

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: P135584

Luminaire Tested: **LD6A20D010TE ERM6A20827 6LM111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135584
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23399)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERM6A20827 6LM111LI
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED SINGLE WALL WASH LUMINAIRE
SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 2700K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2367.0 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.93 / 0.89
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

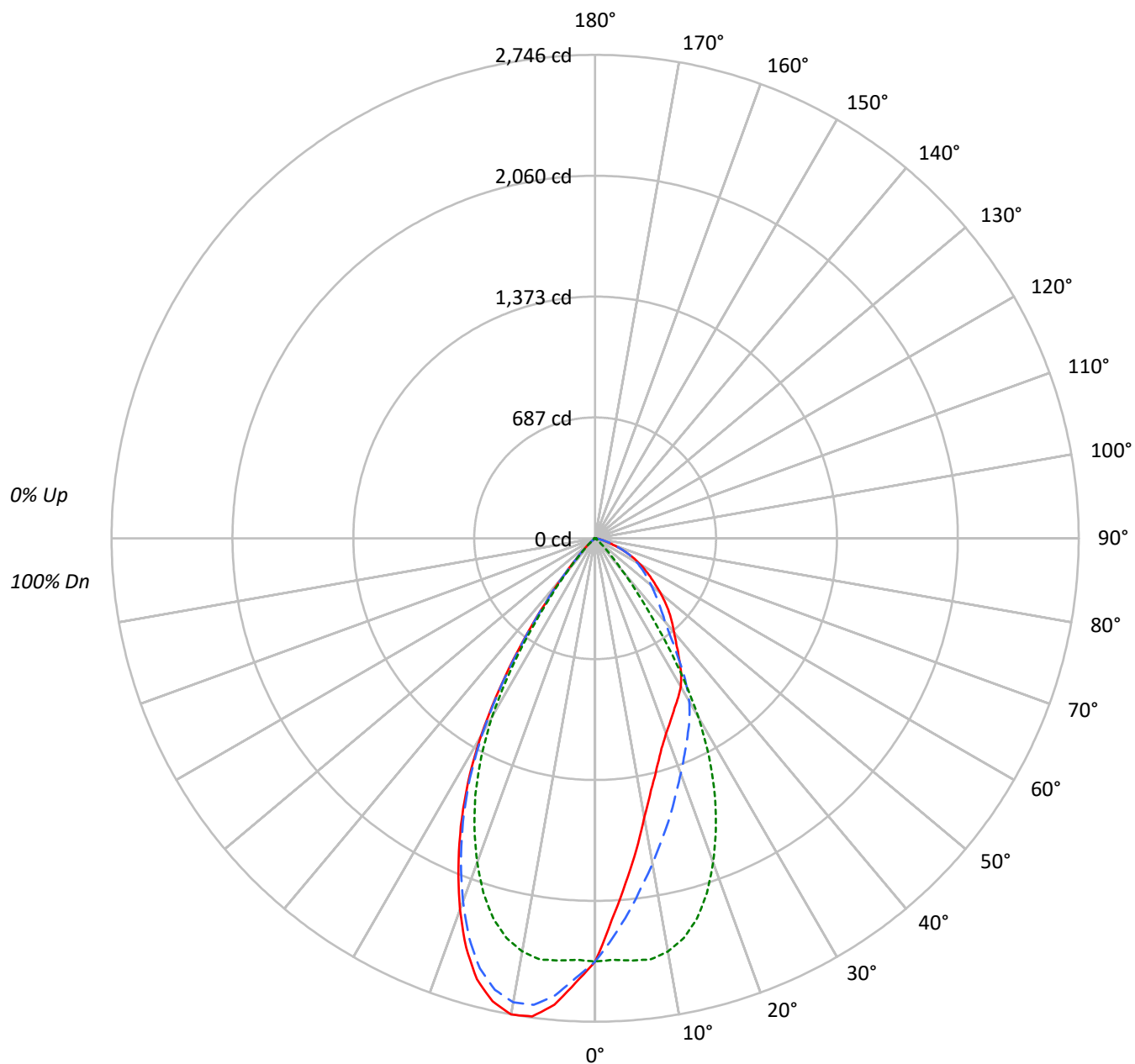
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	110	107	104	110	107	105	103	103	101	100		100	98	97		96
2	106	101	96	93	104	99	95	91	96	92	89		93	90	88		90
3	100	93	87	83	98	92	86	82	89	85	81		86	83	80		84
4	95	86	80	75	93	85	79	75	83	78	74		81	76	73		79
5	89	80	74	69	88	79	73	69	77	72	68		75	71	67		74
6	84	75	68	63	83	74	68	63	72	67	63		71	66	62		69
7	80	70	63	59	78	69	63	59	68	62	58		67	62	58		65
8	76	65	59	55	74	65	59	54	64	58	54		63	58	54		62
9	72	62	55	51	71	61	55	51	60	55	51		59	54	50		58
10	68	58	52	48	67	58	52	48	57	51	48		56	51	47		55

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	156865	156865	156865
5°	128891	157680	174203
10°	106552	157887	181934
15°	91263	150963	175157
20°	81827	135967	155747
25°	76758	115781	129839
30°	73337	88298	97738
35°	66121	50048	56659
40°	59335	20380	23983
45°	54823	7058	8110
50°	49236	2477	2639
55°	43518	1479	1297
60°	38453	1279	1057
65°	31662	1003	756
70°	21116	935	629
75°	11494	832	403
80°	6124	1841	0
85°	2470	2470	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.8	9.5
10°-20°	582.3	24.6
20°-30°	688.0	29.1
30°-40°	458.5	19.4
40°-50°	198.9	8.4
50°-60°	119.3	5.0
60°-70°	71.6	3.0
70°-80°	22.0	0.9
80°-90°	2.7	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°	1494.1	63.1
0°-40°	1952.6	82.5
0°-60°	2270.8	95.9
0°-90°	2367.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2367.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2404	2404	2404	2404	2404	
