

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: P182637

Luminaire Tested: **LDSQA4A28940D010TE LAR15SP 4LSQA1H-LSF-20**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P182637  
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: LDSQA4A28940D010TE 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 / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2376.2 lumens  
Efficiency: N/A  
Efficacy: 53.4 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

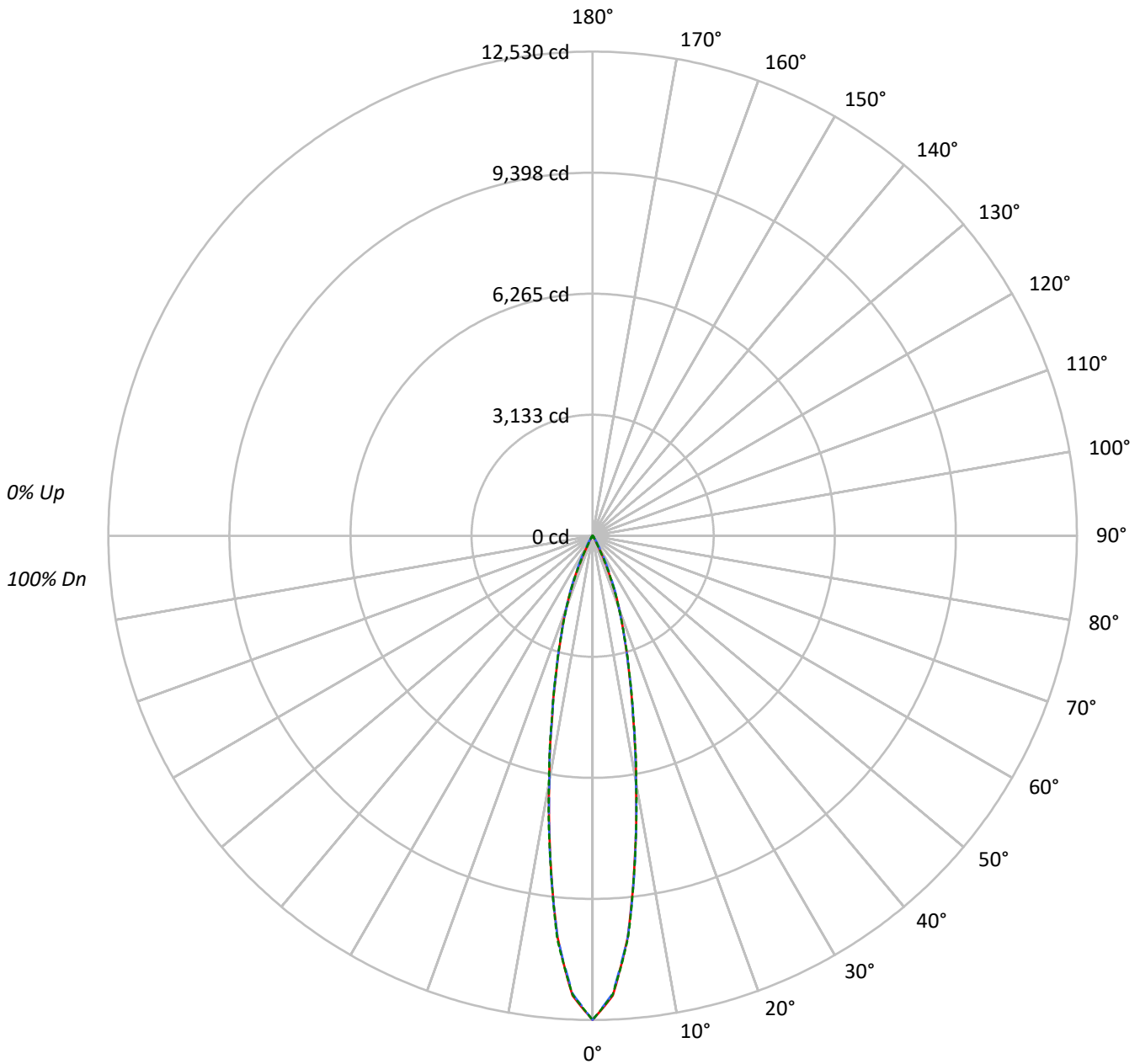
Input Watts (W): 44.49  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	76	81	78	75	80	77	75	74	74	75	75	74															

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

	0°	45°	90°
0°	1213839	1213839	1213839
5°	1013483	1013483	1018287
10°	634919	633492	639906
15°	362328	364384	364996
20°	205134	204505	203639
25°	77004	99568	78682
30°	15795	33335	15929
35°	6280	10845	6138
40°	3199	4730	3048
45°	2151	2480	1822
50°	1266	1266	904
55°	608	811	405
60°	465	465	233
65°	275	275	275
70°	340	340	340
75°	0	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	865.8	36.4
10°-20°	1029.7	43.3
20°-30°	410.5	17.3
30°-40°	51.8	2.2
40°-50°	12.8	0.5
50°-60°	3.7	0.2
60°-70°	1.3	0.1
70°-80°	0.5	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°	2306.1	97.1
0°-40°	2357.9	99.2
0°-60°	2374.4	99.9
0°-90°	2376.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2376.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12530	12530	12530	12530	12530	
5°	10422	10517	10422	10432	10471	863
15°	3613	3634	3633	3633	3639	1027
25°	720	884	932	848	736	371
35°	53	64	92	62	52	39
45°	16	16	18	14	13	12
55°	4	4	5	4	2	4
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°	12529.9	12529.9	12529.9	12529.9	12529.9
2.5°	11914.5	11978.4	11855.4	11867.4	11883.1
5°	10421.9	10517.2	10421.9	10431.5	10471.3
7.5°	8386.2	8469.5	8415.2	8439.3	8395.9
10°	6454.4	6484.6	6439.9	6461.6	6505.1
12.5°	4853.2	4886.9	4854.4	4855.6	4874.9
15°	3612.7	3634.4	3633.2	3633.2	3639.3
17.5°	2698.1	2727.0	2695.7	2698.1	2705.3
20°	1989.8	2009.1	1983.7	1980.1	1975.3
22.5°	1357.5	1398.5	1414.2	1393.7	1328.5
25°	720.4	884.5	931.5	848.3	736.1
27.5°	289.6	440.4	544.2	430.8	314.9
30°	141.2	191.9	298.0	196.7	142.4
32.5°	83.3	103.8	162.9	102.6	82.1
35°	53.1	64.0	91.7	61.5	51.9
37.5°	35.0	42.2	56.7	41.0	33.8
40°	25.3	29.0	37.4	27.8	24.1
42.5°	19.3	20.5	25.3	20.5	18.1
45°	15.7	15.7	18.1	14.5	13.3
47.5°	12.1	12.1	12.1	10.9	8.4
50°	8.4	8.4	8.4	7.2	6.0
52.5°	6.0	6.0	6.0	4.8	3.6
55°	3.6	3.6	4.8	3.6	2.4
57.5°	3.6	2.4	3.6	2.4	2.4
60°	2.4	2.4	2.4	1.2	1.2
62.5°	1.2	1.2	1.2	1.2	1.2
65°	1.2	1.2	1.2	1.2	1.2
67.5°	1.2	1.2	1.2	1.2	1.2
70°	1.2	1.2	1.2	1.2	1.2
72.5°	1.2	1.2	1.2	1.2	0.0
75°	0.0	1.2	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)