

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: P1191691

Luminaire Tested: **LDA4A25927D010TE 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: P1191691
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: LDA4A25927D010TE 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

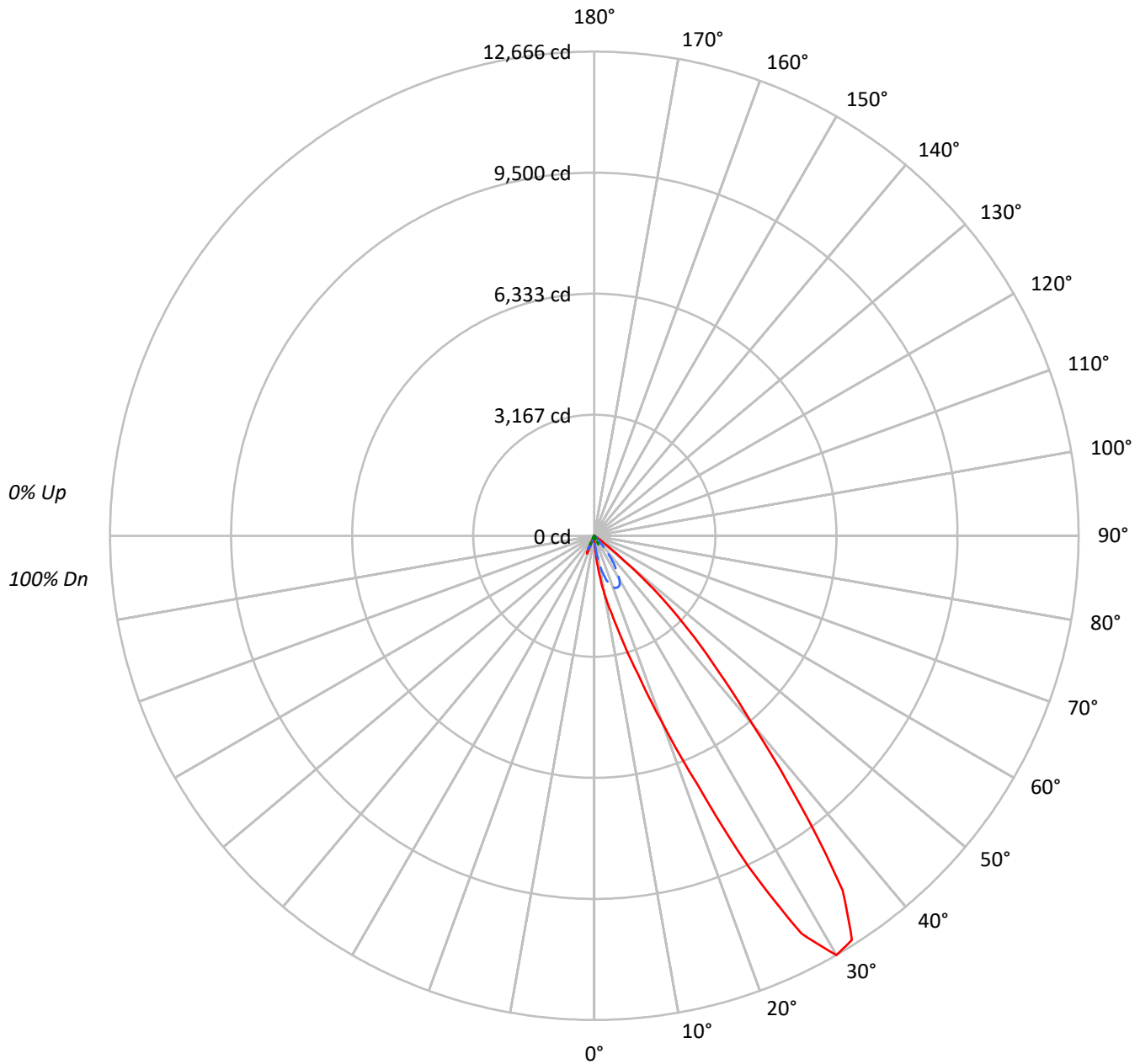
Lumens per Lamp: N/A
Luminaire Lumens: 2192.6 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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°	12754	12754	12754
5°	67294	12060	6401
10°	196828	10233	4208
15°	358075	8607	4750
20°	683099	9792	23207
25°	1298214	34038	51213
30°	1804041	11480	9941
35°	1704850	5240	3810
40°	1033306	2335	1353
45°	605558	1256	419
50°	200968	921	0
55°	38278	774	0
60°	8585	592	0
65°	2452	1051	0
70°	866	1298	0
75°	0	1716	0
80°	0	2557	0
85°	0	5095	1698

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Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.7	1.1
10°-20°	201.7	9.2
20°-30°	715.4	32.6
30°-40°	848.2	38.7
40°-50°	360.8	16.5
50°-60°	32.6	1.5
60°-70°	4.0	0.2
70°-80°	2.7	0.1
80°-90°	2.4	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°	941.8	43.0
0°-40°	1790.0	81.6
0°-60°	2183.5	99.6
0°-90°	2192.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2192.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	103	103	103	103	103	
5°	544	268	97	61	52	85
15°	2804	1181	67	37	37	905
25°	9539	1480	250	393	376	4420
35°	11322	874	35	26	25	6540
45°	3472	96	7	5	2	2721
55°	178	14	4	2	0	249
65°	8	4	4	2	0	12
75°	0	2	4	4	0	1
85°	0	2	4	4	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°	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
2.5°	190.0	179.2	186.4	184.0	185.2	188.8	185.2	185.2	184.0	179.2	179.2
5°	543.5	511.1	526.6	518.3	523.0	529.0	520.6	518.3	514.7	503.8	501.4
7.5°	1012.5	994.4	1013.6	999.2	1012.5	1014.8	1002.9	1000.4	994.4	978.8	972.7
10°	1571.5	1541.5	1559.6	1543.9	1564.3	1563.1	1543.9	1546.4	1539.1	1518.6	1509.0
12.5°	2067.0	2043.0	2060.9	2016.5	2067.0	2034.5	2038.1	2043.0	2033.3	2006.8	1994.9
15°	2804.1	2737.9	2769.2	2692.3	2769.2	2758.4	2716.3	2713.8	2688.6	2644.2	2617.7
17.5°	3782.9	3800.9	3778.0	3732.4	3834.6	3806.8	3746.8	3734.8	3686.7	3565.2	3562.8
20°	5204.1	5180.0	5218.6	5074.2	5205.3	5077.8	5061.1	5027.3	4945.6	4776.1	4749.6
22.5°	7023.4	7036.6	6968.1	6868.3	7029.5	6832.2	6772.1	6691.6	6542.5	6281.5	6199.8
25°	9538.9	9522.0	9433.1	9267.2	9439.1	9120.4	8970.1	8804.2	8526.4	8120.0	7924.0
