

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: P858716

Luminaire Tested: **LD4C35W2N2050D010 4LBSWNL1_2700K**

Issue Date: 11/9/2023



Test Information

Test Method: LM-79-08
Report Number: P858716
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: LD4C35W2N2050D010 4LBSWNLI_2700K
Description: 4 INCH 3500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, W2N2050 LEDS
AND 4LBSWNLI TRIM WITH FINISH

Light Source: -
Ballast/Driver: -

Summary

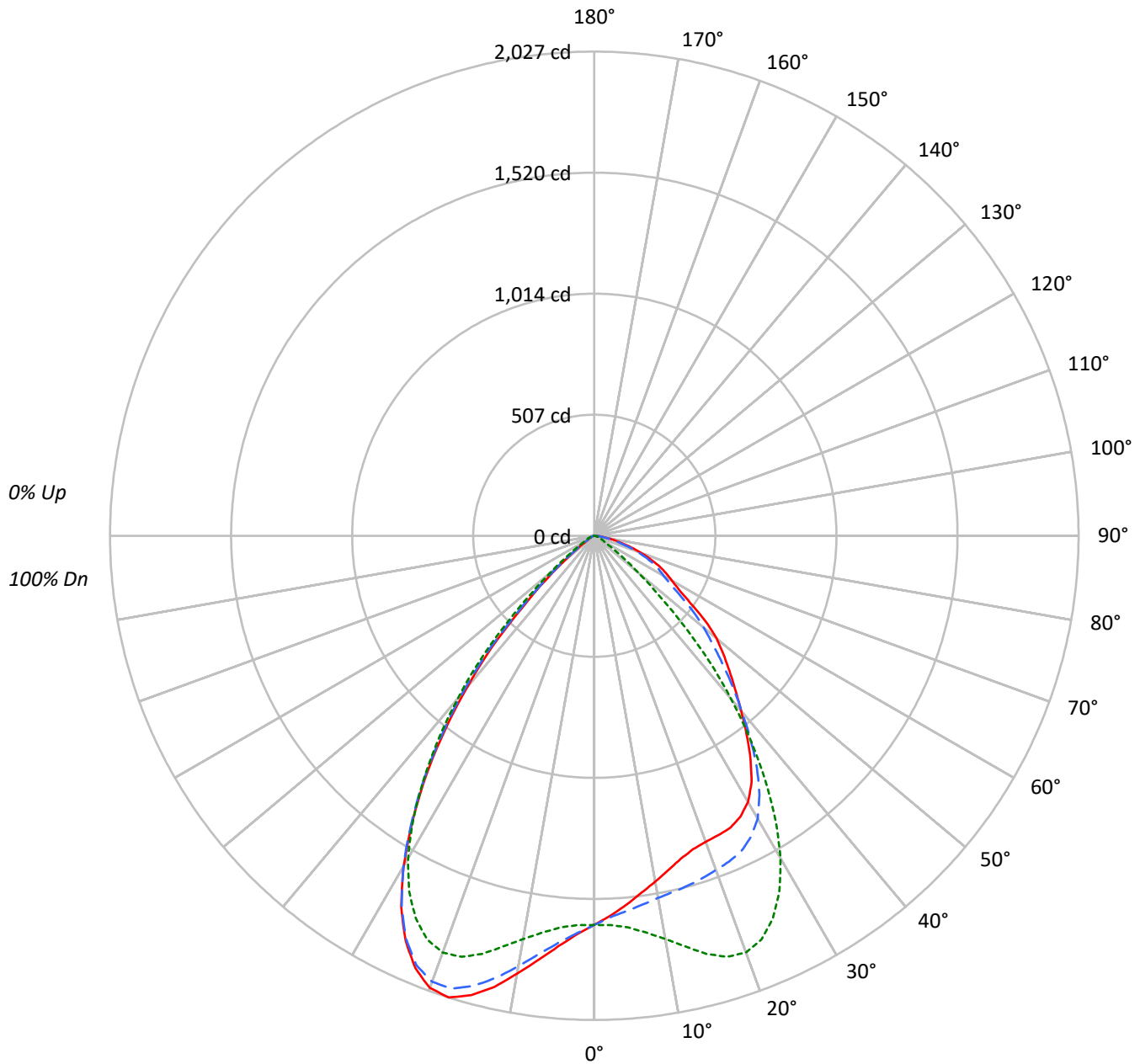
Lumens per Lamp: N/A
Luminaire Lumens: 3006.0 lumens
Efficiency: N/A
Efficacy: 56.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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					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°	200128	200128	200128
5°	191175	202989	212682
10°	183306	213819	232132
15°	177973	230438	253166
20°	178209	242715	263293
25°	182754	239551	253377
30°	182502	221116	226251
35°	170943	186886	184336
40°	153125	142556	133014
45°	138923	90519	74257
50°	127634	45928	31708
55°	104760	20498	10474
60°	91944	11499	5750
65°	86540	8634	4331
70°	74103	6897	3843
75°	56533	5079	3038
80°	40610	2971	1556
85°	29883	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.2	5.3
10°-20°	493.1	16.4
20°-30°	763.0	25.4
30°-40°	751.7	25.0
40°-50°	461.6	15.4
50°-60°	205.2	6.8
60°-70°	114.6	3.8
70°-80°	49.6	1.7
80°-90°	8.9	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°	1414.3	47.0
0°-40°	2166.0	72.1
0°-60°	2832.9	94.2
0°-90°	3006.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3006.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1629	1629	1629	1629	1629	
5°	1550	1576	1646	1710	1725	145
15°	1399	1516	1812	1950	1990	397
25°	1348	1457	1767	1863	1869	619
35°	1140	1187	1246	1242	1229	708
45°	800	759	521	455	427	619
55°	489	442	96	55	49	450
65°	298	268	30	17	15	292
75°	119	102	11	6	6	131
85°	21	17	0	0	0	26
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°	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0
2.5°	1590.6	1590.6	1590.6	1590.6	1594.9	1588.6	1594.9	1594.9	1601.3	1603.4	1597.1
5°	1550.2	1548.2	1550.2	1550.2	1554.5	1552.4	1558.7	1563.0	1571.6	1575.8	1575.8
7.5°	1507.7	1507.7	1507.7	1512.0	1518.3	1516.2	1522.6	1529.0	1541.7	1550.2	1556.7
10°	1469.4	1467.3	1473.7	1475.8	1482.2	1482.2	1492.8	1499.2	1514.1	1531.2	1539.7
12.5°	1433.3	1431.2	1435.4	1441.8	1452.4	1452.4	1460.9	1471.6	1492.8	1512.0	1526.8
