

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: P135585

Luminaire Tested: **LD6A20D010TE ERM6A20830 6LM111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135585
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 ERM6A20830 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: 2478.0 lumens
Efficiency: N/A
Efficacy: 75.5 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

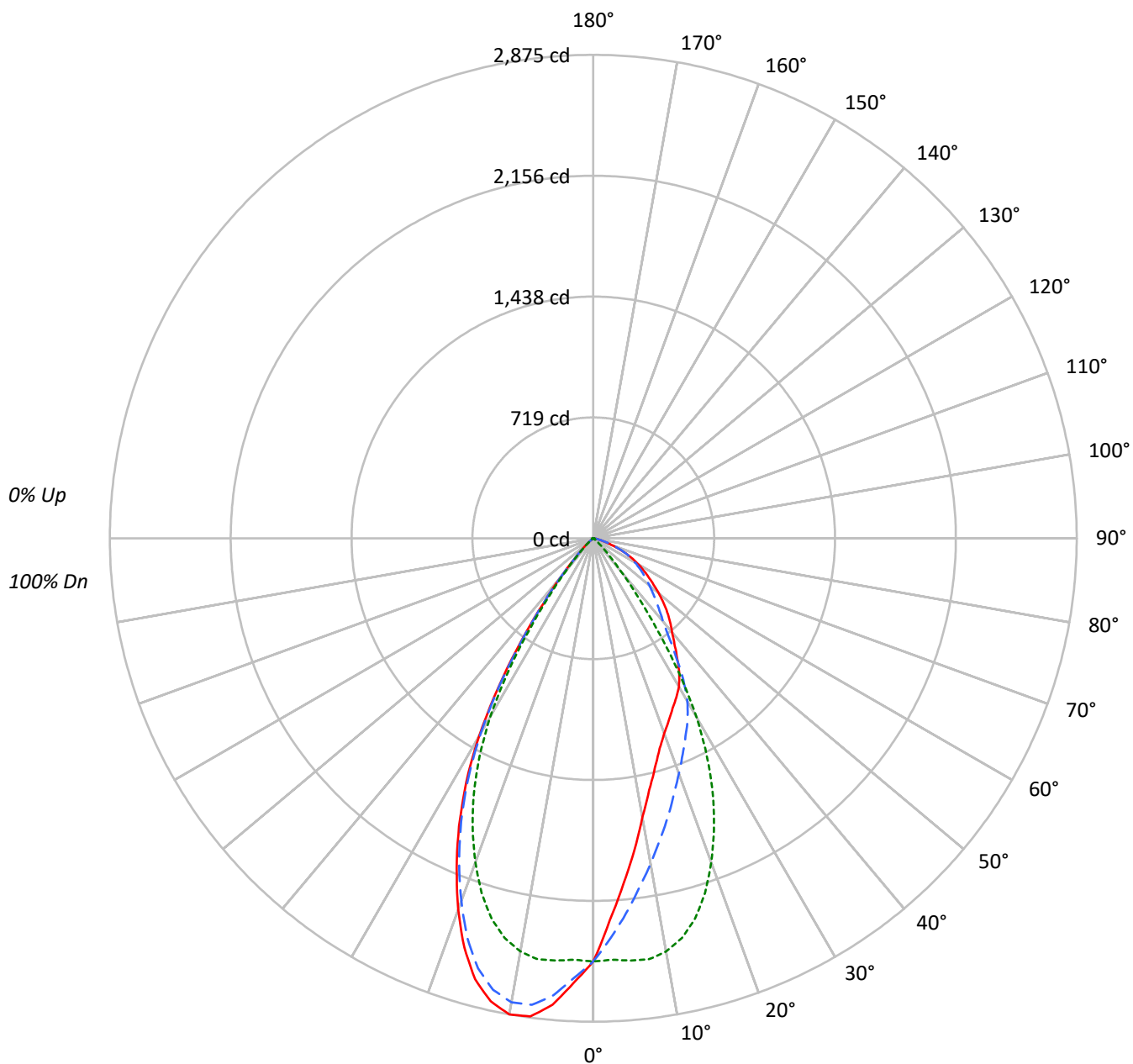
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	164224	164224	164224
5°	134935	165074	182370
10°	111547	165286	190467
15°	95538	158042	183370
20°	85667	142341	163051
25°	80357	121208	135929
30°	76772	92442	102325
35°	69227	52390	59319
40°	62120	21334	25107
45°	57398	7390	8488
50°	51550	2598	2771
55°	45554	1547	1354
60°	40253	1331	1109
65°	33144	1050	787
70°	22108	973	649
75°	12024	857	429
80°	6387	1916	0
85°	2545	2545	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.3	9.5
10°-20°	609.6	24.6
20°-30°	720.2	29.1
30°-40°	480.0	19.4
40°-50°	208.2	8.4
50°-60°	124.9	5.0
60°-70°	74.9	3.0
70°-80°	23.0	0.9
80°-90°	2.9	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°	1564.2	63.1
0°-40°	2044.2	82.5
0°-60°	2377.2	95.9
0°-90°	2478.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2478.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2517	2517	2517	2517	2517	
5°	2060	2239	2521	2728	2785	186
15°	1414	1714	2340	2648	2715	399
25°	1116	1299	1684	1859	1888	516
35°	869	856	658	731	745	544
45°	622	527	80	92	92	478
55°	400	356	14	12	12	360
65°	215	213	7	5	5	211
75°	48	53	3	2	2	58
85°	3	5	3	0	0	6
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°	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2
2.5°	2271.8	2311.0	2328.0	2339.9	2295.6	2343.3	2328.0	2350.2	2357.0	2379.1	2399.6
5°	2060.4	2097.9	2116.7	2130.3	2096.2	2150.8	2149.1	2178.0	2201.9	2239.4	2264.9
7.5°	1871.3	1888.3	1907.1	1925.8	1910.5	1959.9	1968.4	2009.3	2045.1	2096.2	2143.9
10°	1683.8	1700.8	1719.6	1740.0	1733.2	1782.6	1801.4	1847.4	1895.1	1963.3	2014.4
12.5°	1533.8	1550.9	1567.9	1588.4	1585.0	1634.4	1658.2	1707.7	1765.6	1833.8	1891.7
15°	1414.5	1429.9	1446.9	1460.5	1464.0	1510.0	1535.5	1583.2	1644.6	1714.5	1774.1
17.5°	1310.6	1327.6	1342.9	1354.9	1358.3	1400.9	1426.5	1469.1	1528.7	1595.2	1653.1
20°	1233.9	1249.2	1262.8	1274.8	1274.8	1312.3	1334.4	1373.6	1426.5	1487.8	1537.2
22.5°	1172.5	1186.2	1198.1	1208.3	1208.3	1240.7	1259.4	1291.8	1337.8	1389.0	1429.9
25°	1116.3	1129.9	1140.1	1148.7	1147.0	1177.6	1193.0	1216.8	1256.0	1298.6	1329.3
