

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: **FLDSQ4C75D010 FEU4C759040 F4LC-SQLWW-LI**

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: FLDSQ4C75D010 FEU4C759040 F4LC-SQLWW-LI
 Description: 4 INCH 7500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQLWW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

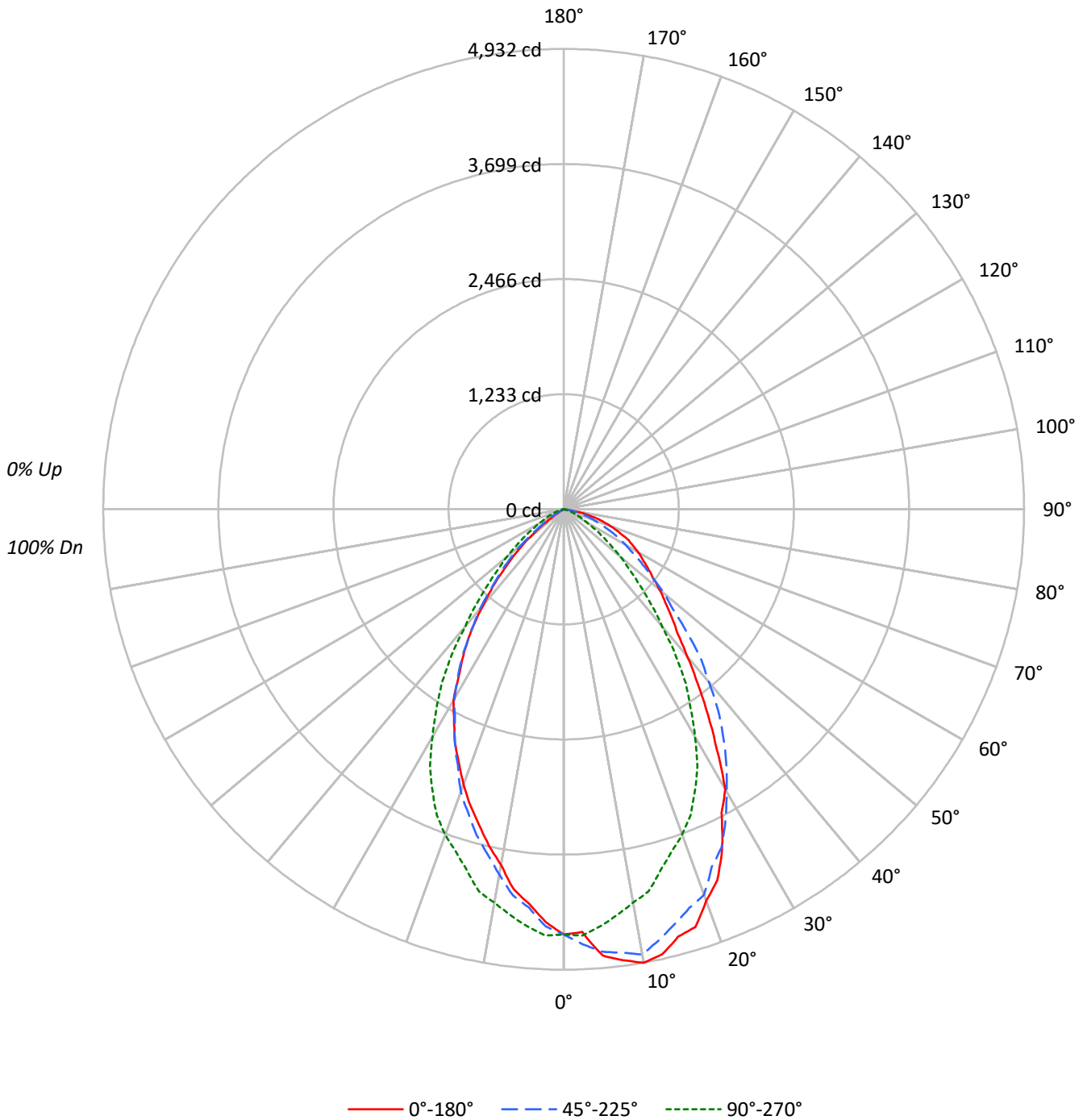
Lumens per Lamp: N/A
 Luminaire Lumens: 6529.0 lumens
 Efficiency: N/A
 Efficacy: 80.1 lumens/watt
 Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 81.5
 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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CATALOG NUMBER: FLDSQ4C75D010 FEU4C759040 F4LC-SQLWW-LI

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°	439488	439488	439488
5°	464974	434309	411034
10°	483205	418991	378849
15°	473541	399890	349704
20°	458174	380773	321896
25°	427377	354088	293638
30°	385799	313368	262874
35°	317789	268269	218090
40°	259346	207061	167851
45°	222832	157252	120736
50°	201673	119713	76256
55°	185584	86349	27572
60°	178138	59013	4207
65°	172056	39909	1279
70°	154063	27704	1580
75°	126269	14278	0
80°	78959	6057	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	426.8	6.5
10°-20°	1149.8	17.6
20°-30°	1535.3	23.5
30°-40°	1457.4	22.3
40°-50°	1007.4	15.4
50°-60°	556.6	8.5
60°-70°	276.4	4.2
70°-80°	108.9	1.7
80°-90°	10.4	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°	3111.8	47.7
0°-40°	4569.2	70.0
0°-60°	6133.3	93.9
0°-90°	6529.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6529.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4555	4555	4555	4555	4555	
5°	4801	4757	4484	4282	4244	460
15°	4740	4599	4003	3610	3501	1341
25°	4014	3998	3326	2758	2758	1830
35°	2698	2982	2278	1873	1852	1690
45°	1633	1873	1152	945	885	1274
55°	1103	1038	513	262	164	993
65°	754	546	175	6	6	731
75°	339	208	38	0	0	361
85°	0	6	0	0	0	31
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°	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8
2.5°	4533.0	4658.6	4669.5	4658.6	4675.0	4669.5	4696.9	4669.5	4702.4	4653.2	4664.1
5°	4800.6	4751.4	4855.2	4800.6	4800.6	4795.3	4778.8	4773.2	4795.3	4724.2	4757.0
7.5°	4871.7	4942.7	5035.6	4920.9	4926.2	4926.2	4893.5	4882.6	4882.6	4751.4	4789.7
10°	4931.8	4887.9	4937.1	4893.5	4931.8	4926.2	4948.1	4877.0	4926.2	4849.8	4844.3
