

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: P1191509

Luminaire Tested: **LDA4A15927D010TE LAR15SP 4LA1 30° Tilt**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P1191509
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: LDA4A15927D010TE 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

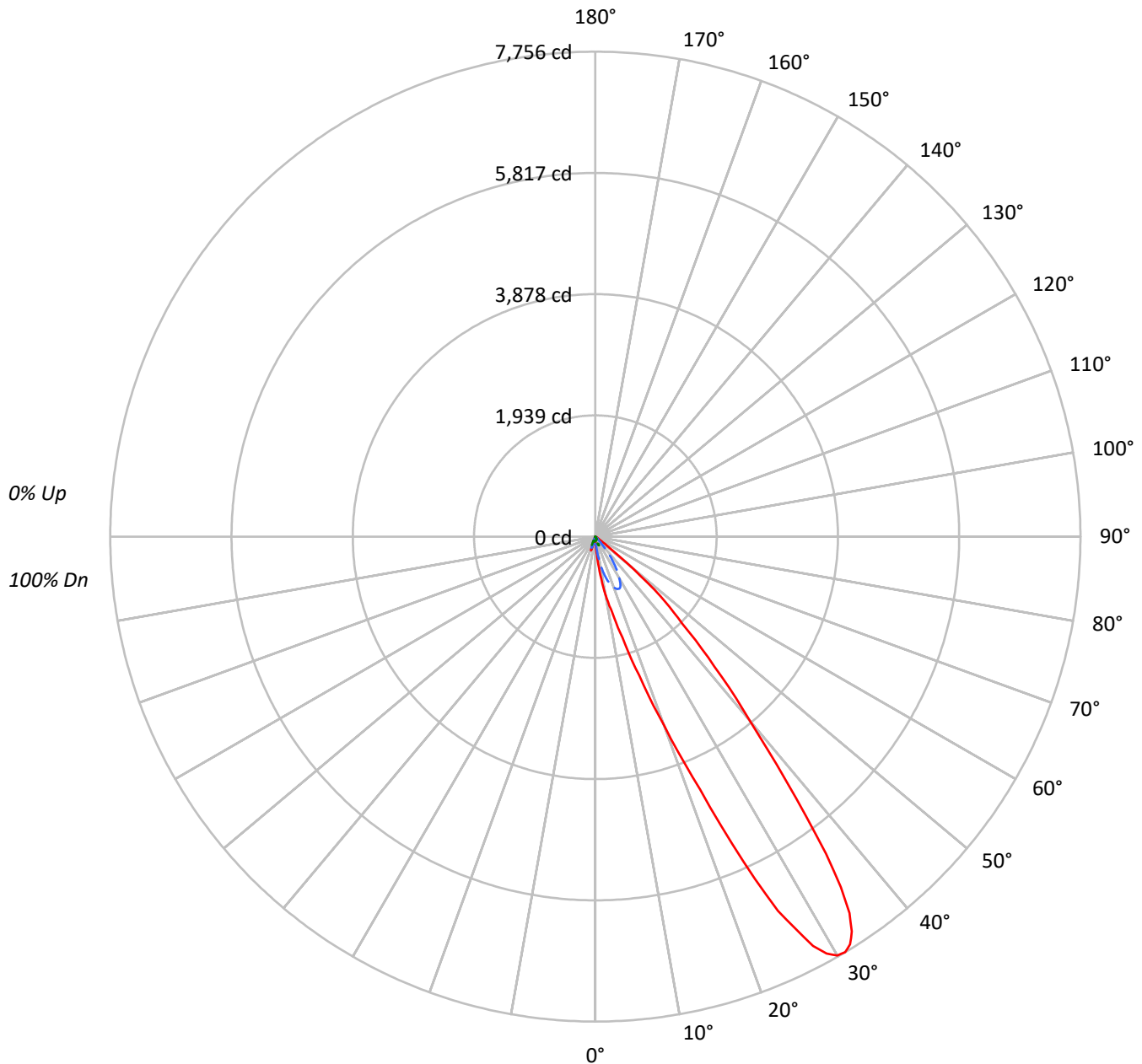
Lumens per Lamp: N/A
Luminaire Lumens: 1251.2 lumens
Efficiency: N/A
Efficacy: 61.3 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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	98	96			96
2	106	100	95	91	103	98	94	90		95	91	88			92	89	86			89
3	99	91	85	80	97	90	84	80		87	82	78			84	80	77			82
4	92	83	77	71	90	82	76	71		80	74	70			78	73	69			76
5	86	76	69	64	84	75	68	63		73	67	63			71	66	62			70
6	80	69	62	57	79	69	62	57		67	61	56			65	60	56			64
7	75	64	56	51	73	63	56	51		62	55	51			60	55	50			59
8	70	58	51	46	69	58	51	46		57	50	46			55	50	46			54
9	65	54	47	42	64	53	46	42		52	46	41			51	45	41			50
10	61	49	42	38	60	49	42	38		48	42	38			47	41	37			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9004	9004	9004
5°	40389	8457	5485
10°	119537	7790	7001
15°	213394	9232	19729
20°	422715	18153	21212
25°	822556	11840	6029
30°	1101832	4429	2094
35°	1030972	1867	828
40°	617819	886	242
45°	342839	541	0
50°	125766	441	0
55°	19204	323	0
60°	4194	370	0
65°	1343	438	0
70°	289	541	0
75°	0	1096	0
80°	0	1634	0
85°	0	3255	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	16.0	1.3
10°-20°	135.2	10.8
20°-30°	403.4	32.2
30°-40°	477.8	38.2
40°-50°	198.2	15.8
50°-60°	15.4	1.2
60°-70°	2.1	0.2
70°-80°	1.6	0.1
80°-90°	1.5	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°	554.6	44.3
0°-40°	1032.4	82.5
0°-60°	1246.0	99.6
