

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: P1191449

Luminaire Tested: **LDA4A10930D010TE 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: P1191449
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: LDA4A10930D010TE 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 / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

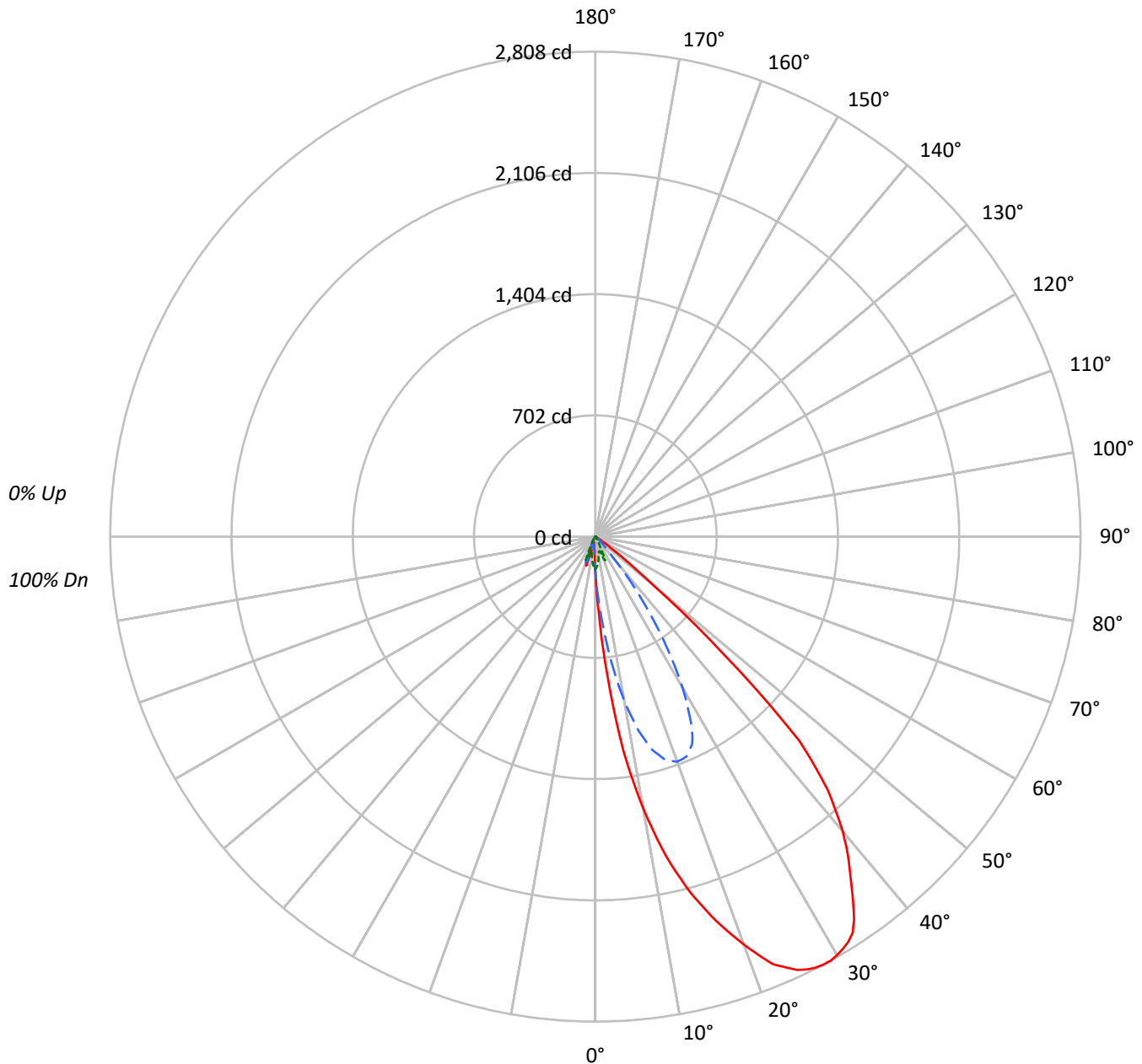
Lumens per Lamp: N/A
Luminaire Lumens: 1038.6 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1191449

CATALOG NUMBER: LDA4A10930D010TE LAR35FL 4LA1 30° Tilt

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191449

CATALOG NUMBER: LDA4A10930D010TE LAR35FL 4LA1 30° Tilt

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°	23781	23781	23781
5°	99908	19897	7355
10°	200711	13690	4446
15°	273016	11110	10037
20°	329952	16867	18626
25°	376839	10017	5185
30°	398440	4714	2393
35°	391922	2093	903
40°	358648	1031	242
45°	290909	506	0
50°	86255	288	0
55°	15634	323	0
60°	2911	370	0
65°	700	438	0
70°	180	541	0
75°	0	715	0
80°	0	1421	0
85°	0	2830	0



