

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: P592055

Luminaire Tested: **GRZ-10L-940-10x60-X-UNV-STD-4F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592055
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-940-10x60-X-UNV-STD-4F
Description: iO LED GRAZER WITH 10x60 OPTIC
1000 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

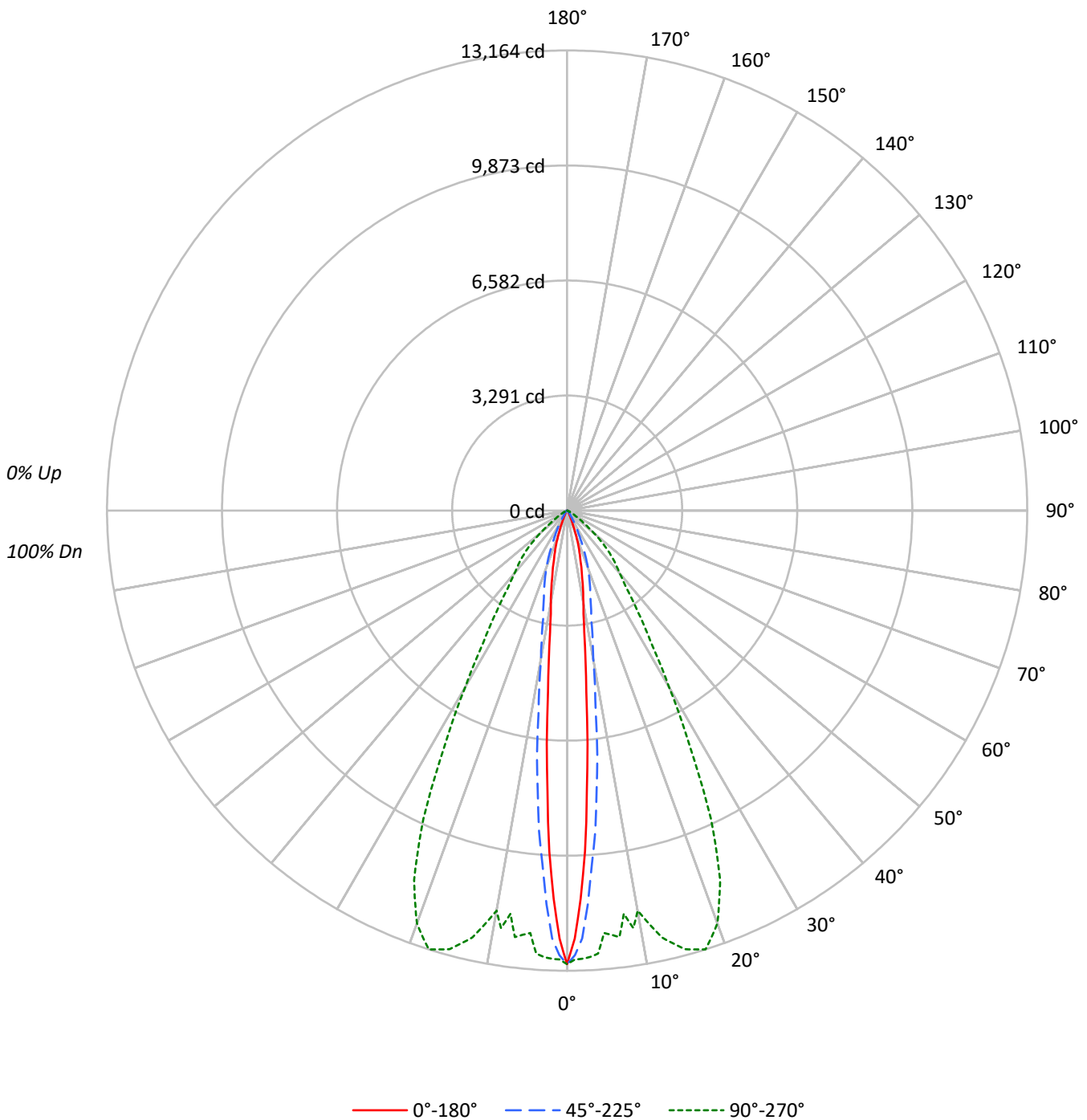
Lumens per Lamp: N/A
Luminaire Lumens: 4026.0 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 0.18 / 0.97 / 0.31
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P592055
CATALOG NUMBER: GRZ-10L-940-10x60-X-UNV-STD-4F

Luminous Intensity Polar Plot





TEST NUMBER: P592055

CATALOG NUMBER: GRZ-10L-940-10x60-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	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°	209510	209510	209510
5°	108513	149182	196568
10°	43907	70452	190474
15°	24563	43034	217156
20°	11998	29667	215968
25°	4306	16064	173274
30°	2289	7439	108657
35°	1589	3479	69424
40°	1374	2103	49168
45°	1226	1840	39249
50°	1155	1927	24960
55°	971	1835	12096
60°	991	1363	6194
65°	1028	879	3079
70°	1086	722	1813
75°	954	717	1198
80°	716	716	716
85°	704	704	0



TEST NUMBER: P592055

CATALOG NUMBER: GRZ-10L-940-10x60-X-UNV-STD-4F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	776.2	19.3
10°-20°	1237.1	30.7
20°-30°	1041.1	25.9
30°-40°	526.1	13.1
40°-50°	266.9	6.6
50°-60°	120.7	3.0
60°-70°	40.1	1.0
70°-80°	15.3	0.4
80°-90°	2.6	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°	3054.4	75.9
0°-40°	3580.5	88.9
0°-60°	3968.0	98.6
0°-90°	4026.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4026.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	12976	12976	12976	12976	12976	
5°	6695	7265	9204	11238	12128	501
15°	1470	1737	2574	6159	12991	414
25°	242	330	902	3184	9726	134
35°	81	94	176	1334	3522	53
45°	54	60	81	415	1719	42
55°	34	44	65	158	430	33
65°	27	23	23	46	81	27
75°	15	15	12	15	19	16
85°	4	4	4	0	0	3
90°	0	0	0	0	0	