27.5°	1068.6	1082.2	1090.7	1102.6	1095.8	1121.4	1133.3	1153.8	1184.5	1215.1	1232.2
30°	1019.1	1032.8	1041.3	1051.5	1044.7	1066.9	1073.7	1083.9	1104.4	1119.7	1121.4
32.5°	951.0	962.9	971.4	976.5	968.0	985.1	985.1	986.8	993.6	995.3	981.6
35°	869.2	877.7	884.5	886.2	876.0	886.2	884.5	872.6	869.2	855.5	828.3
37.5°	792.5	802.7	806.1	806.1	792.5	797.6	790.8	772.0	758.4	734.5	697.0
40°	729.4	737.9	739.6	737.9	724.3	726.0	715.8	693.6	674.9	645.9	598.2
42.5°	676.6	683.4	685.1	683.4	669.8	669.8	659.5	635.7	613.5	581.1	531.7
45°	622.1	628.9	632.3	628.9	616.9	616.9	605.0	582.9	560.7	526.6	477.2
47.5°	565.8	570.9	574.3	572.6	560.7	560.7	550.5	528.3	509.6	478.9	431.2
50°	507.9	514.7	518.1	516.4	506.2	506.2	497.6	477.2	461.9	434.6	392.0
52.5°	451.6	460.1	461.9	458.4	451.6	449.9	444.8	426.1	414.1	395.4	354.5
55°	400.5	407.3	407.3	407.3	398.8	397.1	393.7	378.3	371.5	356.2	322.1
57.5°	354.5	359.6	357.9	356.2	352.8	349.4	346.0	334.0	330.6	320.4	291.4
60°	308.5	313.6	311.9	310.2	306.8	303.4	299.9	291.4	291.4	284.6	260.8
62.5°	264.2	267.6	265.9	264.2	264.2	260.8	259.0	252.2	253.9	250.5	230.1
65°	214.7	219.8	218.1	218.1	219.8	219.8	218.1	214.7	214.7	213.0	196.0
67.5°	163.6	168.7	167.0	168.7	173.8	175.5	175.5	173.8	173.8	170.4	155.1
70°	115.9	119.3	119.3	121.0	126.1	127.8	132.9	127.8	127.8	124.4	112.5
72.5°	76.7	78.4	80.1	83.5	85.2	86.9	90.3	90.3	88.6	83.5	75.0
75°	47.7	49.4	49.4	51.1	52.8	54.5	57.9	56.2	54.5	52.8	46.0
77.5°	29.0	29.0	30.7	30.7	32.4	34.1	34.1	34.1	32.4	30.7	27.3
80°	17.0	17.0	17.0	18.7	18.7	18.7	18.7	18.7	18.7	17.0	15.3
82.5°	8.5	8.5	8.5	10.2	10.2	10.2	10.2	10.2	10.2	8.5	8.5
85°	3.4	3.4	3.4	5.1	5.1	5.1	5.1	5.1	5.1	5.1	3.4
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°	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2
2.5°	2420.0	2420.0	2414.9	2445.6	2484.8	2478.0	2479.7	2508.7	2520.6	2541.0	2559.8
5°	2309.3	2328.0	2341.6	2391.1	2447.3	2457.5	2476.3	2520.6	2547.9	2581.9	2614.3
7.5°	2198.5	2237.7	2270.1	2334.8	2408.1	2435.4	2469.5	2525.7	2561.5	2607.5	2651.8
10°	2084.3	2138.8	2186.6	2264.9	2350.2	2389.4	2432.0	2495.0	2542.7	2592.2	2641.6
12.5°	1970.1	2036.6	2096.2	2183.1	2273.5	2321.2	2368.9	2435.4	2486.5	2537.6	2588.8
15°	1857.6	1929.2	1992.3	2084.3	2176.3	2225.8	2273.5	2339.9	2394.5	2442.2	2493.3
17.5°	1733.2	1813.3	1871.3	1958.2	2046.8	2096.2	2149.1	2210.4	2258.1	2299.0	2348.5
20°	1612.2	1687.2	1740.0	1820.1	1900.2	1946.3	1995.7	2050.2	2092.8	2128.6	2174.6
