

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: P1212728

Luminaire Tested: **LDA4A10950D010TE 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: P1212728
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: LDA4A10950D010TE 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

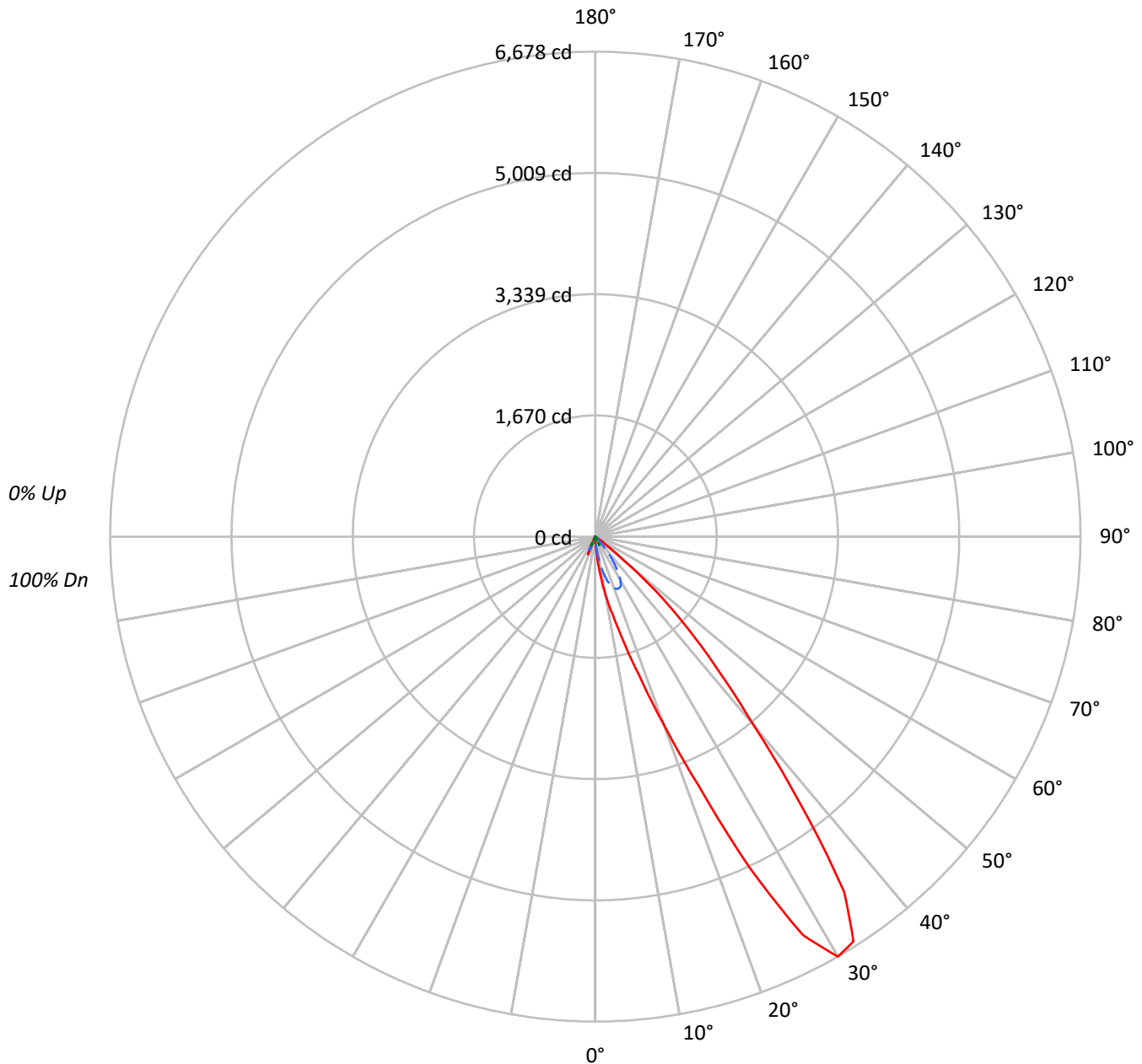
Lumens per Lamp: N/A
Luminaire Lumens: 1156.0 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	112	109	106	104	110	107	104	102		103	101	99			99	97	96			96
2	105	100	95	91	103	98	93	90		94	91	88			91	88	86			89
3	99	91	85	80	96	89	84	79		87	82	78			84	80	77			82
4	92	83	76	71	90	82	75	70		79	74	70			77	72	69			75
5	86	75	68	63	84	74	68	63		73	67	62			71	66	62			69
6	80	69	62	56	78	68	61	56		66	60	56			65	59	55			63
7	74	63	56	51	73	62	55	50		61	55	50			60	54	50			58
8	69	58	50	45	68	57	50	45		56	50	45			55	49	45			54
9	65	53	46	41	64	52	46	41		51	45	41			50	45	40			49
10	61	49	42	37	59	48	41	37		47	41	37			46	41	37			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6735	6735	6735
5°	35474	6364	3368
10°	103781	5398	2229
15°	188787	4533	2516
20°	360143	5159	12220
25°	684445	17938	27002
30°	951115	6053	5241
35°	898825	2771	1988
40°	544782	1224	708
45°	319255	663	244
50°	105943	480	0
55°	20171	409	0
60°	4539	345	0
65°	1284	555	0
70°	505	685	0
75°	0	905	0
80°	0	1350	0
85°	0	2689	849



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.0	1.1
10°-20°	106.4	9.2
20°-30°	377.2	32.6
30°-40°	447.2	38.7
40°-50°	190.3	16.5
50°-60°	17.2	1.5
60°-70°	2.1	0.2
70°-80°	1.4	0.1
80°-90°	1.3	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°	496.5	43.0
0°-40°	943.7	81.6
0°-60°	1151.2	99.6
0°-90°	1156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1156.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	55	55	55	55	55	
5°	286	141	51	32	27	45
15°	1478	622	36	20	20	477
25°	5029	780	132	207	198	2330
35°	5969	461	18	14	13	3448
