

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: P135589

Luminaire Tested: **LD6A20D010TE ERM6A20930 6LM111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135589
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 ERM6A20930 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 3000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2284.7 lumens
Efficiency: N/A
Efficacy: 69.7 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

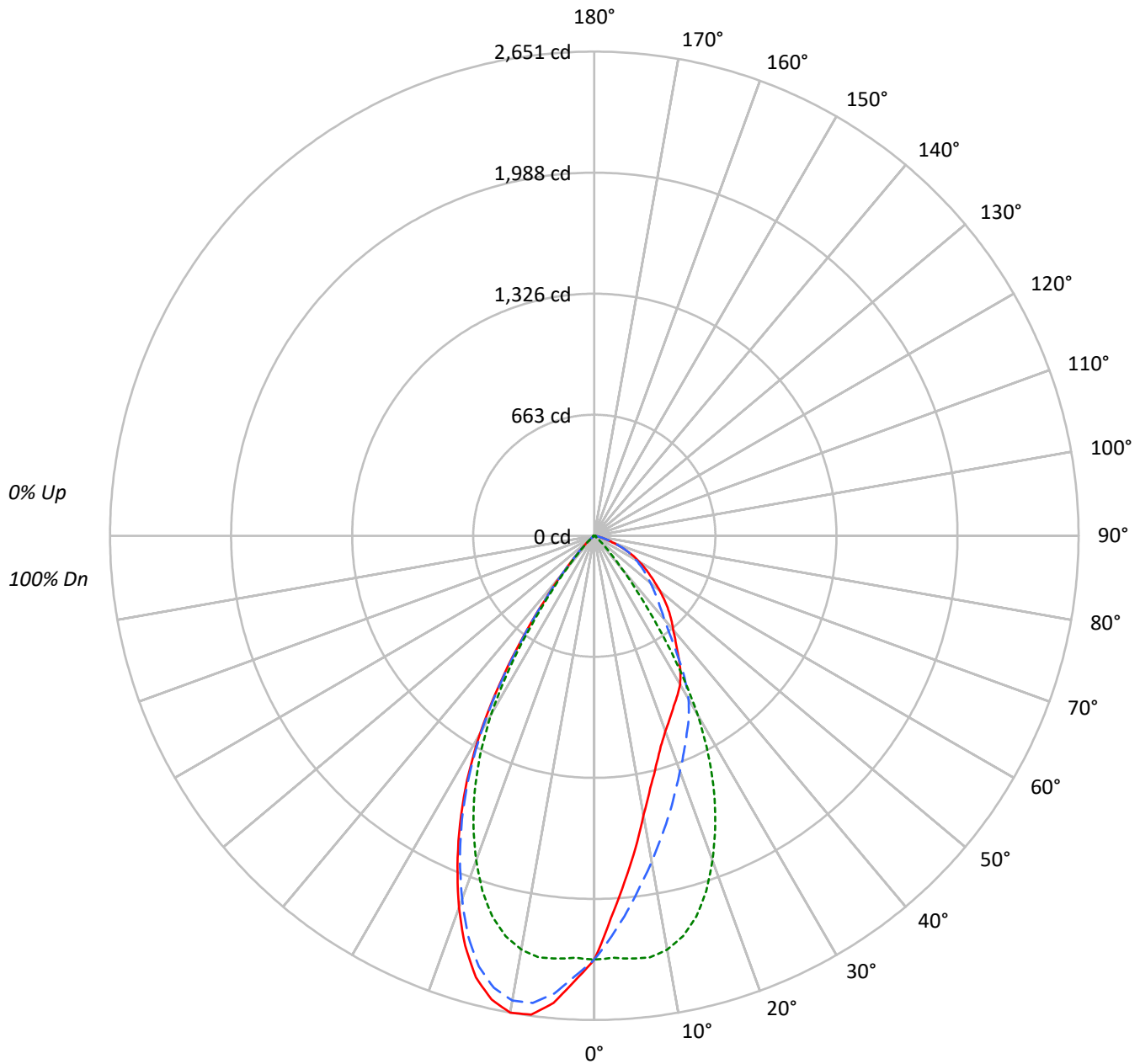
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	113	110	107	104	110	107	105	103		103	101	100		100	98	97		96	95	94
2	106	101	96	93	104	99	95	91		96	92	89		93	90	88		90	88	86
3	100	93	87	83	98	92	86	82		89	85	81		86	83	80		84	81	78
4	95	86	80	75	93	85	79	75		83	78	74		81	76	73		79	75	72
5	89	80	74	69	88	79	73	69		77	72	68		75	71	67		74	70	67
6	84	75	68	63	83	74	68	63		72	67	63		71	66	62		69	65	62
7	80	70	63	59	78	69	63	59		68	62	58		67	62	58		65	61	58
8	76	65	59	55	74	65	59	54		64	58	54		63	58	54		62	57	54
9	72	62	55	51	71	61	55	51		60	55	51		59	54	50		58	54	50
10	68	58	52	48	67	58	52	48		57	51	48		56	51	47		55	51	47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	151417	151417	151417
5°	124411	152198	168145
10°	102849	152395	175608
15°	88088	145715	169065
20°	78988	131239	150332
25°	74087	111757	125326
30°	70783	85232	94348
35°	63827	48304	54692
40°	57274	19673	23148
45°	52923	6818	7824
50°	47531	2395	2558
55°	42005	1422	1251
60°	37109	1227	1018
65°	30566	973	726
70°	20391	897	591
75°	11091	781	403
80°	5899	1766	0
85°	2321	2321	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	216.1	9.5
10°-20°	562.1	24.6
20°-30°	664.0	29.1
30°-40°	442.5	19.4
40°-50°	191.9	8.4
50°-60°	115.1	5.0
60°-70°	69.1	3.0
70°-80°	21.2	0.9
80°-90°	2.6	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°	1442.2	63.1
0°-40°	1884.7	82.5
0°-60°	2191.8	95.9
0°-90°	2284.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2284.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2321	2321	2321	2321	2321	
5°	1900	2065	2324	2516	2568	171
15°	1304	1581	2157	2442	2503	368
