

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: P1191539

Luminaire Tested: **LDA4A15930D010TE LAR35FL 4LA1 30° Tilt**

Issue Date: 3/3/2020

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-41-14
Report Number: P1191539
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: LDA4A15930D010TE 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

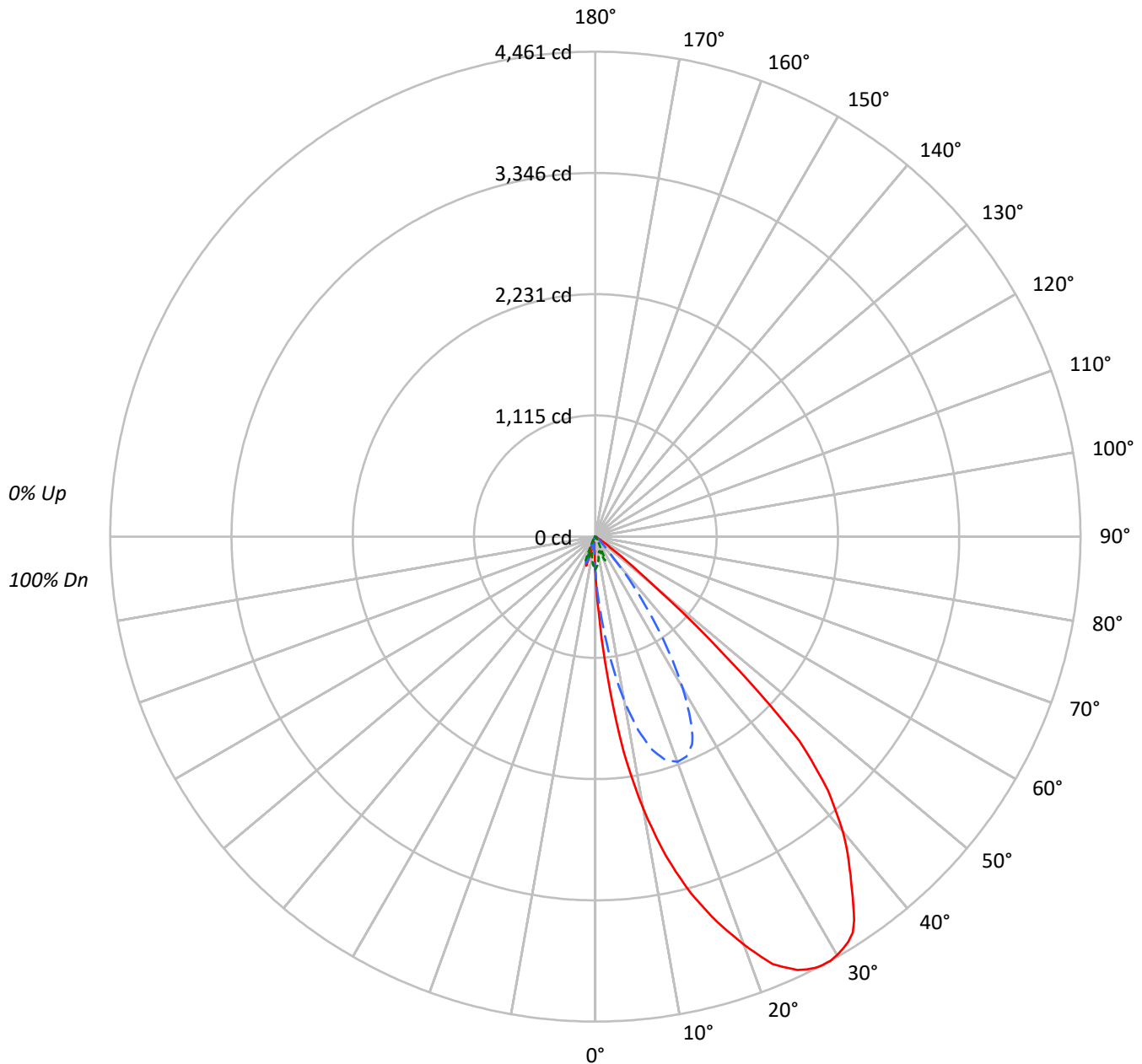
Lumens per Lamp: N/A
Luminaire Lumens: 1650.1 lumens
Efficiency: N/A
Efficacy: 80.9 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
Input Voltage (V): NR
Input Current (Ain): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	37793	37793	37793
5°	158746	31610	11664
10°	318895	21743	7089
15°	433760	17660	15949
20°	524233	26817	29586
25°	598717	15923	8234
30°	633061	7492	3803
35°	622667	3313	1415
40°	569821	1642	370
45°	462206	837	0
50°	137030	441	0
55°	24838	495	0
60°	4638	567	0
65°	1167	671	0
70°	289	829	0
75°	0	1096	0
80°	0	2202	0
85°	0	4387	0