22.5°	1494.6	1561.1	1610.5	1683.8	1745.2	1784.3	1827.0	1874.7	1912.2	1941.1	1982.0
25°	1380.4	1433.3	1470.8	1528.7	1578.1	1608.8	1644.6	1683.8	1716.2	1740.0	1777.5
27.5°	1266.3	1302.0	1315.7	1351.5	1382.1	1416.2	1435.0	1465.7	1494.6	1513.4	1545.8
30°	1135.0	1147.0	1135.0	1145.3	1153.8	1169.1	1191.3	1227.1	1240.7	1252.6	1285.0
32.5°	971.4	962.9	923.7	908.4	898.1	913.5	916.9	944.2	952.7	962.9	988.5
35°	799.3	768.6	705.6	666.4	642.5	644.2	628.9	657.8	663.0	673.2	691.9
37.5°	652.7	603.3	521.5	467.0	431.2	422.7	403.9	420.9	422.7	429.5	443.1
40°	545.4	475.5	383.5	318.7	279.5	262.5	243.7	250.5	250.5	255.6	264.2
42.5°	470.4	395.4	291.4	221.6	178.9	158.5	143.2	143.2	143.2	144.9	150.0
45°	414.1	330.6	226.7	155.1	115.9	95.4	80.1	80.1	78.4	78.4	81.8
47.5°	368.1	284.6	178.9	114.2	75.0	56.2	46.0	42.6	40.9	42.6	44.3
50°	330.6	248.8	148.3	86.9	52.8	37.5	29.0	25.6	23.9	23.9	23.9
52.5°	298.2	219.8	124.4	69.9	40.9	27.3	20.5	17.0	15.3	15.3	15.3
55°	271.0	194.3	107.4	57.9	34.1	23.9	17.0	13.6	11.9	11.9	11.9
57.5°	243.7	172.1	92.0	49.4	29.0	20.5	15.3	11.9	10.2	10.2	10.2
60°	216.4	150.0	80.1	40.9	23.9	17.0	13.6	10.2	8.5	8.5	8.5
62.5°	189.2	127.8	66.5	34.1	20.5	15.3	10.2	8.5	8.5	6.8	6.8
65°	156.8	104.0	54.5	29.0	17.0	11.9	10.2	6.8	6.8	6.8	6.8
67.5°	122.7	80.1	40.9	22.2	13.6	10.2	8.5	6.8	5.1	5.1	5.1
70°	86.9	56.2	30.7	17.0	11.9	8.5	6.8	5.1	5.1	5.1	3.4
72.5°	57.9	37.5	22.2	13.6	10.2	6.8	5.1	5.1	3.4	3.4	3.4
75°	37.5	23.9	15.3	10.2	6.8	6.8	5.1	3.4	3.4	3.4	1.7
77.5°	22.2	15.3	10.2	6.8	5.1	5.1	5.1	5.1	5.1	3.4	1.7
80°	11.9	8.5	6.8	5.1	3.4	5.1	5.1	5.1	5.1	3.4	1.7
82.5°	6.8	5.1	3.4	3.4	3.4	3.4	3.4	5.1	5.1	3.4	1.7
85°	3.4	3.4	1.7	1.7	1.7	3.4	3.4	3.4	3.4	1.7	1.7
87.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.4	3.4	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°	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2	2517.2
2.5°	2575.1	2585.3	2588.8	2593.9	2622.8	2616.0	2641.6	2641.6	2662.0	2650.1	2662.0
5°	2641.6	2663.7	2674.0	2687.6	2728.5	2728.5	2759.2	2764.3	2791.6	2783.0	2795.0
7.5°	2684.2	2711.5	2725.1	2747.3	2791.6	2798.4	2827.4	2835.9	2868.3	2863.1	2870.0
10°	2675.7	2704.6	2721.7	2745.5	2791.6	2801.8	2827.4	2842.7	2873.4	2866.5	2870.0
12.5°	2622.8	2650.1	2668.9	2691.0	2738.7	2750.7	2772.8	2789.9	2818.8	2813.7	2813.7
15°	2524.0	2554.7	2570.0	2588.8	2634.8	2648.4	2665.4	2679.1	2711.5	2708.1	2702.9
17.5°	2375.7	2404.7	2416.6	2432.0	2476.3	2491.6	2505.2	2515.5	2546.1	2544.4	2535.9
20°	2195.1	2220.6	2230.9	2241.1	2280.3	2295.6	2305.9	2316.1	2341.6	2341.6	2329.7
