

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: **LD4C45D010 EX4C459050 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: LD4C45D010 EX4C459050 4LBSQLWWH  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS  
AND 4LBSQLWW TRIM WITH H FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

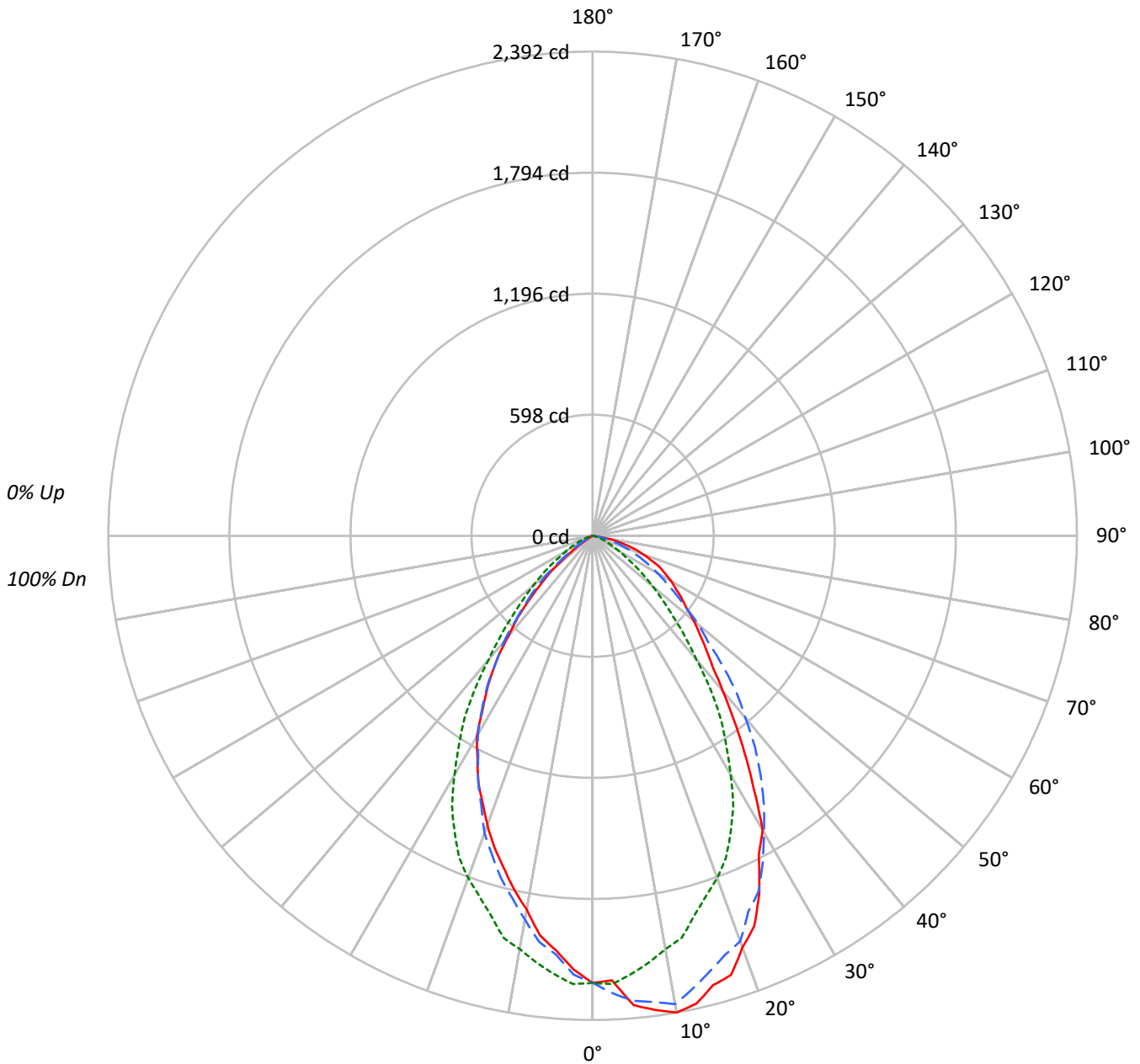
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3166.0 lumens  
Efficiency: N/A  
Efficacy: 63.8 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): 49.6  
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°	213115	213115	213115
5°	225474	210597	199313
10°	234313	203176	183708
15°	229623	193912	169578
20°	222172	184642	156086
25°	207242	171705	142385
30°	187078	151960	127471
35°	154106	130089	105753
40°	125768	100413	81394
45°	108059	76252	58540
50°	97797	58048	36972
55°	89999	41871	13374
60°	86377	28619	2046
65°	83425	19361	616
70°	74704	13429	762
75°	61214	6934	0
80°	38285	2945	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.9	6.5
10°-20°	557.5	17.6
20°-30°	744.5	23.5
30°-40°	706.7	22.3
40°-50°	488.5	15.4
50°-60°	269.9	8.5
60°-70°	134.0	4.2
70°-80°	52.8	1.7
80°-90°	5.0	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°	1509.0	47.7
0°-40°	2215.7	70.0
0°-60°	2974.1	93.9
0°-90°	3166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3166.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2209	2209	2209	2209	2209	
5°	2328	2307	2174	2076	2058	223
15°	2299	2230	1941	1751	1698	650
25°	1947	1939	1613	1337	1337	887
35°	1308	1446	1104	908	898	820
45°	792	908	559	458	429	618
55°	535	503	249	127	80	482
65°	365	265	85	3	3	355
75°	164	101	19	0	0	175
85°	0	3	0	0	0	15
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°	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7
2.5°	2198.1	2259.0	2264.3	2259.0	2267.0	2264.3	2277.6	2264.3	2280.3	2256.4	2261.7
5°	2327.9	2304.0	2354.3	2327.9	2327.9	2325.3	2317.3	2314.6	2325.3	2290.8	2306.7
7.5°	2362.3	2396.8	2441.8	2386.2	2388.8	2388.8	2372.9	2367.6	2367.6	2304.0	2322.6
10°	2391.5	2370.2	2394.1	2372.9	2391.5	2388.8	2399.4	2364.9	2388.8	2351.8	2349.1
12.5°	2367.6	2359.6	2391.5	2357.0	2346.5	2349.1	2335.9	2327.9	2335.9	2293.4	2290.8
15°	2298.7	2306.7	2354.3	2317.3	2312.0	2306.7	2290.8	2264.3	2285.6	2227.2	2229.9
