

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: P1212800

Luminaire Tested: **LDA4A30950D010TE 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: P1212800
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: LDA4A30950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

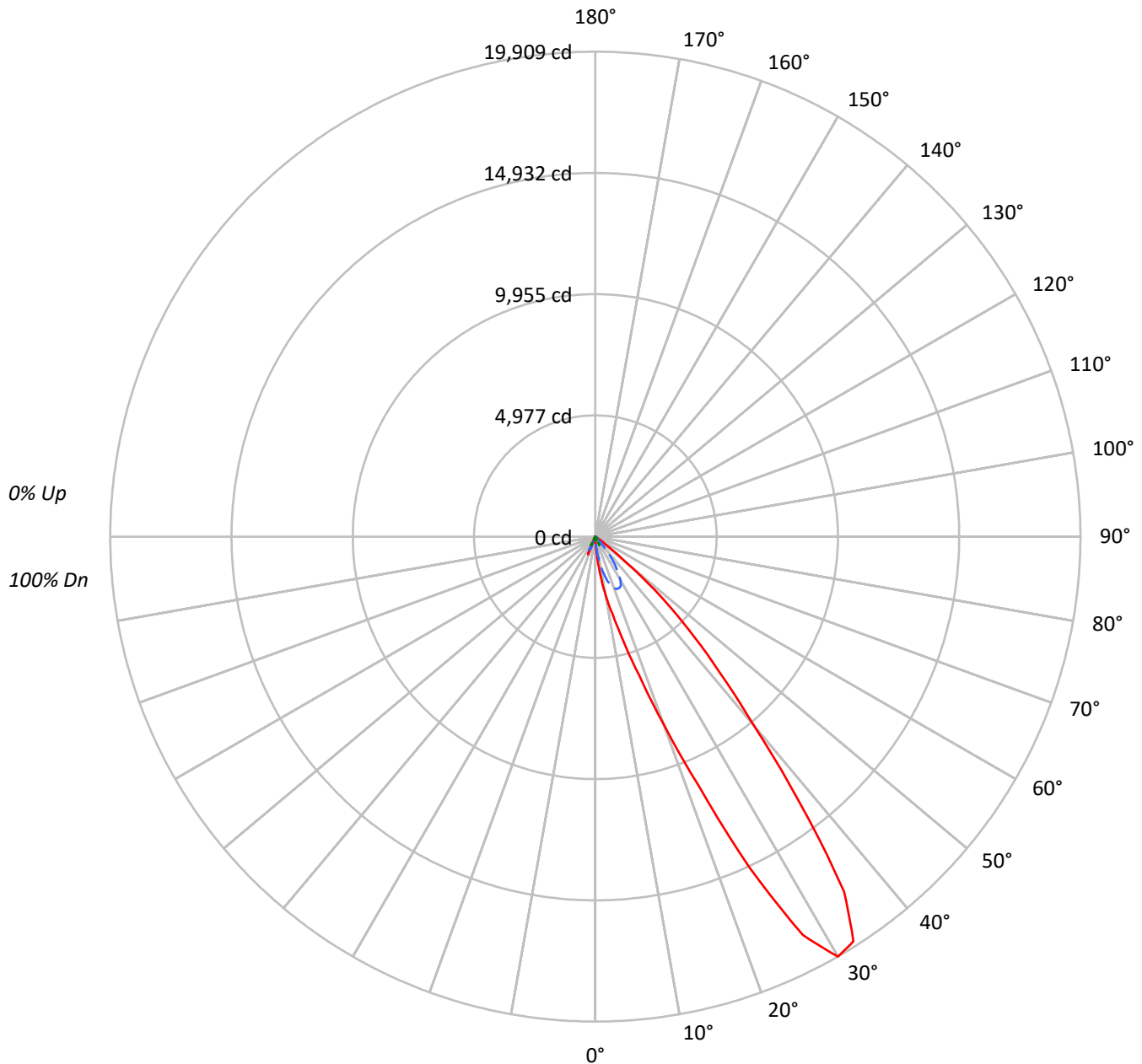
Lumens per Lamp: N/A
Luminaire Lumens: 3446.3 lumens
Efficiency: N/A
Efficacy: 87.5 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	20056	20056	20056
5°	105764	18956	10054
10°	309376	16094	6626
15°	562798	13523	7483
20°	1073681	15371	36464
25°	2040527	53500	80515
30°	2835570	18031	15610
35°	2679672	8267	5963
40°	1624139	3655	2125
45°	951798	1971	663
50°	315873	1458	0
55°	60149	1204	0
60°	13543	937	0
65°	3853	1634	0
70°	1370	2020	0
75°	0	2669	0
80°	0	3978	0
85°	0	7925	2689



