

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: P182617

Luminaire Tested: **LDSQA4A09840D010TE LAR15SP 4LSQA1H-LSF-20**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P182617  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26829)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA4A09840D010TE LAR15SP 4LSQA1H-LSF-20  
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 15° SPOT WITH SOLITE LENS  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1119.2 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 0.35 / 0.35 / 0.39  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

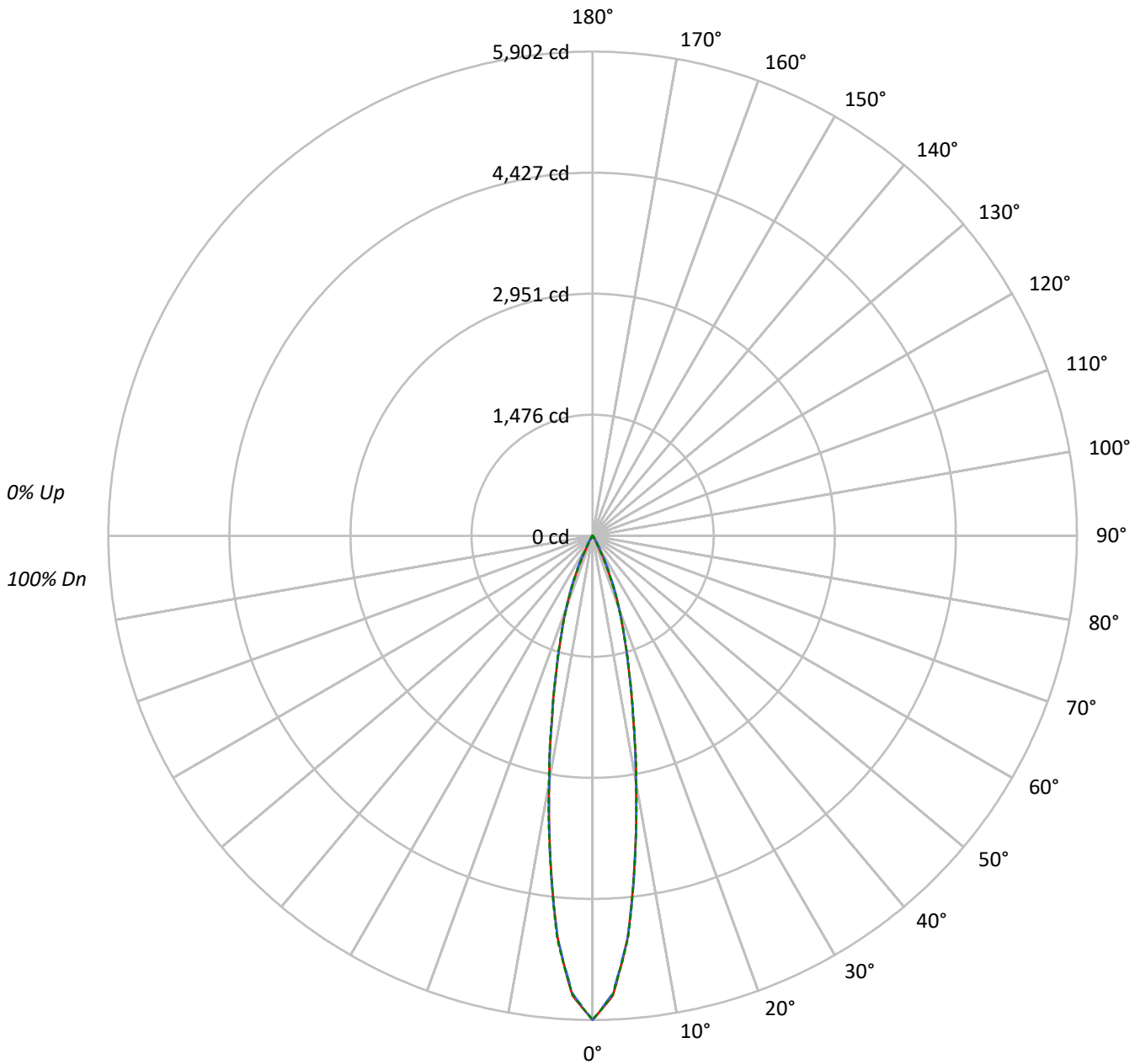
Input Watts (W): 13.84  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	113	111	109	108	107	106	104	103	102	101	100	99	98	97	97	98	98	97															
2	111	108	105	102	109	106	104	101	103	101	99	100	99	97	98	96	95	94	94	95	95	94															
3	108	103	100	97	106	102	99	96	100	97	95	97	95	93	95	93	92	91	91	92	92	91															
4	105	99	96	93	103	98	95	92	96	93	91	95	92	90	93	91	89	88	88	89	89	88															
5	102	96	92	89	100	95	91	89	93	90	88	92	89	87	91	88	86	85	85	86	86	85															
6	99	93	89	86	98	92	88	85	91	87	85	89	87	84	88	86	84	83	83	84	84	83															
7	96	90	86	83	95	89	85	83	88	85	82	87	84	82	86	83	81	80	80	81	81	80															
8	94	87	83	80	93	87	83	80	86	82	80	85	82	80	84	81	79	78	78	79	79	78															
9	91	85	81	78	90	84	80	78	83	80	78	83	80	77	82	79	77	76	76	77	77	76															
10	89	82	78	76	88	82	78	76	81	78	75	81	78	75	80	77	75	74	74	75	75	74															