22.5°	1997.4	2019.5	2026.4	2034.9	2069.0	2084.3	2089.4	2097.9	2121.8	2121.8	2106.5
25°	1787.8	1806.5	1809.9	1816.7	1845.7	1859.3	1861.0	1866.2	1890.0	1890.0	1874.7
27.5°	1552.6	1567.9	1571.3	1574.7	1600.3	1613.9	1612.2	1631.0	1637.8	1641.2	1622.4
30°	1288.4	1314.0	1300.3	1315.7	1324.2	1337.8	1332.7	1351.5	1356.6	1361.7	1337.8
32.5°	991.9	1015.7	1000.4	1015.7	1019.1	1032.8	1026.0	1043.0	1046.4	1051.5	1029.4
35°	695.3	714.1	700.4	705.6	717.5	731.1	722.6	737.9	741.3	743.1	726.0
37.5°	446.5	460.1	463.6	468.7	468.7	478.9	482.3	482.3	484.0	485.7	472.1
40°	267.6	277.8	279.5	277.8	282.9	291.4	293.1	291.4	293.1	294.8	286.3
42.5°	151.7	158.5	160.2	160.2	163.6	168.7	168.7	167.0	168.7	168.7	163.6
45°	83.5	86.9	88.6	86.9	88.6	92.0	92.0	92.0	92.0	92.0	90.3
47.5°	44.3	46.0	46.0	47.7	46.0	47.7	47.7	47.7	49.4	49.4	47.7
50°	23.9	25.6	25.6	25.6	25.6	27.3	27.3	27.3	27.3	27.3	25.6
52.5°	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
55°	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
57.5°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
60°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
62.5°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
65°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
67.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
70°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
72.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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: P135585

CATALOG NUMBER: LD6A20D010TE ERM6A20830 6LM111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2517.2	2517.2	2517.2	2517.2
2.5°	2667.2	2675.7	2663.7	2645.0
5°	2803.5	2813.7	2801.8	2784.7
7.5°	2878.5	2893.8	2880.2	2868.3
10°	2881.9	2897.2	2881.9	2875.1
12.5°	2825.6	2841.0	2823.9	2820.5
15°	2718.3	2730.2	2713.2	2714.9
17.5°	2553.0	2563.2	2546.1	2551.3
20°	2345.0	2355.3	2338.2	2348.5
22.5°	2121.8	2128.6	2125.2	2123.5
25°	1888.3	1893.4	1878.1	1888.3
27.5°	1632.7	1636.1	1637.8	1636.1
30°	1349.8	1351.5	1341.2	1358.3
32.5°	1039.6	1037.9	1034.5	1049.8
35°	731.1	731.1	731.1	744.8
37.5°	475.5	473.8	475.5	485.7
40°	288.0	286.3	288.0	294.8
42.5°	163.6	163.6	165.3	168.7
45°	92.0	90.3	90.3	92.0
47.5°	49.4	49.4	47.7	49.4
50°	27.3	27.3	25.6	27.3
52.5°	15.3	15.3	15.3	15.3
55°	11.9	11.9	11.9	11.9
57.5°	10.2	10.2	10.2	10.2
60°	8.5	8.5	8.5	8.5
62.5°	6.8	6.8	6.8	6.8
65°	5.1	6.8	5.1	5.1
67.5°	5.1	5.1	5.1	5.1
70°	3.4	3.4	3.4	3.4
72.5°	3.4	3.4	3.4	3.4
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)