

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: P1192060

Luminaire Tested: **LDA6A20950D010TE LARL15SP 6LAL1 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: P1192060
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26267)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A20950D010TE LARL15SP 6LAL1 30° Tilt
Description: PORTFOLIO 6" Lensed Adjustable, Self-flange Trim Ring, 15° Spot
Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

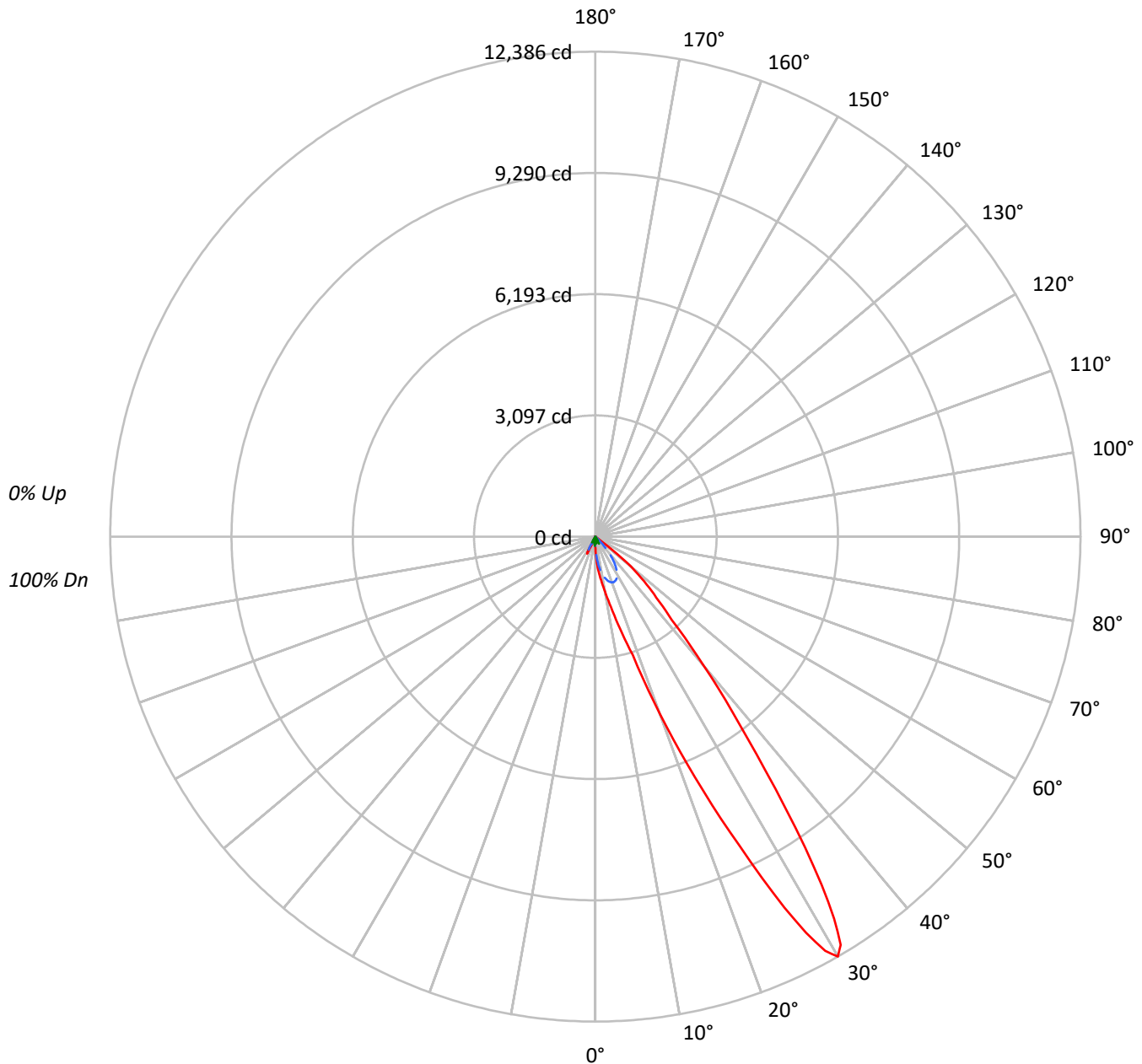
Lumens per Lamp: N/A
Luminaire Lumens: 1714.0 lumens
Efficiency: N/A
Efficacy: 69.1 lumens/watt
Spacing Criteria (0/90/45): 2.44 / 0.33 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 24.8
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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CATALOG NUMBER: LDA6A20950D010TE LARL15SP 6LAL1 30° Tilt

