

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: P858759

Luminaire Tested: **LD4C35W2N2765D010 4LBSWNL1_3500K**

Issue Date: 11/9/2023



Test Information

Test Method: LM-79-08
Report Number: P858759
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 11/9/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C35W2N2765D010 4LBSWNLI_3500K
Description: 4 INCH 3500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, W2N2765 LEDS
AND 4LBSWNLI TRIM WITH FINISH

Light Source: -
Ballast/Driver: -

Summary

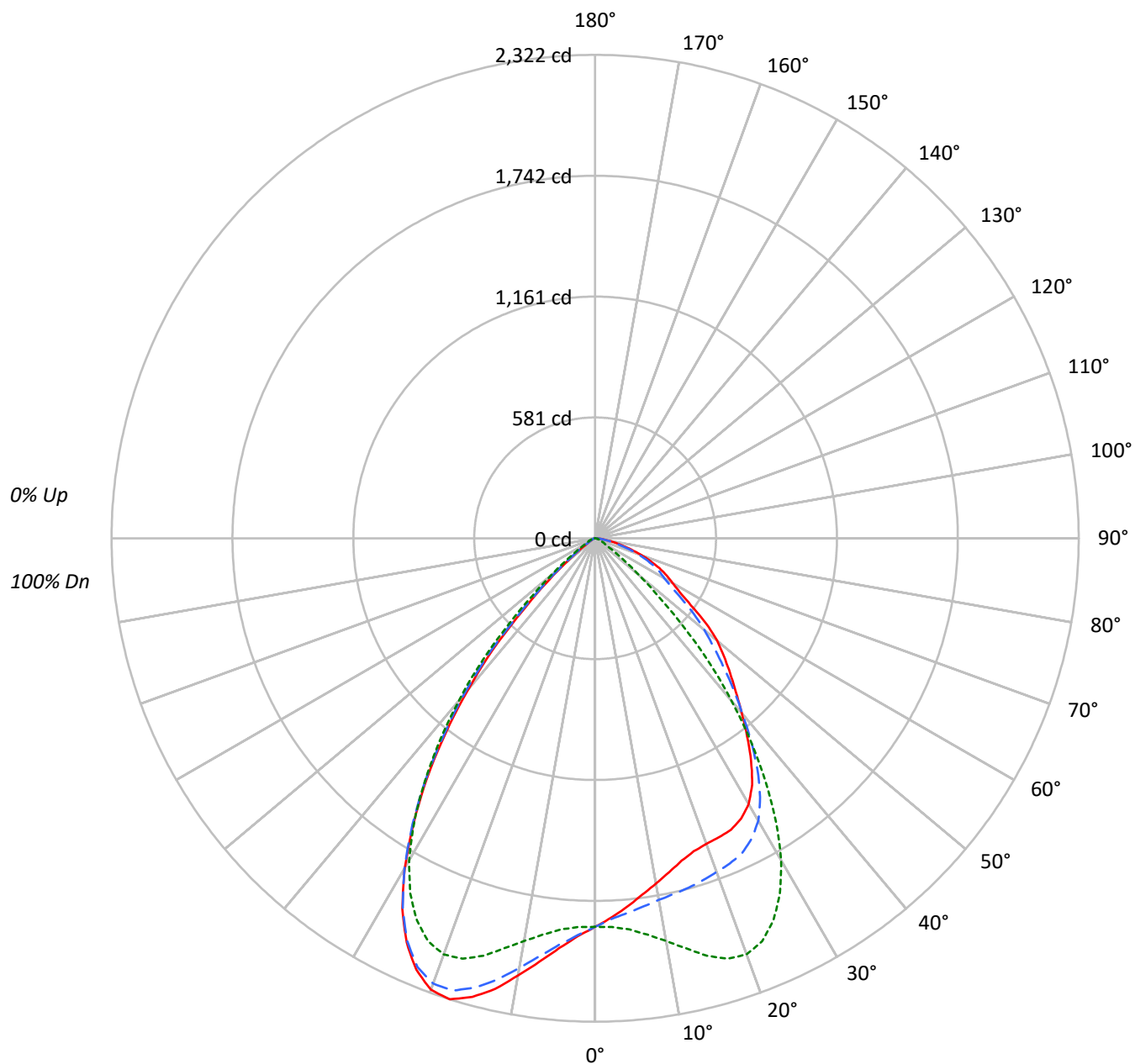
Lumens per Lamp: N/A
Luminaire Lumens: 3444.0 lumens
Efficiency: N/A
Efficacy: 65.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 52.8
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							
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						
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	85	82	80						
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72						
4	91	81	75	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	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53						
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48						
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44						
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40						
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37						

