

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: P1191817

Luminaire Tested: **LDA4A30935D010TE 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: P1191817
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: LDA4A30935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

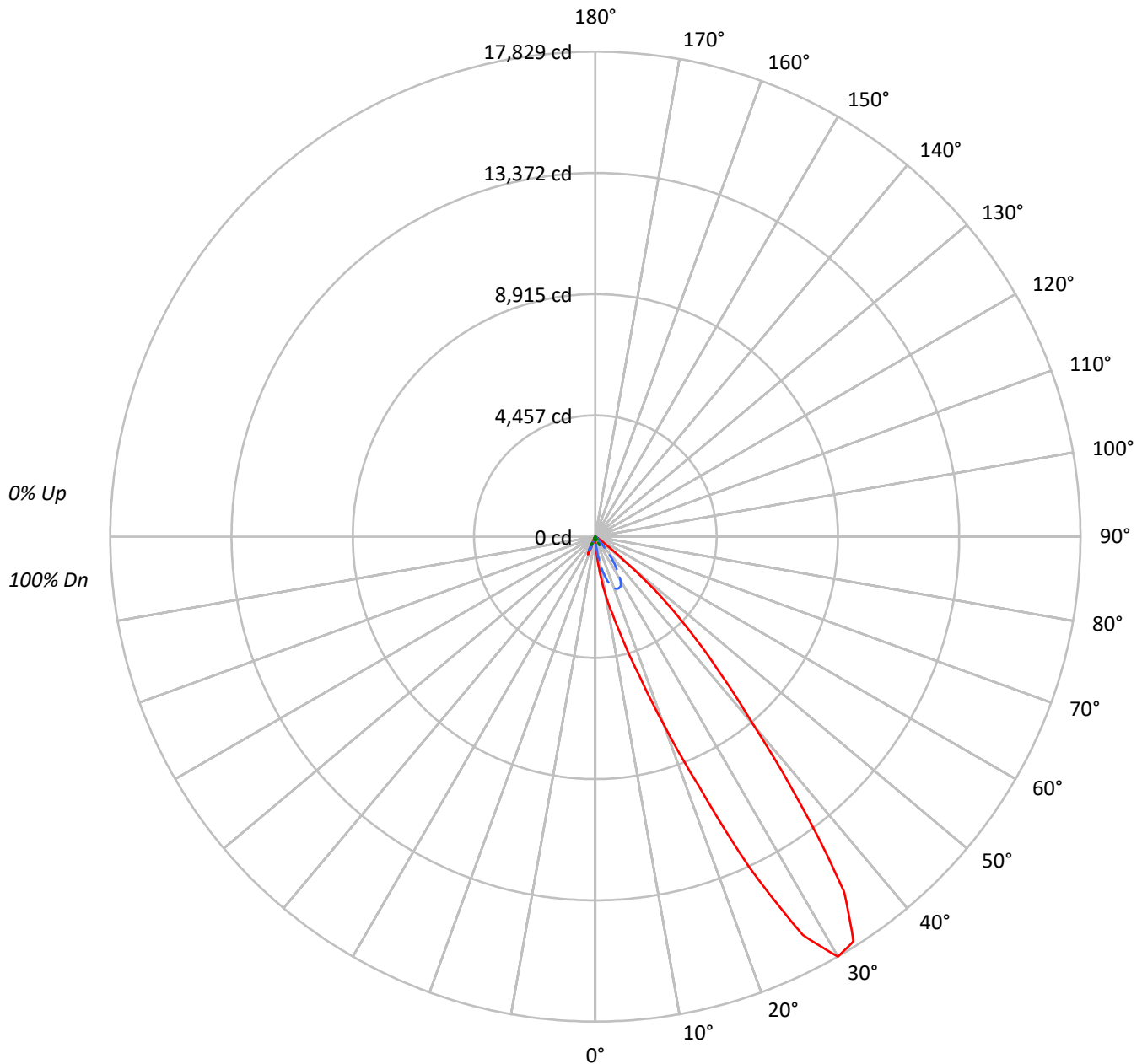
Lumens per Lamp: N/A
Luminaire Lumens: 3086.2 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	37	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17959	17959	17959
5°	94720	16963	9014
10°	277062	14416	5937
15°	504019	12106	6704
20°	961531	13782	32658
25°	1827359	47906	72090
30°	2539364	16151	13972
35°	2399734	7393	5345
40°	1454460	3269	1916
45°	852369	1779	593
50°	282906	1286	0
55°	53869	1075	0
60°	12113	839	0
65°	3473	1459	0
70°	1226	1803	0
75°	0	2383	0
80°	0	3552	0
85°	0	7076	2406



