

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: P1191881

Luminaire Tested: **LDA4A35927D010TE 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: P1191881
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: LDA4A35927D010TE 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

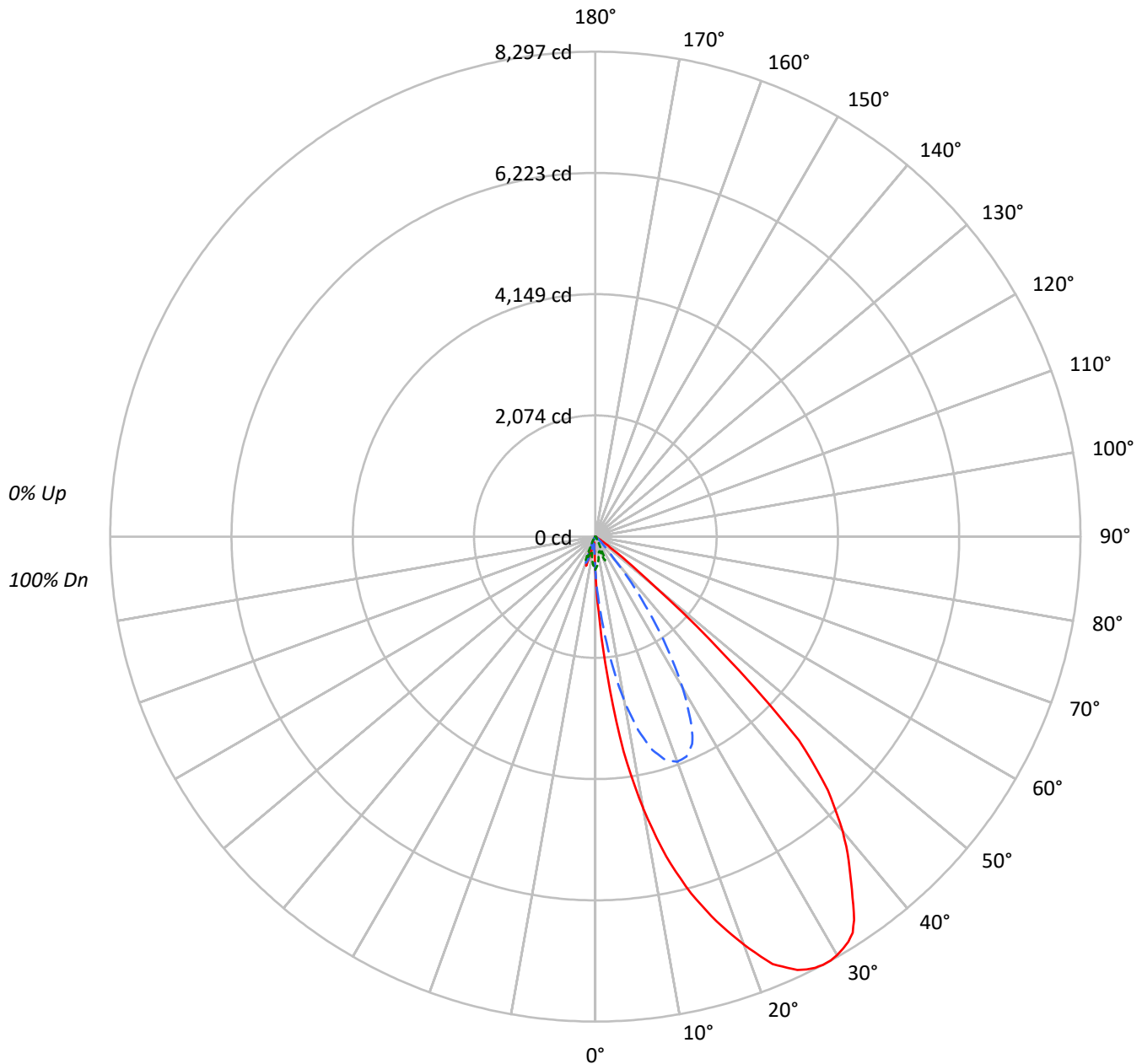
Lumens per Lamp: N/A
Luminaire Lumens: 3068.8 lumens
Efficiency: N/A
Efficacy: 65.2 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 47.1
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°	70282	70282	70282
5°	295216	58788	21705
10°	593051	40443	13176
15°	806673	32831	29651
20°	974933	49866	55025
25°	1113435	29642	15297
30°	1177304	13958	7079
35°	1157999	6144	2635
40°	1059745	3059	708
45°	859573	1518	0
50°	254813	844	0
55°	46170	946	0
60°	8659	1085	0
65°	2101	1284	0
70°	541	1587	0
75°	0	2097	0
80°	0	4191	0
85°	0	8350	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.6	3.4
10°-20°	536.0	17.5
20°-30°	938.6	30.6
30°-40°	942.6	30.7
40°-50°	496.6	16.2
50°-60°	41.4	1.3
60°-70°	4.2	0.1
70°-80°	3.0	0.1
80°-90°	2.8	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°	1578.2	51.4
0°-40°	2520.8	82.1
0°-60°	3058.8	99.7
0°-90°	3068.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3068.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	570	570	570	570	570	
5°	2384	1559	475	218	175	305
15°	6317	3781	257	172	232	1803
25°	8181	3915	218	124	112	3744
35°	7690	1701	41	22	18	4755
45°	4928	175	9	3	0	3378
55°	215	19	4	2	0	323
65°	7	3	4	3	0	11
75°	0	3	4	3	0	1
85°	0	3	6	3	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°	569.8	569.8	569.8	569.8	569.8	569.8	569.8	569.8	569.8	569.8	569.8
2.5°	1293.0	1294.5	1295.8	1306.1	1282.7	1276.8	1266.6	1252.0	1203.7	1005.1	758.3
5°	2384.3	2401.8	2397.4	2382.8	2346.3	2325.8	2295.1	2263.0	2131.6	1558.8	940.8
7.5°	3705.0	3738.6	3731.2	3709.3	3648.0	3620.1	3542.8	3500.5	3301.7	2213.2	1076.7
10°	4735.0	4824.0	4825.5	4805.0	4713.0	4673.5	4593.2	4517.2	4266.0	2854.6	1139.5
12.5°	5605.7	5607.0	5675.7	5659.6	5553.1	5535.4	5468.2	5354.3	5089.8	3389.4	1139.5
15°	6317.1	6413.5	6397.4	6379.9	6267.4	6244.0	6179.8	6074.6	5766.3	3780.9	1083.9
17.5°	6904.3	6990.5	6965.7	6946.7	6834.3	6783.2	6713.0	6587.3	6248.4	4013.1	968.7
20°	7427.4	7509.2	7459.5	7425.9	7275.5	7212.7	7110.3	6965.7	6578.5	4099.3	834.2
22.5°	7915.4	8001.6	7938.7	7892.0	7697.6	7576.4	7431.8	7249.1	6793.3	4071.6	762.7
