

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: P#

Luminaire Tested: **LD4C45D010 EX4C459030 4LBSQLWWH**

Issue Date: 2/18/2022

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: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 2/18/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C45D010 EX4C459030 4LBSQLWWH
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

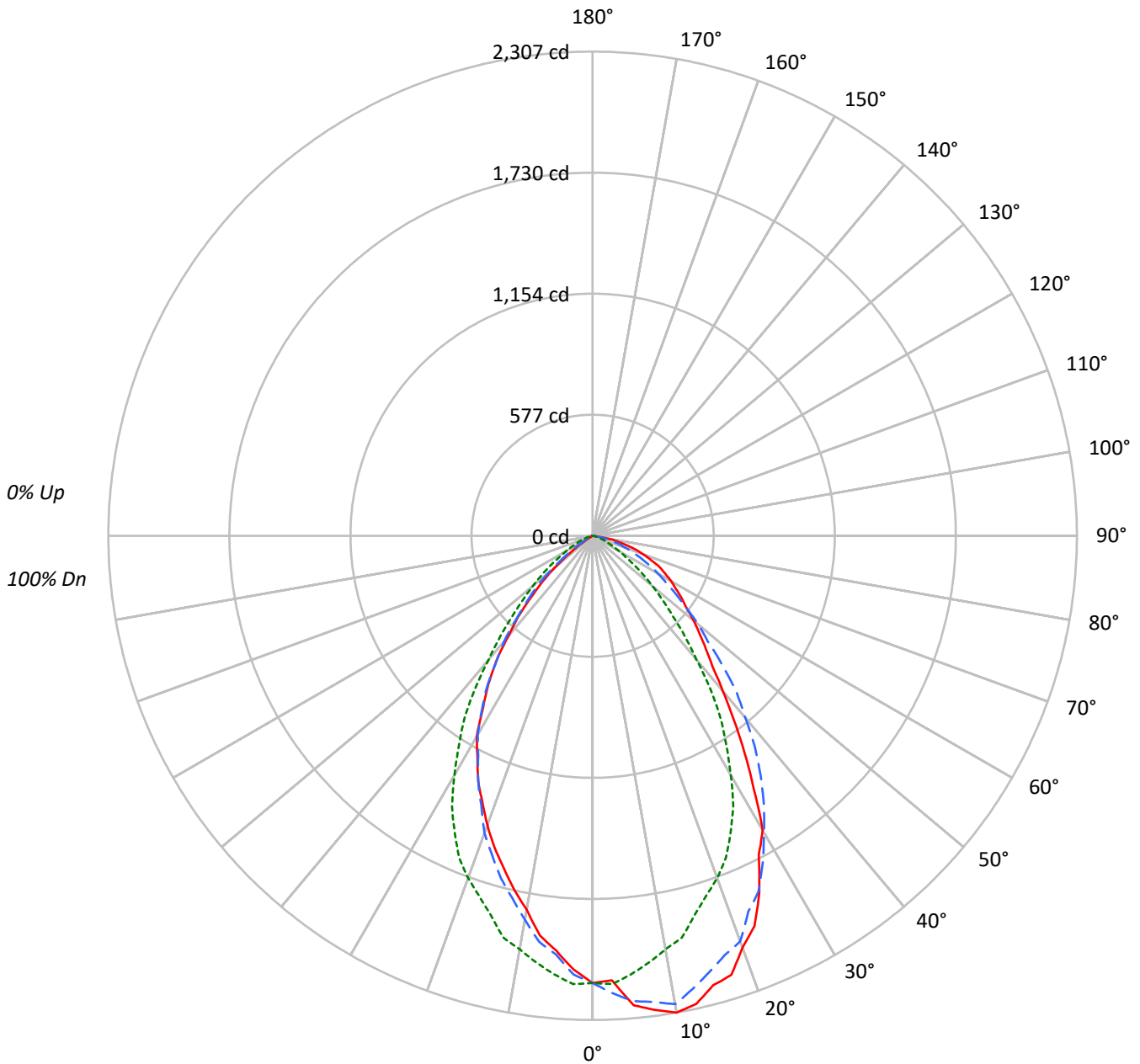
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3054.0 lumens
Efficiency: N/A
Efficacy: 61.6 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 49.6
Input Voltage (V):
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: P#
CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLWWH

