

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: P879432

Luminaire Tested: **LD4C45D010 EU4459035 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: P879432
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 EU4459035 4LBLDWWH
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBLDWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

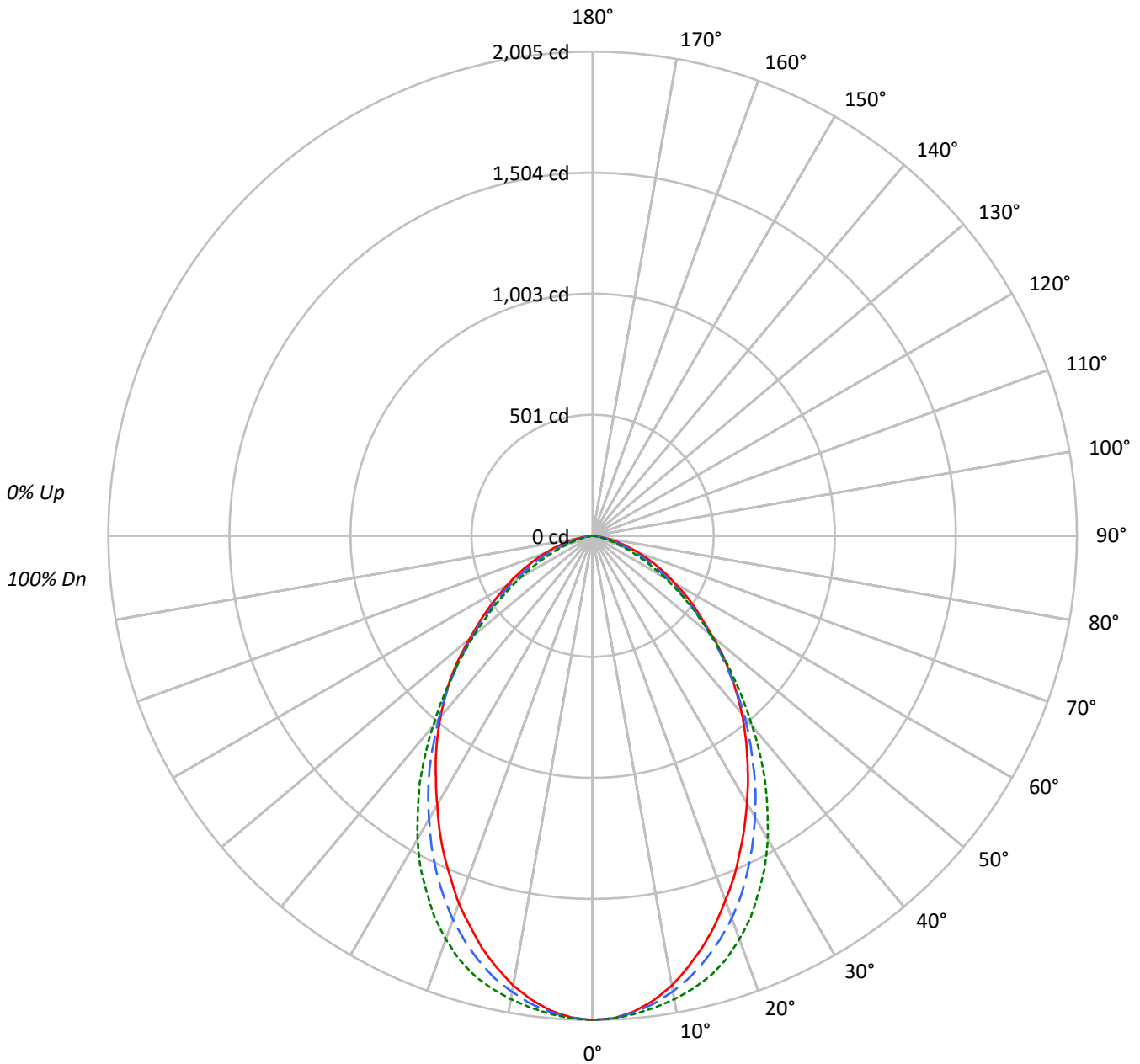
Lumens per Lamp: N/A
Luminaire Lumens: 3586.0 lumens
Efficiency: N/A
Efficacy: 72.3 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.1 / 1.12
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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				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	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88				88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67				67
4	88	77	70	64	86	76	69	63	74	68	63	71	66	62	69	65	61	59				59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52				52
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47				47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42				42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38				38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	246309	246309	246309
5°	243797	245153	243525
10°	235862	243035	235962
15°	224091	239913	224842
20°	210030	232374	211769
25°	195618	220465	197407
30°	181211	205653	182572
35°	167179	186946	169728
40°	154215	164720	157038
45°	139688	142763	143910
50°	123831	122282	126927
55°	110393	102982	112920
60°	96612	83590	100224
65°	84534	64651	87529
70°	71157	47342	74857
75°	55584	30759	58717
80°	36435	16131	40114
85°	12404	7330	16633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.2	5.2
10°-20°	511.4	14.3
20°-30°	703.3	19.6
30°-40°	733.7	20.5
40°-50°	627.7	17.5
50°-60°	449.0	12.5
60°-70°	260.5	7.3
70°-80°	100.4	2.8
80°-90°	12.8	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°	1401.8	39.1
0°-40°	2135.5	59.6
0°-60°	3212.2	89.6
0°-90°	3586.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3586.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2005	2005	2005	2005	2005	
5°	1977	1981	1988	1981	1975	186
15°	1762	1815	1886	1822	1768	494
25°	1443	1523	1626	1532	1456	664
35°	1115	1159	1246	1177	1132	698
45°	804	797	822	817	828	620
55°	515	490	481	503	527	461
65°	291	257	222	266	301	290
75°	117	88	65	93	124	126
85°	9	7	5	7	12	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°	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9
2.5°	1999.7	1998.2	1999.0	1999.0	1999.0	1998.2	1999.7	1999.7	1999.0	1999.0	1999.0
