

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: P1191431

Luminaire Tested: **LDA4A10927D010TE 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: P1191431
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: LDA4A10927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

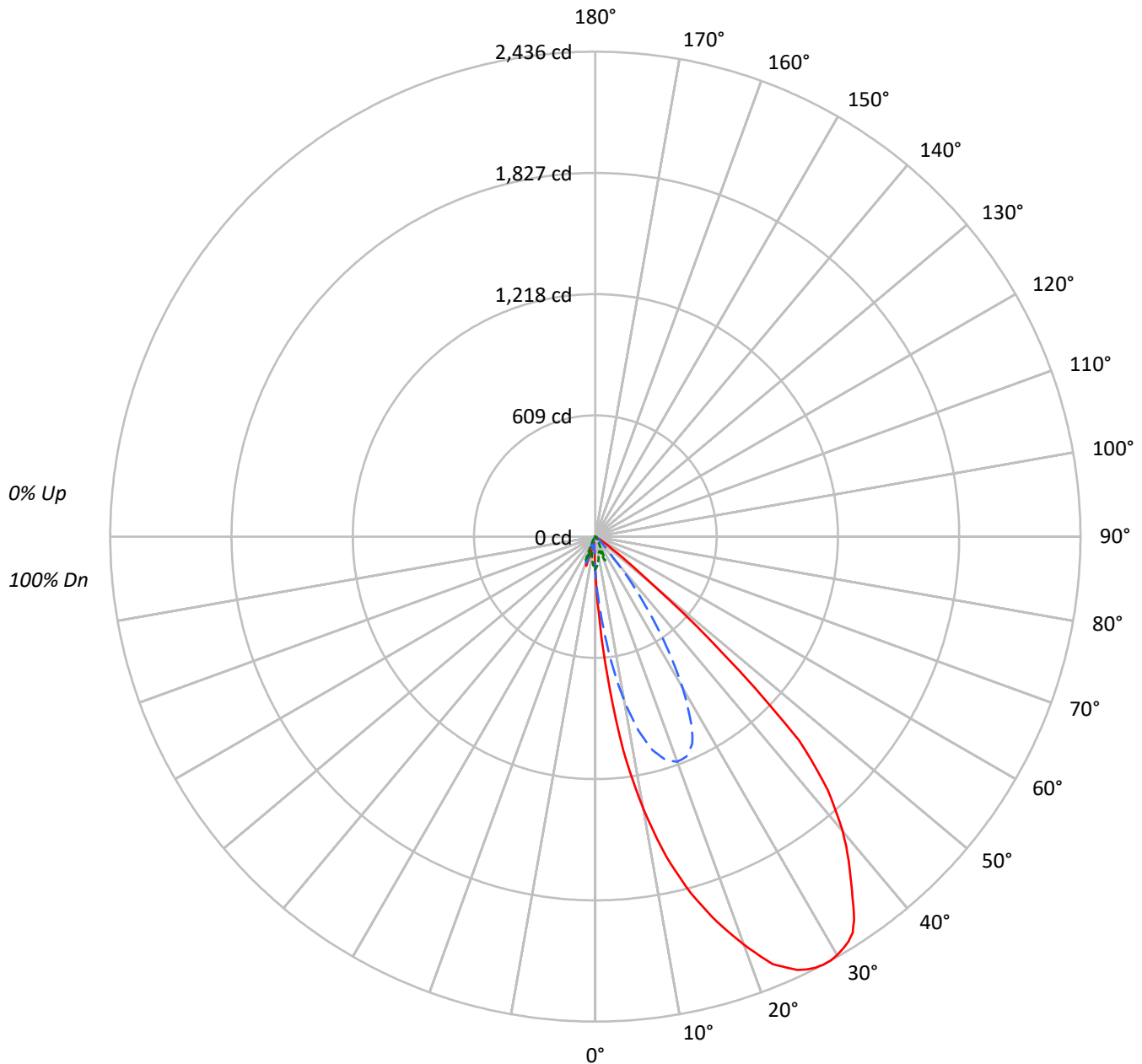
Lumens per Lamp: N/A
Luminaire Lumens: 901.0 lumens
Efficiency: N/A
Efficacy: 72.7 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	20623	20623	20623
5°	86684	17248	6377
10°	174120	11874	3858
15°	236839	9641	8696
20°	286242	14649	16145
25°	326891	8697	4491
30°	345657	4102	2065
35°	339973	1807	768
40°	311132	902	209
45°	252358	436	0
50°	74819	249	0
55°	13569	280	0
60°	2541	321	0
65°	642	379	0
70°	144	469	0
75°	0	620	0
80°	0	1208	0
85°	0	2406	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.4	3.4
10°-20°	157.4	17.5
20°-30°	275.6	30.6
30°-40°	276.8	30.7
40°-50°	145.8	16.2
50°-60°	12.2	1.3
60°-70°	1.2	0.1
70°-80°	0.9	0.1
80°-90°	0.8	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°	463.3	51.4
0°-40°	740.1	82.1
0°-60°	898.0	99.7
0°-90°	901.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	901.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	167	167	167	167	167	
5°	700	458	139	64	52	90
15°	1855	1110	76	51	68	529
25°	2402	1150	64	36	33	1099
35°	2258	499	12	6	5	1396
45°	1447	52	2	1	0	992
55°	63	6	1	0	0	95
65°	2	1	1	1	0	3
75°	0	1	1	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°	167.2	167.2	167.2	167.2	167.2	167.2	167.2	167.2	167.2	167.2	167.2
2.5°	379.6	380.1	380.5	383.4	376.6	374.9	371.9	367.6	353.5	295.1	222.7
5°	700.1	705.1	703.9	699.5	688.8	682.9	673.8	664.4	625.8	457.7	276.3
7.5°	1087.8	1097.6	1095.4	1089.1	1071.0	1062.8	1040.1	1027.7	969.3	649.9	316.1
10°	1390.2	1416.3	1416.8	1410.7	1383.7	1372.1	1348.5	1326.2	1252.5	838.1	334.6
12.5°	1645.8	1646.2	1666.3	1661.6	1630.4	1625.2	1605.4	1572.1	1494.4	995.1	334.6
15°	1854.7	1883.0	1878.3	1873.0	1840.1	1833.2	1814.3	1783.5	1692.9	1110.1	318.3
17.5°	2027.0	2052.4	2045.1	2039.5	2006.5	1991.5	1970.9	1934.1	1834.5	1178.2	284.4
20°	2180.7	2204.6	2190.1	2180.3	2136.1	2117.6	2087.5	2045.1	1931.4	1203.6	244.9
22.5°	2324.0	2349.2	2330.8	2317.1	2260.0	2224.3	2181.9	2128.3	1994.4	1195.4	223.9
