

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: **LD4C40D010 EX4C409027 4LBSQLWWLI**

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: LD4C40D010 EX4C409027 4LBSQLWWLI  
Description: 4 INCH 4000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS  
AND 4LBSQLWW TRIM WITH LI FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

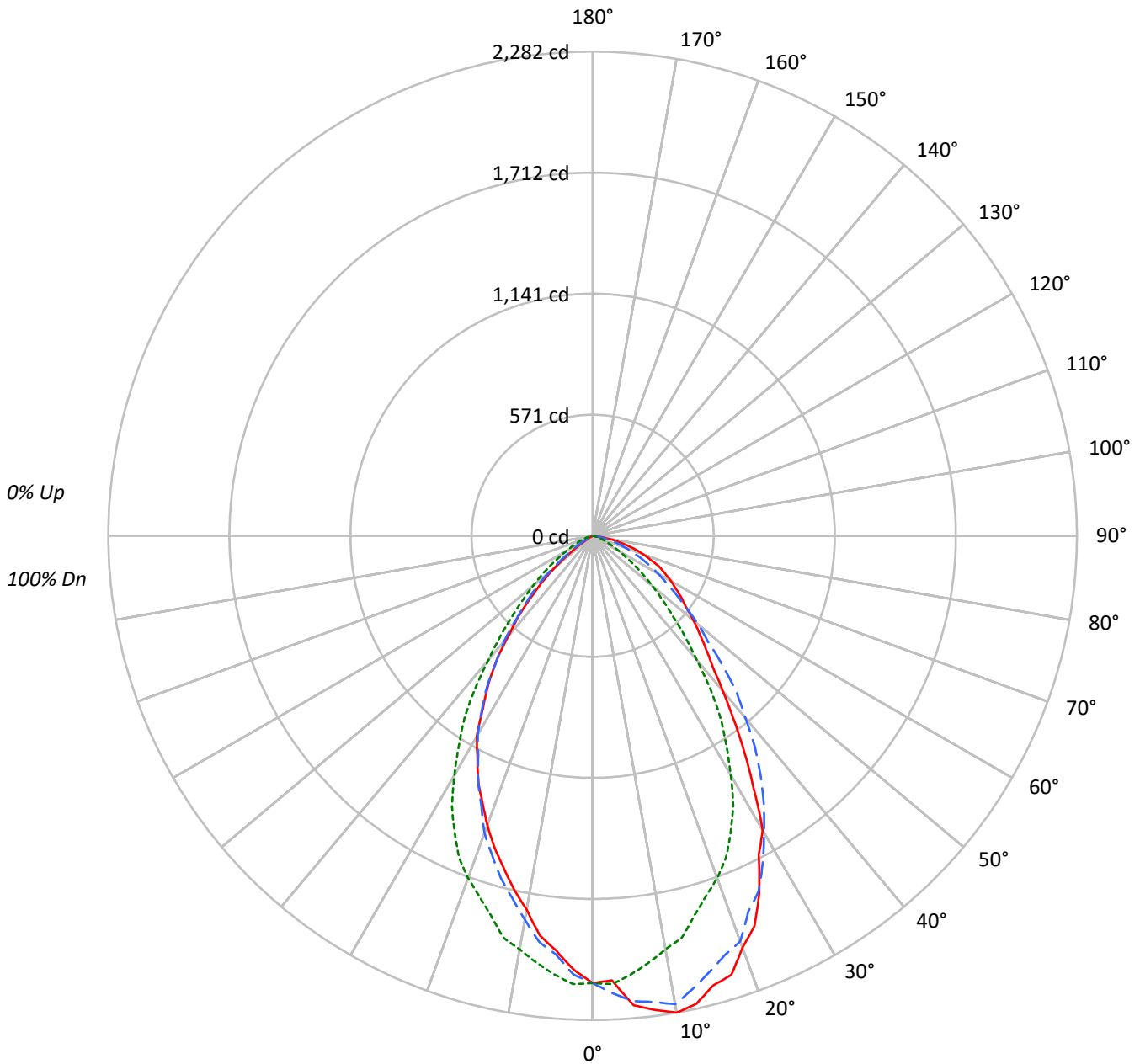
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3021.0 lumens  
Efficiency: N/A  
Efficacy: 64.3 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): 47  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90					90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72					72			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58					58			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53					53			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48					48			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44					44			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41					41			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38					38			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	203350	203350	203350
5°	215149	200950	190189
10°	223584	193868	175291
15°	219115	185031	161806
20°	211996	176191	148939
25°	197746	163837	135869
30°	178510	144996	121633
35°	147051	124128	100912
40°	120000	95816	77665
45°	103106	72758	55865
50°	93323	55391	35276
55°	85878	39953	12751
60°	82421	27306	1949
65°	79612	18470	594
70°	71290	12808	733
75°	58418	6599	0
80°	36507	2778	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.5	6.5
10°-20°	532.0	17.6
20°-30°	710.4	23.5
30°-40°	674.4	22.3
40°-50°	466.1	15.4
50°-60°	257.6	8.5
60°-70°	127.9	4.2
70°-80°	50.4	1.7
80°-90°	4.8	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°	1439.8	47.7
0°-40°	2114.2	70.0
0°-60°	2837.9	93.9
0°-90°	3021.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3021.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2108	2108	2108	2108	2108	
5°	2221	2201	2075	1981	1964	213
15°	2194	2128	1852	1670	1620	620
25°	1857	1850	1539	1276	1276	847
35°	1248	1380	1054	867	857	782
45°	756	867	533	437	409	589
55°	510	480	238	121	76	459
65°	349	253	81	3	3	338
75°	157	96	18	0	0	167
85°	0	3	0	0	0	14
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°	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5