5°	1976.9	1975.4	1976.2	1976.9	1976.9	1976.9	1977.6	1978.4	1979.1	1979.8	1980.6
7.5°	1940.1	1937.9	1940.1	1943.0	1943.0	1943.8	1944.5	1945.2	1947.4	1951.1	1953.3
10°	1890.7	1890.7	1891.5	1893.7	1897.4	1896.6	1898.8	1902.5	1906.9	1912.1	1915.8
12.5°	1828.2	1829.6	1831.8	1834.1	1837.7	1839.9	1843.6	1848.0	1855.4	1862.8	1870.9
15°	1761.9	1762.6	1763.4	1768.5	1772.2	1777.4	1780.3	1789.1	1795.8	1806.1	1814.9
17.5°	1687.5	1686.8	1689.0	1693.4	1702.3	1704.5	1708.2	1717.7	1727.3	1741.3	1753.1
20°	1606.5	1611.0	1613.9	1619.8	1625.0	1630.8	1633.8	1645.6	1656.6	1669.9	1685.3
22.5°	1530.0	1526.3	1531.4	1538.1	1542.5	1546.9	1552.1	1564.6	1576.4	1592.6	1608.0
25°	1443.1	1445.3	1449.0	1454.1	1460.0	1465.9	1471.8	1485.1	1491.7	1508.6	1522.6
27.5°	1360.6	1364.3	1365.8	1372.4	1377.6	1382.0	1384.9	1400.4	1406.3	1421.0	1435.0
30°	1277.4	1281.1	1281.1	1288.5	1292.2	1296.6	1303.9	1314.2	1323.1	1333.4	1343.7
32.5°	1197.2	1197.2	1200.1	1206.8	1210.4	1215.6	1217.8	1225.2	1234.0	1244.3	1255.3
35°	1114.7	1116.9	1119.9	1119.9	1126.5	1129.4	1132.4	1139.7	1145.6	1150.1	1158.9
37.5°	1038.9	1038.9	1036.7	1040.4	1044.8	1044.0	1048.5	1052.1	1055.8	1061.0	1068.3
40°	961.6	961.6	958.6	960.8	963.8	963.0	961.6	965.3	968.2	971.9	979.2
42.5°	882.8	881.3	880.6	880.6	882.1	880.6	882.1	882.8	882.8	882.8	887.2
45°	804.0	807.7	803.3	801.8	799.6	797.4	796.6	797.4	800.3	796.6	797.4
47.5°	726.7	728.2	725.2	723.0	720.8	719.3	720.8	716.4	717.9	718.6	715.7
50°	647.9	645.0	645.0	642.8	643.5	642.8	641.3	639.8	639.8	636.1	633.9
52.5°	575.0	576.5	578.0	572.8	573.6	569.9	570.6	566.9	566.9	562.5	564.0
55°	515.4	513.2	513.2	511.0	510.2	506.6	505.8	503.6	498.5	495.5	489.6
57.5°	453.5	452.8	449.9	450.6	446.2	445.4	444.0	440.3	436.6	432.9	426.3
60°	393.2	393.9	393.9	392.4	390.2	386.5	387.3	382.1	377.0	370.3	364.5
62.5°	343.1	340.9	340.2	338.7	334.3	334.3	330.6	326.9	321.8	315.1	310.0
65°	290.8	291.6	289.4	287.1	282.7	282.0	279.0	276.1	270.9	264.3	257.0
67.5°	243.7	242.2	241.5	239.3	234.9	234.1	231.9	225.3	220.9	214.3	208.4
70°	198.1	196.6	197.3	193.6	189.2	187.0	186.3	181.1	174.5	169.3	163.5
72.5°	155.4	155.4	154.6	150.9	148.7	147.3	144.3	138.4	134.7	128.8	124.4
75°	117.1	116.3	114.9	112.6	109.7	108.2	106.8	103.1	97.9	91.3	87.6
77.5°	81.0	81.7	80.3	79.5	75.8	73.6	72.9	70.7	66.3	61.8	58.2
80°	51.5	50.8	50.1	48.6	47.9	47.1	44.9	43.4	39.0	36.8	34.6
82.5°	28.0	26.5	26.5	25.8	24.3	23.6	22.8	21.4	20.6	19.1	17.7
85°	8.8	9.6	8.8	8.8	8.8	8.1	8.1	8.1	7.4	7.4	6.6