25°	8181.2	8293.7	8233.8	8197.3	8011.8	7870.0	7678.6	7443.5	6916.1	3915.3	574.1
26°	8239.6	8357.9	8301.0	8268.9	8080.4	7930.0	7725.5	7478.5	6926.3	3786.8	442.6
27°	8280.6	8412.0	8346.3	8305.3	8111.1	7950.5	7737.1	7480.0	6910.2	3612.9	352.0
28°	8296.6	8441.3	8361.0	8311.2	8109.6	7934.3	7707.8	7447.9	6867.9	3412.8	299.4
29°	8295.3	8453.0	8359.4	8305.3	8090.6	7896.4	7664.0	7402.5	6809.4	3203.8	270.3
30°	8266.0	8438.4	8344.8	8276.3	8045.4	7836.4	7601.3	7339.7	6743.7	2975.9	241.1
31°	8226.5	8403.3	8305.3	8220.7	7970.8	7744.5	7513.6	7255.0	6656.0	2731.9	220.6
32°	8169.6	8346.3	8238.1	8127.2	7865.6	7629.0	7406.9	7155.7	6549.3	2474.8	195.8
33°	8079.0	8235.3	8109.6	7981.1	7719.6	7497.5	7287.1	7040.3	6428.2	2207.5	169.5
34°	7913.8	8051.3	7921.2	7791.2	7557.5	7351.5	7149.8	6904.3	6286.4	1960.5	146.0
35°	7690.4	7807.3	7690.4	7580.8	7374.8	7183.4	6990.5	6750.9	6115.5	1700.6	125.7
36°	7462.5	7564.7	7456.6	7370.4	7173.2	7002.3	6822.5	6574.2	5922.6	1453.6	111.1
37°	7249.1	7341.2	7241.9	7155.7	6986.2	6812.3	6634.2	6379.9	5709.3	1217.0	92.1
38°	7037.3	7119.1	7034.4	6938.0	6781.7	6604.9	6425.1	6165.2	5471.2	993.4	79.0
39°	6816.8	6883.9	6802.2	6704.2	6544.9	6369.7	6185.5	5916.8	5198.0	761.2	68.7
40°	6581.6	6644.4	6543.6	6455.9	6296.6	6117.0	5928.5	5649.4	4901.5	509.8	58.5
42.5°	5886.1	5924.1	5839.4	5718.1	5558.8	5361.7	5133.7	4821.2	3953.3	268.8	40.8
45°	4927.7	4935.1	4869.2	4648.8	4435.4	4130.1	3789.7	3320.7	2298.1	175.3	26.4
47.5°	2974.4	2956.9	2853.2	2664.7	2466.1	2143.2	1824.8	1501.8	892.6	102.3	17.5
50°	1327.9	1307.6	1256.3	1158.5	1043.1	923.3	781.6	661.8	433.8	55.5	11.8
51°	962.8	945.2	907.2	832.7	748.0	663.2	565.4	483.6	324.3	45.4	10.2
52°	676.5	666.2	639.8	587.3	540.5	474.8	407.6	356.5	244.0	36.5	7.2
53°	471.8	464.6	448.5	413.5	385.6	337.4	295.1	254.2	176.8	29.2	7.2
54°	319.9	315.6	305.3	281.9	258.6	232.2	201.6	178.3	124.2	23.4	5.9
55°	214.7	211.9	203.1	191.4	178.3	162.1	141.7	124.2	87.7	19.0	4.4
57.5°	79.0	79.0	75.9	71.6	67.2	62.8	57.0	51.1	40.8	11.8	4.4
60°	35.1	33.6	33.6	32.1	30.7	29.2	27.7	24.9	20.5	7.2	4.4
61°	26.4	26.4	24.9	23.4	23.4	21.9	20.5	19.0	16.1	5.9	4.4
62°	19.0	19.0	19.0	17.5	17.5	16.1	16.1	14.6	11.8	4.4	4.4
63°	14.6	14.6	14.6	13.1	13.1	13.1	11.8	11.8	8.7	4.4	4.4
64°	10.2	10.2	10.2	10.2	10.2	10.2	8.7	8.7	7.2	2.9	4.4
65°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	5.9	2.9	4.4
66°	5.9	5.9	5.9	5.9	5.9	5.9	4.4	4.4	4.4	2.9	4.4



