

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: P174898

Luminaire Tested: **LDA4A18927D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P174898  
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: LDA4A18927D010TE 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: 1300.5 lumens  
Efficiency: N/A  
Efficacy: 44.7 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

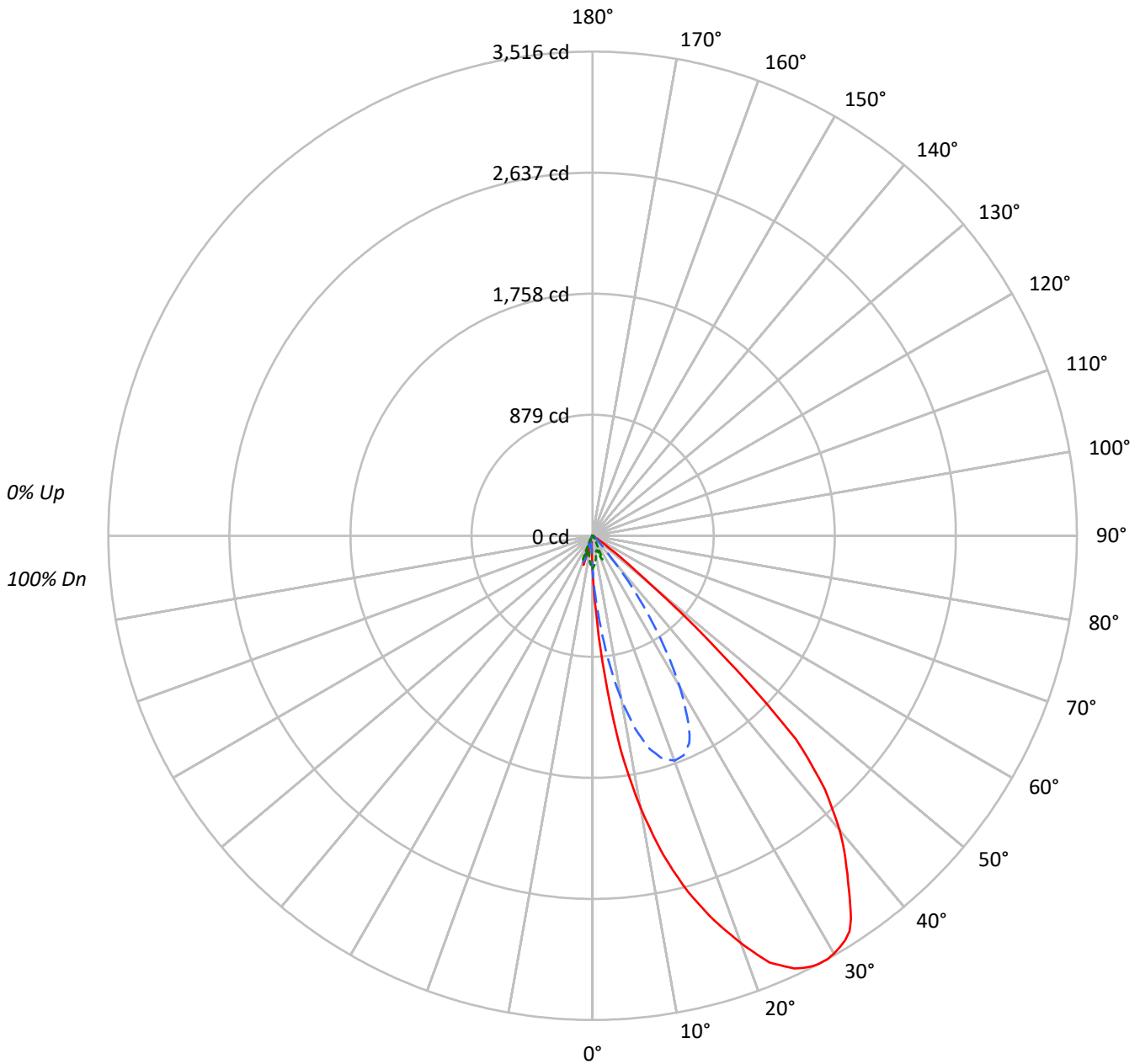
Input Watts (W): 29.12  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	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					100			
1	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84					84			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76					76			
4	93	85	78	74	92	84	78	73	81	76	72	79	75	71	77	74	70	69					69			
5	88	78	71	66	86	77	71	66	75	70	65	73	68	65	72	67	64	62					62			
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	66	62	58	57					57			
7	77	66	59	54	76	66	59	54	64	58	54	63	58	54	62	57	53	52					52			
8	72	61	54	50	71	61	54	49	59	54	49	58	53	49	57	52	49	47					47			
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	29788	29788	29788
5°	125104	24912	9200
10°	251336	17134	5586
15°	341870	13919	12565
20°	413172	21133	23325
25°	471875	12562	6492
30°	498937	5911	3005
35°	490761	2605	1114
40°	449123	1288	306
45°	364294	645	0
50°	107997	365	0
55°	19569	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°	43.9	3.4
10°-20°	227.1	17.5
20°-30°	397.8	30.6
30°-40°	399.5	30.7
40°-50°	210.4	16.2
50°-60°	17.5	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°	668.8	51.4
0°-40°	1068.3	82.1
0°-60°	1296.3	99.7
0°-90°	1300.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1300.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	242	242	242	242	242	
5°	1010	661	201	92	74	129
15°	2677	1602	109	73	98	764
25°	3467	1659	92	53	48	1586
35°	3259	721	17	9	7	2015
45°	2088	74	4	1	0	1431
55°	91	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°	241.5	241.5	241.5	241.5	241.5	241.5	241.5	241.5	241.5	241.5	241.5