25°	1029	1197	1552	1714	1741	476
35°	801	789	606	674	687	502
45°	574	486	74	85	85	441
55°	369	328	12	11	11	332
65°	198	196	6	5	5	194
75°	44	49	3	2	2	53
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°	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9
2.5°	2094.6	2130.7	2146.4	2157.4	2116.5	2160.5	2146.4	2166.9	2173.2	2193.5	2212.4
5°	1899.7	1934.3	1951.6	1964.1	1932.7	1983.0	1981.5	2008.1	2030.2	2064.7	2088.2
7.5°	1725.3	1741.0	1758.3	1775.6	1761.5	1807.0	1814.9	1852.6	1885.6	1932.7	1976.7
10°	1552.5	1568.1	1585.5	1604.3	1598.0	1643.6	1660.9	1703.3	1747.3	1810.2	1857.3
12.5°	1414.2	1429.9	1445.6	1464.5	1461.4	1506.9	1528.9	1574.5	1627.9	1690.8	1744.1
15°	1304.2	1318.4	1334.0	1346.6	1349.8	1392.2	1415.7	1459.7	1516.3	1580.8	1635.7
17.5°	1208.4	1224.0	1238.2	1249.2	1252.4	1291.6	1315.2	1354.5	1409.5	1470.8	1524.2
20°	1137.7	1151.8	1164.3	1175.4	1175.4	1209.9	1230.3	1266.5	1315.2	1371.8	1417.3
22.5°	1081.0	1093.7	1104.6	1114.1	1114.1	1143.9	1161.2	1191.0	1233.5	1280.7	1318.4
25°	1029.2	1041.8	1051.2	1059.1	1057.5	1085.7	1099.9	1121.9	1158.0	1197.3	1225.6
27.5°	985.2	997.8	1005.6	1016.6	1010.3	1033.9	1044.9	1063.8	1092.1	1120.3	1136.1
30°	939.6	952.2	960.1	969.5	963.2	983.7	990.0	999.4	1018.3	1032.4	1033.9
32.5°	876.8	887.8	895.6	900.3	892.5	908.3	908.3	909.8	916.1	917.7	905.0
35°	801.4	809.2	815.5	817.1	807.7	817.1	815.5	804.5	801.4	788.8	763.7
37.5°	730.7	740.1	743.2	743.2	730.7	735.4	729.1	711.8	699.2	677.2	642.6
40°	672.5	680.3	681.9	680.3	667.8	669.4	660.0	639.5	622.3	595.5	551.5
42.5°	623.8	630.1	631.7	630.1	617.6	617.6	608.1	586.1	565.6	535.8	490.2
45°	573.6	579.8	583.0	579.8	568.8	568.8	557.8	537.4	517.0	485.5	440.0
47.5°	521.7	526.4	529.5	527.9	517.0	517.0	507.6	487.1	469.9	441.5	397.6
50°	468.3	474.6	477.7	476.1	466.7	466.7	458.8	440.0	425.9	400.7	361.4
52.5°	416.4	424.2	425.9	422.6	416.4	414.8	410.1	392.9	381.8	364.6	326.8
55°	369.3	375.5	375.5	375.5	367.7	366.1	363.0	348.8	342.5	328.4	297.0
57.5°	326.8	331.6	330.0	328.4	325.3	322.1	319.0	307.9	304.8	295.4	268.7
60°	284.4	289.1	287.6	286.0	282.9	279.7	276.5	268.7	268.7	262.4	240.5
