

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: P1212738

Luminaire Tested: **LDA4A10950D010TE 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: P1212738
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: LDA4A10950D010TE 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

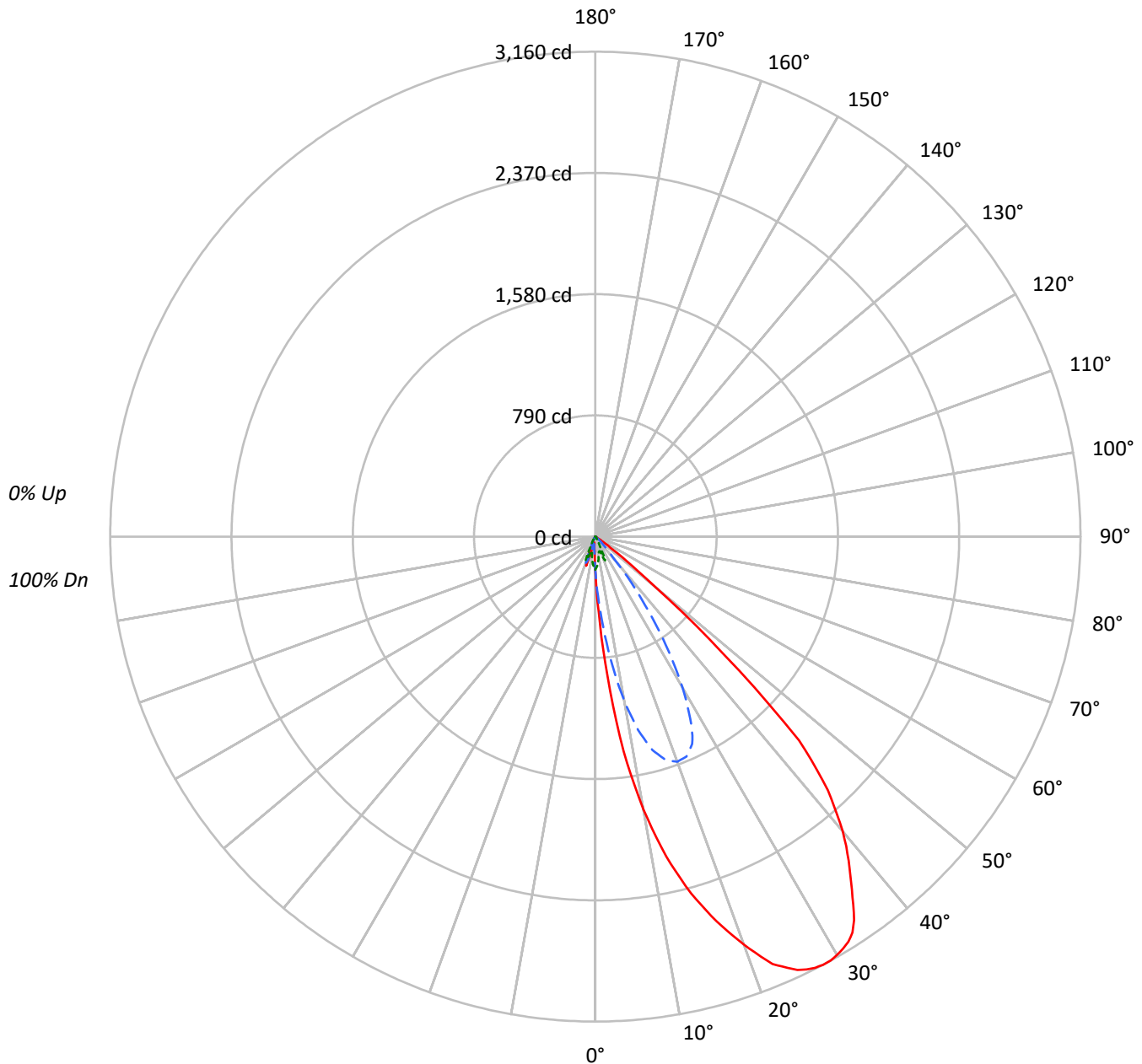
Lumens per Lamp: N/A
Luminaire Lumens: 1168.7 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
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°	26754	26754	26754
5°	112413	22398	8271
10°	225848	15393	5010
15°	307213	12502	11301
20°	371287	18994	20949
25°	424037	11282	5811
30°	448361	5298	2692
35°	440995	2349	1009
40°	403587	1175	290
45°	327366	576	0
50°	97059	345	0
55°	17569	387	0
60°	3306	444	0
65°	817	525	0
70°	180	649	0
75°	0	858	0
80°	0	1634	0
85°	0	3255	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.4	3.4
10°-20°	204.1	17.5
20°-30°	357.5	30.6
30°-40°	359.0	30.7
40°-50°	189.1	16.2
50°-60°	15.8	1.3
60°-70°	1.6	0.1
70°-80°	1.1	0.1
80°-90°	1.1	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°	601.0	51.4
0°-40°	960.0	82.1
0°-60°	1164.9	99.7
0°-90°	1168.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1168.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	217	217	217	217	217	
5°	908	594	181	83	67	116
15°	2406	1440	98	66	88	687
25°	3116	1491	83	47	43	1426
35°	2929	648	16	8	7	1811
45°	1877	67	3	1	0	1286
55°	82	7	2	0	0	123
65°	3	1	2	1	0	4
75°	0	1	2	1	0	0
85°	0	1	2	1	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°	216.9	216.9	216.9	216.9	216.9	216.9	216.9	216.9	216.9	216.9	216.9
2.5°	492.4	493.0	493.5	497.4	488.6	486.3	482.4	476.7	458.4	382.8	288.8
5°	907.9	914.7	913.0	907.4	893.5	885.7	874.0	861.8	811.8	593.6	358.3
7.5°	1411.0	1423.8	1421.1	1412.6	1389.2	1378.7	1349.2	1333.1	1257.4	842.9	410.0
10°	1803.2	1837.3	1837.8	1830.0	1794.8	1779.9	1749.3	1720.4	1624.6	1087.2	434.0
12.5°	2134.9	2135.4	2161.5	2155.4	2114.7	2108.1	2082.6	2039.1	1938.5	1290.7	434.0
15°	2405.8	2442.4	2436.4	2429.8	2386.8	2378.0	2353.4	2313.5	2196.1	1440.0	412.8
17.5°	2629.4	2662.3	2652.8	2645.6	2602.8	2583.3	2556.5	2508.7	2379.7	1528.3	368.9
20°	2828.6	2859.8	2840.9	2828.1	2770.8	2746.8	2708.0	2652.8	2505.4	1561.1	317.6
22.5°	3014.4	3047.3	3023.4	3005.6	2931.6	2885.4	2830.4	2760.8	2587.1	1550.5	290.4
