

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: P880579

Luminaire Tested: **LD4C45D010 EU4459035 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: P880579
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: LD4C45D010 EU4459035 4LBDWNH
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

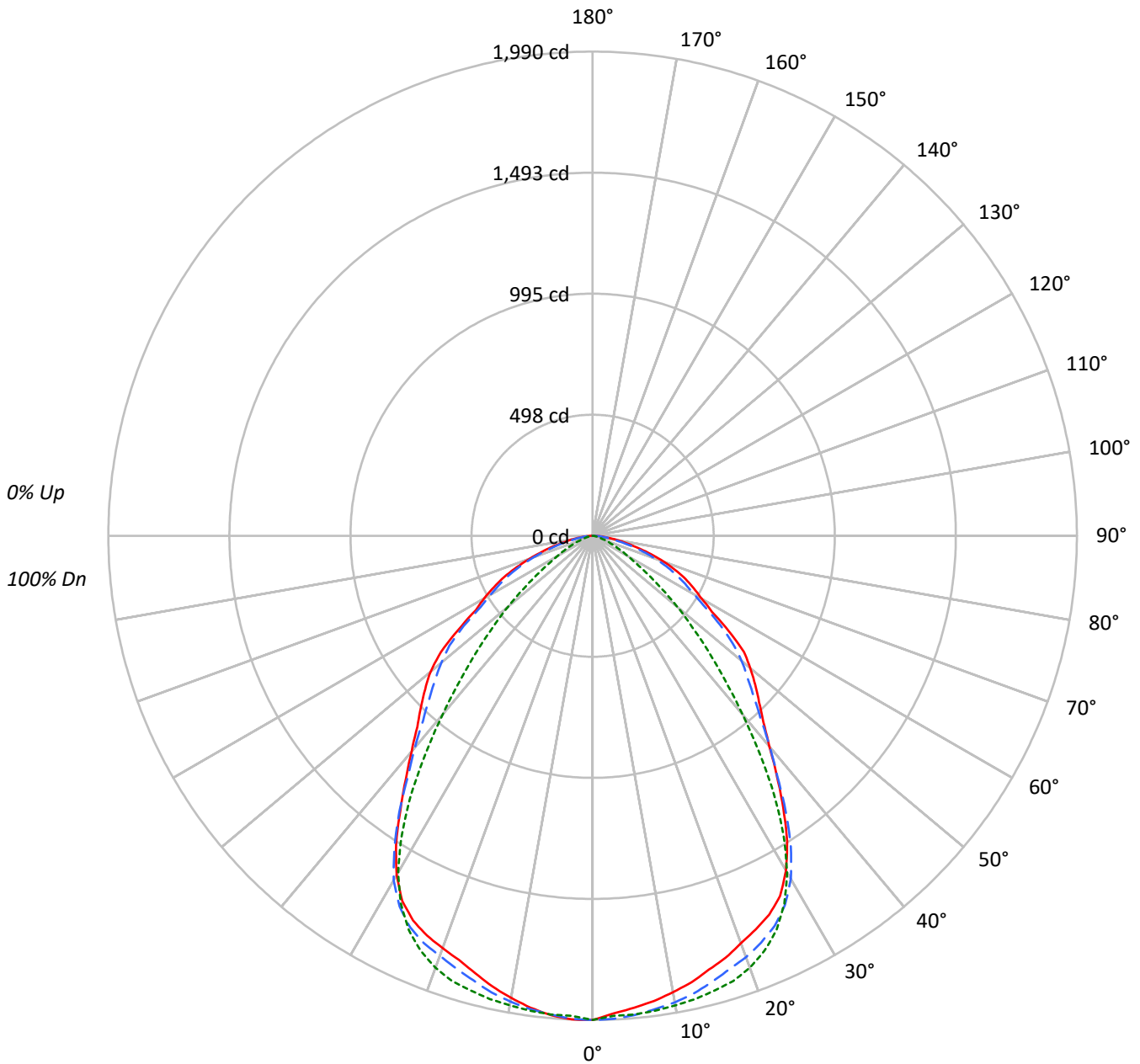
Lumens per Lamp: N/A
Luminaire Lumens: 4050.0 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	244478	244478	244478
5°	240134	243525	243895
10°	237559	244445	240615
15°	234800	246082	236746
20°	232936	246977	235747
25°	232814	242357	236541
30°	225400	226719	228450
35°	204778	195149	206622
40°	181174	153670	185585
45°	168077	117015	173411
50°	161502	86618	166184
55°	146226	59694	144256
60°	127129	40615	126392
65°	122819	29389	116569
70°	111064	19828	98959
75°	91516	13053	78463
80°	73649	8631	58509
85°	60471	4229	38764



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.9	4.6
10°-20°	537.1	13.3
20°-30°	811.5	20.0
30°-40°	849.2	21.0
40°-50°	687.8	17.0
50°-60°	500.3	12.4
60°-70°	308.5	7.6
70°-80°	139.4	3.4
80°-90°	28.3	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°	1536.4	37.9
0°-40°	2385.7	58.9
0°-60°	3573.7	88.2
0°-90°	4050.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4050.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1990	1990	1990	1990	1990	
5°	1947	1978	1975	1975	1978	185
15°	1846	1898	1935	1892	1861	522
25°	1718	1770	1788	1776	1745	787
35°	1365	1384	1301	1384	1378	851
45°	967	937	674	949	998	752
55°	683	640	279	646	674	609
65°	422	380	101	374	401	414
75°	193	165	28	144	165	209
85°	43	34	3	24	28	49
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°	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0
2.5°	1965.5	1965.5	1984.0	2005.2	1987.0	1968.5	1980.8	1974.7	1996.2	1996.2	1987.0
5°	1947.2	1953.3	1968.5	1987.0	1971.7	1953.3	1968.5	1962.5	1984.0	1984.0	1977.7
7.5°	1928.8	1931.8	1950.3	1971.7	1956.3	1938.0	1950.3	1947.2	1965.5	1968.5	1962.5
10°	1904.3	1907.3	1925.8	1947.2	1931.8	1916.5	1928.8	1925.8	1950.3	1950.3	1947.2
12.5°	1879.8	1882.8	1901.3	1919.6	1904.3	1889.1	1901.3	1901.3	1925.8	1928.8	1925.8
15°	1846.1	1852.2	1867.6	1885.9	1876.8	1858.4	1870.6	1870.6	1892.1	1898.1	1898.1
17.5°	1818.6	1821.7	1836.9	1855.4	1843.1	1827.7	1839.9	1839.9	1861.4	1867.6	1867.6
20°	1781.7	1787.9	1803.2	1821.7	1812.4	1800.2	1809.4	1809.4	1833.9	1839.9	1843.1
