

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: P880581

Luminaire Tested: **LD4C45D010 EU4459050 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: P880581
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 EU4459050 4LBDWNH
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

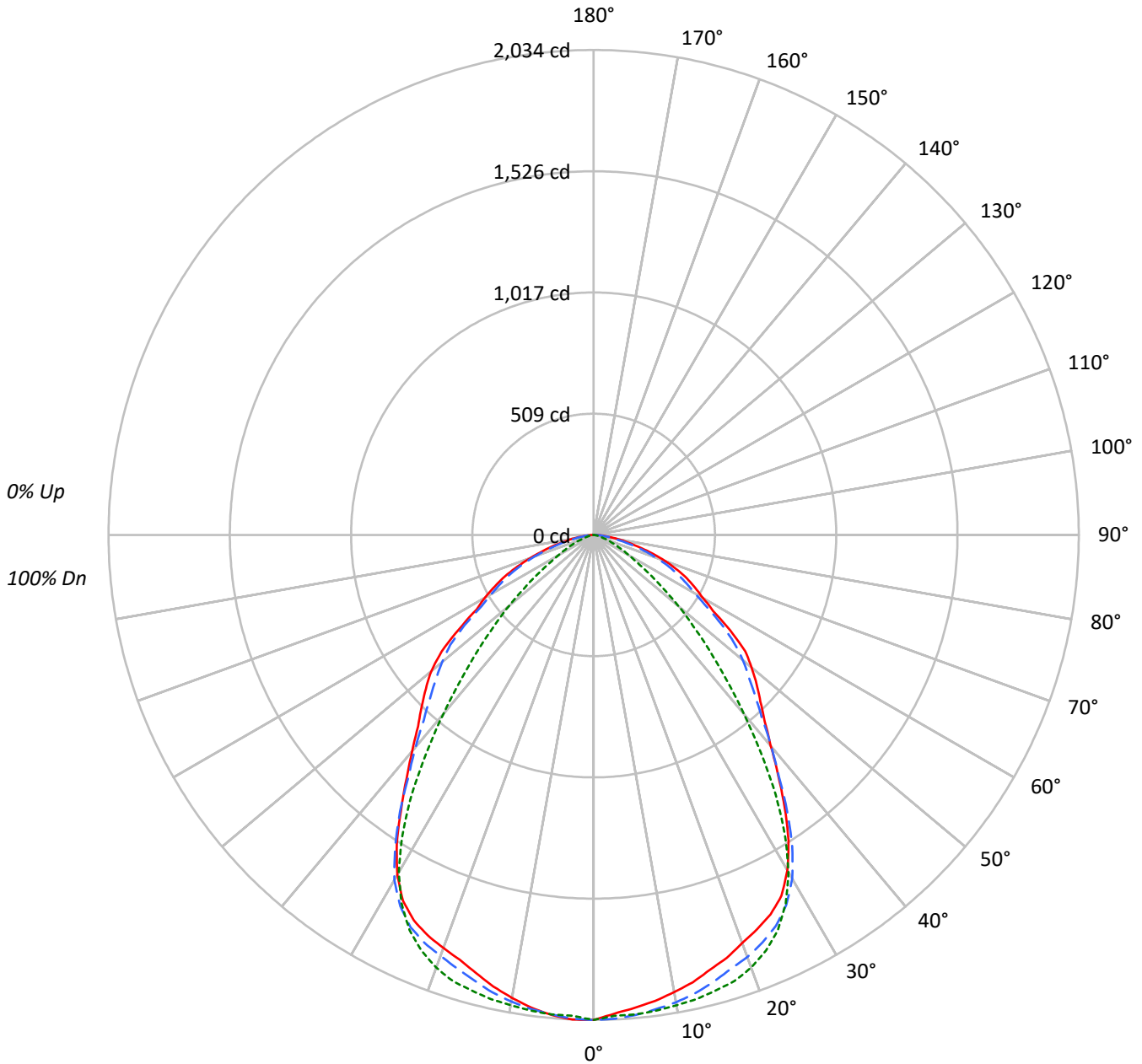
Lumens per Lamp: N/A
Luminaire Lumens: 4140.0 lumens
Efficiency: N/A
Efficacy: 83.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P880581

