

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: P1191487

Luminaire Tested: **LDA4A10940D010TE LAR35FL 4LAL1 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: P1191487
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26106)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A10940D010TE LAR35FL 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 35° Flood Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

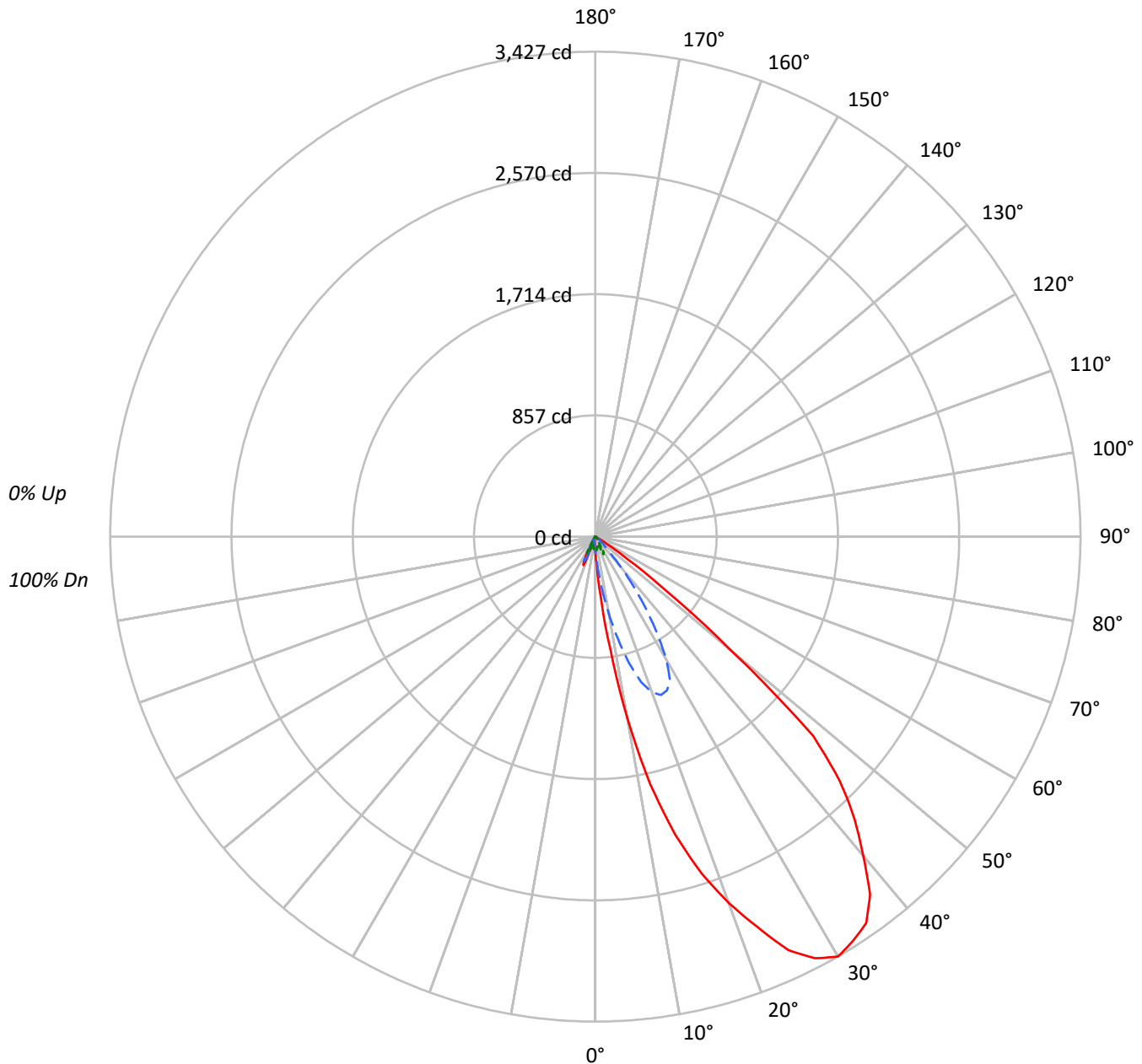
Lumens per Lamp: N/A
Luminaire Lumens: 1245.7 lumens
Efficiency: N/A
Efficacy: 100.5 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91		
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82		
3	98	90	84	79	96	89	83	79	86	81	77	84	79	76	81	78	75	73		
4	91	82	75	70	89	81	75	70	79	73	69	77	72	68	75	70	67	65		
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58		
6	79	68	61	56	78	67	60	55	66	60	55	64	59	55	63	58	54	52		
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47		
8	69	57	50	45	68	57	50	45	55	49	44	54	48	44	53	48	44	42		
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38		
10	60	48	41	37	59	48	41	37	47	41	36	46	40	36	45	40	36	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	12631	12631	12631
5°	50876	11924	5584
10°	164000	10007	3206
15°	278213	7943	2490
20°	361613	7128	7521
25°	438803	18754	26621
30°	488141	6609	7036
35°	502130	3945	3298
40°	474112	1658	1175
45°	426115	959	314
50°	239807	595	0
55°	59525	387	0
60°	9177	444	0
65°	2131	525	0
70°	469	649	0
75°	0	858	0
80°	0	1705	0
85°	0	3397	849



