

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: P1191935

Luminaire Tested: **LDA4A35940D010TE 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: P1191935
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: LDA4A35940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

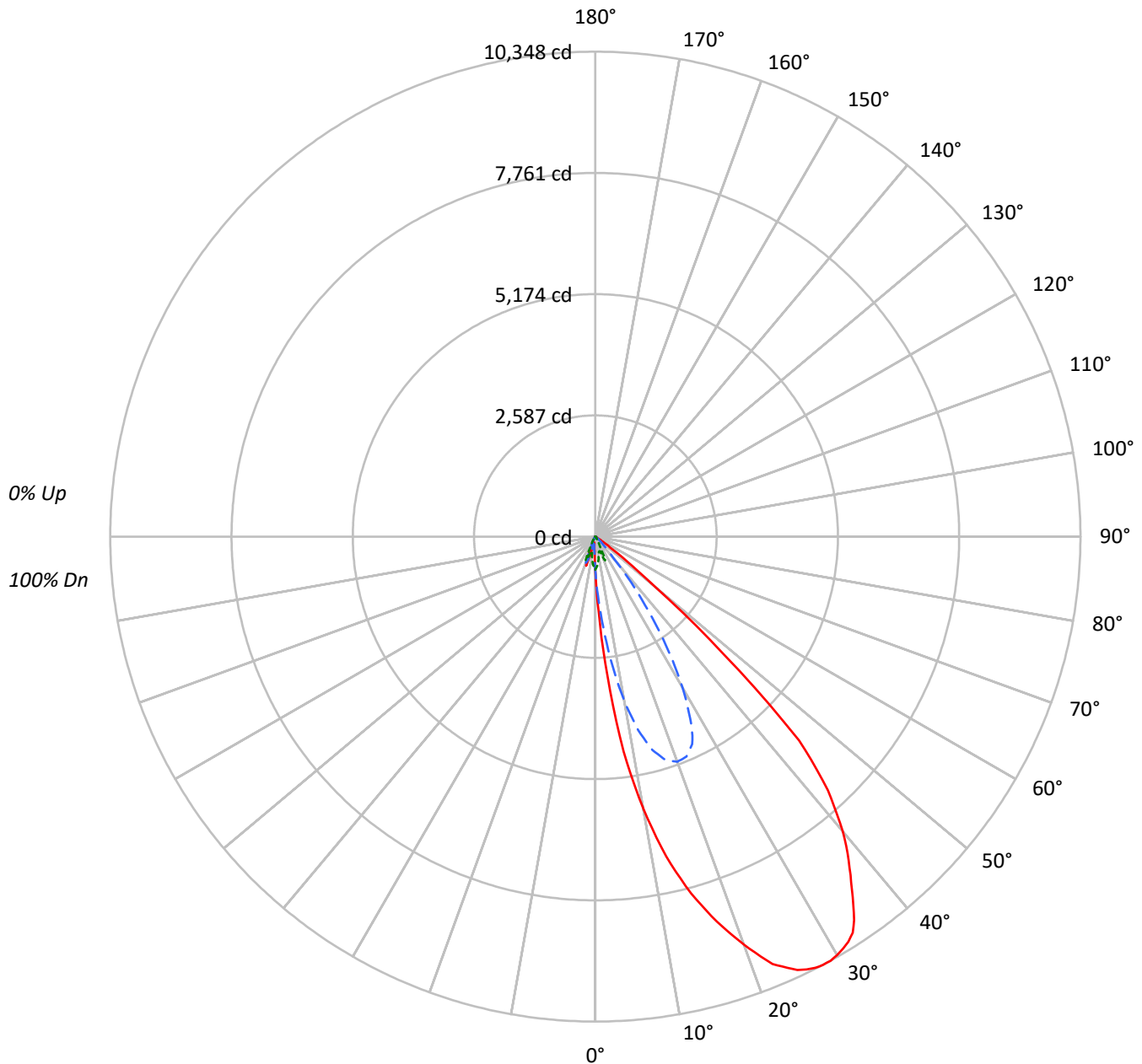
Lumens per Lamp: N/A
Luminaire Lumens: 3827.3 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 2.3 / 0.86 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	113	110	107	104	110	107	105	103		103	101	99		100	98	96		96	95	94
2	106	101	96	92	104	99	95	91		96	92	89		92	90	87		90	87	85
3	100	92	87	82	98	91	86	81		88	84	80		86	82	79		83	80	78
4	93	85	78	74	92	84	78	73		81	76	72		79	75	71		77	74	70
5	88	78	71	66	86	77	71	66		75	70	65		73	68	65		72	67	64
6	82	72	65	60	81	71	64	60		69	64	59		68	63	59		66	62	58
7	77	66	59	54	76	66	59	54		64	58	54		63	58	54		62	57	53
8	72	61	54	50	71	61	54	49		59	54	49		58	53	49		57	52	49
9	68	57	50	45	67	56	50	45		55	49	45		54	49	45		53	48	45
10	64	53	46	42	63	52	46	42		51	46	41		51	45	41		50	45	41