22.5°	1751.2	1757.3	1769.5	1794.2	1778.7	1769.5	1781.7	1778.7	1806.4	1809.4	1809.4
25°	1717.5	1723.7	1739.0	1754.2	1745.0	1736.0	1745.0	1745.0	1766.5	1769.5	1769.5
27.5°	1668.6	1671.6	1686.8	1702.3	1693.1	1680.8	1693.1	1690.0	1711.3	1714.5	1711.3
30°	1588.9	1595.1	1601.2	1622.6	1613.4	1604.2	1616.4	1610.4	1631.9	1631.9	1628.7
32.5°	1487.8	1487.8	1500.3	1515.5	1503.3	1497.0	1506.3	1509.3	1524.7	1524.7	1515.5
35°	1365.4	1371.7	1380.7	1389.9	1380.7	1374.7	1383.9	1380.7	1399.1	1392.9	1383.9
37.5°	1243.1	1246.1	1255.3	1267.5	1255.3	1246.1	1249.1	1246.1	1261.3	1261.3	1246.1
40°	1129.7	1135.9	1141.9	1154.2	1141.9	1135.9	1138.9	1129.7	1148.2	1141.9	1132.7
42.5°	1037.8	1040.8	1050.1	1056.3	1044.0	1040.8	1044.0	1037.8	1047.0	1040.8	1022.6
45°	967.4	967.4	970.6	979.6	967.4	964.4	964.4	958.2	967.4	955.2	936.9
47.5°	906.2	909.2	912.4	918.5	909.2	900.2	903.2	891.0	897.0	887.8	863.3
50°	845.0	851.0	854.2	860.3	851.0	845.0	848.0	835.8	835.8	820.5	799.1
52.5°	783.8	786.8	783.8	789.9	783.8	774.6	777.6	765.4	765.4	747.1	725.6
55°	682.7	685.7	688.9	695.0	688.9	679.7	685.7	676.7	676.7	664.3	639.8
57.5°	581.6	584.8	587.8	590.8	590.8	584.8	587.8	581.6	578.6	569.4	551.1
60°	517.4	517.4	517.4	520.4	517.4	514.4	514.4	508.2	508.2	495.9	477.7
62.5°	468.5	471.5	471.5	474.5	471.5	468.5	465.4	459.2	456.2	444.0	428.5
65°	422.5	422.5	419.5	425.5	422.5	419.5	419.5	413.3	407.3	395.0	379.6
67.5°	367.3	370.4	367.3	370.4	370.4	367.3	364.3	358.1	355.1	345.9	327.6
70°	309.2	309.2	309.2	312.4	309.2	309.2	312.4	303.1	300.1	287.7	272.4
72.5°	251.0	254.2	254.2	251.0	254.2	248.0	248.0	248.0	245.0	232.7	217.3
75°	192.8	196.0	196.0	199.0	196.0	192.8	192.8	189.8	186.8	177.6	165.3
77.5°	143.8	143.8	146.9	146.9	146.9	143.8	143.8	137.8	137.8	131.6	119.4
80°	104.1	104.1	101.1	104.1	104.1	101.1	101.1	97.9	97.9	91.9	82.7
82.5°	67.4	70.4	70.4	70.4	70.4	67.4	67.4	67.4	64.2	61.2	55.2
85°	42.9	42.9	42.9	42.9	45.9	42.9	45.9	42.9	42.9	36.7	33.7
87.5°	18.5	18.5	18.5	21.5	21.5	18.5	18.5	18.5	18.5	18.5	15.3
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°	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0
2.5°	1987.0	1990.0	1980.8	1993.0	1984.0	1987.0	1990.0	1987.0	1974.7	1974.7	2008.4
5°	1974.7	1980.8	1971.7	1987.0	1980.8	1980.8	1987.0	1984.0	1971.7	1974.7	2005.2
7.5°	1962.5	1971.7	1965.5	1980.8	1971.7	1971.7	1977.7	1977.7	1965.5	1968.5	1996.2
10°	1944.0	1956.3	1953.3	1968.5	1959.5	1959.5	1968.5	1968.5	1956.3	1959.5	1987.0
