

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: P1191809

Luminaire Tested: **LDA4A30930D010TE LAR35FL 4LA1 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: P1191809
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26217)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A30930D010TE LAR35FL 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 35° Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

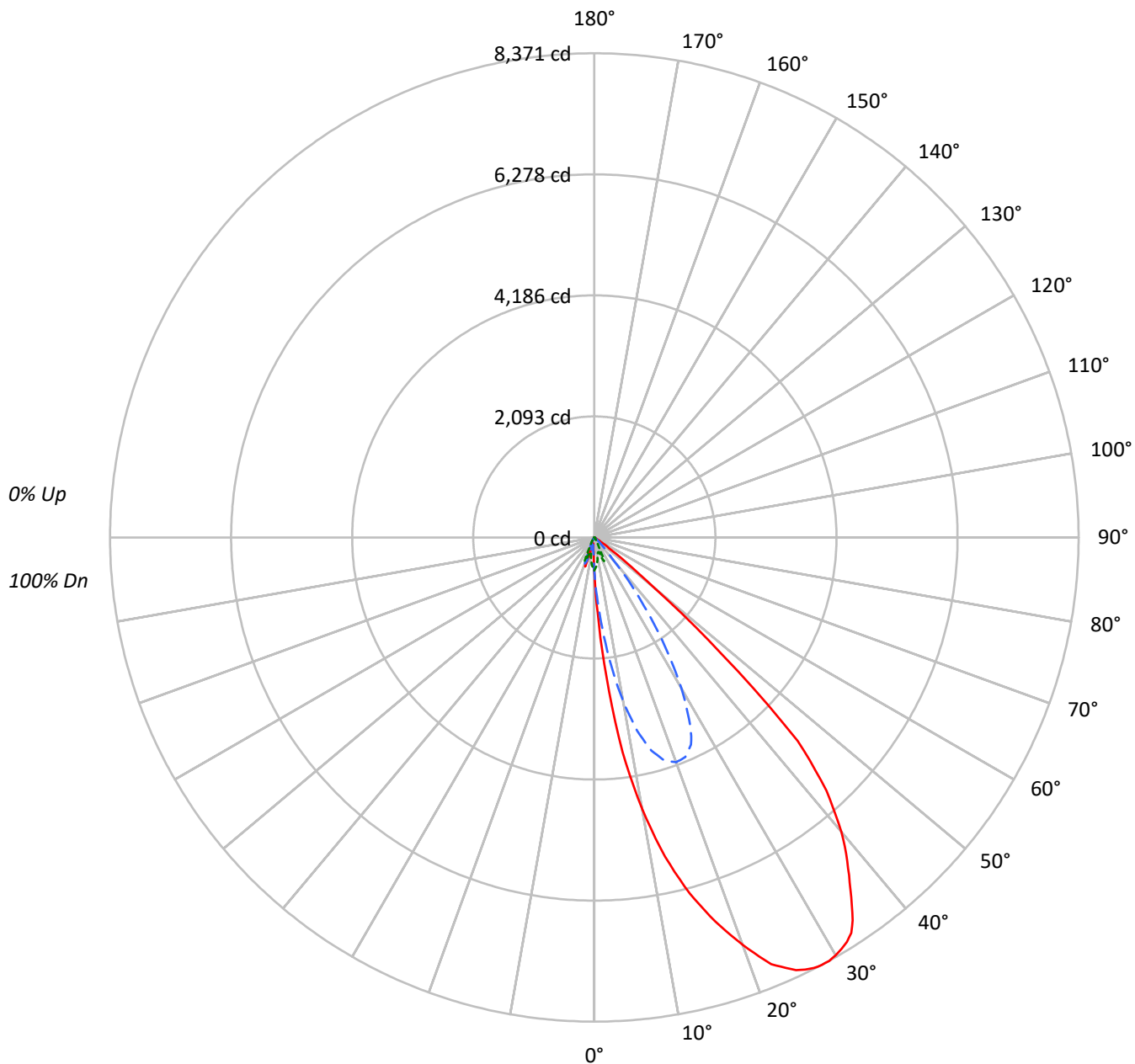
Lumens per Lamp: N/A
Luminaire Lumens: 3096.3 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	113	110	107	104	110	107	105	103		103	101	99			100	98	96			96
2	106	101	96	92	104	99	95	91		96	92	89			92	90	87			90
3	100	92	87	82	98	91	86	81		88	84	80			86	82	79			83
4	93	85	78	74	92	84	78	73		81	76	72			79	75	71			77
5	88	78	71	66	86	77	71	66		75	70	65			73	68	65			72
6	82	72	65	60	81	71	64	60		69	64	59			68	63	59			66
7	77	66	59	54	76	66	59	54		64	58	54			63	58	54			62
8	72	61	54	50	71	61	54	49		59	54	49			58	53	49			57
9	68	57	50	45	67	56	50	45		55	49	45			54	49	45			53
10	64	53	46	42	63	52	46	42		51	46	41			51	45	41			50

