

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P208724

Luminaire Tested: **LDSQA6A15827D010TE LARL15SP 6LSQA1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P208724  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29053)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA6A15827D010TE LARL15SP 6LSQA1H  
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 15° SPOT  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1377.4 lumens  
Efficiency: N/A  
Efficacy: 63.2 lumens/watt  
Spacing Criteria (0/90/45): 0.31 / 0.31 / 0.36  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

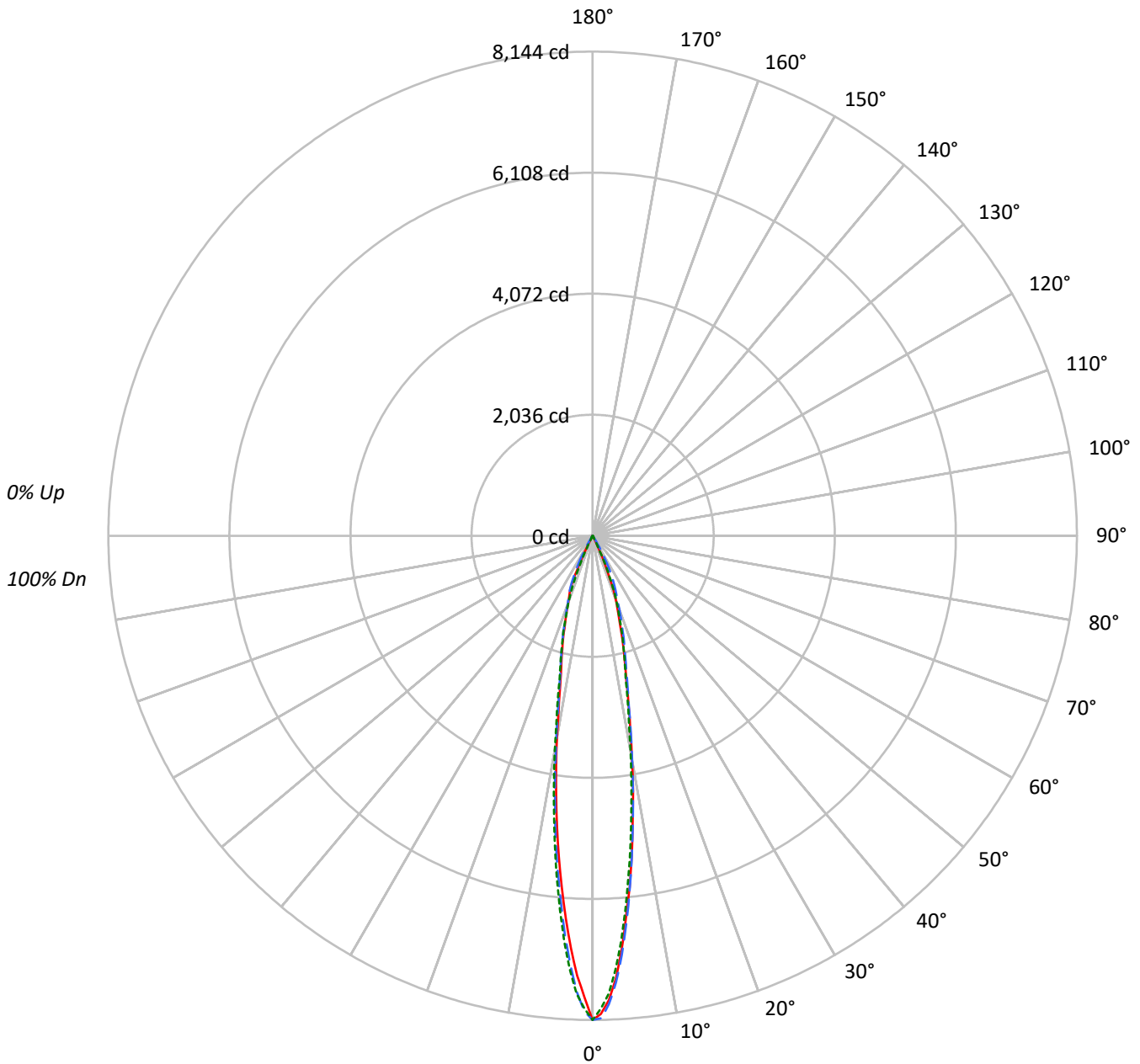
Input Watts (W): 21.79  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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	115	113	111	110	113	111	109	108	107	106	105	103	102	101	100	99	99	97	97	99	97																
2	112	108	105	103	109	106	104	102	103	101	99	100	99	97	98	96	95	94	94	95	94																
3	108	104	100	97	106	102	99	97	100	97	95	98	95	94	96	94	92	91	92	92	91																
4	105	100	96	93	103	99	95	93	97	94	91	95	92	90	93	91	90	88	90	90	88																
5	102	96	92	89	101	95	92	89	94	91	88	92	90	88	91	89	87	86	87	87	86																
6	99	93	89	86	98	92	89	86	91	88	85	90	87	85	89	86	84	83	85	84	83																
7	97	90	86	83	95	90	86	83	89	85	83	88	85	82	87	84	82	81	83	82	81																
8	94	88	84	81	93	87	83	81	86	83	80	85	82	80	85	82	80	79	80	80	79																
9	92	85	81	79	91	85	81	79	84	81	78	83	80	78	83	80	78	77	78	78	77																
10	89	83	79	77	89	83	79	76	82	79	76	81	78	76	81	78	76	75	76	76	75																