12.5°	1928.8	1941.0	1938.0	1953.3	1947.2	1950.3	1953.3	1959.5	1944.0	1950.3	1974.7
15°	1904.3	1916.5	1916.5	1931.8	1925.8	1931.8	1938.0	1947.2	1934.8	1934.8	1959.5
17.5°	1876.8	1892.1	1892.1	1904.3	1904.3	1907.3	1919.6	1928.8	1916.5	1919.6	1941.0
20°	1846.1	1864.6	1864.6	1879.8	1876.8	1882.8	1892.1	1901.3	1889.1	1889.1	1913.5
22.5°	1815.4	1830.9	1833.9	1843.1	1843.1	1846.1	1855.4	1861.4	1846.1	1846.1	1870.6
25°	1772.7	1787.9	1791.0	1797.2	1791.0	1791.0	1797.2	1803.2	1787.9	1787.9	1809.4
27.5°	1714.5	1729.8	1729.8	1726.8	1720.5	1723.7	1720.5	1723.7	1708.3	1705.3	1726.8
30°	1628.7	1637.9	1637.9	1634.9	1625.6	1625.6	1616.4	1619.6	1598.2	1598.2	1616.4
32.5°	1512.5	1521.5	1515.5	1509.3	1497.0	1491.0	1484.8	1481.8	1460.3	1460.3	1481.8
35°	1374.7	1380.7	1371.7	1359.4	1344.0	1334.7	1325.7	1313.5	1298.0	1301.2	1313.5
37.5°	1233.8	1233.8	1221.6	1197.1	1184.9	1169.4	1154.2	1154.2	1129.7	1126.7	1135.9
40°	1114.5	1102.2	1080.8	1047.0	1025.6	1010.3	988.9	976.6	958.2	958.2	973.6
42.5°	1007.3	982.8	955.2	909.2	887.8	869.5	842.0	829.8	808.3	805.1	814.3
45°	912.4	887.8	848.0	799.1	771.6	750.1	710.2	695.0	676.7	673.5	679.7
47.5°	835.8	808.3	759.4	695.0	667.5	639.8	600.1	578.6	563.3	554.1	563.3
50°	768.4	731.7	679.7	612.3	575.6	551.1	502.2	480.7	459.2	453.2	456.2
52.5°	695.0	658.2	603.1	532.7	499.0	462.2	416.3	385.8	367.3	358.1	367.3
55°	615.3	578.6	523.6	453.2	416.3	382.8	333.6	309.2	287.7	278.7	287.7
57.5°	529.6	495.9	447.0	376.6	342.9	312.4	266.4	241.9	220.5	214.3	220.5
60°	456.2	428.5	379.6	312.4	284.7	251.0	211.3	186.8	168.3	165.3	168.3
62.5°	407.3	376.6	330.6	266.4	238.7	211.3	174.5	150.1	134.6	131.6	134.6
65°	358.1	324.6	281.7	226.5	199.0	177.6	140.8	119.4	104.1	101.1	104.1
67.5°	303.1	272.4	235.7	186.8	165.3	143.8	113.3	91.9	79.6	76.6	79.6
70°	251.0	223.5	186.8	150.1	128.6	113.3	85.7	70.4	58.2	55.2	58.2
72.5°	199.0	174.5	143.8	113.3	101.1	85.7	67.4	52.0	42.9	39.7	42.9
75°	153.1	134.6	110.1	82.7	73.4	64.2	45.9	36.7	30.7	27.5	30.7
77.5°	107.1	94.9	76.6	61.2	52.0	45.9	33.7	24.5	21.5	18.5	21.5
80°	73.4	64.2	52.0	39.7	33.7	27.5	21.5	15.3	12.2	12.2	12.2
82.5°	49.0	39.7	30.7	24.5	21.5	18.5	12.2	9.2	9.2	6.2	6.2
85°	27.5	24.5	18.5	15.3	12.2	9.2	6.2	6.2	3.0	3.0	3.0
87.5°	12.2	9.2	6.2	6.2	3.0	3.0	3.0	3.0	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°	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0