2.5°	2097.4	2155.5	2160.6	2155.5	2163.2	2160.6	2173.3	2160.6	2175.8	2153.1	2158.1
5°	2221.3	2198.5	2246.5	2221.3	2221.3	2218.8	2211.2	2208.6	2218.8	2185.9	2201.1
7.5°	2254.1	2287.0	2330.0	2276.9	2279.4	2279.4	2264.2	2259.2	2259.2	2198.5	2216.2
10°	2282.0	2261.7	2284.4	2264.2	2282.0	2279.4	2289.5	2256.6	2279.4	2244.0	2241.5
12.5°	2259.2	2251.6	2282.0	2249.1	2239.0	2241.5	2228.9	2221.3	2228.9	2188.4	2185.9
15°	2193.5	2201.1	2246.5	2211.2	2206.1	2201.1	2185.9	2160.6	2180.9	2125.2	2127.8
17.5°	2170.8	2158.1	2165.7	2135.3	2143.0	2137.9	2135.3	2112.7	2107.5	2072.2	2072.2
20°	2064.6	2092.4	2092.4	2072.2	2072.2	2069.7	2036.8	2057.0	2034.3	2024.2	2034.3
22.5°	1991.3	1993.9	1993.9	1976.1	1978.7	1968.6	1950.9	1938.2	1950.9	1938.2	1918.0
25°	1857.4	1862.5	1892.8	1859.9	1854.9	1865.0	1849.8	1842.2	1839.7	1809.4	1849.8
27.5°	1695.7	1746.2	1743.7	1731.0	1746.2	1726.0	1718.4	1720.9	1728.5	1726.0	1736.1
30°	1602.2	1609.7	1617.3	1607.2	1609.7	1602.2	1602.2	1604.7	1624.9	1617.3	1614.8
32.5°	1412.6	1437.8	1458.1	1458.1	1460.6	1468.2	1465.7	1518.7	1531.4	1506.2	1501.1
35°	1248.4	1266.1	1283.7	1286.3	1319.1	1321.6	1324.2	1339.3	1374.7	1382.3	1379.7
37.5°	1091.7	1109.4	1114.4	1137.2	1154.9	1172.5	1192.8	1213.0	1243.3	1268.6	1256.0
40°	952.7	960.2	972.9	983.0	1018.4	1018.4	1028.5	1069.0	1101.8	1122.0	1119.4
42.5°	836.5	839.0	849.1	866.8	899.7	892.0	899.7	927.5	975.4	978.0	1005.8
45°	755.6	753.0	760.7	763.1	783.4	793.5	798.6	818.8	859.2	864.2	866.8
47.5°	682.3	679.8	692.4	697.5	705.0	715.1	715.1	717.7	732.8	745.5	735.4
50°	621.7	621.7	621.7	626.7	639.4	636.8	639.4	649.5	657.0	651.9	649.5
52.5°	555.9	566.0	573.6	576.2	578.7	578.7	581.3	576.2	573.6	566.0	550.9
55°	510.5	520.6	520.6	520.6	520.6	530.7	518.1	520.6	520.6	500.4	480.2
57.5°	465.0	475.1	482.6	472.6	482.6	472.6	467.5	465.0	459.9	439.7	409.4
60°	427.1	432.2	429.6	427.1	432.2	424.5	419.5	409.4	404.3	376.5	356.3
62.5°	384.1	386.6	389.2	384.1	379.1	376.5	366.4	351.3	341.2	318.4	300.7
65°	348.7	341.2	338.6	336.1	331.1	323.4	315.9	298.2	290.6	270.4	252.7
67.5°	295.6	293.2	298.2	290.6	278.0	278.0	270.4	255.2	237.5	224.9	207.2
70°	252.7	250.2	245.1	237.5	235.0	224.9	224.9	207.2	202.2	179.4	164.2
72.5°	207.2	207.2	199.6	192.1	184.4	179.4	176.9	164.2	156.7	144.1	131.4
75°	156.7	156.7	154.2	146.5	141.5	136.4	134.0	123.9	116.2	103.7	96.0
77.5°	111.2	111.2	101.1	96.0	98.5	93.5	88.4	85.9	83.4	75.8	65.7
