

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: **LD4C50D010 EX4C509027 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: LD4C50D010 EX4C509027 4LBSQLWWH
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

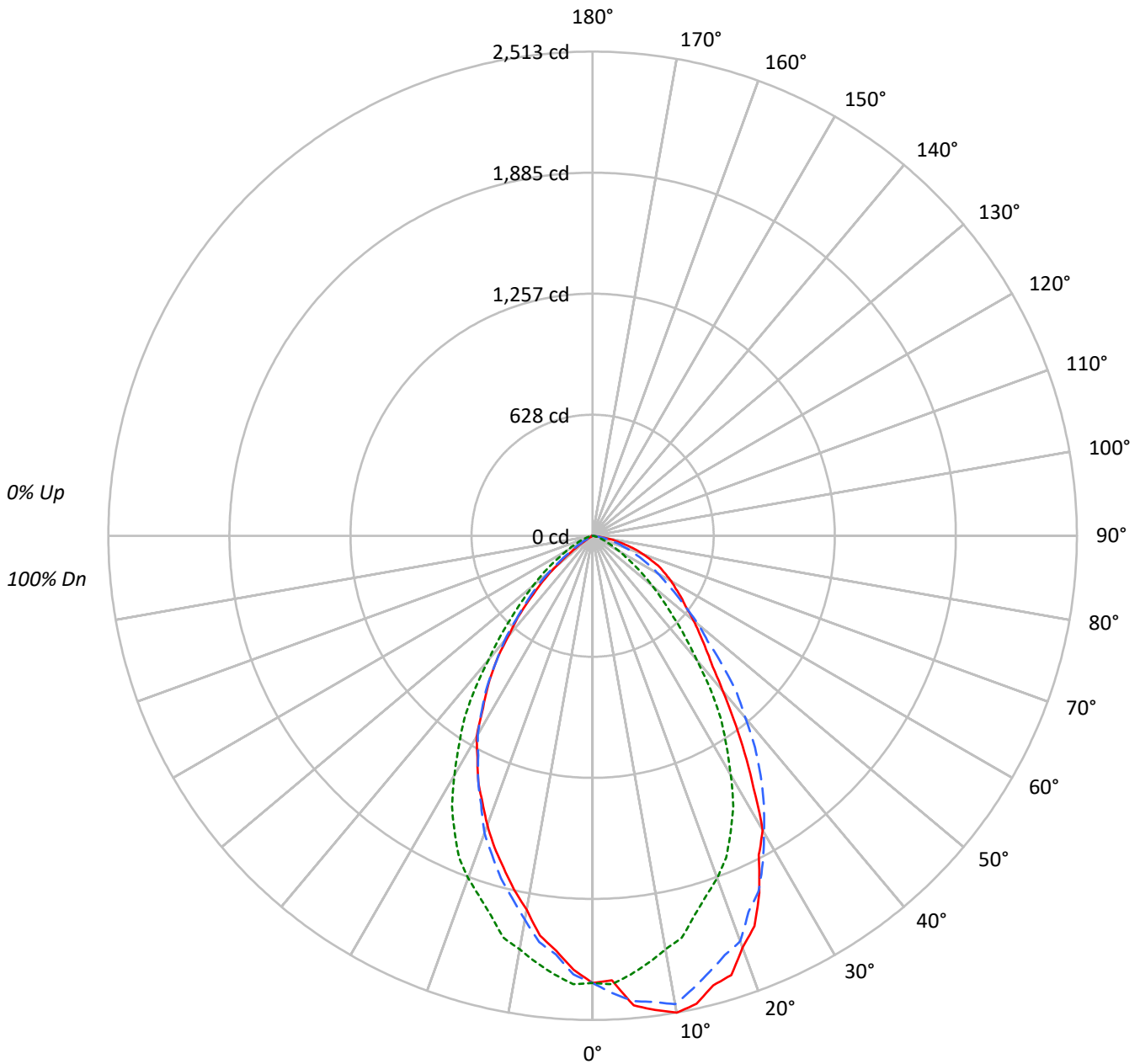
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3327.0 lumens
Efficiency: N/A
Efficacy: 57.0 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): 58.4
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

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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	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°	223951	223951	223951
5°	236942	221310	209454
10°	246227	213503	193045
15°	241301	203771	178199
20°	233477	194037	164023
25°	217782	180435	149624
30°	196593	159681	133955
35°	161939	136708	111136
40°	132154	105514	85538
45°	113545	80141	61528
50°	102765	61005	38848
55°	94575	44007	14047
60°	90777	30066	2142
65°	87672	20343	639
70°	78513	14106	790
75°	64346	7270	0
80°	40230	3112	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.5	6.5
10°-20°	585.9	17.6
20°-30°	782.3	23.5
30°-40°	742.7	22.3
40°-50°	513.4	15.4
50°-60°	283.6	8.5
60°-70°	140.9	4.2
70°-80°	55.5	1.7
80°-90°	5.3	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°	1585.7	47.7
0°-40°	2328.4	70.0
0°-60°	3125.4	93.9
0°-90°	3327.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3327.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2321	2321	2321	2321	2321	
5°	2446	2424	2285	2182	2162	234
15°	2416	2343	2040	1840	1784	683
25°	2046	2037	1695	1405	1405	933
35°	1375	1520	1161	955	944	861
45°	832	955	587	482	451	649
55°	562	529	262	134	84	506
65°	384	278	89	3	3	373
75°	173	106	20	0	0	184
85°	0	3	0	0	0	16
90°	0	0	0	0	0	



TEST NUMBER: P#

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0
2.5°	2309.9	2373.9	2379.4	2373.9	2382.3	2379.4	2393.4	2379.4	2396.2	2371.1	2376.7
5°	2446.3	2421.2	2474.1	2446.3	2446.3	2443.5	2435.1	2432.3	2443.5	2407.3	2424.0
7.5°	2482.5	2518.7	2566.0	2507.5	2510.3	2510.3	2493.6	2488.0	2488.0	2421.2	2440.7
10°	2513.1	2490.8	2515.8	2493.6	2513.1	2510.3	2521.4	2485.2	2510.3	2471.3	2468.5
12.5°	2488.0	2479.6	2513.1	2476.9	2465.8	2468.5	2454.7	2446.3	2454.7	2410.1	2407.3