15°	1399.3	1401.4	1407.8	1412.0	1424.8	1424.8	1435.4	1448.2	1471.6	1495.0	1516.2
17.5°	1375.9	1378.0	1382.3	1388.6	1401.4	1401.4	1412.0	1426.9	1452.4	1477.9	1503.5
20°	1363.1	1365.3	1369.5	1375.9	1386.5	1388.6	1397.2	1414.2	1437.5	1465.2	1488.6
22.5°	1356.8	1361.0	1365.3	1369.5	1380.1	1380.1	1390.8	1403.5	1426.9	1454.6	1475.8
25°	1348.2	1352.4	1354.6	1361.0	1369.5	1369.5	1375.9	1390.8	1412.0	1435.4	1456.7
27.5°	1324.9	1329.1	1331.2	1337.6	1346.1	1343.9	1352.4	1363.1	1382.3	1403.5	1420.5
30°	1286.5	1288.7	1293.0	1295.0	1301.5	1301.5	1307.8	1318.5	1331.2	1350.4	1367.4
32.5°	1224.9	1229.1	1231.3	1233.4	1239.8	1237.6	1239.8	1246.1	1258.9	1276.0	1286.5
35°	1139.8	1148.3	1148.3	1152.6	1154.7	1152.6	1152.6	1161.1	1167.5	1180.2	1186.7
37.5°	1046.3	1052.7	1050.5	1054.8	1056.9	1050.5	1054.8	1056.9	1065.4	1071.8	1073.9
40°	954.8	957.0	957.0	957.0	957.0	954.8	957.0	959.0	965.5	965.5	959.0
42.5°	871.9	874.1	874.1	869.7	874.1	871.9	871.9	871.9	871.9	863.4	857.0
45°	799.6	801.7	801.7	799.6	799.6	795.3	793.2	791.1	784.7	774.1	759.2
47.5°	731.5	735.8	737.9	733.7	731.5	727.3	727.3	714.5	706.0	693.3	672.0
50°	667.8	672.0	672.0	667.8	667.8	661.4	655.0	650.7	637.9	623.1	597.5
52.5°	587.0	593.3	593.3	591.2	591.2	582.7	580.5	572.0	561.4	544.4	523.1
55°	489.1	497.6	495.5	493.4	489.1	489.1	489.1	482.7	476.3	463.6	442.3
57.5°	418.9	421.1	421.1	418.9	418.9	414.7	414.7	408.3	406.2	393.4	376.4
60°	374.2	374.2	376.4	374.2	372.2	370.0	367.9	363.7	357.3	348.8	336.0
62.5°	338.1	340.3	340.3	338.1	336.0	333.8	331.8	327.5	323.3	316.8	304.1
65°	297.7	301.9	299.8	297.7	295.6	293.4	293.4	289.2	284.9	280.7	267.9
67.5°	253.0	255.2	257.3	253.0	253.0	250.9	250.9	246.7	244.5	236.0	227.5
70°	206.3	208.4	208.4	206.3	206.3	204.1	204.1	202.0	199.9	193.5	185.0
72.5°	161.6	163.7	161.6	159.5	159.5	159.5	157.4	155.2	153.1	148.9	142.5
75°	119.1	119.1	121.2	119.1	117.0	117.0	114.8	114.8	110.6	108.5	102.1
77.5°	85.1	87.1	85.1	85.1	82.9	80.8	80.8	78.6	78.6	76.6	72.3
80°	57.4	57.4	59.6	57.4	55.3	57.4	55.3	53.2	53.2	51.1	46.8
82.5°	36.2	38.2	36.2	36.2	36.2	36.2	36.2	34.0	34.0	31.9	29.7
85°	21.2	21.2	21.2	21.2	21.2	21.2	21.2	19.2	19.2	19.2	17.0
87.5°	10.7	10.7	8.5	8.5	10.7	10.7	10.7	8.5	8.5	8.5	8.5
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°	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0
2.5°	1605.6	1607.6	1611.9	1618.3	1618.3	1614.1	1624.7	1624.7	1629.0	1631.1	1639.5
5°	1588.6	1592.8	1601.3	1611.9	1614.1	1611.9	1626.8	1633.2	1639.5	1646.0	1658.7
