

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: P241518

Luminaire Tested: **FVS8M-4-LD4-35-3STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241518
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-45)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-35-3STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (252) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

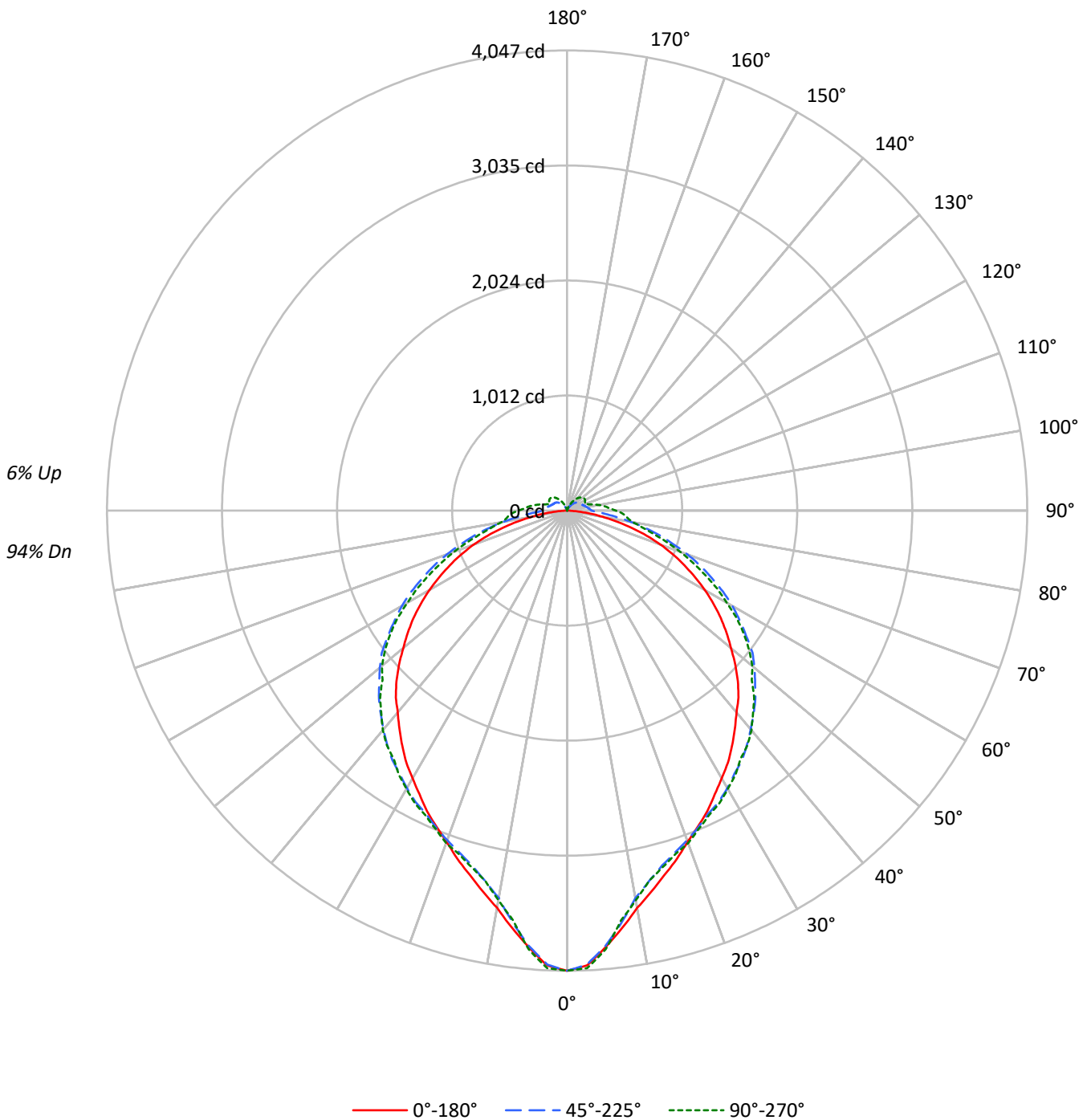
Lumens per Lamp: N/A
Luminaire Lumens: 10891.0 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.04 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 98.5
Input Voltage (V): 120
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	50	30	10	0		
RCR																										
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94					94			
1	106	101	97	93	103	98	94	91	93	90	87	88	85	83	83	81	79	77					77			
2	96	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63					63			
3	88	77	68	62	85	75	67	61	71	64	59	67	62	57	64	59	55	53					53			
4	80	68	59	52	77	66	58	51	63	56	50	60	54	49	57	52	47	45					45			
5	74	61	51	45	71	59	50	44	56	49	43	54	47	42	51	45	41	39					39			
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	40	36	34					34			
7	63	49	40	34	61	48	40	34	46	39	33	44	37	33	42	36	32	30					30			
8	59	45	36	30	57	44	36	30	42	35	30	40	34	29	39	33	29	27					27			
9	55	41	33	27	53	40	33	27	39	32	27	37	31	26	36	30	26	24					24			
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	23	22					22			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18088	18088	18088
5°	17244	16967	17046
10°	15990	15200	15181
15°	15182	14231	14163
20°	14530	13735	13678
25°	14131	13332	13180
30°	13716	13126	12905
35°	13426	12926	12537
40°	13087	12665	12365
45°	12915	12466	11992
50°	12497	12224	11645
55°	12180	11817	11193
60°	11717	11335	10423
65°	11098	10583	9524
70°	10299	9701	8522
75°	8838	8551	7303
80°	6695	7097	6619
85°	3544	5505	7370



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	356.2	3.3
10°-20°	922.2	8.5
20°-30°	1361.6	12.5
30°-40°	1657.0	15.2
40°-50°	1763.7	16.2
50°-60°	1658.5	15.2
60°-70°	1311.9	12.0
70°-80°	818.7	7.5
80°-90°	363.5	3.3
90°-100°	200.3	1.8
