

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: P135588

Luminaire Tested: **LD6A20D010TE ERM6A20927 6LM111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135588
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 ERM6A20927 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: 2182.4 lumens
Efficiency: N/A
Efficacy: 66.5 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

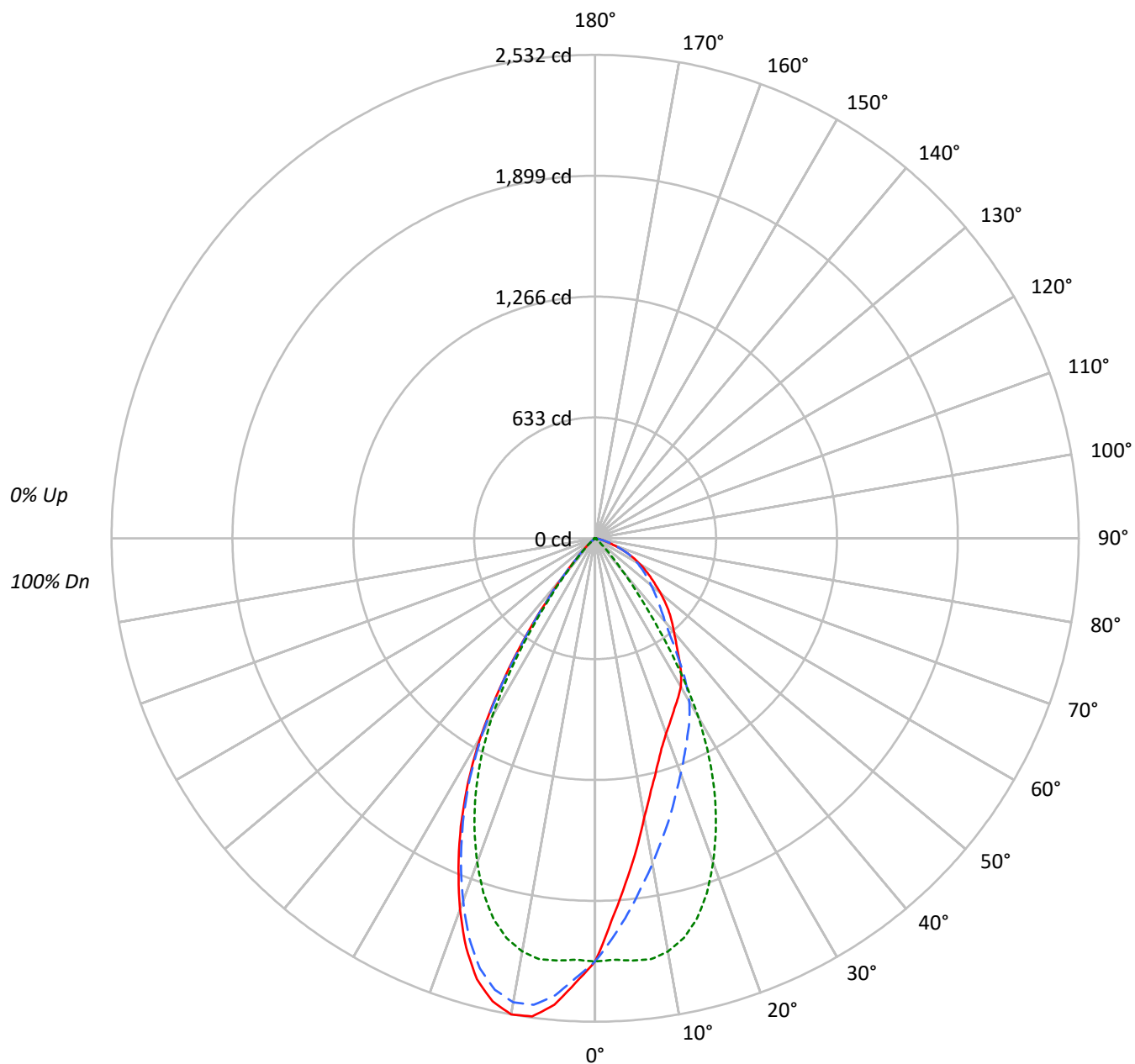
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P135588