0°-90°	1251.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1251.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	73	73	73	73	73	
5°	326	165	68	47	44	52
15°	1671	706	72	108	154	552
25°	6044	917	87	50	44	2761
35°	6847	511	12	7	6	3968
45°	1965	45	3	2	0	1602
55°	89	6	2	1	0	131
65°	5	2	2	2	0	6
75°	0	2	2	2	0	0
85°	0	2	2	2	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°	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
2.5°	126.5	120.4	123.4	118.1	121.1	115.8	111.8	115.8	115.8	112.6	108.0
5°	326.2	324.5	330.8	316.1	319.9	303.7	289.6	293.6	290.5	280.4	262.5
7.5°	621.3	615.0	622.0	601.1	601.8	574.6	553.6	558.4	544.4	527.3	496.2
10°	954.4	945.8	953.6	928.8	924.1	886.1	856.5	861.1	829.4	801.4	754.1
12.5°	1243.2	1242.5	1217.6	1222.2	1213.0	1154.7	1136.0	1137.7	1094.2	1063.1	1006.4
15°	1671.1	1687.5	1692.1	1660.2	1602.8	1497.1	1450.6	1432.8	1362.1	1310.0	1228.5
17.5°	2328.8	2351.5	2274.6	2293.2	2198.5	2033.1	1940.6	1885.5	1752.7	1654.8	1507.2
20°	3220.4	3201.0	3089.9	3076.0	2914.4	2701.6	2507.5	2403.4	2199.1	2056.4	1841.2
22.5°	4371.3	4356.4	4166.2	4081.5	3743.7	3444.0	3192.4	2931.6	2627.9	2436.8	2144.9
25°	6043.9	5976.4	5609.9	5369.1	4775.1	4265.6	3846.3	3440.9	2975.7	2768.5	2397.3
26°	6659.7	6643.4	6261.4	5944.5	5228.6	4596.4	4031.1	3625.0	3112.4	2870.2	2468.7
27°	7029.4	7159.1	6803.3	6444.7	5661.8	4904.7	4249.4	3773.3	3218.9	2941.6	2514.6
28°	7413.0	7496.9	7178.5	6728.1	6009.0	5150.1	4414.8	3873.4	3284.1	2976.6	2530.0
29°	7624.2	7705.0	7409.1	6986.6	6236.5	5309.3	4512.6	3917.7	3308.2	2975.7	2516.1
30°	7736.1	7811.3	7522.5	7112.5	6330.4	5359.0	4533.6	3899.9	3284.9	2940.0	2476.4
31°	7756.2	7819.1	7534.1	7108.7	6294.7	5297.6	4474.5	3826.1	3222.7	2874.0	2416.6
32°	7687.9	7736.9	7447.1	6993.7	6134.1	5142.3	4351.8	3712.0	3127.9	2791.8	2339.7