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

	0°	45°	90°
0°	571710	571710	571710
5°	477349	477349	479615
10°	299044	298376	301396
15°	170658	171621	171912
20°	96618	96319	95917
25°	36268	46893	37059
30°	7439	15705	7506
35°	2957	5109	2886
40°	1505	2226	1442
45°	1014	1165	863
50°	603	603	422
55°	287	388	186
60°	213	213	116
65°	138	138	138
70°	170	170	170
75°	0	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	407.8	36.4
10°-20°	485.0	43.3
20°-30°	193.4	17.3
30°-40°	24.4	2.2
40°-50°	6.0	0.5
50°-60°	1.8	0.2
60°-70°	0.6	0.1
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°	1086.2	97.0
0°-40°	1110.5	99.2
0°-60°	1118.3	99.9
0°-90°	1119.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1119.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5902	5902	5902	5902	5902	
5°	4909	4954	4909	4913	4932	407
15°	1702	1712	1711	1711	1714	484
25°	339	417	439	400	347	175
35°	25	30	43	29	24	18
45°	7	7	8	7	6	6
55°	2	2	2	2	1	2
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°	5901.5	5901.5	5901.5	5901.5	5901.5
2.5°	5611.7	5641.8	5583.8	5589.5	5596.9
5°	4908.7	4953.6	4908.7	4913.2	4932.0
7.5°	3949.9	3989.1	3963.5	3974.9	3954.4
10°	3040.0	3054.2	3033.2	3043.4	3063.9
12.5°	2285.8	2301.7	2286.4	2287.0	2296.0
15°	1701.6	1711.8	1711.2	1711.2	1714.1
17.5°	1270.8	1284.4	1269.6	1270.8	1274.2
20°	937.2	946.3	934.3	932.6	930.4
22.5°	639.4	658.7	666.1	656.4	625.7
25°	339.3	416.6	438.7	399.5	346.7
27.5°	136.4	207.4	256.3	202.9	148.3
30°	66.5	90.4	140.4	92.6	67.1
32.5°	39.2	48.9	76.7	48.3	38.6
35°	25.0	30.1	43.2	29.0	24.4
37.5°	16.5	19.9	26.7	19.3	15.9
40°	11.9	13.6	17.6	13.1	11.4
42.5°	9.1	9.7	11.9	9.7	8.5
45°	7.4	7.4	8.5	6.8	6.3
47.5°	5.7	5.7	5.7	5.1	4.0
50°	4.0	4.0	4.0	3.4	2.8
52.5°	2.8	2.8	2.8	2.3	1.7
55°	1.7	1.7	2.3	1.7	1.1
57.5°	1.7	1.1	1.7	1.1	1.1
60°	1.1	1.1	1.1	0.6	0.6
62.5°	0.6	0.6	0.6	0.6	0.6
65°	0.6	0.6	0.6	0.6	0.6
67.5°	0.6	0.6	0.6	0.6	0.6
70°	0.6	0.6	0.6	0.6	0.6
72.5°	0.6	0.6	0.6	0.6	0.0
75°	0.0	0.6	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)