

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: P858634

Luminaire Tested: **LD4C30W2N2050D010 4LBSWNL1_3500K**

Issue Date: 11/9/2023



Test Information

Test Method: LM-79-08
Report Number: P858634
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: LD4C30W2N2050D010 4LBSWNLI_3500K
Description: 4 INCH 3000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, W2N2050 LEDS
AND 4LBSWNLI TRIM WITH FINISH

Light Source: -
Ballast/Driver: -

Summary

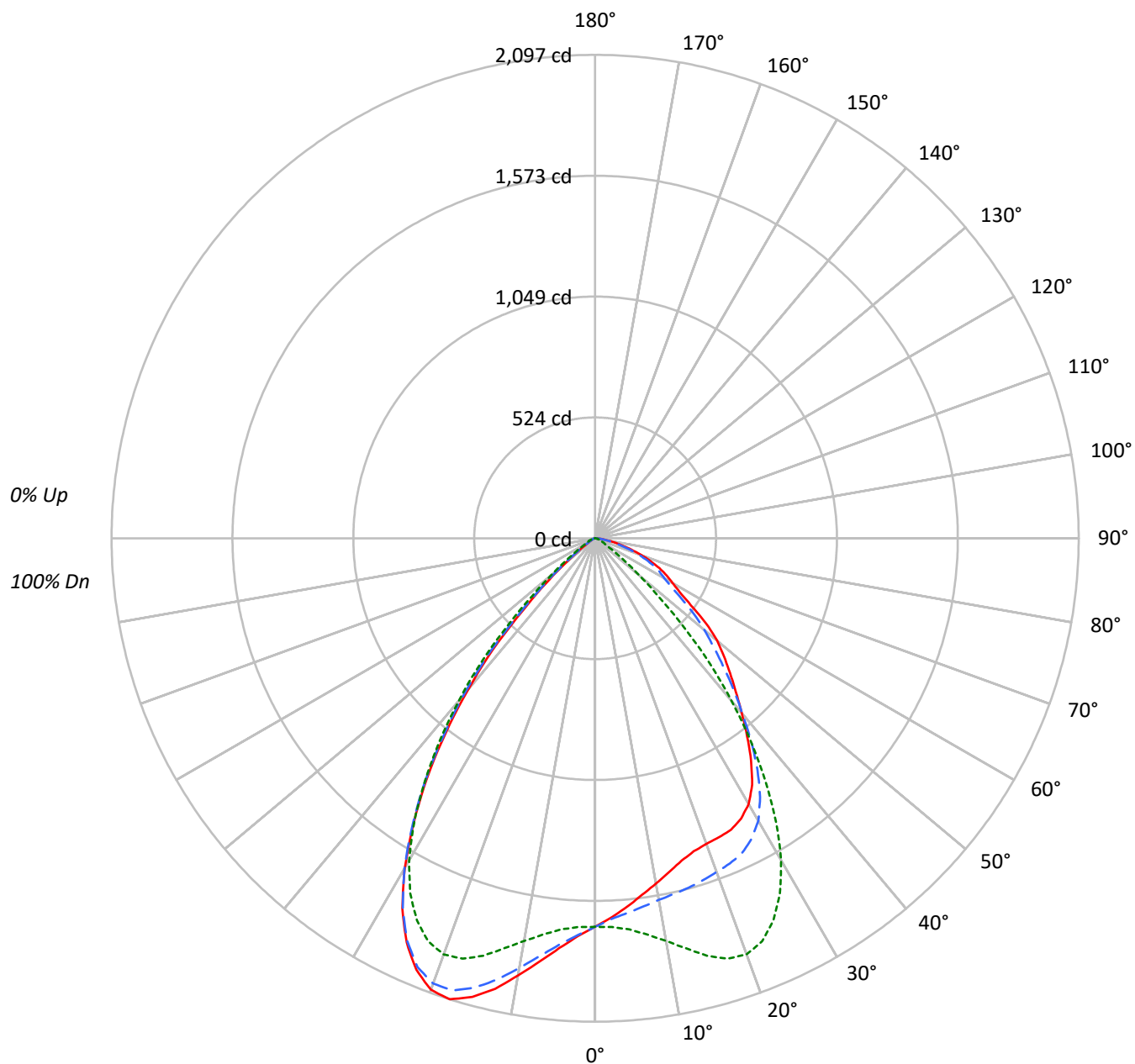
Lumens per Lamp: N/A
Luminaire Lumens: 3110.0 lumens
Efficiency: N/A
Efficacy: 78.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.6
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
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	207045	207045	207045
5°	197797	210006	220045
10°	189655	221217	240154
15°	184129	238413	261917
20°	184380	251108	272406
25°	189070	247833	262148
30°	188828	228776	234081
35°	176867	193365	190725
40°	158417	147480	137617
45°	143719	93646	76828
50°	132049	47514	32797
55°	108401	21205	10838
60°	95138	11892	5946
65°	89534	8953	4477
70°	76653	7112	3951
75°	58479	5221	3133
80°	42025	3113	1556
85°	31011	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.7	5.3
10°-20°	510.2	16.4
20°-30°	789.3	25.4
30°-40°	777.7	25.0
40°-50°	477.6	15.4
50°-60°	212.3	6.8
60°-70°	118.6	3.8
70°-80°	51.3	1.7
80°-90°	9.2	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°	1463.2	47.0
0°-40°	2241.0	72.1
0°-60°	2930.9	94.2
0°-90°	3110.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3110.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1685	1685	1685	1685	1685	
5°	1604	1630	1703	1769	1784	151
15°	1448	1569	1874	2018	2059	411
25°	1395	1507	1828	1927	1934	640
35°	1179	1228	1289	1285	1272	732
45°	827	785	539	471	442	641
55°	506	458	99	57	51	465
65°	308	277	31	18	15	302
75°	123	106	11	7	7	136
85°	22	18	0	0	0	27
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°	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3
2.5°	1645.7	1645.7	1645.7	1645.7	1650.1	1643.5	1650.1	1650.1	1656.7	1658.9	1652.3
5°	1603.9	1601.7	1603.9	1603.9	1608.3	1606.1	1612.7	1617.1	1625.9	1630.3	1630.3
7.5°	1559.9	1559.9	1559.9	1564.3	1570.9	1568.7	1575.3	1581.9	1595.1	1603.9	1610.5
10°	1520.3	1518.1	1524.7	1526.9	1533.4	1533.4	1544.5	1551.1	1566.5	1584.1	1592.9
12.5°	1482.8	1480.7	1485.1	1491.7	1502.7	1502.7	1511.5	1522.5	1544.5	1564.3	1579.6
15°	1447.7	1449.9	1456.5	1460.9	1474.1	1474.1	1485.1	1498.3	1522.5	1546.7	1568.7