17.5°	2275.0	2261.7	2269.7	2237.8	2245.8	2240.5	2237.8	2214.1	2208.7	2171.6	2171.6
20°	2163.7	2192.8	2192.8	2171.6	2171.6	2169.0	2134.6	2155.8	2131.9	2121.3	2131.9
22.5°	2086.9	2089.6	2089.6	2071.0	2073.7	2063.1	2044.5	2031.2	2044.5	2031.2	2010.1
25°	1946.6	1951.9	1983.6	1949.2	1943.9	1954.5	1938.6	1930.6	1928.0	1896.3	1938.6
27.5°	1777.0	1830.0	1827.4	1814.1	1830.0	1808.8	1800.9	1803.5	1811.5	1808.8	1819.4
30°	1679.1	1687.0	1695.0	1684.4	1687.0	1679.1	1679.1	1681.7	1702.9	1695.0	1692.3
32.5°	1480.4	1506.9	1528.1	1528.1	1530.7	1538.7	1536.0	1591.6	1604.9	1578.5	1573.2
35°	1308.3	1326.8	1345.3	1348.0	1382.5	1385.1	1387.7	1403.6	1440.7	1448.7	1446.0
37.5°	1144.1	1162.6	1167.9	1191.8	1210.3	1228.8	1250.1	1271.2	1303.0	1329.4	1316.3
40°	998.5	1006.3	1019.6	1030.2	1067.2	1067.2	1077.8	1120.3	1154.7	1175.9	1173.2
42.5°	876.6	879.2	889.8	908.4	942.8	934.9	942.8	972.0	1022.2	1024.9	1054.1
45°	791.9	789.2	797.2	799.8	821.0	831.6	836.9	858.1	900.4	905.7	908.4
47.5°	715.1	712.4	725.7	731.0	738.9	749.4	749.4	752.1	768.0	781.3	770.7
50°	651.5	651.5	651.5	656.8	670.1	667.4	670.1	680.6	688.5	683.2	680.6
52.5°	582.6	593.2	601.2	603.9	606.5	606.5	609.2	603.9	601.2	593.2	577.3
55°	535.0	545.6	545.6	545.6	545.6	556.1	543.0	545.6	545.6	524.4	503.2
57.5°	487.3	497.9	505.8	495.2	505.8	495.2	489.9	487.3	482.0	460.8	429.0
60°	447.6	452.9	450.2	447.6	452.9	444.9	439.6	429.0	423.7	394.6	373.4
62.5°	402.6	405.2	407.9	402.6	397.3	394.6	384.0	368.1	357.5	333.7	315.1
65°	365.4	357.5	354.8	352.3	347.0	339.0	331.1	312.5	304.5	283.4	264.8
67.5°	309.8	307.2	312.5	304.5	291.3	291.3	283.4	267.5	248.9	235.7	217.2
70°	264.8	262.2	256.9	248.9	246.3	235.7	235.7	217.2	211.9	188.0	172.1
72.5°	217.2	217.2	209.2	201.3	193.3	188.0	185.4	172.1	164.2	151.0	137.7
75°	164.2	164.2	161.5	153.6	148.3	143.0	140.4	129.8	121.8	108.6	100.6
77.5°	116.5	116.5	105.9	100.6	103.2	97.9	92.7	90.1	87.4	79.5	68.9
80°	68.9	66.2	58.3	60.9	58.3	58.3	55.6	52.9	47.6	42.3	37.0
82.5°	18.6	21.2	21.2	21.2	23.9	18.6	18.6	18.6	21.2	21.2	13.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.7
87.5°	2.7	5.3	10.6	10.6	10.6	10.6	10.6	8.0	8.0	8.0	5.3
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°	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7