15°	2415.6	2424.0	2474.1	2435.1	2429.6	2424.0	2407.3	2379.4	2401.8	2340.5	2343.3
17.5°	2390.7	2376.7	2385.1	2351.6	2360.0	2354.5	2351.6	2326.7	2321.0	2282.1	2282.1
20°	2273.8	2304.3	2304.3	2282.1	2282.1	2279.3	2243.1	2265.4	2240.3	2229.2	2240.3
22.5°	2193.0	2195.8	2195.8	2176.3	2179.1	2168.0	2148.5	2134.5	2148.5	2134.5	2112.3
25°	2045.6	2051.1	2084.5	2048.3	2042.7	2053.9	2037.2	2028.8	2026.1	1992.7	2037.2
27.5°	1867.4	1923.0	1920.3	1906.3	1923.0	1900.8	1892.5	1895.2	1903.6	1900.8	1911.9
30°	1764.5	1772.8	1781.2	1770.0	1772.8	1764.5	1764.5	1767.2	1789.5	1781.2	1778.3
32.5°	1555.7	1583.5	1605.8	1605.8	1608.6	1617.0	1614.1	1672.6	1686.5	1658.7	1653.2
35°	1374.8	1394.3	1413.7	1416.6	1452.8	1455.5	1458.3	1475.0	1513.9	1522.3	1519.5
37.5°	1202.3	1221.7	1227.3	1252.4	1271.9	1291.3	1313.6	1335.9	1369.2	1397.0	1383.2
40°	1049.2	1057.5	1071.5	1082.6	1121.5	1121.5	1132.6	1177.2	1213.4	1235.7	1232.8
42.5°	921.2	923.9	935.1	954.6	990.8	982.4	990.8	1021.4	1074.2	1077.0	1107.7
45°	832.1	829.3	837.7	840.4	862.8	873.9	879.5	901.7	946.2	951.8	954.6
47.5°	751.5	748.6	762.6	768.1	776.4	787.5	787.5	790.4	807.1	821.0	809.9
50°	684.6	684.6	684.6	690.2	704.1	701.3	704.1	715.3	723.5	718.0	715.3
52.5°	612.2	623.3	631.7	634.6	637.3	637.3	640.1	634.6	631.7	623.3	606.7
55°	562.2	573.3	573.3	573.3	573.3	584.4	570.6	573.3	573.3	551.1	528.8
57.5°	512.1	523.3	531.5	520.4	531.5	520.4	514.9	512.1	506.5	484.2	450.9
60°	470.4	475.9	473.1	470.4	475.9	467.5	462.0	450.9	445.3	414.7	392.4
62.5°	423.0	425.8	428.6	423.0	417.5	414.7	403.5	386.9	375.7	350.7	331.1
65°	384.0	375.7	372.9	370.2	364.6	356.2	347.9	328.4	320.0	297.8	278.3
67.5°	325.6	322.8	328.4	320.0	306.2	306.2	297.8	281.1	261.6	247.7	228.2
70°	278.3	275.5	270.0	261.6	258.8	247.7	247.7	228.2	222.6	197.6	180.9
72.5°	228.2	228.2	219.8	211.5	203.1	197.6	194.8	180.9	172.6	158.6	144.7
75°	172.6	172.6	169.8	161.4	155.8	150.2	147.5	136.4	128.0	114.2	105.8
77.5°	122.4	122.4	111.3	105.8	108.5	102.9	97.4	94.6	91.8	83.5	72.4
80°	72.4	69.6	61.3	64.0	61.3	61.3	58.4	55.6	50.0	44.5	38.9
82.5°	19.5	22.2	22.2	22.2	25.1	19.5	19.5	19.5	22.2	22.2	14.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.8	2.8
87.5°	2.8	5.6	11.1	11.1	11.1	11.1	11.1	8.4	8.4	8.4	5.6
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°	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0