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	113	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85	83		
3	99	91	86	81	97	90	85	80	87	83	79	85	81	78	82	79	76	75		
4	93	84	77	72	91	82	76	72	80	75	71	78	74	70	76	72	69	67		
5	87	77	70	64	85	76	69	64	74	68	64	72	67	63	70	66	62	61		
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55		
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49		
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45		
9	66	55	47	43	65	54	47	43	53	47	42	52	46	42	51	46	42	41		
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38	37		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	13826	13826	13826
5°	47303	11760	1568
10°	79162	6530	768
15°	137504	2406	653
20°	280923	1575	1126
25°	527335	3085	19931
30°	784057	5374	3228
35°	565835	408	254
40°	307333	165	0
45°	170599	178	0
50°	99826	196	0
55°	3173	153	0
60°	1096	252	0
65°	493	298	0
70°	369	369	0
75°	169	635	0
80°	0	947	0
85°	0	1887	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.3	2.1
10°-20°	183.5	10.7
20°-30°	590.6	34.5
30°-40°	614.9	35.9
40°-50°	262.0	15.3
50°-60°	21.7	1.3
60°-70°	2.2	0.1
70°-80°	1.9	0.1
80°-90°	1.8	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°	809.5	47.2
0°-40°	1424.4	83.1
0°-60°	1708.1	99.7
0°-90°	1714.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1714.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	252	252	252	252	252	
5°	860	626	214	39	28	98
15°	2423	1154	42	15	12	792
25°	8718	1228	51	154	330	4187
35°	8455	877	6	5	4	5234
45°	2200	150	2	2	0	1810
55°	33	5	2	2	0	207
65°	4	2	2	2	0	4
75°	1	2	3	2	0	1
85°	0	2	3	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°	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2
2.5°	560.2	530.8	553.2	540.2	531.6	529.4	542.4	527.8	512.3	511.6	507.0
5°	859.6	831.8	854.9	834.8	825.7	818.0	824.0	800.1	774.7	775.4	763.9
7.5°	1120.3	1104.9	1120.3	1098.8	1091.7	1084.1	1081.7	1058.6	1028.5	1030.8	1013.1
10°	1422.1	1377.4	1401.9	1354.9	1343.3	1322.5	1315.6	1277.6	1229.9	1227.6	1202.0
12.5°	1837.9	1820.2	1844.9	1778.5	1764.6	1729.1	1709.9	1649.6	1570.9	1551.0	1492.2
15°	2422.8	2365.7	2390.4	2296.9	2270.7	2209.0	2166.6	2073.2	1998.4	1913.5	1824.1
17.5°	3165.9	3133.4	3165.0	2981.4	2913.5	2793.1	2693.6	2537.7	2378.8	2302.5	2176.6
20°	4815.4	4661.2	4678.0	4337.0	4119.5	3795.4	3536.1	3192.1	2876.4	2695.1	2487.6
22.5°	6646.3	6470.6	6427.3	5988.9	5620.2	5133.2	4678.0	4102.5	3543.1	3138.0	2786.3