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLWWH

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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53																			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48																			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44																			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41																			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	205570	205570	205570
5°	217493	203149	192262
10°	226024	195984	177212
15°	221502	187049	163574
20°	214316	178111	150572
25°	199907	165626	137349
30°	180460	146579	122970
35°	148652	125483	102007
40°	121309	96861	78509
45°	104239	73563	56479
50°	94329	55991	35666
55°	86803	40390	12903
60°	83328	27596	1968
65°	80480	18676	594
70°	72052	12949	733
75°	59052	6673	0
80°	36951	2834	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLWWH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.6	6.5
10°-20°	537.8	17.6
20°-30°	718.1	23.5
30°-40°	681.7	22.3
40°-50°	471.2	15.4
50°-60°	260.4	8.5
60°-70°	129.3	4.2
70°-80°	50.9	1.7
80°-90°	4.8	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°	1455.6	47.7
0°-40°	2137.3	70.0
0°-60°	2868.9	93.9
0°-90°	3054.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3054.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2130	2130	2130	2130	2130	
5°	2246	2225	2097	2003	1985	215
15°	2217	2151	1872	1689	1638	627
25°	1878	1870	1556	1290	1290	856
35°	1262	1395	1065	876	866	791
45°	764	876	539	442	414	596
55°	516	485	240	123	77	464
65°	352	255	82	3	3	342
75°	158	97	18	0	0	169
85°	0	3	0	0	0	15
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5
2.5°	2120.3	2179.1	2184.2	2179.1	2186.8	2184.2	2197.0	2184.2	2199.6	2176.6	2181.7
5°	2245.5	2222.5	2271.1	2245.5	2245.5	2243.0	2235.3	2232.7	2243.0	2209.8	2225.1
7.5°	2278.8	2312.0	2355.4	2301.8	2304.3	2304.3	2289.0	2283.9	2283.9	2222.5	2240.4
10°	2306.9	2286.4	2309.4	2289.0	2306.9	2304.3	2314.5	2281.3	2304.3	2268.6	2266.0
12.5°	2283.9	2276.2	2306.9	2273.7	2263.5	2266.0	2253.2	2245.5	2253.2	2212.3	2209.8
15°	2217.4	2225.1	2271.1	2235.3	2230.2	2225.1	2209.8	2184.2	2204.7	2148.5	2151.1
17.5°	2194.5	2181.7	2189.4	2158.7	2166.4	2161.3	2158.7	2135.7	2130.5	2094.8	2094.8
20°	2087.2	2115.2	2115.2	2094.8	2094.8	2092.3	2059.1	2079.5	2056.5	2046.3	2056.5
22.5°	2013.0	2015.6	2015.6	1997.7	2000.3	1990.1	1972.2	1959.4	1972.2	1959.4	1939.0
25°	1877.7	1882.8	1913.5	1880.2	1875.1	1885.3	1870.0	1862.3	1859.8	1829.2	1870.0
27.5°	1714.2	1765.2	1762.7	1749.9	1765.2	1744.8	1737.2	1739.7	1747.4	1744.8	1755.0
30°	1619.7	1627.3	1635.0	1624.8	1627.3	1619.7	1619.7	1622.2	1642.6	1635.0	1632.4
32.5°	1428.0	1453.6	1474.1	1474.1	1476.6	1484.3	1481.7	1535.3	1548.1	1522.6	1517.5
35°	1262.0	1279.9	1297.7	1300.3	1333.6	1336.1	1338.7	1354.0	1389.7	1397.4	1394.8
37.5°	1103.7	1121.5	1126.6	1149.6	1167.5	1185.3	1205.8	1226.3	1256.9	1282.4	1269.7
40°	963.1	970.7	983.5	993.8	1029.5	1029.5	1039.7	1080.6	1113.9	1134.3	1131.7
42.5°	845.6	848.1	858.3	876.3	909.5	901.8	909.5	937.6	986.1	988.7	1016.8
45°	763.9	761.3	769.0	771.5	792.0	802.2	807.3	827.7	868.6	873.7	876.3
47.5°	689.8	687.2	700.0	705.1	712.7	722.9	722.9	725.5	740.8	753.7	743.4
50°	628.4	628.4	628.4	633.5	646.4	643.8	646.4	656.6	664.2	659.1	656.6
52.5°	562.0	572.2	579.9	582.5	585.0	585.0	587.6	582.5	579.9	572.2	556.9
55°	516.0	526.3	526.3	526.3	526.3	536.5	523.8	526.3	526.3	505.8	485.4
57.5°	470.1	480.3	487.9	477.7	487.9	477.7	472.6	470.1	464.9	444.5	413.9
60°	431.8	436.9	434.3	431.8	436.9	429.2	424.1	413.9	408.8	380.6	360.2
62.5°	388.3	390.8	393.4	388.3	383.2	380.6	370.4	355.1	344.9	321.9	304.0
65°	352.5	344.9	342.3	339.8	334.7	327.0	319.4	301.5	293.8	273.3	255.4
67.5°	298.9	296.4	301.5	293.8	281.0	281.0	273.3	258.0	240.1	227.4	209.5
70°	255.4	252.9	247.8	240.1	237.6	227.4	227.4	209.5	204.4	181.4	166.0
72.5°	209.5	209.5	201.8	194.2	186.5	181.4	178.9	166.0	158.4	145.6	132.8
75°	158.4	158.4	155.8	148.1	143.0	137.9	135.4	125.2	117.5	104.8	97.1
77.5°	112.4	112.4	102.2	97.1	99.6	94.5	89.4	86.9	84.3	76.7	66.5
80°	66.5	63.9	56.2	58.8	56.2	56.2	53.6	51.0	45.9	40.8	35.7
82.5°	17.9	20.4	20.4	20.4	23.0	17.9	17.9	17.9	20.4	20.4	12.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6
87.5°	2.6	5.1	10.2	10.2	10.2	10.2	10.2	7.7	7.7	7.7	5.1
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: P#

