

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: P1191871

Luminaire Tested: **LDA4A35927D010TE 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: P1191871
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: LDA4A35927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

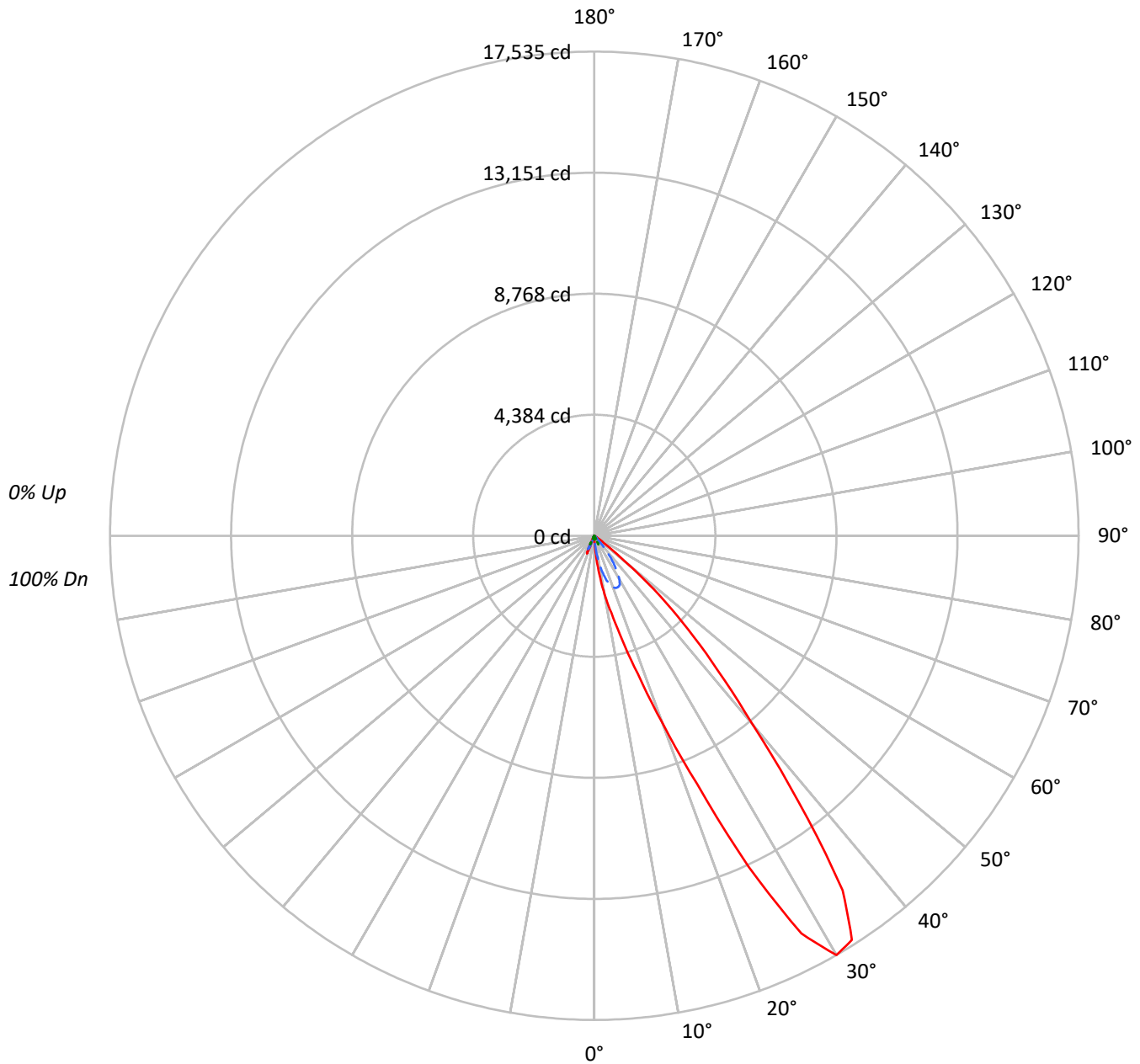
Lumens per Lamp: N/A
Luminaire Lumens: 3035.4 lumens
Efficiency: N/A
Efficacy: 64.4 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	112	109	106	104		110	107	104	102		103	101	99		99	97	96		96	94	93
2	105	100	95	91		103	98	93	90		94	91	88		91	88	86		89	86	84
3	99	91	85	80		96	89	84	79		87	82	78		84	80	77		82	78	76
4	92	83	76	71		90	82	75	70		79	74	70		77	72	69		75	71	68
5	86	75	68	63		84	74	68	63		73	67	62		71	66	62		69	65	61
6	80	69	62	56		78	68	61	56		66	60	56		65	59	55		63	59	55
7	74	63	56	51		73	62	55	50		61	55	50		60	54	50		58	53	49
8	69	58	50	45		68	57	50	45		56	50	45		55	49	45		54	48	45
9	65	53	46	41		64	52	46	41		51	45	41		50	45	40		49	44	40
10	61	49	42	37		59	48	41	37		47	41	37		46	41	37		46	40	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17663	17663	17663
5°	93160	16703	8865
10°	272490	14178	5837
15°	495706	11914	6576
20°	945662	13546	32120
25°	1797200	47130	70893
30°	2497448	15881	13758
35°	2360147	7258	5270
40°	1430469	3220	1868
45°	838310	1727	576
50°	278205	1266	0
55°	52987	1075	0
60°	11891	814	0
65°	3386	1459	0
70°	1190	1803	0
75°	0	2383	0
80°	0	3552	0
85°	0	7076	2406



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.2	1.1
10°-20°	279.3	9.2
20°-30°	990.4	32.6
30°-40°	1174.2	38.7
40°-50°	499.5	16.5
50°-60°	45.1	1.5
60°-70°	5.6	0.2
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°	1303.8	43.0
0°-40°	2478.0	81.6
0°-60°	3022.7	99.6
0°-90°	3035.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3035.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	143	143	143	143	143	
5°	752	371	135	85	72	117
15°	3882	1635	93	52	52	1252
25°	13205	2049	346	544	521	6118
35°	15674	1210	48	37	35	9054
45°	4806	133	10	7	3	3767
55°	246	20	5	3	0	345
65°	12	5	5	3	0	16
75°	0	3	5	5	0	1
