

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: P208768

Luminaire Tested: **LDSQA6A20927D010TE LARL20NF 6LSQA1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P208768  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29055)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA6A20927D010TE LARL20NF 6LSQA1H  
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 20° NARROW FLOOD  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1564.0 lumens  
Efficiency: N/A  
Efficacy: 54.3 lumens/watt  
Spacing Criteria (0/90/45): 0.37 / 0.38 / 0.39  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

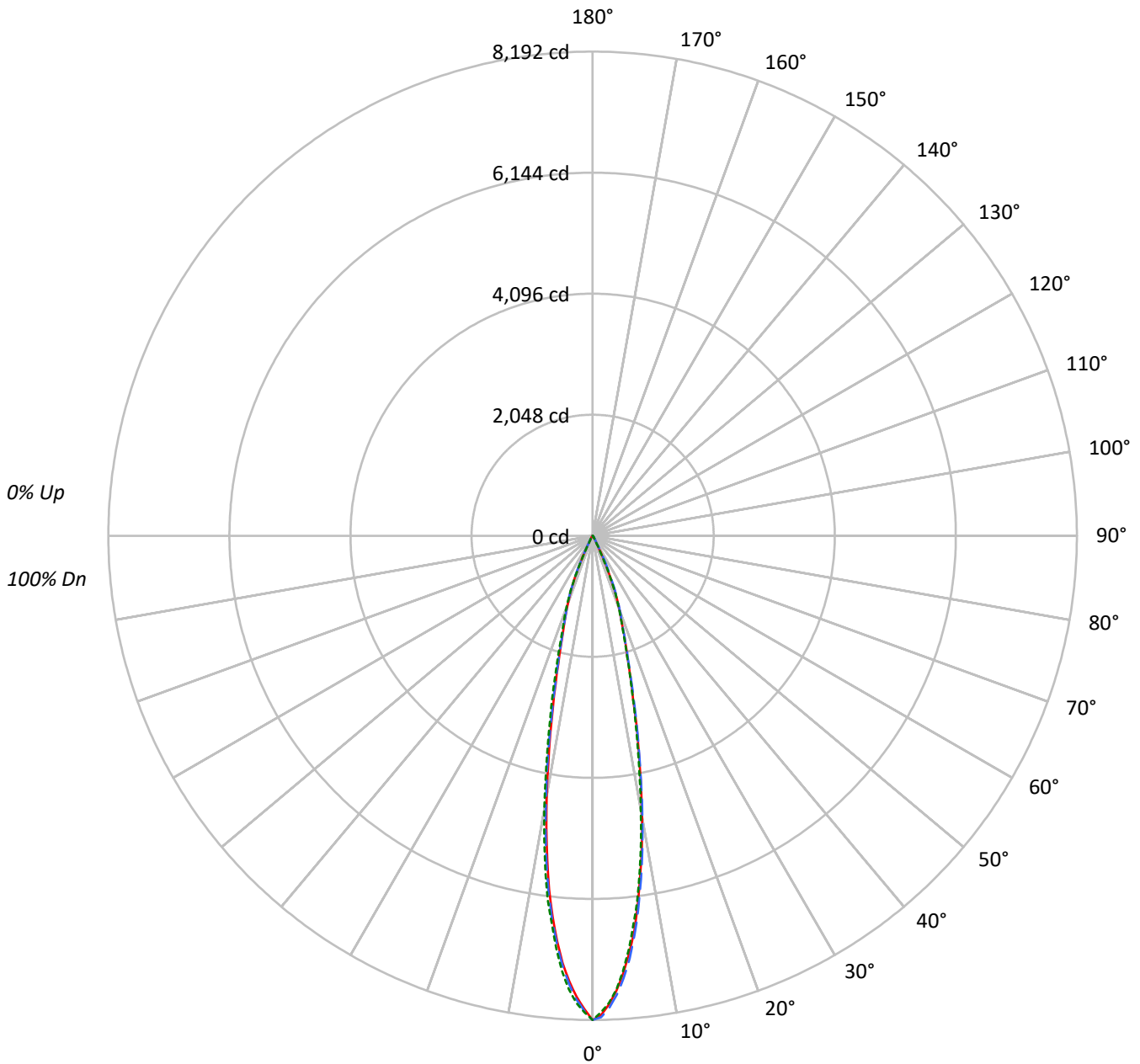
Input Watts (W): 28.81  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	100	99	99	97				97															
2	112	108	105	103	110	107	104	102	103	101	100	101	99	97	98	97	95				94																
3	108	104	100	98	107	103	99	97	100	98	95	98	96	94	96	94	93				91																
4	105	100	96	93	104	99	96	93	97	94	92	95	93	91	94	92	90				89																
5	102	97	93	90	101	96	92	89	94	91	89	93	90	88	91	89	87				86																
6	99	94	90	87	98	93	89	86	92	88	86	90	88	85	89	87	85				84																
7	97	91	87	84	96	90	86	84	89	86	83	88	85	83	87	85	83				82																
8	94	88	84	82	93	88	84	81	87	83	81	86	83	81	85	82	80				80																
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	81	79	77				76																