100°-110°	146.2	1.3
110°-120°	113.0	1.0
120°-130°	97.0	0.9
130°-140°	68.3	0.6
140°-150°	36.8	0.3
150°-160°	13.6	0.1
160°-170°	2.5	0.0
170°-180°	0.0	0.0
0°-30°	2640.0	24.2
0°-40°	4297.0	39.5
0°-60°	7719.1	70.9
0°-90°	10213.2	93.8
90°-120°	459.5	4.2
90°-150°	661.6	6.1
90°-180°	678.0	6.2
0°-180°	10891.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4047	4047	4047	4047	4047	
5°	3857	3854	3844	3880	3874	359
15°	3316	3292	3230	3224	3246	935
25°	2918	2938	2940	2973	2954	1342
35°	2528	2604	2680	2705	2661	1581
45°	2123	2239	2342	2339	2326	1633
55°	1650	1804	1922	1932	1900	1473
65°	1137	1272	1403	1374	1337	1125
75°	586	715	841	846	779	623
85°	100	216	337	411	515	131
90°	2	102	215	312	428	5
95°	1	86	193	281	350	1
105°	1	72	159	212	207	1
115°	1	60	135	169	173	1
125°	2	49	123	171	185	1
135°	2	34	95	143	163	1
145°	2	17	60	98	114	2
155°	3	6	27	50	58	1
165°	3	2	6	12	16	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241518

CATALOG NUMBER: FVS8M-4-LD4-35-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1
2.5°	4004.4	4008.4	4014.1	4006.0	4011.6	4007.6	4013.2	4010.8	4006.0	4004.4	3995.5
5°	3856.7	3868.8	3863.2	3858.4	3861.6	3853.5	3865.6	3858.4	3851.9	3842.2	3843.8
7.5°	3702.7	3697.0	3701.9	3687.3	3684.9	3689.0	3684.1	3682.5	3685.7	3665.6	3656.7
10°	3547.8	3555.0	3541.3	3539.7	3534.9	3536.5	3528.4	3517.9	3499.4	3476.8	3459.9
12.5°	3430.8	3430.0	3430.0	3417.9	3402.6	3405.8	3392.1	3368.7	3354.2	3342.1	3335.6
15°	3315.5	3316.3	3305.8	3294.5	3292.9	3292.1	3288.8	3269.5	3252.5	3242.9	3230.0
17.5°	3210.6	3212.2	3210.6	3204.9	3202.5	3191.2	3192.8	3175.1	3151.7	3149.3	3152.5
20°	3098.5	3110.6	3117.8	3096.9	3097.7	3090.4	3094.4	3087.2	3077.5	3082.3	3084.8
22.5°	3006.5	3017.8	3015.4	3008.9	3013.0	3014.6	3015.4	3017.8	3019.4	3014.6	3016.2
25°	2917.8	2916.2	2917.8	2932.3	2932.3	2937.9	2937.9	2935.5	2934.7	2929.9	2939.6
27.5°	2812.9	2824.2	2834.7	2841.9	2841.9	2847.6	2843.6	2864.5	2872.6	2876.6	2887.9
30°	2717.7	2734.7	2739.5	2745.9	2769.3	2778.2	2784.7	2803.2	2807.3	2809.7	2818.5
32.5°	2630.6	2635.4	2641.1	2673.3	2695.1	2701.6	2708.0	2716.1	2729.0	2730.6	2741.9
35°	2528.1	2530.6	2556.4	2579.0	2594.3	2604.0	2617.7	2641.1	2658.8	2672.5	2679.8