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	229281	229281	229281
5°	219034	232562	243673
10°	210014	244981	265952
15°	203907	264015	290051
20°	204173	278080	301652
25°	209376	274456	290302
30°	209100	253346	259219
35°	195854	214121	211197
40°	175433	163325	152387
45°	159164	103706	85081
50°	146231	52617	36314
55°	120031	23496	11995
60°	105359	13170	6585
65°	99156	9913	4971
70°	84879	7902	4382
75°	64745	5791	3465
80°	46553	3467	1769
85°	34253	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.3	5.3
10°-20°	565.0	16.4
20°-30°	874.1	25.4
30°-40°	861.2	25.0
40°-50°	528.8	15.4
50°-60°	235.1	6.8
60°-70°	131.3	3.8
70°-80°	56.8	1.7
80°-90°	10.2	0.3
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°	1620.4	47.0
0°-40°	2481.6	72.1
0°-60°	3245.6	94.2
0°-90°	3444.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3444.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1866	1866	1866	1866	1866	
5°	1776	1805	1886	1959	1976	167
15°	1603	1737	2076	2234	2280	455
25°	1545	1669	2025	2134	2142	709
35°	1306	1360	1428	1423	1408	811
45°	916	870	597	521	490	710
55°	560	507	110	63	56	515
65°	341	307	34	20	17	334
75°	136	117	12	7	7	150
85°	24	20	0	0	0	30
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°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1822.4	1822.4	1822.4	1822.4	1827.3	1820.0	1827.3	1827.3	1834.6	1837.0	1829.8
5°	1776.1	1773.7	1776.1	1776.1	1781.0	1778.6	1785.9	1790.7	1800.6	1805.4	1805.4
7.5°	1727.4	1727.4	1727.4	1732.3	1739.6	1737.2	1744.4	1751.8	1766.4	1776.1	1783.5
10°	1683.5	1681.1	1688.4	1690.9	1698.1	1698.1	1710.4	1717.7	1734.7	1754.3	1764.0
12.5°	1642.1	1639.7	1644.6	1651.9	1664.1	1664.1	1673.8	1686.0	1710.4	1732.3	1749.3
15°	1603.2	1605.6	1612.9	1617.8	1632.4	1632.4	1644.6	1659.2	1686.0	1712.8	1737.2
17.5°	1576.3	1578.8	1583.7	1590.9	1605.6	1605.6	1617.8	1634.8	1664.1	1693.3	1722.6
20°	1561.7	1564.2	1569.1	1576.3	1588.6	1590.9	1600.8	1620.2	1647.0	1678.7	1705.5
22.5°	1554.5	1559.3	1564.2	1569.1	1581.2	1581.2	1593.4	1608.0	1634.8	1666.5	1690.9
25°	1544.6	1549.5	1552.0	1559.3	1569.1	1569.1	1576.3	1593.4	1617.8	1644.6	1668.9
27.5°	1517.9	1522.8	1525.2	1532.5	1542.3	1539.8	1549.5	1561.7	1583.7	1608.0	1627.5
30°	1474.0	1476.5	1481.4	1483.7	1491.1	1491.1	1498.3	1510.6	1525.2	1547.1	1566.6
32.5°	1403.4	1408.2	1410.7	1413.1	1420.5	1418.0	1420.5	1427.7	1442.3	1461.9	1474.0
35°	1305.9	1315.6	1315.6	1320.5	1323.0	1320.5	1320.5	1330.3	1337.6	1352.2	1359.6
37.5°	1198.7	1206.1	1203.6	1208.5	1210.9	1203.6	1208.5	1210.9	1220.7	1227.9	1230.4
40°	1093.9	1096.4	1096.4	1096.4	1096.4	1093.9	1096.4	1098.8	1106.1	1106.1	1098.8
42.5°	998.9	1001.4	1001.4	996.4	1001.4	998.9	998.9	998.9	998.9	989.2	981.8
45°	916.1	918.6	918.6	916.1	916.1	911.2	908.8	906.3	899.0	886.9	869.8
47.5°	838.1	843.0	845.4	840.6	838.1	833.2	833.2	818.6	808.9	794.3	769.9
50°	765.1	769.9	769.9	765.1	765.1	757.7	750.5	745.5	730.9	713.9	684.6
52.5°	672.5	679.7	679.7	677.3	677.3	667.6	665.1	655.4	643.2	623.7	599.4
55°	560.4	570.1	567.7	565.3	560.4	560.4	560.4	553.1	545.7	531.1	506.8