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	70899	70899	70899
5°	297854	59321	21903
10°	598374	40806	13301
15°	813927	33125	29932
20°	983688	50313	55524
25°	1123452	29887	15461
30°	1187872	14072	7136
35°	1168404	6219	2665
40°	1069261	3075	725
45°	867301	1535	0
50°	257135	864	0
55°	46601	968	0
60°	8708	1110	0
65°	2160	1313	0
70°	541	1623	0
75°	0	2145	0
80°	0	4191	0
85°	0	8350	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.5	3.4
10°-20°	540.8	17.5
20°-30°	947.1	30.6
30°-40°	951.1	30.7
40°-50°	501.0	16.2
50°-60°	41.8	1.3
60°-70°	4.2	0.1
70°-80°	3.1	0.1
80°-90°	2.8	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°	1592.3	51.4
0°-40°	2543.5	82.1
0°-60°	3086.2	99.7
0°-90°	3096.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3096.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	575	575	575	575	575	
5°	2406	1573	479	220	177	308
15°	6374	3815	259	174	234	1820
25°	8255	3950	220	125	114	3777
35°	7760	1716	41	22	18	4798
45°	4972	177	9	3	0	3408
55°	217	19	4	2	0	326
65°	7	3	4	3	0	11
75°	0	3	4	3	0	1
85°	0	3	6	3	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	574.8	574.8	574.8	574.8	574.8	574.8	574.8	574.8	574.8	574.8	574.8
2.5°	1304.5	1306.0	1307.5	1317.8	1294.2	1288.3	1278.0	1263.2	1214.7	1014.2	765.0
5°	2405.6	2423.3	2418.9	2404.2	2367.4	2346.7	2315.8	2283.3	2150.6	1572.8	949.3
7.5°	3738.2	3772.1	3764.7	3742.7	3680.7	3652.7	3574.6	3531.8	3331.4	2233.2	1086.3
10°	4777.5	4867.3	4868.9	4848.2	4755.3	4715.5	4634.5	4557.8	4304.2	2880.3	1149.8
12.5°	5655.9	5657.4	5726.7	5710.5	5602.9	5585.2	5517.4	5402.4	5135.6	3419.8	1149.8
15°	6373.9	6471.1	6454.8	6437.2	6323.7	6300.1	6235.2	6129.2	5818.2	3814.8	1093.7
17.5°	6966.4	7053.4	7028.3	7009.1	6895.7	6844.1	6773.2	6646.5	6304.6	4049.2	977.3
20°	7494.1	7576.7	7526.5	7492.6	7340.8	7277.4	7174.2	7028.3	6637.7	4136.2	841.7
22.5°	7986.5	8073.4	8010.1	7962.9	7766.9	7644.5	7498.6	7314.3	6854.4	4108.2	769.5
25°	8254.8	8368.2	8307.8	8271.0	8083.7	7940.7	7747.6	7510.3	6978.2	3950.4	579.3
26°	8313.7	8433.1	8375.6	8343.1	8153.1	8001.1	7794.8	7545.7	6988.5	3820.8	446.6
27°	8355.0	8487.6	8421.2	8380.1	8183.9	8021.8	7806.6	7547.1	6972.3	3645.3	355.2
28°	8371.2	8517.1	8436.0	8385.9	8182.5	8005.6	7777.1	7514.8	6929.6	3443.4	302.2
29°	8369.6	8528.9	8434.5	8380.1	8163.4	7967.2	7733.0	7469.0	6870.6	3232.6	272.6
30°	8340.2	8514.2	8419.8	8350.5	8117.6	7906.8	7669.5	7405.7	6804.2	3002.6	243.2
31°	8300.4	8478.7	8380.1	8294.5	8042.4	7813.9	7581.0	7320.1	6715.7	2756.5	222.5
32°	8242.9	8421.2	8312.1	8200.2	7936.4	7697.5	7473.5	7219.9	6608.2	2497.0	197.6
33°	8151.5	8309.2	8182.5	8052.8	7788.9	7564.9	7352.6	7103.5	6485.8	2227.3	170.9
34°	7985.0	8123.5	7992.3	7861.2	7625.3	7417.5	7214.1	6966.4	6342.9	1978.1	147.5
35°	7759.5	7877.4	7759.5	7648.9	7441.1	7248.0	7053.4	6811.6	6170.5	1715.8	126.8
36°	7529.4	7632.7	7523.6	7436.6	7237.7	7065.1	6883.8	6633.3	5975.8	1466.7	112.0
37°	7314.3	7407.2	7306.9	7219.9	7048.9	6873.5	6693.7	6437.2	5760.6	1227.9	92.9
38°	7100.5	7183.1	7097.6	7000.2	6842.6	6664.2	6482.9	6220.6	5520.3	1002.3	79.5
39°	6878.0	6945.8	6863.2	6764.4	6603.8	6426.9	6241.2	5970.0	5244.6	767.9	69.2
40°	6640.7	6704.0	6602.3	6513.8	6353.1	6171.9	5981.7	5700.2	4945.5	514.4	59.0
42.5°	5939.0	5977.4	5891.8	5769.5	5608.8	5409.8	5179.9	4864.4	3988.8	271.2	41.3
45°	4972.0	4979.4	4913.0	4690.4	4475.3	4167.1	3823.7	3350.5	2318.7	176.9	26.5
47.5°	3001.1	2983.5	2878.9	2688.7	2488.2	2162.4	1841.1	1515.3	900.6	103.1	17.7
50°	1340.0	1319.3	1267.7	1168.9	1052.4	931.6	788.6	667.7	437.8	56.1	11.7
51°	971.5	953.8	915.4	840.2	754.7	669.3	570.5	487.9	327.2	45.6	10.3
52°	682.5	672.2	645.7	592.6	545.4	479.1	411.3	359.7	246.1	36.8	7.4
53°	476.2	468.8	452.6	417.2	389.1	340.6	297.7	256.5	178.3	29.5	7.4
54°	322.8	318.4	308.1	284.5	260.9	234.4	203.4	179.8	125.3	23.6	5.9
55°	216.7	213.7	204.8	193.1	179.8	163.6	143.0	125.3	88.5	19.1	4.5
57.5°	79.5	79.5	76.6	72.3	67.8	63.4	57.5	51.6	41.3	11.7	4.5
60°	35.3	33.9	33.9	32.4	31.0	29.5	28.0	25.1	20.6	7.4	4.5
61°	26.5	26.5	25.1	23.6	23.6	22.2	20.6	19.1	16.2	5.9	4.5
62°	19.1	19.1	19.1	17.7	17.7	16.2	16.2	14.8	11.7	4.5	4.5
63°	14.8	14.8	14.8	13.3	13.3	13.3	11.7	11.7	8.8	4.5	4.5
64°	10.3	10.3	10.3	10.3	10.3	10.3	8.8	8.8	7.4	2.9	4.5
65°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	5.9	2.9	4.5
66°	5.9	5.9	5.9	5.9	5.9	5.9	4.5	4.5	4.5	2.9	4.5



