

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: P174910

Luminaire Tested: **LDA4A13827D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P174910
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: LDA4A13827D010TE 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 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1307.1 lumens
Efficiency: N/A
Efficacy: 58.7 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

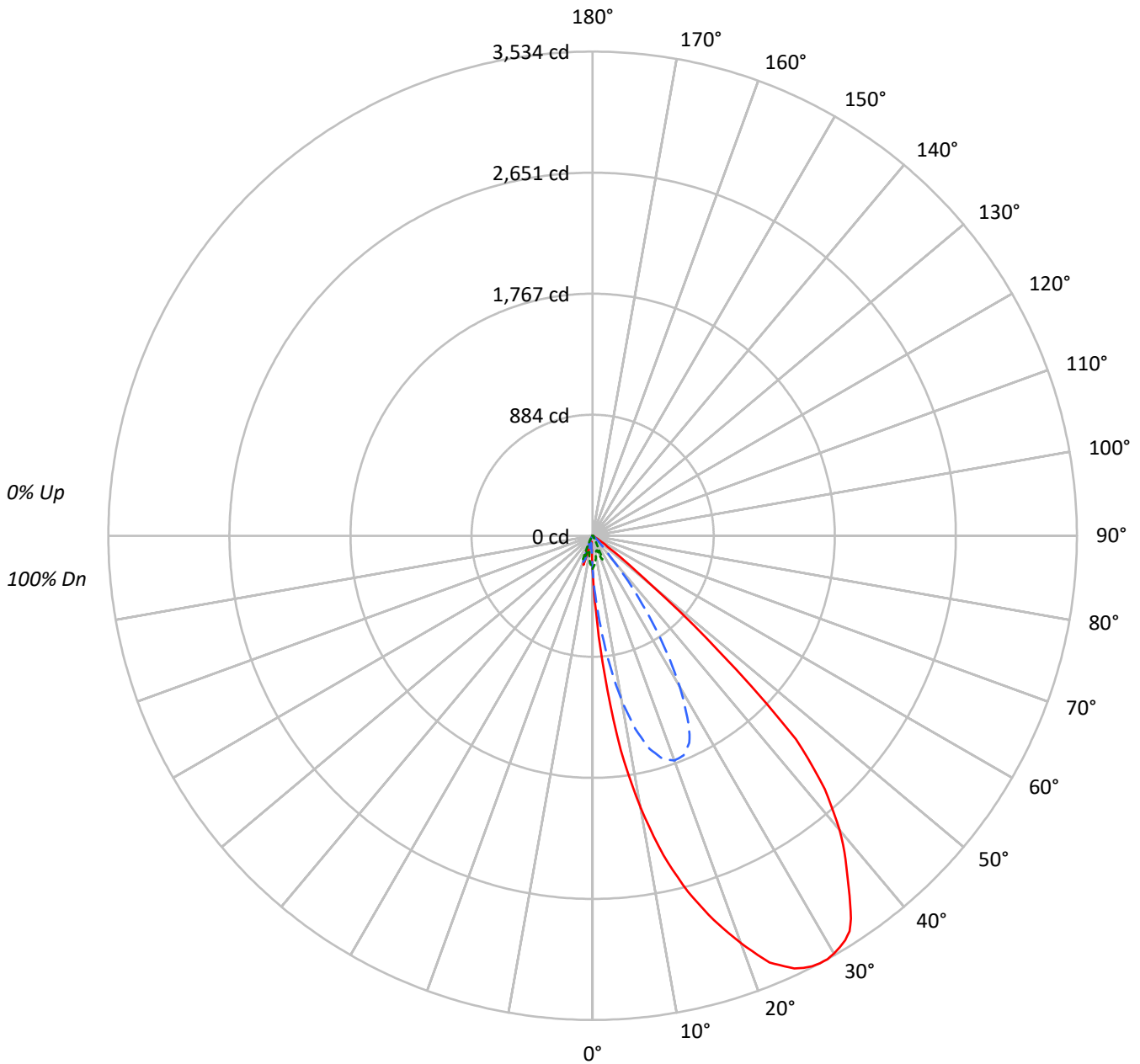
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
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°	29936	29936	29936
5°	125748	25036	9249
10°	252601	17222	5611
15°	343607	13983	12629
20°	415273	21238	23443
25°	474270	12616	6519
30°	501472	5939	3019
35°	493246	2620	1129
40°	451393	1304	306
45°	366143	645	0
50°	108553	365	0
55°	19677	409	0
60°	3676	469	0
65°	905	555	0
70°	216	685	0
75°	0	905	0
80°	0	1776	0
85°	0	3538	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.1	3.4
10°-20°	228.3	17.5
20°-30°	399.8	30.6
30°-40°	401.5	30.7
40°-50°	211.5	16.2
50°-60°	17.6	1.3
60°-70°	1.8	0.1
70°-80°	1.3	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°	672.2	51.4
0°-40°	1073.8	82.1
0°-60°	1302.9	99.7
0°-90°	1307.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1307.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	243	243	243	243	243	
5°	1016	664	202	93	75	130
15°	2691	1610	110	73	99	768
25°	3485	1668	93	53	48	1595
35°	3276	724	17	9	8	2026
45°	2099	75	4	1	0	1439
55°	92	8	2	1	0	137
65°	3	1	2	1	0	5
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°	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7
2.5°	550.7	551.3	552.0	556.3	546.4	543.9	539.5	533.3	512.8	428.1	323.0
5°	1015.6	1023.0	1021.2	1015.0	999.4	990.7	977.6	963.9	907.9	664.0	400.8
7.5°	1578.1	1592.4	1589.3	1580.0	1553.9	1542.0	1509.1	1491.0	1406.4	942.8	458.6
10°	2016.8	2054.8	2055.4	2046.7	2007.5	1990.7	1956.5	1924.1	1817.1	1216.0	485.4
12.5°	2387.7	2388.4	2417.6	2410.8	2365.3	2357.9	2329.2	2280.7	2168.1	1443.7	485.4
15°	2690.8	2731.9	2725.0	2717.5	2669.6	2659.7	2632.3	2587.5	2456.2	1610.5	461.7
17.5°	2940.9	2977.7	2967.1	2959.0	2911.1	2889.3	2859.4	2805.9	2661.5	1709.4	412.6
20°	3163.7	3198.6	3177.4	3163.1	3099.0	3072.2	3028.7	2967.1	2802.2	1746.1	355.3
22.5°	3371.6	3408.3	3381.5	3361.6	3278.8	3227.2	3165.6	3087.8	2893.7	1734.3	324.8
