

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: P879437

Luminaire Tested: **LD4C45D010 EU4459050 4LBLDWWLI**

Issue Date: 10/1/2024

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P879437  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/1/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C45D010 EU4459050 4LBLDWWLI  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS  
AND 4LBLDWW TRIM WITH LI FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

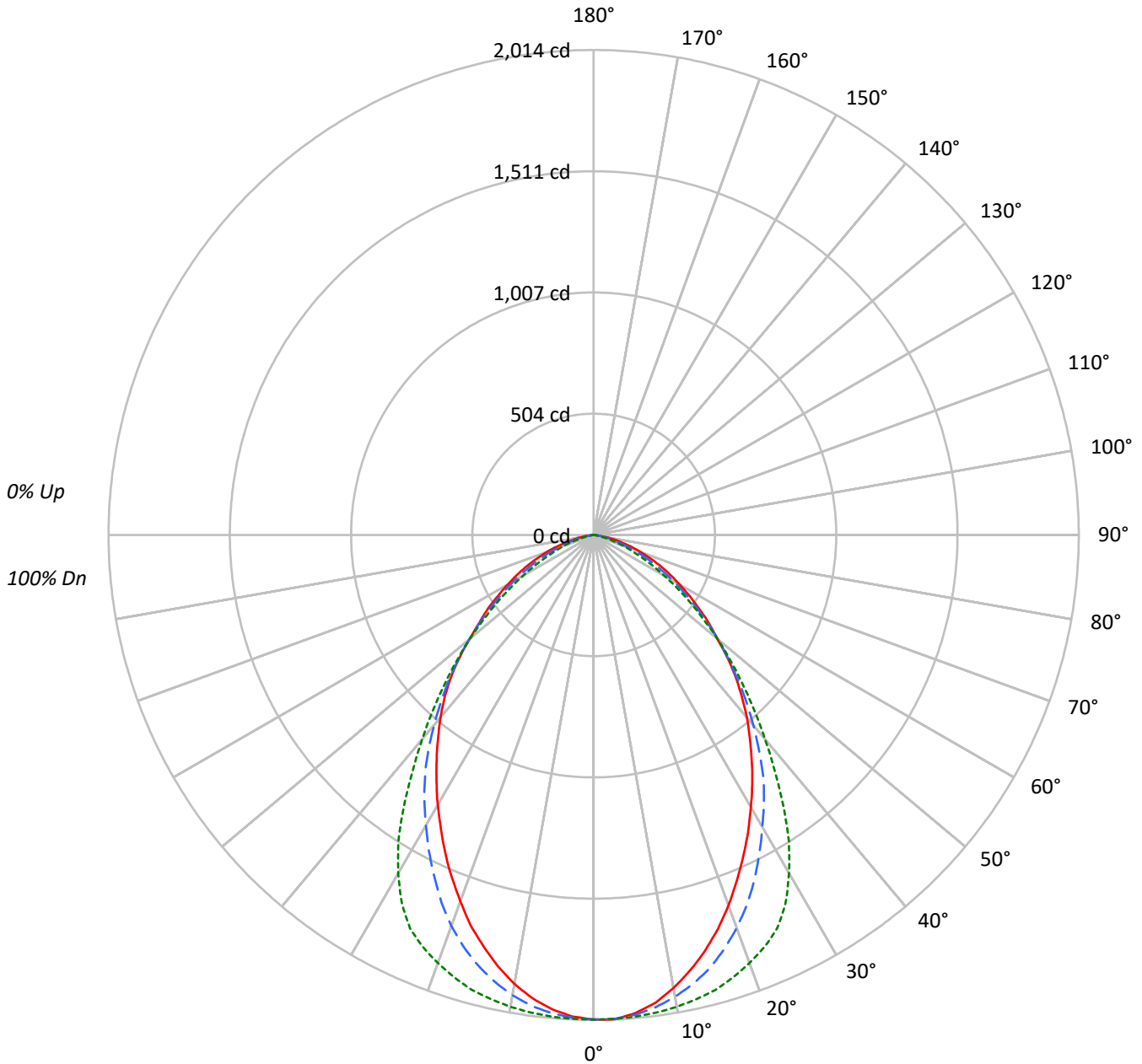
Lumens per Lamp: N/A  
Luminaire Lumens: 3696.0 lumens  
Efficiency: N/A  
Efficacy: 74.5 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 49.6  
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									
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	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	79	77																			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	247230	247230	247230
5°	245770	247620	243908
10°	238282	248237	236212
15°	227335	248778	224854
20°	213913	247356	211547
25°	199237	244431	197610
30°	185126	230180	183636
35°	171678	205873	170433
40°	158722	177550	158594
45°	144622	151554	145786
50°	127730	128169	128456
55°	114441	104781	114934
60°	101158	83221	101330
65°	89040	63459	88168
70°	73816	45403	73816
75°	57530	26059	55394
80°	37284	6367	35657
85°	13814	2114	10572



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	188.9	5.1
10°-20°	522.7	14.1
20°-30°	730.6	19.8
30°-40°	770.7	20.9
40°-50°	655.7	17.7
50°-60°	462.7	12.5
60°-70°	262.3	7.1
70°-80°	93.6	2.5
80°-90°	9.0	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°	1442.2	39.0
0°-40°	2212.9	59.9
0°-60°	3331.2	90.1
0°-90°	3696.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3696.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2012	2012	2012	2012	2012	
5°	1993	2000	2008	1994	1978	188
15°	1787	1863	1956	1852	1768	501
25°	1470	1580	1803	1565	1458	676
35°	1145	1228	1373	1221	1136	716
45°	832	844	872	848	839	640
55°	534	516	489	518	537	480
65°	306	263	218	263	303	303
75°	121	83	55	81	117	131
85°	10	4	2	4	8	17
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°	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4
2.5°	2014.0	2010.2	2010.2	2010.2	2010.2	2010.2	2010.2	2010.2	2010.2	2010.9	2010.9
5°	1992.9	1991.4	1990.6	1990.6	1990.6	1990.6	1991.4	1994.4	1995.9	1998.2	1999.7
7.5°	1959.8	1956.8	1958.3	1958.3	1959.8	1961.3	1963.5	1966.5	1971.1	1974.1	1977.8
