

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: P1191899

Luminaire Tested: **LDA4A35930D010TE 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: P1191899
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: LDA4A35930D010TE 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

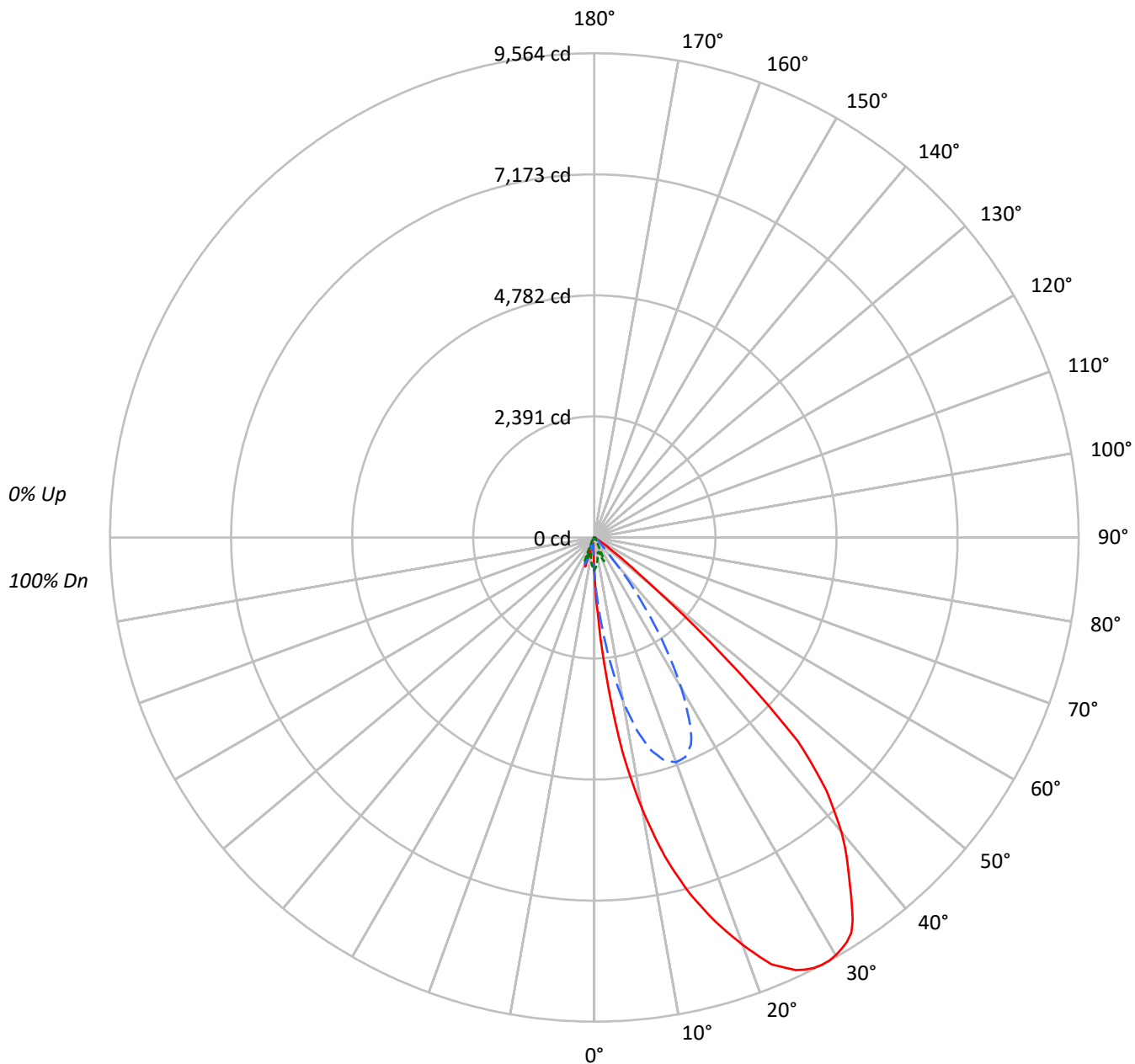
Lumens per Lamp: N/A
Luminaire Lumens: 3537.4 lumens
Efficiency: N/A
Efficacy: 75.1 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	113	110	107	104	110	107	105	103		103	101	99			100	98	96			96
2	106	101	96	92	104	99	95	91		96	92	89			92	90	87			90
3	100	92	87	82	98	91	86	81		88	84	80			86	82	79			83
4	93	85	78	74	92	84	78	73		81	76	72			79	75	71			77
5	88	78	71	66	86	77	71	66		75	70	65			73	68	65			72
6	82	72	65	60	81	71	64	60		69	64	59			68	63	59			66
7	77	66	59	54	76	66	59	54		64	58	54			63	58	54			62
8	72	61	54	50	71	61	54	49		59	54	49			58	53	49			57
9	68	57	50	45	67	56	50	45		55	49	45			54	49	45			53
10	64	53	46	42	63	52	46	42		51	46	41			51	45	41			50

