

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: P1191781

Luminaire Tested: **LDA4A30927D010TE LAR15SP 4LAL1 30° Tilt**

Issue Date: 3/3/2020

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-41-14
Report Number: P1191781
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26104)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A30927D010TE LAR15SP 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 15° Spot Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

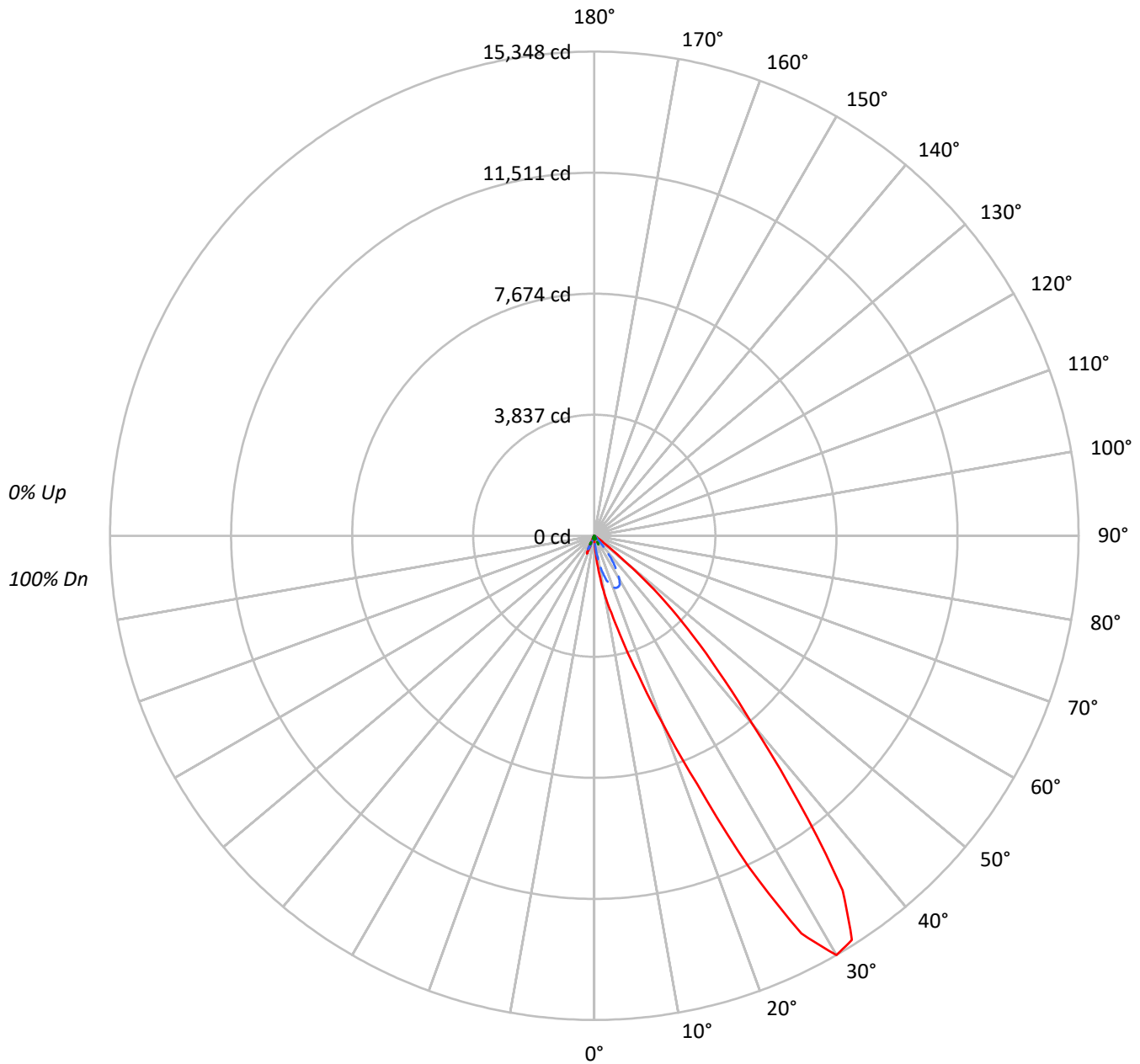
Lumens per Lamp: N/A
Luminaire Lumens: 2656.9 lumens
Efficiency: N/A
Efficacy: 67.4 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (Ain): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91		
2	105	100	95	91	103	98	93	90	94	91	88	91	88	86	89	86	84	82		
3	99	91	85	80	96	89	84	79	87	82	78	84	80	77	82	78	76	74		
4	92	83	76	71	90	82	75	70	79	74	70	77	72	69	75	71	68	66		
5	86	75	68	63	84	74	68	63	73	67	62	71	66	62	69	65	61	59		
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53		
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	49	48		
8	69	58	50	45	68	57	50	45	56	50	45	55	49	45	54	48	45	43		
9	65	53	46	41	64	52	46	41	51	45	41	50	45	40	49	44	40	39		
10	61	49	42	37	59	48	41	37	47	41	37	46	41	37	46	40	36	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	15455	15455	15455
5°	81546	14623	7763
10°	238511	12412	5110
15°	433888	10420	5759
20°	827723	11866	28116
25°	1573075	41251	62060
30°	2185988	13901	12035
35°	2065814	6354	4608
40°	1252079	2818	1642
45°	733769	1518	506
50°	243511	1113	0
55°	46386	946	0
60°	10410	715	0
65°	2977	1284	0
70°	1046	1587	0
75°	0	2097	0
80°	0	3125	0
85°	0	6227	2123



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.9	1.1
10°-20°	244.5	9.2
20°-30°	866.9	32.6
30°-40°	1027.8	38.7
40°-50°	437.2	16.5
50°-60°	39.5	1.5
60°-70°	4.9	0.2
70°-80°	3.3	0.1
80°-90°	3.0	0.1
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°	1141.2	43.0
0°-40°	2169.0	81.6
0°-60°	2645.8	99.6
