

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: P1191779

Luminaire Tested: **LDA4A30927D010TE LAR15SP 4LA1 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: P1191779
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25648)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A30927D010TE LAR15SP 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 15° Spot
Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

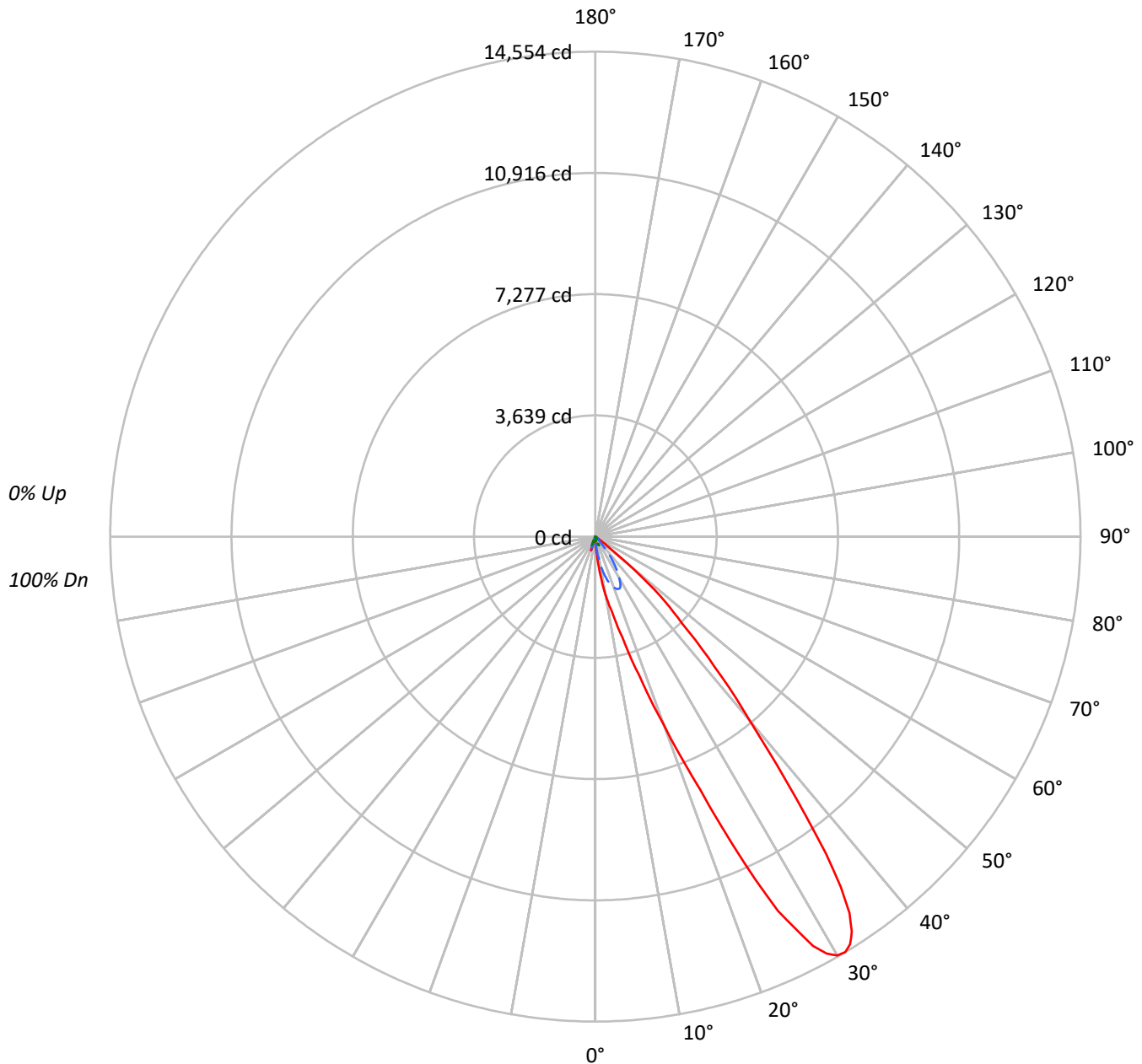
Lumens per Lamp: N/A
Luminaire Lumens: 2347.9 lumens
Efficiency: N/A
Efficacy: 59.6 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	109	106	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82		
3	99	91	85	80	97	90	84	80	87	82	78	84	80	77	82	79	76	74		
4	92	83	77	71	90	82	76	71	80	74	70	78	73	69	76	72	68	67		
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60		
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	56	54		
7	75	64	56	51	73	63	56	51	62	55	51	60	55	50	59	54	50	49		
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44		
9	65	54	47	42	64	53	46	42	52	46	41	51	45	41	50	45	41	40		
10	61	49	42	38	60	49	42	38	48	42	38	47	41	37	46	41	37	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16886	16886	16886
5°	75776	15873	10289
10°	224295	14604	13139
15°	400432	17303	37019
20°	793188	34036	39785
25°	1543474	22211	11310
30°	2067488	8304	3945
35°	1934571	3508	1536
40°	1159285	1642	467
45°	643341	1012	0
50°	235988	844	0
55°	36020	624	0
60°	7919	715	0
65°	2539	846	0
70°	541	1046	0
75°	0	2097	0
80°	0	3125	0
85°	0	6227	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.1	1.3
10°-20°	253.6	10.8
20°-30°	757.0	32.2
30°-40°	896.6	38.2
40°-50°	371.9	15.8
50°-60°	28.9	1.2
60°-70°	4.0	0.2
70°-80°	3.0	0.1
80°-90°	2.8	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°	1040.7	44.3
0°-40°	1937.3	82.5