57.5°	479.9	482.4	482.4	479.9	479.9	475.1	475.1	467.8	465.3	450.7	431.3
60°	428.8	428.8	431.3	428.8	426.4	423.9	421.5	416.7	409.3	399.6	385.0
62.5°	387.4	389.8	389.8	387.4	385.0	382.5	380.1	375.2	370.4	363.0	348.4
65°	341.1	345.9	343.5	341.1	338.7	336.2	336.2	331.3	326.5	321.6	307.0
67.5°	289.9	292.4	294.8	289.9	289.9	287.5	287.5	282.6	280.2	270.4	260.7
70°	236.3	238.7	238.7	236.3	236.3	233.9	233.9	231.5	229.0	221.7	212.0
72.5°	185.2	187.6	185.2	182.7	182.7	182.7	180.3	177.8	175.4	170.6	163.2
75°	136.4	136.4	138.9	136.4	134.0	134.0	131.5	131.5	126.7	124.3	116.9
77.5°	97.5	99.8	97.5	97.5	95.0	92.6	92.6	90.1	90.1	87.7	82.9
80°	65.8	65.8	68.2	65.8	63.4	65.8	63.4	60.9	60.9	58.5	53.6
82.5°	41.4	43.8	41.4	41.4	41.4	41.4	41.4	38.9	38.9	36.6	34.1
85°	24.3	24.3	24.3	24.3	24.3	24.3	24.3	22.0	22.0	22.0	19.5
87.5°	12.2	12.2	9.7	9.7	12.2	12.2	12.2	9.7	9.7	9.7	9.7
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°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1839.5	1841.9	1846.8	1854.1	1854.1	1849.2	1861.5	1861.5	1866.3	1868.7	1878.4
5°	1820.0	1824.9	1834.6	1846.8	1849.2	1846.8	1863.8	1871.2	1878.4	1885.8	1900.4
7.5°	1802.9	1812.7	1829.8	1846.8	1854.1	1854.1	1880.9	1890.7	1905.3	1919.9	1937.0
10°	1793.2	1807.8	1832.2	1859.0	1866.3	1873.6	1905.3	1924.7	1944.2	1963.8	1988.1
12.5°	1781.0	1807.8	1839.5	1873.6	1888.2	1897.9	1941.8	1966.2	1993.0	2017.3	2049.0
15°	1778.6	1810.3	1851.7	1895.5	1915.0	1929.6	1978.4	2012.5	2044.2	2075.8	2107.5
17.5°	1768.9	1807.8	1859.0	1907.8	1932.1	1951.6	2007.6	2049.0	2085.6	2117.3	2153.8
20°	1756.6	1800.6	1856.6	1910.1	1937.0	1956.4	2017.3	2056.4	2097.7	2127.0	2161.1
22.5°	1739.6	1783.5	1839.5	1893.1	1917.5	1934.5	1995.4	2029.6	2066.1	2095.3	2127.0
25°	1710.4	1751.8	1800.6	1844.4	1868.7	1883.3	1937.0	1968.7	1995.4	2024.7	2053.9
27.5°	1668.9	1700.6	1742.0	1773.7	1788.3	1802.9	1846.8	1873.6	1897.9	1922.4	1941.8
30°	1595.8	1620.2	1649.5	1676.3	1690.9	1693.3	1734.7	1749.3	1768.9	1785.9	1800.6
32.5°	1498.3	1517.9	1534.9	1549.5	1559.3	1561.7	1593.4	1598.3	1617.8	1617.8	1639.7
35°	1374.2	1383.9	1396.0	1396.0	1403.4	1396.0	1418.0	1422.8	1425.3	1427.7	1444.8
37.5°	1232.8	1237.7	1245.0	1230.4	1230.4	1223.1	1230.4	1235.3	1225.5	1225.5	1237.7
40°	1098.8	1089.0	1079.3	1064.7	1057.4	1042.7	1042.7	1030.6	1023.3	1018.4	1020.9
42.5°	969.7	947.8	925.8	894.1	879.5	864.9	850.3	833.2	828.4	816.2	808.9
45°	845.4	813.7	784.5	733.4	704.2	689.5	657.9	623.7	601.8	596.9	577.4
47.5°	740.6	694.3	645.7	584.8	555.5	528.7	482.4	453.2	423.9	409.3	397.1
50°	648.0	606.7	543.3	477.6	441.0	414.2	363.0	328.9	297.2	275.3	260.7
52.5°	567.7	521.4	463.0	387.4	350.9	321.6	265.6	226.6	199.8	177.8	160.8
55°	477.6	441.0	382.5	311.8	275.3	241.2	192.4	151.1	124.3	109.7	97.5
57.5°	411.8	380.1	324.1	255.8	221.7	190.0	141.3	107.2	85.2	70.6	63.4
60°	367.9	338.7	289.9	224.1	192.4	163.2	116.9	85.2	65.8	53.6	48.7
62.5°	331.3	302.1	258.3	197.3	170.6	141.3	99.8	70.6	53.6	43.8	36.6
65°	289.9	263.2	224.1	170.6	146.1	121.8	85.2	58.5	43.8	34.1	29.2
67.5°	246.1	221.7	187.6	141.3	121.8	102.3	68.2	48.7	36.6	29.2	24.3
70°	199.8	180.3	148.6	114.5	97.5	80.4	56.0	38.9	26.8	22.0	19.5
