

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: P174915

Luminaire Tested: **LDA4A13930D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P174915
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: LDA4A13930D010TE 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: 1210.1 lumens
Efficiency: N/A
Efficacy: 54.3 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

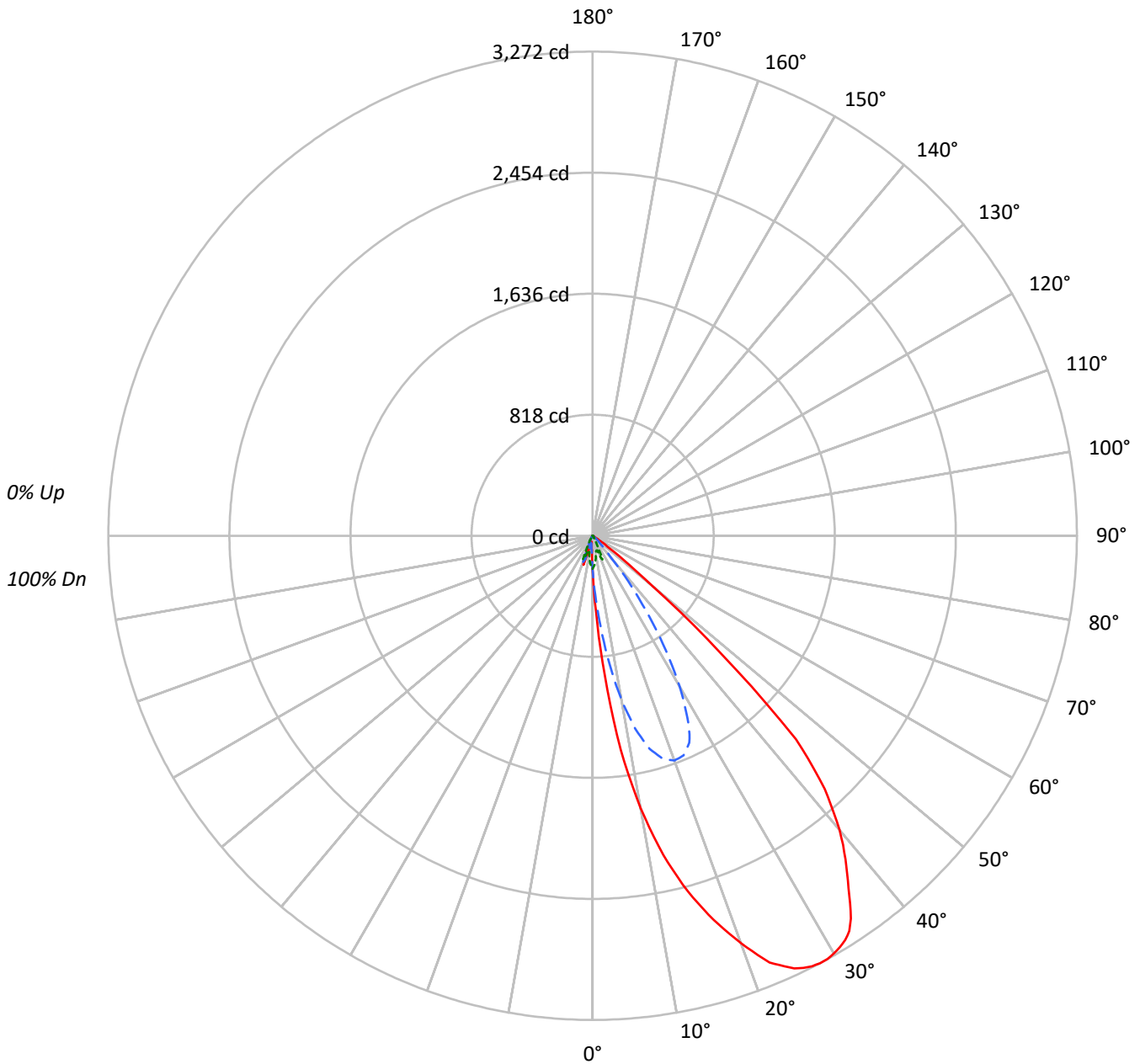
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	27716	27716	27716
5°	116413	23179	8556
10°	233851	15944	5198
15°	318093	12948	11697
20°	384439	19663	21698
25°	439062	11677	6043
30°	464242	5498	2792
35°	456625	2424	1039
40°	417869	1208	274
45°	338949	611	0
50°	100494	326	0
55°	18214	366	0
60°	3404	419	0
65°	846	496	0
70°	216	613	0
75°	0	810	0
80°	0	1634	0
85°	0	3255	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.8	3.4
10°-20°	211.3	17.5
20°-30°	370.1	30.6
30°-40°	371.7	30.7
40°-50°	195.8	16.2
50°-60°	16.3	1.3
60°-70°	1.7	0.1
70°-80°	1.2	0.1
80°-90°	1.1	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°	622.3	51.4
0°-40°	994.0	82.1
0°-60°	1206.1	99.7
0°-90°	1210.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1210.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	225	225	225	225	225	
5°	940	615	187	86	69	120
15°	2491	1491	101	68	92	711
25°	3226	1544	86	49	44	1476
35°	3032	671	16	9	7	1875
45°	1943	69	4	1	0	1332
55°	85	8	2	1	0	127
65°	3	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	