12.5°	4882.6	4866.1	4931.8	4860.8	4838.9	4844.3	4817.1	4800.6	4817.1	4729.6	4724.2
15°	4740.5	4757.0	4855.2	4778.8	4767.9	4757.0	4724.2	4669.5	4713.3	4593.1	4598.6
17.5°	4691.5	4664.1	4680.6	4614.9	4631.4	4620.5	4614.9	4565.9	4554.8	4478.4	4478.4
20°	4462.1	4522.0	4522.0	4478.4	4478.4	4473.0	4402.0	4445.7	4396.4	4374.6	4396.4
22.5°	4303.6	4309.1	4309.1	4270.8	4276.4	4254.6	4216.3	4188.9	4216.3	4188.9	4145.2
25°	4014.3	4025.2	4090.7	4019.6	4008.7	4030.6	3997.8	3981.3	3976.0	3910.5	3997.8
27.5°	3664.7	3773.8	3768.4	3741.1	3773.8	3730.1	3713.9	3719.2	3735.7	3730.1	3752.0
30°	3462.7	3478.9	3495.4	3473.6	3478.9	3462.7	3462.7	3468.0	3511.7	3495.4	3489.9
32.5°	3052.9	3107.5	3151.4	3151.4	3156.7	3173.2	3167.6	3282.3	3309.7	3255.1	3244.2
35°	2697.9	2736.2	2774.3	2779.9	2850.9	2856.3	2861.8	2894.6	2971.0	2987.4	2981.9
37.5°	2359.4	2397.5	2408.4	2457.7	2496.0	2534.0	2577.9	2621.6	2687.0	2741.6	2714.4
40°	2059.0	2075.3	2102.7	2124.5	2200.9	2200.9	2222.7	2310.2	2381.3	2424.9	2419.4
42.5°	1807.8	1813.2	1835.0	1873.3	1944.3	1927.9	1944.3	2004.5	2108.0	2113.6	2173.7
45°	1633.0	1627.5	1643.9	1649.3	1693.1	1715.0	1725.9	1769.5	1856.8	1867.7	1873.3
47.5°	1474.7	1469.1	1496.5	1507.4	1523.7	1545.5	1545.5	1551.1	1583.8	1611.2	1589.4
50°	1343.5	1343.5	1343.5	1354.4	1381.8	1376.3	1381.8	1403.6	1419.9	1409.0	1403.6
52.5°	1201.4	1223.3	1239.7	1245.3	1250.7	1250.7	1256.2	1245.3	1239.7	1223.3	1190.5
55°	1103.2	1125.1	1125.1	1125.1	1125.1	1146.9	1119.7	1125.1	1125.1	1081.4	1037.8
57.5°	1005.0	1026.8	1043.1	1021.3	1043.1	1021.3	1010.4	1005.0	993.9	950.2	884.8
60°	923.1	934.0	928.4	923.1	934.0	917.5	906.6	884.8	873.9	813.7	770.1
62.5°	830.2	835.6	841.1	830.2	819.3	813.7	791.9	759.2	737.3	688.1	649.8
65°	753.6	737.3	731.8	726.4	715.5	699.0	682.8	644.5	628.0	584.4	546.1
67.5°	638.9	633.6	644.5	628.0	600.8	600.8	584.4	551.6	513.3	486.1	447.8
70°	546.1	540.7	529.8	513.3	508.0	486.1	486.1	447.8	436.9	387.7	355.0
72.5°	447.8	447.8	431.4	415.1	398.6	387.7	382.4	355.0	338.7	311.3	283.9
75°	338.7	338.7	333.2	316.7	305.8	294.9	289.5	267.7	251.2	224.0	207.6
77.5°	240.3	240.3	218.5	207.6	212.9	202.0	191.1	185.7	180.2	163.9	142.1
80°	142.1	136.5	120.3	125.6	120.3	120.3	114.7	109.1	98.2	87.3	76.4
82.5°	38.3	43.6	43.6	43.6	49.2	38.3	38.3	38.3	43.6	43.6	27.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	5.6	5.6
87.5°	5.6	10.9	21.8	21.8	21.8	21.8	21.8	16.5	16.5	16.5	10.9
