

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: P879436

Luminaire Tested: **LD4C45D010 EU4459050 4LBDWWH**

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: P879436
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-6)
Test Lab: INNOVATION CENTER
Issue Date: 10/1/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C45D010 EU4459050 4LBLDWWH
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBLDWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

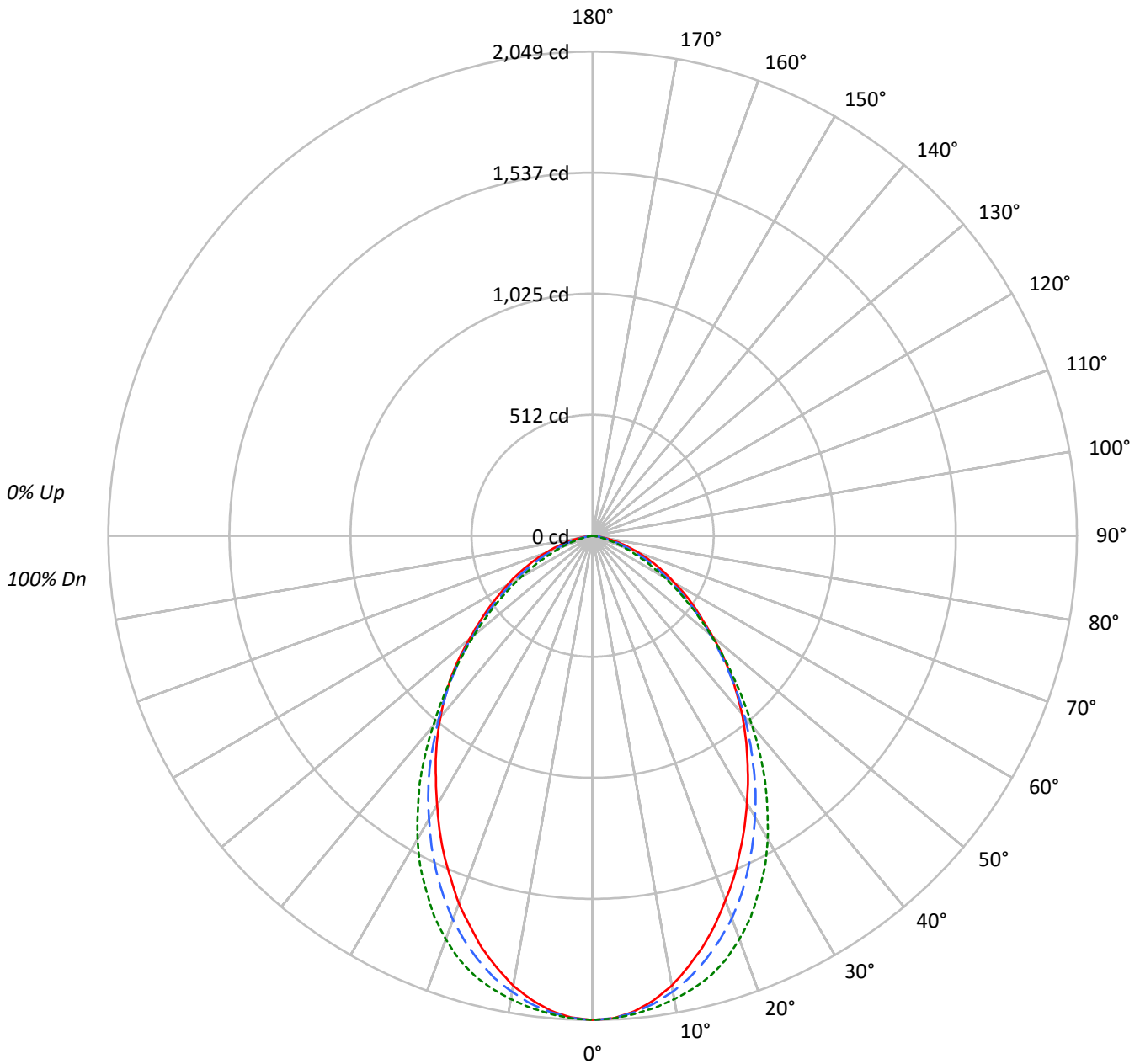
Lumens per Lamp: N/A
Luminaire Lumens: 3665.0 lumens
Efficiency: N/A
Efficacy: 73.9 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.1 / 1.12
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	68	63	71	66	62	69	65	61	59																			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52																			
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	44	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°	251727	251727	251727
5°	249161	250555	248890
10°	241064	248387	241164
15°	229026	245204	229789
20°	214659	237485	216437
25°	199928	225331	201758
30°	185211	210192	186601
35°	170868	191070	173463
40°	157615	168344	160502
45°	142763	145908	147089
50°	126564	124977	129717
55°	112813	105252	115405
60°	98725	85432	102435
65°	86395	66075	89476
70°	72702	48384	76510
75°	56770	31423	59998
80°	37284	16484	40963
85°	12686	7471	16915



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.3	5.2
10°-20°	522.6	14.3
20°-30°	718.8	19.6
30°-40°	749.9	20.5
40°-50°	641.5	17.5
50°-60°	458.9	12.5
60°-70°	266.3	7.3
70°-80°	102.7	2.8
80°-90°	13.1	0.4
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°	1432.7	39.1
0°-40°	2182.6	59.6
0°-60°	3283.0	89.6
0°-90°	3665.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3665.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2049	2049	2049	2049	2049	
5°	2020	2024	2032	2024	2018	190
15°	1801	1855	1928	1862	1807	505
25°	1475	1556	1662	1566	1488	678
35°	1139	1184	1274	1203	1157	714
45°	822	815	840	835	847	633
55°	527	500	491	514	539	471
65°	297	263	227	272	308	296