17.5°	1423.5	1425.7	1430.1	1436.6	1449.9	1449.9	1460.9	1476.3	1502.7	1529.1	1555.5
20°	1410.3	1412.5	1416.9	1423.5	1434.5	1436.6	1445.5	1463.1	1487.2	1515.9	1540.1
22.5°	1403.7	1408.1	1412.5	1416.9	1427.9	1427.9	1438.9	1452.1	1476.3	1504.9	1526.9
25°	1394.8	1399.2	1401.5	1408.1	1416.9	1416.9	1423.5	1438.9	1460.9	1485.1	1507.1
27.5°	1370.7	1375.1	1377.3	1383.9	1392.7	1390.4	1399.2	1410.3	1430.1	1452.1	1469.7
30°	1331.1	1333.3	1337.7	1339.8	1346.5	1346.5	1353.0	1364.1	1377.3	1397.1	1414.7
32.5°	1267.3	1271.7	1273.9	1276.1	1282.7	1280.5	1282.7	1289.3	1302.4	1320.1	1331.1
35°	1179.3	1188.1	1188.1	1192.5	1194.7	1192.5	1192.5	1201.2	1207.9	1221.1	1227.7
37.5°	1082.5	1089.1	1086.9	1091.3	1093.5	1086.9	1091.3	1093.5	1102.3	1108.8	1111.1
40°	987.8	990.1	990.1	990.1	990.1	987.8	990.1	992.2	998.9	998.9	992.2
42.5°	902.1	904.3	904.3	899.8	904.3	902.1	902.1	902.1	902.1	893.3	886.6
45°	827.2	829.5	829.5	827.2	827.2	822.8	820.7	818.4	811.8	800.9	785.4
47.5°	756.8	761.2	763.4	759.1	756.8	752.4	752.4	739.2	730.4	717.2	695.3
50°	690.9	695.3	695.3	690.9	690.9	684.2	677.7	673.2	660.0	644.7	618.2
52.5°	607.3	613.8	613.8	611.7	611.7	602.9	600.6	591.8	580.8	563.2	541.2
55°	506.1	514.9	512.6	510.5	506.1	506.1	506.1	499.4	492.8	479.6	457.6
57.5°	433.4	435.6	435.6	433.4	433.4	429.0	429.0	422.5	420.2	407.0	389.4
60°	387.2	387.2	389.4	387.2	385.0	382.8	380.6	376.3	369.6	360.8	347.6
62.5°	349.8	352.0	352.0	349.8	347.6	345.4	343.2	338.8	334.4	327.8	314.6
65°	308.0	312.4	310.2	308.0	305.8	303.6	303.6	299.2	294.8	290.4	277.2
67.5°	261.8	264.0	266.2	261.8	261.8	259.6	259.6	255.2	253.0	244.2	235.4
70°	213.4	215.6	215.6	213.4	213.4	211.2	211.2	209.0	206.8	200.2	191.4
72.5°	167.2	169.4	167.2	165.0	165.0	165.0	162.8	160.6	158.4	154.0	147.4
75°	123.2	123.2	125.4	123.2	121.0	121.0	118.8	118.8	114.4	112.2	105.6
77.5°	88.0	90.2	88.0	88.0	85.8	83.6	83.6	81.4	81.4	79.2	74.8
80°	59.4	59.4	61.6	59.4	57.2	59.4	57.2	55.0	55.0	52.8	48.4
82.5°	37.4	39.6	37.4	37.4	37.4	37.4	37.4	35.2	35.2	33.0	30.8
85°	22.0	22.0	22.0	22.0	22.0	22.0	22.0	19.8	19.8	19.8	17.6
87.5°	11.0	11.0	8.8	8.8	11.0	11.0	11.0	8.8	8.8	8.8	8.8
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°	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3
2.5°	1661.1	1663.3	1667.7	1674.3	1674.3	1669.9	1680.9	1680.9	1685.3	1687.5	1696.3
5°	1643.5	1647.9	1656.7	1667.7	1669.9	1667.7	1683.1	1689.7	1696.3	1702.9	1716.1