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWNH

Luminous Intensity Polar Plot





TEST NUMBER: P880581

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWNH

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°	249909	249909	249909
5°	245474	248939	249322
10°	242836	249872	245955
15°	240028	251551	241999
20°	238113	252455	240989
25°	237992	247752	241801
30°	230407	231755	233528
35°	209337	199499	211212
40°	185200	157086	189706
45°	171813	119621	177268
50°	165095	88549	169873
55°	149482	61022	147469
60°	129954	41524	129193
65°	125552	30058	119185
70°	113507	20259	101151
75°	93557	13338	80219
80°	75276	8844	59782
85°	61881	4370	39609



TEST NUMBER: P880581

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWNH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.0	4.6
10°-20°	549.0	13.3
20°-30°	829.5	20.0
30°-40°	868.1	21.0
40°-50°	703.1	17.0
50°-60°	511.4	12.4
60°-70°	315.4	7.6
70°-80°	142.5	3.4
80°-90°	29.0	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°	1570.6	37.9
0°-40°	2438.7	58.9
0°-60°	3653.1	88.2
0°-90°	4140.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4140.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2034	2034	2034	2034	2034	
5°	1990	2022	2019	2019	2022	189
15°	1887	1940	1978	1934	1903	533
25°	1756	1809	1828	1815	1784	805
35°	1396	1415	1330	1415	1408	870
45°	989	958	688	970	1020	769
55°	698	654	285	660	688	623
65°	432	388	103	382	410	423
75°	197	169	28	147	169	214
85°	44	34	3	25	28	50
90°	0	0	0	0	0	



