

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: P241520

Luminaire Tested: **FVS8M-4-LD4-50-3STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241520  
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-LD4-50-3STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
4FT LENGTH, 3-MODULE LED WITH PA187 LENS  
Light Source: (252) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

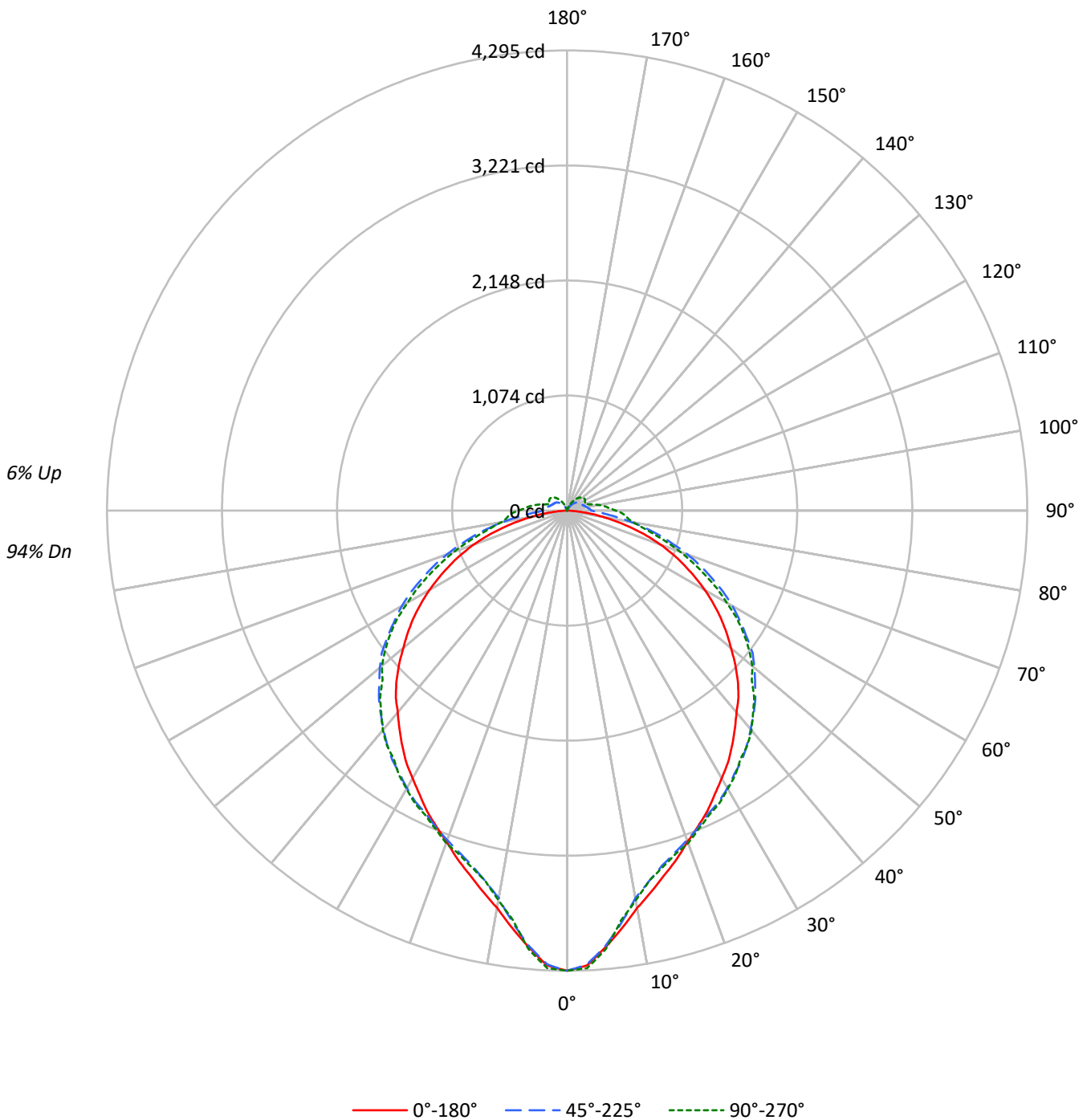
Lumens per Lamp: N/A  
Luminaire Lumens: 11558.0 lumens  
Efficiency: N/A  
Efficacy: 117.3 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1.04 / 1.27  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')  
CIE Type: Direct

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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CATALOG NUMBER: FVS8M-4-LD4-50-3STD-PA187-UNV-EDC1