10°	1910.1	1907.1	1910.8	1912.4	1916.9	1919.1	1922.9	1927.4	1936.4	1941.0	1947.0
12.5°	1852.1	1850.6	1852.1	1858.2	1862.7	1865.7	1870.2	1880.0	1889.0	1898.8	1909.3
15°	1787.4	1783.7	1785.9	1793.4	1801.0	1806.2	1810.0	1822.8	1834.8	1849.9	1862.7
17.5°	1715.2	1709.9	1715.9	1721.9	1731.7	1736.2	1741.5	1755.8	1772.4	1788.9	1803.2
20°	1636.2	1634.6	1638.4	1646.7	1656.5	1662.5	1667.0	1682.8	1697.1	1719.7	1736.2
22.5°	1554.1	1555.6	1558.6	1567.7	1574.4	1582.7	1589.5	1603.8	1620.3	1641.4	1662.5
25°	1469.8	1472.1	1477.4	1483.4	1494.7	1499.2	1507.5	1522.5	1536.8	1556.4	1579.7
27.5°	1388.5	1389.3	1395.3	1398.3	1408.9	1418.6	1422.4	1438.2	1454.8	1469.8	1490.1
30°	1305.0	1307.3	1311.0	1319.3	1329.8	1333.6	1338.1	1352.4	1365.2	1384.0	1399.8
32.5°	1225.2	1223.7	1228.2	1232.8	1244.8	1251.6	1253.8	1270.4	1281.7	1300.5	1315.5
35°	1144.7	1140.9	1147.7	1152.2	1162.8	1168.8	1171.8	1184.6	1195.1	1210.9	1227.5
37.5°	1064.2	1067.2	1070.2	1074.0	1079.2	1080.7	1089.8	1092.8	1106.3	1118.4	1127.4
40°	989.7	988.2	986.7	990.4	997.2	1000.2	1001.0	1009.2	1012.2	1024.3	1031.1
42.5°	909.9	910.6	909.9	910.6	914.4	914.4	916.7	921.9	924.2	928.0	936.2
45°	832.4	832.4	830.1	830.9	831.6	830.9	831.6	833.9	838.4	838.4	844.4
47.5°	751.8	750.3	753.4	751.1	749.6	748.8	751.1	748.8	753.4	753.4	754.9
50°	668.3	668.3	672.1	671.3	672.8	669.8	670.6	670.6	671.3	670.6	673.6
52.5°	603.6	602.1	600.6	596.8	598.3	595.3	595.3	596.1	593.8	593.0	589.3
55°	534.3	535.9	533.6	532.1	532.1	529.1	528.3	523.8	520.8	518.5	516.3
57.5°	471.9	473.4	472.6	468.9	464.4	465.1	463.6	459.1	452.3	447.8	444.0
60°	411.7	413.2	411.7	407.9	406.4	403.4	402.6	396.6	391.4	385.3	380.8
62.5°	357.5	357.5	356.7	351.5	347.7	348.5	344.7	340.2	333.4	325.1	318.3
65°	306.3	305.6	301.8	299.5	296.5	292.8	290.5	283.7	278.5	271.7	262.7
67.5°	255.1	252.9	251.4	249.1	242.3	241.6	238.6	232.6	225.0	219.8	212.2
70°	205.5	204.7	201.7	201.7	196.4	194.2	189.7	184.4	177.6	170.1	164.1
72.5°	162.6	161.1	158.0	155.0	150.5	149.0	145.3	140.0	134.0	126.4	118.9
75°	121.2	119.7	118.9	115.1	111.4	107.6	106.1	100.8	94.8	89.6	82.8
77.5°	85.0	83.5	81.3	79.0	76.8	74.5	72.2	67.7	62.5	58.0	51.9
80°	52.7	51.2	49.7	48.9	46.7	45.9	42.9	40.6	36.1	33.1	29.4
82.5°	27.1	27.1	25.6	24.8	23.3	22.6	21.8	19.6	17.3	15.1	12.8
85°	9.8	9.8	9.0	8.3	8.3	7.5	7.5	6.8	5.3	5.3	3.8
87.5°	0.8	0.8	1.5	0.8	0.8	0.8	0.8	0.8	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4