0°-60°	2338.2	99.6
0°-90°	2347.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2347.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	137	137	137	137	137	
5°	612	309	128	89	83	97
15°	3136	1324	136	203	290	1035
25°	11341	1721	163	95	83	5180
35°	12848	959	23	13	10	7445
45°	3688	84	6	4	0	3007
55°	168	12	3	2	0	245
65°	9	3	3	3	0	11
75°	0	3	4	3	0	0
85°	0	3	4	3	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9
2.5°	237.6	225.8	231.8	221.5	227.3	217.1	209.9	217.1	217.1	211.3	202.6
5°	612.0	609.1	620.7	593.0	600.3	569.7	543.6	550.8	545.0	526.0	492.5
7.5°	1165.7	1154.0	1167.2	1127.9	1129.3	1078.3	1039.0	1047.7	1021.4	989.4	931.1
10°	1790.8	1774.9	1789.4	1742.8	1734.0	1662.6	1607.2	1615.9	1556.2	1503.8	1414.9
12.5°	2332.9	2331.5	2284.8	2293.5	2276.1	2166.7	2131.8	2134.7	2053.2	1994.9	1888.4
15°	3135.8	3166.4	3175.1	3115.4	3007.6	2809.4	2721.9	2688.4	2555.8	2458.2	2305.2
17.5°	4370.0	4412.2	4267.9	4303.0	4125.2	3814.8	3641.4	3538.0	3288.8	3105.2	2828.4
20°	6042.8	6006.4	5798.0	5771.7	5468.6	5069.4	4705.2	4509.8	4126.7	3858.5	3454.9
22.5°	8202.3	8174.6	7817.6	7658.8	7024.9	6462.5	5990.3	5500.7	4931.0	4572.5	4024.7
25°	11341.0	11214.2	10526.5	10074.7	8960.0	8004.1	7217.2	6456.6	5583.8	5194.8	4498.2
26°	12496.4	12465.8	11748.9	11154.5	9810.9	8624.9	7564.0	6802.0	5840.2	5385.6	4632.2
27°	13190.1	13433.5	12766.0	12092.8	10624.1	9203.4	7973.5	7080.3	6039.9	5519.7	4718.2
28°	13909.9	14067.2	13469.9	12624.8	11275.4	9663.9	8283.9	7268.3	6162.3	5585.2	4747.4
29°	14306.2	14457.8	13902.6	13109.9	11702.4	9962.5	8467.5	7351.4	6207.4	5583.8	4721.1
30°	14516.1	14657.5	14115.4	13346.0	11878.6	10055.7	8506.8	7317.7	6163.7	5516.8	4646.9
31°	14554.0	14672.0	14137.3	13338.8	11811.6	9940.7	8396.0	7179.4	6047.1	5392.9	4534.6
32°	14425.7	14517.6	13974.0	13123.1	11509.9	9649.2	8165.9	6965.2	5869.3	5238.4	4390.3