5°	1968	2139	2408	2606	2660	178
15°	1351	1638	2235	2530	2593	381
25°	1066	1240	1608	1776	1804	493
35°	830	817	628	698	711	520
45°	594	503	76	88	88	457
55°	383	340	13	11	11	344
65°	205	204	6	5	5	201
75°	46	50	3	2	2	55
85°	3	5	3	0	0	5
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4
2.5°	2170.0	2207.4	2223.7	2235.1	2192.8	2238.4	2223.7	2244.9	2251.4	2272.6	2292.1
5°	1968.1	2004.0	2021.9	2034.9	2002.3	2054.4	2052.8	2080.5	2103.3	2139.1	2163.5
7.5°	1787.4	1803.7	1821.6	1839.5	1824.9	1872.1	1880.2	1919.3	1953.5	2002.3	2047.9
10°	1608.4	1624.7	1642.6	1662.1	1655.6	1702.8	1720.7	1764.7	1810.2	1875.4	1924.2
12.5°	1465.1	1481.4	1497.7	1517.2	1514.0	1561.2	1584.0	1631.2	1686.5	1751.6	1807.0
15°	1351.2	1365.8	1382.1	1395.1	1398.4	1442.3	1466.7	1512.3	1570.9	1637.7	1694.7
17.5°	1251.9	1268.1	1282.8	1294.2	1297.4	1338.1	1362.6	1403.3	1460.2	1523.7	1579.1
20°	1178.6	1193.3	1206.3	1217.7	1217.7	1253.5	1274.7	1312.1	1362.6	1421.2	1468.4
22.5°	1120.0	1133.0	1144.4	1154.2	1154.2	1185.1	1203.0	1234.0	1277.9	1326.7	1365.8
25°	1066.3	1079.3	1089.1	1097.2	1095.6	1124.9	1139.5	1162.3	1199.8	1240.5	1269.8
27.5°	1020.7	1033.7	1041.9	1053.3	1046.7	1071.2	1082.6	1102.1	1131.4	1160.7	1177.0
30°	973.5	986.5	994.7	1004.4	997.9	1019.1	1025.6	1035.4	1054.9	1069.5	1071.2
32.5°	908.4	919.8	927.9	932.8	924.7	940.9	940.9	942.6	949.1	950.7	937.7
35°	830.2	838.4	844.9	846.5	836.7	846.5	844.9	833.5	830.2	817.2	791.2
37.5°	757.0	766.7	770.0	770.0	757.0	761.9	755.4	737.4	724.4	701.6	665.8
40°	696.7	704.9	706.5	704.9	691.9	693.5	683.7	662.6	644.7	617.0	571.4
42.5°	646.3	652.8	654.4	652.8	639.8	639.8	630.0	607.2	586.0	555.1	507.9
45°	594.2	600.7	604.0	600.7	589.3	589.3	577.9	556.7	535.6	503.0	455.8
47.5°	540.5	545.3	548.6	547.0	535.6	535.6	525.8	504.7	486.7	457.4	411.9
50°	485.1	491.6	494.9	493.3	483.5	483.5	475.3	455.8	441.2	415.1	374.4
52.5°	431.4	439.5	441.2	437.9	431.4	429.8	424.9	407.0	395.6	377.7	338.6
55°	382.6	389.1	389.1	389.1	380.9	379.3	376.0	361.4	354.9	340.2	307.7
57.5°	338.6	343.5	341.9	340.2	337.0	333.7	330.5	319.1	315.8	306.0	278.4
60°	294.7	299.5	297.9	296.3	293.0	289.8	286.5	278.4	278.4	271.9	249.1