2.5°	2235.2	2232.5	2235.2	2216.7	2259.0	2227.2	2222.0	2216.7	2235.2	2216.7	2190.2
5°	2282.9	2256.4	2248.4	2240.5	2264.3	2227.2	2219.4	2222.0	2208.7	2174.3	2176.9
7.5°	2298.7	2275.0	2251.1	2200.8	2222.0	2214.1	2192.8	2176.9	2155.8	2126.6	2121.3
10°	2304.0	2277.6	2243.1	2227.2	2195.5	2184.9	2176.9	2150.5	2124.0	2073.7	2060.4
12.5°	2288.2	2256.4	2214.1	2200.8	2176.9	2142.5	2124.0	2097.4	2073.7	2033.9	2004.8
15°	2219.4	2192.8	2179.6	2134.6	2124.0	2102.7	2065.7	2028.7	1994.2	1941.2	1925.3
17.5°	2139.9	2129.3	2116.0	2081.6	2079.0	2057.8	2023.4	1991.5	1946.6	1864.4	1838.0
20°	2057.8	2057.8	2015.4	2002.2	2028.7	1986.2	1959.8	1930.6	1838.0	1798.2	1750.6
22.5°	1996.9	1967.8	1943.9	1922.7	1925.3	1898.9	1861.8	1803.5	1769.1	1721.4	1665.8
25°	1877.7	1888.3	1835.4	1827.4	1835.4	1774.3	1755.9	1708.2	1657.8	1612.8	1570.5
27.5°	1803.5	1774.3	1740.0	1710.8	1710.8	1687.0	1634.1	1623.5	1546.6	1504.3	1451.2
30°	1692.3	1671.1	1642.0	1599.6	1594.3	1575.8	1533.4	1506.9	1427.5	1363.9	1334.7
32.5°	1551.9	1544.0	1520.1	1472.5	1456.6	1435.4	1382.5	1337.4	1300.4	1228.8	1194.4
35°	1451.2	1422.2	1371.9	1332.1	1318.9	1281.8	1239.4	1207.6	1167.9	1104.4	1059.4
37.5°	1300.4	1271.2	1223.5	1175.9	1175.9	1138.8	1080.5	1048.8	993.2	956.0	919.0
40°	1167.9	1130.8	1083.2	1027.6	1019.6	966.6	942.8	889.8	855.4	797.2	791.9
42.5°	1019.6	985.2	942.8	900.4	868.7	842.2	781.3	741.6	704.5	675.4	667.4
45°	884.5	839.5	802.5	749.4	717.7	685.9	646.2	619.7	590.6	558.8	540.3
47.5°	768.0	731.0	677.9	630.3	598.6	582.6	537.6	508.5	484.6	463.5	450.2
50°	648.9	603.9	574.7	521.7	516.4	479.4	442.3	418.5	405.2	386.7	368.1
52.5°	558.8	516.4	476.7	437.0	415.8	402.6	368.1	344.3	325.8	312.5	301.9
55°	471.4	434.3	402.6	362.8	349.6	331.1	291.3	286.1	267.5	248.9	235.7
57.5°	405.2	370.7	333.7	307.2	283.4	270.2	238.3	217.2	206.6	190.7	177.4
60°	344.3	307.2	278.1	246.3	235.7	217.2	193.3	174.8	161.5	148.3	135.1
62.5°	288.7	256.9	225.2	198.6	182.7	172.1	153.6	137.7	124.5	113.9	103.2
65°	238.3	209.2	182.7	156.3	148.3	135.1	121.8	108.6	97.9	84.8	74.2
67.5°	196.0	169.5	143.0	124.5	116.5	111.2	95.4	82.1	74.2	66.2	55.6
70°	153.6	135.1	113.9	97.9	90.1	82.1	71.5	63.6	52.9	47.6	39.7
72.5°	119.2	103.2	84.8	71.5	66.2	60.9	50.3	42.3	37.0	31.7	26.5