33°	14125.5	14290.3	13627.2	12687.4	10985.4	9217.9	7839.4	6685.4	5647.9	5037.3	4214.1
34°	13628.7	13733.7	13047.3	12005.5	10286.0	8693.3	7438.7	6360.4	5394.4	4799.9	4014.4
35°	12847.7	12940.9	12181.7	11084.6	9489.0	8101.8	6981.3	6002.0	5110.2	4533.2	3792.9
36°	11766.5	11855.4	11061.2	10061.5	8684.6	7485.4	6498.9	5611.5	4802.8	4247.6	3558.3
37°	10503.1	10580.3	9873.6	9057.6	7894.8	6861.8	6010.7	5215.1	4477.8	3956.1	3335.4
38°	9282.0	9351.9	8780.8	8116.3	7132.7	6252.6	5524.0	4804.2	4142.6	3663.3	3100.9
39°	8180.4	8241.6	7781.1	7233.3	6407.1	5668.3	5038.8	4396.3	3806.0	3370.3	2859.0
40°	7199.8	7252.2	6873.4	6423.1	5748.5	5121.8	4566.7	4001.3	3476.8	3086.2	2633.0
42.5°	5285.0	5296.7	5070.9	4805.7	4281.1	3921.2	3526.2	3118.3	2735.1	2466.9	2178.5
45°	3688.1	3832.3	3685.2	3508.8	3132.9	2907.0	2654.9	2408.6	2187.2	1929.3	1643.6
47.5°	2652.0	2657.8	2570.4	2459.7	2162.4	2007.9	1801.0	1502.4	1282.3	916.6	680.5
50°	1229.8	1161.4	1165.7	1089.9	972.0	772.3	645.5	460.5	367.2	262.4	211.3
51°	731.5	680.5	687.7	633.9	555.2	432.8	367.2	294.4	255.0	198.1	163.2
52°	427.0	409.4	408.0	383.2	326.5	300.2	265.3	221.5	193.8	153.0	126.8
53°	310.4	298.8	298.8	282.7	243.4	225.8	201.1	170.5	148.7	116.6	96.2
54°	231.8	222.9	222.9	212.8	196.7	169.0	151.6	126.8	110.8	90.4	71.4
55°	167.5	161.7	161.7	154.5	142.8	122.4	109.3	91.8	81.6	65.6	52.5
57.5°	69.9	67.0	67.0	64.1	61.2	52.5	49.6	42.2	36.4	32.1	26.2
60°	32.1	30.6	32.1	30.6	27.7	29.2	24.8	21.9	20.4	17.5	14.5
61°	24.8	23.3	23.3	23.3	20.4	20.4	19.0	17.5	16.1	13.1	11.6
62°	19.0	17.5	17.5	17.5	16.1	16.1	14.5	13.1	13.1	10.2	8.7
63°	14.5	13.1	13.1	13.1	11.6	11.6	11.6	10.2	10.2	8.7	7.3
64°	10.2	10.2	10.2	10.2	10.2	8.7	8.7	8.7	7.3	5.8	5.8
65°	8.7	7.3	8.7	7.3	7.3	7.3	7.3	7.3	5.8	4.4	4.4
66°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	4.4	2.9



