

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: P174894

Luminaire Tested: **LDA4A18827D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P174894
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: LDA4A18827D010TE 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: 1619.4 lumens
Efficiency: N/A
Efficacy: 55.6 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

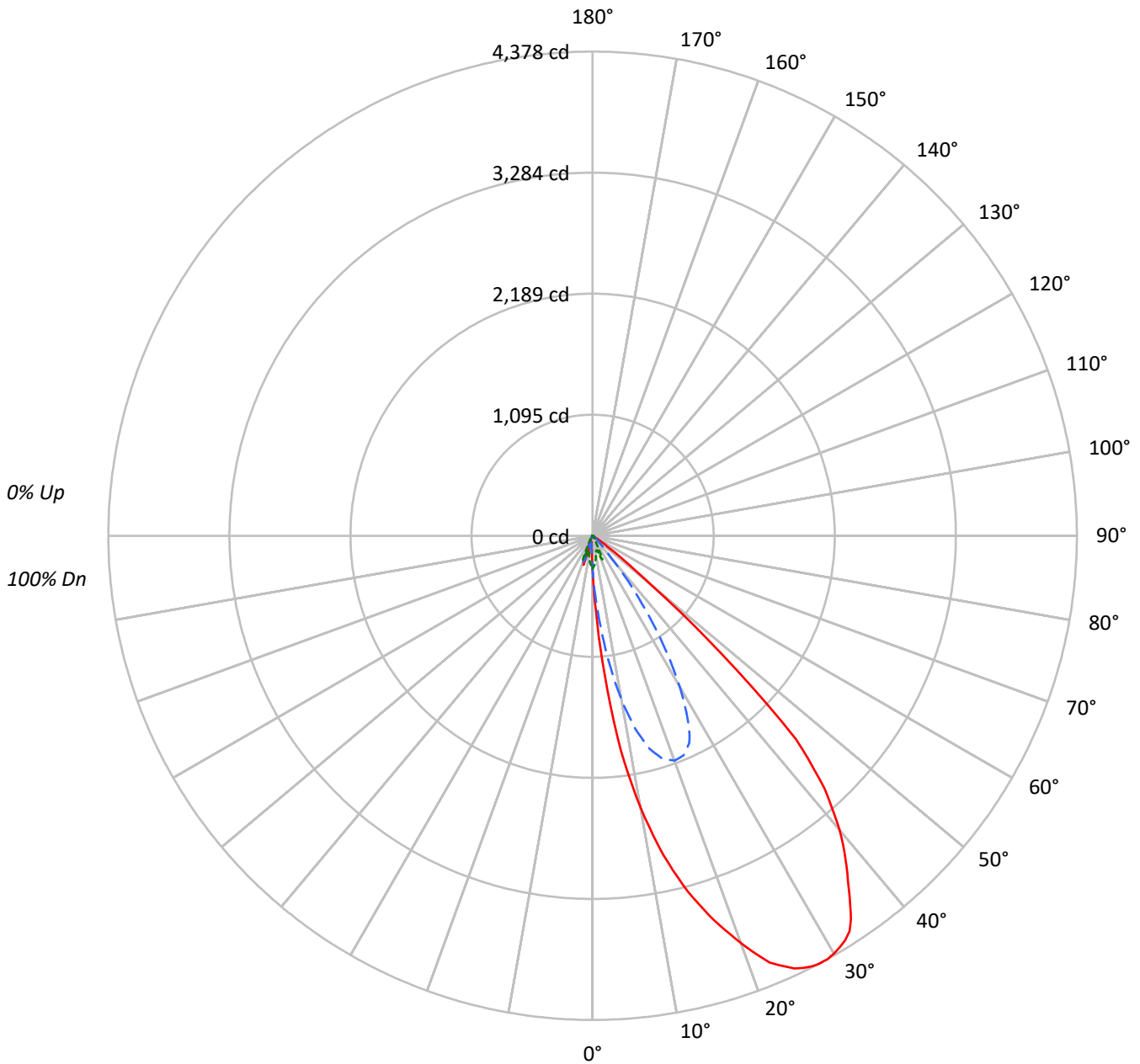
Input Watts (W): 29.12
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	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°	37090	37090	37090
5°	155786	31028	11453
10°	312958	21342	6951
15°	425690	17328	15656
20°	514493	26318	29048
25°	587585	15638	8084
30°	621282	7363	3732
35°	611103	3252	1400
40°	559242	1610	370
45°	453624	802	0
50°	134478	441	0
55°	24365	495	0
60°	4564	567	0
65°	1138	671	0
70°	289	829	0
75°	0	1096	0
80°	0	2202	0
85°	0	4387	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	3.4
10°-20°	282.8	17.5
20°-30°	495.3	30.6
30°-40°	497.4	30.7
40°-50°	262.0	16.2
50°-60°	21.8	1.3
60°-70°	2.2	0.1
70°-80°	1.6	0.1
80°-90°	1.5	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°	832.8	51.4
0°-40°	1330.3	82.1
0°-60°	1614.2	99.7
0°-90°	1619.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1619.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	301	301	301	301	301	
5°	1258	823	251	115	92	161
15°	3334	1995	136	91	123	952
25°	4317	2066	115	66	59	1976
35°	4058	897	22	12	9	2509
45°	2600	92	5	2	0	1782
55°	113	10	2	1	0	170
65°	4	2	2	2	0	6
75°	0	2	2	2	0	0
85°	0	2	3	2	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°	300.7	300.7	300.7	300.7	300.7	300.7	300.7	300.7	300.7	300.7	300.7
2.5°	682.3	683.1	683.8	689.2	676.9	673.8	668.4	660.7	635.3	530.4	400.1
5°	1258.2	1267.5	1265.2	1257.4	1238.2	1227.4	1211.2	1194.2	1124.8	822.6	496.5
7.5°	1955.2	1972.9	1969.0	1957.5	1925.1	1910.4	1869.6	1847.2	1742.4	1168.0	568.2
10°	2498.7	2545.7	2546.5	2535.7	2487.1	2466.3	2423.9	2383.8	2251.2	1506.5	601.4
12.5°	2958.2	2959.0	2995.2	2986.7	2930.4	2921.2	2885.7	2825.6	2686.0	1788.6	601.4
15°	3333.6	3384.5	3376.0	3366.8	3307.4	3295.1	3261.2	3205.7	3043.0	1995.3	572.1
17.5°	3643.6	3689.1	3676.0	3665.9	3606.6	3579.6	3542.6	3476.3	3297.4	2117.8	511.1
20°	3919.6	3962.8	3936.5	3918.8	3839.4	3806.2	3752.3	3676.0	3471.6	2163.3	440.2
22.5°	4177.1	4222.6	4189.4	4164.7	4062.2	3998.2	3921.9	3825.5	3585.0	2148.7	402.4