37.5°	2422.5	2442.6	2462.0	2473.3	2506.4	2527.3	2546.7	2573.3	2579.0	2588.6	2598.3
40°	2316.8	2337.8	2346.6	2386.2	2423.3	2439.4	2453.1	2471.7	2481.4	2501.5	2512.0
42.5°	2230.5	2234.5	2249.8	2288.6	2320.0	2332.1	2351.5	2386.2	2412.0	2428.1	2425.7
45°	2123.2	2122.4	2155.5	2174.8	2215.1	2239.3	2263.6	2291.8	2316.8	2338.6	2341.8
47.5°	2005.4	2014.3	2038.5	2066.7	2122.4	2148.2	2163.5	2183.7	2212.7	2228.1	2241.0
50°	1881.2	1907.8	1918.3	1968.3	2010.3	2028.8	2050.6	2085.3	2115.9	2140.1	2150.6
52.5°	1766.6	1780.3	1813.4	1848.9	1890.1	1921.5	1938.5	1984.4	2013.5	2031.2	2054.6
55°	1650.5	1656.9	1695.6	1729.5	1774.7	1804.5	1824.7	1866.7	1886.0	1914.3	1922.3
57.5°	1526.2	1538.3	1568.2	1609.3	1652.1	1673.1	1687.6	1736.0	1765.0	1794.9	1798.9
60°	1399.6	1415.7	1440.7	1487.5	1517.4	1539.1	1560.9	1610.1	1640.0	1665.0	1679.5
62.5°	1266.5	1279.4	1310.9	1349.6	1381.8	1405.2	1432.7	1473.8	1502.8	1531.1	1544.0
65°	1137.4	1151.1	1179.4	1211.6	1251.2	1272.1	1296.3	1330.2	1366.5	1386.7	1402.8
67.5°	1008.4	1014.8	1041.4	1075.3	1117.3	1131.8	1156.0	1189.0	1235.8	1251.2	1266.5
70°	872.8	876.9	898.6	939.0	970.4	993.8	1008.4	1054.3	1086.6	1109.2	1124.5
72.5°	734.1	743.8	757.5	796.2	830.9	850.2	875.3	915.6	946.2	969.6	976.1
75°	586.5	597.8	621.1	658.3	692.1	714.7	736.5	765.5	800.2	824.4	841.4
77.5°	447.7	464.6	481.6	513.0	555.8	576.0	593.7	632.4	665.5	688.9	698.6
80°	317.8	330.7	352.5	382.4	424.3	442.1	460.6	496.1	525.2	546.9	568.7
82.5°	207.3	208.9	238.0	265.4	302.5	319.4	337.2	372.7	402.5	422.7	442.9
85°	100.0	111.3	133.9	162.9	198.4	216.2	233.1	263.0	287.2	310.6	337.2
87.5°	31.5	38.7	63.7	92.0	121.8	137.9	152.5	180.7	204.9	229.1	254.9
90°	2.4	9.7	29.8	57.3	87.1	102.4	115.4	140.4	166.2	191.2	214.6
92.5°	0.8	7.3	25.8	51.6	79.1	92.0	104.9	129.9	154.1	179.1	204.1
95°	0.8	6.5	23.4	47.6	74.2	86.3	98.4	123.4	148.4	171.8	192.8
97.5°	0.8	6.5	22.6	45.2	69.4	81.5	93.6	118.6	142.0	164.6	183.9
100°	0.8	5.6	21.0	41.9	66.1	77.4	89.5	112.9	135.5	156.5	175.1
102.5°	0.8	4.8	19.4	40.3	62.9	74.2	86.3	108.1	129.1	148.4	167.0
105°	0.8	4.8	18.6	38.7	60.5	71.8	82.3	104.1	123.4	142.0	158.9