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	81001	81001	81001
5°	340298	67765	25023
10°	683618	46617	15193
15°	929888	37849	34197
20°	1123836	57479	63439
25°	1283516	34147	17652
30°	1357118	16080	8161
35°	1334867	7107	3042
40°	1221598	3526	821
45°	990872	1762	0
50°	293767	979	0
55°	53246	1097	0
60°	9966	1258	0
65°	2452	1488	0
70°	613	1839	0
75°	0	2431	0
80°	0	4830	0
85°	0	9624	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.4	3.4
10°-20°	617.8	17.5
20°-30°	1082.0	30.6
30°-40°	1086.6	30.7
40°-50°	572.4	16.2
50°-60°	47.7	1.3
60°-70°	4.8	0.1
70°-80°	3.5	0.1
80°-90°	3.2	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°	1819.2	51.4
0°-40°	2905.8	82.1
0°-60°	3525.9	99.7
0°-90°	3537.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3537.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	657	657	657	657	657	
5°	2748	1797	547	251	202	352
15°	7282	4358	296	199	268	2079
25°	9431	4513	251	143	130	4315
35°	8865	1960	47	25	20	5482
45°	5680	202	10	3	0	3893
55°	248	22	5	2	0	372
65°	8	3	5	3	0	12
75°	0	3	5	3	0	1
85°	0	3	7	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°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7
2.5°	1490.4	1492.0	1493.8	1505.6	1478.6	1471.8	1460.1	1443.2	1387.7	1158.7	874.0
5°	2748.4	2768.6	2763.6	2746.7	2704.7	2681.0	2645.7	2608.7	2457.1	1796.9	1084.5
7.5°	4270.8	4309.5	4301.1	4275.9	4205.1	4173.2	4084.0	4035.0	3806.1	2551.4	1241.1
10°	5458.1	5560.8	5562.6	5538.9	5432.8	5387.3	5294.8	5207.2	4917.4	3290.7	1313.6
12.5°	6461.8	6463.4	6542.7	6524.1	6401.2	6381.0	6303.5	6172.1	5867.3	3907.0	1313.6
15°	7282.0	7393.0	7374.5	7354.3	7224.7	7197.7	7123.6	7002.4	6647.1	4358.4	1249.6
17.5°	7958.9	8058.4	8029.7	8007.7	7878.1	7819.2	7738.3	7593.5	7202.9	4626.2	1116.5
20°	8561.8	8656.2	8598.9	8560.2	8386.7	8314.2	8196.4	8029.7	7583.4	4725.5	961.6
22.5°	9124.4	9223.7	9151.3	9097.4	8873.5	8733.6	8567.0	8356.4	7831.0	4693.5	879.1
25°	9430.9	9560.5	9491.5	9449.4	9235.4	9072.1	8851.5	8580.4	7972.5	4513.3	661.8
26°	9498.2	9634.6	9568.9	9531.8	9314.7	9141.1	8905.4	8620.8	7984.2	4365.2	510.2
27°	9545.4	9696.9	9621.1	9574.0	9350.0	9164.8	8918.8	8622.4	7965.7	4164.7	405.8
28°	9563.9	9730.6	9637.9	9580.7	9348.3	9146.2	8885.2	8585.5	7916.9	3934.0	345.2
29°	9562.1	9744.0	9636.3	9574.0	9326.5	9102.4	8834.7	8533.2	7849.5	3693.2	311.5
30°	9528.5	9727.3	9619.4	9540.3	9274.2	9033.4	8762.3	8460.9	7773.7	3430.4	277.9
31°	9483.0	9686.8	9574.0	9476.2	9188.3	8927.3	8661.1	8363.1	7672.6	3149.2	254.2
32°	9417.3	9621.1	9496.4	9368.5	9067.1	8794.2	8538.3	8248.5	7549.8	2852.8	225.7
33°	9312.9	9493.1	9348.3	9200.2	8898.6	8642.8	8400.1	8115.6	7409.9	2544.6	195.3
34°	9122.7	9280.9	9131.0	8981.2	8711.8	8474.3	8241.9	7958.9	7246.6	2260.0	168.5
35°	8865.0	8999.7	8865.0	8738.7	8501.3	8280.6	8058.4	7782.1	7049.6	1960.2	144.8
36°	8602.2	8720.2	8595.6	8496.1	8268.9	8071.8	7864.6	7578.4	6827.2	1675.7	127.9
37°	8356.4	8462.5	8348.0	8248.5	8053.2	7852.8	7647.4	7354.3	6581.4	1402.8	106.1
38°	8112.2	8206.5	8108.8	7997.6	7817.6	7613.7	7406.6	7106.9	6306.8	1145.1	90.9
39°	7857.9	7935.4	7841.1	7728.2	7544.6	7342.6	7130.4	6820.6	5991.9	877.3	79.1
40°	7586.8	7659.2	7543.0	7441.9	7258.3	7051.3	6834.0	6512.4	5650.1	587.7	67.4
42.5°	6785.1	6829.0	6731.2	6591.5	6408.0	6180.6	5917.9	5557.4	4557.1	309.8	47.2
45°	5680.4	5688.8	5613.1	5358.7	5112.9	4760.9	4368.5	3827.9	2649.0	202.1	30.3
47.5°	3428.7	3408.5	3289.0	3071.7	2842.7	2470.5	2103.4	1731.2	1028.9	117.8	20.2
50°	1530.9	1507.2	1448.3	1335.5	1202.4	1064.4	901.0	762.8	500.2	64.0	13.4
51°	1109.9	1089.7	1045.8	959.9	862.3	764.6	651.8	557.4	373.9	52.1	11.8
52°	779.7	767.9	737.6	677.1	623.1	547.3	469.9	410.9	281.2	42.0	8.4
53°	544.0	535.6	517.0	476.6	444.5	389.1	340.1	293.1	203.7	33.8	8.4
54°	368.7	363.8	352.0	325.0	298.1	267.8	232.4	205.4	143.2	27.0	6.8
55°	247.6	244.1	234.0	220.6	205.4	186.9	163.4	143.2	101.1	21.9	5.1
57.5°	90.9	90.9	87.6	82.6	77.5	72.5	65.7	58.9	47.2	13.4	5.1
60°	40.4	38.7	38.7	37.1	35.4	33.8	31.9	28.6	23.5	8.4	5.1
61°	30.3	30.3	28.6	27.0	27.0	25.3	23.5	21.9	18.5	6.8	5.1
62°	21.9	21.9	21.9	20.2	20.2	18.5	18.5	16.9	13.4	5.1	5.1
63°	16.9	16.9	16.9	15.2	15.2	15.2	13.4	13.4	10.1	5.1	5.1
64°	11.8	11.8	11.8	11.8	11.8	11.8	10.1	10.1	8.4	3.3	5.1
65°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	6.8	3.3	5.1
66°	6.8	6.8	6.8	6.8	6.8	6.8	5.1	5.1	5.1	3.3	5.1