TEST NUMBER: P880581

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWNH

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2
2.5°	2009.2	2009.2	2028.0	2049.8	2031.1	2012.3	2024.8	2018.6	2040.6	2040.6	2031.1
5°	1990.5	1996.7	2012.3	2031.1	2015.5	1996.7	2012.3	2006.1	2028.0	2028.0	2021.7
7.5°	1971.6	1974.7	1993.6	2015.5	1999.7	1981.1	1993.6	1990.5	2009.2	2012.3	2006.1
10°	1946.6	1949.7	1968.6	1990.5	1974.7	1959.1	1971.6	1968.6	1993.6	1993.6	1990.5
12.5°	1921.6	1924.7	1943.5	1962.2	1946.6	1931.0	1943.5	1943.5	1968.6	1971.6	1968.6
15°	1887.2	1893.3	1909.1	1927.8	1918.5	1899.7	1912.2	1912.2	1934.1	1940.3	1940.3
17.5°	1859.1	1862.1	1877.7	1896.6	1884.1	1868.3	1880.8	1880.8	1902.7	1909.1	1909.1
20°	1821.3	1827.7	1843.3	1862.1	1852.7	1840.2	1849.6	1849.6	1874.6	1880.8	1884.1
22.5°	1790.2	1796.3	1808.8	1834.0	1818.3	1808.8	1821.3	1818.3	1846.5	1849.6	1849.6
25°	1755.7	1762.0	1777.6	1793.2	1783.8	1774.6	1783.8	1783.8	1805.7	1808.8	1808.8
27.5°	1705.7	1708.7	1724.3	1740.1	1730.7	1718.2	1730.7	1727.6	1749.3	1752.6	1749.3
30°	1624.2	1630.6	1636.8	1658.7	1649.3	1639.8	1652.3	1646.2	1668.1	1668.1	1664.9
32.5°	1520.9	1520.9	1533.6	1549.2	1536.7	1530.3	1539.7	1542.8	1558.6	1558.6	1549.2
35°	1395.8	1402.1	1411.4	1420.8	1411.4	1405.2	1414.6	1411.4	1430.2	1423.9	1414.6
37.5°	1270.7	1273.8	1283.2	1295.7	1283.2	1273.8	1276.8	1273.8	1289.3	1289.3	1273.8
40°	1154.8	1161.2	1167.3	1179.8	1167.3	1161.2	1164.2	1154.8	1173.7	1167.3	1157.9
42.5°	1060.9	1064.0	1073.4	1079.7	1067.2	1064.0	1067.2	1060.9	1070.3	1064.0	1045.3
45°	988.9	988.9	992.2	1001.4	988.9	985.8	985.8	979.5	988.9	976.4	957.7
47.5°	926.4	929.4	932.7	938.9	929.4	920.2	923.3	910.8	916.9	907.5	882.5
50°	863.8	870.0	873.2	879.4	870.0	863.8	866.9	854.4	854.4	838.8	816.8
52.5°	801.2	804.3	801.2	807.4	801.2	791.8	794.9	782.4	782.4	763.7	741.8
55°	697.9	701.0	704.2	710.4	704.2	694.8	701.0	691.7	691.7	679.0	654.0
57.5°	594.5	597.8	600.9	604.0	604.0	597.8	600.9	594.5	591.5	582.0	563.4
60°	528.9	528.9	528.9	532.0	528.9	525.8	525.8	519.5	519.5	507.0	488.3
62.5°	478.9	481.9	481.9	485.0	481.9	478.9	475.8	469.4	466.4	453.8	438.1
65°	431.9	431.9	428.8	435.0	431.9	428.8	428.8	422.5	416.3	403.8	388.0
67.5°	375.5	378.6	375.5	378.6	378.6	375.5	372.4	366.1	363.0	353.6	334.9
70°	316.0	316.0	316.0	319.3	316.0	316.0	319.3	309.9	306.8	294.1	278.5
72.5°	256.6	259.8	259.8	256.6	259.8	253.5	253.5	253.5	250.4	237.9	222.1
75°	197.1	200.4	200.4	203.4	200.4	197.1	197.1	194.0	190.9	181.5	169.0
77.5°	147.0	147.0	150.1	150.1	150.1	147.0	147.0	140.9	140.9	134.5	122.0
80°	106.4	106.4	103.4	106.4	106.4	103.4	103.4	100.1	100.1	93.9	84.5
82.5°	68.9	72.0	72.0	72.0	72.0	68.9	68.9	68.9	65.6	62.6	56.4
85°	43.9	43.9	43.9	43.9	47.0	43.9	47.0	43.9	43.9	37.5	34.5
87.5°	18.9	18.9	18.9	21.9	21.9	18.9	18.9	18.9	18.9	18.9	15.6
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: P880581

