

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: P1191511

Luminaire Tested: **LDA4A15927D010TE 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: P1191511
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: LDA4A15927D010TE 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

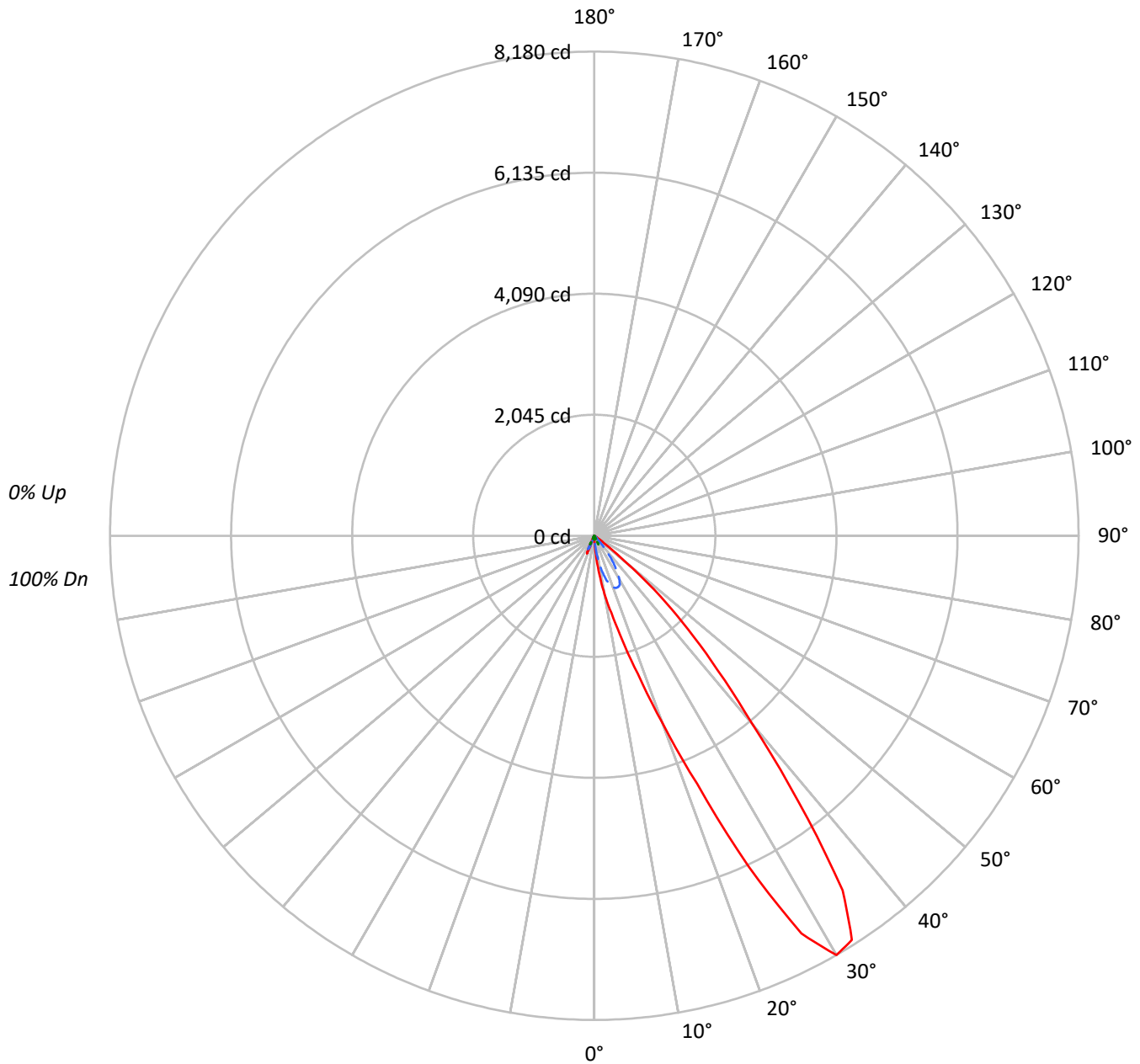
Lumens per Lamp: N/A
Luminaire Lumens: 1415.8 lumens
Efficiency: N/A
Efficacy: 69.4 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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°	8239	8239	8239
5°	43460	7788	4135
10°	127102	6613	2718
15°	231233	5555	3077
20°	441131	6314	14977
25°	838329	21980	33072
30°	1164984	7420	6409
35°	1100930	3388	2469
40°	667268	1497	886
45°	391036	802	262
50°	129796	595	0
55°	24730	495	0
60°	5551	370	0
65°	1605	671	0
70°	541	829	0
75°	0	1096	0
80°	0	1634	0
85°	0	3255	1132



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	15.9	1.1
10°-20°	130.3	9.2
20°-30°	462.0	32.6
30°-40°	547.7	38.7
40°-50°	233.0	16.5
50°-60°	21.0	1.5
60°-70°	2.6	0.2
70°-80°	1.7	0.1
80°-90°	1.6	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°	608.2	43.0
0°-40°	1155.9	81.6
0°-60°	1410.0	99.6
0°-90°	1415.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1415.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	67	67	67	67	67	
5°	351	173	63	40	33	55
15°	1811	762	44	24	24	584
25°	6160	956	162	254	243	2854
35°	7311	564	22	17	16	4223
45°	2242	62	5	3	2	1757
55°	115	9	2	2	0	161
65°	6	2	2	2	0	8
75°	0	2	2	2	0	0
85°	0	2	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°	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
2.5°	122.7	115.6	120.4	118.8	119.6	121.9	119.6	119.6	118.8	115.6	115.6
5°	351.0	330.0	340.1	334.6	337.8	341.6	336.3	334.6	332.3	325.4	323.7
7.5°	653.9	642.1	654.5	645.3	653.9	655.4	647.6	646.1	642.1	632.0	628.2
10°	1014.8	995.5	1007.0	997.0	1010.2	1009.4	997.0	998.6	994.0	980.7	974.5
12.5°	1334.7	1319.2	1330.9	1302.1	1334.7	1313.9	1316.2	1319.2	1313.0	1296.0	1288.2
15°	1810.8	1768.1	1788.3	1738.5	1788.3	1781.3	1754.1	1752.6	1736.2	1707.6	1690.4
17.5°	2442.8	2454.4	2439.7	2410.2	2476.2	2458.4	2419.5	2411.7	2380.6	2302.2	2300.7
20°	3360.7	3345.1	3370.0	3276.8	3361.4	3279.1	3268.2	3246.4	3193.6	3084.1	3067.1
22.5°	4535.5	4543.9	4499.7	4435.2	4539.3	4411.9	4373.2	4321.1	4224.8	4056.4	4003.5
25°	6159.8	6148.9	6091.5	5984.3	6095.5	5889.7	5792.6	5685.4	5506.1	5243.6	5117.1