TEST NUMBER: P592055

CATALOG NUMBER: GRZ-10L-940-10x60-X-UNV-STD-4F

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	12976.1	12976.1	12976.1	12976.1	12976.1	12976.1	12976.1	12976.1	12976.1	12976.1	12976.1
1°	12247.1	12726.7	13064.3	12569.4	12953.1	12719.0	12880.2	12619.3	12799.6	12945.4	12841.8
2°	11115.2	11725.3	11706.1	11648.6	11748.3	12243.3	12692.2	12650.0	12849.5	12765.1	12826.5
3°	9757.0	10083.1	10190.6	10355.6	10785.3	11272.6	11825.1	12312.3	12807.3	12907.0	12784.3
4°	8080.3	8199.3	8563.8	8609.8	9427.0	10121.5	11053.9	11606.4	12584.7	12745.9	12703.7
5°	6695.2	6660.7	7006.0	7351.3	8371.9	9204.5	10347.9	10923.4	12181.9	12619.3	12128.2
6°	5206.6	5486.6	5820.4	6142.7	7025.2	8076.5	9304.3	10616.5	12051.4	12442.8	12204.9
7°	4331.8	4389.3	4634.9	4888.1	5843.5	7090.4	8145.6	9806.9	11380.0	12181.9	12293.1
8°	3514.5	3514.5	3833.0	4063.2	4972.5	5866.5	7539.3	9051.0	11004.0	12174.2	11648.6
9°	2992.7	3061.8	3211.4	3575.9	4109.2	5076.1	6514.9	8360.4	10716.2	11951.7	12089.8
10°	2678.1	2770.2	2850.8	2988.9	3560.6	4297.2	5782.1	7689.0	10470.7	11963.2	11617.9
12.5°	1987.5	2037.3	2133.3	2294.4	2728.0	3176.9	4350.9	6365.3	9281.2	12170.4	12504.2
15°	1469.5	1484.8	1619.1	1776.4	2140.9	2574.5	3361.0	5283.3	8786.3	12534.9	12991.4
17.5°	1085.8	1105.0	1193.2	1339.0	1588.4	2137.1	2893.0	4362.5	8210.8	12508.0	13164.1
20°	698.3	721.3	809.6	924.7	1223.9	1726.6	2432.5	3598.9	7366.7	11610.2	12569.4
22.5°	414.4	437.4	468.1	579.4	859.4	1293.0	2002.8	3096.3	5866.5	10413.1	11441.4
25°	241.7	237.9	272.4	349.1	525.6	901.7	1634.5	2647.4	4792.2	8982.0	9726.3
27.5°	157.3	161.1	176.5	214.9	326.1	606.2	1289.2	2275.2	3763.9	6841.0	7596.9
30°	122.8	122.8	130.5	149.6	211.0	399.0	970.7	1895.4	3104.0	5221.9	5828.1
32.5°	95.9	99.8	103.6	115.1	149.6	260.9	698.3	1515.5	2528.5	3940.4	4435.4
35°	80.6	84.4	88.2	95.9	118.9	176.5	475.8	1112.7	1999.0	2988.9	3522.2
37.5°	72.9	72.9	76.7	80.6	99.8	126.6	310.8	759.7	1527.1	2459.4	2774.0
40°	65.2	65.2	69.1	72.9	88.2	99.8	191.8	498.8	1189.4	2029.7	2332.8
42.5°	57.6	61.4	65.2	65.2	76.7	88.2	134.3	372.2	966.9	1814.8	2025.8
45°	53.7	53.7	57.6	61.4	72.9	80.6	103.6	287.8	798.1	1527.1	1718.9
47.5°	49.9	49.9	53.7	57.6	69.1	76.7	84.4	222.5	667.6	1235.5	1369.7
50°	46.0	46.0	49.9	57.6	65.2	76.7	69.1	168.8	533.3	924.7	993.7
52.5°	38.4	42.2	46.0	49.9	57.6	72.9	57.6	130.5	441.2	648.4	652.3
55°	34.5	34.5	38.4	46.0	49.9	65.2	46.0	95.9	345.3	445.1	429.7
57.5°	34.5	30.7	34.5	38.4	42.2	57.6	34.5	72.9	257.1	299.3	276.3
60°	30.7	30.7	30.7	30.7	34.5	42.2	26.9	57.6	188.0	199.5	191.8
62.5°	26.9	26.9	26.9	26.9	26.9	34.5	23.0	42.2	126.6	126.6	118.9
65°	26.9	26.9	23.0	23.0	23.0	23.0	19.2	34.5	80.6	80.6	80.6
67.5°	26.9	23.0	23.0	19.2	19.2	19.2	15.3	26.9	49.9	57.6	53.7
70°	23.0	23.0	19.2	19.2	15.3	15.3	15.3	23.0	34.5	38.4	38.4
72.5°	19.2	19.2	19.2	15.3	15.3	11.5	11.5	19.2	26.9	26.9	26.9
75°	15.3	15.3	15.3	15.3	11.5	11.5	7.7	15.3	15.3	19.2	19.2
77.5°	11.5	11.5	11.5	11.5	11.5	7.7	7.7	11.5	11.5	11.5	11.5
80°	7.7	7.7	7.7	7.7	7.7	7.7	3.8	7.7	7.7	7.7	7.7
82.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
85°	3.8	3.8	3.8	3.8	3.8	3.8	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)