2.5°	1999.2	1990.0	2002.2	1990.0	1984.0	1990.0	1984.0	2002.2	1987.0	1974.7	1987.0
5°	1996.2	1984.0	1996.2	1987.0	1977.7	1980.8	1974.7	1993.0	1974.7	1965.5	1971.7
7.5°	1990.0	1980.8	1987.0	1977.7	1968.5	1971.7	1965.5	1980.8	1962.5	1953.3	1959.5
10°	1980.8	1971.7	1974.7	1968.5	1959.5	1959.5	1953.3	1965.5	1944.0	1931.8	1938.0
12.5°	1968.5	1956.3	1962.5	1953.3	1941.0	1941.0	1934.8	1944.0	1922.6	1910.3	1913.5
15°	1953.3	1941.0	1941.0	1931.8	1919.6	1919.6	1907.3	1916.5	1892.1	1879.8	1879.8
17.5°	1934.8	1919.6	1919.6	1910.3	1895.1	1892.1	1882.8	1892.1	1864.6	1852.2	1852.2
20°	1907.3	1895.1	1892.1	1885.9	1870.6	1867.6	1855.4	1858.4	1836.9	1827.7	1824.7
22.5°	1870.6	1858.4	1861.4	1852.2	1839.9	1836.9	1824.7	1833.9	1812.4	1803.2	1806.4
25°	1806.4	1800.2	1806.4	1803.2	1794.2	1794.2	1787.9	1794.2	1775.7	1769.5	1772.7
27.5°	1732.8	1729.8	1732.8	1732.8	1726.8	1726.8	1726.8	1736.0	1717.5	1714.5	1714.5
30°	1625.6	1625.6	1628.7	1631.9	1631.9	1637.9	1634.9	1647.1	1634.9	1628.7	1634.9
32.5°	1484.8	1497.0	1506.3	1506.3	1506.3	1512.5	1518.5	1527.7	1515.5	1518.5	1518.5
35°	1325.7	1334.7	1341.0	1356.2	1347.2	1368.5	1374.7	1386.9	1383.9	1389.9	1386.9
37.5°	1148.2	1160.4	1172.6	1194.1	1190.9	1215.4	1227.6	1252.1	1246.1	1258.3	1264.3
40°	982.8	1001.1	1019.6	1034.8	1047.0	1071.5	1096.0	1126.7	1135.9	1145.0	1148.2
42.5°	823.6	842.0	872.5	894.0	912.4	952.2	985.9	1022.6	1031.8	1050.1	1056.3
45°	695.0	710.2	747.1	774.6	789.9	848.0	887.8	933.7	949.1	970.6	979.6
47.5°	575.6	603.1	639.8	673.5	695.0	756.2	808.3	857.3	878.7	903.2	915.4
50°	471.5	502.2	551.1	581.6	612.3	679.7	737.9	789.9	811.3	838.8	851.0
52.5°	385.8	419.5	465.4	499.0	532.7	603.1	664.3	713.4	740.9	759.4	777.6
55°	303.1	339.9	385.8	422.5	450.0	526.6	578.6	627.6	646.0	661.3	670.5
57.5°	235.7	263.2	309.2	339.9	373.6	440.8	492.9	529.6	544.9	563.3	569.4
60°	183.8	211.3	254.2	284.7	315.4	379.6	431.7	468.5	483.7	499.0	508.2
62.5°	146.9	174.5	214.3	241.9	269.4	327.6	373.6	410.3	428.5	444.0	453.2
65°	116.4	140.8	174.5	202.0	223.5	275.5	321.4	355.1	373.6	388.8	398.0
67.5°	91.9	113.3	143.8	162.3	183.8	226.5	266.4	296.9	312.4	330.6	339.9
70°	70.4	85.7	113.3	128.6	143.8	180.6	211.3	241.9	257.2	269.4	275.5
72.5°	52.0	64.2	85.7	97.9	107.1	137.8	162.3	183.8	196.0	208.2	214.3
75°	36.7	45.9	61.2	70.4	76.6	97.9	119.4	134.6	143.8	153.1	162.3
77.5°	24.5	30.7	39.7	45.9	52.0	67.4	79.6	91.9	101.1	110.1	113.3