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

	0°	90°	180°
0°	352721	352721	352721
5°	306534	303397	297925
10°	210590	205466	195170
15°	109667	108695	100114
20°	60980	59675	56453
25°	20176	18689	21924
30°	4465	4131	3689
35°	1671	1640	1466
40°	658	629	596
45°	201	201	201
50°	40	40	74
55°	45	0	45
60°	0	0	0
65°	0	0	0
70°	0	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°	598.4	38.3
10°-20°	693.5	44.3
20°-30°	241.0	15.4
30°-40°	25.7	1.6
40°-50°	4.9	0.3
50°-60°	0.5	0.0
60°-70°	0.0	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°	1532.9	98.0
0°-40°	1558.6	99.7
0°-60°	1564.0	100.0
0°-90°	1564.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1564.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	8192	8192	8192	8192	8192	
5°	7092	7178	7020	6933	6893	603
15°	2460	2514	2438	2297	2246	708
25°	425	552	393	482	462	230
35°	32	45	31	40	28	24
45°	3	9	3	8	3	3
55°	1	1	0	1	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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CATALOG NUMBER: LDSQA6A20927D010TE LARL20NF 6LSQA1H

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	8192.2	8192.2	8192.2	8192.2	8192.2	8192.2	8192.2	8192.2	8192.2
1°	8116.9	8115.8	8144.8	8152.6	8064.4	8185.0	8041.6	8188.3	8011.4
2°	7934.4	7944.5	7994.1	7987.4	7910.4	8016.5	7847.9	7963.4	7804.4
3°	7702.9	7720.7	7778.2	7773.7	7683.9	7774.8	7596.3	7699.5	7550.0
4°	7419.4	7461.2	7509.2	7522.1	7385.3	7467.4	7293.8	7390.4	7248.1
5°	7092.4	7147.6	7178.3	7161.0	7019.8	7095.2	6933.3	7070.6	6893.2
6°	6723.0	6765.9	6788.8	6758.1	6601.9	6687.3	6536.0	6652.7	6479.1
7°	6283.3	6331.8	6350.2	6320.1	6211.8	6246.4	6095.2	6192.9	6030.5
8°	5795.0	5868.1	5870.9	5843.5	5731.4	5693.4	5606.9	5678.4	5524.4
9°	5315.7	5370.3	5369.2	5349.1	5225.3	5170.0	5085.8	5136.5	4999.8
10°	4816.8	4865.9	4849.2	4830.7	4699.6	4638.2	4557.3	4584.1	4464.1
11°	4288.4	4350.9	4324.1	4306.2	4175.6	4115.4	4034.5	4041.7	3936.2
12°	3754.3	3843.1	3811.2	3799.5	3679.0	3620.4	3547.3	3539.5	3439.6
13°	3306.2	3360.9	3329.7	3323.5	3217.5	3166.7	3049.0	3080.2	2989.3
14°	2828.0	2923.4	2895.5	2892.8	2805.7	2758.3	2649.5	2674.0	2594.8
15°	2460.3	2536.2	2513.9	2512.7	2438.5	2393.3	2296.8	2316.9	2246.0
16°	2125.5	2196.9	2180.7	2183.5	2117.7	2078.1	1994.3	2011.1	1954.2
17°	1892.2	1917.9	1902.8	1902.8	1848.1	1823.6	1751.6	1767.8	1723.2
18°	1660.1	1669.6	1679.1	1680.7	1632.8	1616.0	1555.7	1570.3	1533.4
19°	1469.8	1492.7	1498.3	1499.4	1457.0	1447.5	1395.6	1406.8	1376.6
20°	1330.9	1344.3	1345.9	1343.1	1302.4	1294.6	1248.3	1258.3	1232.1
21°	1170.2	1193.6	1188.6	1184.1	1141.7	1135.6	1096.5	1098.2	1072.5
22°	991.0	1032.9	1027.3	1019.5	962.0	953.6	943.6	939.7	915.1
23°	771.7	869.4	864.4	853.2	769.5	794.6	788.5	781.2	758.3
24°	592.1	707.0	704.2	686.9	575.9	638.4	631.7	625.5	607.7
25°	424.7	551.3	551.9	525.1	393.4	505.6	482.1	477.7	461.5
26°	303.6	410.1	412.9	374.4	241.6	364.9	348.2	342.1	329.2
27°	184.7	285.7	291.3	245.5	150.7	245.0	234.4	227.7	190.8
28°	127.2	186.4	193.1	151.8	117.7	163.5	150.7	142.9	111.0
29°	108.8	121.6	126.7	107.1	99.3	108.8	102.7	99.3	89.8
30°	89.8	92.6	94.9	88.7	83.1	85.9	83.1	80.4	74.2
32.5°	56.9	61.9	63.6	59.1	54.1	55.8	55.8	51.9	46.9
35°	31.8	39.6	44.6	39.1	31.2	37.4	40.2	34.6	27.9
37.5°	19.5	24.6	31.2	24.6	19.0	24.0	29.0	21.8	17.9
40°	11.7	15.1	22.3	15.1	11.2	14.5	20.1	13.4	10.6
42.5°	6.7	8.9	14.5	8.9	6.1	8.4	13.4	7.8	6.1
45°	3.3	5.0	8.9	5.0	3.3	5.0	8.4	4.5	3.3
47.5°	1.7	2.8	5.0	2.8	1.7	2.8	4.5	2.8	1.7
50°	0.6	1.1	2.8	1.1	0.6	1.1	2.8	1.1	1.1
52.5°	0.6	0.6	1.7	0.6	0.6	0.6	1.1	0.6	0.6
55°	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.6
57.5°	0.6	0.0	0.6	0.0	0.0	0.0	0.6	0.6	0.6
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0



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**CANDELA DISTRIBUTION (continued):**

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



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







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



(END OF REPORT)