

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: P1212746

Luminaire Tested: **LDA4A15950D010TE 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: P1212746
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: LDA4A15950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

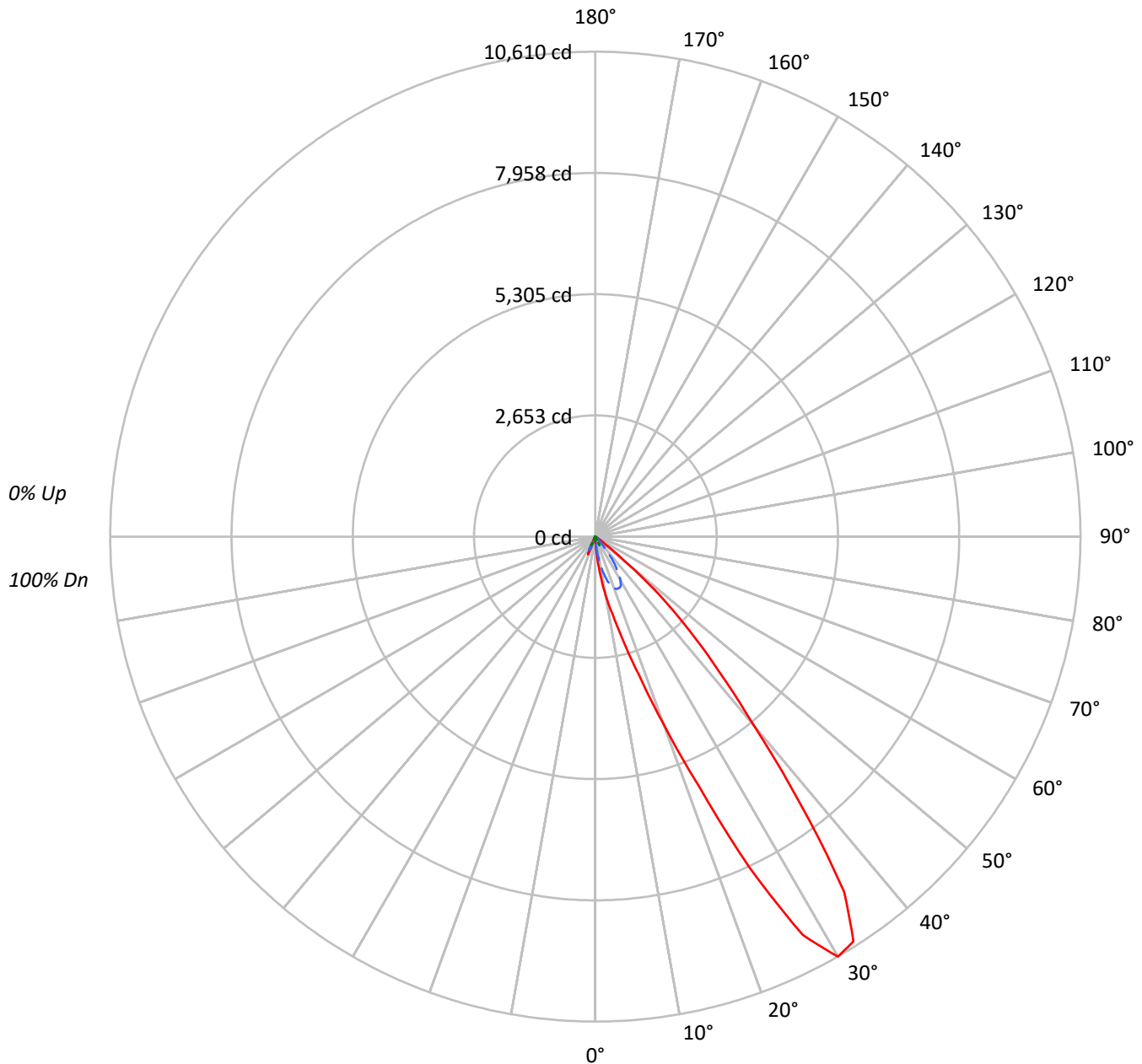
Lumens per Lamp: N/A
Luminaire Lumens: 1836.6 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
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°	10682	10682	10682
5°	56361	10091	5361
10°	164890	8580	3532
15°	299934	7215	3984
20°	572209	8191	19440
25°	1087441	28512	42898
30°	1511153	9614	8318
35°	1428074	4397	3177
40°	865527	1948	1143
45°	507228	1064	349
50°	168327	768	0
55°	32042	645	0
60°	7203	493	0
65°	2072	876	0
70°	721	1082	0
75°	0	1430	0
80°	0	2131	0
85°	0	4246	1415



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.7	1.1
10°-20°	169.0	9.2
20°-30°	599.3	32.6
30°-40°	710.5	38.7
40°-50°	302.3	16.5
50°-60°	27.3	1.5
60°-70°	3.4	0.2
70°-80°	2.2	0.1
80°-90°	2.0	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°	788.9	43.0
0°-40°	1499.4	81.6
0°-60°	1829.0	99.6
0°-90°	1836.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1836.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	87	87	87	87	87	
5°	455	225	82	51	43	71
15°	2349	989	56	31	31	758
25°	7990	1240	210	329	315	3702
35°	9484	732	29	22	21	5478
45°	2908	81	6	4	2	2279
55°	149	12	3	2	0	209
65°	7	3	3	2	0	10
75°	0	2	3	3	0	1
85°	0	2	3	3	1	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°	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
2.5°	159.1	150.1	156.1	154.1	155.2	158.1	155.2	155.2	154.1	150.1	150.1
5°	455.2	428.0	441.2	434.1	438.0	443.1	436.1	434.1	431.1	422.0	420.1
7.5°	848.1	832.9	849.1	837.0	848.1	850.1	840.0	838.0	832.9	819.8	814.8
10°	1316.5	1291.3	1306.2	1293.2	1310.4	1309.4	1293.2	1295.2	1289.3	1272.1	1264.0
12.5°	1731.5	1711.3	1726.4	1689.1	1731.5	1704.2	1707.2	1711.3	1703.2	1681.2	1670.9
15°	2348.8	2293.5	2319.6	2255.2	2319.6	2310.5	2275.3	2273.3	2252.1	2214.9	2192.6
17.5°	3168.7	3183.9	3164.7	3126.3	3212.0	3188.7	3138.4	3128.4	3088.1	2986.5	2984.4
20°	4359.3	4339.1	4371.2	4250.5	4360.2	4253.4	4239.4	4211.2	4142.6	4000.7	3978.6
22.5°	5883.2	5894.3	5836.8	5753.3	5888.2	5722.9	5672.6	5605.3	5480.3	5261.8	5193.2
25°	7990.2	7976.2	7901.6	7762.6	7906.7	7639.7	7513.8	7374.8	7142.1	6801.8	6637.5
