

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: P1191575

Luminaire Tested: **LDA4A15940D010TE 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: P1191575
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: LDA4A15940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

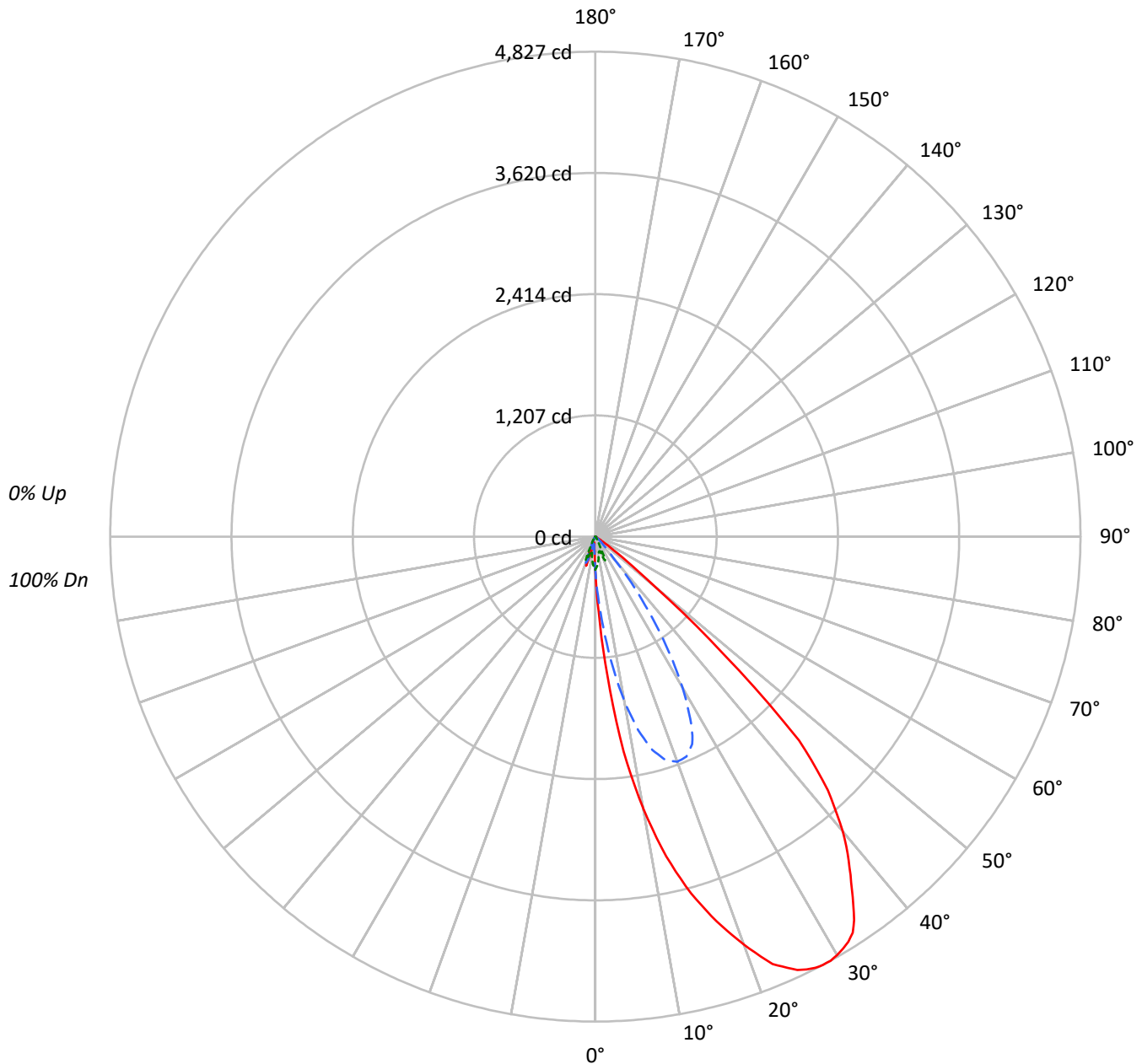
Lumens per Lamp: N/A
Luminaire Lumens: 1785.3 lumens
Efficiency: N/A
Efficacy: 87.5 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
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	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92		
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84		
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76		
4	93	85	78	74	92	84	78	73	81	76	72	79	75	71	77	74	70	69		
5	88	78	71	66	86	77	71	66	75	70	65	73	68	65	72	67	64	62		
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	66	62	58	57		
7	77	66	59	54	76	66	59	54	64	58	54	63	58	54	62	57	53	52		
8	72	61	54	50	71	61	54	49	59	54	49	58	53	49	57	52	49	47		
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43		
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	40889	40889	40889
5°	171759	34211	12629
10°	345034	23534	7665
15°	469324	19103	17252
20°	567208	29009	32028
25°	647807	17243	8914
30°	684947	8118	4116
35°	673713	3599	1536
40°	616547	1771	419
45°	500094	872	0
50°	148256	499	0
55°	26859	559	0
60°	5057	641	0
65°	1226	759	0
70°	289	938	0
75°	0	1239	0
80°	0	2415	0
85°	0	4812	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.3	3.4
10°-20°	311.8	17.5
20°-30°	546.1	30.6
30°-40°	548.4	30.7
40°-50°	288.9	16.2
50°-60°	24.1	1.3
60°-70°	2.4	0.1
70°-80°	1.7	0.1
80°-90°	1.6	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°	918.2	51.4
0°-40°	1466.6	82.1
0°-60°	1779.6	99.7
0°-90°	1785.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1785.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	332	332	332	332	332	
5°	1387	907	276	127	102	178
15°	3675	2200	150	100	135	1049
25°	4760	2278	127	72	66	2178
35°	4474	989	24	13	10	2767
45°	2867	102	5	2	0	1965
55°	125	11	3	1	0	188
65°	4	2	3	2	0	6
75°	0	2	3	2	0	0
85°	0	2	3	2	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°	331.5	331.5	331.5	331.5	331.5	331.5	331.5	331.5	331.5	331.5	331.5
2.5°	752.2	753.1	754.0	759.8	746.3	742.9	736.9	728.5	700.4	584.7	441.1
5°	1387.2	1397.3	1394.9	1386.3	1365.0	1353.1	1335.3	1316.6	1240.1	907.0	547.4
7.5°	2155.5	2175.1	2170.9	2158.1	2122.4	2106.3	2061.1	2036.6	1921.0	1287.7	626.5
10°	2754.8	2806.6	2807.5	2795.6	2742.0	2719.1	2672.3	2628.1	2482.0	1660.9	663.0
12.5°	3261.4	3262.2	3302.2	3292.8	3230.7	3220.5	3181.5	3115.2	2961.3	1972.0	663.0
15°	3675.3	3731.5	3722.1	3711.8	3646.4	3632.9	3595.4	3534.3	3354.8	2199.7	630.7
