

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: P1191889

Luminaire Tested: **LDA4A35930D010TE LAR15SP 4LAL1 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: P1191889
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26104)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A35930D010TE LAR15SP 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 15° Spot Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

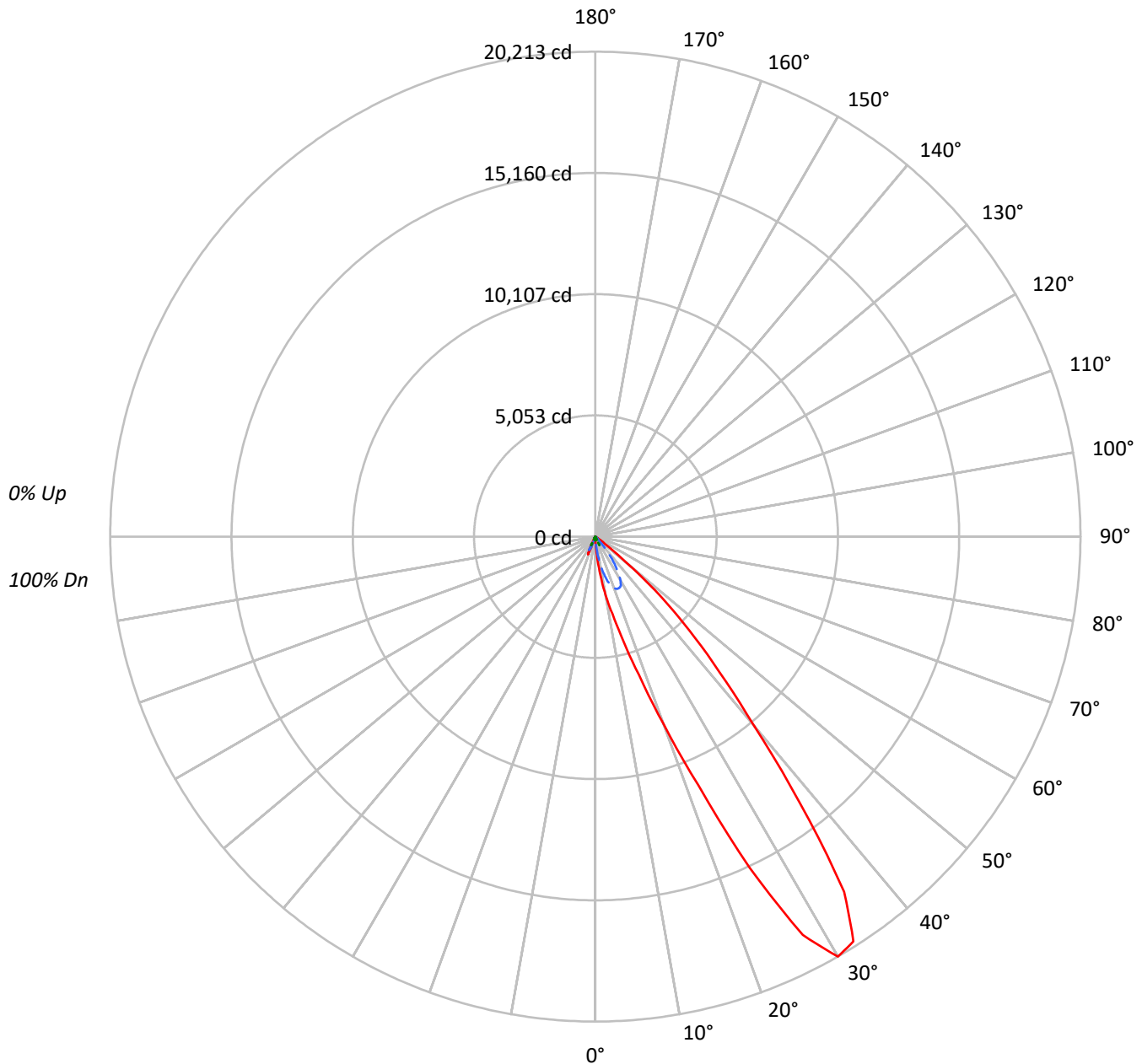
Lumens per Lamp: N/A
Luminaire Lumens: 3499.0 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91		
2	105	100	95	91	103	98	93	90	94	91	88	91	88	86	89	86	84	82		
3	99	91	85	80	96	89	84	79	87	82	78	84	80	77	82	78	76	74		
4	92	83	76	71	90	82	75	70	79	74	70	77	72	69	75	71	68	66		
5	86	75	68	63	84	74	68	63	73	67	62	71	66	62	69	65	61	59		
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53		
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	49	48		
8	69	58	50	45	68	57	50	45	56	50	45	55	49	45	54	48	45	43		
9	65	53	46	41	64	52	46	41	51	45	41	50	45	40	49	44	40	39		
10	61	49	42	37	59	48	41	37	47	41	37	46	41	37	46	40	37	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	20352	20352	20352
5°	107399	19241	10227
10°	314123	16345	6738
15°	571405	13715	7598
20°	1090089	15607	37029
25°	2071721	54330	81753
30°	2878911	18302	15866
35°	2720614	8372	6053
40°	1648968	3719	2158
45°	966346	2006	663
50°	320709	1478	0
55°	61095	1226	0
60°	13716	937	0
65°	3911	1664	0
70°	1370	2056	0
75°	0	2716	0
80°	0	4049	0
85°	0	8067	2830

