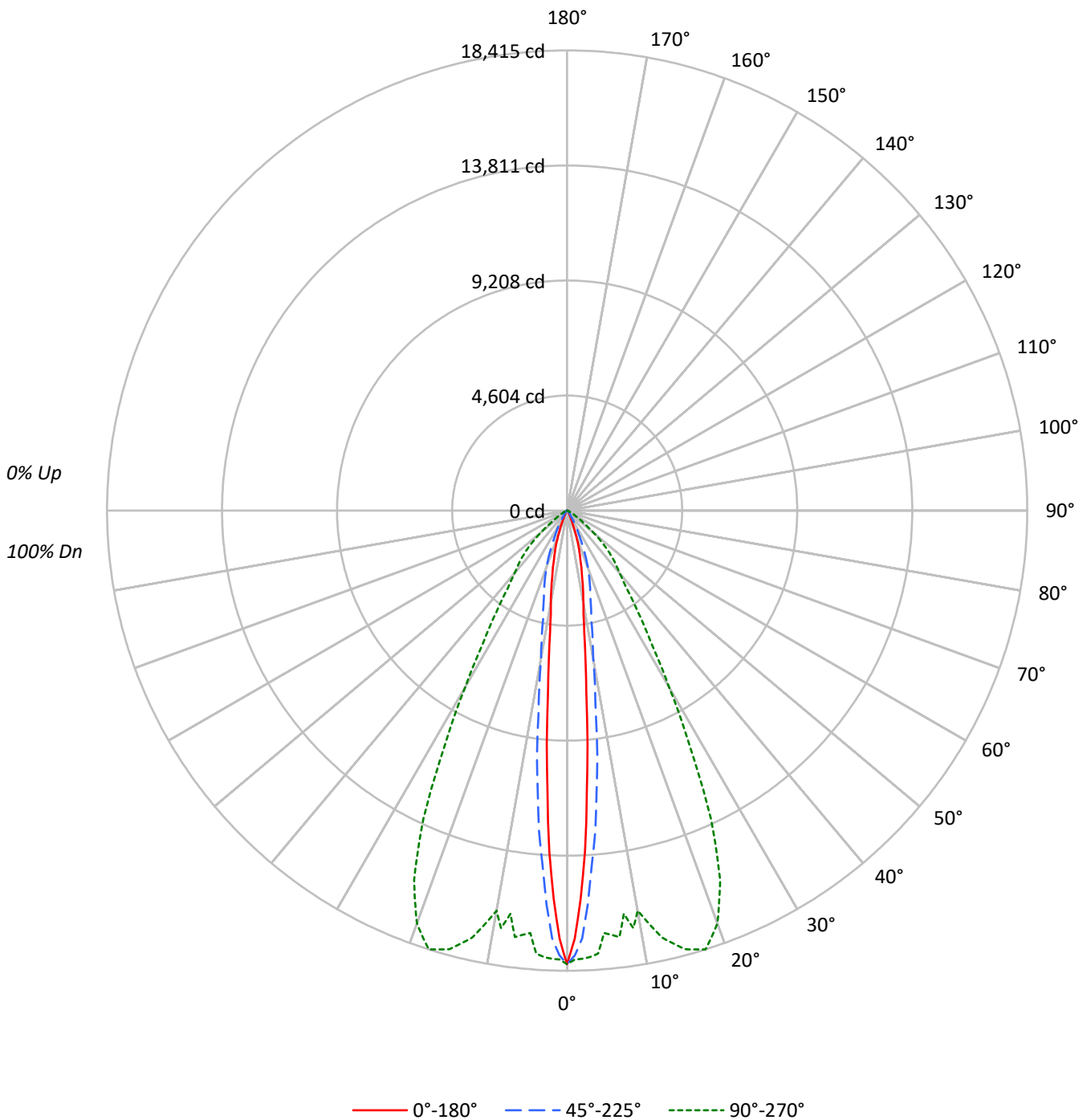
Lumens per Lamp: N/A
Luminaire Lumens: 5632.0 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

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



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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	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°	293086	293086	293086
5°	151800	208693	274980
10°	61422	98556	266455
15°	34362	60201	303782
20°	16785	41500	302119
25°	6023	22470	242394
30°	3203	10407	152001
35°	2221	4867	97117
40°	1922	2942	68780
45°	1715	2573	54906
50°	1618	2695	34917
55°	1360	2567	16921
60°	1385	1905	8667
65°	1436	1230	4306
70°	1520	1015	2535
75°	1341	1004	1672
80°	995	995	995
85°	1000	1000	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1085.8	19.3
10°-20°	1730.5	30.7
20°-30°	1456.4	25.9
30°-40°	735.9	13.1
40°-50°	373.3	6.6
50°-60°	168.8	3.0
60°-70°	56.1	1.0
70°-80°	21.4	0.4
80°-90°	3.7	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°	4272.8	75.9
0°-40°	5008.7	88.9
0°-60°	5550.8	98.6
0°-90°	5632.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5632.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	18152	18152	18152	18152	18152	
5°	9366	10163	12876	15721	16966	701
15°	2056	2430	3602	8616	18174	579
25°	338	462	1261	4454	13606	188
35°	113	132	247	1866	4927	75
45°	75	85	113	581	2405	58
55°	48	62	91	221	601	46
65°	38	32	32	64	113	37
75°	22	22	16	22	27	23
85°	5	5	5	0	0	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	18152.4	18152.4	18152.4	18152.4	18152.4	18152.4	18152.4	18152.4	18152.4	18152.4	18152.4
1°	17132.6	17803.5	18275.8	17583.4	18120.2	17792.7	18018.2	17653.2	17905.5	18109.4	17964.5
2°	15549.2	16402.6	16375.8	16295.3	16434.8	17127.2	17755.2	17696.1	17975.2	17857.2	17943.0
3°	13649.2	14105.4	14255.7	14486.5	15087.6	15769.3	16542.2	17223.8	17916.2	18055.7	17884.0
4°	11303.6	11470.0	11979.9	12044.3	13187.6	14159.1	15463.3	16236.2	17604.9	17830.3	17771.3
5°	9366.0	9317.7	9800.8	10283.8	11711.5	12876.3	14475.7	15280.8	17041.3	17653.2	16966.2
6°	7283.5	7675.3	8142.3	8593.1	9827.6	11298.3	13015.8	14851.4	16858.8	17406.3	17073.5
7°	6059.7	6140.2	6483.8	6838.0	8174.5	9918.8	11394.9	13718.9	15919.5	17041.3	17197.0
8°	4916.5	4916.5	5362.0	5684.0	6956.1	8206.7	10546.8	12661.6	15393.5	17030.6	16295.3
