

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: P1191485

Luminaire Tested: **LDA4A10940D010TE 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: P1191485
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: LDA4A10940D010TE 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

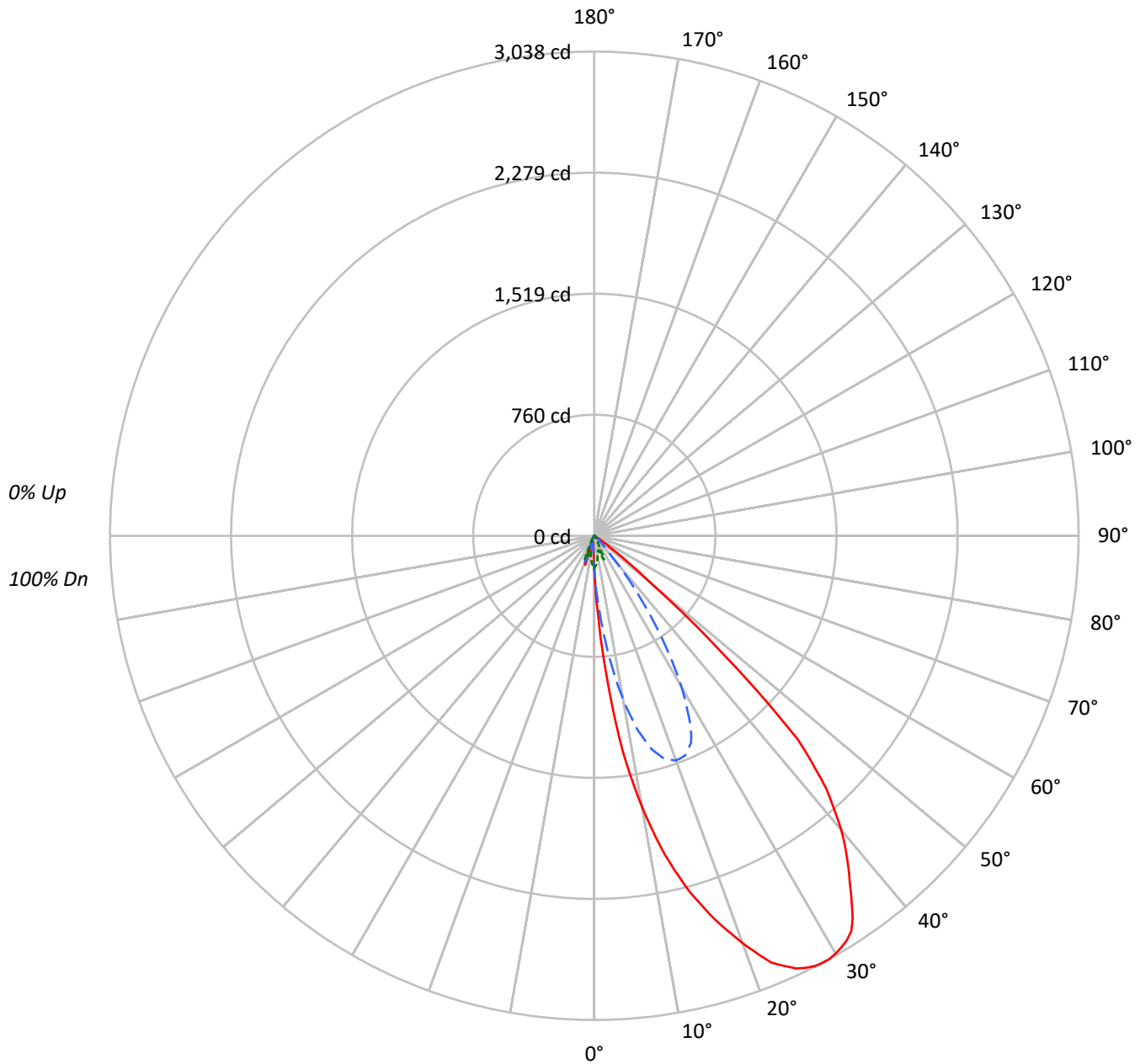
Lumens per Lamp: N/A
Luminaire Lumens: 1123.8 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	25730	25730	25730
5°	108092	21532	7949
10°	217156	14804	4822
15°	295401	12016	10867
20°	357006	18258	20149
25°	407733	10847	5594
30°	431113	5099	2592
35°	424040	2259	964
40°	388065	1127	274
45°	314772	558	0
50°	93317	326	0
55°	16903	366	0
60°	3182	419	0
65°	788	496	0
70°	180	613	0
75°	0	810	0
80°	0	1563	0
85°	0	3114	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.9	3.4
10°-20°	196.3	17.5
20°-30°	343.7	30.6
30°-40°	345.2	30.7
40°-50°	181.8	16.2
50°-60°	15.2	1.3
60°-70°	1.6	0.1
70°-80°	1.1	0.1
80°-90°	1.0	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°	577.9	51.4
0°-40°	923.1	82.1
0°-60°	1120.1	99.7
0°-90°	1123.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1123.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	209	209	209	209	209	
5°	873	571	174	80	64	112
15°	2313	1385	94	63	85	660
25°	2996	1434	80	46	41	1371
35°	2816	623	15	8	6	1741
45°	1804	64	3	1	0	1237
55°	79	7	2	0	0	118
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°	208.6	208.6	208.6	208.6	208.6	208.6	208.6	208.6	208.6	208.6	208.6
2.5°	473.5	474.0	474.5	478.3	469.8	467.6	463.8	458.4	440.8	368.1	277.7
5°	873.0	879.5	877.9	872.5	859.1	851.6	840.4	828.7	780.6	570.8	344.5
7.5°	1356.7	1369.0	1366.4	1358.3	1335.8	1325.7	1297.3	1281.8	1209.0	810.5	394.2
10°	1733.8	1766.6	1767.1	1759.6	1725.8	1711.4	1682.0	1654.2	1562.1	1045.4	417.3
12.5°	2052.8	2053.3	2078.4	2072.5	2033.4	2027.0	2002.5	1960.7	1863.9	1241.1	417.3
15°	2313.3	2348.5	2342.7	2336.3	2295.0	2286.5	2262.9	2224.5	2111.6	1384.6	396.9
17.5°	2528.3	2559.9	2550.8	2543.8	2502.7	2483.9	2458.2	2412.2	2288.2	1469.5	354.7
20°	2719.8	2749.8	2731.6	2719.3	2664.2	2641.2	2603.8	2550.8	2409.0	1501.1	305.4
22.5°	2898.5	2930.1	2907.1	2890.0	2818.8	2774.4	2721.5	2654.6	2487.6	1490.9	279.2
25°	2995.9	3037.1	3015.1	3001.7	2933.8	2882.0	2811.8	2725.7	2532.6	1433.7	210.3
