

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: P880582

Luminaire Tested: **LD4C50D010 EU4509027 4LBDWNH**

Issue Date: 10/4/2024

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: P880582  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251940)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/4/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C50D010 EU4509027 4LBDWNH  
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS  
AND 4LBDWN TRIM WITH H FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

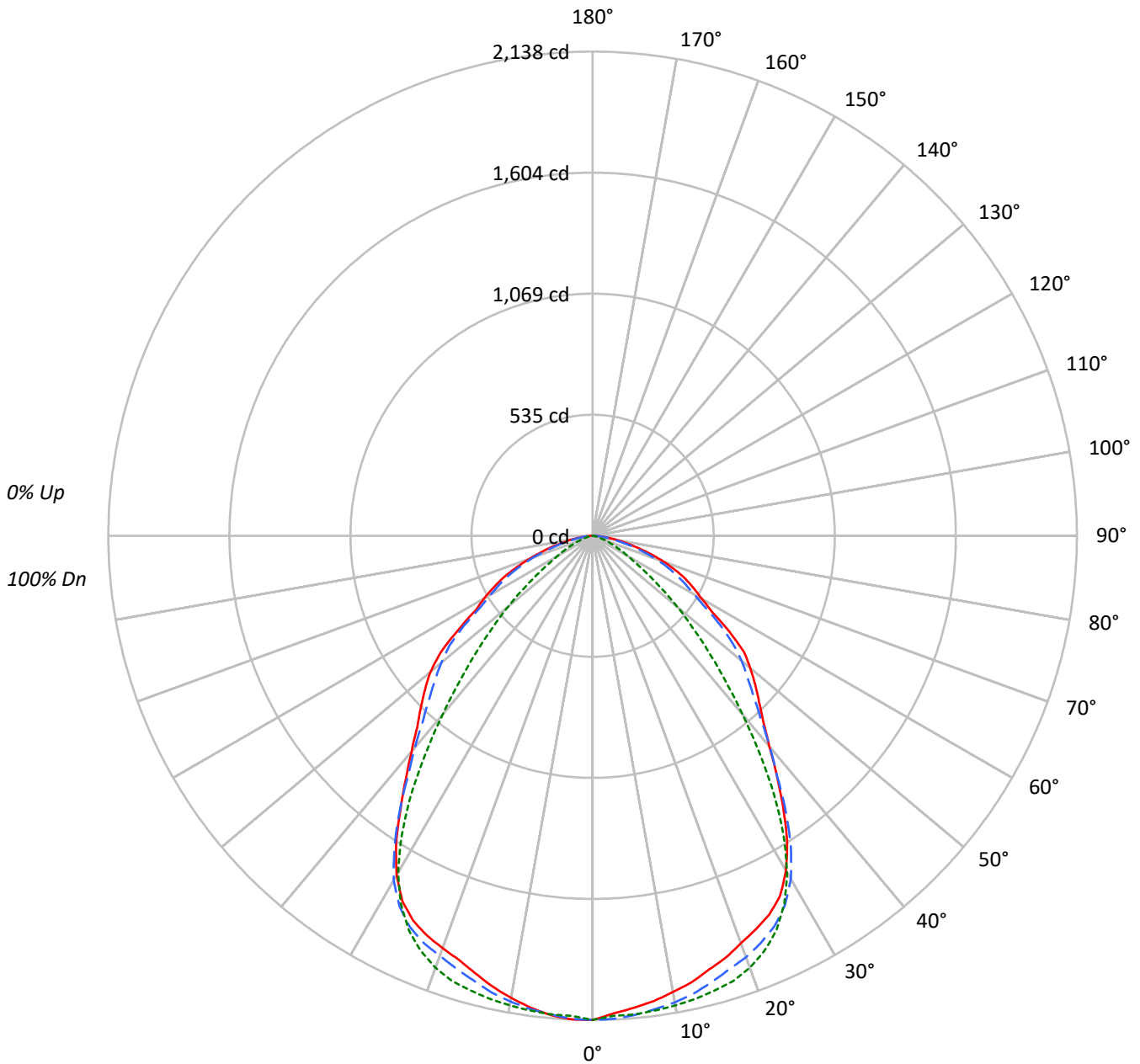
Lumens per Lamp: N/A  
Luminaire Lumens: 4351.0 lumens  
Efficiency: N/A  
Efficacy: 74.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 58.4  
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

