

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: P1192151

Luminaire Tested: **LDA6A35935D010TE 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: P1192151
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: LDA6A35935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

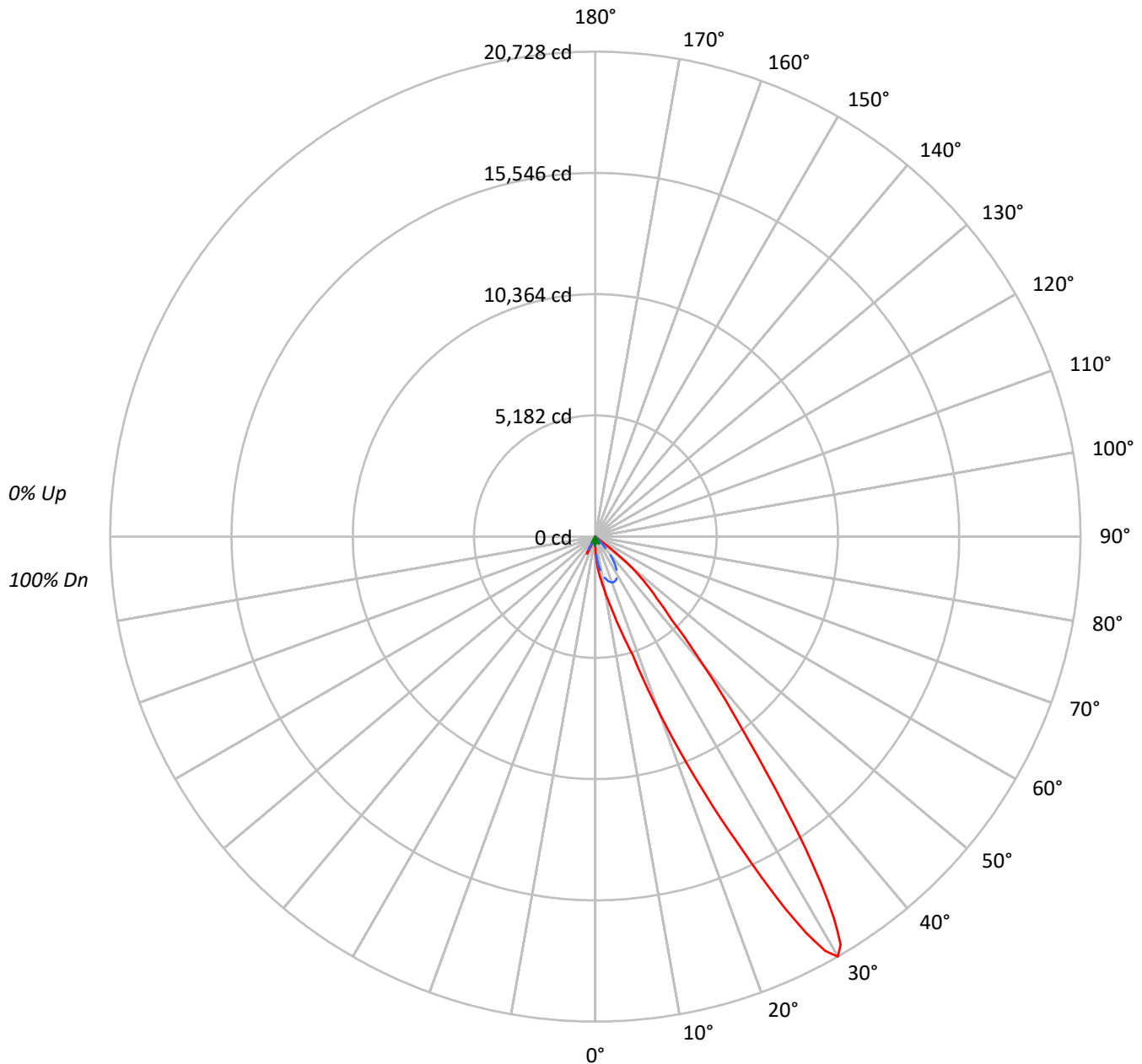
Lumens per Lamp: N/A
Luminaire Lumens: 2868.4 lumens
Efficiency: N/A
Efficacy: 60.1 lumens/watt
Spacing Criteria (0/90/45): 2.44 / 0.33 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 47.7
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	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°	23145	23145	23145
5°	79155	19679	2630
10°	132462	10927	1291
15°	230103	4030	1107
20°	470108	2631	1884
25°	882468	5160	33353
30°	1312094	8989	5400
35°	946901	696	428
40°	514314	279	0
45°	285503	302	0
50°	167048	333	0
55°	5304	239	0
60°	1842	428	0
65°	830	506	0
70°	625	625	0
75°	254	1101	0
80°	0	1642	0
85°	0	3271	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.1	2.1
10°-20°	307.1	10.7
20°-30°	988.4	34.5
30°-40°	1029.0	35.9
40°-50°	438.4	15.3
50°-60°	36.4	1.3
60°-70°	3.8	0.1
70°-80°	3.2	0.1
80°-90°	3.0	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°	1354.6	47.2
0°-40°	2383.6	83.1
0°-60°	2858.4	99.7
0°-90°	2868.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2868.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	422	422	422	422	422	
5°	1438	1048	358	65	48	164
15°	4054	1930	71	24	20	1325
25°	14589	2056	85	257	551	7007
35°	14149	1468	10	9	6	8759
45°	3683	252	4	2	0	3029
55°	56	8	2	2	0	347
65°	6	4	4	2	0	7
75°	1	4	5	4	0	1
