

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: P174911

Luminaire Tested: **LDA4A13830D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P174911
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: LDA4A13830D010TE 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 / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1414.9 lumens
Efficiency: N/A
Efficacy: 63.5 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

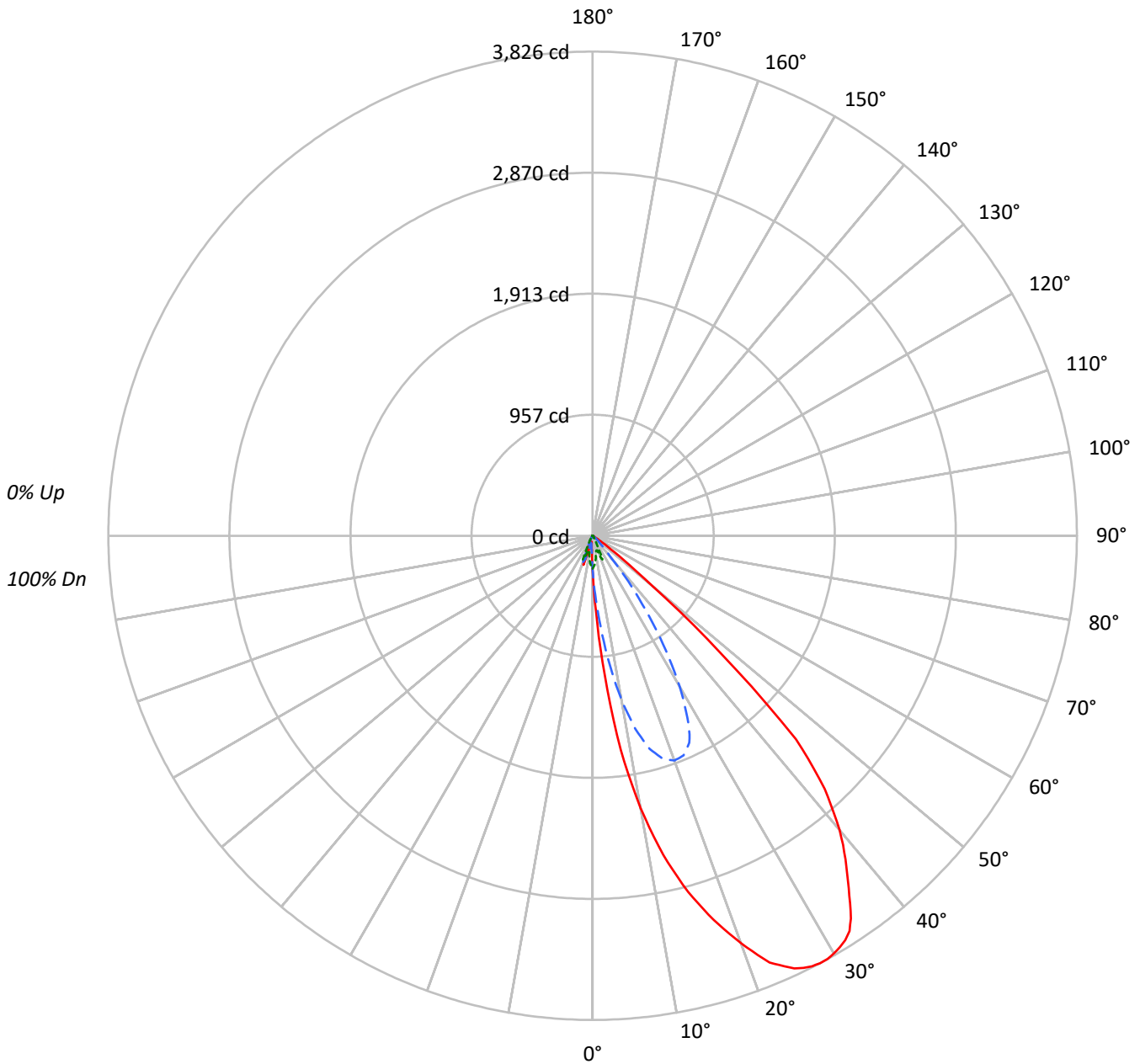
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	32403	32403	32403
5°	136124	27103	10004
10°	273442	18649	6075
15°	371955	15145	13676
20°	449545	22984	25373
25°	513412	13664	7063
30°	542847	6423	3262
35°	533947	2846	1220
40°	488636	1417	322
45°	396356	698	0
50°	117495	384	0
55°	21290	430	0
60°	3996	493	0
65°	992	584	0
70°	252	721	0
75°	0	953	0
80°	0	1918	0
85°	0	3821	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.8	3.4
10°-20°	247.1	17.5
20°-30°	432.8	30.6
30°-40°	434.6	30.7
40°-50°	229.0	16.2
50°-60°	19.1	1.3
60°-70°	1.9	0.1
70°-80°	1.4	0.1
80°-90°	1.3	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°	727.7	51.4
0°-40°	1162.3	82.1
0°-60°	1410.4	99.7
0°-90°	1414.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1414.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	263	263	263	263	263	
5°	1099	719	219	100	81	141
15°	2913	1743	119	80	107	832
25°	3772	1805	100	57	52	1726
35°	3546	784	19	10	8	2193
45°	2272	81	4	1	0	1557
55°	99	9	2	1	0	149
65°	3	1	2	1	0	5
75°	0	1	2	1	0	0
85°	0	1	3	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°	262.7	262.7	262.7	262.7	262.7	262.7	262.7	262.7	262.7	262.7	262.7
2.5°	596.2	596.8	597.5	602.2	591.5	588.8	584.0	577.3	555.1	463.5	349.6
5°	1099.4	1107.5	1105.4	1098.7	1081.9	1072.4	1058.3	1043.5	982.8	718.8	433.8
7.5°	1708.3	1723.8	1720.5	1710.4	1682.1	1669.3	1633.6	1614.0	1522.4	1020.6	496.5
10°	2183.2	2224.3	2225.0	2215.6	2173.1	2155.0	2117.9	2082.9	1967.0	1316.3	525.4
12.5°	2584.7	2585.4	2617.1	2609.7	2560.5	2552.4	2521.4	2468.9	2346.9	1562.8	525.4
15°	2912.8	2957.3	2949.8	2941.8	2889.9	2879.1	2849.5	2801.0	2658.8	1743.4	499.8
17.5°	3183.6	3223.3	3211.9	3203.1	3151.3	3127.7	3095.4	3037.4	2881.1	1850.5	446.6
20°	3424.8	3462.5	3439.6	3424.1	3354.7	3325.7	3278.6	3211.9	3033.4	1890.2	384.6
22.5°	3649.8	3689.5	3660.5	3639.0	3549.4	3493.5	3426.8	3342.6	3132.4	1877.4	351.6