75°	120	90	66	95	126	129
85°	9	7	5	8	12	18
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°	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0
2.5°	2043.8	2042.3	2043.0	2043.0	2043.0	2042.3	2043.8	2043.8	2043.0	2043.0	2043.0
5°	2020.4	2018.9	2019.7	2020.4	2020.4	2020.4	2021.2	2021.9	2022.7	2023.5	2024.2
7.5°	1982.8	1980.6	1982.8	1985.8	1985.8	1986.6	1987.3	1988.1	1990.3	1994.1	1996.4
10°	1932.4	1932.4	1933.2	1935.4	1939.2	1938.4	1940.7	1944.4	1949.0	1954.2	1958.0
12.5°	1868.4	1869.9	1872.2	1874.5	1878.2	1880.5	1884.2	1888.8	1896.3	1903.8	1912.1
15°	1800.7	1801.5	1802.2	1807.5	1811.2	1816.5	1819.5	1828.6	1835.3	1845.9	1854.9
17.5°	1724.7	1724.0	1726.2	1730.7	1739.8	1742.0	1745.8	1755.6	1765.3	1779.6	1791.7
20°	1641.9	1646.5	1649.5	1655.5	1660.8	1666.8	1669.8	1681.8	1693.1	1706.7	1722.5
22.5°	1563.7	1559.9	1565.2	1572.0	1576.5	1581.0	1586.3	1599.0	1611.1	1627.6	1643.4
25°	1474.9	1477.1	1480.9	1486.2	1492.2	1498.2	1504.2	1517.8	1524.5	1541.9	1556.2
27.5°	1390.6	1394.4	1395.9	1402.6	1407.9	1412.4	1415.4	1431.2	1437.3	1452.3	1466.6
30°	1305.6	1309.3	1309.3	1316.9	1320.6	1325.1	1332.7	1343.2	1352.2	1362.8	1373.3
32.5°	1223.6	1223.6	1226.6	1233.3	1237.1	1242.4	1244.6	1252.1	1261.2	1271.7	1283.0
35°	1139.3	1141.5	1144.5	1144.5	1151.3	1154.3	1157.3	1164.9	1170.9	1175.4	1184.4
37.5°	1061.8	1061.8	1059.5	1063.3	1067.8	1067.0	1071.5	1075.3	1079.1	1084.3	1091.9
40°	982.8	982.8	979.7	982.0	985.0	984.3	982.8	986.5	989.5	993.3	1000.8
42.5°	902.2	900.7	900.0	900.0	901.5	900.0	901.5	902.2	902.2	902.2	906.8
45°	821.7	825.5	821.0	819.5	817.2	814.9	814.2	814.9	818.0	814.2	814.9
47.5°	742.7	744.2	741.2	738.9	736.7	735.2	736.7	732.2	733.7	734.4	731.4
50°	662.2	659.2	659.2	656.9	657.7	656.9	655.4	653.9	653.9	650.2	647.9
52.5°	587.7	589.2	590.7	585.4	586.2	582.4	583.2	579.4	579.4	574.9	576.4
55°	526.7	524.5	524.5	522.2	521.5	517.7	517.0	514.7	509.4	506.4	500.4
57.5°	463.5	462.8	459.8	460.5	456.0	455.3	453.8	450.0	446.2	442.5	435.7
60°	401.8	402.6	402.6	401.1	398.8	395.1	395.8	390.5	385.3	378.5	372.5