87.5°	0.7	1.5	0.7	0.7	1.5	0.7	0.7	1.5	0.7	0.7	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°	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9
2.5°	1999.0	1999.7	1999.7	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5
5°	1982.8	1982.8	1984.3	1985.7	1985.7	1985.7	1986.5	1987.9	1987.9	1987.9	1987.2
7.5°	1956.3	1959.2	1962.2	1965.1	1965.8	1966.6	1968.1	1971.0	1971.0	1971.0	1971.0
10°	1921.7	1928.3	1932.0	1936.4	1938.6	1940.1	1944.5	1945.2	1947.4	1948.2	1947.4
12.5°	1877.5	1886.3	1894.4	1901.8	1904.7	1907.7	1912.1	1916.5	1918.7	1920.9	1920.2
15°	1828.2	1837.7	1850.3	1858.4	1864.2	1868.7	1875.3	1881.2	1884.9	1886.3	1886.3
17.5°	1768.5	1780.3	1793.6	1806.8	1810.5	1817.9	1825.2	1833.3	1837.7	1838.5	1837.7
20°	1702.3	1715.5	1726.6	1739.8	1747.9	1751.6	1761.9	1772.2	1776.6	1777.4	1776.6
22.5°	1623.5	1636.0	1650.7	1664.7	1671.3	1678.0	1689.0	1699.3	1705.2	1709.6	1705.2
25°	1535.9	1553.5	1567.5	1579.3	1588.9	1595.5	1609.5	1617.6	1627.2	1626.4	1627.2
27.5°	1449.7	1464.4	1479.9	1493.9	1499.8	1507.1	1518.2	1531.4	1539.5	1544.7	1544.0
30°	1361.4	1373.1	1386.4	1398.9	1408.5	1414.4	1430.6	1436.5	1446.8	1449.7	1447.5
32.5°	1267.9	1276.0	1289.2	1306.1	1309.8	1315.7	1326.0	1340.8	1344.4	1345.9	1346.6
35°	1168.5	1183.9	1195.0	1205.3	1208.2	1213.4	1225.2	1236.2	1239.9	1246.5	1243.6
37.5°	1076.4	1085.3	1090.4	1100.7	1109.6	1114.0	1119.9	1127.2	1134.6	1137.5	1136.8
40°	984.4	988.8	993.2	1004.3	1005.0	1005.0	1013.8	1024.2	1024.2	1027.1	1027.1
42.5°	890.2	890.9	896.8	902.7	904.1	905.6	914.5	915.9	920.3	922.5	925.5
45°	798.9	803.3	807.0	807.7	811.4	812.1	814.3	816.5	823.2	821.7	823.2
47.5°	715.7	717.9	720.1	720.1	722.3	721.5	725.2	723.0	727.4	728.9	731.1
50°	633.9	637.6	635.4	636.9	636.1	638.3	636.9	636.9	636.9	639.8	642.0
52.5°	558.8	559.6	557.4	558.1	558.1	556.6	558.1	557.4	556.6	556.6	557.4
55°	489.6	486.7	485.2	482.3	478.6	483.0	480.8	479.3	482.3	480.8	482.3
57.5°	422.6	418.9	416.0	414.5	409.4	412.3	409.4	407.9	407.9	407.9	411.6
60°	359.3	355.6	351.9	347.5	346.8	345.3	343.8	340.2	340.9	340.2	341.6
62.5°	304.1	296.7	291.6	287.9	287.1	284.9	282.7	279.0	279.8	279.8	280.5
65°	253.3	245.2	237.8	232.7	232.7	229.0	225.3	225.3	220.9	222.4	223.1
67.5°	202.5	195.8	188.5	184.8	182.6	179.7	177.4	176.0	173.8	173.8	175.2
70°	156.8	150.2	146.5	140.6	139.9	137.7	134.7	132.5	131.8	131.8	131.1
72.5°	118.5	112.6	108.2	104.6	102.3	100.1	97.2	96.5	95.0	95.0	96.5
75°	82.5	78.8	75.1	71.4	69.9	69.2	67.0	65.5	65.5	64.8	65.5
77.5°	55.2	51.5	47.9	46.4	44.9	43.4	42.7	42.0	39.8	39.8	39.8
