

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: P135711

Luminaire Tested: **LD6A20D010TE ERM6A20940 6LM111H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135711
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 ERM6A20940 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: 2216.5 lumens
Efficiency: N/A
Efficacy: 67.6 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

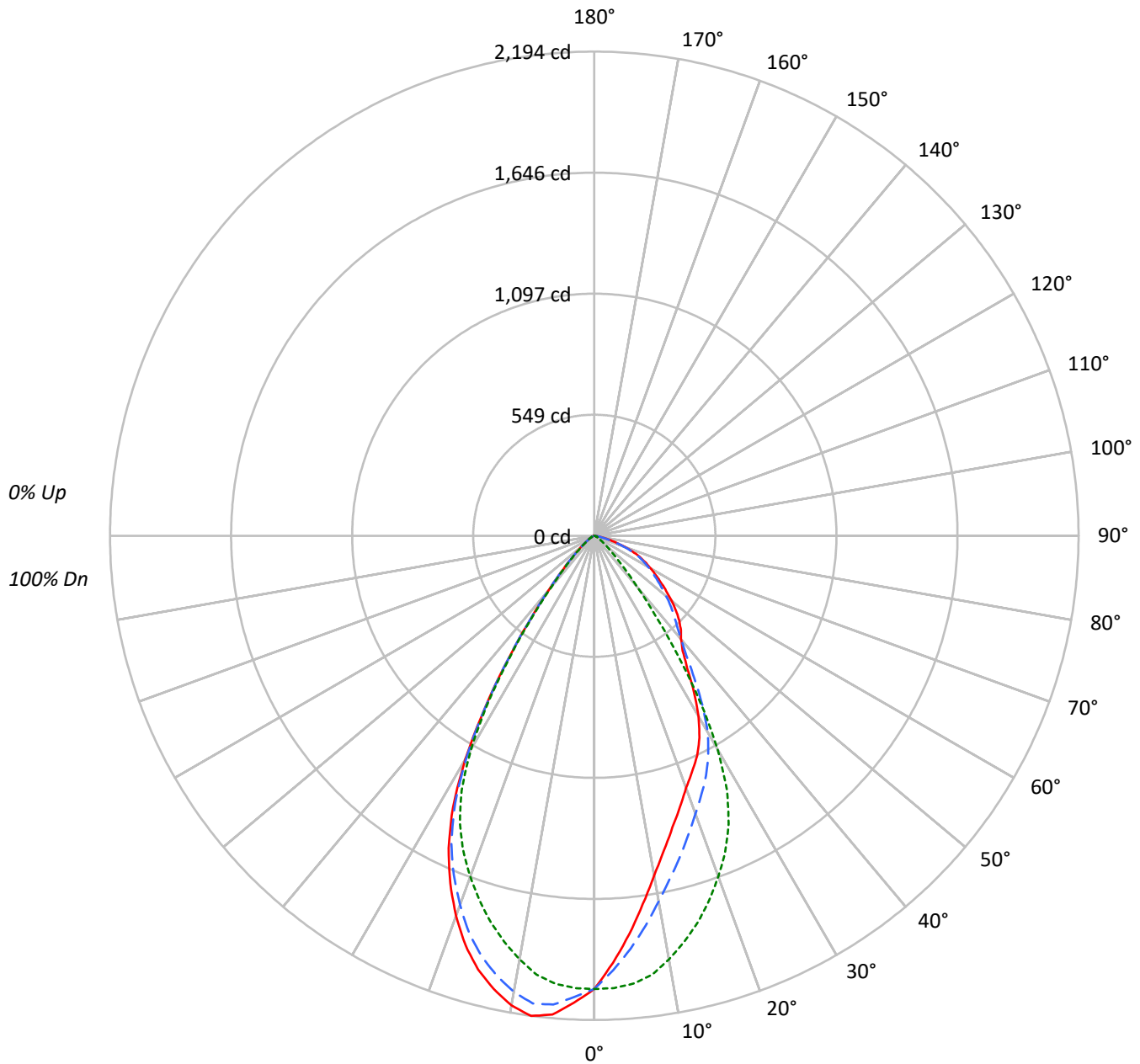
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P135711