2.5°	2348.9	2346.1	2348.9	2329.4	2373.9	2340.5	2334.9	2329.4	2348.9	2329.4	2301.6
5°	2399.0	2371.1	2362.8	2354.5	2379.4	2340.5	2332.2	2334.9	2321.0	2284.9	2287.6
7.5°	2415.6	2390.7	2365.6	2312.7	2334.9	2326.7	2304.3	2287.6	2265.4	2234.7	2229.2
10°	2421.2	2393.4	2357.2	2340.5	2307.1	2296.0	2287.6	2259.8	2232.0	2179.1	2165.2
12.5°	2404.5	2371.1	2326.7	2312.7	2287.6	2251.4	2232.0	2204.1	2179.1	2137.4	2106.7
15°	2332.2	2304.3	2290.5	2243.1	2232.0	2209.7	2170.7	2131.8	2095.6	2039.9	2023.2
17.5°	2248.7	2237.6	2223.6	2187.4	2184.7	2162.5	2126.3	2092.8	2045.6	1959.2	1931.4
20°	2162.5	2162.5	2117.9	2104.0	2131.8	2087.2	2059.4	2028.8	1931.4	1889.7	1839.6
22.5°	2098.5	2067.8	2042.7	2020.5	2023.2	1995.4	1956.5	1895.2	1859.0	1809.0	1750.5
25°	1973.2	1984.3	1928.7	1920.3	1928.7	1864.6	1845.2	1795.0	1742.1	1694.8	1650.3
27.5°	1895.2	1864.6	1828.5	1797.8	1797.8	1772.8	1717.2	1706.0	1625.2	1580.8	1525.0
30°	1778.3	1756.1	1725.5	1681.0	1675.4	1655.9	1611.4	1583.5	1500.1	1433.2	1402.6
32.5°	1630.8	1622.5	1597.4	1547.4	1530.7	1508.4	1452.8	1405.4	1366.5	1291.3	1255.2
35°	1525.0	1494.5	1441.6	1399.9	1385.9	1347.0	1302.4	1269.0	1227.3	1160.6	1113.2
37.5°	1366.5	1335.9	1285.7	1235.7	1235.7	1196.7	1135.5	1102.1	1043.7	1004.6	965.7
40°	1227.3	1188.4	1138.3	1079.9	1071.5	1015.8	990.8	935.1	898.9	837.7	832.1
42.5°	1071.5	1035.3	990.8	946.2	912.8	885.0	821.0	779.3	740.3	709.7	701.3
45°	929.5	882.2	843.3	787.5	754.2	720.8	679.1	651.3	620.6	587.3	567.7
47.5°	807.1	768.1	712.4	662.4	629.0	612.2	564.9	534.4	509.3	487.1	473.1
50°	681.9	634.6	603.9	548.2	542.7	503.7	464.8	439.7	425.8	406.4	386.9
52.5°	587.3	542.7	500.9	459.2	436.9	423.0	386.9	361.8	342.4	328.4	317.3
55°	495.3	456.4	423.0	381.3	367.3	347.9	306.2	300.6	281.1	261.6	247.7
57.5°	425.8	389.6	350.7	322.8	297.8	283.9	250.4	228.2	217.1	200.4	186.4
60°	361.8	322.8	292.2	258.8	247.7	228.2	203.1	183.7	169.8	155.8	142.0
62.5°	303.3	270.0	236.6	208.7	192.0	180.9	161.4	144.7	130.8	119.7	108.5
65°	250.4	219.8	192.0	164.2	155.8	142.0	128.0	114.2	102.9	89.1	78.0
67.5°	206.0	178.2	150.2	130.8	122.4	116.9	100.2	86.2	78.0	69.6	58.4
70°	161.4	142.0	119.7	102.9	94.6	86.2	75.1	66.8	55.6	50.0	41.8
72.5°	125.3	108.5	89.1	75.1	69.6	64.0	52.9	44.5	38.9	33.4	27.8