45°	1830	51	4	2	1	1434
55°	94	8	2	1	0	131
65°	4	2	2	1	0	6
75°	0	1	2	2	0	0
85°	0	1	2	2	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°	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6
2.5°	100.2	94.4	98.3	96.9	97.7	99.5	97.7	97.7	96.9	94.4	94.4
5°	286.5	269.5	277.7	273.3	275.8	279.0	274.5	273.3	271.3	265.6	264.4
7.5°	533.7	524.4	534.4	526.9	533.7	535.1	528.7	527.5	524.4	515.9	512.9
10°	828.6	812.7	822.2	814.0	824.7	824.1	814.0	815.3	811.5	800.7	795.6
12.5°	1089.7	1077.1	1086.5	1063.1	1089.7	1072.7	1074.6	1077.1	1071.9	1058.0	1051.6
15°	1478.4	1443.5	1460.0	1419.4	1460.0	1454.2	1432.2	1430.8	1417.5	1394.0	1380.1
17.5°	1994.3	2003.9	1991.8	1967.7	2021.7	2007.1	1975.4	1969.0	1943.8	1879.6	1878.4
20°	2743.7	2731.0	2751.3	2675.2	2744.4	2677.1	2668.2	2650.4	2607.4	2517.9	2504.1
22.5°	3702.9	3709.8	3673.7	3621.1	3705.9	3602.1	3570.3	3528.0	3449.3	3311.8	3268.6
25°	5029.1	5020.2	4973.3	4885.7	4976.5	4808.5	4729.2	4641.7	4495.4	4281.1	4177.7
27.5°	6184.8	6221.0	6189.8	6101.1	6161.3	5995.8	5813.3	5757.5	5559.1	5289.0	5102.7
30°	6677.9	6695.0	6681.8	6614.0	6635.5	6499.3	6318.5	6252.6	6049.2	5793.5	5552.0
32.5°	6610.1	6618.4	6621.0	6530.3	6534.1	6405.4	6216.4	6118.8	5896.9	5651.0	5362.6
35°	5969.2	6003.4	6025.7	5940.8	5856.3	5728.2	5514.1	5362.6	5129.3	4904.8	4610.1
37.5°	4622.7	4665.9	4700.1	4627.8	4587.9	4433.2	4255.1	4137.7	3976.8	3845.0	3635.6
40°	3383.4	3391.6	3412.6	3375.1	3312.9	3271.7	3169.7	3103.2	3005.5	2934.5	2795.6
42.5°	2514.8	2510.5	2525.0	2504.1	2502.2	2440.0	2375.5	2336.2	2302.5	2227.8	2130.1
45°	1830.2	1831.5	1845.5	1832.1	1796.6	1783.3	1740.8	1705.3	1660.9	1637.5	1560.1
47.5°	1244.5	1248.3	1257.8	1250.1	1217.8	1212.7	1185.5	1149.9	1149.3	1113.1	1045.3
50°	552.1	553.5	564.8	562.3	523.6	528.7	511.0	478.6	487.4	465.9	413.9
52.5°	183.2	183.9	185.7	184.5	178.2	178.2	173.7	173.1	168.0	163.0	151.5
