

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P#

Luminaire Tested: **FLDSQ4C55D010 FEU4C559040 F4LC-SQLWW-H**

Issue Date: 12/13/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P#
 Test Lab: INNOVATION CENTER
 Issue Date: 12/13/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: FAIL-SAFE
 Catalog Number: FLDSQ4C55D010 FEU4C559040 F4LC-SQLWW-H
 Description: 4 INCH 5500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQLWW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

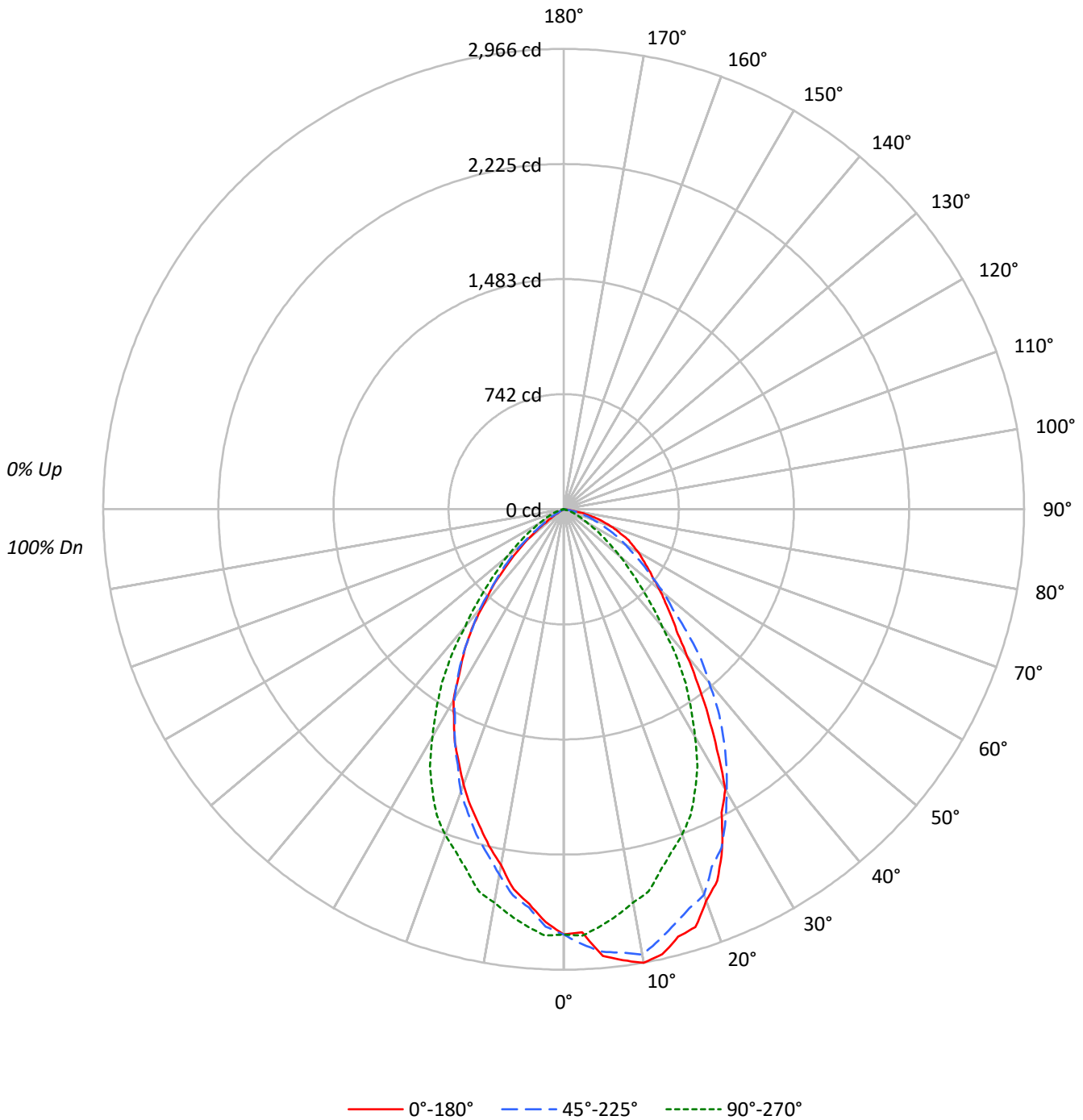
Lumens per Lamp: N/A
 Luminaire Lumens: 3927.0 lumens
 Efficiency: N/A
 Efficacy: 61.5 lumens/watt
 Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 63.9
 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

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	GONIO 1 IN0055	4/22/2021	10/22/2021
Power Meter	XITRON 2801 IN0197	12/1/2020	12/1/2021
AC Power Source	CHROMA 61505 IN0196	12/1/2020	12/1/2021
DC Power Supply	AGILENT E3634A IN0198	11/30/2020	11/30/2021
Room Thermometer	ONSET IN0143	12/1/2020	12/1/2021

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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°	264341	264341	264341
5°	279666	261225	247219
10°	290630	252008	227866
15°	284824	240522	210334
20°	275576	229020	193606
25°	257057	212981	176613
30°	232046	188482	158110
35°	191140	161350	131172
40°	155986	124547	100955
45°	134027	94591	72622
50°	121304	72008	45859
55°	111633	51931	16587
60°	107141	35489	2528
65°	103494	23996	753
70°	92646	16673	931
75°	75940	8575	0
80°	47509	3667	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.7	6.5
10°-20°	691.5	17.6
20°-30°	923.4	23.5
30°-40°	876.6	22.3
40°-50°	605.9	15.4
50°-60°	334.8	8.5
60°-70°	166.3	4.2
70°-80°	65.5	1.7
80°-90°	6.2	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°	1871.7	47.7
0°-40°	2748.3	70.0
0°-60°	3689.0	93.9
0°-90°	3927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3927.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2740	2740	2740	2740	2740	
5°	2887	2861	2697	2575	2552	276
15°	2851	2766	2408	2171	2106	807
25°	2414	2405	2000	1659	1659	1101
35°	1623	1794	1370	1127	1114	1017
45°	982	1127	693	568	532	766
55°	664	624	309	158	99	597
65°	453	328	105	3	3	440
75°	204	125	23	0	0	217
85°	0	3	0	0	0	19
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°	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6