26°	3017.3	3060.6	3039.8	3028.0	2958.9	2903.9	2829.0	2738.6	2536.3	1386.6	162.1
27°	3032.3	3080.4	3056.4	3041.3	2970.3	2911.4	2833.2	2739.1	2530.4	1323.0	128.9
28°	3038.1	3091.1	3061.7	3043.5	2969.6	2905.4	2822.5	2727.4	2514.9	1249.7	109.7
29°	3037.6	3095.3	3061.2	3041.3	2962.7	2891.5	2806.5	2710.8	2493.5	1173.3	99.0
30°	3026.9	3090.0	3055.9	3030.6	2946.2	2869.6	2783.5	2687.7	2469.4	1089.7	88.3
31°	3012.4	3077.3	3041.3	3010.4	2918.8	2835.9	2751.4	2656.7	2437.3	1000.4	80.8
32°	2991.7	3056.4	3016.7	2976.1	2880.3	2793.7	2712.3	2620.4	2398.3	906.3	71.7
33°	2958.4	3015.7	2969.6	2922.6	2826.8	2745.6	2668.5	2578.1	2353.9	808.3	62.0
34°	2898.0	2948.2	2900.7	2853.1	2767.5	2692.1	2618.2	2528.3	2302.0	717.9	53.5
35°	2816.1	2858.9	2816.1	2776.0	2700.6	2630.5	2559.9	2472.1	2239.4	622.7	46.0
36°	2732.7	2770.2	2730.5	2698.9	2626.7	2564.2	2498.3	2407.4	2168.8	532.3	40.6
37°	2654.6	2688.2	2651.9	2620.4	2558.3	2494.6	2429.3	2336.3	2090.7	445.7	33.8
38°	2577.1	2607.0	2575.9	2540.6	2483.4	2418.6	2352.9	2257.6	2003.5	363.8	28.9
39°	2496.2	2520.9	2490.8	2455.0	2396.7	2332.5	2265.1	2166.6	1903.5	278.7	25.1
40°	2410.1	2433.1	2396.2	2364.1	2305.7	2240.0	2171.0	2068.8	1794.8	186.7	21.4
42.5°	2155.4	2169.3	2138.4	2093.9	2035.6	1963.4	1879.9	1765.4	1447.6	98.5	15.0
45°	1804.5	1807.2	1783.1	1702.4	1624.2	1512.5	1387.8	1216.0	841.6	64.2	9.7
47.5°	1089.2	1082.8	1044.9	975.8	903.1	784.8	668.2	550.0	326.8	37.4	6.4
50°	486.3	478.8	460.1	424.3	382.0	338.1	286.2	242.4	158.8	20.4	4.3
51°	352.6	346.1	332.2	304.9	273.9	242.9	207.0	177.1	118.7	16.6	3.7
52°	247.7	243.9	234.4	215.0	197.9	173.9	149.3	130.6	89.3	13.4	2.7
53°	172.8	170.2	164.2	151.4	141.3	123.6	108.0	93.1	64.7	10.7	2.7
54°	117.2	115.5	111.8	103.3	94.6	85.1	73.9	65.2	45.5	8.5	2.2
55°	78.6	77.6	74.4	70.1	65.2	59.4	51.8	45.5	32.1	7.0	1.7
57.5°	28.9	28.9	27.8	26.2	24.6	23.1	20.9	18.7	15.0	4.3	1.7
60°	12.9	12.4	12.4	11.7	11.2	10.7	10.2	9.0	7.5	2.7	1.7
61°	9.7	9.7	9.0	8.5	8.5	8.0	7.5	7.0	5.9	2.2	1.7
62°	7.0	7.0	7.0	6.4	6.4	5.9	5.9	5.3	4.3	1.7	1.7
63°	5.3	5.3	5.3	4.8	4.8	4.8	4.3	4.3	3.2	1.7	1.7
64°	3.7	3.7	3.7	3.7	3.7	3.7	3.2	3.2	2.7	1.0	1.7
65°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.2	1.0	1.7
66°	2.2	2.2	2.2	2.2	2.2	2.2	1.7	1.7	1.7	1.0	1.7