25°	2401.9	2435.0	2417.5	2406.8	2352.2	2310.6	2254.4	2185.4	2030.5	1149.6	168.5
26°	2419.1	2453.9	2437.2	2427.8	2372.4	2328.2	2268.2	2195.7	2033.5	1111.7	129.9
27°	2431.1	2469.8	2450.4	2438.5	2381.4	2334.1	2271.6	2196.1	2028.8	1060.8	103.4
28°	2435.9	2478.3	2454.8	2440.1	2380.9	2329.4	2262.9	2186.6	2016.3	1001.9	87.9
29°	2435.4	2481.8	2454.3	2438.5	2375.4	2318.4	2250.1	2173.4	1999.2	940.7	79.4
30°	2426.9	2477.4	2450.1	2429.8	2362.0	2300.8	2231.7	2154.9	1979.9	873.7	70.8
31°	2415.3	2467.1	2438.5	2413.5	2340.3	2273.8	2206.0	2130.1	1954.2	802.1	64.7
32°	2398.6	2450.4	2418.7	2386.1	2309.3	2239.9	2174.7	2100.9	1922.9	726.5	57.4
33°	2372.0	2417.8	2380.9	2343.2	2266.4	2201.3	2139.5	2067.0	1887.3	648.1	49.8
34°	2323.4	2363.8	2325.6	2287.4	2218.9	2158.4	2099.1	2027.0	1845.7	575.6	42.9
35°	2257.8	2292.1	2257.8	2225.6	2165.2	2109.1	2052.4	1982.1	1795.5	499.3	36.9
36°	2191.0	2220.9	2189.2	2164.0	2106.0	2055.8	2003.1	1930.1	1738.8	426.8	32.6
37°	2128.3	2155.3	2126.1	2100.9	2051.1	2000.0	1947.7	1873.0	1676.3	357.3	27.0
38°	2066.1	2090.1	2065.3	2037.0	1991.1	1939.2	1886.4	1810.0	1606.3	291.7	23.2
39°	2001.3	2021.1	1997.1	1968.3	1921.6	1870.1	1816.1	1737.1	1526.1	223.4	20.1
40°	1932.3	1950.7	1921.2	1895.5	1848.7	1795.9	1740.6	1658.7	1439.1	149.7	17.2
42.5°	1728.1	1739.3	1714.5	1678.8	1632.1	1574.1	1507.2	1415.4	1160.6	79.0	12.0
45°	1446.7	1448.9	1429.7	1364.8	1302.2	1212.6	1112.6	974.9	674.7	51.5	7.8
47.5°	873.3	868.2	837.7	782.3	724.0	629.2	535.7	441.0	262.0	30.1	5.1
50°	389.9	383.9	368.9	340.1	306.2	271.1	229.5	194.2	127.4	16.3	3.4
51°	282.6	277.6	266.3	244.4	219.6	194.8	166.0	142.0	95.3	13.2	3.1
52°	198.6	195.6	187.9	172.5	158.7	139.3	119.7	104.7	71.6	10.7	2.2
53°	138.6	136.4	131.7	121.4	113.2	99.1	86.6	74.6	51.8	8.5	2.2
54°	93.9	92.6	89.7	82.8	75.9	68.1	59.2	52.4	36.4	6.9	1.7
55°	63.1	62.2	59.6	56.2	52.4	47.6	41.7	36.4	25.7	5.6	1.3
57.5°	23.2	23.2	22.3	21.0	19.7	18.5	16.7	15.0	12.0	3.4	1.3
60°	10.3	9.8	9.8	9.4	9.0	8.5	8.2	7.3	6.0	2.2	1.3
61°	7.8	7.8	7.3	6.9	6.9	6.5	6.0	5.6	4.7	1.7	1.3
62°	5.6	5.6	5.6	5.1	5.1	4.7	4.7	4.3	3.4	1.3	1.3
63°	4.3	4.3	4.3	3.8	3.8	3.8	3.4	3.4	2.5	1.3	1.3
64°	3.1	3.1	3.1	3.1	3.1	3.1	2.5	2.5	2.2	0.9	1.3
65°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.7	0.9	1.3
66°	1.7	1.7	1.7	1.7	1.7	1.7	1.3	1.3	1.3	0.9	1.3



