

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: P135707

Luminaire Tested: **LD6A20D010TE ERM6A20840 6LM111H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135707
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23372)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERM6A20840 6LM111H
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED SINGLE WALL WASH LUMINAIRE
SEMI-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: 2404.0 lumens
Efficiency: N/A
Efficacy: 73.3 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 0.96 / 0.92
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

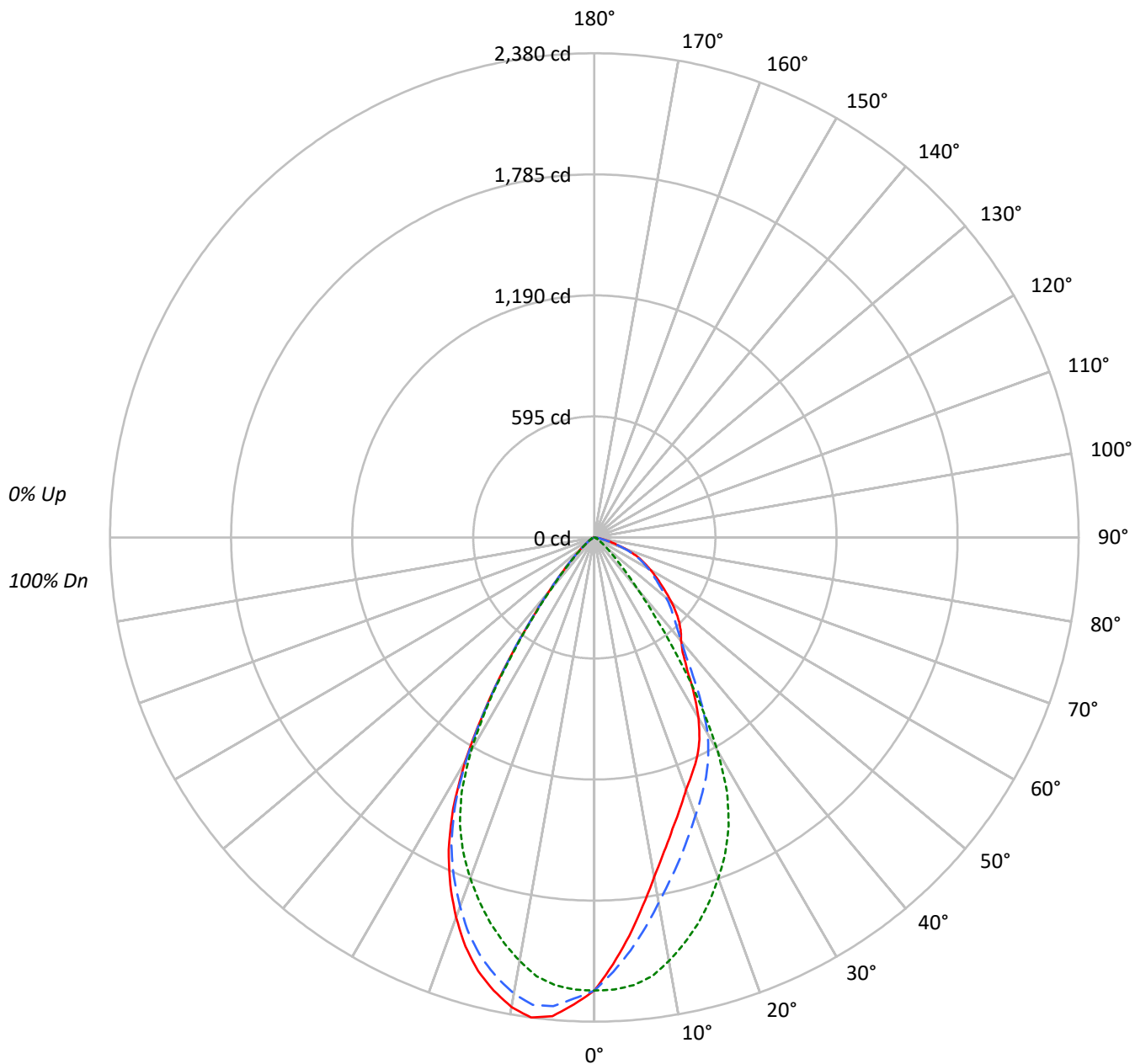
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	112	109	106	104	110	107	104	102	103	101	99		99	97	96		96
2	106	100	95	91	103	98	94	90	95	91	88		92	89	86		89
3	99	92	86	81	97	90	85	81	88	83	79		85	81	78		83
4	93	85	78	73	91	83	77	73	81	76	72		79	75	71		77
5	88	78	72	67	86	77	71	66	75	70	66		74	69	65		72
6	83	73	66	61	81	72	65	61	70	65	60		69	64	60		67
7	78	68	61	56	77	67	61	56	66	60	56		64	59	55		63
8	74	63	57	52	73	63	56	52	62	56	52		60	55	51		59
9	70	59	53	48	69	59	53	48	58	52	48		57	52	48		56
10	67	56	49	45	65	55	49	45	54	49	45		54	48	45		53

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	145310	145310	145310
5°	128733	144674	154680
10°	112209	140000	155270
15°	100232	132767	149032
20°	91519	123706	137911
25°	85943	112419	121928
30°	77066	91304	95402
35°	63325	56515	57957
40°	56465	27790	29331
45°	54482	13858	14818
50°	50210	7358	7886
55°	45361	4413	4709
60°	41571	3040	3040
65°	37976	2393	1991
70°	30635	1984	1488
75°	18930	1311	655
80°	10708	977	0
85°	5839	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.2	8.5
10°-20°	530.4	22.1
20°-30°	675.0	28.1
30°-40°	483.7	20.1
40°-50°	241.3	10.0
50°-60°	146.0	6.1
60°-70°	89.3	3.7
70°-80°	30.8	1.3
80°-90°	3.3	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°	1409.7	58.6
0°-40°	1893.3	78.8
0°-60°	2280.6	94.9
0°-90°	2404.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2404.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2227	2227	2227	2227	2227	
5°	1966	2038	2209	2313	2362	179
15°	1484	1632	1966	2139	2206	418