75°	84.8	71.5	60.9	47.6	45.0	42.3	34.4	29.2	23.9	18.6	15.9
77.5°	58.3	47.6	37.0	31.7	29.2	23.9	21.2	15.9	13.3	10.6	8.0
80°	31.7	23.9	18.6	15.9	13.3	10.6	10.6	8.0	5.3	5.3	2.7
82.5°	10.6	8.0	5.3	2.7	2.7	2.7	2.7	2.7	2.7	0.0	2.7
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°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	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°	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7
2.5°	2206.1	2176.9	2184.9	2184.9	2179.6	2179.6	2174.3	2166.3	2169.0	2153.1	2118.7
5°	2182.2	2145.2	2139.9	2145.2	2124.0	2118.7	2108.1	2124.0	2076.3	2094.9	2073.7
7.5°	2113.4	2079.0	2071.0	2089.6	2063.1	2047.1	2044.5	2065.7	2023.4	2002.2	1978.3
10°	2036.5	2023.4	1999.5	1986.2	1978.3	1980.9	1959.8	1933.3	1925.3	1920.0	1898.9
12.5°	1967.8	1938.6	1917.4	1901.6	1896.3	1896.3	1861.8	1856.5	1832.7	1827.4	1795.6
15°	1885.6	1851.2	1838.0	1816.8	1798.2	1808.8	1769.1	1758.5	1750.6	1716.1	1721.4
17.5°	1814.1	1777.0	1745.3	1732.0	1716.1	1700.3	1663.1	1671.1	1652.5	1652.5	1604.9
20°	1721.4	1681.7	1657.8	1631.4	1631.4	1610.2	1583.7	1586.3	1562.5	1538.7	1496.3
22.5°	1623.5	1581.0	1551.9	1541.3	1514.9	1509.6	1477.8	1469.8	1438.1	1440.7	1403.6
25°	1520.1	1477.8	1438.1	1440.7	1416.9	1406.3	1387.7	1350.7	1337.4	1321.6	1311.0
27.5°	1398.3	1369.2	1334.7	1332.1	1287.1	1289.7	1265.9	1255.4	1223.5	1231.5	1207.6
30°	1287.1	1244.8	1212.9	1205.0	1186.5	1181.2	1144.1	1128.1	1133.5	1112.3	1099.1
32.5°	1173.2	1109.7	1096.4	1080.5	1069.9	1056.7	1030.2	1040.8	1016.9	1022.2	1001.0
35°	1022.2	995.8	961.3	961.3	950.7	940.1	921.7	932.3	908.4	897.8	876.6
37.5°	895.1	871.4	836.9	847.5	828.9	813.0	797.2	799.8	778.6	776.0	754.7
40°	757.4	744.1	720.4	720.4	707.1	707.1	699.1	691.2	677.9	662.1	638.2
42.5°	627.6	617.0	606.5	609.2	590.6	606.5	585.3	598.6	556.1	553.5	537.6
45°	532.3	508.5	511.1	500.5	489.9	495.2	476.7	482.0	458.2	452.9	437.0
47.5°	431.7	423.7	407.9	402.6	402.6	394.6	386.7	384.0	373.4	360.1	339.0
50°	354.8	325.8	320.4	312.5	307.2	307.2	296.6	280.8	283.4	270.2	248.9
52.5°	278.1	254.2	243.6	241.0	230.4	225.2	211.9	201.3	193.3	188.0	174.8
55°	214.5	193.3	180.1	180.1	164.2	164.2	145.7	137.7	127.1	116.5	108.6
57.5°	161.5	151.0	137.7	127.1	121.8	108.6	97.9	84.8	76.8	60.9	50.3
