

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: P208728

Luminaire Tested: **LDSQA6A15927D010TE LARL15SP 6LSQA1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P208728  
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: LDSQA6A15927D010TE LARL15SP 6LSQA1H  
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 15° SPOT  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1105.5 lumens  
Efficiency: N/A  
Efficacy: 50.7 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

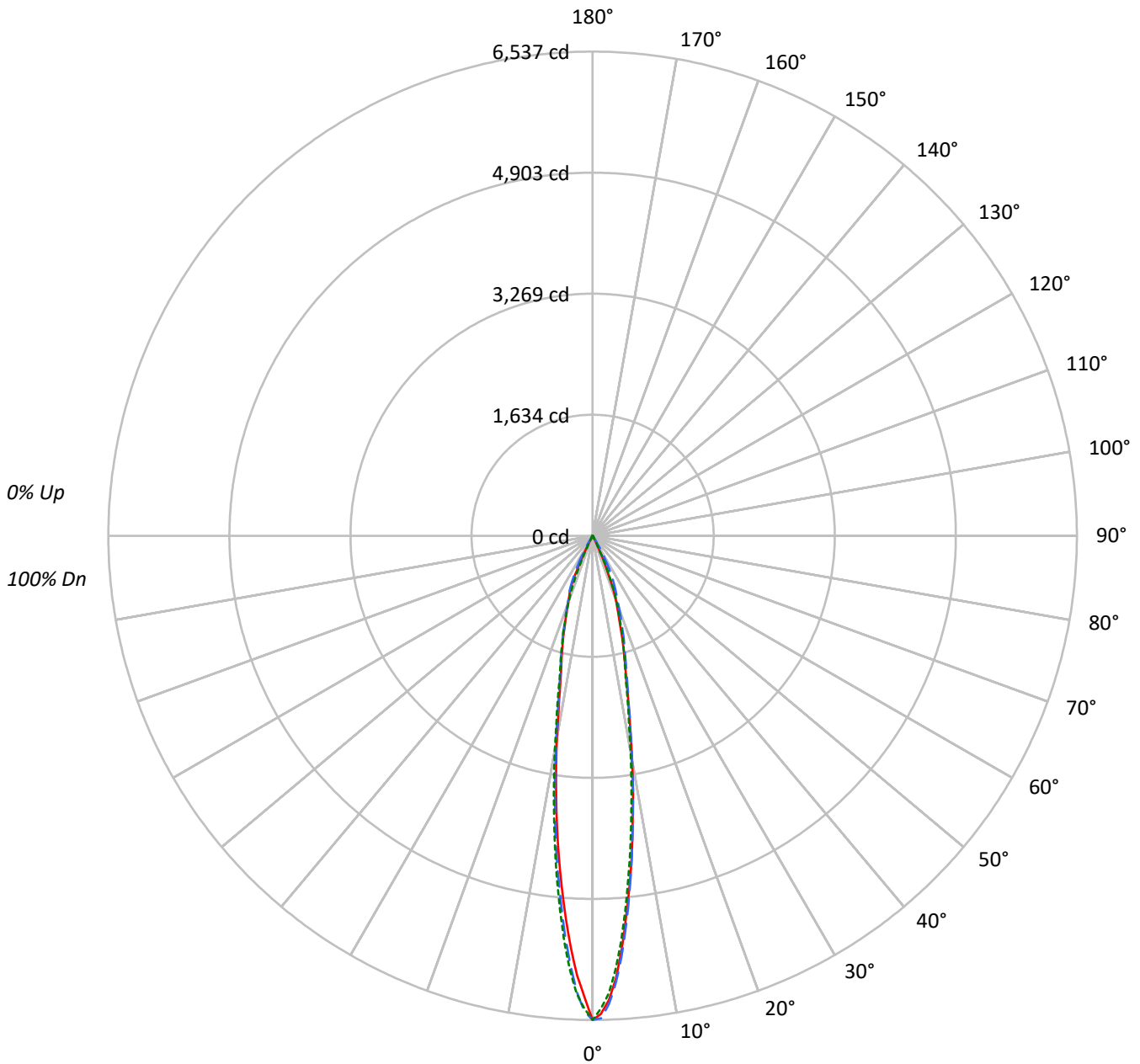
Input Watts (W): 21.79  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	90°	180°
0°	281442	281442	281442
5°	223738	218962	205987
10°	133302	128392	120798
15°	72835	72960	70673
20°	41732	42886	44082
25°	11017	11454	20575
30°	1506	1392	1342
35°	604	578	552
40°	230	230	230
45°	110	85	110
50°	60	33	94
55°	38	0	68
60°	43	0	0
65°	51	0	0
70°	63	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°	415.1	37.5
10°-20°	467.1	42.3
20°-30°	208.0	18.8
30°-40°	12.7	1.1
40°-50°	2.0	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°	1090.3	98.6
0°-40°	1102.9	99.8
0°-60°	1105.4	100.0
0°-90°	1105.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1105.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	6537	6537	6537	6537	6537	
5°	5177	5237	5066	4948	4766	426
15°	1634	1705	1637	1625	1586	461
25°	232	620	241	599	433	137
35°	12	18	11	19	10	8
45°	2	3	1	3	2	2
55°	0	0	0	0	1	0
65°	0	0	0	0	0	0
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°	6536.7	6536.7	6536.7	6536.7	6536.7	6536.7	6536.7	6536.7	6536.7
1°	6456.4	6515.6	6515.6	6501.4	6383.6	6471.1	6421.6	6368.4	6230.0
2°	6270.8	6330.8	6324.9	6270.8	6185.5	6221.8	6153.9	6087.9	5942.6
3°	5984.3	6049.0	6037.0	5980.7	5867.0	5889.0	5791.8	5741.9	5575.0
4°	5599.3	5681.4	5667.1	5604.8	5490.7	5489.3	5387.5	5334.8	5180.4
5°	5176.7	5262.4	5237.2	5185.9	5066.2	5044.7	4947.5	4909.9	4766.0
6°	4770.6	4824.2	4798.1	4755.5	4626.2	4612.9	4520.8	4488.7	4355.8
7°	4337.9	4375.0	4349.4	4316.4	4185.7	4168.3	4093.1	4067.9	3938.2
8°	3881.8	3935.0	3898.3	3877.7	3754.4	3730.6	3655.0	3638.0	3533.9