25°	3115.7	3158.6	3135.7	3121.8	3051.2	2997.3	2924.3	2834.7	2633.9	1491.0	218.7
26°	3138.0	3183.0	3161.4	3149.1	3077.3	3020.1	2942.2	2848.1	2637.8	1442.1	168.6
27°	3153.6	3203.6	3178.7	3163.0	3089.1	3027.9	2946.5	2848.7	2631.6	1375.9	134.1
28°	3159.6	3214.7	3184.2	3165.2	3088.4	3021.6	2935.4	2836.5	2615.5	1299.7	114.1
29°	3159.1	3219.1	3183.6	3163.0	3081.2	3007.2	2918.8	2819.2	2593.2	1220.2	103.0
30°	3148.0	3213.6	3178.1	3151.8	3064.0	2984.4	2894.8	2795.2	2568.2	1133.3	91.8
31°	3132.9	3200.4	3163.0	3130.8	3035.6	2949.3	2861.5	2763.0	2534.8	1040.4	84.0
32°	3111.4	3178.7	3137.4	3095.1	2995.5	2905.4	2820.8	2725.2	2494.2	942.6	74.6
33°	3076.7	3136.3	3088.4	3039.5	2939.9	2855.4	2775.2	2681.2	2448.1	840.6	64.5
34°	3013.9	3066.1	3016.7	2967.2	2878.2	2799.8	2722.9	2629.4	2394.1	746.6	55.6
35°	2928.7	2973.3	2928.7	2887.0	2808.6	2735.7	2662.3	2571.0	2329.0	647.6	47.8
36°	2842.0	2881.0	2839.7	2806.9	2731.8	2666.8	2598.2	2503.7	2255.6	553.6	42.2
37°	2760.8	2795.7	2758.0	2725.2	2660.6	2594.4	2526.5	2429.8	2174.3	463.5	35.2
38°	2680.2	2711.3	2678.9	2642.2	2582.7	2515.3	2447.0	2347.9	2083.6	378.4	30.1
39°	2596.0	2621.7	2590.4	2553.2	2492.6	2425.8	2355.7	2253.3	1979.6	289.8	26.1
40°	2506.5	2530.4	2492.0	2458.7	2397.9	2329.6	2257.8	2151.6	1866.6	194.2	22.3
42.5°	2241.6	2256.1	2223.9	2177.7	2117.0	2041.9	1955.1	1836.0	1505.5	102.4	15.6
45°	1876.7	1879.5	1854.4	1770.5	1689.2	1573.0	1443.3	1264.6	875.3	66.8	10.1
47.5°	1132.8	1126.1	1086.7	1014.8	939.2	816.2	694.9	572.0	339.9	38.9	6.7
50°	505.8	498.0	478.5	441.3	397.3	351.6	297.6	252.1	165.2	21.2	4.5
51°	366.7	359.9	345.5	317.1	284.9	252.6	215.3	184.2	123.4	17.3	3.8
52°	257.6	253.7	243.8	223.6	205.8	180.9	155.3	135.8	92.9	13.9	2.8
53°	179.7	177.0	170.8	157.5	147.0	128.5	112.3	96.8	67.3	11.1	2.8
54°	121.9	120.1	116.3	107.4	98.4	88.5	76.9	67.8	47.3	8.8	2.3
55°	81.7	80.7	77.4	72.9	67.8	61.8	53.9	47.3	33.4	7.3	1.8
57.5°	30.1	30.1	28.9	27.2	25.6	24.0	21.7	19.4	15.6	4.5	1.8
60°	13.4	12.9	12.9	12.2	11.6	11.1	10.6	9.4	7.8	2.8	1.8
61°	10.1	10.1	9.4	8.8	8.8	8.3	7.8	7.3	6.1	2.3	1.8
62°	7.3	7.3	7.3	6.7	6.7	6.1	6.1	5.5	4.5	1.8	1.8
63°	5.5	5.5	5.5	5.0	5.0	5.0	4.5	4.5	3.3	1.8	1.8
64°	3.8	3.8	3.8	3.8	3.8	3.8	3.3	3.3	2.8	1.0	1.8
65°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.3	1.0	1.8
66°	2.3	2.3	2.3	2.3	2.3	2.3	1.8	1.8	1.8	1.0	1.8