0°-90°	2656.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2656.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	125	125	125	125	125	
5°	659	325	118	74	63	102
15°	3398	1431	82	45	45	1096
25°	11558	1794	303	476	456	5355
35°	13719	1059	42	32	31	7925
45°	4206	117	9	6	3	3297
55°	216	18	4	3	0	302
65°	10	4	4	3	0	14
75°	0	3	4	4	0	1
85°	0	3	4	4	2	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3
2.5°	230.2	217.1	225.8	222.9	224.4	228.7	224.4	224.4	222.9	217.1	217.1
5°	658.6	619.3	638.1	628.0	633.8	641.0	630.9	628.0	623.6	610.4	607.5
7.5°	1226.8	1204.9	1228.3	1210.7	1226.8	1229.7	1215.2	1212.2	1204.9	1186.1	1178.7
10°	1904.3	1867.9	1889.7	1870.8	1895.5	1894.1	1870.8	1873.8	1864.9	1840.2	1828.5
12.5°	2504.7	2475.5	2497.3	2443.5	2504.7	2465.2	2469.6	2475.5	2463.8	2431.7	2417.2
15°	3397.8	3317.6	3355.6	3262.3	3355.6	3342.4	3291.5	3288.4	3257.8	3204.0	3172.0
17.5°	4583.8	4605.6	4577.9	4522.6	4646.5	4612.8	4540.0	4525.5	4467.2	4320.0	4317.1
20°	6305.9	6276.8	6323.5	6148.6	6307.4	6152.9	6132.6	6091.7	5992.7	5787.3	5755.2
22.5°	8510.4	8526.5	8443.4	8322.4	8517.8	8278.8	8206.0	8108.4	7927.6	7611.5	7512.4
25°	11558.5	11538.0	11430.3	11229.3	11437.5	11051.5	10869.3	10668.3	10331.7	9839.2	9601.7
27.5°	14214.6	14297.7	14226.3	14022.3	14160.8	13780.5	13360.8	13232.6	12776.6	12155.9	11727.4
30°	15348.1	15387.6	15357.0	15201.1	15250.5	14937.3	14522.0	14370.5	13902.9	13315.7	12760.5
32.5°	15192.2	15211.2	15217.0	15008.8	15017.5	14721.7	14287.5	14063.2	13553.1	12987.8	12324.8
35°	13719.3	13797.9	13848.9	13653.7	13459.8	13165.6	12673.0	12324.8	11788.7	11272.9	10595.3
37.5°	10624.5	10723.7	10802.3	10636.2	10544.4	10189.0	9779.5	9509.9	9139.8	8836.8	8355.9
40°	7776.1	7795.1	7843.1	7757.1	7614.4	7519.7	7285.0	7132.2	6907.7	6744.5	6425.4
42.5°	5780.0	5769.7	5803.2	5755.2	5750.9	5608.0	5459.4	5369.2	5291.9	5120.0	4895.5
45°	4206.5	4209.4	4241.4	4210.8	4129.2	4098.6	4001.0	3919.3	3817.3	3763.5	3585.7
47.5°	2860.1	2868.8	2890.7	2873.2	2798.9	2787.3	2724.7	2643.0	2641.6	2558.5	2402.6