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.7	1.1
10°-20°	284.0	9.2
20°-30°	1007.0	32.6
30°-40°	1193.9	38.7
40°-50°	507.9	16.5
50°-60°	45.9	1.5
60°-70°	5.6	0.2
70°-80°	3.7	0.1
80°-90°	3.4	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°	1325.7	43.0
0°-40°	2519.6	81.6
0°-60°	3073.4	99.6
0°-90°	3086.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3086.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	146	146	146	146	146	
5°	765	377	137	86	73	119
15°	3947	1662	95	52	52	1273
25°	13427	2084	352	554	530	6221
35°	15937	1230	49	37	36	9206
45°	4886	136	10	7	3	3830
55°	250	20	5	3	0	351
65°	12	5	5	3	0	17
75°	0	3	5	5	0	1
85°	0	3	5	5	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°	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6
2.5°	267.4	252.2	262.4	258.9	260.6	265.8	260.6	260.6	258.9	252.2	252.2
5°	765.0	719.4	741.3	729.5	736.3	744.7	732.8	729.5	724.4	709.2	705.8
7.5°	1425.1	1399.7	1426.8	1406.5	1425.1	1428.5	1411.6	1408.2	1399.7	1377.7	1369.3
10°	2212.1	2169.8	2195.2	2173.2	2202.0	2200.2	2173.2	2176.6	2166.5	2137.7	2124.1
12.5°	2909.5	2875.6	2901.0	2838.4	2909.5	2863.7	2868.8	2875.6	2862.1	2824.8	2807.9
15°	3947.0	3853.9	3897.9	3789.5	3897.9	3882.6	3823.4	3820.0	3784.5	3721.9	3684.7
17.5°	5324.7	5350.0	5318.0	5253.6	5397.5	5358.6	5273.9	5257.0	5189.2	5018.3	5015.0
20°	7325.3	7291.5	7345.6	7142.4	7327.0	7147.6	7123.8	7076.5	6961.3	6722.7	6685.5
22.5°	9886.1	9904.7	9808.2	9667.7	9894.6	9616.9	9532.4	9418.9	9209.1	8841.9	8726.7
25°	13426.9	13403.1	13277.9	13044.3	13286.4	12837.8	12626.2	12392.8	12001.8	11429.6	11153.8
27.5°	16512.3	16608.8	16525.9	16289.0	16449.8	16007.9	15520.5	15371.6	14841.8	14120.8	13623.1
30°	17829.2	17874.8	17839.3	17658.2	17715.8	17351.8	16869.5	16693.4	16150.1	15468.0	14823.2
32.5°	17648.1	17670.0	17676.8	17434.8	17445.0	17101.4	16597.0	16336.3	15744.0	15087.2	14317.1
35°	15936.9	16028.2	16087.6	15860.7	15635.5	15293.7	14721.6	14317.1	13694.2	13095.1	12308.1
37.5°	12342.0	12457.0	12548.4	12355.4	12248.9	11835.9	11360.2	11047.1	10617.2	10265.2	9706.7
40°	9033.0	9055.0	9110.9	9011.1	8845.1	8735.1	8462.6	8285.0	8024.3	7834.8	7464.0
42.5°	6714.3	6702.4	6741.3	6685.5	6680.4	6514.6	6341.9	6236.9	6147.2	5947.5	5686.9
45°	4886.4	4889.7	4926.9	4891.4	4796.6	4761.1	4647.7	4553.0	4434.4	4371.9	4165.3
47.5°	3322.5	3332.6	3357.9	3337.6	3251.4	3237.8	3165.1	3070.3	3068.5	2972.1	2791.0
50°	1474.3	1477.6	1508.0	1501.3	1398.0	1411.6	1364.1	1277.9	1301.6	1244.0	1105.2
52.5°	489.1	490.8	495.9	492.5	475.6	475.6	463.8	462.0	448.5	435.0	404.5
55°	250.5	250.5	253.9	252.2	243.8	243.8	230.2	238.6	231.9	226.7	208.1
57.5°	106.6	106.6	108.3	108.3	103.3	108.3	103.3	103.3	99.8	98.1	91.4
60°	49.1	49.1	49.1	49.1	47.4	50.8	47.4	47.4	47.4	45.6	42.3
62.5°	25.3	25.3	25.3	25.3	25.3	25.3	25.3	23.7	23.7	23.7	22.0
65°	11.9	11.9	11.9	11.9	11.9	13.6	11.9	11.9	11.9	11.9	11.9
67.5°	5.0	5.0	5.0	6.7	6.7	6.7	6.7	6.7	5.0	5.0	5.0
70°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	1.7
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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°	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6
2.5°	253.9	245.5	257.2	247.1	253.9	247.1	238.6	242.0	194.7	162.5	143.9
5°	707.5	682.1	704.1	682.1	683.8	671.9	639.7	636.4	377.4	184.5	137.0
7.5°	1332.1	1328.6	1355.7	1326.9	1323.5	1294.7	1235.5	1211.9	683.8	216.6	126.9
10°	2115.7	2066.6	2090.2	2059.8	2049.6	1997.2	1912.6	1866.9	1017.2	248.8	115.1
12.5°	2760.6	2742.0	2758.8	2730.1	2719.9	2648.8	2549.0	2488.0	1359.1	267.4	103.3
15°	3603.4	3566.2	3577.9	3518.7	3488.3	3352.9	3182.0	3070.3	1662.1	265.8	94.8
17.5°	4889.7	4816.9	4810.2	4708.6	4634.2	4388.7	4082.3	3852.2	1883.8	245.5	91.4
20°	6501.0	6369.0	6325.0	6164.3	6039.0	5632.7	5160.5	4786.4	2022.6	218.3	105.0
22.5°	8432.2	8200.3	8070.0	7812.8	7597.8	6946.2	6254.0	5693.6	2083.5	209.9	150.6
25°	10683.3	10285.5	10009.6	9605.2	9243.0	8242.6	7271.2	6485.8	2083.5	272.5	352.0
27.5°	12966.5	12338.5	11830.9	11240.1	10690.0	9271.7	8019.2	6997.0	2032.7	340.2	321.6
30°	14122.5	13350.8	12660.1	11969.6	11279.0	9574.7	8186.8	7059.6	1841.5	199.7	113.4
32.5°	13631.7	12817.5	12054.2	11385.7	10703.6	9039.8	7733.2	6644.9	1546.9	116.7	72.8
35°	11749.6	11043.8	10380.3	9881.0	9349.5	8036.2	6866.6	5918.8	1230.5	91.4	49.1
37.5°	9378.3	8897.6	8425.4	8105.6	7724.7	6738.0	5795.2	5018.3	880.2	66.0	30.5
40°	7274.5	6946.2	6616.2	6413.0	6143.9	5424.6	4690.0	4072.2	519.6	45.6	20.3
42.5°	5571.8	5345.0	5099.6	4959.1	4766.1	4229.7	3655.9	3219.2	240.3	32.2	15.2
45°	4095.9	3928.4	3740.4	3650.8	3515.4	3161.7	2780.9	2472.7	135.5	23.7	10.2
47.5°	2757.1	2608.2	2433.8	2378.0	2247.7	1937.9	1548.6	1245.7	89.7	16.9	8.4
50°	1096.8	998.6	939.4	861.4	785.3	658.4	492.5	392.7	54.2	13.6	6.7
52.5°	402.8	380.8	370.6	350.3	333.4	297.8	252.2	218.3	32.2	10.2	5.0
55°	209.9	196.3	189.5	182.8	172.7	152.3	126.9	108.3	20.3	6.7	5.0
57.5°	91.4	86.3	88.0	81.3	76.1	69.4	60.9	52.5	13.6	6.7	5.0
60°	44.1	40.6	42.3	38.9	37.2	35.5	32.2	27.0	8.4	5.0	3.4
62.5°	22.0	22.0	22.0	20.3	20.3	18.6	16.9	15.2	6.7	5.0	5.0
65°	11.9	10.2	11.9	10.2	10.2	10.2	8.4	8.4	5.0	5.0	5.0
67.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.4	5.0	5.0
70°	3.4	3.4	3.4	3.4	3.4	3.4	1.7	3.4	3.4	5.0	5.0
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.4	5.0	5.0
75°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.4	5.0	5.0
77.5°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.4	5.0	5.0
80°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.4	5.0	5.0
82.5°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.4	5.0	5.0
85°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.4	5.0	5.0
87.5°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.4	5.0	5.0
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):

