

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: P1191469

Luminaire Tested: **LDA4A10935D010TE 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: P1191469
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: LDA4A10935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

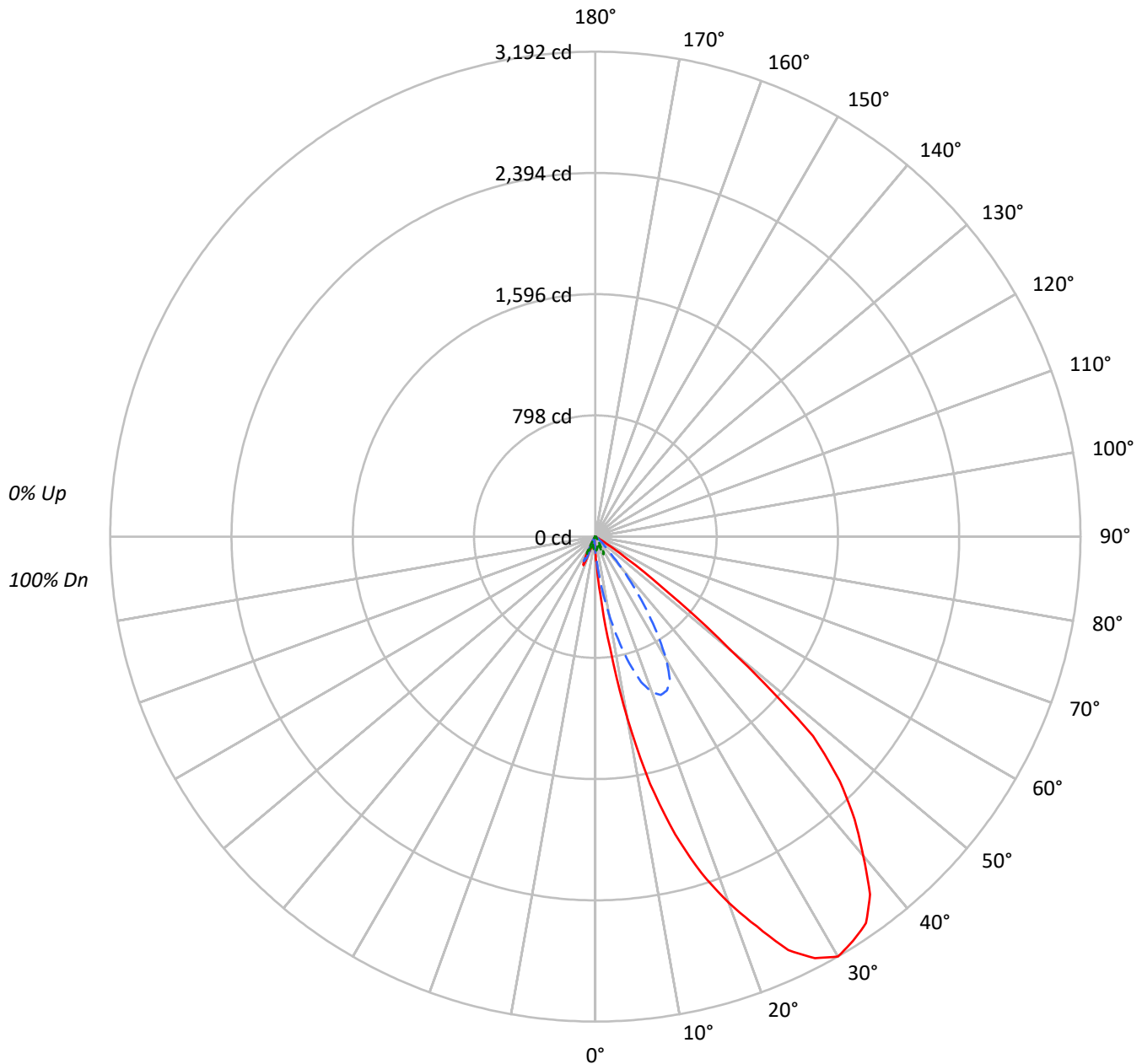
Lumens per Lamp: N/A
Luminaire Lumens: 1160.1 lumens
Efficiency: N/A
Efficacy: 93.6 lumens/watt
Spacing Criteria (0/90/45): 2.71 / 1.11 / 1.33
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	84	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°	11767	11767	11767
5°	47372	11106	5200
10°	152753	9318	2981
15°	259122	7406	2324
20°	336791	6642	7009
25°	408699	17461	24810
30°	454628	6153	6552
35°	467663	3689	3072
40°	441571	1562	1095
45°	396844	890	297
50°	223362	537	0
55°	55439	366	0
60°	8536	419	0
65°	1985	496	0
70°	397	613	0
75°	0	810	0
80°	0	1634	0
85°	0	3255	708