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111LI

Luminous Intensity Polar Plot





TEST NUMBER: P135588

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111LI

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	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92		
2	106	101	96	93	104	99	95	91	96	92	89	93	90	88	90	88	86	84		
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77		
4	95	86	80	75	93	85	79	75	83	78	74	81	76	73	79	75	72	71		
5	89	80	74	69	88	79	73	69	77	72	68	75	71	67	74	70	67	65		
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60		
7	80	70	63	59	78	69	63	59	68	62	58	67	62	58	65	61	58	56		
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52		
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49		
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	144632	144632	144632
5°	118838	145381	160614
10°	98238	145571	167744
15°	84144	139191	161493
20°	75447	125359	143597
25°	70769	106747	119711
30°	67619	81413	90114
35°	60960	46146	52239
40°	54710	18788	22109
45°	50552	6505	7473
50°	45399	2284	2436
55°	40129	1365	1194
60°	35452	1174	979
65°	29192	926	695
70°	19476	858	572
75°	10587	756	378
80°	5636	1691	0
85°	2246	2246	0



TEST NUMBER: P135588

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.4	9.5
10°-20°	536.9	24.6
20°-30°	634.3	29.1
30°-40°	422.7	19.4
40°-50°	183.3	8.4
50°-60°	110.0	5.0
60°-70°	66.0	3.0
70°-80°	20.2	0.9
80°-90°	2.5	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°	1377.6	63.1
0°-40°	1800.3	82.5
0°-60°	2093.6	95.9
0°-90°	2182.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2182.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2217	2217	2217	2217	2217	
5°	1815	1972	2220	2403	2452	164
15°	1246	1510	2061	2332	2391	351
25°	983	1144	1483	1638	1663	454
35°	765	754	579	644	656	479
45°	548	464	70	81	81	421
55°	353	314	12	10	10	318
65°	189	188	6	4	4	186
75°	42	47	3	2	2	51
85°	3	4	3	0	0	5
90°	0	0	0	0	0	