TEST NUMBER: P880582

CATALOG NUMBER: LD4C50D010 EU4509027 4LBDWNH

### 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					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				100				
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				66				
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58				
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				51				
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46				46				
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41				41				
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				37				
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34				
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31				

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

	0°	90°	180°
0°	262648	262648	262648
5°	257991	261629	262024
10°	255211	262608	258492
15°	252251	264371	254336
20°	250259	265333	253266
25°	250124	260372	254123
30°	242153	243558	245430
35°	220000	209652	221980
40°	194646	165089	199377
45°	180569	125702	186303
50°	173504	93059	178531
55°	157107	64128	154965
60°	136588	43638	135778
65°	131947	31570	125261
70°	119290	21301	106287
75°	98304	14003	84301
80°	79168	9268	62825
85°	64982	4511	41583



TEST NUMBER: P880582

CATALOG NUMBER: LD4C50D010 EU4509027 4LBDWNH

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	201.8	4.6
10°-20°	577.0	13.3
20°-30°	871.8	20.0
30°-40°	912.3	21.0
40°-50°	738.9	17.0
50°-60°	537.5	12.4
60°-70°	331.5	7.6
70°-80°	149.8	3.4
80°-90°	30.4	0.7
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°	1650.6	37.9
0°-40°	2563.0	58.9
0°-60°	3839.3	88.2
0°-90°	4351.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4351.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2138	2138	2138	2138	2138	
5°	2092	2125	2122	2122	2125	198
15°	1983	2039	2079	2033	2000	561
25°	1845	1901	1921	1908	1875	846
35°	1467	1487	1398	1487	1480	914
45°	1039	1006	724	1020	1072	808
55°	734	687	299	694	724	654
65°	454	408	109	401	431	444
75°	207	178	30	154	178	225
85°	46	36	3	26	30	53
90°	0	0	0	0	0	