27.5°	7575.4	7619.6	7581.6	7472.9	7546.7	7344.0	7120.4	7052.1	6808.9	6478.2	6250.0
30°	8179.5	8200.5	8184.2	8101.1	8127.4	7960.5	7739.2	7658.5	7409.2	7096.2	6800.5
32.5°	8096.3	8106.6	8109.6	7998.6	8003.2	7845.6	7614.2	7494.6	7222.9	6921.6	6568.2
35°	7311.4	7353.3	7380.4	7276.4	7173.2	7016.3	6753.8	6568.2	6282.6	6007.7	5646.6
37.5°	5662.1	5714.9	5756.9	5668.4	5619.4	5430.0	5211.8	5068.1	4870.9	4709.3	4453.1
40°	4144.1	4154.2	4179.8	4134.0	4057.9	4007.5	3882.4	3800.9	3681.3	3594.3	3424.2
42.5°	3080.3	3074.9	3092.7	3067.1	3064.8	2988.7	2909.5	2861.3	2820.1	2728.5	2609.1
45°	2241.7	2243.3	2260.4	2244.0	2200.5	2184.3	2132.2	2088.7	2034.4	2005.6	1910.9
47.5°	1524.3	1528.9	1540.5	1531.2	1491.7	1485.4	1452.0	1408.5	1407.8	1363.5	1280.5
50°	676.4	677.9	691.9	688.8	641.3	647.6	625.9	586.2	597.1	570.7	507.0
52.5°	224.5	225.1	227.5	226.0	218.2	218.2	212.7	212.0	205.8	199.5	185.6
55°	115.0	115.0	116.5	115.6	111.8	111.8	105.5	109.5	106.4	104.0	95.5
57.5°	49.0	49.0	49.6	49.6	47.3	49.6	47.3	47.3	45.8	45.0	41.9
60°	22.5	22.5	22.5	22.5	21.7	23.3	21.7	21.7	21.7	21.0	19.4
62.5°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	10.9	10.9	10.9	10.1
65°	5.5	5.5	5.5	5.5	5.5	6.3	5.5	5.5	5.5	5.5	5.5
67.5°	2.3	2.3	2.3	3.1	3.1	3.1	3.1	3.1	2.3	2.3	2.3
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.8
72.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
2.5°	116.5	112.6	118.1	113.3	116.5	113.3	109.5	111.0	89.3	74.6	66.0
5°	324.5	313.0	323.0	313.0	313.6	308.3	293.5	292.0	173.2	84.7	62.9
7.5°	611.0	609.5	622.0	608.7	607.2	594.0	566.9	556.0	313.6	99.4	58.2
10°	970.6	948.1	958.9	945.0	940.4	916.2	877.4	856.5	466.6	114.1	52.8
12.5°	1266.4	1258.0	1265.7	1252.5	1247.9	1215.1	1169.3	1141.4	623.5	122.7	47.3
15°	1653.1	1636.1	1641.5	1614.3	1600.4	1538.2	1459.8	1408.5	762.5	121.9	43.5
17.5°	2243.3	2209.9	2206.8	2160.1	2126.1	2013.4	1872.8	1767.3	864.3	112.6	41.9
20°	2982.4	2921.9	2901.7	2827.9	2770.5	2584.1	2367.6	2195.9	928.0	100.2	48.1
22.5°	3868.5	3762.0	3702.3	3584.2	3485.6	3186.7	2869.1	2612.1	955.9	96.3	69.1
25°	4901.2	4718.7	4592.2	4406.6	4240.4	3781.5	3335.7	2975.5	955.9	125.0	161.5
27.5°	5948.6	5660.6	5427.7	5156.6	4904.3	4253.6	3679.0	3210.0	932.6	156.1	147.5
30°	6478.9	6124.9	5808.2	5491.2	5174.5	4392.6	3755.9	3238.8	844.8	91.6	52.1
32.5°	6253.8	5880.3	5530.1	5223.4	4910.5	4147.2	3547.8	3048.4	709.8	53.6	33.4