TEST NUMBER: P135588

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9
2.5°	2000.7	2035.2	2050.3	2060.8	2021.8	2063.8	2050.3	2069.8	2075.8	2095.3	2113.3
5°	1814.6	1847.7	1864.2	1876.2	1846.1	1894.2	1892.7	1918.2	1939.2	1972.3	1994.7
7.5°	1648.0	1663.0	1679.5	1696.0	1682.6	1726.1	1733.5	1769.6	1801.1	1846.1	1888.2
10°	1482.9	1498.0	1514.5	1532.5	1526.5	1570.0	1586.5	1627.1	1669.0	1729.1	1774.1
12.5°	1350.8	1365.9	1380.9	1398.9	1395.9	1439.4	1460.4	1504.0	1555.0	1615.0	1666.1
15°	1245.8	1259.3	1274.3	1286.3	1289.3	1329.8	1352.3	1394.3	1448.4	1510.0	1562.5
17.5°	1154.3	1169.2	1182.7	1193.3	1196.2	1233.7	1256.3	1293.8	1346.3	1404.9	1455.9
20°	1086.7	1100.2	1112.2	1122.7	1122.7	1155.7	1175.3	1209.8	1256.3	1310.3	1353.9
22.5°	1032.6	1044.6	1055.1	1064.2	1064.2	1092.7	1109.2	1137.7	1178.2	1223.2	1259.3
25°	983.1	995.1	1004.2	1011.6	1010.1	1037.2	1050.6	1071.6	1106.2	1143.7	1170.8
27.5°	941.1	953.1	960.6	971.1	965.1	987.6	998.2	1016.1	1043.2	1070.2	1085.2
30°	897.6	909.6	917.1	926.1	920.1	939.6	945.6	954.6	972.6	986.1	987.6
32.5°	837.5	848.1	855.5	860.0	852.6	867.5	867.5	869.1	875.1	876.5	864.6
35°	765.4	773.0	779.0	780.5	771.4	780.5	779.0	768.5	765.4	753.5	729.5
37.5°	698.0	706.9	709.9	709.9	698.0	702.5	696.5	679.9	667.9	646.9	613.9
40°	642.4	649.9	651.4	649.9	637.9	639.4	630.4	610.9	594.4	568.9	526.8
42.5°	595.9	601.9	603.4	601.9	589.9	589.9	580.9	559.8	540.3	511.8	468.3
45°	547.9	553.8	556.9	553.8	543.3	543.3	532.8	513.3	493.8	463.8	420.2
47.5°	498.3	502.8	505.8	504.3	493.8	493.8	484.8	465.3	448.7	421.7	379.8
50°	447.3	453.3	456.3	454.8	445.8	445.8	438.2	420.2	406.8	382.7	345.2
52.5°	397.8	405.2	406.8	403.7	397.8	396.3	391.8	375.3	364.7	348.2	312.2
55°	352.8	358.8	358.8	358.8	351.2	349.7	346.7	333.2	327.2	313.7	283.7
57.5°	312.2	316.7	315.2	313.7	310.7	307.7	304.7	294.2	291.2	282.1	256.7
60°	271.7	276.1	274.7	273.2	270.1	267.2	264.2	256.7	256.7	250.7	229.7
62.5°	232.6	235.7	234.2	232.6	232.6	229.7	228.1	222.1	223.7	220.6	202.7
65°	189.1	193.6	192.1	192.1	193.6	193.6	192.1	189.1	189.1	187.6	172.6
67.5°	144.1	148.6	147.1	148.6	153.1	154.6	154.6	153.1	153.1	150.1	136.5
70°	102.1	105.1	105.1	106.6	111.1	112.6	117.1	112.6	112.6	109.5	99.0
72.5°	67.6	69.1	70.5	73.6	75.1	76.5	79.6	79.6	78.1	73.6	66.0
75°	42.0	43.5	43.5	45.0	46.6	48.0	51.0	49.5	48.0	46.6	40.6
77.5°	25.5	25.5	27.0	27.0	28.5	30.1	30.1	30.1	28.5	27.0	24.0
80°	15.0	15.0	15.0	16.5	16.5	16.5	16.5	16.5	16.5	15.0	13.6
82.5°	7.5	7.5	7.5	9.0	9.0	9.0	9.0	9.0	9.0	7.5	7.5
85°	3.0	3.0	3.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.0
87.5°	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	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