25°	8718.1	8603.9	8377.8	7660.2	7026.0	6331.6	5662.0	4908.8	4183.4	3563.1	3035.4
26°	9701.8	9610.0	9270.5	8373.2	7552.3	6721.3	5955.9	5147.3	4364.9	3684.3	3094.0
27°	10636.3	10562.1	10120.8	9076.2	8049.9	7050.0	6169.6	5316.9	4495.3	3762.3	3135.8
28°	11459.6	11383.9	10813.7	9671.8	8444.2	7287.5	6303.8	5422.7	4570.1	3780.8	3133.4
29°	12099.9	12004.3	11268.1	10053.7	8675.7	7401.8	6330.8	5435.8	4559.3	3737.6	3090.2
30°	12386.2	12267.3	11397.8	10135.5	8679.5	7358.6	6254.4	5365.6	4471.4	3635.7	3010.0
31°	12161.7	12060.6	11162.4	9899.4	8444.2	7161.0	6064.6	5203.5	4304.7	3488.4	2903.5
32°	11507.3	11414.7	10586.9	9380.8	7999.0	6827.0	5789.2	4972.0	4083.2	3310.0	2780.0
33°	10610.1	10538.3	9796.0	8668.7	7427.3	6415.7	5459.8	4681.9	3817.0	3110.2	2629.5
34°	9586.1	9529.8	8852.3	7864.0	6803.1	5958.9	5084.0	4264.5	3526.1	2908.9	2517.0
35°	8455.0	8416.4	7864.0	7037.6	6181.9	5484.3	4666.5	3895.6	3232.9	2715.1	2395.7
36°	7380.2	7348.5	6927.2	6279.9	5590.8	4992.1	4214.3	3511.6	2952.0	2540.8	2282.3
37°	6462.0	6438.8	6127.2	5605.5	5022.9	4480.5	3753.8	3151.9	2707.4	2388.8	2165.8
38°	5698.2	5679.6	5426.5	4964.3	4438.2	3951.3	3309.4	2834.0	2499.1	2256.9	2033.9
39°	4986.0	4962.0	4734.5	4316.1	3855.6	3436.0	3014.5	2572.4	2335.5	2119.5	1892.0
40°	4294.6	4263.7	4063.9	3708.2	3323.9	2998.4	2620.3	2412.0	2202.8	1959.8	1746.9
42.5°	2881.8	2864.9	2756.0	2595.6	2432.9	2314.0	2194.3	2008.4	1787.8	1587.1	1429.8
45°	2200.5	2196.7	2143.4	2059.4	1951.2	1851.1	1691.4	1584.0	1435.1	1266.2	1153.5
47.5°	1688.1	1689.0	1639.6	1576.3	1502.2	1437.5	1320.9	1235.3	1128.8	1032.3	945.2
50°	1170.5	1121.1	1128.1	1077.9	1017.7	979.9	871.8	806.3	655.0	502.3	392.8
51°	877.2	812.4	821.0	764.7	702.1	668.9	567.9	501.5	359.5	236.1	154.2
52°	535.5	484.6	483.8	440.5	386.6	357.2	277.0	216.0	122.7	64.8	44.7
53°	239.9	206.0	198.3	168.9	132.7	115.0	78.6	57.9	43.3	33.2	25.5
54°	63.2	56.3	54.1	49.4	44.7	43.3	37.8	31.7	24.8	19.3	16.2
55°	33.2	30.9	30.1	28.5	26.2	25.5	22.4	19.3	15.4	13.8	12.4
57.5°	15.4	15.4	14.7	13.8	13.2	13.2	11.5	10.8	10.0	10.0	8.5
60°	10.0	10.0	10.0	9.2	9.2	8.5	7.7	7.0	6.1	7.0	6.1
61°	8.5	8.5	8.5	7.7	7.0	6.1	6.1	6.1	5.3	5.3	4.7
62°	6.1	6.1	5.3	5.3	4.7	4.7	4.7	4.7	3.8	4.7	4.7
63°	4.7	4.7	3.8	3.8	3.8	3.8	3.0	3.0	3.0	4.7	4.7
64°	3.8	3.8	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.8	3.0
65°	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.3	3.0	3.0
66°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.3	2.3	3.0	3.0