62.5°	252.3	255.6	254.0	252.3	252.3	249.1	247.4	240.9	242.6	239.3	219.8
65°	205.1	210.0	208.4	208.4	210.0	210.0	208.4	205.1	205.1	203.5	187.2
67.5°	156.3	161.2	159.5	161.2	166.0	167.7	167.7	166.0	166.0	162.8	148.1
70°	110.7	114.0	114.0	115.6	120.5	122.1	127.0	122.1	122.1	118.8	107.4
72.5°	73.3	74.9	76.5	79.8	81.4	83.0	86.3	86.3	84.7	79.8	71.6
75°	45.6	47.2	47.2	48.8	50.5	52.1	55.3	53.7	52.1	50.5	44.0
77.5°	27.7	27.7	29.3	29.3	30.9	32.6	32.6	32.6	30.9	29.3	26.0
80°	16.3	16.3	16.3	17.9	17.9	17.9	17.9	17.9	17.9	16.3	14.7
82.5°	8.1	8.1	8.1	9.8	9.8	9.8	9.8	9.8	9.8	8.1	8.1
85°	3.3	3.3	3.3	4.9	4.9	4.9	4.9	4.9	4.9	4.9	3.3
87.5°	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1.6	1.6	1.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4
2.5°	2311.6	2311.6	2306.7	2336.1	2373.5	2367.0	2368.6	2396.3	2407.7	2427.2	2445.1
5°	2205.8	2223.7	2236.7	2284.0	2337.7	2347.4	2365.4	2407.7	2433.7	2466.3	2497.2
7.5°	2100.0	2137.4	2168.4	2230.2	2300.2	2326.3	2358.8	2412.6	2446.7	2490.7	2533.0
10°	1990.9	2043.0	2088.6	2163.5	2244.9	2282.3	2323.0	2383.3	2428.8	2476.1	2523.3
12.5°	1881.9	1945.4	2002.3	2085.4	2171.6	2217.2	2262.8	2326.3	2375.1	2424.0	2472.8
15°	1774.4	1842.8	1903.0	1990.9	2078.8	2126.1	2171.6	2235.1	2287.2	2332.8	2381.6
17.5°	1655.6	1732.1	1787.4	1870.5	1955.1	2002.3	2052.8	2111.4	2157.0	2196.1	2243.3
20°	1540.0	1611.6	1662.1	1738.6	1815.1	1859.1	1906.3	1958.4	1999.1	2033.3	2077.2
22.5°	1427.7	1491.2	1538.4	1608.4	1667.0	1704.4	1745.1	1790.7	1826.5	1854.2	1893.3
25°	1318.6	1369.1	1404.9	1460.2	1507.4	1536.7	1570.9	1608.4	1639.3	1662.1	1697.9
27.5°	1209.5	1243.7	1256.7	1290.9	1320.2	1352.8	1370.7	1400.0	1427.7	1445.6	1476.5
30°	1084.2	1095.6	1084.2	1094.0	1102.1	1116.7	1137.9	1172.1	1185.1	1196.5	1227.4
32.5°	927.9	919.8	882.3	867.7	857.9	872.6	875.8	901.9	910.0	919.8	944.2
35°	763.5	734.2	674.0	636.5	613.7	615.3	600.7	628.4	633.3	643.0	660.9
37.5°	623.5	576.3	498.1	446.0	411.9	403.7	385.8	402.1	403.7	410.2	423.3
40°	520.9	454.2	366.3	304.4	267.0	250.7	232.8	239.3	239.3	244.2	252.3
42.5°	449.3	377.7	278.4	211.6	170.9	151.4	136.7	136.7	136.7	138.4	143.3