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5
2.5°	2156.2	2153.6	2156.2	2138.2	2179.1	2148.5	2143.4	2138.2	2156.2	2138.2	2112.7
5°	2202.1	2176.6	2168.9	2161.3	2184.2	2148.5	2140.8	2143.4	2130.5	2097.4	2099.9
7.5°	2217.4	2194.5	2171.5	2122.9	2143.4	2135.7	2115.2	2099.9	2079.5	2051.4	2046.3
10°	2222.5	2197.0	2163.8	2148.5	2117.8	2107.6	2099.9	2074.4	2048.9	2000.3	1987.5
12.5°	2207.2	2176.6	2135.7	2122.9	2099.9	2066.7	2048.9	2023.2	2000.3	1962.0	1933.9
15°	2140.8	2115.2	2102.5	2059.1	2048.9	2028.4	1992.6	1956.9	1923.7	1872.5	1857.2
17.5°	2064.2	2054.0	2041.2	2007.9	2005.4	1985.0	1951.8	1921.1	1877.7	1798.5	1772.9
20°	1985.0	1985.0	1944.1	1931.4	1956.9	1916.0	1890.4	1862.3	1772.9	1734.6	1688.7
22.5°	1926.3	1898.1	1875.1	1854.7	1857.2	1831.7	1796.0	1739.7	1706.5	1660.5	1606.9
25°	1811.3	1821.5	1770.4	1762.7	1770.4	1711.6	1693.8	1647.7	1599.2	1555.7	1514.9
27.5°	1739.7	1711.6	1678.4	1650.3	1650.3	1627.3	1576.3	1566.1	1491.9	1451.1	1399.9
30°	1632.4	1612.0	1583.9	1543.0	1537.9	1520.0	1479.2	1453.6	1377.0	1315.6	1287.5
32.5°	1497.0	1489.4	1466.4	1420.4	1405.1	1384.6	1333.6	1290.1	1254.4	1185.3	1152.2
35°	1399.9	1371.9	1323.3	1285.0	1272.2	1236.5	1195.5	1164.9	1126.6	1065.3	1021.9
37.5°	1254.4	1226.3	1180.2	1134.3	1134.3	1098.5	1042.3	1011.7	958.0	922.2	886.5
40°	1126.6	1090.8	1044.9	991.3	983.5	932.4	909.5	858.3	825.1	769.0	763.9
42.5°	983.5	950.3	909.5	868.6	837.9	812.4	753.7	715.3	679.6	651.5	643.8
45°	853.2	809.8	774.1	722.9	692.3	661.7	623.3	597.8	569.7	539.1	521.2
47.5°	740.8	705.1	654.0	608.0	577.4	562.0	518.5	490.5	467.5	447.1	434.3
50°	625.9	582.5	554.4	503.2	498.1	462.4	426.7	403.6	390.8	373.0	355.1
52.5°	539.1	498.1	459.8	421.6	401.0	388.3	355.1	332.1	314.3	301.5	291.3
55°	454.7	419.0	388.3	350.0	337.2	319.4	281.0	275.9	258.0	240.1	227.4
57.5°	390.8	357.6	321.9	296.4	273.3	260.6	229.9	209.5	199.3	184.0	171.1
60°	332.1	296.4	268.2	237.6	227.4	209.5	186.5	168.6	155.8	143.0	130.3
62.5°	278.4	247.8	217.2	191.6	176.3	166.0	148.1	132.8	120.1	109.9	99.6
65°	229.9	201.8	176.3	150.7	143.0	130.3	117.5	104.8	94.5	81.8	71.6
67.5°	189.1	163.5	137.9	120.1	112.4	107.3	92.0	79.2	71.6	63.9	53.6
70°	148.1	130.3	109.9	94.5	86.9	79.2	69.0	61.4	51.0	45.9	38.3
72.5°	115.0	99.6	81.8	69.0	63.9	58.8	48.5	40.8	35.7	30.6	25.5
75°	81.8	69.0	58.8	45.9	43.4	40.8	33.2	28.1	23.0	17.9	15.3
77.5°	56.2	45.9	35.7	30.6	28.1	23.0	20.4	15.3	12.8	10.2	7.7
80°	30.6	23.0	17.9	15.3	12.8	10.2	10.2	7.7	5.1	5.1	2.6
82.5°	10.2	7.7	5.1	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	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: P#

