

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: P182431

Luminaire Tested: **LDSQA4A13830D010TE LAR15SP 4LSQA1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P182431  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26794)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA4A13830D010TE LAR15SP 4LSQA1H  
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 15° SPOT  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1649.6 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Spacing Criteria (0/90/45): 0.32 / 0.32 / 0.36  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

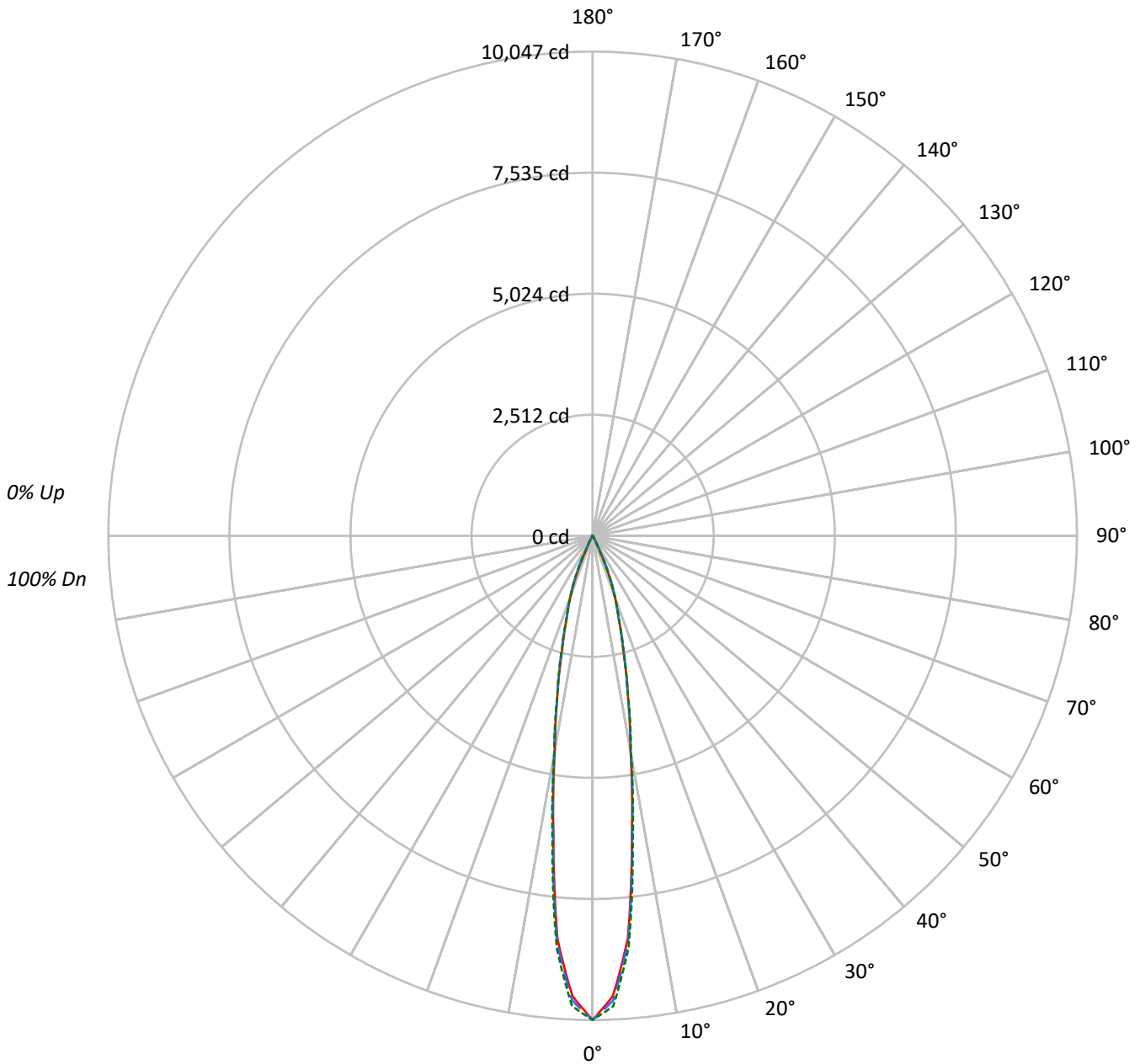
Input Watts (W): 22.27  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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	100	100	100	100	100		
1	115	113	111	110	113	111	110	108	107	106	105	104	103	102	100	99	99	97	97	97	97	97	97	97		
2	112	108	105	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94	94	94	94	94	94	94		
3	108	104	101	98	107	103	100	97	100	98	96	98	96	94	96	94	93	92	92	92	92	92	92	92		
4	105	100	97	94	104	99	96	93	97	95	92	96	93	91	94	92	90	89	89	89	89	89	89	89		
5	103	97	93	90	101	96	93	90	95	92	89	93	91	89	92	90	88	87	87	87	87	87	87	87		
6	100	94	90	87	99	93	90	87	92	89	87	91	88	86	90	87	86	85	85	85	85	85	85	85		
7	97	91	88	85	96	91	87	85	90	87	84	89	86	84	88	85	83	82	82	82	82	82	82	82		
8	95	89	85	82	94	88	85	82	88	84	82	87	84	82	86	83	81	80	80	80	80	80	80	80		
9	93	87	83	80	92	86	83	80	85	82	80	85	82	80	84	81	79	79	79	79	79	79	79	79		
10	91	84	81	78	90	84	81	78	83	80	78	83	80	78	82	80	78	77	77	77	77	77	77	77		

