

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: P1212756

Luminaire Tested: **LDA4A15950D010TE 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: P1212756
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: LDA4A15950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

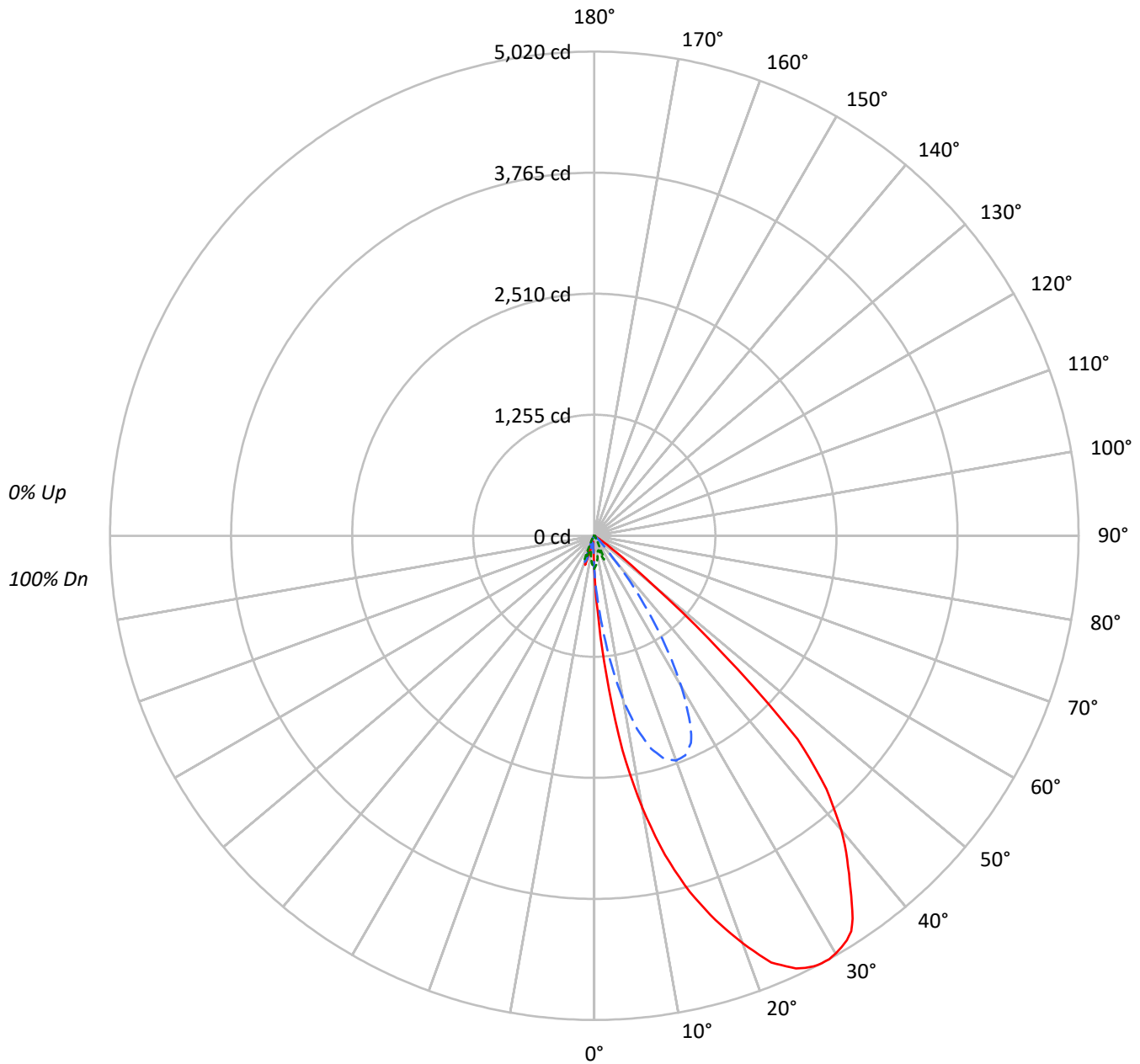
Lumens per Lamp: N/A
Luminaire Lumens: 1856.7 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	42530	42530	42530
5°	178630	35585	13137
10°	358837	24474	7966
15°	488095	19870	17941
20°	589890	30164	33314
25°	673720	17938	9268
30°	712350	8446	4287
35°	700666	3749	1596
40°	641215	1836	435
45°	520102	907	0
50°	154185	518	0
55°	27935	581	0
60°	5255	666	0
65°	1284	788	0
70°	289	974	0
75°	0	1287	0
80°	0	2486	0
85°	0	4953	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.7	3.4
10°-20°	324.3	17.5
20°-30°	568.0	30.6
30°-40°	570.4	30.7
40°-50°	300.4	16.2
50°-60°	25.0	1.3
60°-70°	2.5	0.1
70°-80°	1.8	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°	954.9	51.4
0°-40°	1525.3	82.1
0°-60°	1850.8	99.7
0°-90°	1856.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1856.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	345	345	345	345	345	
5°	1443	943	287	132	106	185
15°	3822	2288	156	104	140	1091
25°	4950	2369	132	75	68	2265
35°	4653	1029	25	13	11	2877
45°	2982	106	5	2	0	2044
55°	130	11	3	1	0	195
65°	4	2	3	2	0	6
75°	0	2	3	2	0	0
85°	0	2	4	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°	344.8	344.8	344.8	344.8	344.8	344.8	344.8	344.8	344.8	344.8	344.8
2.5°	782.3	783.2	784.2	790.2	776.2	772.6	766.4	757.6	728.4	608.1	458.7
5°	1442.7	1453.2	1450.7	1441.8	1419.6	1407.2	1388.7	1369.3	1289.7	943.3	569.3
7.5°	2241.7	2262.1	2257.7	2244.4	2207.3	2190.6	2143.5	2118.1	1997.8	1339.2	651.6
10°	2865.0	2918.9	2919.8	2907.4	2851.7	2827.9	2779.2	2733.2	2581.3	1727.3	689.5
12.5°	3391.9	3392.7	3434.3	3424.5	3359.9	3349.3	3308.8	3239.8	3079.8	2050.9	689.5
15°	3822.3	3880.8	3871.0	3860.3	3792.3	3778.2	3739.2	3675.7	3489.0	2287.7	655.9
17.5°	4177.7	4229.9	4214.8	4203.4	4135.2	4104.4	4061.8	3985.8	3780.7	2428.4	586.1
20°	4494.0	4543.8	4513.7	4493.2	4402.2	4364.2	4302.4	4214.8	3980.6	2480.4	504.7
22.5°	4789.3	4841.5	4803.6	4775.3	4657.7	4584.3	4496.8	4386.3	4110.5	2463.7	461.4
25°	4950.3	5018.4	4982.1	4960.0	4847.8	4762.0	4646.3	4503.8	4184.8	2369.1	347.5