7.5°	1573.6	1582.1	1597.1	1611.9	1618.3	1618.3	1641.7	1650.2	1663.0	1675.7	1690.6
10°	1565.1	1577.9	1599.1	1622.6	1629.0	1635.3	1663.0	1680.0	1697.0	1714.0	1735.3
12.5°	1554.5	1577.9	1605.6	1635.3	1648.0	1656.5	1694.9	1716.1	1739.5	1760.8	1788.4
15°	1552.4	1580.1	1616.2	1654.5	1671.5	1684.2	1726.8	1756.5	1784.2	1811.8	1839.5
17.5°	1543.9	1577.9	1622.6	1665.1	1686.4	1703.4	1752.3	1788.4	1820.3	1848.0	1879.9
20°	1533.2	1571.6	1620.5	1667.2	1690.6	1707.6	1760.8	1794.8	1830.9	1856.5	1886.2
22.5°	1518.3	1556.7	1605.6	1652.3	1673.6	1688.5	1741.6	1771.4	1803.3	1828.8	1856.5
25°	1492.8	1529.0	1571.6	1609.8	1631.1	1643.8	1690.6	1718.3	1741.6	1767.2	1792.7
27.5°	1456.7	1484.3	1520.5	1548.2	1560.9	1573.6	1611.9	1635.3	1656.5	1677.9	1694.9
30°	1392.9	1414.2	1439.7	1463.1	1475.8	1477.9	1514.1	1526.8	1543.9	1558.7	1571.6
32.5°	1307.8	1324.9	1339.7	1352.4	1361.0	1363.1	1390.8	1395.0	1412.0	1412.0	1431.2
35°	1199.4	1207.9	1218.5	1218.5	1224.9	1218.5	1237.6	1241.9	1244.1	1246.1	1261.1
37.5°	1076.0	1080.3	1086.7	1073.9	1073.9	1067.5	1073.9	1078.2	1069.7	1069.7	1080.3
40°	959.0	950.5	942.0	929.3	923.0	910.1	910.1	899.5	893.1	888.9	891.1
42.5°	846.4	827.2	808.1	780.4	767.7	754.9	742.2	727.3	723.0	712.4	706.0
45°	737.9	710.3	684.8	640.1	614.6	601.8	574.2	544.4	525.3	521.0	504.0
47.5°	646.4	606.0	563.5	510.4	484.9	461.5	421.1	395.6	370.0	357.3	346.6
50°	565.6	529.5	474.2	416.8	384.9	361.5	316.8	287.1	259.4	240.3	227.5
52.5°	495.5	455.1	404.1	338.1	306.3	280.7	231.8	197.8	174.4	155.2	140.4
55°	416.8	384.9	333.8	272.2	240.3	210.5	168.0	131.9	108.5	95.7	85.1
57.5°	359.4	331.8	282.9	223.3	193.5	165.9	123.3	93.6	74.4	61.7	55.3
60°	321.1	295.6	253.0	195.6	168.0	142.5	102.1	74.4	57.4	46.8	42.5
62.5°	289.2	263.7	225.4	172.2	148.9	123.3	87.1	61.7	46.8	38.2	31.9
65°	253.0	229.7	195.6	148.9	127.6	106.3	74.4	51.1	38.2	29.7	25.5
67.5°	214.8	193.5	163.7	123.3	106.3	89.3	59.6	42.5	31.9	25.5	21.2
70°	174.4	157.4	129.7	100.0	85.1	70.2	48.9	34.0	23.4	19.2	17.0
72.5°	134.0	119.1	100.0	76.6	63.8	53.2	36.2	25.5	19.2	14.9	12.7
75°	95.7	85.1	70.2	55.3	46.8	38.2	27.7	19.2	12.7	10.7	8.5
77.5°	65.9	59.6	48.9	38.2	31.9	27.7	19.2	12.7	10.7	8.5	6.4
80°	42.5	38.2	31.9	23.4	19.2	17.0	10.7	8.5	6.4	4.2	4.2
82.5°	25.5	23.4	19.2	12.7	10.7	8.5	6.4	4.2	4.2	2.2	2.2
85°	14.9	12.7	8.5	6.4	6.4	4.2	4.2	2.2	2.2	0.0	0.0
87.5°	6.4	4.2	4.2	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°	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0