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111H

Luminous Intensity Polar Plot





TEST NUMBER: P135711

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111H

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	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	84	83		
3	99	92	86	81	97	90	85	81	88	83	79	85	81	78	83	80	77	75		
4	93	85	78	73	91	83	77	73	81	76	72	79	75	71	77	73	70	68		
5	88	78	72	67	86	77	71	66	75	70	66	74	69	65	72	68	64	63		
6	83	73	66	61	81	72	65	61	70	65	60	69	64	60	67	63	59	58		
7	78	68	61	56	77	67	61	56	66	60	56	64	59	55	63	59	55	53		
8	74	63	57	52	73	63	56	52	62	56	52	60	55	51	59	55	51	50		
9	70	59	53	48	69	59	53	48	58	52	48	57	52	48	56	51	48	46		
10	67	56	49	45	65	55	49	45	54	49	45	54	48	45	53	48	45	43		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	133978	133978	133978
5°	118694	133390	142617
10°	103458	129082	143160
15°	92411	122413	137408
20°	84382	114056	127157
25°	79241	103651	112419
30°	71054	84185	87959
35°	58387	52111	53433
40°	52062	25618	27040
45°	50229	12779	13664
50°	46293	6780	7267
55°	41824	4072	4345
60°	38322	2805	2805
65°	35012	2208	1837
70°	28250	1831	1373
75°	17443	1210	605
80°	9881	902	0
85°	5390	0	0



TEST NUMBER: P135711

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.3	8.5
10°-20°	489.1	22.1
20°-30°	622.4	28.1
30°-40°	445.9	20.1
40°-50°	222.4	10.0
50°-60°	134.7	6.1
60°-70°	82.3	3.7
70°-80°	28.4	1.3
80°-90°	3.0	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°	1299.7	58.6
0°-40°	1745.7	78.8
0°-60°	2102.8	94.9
0°-90°	2216.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2216.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2054	2054	2054	2054	2054	
5°	1812	1879	2037	2132	2178	165
15°	1368	1504	1812	1972	2034	385
25°	1101	1199	1440	1533	1562	502
35°	733	790	654	671	671	468
45°	544	509	138	153	148	417
55°	368	346	36	38	38	331
65°	227	220	14	12	12	222
75°	69	62	5	2	2	80
85°	7	5	0	0	0	10
90°	0	0	0	0	0	