Classified

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.7	3.4
10°-20°	288.2	17.5
20°-30°	504.7	30.6
30°-40°	506.9	30.7
40°-50°	267.0	16.2
50°-60°	22.2	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°	848.6	51.4
0°-40°	1355.5	82.1
0°-60°	1644.7	99.7
0°-90°	1650.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1650.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	306	306	306	306	306	
5°	1282	838	255	117	94	164
15°	3397	2033	138	93	125	970
25°	4399	2105	117	67	60	2013
35°	4135	914	22	12	9	2557
45°	2650	94	5	2	0	1816
55°	116	10	2	1	0	174
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°	306.4	306.4	306.4	306.4	306.4	306.4	306.4	306.4	306.4	306.4	306.4
2.5°	695.2	696.0	696.8	702.3	689.7	686.6	681.1	673.2	647.3	540.4	407.7
5°	1282.1	1291.5	1289.0	1281.3	1261.6	1250.6	1234.1	1216.8	1146.1	838.2	505.9
7.5°	1992.1	2010.3	2006.3	1994.6	1961.6	1946.6	1905.0	1882.2	1775.3	1190.2	579.0
10°	2546.1	2593.9	2594.7	2583.7	2534.2	2513.1	2469.8	2428.9	2293.9	1535.0	612.7
12.5°	3014.2	3015.0	3052.0	3043.2	2986.0	2976.6	2940.4	2879.1	2737.0	1822.5	612.7
15°	3396.8	3448.6	3440.1	3430.5	3370.1	3357.6	3322.9	3266.3	3100.6	2033.1	583.0
17.5°	3712.6	3758.9	3745.6	3735.4	3674.9	3647.3	3609.7	3542.1	3359.9	2158.0	520.8
20°	3993.8	4037.9	4011.1	3993.0	3912.1	3878.3	3823.4	3745.6	3537.4	2204.3	448.5
22.5°	4256.2	4302.6	4268.7	4243.6	4139.2	4074.0	3996.1	3898.0	3652.9	2189.3	410.0
25°	4399.2	4459.6	4427.5	4407.8	4308.0	4231.8	4129.0	4002.4	3718.9	2105.3	308.7
26°	4430.6	4494.3	4463.6	4446.3	4345.0	4264.1	4154.1	4021.4	3724.4	2036.2	238.1
27°	4452.6	4523.3	4487.9	4465.9	4361.5	4275.0	4160.3	4022.1	3715.8	1942.6	189.3
28°	4461.3	4539.0	4495.8	4469.1	4360.6	4266.4	4144.6	4004.9	3693.0	1835.1	161.0
29°	4460.5	4545.3	4495.0	4465.9	4350.4	4246.0	4121.1	3980.5	3661.5	1722.7	145.4
30°	4444.8	4537.4	4487.2	4450.2	4326.1	4213.8	4087.2	3946.6	3626.2	1600.2	129.7
31°	4423.5	4518.6	4465.9	4420.4	4286.1	4164.3	4040.2	3901.1	3579.0	1469.0	118.6
32°	4392.8	4487.9	4429.8	4370.1	4229.5	4102.2	3982.8	3847.6	3521.7	1330.8	105.3
33°	4344.1	4428.3	4360.6	4291.5	4150.9	4031.5	3918.4	3785.6	3456.6	1187.0	91.1
34°	4255.4	4329.3	4259.3	4189.4	4063.8	3952.9	3844.5	3712.6	3380.3	1054.2	78.5
35°	4135.2	4198.1	4135.2	4076.3	3965.6	3862.6	3758.9	3630.1	3288.4	914.5	67.5
36°	4012.6	4067.6	4009.5	3963.1	3857.2	3765.3	3668.6	3535.1	3184.6	781.6	59.7
37°	3898.0	3947.5	3894.0	3847.6	3756.6	3663.1	3567.3	3430.5	3070.0	654.4	49.5
38°	3784.1	3828.0	3782.5	3730.6	3646.6	3551.6	3454.9	3315.1	2941.9	534.1	42.4
39°	3665.5	3701.6	3657.6	3604.9	3519.3	3425.1	3326.1	3181.5	2795.1	409.2	37.0
40°	3538.9	3572.7	3518.6	3471.4	3385.8	3289.2	3187.8	3037.8	2635.6	274.2	31.4
42.5°	3165.0	3185.5	3139.9	3074.7	2989.1	2883.0	2760.4	2592.4	2125.8	144.5	22.0
45°	2649.7	2653.6	2618.3	2499.7	2385.0	2220.8	2037.8	1785.6	1235.7	94.2	14.2
47.5°	1599.4	1590.0	1534.2	1432.9	1326.0	1152.4	981.1	807.5	480.0	55.0	9.4
50°	714.1	703.1	675.5	622.9	560.9	496.5	420.3	355.9	233.3	29.9	6.3
