

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 EX4C509030 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 EX4C509030 4LBSQLWWH  
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS  
AND 4LBSQLWW TRIM WITH H FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

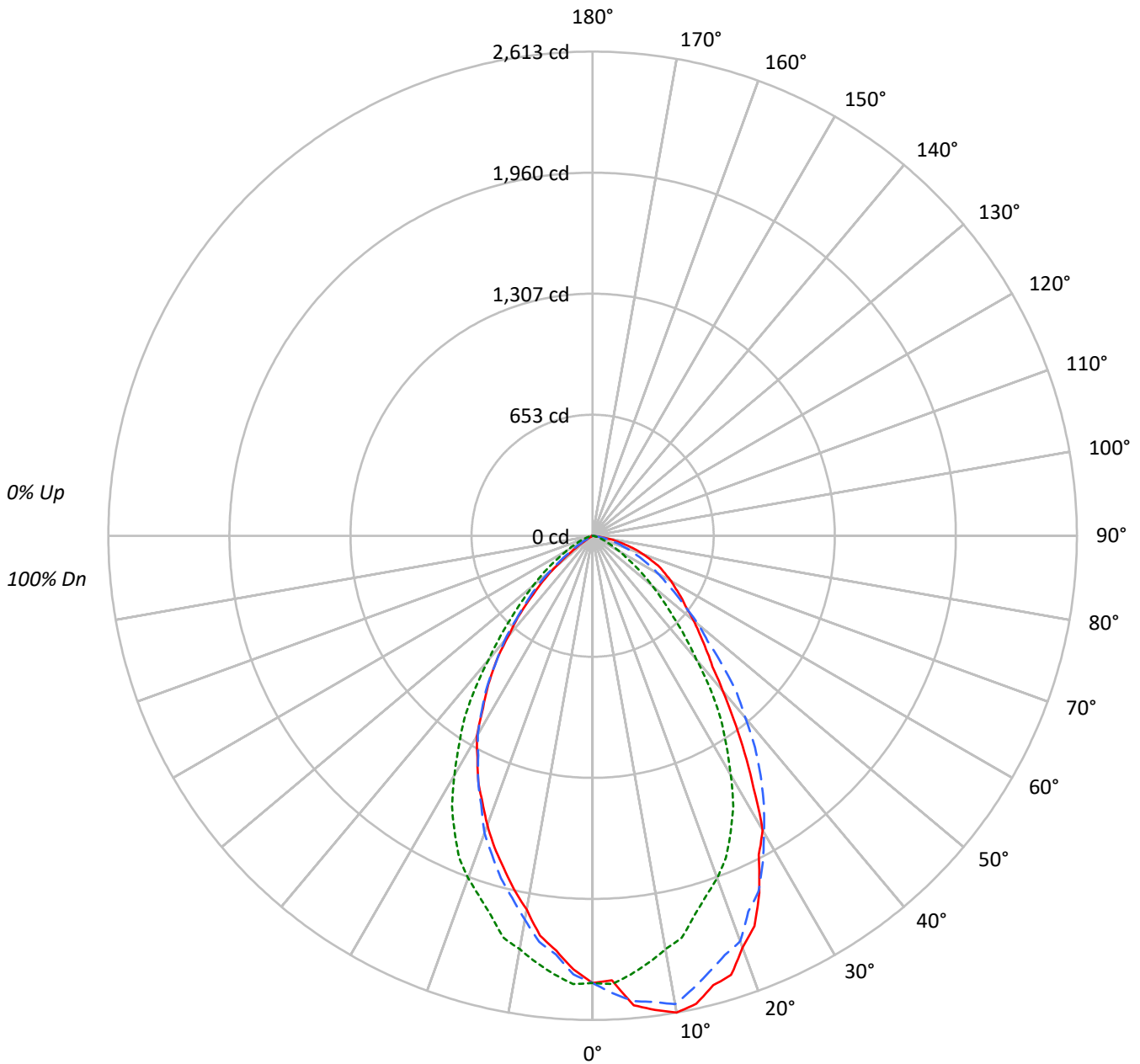
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3459.0 lumens  
Efficiency: N/A  
Efficacy: 59.2 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	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°	232837	232837	232837
5°	246338	230095	217765
10°	255995	221978	200707
15°	250880	211852	185271
20°	242739	201728	170533
25°	226416	187600	155565
30°	204392	166021	139270
35°	168359	142127	115541
40°	137407	109696	88926
45°	118062	83320	63957
50°	106848	63422	40395
55°	98326	45740	14602
60°	94366	31262	2239
65°	91165	21142	662
70°	81616	14670	818
75°	66881	7568	0
80°	41841	3223	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	226.1	6.5
10°-20°	609.1	17.6
20°-30°	813.4	23.5
30°-40°	772.1	22.3
40°-50°	533.7	15.4
50°-60°	294.9	8.5
60°-70°	146.4	4.2
70°-80°	57.7	1.7
80°-90°	5.5	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°	1648.6	47.7
0°-40°	2420.7	70.0
0°-60°	3249.4	93.9
0°-90°	3459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3459.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2413	2413	2413	2413	2413	
5°	2543	2520	2376	2268	2248	243
15°	2512	2436	2121	1913	1855	710
25°	2127	2118	1762	1461	1461	970
35°	1429	1580	1207	992	981	895
45°	865	992	611	501	469	675
55°	584	550	272	139	87	526
65°	399	289	93	3	3	388
75°	179	110	20	0	0	191
85°	0	3	0	0	0	17
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°	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1
2.5°	2401.5	2468.1	2473.8	2468.1	2476.8	2473.8	2488.3	2473.8	2491.3	2465.2	2471.0
5°	2543.3	2517.3	2572.2	2543.3	2543.3	2540.5	2531.8	2528.8	2540.5	2502.9	2520.2
7.5°	2581.0	2618.6	2667.8	2607.0	2609.9	2609.9	2592.5	2586.7	2586.7	2517.3	2537.5
10°	2612.8	2589.6	2615.7	2592.5	2612.8	2609.9	2621.4	2583.8	2609.9	2569.4	2566.5
12.5°	2586.7	2578.0	2612.8	2575.2	2563.6	2566.5	2552.1	2543.3	2552.1	2505.7	2502.9
15°	2511.5	2520.2	2572.2	2531.8	2526.0	2520.2	2502.9	2473.8	2497.1	2433.4	2436.3
