

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: P1191557

Luminaire Tested: **LDA4A15935D010TE 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: P1191557
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: LDA4A15935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

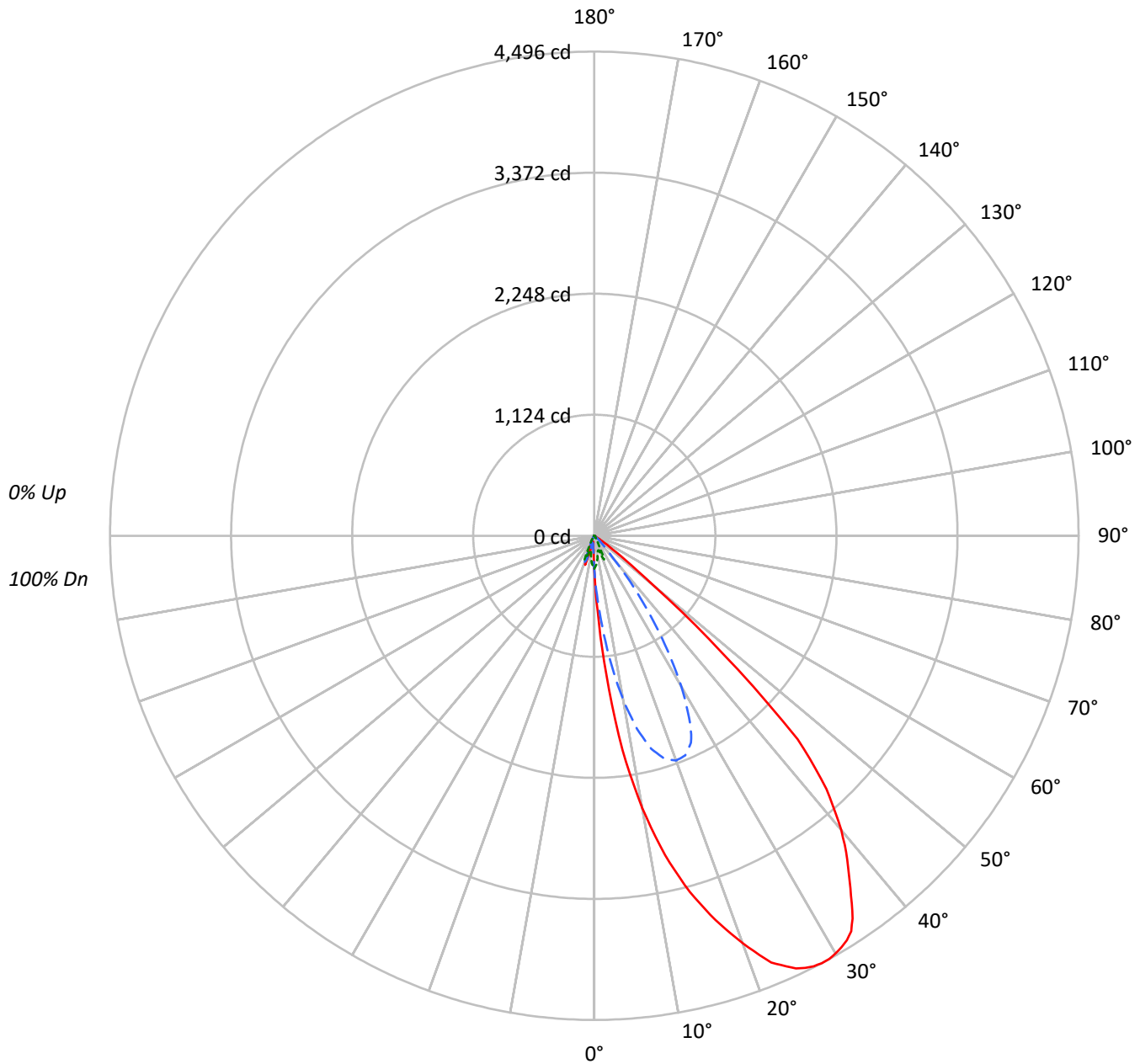
Lumens per Lamp: N/A
Luminaire Lumens: 1662.7 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	38077	38077	38077
5°	159959	31858	11763
10°	321350	21918	7139
15°	437106	17801	16077
20°	528276	27014	29823
25°	603345	16059	8302
30°	637932	7549	3831
35°	627470	3343	1430
40°	574232	1642	370
45°	465764	837	0
50°	138085	441	0
55°	25010	495	0
60°	4687	567	0
65°	1167	671	0
70°	289	829	0
75°	0	1096	0
80°	0	2202	0
85°	0	4387	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.1	3.4
10°-20°	290.4	17.5
20°-30°	508.6	30.6
30°-40°	510.8	30.7
40°-50°	269.1	16.2
50°-60°	22.4	1.3
60°-70°	2.2	0.1
70°-80°	1.6	0.1
80°-90°	1.5	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°	855.2	51.4
0°-40°	1365.9	82.2
0°-60°	1657.4	99.7
0°-90°	1662.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1662.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	309	309	309	309	309	
5°	1292	845	257	118	95	165
15°	3423	2049	139	93	126	977
25°	4433	2122	118	67	61	2028
35°	4167	921	22	12	10	2577
45°	2670	95	5	2	0	1830
55°	116	10	2	1	0	175
65°	4	2	2	2	0	6
75°	0	2	2	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°	308.7	308.7	308.7	308.7	308.7	308.7	308.7	308.7	308.7	308.7	308.7
2.5°	700.6	701.5	702.1	707.7	695.0	691.9	686.3	678.4	652.4	544.6	410.9
5°	1291.9	1301.5	1299.1	1291.1	1271.3	1260.3	1243.6	1226.2	1155.0	844.6	509.9
7.5°	2007.6	2025.8	2021.9	2010.0	1976.7	1961.7	1919.7	1896.8	1789.1	1199.3	583.5
10°	2565.7	2614.0	2614.8	2603.7	2553.8	2532.4	2488.9	2447.7	2311.5	1546.9	617.5
12.5°	3037.5	3038.3	3075.6	3066.8	3009.0	2999.5	2963.1	2901.3	2758.1	1836.6	617.5
15°	3423.0	3475.2	3466.5	3457.1	3396.1	3383.5	3348.6	3291.6	3124.6	2048.7	587.5
17.5°	3741.3	3787.9	3774.6	3764.2	3703.2	3675.6	3637.5	3569.5	3385.8	2174.6	524.9
20°	4024.6	4069.0	4042.1	4023.8	3942.3	3908.3	3852.8	3774.6	3564.7	2221.4	452.0
22.5°	4289.1	4335.8	4301.7	4276.4	4171.1	4105.4	4027.1	3928.1	3681.1	2206.2	413.2
25°	4433.2	4494.1	4461.7	4441.9	4341.3	4264.5	4160.9	4033.4	3747.6	2121.6	311.0