62.5°	243.6	246.7	245.2	243.6	243.6	240.5	238.8	232.5	234.1	231.0	212.2
65°	198.0	202.7	201.1	201.1	202.7	202.7	201.1	198.0	198.0	196.4	180.7
67.5°	150.8	155.5	154.0	155.5	160.2	161.8	161.8	160.2	160.2	157.1	143.0
70°	106.9	110.0	110.0	111.6	116.3	117.8	122.5	117.8	117.8	114.7	103.7
72.5°	70.7	72.3	73.9	77.0	78.6	80.1	83.3	83.3	81.7	77.0	69.2
75°	44.0	45.5	45.5	47.1	48.7	50.2	53.4	51.8	50.2	48.7	42.4
77.5°	26.7	26.7	28.3	28.3	29.9	31.4	31.4	31.4	29.9	28.3	25.2
80°	15.7	15.7	15.7	17.2	17.2	17.2	17.2	17.2	17.2	15.7	14.1
82.5°	7.8	7.8	7.8	9.4	9.4	9.4	9.4	9.4	9.4	7.8	7.8
85°	3.1	3.1	3.1	4.7	4.7	4.7	4.7	4.7	4.7	4.7	3.1
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°	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9
2.5°	2231.2	2231.2	2226.5	2254.8	2291.0	2284.7	2286.3	2313.0	2324.0	2342.8	2360.1
5°	2129.2	2146.4	2159.0	2204.6	2256.4	2265.8	2283.1	2324.0	2349.2	2380.5	2410.4
7.5°	2027.0	2063.2	2093.0	2152.7	2220.3	2245.4	2276.9	2328.7	2361.7	2404.1	2445.0
10°	1921.7	1972.0	2016.0	2088.2	2166.9	2203.0	2242.3	2300.4	2344.4	2390.0	2435.6
12.5°	1816.4	1877.7	1932.7	2012.8	2096.2	2140.1	2184.1	2245.4	2292.6	2339.7	2386.9
15°	1712.7	1778.7	1836.9	1921.7	2006.5	2052.2	2096.2	2157.4	2207.7	2251.7	2298.8
17.5°	1598.0	1671.9	1725.3	1805.5	1887.1	1932.7	1981.5	2038.0	2082.0	2119.7	2165.3
20°	1486.4	1555.6	1604.3	1678.1	1752.0	1794.5	1840.0	1890.3	1929.6	1962.6	2005.0
22.5°	1378.0	1439.3	1484.9	1552.5	1609.1	1645.1	1684.5	1728.5	1763.0	1789.7	1827.4
25°	1272.7	1321.5	1356.1	1409.5	1455.0	1483.3	1516.3	1552.5	1582.3	1604.3	1638.9
27.5°	1167.5	1200.4	1213.1	1246.1	1274.3	1305.7	1323.1	1351.4	1378.0	1395.4	1425.2
30°	1046.5	1057.5	1046.5	1056.0	1063.8	1077.9	1098.4	1131.4	1143.9	1154.9	1184.8
32.5°	895.6	887.8	851.7	837.5	828.0	842.2	845.4	870.6	878.4	887.8	911.4
35°	737.0	708.6	650.6	614.4	592.4	594.0	579.8	606.5	611.3	620.7	637.9
37.5°	601.8	556.2	480.8	430.6	397.6	389.7	372.4	388.1	389.7	396.0	408.5
40°	502.9	438.4	353.6	293.8	257.7	242.0	224.7	231.0	231.0	235.7	243.6
42.5°	433.7	364.6	268.7	204.3	164.9	146.1	132.0	132.0	132.0	133.6	138.3