51°	517.6	508.2	487.8	447.8	402.3	356.6	304.0	260.0	174.4	24.4	5.5
52°	363.7	358.2	344.0	315.8	290.6	255.3	219.1	191.7	131.2	19.6	4.0
53°	253.8	249.8	241.2	222.3	207.4	181.5	158.7	136.6	95.0	15.7	4.0
54°	172.1	169.6	164.2	151.6	139.1	124.9	108.4	95.9	66.8	12.5	3.1
55°	115.5	113.9	109.2	103.0	95.9	87.1	76.2	66.8	47.2	10.2	2.3
57.5°	42.4	42.4	40.9	38.5	36.1	33.8	30.7	27.5	22.0	6.3	2.3
60°	18.8	18.0	18.0	17.3	16.5	15.7	14.9	13.4	11.0	4.0	2.3
61°	14.2	14.2	13.4	12.5	12.5	11.7	11.0	10.2	8.6	3.1	2.3
62°	10.2	10.2	10.2	9.4	9.4	8.6	8.6	7.9	6.3	2.3	2.3
63°	7.9	7.9	7.9	7.1	7.1	7.1	6.3	6.3	4.8	2.3	2.3
64°	5.5	5.5	5.5	5.5	5.5	5.5	4.8	4.8	4.0	1.6	2.3
65°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.1	1.6	2.3
66°	3.1	3.1	3.1	3.1	3.1	3.1	2.3	2.3	2.3	1.6	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	1.6	2.3
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.3
77.5°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	2.3
80°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	2.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	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°	306.4	306.4	306.4	306.4	306.4
2.5°	282.0	197.2	157.1	142.2	137.5
5°	255.3	147.7	117.0	100.5	94.2
7.5°	214.5	121.8	88.0	73.1	68.3
10°	173.6	100.5	71.5	59.7	56.6
12.5°	148.5	87.1	66.8	62.0	62.0
15°	138.3	91.9	92.7	111.5	124.9
17.5°	142.2	143.7	224.7	273.4	282.0
20°	204.3	258.4	256.1	232.5	225.4
22.5°	236.5	170.5	128.9	106.1	102.1
25°	117.0	77.7	66.8	61.2	60.5
26°	88.8	65.2	58.1	55.0	53.5
27°	73.9	57.4	51.8	47.9	46.4
28°	66.0	51.0	44.7	40.9	39.3
29°	59.7	44.0	37.8	33.8	33.0
30°	52.6	37.0	31.4	27.5	26.7
31°	44.7	30.7	25.1	22.8	21.3
32°	37.8	25.1	20.5	18.0	16.5
33°	31.4	20.5	17.3	14.9	13.4
34°	26.7	17.3	14.2	11.7	11.0
35°	22.0	14.2	11.7	10.2	9.4
36°	18.8	12.5	9.4	7.9	7.1
37°	16.5	10.2	7.9	6.3	6.3
38°	14.2	8.6	7.1	4.8	4.8
39°	11.7	7.1	5.5	4.0	4.0
40°	10.2	6.3	4.8	3.1	2.3
42.5°	7.1	4.0	3.1	1.6	0.8
45°	4.8	3.1	1.6	0.8	0.0
47.5°	3.1	2.3	1.6	0.8	0.0
50°	2.3	2.3	1.6	0.0	0.0
51°	2.3	1.6	1.6	0.0	0.0
52°	2.3	1.6	0.8	0.0	0.0
53°	2.3	1.6	0.8	0.0	0.0
54°	2.3	1.6	0.8	0.0	0.0
55°	2.3	1.6	0.8	0.0	0.0
57.5°	2.3	1.6	0.8	0.0	0.0
60°	2.3	1.6	1.6	0.0	0.0
61°	2.3	2.3	1.6	0.0	0.0
62°	2.3	2.3	1.6	0.0	0.0
63°	2.3	2.3	1.6	0.0	0.0
64°	2.3	2.3	1.6	0.8	0.0
65°	2.3	2.3	1.6	0.8	0.0
66°	2.3	2.3	1.6	0.8	0.0

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	2.3	2.3	1.6	0.8	0.0
75°	2.3	2.3	1.6	0.8	0.0
77.5°	3.1	2.3	1.6	0.8	0.0
80°	3.1	2.3	1.6	0.8	0.0
82.5°	3.1	2.3	1.6	0.8	0.0
85°	3.1	2.3	1.6	0.8	0.0
87.5°	3.1	2.3	1.6	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°

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67.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.3
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	2.3

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67.5°	2.3	2.3	1.6	0.8	0.0
70°	2.3	2.3	1.6	0.8	0.0

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(END OF REPORT)