	112.5°	135°	157.5°	180°
0°	145.6	145.6	145.6	145.6
2.5°	121.9	108.3	98.1	96.4
5°	103.3	86.3	74.5	72.8
7.5°	88.0	69.4	59.2	57.5
10°	77.8	59.2	49.1	47.4
12.5°	69.4	52.5	45.6	44.1
15°	64.4	52.5	50.8	52.5
17.5°	69.4	71.1	77.8	86.3
20°	115.1	164.2	213.3	248.8
22.5°	258.9	478.9	634.7	709.2
25°	489.1	553.5	555.2	529.7
27.5°	265.8	211.6	189.5	179.4
30°	105.0	99.8	99.8	98.1
32.5°	69.4	64.4	62.7	60.9
35°	42.3	37.2	35.5	35.5
37.5°	27.0	23.7	22.0	20.3
40°	18.6	15.2	13.6	11.9
42.5°	13.6	10.2	6.7	6.7
45°	10.2	6.7	3.4	3.4
47.5°	8.4	5.0	1.7	1.7
50°	6.7	3.4	1.7	0.0
52.5°	5.0	3.4	0.0	0.0
55°	5.0	3.4	0.0	0.0
57.5°	5.0	3.4	0.0	0.0
60°	5.0	3.4	0.0	0.0
62.5°	5.0	3.4	0.0	0.0
65°	5.0	3.4	1.7	0.0
67.5°	6.7	3.4	1.7	0.0
70°	6.7	3.4	1.7	0.0
72.5°	6.7	3.4	1.7	0.0
75°	6.7	5.0	1.7	0.0
77.5°	6.7	5.0	1.7	0.0
80°	6.7	5.0	1.7	0.0
82.5°	6.7	5.0	1.7	0.0
85°	6.7	5.0	1.7	1.7
87.5°	6.7	5.0	1.7	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)