2.5°	547.9	548.6	549.2	553.5	543.6	541.1	536.8	530.6	510.2	426.0	321.3
5°	1010.4	1017.9	1016.0	1009.8	994.3	985.7	972.7	959.1	903.3	660.6	398.7
7.5°	1570.2	1584.4	1581.3	1572.0	1546.0	1534.2	1501.4	1483.5	1399.3	938.0	456.3
10°	2006.7	2044.4	2045.0	2036.4	1997.4	1980.6	1946.6	1914.4	1807.9	1209.8	482.9
12.5°	2375.7	2376.3	2405.4	2398.6	2353.4	2345.9	2317.5	2269.2	2157.1	1436.4	482.9
15°	2677.2	2718.0	2711.2	2703.8	2656.1	2646.2	2619.0	2574.4	2443.8	1602.3	459.4
17.5°	2926.1	2962.6	2952.1	2944.0	2896.4	2874.7	2845.0	2791.7	2648.1	1700.8	410.5
20°	3147.7	3182.4	3161.4	3147.1	3083.3	3056.7	3013.4	2952.1	2788.0	1737.3	353.5
22.5°	3354.5	3391.1	3364.4	3344.6	3262.3	3210.9	3149.6	3072.2	2879.0	1725.6	323.2
25°	3467.2	3514.9	3489.5	3474.0	3395.4	3335.3	3254.2	3154.5	2931.0	1659.3	243.3
26°	3492.0	3542.1	3518.0	3504.4	3424.5	3360.7	3274.0	3169.4	2935.4	1604.8	187.6
27°	3509.3	3565.0	3537.2	3519.8	3437.5	3369.4	3279.0	3170.0	2928.6	1531.1	149.2
28°	3516.1	3577.4	3543.4	3522.3	3436.9	3362.6	3266.6	3156.4	2910.6	1446.3	126.9
29°	3515.5	3582.4	3542.8	3519.8	3428.8	3346.5	3248.0	3137.2	2885.8	1357.8	114.5
30°	3503.1	3576.2	3536.6	3507.5	3409.6	3321.1	3221.4	3110.6	2858.0	1261.2	102.2
31°	3486.4	3561.3	3519.8	3483.9	3378.1	3282.1	3184.3	3074.7	2820.8	1157.8	93.5
32°	3462.3	3537.2	3491.4	3444.3	3333.5	3233.2	3139.1	3032.6	2775.6	1048.8	83.0
33°	3423.9	3490.1	3436.9	3382.4	3271.6	3177.5	3088.3	2983.7	2724.2	935.5	71.8
34°	3353.9	3412.1	3357.0	3301.9	3202.8	3115.5	3030.1	2926.1	2664.2	830.9	61.9
35°	3259.2	3308.7	3259.2	3212.7	3125.4	3044.3	2962.6	2861.1	2591.7	720.7	53.2
36°	3162.6	3205.9	3160.1	3123.6	3040.0	2967.6	2891.4	2786.2	2510.0	616.1	47.1
37°	3072.2	3111.2	3069.1	3032.6	2960.8	2887.1	2811.5	2703.8	2419.6	515.7	39.0
38°	2982.4	3017.1	2981.2	2940.3	2874.1	2799.2	2723.0	2612.8	2318.7	421.0	33.4
39°	2888.9	2917.4	2882.7	2841.3	2773.8	2699.5	2621.5	2507.5	2202.9	322.6	29.1
40°	2789.3	2815.9	2773.2	2736.0	2668.5	2592.4	2512.5	2394.2	2077.2	216.1	24.8