25°	3484.8	3532.7	3507.2	3491.7	3412.6	3352.3	3270.8	3170.6	2945.9	1667.7	244.6
26°	3509.7	3560.1	3535.9	3522.2	3441.9	3377.8	3290.7	3185.5	2950.3	1613.0	188.6
27°	3527.1	3583.1	3555.1	3537.7	3455.0	3386.5	3295.7	3186.1	2943.4	1538.9	150.0
28°	3534.0	3595.6	3561.4	3540.2	3454.3	3379.7	3283.2	3172.4	2925.4	1453.7	127.6
29°	3533.4	3600.6	3560.7	3537.7	3446.2	3363.5	3264.5	3153.1	2900.5	1364.7	115.1
30°	3520.9	3594.4	3554.5	3525.3	3427.0	3338.0	3237.8	3126.4	2872.5	1267.6	102.7
31°	3504.1	3579.4	3537.7	3501.6	3395.2	3298.8	3200.4	3090.3	2835.2	1163.7	94.0
32°	3479.8	3555.1	3509.1	3461.8	3350.4	3249.6	3155.0	3048.0	2789.7	1054.2	83.4
33°	3441.3	3507.9	3454.3	3399.6	3288.2	3193.6	3104.0	2998.8	2738.1	940.3	72.2
34°	3370.9	3429.4	3374.1	3318.7	3219.1	3131.4	3045.5	2940.9	2677.7	835.1	62.2
35°	3275.7	3325.5	3275.7	3229.1	3141.3	3059.8	2977.7	2875.6	2604.9	724.3	53.5
36°	3178.7	3222.2	3176.2	3139.5	3055.4	2982.6	2906.1	2800.3	2522.8	619.2	47.3
37°	3087.8	3127.0	3084.7	3048.0	2975.8	2901.7	2825.8	2717.5	2431.9	518.4	39.2
38°	2997.6	3032.4	2996.3	2955.3	2888.7	2813.4	2736.8	2626.1	2330.5	423.2	33.6
39°	2903.6	2932.2	2897.4	2855.7	2787.9	2713.2	2634.8	2520.3	2214.1	324.2	29.2
40°	2803.4	2830.2	2787.2	2749.9	2682.1	2605.5	2525.3	2406.4	2087.8	217.2	24.9
42.5°	2507.2	2523.4	2487.3	2435.6	2367.8	2283.8	2186.7	2053.6	1683.9	114.5	17.4
45°	2099.0	2102.1	2074.1	1980.1	1889.3	1759.2	1614.2	1414.5	978.9	74.7	11.2
47.5°	1267.0	1259.5	1215.3	1135.1	1050.4	912.9	777.2	639.7	380.2	43.6	7.5
50°	565.7	557.0	535.2	493.5	444.3	393.3	332.9	281.9	184.8	23.6	5.0
51°	410.1	402.6	386.4	354.7	318.6	282.5	240.8	206.0	138.1	19.3	4.4
52°	288.1	283.8	272.6	250.2	230.2	202.2	173.6	151.8	103.9	15.6	3.1
53°	201.0	197.9	191.0	176.1	164.3	143.7	125.7	108.3	75.3	12.4	3.1
54°	136.3	134.4	130.1	120.1	110.1	98.9	85.9	75.9	52.9	10.0	2.5
55°	91.5	90.2	86.5	81.5	75.9	69.1	60.4	52.9	37.3	8.1	1.9
57.5°	33.6	33.6	32.4	30.5	28.6	26.8	24.3	21.8	17.4	5.0	1.9
60°	14.9	14.3	14.3	13.7	13.1	12.4	11.8	10.6	8.7	3.1	1.9
61°	11.2	11.2	10.6	10.0	10.0	9.3	8.7	8.1	6.8	2.5	1.9
62°	8.1	8.1	8.1	7.5	7.5	6.8	6.8	6.2	5.0	1.9	1.9
63°	6.2	6.2	6.2	5.6	5.6	5.6	5.0	5.0	3.7	1.9	1.9
64°	4.4	4.4	4.4	4.4	4.4	4.4	3.7	3.7	3.1	1.2	1.9
65°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.5	1.2	1.9
66°	2.5	2.5	2.5	2.5	2.5	2.5	1.9	1.9	1.9	1.2	1.9