80°	31.7	30.2	28.7	26.5	26.5	25.8	24.3	23.6	22.8	22.8	22.8
82.5°	16.2	15.5	14.0	13.3	13.3	13.3	12.5	12.5	11.8	11.8	11.8
85°	6.6	5.9	5.2	5.2	5.2	5.2	5.2	5.2	5.9	5.2	5.9
87.5°	0.7	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°	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9
2.5°	2000.5	1999.7	1999.7	1999.7	1999.7	1999.7	1999.0	1999.0	1998.2	1998.2	1998.2
5°	1987.9	1987.2	1986.5	1985.7	1985.0	1984.3	1983.5	1982.8	1980.6	1979.8	1978.4
7.5°	1970.3	1968.8	1966.6	1965.8	1964.4	1962.2	1959.2	1957.7	1954.8	1951.1	1949.6
10°	1946.7	1943.8	1941.5	1937.9	1937.1	1934.2	1926.8	1923.1	1918.0	1913.6	1908.4
12.5°	1918.0	1915.0	1909.9	1904.7	1901.8	1895.2	1888.5	1882.6	1876.0	1866.4	1859.1
15°	1882.6	1878.2	1867.9	1866.4	1862.0	1851.7	1842.9	1831.8	1821.5	1811.2	1802.4
17.5°	1835.5	1826.0	1820.8	1814.2	1809.0	1795.8	1786.2	1773.7	1759.7	1747.9	1735.4
20°	1773.7	1763.4	1754.5	1750.9	1744.2	1732.4	1720.7	1705.2	1691.2	1676.5	1665.4
22.5°	1700.1	1693.4	1680.2	1675.8	1667.7	1655.9	1641.9	1627.2	1613.9	1597.7	1583.0
25°	1621.3	1611.7	1601.4	1592.6	1586.7	1575.6	1558.0	1546.9	1532.2	1514.5	1503.5
27.5°	1537.3	1526.3	1511.6	1505.7	1500.5	1485.8	1471.1	1457.1	1445.3	1429.8	1420.3
30°	1440.1	1432.0	1422.5	1415.1	1407.8	1396.0	1382.7	1366.5	1354.0	1346.6	1333.4
32.5°	1341.5	1334.9	1322.3	1318.7	1310.6	1301.0	1291.4	1279.6	1266.4	1255.3	1245.0
35°	1236.2	1229.6	1220.7	1214.1	1211.2	1204.5	1194.2	1183.9	1177.3	1164.8	1159.6
37.5°	1130.9	1128.7	1119.9	1113.2	1111.0	1102.9	1097.8	1090.4	1080.8	1077.9	1072.0
40°	1022.7	1021.2	1016.1	1015.3	1010.9	1008.7	1001.3	995.4	991.0	988.8	985.1
42.5°	923.3	921.8	917.4	918.1	913.7	912.2	911.5	906.4	902.7	898.3	899.0
45°	825.4	823.9	820.9	819.5	821.7	820.9	819.5	817.3	817.3	818.0	815.8
47.5°	731.1	732.6	729.6	731.1	731.1	728.9	728.9	731.9	732.6	734.1	735.5
50°	642.0	646.4	645.0	647.2	647.9	648.7	646.4	650.1	649.4	656.0	654.5
52.5°	561.0	561.8	564.7	565.5	566.2	566.9	570.6	573.6	574.3	577.2	582.4
55°	483.0	483.7	489.6	489.6	493.3	494.0	499.2	500.7	502.9	511.0	512.4
57.5°	409.4	413.8	416.7	418.2	420.4	424.1	427.0	433.7	437.3	442.5	447.7
60°	343.1	348.3	351.9	353.4	356.4	360.8	364.5	371.8	378.4	384.3	388.0
62.5°	282.0	286.4	289.4	294.5	294.5	298.2	307.0	311.4	318.8	324.0	330.6
65°	227.5	230.5	235.6	235.6	238.6	244.4	251.8	258.4	265.8	273.2	279.8
67.5°	178.2	180.4	183.3	186.3	187.7	195.1	201.0	210.6	217.2	222.4	230.5
70°	134.7	136.2	139.9	142.8	145.0	150.2	156.8	163.5	170.1	176.0	184.1