9°	3492.2	3510.1	3471.1	3409.3	3337.8	3313.5	3233.3	3216.8	3143.9
10°	3049.0	3104.5	3074.2	3021.0	2936.7	2955.0	2838.6	2824.9	2763.0
11°	2663.5	2721.7	2689.6	2642.0	2565.9	2576.4	2481.1	2423.3	2413.7
12°	2345.4	2372.0	2362.4	2323.9	2262.5	2265.7	2180.9	2134.6	2125.0
13°	2035.6	2083.2	2087.8	2056.2	1982.4	2016.3	1953.1	1915.5	1900.4
14°	1825.6	1861.9	1876.5	1875.6	1795.8	1825.6	1775.7	1745.4	1730.3
15°	1634.0	1681.3	1705.1	1703.7	1636.8	1667.1	1625.3	1601.5	1585.5
16°	1454.4	1519.0	1558.0	1551.5	1489.2	1520.4	1479.1	1455.7	1437.9
17°	1273.8	1362.7	1420.0	1407.6	1342.5	1382.0	1342.5	1322.4	1303.6
18°	1134.9	1207.8	1288.4	1261.9	1189.4	1250.9	1216.9	1200.9	1183.5
19°	1010.2	1060.2	1165.1	1117.9	1052.4	1122.1	1096.9	1084.0	1067.5
20°	910.8	953.8	1047.3	991.4	936.0	992.8	985.9	975.8	962.1
21°	783.3	865.4	940.6	888.8	815.9	896.1	904.8	899.3	889.2
22°	620.2	767.8	863.1	768.7	673.3	825.5	843.4	839.3	831.9
23°	482.7	652.7	791.6	658.2	524.4	747.1	773.7	771.0	746.7
24°	352.0	534.4	701.7	528.5	377.2	640.3	691.2	686.6	598.6
25°	231.9	416.2	619.7	396.5	241.1	517.9	598.6	590.8	433.1
26°	149.0	304.4	545.9	270.9	128.3	386.9	500.5	478.5	268.6
27°	71.5	212.2	455.6	159.5	62.3	258.1	401.5	352.5	129.7
28°	44.9	111.4	362.1	79.3	42.2	143.5	307.6	223.7	50.9
29°	36.7	55.0	268.1	44.9	34.4	66.0	220.5	109.1	35.3
30°	30.3	36.7	182.9	34.4	28.0	36.7	144.8	42.6	27.0
32.5°	19.3	22.9	42.2	21.5	18.3	21.1	34.4	20.6	17.0
35°	11.5	14.7	18.3	14.2	11.0	13.8	18.8	13.3	10.5
37.5°	6.9	8.7	11.9	8.7	6.9	8.7	11.9	8.7	6.4
40°	4.1	5.5	8.3	5.5	4.1	5.5	8.3	5.5	4.1
42.5°	2.8	3.2	5.5	3.2	2.3	3.2	5.5	3.7	2.8
45°	1.8	2.3	3.2	1.8	1.4	1.8	3.2	2.3	1.8
47.5°	1.4	1.4	1.8	0.9	0.9	1.4	2.3	1.8	1.4
50°	0.9	0.9	1.4	0.5	0.5	0.5	1.4	1.4	1.4
52.5°	0.5	0.5	0.5	0.0	0.0	0.0	0.9	0.9	0.9
55°	0.5	0.5	0.5	0.0	0.0	0.0	0.5	0.9	0.9
57.5°	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.9	0.9
60°	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.9	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.5	0.5	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°	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0



(END OF REPORT)