TEST NUMBER: P135588

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111LI

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9
2.5°	2131.3	2131.3	2126.8	2153.9	2188.4	2182.4	2183.8	2209.4	2219.9	2237.9	2254.4
5°	2033.7	2050.3	2062.2	2105.8	2155.4	2164.3	2180.9	2219.9	2243.9	2273.9	2302.4
7.5°	1936.2	1970.7	1999.3	2056.2	2120.8	2144.8	2174.8	2224.4	2255.9	2296.4	2335.4
10°	1835.6	1883.6	1925.7	1994.7	2069.8	2104.3	2141.8	2197.4	2239.4	2283.0	2326.5
12.5°	1735.1	1793.7	1846.1	1922.7	2002.2	2044.3	2086.3	2144.8	2189.8	2234.9	2279.9
15°	1636.0	1699.1	1754.6	1835.6	1916.7	1960.3	2002.2	2060.8	2108.8	2150.8	2195.8
17.5°	1526.5	1597.0	1648.0	1724.6	1802.6	1846.1	1892.7	1946.7	1988.8	2024.8	2068.3
20°	1419.9	1485.9	1532.5	1603.0	1673.5	1714.1	1757.6	1805.6	1843.2	1874.7	1915.2
22.5°	1316.3	1374.9	1418.4	1482.9	1537.0	1571.5	1609.0	1651.0	1684.0	1709.6	1745.6
25°	1215.7	1262.3	1295.3	1346.3	1389.8	1416.8	1448.4	1482.9	1511.4	1532.5	1565.5
27.5°	1115.2	1146.7	1158.7	1190.2	1217.2	1247.3	1263.8	1290.8	1316.3	1332.8	1361.3
30°	999.6	1010.1	999.6	1008.7	1016.1	1029.6	1049.1	1080.7	1092.7	1103.2	1131.7
32.5°	855.5	848.1	813.5	800.0	791.0	804.5	807.5	831.6	839.0	848.1	870.6
35°	703.9	676.9	621.4	586.9	565.8	567.3	553.8	579.4	583.9	592.8	609.3
37.5°	574.9	531.3	459.2	411.2	379.8	372.2	355.7	370.7	372.2	378.2	390.3
40°	480.3	418.8	337.7	280.7	246.2	231.1	214.6	220.6	220.6	225.2	232.6
42.5°	414.3	348.2	256.7	195.1	157.6	139.6	126.0	126.0	126.0	127.6	132.1
45°	364.7	291.2	199.6	136.5	102.1	84.1	70.5	70.5	69.1	69.1	72.0
47.5°	324.2	250.7	157.6	100.6	66.0	49.5	40.6	37.5	36.1	37.5	39.0
50°	291.2	219.2	130.6	76.5	46.6	33.0	25.5	22.5	21.0	21.0	21.0
52.5°	262.7	193.6	109.5	61.5	36.1	24.0	18.0	15.0	13.6	13.6	13.6
55°	238.6	171.1	94.6	51.0	30.1	21.0	15.0	12.0	10.5	10.5	10.5
57.5°	214.6	151.6	81.0	43.5	25.5	18.0	13.6	10.5	9.0	9.0	9.0
60°	190.6	132.1	70.5	36.1	21.0	15.0	12.0	9.0	7.5	7.5	7.5
62.5°	166.6	112.6	58.5	30.1	18.0	13.6	9.0	7.5	7.5	6.0	6.0
65°	138.1	91.6	48.0	25.5	15.0	10.5	9.0	6.0	6.0	6.0	6.0
67.5°	108.1	70.5	36.1	19.5	12.0	9.0	7.5	6.0	4.5	4.5	4.5
70°	76.5	49.5	27.0	15.0	10.5	7.5	6.0	4.5	4.5	4.5	3.0
72.5°	51.0	33.0	19.5	12.0	9.0	6.0	4.5	4.5	3.0	3.0	3.0
75°	33.0	21.0	13.6	9.0	6.0	6.0	4.5	3.0	3.0	3.0	1.5
77.5°	19.5	13.6	9.0	6.0	4.5	4.5	4.5	4.5	4.5	3.0	1.5
80°	10.5	7.5	6.0	4.5	3.0	4.5	4.5	4.5	4.5	3.0	1.5
82.5°	6.0	4.5	3.0	3.0	3.0	3.0	3.0	4.5	4.5	3.0	1.5
85°	3.0	3.0	1.5	1.5	1.5	3.0	3.0	3.0	3.0	1.5	1.5
87.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0	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