17.5°	2485.5	2471.0	2479.7	2444.9	2453.7	2447.9	2444.9	2419.0	2413.1	2372.6	2372.6
20°	2364.0	2395.7	2395.7	2372.6	2372.6	2369.8	2332.1	2355.3	2329.2	2317.6	2329.2
22.5°	2280.0	2282.9	2282.9	2262.6	2265.6	2254.0	2233.7	2219.2	2233.7	2219.2	2196.1
25°	2126.7	2132.5	2167.2	2129.6	2123.8	2135.3	2118.0	2109.3	2106.4	2071.8	2118.0
27.5°	1941.5	1999.3	1996.5	1982.0	1999.3	1976.2	1967.6	1970.4	1979.1	1976.2	1987.8
30°	1834.5	1843.1	1851.8	1840.3	1843.1	1834.5	1834.5	1837.3	1860.5	1851.8	1848.9
32.5°	1617.4	1646.3	1669.6	1669.6	1672.4	1681.1	1678.2	1738.9	1753.4	1724.5	1718.8
35°	1429.3	1449.6	1469.8	1472.8	1510.4	1513.2	1516.2	1533.5	1574.0	1582.7	1579.8
37.5°	1250.0	1270.2	1276.0	1302.0	1322.3	1342.5	1365.8	1388.9	1423.6	1452.5	1438.1
40°	1090.9	1099.5	1114.0	1125.5	1166.0	1166.0	1177.6	1223.9	1261.6	1284.7	1281.8
42.5°	957.8	960.6	972.2	992.5	1030.1	1021.4	1030.1	1061.9	1116.8	1119.8	1151.6
45°	865.2	862.2	870.9	873.8	897.0	908.6	914.4	937.5	983.7	989.5	992.5
47.5°	781.3	778.3	792.8	798.6	807.2	818.8	818.8	821.7	839.1	853.6	842.0
50°	711.8	711.8	711.8	717.6	732.1	729.1	732.1	743.6	752.3	746.5	743.6
52.5°	636.5	648.1	656.8	659.8	662.6	662.6	665.5	659.8	656.8	648.1	630.7
55°	584.5	596.0	596.0	596.0	596.0	607.6	593.2	596.0	596.0	572.9	549.8
57.5°	532.4	544.0	552.6	541.1	552.6	541.1	535.3	532.4	526.6	503.4	468.7
60°	489.0	494.8	491.9	489.0	494.8	486.1	480.3	468.7	463.0	431.1	408.0
62.5°	439.8	442.7	445.6	439.8	434.1	431.1	419.5	402.2	390.6	364.6	344.3
65°	399.3	390.6	387.7	384.9	379.1	370.3	361.7	341.4	332.7	309.6	289.3
67.5°	338.5	335.7	341.4	332.7	318.3	318.3	309.6	292.2	271.9	257.6	237.3
70°	289.3	286.5	280.7	271.9	269.1	257.6	257.6	237.3	231.5	205.4	188.1
72.5°	237.3	237.3	228.5	219.9	211.2	205.4	202.6	188.1	179.4	164.9	150.4
75°	179.4	179.4	176.5	167.8	162.0	156.2	153.4	141.8	133.1	118.7	110.0
77.5°	127.3	127.3	115.7	110.0	112.8	107.0	101.2	98.4	95.4	86.8	75.3
80°	75.3	72.3	63.7	66.5	63.7	63.7	60.8	57.8	52.0	46.3	40.5
82.5°	20.3	23.1	23.1	23.1	26.1	20.3	20.3	20.3	23.1	23.1	14.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.9	2.9
87.5°	2.9	5.8	11.6	11.6	11.6	11.6	11.6	8.7	8.7	8.7	5.8
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°	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1