TEST NUMBER: P880582

CATALOG NUMBER: LD4C50D010 EU4509027 4LBDWNH

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9
2.5°	2111.6	2111.6	2131.4	2154.3	2134.6	2114.8	2128.0	2121.5	2144.6	2144.6	2134.6
5°	2092.0	2098.4	2114.8	2134.6	2118.3	2098.4	2114.8	2108.3	2131.4	2131.4	2124.7
7.5°	2072.1	2075.4	2095.2	2118.3	2101.7	2082.0	2095.2	2092.0	2111.6	2114.8	2108.3
10°	2045.8	2049.1	2068.9	2092.0	2075.4	2059.0	2072.1	2068.9	2095.2	2095.2	2092.0
12.5°	2019.5	2022.8	2042.6	2062.2	2045.8	2029.5	2042.6	2042.6	2068.9	2072.1	2068.9
15°	1983.3	1989.8	2006.4	2026.0	2016.3	1996.5	2009.6	2009.6	2032.7	2039.2	2039.2
17.5°	1953.8	1957.0	1973.4	1993.2	1980.1	1963.5	1976.7	1976.7	1999.7	2006.4	2006.4
20°	1914.2	1920.8	1937.2	1957.0	1947.1	1934.0	1943.9	1943.9	1970.2	1976.7	1980.1
22.5°	1881.4	1887.9	1901.0	1927.5	1910.9	1901.0	1914.2	1910.9	1940.7	1943.9	1943.9
25°	1845.2	1851.9	1868.2	1884.6	1874.7	1865.0	1874.7	1874.7	1897.8	1901.0	1901.0
27.5°	1792.6	1795.8	1812.2	1828.8	1818.9	1805.7	1818.9	1815.6	1838.5	1841.9	1838.5
30°	1707.0	1713.7	1720.2	1743.2	1733.3	1723.4	1736.6	1730.1	1753.1	1753.1	1749.7
32.5°	1598.4	1598.4	1611.8	1628.1	1615.0	1608.3	1618.2	1621.5	1638.0	1638.0	1628.1
35°	1466.9	1473.6	1483.3	1493.2	1483.3	1476.8	1486.7	1483.3	1503.1	1496.5	1486.7
37.5°	1335.4	1338.7	1348.6	1361.7	1348.6	1338.7	1341.9	1338.7	1355.1	1355.1	1338.7
40°	1213.7	1220.3	1226.8	1240.0	1226.8	1220.3	1223.6	1213.7	1233.5	1226.8	1216.9
42.5°	1115.0	1118.2	1128.1	1134.8	1121.6	1118.2	1121.6	1115.0	1124.9	1118.2	1098.6
45°	1039.3	1039.3	1042.7	1052.5	1039.3	1036.1	1036.1	1029.4	1039.3	1026.2	1006.5
47.5°	973.6	976.8	980.2	986.7	976.8	967.1	970.3	957.2	963.7	953.7	927.4
50°	907.8	914.3	917.7	924.2	914.3	907.8	911.1	897.9	897.9	881.5	858.5
52.5°	842.1	845.3	842.1	848.6	842.1	832.2	835.4	822.3	822.3	802.6	779.6
55°	733.5	736.7	740.1	746.6	740.1	730.2	736.7	727.0	727.0	713.6	687.3
57.5°	624.8	628.3	631.5	634.7	634.7	628.3	631.5	624.8	621.6	611.7	592.1
60°	555.9	555.9	555.9	559.1	555.9	552.6	552.6	545.9	545.9	532.8	513.2
62.5°	503.3	506.5	506.5	509.7	506.5	503.3	500.0	493.4	490.1	477.0	460.4
65°	453.9	453.9	450.7	457.1	453.9	450.7	450.7	444.0	437.5	424.4	407.8
67.5°	394.6	397.9	394.6	397.9	397.9	394.6	391.4	384.7	381.5	371.6	352.0
70°	332.1	332.1	332.1	335.6	332.1	332.1	335.6	325.7	322.4	309.1	292.7
72.5°	269.6	273.1	273.1	269.6	273.1	266.4	266.4	266.4	263.2	250.0	233.4
75°	207.1	210.6	210.6	213.8	210.6	207.1	207.1	203.9	200.7	190.7	177.6
77.5°	154.5	154.5	157.8	157.8	157.8	154.5	154.5	148.1	148.1	141.4	128.2
80°	111.9	111.9	108.6	111.9	111.9	108.6	108.6	105.2	105.2	98.7	88.8
82.5°	72.4	75.7	75.7	75.7	75.7	72.4	72.4	72.4	69.0	65.7	59.3
85°	46.1	46.1	46.1	46.1	49.4	46.1	49.4	46.1	46.1	39.4	36.2
87.5°	19.8	19.8	19.8	23.1	23.1	19.8	19.8	19.8	19.8	19.8	16.4
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: P880582

