

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P858188

Luminaire Tested: **LX4C45D010 EX4C459050 4LBLWW\***

Issue Date: 2/9/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P858188  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/9/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LX4C45D010 EX4C459050 4LBLWW\*  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS  
AND 4LRLWW TRIM WITH \* FINISH  
Light Source: -  
Ballast/Driver: -

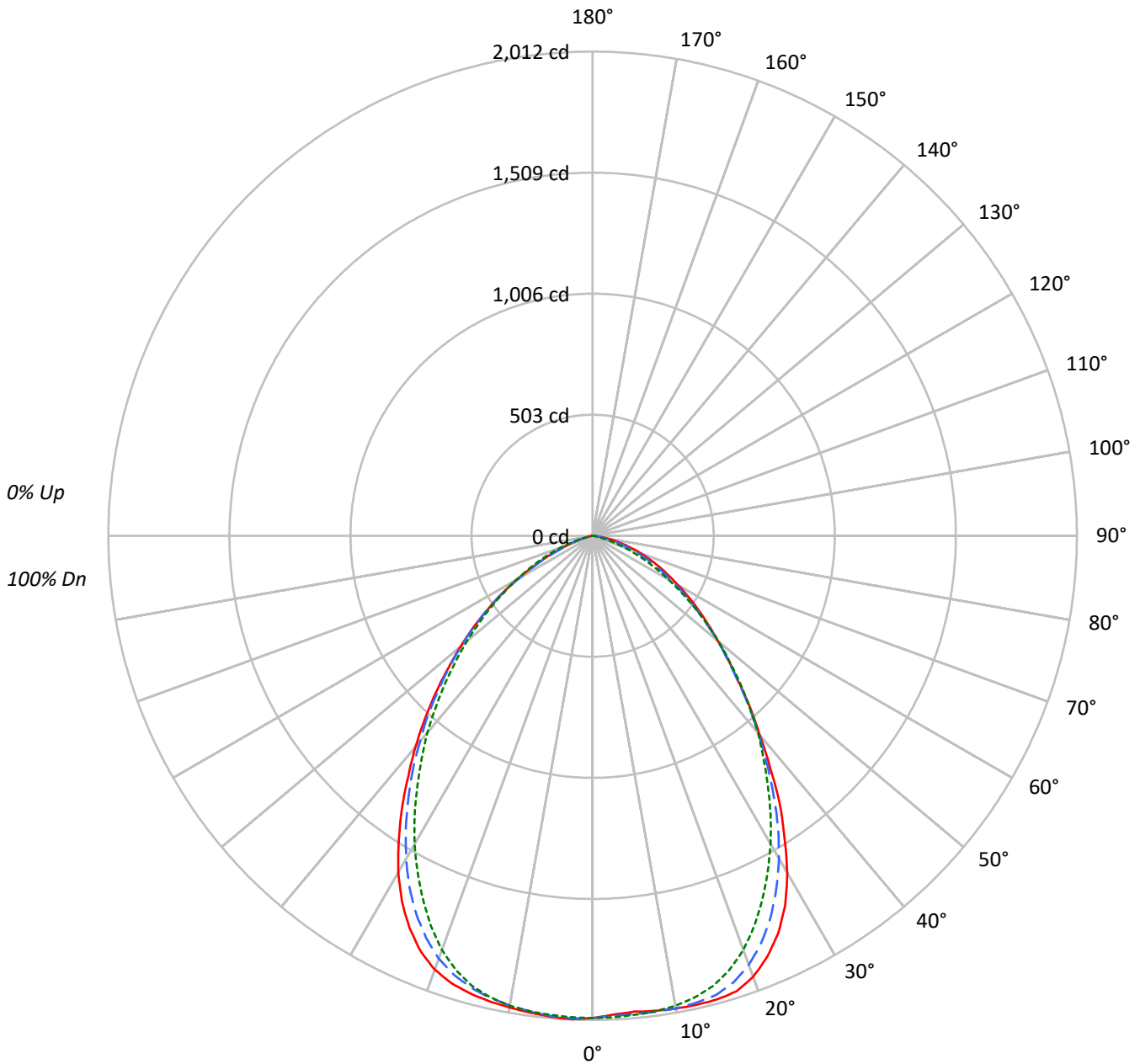
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3842.0 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.12 / 1.18  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 49.6  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78																			
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68																			
4	88	78	71	65	86	77	70	65	75	69	64	72	67	63	70	66	62	60																			
5	82	71	63	57	80	70	63	57	68	61	57	66	60	56	64	59	55	54																			
6	76	65	57	51	75	64	56	51	62	56	51	61	55	50	59	54	50	48																			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39																			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36																			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	35	44	38	34	33																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	246198	246198	246198
5°	244820	246485	247410
10°	248874	247364	248300
15°	253739	246273	250381
20°	255017	239368	250782
25°	247169	226050	243794
30°	229414	209767	228989
35°	203143	190290	206982
40°	173188	171375	183564
45°	148792	150494	159894
50°	129870	130157	137076
55°	114762	109922	113627
60°	100592	89683	89314
65°	89040	69564	61918
70°	75971	47845	36746
75°	61422	25727	16803
80°	42025	6367	4245
85°	12686	2114	2114



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.5	5.0
10°-20°	551.3	14.4
20°-30°	796.7	20.7
30°-40°	823.6	21.4
40°-50°	680.5	17.7
50°-60°	469.6	12.2
60°-70°	245.9	6.4
70°-80°	77.4	2.0
80°-90°	6.6	0.2
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°	1538.5	40.0
0°-40°	2362.0	61.5
0°-60°	3512.2	91.4
0°-90°	3842.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3842.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2004	2004	2004	2004	2004	
5°	1985	1995	1999	2002	2006	190
15°	1995	1976	1936	1945	1969	563
25°	1823	1750	1668	1735	1798	833
35°	1354	1309	1269	1335	1380	841
45°	856	853	866	906	920	668
55°	536	519	513	528	530	481
65°	306	278	239	199	213	303
75°	129	102	54	37	35	139