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.5
75°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.5
77.5°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.5
80°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.5
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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CATALOG NUMBER: LDA4A30930D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	574.8	574.8	574.8	574.8	574.8
2.5°	529.2	370.0	294.8	266.8	258.0
5°	479.1	277.1	219.6	188.6	176.9
7.5°	402.4	228.5	165.1	137.0	128.2
10°	325.8	188.6	134.1	112.0	106.2
12.5°	278.6	163.6	125.3	116.5	116.5
15°	259.4	172.5	174.0	209.3	234.4
17.5°	266.8	269.7	421.6	513.0	529.2
20°	383.3	485.0	480.5	436.3	423.0
22.5°	443.7	319.9	241.8	199.0	191.7
25°	219.6	145.9	125.3	115.0	113.6
26°	166.6	122.4	109.1	103.1	100.2
27°	138.5	107.6	97.3	90.0	86.9
28°	123.9	95.8	84.0	76.6	73.7
29°	112.0	82.6	70.7	63.4	61.9
30°	98.8	69.2	59.0	51.6	50.1
31°	84.0	57.5	47.2	42.7	39.8
32°	70.7	47.2	38.4	33.9	31.0
33°	59.0	38.4	32.4	28.0	25.1
34°	50.1	32.4	26.5	22.2	20.6
35°	41.3	26.5	22.2	19.1	17.7
36°	35.3	23.6	17.7	14.8	13.3
37°	31.0	19.1	14.8	11.7	11.7
38°	26.5	16.2	13.3	8.8	8.8
39°	22.2	13.3	10.3	7.4	7.4
40°	19.1	11.7	8.8	5.9	4.5
42.5°	13.3	7.4	5.9	2.9	1.5
45°	8.8	5.9	2.9	1.5	0.0
47.5°	5.9	4.5	2.9	1.5	0.0
50°	4.5	4.5	2.9	0.0	0.0
51°	4.5	2.9	2.9	0.0	0.0
52°	4.5	2.9	1.5	0.0	0.0
53°	4.5	2.9	1.5	0.0	0.0
54°	4.5	2.9	1.5	0.0	0.0
55°	4.5	2.9	1.5	0.0	0.0
57.5°	4.5	2.9	1.5	0.0	0.0
60°	4.5	2.9	2.9	0.0	0.0
61°	4.5	4.5	2.9	0.0	0.0
62°	4.5	4.5	2.9	0.0	0.0
63°	4.5	4.5	2.9	0.0	0.0
64°	4.5	4.5	2.9	1.5	0.0
65°	4.5	4.5	2.9	1.5	0.0
66°	4.5	4.5	2.9	1.5	0.0

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	4.5	4.5	2.9	1.5	0.0
75°	4.5	4.5	2.9	1.5	0.0
77.5°	5.9	4.5	2.9	1.5	0.0
80°	5.9	4.5	2.9	1.5	0.0
82.5°	5.9	4.5	2.9	1.5	0.0
85°	5.9	4.5	2.9	1.5	0.0
87.5°	5.9	4.5	2.9	1.5	0.0
90°	0.0	0.0	0.0	0.0	0.0

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4.5
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.5

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67.5°	4.5	4.5	2.9	1.5	0.0
70°	4.5	4.5	2.9	1.5	0.0

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(END OF REPORT)