107.5°	0.8	4.0	17.7	36.3	58.1	68.6	79.1	100.0	118.6	136.3	151.7
110°	0.8	4.0	16.1	34.7	55.7	66.1	76.6	96.0	114.5	130.7	145.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	3.2	15.3	33.1	53.2	63.7	73.4	92.8	110.5	125.8	139.6
115°	0.8	3.2	14.5	31.5	50.8	60.5	71.0	89.5	106.5	121.8	134.7
117.5°	1.6	2.4	12.9	29.8	48.4	58.1	67.8	86.3	103.3	118.6	132.3
120°	1.6	2.4	12.1	28.2	46.0	55.7	64.5	83.1	100.0	115.4	129.9
122.5°	1.6	2.4	11.3	25.8	43.6	52.4	62.1	79.9	96.8	112.9	126.6
125°	1.6	2.4	9.7	24.2	41.1	49.2	58.1	75.8	92.8	108.1	122.6
127.5°	1.6	1.6	8.9	21.8	37.9	46.0	54.9	71.8	87.9	102.4	117.0
130°	1.6	1.6	7.3	19.4	34.7	42.8	50.8	67.8	82.3	96.8	110.5
132.5°	1.6	1.6	6.5	16.9	30.7	37.9	46.0	62.1	76.6	90.3	103.3
135°	1.6	1.6	4.8	14.5	27.4	33.9	41.1	55.7	69.4	83.1	95.2
137.5°	2.4	1.6	4.0	12.1	23.4	29.8	35.5	49.2	61.3	75.0	87.9
140°	2.4	2.4	3.2	9.7	19.4	25.0	29.8	41.9	54.0	66.1	78.2
142.5°	2.4	2.4	3.2	8.1	16.1	21.0	25.8	35.5	46.8	58.1	69.4
145°	2.4	2.4	2.4	6.5	12.9	16.9	21.0	30.7	40.3	50.0	59.7
147.5°	2.4	2.4	2.4	4.8	10.5	13.7	16.9	25.0	33.9	42.8	50.8
150°	3.2	2.4	2.4	4.0	8.1	10.5	13.7	20.2	27.4	34.7	41.9
152.5°	3.2	2.4	2.4	3.2	6.5	8.1	10.5	16.1	21.8	27.4	33.9
155°	3.2	2.4	2.4	3.2	4.8	6.5	8.1	12.1	16.9	21.8	26.6
157.5°	3.2	3.2	2.4	2.4	4.0	4.8	5.6	8.9	12.1	16.1	20.2
160°	3.2	3.2	2.4	2.4	3.2	3.2	4.0	6.5	8.9	11.3	14.5
162.5°	3.2	3.2	2.4	2.4	2.4	2.4	3.2	4.0	5.6	7.3	9.7
165°	3.2	3.2	3.2	2.4	2.4	2.4	2.4	2.4	3.2	4.8	5.6
167.5°	3.2	3.2	3.2	2.4	2.4	1.6	1.6	1.6	2.4	2.4	3.2
170°	4.0	3.2	3.2	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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°
0°	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1	4047.1
2.5°	3998.7	4002.0	4015.7	4018.9	4023.7	4022.1	4024.5	4024.5	4027.0	4027.8
5°	3852.7	3870.5	3880.1	3873.7	3880.1	3876.9	3877.7	3873.7	3872.1	3874.5
7.5°	3634.9	3634.1	3635.7	3634.1	3634.9	3634.9	3641.4	3643.8	3635.7	3634.9
10°	3447.8	3451.0	3458.2	3460.7	3457.4	3453.4	3462.3	3464.7	3472.8	3478.4
12.5°	3326.0	3312.2	3332.4	3346.1	3347.7	3352.6	3352.6	3356.6	3348.5	3334.0
15°	3230.8	3240.4	3239.6	3224.3	3223.5	3224.3	3235.6	3229.1	3236.4	3246.1
17.5°	3147.7	3143.6	3154.1	3165.4	3169.5	3175.1	3171.9	3168.6	3168.6	3167.0