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TEST NUMBER: P1191485

CATALOG NUMBER: LDA4A10940D010TE LAR35FL 4LA1 30° Tilt

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	1.7
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.7
77.5°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.7
80°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.7
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: LDA4A10940D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	208.6	208.6	208.6	208.6	208.6
2.5°	192.1	134.3	107.0	96.8	93.6
5°	173.9	100.6	79.7	68.5	64.2
7.5°	146.1	82.9	59.9	49.8	46.5
10°	118.2	68.5	48.7	40.6	38.5
12.5°	101.1	59.4	45.5	42.3	42.3
15°	94.1	62.5	63.2	75.9	85.1
17.5°	96.8	98.0	153.0	186.2	192.1
20°	139.1	176.0	174.4	158.3	153.5
22.5°	161.0	116.0	87.8	72.2	69.5
25°	79.7	53.0	45.5	41.8	41.1
26°	60.5	44.5	39.6	37.4	36.4
27°	50.3	39.1	35.3	32.6	31.6
28°	45.0	34.8	30.4	27.8	26.7
29°	40.6	29.9	25.7	23.1	22.4
30°	35.8	25.1	21.4	18.7	18.2
31°	30.4	20.9	17.1	15.5	14.4
32°	25.7	17.1	13.9	12.4	11.2
33°	21.4	13.9	11.7	10.2	9.0
34°	18.2	11.7	9.7	8.0	7.5
35°	15.0	9.7	8.0	7.0	6.4
36°	12.9	8.5	6.4	5.3	4.8
37°	11.2	7.0	5.3	4.3	4.3
38°	9.7	5.9	4.8	3.2	3.2
39°	8.0	4.8	3.7	2.7	2.7
40°	7.0	4.3	3.2	2.2	1.7
42.5°	4.8	2.7	2.2	1.0	0.5
45°	3.2	2.2	1.0	0.5	0.0
47.5°	2.2	1.7	1.0	0.5	0.0
50°	1.7	1.7	1.0	0.0	0.0
51°	1.7	1.0	1.0	0.0	0.0
52°	1.7	1.0	0.5	0.0	0.0
53°	1.7	1.0	0.5	0.0	0.0
54°	1.7	1.0	0.5	0.0	0.0
55°	1.7	1.0	0.5	0.0	0.0
57.5°	1.7	1.0	0.5	0.0	0.0
60°	1.7	1.0	1.0	0.0	0.0
61°	1.7	1.7	1.0	0.0	0.0
62°	1.7	1.7	1.0	0.0	0.0
63°	1.7	1.7	1.0	0.0	0.0
64°	1.7	1.7	1.0	0.5	0.0
65°	1.7	1.7	1.0	0.5	0.0
66°	1.7	1.7	1.0	0.5	0.0



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	1.7	1.7	1.0	0.5	0.0
75°	1.7	1.7	1.0	0.5	0.0
77.5°	2.2	1.7	1.0	0.5	0.0
80°	2.2	1.7	1.0	0.5	0.0
82.5°	2.2	1.7	1.0	0.5	0.0
85°	2.2	1.7	1.0	0.5	0.0
87.5°	2.2	1.7	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	1.7
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.7

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67.5°	1.7	1.7	1.0	0.5	0.0
70°	1.7	1.7	1.0	0.5	0.0

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(END OF REPORT)