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.6	1.7
10°-20°	152.9	12.3
20°-30°	353.1	28.3
30°-40°	396.1	31.8
40°-50°	276.4	22.2
50°-60°	41.3	3.3
60°-70°	2.7	0.2
70°-80°	1.3	0.1
80°-90°	1.3	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°	526.6	42.3
0°-40°	922.7	74.1
0°-60°	1240.3	99.6
0°-90°	1245.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1245.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	102	102	102	102	102	
5°	411	240	96	56	45	68
15°	2179	927	62	24	20	623
25°	3224	1198	138	192	196	1474
35°	3335	623	26	22	22	2051
45°	2443	94	6	3	2	1792
55°	277	12	2	1	0	364
65°	7	2	2	1	0	11
75°	0	1	2	2	0	0
85°	0	1	2	2	1	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4
2.5°	186.6	184.7	179.9	178.6	182.9	179.2	181.0	184.7	181.0	176.8	181.0
5°	410.9	421.2	410.9	409.0	416.4	409.6	412.7	419.4	410.3	401.7	407.9
7.5°	793.2	799.8	770.6	780.9	778.5	780.3	782.2	782.2	776.6	761.4	770.0
10°	1309.4	1314.4	1275.3	1288.8	1271.1	1288.8	1285.7	1272.2	1275.3	1254.6	1265.6
12.5°	1788.6	1804.5	1765.4	1778.3	1756.9	1777.0	1769.1	1765.4	1734.3	1734.3	1745.9
15°	2178.7	2214.8	2179.4	2192.8	2168.4	2196.5	2174.5	2184.2	2156.2	2121.4	2152.0
17.5°	2494.6	2529.9	2497.1	2513.5	2490.9	2512.9	2487.3	2508.0	2472.0	2447.0	2467.8
20°	2754.9	2781.1	2742.1	2765.3	2738.4	2760.3	2732.3	2759.7	2717.7	2699.5	2711.6
22.5°	2981.7	2992.0	2971.9	3010.9	2958.5	2981.7	2948.1	2976.2	2926.2	2903.0	2906.1
25°	3224.2	3247.4	3209.1	3223.7	3187.0	3203.0	3165.1	3191.4	3129.2	3096.2	3089.6
27.5°	3359.0	3392.0	3357.9	3374.3	3337.1	3350.5	3312.6	3350.5	3287.0	3254.8	3247.4
30°	3427.3	3443.2	3421.2	3432.1	3390.1	3396.8	3357.9	3398.6	3335.3	3306.7	3303.0
32.5°	3387.7	3419.4	3390.7	3404.7	3365.8	3372.4	3334.7	3378.5	3315.2	3288.9	3276.1
35°	3334.7	3366.9	3340.2	3354.8	3318.8	3323.7	3283.5	3321.8	3248.7	3216.3	3189.0
37.5°	3187.7	3218.3	3195.6	3200.6	3165.8	3162.1	3118.8	3151.1	3079.8	3052.4	3034.1
40°	2944.5	2971.9	2953.6	2964.0	2929.2	2921.3	2892.0	2922.0	2866.4	2846.3	2820.7
42.5°	2711.6	2734.1	2717.0	2733.6	2694.5	2684.2	2657.9	2695.8	2633.0	2616.5	2598.2
45°	2442.8	2456.8	2443.4	2457.4	2420.3	2403.7	2380.0	2412.2	2350.7	2335.4	2295.8
47.5°	2087.3	2072.1	2069.7	2083.1	2036.7	2002.6	1980.7	2022.1	1933.2	1903.2	1857.5
50°	1249.7	1275.3	1286.4	1277.2	1245.5	1198.5	1163.2	1213.8	1166.2	1093.0	1019.9
52.5°	643.8	615.1	621.2	624.3	586.4	572.4	560.8	572.4	535.2	516.4	470.0
55°	276.8	263.4	268.3	270.0	262.8	245.7	239.6	246.9	229.8	222.5	203.7
57.5°	102.4	102.4	99.4	100.6	98.2	92.1	90.8	93.9	88.4	86.6	79.2
60°	37.2	37.2	37.2	37.2	34.1	33.5	33.5	34.8	32.9	32.4	29.9
62.5°	15.8	16.4	15.3	15.8	15.3	14.6	15.3	14.6	14.6	14.0	14.0
65°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.8	6.8
67.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.1	3.1	3.1
70°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
72.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4
2.5°	175.5	175.0	177.4	175.0	170.7	168.3	171.3	165.2	141.4	117.7	100.0
5°	396.9	393.8	389.5	390.8	380.3	371.8	371.8	355.4	240.2	136.5	96.3
7.5°	752.3	745.0	713.8	736.5	714.4	697.4	685.8	652.3	388.4	156.7	89.0
10°	1242.4	1229.6	1207.6	1212.0	1175.9	1147.3	1112.6	1056.4	558.4	174.4	79.9
12.5°	1725.8	1713.1	1654.5	1688.1	1639.8	1611.8	1553.3	1487.5	742.0	182.9	71.3
15°	2136.1	2125.1	2061.2	2092.9	2033.7	2007.4	1931.9	1858.8	927.3	179.9	62.2
17.5°	2454.9	2453.1	2379.4	2411.1	2345.9	2324.5	2236.1	2164.1	1077.2	166.5	56.0
20°	2700.6	2696.4	2622.0	2653.7	2582.4	2561.6	2449.4	2373.9	1172.4	148.1	54.3
22.5°	2894.5	2885.9	2806.1	2833.6	2753.7	2726.8	2603.0	2524.4	1211.3	136.5	67.0
25°	3068.8	3053.6	2962.7	2984.1	2896.4	2901.9	2715.9	2629.3	1198.5	153.6	137.8
27.5°	3222.5	3195.1	3103.6	3109.7	3006.7	2953.1	2793.3	2697.5	1140.0	171.3	128.0
30°	3279.8	3252.9	3156.0	3159.7	3052.4	2976.8	2806.1	2699.5	999.8	107.2	46.4
32.5°	3248.1	3218.8	3117.6	3118.8	3008.5	2931.7	2761.6	2643.9	813.3	70.7	35.4
35°	3156.0	3125.5	3024.9	3029.9	2923.1	2847.0	2680.5	2554.9	623.0	56.0	26.2
37.5°	3000.6	2979.2	2883.5	2892.0	2801.2	2720.1	2551.3	2415.3	439.6	40.3	16.4
40°	2800.6	2784.2	2691.4	2704.9	2606.1	2531.2	2350.1	2202.6	273.7	27.4	10.3
42.5°	2566.5	2548.8	2457.4	2467.8	2383.6	2276.3	2091.6	1924.6	143.3	19.5	7.3
45°	2274.5	2253.8	2161.2	2166.6	2067.3	1941.7	1750.3	1602.8	93.9	13.4	5.5
47.5°	1815.5	1778.3	1657.5	1652.7	1571.6	1366.2	1094.3	885.8	62.2	9.2	3.7
50°	998.0	959.5	853.4	841.9	751.6	616.9	456.0	354.7	35.9	6.1	3.1
52.5°	454.2	434.1	384.7	376.8	338.3	280.5	215.8	177.4	20.8	4.3	2.4
55°	196.9	189.5	168.9	167.6	149.9	129.8	103.7	87.8	12.2	3.1	1.8
57.5°	77.4	75.0	70.7	67.6	61.0	54.3	45.1	37.8	7.9	2.4	1.8
60°	29.3	28.7	26.2	26.9	24.3	23.2	20.1	17.1	4.8	1.8	1.8
62.5°	13.4	13.4	12.9	12.9	12.2	11.0	9.8	9.2	3.1	1.8	1.8
65°	6.8	6.8	6.1	6.1	6.1	5.5	4.8	4.8	1.8	1.8	1.8
67.5°	3.1	3.1	3.1	3.1	3.1	2.4	2.4	2.4	1.3	1.8	1.8
70°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.8	1.8
72.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.8	1.8
75°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.8	1.8
77.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.3	1.8	2.4
80°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.3	1.8	2.4
82.5°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.8	2.4
85°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.8	2.4
87.5°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.8	2.4
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):