33°	7528.0	7615.7	7262.3	6761.5	5854.5	4912.5	4177.9	3562.8	3010.0	2684.6	2245.8
34°	7263.2	7319.1	6953.3	6398.1	5481.7	4633.0	3964.4	3389.6	2874.8	2557.9	2139.4
35°	6846.8	6896.6	6492.0	5907.3	5056.9	4317.7	3720.4	3198.7	2723.3	2415.8	2021.3
36°	6270.7	6318.0	5894.9	5362.1	4628.3	3989.2	3463.4	2990.5	2559.6	2263.6	1896.4
37°	5597.5	5638.5	5261.9	4827.0	4207.4	3656.7	3203.3	2779.2	2386.4	2108.3	1777.5
38°	4946.6	4984.0	4679.5	4325.5	3801.3	3332.2	2944.0	2560.4	2207.7	1952.3	1652.5
39°	4359.6	4392.1	4146.8	3854.9	3414.6	3020.7	2685.3	2342.9	2028.4	1796.2	1523.6
40°	3837.0	3865.0	3663.0	3423.0	3063.6	2729.6	2433.7	2132.5	1852.9	1644.7	1403.2
42.5°	2816.6	2822.7	2702.5	2561.1	2281.5	2089.8	1879.2	1661.9	1457.6	1314.7	1161.0
45°	1965.4	2042.3	1963.9	1870.0	1669.6	1549.2	1414.9	1283.6	1165.6	1028.2	876.0
47.5°	1413.3	1416.4	1369.8	1310.9	1152.4	1070.0	959.9	800.6	683.3	488.5	362.6
50°	655.4	619.0	621.3	580.9	517.9	411.5	344.0	245.5	195.7	139.8	112.6
51°	389.9	362.6	366.5	337.8	295.9	230.6	195.7	156.8	136.0	105.5	87.0
52°	227.6	218.2	217.5	204.3	174.0	160.0	141.3	118.1	103.2	81.5	67.5
53°	165.4	159.1	159.1	150.7	129.7	120.4	107.2	90.8	79.2	62.2	51.3
54°	123.4	118.8	118.8	113.3	104.9	90.1	80.7	67.5	59.0	48.1	38.0
55°	89.3	86.2	86.2	82.4	76.1	65.2	58.2	49.0	43.5	34.9	28.0
57.5°	37.2	35.7	35.7	34.2	32.6	28.0	26.5	22.5	19.4	17.0	14.0
60°	17.0	16.4	17.0	16.4	14.7	15.5	13.2	11.6	10.9	9.3	7.8
61°	13.2	12.4	12.4	12.4	10.9	10.9	10.1	9.3	8.6	7.0	6.3
62°	10.1	9.3	9.3	9.3	8.6	8.6	7.8	7.0	7.0	5.5	4.6
63°	7.8	7.0	7.0	7.0	6.3	6.3	6.3	5.5	5.5	4.6	3.8
64°	5.5	5.5	5.5	5.5	5.5	4.6	4.6	4.6	3.8	3.1	3.1
65°	4.6	3.8	4.6	3.8	3.8	3.8	3.8	3.8	3.1	2.3	2.3
66°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.3	1.5