26°	4464.8	4528.9	4498.1	4480.6	4378.5	4297.0	4186.1	4052.3	3753.1	2051.9	239.9
27°	4486.9	4558.2	4522.6	4500.4	4395.1	4308.0	4192.5	4053.1	3744.4	1957.8	190.8
28°	4495.6	4574.1	4530.6	4503.6	4394.3	4299.4	4176.7	4035.7	3721.5	1849.2	162.3
29°	4495.0	4580.5	4529.7	4500.4	4384.1	4278.8	4153.0	4011.1	3689.9	1736.1	146.5
30°	4479.0	4572.4	4521.8	4484.6	4359.6	4246.4	4118.9	3977.2	3654.1	1612.5	130.6
31°	4457.7	4553.5	4500.4	4454.5	4319.2	4196.5	4071.4	3931.2	3606.7	1480.4	119.6
32°	4426.8	4522.6	4464.0	4403.9	4262.2	4133.9	4013.6	3877.4	3548.9	1341.0	106.1
33°	4377.7	4462.5	4394.3	4324.6	4183.0	4062.7	3948.7	3814.9	3483.1	1196.2	91.8
34°	4288.2	4362.7	4292.2	4221.8	4095.1	3983.5	3874.2	3741.3	3406.4	1062.4	79.2
35°	4167.1	4230.6	4167.1	4107.8	3996.1	3892.5	3787.9	3658.1	3313.8	921.4	68.0
36°	4043.7	4099.1	4040.5	3993.8	3886.9	3794.3	3697.0	3562.4	3209.3	787.6	60.1
37°	3928.1	3978.0	3924.1	3877.4	3785.6	3691.4	3594.8	3457.1	3093.7	659.5	49.9
38°	3813.3	3857.6	3811.8	3759.4	3674.7	3579.0	3481.6	3340.6	2964.7	538.4	42.7
39°	3693.8	3730.2	3685.9	3632.9	3546.6	3451.5	3351.8	3206.1	2816.6	412.5	37.2
40°	3566.3	3600.4	3545.7	3498.3	3412.0	3314.6	3212.5	3061.2	2656.0	276.3	31.6
42.5°	3189.6	3210.1	3164.2	3098.5	3012.1	2905.2	2781.8	2612.5	2142.1	145.6	22.2
45°	2670.1	2674.1	2638.5	2518.9	2403.4	2238.0	2053.5	1799.3	1245.3	95.0	14.2
47.5°	1611.8	1602.3	1546.1	1444.0	1336.2	1161.3	988.8	813.8	483.7	55.4	9.5
50°	719.6	708.5	680.9	627.8	565.2	500.3	423.5	358.6	235.1	30.1	6.3
51°	521.7	512.2	491.6	451.2	405.3	359.5	306.4	262.1	175.8	24.5	5.6
52°	366.5	361.0	346.8	318.3	292.9	257.3	220.9	193.1	132.1	19.8	4.0
53°	255.7	251.7	243.0	224.0	209.0	182.9	160.0	137.7	95.7	15.8	4.0
54°	173.3	171.0	165.4	152.7	140.2	125.9	109.2	96.5	67.2	12.7	3.1
55°	116.3	114.8	110.0	103.6	96.5	87.8	76.8	67.2	47.5	10.2	2.3
57.5°	42.7	42.7	41.2	38.7	36.4	34.1	30.8	27.7	22.2	6.3	2.3
60°	19.0	18.3	18.3	17.5	16.6	15.8	15.0	13.5	11.0	4.0	2.3
61°	14.2	14.2	13.5	12.7	12.7	11.9	11.0	10.2	8.7	3.1	2.3
62°	10.2	10.2	10.2	9.5	9.5	8.7	8.7	7.9	6.3	2.3	2.3
63°	7.9	7.9	7.9	7.1	7.1	7.1	6.3	6.3	4.8	2.3	2.3
64°	5.6	5.6	5.6	5.6	5.6	5.6	4.8	4.8	4.0	1.6	2.3
65°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.1	1.6	2.3
66°	3.1	3.1	3.1	3.1	3.1	3.1	2.3	2.3	2.3	1.6	2.3