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5
2.5°	2128.0	2099.9	2107.6	2107.6	2102.5	2102.5	2097.4	2089.7	2092.3	2076.9	2043.8
5°	2105.0	2069.3	2064.2	2069.3	2048.9	2043.8	2033.6	2048.9	2002.8	2020.7	2000.3
7.5°	2038.7	2005.4	1997.7	2015.6	1990.1	1974.7	1972.2	1992.6	1951.8	1931.4	1908.3
10°	1964.5	1951.8	1928.8	1916.0	1908.3	1910.9	1890.4	1864.9	1857.2	1852.1	1831.7
12.5°	1898.1	1870.0	1849.6	1834.3	1829.2	1829.2	1796.0	1790.8	1767.8	1762.7	1732.1
15°	1818.9	1785.7	1772.9	1752.5	1734.6	1744.8	1706.5	1696.3	1688.7	1655.4	1660.5
17.5°	1749.9	1714.2	1683.6	1670.7	1655.4	1640.1	1604.3	1612.0	1594.1	1594.1	1548.1
20°	1660.5	1622.2	1599.2	1573.7	1573.7	1553.2	1527.7	1530.2	1507.2	1484.3	1443.3
22.5°	1566.1	1525.1	1497.0	1486.8	1461.3	1456.2	1425.5	1417.8	1387.2	1389.7	1354.0
25°	1466.4	1425.5	1387.2	1389.7	1366.8	1356.6	1338.7	1302.9	1290.1	1274.8	1264.6
27.5°	1348.9	1320.7	1287.5	1285.0	1241.6	1244.1	1221.2	1210.9	1180.2	1187.9	1164.9
30°	1241.6	1200.7	1170.0	1162.4	1144.5	1139.4	1103.7	1088.2	1093.4	1072.9	1060.2
32.5°	1131.7	1070.4	1057.6	1042.3	1032.1	1019.3	993.8	1004.0	980.9	986.1	965.6
35°	986.1	960.5	927.3	927.3	917.1	906.9	889.1	899.3	876.3	866.0	845.6
37.5°	863.4	840.5	807.3	817.5	799.6	784.3	769.0	771.5	751.0	748.5	728.0
40°	730.6	717.8	694.9	694.9	682.1	682.1	674.4	666.8	654.0	638.7	615.6
42.5°	605.4	595.2	585.0	587.6	569.7	585.0	564.6	577.4	536.5	534.0	518.5
45°	513.4	490.5	493.0	482.8	472.6	477.7	459.8	464.9	442.0	436.9	421.6
47.5°	416.5	408.8	393.4	388.3	388.3	380.6	373.0	370.4	360.2	347.4	327.0
50°	342.3	314.3	309.1	301.5	296.4	296.4	286.1	270.8	273.3	260.6	240.1
52.5°	268.2	245.2	235.0	232.5	222.3	217.2	204.4	194.2	186.5	181.4	168.6
55°	206.9	186.5	173.8	173.8	158.4	158.4	140.5	132.8	122.6	112.4	104.8
57.5°	155.8	145.6	132.8	122.6	117.5	104.8	94.5	81.8	74.1	58.8	48.5
60°	117.5	107.3	94.5	86.9	81.8	69.0	56.2	45.9	28.1	23.0	20.4
62.5°	86.9	76.7	63.9	58.8	53.6	43.4	30.6	15.3	7.7	7.7	7.7
65°	63.9	51.0	40.8	35.7	30.6	23.0	10.2	5.1	2.6	2.6	2.6
67.5°	43.4	33.2	23.0	20.4	15.3	7.7	2.6	2.6	2.6	2.6	2.6
70°	28.1	20.4	10.2	7.7	5.1	2.6	2.6	2.6	2.6	2.6	2.6
72.5°	17.9	10.2	5.1	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	10.2	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.1	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6
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: P#