27.5°	9826.4	9883.7	9834.4	9693.4	9789.2	9526.2	9236.2	9147.6	8832.3	8403.2	8107.0
30°	10610.0	10637.2	10616.1	10508.4	10542.5	10326.0	10038.9	9934.3	9611.0	9205.0	8821.3
32.5°	10502.2	10515.4	10519.4	10375.4	10381.4	10176.9	9876.8	9721.7	9369.2	8978.4	8520.0
35°	9484.0	9538.3	9573.6	9438.6	9304.7	9101.2	8760.9	8520.0	8149.4	7792.8	7324.5
37.5°	7344.7	7413.1	7467.4	7352.7	7289.2	7043.4	6760.5	6574.2	6318.3	6108.9	5776.4
40°	5375.4	5388.7	5421.8	5362.4	5263.8	5198.2	5036.1	4930.3	4775.2	4662.4	4441.9
42.5°	3995.6	3988.6	4011.8	3978.6	3975.5	3876.7	3774.1	3711.6	3658.2	3539.3	3384.3
45°	2907.8	2909.8	2932.0	2910.9	2854.5	2833.3	2765.9	2709.4	2639.0	2601.7	2478.7
47.5°	1977.2	1983.2	1998.4	1986.2	1934.8	1926.7	1883.5	1827.1	1826.0	1768.6	1660.9
50°	877.2	879.3	897.4	893.5	831.9	840.0	811.7	760.4	774.6	740.3	657.8
52.5°	291.2	292.1	295.2	293.2	283.1	283.1	276.0	275.0	266.9	258.9	240.7
55°	149.0	149.0	151.0	150.1	145.1	145.1	137.0	142.0	138.0	135.0	124.0
57.5°	63.4	63.4	64.5	64.5	61.4	64.5	61.4	61.4	59.4	58.4	54.5
60°	29.2	29.2	29.2	29.2	28.2	30.2	28.2	28.2	28.2	27.2	25.3
62.5°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	14.0	14.0	14.0	13.0
65°	7.1	7.1	7.1	7.1	7.1	8.1	7.1	7.1	7.1	7.1	7.1
67.5°	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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: LDA4A15950D010TE LAR15SP 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	11°	12°	13°	14°	15°	17.5°	20°	22.5°	45°	67.5°	90°
0°	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
2.5°	151.0	146.1	153.2	147.1	151.0	147.1	142.0	144.0	115.9	96.7	85.7
5°	421.1	405.9	418.9	405.9	406.8	399.9	380.7	378.7	224.6	109.7	81.5
7.5°	792.6	790.6	806.8	789.7	787.7	770.5	735.3	721.1	406.8	129.0	75.6
10°	1259.0	1229.8	1243.8	1225.7	1219.8	1188.6	1138.1	1111.0	605.3	148.1	68.5
12.5°	1642.8	1631.7	1641.8	1624.7	1618.6	1576.3	1516.8	1480.5	808.8	159.1	61.4
15°	2144.3	2122.2	2129.3	2093.9	2075.9	1995.2	1893.5	1827.1	989.0	158.1	56.5
17.5°	2909.8	2866.6	2862.5	2802.1	2757.8	2611.8	2429.3	2292.5	1121.1	146.1	54.5
20°	3868.7	3790.1	3764.0	3668.3	3593.7	3352.0	3070.9	2848.5	1203.6	129.9	62.4
22.5°	5018.0	4880.0	4802.4	4649.4	4521.5	4133.6	3721.6	3388.3	1239.9	124.9	89.6
25°	6357.6	6120.9	5956.7	5716.0	5500.5	4905.3	4327.0	3859.5	1239.9	162.1	209.5
27.5°	7716.4	7342.6	7040.5	6688.9	6361.6	5517.6	4772.1	4163.7	1209.7	202.5	191.4
30°	8404.1	7945.0	7534.0	7123.0	6712.2	5697.8	4871.9	4201.1	1095.8	118.9	67.5
