

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: P135591

Luminaire Tested: **LD6A20D010TE ERM6A20940 6LM111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135591
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 ERM6A20940 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 4000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2391.7 lumens
Efficiency: N/A
Efficacy: 72.9 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

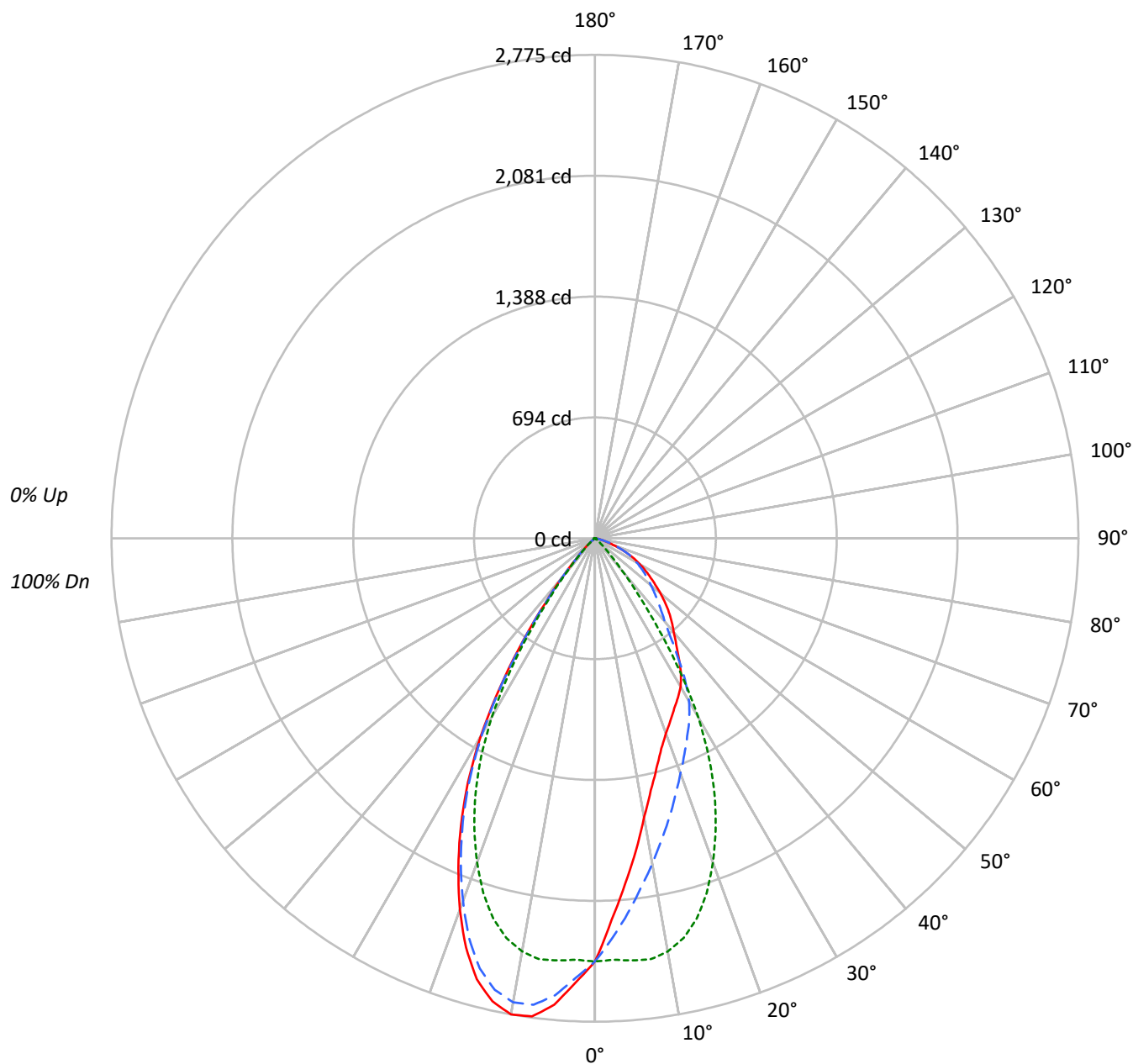
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	92	104	99	95	91	96	92	89	93	90	87	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°	158502	158502	158502
5°	130240	159324	176017
10°	107658	159530	183829
15°	92208	152537	176980
20°	82681	137383	157365
25°	77557	116983	131193
30°	74098	89217	98762
35°	66813	50566	57248
40°	59957	20593	24230
45°	55395	7132	8193
50°	49743	2507	2669
55°	43962	1501	1308
60°	38844	1292	1070
65°	32001	1003	772
70°	21326	954	629
75°	11620	832	429
80°	6162	1879	0
85°	2470	2470	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.2	9.5
10°-20°	588.4	24.6
20°-30°	695.1	29.1
30°-40°	463.2	19.4
40°-50°	200.9	8.4
50°-60°	120.5	5.0
60°-70°	72.3	3.0
70°-80°	22.2	0.9
80°-90°	2.8	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°	1509.7	63.1
0°-40°	1972.9	82.5
0°-60°	2294.4	95.9
0°-90°	2391.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2391.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2430	2430	2430	2430	2430	
5°	1989	2161	2433	2633	2688	179
15°	1365	1655	2258	2556	2620	385
25°	1077	1253	1625	1795	1822	498
35°	839	826	635	706	719	525
45°	600	508	77	89	89	462
55°	386	344	13	12	12	348
65°	207	206	6	5	5	203
75°	46	51	3	2	2	56
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°	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5
2.5°	2192.6	2230.4	2246.9	2258.4	2215.7	2261.7	2246.9	2268.3	2274.9	2296.2	2316.0
5°	1988.7	2024.8	2043.0	2056.1	2023.2	2075.8	2074.2	2102.2	2125.2	2161.4	2186.1
7.5°	1806.1	1822.5	1840.6	1858.8	1843.9	1891.6	1899.9	1939.3	1973.8	2023.2	2069.2
10°	1625.1	1641.6	1659.7	1679.4	1672.9	1720.5	1738.6	1783.1	1829.1	1894.9	1944.2
12.5°	1480.4	1496.9	1513.3	1533.0	1529.7	1577.4	1600.5	1648.2	1704.1	1769.9	1825.8
15°	1365.2	1380.0	1396.5	1409.6	1413.0	1457.4	1482.0	1528.1	1587.3	1654.7	1712.3
17.5°	1264.9	1281.4	1296.1	1307.7	1311.0	1352.1	1376.7	1417.9	1475.5	1539.6	1595.5
20°	1190.9	1205.7	1218.9	1230.4	1230.4	1266.6	1287.9	1325.7	1376.7	1436.0	1483.7
22.5°	1131.7	1144.8	1156.4	1166.2	1166.2	1197.5	1215.6	1246.8	1291.3	1340.6	1380.0