80°	65.7	63.2	55.6	58.1	55.6	55.6	53.1	50.5	45.4	40.4	35.3
82.5°	17.7	20.2	20.2	20.2	22.8	17.7	17.7	17.7	20.2	20.2	12.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6
87.5°	2.6	5.0	10.1	10.1	10.1	10.1	10.1	7.6	7.6	7.6	5.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5
2.5°	2132.9	2130.3	2132.9	2115.1	2155.5	2125.2	2120.2	2115.1	2132.9	2115.1	2089.9
5°	2178.3	2153.1	2145.4	2137.9	2160.6	2125.2	2117.7	2120.2	2107.5	2074.7	2077.2
7.5°	2193.5	2170.8	2148.0	2100.0	2120.2	2112.7	2092.4	2077.2	2057.0	2029.2	2024.2
10°	2198.5	2173.3	2140.4	2125.2	2094.9	2084.8	2077.2	2052.0	2026.7	1978.7	1966.0
12.5°	2183.4	2153.1	2112.7	2100.0	2077.2	2044.4	2026.7	2001.4	1978.7	1940.8	1913.0
15°	2117.7	2092.4	2079.8	2036.8	2026.7	2006.4	1971.1	1935.7	1902.9	1852.3	1837.1
17.5°	2041.9	2031.8	2019.1	1986.2	1983.8	1963.6	1930.7	1900.3	1857.4	1779.0	1753.8
20°	1963.6	1963.6	1923.1	1910.5	1935.7	1895.3	1870.0	1842.2	1753.8	1715.9	1670.4
22.5°	1905.4	1877.6	1854.9	1834.7	1837.1	1811.9	1776.5	1720.9	1688.0	1642.6	1589.5
25°	1791.7	1801.8	1751.3	1743.7	1751.3	1693.1	1675.5	1629.9	1581.9	1538.9	1498.5
27.5°	1720.9	1693.1	1660.3	1632.5	1632.5	1609.7	1559.2	1549.1	1475.8	1435.4	1384.8
30°	1614.8	1594.6	1566.8	1526.4	1521.3	1503.6	1463.2	1437.8	1362.1	1301.4	1273.6
32.5°	1480.8	1473.3	1450.5	1405.1	1389.9	1369.6	1319.1	1276.2	1240.8	1172.5	1139.7
35°	1384.8	1357.1	1309.0	1271.1	1258.5	1223.1	1182.6	1152.3	1114.4	1053.8	1010.8
37.5°	1240.8	1213.0	1167.5	1122.0	1122.0	1086.7	1031.0	1000.7	947.7	912.2	876.9
40°	1114.4	1079.1	1033.6	980.5	972.9	922.3	899.7	849.1	816.2	760.7	755.6
42.5°	972.9	940.1	899.7	859.2	828.9	803.6	745.5	707.6	672.2	644.4	636.8
45°	844.0	801.0	765.7	715.1	684.8	654.5	616.6	591.4	563.5	533.2	515.5
47.5°	732.8	697.5	646.9	601.5	571.2	555.9	512.9	485.2	462.5	442.3	429.6
50°	619.2	576.2	548.4	497.8	492.7	457.4	422.1	399.3	386.6	369.0	351.3
52.5°	533.2	492.7	454.8	417.0	396.7	384.1	351.3	328.5	310.9	298.2	288.1
55°	449.8	414.4	384.1	346.2	333.5	315.9	278.0	273.0	255.2	237.5	224.9
57.5°	386.6	353.7	318.4	293.2	270.4	257.8	227.4	207.2	197.1	182.0	169.3
60°	328.5	293.2	265.3	235.0	224.9	207.2	184.4	166.8	154.2	141.5	128.9
62.5°	275.4	245.1	214.8	189.5	174.3	164.2	146.5	131.4	118.8	108.7	98.5
65°	227.4	199.6	174.3	149.1	141.5	128.9	116.2	103.7	93.5	80.9	70.8