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CATALOG NUMBER: LDA6A20950D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.8
75°	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2	252.2
2.5°	507.0	497.6	478.4	474.6	456.0	445.2	448.2	442.2	343.4	242.2	151.2
5°	755.4	734.6	706.0	696.0	664.4	647.4	642.0	626.5	425.2	213.7	70.9
7.5°	998.4	971.4	936.6	920.5	877.2	848.6	830.1	807.1	481.4	169.7	39.4
10°	1179.0	1148.2	1111.9	1091.1	1042.5	1013.9	983.7	958.4	511.6	117.3	29.3
12.5°	1419.7	1358.8	1283.2	1237.6	1165.8	1126.4	1091.7	1067.0	523.1	70.3	22.4
15°	1740.8	1642.8	1535.5	1453.0	1331.0	1256.9	1198.2	1153.5	513.9	42.4	19.3
17.5°	2051.6	1912.7	1772.3	1660.5	1520.8	1410.4	1297.8	1209.9	474.6	33.9	17.7
20°	2310.2	2147.4	1968.3	1811.7	1650.5	1519.2	1369.5	1245.3	411.3	27.0	19.3
22.5°	2509.1	2301.6	2098.6	1904.3	1712.2	1561.7	1397.3	1253.0	331.0	27.8	27.0
25°	2652.7	2380.2	2164.2	1942.9	1733.8	1568.6	1382.7	1228.4	243.9	51.0	91.0
26°	2682.1	2396.5	2172.8	1939.1	1726.1	1557.1	1365.6	1213.0	219.9	101.2	200.6
27°	2698.3	2394.3	2166.6	1923.6	1709.9	1540.1	1346.5	1199.0	216.0	172.7	299.3
28°	2683.6	2374.9	2140.4	1895.8	1683.7	1517.7	1324.1	1182.9	213.7	212.2	283.9
29°	2643.5	2341.0	2101.0	1852.6	1643.4	1482.2	1290.0	1159.7	191.4	168.9	171.3
30°	2582.4	2293.1	2043.9	1794.6	1592.6	1431.2	1241.4	1122.6	126.6	84.9	72.5
31°	2506.8	2231.3	1973.8	1727.5	1534.7	1369.5	1190.6	1074.8	65.6	36.2	33.9
32°	2423.5	2157.4	1898.1	1659.6	1476.0	1310.1	1148.2	1032.3	43.3	20.1	19.3
33°	2335.5	2071.0	1814.7	1589.5	1410.4	1243.8	1104.1	986.9	32.3	12.4	11.5
34°	2249.2	1978.3	1730.8	1513.9	1339.4	1184.4	1064.0	934.3	26.2	9.2	7.7
35°	2151.2	1877.9	1644.2	1433.6	1263.2	1133.5	1024.0	877.2	20.9	6.1	6.1
36°	2037.0	1771.6	1554.8	1349.5	1190.6	1086.4	979.9	814.7	16.2	4.7	5.3
37°	1915.9	1665.8	1464.4	1266.2	1131.1	1043.1	926.6	750.7	13.8	3.8	4.7
38°	1790.8	1560.9	1367.2	1185.9	1079.4	996.1	866.5	684.4	11.5	3.0	3.8
39°	1668.2	1453.6	1270.0	1121.1	1030.8	940.5	797.8	616.5	10.0	3.0	3.8
40°	1548.6	1345.7	1183.5	1064.9	976.9	872.7	726.9	545.5	7.0	2.3	3.8
42.5°	1264.6	1122.0	1019.3	900.4	800.9	683.6	534.7	354.2	5.3	2.3	3.0
45°	1058.6	941.3	821.8	687.4	589.5	469.0	316.4	150.4	5.3	2.3	3.0
47.5°	837.2	699.1	523.1	353.4	230.7	118.9	37.0	20.9	3.8	2.3	3.0
50°	243.9	141.2	52.4	31.7	23.9	14.7	9.2	8.5	3.0	2.3	3.0
51°	70.3	41.7	27.8	18.5	13.8	8.5	7.0	7.7	3.0	2.3	2.3
52°	33.2	23.9	16.2	12.4	9.2	7.0	6.1	7.0	3.0	2.3	2.3
53°	19.3	14.7	11.5	10.0	7.0	6.1	4.7	6.1	3.0	2.3	2.3
54°	13.2	11.5	10.0	8.5	6.1	4.7	4.7	6.1	3.0	2.3	2.3
55°	11.5	10.0	8.5	7.7	5.3	4.7	4.7	4.7	2.3	1.6	2.3
57.5°	7.7	7.7	6.1	6.1	4.7	3.0	1.6	3.8	3.0	2.3	2.3
60°	5.3	5.3	5.3	3.8	1.6	1.6	0.8	3.0	3.0	2.3	3.0
61°	5.3	5.3	3.8	3.0	1.6	1.6	0.8	3.0	3.0	2.3	3.0
62°	4.7	3.8	3.0	3.0	1.6	1.6	0.8	3.0	3.0	2.3	3.0
63°	3.8	3.0	3.0	3.0	1.6	0.8	0.8	3.0	3.0	2.3	3.0
64°	3.0	3.0	3.0	3.0	0.8	0.8	0.8	3.0	3.0	2.3	3.0
65°	3.0	3.0	3.0	2.3	0.8	0.8	0.8	2.3	3.0	2.3	3.0
66°	3.0	3.0	2.3	2.3	0.8	0.8	0.8	2.3	3.0	2.3	3.0