TEST NUMBER: P1191449

CATALOG NUMBER: LDA4A10930D010TE LAR35FL 4LA1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.1	3.4
10°-20°	181.4	17.5
20°-30°	317.7	30.6
30°-40°	319.0	30.7
40°-50°	168.1	16.2
50°-60°	14.0	1.3
60°-70°	1.4	0.1
70°-80°	1.0	0.1
80°-90°	0.9	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°	534.1	51.4
0°-40°	853.1	82.1
0°-60°	1035.2	99.7
0°-90°	1038.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1038.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	193	193	193	193	193	
5°	807	528	161	74	59	103
15°	2138	1280	87	58	79	610
25°	2769	1325	74	42	38	1267
35°	2603	576	14	7	6	1609
45°	1668	59	3	1	0	1143
55°	73	6	2	0	0	109
65°	2	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	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191449

CATALOG NUMBER: LDA4A10930D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	22.5°	45°	67.5°
0°	192.8	192.8	192.8	192.8	192.8	192.8	192.8	192.8	192.8	192.8	192.8
2.5°	437.5	438.0	438.6	442.0	434.1	432.2	428.6	423.8	407.5	340.2	256.7
5°	806.9	812.9	811.4	806.4	794.1	787.2	776.7	765.9	721.3	527.6	318.4
7.5°	1253.9	1265.2	1262.8	1255.4	1234.6	1225.2	1199.0	1184.7	1117.5	749.1	364.4
10°	1602.5	1632.7	1633.1	1626.2	1595.1	1581.7	1554.5	1528.8	1443.8	966.1	385.7
12.5°	1897.1	1897.6	1920.9	1915.5	1879.4	1873.4	1850.6	1812.2	1722.6	1147.1	385.7
15°	2138.0	2170.6	2165.1	2159.3	2121.2	2113.3	2091.5	2055.8	1951.5	1279.6	366.8
17.5°	2336.7	2365.9	2357.5	2351.1	2313.0	2295.7	2272.0	2229.4	2114.7	1358.2	327.9
20°	2513.7	2541.4	2524.6	2513.2	2462.3	2441.0	2406.4	2357.5	2226.5	1387.4	282.3
22.5°	2678.8	2708.0	2686.7	2670.9	2605.2	2564.2	2515.1	2453.4	2299.1	1377.9	258.1
25°	2768.9	2807.0	2786.7	2774.2	2711.4	2663.5	2598.7	2519.1	2340.6	1325.1	194.4
26°	2788.6	2828.6	2809.4	2798.6	2734.7	2683.8	2614.6	2531.1	2344.1	1281.5	149.8
27°	2802.5	2847.0	2824.7	2810.9	2745.1	2690.7	2618.6	2531.6	2338.7	1222.8	119.2
28°	2807.9	2856.9	2829.6	2812.8	2744.7	2685.3	2608.6	2520.6	2324.3	1155.0	101.4
29°	2807.5	2860.8	2829.1	2810.9	2738.2	2672.5	2593.9	2505.3	2304.6	1084.3	91.5
30°	2797.5	2855.9	2824.3	2801.0	2722.9	2652.2	2572.6	2484.1	2282.3	1007.2	81.5
31°	2784.2	2844.0	2810.9	2782.3	2697.7	2621.0	2542.9	2455.4	2252.6	924.6	74.6
32°	2764.9	2824.7	2788.1	2750.5	2662.0	2581.9	2506.7	2421.8	2216.6	837.6	66.2
33°	2734.2	2787.1	2744.7	2701.1	2612.6	2537.4	2466.2	2382.7	2175.6	747.1	57.3
34°	2678.3	2724.8	2680.9	2636.8	2557.7	2488.0	2419.7	2336.7	2127.5	663.5	49.4
35°	2602.8	2642.3	2602.8	2565.6	2495.9	2431.2	2365.9	2284.9	2069.7	575.5	42.5
36°	2525.6	2560.2	2523.6	2494.4	2427.6	2369.8	2309.1	2225.0	2004.5	491.9	37.6
37°	2453.4	2484.6	2450.9	2421.8	2364.5	2305.6	2245.2	2159.3	1932.3	411.8	31.2
38°	2381.7	2409.4	2380.8	2348.0	2295.2	2235.3	2174.5	2086.5	1851.7	336.3	26.7
39°	2307.0	2329.8	2302.0	2268.9	2215.1	2155.7	2093.4	2002.5	1759.2	257.6	23.2
40°	2227.4	2248.7	2214.5	2184.9	2131.0	2070.2	2006.4	1912.0	1658.8	172.6	19.7
42.5°	1992.1	2004.9	1976.2	1935.2	1881.3	1814.6	1737.4	1631.7	1337.9	90.9	13.9
45°	1667.7	1670.3	1648.0	1573.3	1501.1	1397.8	1282.5	1123.8	777.8	59.4	8.9
47.5°	1006.6	1000.8	965.6	901.8	834.6	725.4	617.5	508.2	302.1	34.6	6.0
50°	449.5	442.5	425.2	392.1	353.1	312.5	264.6	223.9	146.9	18.9	3.9
51°	325.8	319.8	307.1	281.9	253.1	224.4	191.3	163.7	109.8	15.3	3.4
52°	228.9	225.5	216.5	198.7	182.9	160.7	137.9	120.6	82.5	12.4	2.4
53°	159.7	157.2	151.8	140.0	130.6	114.3	99.9	86.0	59.9	9.9	2.4
54°	108.3	106.7	103.3	95.4	87.5	78.6	68.3	60.4	42.0	7.9	2.0
55°	72.7	71.7	68.8	64.8	60.4	54.9	48.0	42.0	29.7	6.4	1.5
57.5°	26.7	26.7	25.7	24.2	22.8	21.3	19.2	17.3	13.9	3.9	1.5
60°	11.8	11.3	11.3	10.8	10.4	9.9	9.4	8.4	6.9	2.4	1.5
61°	8.9	8.9	8.4	7.9	7.9	7.4	6.9	6.4	5.5	2.0	1.5
62°	6.4	6.4	6.4	6.0	6.0	5.5	5.5	5.0	3.9	1.5	1.5
63°	5.0	5.0	5.0	4.5	4.5	4.5	3.9	3.9	2.9	1.5	1.5
64°	3.4	3.4	3.4	3.4	3.4	3.4	2.9	2.9	2.4	1.0	1.5
65°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.0	1.0	1.5
66°	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.0	1.5