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

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	19196	19196	19196
5°	18300	18006	18090
10°	16970	16131	16111
15°	16111	15102	15030
20°	15420	14576	14516
25°	14996	14148	13987
30°	14556	13930	13695
35°	14248	13717	13305
40°	13889	13441	13122
45°	13705	13230	12726
50°	13263	12973	12359
55°	12926	12541	11879
60°	12434	12029	11062
65°	11778	11232	10107
70°	10930	10296	9044
75°	9379	9075	7750
80°	7105	7532	7024
85°	3764	5841	7822



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	378.0	3.3
10°-20°	978.7	8.5
20°-30°	1445.0	12.5
30°-40°	1758.5	15.2
40°-50°	1871.7	16.2
50°-60°	1760.0	15.2
60°-70°	1392.3	12.0
70°-80°	868.8	7.5
80°-90°	385.8	3.3
90°-100°	212.5	1.8
100°-110°	155.2	1.3
110°-120°	119.9	1.0
120°-130°	102.9	0.9
130°-140°	72.5	0.6
140°-150°	39.1	0.3
150°-160°	14.4	0.1
160°-170°	2.7	0.0
170°-180°	0.0	0.0
0°-30°	2801.7	24.2
0°-40°	4560.1	39.5
0°-60°	8191.9	70.9
0°-90°	10838.7	93.8
90°-120°	487.6	4.2
90°-150°	702.1	6.1
90°-180°	719.0	6.2
0°-180°	11558.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4295	4295	4295	4295	4295	
5°	4093	4090	4079	4118	4112	380
15°	3518	3494	3428	3421	3445	992
25°	3096	3118	3120	3155	3135	1425
35°	2683	2763	2844	2870	2824	1678
45°	2253	2376	2485	2483	2468	1733
55°	1752	1915	2040	2050	2016	1563
65°	1207	1350	1489	1458	1418	1194
75°	622	758	893	898	827	661
85°	106	229	358	437	546	139
90°	3	109	228	331	454	5
95°	1	92	205	298	372	1
105°	1	76	169	225	220	1
115°	1	64	143	179	184	1
125°	2	52	130	182	196	2
135°	2	36	101	152	173	2
145°	3	18	63	104	121	2
155°	3	7	28	53	62	2
165°	3	3	6	13	17	1
175°	0	0	0	0	0	0
180°	0	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°	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0
2.5°	4249.6	4253.9	4259.9	4251.3	4257.3	4253.0	4259.0	4256.5	4251.3	4249.6	4240.2
5°	4092.9	4105.8	4099.8	4094.7	4098.1	4089.5	4102.4	4094.7	4087.8	4077.5	4079.3
7.5°	3929.4	3923.4	3928.6	3913.2	3910.6	3914.9	3909.7	3908.0	3911.5	3890.1	3880.6
10°	3765.1	3772.8	3758.2	3756.5	3751.4	3753.1	3744.5	3733.4	3713.7	3689.7	3671.8
12.5°	3640.9	3640.1	3640.1	3627.2	3611.0	3614.4	3599.8	3575.0	3559.6	3546.8	3539.9
15°	3518.5	3519.4	3508.2	3496.3	3494.5	3493.7	3490.3	3469.7	3451.7	3441.5	3427.8
17.5°	3407.2	3408.9	3407.2	3401.2	3398.7	3386.7	3388.4	3369.6	3344.7	3342.2	3345.6
20°	3288.2	3301.1	3308.8	3286.5	3287.4	3279.7	3283.9	3276.2	3266.0	3271.1	3273.7
22.5°	3190.6	3202.6	3200.0	3193.2	3197.5	3199.2	3200.0	3202.6	3204.3	3199.2	3200.9
25°	3096.5	3094.8	3096.5	3111.9	3111.9	3117.9	3117.9	3115.3	3114.4	3109.3	3119.6
27.5°	2985.2	2997.2	3008.3	3016.0	3016.0	3022.0	3017.7	3040.0	3048.5	3052.8	3064.8
30°	2884.2	2902.1	2907.3	2914.1	2938.9	2948.4	2955.2	2974.9	2979.2	2981.7	2991.2