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	19.2	1.7
10°-20°	142.4	12.3
20°-30°	328.9	28.3
30°-40°	368.9	31.8
40°-50°	257.4	22.2
50°-60°	38.4	3.3
60°-70°	2.5	0.2
70°-80°	1.2	0.1
80°-90°	1.2	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°	490.4	42.3
0°-40°	859.3	74.1
0°-60°	1155.2	99.6
0°-90°	1160.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1160.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	95	95	95	95	95	
5°	383	224	90	52	42	63
15°	2029	864	58	22	18	580
25°	3003	1116	128	179	182	1373
35°	3106	580	24	20	20	1910
45°	2275	87	5	3	2	1669
55°	258	11	2	1	0	339
65°	7	2	2	1	0	10
75°	0	1	2	2	0	0
85°	0	1	2	2	0	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°	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4
2.5°	173.7	172.1	167.5	166.4	170.3	167.0	168.6	172.1	168.6	164.7	168.6
5°	382.6	392.3	382.6	381.0	387.7	381.5	384.4	390.7	382.1	374.2	379.8
7.5°	738.6	744.9	717.6	727.3	725.0	726.8	728.5	728.5	723.4	709.1	717.1
10°	1219.6	1224.1	1187.8	1200.3	1183.8	1200.3	1197.5	1185.0	1187.8	1168.5	1178.7
12.5°	1665.8	1680.6	1644.3	1656.3	1636.4	1655.1	1647.7	1644.3	1615.4	1615.4	1626.1
15°	2029.2	2062.7	2029.8	2042.3	2019.5	2045.6	2025.3	2034.3	2008.2	1975.8	2004.2
17.5°	2323.3	2356.3	2325.6	2340.9	2319.9	2340.4	2316.6	2335.8	2302.3	2279.0	2298.4
20°	2565.8	2590.2	2553.9	2575.4	2550.4	2570.9	2544.8	2570.3	2531.2	2514.1	2525.5
22.5°	2777.0	2786.7	2767.9	2804.3	2755.4	2777.0	2745.8	2771.9	2725.3	2703.8	2706.6
25°	3003.0	3024.5	2988.7	3002.4	2968.3	2983.1	2947.8	2972.3	2914.3	2883.8	2877.5
27.5°	3128.5	3159.2	3127.3	3142.6	3108.0	3120.6	3085.3	3120.6	3061.5	3031.4	3024.5
30°	3192.0	3206.8	3186.4	3196.6	3157.4	3163.6	3127.3	3165.4	3106.3	3079.7	3076.2
32.5°	3155.1	3184.6	3158.0	3171.0	3134.7	3140.9	3105.8	3146.7	3087.6	3063.1	3051.3
35°	3105.8	3135.8	3110.9	3124.5	3091.0	3095.5	3058.0	3093.8	3025.7	2995.6	2970.0
37.5°	2968.9	2997.3	2976.2	2980.8	2948.5	2945.0	2904.8	2934.8	2868.4	2842.9	2825.8
40°	2742.4	2767.9	2750.9	2760.5	2728.1	2720.7	2693.5	2721.4	2669.7	2650.9	2627.1
42.5°	2525.5	2546.5	2530.6	2546.0	2509.5	2499.9	2475.5	2510.7	2452.2	2436.9	2419.9
45°	2275.0	2288.2	2275.7	2288.7	2254.0	2238.7	2216.6	2246.6	2189.3	2175.2	2138.2
47.5°	1944.1	1929.9	1927.6	1940.0	1897.0	1865.2	1844.6	1883.4	1800.4	1772.6	1730.0
50°	1164.0	1187.8	1198.0	1189.6	1160.0	1116.2	1083.3	1130.5	1086.1	1018.0	949.8
52.5°	599.6	572.9	578.5	581.5	546.2	533.2	522.4	533.2	498.5	481.0	437.8
55°	257.8	245.3	249.8	251.6	244.7	228.8	223.2	229.9	214.0	207.2	189.7
57.5°	95.4	95.4	92.6	93.6	91.5	85.7	84.6	87.4	82.3	80.6	73.8
60°	34.6	34.6	34.6	34.6	31.8	31.2	31.2	32.4	30.7	30.1	27.8
62.5°	14.8	15.3	14.1	14.8	14.1	13.6	14.1	13.6	13.6	13.1	13.1
65°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.2	6.2
67.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.8	2.8	2.8
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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°	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4
2.5°	163.5	162.9	165.2	162.9	159.0	156.7	159.6	153.9	131.7	109.5	93.1
5°	369.6	366.8	362.8	363.9	354.2	346.3	346.3	331.0	223.7	127.1	89.7
7.5°	700.7	693.8	664.9	685.9	665.4	649.5	638.8	607.6	361.6	146.0	82.9
10°	1157.1	1145.2	1124.7	1128.8	1095.3	1068.5	1036.2	984.0	520.1	162.4	74.4
12.5°	1607.3	1595.5	1541.0	1572.2	1527.4	1501.2	1446.7	1385.3	691.0	170.3	66.5
15°	1989.5	1979.3	1919.7	1949.2	1894.1	1869.7	1799.3	1731.2	863.6	167.5	58.0
17.5°	2286.4	2284.7	2216.1	2245.5	2184.9	2165.0	2082.6	2015.6	1003.2	155.0	52.2
20°	2515.3	2511.3	2442.0	2471.6	2405.1	2385.9	2281.3	2211.0	1091.9	137.9	50.6
22.5°	2695.8	2687.9	2613.5	2639.1	2564.7	2539.6	2424.5	2351.2	1128.2	127.1	62.4
25°	2858.2	2844.0	2759.5	2779.3	2697.5	2702.6	2529.4	2448.8	1116.2	143.0	128.3
27.5°	3001.2	2975.7	2890.5	2896.3	2800.2	2750.3	2601.5	2512.5	1061.8	159.6	119.2
30°	3054.6	3029.6	2939.4	2942.7	2842.9	2772.4	2613.5	2514.1	931.1	100.0	43.2
32.5°	3025.2	2997.9	2903.6	2904.8	2802.0	2730.4	2572.1	2462.4	757.4	65.9	33.0
35°	2939.4	2911.0	2817.3	2821.9	2722.5	2651.6	2496.5	2379.5	580.3	52.2	24.5
37.5°	2794.6	2774.7	2685.6	2693.5	2608.9	2533.4	2376.2	2249.6	409.4	37.4	15.3
40°	2608.4	2593.1	2506.7	2519.2	2427.3	2357.5	2188.8	2051.4	254.9	25.6	9.7
42.5°	2390.3	2373.9	2288.7	2298.4	2220.0	2120.0	1948.1	1792.4	133.5	18.2	6.8
45°	2118.4	2099.0	2012.8	2017.9	1925.3	1808.3	1630.1	1492.7	87.4	12.5	5.1
47.5°	1690.9	1656.3	1543.8	1539.2	1463.7	1272.3	1019.1	825.0	58.0	8.5	3.4
50°	929.5	893.7	794.9	784.1	700.1	574.6	424.7	330.4	33.5	5.7	2.8
52.5°	423.0	404.3	358.3	350.9	315.1	261.1	201.0	165.2	19.4	3.9	2.3
55°	183.4	176.5	157.3	156.2	139.7	120.9	96.6	81.8	11.3	2.8	1.7
57.5°	72.1	69.8	65.9	63.1	56.8	50.6	42.0	35.2	7.4	2.3	1.7
60°	27.3	26.7	24.5	25.0	22.7	21.5	18.7	15.9	4.6	1.7	1.7
62.5°	12.5	12.5	12.0	12.0	11.3	10.2	9.0	8.5	2.8	1.7	1.7
65°	6.2	6.2	5.7	5.7	5.7	5.1	4.6	4.6	1.7	1.7	1.7
67.5°	2.8	2.8	2.8	2.8	2.8	2.3	2.3	2.3	1.1	1.7	1.7
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.7
72.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
75°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.1	1.7	1.7
77.5°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.1	1.7	2.3
80°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.1	1.7	2.3
82.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.1	1.7	2.3
85°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.1	1.7	2.3
87.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.1	1.7	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):