2.5°	2442.1	2439.2	2442.1	2421.8	2468.1	2433.4	2427.6	2421.8	2442.1	2421.8	2392.9
5°	2494.1	2465.2	2456.5	2447.9	2473.8	2433.4	2424.8	2427.6	2413.1	2375.6	2378.4
7.5°	2511.5	2485.5	2459.4	2404.5	2427.6	2419.0	2395.7	2378.4	2355.3	2323.4	2317.6
10°	2517.3	2488.3	2450.7	2433.4	2398.7	2387.1	2378.4	2349.5	2320.6	2265.6	2251.1
12.5°	2499.9	2465.2	2419.0	2404.5	2378.4	2340.8	2320.6	2291.6	2265.6	2222.2	2190.3
15°	2424.8	2395.7	2381.3	2332.1	2320.6	2297.3	2256.9	2216.4	2178.8	2120.8	2103.5
17.5°	2337.9	2326.4	2311.8	2274.2	2271.4	2248.3	2210.6	2175.8	2126.7	2037.0	2008.0
20°	2248.3	2248.3	2201.9	2187.5	2216.4	2170.0	2141.1	2109.3	2008.0	1964.6	1912.6
22.5°	2181.7	2149.9	2123.8	2100.7	2103.5	2074.6	2034.1	1970.4	1932.8	1880.7	1820.0
25°	2051.5	2063.0	2005.2	1996.5	2005.2	1938.6	1918.4	1866.2	1811.3	1762.1	1715.8
27.5°	1970.4	1938.6	1901.0	1869.2	1869.2	1843.1	1785.3	1773.7	1689.7	1643.5	1585.6
30°	1848.9	1825.8	1793.9	1747.7	1741.9	1721.6	1675.3	1646.3	1559.6	1490.1	1458.3
32.5°	1695.5	1686.9	1660.8	1608.8	1591.4	1568.2	1510.4	1461.2	1420.7	1342.5	1305.0
35°	1585.6	1553.8	1498.8	1455.4	1440.9	1400.4	1354.1	1319.4	1276.0	1206.6	1157.4
37.5°	1420.7	1388.9	1336.7	1284.7	1284.7	1244.2	1180.5	1145.8	1085.1	1044.5	1004.0
40°	1276.0	1235.5	1183.5	1122.7	1114.0	1056.1	1030.1	972.2	934.5	870.9	865.2
42.5°	1114.0	1076.3	1030.1	983.7	949.0	920.1	853.6	810.2	769.7	737.9	729.1
45°	966.4	917.2	876.7	818.8	784.1	749.4	706.0	677.1	645.2	610.6	590.3
47.5°	839.1	798.6	740.7	688.7	654.0	636.5	587.3	555.6	529.5	506.4	491.9
50°	708.9	659.8	627.9	570.0	564.2	523.7	483.3	457.2	442.7	422.5	402.2
52.5°	610.6	564.2	520.8	477.5	454.2	439.8	402.2	376.1	355.9	341.4	329.9
55°	515.0	474.5	439.8	396.4	381.9	361.7	318.3	312.5	292.2	271.9	257.6
57.5°	442.7	405.0	364.6	335.7	309.6	295.2	260.4	237.3	225.7	208.4	193.8
60°	376.1	335.7	303.8	269.1	257.6	237.3	211.2	191.0	176.5	162.0	147.6
62.5°	315.4	280.7	246.0	217.0	199.6	188.1	167.8	150.4	136.0	124.5	112.8
65°	260.4	228.5	199.6	170.7	162.0	147.6	133.1	118.7	107.0	92.6	81.1
67.5°	214.1	185.2	156.2	136.0	127.3	121.5	104.2	89.7	81.1	72.3	60.8
70°	167.8	147.6	124.5	107.0	98.4	89.7	78.1	69.5	57.8	52.0	43.4
72.5°	130.2	112.8	92.6	78.1	72.3	66.5	55.0	46.3	40.5	34.7	28.9
75°	92.6	78.1	66.5	52.0	49.2	46.3	37.6	31.9	26.1	20.3	17.3