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

	0°	90°	180°
0°	350663	350663	350663
5°	278765	272818	256650
10°	166087	159971	150510
15°	90754	90905	88052
20°	51995	53434	54923
25°	13729	14271	25639
30°	1874	1730	1675
35°	752	720	689
40°	287	287	287
45°	140	104	140
50°	74	40	114
55°	45	0	83
60°	52	0	0
65°	61	0	0
70°	76	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	517.2	37.5
10°-20°	582.0	42.3
20°-30°	259.2	18.8
30°-40°	15.8	1.1
40°-50°	2.5	0.2
50°-60°	0.4	0.0
60°-70°	0.1	0.0
70°-80°	0.0	0.0
80°-90°	0.0	0.0
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°	1358.4	98.6
0°-40°	1374.2	99.8
0°-60°	1377.2	100.0
0°-90°	1377.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1377.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	8144	8144	8144	8144	8144	
5°	6450	6525	6312	6164	5938	530
15°	2036	2124	2039	2025	1975	574
25°	289	772	300	746	540	170
35°	14	23	14	23	13	10
45°	2	4	2	4	2	2
55°	1	1	0	1	1	1
65°	1	0	0	0	0	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4
1°	8044.4	8118.1	8118.1	8100.4	7953.6	8062.7	8001.0	7934.8	7762.3
2°	7813.1	7888.0	7880.5	7813.1	7706.9	7752.0	7667.5	7585.3	7404.2
3°	7456.2	7536.7	7521.9	7451.6	7310.0	7337.4	7216.4	7154.1	6946.2
4°	6976.5	7078.7	7061.0	6983.3	6841.1	6839.4	6712.6	6647.0	6454.5
5°	6449.9	6556.7	6525.3	6461.4	6312.3	6285.5	6164.4	6117.6	5938.2
6°	5944.0	6010.8	5978.2	5925.1	5764.1	5747.5	5632.7	5592.7	5427.1
7°	5404.8	5451.1	5419.1	5378.0	5215.2	5193.5	5099.9	5068.5	4906.8
8°	4836.6	4902.8	4857.2	4831.5	4677.8	4648.1	4553.9	4532.8	4403.1
9°	4351.2	4373.4	4324.9	4247.8	4158.7	4128.4	4028.5	4007.9	3917.1
10°	3798.9	3868.0	3830.3	3764.1	3659.0	3681.8	3536.8	3519.7	3442.6
11°	3318.6	3391.2	3351.2	3291.8	3197.0	3210.1	3091.3	3019.4	3007.4
12°	2922.3	2955.4	2943.4	2895.5	2818.9	2822.9	2717.3	2659.6	2647.6
13°	2536.2	2595.6	2601.3	2561.9	2470.0	2512.2	2433.4	2386.6	2367.8
14°	2274.7	2319.8	2338.1	2336.9	2237.5	2274.7	2212.4	2174.7	2155.9
15°	2036.0	2094.8	2124.5	2122.8	2039.4	2077.1	2025.1	1995.4	1975.4
16°	1812.1	1892.6	1941.2	1933.2	1855.5	1894.3	1842.9	1813.8	1791.5
17°	1587.1	1697.9	1769.3	1753.8	1672.7	1721.9	1672.7	1647.6	1624.2
18°	1414.0	1504.8	1605.3	1572.2	1482.0	1558.5	1516.3	1496.3	1474.6
19°	1258.7	1320.9	1451.7	1392.9	1311.2	1398.0	1366.6	1350.6	1330.1
20°	1134.8	1188.4	1305.0	1235.3	1166.2	1237.0	1228.4	1215.9	1198.7
21°	976.0	1078.2	1171.9	1107.4	1016.5	1116.5	1127.3	1120.5	1107.9
22°	772.7	956.6	1075.4	957.7	838.9	1028.5	1050.8	1045.7	1036.5
23°	601.4	813.2	986.3	820.1	653.3	930.9	964.0	960.6	930.3
24°	438.6	665.9	874.3	658.5	470.0	797.8	861.2	855.5	745.8
25°	289.0	518.6	772.1	494.0	300.4	645.3	745.8	736.1	539.7
26°	185.6	379.2	680.2	337.5	159.9	482.0	623.6	596.2	334.7
27°	89.1	264.4	567.7	198.7	77.7	321.5	500.3	439.2	161.6
28°	56.0	138.8	451.2	98.8	52.5	178.8	383.2	278.7	63.4
29°	45.7	68.5	334.1	56.0	42.8	82.2	274.7	135.9	44.0
30°	37.7	45.7	227.9	42.8	34.8	45.7	180.5	53.1	33.7
32.5°	24.0	28.6	52.5	26.8	22.8	26.3	42.8	25.7	21.1
35°	14.3	18.3	22.8	17.7	13.7	17.1	23.4	16.6	13.1
37.5°	8.6	10.9	14.8	10.9	8.6	10.9	14.8	10.9	8.0
40°	5.1	6.9	10.3	6.9	5.1	6.9	10.3	6.9	5.1
42.5°	3.4	4.0	6.9	4.0	2.9	4.0	6.9	4.6	3.4
45°	2.3	2.9	4.0	2.3	1.7	2.3	4.0	2.9	2.3
47.5°	1.7	1.7	2.3	1.1	1.1	1.7	2.9	2.3	1.7
50°	1.1	1.1	1.7	0.6	0.6	0.6	1.7	1.7	1.7
52.5°	0.6	0.6	0.6	0.0	0.0	0.0	1.1	1.1	1.1
55°	0.6	0.6	0.6	0.0	0.0	0.0	0.6	1.1	1.1
57.5°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	1.1	1.1
60°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	1.1	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	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
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093







— 0°-180°    - - 45°-225°    - - - - 90°-270°







62.5°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0



(END OF REPORT)