62.5°	350.7	348.4	347.7	346.1	341.6	341.6	337.9	334.1	328.8	322.1	316.8
65°	297.2	298.0	295.7	293.5	289.0	288.2	285.2	282.2	276.9	270.1	262.6
67.5°	249.1	247.6	246.8	244.6	240.0	239.3	237.0	230.3	225.7	219.0	213.0
70°	202.4	200.9	201.7	197.9	193.4	191.1	190.4	185.1	178.3	173.1	167.1
72.5°	158.8	158.8	158.0	154.3	152.0	150.5	147.5	141.5	137.7	131.7	127.2
75°	119.6	118.9	117.4	115.1	112.1	110.6	109.1	105.3	100.1	93.3	89.5
77.5°	82.8	83.5	82.0	81.3	77.5	75.2	74.5	72.2	67.7	63.2	59.4
80°	52.7	51.9	51.2	49.7	48.9	48.2	45.9	44.4	39.9	37.6	35.4
82.5°	28.6	27.1	27.1	26.3	24.8	24.1	23.3	21.8	21.1	19.6	18.1
85°	9.0	9.8	9.0	9.0	9.0	8.3	8.3	8.3	7.5	7.5	6.8
87.5°	0.8	1.5	0.8	0.8	1.5	0.8	0.8	1.5	0.8	0.8	1.5
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°	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0
2.5°	2043.0	2043.8	2043.8	2044.5	2044.5	2044.5	2044.5	2044.5	2044.5	2044.5	2044.5
5°	2026.5	2026.5	2028.0	2029.5	2029.5	2029.5	2030.2	2031.7	2031.7	2031.7	2031.0
7.5°	1999.4	2002.4	2005.4	2008.4	2009.2	2009.9	2011.4	2014.4	2014.4	2014.4	2014.4
10°	1964.0	1970.8	1974.5	1979.1	1981.3	1982.8	1987.3	1988.1	1990.3	1991.1	1990.3
12.5°	1918.9	1927.9	1936.2	1943.7	1946.7	1949.7	1954.2	1958.7	1961.0	1963.3	1962.5
15°	1868.4	1878.2	1891.0	1899.3	1905.3	1909.8	1916.6	1922.6	1926.4	1927.9	1927.9
17.5°	1807.5	1819.5	1833.1	1846.6	1850.4	1857.9	1865.4	1873.7	1878.2	1879.0	1878.2
20°	1739.8	1753.3	1764.6	1778.1	1786.4	1790.2	1800.7	1811.2	1815.8	1816.5	1815.8
22.5°	1659.2	1672.0	1687.1	1701.4	1708.2	1714.9	1726.2	1736.8	1742.8	1747.3	1742.8
25°	1569.7	1587.8	1602.1	1614.1	1623.9	1630.7	1644.9	1653.2	1663.0	1662.3	1663.0
27.5°	1481.7	1496.7	1512.5	1526.8	1532.8	1540.4	1551.6	1565.2	1573.5	1578.7	1578.0
30°	1391.4	1403.4	1416.9	1429.7	1439.5	1445.5	1462.1	1468.1	1478.6	1481.7	1479.4
32.5°	1295.8	1304.1	1317.6	1334.9	1338.7	1344.7	1355.2	1370.3	1374.1	1375.6	1376.3
35°	1194.2	1210.0	1221.3	1231.8	1234.8	1240.1	1252.1	1263.4	1267.2	1274.0	1271.0
37.5°	1100.1	1109.2	1114.4	1125.0	1134.0	1138.5	1144.5	1152.1	1159.6	1162.6	1161.8
