

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 EX4C509040 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 EX4C509040 4LBSQLWWH
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

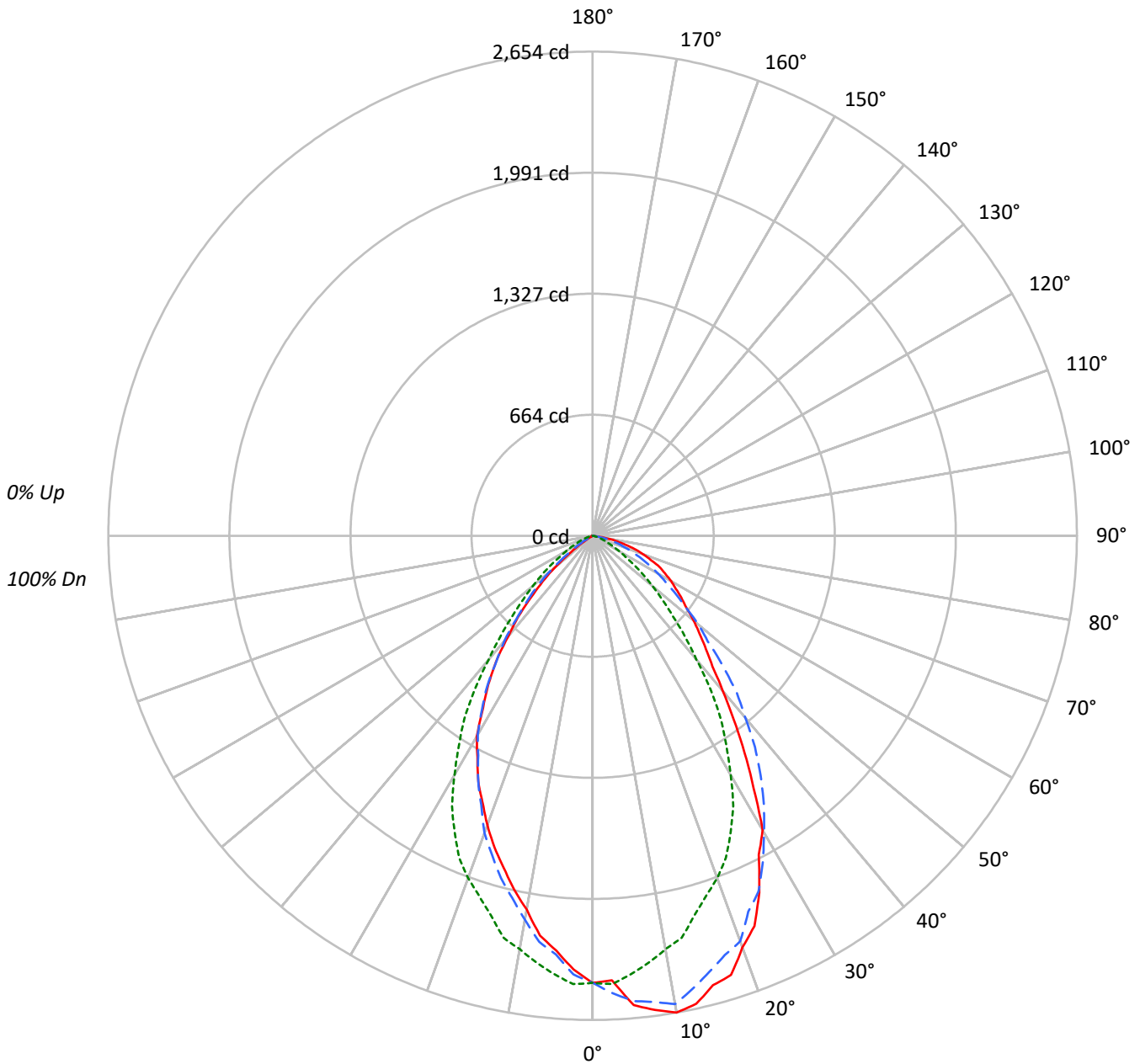
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3513.0 lumens
Efficiency: N/A
Efficacy: 60.2 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									
RC	80									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																			
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°	236465	236465	236465
5°	250183	233678	221164
10°	259993	225446	203842
15°	254796	215159	188158
20°	246528	204880	173203
25°	229951	190527	157992
30°	207579	168617	141442
35°	170997	144341	117344
40°	139548	111409	90311
45°	119904	84616	64967
50°	108515	64412	41025
55°	99857	46463	14837
60°	95852	31745	2258
65°	92581	21484	685
70°	82885	14896	846
75°	67925	7680	0
80°	42452	3278	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.6	6.5
10°-20°	618.6	17.6
20°-30°	826.1	23.5
30°-40°	784.2	22.3
40°-50°	542.1	15.4
50°-60°	299.5	8.5
60°-70°	148.7	4.2
70°-80°	58.6	1.7
80°-90°	5.6	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°	1674.3	47.7
0°-40°	2458.5	70.0
0°-60°	3300.1	93.9
0°-90°	3513.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3513.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2451	2451	2451	2451	2451	
5°	2583	2560	2413	2304	2283	247
15°	2551	2474	2154	1942	1884	722
25°	2160	2151	1790	1484	1484	985
35°	1452	1604	1225	1008	996	909
45°	879	1008	620	508	476	685
55°	594	558	276	141	88	534
65°	406	294	94	3	3	394
75°	182	112	21	0	0	194
85°	0	3	0	0	0	17
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°	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7
2.5°	2439.0	2506.6	2512.5	2506.6	2515.5	2512.5	2527.2	2512.5	2530.2	2503.7	2509.6
5°	2583.0	2556.6	2612.4	2583.0	2583.0	2580.2	2571.3	2568.3	2580.2	2541.9	2559.5
7.5°	2621.3	2659.5	2709.4	2647.7	2650.6	2650.6	2633.0	2627.1	2627.1	2556.6	2577.2
10°	2653.6	2630.0	2656.5	2633.0	2653.6	2650.6	2662.4	2624.1	2650.6	2609.5	2606.5
12.5°	2627.1	2618.3	2653.6	2615.4	2603.6	2606.5	2591.9	2583.0	2591.9	2544.8	2541.9
15°	2550.7	2559.5	2612.4	2571.3	2565.4	2559.5	2541.9	2512.5	2536.1	2471.4	2474.4