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWNH

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2
2.5°	2031.1	2034.2	2024.8	2037.3	2028.0	2031.1	2034.2	2031.1	2018.6	2018.6	2053.1
5°	2018.6	2024.8	2015.5	2031.1	2024.8	2024.8	2031.1	2028.0	2015.5	2018.6	2049.8
7.5°	2006.1	2015.5	2009.2	2024.8	2015.5	2015.5	2021.7	2021.7	2009.2	2012.3	2040.6
10°	1987.2	1999.7	1996.7	2012.3	2003.0	2003.0	2012.3	2012.3	1999.7	2003.0	2031.1
12.5°	1971.6	1984.2	1981.1	1996.7	1990.5	1993.6	1996.7	2003.0	1987.2	1993.6	2018.6
15°	1946.6	1959.1	1959.1	1974.7	1968.6	1974.7	1981.1	1990.5	1977.8	1977.8	2003.0
17.5°	1918.5	1934.1	1934.1	1946.6	1946.6	1949.7	1962.2	1971.6	1959.1	1962.2	1984.2
20°	1887.2	1906.0	1906.0	1921.6	1918.5	1924.7	1934.1	1943.5	1931.0	1931.0	1956.1
22.5°	1855.8	1871.6	1874.6	1884.1	1884.1	1887.2	1896.6	1902.7	1887.2	1887.2	1912.2
25°	1812.1	1827.7	1830.8	1837.1	1830.8	1830.8	1837.1	1843.3	1827.7	1827.7	1849.6
27.5°	1752.6	1768.2	1768.2	1765.1	1758.8	1762.0	1758.8	1762.0	1746.3	1743.2	1765.1
30°	1664.9	1674.3	1674.3	1671.2	1661.8	1661.8	1652.3	1655.6	1633.7	1633.7	1652.3
32.5°	1546.1	1555.3	1549.2	1542.8	1530.3	1524.2	1517.8	1514.7	1492.8	1492.8	1514.7
35°	1405.2	1411.4	1402.1	1389.6	1373.8	1364.4	1355.2	1342.7	1326.9	1330.2	1342.7
37.5°	1261.2	1261.2	1248.7	1223.7	1211.2	1195.4	1179.8	1179.8	1154.8	1151.7	1161.2
40°	1139.2	1126.7	1104.8	1070.3	1048.4	1032.8	1010.8	998.3	979.5	979.5	995.3
42.5°	1029.7	1004.7	976.4	929.4	907.5	888.8	860.7	848.2	826.3	823.0	832.4
45°	932.7	907.5	866.9	816.8	788.7	766.8	726.0	710.4	691.7	688.5	694.8
47.5°	854.4	826.3	776.2	710.4	682.3	654.0	613.4	591.5	575.9	566.4	575.9
50°	785.5	747.9	694.8	625.9	588.4	563.4	513.3	491.4	469.4	463.3	466.4
52.5°	710.4	672.9	616.5	544.5	510.0	472.5	425.5	394.4	375.5	366.1	375.5
55°	629.0	591.5	535.3	463.3	425.5	391.3	341.1	316.0	294.1	284.9	294.1
57.5°	541.4	507.0	456.9	384.9	350.5	319.3	272.3	247.3	225.4	219.0	225.4
60°	466.4	438.1	388.0	319.3	291.0	256.6	215.9	190.9	172.1	169.0	172.1
62.5°	416.3	384.9	338.0	272.3	244.1	215.9	178.4	153.4	137.6	134.5	137.6
65°	366.1	331.8	287.9	231.5	203.4	181.5	144.0	122.0	106.4	103.4	106.4
67.5°	309.9	278.5	241.0	190.9	169.0	147.0	115.9	93.9	81.4	78.3	81.4
70°	256.6	228.5	190.9	153.4	131.5	115.9	87.6	72.0	59.5	56.4	59.5
72.5°	203.4	178.4	147.0	115.9	103.4	87.6	68.9	53.1	43.9	40.6	43.9
75°	156.5	137.6	112.6	84.5	75.1	65.6	47.0	37.5	31.4	28.1	31.4
77.5°	109.5	97.0	78.3	62.6	53.1	47.0	34.5	25.0	21.9	18.9	21.9
80°	75.1	65.6	53.1	40.6	34.5	28.1	21.9	15.6	12.5	12.5	12.5
82.5°	50.0	40.6	31.4	25.0	21.9	18.9	12.5	9.4	9.4	6.4	6.4
85°	28.1	25.0	18.9	15.6	12.5	9.4	6.4	6.4	3.1	3.1	3.1
87.5°	12.5	9.4	6.4	6.4	3.1	3.1	3.1	3.1	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: P880581