25°	1194	1300	1562	1663	1694	545
35°	795	857	710	728	728	508
45°	590	552	150	166	161	452
55°	399	376	39	41	41	359
65°	246	238	16	13	13	240
75°	75	67	5	3	3	87
85°	8	5	0	0	0	11
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°	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3
2.5°	2100.4	2103.0	2108.1	2103.0	2105.5	2118.5	2113.3	2115.9	2123.7	2136.6	2128.9
5°	1965.7	1968.3	1981.2	1973.5	1978.6	1994.2	1994.2	2004.5	2020.1	2038.2	2038.2
7.5°	1825.8	1831.0	1844.0	1838.8	1846.6	1867.3	1869.9	1885.4	1906.1	1932.0	1945.0
10°	1693.8	1698.9	1711.9	1709.3	1719.7	1740.4	1750.7	1766.3	1792.2	1823.3	1838.8
12.5°	1582.4	1587.6	1597.9	1597.9	1610.9	1631.6	1642.0	1662.7	1688.6	1722.2	1743.0
15°	1484.0	1491.8	1502.1	1502.1	1515.1	1535.8	1548.7	1566.9	1595.3	1631.6	1654.9
17.5°	1398.5	1401.1	1411.5	1411.5	1424.4	1445.1	1458.1	1476.2	1504.7	1538.4	1564.3
20°	1318.2	1320.8	1331.2	1333.8	1344.1	1362.3	1375.2	1393.3	1419.2	1452.9	1476.2
22.5°	1256.1	1261.3	1269.0	1271.6	1276.8	1294.9	1310.5	1323.4	1346.7	1375.2	1398.5
25°	1193.9	1196.5	1204.3	1206.9	1214.6	1227.6	1237.9	1250.9	1271.6	1300.1	1318.2
27.5°	1118.8	1126.6	1129.2	1131.8	1139.5	1149.9	1160.3	1170.6	1188.7	1212.0	1227.6
30°	1023.0	1025.6	1033.3	1038.5	1046.3	1056.7	1069.6	1080.0	1095.5	1113.6	1124.0
32.5°	911.6	914.2	922.0	927.2	940.1	950.5	960.8	968.6	979.0	989.3	989.3
35°	795.1	802.9	805.4	813.2	826.2	836.5	844.3	846.9	852.1	857.2	839.1
37.5°	712.2	717.4	722.6	727.7	738.1	745.9	751.1	751.1	748.5	743.3	720.0
40°	663.0	665.6	670.8	673.4	683.7	688.9	688.9	683.7	673.4	660.4	624.2
42.5°	629.3	631.9	634.5	637.1	642.3	644.9	642.3	631.9	619.0	600.8	559.4
45°	590.5	593.1	595.7	595.7	600.8	600.8	598.3	587.9	572.4	551.6	507.6
47.5°	543.9	546.5	549.0	551.6	554.2	554.2	551.6	541.3	525.7	507.6	461.0
50°	494.7	497.3	499.8	499.8	505.0	505.0	502.4	492.1	479.1	461.0	419.6
52.5°	445.5	448.0	448.0	453.2	453.2	453.2	450.6	440.3	429.9	417.0	378.1
55°	398.8	401.4	401.4	406.6	409.2	406.6	404.0	396.2	385.9	375.5	344.4
57.5°	357.4	360.0	360.0	362.6	365.2	362.6	360.0	354.8	349.6	339.3	313.4
60°	318.6	321.1	321.1	323.7	323.7	321.1	321.1	316.0	310.8	305.6	282.3
62.5°	282.3	282.3	282.3	284.9	284.9	282.3	282.3	277.1	274.5	271.9	253.8
