

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: P591969

Luminaire Tested: **GRZ-05L-935-10x10-X-UNV-STD-4F**

Issue Date: 2/2/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P591969  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/2/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: iO LED  
Catalog Number: GRZ-05L-935-10x10-X-UNV-STD-4F  
Description: iO LED GRAZER WITH 10x10 OPTIC  
500 LUMENS PER FOOT, 4 FOOT FIXTURE  
SCALED BASED ON PHOTOMETRIC TESTING  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

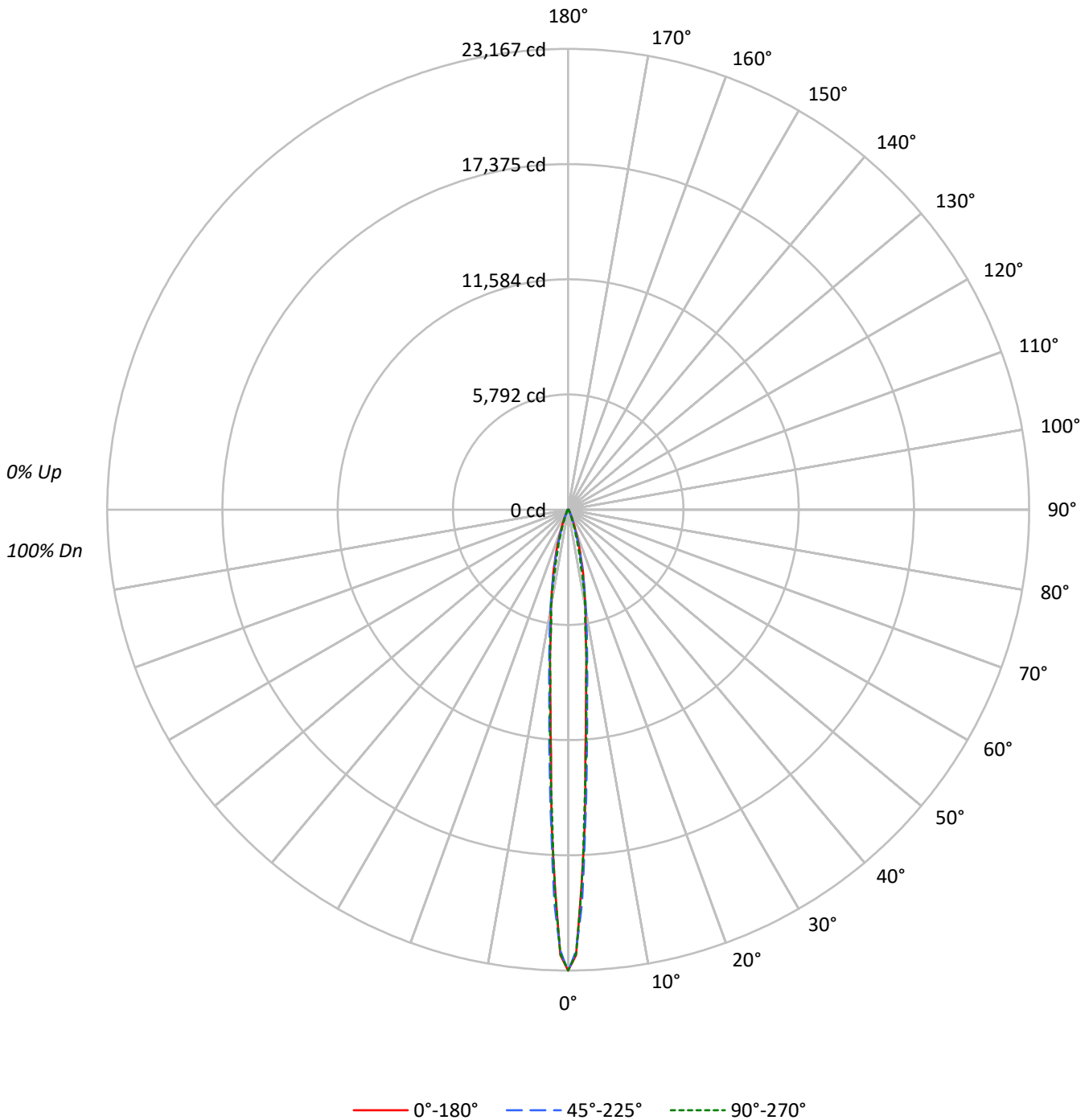
Lumens per Lamp: N/A  
Luminaire Lumens: 1854.0 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Spacing Criteria (0/90/45): 0.15 / 0.16 / 0.22  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P591969  
CATALOG NUMBER: GRZ-05L-935-10x10-X-UNV-STD-4F