TEST NUMBER: P1191509

CATALOG NUMBER: LDA4A15927D010TE 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	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	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
85°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
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°	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
2.5°	105.5	108.7	106.4	100.2	103.2	101.7	98.6	96.3	82.4	71.5	60.5
5°	249.3	251.6	238.4	215.0	207.3	194.9	177.0	164.6	93.1	68.3	53.6
7.5°	471.4	455.9	443.5	400.0	381.3	352.5	318.4	294.3	106.4	64.5	49.6
10°	713.6	688.8	663.1	599.5	566.0	521.9	472.9	445.0	120.4	62.2	49.6
12.5°	953.6	920.2	873.7	803.7	756.4	696.5	629.7	580.1	130.5	63.7	57.4
15°	1161.7	1121.3	1070.0	990.8	935.7	861.1	774.3	706.0	135.1	72.3	80.0
17.5°	1388.5	1315.5	1230.8	1129.9	1069.4	983.2	885.3	802.2	135.1	91.6	128.2
20°	1649.5	1515.8	1380.0	1238.6	1153.2	1063.1	958.2	868.9	140.6	138.3	176.3
22.5°	1892.5	1708.4	1516.6	1332.5	1213.8	1115.9	1009.5	907.0	163.1	152.2	117.3
25°	2081.2	1847.5	1621.5	1397.9	1263.4	1154.7	1040.6	917.0	149.0	87.0	63.7
26°	2130.1	1877.7	1642.4	1405.5	1265.7	1153.9	1037.5	906.3	125.0	69.1	51.3
27°	2155.8	1887.8	1644.0	1398.5	1256.5	1140.8	1020.4	883.8	100.2	55.9	42.0
28°	2155.8	1876.1	1627.6	1379.2	1232.5	1115.9	990.8	848.0	81.5	45.8	33.4
29°	2134.0	1845.8	1595.0	1349.6	1199.7	1081.0	950.5	806.0	69.1	38.0	27.1
30°	2092.1	1801.6	1551.5	1311.5	1157.9	1041.4	906.3	762.5	59.7	31.1	21.7
31°	2033.1	1751.9	1498.0	1270.5	1119.0	1004.9	865.9	718.4	52.1	24.8	17.9
32°	1962.4	1689.8	1442.9	1227.7	1087.2	970.6	823.9	671.7	45.0	21.0	15.5
33°	1880.9	1619.9	1385.3	1185.8	1056.1	931.9	778.1	621.3	38.9	17.0	13.2
34°	1790.7	1543.0	1326.4	1140.8	1018.1	883.0	724.5	567.7	33.4	14.7	10.9
35°	1693.0	1456.8	1265.7	1095.0	975.4	828.5	667.1	511.0	28.8	12.4	9.3
36°	1587.3	1376.0	1206.8	1049.2	922.5	769.5	604.1	452.7	24.8	10.1	8.6
37°	1481.7	1300.0	1148.5	1000.2	861.1	702.8	538.1	392.2	21.7	8.6	7.0
38°	1381.5	1226.2	1091.0	943.5	789.8	629.0	469.8	331.6	18.7	7.8	6.3
39°	1287.5	1154.7	1032.0	876.0	716.0	557.6	403.8	268.6	16.4	7.0	5.5
40°	1202.9	1087.2	967.6	800.6	639.8	484.6	337.1	200.3	14.0	5.5	4.6
42.5°	1024.2	901.6	744.0	558.4	432.5	281.0	156.8	74.6	10.1	3.8	3.8
45°	676.4	520.2	353.3	210.4	142.1	85.4	63.7	45.0	7.8	3.1	3.1
47.5°	226.0	143.7	104.9	75.3	64.5	51.3	41.2	28.0	5.5	2.3	2.3
50°	86.2	70.0	57.4	43.5	38.9	31.1	24.8	16.4	3.8	2.3	2.3
51°	67.5	55.1	45.0	34.2	31.1	24.8	20.2	14.0	3.1	2.3	2.3
52°	52.1	42.7	34.9	26.5	24.8	20.2	17.0	11.6	3.1	1.5	2.3
53°	39.5	32.6	26.5	20.2	19.4	16.4	14.0	9.3	2.3	1.5	2.3
54°	29.5	24.8	21.0	16.4	16.4	14.0	11.6	7.8	2.3	1.5	2.3
55°	22.5	18.7	16.4	12.4	13.2	11.6	10.1	6.3	2.3	1.5	2.3
57.5°	11.6	10.9	9.3	7.8	8.6	7.8	7.0	3.8	2.3	1.5	2.3
60°	7.0	6.3	5.5	4.6	5.5	5.5	5.5	2.3	2.3	1.5	2.3
61°	5.5	4.6	3.8	3.8	4.6	4.6	4.6	2.3	2.3	1.5	2.3
62°	3.8	3.8	3.1	3.1	4.6	3.8	3.8	2.3	2.3	1.5	2.3
63°	3.1	3.1	3.1	2.3	3.8	3.8	3.8	2.3	2.3	1.5	2.3
64°	2.3	2.3	2.3	2.3	3.1	3.8	3.8	1.5	2.3	1.5	2.3
65°	2.3	2.3	1.5	1.5	3.1	3.1	3.1	1.5	2.3	1.5	2.3
66°	1.5	1.5	1.5	1.5	3.1	3.1	3.1	1.5	2.3	1.5	2.3