TEST NUMBER: P135711

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6
2.5°	1936.6	1939.0	1943.7	1939.0	1941.3	1953.3	1948.5	1950.9	1958.1	1969.9	1962.8
5°	1812.4	1814.8	1826.7	1819.6	1824.3	1838.7	1838.7	1848.1	1862.5	1879.2	1879.2
7.5°	1683.4	1688.2	1700.2	1695.4	1702.6	1721.7	1724.0	1738.3	1757.4	1781.3	1793.3
10°	1561.7	1566.4	1578.4	1576.0	1585.6	1604.6	1614.1	1628.5	1652.4	1681.1	1695.4
12.5°	1459.0	1463.8	1473.3	1473.3	1485.2	1504.3	1513.9	1533.0	1556.9	1587.9	1607.0
15°	1368.2	1375.4	1384.9	1384.9	1396.9	1416.0	1427.9	1444.7	1470.9	1504.3	1525.8
17.5°	1289.4	1291.8	1301.4	1301.4	1313.3	1332.4	1344.4	1361.1	1387.3	1418.4	1442.3
20°	1215.4	1217.8	1227.4	1229.8	1239.3	1256.0	1267.9	1284.6	1308.5	1339.6	1361.1
22.5°	1158.1	1162.9	1170.0	1172.4	1177.2	1193.9	1208.3	1220.2	1241.7	1267.9	1289.4
25°	1100.8	1103.2	1110.4	1112.8	1119.9	1131.8	1141.3	1153.3	1172.4	1198.7	1215.4
27.5°	1031.5	1038.7	1041.1	1043.5	1050.6	1060.2	1069.8	1079.3	1096.0	1117.5	1131.8
30°	943.2	945.6	952.7	957.5	964.7	974.3	986.2	995.8	1010.1	1026.7	1036.3
32.5°	840.5	842.9	850.1	854.9	866.8	876.4	885.9	893.0	902.6	912.1	912.1
35°	733.1	740.3	742.6	749.8	761.8	771.3	778.4	780.8	785.6	790.3	773.7
37.5°	656.6	661.4	666.2	670.9	680.5	687.7	692.5	692.5	690.1	685.3	663.8
40°	611.3	613.7	618.5	620.9	630.4	635.2	635.2	630.4	620.9	608.9	575.5
42.5°	580.2	582.6	585.0	587.4	592.2	594.6	592.2	582.6	570.7	553.9	515.8
45°	544.4	546.8	549.2	549.2	553.9	553.9	551.6	542.0	527.8	508.6	468.0
47.5°	501.5	503.9	506.2	508.6	511.0	511.0	508.6	499.1	484.7	468.0	425.0
50°	456.1	458.5	460.8	460.8	465.6	465.6	463.2	453.7	441.7	425.0	386.9
52.5°	410.8	413.1	413.1	417.9	417.9	417.9	415.5	406.0	396.4	384.5	348.6
55°	367.7	370.1	370.1	374.9	377.3	374.9	372.5	365.3	355.8	346.2	317.5
57.5°	329.5	331.9	331.9	334.3	336.7	334.3	331.9	327.1	322.3	312.8	289.0
60°	293.7	296.1	296.1	298.5	298.5	296.1	296.1	291.4	286.6	281.8	260.3
62.5°	260.3	260.3	260.3	262.7	262.7	260.3	260.3	255.5	253.1	250.7	234.0
65°	226.8	226.8	226.8	226.8	226.8	222.1	222.1	219.7	217.3	219.7	205.3
67.5°	188.6	188.6	186.2	186.2	186.2	181.4	181.4	181.4	179.1	181.4	169.6
70°	148.1	148.1	145.7	145.7	143.3	138.5	138.5	138.5	136.1	138.5	131.3
72.5°	105.1	107.4	102.7	102.7	100.3	95.5	97.9	95.5	97.9	97.9	93.1
75°	69.2	71.6	66.8	66.8	64.4	62.1	62.1	62.1	64.4	62.1	59.7
77.5°	43.0	45.4	43.0	43.0	40.6	38.2	38.2	38.2	38.2	38.2	35.8
80°	26.3	26.3	26.3	23.9	23.9	21.5	21.5	21.5	21.5	21.5	19.1
82.5°	14.3	14.3	14.3	14.3	14.3	11.9	11.9	11.9	11.9	11.9	9.6
85°	7.2	7.2	7.2	7.2	7.2	4.8	4.8	4.8	4.8	4.8	4.8
87.5°	2.4	2.4	2.4	2.4	2.4	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: P135711