85°	0	3	5	5	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°	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2
2.5°	263.0	248.0	258.0	254.7	256.3	261.3	256.3	256.3	254.7	248.0	248.0
5°	752.4	707.5	729.1	717.5	724.1	732.4	720.8	717.5	712.5	697.4	694.1
7.5°	1401.6	1376.6	1403.3	1383.2	1401.6	1404.9	1388.3	1384.9	1376.6	1355.0	1346.6
10°	2175.6	2134.0	2159.0	2137.3	2165.6	2164.0	2137.3	2140.8	2130.7	2102.3	2089.1
12.5°	2861.5	2828.2	2853.1	2791.6	2861.5	2816.5	2821.4	2828.2	2814.8	2778.2	2761.6
15°	3881.9	3790.3	3833.7	3727.1	3833.7	3818.6	3760.4	3757.0	3722.0	3660.5	3623.9
17.5°	5236.9	5261.8	5230.1	5167.0	5308.5	5270.1	5186.9	5170.3	5103.7	4935.5	4932.2
20°	7204.4	7171.1	7224.4	7024.6	7206.0	7029.6	7006.4	6959.7	6846.5	6611.8	6575.2
22.5°	9722.9	9741.3	9646.4	9508.2	9731.4	9458.3	9375.1	9263.6	9057.2	8695.9	8582.8
25°	13205.3	13182.0	13058.8	12829.2	13067.1	12626.0	12417.9	12188.3	11803.7	11241.0	10969.8
27.5°	16239.8	16334.8	16253.3	16020.1	16178.4	15743.9	15264.4	15117.9	14597.0	13887.8	13398.4
30°	17534.9	17580.0	17545.0	17366.9	17423.4	17065.5	16591.1	16418.0	15883.8	15212.9	14578.6
32.5°	17356.8	17378.5	17385.1	17147.2	17157.1	16819.3	16323.2	16066.8	15484.1	14838.2	14080.8
35°	15674.0	15763.8	15822.1	15599.1	15377.6	15041.4	14478.7	14080.8	13468.3	12879.1	12104.9
37.5°	12138.3	12251.6	12341.4	12151.7	12046.8	11640.7	11172.9	10864.9	10442.0	10095.9	9546.5
40°	8884.0	8905.7	8960.6	8862.3	8699.3	8591.1	8323.0	8148.3	7891.8	7705.4	7340.9
42.5°	6603.6	6591.8	6630.1	6575.2	6570.3	6407.1	6237.2	6134.1	6045.8	5849.5	5593.0
45°	4805.8	4809.1	4845.7	4810.8	4717.5	4682.5	4571.0	4477.7	4361.2	4299.8	4096.6
47.5°	3267.6	3277.6	3302.6	3282.6	3197.7	3184.5	3112.9	3019.6	3017.9	2923.0	2744.9
50°	1449.8	1453.1	1483.1	1476.5	1374.9	1388.3	1341.6	1256.8	1280.1	1223.5	1087.0
52.5°	481.0	482.7	487.8	484.3	467.8	467.8	456.2	454.5	441.1	427.8	397.8
55°	246.4	246.4	249.7	248.0	239.8	239.8	226.3	234.8	228.0	223.0	204.8
57.5°	104.9	104.9	106.5	106.5	101.6	106.5	101.6	101.6	98.3	96.6	89.8
60°	48.2	48.2	48.2	48.2	46.6	49.9	46.6	46.6	46.6	44.9	41.6