17.5°	2524.3	2509.6	2518.4	2483.1	2492.0	2486.1	2483.1	2456.7	2450.7	2409.6	2409.6
20°	2400.9	2433.1	2433.1	2409.6	2409.6	2406.8	2368.5	2392.0	2365.6	2353.8	2365.6
22.5°	2315.6	2318.6	2318.6	2298.0	2301.0	2289.2	2268.6	2253.9	2268.6	2253.9	2230.4
25°	2159.9	2165.8	2201.0	2162.8	2156.9	2168.7	2151.1	2142.2	2139.3	2104.1	2151.1
27.5°	1971.8	2030.5	2027.7	2012.9	2030.5	2007.0	1998.3	2001.2	2010.0	2007.0	2018.8
30°	1863.1	1871.9	1880.7	1869.0	1871.9	1863.1	1863.1	1866.0	1889.5	1880.7	1877.8
32.5°	1642.7	1672.0	1695.6	1695.6	1698.5	1707.4	1704.4	1766.1	1780.8	1751.5	1745.6
35°	1451.7	1472.3	1492.8	1495.8	1534.0	1536.9	1539.8	1557.5	1598.6	1607.4	1604.4
37.5°	1269.5	1290.0	1295.9	1322.4	1343.0	1363.5	1387.1	1410.6	1445.8	1475.1	1460.5
40°	1107.9	1116.6	1131.4	1143.1	1184.2	1184.2	1196.0	1243.0	1281.3	1304.8	1301.8
42.5°	972.7	975.6	987.3	1008.0	1046.2	1037.3	1046.2	1078.5	1134.3	1137.2	1169.6
45°	878.7	875.7	884.5	887.4	911.0	922.8	928.6	952.1	999.1	1005.0	1008.0
47.5°	793.5	790.5	805.2	811.1	819.8	831.6	831.6	834.6	852.2	866.9	855.2
50°	722.9	722.9	722.9	728.8	743.5	740.5	743.5	755.2	764.0	758.1	755.2
52.5°	646.4	658.2	667.1	670.1	672.9	672.9	675.9	670.1	667.1	658.2	640.6
55°	593.6	605.3	605.3	605.3	605.3	617.1	602.5	605.3	605.3	581.9	558.4
57.5°	540.8	552.5	561.3	549.5	561.3	549.5	543.6	540.8	534.8	511.3	476.1
60°	496.7	502.5	499.5	496.7	502.5	493.7	487.8	476.1	470.2	437.8	414.3
62.5°	446.7	449.6	452.6	446.7	440.8	437.8	426.1	408.5	396.7	370.3	349.6
65°	405.5	396.7	393.7	390.9	385.0	376.1	367.4	346.8	337.9	314.4	293.8
67.5°	343.8	340.9	346.8	337.9	323.3	323.3	314.4	296.8	276.2	261.6	241.0
70°	293.8	290.9	285.1	276.2	273.3	261.6	261.6	241.0	235.1	208.6	191.0
72.5°	241.0	241.0	232.1	223.4	214.5	208.6	205.7	191.0	182.2	167.5	152.8
75°	182.2	182.2	179.3	170.4	164.5	158.6	155.8	144.0	135.2	120.5	111.7
77.5°	129.3	129.3	117.5	111.7	114.6	108.7	102.8	99.9	96.9	88.2	76.4
80°	76.4	73.5	64.7	67.6	64.7	64.7	61.7	58.7	52.8	47.0	41.1
82.5°	20.6	23.5	23.5	23.5	26.5	20.6	20.6	20.6	23.5	23.5	14.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
87.5°	3.0	5.9	11.7	11.7	11.7	11.7	11.7	8.9	8.9	8.9	5.9
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°	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7