67.5°	187.0	161.8	136.4	118.8	111.2	106.1	91.0	78.3	70.8	63.2	53.1
70°	146.5	128.9	108.7	93.5	85.9	78.3	68.2	60.7	50.5	45.4	37.9
72.5°	113.8	98.5	80.9	68.2	63.2	58.1	48.0	40.4	35.3	30.3	25.2
75°	80.9	68.2	58.1	45.4	43.0	40.4	32.9	27.8	22.8	17.7	15.1
77.5°	55.6	45.4	35.3	30.3	27.8	22.8	20.2	15.1	12.7	10.1	7.6
80°	30.3	22.8	17.7	15.1	12.7	10.1	10.1	7.6	5.0	5.0	2.6
82.5°	10.1	7.6	5.0	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6
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°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	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°	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5
2.5°	2105.0	2077.2	2084.8	2084.8	2079.8	2079.8	2074.7	2067.1	2069.7	2054.5	2021.7
5°	2082.3	2046.9	2041.9	2046.9	2026.7	2021.7	2011.6	2026.7	1981.2	1998.9	1978.7
7.5°	2016.6	1983.8	1976.1	1993.9	1968.6	1953.4	1950.9	1971.1	1930.7	1910.5	1887.7
10°	1943.3	1930.7	1907.9	1895.3	1887.7	1890.2	1870.0	1844.8	1837.1	1832.1	1811.9
12.5°	1877.6	1849.8	1829.6	1814.5	1809.4	1809.4	1776.5	1771.5	1748.7	1743.7	1713.4
15°	1799.2	1766.4	1753.8	1733.6	1715.9	1726.0	1688.0	1677.9	1670.4	1637.5	1642.6
17.5°	1731.0	1695.7	1665.4	1652.7	1637.5	1622.4	1587.0	1594.6	1576.9	1576.9	1531.4
20°	1642.6	1604.7	1581.9	1556.7	1556.7	1536.5	1511.2	1513.7	1490.9	1468.2	1427.8
22.5°	1549.1	1508.6	1480.8	1470.7	1445.5	1440.4	1410.1	1402.5	1372.2	1374.7	1339.3
25°	1450.5	1410.1	1372.2	1374.7	1352.0	1341.9	1324.2	1288.8	1276.2	1261.0	1250.9
27.5°	1334.3	1306.5	1273.6	1271.1	1228.2	1230.6	1208.0	1197.9	1167.5	1175.1	1152.3
30°	1228.2	1187.8	1157.4	1149.8	1132.1	1127.1	1091.7	1076.5	1081.6	1061.3	1048.8
32.5°	1119.4	1058.9	1046.2	1031.0	1020.9	1008.3	983.0	993.1	970.3	975.4	955.2
35°	975.4	950.2	917.3	917.3	907.2	897.1	879.5	889.6	866.8	856.7	836.5
37.5°	854.1	831.4	798.6	808.7	791.0	775.8	760.7	763.1	742.9	740.5	720.2
40°	722.7	710.1	687.4	687.4	674.7	674.7	667.1	659.6	646.9	631.8	609.0
42.5°	598.9	588.8	578.7	581.3	563.5	578.7	558.5	571.2	530.7	528.2	512.9
45°	507.9	485.2	487.7	477.6	467.5	472.6	454.8	459.9	437.2	432.2	417.0
47.5°	412.0	404.3	389.2	384.1	384.1	376.5	369.0	366.4	356.3	343.6	323.4
50°	338.6	310.9	305.7	298.2	293.2	293.2	283.1	267.9	270.4	257.8	237.5
52.5°	265.3	242.6	232.5	230.0	219.9	214.8	202.2	192.1	184.4	179.4	166.8
55°	204.6	184.4	171.9	171.9	156.7	156.7	139.0	131.4	121.3	111.2	103.7