32.5°	8112.2	7627.7	7173.5	6775.5	6369.7	5379.6	4602.0	3954.3	920.5	69.5	43.3
35°	6992.1	6572.2	6177.3	5880.1	5563.8	4782.2	4086.3	3522.2	732.2	54.5	29.2
37.5°	5581.0	5295.0	5013.9	4823.5	4596.9	4009.8	3448.7	2986.5	523.7	39.3	18.2
40°	4329.0	4133.6	3937.1	3816.4	3656.2	3228.1	2790.9	2423.4	309.2	27.2	12.1
42.5°	3315.7	3180.8	3034.8	2951.1	2836.4	2517.0	2175.7	1915.7	143.1	19.1	9.0
45°	2437.4	2337.7	2226.0	2172.6	2092.0	1881.5	1654.8	1471.5	80.6	14.0	6.1
47.5°	1640.7	1552.1	1448.4	1415.2	1337.6	1153.3	921.5	741.3	53.4	10.1	5.1
50°	652.6	594.3	559.0	512.7	467.3	391.9	293.2	233.7	32.2	8.1	4.0
52.5°	239.7	226.6	220.5	208.5	198.4	177.3	150.1	129.9	19.1	6.1	3.0
55°	124.9	116.9	112.7	108.8	102.6	90.6	75.6	64.5	12.1	4.0	3.0
57.5°	54.5	51.4	52.3	48.4	45.3	41.3	36.3	31.2	8.1	4.0	3.0
60°	26.2	24.1	25.3	23.1	22.2	21.1	19.1	16.1	5.1	3.0	2.0
62.5°	13.0	13.0	13.0	12.1	12.1	11.0	10.1	9.0	4.0	3.0	3.0
65°	7.1	6.1	7.1	6.1	6.1	6.1	5.1	5.1	3.0	3.0	3.0
67.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	3.0	3.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	3.0
75°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	3.0	3.0
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0	3.0
80°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	3.0	3.0
82.5°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	3.0	3.0
85°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0	3.0
87.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0	3.0
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°	86.6	86.6	86.6	86.6
2.5°	72.5	64.5	58.4	57.4
5°	61.4	51.4	44.2	43.3
7.5°	52.3	41.3	35.4	34.2
10°	46.4	35.4	29.2	28.2
12.5°	41.3	31.2	27.2	26.2
15°	38.3	31.2	30.2	31.2
17.5°	41.3	42.2	46.4	51.4
20°	68.5	97.8	126.9	148.1
22.5°	154.1	285.1	377.6	422.0
25°	291.2	329.3	330.4	315.2
27.5°	158.1	125.9	112.7	106.8
30°	62.4	59.4	59.4	58.4
32.5°	41.3	38.3	37.3	36.3
35°	25.3	22.2	21.1	21.1
37.5°	16.1	14.0	13.0	12.1
40°	11.0	9.0	8.1	7.1
42.5°	8.1	6.1	4.0	4.0
45°	6.1	4.0	2.0	2.0
47.5°	5.1	3.0	1.0	1.0
50°	4.0	2.0	1.0	0.0
52.5°	3.0	2.0	0.0	0.0
55°	3.0	2.0	0.0	0.0
57.5°	3.0	2.0	0.0	0.0
60°	3.0	2.0	0.0	0.0
62.5°	3.0	2.0	0.0	0.0
65°	3.0	2.0	1.0	0.0
67.5°	4.0	2.0	1.0	0.0
70°	4.0	2.0	1.0	0.0
72.5°	4.0	2.0	1.0	0.0
75°	4.0	3.0	1.0	0.0
77.5°	4.0	3.0	1.0	0.0
80°	4.0	3.0	1.0	0.0
82.5°	4.0	3.0	1.0	0.0
85°	4.0	3.0	1.0	1.0
87.5°	4.0	3.0	1.0	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)