7.5°	1628.1	1636.9	1652.3	1667.7	1674.3	1674.3	1698.5	1707.3	1720.5	1733.7	1749.1
10°	1619.3	1632.5	1654.5	1678.7	1685.3	1691.9	1720.5	1738.1	1755.7	1773.3	1795.3
12.5°	1608.3	1632.5	1661.1	1691.9	1705.1	1713.9	1753.5	1775.5	1799.7	1821.7	1850.3
15°	1606.1	1634.7	1672.1	1711.7	1729.3	1742.5	1786.5	1817.3	1845.9	1874.5	1903.1
17.5°	1597.3	1632.5	1678.7	1722.7	1744.7	1762.3	1812.9	1850.3	1883.3	1911.9	1945.0
20°	1586.3	1625.9	1676.5	1724.9	1749.1	1766.7	1821.7	1856.9	1894.3	1920.7	1951.5
22.5°	1570.9	1610.5	1661.1	1709.5	1731.5	1746.9	1801.9	1832.7	1865.7	1892.1	1920.7
25°	1544.5	1581.9	1625.9	1665.5	1687.5	1700.7	1749.1	1777.7	1801.9	1828.3	1854.7
27.5°	1507.1	1535.7	1573.1	1601.7	1614.9	1628.1	1667.7	1691.9	1713.9	1735.9	1753.5
30°	1441.0	1463.1	1489.5	1513.7	1526.9	1529.1	1566.5	1579.6	1597.3	1612.7	1625.9
32.5°	1353.0	1370.7	1386.1	1399.2	1408.1	1410.3	1438.9	1443.3	1460.9	1460.9	1480.7
35°	1240.9	1249.7	1260.6	1260.6	1267.3	1260.6	1280.5	1284.9	1287.1	1289.3	1304.7
37.5°	1113.2	1117.6	1124.3	1111.1	1111.1	1104.4	1111.1	1115.5	1106.7	1106.7	1117.6
40°	992.2	983.4	974.6	961.4	954.9	941.6	941.6	930.7	924.0	919.6	921.9
42.5°	875.7	855.9	836.0	807.4	794.2	781.0	767.8	752.4	748.0	737.1	730.4
45°	763.4	734.8	708.5	662.3	635.9	622.6	594.1	563.2	543.5	539.0	521.4
47.5°	668.8	627.0	583.0	528.0	501.7	477.4	435.6	409.3	382.8	369.6	358.6
50°	585.2	547.9	490.6	431.2	398.2	374.0	327.8	297.0	268.4	248.6	235.4
52.5°	512.6	470.8	418.1	349.8	316.9	290.4	239.8	204.6	180.4	160.6	145.2
55°	431.2	398.2	345.4	281.6	248.6	217.8	173.8	136.5	112.2	99.0	88.0
57.5°	371.9	343.2	292.6	231.0	200.2	171.6	127.6	96.8	77.0	63.8	57.2
60°	332.2	305.8	261.8	202.4	173.8	147.4	105.6	77.0	59.4	48.4	44.0
62.5°	299.2	272.8	233.2	178.2	154.0	127.6	90.2	63.8	48.4	39.6	33.0
65°	261.8	237.6	202.4	154.0	132.0	110.0	77.0	52.8	39.6	30.8	26.4
67.5°	222.2	200.2	169.4	127.6	110.0	92.4	61.6	44.0	33.0	26.4	22.0
70°	180.4	162.8	134.2	103.4	88.0	72.6	50.6	35.2	24.2	19.8	17.6
72.5°	138.6	123.2	103.4	79.2	66.0	55.0	37.4	26.4	19.8	15.4	13.2
75°	99.0	88.0	72.6	57.2	48.4	39.6	28.6	19.8	13.2	11.0	8.8
77.5°	68.2	61.6	50.6	39.6	33.0	28.6	19.8	13.2	11.0	8.8	6.6
80°	44.0	39.6	33.0	24.2	19.8	17.6	11.0	8.8	6.6	4.4	4.4
82.5°	26.4	24.2	19.8	13.2	11.0	8.8	6.6	4.4	4.4	2.2	2.2
85°	15.4	13.2	8.8	6.6	6.6	4.4	4.4	2.2	2.2	0.0	0.0
87.5°	6.6	4.4	4.4	2.2	2.2	2.2	2.2	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°	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3