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	87662	87662	87662
5°	368206	73324	27079
10°	739680	50438	16445
15°	1006123	40952	37007
20°	1215995	62192	68637
25°	1388746	36964	19094
30°	1468411	17390	8816
35°	1444306	7694	3298
40°	1321767	3816	869
45°	1072125	1919	0
50°	317830	1036	0
55°	57589	1161	0
60°	10780	1332	0
65°	2627	1576	0
70°	649	1947	0
75°	0	2573	0
80°	0	5114	0
85°	0	10190	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.2	3.4
10°-20°	668.5	17.5
20°-30°	1170.7	30.6
30°-40°	1175.7	30.7
40°-50°	619.3	16.2
50°-60°	51.6	1.3
60°-70°	5.2	0.1
70°-80°	3.7	0.1
80°-90°	3.4	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°	1968.4	51.4
0°-40°	3144.1	82.1
0°-60°	3815.0	99.7
0°-90°	3827.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3827.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	711	711	711	711	711	
5°	2974	1944	592	272	219	381
15°	7879	4716	321	215	290	2249
25°	10204	4883	272	155	140	4669
35°	9592	2121	51	27	22	5931
45°	6146	219	11	4	0	4213
55°	268	24	5	2	0	403
65°	9	4	5	4	0	13
75°	0	4	5	4	0	1
85°	0	4	7	4	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°	710.7	710.7	710.7	710.7	710.7	710.7	710.7	710.7	710.7	710.7	710.7
2.5°	1612.6	1614.4	1616.2	1629.0	1599.9	1592.5	1579.9	1561.6	1501.5	1253.6	945.8
5°	2973.8	2995.6	2990.2	2972.0	2926.3	2900.9	2862.6	2822.5	2658.5	1944.3	1173.5
7.5°	4621.0	4662.9	4653.9	4626.5	4549.9	4515.4	4418.8	4365.9	4118.2	2760.6	1343.0
10°	5905.7	6016.8	6018.6	5993.1	5878.3	5829.1	5728.9	5634.1	5320.7	3560.4	1421.3
12.5°	6991.6	6993.4	7079.2	7059.1	6926.0	6904.2	6820.4	6678.3	6348.4	4227.4	1421.3
15°	7879.0	7999.3	7979.2	7957.4	7817.1	7787.9	7707.7	7576.6	7192.0	4715.8	1352.0
17.5°	8611.6	8719.0	8688.1	8664.5	8524.2	8460.3	8372.9	8216.1	7793.4	5005.5	1208.1
20°	9263.9	9365.9	9304.0	9262.1	9074.3	8996.0	8868.5	8688.1	8205.1	5113.0	1040.4
22.5°	9872.4	9980.0	9901.7	9843.3	9601.0	9449.7	9269.3	9041.6	8473.1	5078.4	951.2
25°	10204.1	10344.4	10269.8	10224.1	9992.8	9816.1	9577.4	9284.0	8626.2	4883.4	716.1
26°	10277.0	10424.6	10353.6	10313.5	10078.4	9890.6	9635.7	9327.7	8638.8	4723.1	552.1
27°	10328.0	10492.1	10410.1	10359.0	10116.7	9916.3	9650.1	9329.5	8618.8	4506.2	439.1