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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	0.8	1.6	1.6	1.6	0.0	0.0	0.0	2.3	3.0	2.3	3.0
75°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.3	3.0	3.0	3.0
77.5°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.3	3.0	3.0	3.8
80°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.3	3.0	3.0	3.8
82.5°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.3	3.0	3.0	3.8
85°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.3	3.0	3.0	3.8
87.5°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.3	3.0	3.0	3.8
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):

	135°	157.5°	180°
0°	252.2	252.2	252.2
2.5°	96.5	69.5	63.2
5°	38.6	31.7	28.5
7.5°	23.9	20.1	18.5
10°	19.3	14.7	13.8
12.5°	15.4	13.2	12.4
15°	14.7	12.4	11.5
17.5°	14.7	13.8	13.2
20°	18.5	18.5	19.3
22.5°	31.7	37.0	41.7
25°	153.6	248.4	329.5
26°	321.7	453.8	485.3
27°	398.9	412.8	396.7
28°	307.1	275.4	259.3
29°	164.4	137.4	125.7
30°	65.6	54.1	51.0
31°	31.7	27.0	26.2
32°	17.7	14.7	14.7
33°	10.8	9.2	8.5
34°	7.7	6.1	5.3
35°	5.3	4.7	3.8
36°	4.7	3.0	2.3
37°	3.8	2.3	2.3
38°	3.0	2.3	1.6
39°	2.3	1.6	0.8
40°	2.3	0.8	0.0
42.5°	1.6	0.8	0.0
45°	1.6	0.0	0.0
47.5°	2.3	1.6	0.8
50°	1.6	0.8	0.0
51°	1.6	0.0	0.0
52°	1.6	0.0	0.0
53°	1.6	0.0	0.0
54°	1.6	0.0	0.0
55°	1.6	0.0	0.0
57.5°	1.6	0.0	0.0
60°	1.6	0.0	0.0
61°	1.6	0.0	0.0
62°	1.6	0.0	0.0
63°	1.6	0.8	0.0
64°	1.6	0.8	0.0
65°	1.6	0.8	0.0
66°	1.6	0.8	0.0



TEST NUMBER: P1192060

CATALOG NUMBER: LDA6A20950D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.3	0.8	0.0
75°	2.3	0.8	0.0
77.5°	2.3	0.8	0.0
80°	2.3	0.8	0.0
82.5°	2.3	0.8	0.0
85°	2.3	0.8	0.0
87.5°	2.3	0.8	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



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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	3.0	2.3	2.3	2.3	2.3	2.3	2.3	1.6	1.6	2.3	2.3
70°	2.3	2.3	2.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6

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67.5°	2.3	2.3	2.3	2.3	0.8	0.0	0.0	2.3	3.0	2.3	3.0
70°	1.6	1.6	1.6	1.6	0.0	0.0	0.0	2.3	3.0	2.3	3.0

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67.5°	2.3	0.8	0.0
70°	2.3	0.8	0.0

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(END OF REPORT)