45°	395.6	315.8	216.5	148.1	110.7	91.2	76.5	76.5	74.9	74.9	78.1
47.5°	351.6	271.9	170.9	109.1	71.6	53.7	44.0	40.7	39.1	40.7	42.3
50°	315.8	237.7	141.6	83.0	50.5	35.8	27.7	24.4	22.8	22.8	22.8
52.5°	284.9	210.0	118.8	66.7	39.1	26.0	19.5	16.3	14.7	14.7	14.7
55°	258.8	185.6	102.6	55.3	32.6	22.8	16.3	13.0	11.4	11.4	11.4
57.5°	232.8	164.4	87.9	47.2	27.7	19.5	14.7	11.4	9.8	9.8	9.8
60°	206.7	143.3	76.5	39.1	22.8	16.3	13.0	9.8	8.1	8.1	8.1
62.5°	180.7	122.1	63.5	32.6	19.5	14.7	9.8	8.1	8.1	6.5	6.5
65°	149.8	99.3	52.1	27.7	16.3	11.4	9.8	6.5	6.5	6.5	6.5
67.5°	117.2	76.5	39.1	21.2	13.0	9.8	8.1	6.5	4.9	4.9	4.9
70°	83.0	53.7	29.3	16.3	11.4	8.1	6.5	4.9	4.9	4.9	3.3
72.5°	55.3	35.8	21.2	13.0	9.8	6.5	4.9	4.9	3.3	3.3	3.3
75°	35.8	22.8	14.7	9.8	6.5	6.5	4.9	3.3	3.3	3.3	1.6
77.5°	21.2	14.7	9.8	6.5	4.9	4.9	4.9	4.9	4.9	3.3	1.6
80°	11.4	8.1	6.5	4.9	3.3	4.9	4.9	4.9	4.9	3.3	1.6
82.5°	6.5	4.9	3.3	3.3	3.3	3.3	3.3	4.9	4.9	3.3	1.6
85°	3.3	3.3	1.6	1.6	1.6	3.3	3.3	3.3	3.3	1.6	1.6
87.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3	1.6	1.6
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4	2404.4
2.5°	2459.8	2469.5	2472.8	2477.7	2505.4	2498.8	2523.3	2523.3	2542.8	2531.4	2542.8
5°	2523.3	2544.4	2554.2	2567.2	2606.3	2606.3	2635.6	2640.5	2666.5	2658.4	2669.8
7.5°	2564.0	2590.0	2603.0	2624.2	2666.5	2673.0	2700.7	2708.8	2739.8	2734.9	2741.4
10°	2555.8	2583.5	2599.8	2622.6	2666.5	2676.3	2700.7	2715.4	2744.7	2738.1	2741.4
12.5°	2505.4	2531.4	2549.3	2570.5	2616.1	2627.4	2648.6	2664.9	2692.6	2687.7	2687.7
15°	2410.9	2440.2	2454.9	2472.8	2516.7	2529.8	2546.1	2559.1	2590.0	2586.7	2581.9
17.5°	2269.3	2297.0	2308.4	2323.0	2365.4	2380.0	2393.0	2402.8	2432.1	2430.5	2422.3
20°	2096.7	2121.2	2130.9	2140.7	2178.1	2192.8	2202.6	2212.3	2236.7	2236.7	2225.4
22.5°	1907.9	1929.1	1935.6	1943.7	1976.3	1990.9	1995.8	2004.0	2026.7	2026.7	2012.1
25°	1707.7	1725.6	1728.8	1735.4	1763.0	1776.0	1777.7	1782.6	1805.4	1805.4	1790.7
27.5°	1483.0	1497.7	1500.9	1504.2	1528.6	1541.6	1540.0	1557.9	1564.4	1567.7	1549.8
30°	1230.7	1255.1	1242.1	1256.7	1264.9	1277.9	1273.0	1290.9	1295.8	1300.7	1277.9