40°	1006.1	1010.6	1015.1	1026.4	1027.2	1027.2	1036.2	1046.7	1046.7	1049.7	1049.7
42.5°	909.8	910.5	916.5	922.6	924.1	925.6	934.6	936.1	940.6	942.9	945.9
45°	816.5	821.0	824.7	825.5	829.2	830.0	832.3	834.5	841.3	839.8	841.3
47.5°	731.4	733.7	735.9	735.9	738.2	737.4	741.2	738.9	743.5	745.0	747.2
50°	647.9	651.7	649.4	650.9	650.2	652.4	650.9	650.9	650.9	653.9	656.2
52.5°	571.1	571.9	569.6	570.4	570.4	568.9	570.4	569.6	568.9	568.9	569.6
55°	500.4	497.4	495.9	492.9	489.1	493.6	491.4	489.9	492.9	491.4	492.9
57.5°	431.9	428.2	425.2	423.7	418.4	421.4	418.4	416.9	416.9	416.9	420.6
60°	367.2	363.5	359.7	355.2	354.4	352.9	351.4	347.7	348.4	347.7	349.2
62.5°	310.8	303.3	298.0	294.2	293.5	291.2	289.0	285.2	285.9	285.9	286.7
65°	258.9	250.6	243.1	237.8	237.8	234.0	230.3	230.3	225.7	227.3	228.0
67.5°	206.9	200.2	192.6	188.9	186.6	183.6	181.4	179.8	177.6	177.6	179.1
70°	160.3	153.5	149.7	143.7	143.0	140.7	137.7	135.4	134.7	134.7	133.9
72.5°	121.2	115.1	110.6	106.9	104.6	102.3	99.3	98.6	97.1	97.1	98.6
75°	84.3	80.5	76.8	73.0	71.5	70.7	68.5	67.0	67.0	66.2	67.0
77.5°	56.4	52.7	48.9	47.4	45.9	44.4	43.6	42.9	40.6	40.6	40.6
80°	32.4	30.9	29.3	27.1	27.1	26.3	24.8	24.1	23.3	23.3	23.3
82.5°	16.6	15.8	14.3	13.5	13.5	13.5	12.8	12.8	12.0	12.0	12.0
85°	6.8	6.0	5.3	5.3	5.3	5.3	5.3	5.3	6.0	5.3	6.0
87.5°	0.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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°	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0
2.5°	2044.5	2043.8	2043.8	2043.8	2043.8	2043.8	2043.0	2043.0	2042.3	2042.3	2042.3
5°	2031.7	2031.0	2030.2	2029.5	2028.7	2028.0	2027.2	2026.5	2024.2	2023.5	2021.9
7.5°	2013.7	2012.2	2009.9	2009.2	2007.6	2005.4	2002.4	2000.9	1997.9	1994.1	1992.6
10°	1989.6	1986.6	1984.3	1980.6	1979.8	1976.8	1969.3	1965.5	1960.2	1955.7	1950.5
12.5°	1960.2	1957.2	1952.0	1946.7	1943.7	1936.9	1930.1	1924.1	1917.4	1907.6	1900.0
15°	1924.1	1919.6	1909.1	1907.6	1903.1	1892.5	1883.5	1872.2	1861.7	1851.1	1842.1
17.5°	1876.0	1866.2	1860.9	1854.1	1848.9	1835.3	1825.5	1812.8	1798.5	1786.4	1773.6