25°	4317.4	4376.8	4345.2	4325.9	4228.0	4153.2	4052.2	3928.1	3649.7	2066.2	303.0
26°	4348.2	4410.7	4380.6	4363.7	4264.2	4184.8	4076.9	3946.6	3655.1	1998.3	233.6
27°	4369.8	4439.2	4404.5	4382.9	4280.4	4195.6	4083.0	3947.3	3646.7	1906.6	185.8
28°	4378.3	4454.6	4412.2	4386.0	4279.6	4187.1	4067.6	3930.4	3624.3	1801.0	158.0
29°	4377.5	4460.8	4411.5	4382.9	4269.6	4167.1	4044.5	3906.5	3593.5	1690.7	142.6
30°	4362.1	4453.1	4403.7	4367.5	4245.7	4135.4	4011.3	3873.3	3558.8	1570.5	127.2
31°	4341.3	4434.6	4382.9	4338.2	4206.4	4086.9	3965.1	3828.6	3512.5	1441.7	116.4
32°	4311.2	4404.5	4347.5	4288.9	4150.9	4026.0	3908.8	3776.2	3456.2	1306.0	103.3
33°	4263.4	4345.9	4279.6	4211.8	4073.8	3956.6	3845.6	3715.3	3392.2	1164.9	89.4
34°	4176.3	4248.8	4180.2	4111.5	3988.2	3879.5	3773.1	3643.6	3317.5	1034.6	77.1
35°	4058.4	4120.0	4058.4	4000.5	3891.8	3790.8	3689.1	3562.6	3227.3	897.4	66.3
36°	3938.1	3992.0	3935.0	3889.5	3785.4	3695.2	3600.4	3469.3	3125.5	767.1	58.6
37°	3825.5	3874.1	3821.7	3776.2	3686.7	3595.0	3500.9	3366.8	3012.9	642.2	48.6
38°	3713.7	3756.9	3712.2	3661.3	3578.8	3485.5	3390.7	3253.5	2887.3	524.3	41.6
39°	3597.3	3632.8	3589.6	3538.0	3453.9	3361.4	3264.3	3122.4	2743.1	401.7	36.2
40°	3473.2	3506.3	3453.1	3406.9	3322.9	3228.0	3128.6	2981.3	2586.6	269.1	30.8
42.5°	3106.2	3126.3	3081.5	3017.6	2933.5	2829.4	2709.2	2544.2	2086.2	141.9	21.6
45°	2600.5	2604.3	2569.6	2453.2	2340.6	2179.5	1999.9	1752.4	1212.7	92.5	13.9
47.5°	1569.7	1560.4	1505.7	1406.2	1301.4	1131.0	962.9	792.6	471.1	54.0	9.3
50°	700.8	690.0	663.0	611.4	550.5	487.2	412.5	349.2	229.0	29.3	6.2
51°	508.1	498.8	478.8	439.4	394.7	350.0	298.4	255.2	171.2	23.9	5.4
52°	357.0	351.6	337.7	309.9	285.3	250.6	215.1	188.1	128.8	19.3	3.9
53°	249.0	245.2	236.7	218.2	203.5	178.1	155.7	134.1	93.3	15.4	3.9
54°	168.8	166.5	161.1	148.8	136.5	122.6	106.4	94.1	65.5	12.3	3.1
55°	113.3	111.8	107.2	101.0	94.1	85.6	74.8	65.5	46.3	10.0	2.3
57.5°	41.6	41.6	40.1	37.8	35.5	33.2	30.1	27.0	21.6	6.2	2.3
60°	18.5	17.7	17.7	17.0	16.2	15.4	14.6	13.1	10.8	3.9	2.3
61°	13.9	13.9	13.1	12.3	12.3	11.6	10.8	10.0	8.5	3.1	2.3
62°	10.0	10.0	10.0	9.3	9.3	8.5	8.5	7.7	6.2	2.3	2.3
63°	7.7	7.7	7.7	6.9	6.9	6.9	6.2	6.2	4.6	2.3	2.3
64°	5.4	5.4	5.4	5.4	5.4	5.4	4.6	4.6	3.9	1.5	2.3
65°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.1	1.5	2.3
66°	3.1	3.1	3.1	3.1	3.1	3.1	2.3	2.3	2.3	1.5	2.3



