

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: P591943

Luminaire Tested: **GRZ-05L-927-10x60-X-UNV-STD-4F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P591943
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-05L-927-10x60-X-UNV-STD-4F
Description: iO LED GRAZER WITH 10x60 OPTIC
500 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

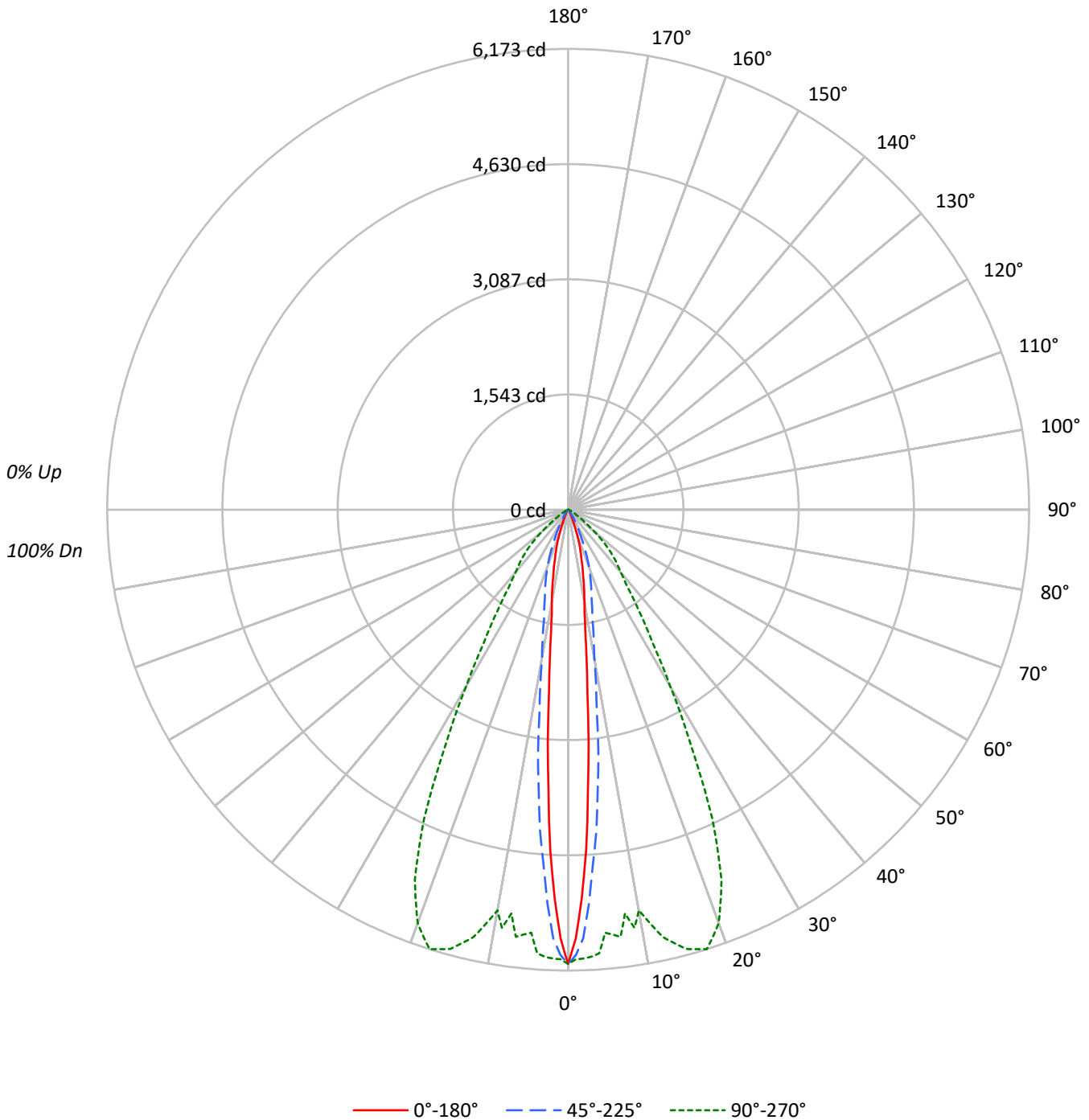
Lumens per Lamp: N/A
Luminaire Lumens: 1888.0 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	98251	98251	98251
5°	50887	69960	92180
10°	20590	33039	89323
15°	11519	20181	101837
20°	5627	13912	101278
25°	2020	7532	81258
30°	1074	3488	50955
35°	745	1632	32556
40°	645	986	23058
45°	575	863	18406
50°	543	904	11705
55°	456	861	5672
60°	465	639	2906
65°	481	413	1444
70°	510	340	850
75°	449	337	561
80°	335	335	335
85°	333	333	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.0	19.3
10°-20°	580.1	30.7
20°-30°	488.2	25.9
30°-40°	246.7	13.1
40°-50°	125.2	6.6
50°-60°	56.6	3.0
60°-70°	18.8	1.0
70°-80°	7.2	0.4
80°-90°	1.2	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°	1432.4	75.9
0°-40°	1679.1	88.9
0°-60°	1860.8	98.6
0°-90°	1888.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1888.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6085	6085	6085	6085	6085	
5°	3140	3407	4316	5270	5688	235
15°	689	815	1207	2888	6092	194
25°	113	155	423	1493	4561	63
35°	38	44	83	626	1652	25
45°	25	28	38	195	806	20
55°	16	21	31	74	202	15
65°	13	11	11	22	38	12
75°	7	7	5	7	9	8
85°	2	2	2	0	0	1
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°	6085.2	6085.2	6085.2	6085.2	6085.2	6085.2	6085.2	6085.2	6085.2	6085.2	6085.2
1°	5743.3	5968.2	6126.5	5894.4	6074.4	5964.6	6040.2	5917.8	6002.4	6070.8	6022.2
2°	5212.5	5498.6	5489.6	5462.6	5509.4	5741.5	5952.0	5932.2	6025.8	5986.2	6015.0
3°	4575.6	4728.5	4778.9	4856.3	5057.8	5286.3	5545.4	5773.9	6006.0	6052.8	5995.2
4°	3789.3	3845.1	4016.0	4037.6	4420.8	4746.5	5183.7	5442.8	5901.6	5977.2	5957.4
5°	3139.7	3123.5	3285.5	3447.4	3926.0	4316.5	4852.7	5122.5	5712.7	5917.8	5687.5
6°	2441.6	2573.0	2729.5	2880.6	3294.5	3787.5	4363.3	4978.6	5651.5	5835.1	5723.5
7°	2031.4	2058.4	2173.5	2292.3	2740.3	3325.1	3819.9	4599.0	5336.7	5712.7	5764.9