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	1.1
10°-20°	317.1	9.2
20°-30°	1124.5	32.6
30°-40°	1333.2	38.7
40°-50°	567.2	16.5
50°-60°	51.3	1.5
60°-70°	6.3	0.2
70°-80°	4.2	0.1
80°-90°	3.8	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°	1480.3	43.0
0°-40°	2813.5	81.6
0°-60°	3432.0	99.6
0°-90°	3446.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3446.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	163	163	163	163	163	
5°	854	421	153	96	81	133
15°	4407	1856	106	59	59	1422
25°	14993	2326	393	618	592	6947
35°	17796	1374	55	42	40	10280
45°	5456	151	11	8	4	4277
55°	280	23	6	4	0	391
65°	13	6	6	4	0	19
75°	0	4	6	6	0	1
85°	0	4	6	6	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°	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6
2.5°	298.6	281.6	293.0	289.1	291.1	296.7	291.1	291.1	289.1	281.6	281.6
5°	854.2	803.2	827.8	814.5	822.1	831.6	818.4	814.5	808.9	792.0	788.1
7.5°	1591.4	1563.0	1593.2	1570.5	1591.4	1595.0	1576.1	1572.5	1563.0	1538.5	1529.0
10°	2470.1	2423.0	2451.4	2426.6	2458.9	2457.0	2426.6	2430.5	2419.1	2387.0	2371.9
12.5°	3248.9	3211.0	3239.4	3169.5	3248.9	3197.9	3203.5	3211.0	3195.9	3154.4	3135.5
15°	4407.3	4303.5	4352.6	4231.7	4352.6	4335.7	4269.5	4265.7	4226.0	4156.0	4114.4
17.5°	5945.8	5974.2	5938.3	5866.5	6027.1	5983.6	5889.1	5870.2	5794.7	5603.8	5600.0
20°	8179.7	8142.1	8202.5	7975.7	8181.7	7981.4	7954.9	7901.9	7773.4	7507.0	7465.3
22.5°	11039.3	11060.1	10952.3	10795.5	11048.8	10738.7	10644.3	10517.6	10283.3	9873.1	9744.7
25°	14993.2	14966.7	14826.8	14566.0	14836.2	14335.5	14099.2	13838.2	13401.8	12763.0	12454.8
27.5°	18438.5	18546.2	18453.7	18189.0	18368.6	17875.3	17331.0	17164.7	16573.2	15768.0	15212.4
30°	19908.9	19960.0	19920.3	19718.0	19782.3	19376.0	18837.3	18640.8	18034.1	17272.4	16552.3
32.5°	19706.8	19731.3	19738.8	19468.6	19479.8	19096.3	18533.0	18241.9	17580.5	16847.2	15987.3
35°	17796.0	17898.1	17964.1	17710.9	17459.5	17077.7	16438.9	15987.3	15291.6	14622.7	13743.9
37.5°	13781.7	13910.2	14012.2	13796.7	13677.7	13216.6	12685.4	12335.8	11855.8	11462.7	10838.9
40°	10086.8	10111.3	10173.7	10062.2	9877.0	9754.2	9449.9	9251.3	8960.2	8748.6	8334.8
42.5°	7497.6	7484.3	7527.7	7465.3	7459.7	7274.5	7081.8	6964.5	6864.3	6641.3	6350.3
45°	5456.4	5460.1	5501.8	5462.0	5356.2	5316.5	5189.8	5084.0	4951.6	4881.8	4651.3
47.5°	3710.0	3721.3	3749.7	3726.9	3630.6	3615.6	3534.2	3428.5	3426.6	3318.7	3116.6
50°	1646.1	1650.0	1684.0	1676.5	1561.0	1576.1	1523.4	1426.9	1453.4	1389.2	1234.2
52.5°	546.2	548.0	553.8	550.0	531.0	531.0	517.8	515.9	500.9	485.8	451.7
55°	279.7	279.7	283.5	281.6	272.2	272.2	257.1	266.6	259.0	253.2	232.5
57.5°	119.1	119.1	121.0	121.0	115.2	121.0	115.2	115.2	111.5	109.6	102.0
60°	54.9	54.9	54.9	54.9	52.9	56.7	52.9	52.9	52.9	51.1	47.2
62.5°	28.4	28.4	28.4	28.4	28.4	28.4	28.4	26.5	26.5	26.5	24.5
65°	13.2	13.2	13.2	13.2	13.2	15.1	13.2	13.2	13.2	13.2	13.2
67.5°	5.6	5.6	5.6	7.6	7.6	7.6	7.6	7.6	5.6	5.6	5.6
70°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	1.9
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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°	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6	162.6
2.5°	283.5	274.0	287.2	276.0	283.5	276.0	266.6	270.2	217.3	181.5	160.7
5°	790.0	761.6	786.1	761.6	763.6	750.4	714.4	710.5	421.4	206.0	153.1
7.5°	1487.4	1483.6	1513.9	1481.8	1477.9	1445.8	1379.8	1353.2	763.6	242.0	141.8