45°	381.8	304.8	209.0	143.0	106.9	88.0	73.9	73.9	72.3	72.3	75.4
47.5°	339.4	262.4	164.9	105.3	69.2	51.8	42.4	39.3	37.7	39.3	40.8
50°	304.8	229.4	136.7	80.1	48.7	34.6	26.7	23.6	22.0	22.0	22.0
52.5°	274.9	202.7	114.7	64.4	37.7	25.2	18.9	15.7	14.1	14.1	14.1
55°	249.9	179.1	99.0	53.4	31.4	22.0	15.7	12.5	11.0	11.0	11.0
57.5°	224.7	158.7	84.8	45.5	26.7	18.9	14.1	11.0	9.4	9.4	9.4
60°	199.5	138.3	73.9	37.7	22.0	15.7	12.5	9.4	7.8	7.8	7.8
62.5°	174.4	117.8	61.3	31.4	18.9	14.1	9.4	7.8	7.8	6.3	6.3
65°	144.6	95.9	50.2	26.7	15.7	11.0	9.4	6.3	6.3	6.3	6.3
67.5°	113.1	73.9	37.7	20.5	12.5	9.4	7.8	6.3	4.7	4.7	4.7
70°	80.1	51.8	28.3	15.7	11.0	7.8	6.3	4.7	4.7	4.7	3.1
72.5°	53.4	34.6	20.5	12.5	9.4	6.3	4.7	4.7	3.1	3.1	3.1
75°	34.6	22.0	14.1	9.4	6.3	6.3	4.7	3.1	3.1	3.1	1.6
77.5°	20.5	14.1	9.4	6.3	4.7	4.7	4.7	4.7	4.7	3.1	1.6
80°	11.0	7.8	6.3	4.7	3.1	4.7	4.7	4.7	4.7	3.1	1.6
82.5°	6.3	4.7	3.1	3.1	3.1	3.1	3.1	4.7	4.7	3.1	1.6
85°	3.1	3.1	1.6	1.6	1.6	3.1	3.1	3.1	3.1	1.6	1.6
87.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	3.1	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°	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9	2320.9
2.5°	2374.2	2383.6	2386.9	2391.6	2418.2	2412.0	2435.6	2435.6	2454.4	2443.4	2454.4
5°	2435.6	2455.9	2465.4	2478.0	2515.7	2515.7	2544.0	2548.7	2573.9	2565.9	2577.0
7.5°	2474.8	2500.0	2512.5	2533.0	2573.9	2580.1	2606.9	2614.7	2644.6	2639.8	2646.1
10°	2467.0	2493.6	2509.4	2531.4	2573.9	2583.3	2606.9	2621.0	2649.3	2642.9	2646.1
12.5°	2418.2	2443.4	2460.7	2481.1	2525.1	2536.1	2556.5	2572.3	2598.9	2594.2	2594.2
15°	2327.1	2355.4	2369.5	2386.9	2429.3	2441.8	2457.5	2470.1	2500.0	2496.9	2492.1
17.5°	2190.4	2217.1	2228.1	2242.3	2283.1	2297.3	2309.8	2319.3	2347.5	2345.9	2338.1
20°	2023.9	2047.4	2056.9	2066.3	2102.4	2116.5	2126.0	2135.4	2159.0	2159.0	2148.0
22.5°	1841.6	1862.0	1868.3	1876.2	1907.6	1921.7	1926.4	1934.3	1956.3	1956.3	1942.2
25°	1648.4	1665.6	1668.7	1675.0	1701.7	1714.3	1715.8	1720.6	1742.6	1742.6	1728.5
27.5°	1431.5	1445.6	1448.7	1451.9	1475.5	1488.0	1486.4	1503.8	1510.1	1513.2	1495.9
30°	1187.9	1211.5	1198.9	1213.1	1220.9	1233.5	1228.7	1246.1	1250.8	1255.5	1233.5