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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°	224.7	224.7	224.7	224.7	224.7	224.7	224.7	224.7	224.7	224.7	224.7
2.5°	509.8	510.4	511.0	515.0	505.8	503.5	499.5	493.7	474.7	396.3	299.0
5°	940.2	947.1	945.3	939.6	925.2	917.1	905.0	892.3	840.5	614.7	371.0
7.5°	1460.9	1474.2	1471.3	1462.7	1438.5	1427.5	1397.0	1380.3	1301.9	872.8	424.6
10°	1867.1	1902.2	1902.8	1894.7	1858.4	1842.9	1811.2	1781.2	1682.2	1125.7	449.3
12.5°	2210.4	2211.0	2238.1	2231.7	2189.7	2182.8	2156.3	2111.3	2007.1	1336.5	449.3
15°	2491.0	2529.0	2522.7	2515.7	2471.4	2462.2	2436.8	2395.3	2273.8	1490.9	427.5
17.5°	2722.6	2756.5	2746.8	2739.3	2694.9	2674.7	2647.1	2597.5	2463.9	1582.5	381.9
20°	2928.8	2961.1	2941.5	2928.2	2868.9	2844.1	2803.8	2746.8	2594.1	1616.5	328.9
22.5°	3121.2	3155.2	3130.4	3112.0	3035.4	2987.6	2930.5	2858.5	2678.8	1605.5	300.7
25°	3226.1	3270.4	3246.8	3232.4	3159.2	3103.3	3027.9	2935.1	2727.2	1543.9	226.4
26°	3249.1	3295.8	3273.3	3260.6	3186.3	3127.0	3046.3	2949.0	2731.2	1493.2	174.6
27°	3265.2	3317.1	3291.1	3275.0	3198.4	3135.0	3050.9	2949.5	2724.9	1424.6	138.8
28°	3271.6	3328.6	3296.9	3277.3	3197.8	3128.7	3039.4	2936.9	2708.2	1345.7	118.1
29°	3271.0	3333.2	3296.3	3275.0	3190.3	3113.7	3022.1	2919.0	2685.1	1263.3	106.6
30°	3259.5	3327.4	3290.6	3263.5	3172.5	3090.1	2997.3	2894.2	2659.2	1173.5	95.1
31°	3243.9	3313.6	3275.0	3241.6	3143.1	3053.8	2962.8	2860.8	2624.6	1077.3	87.0
32°	3221.4	3291.1	3248.5	3204.7	3101.6	3008.3	2920.7	2821.6	2582.6	975.9	77.2
33°	3185.7	3247.4	3197.8	3147.1	3044.0	2956.4	2873.5	2776.1	2534.8	870.5	66.8
34°	3120.6	3174.8	3123.5	3072.2	2980.1	2898.8	2819.3	2722.6	2478.9	773.1	57.6
35°	3032.5	3078.6	3032.5	2989.3	2908.1	2832.6	2756.5	2662.1	2411.5	670.6	49.5
36°	2942.6	2982.9	2940.3	2906.3	2828.6	2761.2	2690.3	2592.4	2335.4	573.2	43.8
37°	2858.5	2894.8	2855.6	2821.6	2754.8	2686.3	2616.0	2515.7	2251.3	479.9	36.3
38°	2775.0	2807.2	2773.8	2735.8	2674.2	2604.5	2533.6	2431.1	2157.4	391.7	31.1
39°	2688.0	2714.5	2682.2	2643.6	2580.8	2511.7	2439.1	2333.1	2049.7	300.1	27.1
40°	2595.2	2620.0	2580.3	2545.7	2482.9	2412.1	2337.7	2227.7	1932.8	201.1	23.0
42.5°	2321.0	2336.0	2302.6	2254.8	2192.0	2114.2	2024.3	1901.1	1558.9	106.0	16.1
45°	1943.1	1946.0	1920.1	1833.1	1749.0	1628.6	1494.4	1309.4	906.2	69.1	10.4
47.5°	1172.9	1166.0	1125.1	1050.8	972.4	845.1	719.5	592.2	352.0	40.3	6.9
50°	523.7	515.6	495.4	456.8	411.3	364.1	308.2	261.0	171.1	21.9	4.6
51°	379.6	372.7	357.7	328.4	295.0	261.5	222.9	190.7	127.9	17.9	4.0
52°	266.7	262.7	252.3	231.6	213.1	187.2	160.7	140.6	96.2	14.4	2.9
53°	186.1	183.2	176.9	163.0	152.1	133.1	116.4	100.2	69.7	11.5	2.9
54°	126.2	124.4	120.4	111.2	102.0	91.6	79.5	70.3	49.0	9.2	2.3
55°	84.7	83.5	80.1	75.5	70.3	63.9	55.9	49.0	34.6	7.5	1.7
57.5°	31.1	31.1	30.0	28.2	26.5	24.8	22.5	20.2	16.1	4.6	1.7
60°	13.8	13.2	13.2	12.7	12.1	11.5	10.9	9.8	8.1	2.9	1.7
61°	10.4	10.4	9.8	9.2	9.2	8.6	8.1	7.5	6.3	2.3	1.7
62°	7.5	7.5	7.5	6.9	6.9	6.3	6.3	5.8	4.6	1.7	1.7
63°	5.8	5.8	5.8	5.2	5.2	5.2	4.6	4.6	3.5	1.7	1.7
64°	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	2.9	1.2	1.7
65°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.3	1.2	1.7
66°	2.3	2.3	2.3	2.3	2.3	2.3	1.7	1.7	1.7	1.2	1.7