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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	2.3
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.3
77.5°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	2.3
80°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	2.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.3
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°	308.7	308.7	308.7	308.7	308.7
2.5°	284.2	198.7	158.3	143.3	138.5
5°	257.3	148.8	118.0	101.3	95.0
7.5°	216.1	122.7	88.6	73.6	68.9
10°	175.0	101.3	72.0	60.1	57.0
12.5°	149.6	87.8	67.2	62.6	62.6
15°	139.4	92.6	93.4	112.4	125.9
17.5°	143.3	144.8	226.4	275.5	284.2
20°	205.8	260.5	258.1	234.3	227.2
22.5°	238.2	171.8	129.8	106.9	103.0
25°	118.0	78.4	67.2	61.8	61.0
26°	89.5	65.7	58.6	55.4	53.9
27°	74.5	57.8	52.2	48.3	46.8
28°	66.5	51.4	45.1	41.2	39.5
29°	60.1	44.3	38.0	34.1	33.3
30°	53.0	37.2	31.6	27.7	26.9
31°	45.1	30.8	25.4	22.9	21.4
32°	38.0	25.4	20.6	18.3	16.6
33°	31.6	20.6	17.5	15.0	13.5
34°	26.9	17.5	14.2	11.9	11.0
35°	22.2	14.2	11.9	10.2	9.5
36°	19.0	12.7	9.5	7.9	7.1
37°	16.6	10.2	7.9	6.3	6.3
38°	14.2	8.7	7.1	4.8	4.8
39°	11.9	7.1	5.6	4.0	4.0
40°	10.2	6.3	4.8	3.1	2.3
42.5°	7.1	4.0	3.1	1.6	0.8
45°	4.8	3.1	1.6	0.8	0.0
47.5°	3.1	2.3	1.6	0.8	0.0
50°	2.3	2.3	1.6	0.0	0.0
51°	2.3	1.6	1.6	0.0	0.0
52°	2.3	1.6	0.8	0.0	0.0
53°	2.3	1.6	0.8	0.0	0.0
54°	2.3	1.6	0.8	0.0	0.0
55°	2.3	1.6	0.8	0.0	0.0
57.5°	2.3	1.6	0.8	0.0	0.0
60°	2.3	1.6	1.6	0.0	0.0
61°	2.3	2.3	1.6	0.0	0.0
62°	2.3	2.3	1.6	0.0	0.0
63°	2.3	2.3	1.6	0.0	0.0
64°	2.3	2.3	1.6	0.8	0.0
65°	2.3	2.3	1.6	0.8	0.0
66°	2.3	2.3	1.6	0.8	0.0

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.3	2.3	1.6	0.8	0.0
75°	2.3	2.3	1.6	0.8	0.0
77.5°	3.1	2.3	1.6	0.8	0.0
80°	3.1	2.3	1.6	0.8	0.0
82.5°	3.1	2.3	1.6	0.8	0.0
85°	3.1	2.3	1.6	0.8	0.0
87.5°	3.1	2.3	1.6	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°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.3
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	2.3

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67.5°	2.3	2.3	1.6	0.8	0.0
70°	2.3	2.3	1.6	0.8	0.0

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(END OF REPORT)