85°	0	4	5	4	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°	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2
2.5°	937.5	888.5	925.7	903.8	889.7	885.8	907.7	883.3	857.4	856.2	848.3
5°	1438.4	1392.0	1430.7	1397.2	1381.6	1368.6	1378.9	1339.0	1296.3	1297.6	1278.3
7.5°	1874.8	1848.9	1874.8	1838.6	1827.0	1814.2	1810.2	1771.5	1721.2	1725.2	1695.3
10°	2379.6	2304.9	2346.1	2267.4	2247.9	2213.2	2201.6	2138.2	2058.3	2054.3	2011.7
12.5°	3075.7	3045.9	3087.3	2976.4	2952.9	2893.5	2861.4	2760.6	2628.9	2595.4	2497.2
15°	4054.4	3958.8	4000.2	3843.9	3800.0	3696.6	3625.6	3469.5	3344.3	3202.2	3052.3
17.5°	5297.8	5243.5	5296.5	4989.3	4875.6	4674.1	4507.7	4246.8	3980.7	3853.0	3642.4
20°	8058.3	7800.2	7828.5	7257.9	6893.7	6351.4	5917.7	5341.7	4813.7	4510.1	4162.9
22.5°	11122.5	10828.1	10755.8	10022.4	9405.2	8590.5	7828.5	6865.3	5929.3	5251.4	4662.5
25°	14589.3	14398.2	14019.9	12819.3	11757.7	10595.8	9475.0	8214.7	7001.0	5962.8	5079.5
26°	16235.8	16082.2	15514.0	14012.3	12638.3	11247.8	9967.0	8613.7	7304.3	6165.5	5177.7
27°	17799.4	17675.4	16936.8	15188.5	13471.3	11797.9	10324.5	8897.7	7522.5	6296.0	5247.5
28°	19177.1	19050.6	18096.3	16185.2	14131.1	12195.4	10549.2	9074.5	7647.8	6327.0	5243.5
29°	20248.8	20088.8	18856.8	16824.4	14518.3	12386.5	10594.3	9096.5	7629.8	6254.5	5171.3
30°	20727.9	20528.9	19073.8	16961.3	14524.9	12314.3	10466.6	8979.1	7482.6	6084.1	5037.1
31°	20352.1	20183.0	18680.0	16566.2	14131.1	11983.8	10148.9	8707.9	7203.7	5837.5	4858.8
32°	19257.0	19102.2	17716.8	15698.5	13385.9	11424.6	9688.1	8320.5	6833.0	5539.4	4652.2
33°	17755.5	17635.4	16393.1	14506.7	12429.2	10736.3	9136.7	7835.2	6387.7	5204.8	4400.4
34°	16042.0	15947.8	14814.2	13160.1	11384.6	9972.1	8507.9	7136.6	5900.9	4868.0	4212.0