	112.5°	135°	157.5°	180°
0°	102.4	102.4	102.4	102.4
2.5°	86.0	76.2	67.6	65.9
5°	70.7	56.0	47.0	45.1
7.5°	57.3	40.9	34.1	32.9
10°	47.0	32.9	26.9	25.6
12.5°	39.0	26.9	21.4	20.1
15°	33.5	23.8	19.5	19.5
17.5°	32.4	26.2	25.0	25.6
20°	42.0	47.5	56.7	57.3
22.5°	97.6	158.5	209.7	219.5
25°	175.5	192.1	187.1	195.6
27.5°	92.6	72.6	73.8	75.5
30°	40.3	44.5	47.0	49.4
32.5°	33.5	34.8	35.4	37.2
35°	21.9	21.9	21.4	21.9
37.5°	13.4	12.9	12.2	12.2
40°	8.5	7.9	7.3	7.3
42.5°	6.1	4.8	4.3	4.3
45°	4.3	3.1	2.4	1.8
47.5°	3.1	1.8	1.3	0.6
50°	2.4	1.8	0.6	0.0
52.5°	1.8	1.3	0.6	0.0
55°	1.8	1.3	0.0	0.0
57.5°	1.8	1.3	0.0	0.0
60°	1.8	1.3	0.0	0.0
62.5°	1.8	1.3	0.0	0.0
65°	1.8	1.3	0.6	0.0
67.5°	1.8	1.3	0.6	0.0
70°	1.8	1.3	0.6	0.0
72.5°	1.8	1.3	0.6	0.0
75°	1.8	1.8	0.6	0.0
77.5°	2.4	1.8	0.6	0.0
80°	2.4	1.8	0.6	0.0
82.5°	2.4	1.8	0.6	0.0
85°	2.4	1.8	0.6	0.6
87.5°	2.4	1.8	0.6	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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— 0°-180° - - 45°-225° - - - 90°-270°

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