72.5°	153.5	136.4	114.5	87.7	73.1	60.9	41.4	29.2	22.0	17.1	14.6
75°	109.7	97.5	80.4	63.4	53.6	43.8	31.7	22.0	14.6	12.2	9.7
77.5°	75.5	68.2	56.0	43.8	36.6	31.7	22.0	14.6	12.2	9.7	7.3
80°	48.7	43.8	36.6	26.8	22.0	19.5	12.2	9.7	7.3	4.9	4.9
82.5°	29.2	26.8	22.0	14.6	12.2	9.7	7.3	4.9	4.9	2.5	2.5
85°	17.1	14.6	9.7	7.3	7.3	4.9	4.9	2.5	2.5	0.0	0.0
87.5°	7.3	4.9	4.9	2.5	2.5	2.5	2.5	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	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°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1873.6	1885.8	1883.3	1890.7	1888.2	1888.2	1900.4	1895.5	1907.8	1907.8	1910.1
5°	1900.4	1917.5	1917.5	1929.6	1927.2	1932.1	1944.2	1944.2	1958.9	1963.8	1963.8
7.5°	1939.3	1961.3	1966.2	1978.4	1980.8	1990.5	2000.3	2002.7	2022.2	2027.1	2029.6
10°	1993.0	2019.8	2027.1	2039.3	2044.2	2053.9	2066.1	2071.0	2095.3	2097.7	2107.5
12.5°	2058.8	2088.0	2095.3	2109.9	2112.4	2124.5	2141.6	2146.5	2170.8	2178.2	2185.4
15°	2122.1	2148.9	2161.1	2175.7	2178.2	2192.8	2207.4	2212.3	2234.2	2243.9	2251.3
17.5°	2166.0	2197.6	2205.0	2224.5	2224.5	2236.6	2251.3	2256.2	2278.0	2285.4	2290.2
20°	2175.7	2205.0	2214.7	2229.3	2231.7	2239.1	2251.3	2256.2	2275.6	2278.0	2285.4
22.5°	2139.1	2168.4	2173.3	2187.9	2190.3	2197.6	2207.4	2205.0	2229.3	2226.9	2229.3
25°	2061.2	2088.0	2088.0	2105.1	2102.7	2109.9	2114.8	2112.4	2134.3	2134.3	2134.3
27.5°	1949.1	1973.5	1975.9	1988.1	1980.8	1983.3	1988.1	1985.6	2000.3	2000.3	2000.3
30°	1810.3	1829.8	1822.4	1832.2	1827.3	1832.2	1827.3	1824.9	1829.8	1834.6	1832.2
32.5°	1637.2	1651.9	1651.9	1654.3	1654.3	1639.7	1634.8	1634.8	1632.4	1630.0	1630.0
35°	1437.4	1449.7	1444.8	1444.8	1442.3	1427.7	1420.5	1415.6	1422.8	1408.2	1418.0
37.5°	1232.8	1235.3	1227.9	1225.5	1213.3	1213.3	1201.2	1191.4	1196.2	1193.8	1184.1
40°	1008.7	1018.4	1003.8	998.9	1006.3	996.4	984.3	972.1	981.8	969.7	974.6
42.5°	789.4	786.9	782.1	782.1	782.1	767.5	765.1	762.6	765.1	755.3	748.0
45°	570.1	562.8	555.5	555.5	545.7	540.8	540.8	533.6	521.4	521.4	506.8
47.5°	385.0	367.9	363.0	360.6	355.8	355.8	350.9	345.9	343.5	331.3	331.3
50°	250.9	233.9	229.0	226.6	229.0	224.1	219.3	214.4	209.5	207.1	202.3
52.5°	151.1	143.8	138.9	136.4	131.5	129.1	126.7	121.8	119.4	119.4	116.9
55°	90.1	82.9	73.1	73.1	73.1	70.6	68.2	65.8	63.4	63.4	60.9
57.5°	56.0	51.2	46.3	43.8	43.8	43.8	41.4	41.4	41.4	41.4	38.9
60°	41.4	36.6	34.1	34.1	34.1	31.7	31.7	31.7	31.7	29.2	29.2
62.5°	31.7	29.2	26.8	26.8	24.3	24.3	24.3	24.3	24.3	24.3	22.0
65°	26.8	22.0	22.0	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
67.5°	19.5	17.1	17.1	17.1	17.1	14.6	14.6	14.6	14.6	14.6	14.6
70°	14.6	14.6	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
72.5°	12.2	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
75°	9.7	9.7	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
77.5°	7.3	7.3	7.3	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
80°	4.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	2.5	2.5	2.5	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	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: P858759