80°	15.3	21.5	27.5	30.7	33.7	42.9	55.2	61.2	67.4	73.4	76.6
82.5°	9.2	12.2	15.3	18.5	21.5	27.5	33.7	39.7	42.9	49.0	52.0
85°	3.0	6.2	6.2	9.2	9.2	15.3	18.5	21.5	24.5	27.5	30.7
87.5°	0.0	0.0	3.0	3.0	3.0	3.0	6.2	6.2	6.2	6.2	6.2
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: P880579

CATALOG NUMBER: LD4C45D010 EU4459035 4LBDWNH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0	1990.0
2.5°	1999.2	1990.0	1984.0	1980.8	2002.2	1974.7	1987.0	1990.0
5°	1987.0	1977.7	1971.7	1968.5	1987.0	1962.5	1971.7	1977.7
7.5°	1968.5	1962.5	1953.3	1950.3	1968.5	1941.0	1953.3	1956.3
10°	1947.2	1938.0	1931.8	1928.8	1944.0	1916.5	1928.8	1928.8
12.5°	1919.6	1913.5	1901.3	1901.3	1913.5	1889.1	1898.1	1898.1
15°	1882.8	1876.8	1864.6	1864.6	1876.8	1852.2	1861.4	1861.4
17.5°	1852.2	1846.1	1836.9	1833.9	1846.1	1821.7	1830.9	1827.7
20°	1827.7	1821.7	1809.4	1809.4	1818.6	1794.2	1803.2	1803.2
22.5°	1806.4	1803.2	1791.0	1791.0	1803.2	1778.7	1784.9	1778.7
25°	1772.7	1769.5	1757.3	1760.5	1766.5	1742.0	1751.2	1745.0
27.5°	1717.5	1717.5	1705.3	1702.3	1711.3	1690.0	1696.1	1693.1
30°	1631.9	1634.9	1619.6	1619.6	1622.6	1604.2	1613.4	1610.4
32.5°	1515.5	1518.5	1506.3	1503.3	1512.5	1497.0	1503.3	1503.3
35°	1386.9	1389.9	1380.7	1380.7	1389.9	1380.7	1380.7	1377.7
37.5°	1258.3	1264.3	1258.3	1261.3	1267.5	1258.3	1264.3	1261.3
40°	1154.2	1160.4	1151.2	1157.2	1163.4	1154.2	1163.4	1157.2
42.5°	1059.3	1068.5	1062.3	1068.5	1074.5	1068.5	1074.5	1065.5
45°	988.9	995.1	991.9	995.1	1001.1	998.1	1001.1	998.1
47.5°	921.5	933.7	927.7	933.7	942.9	936.9	942.9	933.7
50°	860.3	869.5	866.5	872.5	875.5	872.5	878.7	869.5
52.5°	780.6	789.9	786.8	786.8	792.9	786.8	792.9	786.8
55°	676.7	679.7	679.7	682.7	679.7	676.7	679.7	673.5
57.5°	575.6	581.6	572.6	581.6	578.6	575.6	575.6	569.4
60°	511.2	520.4	514.4	520.4	517.4	517.4	517.4	514.4
62.5°	459.2	465.4	459.2	462.2	462.2	462.2	459.2	456.2
65°	401.0	410.3	404.1	407.3	404.1	401.0	404.1	401.0
67.5°	342.9	345.9	345.9	342.9	342.9	342.9	342.9	336.8
70°	278.7	281.7	278.7	284.7	281.7	278.7	281.7	275.5
72.5°	217.3	220.5	217.3	220.5	217.3	217.3	217.3	217.3
75°	162.3	165.3	165.3	165.3	165.3	165.3	159.3	165.3
77.5°	116.4	116.4	116.4	119.4	116.4	116.4	116.4	116.4
80°	79.6	79.6	79.6	82.7	79.6	82.7	79.6	82.7
82.5°	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0
85°	27.5	30.7	30.7	27.5	27.5	27.5	27.5	27.5
87.5°	6.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)