65°	246.0	246.0	246.0	246.0	246.0	240.9	240.9	238.3	235.7	238.3	222.7
67.5°	204.6	204.6	202.0	202.0	202.0	196.8	196.8	196.8	194.2	196.8	183.9
70°	160.6	160.6	158.0	158.0	155.4	150.2	150.2	150.2	147.6	150.2	142.4
72.5°	114.0	116.5	111.4	111.4	108.8	103.6	106.2	103.6	106.2	106.2	101.0
75°	75.1	77.7	72.5	72.5	69.9	67.3	67.3	67.3	69.9	67.3	64.7
77.5°	46.6	49.2	46.6	46.6	44.0	41.4	41.4	41.4	41.4	41.4	38.8
80°	28.5	28.5	28.5	25.9	25.9	23.3	23.3	23.3	23.3	23.3	20.7
82.5°	15.5	15.5	15.5	15.5	15.5	12.9	12.9	12.9	12.9	12.9	10.4
85°	7.8	7.8	7.8	7.8	7.8	5.2	5.2	5.2	5.2	5.2	5.2
87.5°	2.6	2.6	2.6	2.6	2.6	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3
2.5°	2152.2	2162.5	2154.8	2185.8	2180.7	2204.0	2201.4	2224.7	2222.1	2224.7	2229.9
5°	2069.3	2090.0	2092.6	2131.4	2134.0	2170.3	2178.1	2209.1	2214.3	2224.7	2237.6
7.5°	1978.6	2009.7	2020.1	2064.1	2079.6	2118.5	2134.0	2175.5	2185.8	2204.0	2219.5
10°	1880.2	1916.5	1932.0	1983.8	2004.5	2048.6	2069.3	2113.3	2128.9	2149.6	2167.7
12.5°	1787.0	1825.8	1846.6	1900.9	1929.4	1973.5	1996.8	2043.4	2058.9	2084.8	2103.0
15°	1698.9	1740.4	1763.7	1818.1	1846.6	1895.8	1919.1	1965.7	1983.8	2009.7	2027.9
17.5°	1608.3	1649.7	1675.6	1727.4	1763.7	1805.1	1831.0	1877.6	1895.8	1919.1	1937.2
20°	1520.2	1561.7	1585.0	1636.8	1670.5	1711.9	1735.2	1781.8	1794.8	1818.1	1833.6
22.5°	1437.4	1476.2	1496.9	1551.3	1579.8	1616.1	1639.4	1680.8	1696.3	1714.5	1724.8
25°	1354.5	1388.2	1403.7	1450.3	1473.6	1507.3	1525.4	1561.7	1577.2	1592.8	1605.7
27.5°	1261.3	1279.4	1284.6	1320.8	1339.0	1370.0	1377.8	1411.5	1424.4	1434.8	1445.1
30°	1144.7	1147.3	1131.8	1149.9	1157.7	1181.0	1181.0	1212.0	1222.4	1230.2	1240.5
32.5°	997.1	981.6	945.3	940.1	934.9	947.9	942.7	968.6	979.0	984.1	991.9
35°	833.9	800.3	740.7	717.4	701.8	699.3	691.5	709.6	717.4	722.6	727.7
37.5°	691.5	642.3	567.2	525.7	499.8	489.5	479.1	489.5	494.7	499.8	505.0
40°	587.9	525.7	437.7	385.9	349.6	334.1	321.1	326.3	331.5	336.7	339.3
42.5°	512.8	442.9	347.0	284.9	248.6	230.5	217.5	220.1	222.7	225.3	230.5
45°	455.8	380.7	282.3	215.0	178.7	160.6	150.2	150.2	152.8	155.4	158.0
47.5°	409.2	328.9	230.5	165.8	132.1	114.0	103.6	103.6	106.2	106.2	108.8