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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°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9	1.3
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	1.3
77.5°	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.9	1.3
80°	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.9	1.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	1.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	1.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	1.3
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°	167.2	167.2	167.2	167.2	167.2
2.5°	154.0	107.6	85.7	77.7	75.0
5°	139.3	80.6	63.9	54.9	51.5
7.5°	117.1	66.5	48.0	39.9	37.3
10°	94.8	54.9	39.0	32.6	30.8
12.5°	81.0	47.6	36.4	33.9	33.9
15°	75.5	50.2	50.6	60.9	68.1
17.5°	77.7	78.5	122.7	149.3	154.0
20°	111.6	141.1	139.9	127.0	123.0
22.5°	129.2	93.1	70.3	58.0	55.8
25°	63.9	42.4	36.4	33.5	33.0
26°	48.5	35.5	31.7	30.1	29.2
27°	40.4	31.3	28.3	26.1	25.3
28°	36.0	27.9	24.5	22.3	21.4
29°	32.6	24.1	20.6	18.5	18.0
30°	28.8	20.1	17.2	15.0	14.5
31°	24.5	16.7	13.8	12.5	11.6
32°	20.6	13.8	11.2	9.8	9.0
33°	17.2	11.2	9.4	8.2	7.3
34°	14.5	9.4	7.8	6.5	6.0
35°	12.0	7.8	6.5	5.6	5.1
36°	10.3	6.9	5.1	4.3	3.8
37°	9.0	5.6	4.3	3.4	3.4
38°	7.8	4.7	3.8	2.5	2.5
39°	6.5	3.8	3.1	2.2	2.2
40°	5.6	3.4	2.5	1.7	1.3
42.5°	3.8	2.2	1.7	0.9	0.4
45°	2.5	1.7	0.9	0.4	0.0
47.5°	1.7	1.3	0.9	0.4	0.0
50°	1.3	1.3	0.9	0.0	0.0
51°	1.3	0.9	0.9	0.0	0.0
52°	1.3	0.9	0.4	0.0	0.0
53°	1.3	0.9	0.4	0.0	0.0
54°	1.3	0.9	0.4	0.0	0.0
55°	1.3	0.9	0.4	0.0	0.0
57.5°	1.3	0.9	0.4	0.0	0.0
60°	1.3	0.9	0.9	0.0	0.0
61°	1.3	1.3	0.9	0.0	0.0
62°	1.3	1.3	0.9	0.0	0.0
63°	1.3	1.3	0.9	0.0	0.0
64°	1.3	1.3	0.9	0.4	0.0
65°	1.3	1.3	0.9	0.4	0.0
66°	1.3	1.3	0.9	0.4	0.0

Classified

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	1.3	1.3	0.9	0.4	0.0
75°	1.3	1.3	0.9	0.4	0.0
77.5°	1.7	1.3	0.9	0.4	0.0
80°	1.7	1.3	0.9	0.4	0.0
82.5°	1.7	1.3	0.9	0.4	0.0
85°	1.7	1.3	0.9	0.4	0.0
87.5°	1.7	1.3	0.9	0.4	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°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.3
70°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9	1.3

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67.5°	1.3	1.3	0.9	0.4	0.0
70°	1.3	1.3	0.9	0.4	0.0

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(END OF REPORT)