2.5°	2011.7	2010.9	2011.7	2011.7	2012.4	2012.4	2012.4	2011.7	2012.4	2011.7	2011.7
5°	1999.7	2001.9	2003.4	2004.9	2005.7	2006.4	2006.4	2007.2	2007.9	2007.9	2007.2
7.5°	1980.8	1985.4	1989.9	1992.9	1994.4	1995.9	1998.2	1999.7	2001.2	2000.4	1999.7
10°	1956.0	1963.5	1969.6	1975.6	1978.6	1980.8	1984.6	1987.6	1989.1	1989.9	1987.6
12.5°	1920.6	1931.2	1941.0	1950.7	1955.3	1958.3	1965.8	1971.1	1974.1	1974.1	1971.8
15°	1876.2	1891.3	1905.6	1918.4	1925.9	1930.4	1941.7	1949.2	1953.7	1956.0	1952.2
17.5°	1822.8	1840.1	1857.4	1874.0	1881.5	1888.3	1904.1	1914.6	1924.4	1925.9	1921.4
20°	1754.3	1776.1	1795.7	1816.0	1824.3	1834.8	1852.9	1870.2	1885.3	1892.0	1879.2
22.5°	1677.5	1701.6	1719.7	1744.5	1755.8	1767.1	1790.4	1812.3	1838.6	1852.9	1830.3
25°	1597.8	1618.1	1639.9	1664.0	1679.8	1691.8	1718.9	1746.8	1782.2	1803.2	1771.6
27.5°	1512.0	1530.0	1556.4	1582.7	1594.8	1609.8	1642.2	1672.3	1706.1	1725.0	1701.6
30°	1423.2	1445.7	1470.6	1494.7	1512.0	1526.3	1552.6	1578.2	1606.8	1622.6	1605.3
32.5°	1335.1	1356.9	1378.0	1404.3	1414.1	1426.9	1450.3	1472.1	1493.9	1508.2	1487.9
35°	1242.5	1262.1	1281.7	1299.7	1304.3	1319.3	1338.1	1350.9	1361.5	1372.7	1359.2
37.5°	1141.7	1156.7	1166.5	1186.1	1193.6	1195.9	1210.9	1220.0	1231.3	1233.5	1232.8
40°	1039.3	1052.9	1061.2	1073.2	1079.2	1079.2	1089.8	1098.0	1106.3	1107.1	1106.3
42.5°	943.8	950.5	957.3	964.8	963.3	972.4	976.9	980.6	986.7	986.7	988.2
45°	847.4	852.7	858.7	860.2	866.2	866.2	870.0	871.5	874.5	872.3	869.3
47.5°	757.9	760.1	760.9	767.7	769.2	763.9	768.4	769.2	768.4	768.4	766.9
50°	672.8	674.3	673.6	671.3	672.1	674.3	672.1	669.1	670.6	670.6	672.1
52.5°	590.0	587.0	585.5	585.5	582.5	582.5	578.7	577.2	576.5	573.5	577.2
55°	514.0	509.5	502.7	501.2	499.0	498.2	493.7	489.9	488.4	489.2	488.4
57.5°	441.0	434.2	429.7	428.2	426.0	421.5	416.2	412.4	411.7	410.2	410.2
60°	374.8	367.3	360.5	353.7	354.5	351.5	346.2	343.9	341.7	338.7	340.9
62.5°	314.6	306.3	298.8	292.0	287.5	285.2	281.5	277.7	275.5	273.2	276.2
65°	255.1	248.4	240.1	233.3	231.0	228.8	225.0	219.0	218.3	218.3	219.8
67.5°	201.7	194.2	186.6	182.1	179.1	176.1	174.6	171.6	169.3	167.8	168.6
70°	155.0	147.5	141.5	137.0	134.7	134.0	128.7	127.9	127.2	126.4	125.7
72.5°	112.9	106.9	101.6	98.6	95.6	93.3	91.8	89.6	88.8	88.8	88.8
75°	77.5	73.0	67.0	63.2	61.7	59.5	57.2	55.7	54.2	54.9	54.9
77.5°	46.7	42.1	38.4	35.4	34.6	32.4	30.1	28.6	26.3	26.3	27.1
80°	25.6	21.8	18.8	16.6	15.1	14.3	12.0	11.3	9.8	9.0	9.0
