

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: FAIL-SAFE

Report Number: P646279

Luminaire Tested: **FLDSQ4C55D010 FEU4C559030 F4LC-SQLWW-LI-D2W**

Issue Date: 12/13/2022

Test Information

Test Method: LM-79-08
Report Number: P646279
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 12/13/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FLDSQ4C55D010 FEU4C559030 F4LC-SQLWW-LI-D2W
Description: 4 INCH 5500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQLWW TRIM WITH LI FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

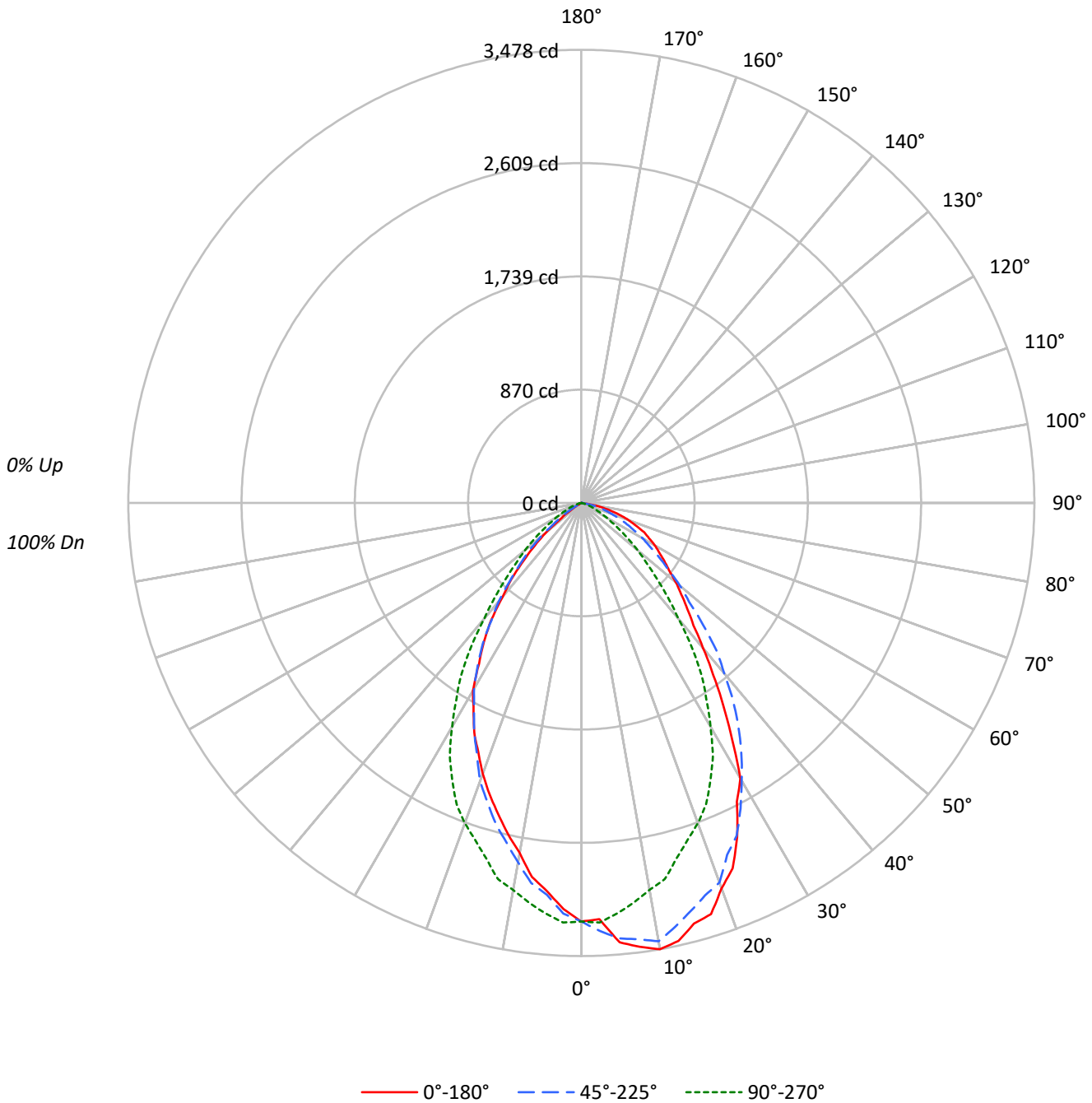
Lumens per Lamp: N/A
Luminaire Lumens: 4604.0 lumens
Efficiency: N/A
Efficacy: 72.1 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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