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°	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8
2.5°	4609.6	4604.0	4609.6	4571.3	4658.6	4593.1	4582.2	4571.3	4609.6	4571.3	4516.7
5°	4707.8	4653.2	4636.7	4620.5	4669.5	4593.1	4576.8	4582.2	4554.8	4484.0	4489.3
7.5°	4740.5	4691.5	4642.3	4538.5	4582.2	4565.9	4522.0	4489.3	4445.7	4385.5	4374.6
10°	4751.4	4696.9	4625.8	4593.1	4527.6	4505.8	4489.3	4434.7	4380.2	4276.4	4249.0
12.5°	4718.7	4653.2	4565.9	4538.5	4489.3	4418.3	4380.2	4325.4	4276.4	4194.5	4134.3
15°	4576.8	4522.0	4494.9	4402.0	4380.2	4336.3	4259.9	4183.5	4112.5	4003.2	3970.4
17.5°	4412.9	4391.1	4363.7	4292.7	4287.3	4243.7	4172.6	4106.9	4014.3	3844.8	3790.3
20°	4243.7	4243.7	4156.2	4129.0	4183.5	4096.0	4041.5	3981.3	3790.3	3708.3	3610.1
22.5°	4118.1	4057.9	4008.7	3965.1	3970.4	3915.9	3839.5	3719.2	3648.2	3550.0	3435.3
25°	3872.2	3894.0	3784.9	3768.4	3784.9	3659.1	3621.0	3522.6	3418.8	3325.9	3238.7
27.5°	3719.2	3659.1	3588.3	3528.2	3528.2	3478.9	3369.8	3348.0	3189.4	3102.1	2992.8
30°	3489.9	3446.2	3386.1	3298.8	3287.9	3249.6	3162.3	3107.5	2943.8	2812.6	2752.5
32.5°	3200.3	3184.1	3134.9	3036.7	3003.9	2960.1	2850.9	2758.1	2681.7	2534.0	2463.2
35°	2992.8	2932.9	2829.1	2747.2	2719.8	2643.4	2555.9	2490.4	2408.4	2277.5	2184.6
37.5°	2681.7	2621.6	2523.1	2424.9	2424.9	2348.5	2228.3	2162.8	2048.1	1971.5	1895.1
40°	2408.4	2332.1	2233.8	2119.2	2102.7	1993.3	1944.3	1835.0	1764.0	1643.9	1633.0
42.5°	2102.7	2031.6	1944.3	1856.8	1791.4	1736.8	1611.2	1529.2	1452.9	1392.7	1376.3
45°	1824.1	1731.2	1654.8	1545.5	1480.0	1414.6	1332.6	1278.0	1217.9	1152.4	1114.1
47.5°	1583.8	1507.4	1398.1	1299.9	1234.4	1201.4	1108.6	1048.7	999.5	955.8	928.4
50°	1338.2	1245.3	1185.2	1075.8	1064.9	988.5	912.2	862.9	835.6	797.5	759.2
52.5°	1152.4	1064.9	983.0	901.2	857.4	830.2	759.2	710.0	671.9	644.5	622.7
55°	972.1	895.7	830.2	748.3	720.9	682.8	600.8	589.9	551.6	513.3	486.1
57.5°	835.6	764.5	688.1	633.6	584.4	557.2	491.5	447.8	426.0	393.3	365.9
60°	710.0	633.6	573.4	508.0	486.1	447.8	398.6	360.5	333.2	305.8	278.6
62.5°	595.3	529.8	464.3	409.5	376.8	355.0	316.7	283.9	256.8	234.9	212.9
65°	491.5	431.4	376.8	322.2	305.8	278.6	251.2	224.0	202.0	174.8	153.0
67.5°	404.2	349.6	294.9	256.8	240.3	229.4	196.6	169.3	153.0	136.5	114.7
70°	316.7	278.6	234.9	202.0	185.7	169.3	147.4	131.2	109.1	98.2	82.0
72.5°	245.9	212.9	174.8	147.4	136.5	125.6	103.8	87.3	76.4	65.5	54.6