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWNH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2
2.5°	2043.6	2034.2	2046.7	2034.2	2028.0	2034.2	2028.0	2046.7	2031.1	2018.6	2031.1
5°	2040.6	2028.0	2040.6	2031.1	2021.7	2024.8	2018.6	2037.3	2018.6	2009.2	2015.5
7.5°	2034.2	2024.8	2031.1	2021.7	2012.3	2015.5	2009.2	2024.8	2006.1	1996.7	2003.0
10°	2024.8	2015.5	2018.6	2012.3	2003.0	2003.0	1996.7	2009.2	1987.2	1974.7	1981.1
12.5°	2012.3	1999.7	2006.1	1996.7	1984.2	1984.2	1977.8	1987.2	1965.3	1952.8	1956.1
15°	1996.7	1984.2	1984.2	1974.7	1962.2	1962.2	1949.7	1959.1	1934.1	1921.6	1921.6
17.5°	1977.8	1962.2	1962.2	1952.8	1937.2	1934.1	1924.7	1934.1	1906.0	1893.3	1893.3
20°	1949.7	1937.2	1934.1	1927.8	1912.2	1909.1	1896.6	1899.7	1877.7	1868.3	1865.2
22.5°	1912.2	1899.7	1902.7	1893.3	1880.8	1877.7	1865.2	1874.6	1852.7	1843.3	1846.5
25°	1846.5	1840.2	1846.5	1843.3	1834.0	1834.0	1827.7	1834.0	1815.2	1808.8	1812.1
27.5°	1771.3	1768.2	1771.3	1771.3	1765.1	1765.1	1765.1	1774.6	1755.7	1752.6	1752.6
30°	1661.8	1661.8	1664.9	1668.1	1668.1	1674.3	1671.2	1683.7	1671.2	1664.9	1671.2
32.5°	1517.8	1530.3	1539.7	1539.7	1539.7	1546.1	1552.3	1561.7	1549.2	1552.3	1552.3
35°	1355.2	1364.4	1370.8	1386.4	1377.1	1398.9	1405.2	1417.7	1414.6	1420.8	1417.7
37.5°	1173.7	1186.2	1198.7	1220.6	1217.4	1242.4	1254.9	1279.9	1273.8	1286.3	1292.4
40°	1004.7	1023.4	1042.2	1057.8	1070.3	1095.3	1120.4	1151.7	1161.2	1170.4	1173.7
42.5°	841.9	860.7	891.9	913.8	932.7	973.3	1007.8	1045.3	1054.7	1073.4	1079.7
45°	710.4	726.0	763.7	791.8	807.4	866.9	907.5	954.5	970.2	992.2	1001.4
47.5°	588.4	616.5	654.0	688.5	710.4	773.0	826.3	876.3	898.3	923.3	935.8
50°	481.9	513.3	563.4	594.5	625.9	694.8	754.3	807.4	829.3	857.4	870.0
52.5°	394.4	428.8	475.8	510.0	544.5	616.5	679.0	729.3	757.4	776.2	794.9
55°	309.9	347.4	394.4	431.9	460.0	538.3	591.5	641.5	660.4	675.9	685.4
57.5°	241.0	269.1	316.0	347.4	381.9	450.6	503.9	541.4	557.0	575.9	582.0
60°	187.8	215.9	259.8	291.0	322.4	388.0	441.3	478.9	494.5	510.0	519.5
62.5°	150.1	178.4	219.0	247.3	275.4	334.9	381.9	419.4	438.1	453.8	463.3
65°	118.9	144.0	178.4	206.5	228.5	281.6	328.5	363.0	381.9	397.4	406.9
67.5°	93.9	115.9	147.0	165.9	187.8	231.5	272.3	303.5	319.3	338.0	347.4
70°	72.0	87.6	115.9	131.5	147.0	184.6	215.9	247.3	262.9	275.4	281.6
72.5°	53.1	65.6	87.6	100.1	109.5	140.9	165.9	187.8	200.4	212.9	219.0
75°	37.5	47.0	62.6	72.0	78.3	100.1	122.0	137.6	147.0	156.5	165.9
77.5°	25.0	31.4	40.6	47.0	53.1	68.9	81.4	93.9	103.4	112.6	115.9
80°	15.6	21.9	28.1	31.4	34.5	43.9	56.4	62.6	68.9	75.1	78.3
82.5°	9.4	12.5	15.6	18.9	21.9	28.1	34.5	40.6	43.9	50.0	53.1
85°	3.1	6.4	6.4	9.4	9.4	15.6	18.9	21.9	25.0	28.1	31.4
87.5°	0.0	0.0	3.1	3.1	3.1	3.1	6.4	6.4	6.4	6.4	6.4
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: P880581

