

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: P182620

Luminaire Tested: **LDSQA4A09935D010TE LAR15SP 4LSQA1H-LSF-20**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P182620  
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: LDSQA4A09935D010TE 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 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 870.8 lumens  
Efficiency: N/A  
Efficacy: 62.9 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

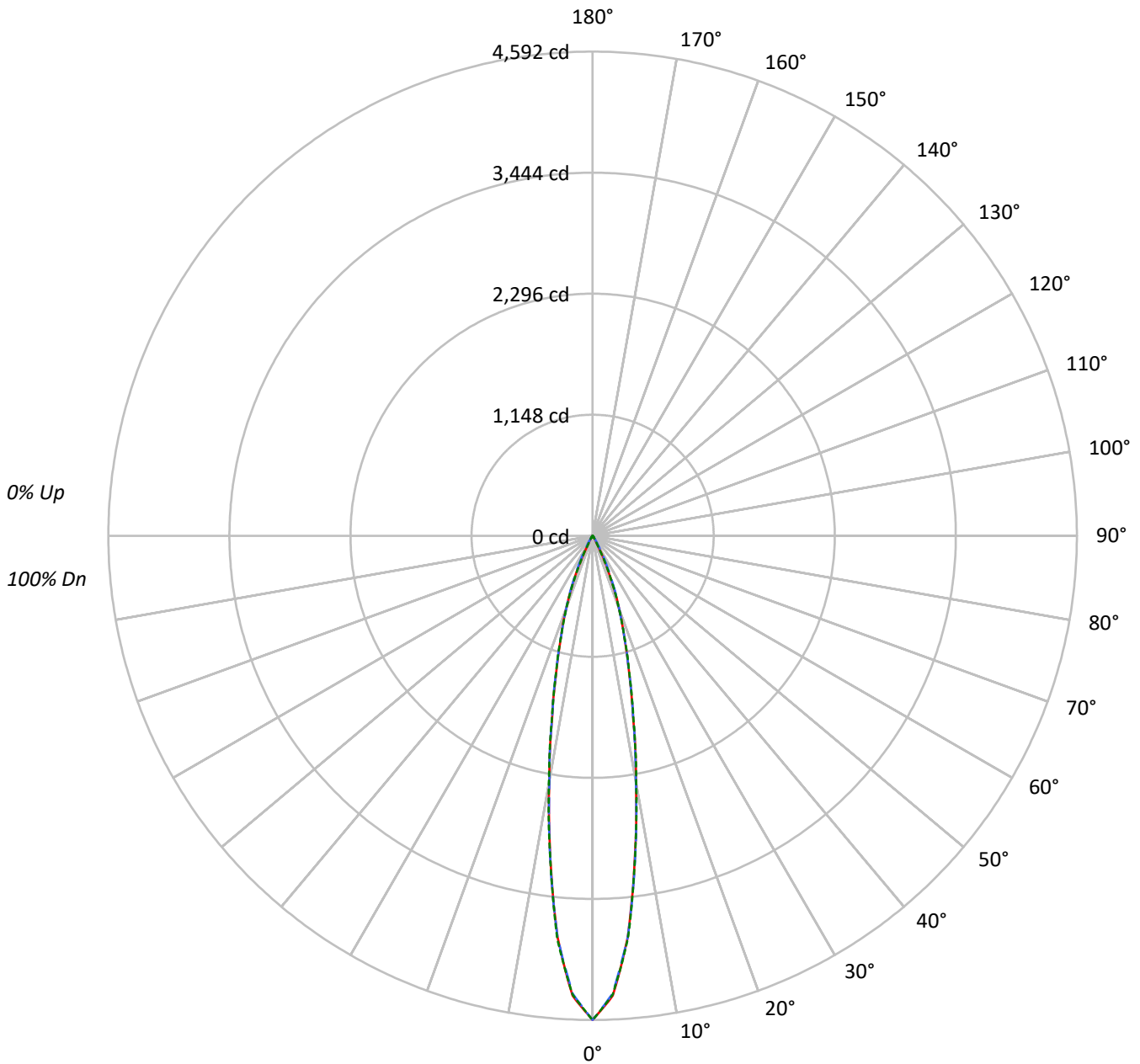
Input Watts (W): 13.84  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	444871	444871	444871
5°	371439	371439	373209
10°	232694	232173	234524
15°	132798	133550	133771
20°	75185	74948	74629
25°	28219	36492	28839
30°	5783	12215	5839
35°	2306	3974	2247
40°	1176	1733	1113
45°	781	904	671
50°	467	467	332
55°	220	304	152
60°	174	174	78
65°	92	92	92
70°	113	113	113
75°	0	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	317.3	36.4
10°-20°	377.4	43.3
20°-30°	150.5	17.3
30°-40°	19.0	2.2
40°-50°	4.7	0.5
50°-60°	1.4	0.2
60°-70°	0.4	0.0
70°-80°	0.2	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°	845.2	97.1
0°-40°	864.2	99.2
0°-60°	870.2	99.9
0°-90°	870.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	870.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4592	4592	4592	4592	4592	
5°	3820	3855	3820	3823	3838	316
15°	1324	1332	1332	1332	1334	376
25°	264	324	341	311	270	136
35°	20	23	34	23	19	14
45°	6	6	7	5	5	4
55°	1	1	2	1	1	2
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°
0°	4592.2	4592.2	4592.2	4592.2	4592.2
2.5°	4366.7	4390.1	4345.0	4349.4	4355.2
5°	3819.6	3854.6	3819.6	3823.2	3837.8
7.5°	3073.6	3104.1	3084.2	3093.0	3077.1
10°	2365.5	2376.6	2360.2	2368.2	2384.1
12.5°	1778.7	1791.1	1779.1	1779.6	1786.7
15°	1324.1	1332.0	1331.6	1331.6	1333.8
17.5°	988.9	999.5	988.0	988.9	991.5
20°	729.3	736.3	727.0	725.7	723.9
22.5°	497.5	512.6	518.3	510.8	486.9
25°	264.0	324.2	341.4	310.9	269.8
27.5°	106.1	161.4	199.5	157.9	115.4
30°	51.7	70.3	109.2	72.1	52.2
32.5°	30.5	38.0	59.7	37.6	30.1
35°	19.5	23.4	33.6	22.6	19.0
37.5°	12.8	15.5	20.8	15.0	12.4
40°	9.3	10.6	13.7	10.2	8.8
42.5°	7.1	7.5	9.3	7.5	6.6
45°	5.7	5.7	6.6	5.3	4.9
47.5°	4.4	4.4	4.4	4.0	3.1
50°	3.1	3.1	3.1	2.7	2.2
52.5°	2.2	2.2	2.2	1.8	1.3
55°	1.3	1.3	1.8	1.3	0.9
57.5°	1.3	0.9	1.3	0.9	0.9
60°	0.9	0.9	0.9	0.4	0.4
62.5°	0.4	0.4	0.4	0.4	0.4
65°	0.4	0.4	0.4	0.4	0.4
67.5°	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.0
75°	0.0	0.4	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)