2.5°	1691.9	1702.9	1700.7	1707.3	1705.1	1705.1	1716.1	1711.7	1722.7	1722.7	1724.9
5°	1716.1	1731.5	1731.5	1742.5	1740.3	1744.7	1755.7	1755.7	1768.9	1773.3	1773.3
7.5°	1751.3	1771.1	1775.5	1786.5	1788.7	1797.5	1806.3	1808.5	1826.1	1830.5	1832.7
10°	1799.7	1823.9	1830.5	1841.5	1845.9	1854.7	1865.7	1870.1	1892.1	1894.3	1903.1
12.5°	1859.1	1885.5	1892.1	1905.3	1907.5	1918.5	1933.9	1938.3	1960.3	1966.9	1973.5
15°	1916.3	1940.5	1951.5	1964.7	1966.9	1980.1	1993.3	1997.7	2017.5	2026.3	2033.0
17.5°	1955.9	1984.5	1991.2	2008.7	2008.7	2019.7	2033.0	2037.4	2057.1	2063.7	2068.1
20°	1964.7	1991.2	1999.9	2013.1	2015.3	2021.9	2033.0	2037.4	2054.9	2057.1	2063.7
22.5°	1931.7	1958.1	1962.5	1975.7	1977.9	1984.5	1993.3	1991.2	2013.1	2010.9	2013.1
25°	1861.3	1885.5	1885.5	1900.9	1898.8	1905.3	1909.7	1907.5	1927.3	1927.3	1927.3
27.5°	1760.1	1782.1	1784.3	1795.3	1788.7	1790.9	1795.3	1793.1	1806.3	1806.3	1806.3
30°	1634.7	1652.3	1645.7	1654.5	1650.1	1654.5	1650.1	1647.9	1652.3	1656.7	1654.5
32.5°	1478.5	1491.7	1491.7	1493.9	1493.9	1480.7	1476.3	1476.3	1474.1	1471.9	1471.9
35°	1298.0	1309.1	1304.7	1304.7	1302.4	1289.3	1282.7	1278.3	1284.9	1271.7	1280.5
37.5°	1113.2	1115.5	1108.8	1106.7	1095.7	1095.7	1084.7	1075.8	1080.2	1078.1	1069.3
40°	910.8	919.6	906.4	902.1	908.7	899.8	888.9	877.8	886.6	875.7	880.1
42.5°	712.9	710.6	706.2	706.2	706.2	693.0	690.9	688.6	690.9	682.1	675.4
45°	514.9	508.2	501.7	501.7	492.8	488.4	488.4	481.8	470.8	470.8	457.6
47.5°	347.6	332.2	327.8	325.7	321.3	321.3	316.9	312.4	310.2	299.2	299.2
50°	226.6	211.2	206.8	204.6	206.8	202.4	198.0	193.6	189.2	187.0	182.7
52.5°	136.5	129.8	125.4	123.2	118.8	116.6	114.4	110.0	107.8	107.8	105.6
55°	81.4	74.8	66.0	66.0	66.0	63.8	61.6	59.4	57.2	57.2	55.0
57.5°	50.6	46.2	41.8	39.6	39.6	39.6	37.4	37.4	37.4	37.4	35.2
60°	37.4	33.0	30.8	30.8	30.8	28.6	28.6	28.6	28.6	26.4	26.4
62.5°	28.6	26.4	24.2	24.2	22.0	22.0	22.0	22.0	22.0	22.0	19.8
65°	24.2	19.8	19.8	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
67.5°	17.6	15.4	15.4	15.4	15.4	13.2	13.2	13.2	13.2	13.2	13.2
70°	13.2	13.2	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
72.5°	11.0	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
75°	8.8	8.8	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
77.5°	6.6	6.6	6.6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
80°	4.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	2.2	2.2	2.2	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: P858634