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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°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.1
75°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.3	5.1
77.5°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.3	5.1
80°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.3	5.1
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.3	5.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.3	5.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.3	5.1
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°	656.7	656.7	656.7	656.7	656.7
2.5°	604.6	422.7	336.8	304.9	294.8
5°	547.3	316.6	250.9	215.5	202.1
7.5°	459.8	261.0	188.7	156.6	146.5
10°	372.2	215.5	153.3	127.9	121.3
12.5°	318.3	186.9	143.2	133.1	133.1
15°	296.4	197.1	198.8	239.2	267.8
17.5°	304.9	308.2	481.6	586.0	604.6
20°	437.9	554.1	549.0	498.5	483.3
22.5°	506.9	365.4	276.2	227.4	219.0
25°	250.9	166.7	143.2	131.4	129.7
26°	190.3	139.8	124.6	117.8	114.5
27°	158.2	123.0	111.2	102.8	99.3
28°	141.5	109.4	96.0	87.6	84.2
29°	127.9	94.3	80.8	72.5	70.7
30°	112.9	79.1	67.4	58.9	57.3
31°	96.0	65.7	53.9	48.8	45.5
32°	80.8	53.9	43.9	38.7	35.4
33°	67.4	43.9	37.1	31.9	28.6
34°	57.3	37.1	30.3	25.3	23.5
35°	47.2	30.3	25.3	21.9	20.2
36°	40.4	27.0	20.2	16.9	15.2
37°	35.4	21.9	16.9	13.4	13.4
38°	30.3	18.5	15.2	10.1	10.1
39°	25.3	15.2	11.8	8.4	8.4
40°	21.9	13.4	10.1	6.8	5.1
42.5°	15.2	8.4	6.8	3.3	1.7
45°	10.1	6.8	3.3	1.7	0.0
47.5°	6.8	5.1	3.3	1.7	0.0
50°	5.1	5.1	3.3	0.0	0.0
51°	5.1	3.3	3.3	0.0	0.0
52°	5.1	3.3	1.7	0.0	0.0
53°	5.1	3.3	1.7	0.0	0.0
54°	5.1	3.3	1.7	0.0	0.0
55°	5.1	3.3	1.7	0.0	0.0
57.5°	5.1	3.3	1.7	0.0	0.0
60°	5.1	3.3	3.3	0.0	0.0
61°	5.1	5.1	3.3	0.0	0.0
62°	5.1	5.1	3.3	0.0	0.0
63°	5.1	5.1	3.3	0.0	0.0
64°	5.1	5.1	3.3	1.7	0.0
65°	5.1	5.1	3.3	1.7	0.0
66°	5.1	5.1	3.3	1.7	0.0

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	5.1	5.1	3.3	1.7	0.0
75°	5.1	5.1	3.3	1.7	0.0
77.5°	6.8	5.1	3.3	1.7	0.0
80°	6.8	5.1	3.3	1.7	0.0
82.5°	6.8	5.1	3.3	1.7	0.0
85°	6.8	5.1	3.3	1.7	0.0
87.5°	6.8	5.1	3.3	1.7	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°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	5.1
70°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.1

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67.5°	5.1	5.1	3.3	1.7	0.0
70°	5.1	5.1	3.3	1.7	0.0

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(END OF REPORT)