77.5°	63.7	52.0	40.5	34.7	31.9	26.1	23.1	17.3	14.5	11.6	8.7
80°	34.7	26.1	20.3	17.3	14.5	11.6	11.6	8.7	5.8	5.8	2.9
82.5°	11.6	8.7	5.8	2.9	2.9	2.9	2.9	2.9	2.9	0.0	2.9
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°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	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°	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1
2.5°	2410.2	2378.4	2387.1	2387.1	2381.3	2381.3	2375.6	2366.8	2369.8	2352.3	2314.8
5°	2384.2	2343.7	2337.9	2343.7	2320.6	2314.8	2303.2	2320.6	2268.4	2288.7	2265.6
7.5°	2309.0	2271.4	2262.6	2282.9	2254.0	2236.6	2233.7	2256.9	2210.6	2187.5	2161.4
10°	2225.0	2210.6	2184.5	2170.0	2161.4	2164.3	2141.1	2112.2	2103.5	2097.7	2074.6
12.5°	2149.9	2118.0	2094.9	2077.5	2071.8	2071.8	2034.1	2028.3	2002.3	1996.5	1961.8
15°	2060.1	2022.6	2008.0	1984.9	1964.6	1976.2	1932.8	1921.2	1912.6	1875.0	1880.7
17.5°	1982.0	1941.5	1906.8	1892.3	1875.0	1857.6	1817.0	1825.8	1805.5	1805.5	1753.4
20°	1880.7	1837.3	1811.3	1782.3	1782.3	1759.2	1730.3	1733.1	1707.1	1681.1	1634.8
22.5°	1773.7	1727.4	1695.5	1684.0	1655.0	1649.3	1614.6	1605.8	1571.2	1574.0	1533.5
25°	1660.8	1614.6	1571.2	1574.0	1548.0	1536.5	1516.2	1475.7	1461.2	1443.9	1432.3
27.5°	1527.7	1495.9	1458.3	1455.4	1406.2	1409.1	1383.1	1371.5	1336.7	1345.5	1319.4
30°	1406.2	1360.0	1325.2	1316.6	1296.3	1290.5	1250.0	1232.6	1238.4	1215.2	1200.8
32.5°	1281.8	1212.4	1197.9	1180.5	1169.0	1154.5	1125.5	1137.1	1111.0	1116.8	1093.7
35°	1116.8	1087.9	1050.3	1050.3	1038.7	1027.1	1007.0	1018.5	992.5	980.9	957.8
37.5°	977.9	952.0	914.4	925.9	905.6	888.3	870.9	873.8	850.6	847.8	824.6
40°	827.5	813.0	787.1	787.1	772.5	772.5	763.8	755.2	740.7	723.3	697.3
42.5°	685.7	674.1	662.6	665.5	645.2	662.6	639.5	654.0	607.6	604.8	587.3
45°	581.5	555.6	558.4	546.8	535.3	541.1	520.8	526.6	500.6	494.8	477.5
47.5°	471.7	463.0	445.6	439.8	439.8	431.1	422.5	419.5	408.0	393.5	370.3
50°	387.7	355.9	350.1	341.4	335.7	335.7	324.1	306.8	309.6	295.2	271.9
52.5°	303.8	277.7	266.2	263.3	251.8	246.0	231.5	219.9	211.2	205.4	191.0
55°	234.3	211.2	196.8	196.8	179.4	179.4	159.2	150.4	138.9	127.3	118.7
57.5°	176.5	164.9	150.4	138.9	133.1	118.7	107.0	92.6	83.9	66.5	55.0
60°	133.1	121.5	107.0	98.4	92.6	78.1	63.7	52.0	31.9	26.1	23.1