2.5°	2480.2	2477.2	2480.2	2459.6	2506.6	2471.4	2465.5	2459.6	2480.2	2459.6	2430.3
5°	2533.1	2503.7	2494.8	2486.1	2512.5	2471.4	2462.6	2465.5	2450.7	2412.6	2415.5
7.5°	2550.7	2524.3	2497.8	2442.0	2465.5	2456.7	2433.1	2415.5	2392.0	2359.7	2353.8
10°	2556.6	2527.2	2489.0	2471.4	2436.1	2424.4	2415.5	2386.2	2356.8	2301.0	2286.2
12.5°	2538.9	2503.7	2456.7	2442.0	2415.5	2377.3	2356.8	2327.3	2301.0	2256.9	2224.5
15°	2462.6	2433.1	2418.5	2368.5	2356.8	2333.2	2292.1	2251.0	2212.8	2153.9	2136.3
17.5°	2374.4	2362.7	2347.9	2309.7	2306.8	2283.4	2245.1	2209.8	2159.9	2068.8	2039.4
20°	2283.4	2283.4	2236.3	2221.6	2251.0	2203.9	2174.6	2142.2	2039.4	1995.3	1942.5
22.5°	2215.8	2183.4	2156.9	2133.5	2136.3	2107.0	2065.9	2001.2	1962.9	1910.1	1848.4
25°	2083.5	2095.2	2036.5	2027.7	2036.5	1968.8	1948.3	1895.4	1839.5	1789.6	1742.6
27.5°	2001.2	1968.8	1930.7	1898.4	1898.4	1871.9	1813.2	1801.4	1716.1	1669.1	1610.3
30°	1877.8	1854.3	1821.9	1774.9	1769.1	1748.5	1701.5	1672.0	1583.9	1513.4	1481.0
32.5°	1722.0	1713.2	1686.8	1633.9	1616.3	1592.7	1534.0	1484.0	1442.9	1363.5	1325.4
35°	1610.3	1578.1	1522.2	1478.1	1463.4	1422.3	1375.2	1340.0	1295.9	1225.4	1175.5
37.5°	1442.9	1410.6	1357.6	1304.8	1304.8	1263.7	1199.0	1163.7	1102.0	1060.8	1019.7
40°	1295.9	1254.8	1201.9	1140.2	1131.4	1072.5	1046.2	987.3	949.1	884.5	878.7
42.5°	1131.4	1093.1	1046.2	999.1	963.9	934.5	866.9	822.8	781.7	749.4	740.5
45°	981.5	931.5	890.4	831.6	796.3	761.1	717.0	687.7	655.3	620.1	599.5
47.5°	852.2	811.1	752.3	699.4	664.2	646.4	596.5	564.2	537.8	514.3	499.5
50°	720.0	670.1	637.7	578.9	573.0	531.9	490.8	464.3	449.6	429.1	408.5
52.5°	620.1	573.0	528.9	484.9	461.3	446.7	408.5	382.0	361.5	346.8	335.0
55°	523.0	481.9	446.7	402.6	387.9	367.4	323.3	317.4	296.8	276.2	261.6
57.5°	449.6	411.4	370.3	340.9	314.4	299.8	264.5	241.0	229.2	211.6	196.9
60°	382.0	340.9	308.5	273.3	261.6	241.0	214.5	194.0	179.3	164.5	149.9
62.5°	320.3	285.1	249.8	220.4	202.7	191.0	170.4	152.8	138.2	126.4	114.6
65°	264.5	232.1	202.7	173.4	164.5	149.9	135.2	120.5	108.7	94.1	82.3
67.5°	217.5	188.1	158.6	138.2	129.3	123.4	105.8	91.1	82.3	73.5	61.7
70°	170.4	149.9	126.4	108.7	99.9	91.1	79.3	70.6	58.7	52.8	44.1
72.5°	132.3	114.6	94.1	79.3	73.5	67.6	55.8	47.0	41.1	35.2	29.4