50°	1269.0	1271.9	1298.2	1292.4	1203.5	1215.2	1174.3	1100.1	1120.5	1070.9	951.4
52.5°	421.0	422.5	427.0	423.9	409.4	409.4	399.3	397.8	386.1	374.5	348.2
55°	215.7	215.7	218.6	217.1	209.9	209.9	198.1	205.5	199.6	195.2	179.3
57.5°	91.8	91.8	93.3	93.3	88.9	93.3	88.9	88.9	86.0	84.5	78.6
60°	42.2	42.2	42.2	42.2	40.8	43.7	40.8	40.8	40.8	39.3	36.4
62.5°	21.9	21.9	21.9	21.9	21.9	21.9	21.9	20.4	20.4	20.4	19.0
65°	10.2	10.2	10.2	10.2	10.2	11.6	10.2	10.2	10.2	10.2	10.2
67.5°	4.4	4.4	4.4	5.8	5.8	5.8	5.8	5.8	4.4	4.4	4.4
70°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	1.5
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.3
2.5°	218.6	211.3	221.5	212.8	218.6	212.8	205.5	208.4	167.5	139.8	123.9
5°	609.0	587.2	606.1	587.2	588.7	578.4	550.7	547.8	324.9	158.8	118.1
7.5°	1146.6	1143.7	1167.1	1142.3	1139.4	1114.6	1063.6	1043.2	588.7	186.5	109.2
10°	1821.3	1778.9	1799.4	1773.1	1764.4	1719.3	1646.4	1607.1	875.7	214.2	99.1
12.5°	2376.3	2360.4	2374.9	2350.2	2341.4	2280.2	2194.3	2141.8	1170.0	230.2	88.9
15°	3102.0	3069.9	3080.2	3029.1	3002.9	2886.4	2739.2	2643.0	1430.7	228.7	81.6
17.5°	4209.4	4146.7	4140.9	4053.4	3989.3	3778.0	3514.4	3316.1	1621.7	211.3	78.6
20°	5596.4	5482.7	5444.9	5306.5	5198.6	4848.9	4442.4	4120.5	1741.1	188.0	90.4
22.5°	7258.9	7059.2	6947.1	6725.6	6540.6	5979.6	5383.7	4901.4	1793.6	180.7	129.7
25°	9196.7	8854.3	8616.8	8268.6	7956.8	7095.6	6259.4	5583.2	1793.6	234.5	303.1
27.5°	11162.1	10621.6	10184.5	9676.0	9202.5	7981.5	6903.3	6023.3	1749.9	292.8	276.9
30°	12157.3	11492.9	10898.5	10304.0	9709.5	8242.4	7047.6	6077.2	1585.2	171.9	97.6
32.5°	11734.8	11033.9	10376.9	9801.3	9214.2	7781.9	6657.0	5720.3	1331.7	100.5	62.7
35°	10114.6	9507.0	8935.9	8506.0	8048.6	6917.9	5911.1	5095.2	1059.3	78.6	42.2
37.5°	8073.3	7659.5	7253.0	6977.7	6649.8	5800.3	4988.8	4320.0	757.6	56.8	26.2
40°	6262.3	5979.6	5695.5	5520.6	5289.0	4669.7	4037.4	3505.5	447.3	39.3	17.5
42.5°	4796.4	4601.2	4389.9	4269.1	4102.9	3641.1	3147.2	2771.2	207.0	27.7	13.1
45°	3526.0	3381.7	3220.0	3142.8	3026.2	2721.6	2393.9	2128.8	116.6	20.4	8.7