20°	3071.8	3093.6	3104.9	3100.1	3103.3	3110.6	3117.8	3119.4	3116.2	3112.2
22.5°	3021.0	3030.7	3042.0	3066.2	3058.1	3058.9	3043.6	3038.0	3032.3	3028.3
25°	2946.0	2963.8	2988.0	2977.5	2972.6	2971.8	2962.9	2962.9	2955.7	2954.1
27.5°	2892.0	2914.5	2896.0	2906.5	2906.5	2912.1	2908.9	2904.9	2901.6	2901.6
30°	2837.1	2823.4	2834.7	2844.4	2841.1	2837.9	2838.7	2827.4	2830.6	2826.6
32.5°	2750.0	2751.6	2767.7	2773.4	2775.0	2776.6	2770.1	2766.9	2763.7	2754.8
35°	2683.8	2700.0	2691.9	2704.0	2704.8	2683.8	2684.6	2675.8	2668.5	2661.2
37.5°	2608.0	2603.2	2625.8	2618.5	2606.4	2604.8	2597.5	2604.8	2602.4	2604.0
40°	2526.5	2539.4	2530.6	2530.6	2527.3	2534.6	2533.8	2528.1	2524.9	2520.9
42.5°	2448.3	2449.1	2439.4	2445.1	2444.2	2442.6	2434.6	2428.9	2431.3	2418.4
45°	2366.8	2343.4	2361.2	2345.8	2339.4	2346.6	2335.3	2332.1	2322.4	2325.7
47.5°	2251.5	2248.2	2249.8	2237.7	2235.3	2229.7	2213.5	2205.5	2202.2	2203.0
50°	2145.0	2151.4	2147.4	2142.5	2136.1	2127.2	2124.8	2128.0	2135.3	2125.6
52.5°	2051.4	2056.2	2053.0	2039.3	2033.6	2040.1	2045.7	2027.2	2019.9	2018.3
55°	1930.4	1948.1	1932.8	1939.3	1932.0	1932.0	1909.4	1907.8	1905.4	1899.7
57.5°	1812.6	1815.0	1819.9	1828.7	1807.0	1804.5	1802.1	1786.8	1773.9	1771.5
60°	1693.2	1686.8	1693.2	1680.3	1677.1	1675.5	1650.5	1631.1	1618.2	1622.2
62.5°	1554.5	1562.5	1551.2	1535.1	1530.3	1520.6	1493.2	1498.0	1493.2	1488.3
65°	1403.6	1412.5	1398.8	1381.0	1373.8	1367.3	1362.5	1344.7	1345.5	1336.7
67.5°	1268.1	1260.8	1260.8	1240.7	1238.3	1238.3	1218.1	1205.2	1204.4	1196.3
70°	1126.1	1130.2	1119.7	1112.4	1116.4	1102.7	1083.4	1076.1	1058.4	1056.8
72.5°	985.8	997.9	985.8	985.0	976.9	972.9	951.9	940.6	926.9	916.4
75°	846.2	857.5	855.1	850.2	846.2	838.1	822.8	800.2	786.5	779.3
77.5°	713.9	718.8	729.2	722.8	725.2	717.1	705.0	687.3	673.6	671.2
80°	582.4	593.7	603.4	605.0	605.0	604.2	593.7	588.1	589.7	586.5
82.5°	462.2	475.1	490.5	496.9	501.8	503.4	510.6	518.7	532.4	540.5
85°	355.7	375.1	390.4	403.3	411.4	420.3	438.0	460.6	494.5	514.7
87.5°	276.7	297.7	317.0	339.6	353.3	362.2	383.2	416.2	454.2	478.4
90°	237.2	258.1	282.3	303.3	312.2	324.3	351.7	378.3	410.6	427.5