75°	94.1	79.3	67.6	52.8	50.0	47.0	38.2	32.4	26.5	20.6	17.6
77.5°	64.7	52.8	41.1	35.2	32.4	26.5	23.5	17.6	14.7	11.7	8.9
80°	35.2	26.5	20.6	17.6	14.7	11.7	11.7	8.9	5.9	5.9	3.0
82.5°	11.7	8.9	5.9	3.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0
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°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	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°	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7
2.5°	2447.9	2415.5	2424.4	2424.4	2418.5	2418.5	2412.6	2403.8	2406.8	2389.0	2350.9
5°	2421.4	2380.3	2374.4	2380.3	2356.8	2350.9	2339.2	2356.8	2303.8	2324.5	2301.0
7.5°	2345.1	2306.8	2298.0	2318.6	2289.2	2271.5	2268.6	2292.1	2245.1	2221.6	2195.2
10°	2259.8	2245.1	2218.6	2203.9	2195.2	2198.0	2174.6	2145.2	2136.3	2130.5	2107.0
12.5°	2183.4	2151.1	2127.6	2110.0	2104.1	2104.1	2065.9	2060.0	2033.5	2027.7	1992.4
15°	2092.2	2054.1	2039.4	2015.9	1995.3	2007.0	1962.9	1951.2	1942.5	1904.2	1910.1
17.5°	2012.9	1971.8	1936.6	1921.8	1904.2	1886.6	1845.4	1854.3	1833.7	1833.7	1780.8
20°	1910.1	1866.0	1839.5	1810.2	1810.2	1786.7	1757.3	1760.2	1733.7	1707.4	1660.3
22.5°	1801.4	1754.3	1722.0	1710.2	1680.9	1675.0	1639.8	1630.9	1595.7	1598.6	1557.5
25°	1686.8	1639.8	1595.7	1598.6	1572.2	1560.5	1539.8	1498.7	1484.0	1466.4	1454.7
27.5°	1551.6	1519.2	1481.0	1478.1	1428.2	1431.1	1404.7	1392.9	1357.6	1366.5	1340.0
30°	1428.2	1381.2	1345.9	1337.1	1316.5	1310.6	1269.5	1251.8	1257.8	1234.2	1219.6
32.5°	1301.8	1231.3	1216.6	1199.0	1187.2	1172.5	1143.1	1154.9	1128.4	1134.3	1110.8
35°	1134.3	1104.9	1066.7	1066.7	1054.9	1043.2	1022.7	1034.4	1008.0	996.2	972.7
37.5°	993.2	966.9	928.6	940.4	919.8	902.2	884.5	887.4	863.9	861.0	837.4
40°	840.4	825.7	799.3	799.3	784.6	784.6	775.7	767.0	752.3	734.6	708.2
42.5°	696.4	684.7	672.9	675.9	655.3	672.9	649.4	664.2	617.1	614.2	596.5
45°	590.6	564.2	567.1	555.4	543.6	549.5	528.9	534.8	508.4	502.5	484.9
47.5°	479.1	470.2	452.6	446.7	446.7	437.8	429.1	426.1	414.3	399.6	376.1
50°	393.7	361.5	355.5	346.8	340.9	340.9	329.2	311.5	314.4	299.8	276.2
52.5°	308.5	282.1	270.3	267.4	255.7	249.8	235.1	223.4	214.5	208.6	194.0
55°	238.0	214.5	199.9	199.9	182.2	182.2	161.6	152.8	141.0	129.3	120.5
57.5°	179.3	167.5	152.8	141.0	135.2	120.5	108.7	94.1	85.2	67.6	55.8