27.5°	11730.9	11799.4	11740.6	11572.2	11686.5	11372.6	11026.3	10920.5	10544.1	10031.9	9678.3
30°	12666.4	12698.9	12673.7	12545.0	12585.8	12327.3	11984.6	11859.5	11473.6	10989.0	10530.9
32.5°	12537.7	12553.4	12558.2	12386.3	12393.5	12149.4	11791.1	11605.9	11185.0	10718.4	10171.3
35°	11322.1	11387.0	11429.1	11268.0	11108.0	10865.2	10458.7	10171.3	9728.8	9303.2	8744.0
37.5°	8768.1	8849.9	8914.8	8777.8	8702.0	8408.6	8070.8	7848.3	7542.8	7292.8	6895.9
40°	6417.4	6433.1	6472.7	6401.7	6283.9	6205.8	6012.1	5886.0	5700.7	5566.0	5302.7
42.5°	4770.1	4761.6	4789.2	4749.6	4746.0	4628.1	4505.5	4431.0	4367.2	4225.4	4040.1
45°	3471.5	3473.9	3500.3	3475.1	3407.7	3382.4	3301.9	3234.5	3150.3	3105.9	2959.2
47.5°	2360.4	2367.6	2385.6	2371.2	2309.9	2300.3	2248.6	2181.2	2180.0	2111.4	1982.8
50°	1047.3	1049.7	1071.3	1066.6	993.2	1002.9	969.1	907.8	924.7	883.8	785.2
52.5°	347.5	348.7	352.4	349.9	337.9	337.9	329.5	328.3	318.6	309.0	287.4
55°	178.0	178.0	180.4	179.2	173.2	173.2	163.5	169.6	164.7	161.1	147.9
57.5°	75.8	75.8	77.0	77.0	73.4	77.0	73.4	73.4	71.0	69.8	64.9
60°	34.8	34.8	34.8	34.8	33.6	36.0	33.6	33.6	33.6	32.4	30.0
62.5°	18.1	18.1	18.1	18.1	18.1	18.1	18.1	16.9	16.9	16.9	15.7
65°	8.4	8.4	8.4	8.4	8.4	9.6	8.4	8.4	8.4	8.4	8.4
67.5°	3.6	3.6	3.6	4.8	4.8	4.8	4.8	4.8	3.6	3.6	3.6
70°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.2
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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°	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
2.5°	180.4	174.4	182.8	175.6	180.4	175.6	169.6	172.0	138.2	115.4	102.2
5°	502.6	484.6	500.2	484.6	485.8	477.3	454.5	452.1	268.1	131.1	97.4
7.5°	946.3	943.9	963.1	942.7	940.3	919.8	877.8	860.9	485.8	153.9	90.1
10°	1503.1	1468.1	1485.0	1463.3	1456.1	1418.9	1358.7	1326.3	722.7	176.8	81.7
12.5°	1961.1	1947.9	1959.9	1939.6	1932.3	1881.8	1810.9	1767.6	965.5	190.0	73.4
15°	2560.0	2533.5	2542.0	2499.8	2478.2	2382.1	2260.6	2181.2	1180.7	188.8	67.4
17.5°	3473.9	3422.2	3417.4	3345.2	3292.3	3117.9	2900.3	2736.7	1338.4	174.4	64.9
20°	4618.6	4524.7	4493.5	4379.3	4290.3	4001.7	3666.2	3400.5	1436.9	155.1	74.6
22.5°	5990.6	5825.8	5733.2	5550.5	5397.7	4934.8	4443.0	4045.0	1480.2	149.1	107.0
25°	7589.7	7307.2	7111.2	6823.8	6566.5	5855.8	5165.7	4607.7	1480.2	193.5	250.1
27.5°	9211.8	8765.7	8404.9	7985.3	7594.5	6586.9	5697.1	4970.8	1444.2	241.7	228.5
30°	10033.1	9484.8	8994.2	8503.6	8013.0	6802.2	5816.2	5015.3	1308.2	141.8	80.6
32.5°	9684.4	9106.0	8563.8	8088.7	7604.2	6422.2	5493.9	4720.8	1099.0	82.9	51.7