75°	174.8	147.4	125.6	98.2	92.9	87.3	71.0	60.1	49.2	38.3	32.7
77.5°	120.3	98.2	76.4	65.5	60.1	49.2	43.6	32.7	27.4	21.8	16.5
80°	65.5	49.2	38.3	32.7	27.4	21.8	21.8	16.5	10.9	10.9	5.6
82.5°	21.8	16.5	10.9	5.6	5.6	5.6	5.6	5.6	5.6	0.0	5.6
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°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	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°	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8
2.5°	4549.4	4489.3	4505.8	4505.8	4494.9	4494.9	4484.0	4467.5	4473.0	4440.1	4369.3
5°	4500.2	4423.8	4412.9	4423.8	4380.2	4369.3	4347.4	4380.2	4281.8	4320.1	4276.4
7.5°	4358.4	4287.3	4270.8	4309.1	4254.6	4221.6	4216.3	4259.9	4172.6	4129.0	4079.8
10°	4199.8	4172.6	4123.4	4096.0	4079.8	4085.1	4041.5	3986.9	3970.4	3959.5	3915.9
12.5°	4057.9	3997.8	3954.2	3921.4	3910.5	3910.5	3839.5	3828.6	3779.4	3768.4	3703.0
15°	3888.5	3817.7	3790.3	3746.6	3708.3	3730.1	3648.2	3626.4	3610.1	3539.1	3550.0
17.5°	3741.1	3664.7	3599.2	3571.8	3539.1	3506.3	3429.7	3446.2	3407.9	3407.9	3309.7
20°	3550.0	3468.0	3418.8	3364.3	3364.3	3320.6	3266.0	3271.4	3222.2	3173.2	3085.7
22.5°	3348.0	3260.5	3200.3	3178.5	3124.0	3113.0	3047.6	3031.1	2965.6	2971.0	2894.6
25°	3134.9	3047.6	2965.6	2971.0	2922.0	2900.1	2861.8	2785.5	2758.1	2725.3	2703.5
27.5°	2883.7	2823.5	2752.5	2747.2	2654.3	2659.6	2610.6	2588.8	2523.1	2539.6	2490.4
30°	2654.3	2567.0	2501.3	2485.0	2446.7	2435.8	2359.4	2326.5	2337.6	2293.8	2266.6
32.5°	2419.4	2288.4	2261.0	2228.3	2206.5	2179.1	2124.5	2146.3	2097.1	2108.0	2064.4
35°	2108.0	2053.5	1982.4	1982.4	1960.6	1938.8	1900.7	1922.5	1873.3	1851.5	1807.8
37.5°	1845.9	1796.9	1725.9	1747.7	1709.4	1676.7	1643.9	1649.3	1605.6	1600.3	1556.4
40°	1562.0	1534.6	1485.6	1485.6	1458.2	1458.2	1441.7	1425.5	1398.1	1365.3	1316.1
42.5°	1294.3	1272.5	1250.7	1256.2	1217.9	1250.7	1207.0	1234.4	1146.9	1141.5	1108.6
45°	1097.7	1048.7	1054.0	1032.2	1010.4	1021.3	983.0	993.9	944.9	934.0	901.2
47.5°	890.3	873.9	841.1	830.2	830.2	813.7	797.5	791.9	770.1	742.7	699.0
50°	731.8	671.9	660.7	644.5	633.6	633.6	611.7	579.0	584.4	557.2	513.3
52.5°	573.4	524.2	502.4	497.1	475.2	464.3	436.9	415.1	398.6	387.7	360.5
55°	442.3	398.6	371.5	371.5	338.7	338.7	300.4	283.9	262.1	240.3	224.0
57.5°	333.2	311.3	283.9	262.1	251.2	224.0	202.0	174.8	158.3	125.6	103.8
60°	251.2	229.4	202.0	185.7	174.8	147.4	120.3	98.2	60.1	49.2	43.6