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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°	309913	309913	309913
5°	327882	306254	289846
10°	340736	295461	267145
15°	333921	281987	246595
20°	323087	268512	226987
25°	301367	249689	207061
30°	272044	220982	185374
35°	224098	189173	153788
40°	182890	146010	118362
45°	157129	110898	85135
50°	142214	84407	53769
55°	130878	60897	19447
60°	125609	41606	2972
65°	121325	28151	890
70°	108642	19551	1100
75°	89026	10066	0
80°	55677	4279	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.9	6.5
10°-20°	810.8	17.6
20°-30°	1082.6	23.5
30°-40°	1027.7	22.3
40°-50°	710.4	15.4
50°-60°	392.5	8.5
60°-70°	194.9	4.2
70°-80°	76.8	1.7
80°-90°	7.3	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°	2194.3	47.7
0°-40°	3222.0	70.0
0°-60°	4325.0	93.9
0°-90°	4604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4604.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3212	3212	3212	3212	3212	
5°	3385	3354	3162	3019	2992	324
15°	3343	3243	2823	2546	2469	946
25°	2831	2819	2345	1945	1945	1290
35°	1902	2103	1606	1321	1306	1192
45°	1152	1321	813	666	624	898
55°	778	732	362	185	116	700
65°	531	385	123	4	4	516
75°	239	146	27	0	0	255
85°	0	4	0	0	0	22
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°	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9
2.5°	3196.5	3285.0	3292.7	3285.0	3296.7	3292.7	3312.0	3292.7	3316.0	3281.3	3289.0
5°	3385.2	3350.5	3423.7	3385.2	3385.2	3381.4	3369.8	3365.9	3381.4	3331.4	3354.4
7.5°	3435.3	3485.4	3550.9	3470.0	3473.8	3473.8	3450.7	3443.0	3443.0	3350.5	3377.5
10°	3477.7	3446.8	3481.5	3450.7	3477.7	3473.8	3489.2	3439.1	3473.8	3419.9	3416.0
12.5°	3443.0	3431.4	3477.7	3427.6	3412.2	3416.0	3396.8	3385.2	3396.8	3335.1	3331.4
15°	3342.8	3354.4	3423.7	3369.8	3362.1	3354.4	3331.4	3292.7	3323.7	3238.9	3242.8
17.5°	3308.3	3289.0	3300.6	3254.3	3265.9	3258.2	3254.3	3219.7	3211.9	3158.0	3158.0
20°	3146.5	3188.8	3188.8	3158.0	3158.0	3154.2	3104.1	3134.9	3100.2	3084.8	3100.2
22.5°	3034.7	3038.6	3038.6	3011.6	3015.6	3000.2	2973.2	2953.8	2973.2	2953.8	2923.1
25°	2830.7	2838.4	2884.6	2834.5	2826.8	2842.2	2819.1	2807.5	2803.7	2757.5	2819.1
27.5°	2584.2	2661.1	2657.4	2638.0	2661.1	2630.4	2618.9	2622.7	2634.3	2630.4	2645.7
30°	2441.7	2453.2	2464.8	2449.4	2453.2	2441.7	2441.7	2445.5	2476.3	2464.8	2460.9
32.5°	2152.8	2191.3	2222.2	2222.2	2226.0	2237.6	2233.7	2314.6	2333.9	2295.4	2287.7
35°	1902.5	1929.5	1956.4	1960.3	2010.4	2014.1	2018.1	2041.2	2095.0	2106.6	2102.7
37.5°	1663.8	1690.6	1698.3	1733.0	1760.1	1786.9	1817.8	1848.6	1894.8	1933.3	1914.1
40°	1452.0	1463.4	1482.7	1498.1	1552.0	1552.0	1567.4	1629.1	1679.2	1710.0	1706.0
42.5°	1274.8	1278.6	1294.0	1321.0	1371.1	1359.5	1371.1	1413.5	1486.5	1490.4	1532.8
45°	1151.5	1147.6	1159.2	1163.0	1193.9	1209.3	1217.0	1247.8	1309.4	1317.1	1321.0
47.5°	1039.9	1036.0	1055.3	1063.0	1074.4	1089.8	1089.8	1093.8	1116.8	1136.2	1120.8
50°	947.4	947.4	947.4	955.1	974.4	970.5	974.4	989.8	1001.3	993.6	989.8
52.5°	847.2	862.6	874.2	878.1	881.9	881.9	885.8	878.1	874.2	862.6	839.5
55°	778.0	793.3	793.3	793.3	793.3	808.7	789.6	793.3	793.3	762.6	731.8