50°	365.2	284.9	189.1	129.5	98.4	82.9	75.1	72.5	75.1	75.1	77.7
52.5°	328.9	251.2	158.0	103.6	75.1	62.2	54.4	54.4	54.4	54.4	54.4
55°	295.2	220.1	132.1	82.9	59.6	49.2	41.4	38.8	38.8	38.8	38.8
57.5°	269.3	196.8	114.0	69.9	49.2	38.8	33.7	31.1	31.1	31.1	31.1
60°	243.4	173.5	98.4	57.0	38.8	33.7	28.5	23.3	23.3	23.3	23.3
62.5°	217.5	150.2	82.9	49.2	33.7	25.9	23.3	18.1	18.1	18.1	18.1
65°	189.1	129.5	69.9	38.8	25.9	20.7	18.1	15.5	15.5	12.9	12.9
67.5°	155.4	103.6	57.0	33.7	23.3	18.1	15.5	12.9	10.4	10.4	10.4
70°	119.1	77.7	44.0	25.9	18.1	15.5	10.4	10.4	7.8	7.8	7.8
72.5°	85.5	54.4	31.1	20.7	12.9	10.4	10.4	7.8	7.8	7.8	5.2
75°	54.4	36.3	20.7	12.9	10.4	7.8	7.8	5.2	5.2	5.2	5.2
77.5°	33.7	23.3	15.5	10.4	7.8	5.2	5.2	5.2	2.6	2.6	2.6
80°	18.1	12.9	7.8	5.2	5.2	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	10.4	7.8	5.2	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
85°	5.2	2.6	2.6	2.6	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



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3	2227.3
2.5°	2245.4	2258.3	2250.6	2255.8	2279.1	2268.7	2286.8	2286.8	2307.6	2307.6	2292.0
5°	2260.9	2276.5	2279.1	2286.8	2317.9	2312.7	2333.5	2338.6	2361.9	2367.1	2354.2
7.5°	2250.6	2268.7	2276.5	2289.4	2320.5	2317.9	2341.2	2351.6	2372.3	2380.1	2369.7
10°	2201.4	2222.1	2232.4	2245.4	2279.1	2276.5	2302.4	2315.3	2333.5	2341.2	2333.5
12.5°	2136.6	2159.9	2170.3	2183.2	2216.9	2214.3	2240.2	2253.2	2268.7	2279.1	2271.3
15°	2064.1	2079.6	2097.8	2110.7	2141.8	2139.2	2165.1	2178.1	2191.0	2204.0	2196.2
17.5°	1970.9	1986.4	2004.5	2014.9	2046.0	2046.0	2066.7	2077.1	2095.2	2105.5	2095.2
20°	1864.7	1882.8	1895.8	1903.5	1932.0	1929.4	1950.2	1960.5	1976.1	1983.8	1976.1
22.5°	1753.3	1768.9	1779.2	1784.4	1807.7	1805.1	1820.7	1831.0	1844.0	1851.7	1844.0
25°	1626.4	1636.8	1644.6	1647.1	1667.9	1662.7	1683.4	1683.4	1693.8	1701.5	1693.8
27.5°	1463.3	1471.0	1476.2	1473.6	1489.2	1481.4	1499.5	1486.6	1507.3	1512.5	1504.7
30°	1253.5	1258.7	1263.8	1253.5	1263.8	1253.5	1269.0	1250.9	1269.0	1276.8	1269.0
32.5°	1004.9	1004.9	1010.0	997.1	1002.3	991.9	999.7	994.5	999.7	1007.5	999.7
35°	738.1	738.1	743.3	735.5	738.1	727.7	732.9	727.7	730.3	735.5	732.9