TEST NUMBER: P1191779

CATALOG NUMBER: LDA4A30927D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5
80°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5
85°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9	136.9
2.5°	198.1	204.1	199.6	188.0	193.8	190.9	185.1	180.7	154.5	134.0	113.7
5°	467.7	472.1	447.4	403.6	389.1	365.8	332.3	308.9	174.9	128.2	100.5
7.5°	884.5	855.4	832.0	750.4	715.4	661.5	597.4	552.3	199.6	121.0	93.3
10°	1339.1	1292.5	1244.4	1124.9	1062.2	979.2	887.4	834.9	225.8	116.6	93.3
12.5°	1789.4	1726.7	1639.3	1508.2	1419.3	1307.0	1181.7	1088.4	244.8	119.5	107.8
15°	2179.9	2104.1	2007.9	1859.3	1755.9	1615.9	1452.8	1324.5	253.5	135.5	150.1
17.5°	2605.4	2468.4	2309.6	2120.2	2006.5	1844.8	1661.2	1505.3	253.5	172.0	240.5
20°	3094.9	2844.3	2589.3	2324.1	2163.8	1994.9	1798.1	1630.6	263.8	259.3	330.8
22.5°	3551.0	3205.7	2845.8	2500.4	2277.5	2093.9	1894.2	1701.9	306.0	285.6	220.0
25°	3905.2	3466.5	3042.6	2622.9	2370.8	2166.7	1952.5	1720.9	279.8	163.2	119.5
26°	3997.0	3523.3	3081.9	2637.5	2375.1	2165.3	1946.7	1700.5	234.7	129.7	96.2
27°	4045.0	3542.3	3084.8	2624.3	2357.6	2140.5	1914.7	1658.3	188.0	104.9	78.7
28°	4045.0	3520.4	3054.2	2587.9	2312.5	2093.9	1859.3	1591.3	153.0	86.0	62.7
29°	4004.3	3463.6	2993.0	2532.5	2251.3	2028.4	1783.6	1512.5	129.7	71.4	51.0
30°	3925.5	3380.6	2911.3	2461.1	2172.5	1954.0	1700.5	1430.9	112.2	58.3	40.8
31°	3814.8	3287.4	2810.8	2383.8	2099.7	1885.5	1624.8	1347.9	97.6	46.7	33.5
32°	3682.1	3170.8	2707.4	2303.8	2040.0	1821.4	1546.0	1260.4	84.5	39.3	29.2
33°	3529.3	3039.7	2599.5	2225.0	1981.7	1748.6	1460.0	1165.7	72.8	32.1	24.8
34°	3360.2	2895.4	2488.8	2140.5	1910.3	1656.8	1359.5	1065.2	62.7	27.7	20.4
35°	3176.6	2733.6	2375.1	2054.6	1830.1	1554.7	1251.7	958.8	53.9	23.3	17.5
36°	2978.5	2582.1	2264.3	1968.6	1731.1	1444.1	1133.7	849.6	46.7	19.0	16.1
37°	2780.2	2439.2	2155.1	1876.8	1615.9	1318.7	1009.8	735.9	40.8	16.1	13.1
38°	2592.3	2300.9	2047.2	1770.4	1481.9	1180.3	881.6	622.2	35.0	14.5	11.6
39°	2415.9	2166.7	1936.6	1643.6	1343.5	1046.2	757.8	504.1	30.6	13.1	10.2
40°	2257.1	2040.0	1815.6	1502.4	1200.7	909.3	632.5	375.9	26.2	10.2	8.7
42.5°	1921.9	1691.8	1395.9	1047.7	811.6	527.5	294.4	139.9	19.0	7.3	7.3
45°	1269.2	976.3	663.1	394.9	266.7	160.3	119.5	84.5	14.5	5.8	5.8
47.5°	424.1	269.6	196.7	141.4	121.0	96.2	77.3	52.5	10.2	4.4	4.4
50°	161.7	131.1	107.8	81.6	72.8	58.3	46.7	30.6	7.3	4.4	4.4
51°	126.8	103.4	84.5	64.1	58.3	46.7	37.9	26.2	5.8	4.4	4.4
52°	97.6	80.2	65.6	49.6	46.7	37.9	32.1	21.9	5.8	2.9	4.4
53°	74.3	61.2	49.6	37.9	36.4	30.6	26.2	17.5	4.4	2.9	4.4
54°	55.4	46.7	39.3	30.6	30.6	26.2	21.9	14.5	4.4	2.9	4.4
55°	42.2	35.0	30.6	23.3	24.8	21.9	19.0	11.6	4.4	2.9	4.4
57.5°	21.9	20.4	17.5	14.5	16.1	14.5	13.1	7.3	4.4	2.9	4.4
60°	13.1	11.6	10.2	8.7	10.2	10.2	10.2	4.4	4.4	2.9	4.4
61°	10.2	8.7	7.3	7.3	8.7	8.7	8.7	4.4	4.4	2.9	4.4
62°	7.3	7.3	5.8	5.8	8.7	7.3	7.3	4.4	4.4	2.9	4.4
63°	5.8	5.8	5.8	4.4	7.3	7.3	7.3	4.4	4.4	2.9	4.4
64°	4.4	4.4	4.4	4.4	5.8	7.3	7.3	2.9	4.4	2.9	4.4
65°	4.4	4.4	2.9	2.9	5.8	5.8	5.8	2.9	4.4	2.9	4.4
66°	2.9	2.9	2.9	2.9	5.8	5.8	5.8	2.9	4.4	2.9	4.4