85°	9	4	2	2	2	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0
2.5°	1991.2	1991.9	1991.9	1993.4	1993.4	1993.4	1994.2	1994.2	1995.0	1995.7	1996.5
5°	1985.2	1985.2	1986.7	1987.4	1988.9	1989.7	1991.2	1991.9	1993.4	1994.2	1995.0
7.5°	1991.2	1991.2	1991.9	1992.7	1992.7	1993.4	1993.4	1994.2	1995.0	1995.7	1995.7
10°	1995.0	1995.0	1995.0	1995.0	1995.7	1995.7	1995.7	1995.0	1995.0	1995.0	1994.2
12.5°	1996.5	1996.5	1995.7	1995.0	1995.7	1995.0	1995.0	1992.7	1991.2	1989.7	1987.4
15°	1995.0	1995.0	1994.2	1993.4	1992.7	1991.2	1990.4	1986.7	1983.7	1979.1	1976.1
17.5°	1985.2	1983.7	1982.2	1980.7	1977.6	1975.4	1973.9	1967.1	1961.8	1954.3	1946.0
20°	1950.6	1949.0	1946.8	1943.0	1939.3	1936.3	1931.7	1922.0	1916.7	1905.4	1897.1
22.5°	1894.1	1892.6	1893.4	1886.6	1879.1	1874.5	1871.5	1863.3	1854.2	1839.9	1830.9
25°	1823.4	1818.9	1818.9	1808.3	1804.6	1801.6	1797.8	1788.0	1774.5	1761.7	1749.6
27.5°	1731.6	1725.5	1722.5	1721.0	1712.0	1705.2	1700.0	1692.4	1681.1	1669.9	1653.3
30°	1617.2	1616.4	1612.7	1605.9	1599.1	1596.1	1590.1	1577.3	1566.8	1558.5	1547.9
32.5°	1482.5	1481.7	1481.7	1481.7	1477.2	1476.5	1467.4	1460.7	1452.4	1439.6	1432.8
35°	1354.5	1353.8	1354.5	1343.3	1340.3	1338.0	1337.2	1332.7	1321.4	1315.4	1309.4
37.5°	1210.1	1212.3	1210.8	1207.8	1211.6	1204.8	1210.1	1200.3	1195.8	1194.3	1187.5
40°	1079.9	1085.9	1079.9	1080.6	1084.4	1077.6	1077.6	1076.1	1073.1	1071.6	1070.1
42.5°	968.5	961.0	965.5	961.7	965.5	963.2	959.5	961.7	962.5	959.5	958.7
45°	856.4	857.9	859.4	857.1	857.1	854.9	860.9	857.1	857.1	857.9	852.6
47.5°	765.3	763.1	764.6	763.1	763.8	762.3	763.8	764.6	763.1	763.1	758.5
50°	679.5	678.0	683.3	678.8	678.8	678.0	678.8	677.3	675.0	675.0	676.5
52.5°	605.0	602.0	601.3	605.0	599.8	599.8	600.5	599.0	596.0	594.5	590.7
55°	535.8	535.0	535.8	532.8	531.3	531.3	527.5	526.0	525.3	521.5	519.2
57.5°	471.1	468.8	469.6	468.8	465.8	465.1	462.1	462.1	459.0	456.0	452.3
60°	409.4	409.4	411.6	408.6	406.4	404.9	403.4	401.8	396.6	391.3	386.8
62.5°	354.4	355.2	354.4	352.2	350.7	349.2	347.7	343.2	338.6	335.6	330.4
65°	306.3	305.5	303.3	301.8	298.0	298.0	295.0	292.7	287.5	283.0	277.7
67.5°	256.6	255.1	255.1	255.1	250.6	249.8	248.3	243.8	239.3	233.3	228.8
70°	211.5	213.0	210.7	208.5	206.2	205.4	203.2	198.7	193.4	187.4	183.6
72.5°	168.6	170.1	167.8	167.1	162.5	161.0	160.3	156.5	150.5	146.7	140.7
75°	129.4	130.2	128.7	127.2	124.2	123.4	119.7	116.6	112.9	106.9	101.6
77.5°	93.3	91.8	91.8	88.8	85.8	85.8	85.0	80.5	75.3	70.7	66.2
80°	59.4	58.7	56.4	54.9	52.7	51.9	51.2	47.4	43.6	40.6	37.6