32.5°	914.5	936.5	922.4	936.5	939.6	952.2	946.0	961.6	964.8	969.5	949.1
35°	641.1	658.4	645.8	650.6	661.5	674.1	666.2	680.3	683.5	685.1	669.4
37.5°	411.7	424.2	427.4	432.1	432.1	441.5	444.7	444.7	446.2	447.8	435.3
40°	246.7	256.1	257.7	256.1	260.8	268.7	270.2	268.7	270.2	271.8	264.0
42.5°	139.9	146.1	147.7	147.7	150.8	155.5	155.5	154.0	155.5	155.5	150.8
45°	77.0	80.1	81.7	80.1	81.7	84.8	84.8	84.8	84.8	84.8	83.3
47.5°	40.8	42.4	42.4	44.0	42.4	44.0	44.0	44.0	45.5	45.5	44.0
50°	22.0	23.6	23.6	23.6	23.6	25.2	25.2	25.2	25.2	25.2	23.6
52.5°	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
55°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
57.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
60°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
62.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
65°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
67.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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: P135589

CATALOG NUMBER: LD6A20D010TE ERM6A20930 6LM111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2320.9	2320.9	2320.9	2320.9
2.5°	2459.2	2467.0	2455.9	2438.7
5°	2584.8	2594.2	2583.3	2567.5
7.5°	2654.0	2668.1	2655.5	2644.6
10°	2657.1	2671.2	2657.1	2650.8
12.5°	2605.2	2619.4	2603.6	2600.5
15°	2506.3	2517.2	2501.6	2503.1
17.5°	2353.9	2363.3	2347.5	2352.3
20°	2162.1	2171.6	2155.8	2165.3
22.5°	1956.3	1962.6	1959.4	1957.9
25°	1741.0	1745.7	1731.6	1741.0
27.5°	1505.3	1508.5	1510.1	1508.5
30°	1244.5	1246.1	1236.6	1252.4
32.5°	958.5	956.9	953.8	967.9
35°	674.1	674.1	674.1	686.7
37.5°	438.4	436.8	438.4	447.8
40°	265.5	264.0	265.5	271.8
42.5°	150.8	150.8	152.4	155.5
45°	84.8	83.3	83.3	84.8
47.5°	45.5	45.5	44.0	45.5
50°	25.2	25.2	23.6	25.2
52.5°	14.1	14.1	14.1	14.1
55°	11.0	11.0	11.0	11.0
57.5°	9.4	9.4	9.4	9.4
60°	7.8	7.8	7.8	7.8
62.5°	6.3	6.3	6.3	6.3
65°	4.7	6.3	4.7	4.7
67.5°	4.7	4.7	4.7	4.7
70°	3.1	3.1	3.1	3.1
72.5°	3.1	3.1	3.1	3.1
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



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)