2.5°	1635.3	1646.0	1643.8	1650.2	1648.0	1648.0	1658.7	1654.5	1665.1	1665.1	1667.2
5°	1658.7	1673.6	1673.6	1684.2	1682.1	1686.4	1697.0	1697.0	1709.8	1714.0	1714.0
7.5°	1692.7	1711.9	1716.1	1726.8	1728.9	1737.4	1745.9	1748.0	1765.0	1769.3	1771.4
10°	1739.5	1762.9	1769.3	1779.9	1784.2	1792.7	1803.3	1807.6	1828.8	1830.9	1839.5
12.5°	1796.9	1822.4	1828.8	1841.6	1843.8	1854.3	1869.2	1873.5	1894.7	1901.2	1907.5
15°	1852.3	1875.6	1886.2	1899.0	1901.2	1913.9	1926.7	1930.9	1950.1	1958.6	1965.0
17.5°	1890.5	1918.2	1924.6	1941.6	1941.6	1952.1	1965.0	1969.2	1988.3	1994.7	1999.0
20°	1899.0	1924.6	1933.1	1945.8	1947.9	1954.3	1965.0	1969.2	1986.2	1988.3	1994.7
22.5°	1867.1	1892.7	1896.9	1909.7	1911.7	1918.2	1926.7	1924.6	1945.8	1943.6	1945.8
25°	1799.1	1822.4	1822.4	1837.3	1835.3	1841.6	1845.8	1843.8	1862.8	1862.8	1862.8
27.5°	1701.2	1722.5	1724.6	1735.3	1728.9	1731.0	1735.3	1733.1	1745.9	1745.9	1745.9
30°	1580.1	1597.1	1590.6	1599.1	1594.9	1599.1	1594.9	1592.8	1597.1	1601.3	1599.1
32.5°	1429.0	1441.8	1441.8	1443.9	1443.9	1431.2	1426.9	1426.9	1424.8	1422.7	1422.7
35°	1254.6	1265.3	1261.1	1261.1	1258.9	1246.1	1239.8	1235.6	1241.9	1229.1	1237.6
37.5°	1076.0	1078.2	1071.8	1069.7	1059.0	1059.0	1048.4	1039.9	1044.1	1042.0	1033.5
40°	880.4	888.9	876.1	871.9	878.3	869.7	859.1	848.5	857.0	846.4	850.6
42.5°	689.0	686.8	682.6	682.6	682.6	669.9	667.8	665.6	667.8	659.3	652.9
45°	497.6	491.2	484.9	484.9	476.3	472.1	472.1	465.7	455.1	455.1	442.3
47.5°	336.0	321.1	316.8	314.8	310.5	310.5	306.3	301.9	299.8	289.2	289.2
50°	219.0	204.1	199.9	197.8	199.9	195.6	191.4	187.1	182.9	180.8	176.5
52.5°	131.9	125.5	121.2	119.1	114.8	112.7	110.6	106.3	104.2	104.2	102.1
55°	78.6	72.3	63.8	63.8	63.8	61.7	59.6	57.4	55.3	55.3	53.2
57.5°	48.9	44.7	40.4	38.2	38.2	38.2	36.2	36.2	36.2	36.2	34.0
60°	36.2	31.9	29.7	29.7	29.7	27.7	27.7	27.7	27.7	25.5	25.5
62.5°	27.7	25.5	23.4	23.4	21.2	21.2	21.2	21.2	21.2	21.2	19.2
65°	23.4	19.2	19.2	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
67.5°	17.0	14.9	14.9	14.9	14.9	12.7	12.7	12.7	12.7	12.7	12.7
70°	12.7	12.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
72.5°	10.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
75°	8.5	8.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
77.5°	6.4	6.4	6.4	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
80°	4.2	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: P858716