20°	1812.8	1802.2	1793.2	1789.4	1782.7	1770.6	1758.6	1742.8	1728.5	1713.4	1702.1
22.5°	1737.5	1730.7	1717.2	1712.7	1704.4	1692.4	1678.1	1663.0	1649.5	1632.9	1617.9
25°	1657.0	1647.2	1636.7	1627.6	1621.6	1610.3	1592.3	1581.0	1565.9	1547.9	1536.6
27.5°	1571.2	1559.9	1544.9	1538.8	1533.6	1518.5	1503.5	1489.2	1477.1	1461.3	1451.6
30°	1471.9	1463.6	1453.8	1446.3	1438.8	1426.7	1413.2	1396.6	1383.8	1376.3	1362.8
32.5°	1371.0	1364.3	1351.5	1347.7	1339.4	1329.7	1319.9	1307.8	1294.3	1283.0	1272.5
35°	1263.4	1256.7	1247.6	1240.9	1237.8	1231.1	1220.5	1210.0	1203.2	1190.4	1185.2
37.5°	1155.8	1153.6	1144.5	1137.8	1135.5	1127.2	1122.0	1114.4	1104.7	1101.6	1095.6
40°	1045.2	1043.7	1038.4	1037.7	1033.2	1030.9	1023.4	1017.4	1012.9	1010.6	1006.8
42.5°	943.6	942.1	937.6	938.4	933.8	932.3	931.6	926.3	922.6	918.0	918.8
45°	843.5	842.0	839.0	837.5	839.8	839.0	837.5	835.3	835.3	836.0	833.8
47.5°	747.2	748.7	745.7	747.2	747.2	745.0	745.0	748.0	748.7	750.2	751.7
50°	656.2	660.7	659.2	661.4	662.2	662.9	660.7	664.5	663.7	670.5	669.0
52.5°	573.4	574.2	577.2	577.9	578.7	579.4	583.2	586.2	586.9	590.0	595.2
55°	493.6	494.4	500.4	500.4	504.2	504.9	510.2	511.7	514.0	522.2	523.7
57.5°	418.4	422.9	425.9	427.4	429.7	433.4	436.4	443.2	447.0	452.2	457.5
60°	350.7	355.9	359.7	361.2	364.2	368.7	372.5	380.0	386.8	392.8	396.6
62.5°	288.2	292.7	295.7	301.0	301.0	304.8	313.8	318.3	325.8	331.1	337.9
65°	232.5	235.5	240.8	240.8	243.8	249.8	257.4	264.1	271.6	279.2	285.9
67.5°	182.1	184.4	187.4	190.4	191.9	199.4	205.4	215.2	222.0	227.3	235.5
70°	137.7	139.2	143.0	146.0	148.2	153.5	160.3	167.1	173.8	179.8	188.1
72.5°	98.6	101.6	105.3	107.6	109.1	112.9	119.6	126.4	132.4	138.5	143.0
75°	67.7	70.0	71.5	73.7	76.0	79.0	83.5	88.0	94.8	100.8	106.1
77.5°	42.1	44.4	46.7	47.4	48.2	51.2	54.2	58.7	63.2	67.7	71.5
80°	24.8	25.6	26.3	27.1	28.6	30.9	32.4	35.4	38.4	41.4	45.1
82.5°	12.8	13.5	14.3	14.3	14.3	15.0	17.3	18.8	19.6	21.1	23.3
85°	5.3	5.3	5.3	6.0	6.0	6.8	6.8	7.5	7.5	8.3	9.0
87.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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: P879436