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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°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.8
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.8
80°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.8
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°	216.9	216.9	216.9	216.9	216.9
2.5°	199.8	139.7	111.3	100.7	97.3
5°	180.9	104.6	82.9	71.2	66.8
7.5°	151.9	86.2	62.3	51.8	48.4
10°	122.9	71.2	50.6	42.2	40.0
12.5°	105.1	61.8	47.3	44.0	44.0
15°	97.9	65.0	65.7	78.9	88.5
17.5°	100.7	101.9	159.1	193.6	199.8
20°	144.7	183.0	181.4	164.6	159.6
22.5°	167.4	120.6	91.3	75.1	72.3
25°	82.9	55.1	47.3	43.5	42.7
26°	62.9	46.3	41.2	38.9	37.9
27°	52.3	40.7	36.7	33.9	32.9
28°	46.8	36.2	31.6	28.9	27.8
29°	42.2	31.1	26.7	24.0	23.3
30°	37.2	26.1	22.3	19.4	18.9
31°	31.6	21.7	17.8	16.1	15.0
32°	26.7	17.8	14.5	12.9	11.6
33°	22.3	14.5	12.2	10.6	9.4
34°	18.9	12.2	10.1	8.3	7.8
35°	15.6	10.1	8.3	7.3	6.7
36°	13.4	8.8	6.7	5.5	5.0
37°	11.6	7.3	5.5	4.5	4.5
38°	10.1	6.1	5.0	3.3	3.3
39°	8.3	5.0	3.8	2.8	2.8
40°	7.3	4.5	3.3	2.3	1.8
42.5°	5.0	2.8	2.3	1.0	0.5
45°	3.3	2.3	1.0	0.5	0.0
47.5°	2.3	1.8	1.0	0.5	0.0
50°	1.8	1.8	1.0	0.0	0.0
51°	1.8	1.0	1.0	0.0	0.0
52°	1.8	1.0	0.5	0.0	0.0
53°	1.8	1.0	0.5	0.0	0.0
54°	1.8	1.0	0.5	0.0	0.0
55°	1.8	1.0	0.5	0.0	0.0
57.5°	1.8	1.0	0.5	0.0	0.0
60°	1.8	1.0	1.0	0.0	0.0
61°	1.8	1.8	1.0	0.0	0.0
62°	1.8	1.8	1.0	0.0	0.0
63°	1.8	1.8	1.0	0.0	0.0
64°	1.8	1.8	1.0	0.5	0.0
65°	1.8	1.8	1.0	0.5	0.0
66°	1.8	1.8	1.0	0.5	0.0

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	1.8	1.8	1.0	0.5	0.0
75°	1.8	1.8	1.0	0.5	0.0
77.5°	2.3	1.8	1.0	0.5	0.0
80°	2.3	1.8	1.0	0.5	0.0
82.5°	2.3	1.8	1.0	0.5	0.0
85°	2.3	1.8	1.0	0.5	0.0
87.5°	2.3	1.8	1.0	0.5	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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.8
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.8

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67.5°	1.8	1.8	1.0	0.5	0.0
70°	1.8	1.8	1.0	0.5	0.0

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(END OF REPORT)