35°	14149.1	14084.5	13160.1	11777.2	10345.2	9177.9	7809.3	6519.4	5410.2	4543.7	4009.3
36°	12350.5	12297.5	11592.5	10509.2	9356.2	8354.3	7052.5	5876.3	4940.2	4252.0	3819.4
37°	10814.0	10775.3	10253.5	9380.6	8405.8	7498.1	6281.7	5274.6	4530.9	3997.5	3624.4
38°	9535.7	9504.6	9081.2	8307.6	7427.1	6612.3	5537.9	4742.7	4182.2	3776.8	3403.7
39°	8343.9	8303.7	7923.0	7223.1	6452.3	5749.8	5044.8	4305.0	3908.5	3547.0	3166.0
40°	7186.9	7135.4	6800.7	6205.5	5562.6	5017.6	4384.9	4036.4	3686.3	3279.7	2923.3
42.5°	4822.6	4794.2	4612.2	4343.7	4071.2	3872.5	3672.2	3361.0	2991.6	2656.0	2392.7
45°	3682.6	3676.2	3586.9	3446.4	3265.4	3097.7	2830.4	2650.9	2401.5	2119.0	1930.3
47.5°	2825.2	2826.4	2743.8	2638.0	2514.0	2405.5	2210.4	2067.2	1889.1	1727.6	1581.6
50°	1958.7	1876.1	1887.7	1803.8	1703.2	1639.8	1459.1	1349.3	1096.3	840.6	657.2
51°	1468.2	1359.7	1373.8	1279.6	1175.0	1119.5	950.4	839.4	601.7	395.0	258.2
52°	896.1	810.8	809.6	737.3	646.8	597.7	463.6	361.5	205.4	108.5	75.0
53°	401.4	344.7	331.9	282.8	222.2	192.3	131.7	96.9	72.3	55.5	42.7
54°	105.8	94.2	90.5	82.6	75.0	72.3	63.4	53.0	41.4	32.3	27.1
55°	55.5	51.5	50.3	47.8	43.9	42.7	37.5	32.3	25.9	23.2	20.7
57.5°	25.9	25.9	24.4	23.2	21.9	21.9	19.5	18.0	16.8	16.8	14.3
60°	16.8	16.8	16.8	15.5	15.5	14.3	12.8	11.6	10.4	11.6	10.4
61°	14.3	14.3	14.3	12.8	11.6	10.4	10.4	10.4	9.1	9.1	7.6
62°	10.4	10.4	9.1	9.1	7.6	7.6	7.6	7.6	6.4	7.6	7.6
63°	7.6	7.6	6.4	6.4	6.4	6.4	5.2	5.2	5.2	7.6	7.6
64°	6.4	6.4	6.4	5.2	5.2	5.2	5.2	5.2	5.2	6.4	5.2
65°	6.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.9	5.2	5.2
66°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.9	3.9	5.2	5.2