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.4	1.1
10°-20°	321.9	9.2
20°-30°	1141.6	32.6
30°-40°	1353.6	38.7
40°-50°	575.9	16.5
50°-60°	52.0	1.5
60°-70°	6.4	0.2
70°-80°	4.3	0.1
80°-90°	3.9	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°	1503.0	43.0
0°-40°	2856.5	81.6
0°-60°	3484.4	99.6
0°-90°	3499.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3499.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	165	165	165	165	165	
5°	867	428	155	98	83	135
15°	4475	1884	107	60	60	1444
25°	15222	2362	399	628	601	7053
35°	18068	1395	56	42	40	10437
45°	5540	154	12	8	4	4342
55°	284	23	6	4	0	397
65°	13	6	6	4	0	19
75°	0	4	6	6	0	1
85°	0	4	6	6	2	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0
2.5°	303.2	285.9	297.5	293.6	295.5	301.2	295.5	295.5	293.6	285.9	285.9
5°	867.4	815.6	840.4	827.0	834.7	844.3	830.9	827.0	821.3	804.0	800.2
7.5°	1615.7	1587.0	1617.5	1594.6	1615.7	1619.5	1600.4	1596.5	1587.0	1561.9	1552.3
10°	2508.0	2459.9	2488.7	2463.8	2496.4	2494.6	2463.8	2467.6	2456.2	2423.5	2408.2
12.5°	3298.5	3260.1	3288.9	3217.9	3298.5	3246.7	3252.4	3260.1	3244.7	3202.5	3183.4
15°	4474.7	4369.2	4419.1	4296.3	4419.1	4401.9	4334.7	4330.8	4290.6	4219.6	4177.4
17.5°	6036.8	6065.6	6029.1	5956.2	6119.2	6075.1	5979.2	5959.9	5883.2	5689.5	5685.5
20°	8304.7	8266.5	8327.8	8097.5	8306.7	8103.3	8076.4	8022.8	7892.3	7621.7	7579.5
22.5°	11208.0	11229.1	11119.7	10960.6	11217.7	10903.0	10807.0	10678.5	10440.5	10024.2	9893.7
25°	15222.4	15195.4	15053.4	14788.7	15063.1	14554.5	14314.7	14050.0	13606.6	12958.0	12645.3
27.5°	18720.4	18829.8	18735.8	18467.1	18649.4	18148.5	17595.9	17427.0	16826.5	16009.0	15444.9
30°	20213.2	20265.0	20224.8	20019.4	20084.6	19672.2	19125.3	18925.7	18309.8	17536.4	16805.4
32.5°	20007.9	20032.8	20040.5	19766.2	19777.7	19388.1	18816.3	18520.9	17849.3	17104.7	16231.6
35°	18067.9	18171.6	18238.8	17981.6	17726.4	17338.9	16690.3	16231.6	15525.6	14846.2	13954.0
37.5°	13992.4	14122.7	14226.4	14007.6	13886.8	13418.5	12879.4	12524.3	12037.0	11637.9	11004.6
40°	10241.0	10265.9	10329.2	10216.0	10027.9	9903.2	9594.2	9392.8	9097.2	8882.4	8462.2
42.5°	7612.2	7598.7	7642.7	7579.5	7573.7	7385.7	7189.9	7071.0	6969.3	6742.8	6447.3
45°	5539.8	5543.6	5585.8	5545.5	5438.1	5397.7	5269.2	5161.7	5027.5	4956.5	4722.3
47.5°	3766.7	3778.2	3807.0	3783.9	3686.1	3670.8	3588.3	3480.9	3478.9	3369.5	3164.3
50°	1671.3	1675.1	1709.8	1702.1	1585.0	1600.4	1546.6	1448.8	1475.6	1410.3	1253.0
52.5°	554.6	556.5	562.2	558.3	539.2	539.2	525.8	523.8	508.4	493.2	458.6
55°	284.1	284.1	287.8	285.9	276.4	276.4	261.0	270.5	262.8	257.1	236.0
57.5°	120.9	120.9	122.8	122.8	117.1	122.8	117.1	117.1	113.2	111.4	103.7
60°	55.6	55.6	55.6	55.6	53.8	57.6	53.8	53.8	53.8	51.8	47.9
62.5°	28.8	28.8	28.8	28.8	28.8	28.8	28.8	26.8	26.8	26.8	25.0
65°	13.4	13.4	13.4	13.4	13.4	15.4	13.4	13.4	13.4	13.4	13.4
67.5°	5.7	5.7	5.7	7.7	7.7	7.7	7.7	7.7	5.7	5.7	5.7