CATALOG NUMBER: LD4C35W2N2765D010 4LBSWNL1_3500K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1910.1	1922.4	1910.1	1910.1	1917.5	1915.0	1919.9	1912.6
5°	1966.2	1983.3	1971.0	1968.7	1980.8	1978.4	1980.8	1975.9
7.5°	2034.4	2051.5	2039.3	2039.3	2051.5	2049.0	2056.4	2051.5
10°	2112.4	2131.9	2114.8	2117.3	2134.3	2131.9	2131.9	2131.9
12.5°	2192.8	2212.3	2202.5	2202.5	2214.7	2217.1	2219.6	2217.1
15°	2258.5	2278.0	2265.9	2265.9	2282.9	2280.5	2282.9	2280.5
17.5°	2297.5	2317.1	2302.5	2302.5	2317.1	2317.1	2319.4	2321.9
20°	2287.8	2309.7	2297.5	2292.6	2309.7	2309.7	2307.3	2307.3
22.5°	2231.7	2251.3	2241.5	2236.6	2248.8	2243.9	2241.5	2243.9
25°	2134.3	2153.8	2134.3	2134.3	2144.0	2141.6	2144.0	2141.6
27.5°	2002.7	2017.3	1997.9	1995.4	2005.2	2000.3	1997.9	2005.2
30°	1827.3	1841.9	1832.2	1824.9	1837.0	1829.8	1824.9	1827.3
32.5°	1627.5	1637.2	1632.4	1620.2	1627.5	1622.6	1620.2	1622.6
35°	1408.2	1420.5	1401.0	1398.5	1410.7	1401.0	1396.0	1408.2
37.5°	1181.6	1196.2	1179.2	1181.6	1174.4	1176.8	1171.9	1179.2
40°	967.2	964.9	960.0	957.5	960.0	952.6	957.5	950.2
42.5°	735.8	740.6	738.2	735.8	738.2	728.5	723.6	733.4
45°	511.6	509.2	504.4	499.4	499.4	497.0	497.0	489.7
47.5°	328.9	326.5	316.7	319.2	324.1	319.2	311.8	321.6
50°	199.8	197.3	197.3	194.9	199.8	194.9	190.0	190.0
52.5°	112.1	112.1	109.7	109.7	109.7	109.7	107.2	104.8
55°	60.9	58.5	58.5	58.5	56.0	56.0	56.0	56.0
57.5°	38.9	38.9	38.9	38.9	38.9	38.9	36.6	36.6
60°	29.2	29.2	29.2	29.2	26.8	29.2	26.8	26.8
62.5°	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
65°	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
67.5°	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
70°	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
72.5°	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
75°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
77.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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)