TEST NUMBER: P135588

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111LI

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9	2216.9
2.5°	2267.9	2276.9	2279.9	2284.4	2310.0	2303.9	2326.5	2326.5	2344.5	2334.0	2344.5
5°	2326.5	2345.9	2355.0	2367.0	2403.0	2403.0	2430.0	2434.5	2458.5	2451.0	2461.6
7.5°	2364.0	2388.0	2400.0	2419.5	2458.5	2464.5	2490.0	2497.5	2526.1	2521.6	2527.6
10°	2356.4	2382.0	2397.0	2418.0	2458.5	2467.5	2490.0	2503.6	2530.6	2524.5	2527.6
12.5°	2310.0	2334.0	2350.5	2370.0	2412.0	2422.5	2442.0	2457.0	2482.6	2478.1	2478.1
15°	2222.8	2249.9	2263.4	2279.9	2320.4	2332.5	2347.5	2359.5	2388.0	2384.9	2380.5
17.5°	2092.3	2117.8	2128.3	2141.8	2180.9	2194.4	2206.3	2215.4	2242.4	2240.9	2233.4
20°	1933.2	1955.7	1964.7	1973.7	2008.2	2021.8	2030.8	2039.7	2062.2	2062.2	2051.8
22.5°	1759.1	1778.6	1784.6	1792.1	1822.1	1835.6	1840.1	1847.7	1868.6	1868.6	1855.2
25°	1574.5	1591.0	1594.0	1600.0	1625.5	1637.5	1639.0	1643.6	1664.6	1664.6	1651.0
27.5°	1367.3	1380.9	1383.8	1386.9	1409.4	1421.4	1419.9	1436.4	1442.4	1445.4	1428.9
30°	1134.7	1157.2	1145.2	1158.7	1166.2	1178.2	1173.7	1190.2	1194.7	1199.2	1178.2
32.5°	873.5	894.5	881.1	894.5	897.6	909.6	903.6	918.6	921.5	926.1	906.6
35°	612.4	628.9	616.9	621.4	631.8	643.9	636.4	649.9	652.9	654.4	639.4
37.5°	393.2	405.2	408.3	412.8	412.8	421.7	424.8	424.8	426.2	427.8	415.7
40°	235.7	244.6	246.2	244.6	249.1	256.7	258.2	256.7	258.2	259.6	252.2
42.5°	133.6	139.6	141.1	141.1	144.1	148.6	148.6	147.1	148.6	148.6	144.1
45°	73.6	76.5	78.1	76.5	78.1	81.0	81.0	81.0	81.0	81.0	79.6
47.5°	39.0	40.6	40.6	42.0	40.6	42.0	42.0	42.0	43.5	43.5	42.0
50°	21.0	22.5	22.5	22.5	22.5	24.0	24.0	24.0	24.0	24.0	22.5
52.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
55°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
57.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
60°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
62.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
65°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
67.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
70°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
72.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
75°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	1.5	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: P135588

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2216.9	2216.9	2216.9	2216.9
2.5°	2349.0	2356.4	2345.9	2329.4
5°	2469.0	2478.1	2467.5	2452.5
7.5°	2535.0	2548.6	2536.6	2526.1
10°	2538.1	2551.5	2538.1	2532.1
12.5°	2488.6	2502.0	2487.0	2484.1
15°	2394.0	2404.5	2389.5	2391.0
17.5°	2248.4	2257.4	2242.4	2246.9
20°	2065.3	2074.3	2059.3	2068.3
22.5°	1868.6	1874.7	1871.7	1870.2
25°	1663.0	1667.5	1654.1	1663.0
27.5°	1437.9	1440.9	1442.4	1440.9
30°	1188.7	1190.2	1181.3	1196.2
32.5°	915.5	914.1	911.0	924.6
35°	643.9	643.9	643.9	655.9
37.5°	418.8	417.3	418.8	427.8
40°	253.6	252.2	253.6	259.6
42.5°	144.1	144.1	145.6	148.6
45°	81.0	79.6	79.6	81.0
47.5°	43.5	43.5	42.0	43.5
50°	24.0	24.0	22.5	24.0
52.5°	13.6	13.6	13.6	13.6
55°	10.5	10.5	10.5	10.5
57.5°	9.0	9.0	9.0	9.0
60°	7.5	7.5	7.5	7.5
62.5°	6.0	6.0	6.0	6.0
65°	4.5	6.0	4.5	4.5
67.5°	4.5	4.5	4.5	4.5
70°	3.0	3.0	3.0	3.0
72.5°	3.0	3.0	3.0	3.0
75°	1.5	1.5	1.5	1.5
77.5°	1.5	1.5	1.5	1.5
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)