47.5°	2373.4	2245.2	2095.2	2047.1	1934.9	1668.3	1333.1	1072.4	77.2	14.5	7.3
50°	944.1	859.6	808.7	741.7	676.0	566.8	423.9	338.1	46.6	11.6	5.8
52.5°	346.8	327.8	319.1	301.7	287.0	256.4	217.1	188.0	27.7	8.7	4.4
55°	180.7	169.0	163.2	157.4	148.7	131.1	109.2	93.3	17.5	5.8	4.4
57.5°	78.6	74.3	75.7	69.9	65.6	59.8	52.5	45.1	11.6	5.8	4.4
60°	37.9	35.0	36.4	33.5	32.1	30.6	27.7	23.3	7.3	4.4	2.9
62.5°	19.0	19.0	19.0	17.5	17.5	16.1	14.5	13.1	5.8	4.4	4.4
65°	10.2	8.7	10.2	8.7	8.7	8.7	7.3	7.3	4.4	4.4	4.4
67.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	2.9	4.4	4.4
70°	2.9	2.9	2.9	2.9	2.9	2.9	1.5	2.9	2.9	4.4	4.4
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4	4.4
75°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.4	4.4
77.5°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.4	4.4
80°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.4	4.4
82.5°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.4	4.4
85°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.4	4.4
87.5°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.4	4.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	125.3	125.3	125.3	125.3
2.5°	104.9	93.3	84.5	83.1
5°	88.9	74.3	64.1	62.7
7.5°	75.7	59.8	51.0	49.6
10°	67.0	51.0	42.2	40.8
12.5°	59.8	45.1	39.3	37.9
15°	55.4	45.1	43.7	45.1
17.5°	59.8	61.2	67.0	74.3
20°	99.1	141.3	183.6	214.2
22.5°	222.9	412.3	546.3	610.4
25°	421.0	476.4	477.9	456.0
27.5°	228.7	182.2	163.2	154.5
30°	90.4	86.0	86.0	84.5
32.5°	59.8	55.4	53.9	52.5
35°	36.4	32.1	30.6	30.6
37.5°	23.3	20.4	19.0	17.5
40°	16.1	13.1	11.6	10.2
42.5°	11.6	8.7	5.8	5.8
45°	8.7	5.8	2.9	2.9
47.5°	7.3	4.4	1.5	1.5
50°	5.8	2.9	1.5	0.0
52.5°	4.4	2.9	0.0	0.0
55°	4.4	2.9	0.0	0.0
57.5°	4.4	2.9	0.0	0.0
60°	4.4	2.9	0.0	0.0
62.5°	4.4	2.9	0.0	0.0
65°	4.4	2.9	1.5	0.0
67.5°	5.8	2.9	1.5	0.0
70°	5.8	2.9	1.5	0.0
72.5°	5.8	2.9	1.5	0.0
75°	5.8	4.4	1.5	0.0
77.5°	5.8	4.4	1.5	0.0
80°	5.8	4.4	1.5	0.0
82.5°	5.8	4.4	1.5	0.0
85°	5.8	4.4	1.5	1.5
87.5°	5.8	4.4	1.5	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)