25°	1077.4	1090.5	1100.4	1108.6	1107.0	1136.6	1151.4	1174.4	1212.2	1253.4	1283.0
27.5°	1031.3	1044.5	1052.7	1064.3	1057.6	1082.3	1093.9	1113.6	1143.2	1172.8	1189.3
30°	983.6	996.8	1005.0	1014.8	1008.3	1029.7	1036.2	1046.1	1065.9	1080.7	1082.3
32.5°	917.9	929.4	937.6	942.5	934.3	950.8	950.8	952.4	959.0	960.6	947.4
35°	838.9	847.1	853.7	855.3	845.5	855.3	853.7	842.2	838.9	825.7	799.4
37.5°	764.9	774.8	778.0	778.0	764.9	769.8	763.2	745.2	732.0	708.9	672.8
40°	704.0	712.2	713.9	712.2	699.1	700.7	690.9	669.5	651.4	623.4	577.4
42.5°	653.1	659.6	661.3	659.6	646.4	646.4	636.5	613.5	592.2	560.9	513.2
45°	600.4	607.0	610.3	607.0	595.4	595.4	583.9	562.5	541.1	508.3	460.5
47.5°	546.1	551.0	554.3	552.6	541.1	541.1	531.3	509.9	491.8	462.2	416.2
50°	490.1	496.8	500.0	498.4	488.6	488.6	480.3	460.5	445.8	419.4	378.3
52.5°	435.9	444.1	445.8	442.5	435.9	434.3	429.3	411.2	399.7	381.6	342.2
55°	386.5	393.1	393.1	393.1	384.9	383.3	380.0	365.2	358.6	343.8	310.9
57.5°	342.2	347.0	345.4	343.8	340.5	337.2	333.9	322.4	319.1	309.2	281.3
60°	297.7	302.7	301.0	299.4	296.1	292.8	289.5	281.3	281.3	274.7	251.7
62.5°	254.9	258.3	256.6	254.9	254.9	251.7	250.0	243.4	245.1	241.8	222.0
65°	207.3	212.2	210.6	210.6	212.2	212.2	210.6	207.3	207.3	205.6	189.2
67.5°	157.9	162.8	161.2	162.8	167.8	169.5	169.5	167.8	167.8	164.5	149.6
70°	111.8	115.2	115.2	116.8	121.7	123.4	128.3	123.4	123.4	120.0	108.5
72.5°	74.0	75.7	77.3	80.6	82.2	83.9	87.2	87.2	85.6	80.6	72.4
75°	46.1	47.7	47.7	49.3	51.0	52.6	56.0	54.3	52.6	51.0	44.4
77.5°	27.9	27.9	29.6	29.6	31.3	32.9	32.9	32.9	31.3	29.6	26.3
80°	16.4	16.4	16.4	18.1	18.1	18.1	18.1	18.1	18.1	16.4	14.8
82.5°	8.2	8.2	8.2	9.9	9.9	9.9	9.9	9.9	9.9	8.2	8.2
85°	3.3	3.3	3.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.3
87.5°	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	1.7	1.7	1.7
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°	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5
2.5°	2335.7	2335.7	2330.8	2360.4	2398.2	2391.7	2393.3	2421.3	2432.8	2452.5	2470.6
5°	2228.8	2246.9	2260.1	2307.8	2362.1	2371.9	2390.0	2432.8	2459.1	2492.0	2523.2
7.5°	2121.9	2159.7	2190.9	2253.5	2324.2	2350.5	2383.5	2437.7	2472.3	2516.7	2559.4
10°	2011.7	2064.4	2110.4	2186.1	2268.3	2306.1	2347.2	2408.1	2454.2	2501.8	2549.5
12.5°	1901.4	1965.6	2023.2	2107.0	2194.3	2240.3	2286.4	2350.5	2399.9	2449.2	2498.5
15°	1792.9	1862.0	1922.8	2011.7	2100.5	2148.2	2194.3	2258.4	2311.1	2357.1	2406.4
17.5°	1672.9	1750.1	1806.1	1889.9	1975.5	2023.2	2074.2	2133.4	2179.4	2219.0	2266.6