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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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.9
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.9
77.5°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.2	1.9
80°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.2	1.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.9
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: LDA4A13827D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	242.7	242.7	242.7	242.7	242.7
2.5°	223.4	156.2	124.5	112.6	108.9
5°	202.2	117.0	92.7	79.7	74.7
7.5°	169.9	96.5	69.7	57.9	54.1
10°	137.5	79.7	56.6	47.3	44.8
12.5°	117.6	69.1	52.9	49.2	49.2
15°	109.5	72.8	73.4	88.4	98.9
17.5°	112.6	113.9	178.0	216.6	223.4
20°	161.8	204.7	202.9	184.2	178.6
22.5°	187.3	135.0	102.1	84.0	80.9
25°	92.7	61.6	52.9	48.5	47.9
26°	70.3	51.7	46.0	43.6	42.3
27°	58.5	45.4	41.1	38.0	36.7
28°	52.3	40.4	35.5	32.4	31.1
29°	47.3	34.8	29.9	26.8	26.1
30°	41.7	29.2	24.9	21.8	21.2
31°	35.5	24.3	19.9	18.0	16.8
32°	29.9	19.9	16.2	14.3	13.1
33°	24.9	16.2	13.7	11.8	10.6
34°	21.2	13.7	11.2	9.3	8.7
35°	17.4	11.2	9.3	8.1	7.5
36°	14.9	10.0	7.5	6.2	5.6
37°	13.1	8.1	6.2	5.0	5.0
38°	11.2	6.8	5.6	3.7	3.7
39°	9.3	5.6	4.4	3.1	3.1
40°	8.1	5.0	3.7	2.5	1.9
42.5°	5.6	3.1	2.5	1.2	0.6
45°	3.7	2.5	1.2	0.6	0.0
47.5°	2.5	1.9	1.2	0.6	0.0
50°	1.9	1.9	1.2	0.0	0.0
51°	1.9	1.2	1.2	0.0	0.0
52°	1.9	1.2	0.6	0.0	0.0
53°	1.9	1.2	0.6	0.0	0.0
54°	1.9	1.2	0.6	0.0	0.0
55°	1.9	1.2	0.6	0.0	0.0
57.5°	1.9	1.2	0.6	0.0	0.0
60°	1.9	1.2	1.2	0.0	0.0
61°	1.9	1.9	1.2	0.0	0.0
62°	1.9	1.9	1.2	0.0	0.0
63°	1.9	1.9	1.2	0.0	0.0
64°	1.9	1.9	1.2	0.6	0.0
65°	1.9	1.9	1.2	0.6	0.0
66°	1.9	1.9	1.2	0.6	0.0



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CATALOG NUMBER: LDA4A13827D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	1.9	1.9	1.2	0.6	0.0
75°	1.9	1.9	1.2	0.6	0.0
77.5°	2.5	1.9	1.2	0.6	0.0
80°	2.5	1.9	1.2	0.6	0.0
82.5°	2.5	1.9	1.2	0.6	0.0
85°	2.5	1.9	1.2	0.6	0.0
87.5°	2.5	1.9	1.2	0.6	0.0
90°	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°







67.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.9
70°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.9





67.5°	1.9	1.9	1.2	0.6	0.0
70°	1.9	1.9	1.2	0.6	0.0



(END OF REPORT)