57.5°	708.7	724.1	735.6	720.2	735.6	720.2	712.5	708.7	700.9	670.1	623.9
60°	650.9	658.6	654.7	650.9	658.6	647.0	639.3	623.9	616.2	573.8	543.0
62.5°	585.4	589.2	593.1	585.4	577.7	573.8	558.4	535.3	519.9	485.2	458.2
65°	531.4	519.9	516.0	512.2	504.6	492.9	481.5	454.5	442.8	412.1	385.1
67.5°	450.5	446.8	454.5	442.8	423.7	423.7	412.1	389.0	362.0	342.8	315.8
70°	385.1	381.3	373.6	362.0	358.2	342.8	342.8	315.8	308.1	273.4	250.3
72.5°	315.8	315.8	304.2	292.7	281.1	273.4	269.6	250.3	238.8	219.5	200.2
75°	238.8	238.8	234.9	223.3	215.6	207.9	204.1	188.8	177.1	158.0	146.4
77.5°	169.4	169.4	154.1	146.4	150.1	142.4	134.7	131.0	127.0	115.6	100.2
80°	100.2	96.3	84.8	88.6	84.8	84.8	80.9	77.0	69.3	61.6	53.9
82.5°	27.0	30.8	30.8	30.8	34.7	27.0	27.0	27.0	30.8	30.8	19.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	3.9	3.9
87.5°	3.9	7.7	15.4	15.4	15.4	15.4	15.4	11.6	11.6	11.6	7.7
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°	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9
2.5°	3250.5	3246.6	3250.5	3223.5	3285.0	3238.9	3231.2	3223.5	3250.5	3223.5	3185.0
5°	3319.7	3281.3	3269.6	3258.2	3292.7	3238.9	3227.4	3231.2	3211.9	3161.9	3165.7
7.5°	3342.8	3308.3	3273.6	3200.4	3231.2	3219.7	3188.8	3165.7	3134.9	3092.5	3084.8
10°	3350.5	3312.0	3261.9	3238.9	3192.7	3177.3	3165.7	3127.2	3088.7	3015.6	2996.2
12.5°	3327.4	3281.3	3219.7	3200.4	3165.7	3115.6	3088.7	3050.1	3015.6	2957.8	2915.4
15°	3227.4	3188.8	3169.6	3104.1	3088.7	3057.8	3003.9	2950.1	2900.0	2822.9	2799.8
17.5°	3111.8	3096.4	3077.1	3027.0	3023.3	2992.5	2942.4	2896.1	2830.7	2711.2	2672.7
20°	2992.5	2992.5	2930.8	2911.6	2950.1	2888.4	2849.9	2807.5	2672.7	2615.0	2545.7
22.5°	2903.9	2861.5	2826.8	2796.0	2799.8	2761.3	2707.5	2622.7	2572.6	2503.3	2422.4
25°	2730.5	2745.9	2669.0	2657.4	2669.0	2580.3	2553.4	2484.0	2410.8	2345.3	2283.8
27.5°	2622.7	2580.3	2530.3	2487.9	2487.9	2453.2	2376.3	2360.9	2249.1	2187.5	2110.4
30°	2460.9	2430.1	2387.7	2326.2	2318.5	2291.5	2229.9	2191.3	2075.9	1983.4	1941.0
32.5°	2256.8	2245.3	2210.6	2141.3	2118.3	2087.3	2010.4	1944.9	1891.0	1786.9	1737.0
35°	2110.4	2068.2	1995.0	1937.2	1917.9	1864.0	1802.3	1756.1	1698.3	1606.0	1540.5
37.5°	1891.0	1848.6	1779.2	1710.0	1710.0	1656.1	1571.3	1525.1	1444.3	1390.2	1336.4
40°	1698.3	1644.5	1575.2	1494.3	1482.7	1405.6	1371.1	1294.0	1243.9	1159.2	1151.5
42.5°	1482.7	1432.6	1371.1	1309.4	1263.2	1224.7	1136.2	1078.4	1024.5	982.1	970.5
45°	1286.3	1220.8	1166.9	1089.8	1043.7	997.5	939.7	901.2	858.8	812.7	785.7
47.5°	1116.8	1063.0	985.9	916.6	870.4	847.2	781.7	739.5	704.8	674.0	654.7
50°	943.6	878.1	835.7	758.6	750.9	697.1	643.2	608.5	589.2	562.3	535.3
52.5°	812.7	750.9	693.2	635.5	604.6	585.4	535.3	500.6	473.8	454.5	439.1
55°	685.5	631.6	585.4	527.6	508.3	481.5	423.7	416.0	389.0	362.0	342.8
57.5°	589.2	539.1	485.2	446.8	412.1	392.9	346.6	315.8	300.4	277.3	258.0
60°	500.6	446.8	404.4	358.2	342.8	315.8	281.1	254.2	234.9	215.6	196.5
62.5°	419.8	373.6	327.4	288.8	265.7	250.3	223.3	200.2	181.1	165.7	150.1
65°	346.6	304.2	265.7	227.2	215.6	196.5	177.1	158.0	142.4	123.3	107.9
67.5°	285.0	246.5	207.9	181.1	169.4	161.7	138.7	119.3	107.9	96.3	80.9