8°	1648.1	1648.1	1797.5	1905.4	2331.9	2751.1	3535.6	4244.5	5160.3	5709.1	5462.6
9°	1403.4	1435.8	1506.0	1676.9	1927.0	2380.4	3055.2	3920.6	5025.4	5604.8	5669.5
10°	1255.9	1299.1	1336.9	1401.6	1669.7	2015.2	2711.5	3605.8	4910.2	5610.2	5448.2
12.5°	932.0	955.4	1000.4	1076.0	1279.3	1489.8	2040.4	2985.0	4352.5	5707.3	5863.9
15°	689.1	696.3	759.3	833.1	1004.0	1207.3	1576.2	2477.6	4120.4	5878.2	6092.4
17.5°	509.2	518.2	559.6	627.9	744.9	1002.2	1356.7	2045.8	3850.5	5865.7	6173.3
20°	327.5	338.3	379.6	433.6	574.0	809.7	1140.7	1687.7	3454.6	5444.6	5894.4
22.5°	194.3	205.1	219.5	271.7	403.0	606.4	939.2	1452.0	2751.1	4883.2	5365.5
25°	113.4	111.6	127.7	163.7	246.5	422.8	766.5	1241.5	2247.3	4212.1	4561.2
27.5°	73.8	75.6	82.8	100.8	152.9	284.3	604.6	1067.0	1765.1	3208.1	3562.6
30°	57.6	57.6	61.2	70.2	99.0	187.1	455.2	888.8	1455.6	2448.8	2733.1
32.5°	45.0	46.8	48.6	54.0	70.2	122.4	327.5	710.7	1185.7	1847.9	2080.0
35°	37.8	39.6	41.4	45.0	55.8	82.8	223.1	521.8	937.4	1401.6	1651.7
37.5°	34.2	34.2	36.0	37.8	46.8	59.4	145.7	356.3	716.1	1153.3	1300.9
40°	30.6	30.6	32.4	34.2	41.4	46.8	90.0	233.9	557.8	951.8	1094.0
42.5°	27.0	28.8	30.6	30.6	36.0	41.4	63.0	174.5	453.4	851.1	950.0
45°	25.2	25.2	27.0	28.8	34.2	37.8	48.6	134.9	374.3	716.1	806.1
47.5°	23.4	23.4	25.2	27.0	32.4	36.0	39.6	104.4	313.1	579.4	642.3
50°	21.6	21.6	23.4	27.0	30.6	36.0	32.4	79.2	250.1	433.6	466.0
52.5°	18.0	19.8	21.6	23.4	27.0	34.2	27.0	61.2	206.9	304.1	305.9
55°	16.2	16.2	18.0	21.6	23.4	30.6	21.6	45.0	161.9	208.7	201.5
57.5°	16.2	14.4	16.2	18.0	19.8	27.0	16.2	34.2	120.6	140.3	129.5
60°	14.4	14.4	14.4	14.4	16.2	19.8	12.6	27.0	88.2	93.6	90.0
62.5°	12.6	12.6	12.6	12.6	12.6	16.2	10.8	19.8	59.4	59.4	55.8
65°	12.6	12.6	10.8	10.8	10.8	10.8	9.0	16.2	37.8	37.8	37.8
67.5°	12.6	10.8	10.8	9.0	9.0	9.0	7.2	12.6	23.4	27.0	25.2
70°	10.8	10.8	9.0	9.0	7.2	7.2	7.2	10.8	16.2	18.0	18.0
72.5°	9.0	9.0	9.0	7.2	7.2	5.4	5.4	9.0	12.6	12.6	12.6
75°	7.2	7.2	7.2	7.2	5.4	5.4	3.6	7.2	7.2	9.0	9.0
77.5°	5.4	5.4	5.4	5.4	5.4	3.6	3.6	5.4	5.4	5.4	5.4
80°	3.6	3.6	3.6	3.6	3.6	3.6	1.8	3.6	3.6	3.6	3.6
82.5°	1.8	1.8	1.8	1.8	1.8	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	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)