62.5°	185.7	163.9	136.5	125.6	114.7	92.9	65.5	32.7	16.5	16.5	16.5
65°	136.5	109.1	87.3	76.4	65.5	49.2	21.8	10.9	5.6	5.6	5.6
67.5°	92.9	71.0	49.2	43.6	32.7	16.5	5.6	5.6	5.6	5.6	5.6
70°	60.1	43.6	21.8	16.5	10.9	5.6	5.6	5.6	5.6	5.6	5.6
72.5°	38.3	21.8	10.9	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	21.8	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	10.9	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	5.6	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	5.6	5.6	5.6
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: FLDSQ4C75D010 FEU4C759040 F4LC-SQLWW-LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8	4554.8
2.5°	4445.7	4407.4	4429.2	4380.2	4402.0	4440.1	4412.9	4423.8
5°	4292.7	4270.8	4243.7	4172.6	4227.2	4270.8	4249.0	4243.7
7.5°	4129.0	4052.4	4090.7	4068.9	4057.9	4101.6	4052.4	4106.9
10°	3959.5	3905.0	3899.6	3861.3	3861.3	3894.0	3899.6	3866.7
12.5°	3708.3	3681.1	3681.1	3675.6	3670.0	3703.0	3708.3	3692.1
15°	3528.2	3517.2	3489.9	3484.5	3451.8	3500.8	3506.3	3500.8
17.5°	3309.7	3315.0	3287.9	3287.9	3309.7	3325.9	3282.3	3325.9
20°	3162.3	3134.9	3124.0	3074.7	3102.1	3129.5	3129.5	3134.9
22.5°	2949.1	2905.5	2922.0	2894.6	2878.1	2916.4	2916.4	2932.9
25°	2708.9	2708.9	2719.8	2703.5	2714.4	2736.2	2719.8	2758.1
27.5°	2479.5	2501.3	2501.3	2479.5	2490.4	2555.9	2583.3	2539.6
30°	2266.6	2271.9	2288.4	2277.5	2310.2	2332.1	2326.5	2359.4
32.5°	2026.3	2053.5	2064.4	2048.1	2059.0	2108.0	2080.9	2075.3
35°	1840.6	1791.4	1786.0	1791.4	1813.2	1824.1	1813.2	1851.5
37.5°	1572.9	1556.4	1534.6	1540.2	1556.4	1578.5	1589.4	1616.5
40°	1316.1	1294.3	1294.3	1289.0	1272.5	1332.6	1332.6	1332.6
42.5°	1092.3	1086.8	1059.6	1059.6	1081.4	1097.7	1086.8	1125.1
45°	895.7	873.9	857.4	857.4	873.9	873.9	890.3	884.8
47.5°	704.6	682.8	688.1	671.9	688.1	710.0	682.8	688.1
50°	529.8	529.8	518.9	529.8	524.2	529.8	518.9	508.0
52.5°	360.5	409.5	415.1	393.3	344.1	300.4	273.0	294.9
55°	207.6	185.7	185.7	180.2	169.3	163.9	147.4	163.9
57.5°	103.8	92.9	92.9	92.9	87.3	82.0	71.0	71.0
60°	43.6	38.3	38.3	32.7	27.4	21.8	16.5	21.8
62.5°	16.5	10.9	10.9	10.9	10.9	10.9	10.9	10.9
65°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
67.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
70°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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

(END OF REPORT)