2.5°	2726.4	2802.0	2808.5	2802.0	2811.9	2808.5	2825.0	2808.5	2828.4	2798.8	2805.3
5°	2887.4	2857.8	2920.3	2887.4	2887.4	2884.2	2874.3	2871.0	2884.2	2841.5	2861.2
7.5°	2930.2	2972.9	3028.7	2959.8	2963.0	2963.0	2943.3	2936.7	2936.7	2857.8	2880.9
10°	2966.3	2939.9	2969.5	2943.3	2966.3	2963.0	2976.1	2933.4	2963.0	2917.0	2913.7
12.5°	2936.7	2926.8	2966.3	2923.6	2910.5	2913.7	2897.3	2887.4	2897.3	2844.7	2841.5
15°	2851.3	2861.2	2920.3	2874.3	2867.7	2861.2	2841.5	2808.5	2834.9	2762.6	2765.9
17.5°	2821.8	2805.3	2815.2	2775.7	2785.6	2779.1	2775.7	2746.3	2739.6	2693.6	2693.6
20°	2683.8	2719.9	2719.9	2693.6	2693.6	2690.4	2647.7	2673.9	2644.3	2631.2	2644.3
22.5°	2588.5	2591.8	2591.8	2568.8	2572.1	2559.0	2536.0	2519.5	2536.0	2519.5	2493.2
25°	2414.5	2421.0	2460.4	2417.7	2411.1	2424.3	2404.6	2394.7	2391.4	2352.1	2404.6
27.5°	2204.2	2269.8	2266.6	2250.1	2269.8	2243.6	2233.8	2237.0	2246.9	2243.6	2256.7
30°	2082.7	2092.5	2102.4	2089.3	2092.5	2082.7	2082.7	2085.9	2112.2	2102.4	2099.0
32.5°	1836.2	1869.1	1895.4	1895.4	1898.7	1908.6	1905.2	1974.2	1990.7	1957.9	1951.3
35°	1622.7	1645.8	1668.7	1672.0	1714.8	1718.0	1721.3	1741.0	1787.0	1796.9	1793.5
37.5°	1419.1	1442.0	1448.6	1478.2	1501.2	1524.2	1550.5	1576.8	1616.2	1649.0	1632.6
40°	1238.4	1248.2	1264.7	1277.8	1323.8	1323.8	1336.9	1389.5	1432.3	1458.5	1455.2
42.5°	1087.4	1090.6	1103.7	1126.7	1169.5	1159.6	1169.5	1205.6	1267.9	1271.3	1307.4
45°	982.2	978.9	988.8	992.0	1018.4	1031.5	1038.1	1064.3	1116.8	1123.4	1126.7
47.5°	887.0	883.6	900.1	906.7	916.4	929.6	929.6	932.9	952.6	969.1	956.0
50°	808.1	808.1	808.1	814.6	831.1	827.8	831.1	844.2	854.0	847.5	844.2
52.5°	722.6	735.8	745.7	749.0	752.2	752.2	755.6	749.0	745.7	735.8	716.1
55°	663.6	676.7	676.7	676.7	676.7	689.8	673.5	676.7	676.7	650.4	624.2
57.5°	604.5	617.6	627.4	614.3	627.4	614.3	607.7	604.5	597.8	571.5	532.2
60°	555.2	561.8	558.4	555.2	561.8	551.9	545.3	532.2	525.6	489.4	463.2
62.5°	499.3	502.6	505.9	499.3	492.8	489.4	476.3	456.6	443.5	413.9	390.9
65°	453.3	443.5	440.1	436.9	430.4	420.5	410.7	387.6	377.7	351.5	328.4
67.5°	384.3	381.1	387.6	377.7	361.4	361.4	351.5	331.8	308.7	292.4	269.4
70°	328.4	325.2	318.7	308.7	305.5	292.4	292.4	269.4	262.8	233.2	213.5
72.5°	269.4	269.4	259.5	249.7	239.8	233.2	230.0	213.5	203.7	187.3	170.8
75°	203.7	203.7	200.4	190.5	183.9	177.3	174.1	161.0	151.1	134.7	124.8
77.5°	144.5	144.5	131.4	124.8	128.1	121.5	114.9	111.7	108.4	98.6	85.5