62.5°	25.0	25.0	25.0	25.0	25.0	25.0	25.0	23.4	23.4	23.4	21.7
65°	11.6	11.6	11.6	11.6	11.6	13.3	11.6	11.6	11.6	11.6	11.6
67.5°	5.0	5.0	5.0	6.6	6.6	6.6	6.6	6.6	5.0	5.0	5.0
70°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.7
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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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CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2
2.5°	249.7	241.4	253.0	243.1	249.7	243.1	234.8	238.1	191.4	159.7	141.5
5°	695.8	670.9	692.4	670.9	672.5	660.8	629.1	625.8	371.2	181.4	134.9
7.5°	1310.0	1306.7	1333.3	1305.0	1301.7	1273.4	1215.2	1191.8	672.5	213.1	124.8
10°	2080.8	2032.4	2055.8	2025.8	2015.8	1964.3	1881.0	1836.1	1000.5	244.7	113.2
12.5°	2714.9	2696.7	2713.2	2685.1	2675.0	2605.0	2506.9	2447.0	1336.7	263.0	101.6
15°	3544.0	3507.3	3519.0	3460.7	3430.7	3297.6	3129.5	3019.6	1634.6	261.3	93.3
17.5°	4809.1	4737.5	4730.9	4631.0	4557.7	4316.3	4015.1	3788.6	1852.8	241.4	89.8
20°	6393.8	6263.9	6220.6	6062.6	5939.3	5539.8	5075.4	4707.5	1989.2	214.7	103.2
22.5°	8293.1	8065.0	7936.9	7683.9	7472.5	6831.6	6150.7	5599.8	2049.1	206.5	148.1
25°	10507.0	10115.8	9844.5	9446.7	9090.5	8106.6	7151.2	6378.7	2049.1	267.9	346.3
27.5°	12752.5	12134.9	11635.5	11054.6	10513.6	9118.6	7886.9	6881.4	1999.3	334.5	316.3
30°	13889.5	13130.4	12451.2	11772.1	11092.9	9416.7	8051.7	6943.1	1811.0	196.4	111.5
32.5°	13406.8	12606.0	11855.4	11197.8	10527.0	8890.6	7605.5	6535.3	1521.4	114.8	71.6
35°	11555.7	10861.6	10209.1	9718.0	9195.3	7903.6	6753.4	5821.2	1210.2	89.8	48.2
37.5°	9223.5	8750.8	8286.4	7971.9	7597.2	6626.8	5699.5	4935.5	865.6	64.9	30.0
40°	7154.5	6831.6	6507.0	6307.1	6042.5	5335.0	4612.6	4005.0	511.0	44.9	20.0
42.5°	5479.8	5256.8	5015.4	4877.4	4687.5	4159.9	3595.6	3166.1	236.4	31.6	14.9
45°	4028.4	3863.5	3678.7	3590.6	3457.4	3109.4	2734.9	2432.1	133.2	23.4	9.9
47.5°	2711.6	2565.1	2393.8	2338.8	2210.5	1906.0	1523.1	1225.1	88.2	16.6	8.3
50°	1078.7	982.1	923.9	847.4	772.3	647.5	484.3	386.2	53.2	13.3	6.6
52.5°	396.2	374.5	364.5	344.6	327.9	292.9	248.0	214.7	31.6	9.9	5.0