28°	10348.0	10528.5	10428.3	10366.2	10114.9	9896.2	9613.7	9289.4	8566.0	4256.5	373.6
29°	10346.2	10543.0	10426.4	10359.0	10091.2	9848.8	9559.1	9232.9	8493.1	3996.0	337.1
30°	10309.9	10524.8	10408.1	10322.5	10034.7	9774.2	9480.8	9154.5	8411.1	3711.7	300.6
31°	10260.6	10481.1	10359.0	10253.4	9941.7	9659.3	9371.4	9048.9	8301.7	3407.5	275.2
32°	10189.5	10410.1	10275.2	10136.7	9810.5	9515.3	9238.4	8925.0	8168.8	3086.8	244.1
33°	10076.6	10271.6	10114.9	9954.5	9628.3	9351.3	9089.0	8780.9	8017.5	2753.3	211.4
34°	9870.6	10041.9	9879.8	9717.7	9426.1	9169.1	8917.6	8611.6	7840.8	2445.3	182.2
35°	9591.8	9737.7	9591.8	9455.1	9198.4	8959.5	8719.0	8420.2	7627.5	2121.0	156.7
36°	9307.6	9435.1	9300.4	9192.8	8946.9	8733.6	8509.5	8199.7	7387.0	1813.0	138.5
37°	9041.6	9156.3	9032.4	8925.0	8713.6	8496.7	8274.5	7957.4	7121.0	1517.8	114.8
38°	8777.3	8879.3	8773.7	8653.5	8458.5	8238.0	8013.9	7689.5	6824.0	1239.0	98.4
39°	8502.2	8586.1	8484.1	8361.9	8163.2	7944.6	7715.1	7379.8	6483.3	949.4	85.6
40°	8208.9	8287.3	8161.4	8052.2	7853.6	7629.3	7394.4	7046.3	6113.4	635.9	72.9
42.5°	7341.5	7388.8	7283.2	7131.9	6933.3	6687.3	6403.1	6013.1	4930.7	335.3	51.1
45°	6146.2	6155.2	6073.3	5798.1	5532.1	5151.3	4726.7	4141.8	2866.2	218.7	32.9
47.5°	3709.9	3688.1	3558.6	3323.6	3075.8	2673.2	2275.9	1873.1	1113.3	127.5	21.9
50°	1656.3	1630.8	1567.1	1445.0	1301.1	1151.6	974.8	825.5	541.1	69.2	14.6
51°	1200.9	1178.9	1131.6	1038.6	932.9	827.3	705.2	603.1	404.5	56.5	12.8
52°	843.7	830.9	798.1	732.5	674.2	592.2	508.4	444.5	304.3	45.5	9.0
53°	588.6	579.4	559.4	515.7	481.0	420.9	368.1	317.1	220.5	36.5	9.0
54°	399.0	393.6	380.8	351.7	322.5	289.8	251.5	222.3	154.9	29.1	7.2
55°	267.8	264.2	253.3	238.7	222.3	202.2	176.8	154.9	109.4	23.7	5.4
57.5°	98.4	98.4	94.8	89.2	83.8	78.4	71.1	63.7	51.1	14.6	5.4
60°	43.7	41.9	41.9	40.1	38.3	36.5	34.7	31.0	25.5	9.0	5.4
61°	32.9	32.9	31.0	29.1	29.1	27.3	25.5	23.7	20.0	7.2	5.4
62°	23.7	23.7	23.7	21.9	21.9	20.0	20.0	18.2	14.6	5.4	5.4
63°	18.2	18.2	18.2	16.4	16.4	16.4	14.6	14.6	11.0	5.4	5.4
64°	12.8	12.8	12.8	12.8	12.8	12.8	11.0	11.0	9.0	3.6	5.4
65°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	7.2	3.6	5.4
66°	7.2	7.2	7.2	7.2	7.2	7.2	5.4	5.4	5.4	3.6	5.4