80°	85.5	82.1	72.3	75.5	72.3	72.3	69.0	65.6	59.1	52.5	45.9
82.5°	23.0	26.3	26.3	26.3	29.6	23.0	23.0	23.0	26.3	26.3	16.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	3.3	3.3
87.5°	3.3	6.6	13.1	13.1	13.1	13.1	13.1	9.9	9.9	9.9	6.6
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°	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6
2.5°	2772.5	2769.2	2772.5	2749.5	2802.0	2762.6	2756.0	2749.5	2772.5	2749.5	2716.7
5°	2831.6	2798.8	2788.9	2779.1	2808.5	2762.6	2752.8	2756.0	2739.6	2697.0	2700.2
7.5°	2851.3	2821.8	2792.2	2729.8	2756.0	2746.3	2719.9	2700.2	2673.9	2637.8	2631.2
10°	2857.8	2825.0	2782.3	2762.6	2723.2	2710.1	2700.2	2667.4	2634.5	2572.1	2555.7
12.5°	2838.1	2798.8	2746.3	2729.8	2700.2	2657.5	2634.5	2601.6	2572.1	2522.8	2486.7
15°	2752.8	2719.9	2703.5	2647.7	2634.5	2608.2	2562.2	2516.3	2473.5	2407.8	2388.1
17.5°	2654.2	2641.1	2624.6	2581.9	2578.7	2552.4	2509.7	2470.2	2414.5	2312.5	2279.7
20°	2552.4	2552.4	2499.8	2483.5	2516.3	2463.6	2430.8	2394.7	2279.7	2230.4	2171.4
22.5°	2476.9	2440.7	2411.1	2384.9	2388.1	2355.3	2309.3	2237.0	2194.3	2135.2	2066.2
25°	2329.0	2342.1	2276.5	2266.6	2276.5	2200.8	2177.9	2118.7	2056.3	2000.5	1948.0
27.5°	2237.0	2200.8	2158.2	2122.1	2122.1	2092.5	2026.8	2013.7	1918.4	1865.8	1800.1
30°	2099.0	2072.8	2036.6	1984.1	1977.6	1954.5	1902.0	1869.1	1770.6	1691.7	1655.6
32.5°	1924.9	1915.1	1885.5	1826.5	1806.8	1780.4	1714.8	1658.9	1613.0	1524.2	1481.6
35°	1800.1	1764.0	1701.6	1652.3	1635.9	1589.9	1537.3	1497.9	1448.6	1369.8	1314.0
37.5°	1613.0	1576.8	1517.6	1458.5	1458.5	1412.6	1340.2	1300.9	1231.9	1185.8	1139.9
40°	1448.6	1402.7	1343.6	1274.6	1264.7	1198.9	1169.5	1103.7	1061.0	988.8	982.2
42.5°	1264.7	1222.0	1169.5	1116.8	1077.4	1044.6	969.1	919.8	873.9	837.7	827.8
45°	1097.1	1041.3	995.3	929.6	890.2	850.8	801.5	768.7	732.5	693.2	670.1
47.5°	952.6	906.7	840.9	781.8	742.5	722.6	666.8	630.7	601.1	574.9	558.4
50°	804.9	749.0	712.9	647.1	640.5	594.6	548.6	519.0	502.6	479.7	456.6
52.5°	693.2	640.5	591.2	542.1	515.7	499.3	456.6	427.0	404.1	387.6	374.5
55°	584.7	538.7	499.3	450.1	433.6	410.7	361.4	354.8	331.8	308.7	292.4
57.5°	502.6	459.8	413.9	381.1	351.5	335.1	295.6	269.4	256.2	236.5	220.1
60°	427.0	381.1	344.9	305.5	292.4	269.4	239.8	216.9	200.4	183.9	167.6
62.5°	358.0	318.7	279.3	246.3	226.6	213.5	190.5	170.8	154.4	141.3	128.1
65°	295.6	259.5	226.6	193.8	183.9	167.6	151.1	134.7	121.5	105.1	92.0