75°	89.1	75.1	64.0	50.0	47.3	44.5	36.2	30.6	25.1	19.5	16.7
77.5°	61.3	50.0	38.9	33.4	30.6	25.1	22.2	16.7	14.0	11.1	8.4
80°	33.4	25.1	19.5	16.7	14.0	11.1	11.1	8.4	5.6	5.6	2.8
82.5°	11.1	8.4	5.6	2.8	2.8	2.8	2.8	2.8	2.8	0.0	2.8
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°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	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°	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0
2.5°	2318.3	2287.6	2296.0	2296.0	2290.5	2290.5	2284.9	2276.5	2279.3	2262.5	2226.5
5°	2293.2	2254.3	2248.7	2254.3	2232.0	2226.5	2215.3	2232.0	2181.9	2201.4	2179.1
7.5°	2220.9	2184.7	2176.3	2195.8	2168.0	2151.2	2148.5	2170.7	2126.3	2104.0	2078.9
10°	2140.1	2126.3	2101.2	2087.2	2078.9	2081.7	2059.4	2031.6	2023.2	2017.7	1995.4
12.5°	2067.8	2037.2	2014.9	1998.3	1992.7	1992.7	1956.5	1950.9	1925.9	1920.3	1886.9
15°	1981.5	1945.4	1931.4	1909.2	1889.7	1900.8	1859.0	1847.9	1839.6	1803.4	1809.0
17.5°	1906.3	1867.4	1834.0	1820.1	1803.4	1786.7	1747.7	1756.1	1736.6	1736.6	1686.5
20°	1809.0	1767.2	1742.1	1714.3	1714.3	1692.1	1664.3	1667.0	1641.9	1617.0	1572.4
22.5°	1706.0	1661.4	1630.8	1619.7	1591.9	1586.3	1553.0	1544.6	1511.2	1513.9	1475.0
25°	1597.4	1553.0	1511.2	1513.9	1489.0	1477.8	1458.3	1419.4	1405.4	1388.8	1377.6
27.5°	1469.4	1438.8	1402.6	1399.9	1352.6	1355.3	1330.3	1319.2	1285.7	1294.1	1269.0
30°	1352.6	1308.1	1274.6	1266.3	1246.8	1241.2	1202.3	1185.5	1191.2	1168.8	1155.0
32.5°	1232.8	1166.1	1152.2	1135.5	1124.4	1110.4	1082.6	1093.7	1068.6	1074.2	1052.0
35°	1074.2	1046.4	1010.2	1010.2	999.1	988.0	968.5	979.7	954.6	943.5	921.2
37.5°	940.6	915.7	879.5	890.6	871.1	854.4	837.7	840.4	818.2	815.5	793.1
40°	795.9	782.0	757.0	757.0	743.1	743.1	734.7	726.4	712.4	695.7	670.7
42.5°	659.5	648.4	637.3	640.1	620.6	637.3	615.1	629.0	584.4	581.7	564.9
45°	559.3	534.4	537.1	526.0	514.9	520.4	500.9	506.5	481.5	475.9	459.2
47.5°	453.7	445.3	428.6	423.0	423.0	414.7	406.4	403.5	392.4	378.5	356.2
50°	372.9	342.4	336.7	328.4	322.8	322.8	311.7	295.0	297.8	283.9	261.6
52.5°	292.2	267.1	256.0	253.3	242.2	236.6	222.6	211.5	203.1	197.6	183.7
55°	225.4	203.1	189.3	189.3	172.6	172.6	153.1	144.7	133.6	122.4	114.2
57.5°	169.8	158.6	144.7	133.6	128.0	114.2	102.9	89.1	80.7	64.0	52.9
60°	128.0	116.9	102.9	94.6	89.1	75.1	61.3	50.0	30.6	25.1	22.2