TEST NUMBER: P1191449

CATALOG NUMBER: LDA4A10930D010TE 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	1.5
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.5
80°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0	1.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191449

CATALOG NUMBER: LDA4A10930D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	192.8	192.8	192.8	192.8	192.8
2.5°	177.6	124.1	98.8	89.5	86.5
5°	160.7	93.0	73.6	63.3	59.4
7.5°	135.0	76.7	55.4	46.0	43.1
10°	109.3	63.3	45.0	37.6	35.5
12.5°	93.5	54.9	42.0	39.1	39.1
15°	87.0	57.8	58.3	70.2	78.6
17.5°	89.5	90.4	141.4	172.1	177.6
20°	128.5	162.7	161.1	146.4	141.9
22.5°	148.8	107.2	81.1	66.7	64.3
25°	73.6	48.9	42.0	38.6	38.1
26°	55.9	41.0	36.6	34.6	33.6
27°	46.5	36.0	32.6	30.2	29.2
28°	41.5	32.1	28.1	25.7	24.7
29°	37.6	27.6	23.7	21.3	20.8
30°	33.1	23.2	19.7	17.3	16.8
31°	28.1	19.2	15.8	14.4	13.4
32°	23.7	15.8	12.9	11.3	10.4
33°	19.7	12.9	10.8	9.4	8.4
34°	16.8	10.8	8.9	7.4	6.9
35°	13.9	8.9	7.4	6.4	6.0
36°	11.8	7.9	6.0	5.0	4.5
37°	10.4	6.4	5.0	3.9	3.9
38°	8.9	5.5	4.5	2.9	2.9
39°	7.4	4.5	3.4	2.4	2.4
40°	6.4	3.9	2.9	2.0	1.5
42.5°	4.5	2.4	2.0	1.0	0.5
45°	2.9	2.0	1.0	0.5	0.0
47.5°	2.0	1.5	1.0	0.5	0.0
50°	1.5	1.5	1.0	0.0	0.0
51°	1.5	1.0	1.0	0.0	0.0
52°	1.5	1.0	0.5	0.0	0.0
53°	1.5	1.0	0.5	0.0	0.0
54°	1.5	1.0	0.5	0.0	0.0
55°	1.5	1.0	0.5	0.0	0.0
57.5°	1.5	1.0	0.5	0.0	0.0
60°	1.5	1.0	1.0	0.0	0.0
61°	1.5	1.5	1.0	0.0	0.0
62°	1.5	1.5	1.0	0.0	0.0
63°	1.5	1.5	1.0	0.0	0.0
64°	1.5	1.5	1.0	0.5	0.0
65°	1.5	1.5	1.0	0.5	0.0
66°	1.5	1.5	1.0	0.5	0.0



TEST NUMBER: P1191449

CATALOG NUMBER: LDA4A10930D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	1.5	1.5	1.0	0.5	0.0
75°	1.5	1.5	1.0	0.5	0.0
77.5°	2.0	1.5	1.0	0.5	0.0
80°	2.0	1.5	1.0	0.5	0.0
82.5°	2.0	1.5	1.0	0.5	0.0
85°	2.0	1.5	1.0	0.5	0.0
87.5°	2.0	1.5	1.0	0.5	0.0
90°	0.0	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



Report Generated By 670245859 / DESKTOP-T8S5UU9

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



— 0°-180° - - 45°-225° - - - 90°-270°

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.5

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



67.5°	1.5	1.5	1.0	0.5	0.0
70°	1.5	1.5	1.0	0.5	0.0

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)