82.5°	11.3	9.0	7.5	6.8	6.0	5.3	4.5	3.8	3.8	3.0	3.8
85°	3.8	3.0	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.8	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4
2.5°	2010.9	2010.9	2010.2	2010.2	2010.2	2008.7	2008.7	2007.9	2007.2	2006.4	2004.9
5°	2005.7	2004.9	2003.4	2002.7	2001.9	1999.7	1997.4	1995.9	1993.6	1990.6	1989.1
7.5°	1998.2	1995.9	1992.9	1991.4	1989.1	1983.9	1980.1	1976.3	1972.6	1967.3	1961.3
10°	1985.4	1980.8	1976.3	1973.3	1969.6	1962.8	1955.3	1949.2	1941.0	1933.4	1925.1
12.5°	1967.3	1962.0	1953.0	1948.5	1944.0	1934.2	1924.4	1911.6	1900.3	1889.8	1880.0
15°	1944.7	1934.9	1924.4	1918.4	1911.6	1895.8	1880.7	1867.2	1852.1	1839.4	1823.5
17.5°	1911.6	1897.3	1882.3	1875.5	1866.4	1848.4	1830.3	1811.5	1794.2	1778.4	1758.8
20°	1861.9	1846.1	1826.6	1816.0	1808.5	1784.4	1767.1	1746.0	1728.0	1708.4	1686.6
22.5°	1804.0	1782.2	1760.3	1745.3	1737.0	1712.9	1689.6	1670.8	1651.2	1628.6	1612.8
25°	1738.5	1711.4	1685.1	1670.0	1657.2	1631.6	1609.1	1589.5	1565.4	1545.8	1530.0
27.5°	1664.7	1633.9	1603.0	1588.0	1575.9	1548.1	1524.0	1503.7	1480.4	1463.1	1446.5
30°	1576.7	1548.8	1519.5	1507.5	1493.2	1464.6	1436.7	1418.6	1393.1	1375.0	1356.9
32.5°	1466.8	1448.8	1425.4	1408.9	1401.3	1375.0	1351.7	1329.8	1308.0	1293.7	1275.7
35°	1346.4	1330.6	1311.0	1302.0	1292.2	1275.7	1256.8	1238.0	1220.7	1207.2	1190.6
37.5°	1224.5	1208.7	1196.6	1186.8	1180.8	1165.8	1154.5	1140.2	1128.1	1115.4	1106.3
40°	1098.0	1093.5	1080.7	1076.2	1074.7	1058.2	1048.4	1037.1	1029.6	1022.0	1016.8
42.5°	985.9	978.4	968.6	969.3	964.8	955.8	949.0	941.5	936.2	932.5	927.2
45°	875.3	869.3	864.7	868.5	861.0	858.0	852.7	851.9	848.2	841.4	839.1
47.5°	769.9	769.2	769.9	767.7	766.1	764.6	765.4	761.6	757.9	755.6	752.6
50°	673.6	674.3	675.8	678.1	672.8	675.1	674.3	673.6	673.6	671.3	672.8
52.5°	580.3	581.0	582.5	584.8	585.5	585.5	587.8	589.3	592.3	596.1	596.1
55°	492.2	497.5	500.5	504.2	502.0	506.5	508.8	515.5	517.8	517.8	520.8
57.5°	413.9	419.2	421.5	426.0	427.5	431.2	437.3	441.0	446.3	450.8	455.3
60°	342.4	344.7	350.7	357.5	356.0	365.0	369.5	375.5	382.3	385.3	391.4
62.5°	278.5	281.5	286.0	288.2	293.5	298.0	308.6	314.6	320.6	328.1	334.2
65°	221.3	224.3	228.8	233.3	235.6	242.3	247.6	258.1	263.4	271.7	278.5
67.5°	169.3	173.9	177.6	180.6	182.1	188.9	197.2	201.7	211.5	219.8	225.0
70°	126.4	130.2	134.7	134.0	137.0	142.2	148.3	155.0	162.6	170.1	176.1
72.5°	88.1	91.8	94.8	95.6	98.6	102.4	106.9	112.1	118.2	125.7	134.0