25°	3772.4	3824.2	3796.6	3779.8	3694.2	3628.9	3540.6	3432.2	3189.0	1805.3	264.7
26°	3799.3	3853.9	3827.6	3812.8	3725.9	3656.5	3562.2	3448.3	3193.7	1746.1	204.1
27°	3818.2	3878.8	3848.5	3829.6	3740.0	3665.9	3567.6	3449.0	3186.3	1665.9	162.3
28°	3825.6	3892.3	3855.2	3832.3	3739.3	3658.5	3554.1	3434.2	3166.8	1573.6	138.1
29°	3824.9	3897.7	3854.5	3829.6	3730.6	3641.0	3533.9	3413.3	3139.8	1477.3	124.6
30°	3811.4	3890.9	3847.8	3816.1	3709.7	3613.4	3504.9	3384.3	3109.5	1372.2	111.1
31°	3793.2	3874.7	3829.6	3790.5	3675.4	3570.9	3464.5	3345.3	3069.1	1259.7	101.7
32°	3767.0	3848.5	3798.6	3747.4	3626.8	3517.7	3415.3	3299.5	3019.9	1141.1	90.3
33°	3725.2	3797.3	3739.3	3680.1	3559.5	3457.1	3360.1	3246.2	2964.0	1017.9	78.1
34°	3649.1	3712.4	3652.4	3592.5	3484.7	3389.7	3296.8	3183.6	2898.6	904.0	67.4
35°	3546.0	3599.9	3546.0	3495.5	3400.5	3312.3	3223.3	3112.9	2819.8	784.1	57.9
36°	3440.9	3488.1	3438.2	3398.5	3307.5	3228.7	3145.9	3031.4	2730.9	670.3	51.2
37°	3342.6	3385.0	3339.2	3299.5	3221.3	3141.2	3059.0	2941.8	2632.6	561.1	42.4
38°	3244.9	3282.6	3243.6	3199.1	3127.0	3045.5	2962.6	2842.7	2522.8	458.1	36.4
39°	3143.2	3174.2	3136.4	3091.3	3017.9	2937.0	2852.2	2728.2	2396.8	351.0	31.7
40°	3034.7	3063.7	3017.2	2976.8	2903.4	2820.5	2733.6	2604.9	2260.0	235.1	26.9
42.5°	2714.1	2731.6	2692.5	2636.6	2563.2	2472.2	2367.2	2223.0	1822.9	123.9	18.9
45°	2272.2	2275.5	2245.2	2143.5	2045.2	1904.4	1747.4	1531.2	1059.6	80.8	12.1
47.5°	1371.5	1363.4	1315.6	1228.7	1137.1	988.2	841.4	692.5	411.6	47.2	8.1
50°	612.3	602.9	579.3	534.2	481.0	425.7	360.4	305.2	200.1	25.6	5.4
51°	443.9	435.8	418.3	384.0	344.9	305.8	260.7	223.0	149.5	20.9	4.7
52°	311.9	307.2	295.1	270.8	249.2	218.9	187.9	164.4	112.5	16.8	3.4
53°	217.6	214.2	206.8	190.6	177.8	155.6	136.1	117.2	81.5	13.5	3.4
54°	147.5	145.5	140.8	130.0	119.2	107.1	93.0	82.2	57.3	10.8	2.7
55°	99.0	97.7	93.6	88.2	82.2	74.8	65.3	57.3	40.4	8.8	2.0
57.5°	36.4	36.4	35.0	33.0	31.0	29.0	26.3	23.6	18.9	5.4	2.0
60°	16.2	15.5	15.5	14.8	14.1	13.5	12.8	11.5	9.4	3.4	2.0
61°	12.1	12.1	11.5	10.8	10.8	10.1	9.4	8.8	7.4	2.7	2.0
62°	8.8	8.8	8.8	8.1	8.1	7.4	7.4	6.7	5.4	2.0	2.0
63°	6.7	6.7	6.7	6.1	6.1	6.1	5.4	5.4	4.0	2.0	2.0
64°	4.7	4.7	4.7	4.7	4.7	4.7	4.0	4.0	3.4	1.3	2.0
65°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.7	1.3	2.0
66°	2.7	2.7	2.7	2.7	2.7	2.7	2.0	2.0	2.0	1.3	2.0