70°	223.3	196.5	165.7	142.4	131.0	119.3	104.0	92.5	77.0	69.3	57.8
72.5°	173.4	150.1	123.3	104.0	96.3	88.6	73.2	61.6	53.9	46.2	38.5
75°	123.3	104.0	88.6	69.3	65.5	61.6	50.1	42.4	34.7	27.0	23.1
77.5°	84.8	69.3	53.9	46.2	42.4	34.7	30.8	23.1	19.3	15.4	11.6
80°	46.2	34.7	27.0	23.1	19.3	15.4	15.4	11.6	7.7	7.7	3.9
82.5°	15.4	11.6	7.7	3.9	3.9	3.9	3.9	3.9	3.9	0.0	3.9
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°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	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°	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9
2.5°	3208.1	3165.7	3177.3	3177.3	3169.6	3169.6	3161.9	3150.3	3154.2	3131.0	3081.0
5°	3173.4	3119.5	3111.8	3119.5	3088.7	3081.0	3065.6	3088.7	3019.3	3046.3	3015.6
7.5°	3073.3	3023.3	3011.6	3038.6	3000.2	2976.9	2973.2	3003.9	2942.4	2911.6	2876.9
10°	2961.5	2942.4	2907.7	2888.4	2876.9	2880.7	2849.9	2811.4	2799.8	2792.1	2761.3
12.5°	2861.5	2819.1	2788.3	2765.2	2757.5	2757.5	2707.5	2699.8	2665.1	2657.4	2611.2
15°	2742.0	2692.1	2672.7	2642.0	2615.0	2630.4	2572.6	2557.2	2545.7	2495.6	2503.3
17.5°	2638.0	2584.2	2538.0	2518.7	2495.6	2472.5	2418.5	2430.1	2403.1	2403.1	2333.9
20°	2503.3	2445.5	2410.8	2372.3	2372.3	2341.6	2303.1	2306.9	2272.2	2237.6	2175.9
22.5°	2360.9	2299.2	2256.8	2241.4	2202.9	2195.2	2149.0	2137.4	2091.2	2095.0	2041.2
25°	2210.6	2149.0	2091.2	2095.0	2060.5	2045.1	2018.1	1964.2	1944.9	1921.8	1906.4
27.5°	2033.5	1991.1	1941.0	1937.2	1871.7	1875.5	1840.9	1825.5	1779.2	1790.8	1756.1
30°	1871.7	1810.1	1763.8	1752.4	1725.4	1717.7	1663.8	1640.6	1648.4	1617.5	1598.3
32.5°	1706.0	1613.7	1594.4	1571.3	1555.9	1536.6	1498.1	1513.5	1478.8	1486.5	1455.7
35°	1486.5	1448.0	1397.9	1397.9	1382.5	1367.2	1340.3	1355.7	1321.0	1305.6	1274.8
37.5°	1301.7	1267.1	1217.0	1232.4	1205.4	1182.3	1159.2	1163.0	1132.2	1128.5	1097.5
40°	1101.4	1082.1	1047.6	1047.6	1028.3	1028.3	1016.7	1005.2	985.9	962.8	928.1
42.5°	912.7	897.3	881.9	885.8	858.8	881.9	851.1	870.4	808.7	805.0	781.7
45°	774.0	739.5	743.3	727.9	712.5	720.2	693.2	700.9	666.3	658.6	635.5
47.5°	627.8	616.2	593.1	585.4	585.4	573.8	562.3	558.4	543.0	523.7	492.9
50°	516.0	473.8	465.9	454.5	446.8	446.8	431.4	408.3	412.1	392.9	362.0
52.5°	404.4	369.7	354.3	350.5	335.1	327.4	308.1	292.7	281.1	273.4	254.2
55°	311.9	281.1	261.9	261.9	238.8	238.8	211.8	200.2	184.8	169.4	158.0
57.5°	234.9	219.5	200.2	184.8	177.1	158.0	142.4	123.3	111.7	88.6	73.2
60°	177.1	161.7	142.4	131.0	123.3	104.0	84.8	69.3	42.4	34.7	30.8
62.5°	131.0	115.6	96.3	88.6	80.9	65.5	46.2	23.1	11.6	11.6	11.6
65°	96.3	77.0	61.6	53.9	46.2	34.7	15.4	7.7	3.9	3.9	3.9
67.5°	65.5	50.1	34.7	30.8	23.1	11.6	3.9	3.9	3.9	3.9	3.9
70°	42.4	30.8	15.4	11.6	7.7	3.9	3.9	3.9	3.9	3.9	3.9
72.5°	27.0	15.4	7.7	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	15.4	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	7.7	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.9	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	3.9	3.9	3.9
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: P646279
 CATALOG NUMBER: FLDSQ4C55D010 FEU4C559030 F4LC-SQLWW-LI-D2W