57.5°	154.2	144.1	131.4	121.3	116.2	103.7	93.5	80.9	73.3	58.1	48.0
60°	116.2	106.1	93.5	85.9	80.9	68.2	55.6	45.4	27.8	22.8	20.2
62.5°	85.9	75.8	63.2	58.1	53.1	43.0	30.3	15.1	7.6	7.6	7.6
65°	63.2	50.5	40.4	35.3	30.3	22.8	10.1	5.0	2.6	2.6	2.6
67.5°	43.0	32.9	22.8	20.2	15.1	7.6	2.6	2.6	2.6	2.6	2.6
70°	27.8	20.2	10.1	7.6	5.0	2.6	2.6	2.6	2.6	2.6	2.6
72.5°	17.7	10.1	5.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	10.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.6	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	2.6	2.6	2.6
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: LD4C40D010 EX4C409027 4LBSQLWWLI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5	2107.5
2.5°	2057.0	2039.3	2049.4	2026.7	2036.8	2054.5	2041.9	2046.9
5°	1986.2	1976.1	1963.6	1930.7	1955.9	1976.1	1966.0	1963.6
7.5°	1910.5	1875.1	1892.8	1882.7	1877.6	1897.8	1875.1	1900.3
10°	1832.1	1806.8	1804.4	1786.6	1786.6	1801.8	1804.4	1789.1
12.5°	1715.9	1703.3	1703.3	1700.7	1698.1	1713.4	1715.9	1708.3
15°	1632.5	1627.4	1614.8	1612.3	1597.1	1619.8	1622.4	1619.8
17.5°	1531.4	1533.9	1521.3	1521.3	1531.4	1538.9	1518.7	1538.9
20°	1463.2	1450.5	1445.5	1422.7	1435.4	1448.0	1448.0	1450.5
22.5°	1364.6	1344.4	1352.0	1339.3	1331.7	1349.4	1349.4	1357.1
25°	1253.4	1253.4	1258.5	1250.9	1256.0	1266.1	1258.5	1276.2
27.5°	1147.3	1157.4	1157.4	1147.3	1152.3	1182.6	1195.3	1175.1
30°	1048.8	1051.2	1058.9	1053.8	1069.0	1079.1	1076.5	1091.7
32.5°	937.6	950.2	955.2	947.7	952.7	975.4	962.8	960.2
35°	851.6	828.9	826.4	828.9	839.0	844.0	839.0	856.7
37.5°	727.8	720.2	710.1	712.6	720.2	730.4	735.4	748.0
40°	609.0	598.9	598.9	596.4	588.8	616.6	616.6	616.6
42.5°	505.4	502.8	490.3	490.3	500.4	507.9	502.8	520.6
45°	414.4	404.3	396.7	396.7	404.3	404.3	412.0	409.4
47.5°	326.0	315.9	318.4	310.9	318.4	328.5	315.9	318.4
50°	245.1	245.1	240.1	245.1	242.6	245.1	240.1	235.0
52.5°	166.8	189.5	192.1	182.0	159.2	139.0	126.3	136.4
55°	96.0	85.9	85.9	83.4	78.3	75.8	68.2	75.8
57.5°	48.0	43.0	43.0	43.0	40.4	37.9	32.9	32.9
60°	20.2	17.7	17.7	15.1	12.7	10.1	7.6	10.1
62.5°	7.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0
65°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
67.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
70°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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)