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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°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.6	5.4
75°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	3.6	5.4
77.5°	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	3.6	5.4
80°	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	3.6	5.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	3.6	5.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	3.6	5.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	3.6	5.4
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°	710.7	710.7	710.7	710.7	710.7
2.5°	654.2	457.4	364.4	329.9	318.9
5°	592.2	342.5	271.6	233.3	218.7
7.5°	497.4	282.4	204.0	169.5	158.5
10°	402.7	233.3	165.8	138.5	131.3
12.5°	344.3	202.2	154.9	143.9	143.9
15°	320.7	213.2	215.0	258.7	289.8
17.5°	329.9	333.5	521.1	634.1	654.2
20°	473.8	599.5	594.0	539.3	522.9
22.5°	548.5	395.4	298.8	245.9	236.9
25°	271.6	180.4	154.9	142.1	140.3
26°	205.8	151.3	134.9	127.5	123.9
27°	171.3	133.1	120.3	111.2	107.4
28°	153.1	118.4	103.8	94.8	91.2
29°	138.5	102.0	87.4	78.4	76.6
30°	122.1	85.6	72.9	63.7	61.9
31°	103.8	71.1	58.3	52.9	49.1
32°	87.4	58.3	47.3	41.9	38.3
33°	72.9	47.3	40.1	34.7	31.0
34°	61.9	40.1	32.9	27.3	25.5
35°	51.1	32.9	27.3	23.7	21.9
36°	43.7	29.1	21.9	18.2	16.4
37°	38.3	23.7	18.2	14.6	14.6
38°	32.9	20.0	16.4	11.0	11.0
39°	27.3	16.4	12.8	9.0	9.0
40°	23.7	14.6	11.0	7.2	5.4
42.5°	16.4	9.0	7.2	3.6	1.8
45°	11.0	7.2	3.6	1.8	0.0
47.5°	7.2	5.4	3.6	1.8	0.0
50°	5.4	5.4	3.6	0.0	0.0
51°	5.4	3.6	3.6	0.0	0.0
52°	5.4	3.6	1.8	0.0	0.0
53°	5.4	3.6	1.8	0.0	0.0
54°	5.4	3.6	1.8	0.0	0.0
55°	5.4	3.6	1.8	0.0	0.0
57.5°	5.4	3.6	1.8	0.0	0.0
60°	5.4	3.6	3.6	0.0	0.0
61°	5.4	5.4	3.6	0.0	0.0
62°	5.4	5.4	3.6	0.0	0.0
63°	5.4	5.4	3.6	0.0	0.0
64°	5.4	5.4	3.6	1.8	0.0
65°	5.4	5.4	3.6	1.8	0.0
66°	5.4	5.4	3.6	1.8	0.0

Classified

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
72.5°	5.4	5.4	3.6	1.8	0.0
75°	5.4	5.4	3.6	1.8	0.0
77.5°	7.2	5.4	3.6	1.8	0.0
80°	7.2	5.4	3.6	1.8	0.0
82.5°	7.2	5.4	3.6	1.8	0.0
85°	7.2	5.4	3.6	1.8	0.0
87.5°	7.2	5.4	3.6	1.8	0.0
90°	0.0	0.0	0.0	0.0	0.0

Classified

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	5.4
70°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.6	5.4

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67.5°	5.4	5.4	3.6	1.8	0.0
70°	5.4	5.4	3.6	1.8	0.0

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(END OF REPORT)