32.5°	947.4	970.2	955.6	970.2	973.5	986.5	980.0	996.3	999.5	1004.4	983.3
35°	664.2	682.1	669.1	674.0	685.3	698.4	690.2	704.9	708.1	709.8	693.5
37.5°	426.5	439.5	442.8	447.7	447.7	457.4	460.7	460.7	462.3	464.0	450.9
40°	255.6	265.3	267.0	265.3	270.2	278.4	280.0	278.4	280.0	281.6	273.5
42.5°	144.9	151.4	153.0	153.0	156.3	161.2	161.2	159.5	161.2	161.2	156.3
45°	79.8	83.0	84.7	83.0	84.7	87.9	87.9	87.9	87.9	87.9	86.3
47.5°	42.3	44.0	44.0	45.6	44.0	45.6	45.6	45.6	47.2	47.2	45.6
50°	22.8	24.4	24.4	24.4	24.4	26.0	26.0	26.0	26.0	26.0	24.4
52.5°	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
55°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
57.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
60°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
62.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
65°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
67.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
70°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	1.6	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



TEST NUMBER: P135584

CATALOG NUMBER: LD6A20D010TE ERM6A20827 6LM111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2404.4	2404.4	2404.4	2404.4
2.5°	2547.7	2555.8	2544.4	2526.5
5°	2677.9	2687.7	2676.3	2660.0
7.5°	2749.5	2764.2	2751.2	2739.8
10°	2752.8	2767.4	2752.8	2746.3
12.5°	2699.1	2713.7	2697.4	2694.2
15°	2596.5	2607.9	2591.6	2593.3
17.5°	2438.6	2448.4	2432.1	2437.0
20°	2240.0	2249.8	2233.5	2243.3
22.5°	2026.7	2033.3	2030.0	2028.4
25°	1803.7	1808.6	1794.0	1803.7
27.5°	1559.5	1562.8	1564.4	1562.8
30°	1289.3	1290.9	1281.2	1297.4
32.5°	993.0	991.4	988.1	1002.8
35°	698.4	698.4	698.4	711.4
37.5°	454.2	452.6	454.2	464.0
40°	275.1	273.5	275.1	281.6
42.5°	156.3	156.3	157.9	161.2
45°	87.9	86.3	86.3	87.9
47.5°	47.2	47.2	45.6	47.2
50°	26.0	26.0	24.4	26.0
52.5°	14.7	14.7	14.7	14.7
55°	11.4	11.4	11.4	11.4
57.5°	9.8	9.8	9.8	9.8
60°	8.1	8.1	8.1	8.1
62.5°	6.5	6.5	6.5	6.5
65°	4.9	6.5	4.9	4.9
67.5°	4.9	4.9	4.9	4.9
70°	3.3	3.3	3.3	3.3
72.5°	3.3	3.3	3.3	3.3
75°	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6
80°	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)