70°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	2.0
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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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CATALOG NUMBER: LDA4A35930D010TE LAR15SP 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0
2.5°	287.8	278.2	291.6	280.1	287.8	280.1	270.5	274.4	220.6	184.1	163.1
5°	802.1	773.4	798.2	773.4	775.2	761.8	725.3	721.5	428.0	209.2	155.4
7.5°	1510.1	1506.3	1537.1	1504.4	1500.6	1467.9	1400.7	1373.9	775.2	245.6	143.9
10°	2398.6	2343.0	2369.8	2335.3	2323.7	2264.3	2168.3	2116.5	1153.3	282.1	130.5
12.5°	3129.6	3108.5	3127.8	3095.1	3083.7	3003.0	2889.9	2820.7	1540.8	303.2	117.1
15°	4085.3	4043.0	4056.5	3989.3	3954.8	3801.3	3607.5	3480.9	1884.3	301.2	107.4
17.5°	5543.6	5461.0	5453.5	5338.3	5253.8	4975.6	4628.3	4367.3	2135.6	278.2	103.7
20°	7370.3	7220.7	7170.8	6988.4	6846.5	6386.0	5850.5	5426.5	2293.1	247.6	118.9
22.5°	9559.7	9296.9	9149.1	8857.5	8613.8	7875.0	7090.2	6455.0	2362.1	237.9	170.7
25°	12111.9	11660.9	11348.2	10889.4	10479.0	9344.8	8243.4	7353.1	2362.1	308.9	399.2
27.5°	14700.4	13988.5	13412.8	12743.1	12119.6	10511.5	9091.5	7932.5	2304.6	385.6	364.5
30°	16010.9	15136.0	14353.0	13570.1	12787.3	10854.9	9281.5	8003.5	2087.7	226.5	128.5
32.5°	15454.4	14531.6	13666.1	12908.1	12134.9	10248.7	8767.2	7533.5	1753.8	132.5	82.6
35°	13320.7	12520.6	11768.3	11202.3	10599.8	9110.8	7784.9	6710.3	1395.0	103.7	55.6
37.5°	10632.4	10087.5	9552.0	9189.5	8757.7	7639.0	6570.1	5689.5	997.7	74.9	34.5
40°	8247.2	7875.0	7500.8	7270.5	6965.5	6150.0	5317.1	4616.8	589.1	51.8	23.1
42.5°	6316.9	6059.7	5781.5	5622.2	5403.4	4795.2	4144.7	3649.7	272.5	36.5	17.3
45°	4643.6	4453.6	4240.7	4139.0	3985.4	3584.4	3152.7	2803.5	153.6	26.8	11.5
47.5°	3125.8	2956.9	2759.4	2696.1	2548.2	2197.1	1755.7	1412.3	101.7	19.1	9.6
50°	1243.4	1132.2	1065.0	976.6	890.3	746.4	558.3	445.2	61.3	15.4	7.7
52.5°	456.8	431.7	420.3	397.2	377.9	337.7	285.9	247.6	36.5	11.5	5.7
55°	237.9	222.6	214.9	207.2	195.8	172.7	143.9	122.8	23.1	7.7	5.7
57.5°	103.7	97.8	99.8	92.1	86.3	78.7	69.0	59.5	15.4	7.7	5.7
60°	49.9	46.1	47.9	44.2	42.2	40.2	36.5	30.7	9.6	5.7	3.8
62.5°	25.0	25.0	25.0	23.1	23.1	21.1	19.1	17.3	7.7	5.7	5.7
65°	13.4	11.5	13.4	11.5	11.5	11.5	9.6	9.6	5.7	5.7	5.7
67.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	3.8	5.7	5.7
70°	3.8	3.8	3.8	3.8	3.8	3.8	2.0	3.8	3.8	5.7	5.7
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
75°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	3.8	5.7	5.7
77.5°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
80°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	3.8	5.7	5.7
82.5°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	3.8	5.7	5.7
85°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
87.5°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	3.8	5.7	5.7
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):