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

	0°	45°	90°
0°	973336	973336	973336
5°	815821	822716	834677
10°	443845	450436	452138
15°	245437	249388	250341
20°	138990	139392	140206
25°	37925	59410	37251
30°	6085	9262	5906
35°	2046	3453	1963
40°	898	1391	898
45°	534	644	438
50°	362	362	241
55°	270	270	135
60°	155	155	155
65°	183	183	183
70°	227	227	227
75°	0	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	669.7	40.6
10°-20°	708.2	42.9
20°-30°	249.2	15.1
30°-40°	16.8	1.0
40°-50°	3.5	0.2
50°-60°	1.2	0.1
60°-70°	0.8	0.0
70°-80°	0.3	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°	1627.1	98.6
0°-40°	1643.9	99.7
0°-60°	1648.5	99.9
0°-90°	1649.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1649.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	10047	10047	10047	10047	10047	
5°	8389	8515	8460	8476	8583	662
15°	2447	2488	2487	2481	2496	701
25°	355	538	556	530	348	220
35°	17	21	29	21	17	13
45°	4	4	5	4	3	3
55°	2	2	2	1	1	1
65°	1	1	1	1	1	1
75°	0	1	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°
0°	10047.3	10047.3	10047.3	10047.3	10047.3
2.5°	9564.8	9690.1	9658.6	9638.1	9769.8
5°	8389.3	8515.4	8460.2	8476.0	8583.2
7.5°	6237.0	6343.4	6286.6	6310.3	6392.3
10°	4512.0	4617.6	4579.0	4591.6	4596.3
12.5°	3364.1	3410.6	3379.8	3388.5	3404.3
15°	2447.2	2488.2	2486.6	2481.1	2496.1
17.5°	1796.0	1815.7	1796.0	1795.2	1805.4
20°	1348.2	1375.7	1352.1	1355.2	1360.0
22.5°	905.9	961.1	951.6	939.8	927.2
25°	354.8	538.5	555.8	529.8	348.5
27.5°	101.7	167.9	238.9	164.8	98.5
30°	54.4	64.6	82.8	63.1	52.8
32.5°	29.2	37.1	47.3	36.3	28.4
35°	17.3	21.3	29.2	21.3	16.6
37.5°	11.0	13.4	18.1	13.4	11.0
40°	7.1	8.7	11.0	8.7	7.1
42.5°	5.5	6.3	7.1	5.5	4.7
45°	3.9	3.9	4.7	3.9	3.2
47.5°	3.2	3.2	3.2	2.4	2.4
50°	2.4	2.4	2.4	1.6	1.6
52.5°	1.6	1.6	1.6	1.6	1.6
55°	1.6	1.6	1.6	0.8	0.8
57.5°	1.6	0.8	0.8	0.8	0.8
60°	0.8	0.8	0.8	0.8	0.8
62.5°	0.8	0.8	0.8	0.8	0.8
65°	0.8	0.8	0.8	0.8	0.8
67.5°	0.8	0.8	0.8	0.8	0.0
70°	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.0	0.0
75°	0.0	0.8	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0



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







(END OF REPORT)