60°	121.8	111.2	97.9	90.1	84.8	71.5	58.3	47.6	29.2	23.9	21.2
62.5°	90.1	79.5	66.2	60.9	55.6	45.0	31.7	15.9	8.0	8.0	8.0
65°	66.2	52.9	42.3	37.0	31.7	23.9	10.6	5.3	2.7	2.7	2.7
67.5°	45.0	34.4	23.9	21.2	15.9	8.0	2.7	2.7	2.7	2.7	2.7
70°	29.2	21.2	10.6	8.0	5.3	2.7	2.7	2.7	2.7	2.7	2.7
72.5°	18.6	10.6	5.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	10.6	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.7	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	2.7	2.7	2.7
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: LD4C45D010 EX4C459050 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7
2.5°	2155.8	2137.2	2147.8	2124.0	2134.6	2153.1	2139.9	2145.2
5°	2081.6	2071.0	2057.8	2023.4	2049.8	2071.0	2060.4	2057.8
7.5°	2002.2	1965.1	1983.6	1973.0	1967.8	1988.9	1965.1	1991.5
10°	1920.0	1893.6	1891.0	1872.4	1872.4	1888.3	1891.0	1875.0
12.5°	1798.2	1785.0	1785.0	1782.3	1779.6	1795.6	1798.2	1790.3
15°	1710.8	1705.6	1692.3	1689.7	1673.8	1697.6	1700.3	1697.6
17.5°	1604.9	1607.5	1594.3	1594.3	1604.9	1612.8	1591.6	1612.8
20°	1533.4	1520.1	1514.9	1491.0	1504.3	1517.5	1517.5	1520.1
22.5°	1430.1	1408.9	1416.9	1403.6	1395.6	1414.2	1414.2	1422.2
25°	1313.6	1313.6	1318.9	1311.0	1316.3	1326.8	1318.9	1337.4
27.5°	1202.3	1212.9	1212.9	1202.3	1207.6	1239.4	1252.7	1231.5
30°	1099.1	1101.7	1109.7	1104.4	1120.3	1130.8	1128.1	1144.1
32.5°	982.6	995.8	1001.0	993.2	998.5	1022.2	1009.0	1006.3
35°	892.5	868.7	866.1	868.7	879.2	884.5	879.2	897.8
37.5°	762.7	754.7	744.1	746.8	754.7	765.4	770.7	783.9
40°	638.2	627.6	627.6	625.0	617.0	646.2	646.2	646.2
42.5°	529.7	527.0	513.8	513.8	524.4	532.3	527.0	545.6
45°	434.3	423.7	415.8	415.8	423.7	423.7	431.7	429.0
47.5°	341.7	331.1	333.7	325.8	333.7	344.3	331.1	333.7
50°	256.9	256.9	251.6	256.9	254.2	256.9	251.6	246.3
52.5°	174.8	198.6	201.3	190.7	166.8	145.7	132.4	143.0
55°	100.6	90.1	90.1	87.4	82.1	79.5	71.5	79.5
57.5°	50.3	45.0	45.0	45.0	42.3	39.7	34.4	34.4
60°	21.2	18.6	18.6	15.9	13.3	10.6	8.0	10.6
62.5°	8.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3
65°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
67.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
70°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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)