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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°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4
75°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.4
77.5°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.4
80°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.9	4.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	2.9	4.4
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°	569.8	569.8	569.8	569.8	569.8
2.5°	524.4	366.6	292.2	264.5	255.7
5°	474.8	274.7	217.8	187.0	175.3
7.5°	398.9	226.5	163.7	135.9	127.0
10°	322.9	187.0	132.9	111.1	105.2
12.5°	276.1	162.1	124.2	115.4	115.4
15°	257.1	170.9	172.4	207.5	232.2
17.5°	264.5	267.3	417.9	508.4	524.4
20°	379.9	480.7	476.2	432.5	419.2
22.5°	439.7	317.1	239.6	197.3	189.9
25°	217.8	144.7	124.2	113.9	112.4
26°	165.2	121.3	108.0	102.3	99.3
27°	137.3	106.7	96.4	89.1	86.2
28°	122.7	94.9	83.3	75.9	73.1
29°	111.1	81.8	70.1	62.8	61.3
30°	98.0	68.7	58.5	51.1	49.7
31°	83.3	57.0	46.7	42.3	39.5
32°	70.1	46.7	38.0	33.6	30.7
33°	58.5	38.0	32.1	27.7	24.9
34°	49.7	32.1	26.4	21.9	20.5
35°	40.8	26.4	21.9	19.0	17.5
36°	35.1	23.4	17.5	14.6	13.1
37°	30.7	19.0	14.6	11.8	11.8
38°	26.4	16.1	13.1	8.7	8.7
39°	21.9	13.1	10.2	7.2	7.2
40°	19.0	11.8	8.7	5.9	4.4
42.5°	13.1	7.2	5.9	2.9	1.5
45°	8.7	5.9	2.9	1.5	0.0
47.5°	5.9	4.4	2.9	1.5	0.0
50°	4.4	4.4	2.9	0.0	0.0
51°	4.4	2.9	2.9	0.0	0.0
52°	4.4	2.9	1.5	0.0	0.0
53°	4.4	2.9	1.5	0.0	0.0
54°	4.4	2.9	1.5	0.0	0.0
55°	4.4	2.9	1.5	0.0	0.0
57.5°	4.4	2.9	1.5	0.0	0.0
60°	4.4	2.9	2.9	0.0	0.0
61°	4.4	4.4	2.9	0.0	0.0
62°	4.4	4.4	2.9	0.0	0.0
63°	4.4	4.4	2.9	0.0	0.0
64°	4.4	4.4	2.9	1.5	0.0
65°	4.4	4.4	2.9	1.5	0.0
66°	4.4	4.4	2.9	1.5	0.0



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CATALOG NUMBER: LDA4A35927D010TE LAR35FL 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	4.4	4.4	2.9	1.5	0.0
75°	4.4	4.4	2.9	1.5	0.0
77.5°	5.9	4.4	2.9	1.5	0.0
80°	5.9	4.4	2.9	1.5	0.0
82.5°	5.9	4.4	2.9	1.5	0.0
85°	5.9	4.4	2.9	1.5	0.0
87.5°	5.9	4.4	2.9	1.5	0.0
90°	0.0	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4.4
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	4.4

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67.5°	4.4	4.4	2.9	1.5	0.0
70°	4.4	4.4	2.9	1.5	0.0

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(END OF REPORT)