CATALOG NUMBER: LD4C35W2N2050D010 4LBSWNL1_2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0
2.5°	1667.2	1677.9	1667.2	1667.2	1673.6	1671.5	1675.7	1669.4
5°	1716.1	1731.0	1720.4	1718.3	1728.9	1726.8	1728.9	1724.6
7.5°	1775.7	1790.6	1779.9	1779.9	1790.6	1788.4	1794.8	1790.6
10°	1843.8	1860.8	1845.8	1848.0	1862.8	1860.8	1860.8	1860.8
12.5°	1913.9	1930.9	1922.4	1922.4	1933.1	1935.2	1937.3	1935.2
15°	1971.3	1988.3	1977.7	1977.7	1992.6	1990.5	1992.6	1990.5
17.5°	2005.3	2022.4	2009.6	2009.6	2022.4	2022.4	2024.5	2026.6
20°	1996.8	2016.0	2005.3	2001.1	2016.0	2016.0	2013.9	2013.9
22.5°	1947.9	1965.0	1956.4	1952.1	1962.8	1958.6	1956.4	1958.6
25°	1862.8	1879.9	1862.8	1862.8	1871.3	1869.2	1871.3	1869.2
27.5°	1748.0	1760.8	1743.8	1741.6	1750.2	1745.9	1743.8	1750.2
30°	1594.9	1607.6	1599.1	1592.8	1603.4	1597.1	1592.8	1594.9
32.5°	1420.5	1429.0	1424.8	1414.2	1420.5	1416.3	1414.2	1416.3
35°	1229.1	1239.8	1222.8	1220.6	1231.3	1222.8	1218.5	1229.1
37.5°	1031.4	1044.1	1029.3	1031.4	1025.0	1027.1	1022.9	1029.3
40°	844.2	842.1	837.9	835.7	837.9	831.5	835.7	829.4
42.5°	642.2	646.4	644.4	642.2	644.4	635.9	631.6	640.1
45°	446.6	444.5	440.2	435.9	435.9	433.8	433.8	427.4
47.5°	287.1	284.9	276.4	278.6	282.9	278.6	272.2	280.7
50°	174.4	172.2	172.2	170.1	174.4	170.1	165.9	165.9
52.5°	97.8	97.8	95.7	95.7	95.7	95.7	93.6	91.5
55°	53.2	51.1	51.1	51.1	48.9	48.9	48.9	48.9
57.5°	34.0	34.0	34.0	34.0	34.0	34.0	31.9	31.9
60°	25.5	25.5	25.5	25.5	23.4	25.5	23.4	23.4
62.5°	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
65°	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
67.5°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
70°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
72.5°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
75°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
77.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
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)