55°	206.5	193.0	186.4	179.8	169.8	149.8	124.8	106.5	20.0	6.6	5.0
57.5°	89.8	84.8	86.5	79.9	74.9	68.3	60.0	51.5	13.3	6.6	5.0
60°	43.2	39.9	41.6	38.3	36.6	35.0	31.6	26.7	8.3	5.0	3.3
62.5°	21.7	21.7	21.7	20.0	20.0	18.4	16.6	14.9	6.6	5.0	5.0
65°	11.6	9.9	11.6	9.9	9.9	9.9	8.3	8.3	5.0	5.0	5.0
67.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.3	5.0	5.0
70°	3.3	3.3	3.3	3.3	3.3	3.3	1.7	3.3	3.3	5.0	5.0
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	5.0	5.0
75°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.3	5.0	5.0
77.5°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.3	5.0	5.0
80°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.3	5.0	5.0
82.5°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	3.3	5.0	5.0
85°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.3	5.0	5.0
87.5°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	3.3	5.0	5.0
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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CANDELA DISTRIBUTION (continued):

	112.5°	135°	157.5°	180°
0°	143.2	143.2	143.2	143.2
2.5°	119.8	106.5	96.6	94.9
5°	101.6	84.8	73.2	71.6
7.5°	86.5	68.3	58.3	56.7
10°	76.6	58.3	48.2	46.6
12.5°	68.3	51.5	44.9	43.2
15°	63.3	51.5	49.9	51.5
17.5°	68.3	69.9	76.6	84.8
20°	113.2	161.4	209.8	244.7
22.5°	254.7	471.1	624.2	697.4
25°	481.0	544.3	546.0	520.9
27.5°	261.3	208.1	186.4	176.5
30°	103.2	98.3	98.3	96.6
32.5°	68.3	63.3	61.6	60.0
35°	41.6	36.6	35.0	35.0
37.5°	26.7	23.4	21.7	20.0
40°	18.4	14.9	13.3	11.6
42.5°	13.3	9.9	6.6	6.6
45°	9.9	6.6	3.3	3.3
47.5°	8.3	5.0	1.7	1.7
50°	6.6	3.3	1.7	0.0
52.5°	5.0	3.3	0.0	0.0
55°	5.0	3.3	0.0	0.0
57.5°	5.0	3.3	0.0	0.0
60°	5.0	3.3	0.0	0.0
62.5°	5.0	3.3	0.0	0.0
65°	5.0	3.3	1.7	0.0
67.5°	6.6	3.3	1.7	0.0
70°	6.6	3.3	1.7	0.0
72.5°	6.6	3.3	1.7	0.0
75°	6.6	5.0	1.7	0.0
77.5°	6.6	5.0	1.7	0.0
80°	6.6	5.0	1.7	0.0
82.5°	6.6	5.0	1.7	0.0
85°	6.6	5.0	1.7	1.7
87.5°	6.6	5.0	1.7	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Scaled Data Report



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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)