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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	1.7
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.7
77.5°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.2	1.7
80°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.2	1.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.2	1.7
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°	224.7	224.7	224.7	224.7	224.7
2.5°	206.8	144.6	115.2	104.3	100.8
5°	187.2	108.3	85.8	73.7	69.1
7.5°	157.3	89.3	64.5	53.6	50.1
10°	127.3	73.7	52.4	43.8	41.5
12.5°	108.9	63.9	49.0	45.5	45.5
15°	101.4	67.4	68.0	81.8	91.6
17.5°	104.3	105.4	164.8	200.5	206.8
20°	149.8	189.5	187.8	170.5	165.3
22.5°	173.4	125.0	94.5	77.8	74.9
25°	85.8	57.0	49.0	44.9	44.4
26°	65.1	47.8	42.6	40.3	39.2
27°	54.2	42.1	38.0	35.1	34.0
28°	48.4	37.4	32.8	30.0	28.8
29°	43.8	32.3	27.7	24.8	24.2
30°	38.6	27.1	23.0	20.2	19.6
31°	32.8	22.5	18.4	16.7	15.6
32°	27.7	18.4	15.0	13.2	12.1
33°	23.0	15.0	12.7	10.9	9.8
34°	19.6	12.7	10.4	8.6	8.1
35°	16.1	10.4	8.6	7.5	6.9
36°	13.8	9.2	6.9	5.8	5.2
37°	12.1	7.5	5.8	4.6	4.6
38°	10.4	6.3	5.2	3.5	3.5
39°	8.6	5.2	4.0	2.9	2.9
40°	7.5	4.6	3.5	2.3	1.7
42.5°	5.2	2.9	2.3	1.2	0.6
45°	3.5	2.3	1.2	0.6	0.0
47.5°	2.3	1.7	1.2	0.6	0.0
50°	1.7	1.7	1.2	0.0	0.0
51°	1.7	1.2	1.2	0.0	0.0
52°	1.7	1.2	0.6	0.0	0.0
53°	1.7	1.2	0.6	0.0	0.0
54°	1.7	1.2	0.6	0.0	0.0
55°	1.7	1.2	0.6	0.0	0.0
57.5°	1.7	1.2	0.6	0.0	0.0
60°	1.7	1.2	1.2	0.0	0.0
61°	1.7	1.7	1.2	0.0	0.0
62°	1.7	1.7	1.2	0.0	0.0
63°	1.7	1.7	1.2	0.0	0.0
64°	1.7	1.7	1.2	0.6	0.0
65°	1.7	1.7	1.2	0.6	0.0
66°	1.7	1.7	1.2	0.6	0.0



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CATALOG NUMBER: LDA4A13930D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	1.7	1.7	1.2	0.6	0.0
75°	1.7	1.7	1.2	0.6	0.0
77.5°	2.3	1.7	1.2	0.6	0.0
80°	2.3	1.7	1.2	0.6	0.0
82.5°	2.3	1.7	1.2	0.6	0.0
85°	2.3	1.7	1.2	0.6	0.0
87.5°	2.3	1.7	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	1.2	1.7
70°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.7





67.5°	1.7	1.7	1.2	0.6	0.0
70°	1.7	1.7	1.2	0.6	0.0



(END OF REPORT)