82.5°	30.1	29.3	28.6	27.8	26.3	24.8	25.6	22.6	21.1	18.1	15.8
85°	9.0	9.8	9.8	9.0	8.3	8.3	8.3	7.5	6.0	5.3	4.5
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0
2.5°	1997.2	1998.0	1998.7	1999.5	1999.5	2000.2	2001.0	2001.7	2002.5	2002.5	2003.2
5°	1995.7	1997.2	1997.2	1998.0	1998.0	1998.0	1998.7	1998.7	1998.7	1998.7	1999.5
7.5°	1996.5	1996.5	1996.5	1995.7	1995.7	1995.0	1995.0	1995.0	1993.4	1993.4	1993.4
10°	1992.7	1991.9	1991.2	1989.7	1988.9	1988.2	1986.7	1985.2	1983.7	1982.9	1981.4
12.5°	1985.2	1982.2	1979.1	1976.1	1974.6	1973.9	1970.9	1968.6	1966.4	1964.1	1962.6
15°	1970.1	1965.6	1960.3	1954.3	1952.8	1951.3	1946.0	1941.5	1938.5	1936.3	1932.5
17.5°	1940.0	1931.0	1925.0	1915.9	1912.2	1910.7	1902.4	1897.9	1892.6	1891.1	1888.1
20°	1886.6	1878.3	1867.0	1858.7	1854.2	1849.7	1842.9	1836.9	1830.9	1830.9	1827.1
22.5°	1819.6	1809.1	1794.8	1784.2	1783.5	1774.5	1768.4	1761.7	1759.4	1754.9	1754.9
25°	1735.3	1726.3	1710.5	1701.5	1696.9	1694.7	1684.9	1675.9	1671.4	1667.6	1670.6
27.5°	1642.0	1628.5	1616.4	1605.1	1601.4	1596.9	1587.8	1584.1	1575.8	1575.0	1574.3
30°	1535.2	1521.6	1509.6	1504.3	1496.8	1493.0	1486.2	1481.7	1478.7	1478.7	1477.2
32.5°	1423.0	1411.0	1405.0	1393.7	1389.9	1384.7	1380.1	1375.6	1377.1	1375.6	1376.4
35°	1301.9	1298.9	1287.6	1280.8	1280.8	1280.0	1272.5	1269.5	1268.0	1268.8	1272.5
37.5°	1186.7	1177.7	1170.2	1165.7	1169.4	1164.9	1164.2	1164.2	1168.7	1165.7	1171.7
40°	1064.1	1063.3	1060.3	1061.8	1062.6	1057.3	1058.8	1059.6	1062.6	1068.6	1069.3
42.5°	957.2	956.5	956.5	956.5	955.0	951.9	955.0	960.2	959.5	964.0	967.8
45°	854.1	852.6	855.6	853.4	857.9	859.4	857.1	858.6	863.1	866.2	872.2
47.5°	760.1	760.1	760.8	762.3	757.8	761.6	763.1	766.1	768.3	769.8	772.8
50°	672.8	672.8	671.3	671.3	671.3	673.5	670.5	674.3	675.0	681.0	684.8
52.5°	592.2	588.5	590.7	589.2	586.2	584.7	586.2	587.0	591.5	593.0	597.5
55°	515.5	515.5	509.5	508.0	510.2	509.5	508.7	508.7	511.0	513.2	517.0
57.5°	447.8	443.2	438.7	438.0	435.7	436.5	436.5	435.7	434.2	435.0	435.7
60°	383.8	380.8	374.0	374.0	373.3	372.5	368.7	368.0	364.2	365.0	362.0
62.5°	325.1	323.6	314.6	311.5	311.5	309.3	305.5	304.8	299.5	299.5	296.5
65°	272.4	267.9	262.6	257.4	257.4	254.4	252.1	245.3	241.6	239.3	234.8
67.5°	224.3	217.5	212.2	207.7	204.7	203.9	198.7	194.2	188.1	184.4	177.6
70°	177.6	172.3	167.1	162.5	159.5	156.5	151.3	144.5	140.0	133.2	128.7
72.5°	133.9	129.4	124.9	118.9	115.1	112.9	107.6	101.6	94.1	89.6	83.5
75°	96.3	91.1	85.0	79.8	77.5	75.3	69.2	64.7	59.4	54.2	48.2
77.5°	62.5	56.4	51.9	45.9	45.2	43.6	37.6	33.1	29.3	26.3	22.6