37.5°	512.8	510.2	518.0	512.8	515.4	510.2	512.8	507.6	510.2	512.8	510.2
40°	347.0	347.0	352.2	349.6	352.2	349.6	352.2	349.6	349.6	349.6	347.0
42.5°	233.1	235.7	238.3	238.3	240.9	238.3	240.9	238.3	238.3	238.3	235.7
45°	160.6	160.6	163.2	163.2	165.8	165.8	165.8	163.2	163.2	163.2	163.2
47.5°	111.4	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0	111.4
50°	77.7	80.3	80.3	80.3	80.3	80.3	80.3	77.7	77.7	77.7	77.7
52.5°	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	54.4	54.4
55°	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4
57.5°	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1
60°	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
62.5°	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
65°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
67.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
70°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
72.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
75°	5.2	5.2	5.2	5.2	5.2	2.6	2.6	2.6	2.6	2.6	2.6
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	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: P135707

CATALOG NUMBER: LD6A20D010TE ERM6A20840 6LM111H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2227.3	2227.3	2227.3	2227.3
2.5°	2284.2	2305.0	2297.2	2297.2
5°	2346.4	2369.7	2364.5	2361.9
7.5°	2364.5	2385.2	2380.1	2380.1
10°	2328.3	2349.0	2343.8	2343.8
12.5°	2268.7	2286.8	2284.2	2281.7
15°	2193.6	2211.7	2209.1	2206.5
17.5°	2092.6	2113.3	2110.7	2108.1
20°	1970.9	1989.0	1989.0	1986.4
22.5°	1838.8	1851.7	1854.3	1849.2
25°	1688.6	1698.9	1698.9	1693.8
27.5°	1499.5	1507.3	1507.3	1504.7
30°	1266.4	1269.0	1271.6	1266.4
32.5°	994.5	994.5	999.7	994.5
35°	725.2	725.2	730.3	727.7
37.5°	505.0	505.0	507.6	505.0
40°	344.4	344.4	347.0	344.4
42.5°	235.7	233.1	235.7	235.7
45°	160.6	160.6	163.2	160.6
47.5°	111.4	111.4	111.4	111.4
50°	77.7	77.7	77.7	77.7
52.5°	54.4	54.4	54.4	54.4
55°	38.8	41.4	41.4	41.4
57.5°	28.5	31.1	31.1	31.1
60°	23.3	23.3	23.3	23.3
62.5°	18.1	18.1	18.1	18.1
65°	12.9	12.9	12.9	12.9
67.5°	10.4	10.4	10.4	10.4
70°	7.8	7.8	7.8	7.8
72.5°	5.2	5.2	5.2	5.2
75°	2.6	2.6	2.6	2.6
77.5°	2.6	2.6	2.6	2.6
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)