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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	4.4	4.4
75°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	4.4	4.4
77.5°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	4.4	5.8
80°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	4.4	5.8
82.5°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	4.4	5.8
85°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	4.4	5.8
87.5°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	4.4	4.4
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):

	135°	157.5°	180°
0°	136.9	136.9	136.9
2.5°	103.4	99.1	96.2
5°	88.9	84.5	83.1
7.5°	83.1	81.6	83.1
10°	91.8	97.6	104.9
12.5°	122.4	144.3	155.9
15°	202.6	263.8	289.9
17.5°	357.1	406.5	435.7
20°	314.7	287.0	303.1
22.5°	170.5	148.7	153.0
25°	94.7	81.6	83.1
26°	75.7	65.6	65.6
27°	61.2	52.5	52.5
28°	49.6	42.2	42.2
29°	39.3	33.5	33.5
30°	32.1	27.7	27.7
31°	26.2	21.9	21.9
32°	21.9	19.0	17.5
33°	19.0	16.1	14.5
34°	16.1	13.1	11.6
35°	13.1	10.2	10.2
36°	11.6	8.7	8.7
37°	10.2	7.3	7.3
38°	8.7	5.8	5.8
39°	7.3	5.8	4.4
40°	5.8	4.4	2.9
42.5°	4.4	2.9	1.5
45°	4.4	1.5	0.0
47.5°	2.9	1.5	0.0
50°	2.9	0.0	0.0
51°	2.9	0.0	0.0
52°	2.9	0.0	0.0
53°	1.5	0.0	0.0
54°	2.9	0.0	0.0
55°	1.5	0.0	0.0
57.5°	2.9	0.0	0.0
60°	2.9	0.0	0.0
61°	2.9	0.0	0.0
62°	2.9	0.0	0.0
63°	2.9	0.0	0.0
64°	2.9	1.5	0.0
65°	2.9	1.5	0.0
66°	2.9	1.5	0.0



TEST NUMBER: P1191779

CATALOG NUMBER: LDA4A30927D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.9	1.5	0.0
75°	2.9	1.5	0.0
77.5°	2.9	1.5	0.0
80°	2.9	1.5	0.0
82.5°	2.9	1.5	0.0
85°	2.9	1.5	0.0
87.5°	2.9	1.5	0.0
90°	0.0	0.0	0.0

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Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	2.9	2.9
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.9	2.9	1.5	1.5

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67.5°	2.9	1.5	2.9	2.9	4.4	5.8	5.8	2.9	4.4	2.9	4.4
70°	1.5	1.5	1.5	1.5	4.4	4.4	5.8	2.9	4.4	2.9	4.4

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67.5°	2.9	1.5	0.0
70°	2.9	1.5	0.0

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Scaled Data Report



(END OF REPORT)