80°	33.1	30.1	26.3	22.6	21.1	18.8	15.8	13.5	11.3	9.0	7.5
82.5°	14.3	12.0	9.8	8.3	7.5	6.8	5.3	4.5	3.8	3.8	3.0
85°	3.8	3.0	3.0	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.0	0.8	0.8	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0
2.5°	2004.0	2004.7	2005.5	2005.5	2006.2	2007.0	2007.0	2007.7	2008.5	2009.2	2009.2
5°	2000.2	2000.2	2000.2	2001.0	2001.0	2001.0	2001.0	2002.5	2002.5	2003.2	2004.0
7.5°	1992.7	1992.7	1992.7	1992.7	1991.9	1992.7	1991.9	1991.9	1993.4	1994.2	1995.0
10°	1980.7	1979.9	1979.9	1979.1	1979.1	1979.1	1979.9	1980.7	1981.4	1982.2	1984.4
12.5°	1961.8	1961.1	1961.1	1960.3	1960.3	1961.1	1961.8	1963.3	1966.4	1967.9	1970.9
15°	1931.7	1931.0	1931.7	1932.5	1934.0	1936.3	1938.5	1940.8	1945.3	1949.0	1952.8
17.5°	1888.1	1888.8	1889.6	1891.1	1893.4	1896.4	1902.4	1908.4	1913.7	1919.7	1925.7
20°	1827.9	1830.9	1831.7	1836.9	1838.4	1845.2	1852.0	1861.0	1869.3	1876.8	1885.1
22.5°	1755.6	1757.9	1760.9	1766.9	1770.7	1779.7	1788.0	1798.5	1807.6	1817.4	1829.4
25°	1673.6	1674.4	1683.4	1683.4	1692.4	1700.0	1709.7	1721.0	1734.6	1747.4	1755.6
27.5°	1580.3	1584.1	1590.8	1593.9	1600.6	1612.7	1620.9	1634.5	1648.0	1659.3	1668.4
30°	1482.5	1485.5	1496.8	1498.3	1503.6	1514.1	1525.4	1538.2	1548.7	1561.5	1569.8
32.5°	1379.4	1387.7	1394.4	1399.7	1401.2	1417.0	1423.0	1432.1	1444.1	1456.9	1465.2
35°	1279.3	1283.1	1292.8	1295.9	1300.4	1309.4	1321.4	1329.0	1335.0	1343.3	1353.0
37.5°	1173.2	1184.5	1186.7	1195.8	1197.3	1205.5	1211.6	1220.6	1228.1	1235.7	1237.2
40°	1074.6	1078.4	1086.6	1088.9	1090.4	1101.7	1109.2	1111.5	1115.2	1122.0	1131.0
42.5°	974.5	978.3	987.3	985.1	991.8	997.1	1000.9	1009.9	1013.7	1015.9	1015.9
45°	875.9	877.4	883.5	886.5	890.2	893.3	900.0	904.5	906.0	912.8	915.1
47.5°	781.9	783.4	787.9	793.2	791.7	795.4	802.9	805.2	806.0	810.5	812.7
50°	689.3	693.1	699.1	697.6	702.1	704.4	711.1	712.6	712.6	713.4	714.1
52.5°	602.8	605.8	607.3	608.8	611.1	614.8	617.8	616.3	619.3	622.3	620.1
55°	517.0	519.2	523.0	524.5	524.5	525.3	523.8	530.5	527.5	526.8	527.5
57.5°	438.7	435.7	435.0	438.7	440.2	439.5	437.2	440.2	440.2	438.7	436.5
60°	362.7	360.5	359.7	360.5	357.5	355.2	356.7	355.2	351.4	349.9	350.7
62.5°	293.5	291.2	285.2	285.2	283.7	283.0	276.9	277.7	274.7	270.2	271.7
65°	229.5	223.5	220.5	219.7	214.5	210.0	208.5	203.2	198.7	197.9	198.7
67.5°	172.3	165.6	160.3	158.0	155.0	151.3	146.0	141.5	143.0	142.2	145.2
70°	119.7	115.1	109.9	106.1	107.6	103.1	100.1	100.1	100.8	101.6	103.1
72.5°	79.8	73.7	71.5	69.2	67.7	64.7	66.2	66.2	65.5	66.2	64.7