92.5°	223.5	246.0	265.4	284.8	296.1	305.7	327.5	345.3	367.8	379.9
95°	213.0	231.5	253.3	271.0	280.7	289.6	303.3	320.3	338.8	350.1
97.5°	203.3	222.6	239.6	255.7	263.8	269.4	286.4	302.5	316.2	319.4
100°	193.6	211.4	225.1	238.8	247.7	254.1	267.8	277.5	280.7	281.5
102.5°	183.9	199.3	213.0	224.3	230.7	236.4	243.6	249.3	250.1	247.7
105°	173.4	187.2	199.3	209.7	212.2	215.4	217.8	213.8	210.5	207.3
107.5°	164.6	176.7	186.3	192.0	192.8	193.6	192.0	188.8	185.5	184.7
110°	157.3	167.8	174.2	176.7	177.5	177.5	175.1	172.6	171.0	169.4



TEST NUMBER: P241518

CATALOG NUMBER: FVS8M-4-LD4-35-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	150.8	159.7	165.4	168.6	169.4	170.2	170.2	169.4	168.6	167.8
115°	146.0	155.7	162.1	166.2	168.6	170.2	172.6	173.4	173.4	173.4
117.5°	143.6	154.1	162.1	168.6	171.8	174.2	177.5	179.1	179.1	178.3
120°	142.0	153.3	162.1	171.0	174.2	176.7	180.7	183.1	183.1	182.3
122.5°	139.6	151.7	161.3	170.2	174.2	177.5	182.3	184.7	184.7	184.7
125°	135.5	148.4	158.1	167.8	171.0	175.1	179.9	183.1	183.9	184.7
127.5°	129.9	142.8	153.3	162.9	167.0	170.2	175.9	179.9	181.5	182.3
130°	123.4	135.5	146.0	156.5	160.5	164.6	170.2	174.2	176.7	177.5
132.5°	115.4	127.5	137.9	147.6	152.5	155.7	162.9	167.0	170.2	170.2
135°	107.3	118.6	128.3	137.9	142.8	146.8	154.1	158.9	162.1	162.9
137.5°	98.4	108.9	118.6	128.3	132.3	136.3	142.8	148.4	152.5	153.3
140°	89.5	99.2	108.9	117.8	121.8	125.0	131.5	137.1	140.4	141.2
142.5°	79.9	89.5	98.4	106.5	109.7	112.9	119.4	124.2	125.8	127.5
145°	70.2	79.1	87.1	94.4	97.6	100.8	105.7	110.5	112.1	113.7
147.5°	59.7	68.6	75.8	82.3	85.5	87.9	92.8	96.0	99.2	99.2
150°	49.2	57.3	64.5	71.0	73.4	75.8	79.1	82.3	83.9	85.5
152.5°	39.5	46.0	53.2	59.7	61.3	62.9	67.0	68.6	71.0	71.8
155°	31.5	36.3	41.9	47.6	50.0	51.6	54.9	56.5	58.1	58.1
157.5°	24.2	28.2	31.5	36.3	38.7	41.1	43.6	45.2	46.0	46.0
160°	16.9	20.2	23.4	26.6	28.2	29.8	32.3	33.1	34.7	34.7
162.5°	11.3	13.7	16.1	18.6	19.4	20.2	22.6	24.2	25.0	25.0
165°	7.3	8.1	9.7	11.3	12.1	12.9	14.5	15.3	16.1	16.1
167.5°	3.2	4.0	4.8	5.6	5.6	6.5	7.3	8.9	8.9	8.9
170°	1.6	1.6	1.6	1.6	2.4	2.4	2.4	3.2	3.2	3.2
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)