CATALOG NUMBER: LD4C50D010 EU4509027 4LBDWNH

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9
2.5°	2134.6	2137.9	2128.0	2141.1	2131.4	2134.6	2137.9	2134.6	2121.5	2121.5	2157.7
5°	2121.5	2128.0	2118.3	2134.6	2128.0	2128.0	2134.6	2131.4	2118.3	2121.5	2154.3
7.5°	2108.3	2118.3	2111.6	2128.0	2118.3	2118.3	2124.7	2124.7	2111.6	2114.8	2144.6
10°	2088.5	2101.7	2098.4	2114.8	2105.1	2105.1	2114.8	2114.8	2101.7	2105.1	2134.6
12.5°	2072.1	2085.3	2082.0	2098.4	2092.0	2095.2	2098.4	2105.1	2088.5	2095.2	2121.5
15°	2045.8	2059.0	2059.0	2075.4	2068.9	2075.4	2082.0	2092.0	2078.6	2078.6	2105.1
17.5°	2016.3	2032.7	2032.7	2045.8	2045.8	2049.1	2062.2	2072.1	2059.0	2062.2	2085.3
20°	1983.3	2003.2	2003.2	2019.5	2016.3	2022.8	2032.7	2042.6	2029.5	2029.5	2055.8
22.5°	1950.4	1967.0	1970.2	1980.1	1980.1	1983.3	1993.2	1999.7	1983.3	1983.3	2009.6
25°	1904.4	1920.8	1924.1	1930.7	1924.1	1924.1	1930.7	1937.2	1920.8	1920.8	1943.9
27.5°	1841.9	1858.3	1858.3	1855.1	1848.4	1851.9	1848.4	1851.9	1835.3	1832.0	1855.1
30°	1749.7	1759.6	1759.6	1756.4	1746.5	1746.5	1736.6	1740.0	1716.9	1716.9	1736.6
32.5°	1624.9	1634.6	1628.1	1621.5	1608.3	1601.8	1595.2	1591.9	1568.9	1568.9	1591.9
35°	1476.8	1483.3	1473.6	1460.4	1443.9	1433.9	1424.2	1411.1	1394.5	1397.9	1411.1
37.5°	1325.5	1325.5	1312.4	1286.1	1272.9	1256.3	1240.0	1240.0	1213.7	1210.4	1220.3
40°	1197.3	1184.1	1161.1	1124.9	1101.8	1085.4	1062.4	1049.2	1029.4	1029.4	1046.0
42.5°	1082.2	1055.9	1026.2	976.8	953.7	934.1	904.6	891.4	868.4	864.9	874.9
45°	980.2	953.7	911.1	858.5	828.9	805.9	763.0	746.6	727.0	723.5	730.2
47.5°	897.9	868.4	815.8	746.6	717.1	687.3	644.7	621.6	605.2	595.3	605.2
50°	825.5	786.1	730.2	657.8	618.4	592.1	539.5	516.4	493.4	486.9	490.1
52.5°	746.6	707.2	647.9	572.2	536.0	496.6	447.2	414.5	394.6	384.7	394.6
55°	661.0	621.6	562.5	486.9	447.2	411.2	358.4	332.1	309.1	299.4	309.1
57.5°	569.0	532.8	480.2	404.6	368.3	335.6	286.2	259.9	236.9	230.2	236.9
60°	490.1	460.4	407.8	335.6	305.8	269.6	227.0	200.7	180.8	177.6	180.8
62.5°	437.5	404.6	355.2	286.2	256.5	227.0	187.5	161.2	144.6	141.4	144.6
65°	384.7	348.7	302.6	243.3	213.8	190.7	151.3	128.2	111.9	108.6	111.9
67.5°	325.7	292.7	253.3	200.7	177.6	154.5	121.8	98.7	85.6	82.3	85.6
70°	269.6	240.1	200.7	161.2	138.2	121.8	92.0	75.7	62.5	59.3	62.5
72.5°	213.8	187.5	154.5	121.8	108.6	92.0	72.4	55.8	46.1	42.7	46.1
75°	164.5	144.6	118.3	88.8	78.9	69.0	49.4	39.4	33.0	29.5	33.0
77.5°	115.1	101.9	82.3	65.7	55.8	49.4	36.2	26.3	23.1	19.8	23.1
80°	78.9	69.0	55.8	42.7	36.2	29.5	23.1	16.4	13.1	13.1	13.1
82.5°	52.6	42.7	33.0	26.3	23.1	19.8	13.1	9.9	9.9	6.7	6.7
85°	29.5	26.3	19.8	16.4	13.1	9.9	6.7	6.7	3.2	3.2	3.2
87.5°	13.1	9.9	6.7	6.7	3.2	3.2	3.2	3.2	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: P880582