26°	4985.7	5057.2	5022.8	5003.3	4889.4	4798.2	4674.5	4525.1	4190.9	2291.2	267.9
27°	5010.4	5090.0	5050.1	5025.5	4907.9	4810.6	4681.6	4526.0	4181.2	2186.2	213.0
28°	5020.1	5107.5	5059.0	5029.0	4906.9	4800.8	4663.9	4506.5	4155.5	2065.0	181.3
29°	5019.2	5114.7	5058.1	5025.5	4895.4	4777.9	4637.4	4479.1	4120.3	1938.6	163.5
30°	5001.5	5105.9	5049.3	5007.7	4868.0	4741.7	4599.3	4441.0	4080.4	1800.7	145.8
31°	4977.6	5084.7	5025.5	4974.1	4823.0	4685.9	4546.3	4389.8	4027.4	1653.1	133.4
32°	4943.2	5050.1	4984.8	4917.5	4759.2	4616.1	4481.8	4329.7	3962.8	1497.5	118.5
33°	4888.3	4983.0	4906.9	4829.2	4671.0	4536.6	4409.3	4259.9	3889.5	1335.7	102.5
34°	4788.5	4871.6	4792.9	4714.3	4572.8	4448.2	4326.2	4177.7	3803.7	1186.3	88.4
35°	4653.2	4724.0	4653.2	4587.0	4462.3	4346.6	4229.9	4084.8	3700.3	1028.9	76.0
36°	4515.4	4577.1	4511.8	4459.6	4340.3	4237.0	4128.2	3977.9	3583.6	879.5	67.2
37°	4386.3	4442.0	4381.9	4329.7	4227.2	4121.9	4014.2	3860.3	3454.6	736.3	55.7
38°	4258.1	4307.6	4256.4	4198.0	4103.4	3996.4	3887.8	3730.4	3310.4	601.1	47.8
39°	4124.6	4165.3	4115.9	4056.6	3960.3	3854.2	3742.8	3580.1	3145.3	460.5	41.6
40°	3982.3	4020.2	3959.3	3906.2	3809.9	3701.2	3587.2	3418.4	2965.7	308.5	35.4
42.5°	3561.5	3584.6	3533.3	3460.0	3363.5	3244.3	3106.3	2917.1	2392.1	162.7	24.9
45°	2981.6	2986.2	2946.3	2812.8	2683.8	2499.0	2293.1	2009.3	1390.5	106.1	15.9
47.5°	1799.8	1789.2	1726.4	1612.3	1492.2	1296.8	1104.1	908.8	540.1	61.9	10.6
50°	803.5	791.2	760.2	701.0	631.1	558.6	473.0	400.5	262.5	33.6	7.1
51°	582.6	572.0	549.0	503.9	452.5	401.3	342.1	292.6	196.2	27.4	6.2
52°	409.2	403.0	387.2	355.4	327.1	287.4	246.6	215.7	147.7	22.2	4.4
53°	285.5	281.1	271.4	250.1	233.5	204.3	178.6	153.9	106.9	17.7	4.4
54°	193.5	190.8	184.8	170.6	156.4	140.5	122.0	107.7	75.2	14.1	3.5
55°	129.9	128.2	122.8	115.9	107.7	98.2	85.8	75.2	53.0	11.4	2.7
57.5°	47.8	47.8	46.0	43.3	40.7	38.0	34.4	30.9	24.9	7.1	2.7
60°	21.3	20.3	20.3	19.4	18.6	17.7	16.7	15.1	12.4	4.4	2.7
61°	15.9	15.9	15.1	14.1	14.1	13.2	12.4	11.4	9.8	3.5	2.7
62°	11.4	11.4	11.4	10.6	10.6	9.8	9.8	8.8	7.1	2.7	2.7
63°	8.8	8.8	8.8	7.9	7.9	7.9	7.1	7.1	5.2	2.7	2.7
64°	6.2	6.2	6.2	6.2	6.2	6.2	5.2	5.2	4.4	1.7	2.7
65°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	3.5	1.7	2.7
66°	3.5	3.5	3.5	3.5	3.5	3.5	2.7	2.7	2.7	1.7	2.7