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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°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	2.3	2.3
75°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	2.3	2.3
77.5°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	2.3	3.1
80°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	2.3	3.1
82.5°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	2.3	3.1
85°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	2.3	3.1
87.5°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	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):

	135°	157.5°	180°
0°	73.0	73.0	73.0
2.5°	55.1	52.8	51.3
5°	47.3	45.0	44.3
7.5°	44.3	43.5	44.3
10°	49.0	52.1	55.9
12.5°	65.2	76.9	83.0
15°	108.0	140.6	154.5
17.5°	190.2	216.7	232.2
20°	167.7	153.0	161.6
22.5°	90.8	79.2	81.5
25°	50.5	43.5	44.3
26°	40.4	34.9	34.9
27°	32.6	28.0	28.0
28°	26.5	22.5	22.5
29°	21.0	17.9	17.9
30°	17.0	14.7	14.7
31°	14.0	11.6	11.6
32°	11.6	10.1	9.3
33°	10.1	8.6	7.8
34°	8.6	7.0	6.3
35°	7.0	5.5	5.5
36°	6.3	4.6	4.6
37°	5.5	3.8	3.8
38°	4.6	3.1	3.1
39°	3.8	3.1	2.3
40°	3.1	2.3	1.5
42.5°	2.3	1.5	0.8
45°	2.3	0.8	0.0
47.5°	1.5	0.8	0.0
50°	1.5	0.0	0.0
51°	1.5	0.0	0.0
52°	1.5	0.0	0.0
53°	0.8	0.0	0.0
54°	1.5	0.0	0.0
55°	0.8	0.0	0.0
57.5°	1.5	0.0	0.0
60°	1.5	0.0	0.0
61°	1.5	0.0	0.0
62°	1.5	0.0	0.0
63°	1.5	0.0	0.0
64°	1.5	0.8	0.0
65°	1.5	0.8	0.0
66°	1.5	0.8	0.0



TEST NUMBER: P1191509

CATALOG NUMBER: LDA4A15927D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.5	0.8	0.0
75°	1.5	0.8	0.0
77.5°	1.5	0.8	0.0
80°	1.5	0.8	0.0
82.5°	1.5	0.8	0.0
85°	1.5	0.8	0.0
87.5°	1.5	0.8	0.0
90°	0.0	0.0	0.0

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.5	1.5
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5	1.5	0.8	0.8

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67.5°	1.5	0.8	1.5	1.5	2.3	3.1	3.1	1.5	2.3	1.5	2.3
70°	0.8	0.8	0.8	0.8	2.3	2.3	3.1	1.5	2.3	1.5	2.3

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67.5°	1.5	0.8	0.0
70°	1.5	0.8	0.0

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(END OF REPORT)