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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°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.3	2.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.3	2.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.3	2.0
80°	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.3	2.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.3	2.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.3	2.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.3	2.0
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):

	90°	112.5°	135°	157.5°	180°
0°	262.7	262.7	262.7	262.7	262.7
2.5°	241.8	169.1	134.7	121.9	117.9
5°	218.9	126.6	100.4	86.2	80.8
7.5°	183.9	104.4	75.4	62.6	58.6
10°	148.9	86.2	61.3	51.2	48.5
12.5°	127.3	74.8	57.3	53.2	53.2
15°	118.6	78.8	79.5	95.7	107.1
17.5°	121.9	123.3	192.7	234.4	241.8
20°	175.1	221.6	219.6	199.4	193.3
22.5°	202.8	146.2	110.5	90.9	87.6
25°	100.4	66.7	57.3	52.5	51.9
26°	76.1	55.9	49.8	47.2	45.8
27°	63.3	49.2	44.5	41.1	39.7
28°	56.6	43.8	38.4	35.0	33.7
29°	51.2	37.7	32.3	29.0	28.3
30°	45.1	31.7	26.9	23.6	22.9
31°	38.4	26.3	21.6	19.5	18.2
32°	32.3	21.6	17.5	15.5	14.1
33°	26.9	17.5	14.8	12.8	11.5
34°	22.9	14.8	12.1	10.1	9.4
35°	18.9	12.1	10.1	8.8	8.1
36°	16.2	10.8	8.1	6.7	6.1
37°	14.1	8.8	6.7	5.4	5.4
38°	12.1	7.4	6.1	4.0	4.0
39°	10.1	6.1	4.7	3.4	3.4
40°	8.8	5.4	4.0	2.7	2.0
42.5°	6.1	3.4	2.7	1.3	0.7
45°	4.0	2.7	1.3	0.7	0.0
47.5°	2.7	2.0	1.3	0.7	0.0
50°	2.0	2.0	1.3	0.0	0.0
51°	2.0	1.3	1.3	0.0	0.0
52°	2.0	1.3	0.7	0.0	0.0
53°	2.0	1.3	0.7	0.0	0.0
54°	2.0	1.3	0.7	0.0	0.0
55°	2.0	1.3	0.7	0.0	0.0
57.5°	2.0	1.3	0.7	0.0	0.0
60°	2.0	1.3	1.3	0.0	0.0
61°	2.0	2.0	1.3	0.0	0.0
62°	2.0	2.0	1.3	0.0	0.0
63°	2.0	2.0	1.3	0.0	0.0
64°	2.0	2.0	1.3	0.7	0.0
65°	2.0	2.0	1.3	0.7	0.0
66°	2.0	2.0	1.3	0.7	0.0



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CATALOG NUMBER: LDA4A13830D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.0	2.0	1.3	0.7	0.0
75°	2.0	2.0	1.3	0.7	0.0
77.5°	2.7	2.0	1.3	0.7	0.0
80°	2.7	2.0	1.3	0.7	0.0
82.5°	2.7	2.0	1.3	0.7	0.0
85°	2.7	2.0	1.3	0.7	0.0
87.5°	2.7	2.0	1.3	0.7	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°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.0
70°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.3	2.0





67.5°	2.0	2.0	1.3	0.7	0.0
70°	2.0	2.0	1.3	0.7	0.0



(END OF REPORT)