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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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5	2.3
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	2.3
77.5°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.5	2.3
80°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.5	2.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	2.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	2.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	2.3
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°	300.7	300.7	300.7	300.7	300.7
2.5°	276.8	193.5	154.2	139.5	134.9
5°	250.6	144.9	114.9	98.7	92.5
7.5°	210.5	119.5	86.3	71.7	67.1
10°	170.4	98.7	70.2	58.6	55.5
12.5°	145.7	85.6	65.5	60.9	60.9
15°	135.7	90.2	91.0	109.5	122.6
17.5°	139.5	141.1	220.5	268.3	276.8
20°	200.5	253.6	251.3	228.2	221.3
22.5°	232.1	167.3	126.4	104.1	100.2
25°	114.9	76.3	65.5	60.1	59.4
26°	87.1	64.0	57.1	54.0	52.4
27°	72.5	56.3	50.9	47.0	45.5
28°	64.8	50.1	43.9	40.1	38.5
29°	58.6	43.2	37.0	33.2	32.4
30°	51.7	36.2	30.8	27.0	26.2
31°	43.9	30.1	24.7	22.4	20.8
32°	37.0	24.7	20.0	17.7	16.2
33°	30.8	20.0	17.0	14.6	13.1
34°	26.2	17.0	13.9	11.6	10.8
35°	21.6	13.9	11.6	10.0	9.3
36°	18.5	12.3	9.3	7.7	6.9
37°	16.2	10.0	7.7	6.2	6.2
38°	13.9	8.5	6.9	4.6	4.6
39°	11.6	6.9	5.4	3.9	3.9
40°	10.0	6.2	4.6	3.1	2.3
42.5°	6.9	3.9	3.1	1.5	0.8
45°	4.6	3.1	1.5	0.8	0.0
47.5°	3.1	2.3	1.5	0.8	0.0
50°	2.3	2.3	1.5	0.0	0.0
51°	2.3	1.5	1.5	0.0	0.0
52°	2.3	1.5	0.8	0.0	0.0
53°	2.3	1.5	0.8	0.0	0.0
54°	2.3	1.5	0.8	0.0	0.0
55°	2.3	1.5	0.8	0.0	0.0
57.5°	2.3	1.5	0.8	0.0	0.0
60°	2.3	1.5	1.5	0.0	0.0
61°	2.3	2.3	1.5	0.0	0.0
62°	2.3	2.3	1.5	0.0	0.0
63°	2.3	2.3	1.5	0.0	0.0
64°	2.3	2.3	1.5	0.8	0.0
65°	2.3	2.3	1.5	0.8	0.0
66°	2.3	2.3	1.5	0.8	0.0



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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.3	2.3	1.5	0.8	0.0
75°	2.3	2.3	1.5	0.8	0.0
77.5°	3.1	2.3	1.5	0.8	0.0
80°	3.1	2.3	1.5	0.8	0.0
82.5°	3.1	2.3	1.5	0.8	0.0
85°	3.1	2.3	1.5	0.8	0.0
87.5°	3.1	2.3	1.5	0.8	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°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.3
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5	2.3





67.5°	2.3	2.3	1.5	0.8	0.0
70°	2.3	2.3	1.5	0.8	0.0



(END OF REPORT)