TEST NUMBER: P1192151

CATALOG NUMBER: LDA6A35935D010TE 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°	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2
75°	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
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°	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2	422.2
2.5°	848.3	832.7	800.4	794.0	763.2	745.0	750.1	739.8	574.6	405.4	253.0
5°	1264.0	1229.3	1181.4	1164.6	1111.6	1083.3	1074.4	1048.5	711.4	357.6	118.9
7.5°	1670.9	1625.5	1567.6	1540.5	1468.2	1420.4	1389.3	1350.6	805.6	284.1	65.8
10°	1973.0	1921.4	1860.5	1825.8	1744.4	1696.5	1646.2	1603.6	856.2	196.3	49.1
12.5°	2375.9	2273.8	2147.3	2071.1	1951.0	1885.2	1827.0	1785.8	875.4	117.4	37.5
15°	2913.0	2749.0	2569.5	2431.4	2227.5	2103.4	2005.3	1930.3	859.9	71.0	32.3
17.5°	3433.3	3201.0	2966.0	2778.6	2545.1	2360.4	2171.7	2024.5	794.0	56.7	29.6
20°	3865.8	3593.3	3294.0	3031.8	2761.8	2542.4	2291.8	2083.9	688.2	45.1	32.3
22.5°	4199.0	3851.8	3512.2	3186.7	2865.1	2613.4	2338.4	2097.0	553.8	46.6	45.1
25°	4439.1	3983.4	3621.9	3251.3	2901.4	2625.0	2313.8	2055.6	408.1	85.3	152.4
26°	4488.2	4010.6	3636.0	3244.9	2888.3	2605.7	2285.4	2029.7	367.9	169.2	335.6
27°	4515.3	4006.6	3625.6	3219.0	2861.4	2577.4	2253.1	2006.5	361.5	289.3	501.1
28°	4490.9	3974.3	3581.7	3172.4	2817.5	2539.9	2215.6	1979.4	357.6	355.1	475.2
29°	4423.6	3917.6	3515.9	3100.1	2750.2	2480.5	2158.9	1940.7	320.3	282.8	286.5
30°	4321.8	3837.4	3420.5	3003.5	2665.2	2395.1	2077.5	1878.8	211.8	142.0	121.3
31°	4195.3	3734.1	3302.8	2891.0	2568.2	2291.8	1992.5	1798.6	109.7	60.7	56.7
32°	4055.7	3610.3	3176.3	2777.4	2470.1	2192.4	1921.4	1727.6	72.3	33.5	32.3
33°	3908.5	3465.6	3037.0	2660.0	2360.4	2081.5	1847.7	1651.4	54.2	20.7	19.5
34°	3764.0	3310.7	2896.2	2533.5	2241.5	1982.1	1780.6	1563.6	43.9	15.5	12.8
35°	3600.0	3142.8	2751.5	2399.1	2113.8	1896.8	1713.6	1468.2	34.8	10.4	10.4
36°	3408.9	2964.5	2601.8	2258.3	1992.5	1818.1	1639.8	1363.4	27.1	7.6	9.1
37°	3206.2	2787.7	2450.6	2119.0	1892.8	1745.6	1550.8	1256.4	23.2	6.4	7.6
38°	2996.8	2612.1	2288.1	1984.6	1806.5	1667.0	1450.0	1145.4	19.5	5.2	6.4
39°	2791.7	2432.6	2125.4	1876.1	1725.2	1574.0	1335.0	1031.7	16.8	5.2	6.4
40°	2591.4	2251.9	1980.6	1781.9	1634.7	1460.3	1216.4	912.9	11.6	3.9	6.4
42.5°	2116.2	1877.5	1705.7	1506.9	1340.2	1143.9	894.9	592.6	9.1	3.9	5.2
45°	1771.5	1575.2	1375.2	1150.3	986.4	785.1	529.4	251.8	9.1	3.9	5.2
47.5°	1400.9	1169.8	875.4	591.3	386.2	198.8	61.9	34.8	6.4	3.9	5.2
50°	408.1	236.2	87.8	53.0	39.9	24.4	15.5	14.3	5.2	3.9	5.2
51°	117.4	69.8	46.6	31.1	23.2	14.3	11.6	12.8	5.2	3.9	3.9
52°	55.5	39.9	27.1	20.7	15.5	11.6	10.4	11.6	5.2	3.9	3.9
53°	32.3	24.4	19.5	16.8	11.6	10.4	7.6	10.4	5.2	3.9	3.9
54°	21.9	19.5	16.8	14.3	10.4	7.6	7.6	10.4	5.2	3.9	3.9
55°	19.5	16.8	14.3	12.8	9.1	7.6	7.6	7.6	3.9	2.5	3.9
57.5°	12.8	12.8	10.4	10.4	7.6	5.2	2.5	6.4	5.2	3.9	3.9
60°	9.1	9.1	9.1	6.4	2.5	2.5	1.2	5.2	5.2	3.9	5.2
61°	9.1	9.1	6.4	5.2	2.5	2.5	1.2	5.2	5.2	3.9	5.2
62°	7.6	6.4	5.2	5.2	2.5	2.5	1.2	5.2	5.2	3.9	5.2
63°	6.4	5.2	5.2	5.2	2.5	1.2	1.2	5.2	5.2	3.9	5.2
64°	5.2	5.2	5.2	5.2	1.2	1.2	1.2	5.2	5.2	3.9	5.2
65°	5.2	5.2	5.2	3.9	1.2	1.2	1.2	3.9	5.2	3.9	5.2
66°	5.2	5.2	3.9	3.9	1.2	1.2	1.2	3.9	5.2	3.9	5.2