CATALOG NUMBER: LD4C45D010 EU4459050 4LBDWNH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2	2034.2
2.5°	2043.6	2034.2	2028.0	2024.8	2046.7	2018.6	2031.1	2034.2
5°	2031.1	2021.7	2015.5	2012.3	2031.1	2006.1	2015.5	2021.7
7.5°	2012.3	2006.1	1996.7	1993.6	2012.3	1984.2	1996.7	1999.7
10°	1990.5	1981.1	1974.7	1971.6	1987.2	1959.1	1971.6	1971.6
12.5°	1962.2	1956.1	1943.5	1943.5	1956.1	1931.0	1940.3	1940.3
15°	1924.7	1918.5	1906.0	1906.0	1918.5	1893.3	1902.7	1902.7
17.5°	1893.3	1887.2	1877.7	1874.6	1887.2	1862.1	1871.6	1868.3
20°	1868.3	1862.1	1849.6	1849.6	1859.1	1834.0	1843.3	1843.3
22.5°	1846.5	1843.3	1830.8	1830.8	1843.3	1818.3	1824.6	1818.3
25°	1812.1	1808.8	1796.3	1799.6	1805.7	1780.7	1790.2	1783.8
27.5°	1755.7	1755.7	1743.2	1740.1	1749.3	1727.6	1733.8	1730.7
30°	1668.1	1671.2	1655.6	1655.6	1658.7	1639.8	1649.3	1646.2
32.5°	1549.2	1552.3	1539.7	1536.7	1546.1	1530.3	1536.7	1536.7
35°	1417.7	1420.8	1411.4	1411.4	1420.8	1411.4	1411.4	1408.3
37.5°	1286.3	1292.4	1286.3	1289.3	1295.7	1286.3	1292.4	1289.3
40°	1179.8	1186.2	1176.8	1182.9	1189.3	1179.8	1189.3	1182.9
42.5°	1082.8	1092.3	1085.9	1092.3	1098.4	1092.3	1098.4	1089.2
45°	1010.8	1017.2	1013.9	1017.2	1023.4	1020.3	1023.4	1020.3
47.5°	941.9	954.5	948.3	954.5	963.9	957.7	963.9	954.5
50°	879.4	888.8	885.7	891.9	895.0	891.9	898.3	888.8
52.5°	798.0	807.4	804.3	804.3	810.5	804.3	810.5	804.3
55°	691.7	694.8	694.8	697.9	694.8	691.7	694.8	688.5
57.5°	588.4	594.5	585.3	594.5	591.5	588.4	588.4	582.0
60°	522.6	532.0	525.8	532.0	528.9	528.9	528.9	525.8
62.5°	469.4	475.8	469.4	472.5	472.5	472.5	469.4	466.4
65°	410.0	419.4	413.0	416.3	413.0	410.0	413.0	410.0
67.5°	350.5	353.6	353.6	350.5	350.5	350.5	350.5	344.3
70°	284.9	287.9	284.9	291.0	287.9	284.9	287.9	281.6
72.5°	222.1	225.4	222.1	225.4	222.1	222.1	222.1	222.1
75°	165.9	169.0	169.0	169.0	169.0	169.0	162.8	169.0
77.5°	118.9	118.9	118.9	122.0	118.9	118.9	118.9	118.9
80°	81.4	81.4	81.4	84.5	81.4	84.5	81.4	84.5
82.5°	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
85°	28.1	31.4	31.4	28.1	28.1	28.1	28.1	28.1
87.5°	6.4	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)