20°	1556.1	1628.4	1679.4	1756.7	1834.0	1878.5	1926.2	1978.8	2019.9	2054.5	2098.8
22.5°	1442.6	1506.7	1554.4	1625.1	1684.3	1722.2	1763.3	1809.3	1845.6	1873.5	1913.0
25°	1332.4	1383.4	1419.5	1475.5	1523.1	1552.7	1587.3	1625.1	1656.4	1679.4	1715.6
27.5°	1222.1	1256.7	1269.9	1304.4	1333.9	1366.9	1385.0	1414.6	1442.6	1460.6	1491.9
30°	1095.5	1107.0	1095.5	1105.4	1113.6	1128.3	1149.7	1184.3	1197.5	1209.0	1240.3
32.5°	937.6	929.4	891.5	876.7	866.9	881.6	884.9	911.3	919.5	929.4	954.0
35°	771.4	741.8	681.0	643.2	620.1	621.8	607.0	634.9	639.9	649.7	667.8
37.5°	630.0	582.2	503.3	450.7	416.2	407.9	389.8	406.3	407.9	414.5	427.6
40°	526.4	458.9	370.1	307.6	269.8	253.3	235.2	241.8	241.8	246.7	254.9
42.5°	454.0	381.6	281.3	213.8	172.7	153.0	138.2	138.2	138.2	139.8	144.8
45°	399.7	319.1	218.8	149.6	111.8	92.1	77.3	77.3	75.7	75.7	78.9
47.5°	355.3	274.7	172.7	110.2	72.4	54.3	44.4	41.1	39.5	41.1	42.8
50°	319.1	240.2	143.1	83.9	51.0	36.1	27.9	24.7	23.0	23.0	23.0
52.5°	287.8	212.2	120.0	67.4	39.5	26.3	19.7	16.4	14.8	14.8	14.8
55°	261.6	187.5	103.6	56.0	32.9	23.0	16.4	13.2	11.5	11.5	11.5
57.5°	235.2	166.1	88.8	47.7	27.9	19.7	14.8	11.5	9.9	9.9	9.9
60°	208.9	144.8	77.3	39.5	23.0	16.4	13.2	9.9	8.2	8.2	8.2
62.5°	182.6	123.4	64.2	32.9	19.7	14.8	9.9	8.2	8.2	6.5	6.5
65°	151.3	100.3	52.6	27.9	16.4	11.5	9.9	6.5	6.5	6.5	6.5
67.5°	118.5	77.3	39.5	21.4	13.2	9.9	8.2	6.5	5.0	5.0	5.0
70°	83.9	54.3	29.6	16.4	11.5	8.2	6.5	5.0	5.0	5.0	3.3
72.5°	56.0	36.1	21.4	13.2	9.9	6.5	5.0	5.0	3.3	3.3	3.3
75°	36.1	23.0	14.8	9.9	6.5	6.5	5.0	3.3	3.3	3.3	1.7
77.5°	21.4	14.8	9.9	6.5	5.0	5.0	5.0	5.0	5.0	3.3	1.7
80°	11.5	8.2	6.5	5.0	3.3	5.0	5.0	5.0	5.0	3.3	1.7
82.5°	6.5	5.0	3.3	3.3	3.3	3.3	3.3	5.0	5.0	3.3	1.7
85°	3.3	3.3	1.7	1.7	1.7	3.3	3.3	3.3	3.3	1.7	1.7
87.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	3.3	1.7	1.7
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°	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5	2429.5
2.5°	2485.4	2495.3	2498.5	2503.5	2531.4	2524.9	2549.5	2549.5	2569.3	2557.8	2569.3
5°	2549.5	2570.9	2580.8	2594.0	2633.4	2633.4	2663.0	2668.0	2694.3	2686.1	2697.6
7.5°	2590.6	2617.0	2630.2	2651.6	2694.3	2700.9	2728.8	2737.0	2768.3	2763.4	2770.0
10°	2582.4	2610.5	2626.9	2649.9	2694.3	2704.1	2728.8	2743.7	2773.3	2766.6	2770.0
12.5°	2531.4	2557.8	2575.9	2597.3	2643.3	2654.8	2676.2	2692.7	2720.6	2715.7	2715.7
15°	2436.0	2465.7	2480.5	2498.5	2543.0	2556.2	2572.6	2585.7	2617.0	2613.7	2608.8
17.5°	2292.9	2321.0	2332.5	2347.2	2390.0	2404.9	2417.9	2427.8	2457.4	2455.8	2447.5