35°	5390.3	5066.6	4762.2	4533.1	4289.3	3686.7	3150.1	2715.4	564.5	41.9	22.5
37.5°	4302.6	4081.9	3865.4	3718.6	3543.8	3091.2	2658.7	2302.2	403.8	30.3	13.9
40°	3337.4	3186.7	3035.3	2942.1	2818.6	2488.6	2151.7	1868.2	238.4	21.0	9.3
42.5°	2556.1	2452.1	2339.6	2275.1	2186.6	1940.5	1677.1	1476.8	110.3	14.7	7.0
45°	1879.1	1802.2	1716.0	1674.8	1612.8	1450.5	1275.8	1134.4	62.2	10.9	4.6
47.5°	1264.9	1196.6	1116.5	1090.9	1031.2	889.1	710.5	571.5	41.2	7.8	3.8
50°	503.2	458.2	430.9	395.2	360.3	302.0	226.0	180.1	24.8	6.3	3.1
52.5°	184.8	174.7	170.0	160.8	153.0	136.6	115.6	100.2	14.7	4.6	2.3
55°	96.3	90.1	87.0	83.9	79.2	69.8	58.2	49.6	9.3	3.1	2.3
57.5°	41.9	39.5	40.4	37.2	34.9	31.8	28.0	24.1	6.3	3.1	2.3
60°	20.2	18.7	19.4	17.9	17.0	16.4	14.7	12.4	3.8	2.3	1.5
62.5°	10.1	10.1	10.1	9.3	9.3	8.6	7.8	7.0	3.1	2.3	2.3
65°	5.5	4.6	5.5	4.6	4.6	4.6	3.8	3.8	2.3	2.3	2.3
67.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.5	2.3	2.3
70°	1.5	1.5	1.5	1.5	1.5	1.5	0.8	1.5	1.5	2.3	2.3
72.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5	2.3	2.3
75°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	2.3	2.3
77.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.5	2.3	2.3
80°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	2.3	2.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	2.3	2.3
85°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.5	2.3	2.3
87.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.5	2.3	2.3
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°	66.8	66.8	66.8	66.8
2.5°	55.9	49.6	45.0	44.3
5°	47.3	39.5	34.2	33.4
7.5°	40.4	31.8	27.1	26.5
10°	35.7	27.1	22.5	21.7
12.5°	31.8	24.1	21.0	20.2
15°	29.5	24.1	23.3	24.1
17.5°	31.8	32.6	35.7	39.5
20°	52.8	75.3	97.8	114.1
22.5°	118.8	219.7	291.1	325.4
25°	224.5	253.9	254.7	243.0
27.5°	121.9	97.1	87.0	82.4
30°	48.1	45.8	45.8	45.0
32.5°	31.8	29.5	28.8	28.0
35°	19.4	17.0	16.4	16.4
37.5°	12.4	10.9	10.1	9.3
40°	8.6	7.0	6.3	5.5
42.5°	6.3	4.6	3.1	3.1
45°	4.6	3.1	1.5	1.5
47.5°	3.8	2.3	0.8	0.8
50°	3.1	1.5	0.8	0.0
52.5°	2.3	1.5	0.0	0.0
55°	2.3	1.5	0.0	0.0
57.5°	2.3	1.5	0.0	0.0
60°	2.3	1.5	0.0	0.0
62.5°	2.3	1.5	0.0	0.0
65°	2.3	1.5	0.8	0.0
67.5°	3.1	1.5	0.8	0.0
70°	3.1	1.5	0.8	0.0
72.5°	3.1	1.5	0.8	0.0
75°	3.1	2.3	0.8	0.0
77.5°	3.1	2.3	0.8	0.0
80°	3.1	2.3	0.8	0.0
82.5°	3.1	2.3	0.8	0.0
85°	3.1	2.3	0.8	0.8
87.5°	3.1	2.3	0.8	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)