10°	2362.5	2307.6	2334.1	2300.1	2288.8	2230.2	2135.7	2084.7	1135.8	277.8	128.5
12.5°	3082.5	3061.8	3080.6	3048.4	3037.2	2957.8	2846.3	2778.3	1517.6	298.6	115.2
15°	4023.7	3982.2	3995.4	3929.3	3895.3	3744.0	3553.2	3428.5	1856.0	296.7	105.9
17.5°	5460.1	5378.9	5371.3	5257.8	5174.7	4900.7	4558.6	4301.6	2103.5	274.0	102.0
20°	7259.4	7111.9	7062.8	6883.2	6743.4	6289.8	5762.5	5344.9	2258.5	243.8	117.1
22.5°	9415.8	9156.9	9011.3	8724.0	8484.1	7756.4	6983.4	6357.8	2326.5	234.3	168.2
25°	11929.4	11485.2	11177.3	10725.6	10321.1	9204.2	8119.3	7242.4	2326.5	304.3	393.1
27.5°	14479.1	13777.9	13210.8	12551.2	11937.0	10353.3	8954.6	7813.2	2269.9	379.8	359.1
30°	15769.8	14908.1	14136.9	13365.9	12594.8	10691.6	9141.7	7883.0	2056.3	223.1	126.6
32.5°	15221.9	14312.8	13460.4	12713.8	11952.1	10094.3	8635.3	7420.1	1727.4	130.4	81.2
35°	13120.1	12332.1	11591.2	11033.6	10440.1	8973.5	7667.6	6609.2	1373.9	102.0	54.9
37.5°	10472.4	9935.6	9408.3	9051.1	8625.9	7524.0	6471.2	5603.8	982.7	73.6	34.0
40°	8123.0	7756.4	7388.0	7161.0	6860.7	6057.4	5237.1	4547.3	580.2	51.1	22.7
42.5°	6221.8	5968.6	5694.5	5537.6	5322.2	4723.1	4082.4	3594.8	268.3	36.0	17.1
45°	4573.7	4386.6	4176.7	4076.6	3925.5	3530.5	3105.2	2761.2	151.2	26.5	11.3
47.5°	3078.8	2912.4	2717.7	2655.3	2509.9	2163.9	1729.2	1391.0	100.2	18.9	9.5
50°	1224.7	1115.1	1048.9	962.0	876.9	735.2	550.0	438.5	60.5	15.1	7.6
52.5°	449.8	425.3	413.8	391.2	372.3	332.7	281.6	243.8	36.0	11.3	5.6
55°	234.3	219.2	211.6	204.2	192.7	170.1	141.8	121.0	22.7	7.6	5.6
57.5°	102.0	96.4	98.2	90.7	85.1	77.5	68.0	58.6	15.1	7.6	5.6
60°	49.1	45.4	47.2	43.5	41.6	39.6	36.0	30.2	9.5	5.6	3.8
62.5°	24.5	24.5	24.5	22.7	22.7	20.8	18.9	17.1	7.6	5.6	5.6
65°	13.2	11.3	13.2	11.3	11.3	11.3	9.5	9.5	5.6	5.6	5.6
67.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	3.8	5.6	5.6
70°	3.8	3.8	3.8	3.8	3.8	3.8	1.9	3.8	3.8	5.6	5.6
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.8	5.6	5.6
75°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	3.8	5.6	5.6
77.5°	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	3.8	5.6	5.6
80°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	3.8	5.6	5.6
82.5°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	3.8	5.6	5.6
85°	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	3.8	5.6	5.6
87.5°	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	3.8	5.6	5.6
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°	162.6	162.6	162.6	162.6
2.5°	136.0	121.0	109.6	107.6
5°	115.2	96.4	83.1	81.2
7.5°	98.2	77.5	66.1	64.2
10°	86.9	66.1	54.9	52.9
12.5°	77.5	58.6	51.1	49.1
15°	71.9	58.6	56.7	58.6
17.5°	77.5	79.5	86.9	96.4
20°	128.5	183.2	238.2	277.8
22.5°	289.1	534.9	708.8	792.0
25°	546.2	618.0	619.9	591.6
27.5°	296.7	236.2	211.6	200.3
30°	117.1	111.5	111.5	109.6
32.5°	77.5	71.9	70.0	68.0
35°	47.2	41.6	39.6	39.6
37.5°	30.2	26.5	24.5	22.7
40°	20.8	17.1	15.1	13.2
42.5°	15.1	11.3	7.6	7.6
45°	11.3	7.6	3.8	3.8
47.5°	9.5	5.6	1.9	1.9
50°	7.6	3.8	1.9	0.0
52.5°	5.6	3.8	0.0	0.0
55°	5.6	3.8	0.0	0.0
57.5°	5.6	3.8	0.0	0.0
60°	5.6	3.8	0.0	0.0
62.5°	5.6	3.8	0.0	0.0
65°	5.6	3.8	1.9	0.0
67.5°	7.6	3.8	1.9	0.0
70°	7.6	3.8	1.9	0.0
72.5°	7.6	3.8	1.9	0.0
75°	7.6	5.6	1.9	0.0
77.5°	7.6	5.6	1.9	0.0
80°	7.6	5.6	1.9	0.0
82.5°	7.6	5.6	1.9	0.0
85°	7.6	5.6	1.9	1.9
87.5°	7.6	5.6	1.9	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Peachtree City, GA 30269



— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)