	112.5°	135°	157.5°	180°
0°	165.0	165.0	165.0	165.0
2.5°	138.2	122.8	111.4	109.4
5°	117.1	97.8	84.4	82.6
7.5°	99.8	78.7	67.2	65.3
10°	88.3	67.2	55.6	53.8
12.5°	78.7	59.5	51.8	49.9
15°	72.9	59.5	57.6	59.5
17.5°	78.7	80.6	88.3	97.8
20°	130.5	186.1	241.7	282.1
22.5°	293.6	543.1	719.6	804.0
25°	554.6	627.5	629.4	600.7
27.5°	301.2	239.9	214.9	203.4
30°	118.9	113.2	113.2	111.4
32.5°	78.7	72.9	71.0	69.0
35°	47.9	42.2	40.2	40.2
37.5°	30.7	26.8	25.0	23.1
40°	21.1	17.3	15.4	13.4
42.5°	15.4	11.5	7.7	7.7
45°	11.5	7.7	3.8	3.8
47.5°	9.6	5.7	2.0	2.0
50°	7.7	3.8	2.0	0.0
52.5°	5.7	3.8	0.0	0.0
55°	5.7	3.8	0.0	0.0
57.5°	5.7	3.8	0.0	0.0
60°	5.7	3.8	0.0	0.0
62.5°	5.7	3.8	0.0	0.0
65°	5.7	3.8	2.0	0.0
67.5°	7.7	3.8	2.0	0.0
70°	7.7	3.8	2.0	0.0
72.5°	7.7	3.8	2.0	0.0
75°	7.7	5.7	2.0	0.0
77.5°	7.7	5.7	2.0	0.0
80°	7.7	5.7	2.0	0.0
82.5°	7.7	5.7	2.0	0.0
85°	7.7	5.7	2.0	2.0
87.5°	7.7	5.7	2.0	0.0
90°	0.0	0.0	0.0	0.0

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— 0°-180° - - 45°-225° - - - 90°-270°

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Peachtree City, GA 30269

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(END OF REPORT)