TEST NUMBER: P1192151

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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°	1.2	2.5	2.5	2.5	0.0	0.0	0.0	3.9	5.2	3.9	5.2
75°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	5.2
77.5°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
80°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
82.5°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
85°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
87.5°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
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°	422.2	422.2	422.2
2.5°	161.5	116.1	105.8
5°	64.6	53.0	47.8
7.5°	39.9	33.5	31.1
10°	32.3	24.4	23.2
12.5°	25.9	21.9	20.7
15°	24.4	20.7	19.5
17.5°	24.4	23.2	21.9
20°	31.1	31.1	32.3
22.5°	53.0	61.9	69.8
25°	256.9	415.8	551.4
26°	538.6	759.3	812.3
27°	667.5	690.7	663.6
28°	513.9	460.9	433.8
29°	274.9	229.8	210.6
30°	109.7	90.5	85.3
31°	53.0	45.1	43.9
32°	29.6	24.4	24.4
33°	18.0	15.5	14.3
34°	12.8	10.4	9.1
35°	9.1	7.6	6.4
36°	7.6	5.2	3.9
37°	6.4	3.9	3.9
38°	5.2	3.9	2.5
39°	3.9	2.5	1.2
40°	3.9	1.2	0.0
42.5°	2.5	1.2	0.0
45°	2.5	0.0	0.0
47.5°	3.9	2.5	1.2
50°	2.5	1.2	0.0
51°	2.5	0.0	0.0
52°	2.5	0.0	0.0
53°	2.5	0.0	0.0
54°	2.5	0.0	0.0
55°	2.5	0.0	0.0
57.5°	2.5	0.0	0.0
60°	2.5	0.0	0.0
61°	2.5	0.0	0.0
62°	2.5	0.0	0.0
63°	2.5	1.2	0.0
64°	2.5	1.2	0.0
65°	2.5	1.2	0.0
66°	2.5	1.2	0.0

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Peachtree City, GA 30269

Scaled Data Report



TEST NUMBER: P1192151

CATALOG NUMBER: LDA6A35935D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	3.9	1.2	0.0
75°	3.9	1.2	0.0
77.5°	3.9	1.2	0.0
80°	3.9	1.2	0.0
82.5°	3.9	1.2	0.0
85°	3.9	1.2	0.0
87.5°	3.9	1.2	0.0
90°	0.0	0.0	0.0

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Scaled Data Report

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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°	5.2	3.9	3.9	3.9	3.9	3.9	3.9	2.5	2.5	3.9	3.9
70°	3.9	3.9	3.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

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67.5°	3.9	3.9	3.9	3.9	1.2	0.0	0.0	3.9	5.2	3.9	5.2
70°	2.5	2.5	2.5	2.5	0.0	0.0	0.0	3.9	5.2	3.9	5.2

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67.5°	3.9	1.2	0.0
70°	3.9	1.2	0.0

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(END OF REPORT)