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9	3211.9
2.5°	3134.9	3107.9	3123.3	3088.7	3104.1	3131.0	3111.8	3119.5
5°	3027.0	3011.6	2992.5	2942.4	2980.9	3011.6	2996.2	2992.5
7.5°	2911.6	2857.6	2884.6	2869.2	2861.5	2892.3	2857.6	2896.1
10°	2792.1	2753.6	2749.9	2722.8	2722.8	2745.9	2749.9	2726.6
12.5°	2615.0	2595.8	2595.8	2591.9	2588.0	2611.2	2615.0	2603.5
15°	2487.9	2480.2	2460.9	2457.1	2434.1	2468.6	2472.5	2468.6
17.5°	2333.9	2337.6	2318.5	2318.5	2333.9	2345.3	2314.6	2345.3
20°	2229.9	2210.6	2202.9	2168.2	2187.5	2206.8	2206.8	2210.6
22.5°	2079.6	2048.8	2060.5	2041.2	2029.5	2056.5	2056.5	2068.2
25°	1910.2	1910.2	1917.9	1906.4	1914.1	1929.5	1917.9	1944.9
27.5°	1748.4	1763.8	1763.8	1748.4	1756.1	1802.3	1821.6	1790.8
30°	1598.3	1602.1	1613.7	1606.0	1629.1	1644.5	1640.6	1663.8
32.5°	1428.9	1448.0	1455.7	1444.3	1452.0	1486.5	1467.3	1463.4
35°	1297.9	1263.2	1259.4	1263.2	1278.6	1286.3	1278.6	1305.6
37.5°	1109.1	1097.5	1082.1	1086.1	1097.5	1113.1	1120.8	1139.9
40°	928.1	912.7	912.7	908.9	897.3	939.7	939.7	939.7
42.5°	770.3	766.3	747.2	747.2	762.6	774.0	766.3	793.3
45°	631.6	616.2	604.6	604.6	616.2	616.2	627.8	623.9
47.5°	496.9	481.5	485.2	473.8	485.2	500.6	481.5	485.2
50°	373.6	373.6	365.9	373.6	369.7	373.6	365.9	358.2
52.5°	254.2	288.8	292.7	277.3	242.6	211.8	192.5	207.9
55°	146.4	131.0	131.0	127.0	119.3	115.6	104.0	115.6
57.5°	73.2	65.5	65.5	65.5	61.6	57.8	50.1	50.1
60°	30.8	27.0	27.0	23.1	19.3	15.4	11.6	15.4
62.5°	11.6	7.7	7.7	7.7	7.7	7.7	7.7	7.7
65°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
67.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
70°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
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

(END OF REPORT)