CATALOG NUMBER: LD4C50D010 EU4509027 4LBDWNH

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9
2.5°	2147.8	2137.9	2151.0	2137.9	2131.4	2137.9	2131.4	2151.0	2134.6	2121.5	2134.6
5°	2144.6	2131.4	2144.6	2134.6	2124.7	2128.0	2121.5	2141.1	2121.5	2111.6	2118.3
7.5°	2137.9	2128.0	2134.6	2124.7	2114.8	2118.3	2111.6	2128.0	2108.3	2098.4	2105.1
10°	2128.0	2118.3	2121.5	2114.8	2105.1	2105.1	2098.4	2111.6	2088.5	2075.4	2082.0
12.5°	2114.8	2101.7	2108.3	2098.4	2085.3	2085.3	2078.6	2088.5	2065.5	2052.3	2055.8
15°	2098.4	2085.3	2085.3	2075.4	2062.2	2062.2	2049.1	2059.0	2032.7	2019.5	2019.5
17.5°	2078.6	2062.2	2062.2	2052.3	2035.9	2032.7	2022.8	2032.7	2003.2	1989.8	1989.8
20°	2049.1	2035.9	2032.7	2026.0	2009.6	2006.4	1993.2	1996.5	1973.4	1963.5	1960.3
22.5°	2009.6	1996.5	1999.7	1989.8	1976.7	1973.4	1960.3	1970.2	1947.1	1937.2	1940.7
25°	1940.7	1934.0	1940.7	1937.2	1927.5	1927.5	1920.8	1927.5	1907.7	1901.0	1904.4
27.5°	1861.6	1858.3	1861.6	1861.6	1855.1	1855.1	1855.1	1865.0	1845.2	1841.9	1841.9
30°	1746.5	1746.5	1749.7	1753.1	1753.1	1759.6	1756.4	1769.5	1756.4	1749.7	1756.4
32.5°	1595.2	1608.3	1618.2	1618.2	1618.2	1624.9	1631.4	1641.3	1628.1	1631.4	1631.4
35°	1424.2	1433.9	1440.6	1457.0	1447.3	1470.2	1476.8	1490.0	1486.7	1493.2	1490.0
37.5°	1233.5	1246.6	1259.8	1282.8	1279.4	1305.7	1318.9	1345.1	1338.7	1351.8	1358.3
40°	1055.9	1075.5	1095.3	1111.7	1124.9	1151.2	1177.5	1210.4	1220.3	1230.1	1233.5
42.5°	884.8	904.6	937.4	960.4	980.2	1022.9	1059.1	1098.6	1108.5	1128.1	1134.8
45°	746.6	763.0	802.6	832.2	848.6	911.1	953.7	1003.1	1019.7	1042.7	1052.5
47.5°	618.4	647.9	687.3	723.5	746.6	812.3	868.4	921.0	944.0	970.3	983.5
50°	506.5	539.5	592.1	624.8	657.8	730.2	792.7	848.6	871.6	901.1	914.3
52.5°	414.5	450.7	500.0	536.0	572.2	647.9	713.6	766.4	796.0	815.8	835.4
55°	325.7	365.1	414.5	453.9	483.4	565.8	621.6	674.2	694.0	710.4	720.3
57.5°	253.3	282.8	332.1	365.1	401.3	473.5	529.6	569.0	585.4	605.2	611.7
60°	197.4	227.0	273.1	305.8	338.8	407.8	463.8	503.3	519.7	536.0	545.9
62.5°	157.8	187.5	230.2	259.9	289.5	352.0	401.3	440.8	460.4	477.0	486.9
65°	125.0	151.3	187.5	217.0	240.1	295.9	345.3	381.5	401.3	417.7	427.6
67.5°	98.7	121.8	154.5	174.4	197.4	243.3	286.2	319.0	335.6	355.2	365.1
70°	75.7	92.0	121.8	138.2	154.5	194.0	227.0	259.9	276.3	289.5	295.9
72.5°	55.8	69.0	92.0	105.2	115.1	148.1	174.4	197.4	210.6	223.7	230.2
75°	39.4	49.4	65.7	75.7	82.3	105.2	128.2	144.6	154.5	164.5	174.4
77.5°	26.3	33.0	42.7	49.4	55.8	72.4	85.6	98.7	108.6	118.3	121.8
80°	16.4	23.1	29.5	33.0	36.2	46.1	59.3	65.7	72.4	78.9	82.3
82.5°	9.9	13.1	16.4	19.8	23.1	29.5	36.2	42.7	46.1	52.6	55.8
85°	3.2	6.7	6.7	9.9	9.9	16.4	19.8	23.1	26.3	29.5	33.0
87.5°	0.0	0.0	3.2	3.2	3.2	3.2	6.7	6.7	6.7	6.7	6.7
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: P880582