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111H

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6
2.5°	1984.3	1993.8	1986.7	2015.3	2010.6	2032.1	2029.7	2051.2	2048.8	2051.2	2056.0
5°	1907.9	1927.0	1929.4	1965.2	1967.5	2001.0	2008.2	2036.8	2041.6	2051.2	2063.1
7.5°	1824.3	1852.9	1862.5	1903.1	1917.4	1953.3	1967.5	2005.8	2015.3	2032.1	2046.4
10°	1733.5	1767.0	1781.3	1829.1	1848.1	1888.8	1907.9	1948.5	1962.8	1981.9	1998.6
12.5°	1647.6	1683.4	1702.6	1752.6	1778.9	1819.6	1841.0	1884.0	1898.3	1922.2	1939.0
15°	1566.4	1604.6	1626.1	1676.3	1702.6	1747.9	1769.4	1812.4	1829.1	1852.9	1869.7
17.5°	1482.9	1521.0	1544.9	1592.7	1626.1	1664.3	1688.2	1731.1	1747.9	1769.4	1786.1
20°	1401.6	1439.9	1461.4	1509.1	1540.2	1578.4	1599.9	1642.8	1654.8	1676.3	1690.6
22.5°	1325.3	1361.1	1380.1	1430.3	1456.6	1490.0	1511.5	1549.7	1564.0	1580.8	1590.3
25°	1248.8	1279.9	1294.2	1337.2	1358.7	1389.7	1406.4	1439.9	1454.2	1468.6	1480.5
27.5°	1162.9	1179.6	1184.4	1217.8	1234.6	1263.1	1270.3	1301.4	1313.3	1322.9	1332.4
30°	1055.4	1057.8	1043.5	1060.2	1067.4	1088.9	1088.9	1117.5	1127.1	1134.2	1143.7
32.5°	919.3	905.0	871.6	866.8	862.0	874.0	869.2	893.0	902.6	907.3	914.5
35°	768.9	737.9	682.9	661.4	647.1	644.8	637.6	654.3	661.4	666.2	670.9
37.5°	637.6	592.2	523.0	484.7	460.8	451.3	441.7	451.3	456.1	460.8	465.6
40°	542.0	484.7	403.6	355.8	322.3	308.0	296.1	300.8	305.6	310.4	312.8
42.5°	472.8	408.4	319.9	262.7	229.2	212.5	200.5	202.9	205.3	207.7	212.5
45°	420.2	351.0	260.3	198.2	164.8	148.1	138.5	138.5	140.9	143.3	145.7
47.5°	377.3	303.2	212.5	152.9	121.8	105.1	95.5	95.5	97.9	97.9	100.3
50°	336.7	262.7	174.4	119.4	90.7	76.4	69.2	66.8	69.2	69.2	71.6
52.5°	303.2	231.6	145.7	95.5	69.2	57.3	50.2	50.2	50.2	50.2	50.2
55°	272.2	202.9	121.8	76.4	55.0	45.4	38.2	35.8	35.8	35.8	35.8
57.5°	248.3	181.4	105.1	64.4	45.4	35.8	31.1	28.7	28.7	28.7	28.7
60°	224.4	160.0	90.7	52.6	35.8	31.1	26.3	21.5	21.5	21.5	21.5
62.5°	200.5	138.5	76.4	45.4	31.1	23.9	21.5	16.7	16.7	16.7	16.7
65°	174.4	119.4	64.4	35.8	23.9	19.1	16.7	14.3	14.3	11.9	11.9
67.5°	143.3	95.5	52.6	31.1	21.5	16.7	14.3	11.9	9.6	9.6	9.6
70°	109.8	71.6	40.6	23.9	16.7	14.3	9.6	9.6	7.2	7.2	7.2
72.5°	78.8	50.2	28.7	19.1	11.9	9.6	9.6	7.2	7.2	7.2	4.8
75°	50.2	33.5	19.1	11.9	9.6	7.2	7.2	4.8	4.8	4.8	4.8
77.5°	31.1	21.5	14.3	9.6	7.2	4.8	4.8	4.8	2.4	2.4	2.4
80°	16.7	11.9	7.2	4.8	4.8	2.4	2.4	2.4	2.4	2.4	2.4
82.5°	9.6	7.2	4.8	2.4	2.4	2.4	2.4	2.4	0.0	0.0	0.0
85°	4.8	2.4	2.4	2.4	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: P135711