75°	45.2	42.1	39.9	39.1	37.6	37.6	37.6	37.6	36.9	36.1	36.1
77.5°	20.3	18.8	18.1	17.3	17.3	17.3	16.6	15.8	15.8	15.8	15.1
80°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
82.5°	3.0	3.0	3.8	3.8	3.8	3.0	3.8	3.8	3.0	3.0	3.8
85°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.8	0.8	0.8	0.0	0.8	0.8	0.8	0.8	0.0	0.8	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: P858188

CATALOG NUMBER: LX4C45D010 EX4C459050 4LBLWW\*

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0	2004.0
2.5°	2010.0	2010.8	2010.8	2010.8	2011.5	2011.5	2011.5	2011.5
5°	2004.7	2005.5	2005.5	2005.5	2006.2	2006.2	2006.2	2006.2
7.5°	1995.7	1996.5	1996.5	1997.2	1997.2	1998.0	1998.0	1998.7
10°	1985.2	1986.7	1987.4	1988.2	1988.9	1989.7	1989.7	1990.4
12.5°	1973.9	1975.4	1976.1	1977.6	1979.1	1979.9	1980.7	1981.4
15°	1957.3	1960.3	1961.8	1962.6	1965.6	1967.1	1967.9	1968.6
17.5°	1931.0	1937.0	1939.3	1940.8	1943.8	1946.8	1949.0	1949.8
20°	1893.4	1900.1	1903.1	1906.9	1911.4	1915.2	1916.7	1918.2
22.5°	1840.7	1848.2	1852.7	1857.2	1861.0	1864.8	1870.8	1868.5
25°	1765.4	1778.2	1783.5	1785.7	1794.0	1798.5	1801.6	1798.5
27.5°	1681.1	1688.7	1693.2	1698.5	1704.5	1709.0	1710.5	1715.0
30°	1579.6	1592.3	1591.6	1596.9	1604.4	1608.9	1610.4	1614.2
32.5°	1474.2	1480.2	1484.7	1484.0	1487.0	1495.3	1492.3	1499.0
35°	1362.1	1362.8	1370.4	1369.6	1375.6	1375.6	1375.6	1380.1
37.5°	1242.4	1251.5	1247.7	1256.7	1253.7	1256.0	1256.0	1257.5
40°	1133.3	1136.3	1136.3	1139.3	1141.6	1139.3	1140.8	1144.6
42.5°	1020.4	1023.4	1024.2	1022.7	1024.9	1031.7	1026.4	1031.0
45°	915.1	917.3	920.3	918.1	921.8	919.6	921.8	920.3
47.5°	815.7	815.0	814.2	820.3	815.0	815.7	818.8	813.5
50°	714.1	718.7	715.7	717.9	719.4	719.4	717.2	717.2
52.5°	623.8	623.1	620.8	623.1	621.6	622.3	623.8	622.3
55°	530.5	533.5	532.0	531.3	532.0	532.0	536.6	530.5
57.5°	438.7	437.2	439.5	444.7	439.5	443.2	445.5	446.2
60°	351.4	351.4	355.9	353.7	358.2	362.0	365.0	363.5
62.5°	267.9	271.7	273.2	273.9	278.4	281.4	281.4	280.7
65°	198.7	203.9	203.9	206.9	208.5	208.5	210.0	213.0
67.5°	146.7	146.7	147.5	149.0	148.2	148.2	149.8	150.5
70°	102.3	100.8	103.1	102.3	102.3	101.6	102.3	102.3
72.5°	64.7	64.7	65.5	64.7	63.2	64.0	64.0	65.5
75°	34.6	36.1	34.6	34.6	35.4	33.9	34.6	35.4
77.5°	14.3	14.3	14.3	14.3	14.3	13.5	13.5	13.5
80°	6.8	6.8	6.8	6.8	6.8	6.8	6.0	6.0
82.5°	3.0	3.8	3.0	3.8	3.0	3.0	3.0	3.0
85°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.0	0.8	0.0	0.8	0.0	0.0	0.0	0.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°















(END OF REPORT)