67.5°	243.1	210.3	177.3	154.4	144.5	138.0	118.3	101.8	92.0	82.1	69.0
70°	190.5	167.6	141.3	121.5	111.7	101.8	88.7	78.9	65.6	59.1	49.3
72.5°	147.9	128.1	105.1	88.7	82.1	75.5	62.4	52.5	45.9	39.4	32.8
75°	105.1	88.7	75.5	59.1	55.9	52.5	42.7	36.2	29.6	23.0	19.7
77.5°	72.3	59.1	45.9	39.4	36.2	29.6	26.3	19.7	16.5	13.1	9.9
80°	39.4	29.6	23.0	19.7	16.5	13.1	13.1	9.9	6.6	6.6	3.3
82.5°	13.1	9.9	6.6	3.3	3.3	3.3	3.3	3.3	3.3	0.0	3.3
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°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	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°	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6
2.5°	2736.3	2700.2	2710.1	2710.1	2703.5	2703.5	2697.0	2687.1	2690.4	2670.6	2628.0
5°	2706.7	2660.8	2654.2	2660.8	2634.5	2628.0	2614.9	2634.5	2575.3	2598.4	2572.1
7.5°	2621.4	2578.7	2568.8	2591.8	2559.0	2539.2	2536.0	2562.2	2509.7	2483.5	2453.9
10°	2526.1	2509.7	2480.1	2463.6	2453.9	2457.1	2430.8	2398.0	2388.1	2381.5	2355.3
12.5°	2440.7	2404.6	2378.3	2358.6	2352.1	2352.1	2309.3	2302.8	2273.2	2266.6	2227.2
15°	2338.8	2296.2	2279.7	2253.5	2230.4	2243.6	2194.3	2181.2	2171.4	2128.6	2135.2
17.5°	2250.1	2204.2	2164.8	2148.3	2128.6	2109.0	2062.9	2072.8	2049.8	2049.8	1990.7
20°	2135.2	2085.9	2056.3	2023.5	2023.5	1997.2	1964.4	1967.6	1938.0	1908.6	1855.9
22.5°	2013.7	1961.1	1924.9	1911.8	1879.0	1872.4	1833.0	1823.1	1783.7	1787.0	1741.0
25°	1885.5	1833.0	1783.7	1787.0	1757.5	1744.4	1721.3	1675.4	1658.9	1639.2	1626.1
27.5°	1734.4	1698.3	1655.6	1652.3	1596.5	1599.7	1570.2	1557.1	1517.6	1527.5	1497.9
30°	1596.5	1544.0	1504.5	1494.7	1471.6	1465.1	1419.1	1399.3	1406.0	1379.6	1363.3
32.5°	1455.2	1376.4	1359.9	1340.2	1327.1	1310.6	1277.8	1291.0	1261.4	1267.9	1241.7
35°	1267.9	1235.1	1192.4	1192.4	1179.2	1166.1	1143.2	1156.3	1126.7	1113.6	1087.4
37.5°	1110.3	1080.8	1038.1	1051.2	1028.2	1008.5	988.8	992.0	965.7	962.5	936.1
40°	939.5	923.0	893.5	893.5	877.1	877.1	867.2	857.4	840.9	821.2	791.6
42.5°	778.5	765.4	752.2	755.6	732.5	752.2	726.0	742.5	689.8	686.6	666.8
45°	660.2	630.7	634.0	620.8	607.7	614.3	591.2	597.8	568.3	561.8	542.1
47.5°	535.5	525.6	505.9	499.3	499.3	489.4	479.7	476.3	463.2	446.7	420.5
50°	440.1	404.1	397.4	387.6	381.1	381.1	367.9	348.3	351.5	335.1	308.7
52.5°	344.9	315.3	302.2	299.0	285.8	279.3	262.8	249.7	239.8	233.2	216.9
55°	266.0	239.8	223.4	223.4	203.7	203.7	180.7	170.8	157.7	144.5	134.7