17.5°	4017.0	4067.2	4052.7	4041.7	3976.2	3946.5	3905.6	3832.5	3635.3	2335.0	563.6
20°	4321.2	4369.0	4340.1	4320.4	4232.9	4196.3	4136.9	4052.7	3827.5	2385.0	485.3
22.5°	4605.1	4655.3	4618.8	4591.6	4478.6	4408.0	4323.8	4217.6	3952.4	2368.9	443.7
25°	4759.9	4825.4	4790.5	4769.2	4661.3	4578.8	4467.6	4330.6	4023.8	2278.0	334.1
26°	4793.9	4862.7	4829.6	4810.9	4701.3	4613.7	4494.7	4351.1	4029.7	2203.1	257.6
27°	4817.7	4894.2	4855.9	4832.2	4719.1	4625.6	4501.5	4351.9	4020.4	2102.1	204.8
28°	4827.0	4911.1	4864.4	4835.6	4718.2	4616.2	4484.5	4333.2	3995.7	1985.6	174.3
29°	4826.2	4918.0	4863.6	4832.2	4707.1	4594.1	4459.0	4306.8	3961.8	1864.0	157.2
30°	4809.1	4909.5	4855.1	4815.1	4680.8	4559.3	4422.4	4270.2	3923.5	1731.4	140.2
31°	4786.2	4889.1	4832.2	4782.8	4637.5	4505.7	4371.4	4221.0	3872.5	1589.5	128.3
32°	4753.1	4855.9	4793.1	4728.4	4576.2	4438.6	4309.4	4163.2	3810.4	1439.9	113.9
33°	4700.3	4791.3	4718.2	4643.5	4491.3	4362.1	4239.7	4096.1	3739.9	1284.3	98.6
34°	4604.3	4684.2	4608.6	4533.0	4396.9	4277.1	4159.8	4017.0	3657.4	1140.7	85.0
35°	4474.2	4542.3	4474.2	4410.6	4290.7	4179.4	4067.2	3927.7	3558.0	989.3	73.1
36°	4341.7	4401.1	4338.3	4288.1	4173.4	4074.0	3969.4	3824.9	3445.8	845.7	64.6
37°	4217.6	4271.2	4213.4	4163.2	4064.6	3963.4	3859.8	3711.8	3321.7	708.0	53.6
38°	4094.3	4141.9	4092.7	4036.5	3945.6	3842.7	3738.3	3586.9	3183.1	578.0	46.0
39°	3966.0	4005.1	3957.6	3900.6	3808.0	3706.0	3598.8	3442.4	3024.3	442.8	40.0
40°	3829.1	3865.6	3807.0	3756.0	3663.4	3558.8	3449.2	3286.9	2851.6	296.6	34.0
42.5°	3424.5	3446.7	3397.4	3326.9	3234.1	3119.5	2986.8	2804.9	2300.1	156.4	23.9
45°	2866.9	2871.3	2833.0	2704.6	2580.6	2402.9	2204.9	1932.0	1337.0	102.0	15.3
47.5°	1730.6	1720.4	1660.0	1550.3	1434.8	1246.9	1061.6	873.8	519.3	59.5	10.2
50°	772.6	760.8	731.0	674.0	606.8	537.1	454.8	385.1	252.4	32.3	6.8
51°	560.2	550.0	527.9	484.5	435.1	385.9	328.9	281.3	188.7	26.3	6.0
52°	393.5	387.5	372.3	341.7	314.5	276.3	237.1	207.4	142.0	21.3	4.2
53°	274.5	270.3	261.0	240.5	224.5	196.4	171.7	148.0	102.8	17.0	4.2
54°	186.1	183.5	177.7	164.0	150.4	135.1	117.3	103.6	72.3	13.6	3.4
55°	124.9	123.3	118.1	111.4	103.6	94.4	82.5	72.3	51.0	11.0	2.6
57.5°	46.0	46.0	44.2	41.6	39.1	36.5	33.1	29.7	23.9	6.8	2.6
60°	20.5	19.5	19.5	18.7	17.9	17.0	16.1	14.5	11.9	4.2	2.6
61°	15.3	15.3	14.5	13.6	13.6	12.7	11.9	11.0	9.4	3.4	2.6
62°	11.0	11.0	11.0	10.2	10.2	9.4	9.4	8.5	6.8	2.6	2.6
63°	8.5	8.5	8.5	7.6	7.6	7.6	6.8	6.8	5.0	2.6	2.6
64°	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	4.2	1.6	2.6
65°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.4	1.6	2.6
66°	3.4	3.4	3.4	3.4	3.4	3.4	2.6	2.6	2.6	1.6	2.6