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0	2049.0
2.5°	2041.5	2041.5	2041.5	2040.8	2041.5	2041.5	2041.5	2040.8
5°	2021.9	2020.4	2020.4	2019.7	2018.9	2018.9	2019.7	2018.2
7.5°	1989.6	1987.3	1985.8	1985.8	1985.1	1984.3	1984.3	1980.6
10°	1947.5	1942.9	1942.9	1941.4	1935.4	1934.7	1933.2	1933.2
12.5°	1894.8	1889.5	1886.5	1882.7	1879.0	1876.0	1875.2	1872.2
15°	1832.3	1825.5	1820.3	1818.8	1812.8	1808.2	1808.2	1806.7
17.5°	1764.6	1754.1	1750.3	1746.5	1738.3	1737.5	1736.0	1729.2
20°	1687.8	1678.1	1672.8	1669.0	1663.8	1656.2	1654.7	1655.5
22.5°	1607.3	1593.8	1589.3	1585.5	1580.2	1573.5	1573.5	1568.2
25°	1523.8	1511.8	1507.2	1502.7	1494.4	1491.4	1487.7	1488.4
27.5°	1438.8	1427.5	1423.7	1415.4	1410.2	1406.4	1402.6	1402.6
30°	1350.0	1344.0	1337.9	1337.2	1326.6	1322.1	1318.4	1315.4
32.5°	1264.2	1256.7	1253.7	1250.6	1245.4	1239.4	1238.6	1233.3
35°	1179.9	1172.4	1168.6	1165.6	1159.6	1157.3	1155.1	1156.6
37.5°	1091.1	1089.6	1087.4	1083.6	1079.8	1079.1	1076.1	1079.8
40°	1003.8	1003.1	1000.1	1000.8	1000.8	999.3	1000.8	1000.8
42.5°	919.5	919.5	916.5	918.0	918.8	920.3	922.6	924.1
45°	837.5	836.8	837.5	839.0	837.5	841.3	844.3	846.6
47.5°	753.2	754.0	757.0	757.8	759.3	764.5	764.5	764.5
50°	672.7	676.5	675.0	679.5	678.7	681.8	678.7	678.7
52.5°	596.0	599.7	600.5	601.2	605.8	606.5	606.5	605.8
55°	527.5	532.8	530.5	534.3	536.5	538.0	540.3	538.8
57.5°	464.3	466.5	468.8	469.6	472.6	474.1	475.6	474.1
60°	401.8	406.3	410.1	410.9	412.4	413.9	414.6	416.9
62.5°	343.1	350.7	352.2	352.9	356.7	358.9	360.4	361.9
65°	291.2	296.5	300.2	302.5	305.5	305.5	307.8	307.8
67.5°	240.8	246.1	248.3	249.8	254.3	255.1	258.9	258.9
70°	194.9	198.7	200.2	202.4	206.9	209.9	211.5	213.0
72.5°	150.5	155.0	157.3	160.3	163.3	165.5	166.3	168.6
75°	109.9	116.6	117.4	120.4	122.7	125.7	127.2	126.4
77.5°	76.8	79.0	82.0	83.5	85.8	88.0	90.3	90.3
80°	47.4	50.4	51.2	51.9	54.9	56.4	57.9	57.9
82.5°	24.8	26.3	27.8	28.6	30.1	30.1	30.9	31.6
85°	9.8	10.5	10.5	10.5	11.3	12.0	12.0	12.0
87.5°	1.5	2.3	1.5	1.5	2.3	2.3	2.3	2.3
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)