55°	93.8	93.8	95.2	94.4	91.3	91.3	86.2	89.4	86.9	84.9	78.0
57.5°	39.8	39.8	40.6	40.6	38.7	40.6	38.7	38.7	37.3	36.8	34.2
60°	18.4	18.4	18.4	18.4	17.8	19.0	17.8	17.8	17.8	17.1	15.9
62.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	8.8	8.8	8.8	8.2
65°	4.4	4.4	4.4	4.4	4.4	5.0	4.4	4.4	4.4	4.4	4.4
67.5°	1.9	1.9	1.9	2.5	2.5	2.5	2.5	2.5	1.9	1.9	1.9
70°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.6
72.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6
2.5°	95.2	91.9	96.3	92.6	95.2	92.6	89.4	90.6	72.9	60.8	53.9
5°	265.0	255.5	263.7	255.5	256.0	251.7	239.6	238.3	141.3	69.2	51.4
7.5°	498.9	497.6	507.7	497.0	495.7	485.0	462.7	453.9	256.0	81.2	47.5
10°	792.5	774.1	782.9	771.5	767.6	748.1	716.4	699.2	381.0	93.1	43.1
12.5°	1034.0	1027.0	1033.2	1022.5	1018.7	992.1	954.7	931.9	509.1	100.2	38.7
15°	1349.6	1335.7	1340.2	1318.0	1306.6	1255.8	1191.8	1149.9	622.4	99.5	35.5
17.5°	1831.5	1804.2	1801.7	1763.5	1735.8	1643.8	1529.1	1442.9	705.5	91.9	34.2
20°	2435.0	2385.6	2369.1	2308.8	2261.9	2109.7	1932.8	1792.9	757.6	81.7	39.3
22.5°	3158.4	3071.4	3022.7	2926.2	2845.8	2601.7	2342.5	2132.6	780.4	78.5	56.5
25°	4001.5	3852.5	3749.2	3597.7	3462.0	3087.3	2723.4	2429.2	780.4	102.0	131.8
27.5°	4856.6	4621.4	4431.2	4210.0	4004.0	3472.7	3003.6	2620.8	761.3	127.4	120.4
30°	5289.6	5000.6	4741.9	4483.3	4224.6	3586.2	3066.4	2644.2	689.7	74.9	42.5
32.5°	5105.8	4800.8	4515.0	4264.6	4009.1	3385.9	2896.5	2488.8	579.4	43.7	27.2
35°	4400.8	4136.5	3888.0	3700.9	3502.0	3010.0	2571.9	2216.9	460.8	34.2	18.4
37.5°	3512.7	3332.7	3155.9	3036.0	2893.3	2523.7	2170.7	1879.6	329.6	24.8	11.4
40°	2724.6	2601.7	2478.1	2402.1	2301.3	2031.8	1756.7	1525.3	194.6	17.1	7.6
42.5°	2087.0	2002.0	1910.1	1857.5	1785.2	1584.2	1369.4	1205.8	90.1	12.1	5.7
45°	1534.1	1471.4	1401.0	1367.4	1316.7	1184.1	1041.6	926.2	50.8	8.8	3.8
47.5°	1032.7	977.0	911.7	890.8	841.9	725.8	580.1	466.5	33.7	6.3	3.2