20°	2118.6	2143.3	2153.1	2163.0	2200.8	2215.7	2225.5	2235.4	2260.1	2260.1	2248.6
22.5°	1927.8	1949.2	1955.7	1964.0	1996.9	2011.7	2016.6	2024.8	2047.9	2047.9	2033.1
25°	1725.4	1743.6	1746.8	1753.5	1781.4	1794.6	1796.2	1801.1	1824.2	1824.2	1809.3
27.5°	1498.5	1513.3	1516.6	1519.8	1544.5	1557.7	1556.1	1574.1	1580.8	1584.0	1565.9
30°	1243.5	1268.2	1255.0	1269.9	1278.1	1291.3	1286.3	1304.4	1309.3	1314.2	1291.3
32.5°	957.3	980.4	965.5	980.4	983.6	996.8	990.2	1006.6	1010.0	1014.8	993.5
35°	671.1	689.2	676.0	681.0	692.5	705.6	697.4	712.2	715.6	717.1	700.7
37.5°	430.9	444.1	447.4	452.3	452.3	462.2	465.5	465.5	467.2	468.7	455.7
40°	258.3	268.1	269.8	268.1	273.0	281.3	283.0	281.3	283.0	284.5	276.3
42.5°	146.4	153.0	154.6	154.6	157.9	162.8	162.8	161.2	162.8	162.8	157.9
45°	80.6	83.9	85.6	83.9	85.6	88.8	88.8	88.8	88.8	88.8	87.2
47.5°	42.8	44.4	44.4	46.1	44.4	46.1	46.1	46.1	47.7	47.7	46.1
50°	23.0	24.7	24.7	24.7	24.7	26.3	26.3	26.3	26.3	26.3	24.7
52.5°	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8
55°	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
57.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
60°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
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°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
67.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
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°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	1.7	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: P135591

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2429.5	2429.5	2429.5	2429.5
2.5°	2574.2	2582.4	2570.9	2552.8
5°	2705.8	2715.7	2704.1	2687.7
7.5°	2778.2	2793.0	2779.8	2768.3
10°	2781.5	2796.3	2781.5	2774.9
12.5°	2727.2	2742.0	2725.5	2722.3
15°	2623.6	2635.1	2618.7	2620.3
17.5°	2464.0	2473.9	2457.4	2462.4
20°	2263.3	2273.2	2256.8	2266.6
22.5°	2047.9	2054.5	2051.2	2049.5
25°	1822.5	1827.5	1812.7	1822.5
27.5°	1575.8	1579.1	1580.8	1579.1
30°	1302.8	1304.4	1294.5	1311.0
32.5°	1003.4	1001.8	998.4	1013.3
35°	705.6	705.6	705.6	718.8
37.5°	458.9	457.3	458.9	468.7
40°	278.0	276.3	278.0	284.5
42.5°	157.9	157.9	159.6	162.8
45°	88.8	87.2	87.2	88.8
47.5°	47.7	47.7	46.1	47.7
50°	26.3	26.3	24.7	26.3
52.5°	14.8	14.8	14.8	14.8
55°	11.5	11.5	11.5	11.5
57.5°	9.9	9.9	9.9	9.9
60°	8.2	8.2	8.2	8.2
62.5°	6.5	6.5	6.5	6.5
65°	5.0	6.5	5.0	5.0
67.5°	5.0	5.0	5.0	5.0
70°	3.3	3.3	3.3	3.3
72.5°	3.3	3.3	3.3	3.3
75°	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7
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)