CATALOG NUMBER: LD4C30W2N2050D010 4LBSWNL1_3500K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3	1685.3
2.5°	1724.9	1735.9	1724.9	1724.9	1731.5	1729.3	1733.7	1727.1
5°	1775.5	1790.9	1779.9	1777.7	1788.7	1786.5	1788.7	1784.3
7.5°	1837.1	1852.5	1841.5	1841.5	1852.5	1850.3	1856.9	1852.5
10°	1907.5	1925.1	1909.7	1911.9	1927.3	1925.1	1925.1	1925.1
12.5°	1980.1	1997.7	1988.9	1988.9	1999.9	2002.1	2004.3	2002.1
15°	2039.5	2057.1	2046.1	2046.1	2061.5	2059.3	2061.5	2059.3
17.5°	2074.7	2092.3	2079.2	2079.2	2092.3	2092.3	2094.5	2096.7
20°	2065.9	2085.7	2074.7	2070.3	2085.7	2085.7	2083.6	2083.6
22.5°	2015.3	2033.0	2024.1	2019.7	2030.7	2026.3	2024.1	2026.3
25°	1927.3	1945.0	1927.3	1927.3	1936.1	1933.9	1936.1	1933.9
27.5°	1808.5	1821.7	1804.1	1801.9	1810.7	1806.3	1804.1	1810.7
30°	1650.1	1663.3	1654.5	1647.9	1658.9	1652.3	1647.9	1650.1
32.5°	1469.7	1478.5	1474.1	1463.1	1469.7	1465.3	1463.1	1465.3
35°	1271.7	1282.7	1265.1	1262.9	1273.9	1265.1	1260.6	1271.7
37.5°	1067.0	1080.2	1064.9	1067.0	1060.5	1062.6	1058.2	1064.9
40°	873.4	871.3	866.9	864.6	866.9	860.2	864.6	858.1
42.5°	664.4	668.8	666.6	664.4	666.6	657.9	653.5	662.3
45°	462.0	459.9	455.5	451.0	451.0	448.8	448.8	442.2
47.5°	297.0	294.8	286.0	288.2	292.6	288.2	281.6	290.4
50°	180.4	178.2	178.2	176.0	180.4	176.0	171.6	171.6
52.5°	101.2	101.2	99.0	99.0	99.0	99.0	96.8	94.6
55°	55.0	52.8	52.8	52.8	50.6	50.6	50.6	50.6
57.5°	35.2	35.2	35.2	35.2	35.2	35.2	33.0	33.0
60°	26.4	26.4	26.4	26.4	24.2	26.4	24.2	24.2
62.5°	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8
65°	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
67.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
70°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
72.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
75°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
77.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
80°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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)