50°	410.8	374.0	351.8	322.7	294.2	246.7	184.5	147.1	20.3	5.0	2.5
52.5°	150.9	142.7	138.8	131.2	124.9	111.5	94.4	81.7	12.1	3.8	1.9
55°	78.5	73.5	71.0	68.5	64.7	57.1	47.5	40.6	7.6	2.5	1.9
57.5°	34.2	32.3	33.0	30.5	28.5	26.0	22.8	19.7	5.0	2.5	1.9
60°	16.4	15.2	15.9	14.6	13.9	13.2	12.1	10.2	3.2	1.9	1.4
62.5°	8.2	8.2	8.2	7.6	7.6	7.1	6.3	5.7	2.5	1.9	1.9
65°	4.4	3.8	4.4	3.8	3.8	3.8	3.2	3.2	1.9	1.9	1.9
67.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.9	1.9
70°	1.4	1.4	1.4	1.4	1.4	1.4	0.6	1.4	1.4	1.9	1.9
72.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.4	1.9	1.9
75°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.4	1.9	1.9
77.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.4	1.9	1.9
80°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.4	1.9	1.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.4	1.9	1.9
85°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.4	1.9	1.9
87.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.4	1.9	1.9
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°	54.6	54.6	54.6	54.6
2.5°	45.7	40.6	36.8	36.2
5°	38.7	32.3	28.0	27.2
7.5°	33.0	26.0	22.2	21.6
10°	29.1	22.2	18.4	17.8
12.5°	26.0	19.7	17.1	16.4
15°	24.1	19.7	19.0	19.7
17.5°	26.0	26.6	29.1	32.3
20°	43.1	61.5	79.9	93.1
22.5°	96.9	179.4	237.7	265.6
25°	183.2	207.3	208.0	198.4
27.5°	99.5	79.2	71.0	67.2
30°	39.3	37.3	37.3	36.8
32.5°	26.0	24.1	23.4	22.8
35°	15.9	13.9	13.2	13.2
37.5°	10.2	8.8	8.2	7.6
40°	7.1	5.7	5.0	4.4
42.5°	5.0	3.8	2.5	2.5
45°	3.8	2.5	1.4	1.4
47.5°	3.2	1.9	0.6	0.6
50°	2.5	1.4	0.6	0.0
52.5°	1.9	1.4	0.0	0.0
55°	1.9	1.4	0.0	0.0
57.5°	1.9	1.4	0.0	0.0
60°	1.9	1.4	0.0	0.0
62.5°	1.9	1.4	0.0	0.0
65°	1.9	1.4	0.6	0.0
67.5°	2.5	1.4	0.6	0.0
70°	2.5	1.4	0.6	0.0
72.5°	2.5	1.4	0.6	0.0
75°	2.5	1.9	0.6	0.0
77.5°	2.5	1.9	0.6	0.0
80°	2.5	1.9	0.6	0.0
82.5°	2.5	1.9	0.6	0.0
85°	2.5	1.9	0.6	0.6
87.5°	2.5	1.9	0.6	0.0
90°	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)