57.5°	200.4	187.3	170.8	157.7	151.1	134.7	121.5	105.1	95.2	75.5	62.4
60°	151.1	138.0	121.5	111.7	105.1	88.7	72.3	59.1	36.2	29.6	26.3
62.5°	111.7	98.6	82.1	75.5	69.0	55.9	39.4	19.7	9.9	9.9	9.9
65°	82.1	65.6	52.5	45.9	39.4	29.6	13.1	6.6	3.3	3.3	3.3
67.5°	55.9	42.7	29.6	26.3	19.7	9.9	3.3	3.3	3.3	3.3	3.3
70°	36.2	26.3	13.1	9.9	6.6	3.3	3.3	3.3	3.3	3.3	3.3
72.5°	23.0	13.1	6.6	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	13.1	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	6.6	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.3	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	3.3	3.3	3.3
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: FLDSQ4C55D010 FEU4C559040 F4LC-SQLWW-H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6	2739.6
2.5°	2673.9	2650.9	2664.0	2634.5	2647.7	2670.6	2654.2	2660.8
5°	2581.9	2568.8	2552.4	2509.7	2542.5	2568.8	2555.7	2552.4
7.5°	2483.5	2437.4	2460.4	2447.3	2440.7	2467.0	2437.4	2470.2
10°	2381.5	2348.7	2345.5	2322.5	2322.5	2342.1	2345.5	2325.7
12.5°	2230.4	2214.1	2214.1	2210.8	2207.4	2227.2	2230.4	2220.7
15°	2122.1	2115.5	2099.0	2095.8	2076.1	2105.6	2109.0	2105.6
17.5°	1990.7	1993.9	1977.6	1977.6	1990.7	2000.5	1974.2	2000.5
20°	1902.0	1885.5	1879.0	1849.4	1865.8	1882.3	1882.3	1885.5
22.5°	1773.8	1747.6	1757.5	1741.0	1731.1	1754.1	1754.1	1764.0
25°	1629.3	1629.3	1635.9	1626.1	1632.6	1645.8	1635.9	1658.9
27.5°	1491.3	1504.5	1504.5	1491.3	1497.9	1537.3	1553.8	1527.5
30°	1363.3	1366.5	1376.4	1369.8	1389.5	1402.7	1399.3	1419.1
32.5°	1218.8	1235.1	1241.7	1231.9	1238.4	1267.9	1251.6	1248.2
35°	1107.0	1077.4	1074.2	1077.4	1090.6	1097.1	1090.6	1113.6
37.5°	946.0	936.1	923.0	926.4	936.1	949.4	956.0	972.3
40°	791.6	778.5	778.5	775.3	765.4	801.5	801.5	801.5
42.5°	657.0	653.7	637.3	637.3	650.4	660.2	653.7	676.7
45°	538.7	525.6	515.7	515.7	525.6	525.6	535.5	532.2
47.5°	423.8	410.7	413.9	404.1	413.9	427.0	410.7	413.9
50°	318.7	318.7	312.1	318.7	315.3	318.7	312.1	305.5
52.5°	216.9	246.3	249.7	236.5	206.9	180.7	164.2	177.3
55°	124.8	111.7	111.7	108.4	101.8	98.6	88.7	98.6
57.5°	62.4	55.9	55.9	55.9	52.5	49.3	42.7	42.7
60°	26.3	23.0	23.0	19.7	16.5	13.1	9.9	13.1
62.5°	9.9	6.6	6.6	6.6	6.6	6.6	6.6	6.6
65°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
67.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
70°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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

(END OF REPORT)