### Luminous Intensity Polar Plot





TEST NUMBER: P591969

CATALOG NUMBER: GRZ-05L-935-10x10-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	102	109	106	103	101	103	100	99	100	98	96	97	96	95	93
3	108	103	99	96	106	102	98	96	99	96	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	92	96	93	91	94	92	90	93	90	89	87
5	102	96	92	89	100	95	91	88	93	90	88	92	89	87	90	88	86	85
6	99	93	89	86	98	92	88	86	91	88	85	90	87	85	88	86	84	83
7	96	90	86	83	95	90	86	83	89	85	83	88	85	82	87	84	82	81
8	94	88	84	81	93	87	84	81	86	83	81	86	83	80	85	82	80	79
9	92	86	82	79	91	85	82	79	85	81	79	84	81	79	83	80	78	78
10	90	84	80	77	89	83	80	77	83	79	77	82	79	77	82	79	77	76

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	374056	374056	374056
5°	164720	175837	169827
10°	81178	83570	81893
15°	40951	37733	32516
20°	17182	14553	12361
25°	6967	5831	4910
30°	3324	2966	2625
35°	2097	1837	1459
40°	1494	1366	1024
45°	1343	1181	856
50°	1274	1120	661
55°	1140	999	571
60°	917	785	555
65°	890	776	581
70°	911	765	524
75°	823	761	505
80°	753	660	474
85°	556	556	371



TEST NUMBER: P591969

CATALOG NUMBER: GRZ-05L-935-10x10-X-UNV-STD-4F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	870.7	47.0
10°-20°	643.8	34.7
20°-30°	175.7	9.5
30°-40°	62.1	3.3
40°-50°	39.1	2.1
50°-60°	29.0	1.6
60°-70°	19.1	1.0
70°-80°	11.5	0.6
80°-90°	3.0	0.2
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°	1690.2	91.2
0°-40°	1752.3	94.5
0°-60°	1820.4	98.2
0°-90°	1854.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1854.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	23167	23167	23167	23167	23167	
5°	10163	10612	10849	10447	10478	844
15°	2450	2418	2257	1998	1945	694
25°	391	384	327	290	276	206
35°	106	104	93	85	74	69
45°	59	57	52	44	38	46
55°	40	38	36	26	20	36
65°	23	20	20	17	15	23
75°	13	11	12	10	8	14
85°	3	2	3	2	2	4
90°	0	0	0	0	0	



TEST NUMBER: P591969

CATALOG NUMBER: GRZ-05L-935-10x10-X-UNV-STD-4F

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	23167.3	23167.3	23167.3	23167.3	23167.3
1°	22392.2	21944.4	22204.8	22194.6	22324.3
2°	18944.4	20346.6	19800.5	19740.7	19118.6
3°	15849.1	16469.2	16122.7	16326.3	15351.6
4°	12340.5	13114.5	13233.1	12966.6	12623.2
5°	10163.2	10612.0	10849.1	10446.9	10478.3
6°	8560.3	9128.7	9093.3	9104.4	8653.5
7°	7499.5	7795.4	7837.9	7580.6	7458.0
8°	6285.7	6795.4	6755.9	6562.3	6287.8
9°	5602.9	5915.9	5866.3	5520.8	5420.5
10°	4951.4	5123.6	5097.3	4717.3	4995.0
12.5°	3565.4	3581.6	3407.3	3200.6	3035.5
15°	2449.9	2418.5	2257.4	1998.0	1945.3
17.5°	1608.9	1613.0	1395.1	1199.6	1169.2
20°	1000.0	1006.1	847.0	738.6	719.4
22.5°	629.2	601.8	503.5	458.0	445.8
25°	391.1	384.0	327.3	289.8	275.6
27.5°	264.4	259.4	212.8	195.5	194.5
30°	178.3	185.4	159.1	144.9	140.8
32.5°	134.8	134.8	123.6	113.5	102.3
35°	106.4	104.4	93.2	85.1	74.0
37.5°	81.1	85.1	75.0	68.9	57.8
40°	70.9	70.9	64.8	56.7	48.6
42.5°	62.8	64.8	56.7	48.6	40.5
45°	58.8	56.7	51.7	43.6	37.5
47.5°	53.7	52.7	47.6	38.5	32.4
50°	50.7	48.6	44.6	34.4	26.3
52.5°	47.6	44.6	40.5	30.4	22.3
55°	40.5	38.5	35.5	26.3	20.3
57.5°	35.5	31.4	29.4	22.3	18.2
60°	28.4	25.3	24.3	20.3	17.2
62.5°	25.3	23.3	22.3	19.3	16.2
65°	23.3	20.3	20.3	17.2	15.2
67.5°	21.3	18.2	18.2	15.2	13.2
70°	19.3	16.2	16.2	13.2	11.1
72.5°	16.2	13.2	14.2	11.1	10.1
75°	13.2	11.1	12.2	10.1	8.1
77.5°	11.1	9.1	9.1	8.1	6.1
80°	8.1	7.1	7.1	6.1	5.1
82.5°	5.1	4.1	5.1	4.1	3.0
85°	3.0	2.0	3.0	2.0	2.0
87.5°	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)