CATALOG NUMBER: LD4C50D010 EU4509027 4LBDWNH

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9	2137.9
2.5°	2147.8	2137.9	2131.4	2128.0	2151.0	2121.5	2134.6	2137.9
5°	2134.6	2124.7	2118.3	2114.8	2134.6	2108.3	2118.3	2124.7
7.5°	2114.8	2108.3	2098.4	2095.2	2114.8	2085.3	2098.4	2101.7
10°	2092.0	2082.0	2075.4	2072.1	2088.5	2059.0	2072.1	2072.1
12.5°	2062.2	2055.8	2042.6	2042.6	2055.8	2029.5	2039.2	2039.2
15°	2022.8	2016.3	2003.2	2003.2	2016.3	1989.8	1999.7	1999.7
17.5°	1989.8	1983.3	1973.4	1970.2	1983.3	1957.0	1967.0	1963.5
20°	1963.5	1957.0	1943.9	1943.9	1953.8	1927.5	1937.2	1937.2
22.5°	1940.7	1937.2	1924.1	1924.1	1937.2	1910.9	1917.6	1910.9
25°	1904.4	1901.0	1887.9	1891.3	1897.8	1871.5	1881.4	1874.7
27.5°	1845.2	1845.2	1832.0	1828.8	1838.5	1815.6	1822.1	1818.9
30°	1753.1	1756.4	1740.0	1740.0	1743.2	1723.4	1733.3	1730.1
32.5°	1628.1	1631.4	1618.2	1615.0	1624.9	1608.3	1615.0	1615.0
35°	1490.0	1493.2	1483.3	1483.3	1493.2	1483.3	1483.3	1480.1
37.5°	1351.8	1358.3	1351.8	1355.1	1361.7	1351.8	1358.3	1355.1
40°	1240.0	1246.6	1236.7	1243.2	1249.9	1240.0	1249.9	1243.2
42.5°	1138.0	1147.9	1141.3	1147.9	1154.4	1147.9	1154.4	1144.7
45°	1062.4	1069.0	1065.6	1069.0	1075.5	1072.3	1075.5	1072.3
47.5°	989.9	1003.1	996.6	1003.1	1013.0	1006.5	1013.0	1003.1
50°	924.2	934.1	930.9	937.4	940.6	937.4	944.0	934.1
52.5°	838.6	848.6	845.3	845.3	851.8	845.3	851.8	845.3
55°	727.0	730.2	730.2	733.5	730.2	727.0	730.2	723.5
57.5°	618.4	624.8	615.1	624.8	621.6	618.4	618.4	611.7
60°	549.2	559.1	552.6	559.1	555.9	555.9	555.9	552.6
62.5°	493.4	500.0	493.4	496.6	496.6	496.6	493.4	490.1
65°	430.9	440.8	434.1	437.5	434.1	430.9	434.1	430.9
67.5°	368.3	371.6	371.6	368.3	368.3	368.3	368.3	361.9
70°	299.4	302.6	299.4	305.8	302.6	299.4	302.6	295.9
72.5°	233.4	236.9	233.4	236.9	233.4	233.4	233.4	233.4
75°	174.4	177.6	177.6	177.6	177.6	177.6	171.1	177.6
77.5°	125.0	125.0	125.0	128.2	125.0	125.0	125.0	125.0
80°	85.6	85.6	85.6	88.8	85.6	88.8	85.6	88.8
82.5°	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8
85°	29.5	33.0	33.0	29.5	29.5	29.5	29.5	29.5
87.5°	6.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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)