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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	1.7	2.7
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.7	2.7
77.5°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.7	2.7
80°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.7	2.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.7	2.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.7	2.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.7	2.7
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: LDA4A15950D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	344.8	344.8	344.8	344.8	344.8
2.5°	317.4	221.9	176.8	160.0	154.8
5°	287.4	166.2	131.8	113.2	106.1
7.5°	241.4	137.0	99.0	82.3	76.9
10°	195.4	113.2	80.4	67.2	63.6
12.5°	167.0	98.2	75.2	69.8	69.8
15°	155.6	103.4	104.4	125.5	140.5
17.5°	160.0	161.8	252.8	307.6	317.4
20°	229.8	290.9	288.2	261.7	253.8
22.5°	266.0	191.9	145.0	119.3	114.9
25°	131.8	87.5	75.2	69.0	68.1
26°	99.8	73.3	65.4	61.9	60.1
27°	83.1	64.5	58.2	53.9	52.2
28°	74.4	57.4	50.3	46.0	44.2
29°	67.2	49.5	42.4	38.0	37.1
30°	59.3	41.6	35.4	30.9	30.1
31°	50.3	34.4	28.2	25.7	23.8
32°	42.4	28.2	23.0	20.3	18.6
33°	35.4	23.0	19.4	16.7	15.1
34°	30.1	19.4	15.9	13.2	12.4
35°	24.9	15.9	13.2	11.4	10.6
36°	21.3	14.1	10.6	8.8	7.9
37°	18.6	11.4	8.8	7.1	7.1
38°	15.9	9.8	7.9	5.2	5.2
39°	13.2	7.9	6.2	4.4	4.4
40°	11.4	7.1	5.2	3.5	2.7
42.5°	7.9	4.4	3.5	1.7	0.8
45°	5.2	3.5	1.7	0.8	0.0
47.5°	3.5	2.7	1.7	0.8	0.0
50°	2.7	2.7	1.7	0.0	0.0
51°	2.7	1.7	1.7	0.0	0.0
52°	2.7	1.7	0.8	0.0	0.0
53°	2.7	1.7	0.8	0.0	0.0
54°	2.7	1.7	0.8	0.0	0.0
55°	2.7	1.7	0.8	0.0	0.0
57.5°	2.7	1.7	0.8	0.0	0.0
60°	2.7	1.7	1.7	0.0	0.0
61°	2.7	2.7	1.7	0.0	0.0
62°	2.7	2.7	1.7	0.0	0.0
63°	2.7	2.7	1.7	0.0	0.0
64°	2.7	2.7	1.7	0.8	0.0
65°	2.7	2.7	1.7	0.8	0.0
66°	2.7	2.7	1.7	0.8	0.0



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.7	2.7	1.7	0.8	0.0
75°	2.7	2.7	1.7	0.8	0.0
77.5°	3.5	2.7	1.7	0.8	0.0
80°	3.5	2.7	1.7	0.8	0.0
82.5°	3.5	2.7	1.7	0.8	0.0
85°	3.5	2.7	1.7	0.8	0.0
87.5°	3.5	2.7	1.7	0.8	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°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.7
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7	2.7

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67.5°	2.7	2.7	1.7	0.8	0.0
70°	2.7	2.7	1.7	0.8	0.0

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(END OF REPORT)