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111H

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6	2053.6
2.5°	2070.3	2082.2	2075.1	2079.8	2101.3	2091.7	2108.4	2108.4	2127.6	2127.6	2113.2
5°	2084.5	2098.9	2101.3	2108.4	2137.1	2132.3	2151.5	2156.2	2177.7	2182.5	2170.6
7.5°	2075.1	2091.7	2098.9	2110.8	2139.5	2137.1	2158.6	2168.2	2187.3	2194.5	2184.9
10°	2029.7	2048.8	2058.3	2070.3	2101.3	2098.9	2122.8	2134.7	2151.5	2158.6	2151.5
12.5°	1969.9	1991.4	2001.0	2012.9	2044.0	2041.6	2065.5	2077.5	2091.7	2101.3	2094.1
15°	1903.1	1917.4	1934.2	1946.1	1974.7	1972.3	1996.2	2008.2	2020.1	2032.1	2024.9
17.5°	1817.2	1831.5	1848.1	1857.7	1886.4	1886.4	1905.5	1915.1	1931.8	1941.3	1931.8
20°	1719.3	1735.9	1747.9	1755.0	1781.3	1778.9	1798.1	1807.6	1822.0	1829.1	1822.0
22.5°	1616.5	1630.9	1640.4	1645.2	1666.7	1664.3	1678.7	1688.2	1700.2	1707.3	1700.2
25°	1499.5	1509.1	1516.3	1518.6	1537.8	1533.0	1552.1	1552.1	1561.7	1568.8	1561.7
27.5°	1349.2	1356.3	1361.1	1358.7	1373.0	1365.9	1382.5	1370.6	1389.7	1394.5	1387.3
30°	1155.7	1160.5	1165.2	1155.7	1165.2	1155.7	1170.0	1153.3	1170.0	1177.2	1170.0
32.5°	926.5	926.5	931.2	919.3	924.1	914.5	921.7	916.9	921.7	928.9	921.7
35°	680.5	680.5	685.3	678.1	680.5	670.9	675.7	670.9	673.3	678.1	675.7
37.5°	472.8	470.4	477.6	472.8	475.2	470.4	472.8	468.0	470.4	472.8	470.4
40°	319.9	319.9	324.7	322.3	324.7	322.3	324.7	322.3	322.3	322.3	319.9
42.5°	214.9	217.3	219.7	219.7	222.1	219.7	222.1	219.7	219.7	219.7	217.3
45°	148.1	148.1	150.5	150.5	152.9	152.9	152.9	150.5	150.5	150.5	150.5
47.5°	102.7	105.1	105.1	105.1	105.1	105.1	105.1	105.1	105.1	105.1	102.7
50°	71.6	74.0	74.0	74.0	74.0	74.0	74.0	71.6	71.6	71.6	71.6
52.5°	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	50.2	50.2
55°	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2
57.5°	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7
60°	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
62.5°	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
65°	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
67.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
70°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
72.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
75°	4.8	4.8	4.8	4.8	4.8	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	0.0	2.4	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: P135711

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM111H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2053.6	2053.6	2053.6	2053.6
2.5°	2106.0	2118.0	2118.0	2118.0
5°	2163.4	2180.1	2177.7	
7.5°	2180.1	2199.2	2194.5	2194.5
10°	2146.7	2165.8	2161.0	2161.0
12.5°	2091.7	2108.4	2106.0	2103.7
15°	2022.5	2039.2	2036.8	2034.4
17.5°	1929.4	1948.5	1946.1	1943.7
20°	1817.2	1833.9	1833.9	1831.5
22.5°	1695.4	1707.3	1709.7	1705.0
25°	1556.9	1566.4	1566.4	1561.7
27.5°	1382.5	1389.7	1389.7	1387.3
30°	1167.6	1170.0	1172.4	1167.6
32.5°	916.9	916.9	921.7	916.9
35°	668.6	668.6	673.3	670.9
37.5°	465.6	465.6	468.0	465.6
40°	317.5	317.5	319.9	317.5
42.5°	217.3	214.9	217.3	217.3
45°	148.1	148.1	150.5	148.1
47.5°	102.7	102.7	102.7	102.7
50°	71.6	71.6	71.6	71.6
52.5°	50.2	50.2	50.2	50.2
55°	35.8	38.2	38.2	38.2
57.5°	26.3	28.7	28.7	28.7
60°	21.5	21.5	21.5	21.5
62.5°	16.7	16.7	16.7	16.7
65°	11.9	11.9	11.9	11.9
67.5°	9.6	9.6	9.6	9.6
70°	7.2	7.2	7.2	7.2
72.5°	4.8	4.8	4.8	4.8
75°	2.4	2.4	2.4	2.4
77.5°	2.4	2.4	2.4	2.4
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)