	112.5°	135°	157.5°	180°
0°	95.4	95.4	95.4	95.4
2.5°	80.1	70.9	63.1	61.3
5°	65.9	52.2	43.7	42.0
7.5°	53.4	38.1	31.8	30.7
10°	43.7	30.7	25.0	23.8
12.5°	36.3	25.0	19.9	18.7
15°	31.2	22.2	18.2	18.2
17.5°	30.1	24.5	23.3	23.8
20°	39.2	44.3	52.9	53.4
22.5°	90.8	147.6	195.3	204.4
25°	163.5	178.8	174.2	182.3
27.5°	86.4	67.5	68.7	70.4
30°	37.4	41.4	43.7	46.0
32.5°	31.2	32.4	33.0	34.6
35°	20.4	20.4	19.9	20.4
37.5°	12.5	12.0	11.3	11.3
40°	7.9	7.4	6.8	6.8
42.5°	5.7	4.6	3.9	3.9
45°	3.9	2.8	2.3	1.7
47.5°	2.8	1.7	1.1	0.5
50°	2.3	1.7	0.5	0.0
52.5°	1.7	1.1	0.5	0.0
55°	1.7	1.1	0.0	0.0
57.5°	1.7	1.1	0.0	0.0
60°	1.7	1.1	0.0	0.0
62.5°	1.7	1.1	0.0	0.0
65°	1.7	1.1	0.5	0.0
67.5°	1.7	1.1	0.5	0.0
70°	1.7	1.1	0.5	0.0
72.5°	1.7	1.1	0.5	0.0
75°	1.7	1.7	0.5	0.0
77.5°	2.3	1.7	0.5	0.0
80°	2.3	1.7	0.5	0.0
82.5°	2.3	1.7	0.5	0.0
85°	2.3	1.7	0.5	0.5
87.5°	2.3	1.7	0.5	0.0
90°	0.0	0.0	0.0	0.0

Classified

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)