35°	8347.3	7845.9	7374.5	7019.8	6642.3	5709.2	4878.3	4204.9	874.2	64.9	34.8
37.5°	6662.6	6321.2	5985.7	5758.5	5487.9	4786.9	4117.1	3565.2	625.3	46.9	21.7
40°	5168.1	4934.8	4700.3	4556.0	4364.8	3853.8	3331.9	2893.0	369.1	32.4	14.5
42.5°	3958.4	3797.3	3622.9	3523.2	3386.0	3004.9	2597.3	2287.0	170.8	22.9	10.8
45°	2909.9	2790.8	2657.3	2593.7	2497.4	2246.1	1975.6	1756.8	96.2	16.9	7.2
47.5°	1958.7	1852.9	1729.1	1689.4	1596.8	1376.8	1100.2	885.0	63.7	12.0	6.0
50°	779.2	709.4	667.4	612.1	557.9	467.7	349.9	279.0	38.4	9.6	4.8
52.5°	286.2	270.5	263.3	248.9	236.9	211.6	179.2	155.1	22.9	7.2	3.6
55°	149.1	139.4	134.7	129.9	122.7	108.2	90.1	77.0	14.5	4.8	3.6
57.5°	64.9	61.3	62.5	57.7	54.1	49.3	43.3	37.2	9.6	4.8	3.6
60°	31.2	28.8	30.0	27.6	26.5	25.3	22.9	19.3	6.0	3.6	2.4
62.5°	15.7	15.7	15.7	14.5	14.5	13.3	12.0	10.8	4.8	3.6	3.6
65°	8.4	7.2	8.4	7.2	7.2	7.2	6.0	6.0	3.6	3.6	3.6
67.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.4	3.6	3.6
70°	2.4	2.4	2.4	2.4	2.4	2.4	1.2	2.4	2.4	3.6	3.6
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.4	3.6	3.6
75°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	2.4	3.6	3.6
77.5°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	3.6	3.6
80°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	2.4	3.6	3.6
82.5°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	2.4	3.6	3.6
85°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	3.6	3.6
87.5°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	3.6	3.6
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°	103.4	103.4	103.4	103.4
2.5°	86.5	77.0	69.8	68.6
5°	73.4	61.3	52.9	51.7
7.5°	62.5	49.3	42.1	40.9
10°	55.3	42.1	34.8	33.6
12.5°	49.3	37.2	32.4	31.2
15°	45.7	37.2	36.0	37.2
17.5°	49.3	50.5	55.3	61.3
20°	81.7	116.6	151.5	176.8
22.5°	184.0	340.3	450.9	503.8
25°	347.5	393.2	394.4	376.3
27.5°	188.8	150.3	134.7	127.5
30°	74.6	71.0	71.0	69.8
32.5°	49.3	45.7	44.5	43.3
35°	30.0	26.5	25.3	25.3
37.5°	19.3	16.9	15.7	14.5
40°	13.3	10.8	9.6	8.4
42.5°	9.6	7.2	4.8	4.8
45°	7.2	4.8	2.4	2.4
47.5°	6.0	3.6	1.2	1.2
50°	4.8	2.4	1.2	0.0
52.5°	3.6	2.4	0.0	0.0
55°	3.6	2.4	0.0	0.0
57.5°	3.6	2.4	0.0	0.0
60°	3.6	2.4	0.0	0.0
62.5°	3.6	2.4	0.0	0.0
65°	3.6	2.4	1.2	0.0
67.5°	4.8	2.4	1.2	0.0
70°	4.8	2.4	1.2	0.0
72.5°	4.8	2.4	1.2	0.0
75°	4.8	3.6	1.2	0.0
77.5°	4.8	3.6	1.2	0.0
80°	4.8	3.6	1.2	0.0
82.5°	4.8	3.6	1.2	0.0
85°	4.8	3.6	1.2	1.2
87.5°	4.8	3.6	1.2	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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