60°	135.2	123.4	108.7	99.9	94.1	79.3	64.7	52.8	32.4	26.5	23.5
62.5°	99.9	88.2	73.5	67.6	61.7	50.0	35.2	17.6	8.9	8.9	8.9
65°	73.5	58.7	47.0	41.1	35.2	26.5	11.7	5.9	3.0	3.0	3.0
67.5°	50.0	38.2	26.5	23.5	17.6	8.9	3.0	3.0	3.0	3.0	3.0
70°	32.4	23.5	11.7	8.9	5.9	3.0	3.0	3.0	3.0	3.0	3.0
72.5°	20.6	11.7	5.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.7	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.0	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	3.0	3.0	3.0
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: P#

CATALOG NUMBER: LD4C50D010 EX4C509040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7	2450.7
2.5°	2392.0	2371.4	2383.2	2356.8	2368.5	2389.0	2374.4	2380.3
5°	2309.7	2298.0	2283.4	2245.1	2274.5	2298.0	2286.2	2283.4
7.5°	2221.6	2180.4	2201.0	2189.3	2183.4	2206.9	2180.4	2209.8
10°	2130.5	2101.1	2098.2	2077.6	2077.6	2095.2	2098.2	2080.5
12.5°	1995.3	1980.7	1980.7	1977.7	1974.7	1992.4	1995.3	1986.5
15°	1898.4	1892.5	1877.8	1874.9	1857.3	1883.6	1886.6	1883.6
17.5°	1780.8	1783.7	1769.1	1769.1	1780.8	1789.6	1766.1	1789.6
20°	1701.5	1686.8	1680.9	1654.4	1669.1	1683.9	1683.9	1686.8
22.5°	1586.8	1563.3	1572.2	1557.5	1548.6	1569.2	1569.2	1578.1
25°	1457.5	1457.5	1463.4	1454.7	1460.5	1472.3	1463.4	1484.0
27.5°	1334.1	1345.9	1345.9	1334.1	1340.0	1375.2	1390.0	1366.5
30°	1219.6	1222.4	1231.3	1225.4	1243.0	1254.8	1251.8	1269.5
32.5°	1090.3	1104.9	1110.8	1102.0	1107.9	1134.3	1119.6	1116.6
35°	990.3	963.9	961.0	963.9	975.6	981.5	975.6	996.2
37.5°	846.3	837.4	825.7	828.7	837.4	849.3	855.2	869.8
40°	708.2	696.4	696.4	693.5	684.7	717.0	717.0	717.0
42.5°	587.7	584.7	570.1	570.1	581.9	590.6	584.7	605.3
45°	481.9	470.2	461.3	461.3	470.2	470.2	479.1	476.1
47.5°	379.1	367.4	370.3	361.5	370.3	382.0	367.4	370.3
50°	285.1	285.1	279.2	285.1	282.1	285.1	279.2	273.3
52.5°	194.0	220.4	223.4	211.6	185.1	161.6	146.9	158.6
55°	111.7	99.9	99.9	96.9	91.1	88.2	79.3	88.2
57.5°	55.8	50.0	50.0	50.0	47.0	44.1	38.2	38.2
60°	23.5	20.6	20.6	17.6	14.7	11.7	8.9	11.7
62.5°	8.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
65°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
67.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
70°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)