62.5°	98.4	86.8	72.3	66.5	60.8	49.2	34.7	17.3	8.7	8.7	8.7
65°	72.3	57.8	46.3	40.5	34.7	26.1	11.6	5.8	2.9	2.9	2.9
67.5°	49.2	37.6	26.1	23.1	17.3	8.7	2.9	2.9	2.9	2.9	2.9
70°	31.9	23.1	11.6	8.7	5.8	2.9	2.9	2.9	2.9	2.9	2.9
72.5°	20.3	11.6	5.8	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.6	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.8	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.9	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	2.9	2.9	2.9
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 EX4C509030 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1	2413.1
2.5°	2355.3	2335.0	2346.5	2320.6	2332.1	2352.3	2337.9	2343.7
5°	2274.2	2262.6	2248.3	2210.6	2239.5	2262.6	2251.1	2248.3
7.5°	2187.5	2146.9	2167.2	2155.6	2149.9	2173.0	2146.9	2175.8
10°	2097.7	2068.8	2066.0	2045.7	2045.7	2063.0	2066.0	2048.5
12.5°	1964.6	1950.2	1950.2	1947.3	1944.3	1961.8	1964.6	1956.0
15°	1869.2	1863.4	1848.9	1846.1	1828.7	1854.7	1857.6	1854.7
17.5°	1753.4	1756.3	1741.9	1741.9	1753.4	1762.1	1738.9	1762.1
20°	1675.3	1660.8	1655.0	1629.0	1643.5	1658.0	1658.0	1660.8
22.5°	1562.4	1539.3	1548.0	1533.5	1524.8	1545.1	1545.1	1553.8
25°	1435.1	1435.1	1440.9	1432.3	1438.1	1449.6	1440.9	1461.2
27.5°	1313.6	1325.2	1325.2	1313.6	1319.4	1354.1	1368.6	1345.5
30°	1200.8	1203.6	1212.4	1206.6	1223.9	1235.5	1232.6	1250.0
32.5°	1073.5	1087.9	1093.7	1085.1	1090.9	1116.8	1102.4	1099.5
35°	975.1	949.0	946.2	949.0	960.6	966.4	960.6	980.9
37.5°	833.3	824.6	813.0	816.0	824.6	836.3	842.0	856.4
40°	697.3	685.7	685.7	682.9	674.1	706.0	706.0	706.0
42.5°	578.7	575.8	561.4	561.4	572.9	581.5	575.8	596.0
45°	474.5	463.0	454.2	454.2	463.0	463.0	471.7	468.7
47.5°	373.3	361.7	364.6	355.9	364.6	376.1	361.7	364.6
50°	280.7	280.7	274.9	280.7	277.7	280.7	274.9	269.1
52.5°	191.0	217.0	219.9	208.4	182.3	159.2	144.6	156.2
55°	110.0	98.4	98.4	95.4	89.7	86.8	78.1	86.8
57.5°	55.0	49.2	49.2	49.2	46.3	43.4	37.6	37.6
60°	23.1	20.3	20.3	17.3	14.5	11.6	8.7	11.6
62.5°	8.7	5.8	5.8	5.8	5.8	5.8	5.8	5.8
65°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
67.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
70°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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)