

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: P182432

Luminaire Tested: **LDSQA4A13835D010TE LAR15SP 4LSQA1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P182432  
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: LDSQA4A13835D010TE LAR15SP 4LSQA1H  
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 15° SPOT  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1679.2 lumens  
Efficiency: N/A  
Efficacy: 75.4 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

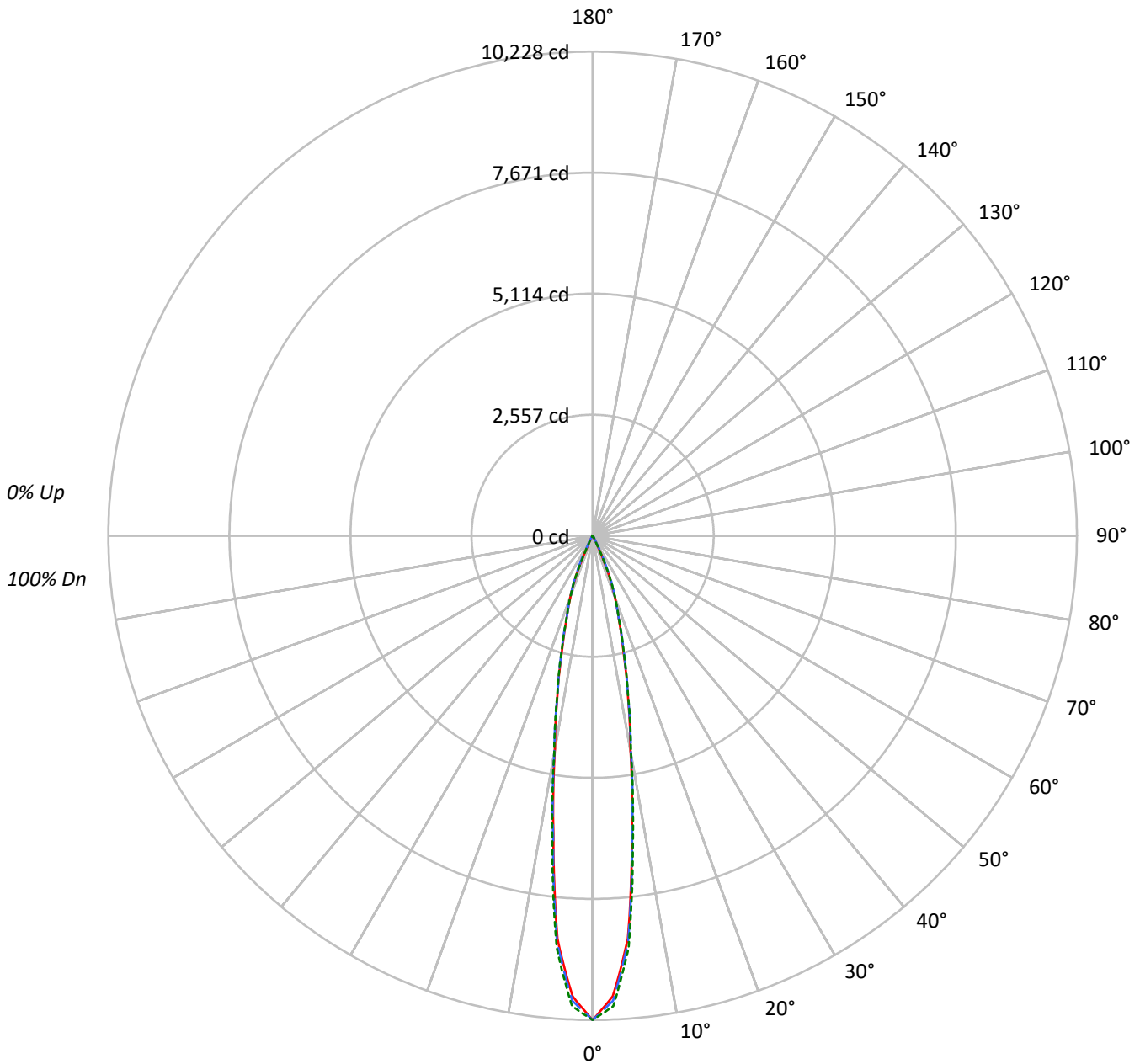
Input Watts (W): 22.27  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

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

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

	0°	45°	90°
0°	990842	990842	990842
5°	830496	837517	849692
10°	451823	458532	460273
15°	249849	253871	254834
20°	141484	141897	142722
25°	38609	60478	37914
30°	6197	9430	6018
35°	2093	3512	1999
40°	911	1416	911
45°	548	658	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°	681.8	40.6
10°-20°	720.9	42.9
20°-30°	253.6	15.1
30°-40°	17.1	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°	1656.3	98.6
0°-40°	1673.4	99.7
0°-60°	1678.1	99.9
0°-90°	1679.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1679.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	10228	10228	10228	10228	10228	
5°	8540	8669	8612	8628	8738	674
15°	2491	2533	2531	2526	2541	714
25°	361	548	566	539	355	223
35°	18	22	30	22	17	14
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°	10228.0	10228.0	10228.0	10228.0	10228.0
2.5°	9736.8	9864.4	9832.3	9811.4	9945.5
5°	8540.2	8668.6	8612.4	8628.4	8737.6
7.5°	6349.1	6457.5	6399.7	6423.8	6507.2
10°	4593.1	4700.7	4661.3	4674.2	4679.0
12.5°	3424.6	3471.9	3440.6	3449.4	3465.5
15°	2491.2	2532.9	2531.3	2525.7	2540.9
17.5°	1828.3	1848.3	1828.3	1827.5	1837.9
20°	1372.4	1400.5	1376.4	1379.6	1384.4
22.5°	922.2	978.3	968.7	956.7	943.8
25°	361.2	548.2	565.8	539.3	354.7
27.5°	103.5	170.9	243.2	167.7	100.3
30°	55.4	65.8	84.3	64.2	53.8
32.5°	29.7	37.7	48.2	36.9	28.9
35°	17.7	21.7	29.7	21.7	16.9
37.5°	11.2	13.6	18.5	13.6	11.2
40°	7.2	8.8	11.2	8.8	7.2
42.5°	5.6	6.4	7.2	5.6	4.8
45°	4.0	4.0	4.8	4.0	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)