62.5°	94.6	83.5	69.6	64.0	58.4	47.3	33.4	16.7	8.4	8.4	8.4
65°	69.6	55.6	44.5	38.9	33.4	25.1	11.1	5.6	2.8	2.8	2.8
67.5°	47.3	36.2	25.1	22.2	16.7	8.4	2.8	2.8	2.8	2.8	2.8
70°	30.6	22.2	11.1	8.4	5.6	2.8	2.8	2.8	2.8	2.8	2.8
72.5°	19.5	11.1	5.6	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.1	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.6	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.8	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	2.8	2.8	2.8
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: LD4C50D010 EX4C509027 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0	2321.0
2.5°	2265.4	2245.9	2257.0	2232.0	2243.1	2262.5	2248.7	2254.3
5°	2187.4	2176.3	2162.5	2126.3	2154.1	2176.3	2165.2	2162.5
7.5°	2104.0	2065.0	2084.5	2073.4	2067.8	2090.1	2065.0	2092.8
10°	2017.7	1989.9	1987.1	1967.6	1967.6	1984.3	1987.1	1970.3
12.5°	1889.7	1875.8	1875.8	1873.0	1870.1	1886.9	1889.7	1881.4
15°	1797.8	1792.3	1778.3	1775.6	1758.9	1783.9	1786.7	1783.9
17.5°	1686.5	1689.3	1675.4	1675.4	1686.5	1694.8	1672.6	1694.8
20°	1611.4	1597.4	1591.9	1566.8	1580.8	1594.7	1594.7	1597.4
22.5°	1502.8	1480.6	1489.0	1475.0	1466.6	1486.1	1486.1	1494.5
25°	1380.4	1380.4	1385.9	1377.6	1383.2	1394.3	1385.9	1405.4
27.5°	1263.5	1274.6	1274.6	1263.5	1269.0	1302.4	1316.4	1294.1
30°	1155.0	1157.7	1166.1	1160.6	1177.2	1188.4	1185.5	1202.3
32.5°	1032.5	1046.4	1052.0	1043.7	1049.2	1074.2	1060.3	1057.5
35°	937.9	912.8	910.1	912.8	923.9	929.5	923.9	943.5
37.5°	801.5	793.1	782.0	784.8	793.1	804.3	809.9	823.7
40°	670.7	659.5	659.5	656.8	648.4	679.1	679.1	679.1
42.5°	556.6	553.8	539.9	539.9	551.1	559.3	553.8	573.3
45°	456.4	445.3	436.9	436.9	445.3	445.3	453.7	450.9
47.5°	359.0	347.9	350.7	342.4	350.7	361.8	347.9	350.7
50°	270.0	270.0	264.4	270.0	267.1	270.0	264.4	258.8
52.5°	183.7	208.7	211.5	200.4	175.3	153.1	139.1	150.2
55°	105.8	94.6	94.6	91.8	86.2	83.5	75.1	83.5
57.5°	52.9	47.3	47.3	47.3	44.5	41.8	36.2	36.2
60°	22.2	19.5	19.5	16.7	14.0	11.1	8.4	11.1
62.5°	8.4	5.6	5.6	5.6	5.6	5.6	5.6	5.6
65°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
67.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
70°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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)