75°	55.7	56.4	59.5	61.0	62.5	67.0	70.7	76.0	81.3	87.3	92.6
77.5°	27.8	30.1	31.6	33.1	33.9	37.6	41.4	45.9	50.4	56.4	61.7
80°	10.5	11.3	13.5	14.3	15.8	18.1	21.1	23.3	27.1	31.6	34.6
82.5°	3.8	4.5	5.3	5.3	6.0	7.5	8.3	10.5	12.8	14.3	15.8
85°	1.5	1.5	1.5	1.5	1.5	2.3	2.3	3.0	3.8	4.5	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





TEST NUMBER: P879437

CATALOG NUMBER: LD4C45D010 EU4459050 4LBLDWWLI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4	2012.4
2.5°	2004.2	2004.2	2003.4	2002.7	2002.7	2002.7	2001.9	2001.9
5°	1986.1	1983.9	1983.1	1981.6	1980.8	1980.1	1977.8	1977.8
7.5°	1956.8	1953.7	1951.5	1949.2	1946.2	1944.0	1944.0	1941.0
10°	1917.6	1911.6	1908.6	1905.6	1901.8	1897.3	1895.8	1893.5
12.5°	1870.2	1858.2	1855.2	1849.9	1843.9	1840.9	1835.6	1835.6
15°	1811.5	1798.7	1791.9	1788.9	1781.4	1776.1	1773.9	1767.9
17.5°	1743.0	1733.2	1722.7	1718.2	1709.9	1703.1	1700.1	1699.4
20°	1673.8	1658.0	1651.2	1644.4	1634.6	1628.6	1624.1	1618.1
22.5°	1594.0	1579.7	1569.9	1565.4	1557.1	1546.6	1539.1	1539.1
25°	1509.7	1496.9	1491.7	1481.9	1472.1	1468.3	1459.3	1457.8
27.5°	1429.2	1416.4	1405.9	1400.6	1389.3	1384.0	1376.5	1373.5
30°	1345.6	1330.6	1323.1	1322.3	1308.8	1303.5	1297.5	1294.5
32.5°	1262.1	1249.3	1241.8	1237.3	1231.3	1222.2	1217.0	1213.9
35°	1179.3	1171.0	1164.3	1159.0	1149.2	1144.7	1140.2	1136.4
37.5°	1092.8	1085.2	1082.2	1077.7	1073.2	1064.9	1063.4	1060.4
40°	1009.2	999.5	999.5	996.4	991.9	991.2	988.9	988.9
42.5°	921.9	917.4	916.7	917.4	914.4	912.9	910.6	915.9
45°	835.4	837.6	833.9	834.6	833.1	836.1	836.1	839.1
47.5°	755.6	752.6	754.1	755.6	757.9	757.9	757.1	756.4
50°	670.6	673.6	676.6	672.8	674.3	675.1	671.3	672.1
52.5°	597.6	598.3	600.6	598.3	600.6	599.8	601.3	598.3
55°	526.8	526.8	529.8	530.6	531.3	533.6	534.3	536.6
57.5°	458.3	462.1	465.9	465.1	468.1	471.1	468.9	471.1
60°	398.9	401.9	405.7	407.2	409.4	410.9	410.9	412.4
62.5°	338.7	344.7	347.7	350.7	350.7	353.7	356.7	357.5
65°	284.5	291.3	293.5	295.8	297.3	300.3	304.1	303.3
67.5°	233.3	237.8	240.8	242.3	246.9	248.4	251.4	254.4
70°	182.9	188.9	191.2	194.2	197.9	200.9	204.0	205.5
72.5°	140.0	144.5	146.0	149.0	152.8	155.8	157.3	159.6
75°	97.8	105.4	106.1	108.4	111.4	115.1	117.4	116.7
77.5°	64.7	70.0	70.7	73.8	76.8	79.8	80.5	81.3
80°	38.4	41.4	42.1	43.7	45.9	47.4	48.9	50.4
82.5°	18.1	19.6	21.1	21.1	22.6	24.1	24.1	24.8
85°	6.0	6.0	6.8	6.8	7.5	7.5	8.3	7.5
87.5°	0.8	0.8	0.0	0.8	0.8	0.8	0.8	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)