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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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	2.6
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.6
77.5°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	2.6
80°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	2.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.6
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):

	90°	112.5°	135°	157.5°	180°
0°	331.5	331.5	331.5	331.5	331.5
2.5°	305.2	213.4	170.0	153.8	148.8
5°	276.3	159.8	126.7	108.8	102.0
7.5°	232.1	131.7	95.2	79.1	73.9
10°	187.9	108.8	77.3	64.6	61.2
12.5°	160.6	94.4	72.3	67.1	67.1
15°	149.6	99.4	100.4	120.7	135.1
17.5°	153.8	155.6	243.1	295.8	305.2
20°	221.0	279.7	277.1	251.6	244.0
22.5°	255.8	184.5	139.4	114.7	110.5
25°	126.7	84.1	72.3	66.3	65.5
26°	96.0	70.5	62.9	59.5	57.8
27°	79.9	62.0	56.0	51.8	50.2
28°	71.5	55.2	48.4	44.2	42.5
29°	64.6	47.6	40.8	36.5	35.7
30°	57.0	40.0	34.0	29.7	28.9
31°	48.4	33.1	27.1	24.7	22.9
32°	40.8	27.1	22.1	19.5	17.9
33°	34.0	22.1	18.7	16.1	14.5
34°	28.9	18.7	15.3	12.7	11.9
35°	23.9	15.3	12.7	11.0	10.2
36°	20.5	13.6	10.2	8.5	7.6
37°	17.9	11.0	8.5	6.8	6.8
38°	15.3	9.4	7.6	5.0	5.0
39°	12.7	7.6	6.0	4.2	4.2
40°	11.0	6.8	5.0	3.4	2.6
42.5°	7.6	4.2	3.4	1.6	0.8
45°	5.0	3.4	1.6	0.8	0.0
47.5°	3.4	2.6	1.6	0.8	0.0
50°	2.6	2.6	1.6	0.0	0.0
51°	2.6	1.6	1.6	0.0	0.0
52°	2.6	1.6	0.8	0.0	0.0
53°	2.6	1.6	0.8	0.0	0.0
54°	2.6	1.6	0.8	0.0	0.0
55°	2.6	1.6	0.8	0.0	0.0
57.5°	2.6	1.6	0.8	0.0	0.0
60°	2.6	1.6	1.6	0.0	0.0
61°	2.6	2.6	1.6	0.0	0.0
62°	2.6	2.6	1.6	0.0	0.0
63°	2.6	2.6	1.6	0.0	0.0
64°	2.6	2.6	1.6	0.8	0.0
65°	2.6	2.6	1.6	0.8	0.0
66°	2.6	2.6	1.6	0.8	0.0

Classified

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.6	2.6	1.6	0.8	0.0
75°	2.6	2.6	1.6	0.8	0.0
77.5°	3.4	2.6	1.6	0.8	0.0
80°	3.4	2.6	1.6	0.8	0.0
82.5°	3.4	2.6	1.6	0.8	0.0
85°	3.4	2.6	1.6	0.8	0.0
87.5°	3.4	2.6	1.6	0.8	0.0
90°	0.0	0.0	0.0	0.0	0.0

Classified

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.6
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	2.6

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67.5°	2.6	2.6	1.6	0.8	0.0
70°	2.6	2.6	1.6	0.8	0.0

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(END OF REPORT)