72.5°	96.5	99.4	103.1	105.3	106.8	110.4	117.1	123.7	129.6	135.5	139.9
75°	66.3	68.5	69.9	72.2	74.4	77.3	81.7	86.1	92.8	98.7	103.8
77.5°	41.2	43.4	45.6	46.4	47.1	50.1	53.0	57.4	61.8	66.3	69.9
80°	24.3	25.0	25.8	26.5	28.0	30.2	31.7	34.6	37.5	40.5	44.2
82.5°	12.5	13.3	14.0	14.0	14.0	14.7	16.9	18.4	19.1	20.6	22.8
85°	5.2	5.2	5.2	5.9	5.9	6.6	6.6	7.4	7.4	8.1	8.8
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: P879432

CATALOG NUMBER: LD4C45D010 EU4459035 4LBDWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9	2004.9
2.5°	1997.5	1997.5	1997.5	1996.8	1997.5	1997.5	1997.5	1996.8
5°	1978.4	1976.9	1976.9	1976.2	1975.4	1975.4	1976.2	1974.7
7.5°	1946.7	1944.5	1943.0	1943.0	1942.3	1941.5	1941.5	1937.9
10°	1905.5	1901.1	1901.1	1899.6	1893.7	1893.0	1891.5	1891.5
12.5°	1853.9	1848.8	1845.8	1842.2	1838.5	1835.5	1834.8	1831.8
15°	1792.8	1786.2	1781.0	1779.6	1773.7	1769.3	1769.3	1767.8
17.5°	1726.6	1716.3	1712.6	1708.9	1700.8	1700.1	1698.6	1692.0
20°	1651.5	1641.9	1636.7	1633.1	1627.9	1620.5	1619.1	1619.8
22.5°	1572.7	1559.4	1555.0	1551.3	1546.2	1539.5	1539.5	1534.4
25°	1491.0	1479.2	1474.8	1470.3	1462.2	1459.3	1455.6	1456.3
27.5°	1407.8	1396.7	1393.0	1384.9	1379.8	1376.1	1372.4	1372.4
30°	1320.9	1315.0	1309.1	1308.4	1298.0	1293.6	1289.9	1287.0
32.5°	1236.9	1229.6	1226.6	1223.7	1218.5	1212.6	1211.9	1206.8
35°	1154.5	1147.1	1143.4	1140.5	1134.6	1132.4	1130.2	1131.7
37.5°	1067.6	1066.1	1063.9	1060.2	1056.6	1055.8	1052.9	1056.6
40°	982.2	981.5	978.5	979.2	979.2	977.8	979.2	979.2
42.5°	899.7	899.7	896.8	898.3	899.0	900.5	902.7	904.1
45°	819.5	818.7	819.5	820.9	819.5	823.2	826.1	828.3
47.5°	737.0	737.7	740.7	741.4	742.9	748.1	748.1	748.1
50°	658.2	661.9	660.4	664.9	664.1	667.1	664.1	664.1
52.5°	583.1	586.8	587.5	588.3	592.7	593.4	593.4	592.7
55°	516.1	521.3	519.1	522.8	525.0	526.4	528.6	527.2
57.5°	454.3	456.5	458.7	459.4	462.4	463.9	465.3	463.9
60°	393.2	397.6	401.3	402.0	403.5	404.9	405.7	407.9
62.5°	335.7	343.1	344.6	345.3	349.0	351.2	352.7	354.1
65°	284.9	290.1	293.8	296.0	298.9	298.9	301.1	301.1
67.5°	235.6	240.8	243.0	244.4	248.9	249.6	253.3	253.3
70°	190.7	194.4	195.8	198.1	202.5	205.4	206.9	208.4
72.5°	147.3	151.7	153.9	156.8	159.8	162.0	162.7	164.9
75°	107.5	114.1	114.9	117.8	120.0	123.0	124.4	123.7
77.5°	75.1	77.3	80.3	81.7	83.9	86.1	88.4	88.4
80°	46.4	49.3	50.1	50.8	53.7	55.2	56.7	56.7
82.5°	24.3	25.8	27.2	28.0	29.5	29.5	30.2	30.9
85°	9.6	10.3	10.3	10.3	11.0	11.8	11.8	11.8
87.5°	1.5	2.2	1.5	1.5	2.2	2.2	2.2	2.2
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)