9°	4186.5	4283.1	4492.5	5002.4	5748.4	7101.0	9113.7	11695.4	14991.0	16719.3	16912.5
10°	3746.4	3875.2	3987.9	4181.2	4980.9	6011.4	8088.6	10756.2	14647.5	16735.4	16252.3
12.5°	2780.3	2850.1	2984.2	3209.7	3816.2	4444.2	6086.6	8904.4	12983.6	17025.2	17492.2
15°	2055.7	2077.2	2265.0	2485.1	2995.0	3601.5	4701.8	7390.8	12291.2	17535.1	18173.8
17.5°	1519.0	1545.8	1669.2	1873.2	2222.1	2989.6	4047.0	6102.7	11486.1	17497.5	18415.4
20°	976.9	1009.1	1132.5	1293.5	1712.2	2415.3	3402.9	5034.6	10305.3	16241.6	17583.4
22.5°	579.7	611.9	654.8	810.5	1202.3	1808.8	2801.8	4331.4	8206.7	14567.0	16005.4
25°	338.1	332.8	381.1	488.4	735.3	1261.3	2286.5	3703.5	6703.8	12565.0	13606.2
27.5°	220.1	225.4	246.9	300.6	456.2	848.0	1803.4	3182.8	5265.4	9570.0	10627.3
30°	171.8	171.8	182.5	209.3	295.2	558.2	1357.9	2651.5	4342.2	7305.0	8153.0
32.5°	134.2	139.6	144.9	161.0	209.3	365.0	976.9	2120.1	3537.1	5512.3	6204.6
35°	112.7	118.1	123.4	134.2	166.4	246.9	665.6	1556.5	2796.4	4181.2	4927.2
37.5°	102.0	102.0	107.3	112.7	139.6	177.1	434.8	1062.7	2136.2	3440.5	3880.6
40°	91.2	91.2	96.6	102.0	123.4	139.6	268.4	697.8	1663.9	2839.3	3263.3
42.5°	80.5	85.9	91.2	91.2	107.3	123.4	187.9	520.6	1352.6	2538.8	2834.0
45°	75.1	75.1	80.5	85.9	102.0	112.7	144.9	402.6	1116.4	2136.2	2404.6
47.5°	69.8	69.8	75.1	80.5	96.6	107.3	118.1	311.3	933.9	1728.3	1916.1
50°	64.4	64.4	69.8	80.5	91.2	107.3	96.6	236.2	746.1	1293.5	1390.1
52.5°	53.7	59.0	64.4	69.8	80.5	102.0	80.5	182.5	617.2	907.1	912.4
55°	48.3	48.3	53.7	64.4	69.8	91.2	64.4	134.2	483.1	622.6	601.1
57.5°	48.3	42.9	48.3	53.7	59.0	80.5	48.3	102.0	359.6	418.7	386.4
60°	42.9	42.9	42.9	42.9	48.3	59.0	37.6	80.5	263.0	279.1	268.4
62.5°	37.6	37.6	37.6	37.6	37.6	48.3	32.2	59.0	177.1	177.1	166.4
65°	37.6	37.6	32.2	32.2	32.2	32.2	26.8	48.3	112.7	112.7	112.7
67.5°	37.6	32.2	32.2	26.8	26.8	26.8	21.5	37.6	69.8	80.5	75.1
70°	32.2	32.2	26.8	26.8	21.5	21.5	21.5	32.2	48.3	53.7	53.7
72.5°	26.8	26.8	26.8	21.5	21.5	16.1	16.1	26.8	37.6	37.6	37.6
75°	21.5	21.5	21.5	21.5	16.1	16.1	10.7	21.5	21.5	26.8	26.8
77.5°	16.1	16.1	16.1	16.1	16.1	10.7	10.7	16.1	16.1	16.1	16.1
80°	10.7	10.7	10.7	10.7	10.7	10.7	5.4	10.7	10.7	10.7	10.7
82.5°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
85°	5.4	5.4	5.4	5.4	5.4	5.4	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)