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5	2130.5
2.5°	2079.5	2061.6	2071.8	2048.9	2059.1	2076.9	2064.2	2069.3
5°	2007.9	1997.7	1985.0	1951.8	1977.3	1997.7	1987.5	1985.0
7.5°	1931.4	1895.5	1913.5	1903.2	1898.1	1918.6	1895.5	1921.1
10°	1852.1	1826.6	1824.1	1806.2	1806.2	1821.5	1824.1	1808.7
12.5°	1734.6	1721.9	1721.9	1719.3	1716.7	1732.1	1734.6	1727.0
15°	1650.3	1645.2	1632.4	1629.9	1614.6	1637.5	1640.1	1637.5
17.5°	1548.1	1550.6	1537.9	1537.9	1548.1	1555.7	1535.3	1555.7
20°	1479.2	1466.4	1461.3	1438.2	1451.1	1463.9	1463.9	1466.4
22.5°	1379.5	1359.1	1366.8	1354.0	1346.3	1364.2	1364.2	1371.9
25°	1267.1	1267.1	1272.2	1264.6	1269.7	1279.9	1272.2	1290.1
27.5°	1159.8	1170.0	1170.0	1159.8	1164.9	1195.5	1208.3	1187.9
30°	1060.2	1062.7	1070.4	1065.3	1080.6	1090.8	1088.2	1103.7
32.5°	947.8	960.5	965.6	958.0	963.1	986.1	973.3	970.7
35°	860.9	837.9	835.4	837.9	848.1	853.2	848.1	866.0
37.5°	735.7	728.0	717.8	720.4	728.0	738.3	743.4	756.2
40°	615.6	605.4	605.4	602.9	595.2	623.3	623.3	623.3
42.5°	510.9	508.3	495.6	495.6	505.8	513.4	508.3	526.3
45°	419.0	408.8	401.0	401.0	408.8	408.8	416.5	413.9
47.5°	329.6	319.4	321.9	314.3	321.9	332.1	319.4	321.9
50°	247.8	247.8	242.7	247.8	245.2	247.8	242.7	237.6
52.5°	168.6	191.6	194.2	184.0	160.9	140.5	127.7	137.9
55°	97.1	86.9	86.9	84.3	79.2	76.7	69.0	76.7
57.5°	48.5	43.4	43.4	43.4	40.8	38.3	33.2	33.2
60°	20.4	17.9	17.9	15.3	12.8	10.2	7.7	10.2
62.5°	7.7	5.1	5.1	5.1	5.1	5.1	5.1	5.1
65°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
67.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
70°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	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



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)