42.5°	2494.5	2510.6	2474.7	2423.3	2355.8	2272.3	2175.7	2043.2	1675.4	113.9	17.3
45°	2088.4	2091.5	2063.6	1970.1	1879.7	1750.3	1606.1	1407.3	973.9	74.3	11.1
47.5°	1260.6	1253.2	1209.2	1129.3	1045.1	908.3	773.3	636.5	378.3	43.3	7.4
50°	562.8	554.1	532.5	491.0	442.1	391.3	331.2	280.5	183.9	23.5	5.0
51°	408.0	400.6	384.5	352.9	317.0	281.1	239.6	204.9	137.5	19.2	4.3
52°	286.7	282.3	271.2	248.9	229.1	201.2	172.7	151.1	103.4	15.5	3.1
53°	200.0	196.9	190.1	175.2	163.5	143.0	125.1	107.7	74.9	12.4	3.1
54°	135.6	133.7	129.4	119.5	109.6	98.4	85.4	75.5	52.6	9.9	2.5
55°	91.0	89.8	86.1	81.1	75.5	68.7	60.1	52.6	37.1	8.0	1.9
57.5°	33.4	33.4	32.2	30.3	28.5	26.6	24.1	21.7	17.3	5.0	1.9
60°	14.9	14.2	14.2	13.6	13.0	12.4	11.8	10.5	8.7	3.1	1.9
61°	11.1	11.1	10.5	9.9	9.9	9.3	8.7	8.0	6.8	2.5	1.9
62°	8.0	8.0	8.0	7.4	7.4	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°	4.3	4.3	4.3	4.3	4.3	4.3	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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**CANDELA DISTRIBUTION (continued):**

	90°	112.5°	135°	157.5°	180°
0°	241.5	241.5	241.5	241.5	241.5
2.5°	222.3	155.4	123.8	112.1	108.4
5°	201.2	116.4	92.3	79.3	74.3
7.5°	169.0	96.0	69.3	57.6	53.9
10°	136.8	79.3	56.3	47.1	44.6
12.5°	117.0	68.7	52.6	48.9	48.9
15°	109.0	72.4	73.1	87.9	98.4
17.5°	112.1	113.3	177.1	215.5	222.3
20°	161.0	203.7	201.8	183.3	177.7
22.5°	186.4	134.4	101.5	83.6	80.5
25°	92.3	61.3	52.6	48.3	47.7
26°	70.0	51.4	45.8	43.3	42.1
27°	58.2	45.2	40.9	37.8	36.5
28°	52.0	40.2	35.3	32.2	31.0
29°	47.1	34.7	29.7	26.6	26.0
30°	41.5	29.1	24.8	21.7	21.1
31°	35.3	24.1	19.8	18.0	16.7
32°	29.7	19.8	16.1	14.2	13.0
33°	24.8	16.1	13.6	11.8	10.5
34°	21.1	13.6	11.1	9.3	8.7
35°	17.3	11.1	9.3	8.0	7.4
36°	14.9	9.9	7.4	6.2	5.6
37°	13.0	8.0	6.2	5.0	5.0
38°	11.1	6.8	5.6	3.7	3.7
39°	9.3	5.6	4.3	3.1	3.1
40°	8.0	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: LDA4A18927D010TE 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)