32.5°	2791.7	2796.8	2802.8	2837.1	2860.2	2867.0	2873.9	2882.4	2896.1	2897.9	2909.8
35°	2683.0	2685.5	2712.9	2736.9	2753.2	2763.4	2778.0	2802.8	2821.7	2836.2	2843.9
37.5°	2570.8	2592.2	2612.8	2624.8	2659.9	2682.1	2702.7	2730.9	2736.9	2747.2	2757.5
40°	2458.7	2480.9	2490.4	2532.3	2571.7	2588.8	2603.4	2623.0	2633.3	2654.7	2665.9
42.5°	2367.1	2371.4	2387.6	2428.7	2462.1	2474.9	2495.5	2532.3	2559.7	2576.8	2574.3
45°	2253.2	2252.4	2287.5	2308.0	2350.8	2376.5	2402.2	2432.1	2458.7	2481.8	2485.2
47.5°	2128.2	2137.6	2163.3	2193.3	2252.4	2279.8	2296.0	2317.4	2348.2	2364.5	2378.2
50°	1996.4	2024.6	2035.8	2088.9	2133.4	2153.1	2176.2	2213.0	2245.5	2271.2	2282.3
52.5°	1874.8	1889.4	1924.5	1962.1	2005.8	2039.2	2057.2	2106.0	2136.8	2155.6	2180.5
55°	1751.6	1758.4	1799.5	1835.4	1883.4	1915.1	1936.5	1981.0	2001.5	2031.5	2040.1
57.5°	1619.7	1632.6	1664.2	1707.9	1753.3	1775.5	1790.9	1842.3	1873.1	1904.8	1909.1
60°	1485.3	1502.4	1529.0	1578.6	1610.3	1633.4	1656.5	1708.7	1740.4	1767.0	1782.4
62.5°	1344.1	1357.8	1391.1	1432.2	1466.5	1491.3	1520.4	1564.1	1594.9	1624.9	1638.5
65°	1207.1	1221.6	1251.6	1285.8	1327.8	1350.0	1375.7	1411.7	1450.2	1471.6	1488.7
67.5°	1070.1	1077.0	1105.2	1141.2	1185.7	1201.1	1226.8	1261.9	1311.5	1327.8	1344.1
70°	926.3	930.6	953.7	996.5	1029.9	1054.7	1070.1	1118.9	1153.1	1177.1	1193.4
72.5°	779.0	789.3	803.9	845.0	881.8	902.3	928.9	971.7	1004.2	1029.0	1035.9
75°	622.4	634.4	659.2	698.6	734.5	758.5	781.6	812.4	849.2	874.9	892.9
77.5°	475.1	493.1	511.1	544.5	589.8	611.2	630.1	671.2	706.3	731.1	741.4
80°	337.3	351.0	374.1	405.8	450.3	469.1	488.8	526.5	557.3	580.4	603.5
82.5°	220.0	221.7	252.5	281.7	321.0	339.0	357.8	395.5	427.2	448.6	470.0
85°	106.2	118.1	142.1	172.9	210.6	229.4	247.4	279.1	304.8	329.6	357.8
87.5°	33.4	41.1	67.6	97.6	129.3	146.4	161.8	191.8	217.4	243.1	270.5
90°	2.6	10.3	31.7	60.8	92.5	108.7	122.4	149.0	176.4	202.9	227.7
92.5°	0.9	7.7	27.4	54.8	83.9	97.6	111.3	137.8	163.5	190.1	216.6
95°	0.9	6.8	24.8	50.5	78.8	91.6	104.4	131.0	157.5	182.3	204.6
97.5°	0.9	6.8	24.0	47.9	73.6	86.5	99.3	125.8	150.7	174.6	195.2
100°	0.9	6.0	22.3	44.5	70.2	82.2	95.0	119.9	143.8	166.1	185.8
102.5°	0.9	5.1	20.5	42.8	66.8	78.8	91.6	114.7	137.0	157.5	177.2
105°	0.9	5.1	19.7	41.1	64.2	76.2	87.3	110.4	131.0	150.7	168.6
107.5°	0.9	4.3	18.8	38.5	61.6	72.8	83.9	106.2	125.8	144.7	160.9
110°	0.9	4.3	17.1	36.8	59.1	70.2	81.3	101.9	121.6	138.7	154.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	3.4	16.3	35.1	56.5	67.6	77.9	98.4	117.3	133.5	148.1
115°	0.9	3.4	15.4	33.4	53.9	64.2	75.3	95.0	113.0	129.3	143.0
117.5°	1.7	2.6	13.7	31.7	51.4	61.6	71.9	91.6	109.6	125.8	140.4
120°	1.7	2.6	12.8	30.0	48.8	59.1	68.5	88.2	106.2	122.4	137.8
122.5°	1.7	2.6	12.0	27.4	46.2	55.6	65.9	84.8	102.7	119.9	134.4
125°	1.7	2.6	10.3	25.7	43.7	52.2	61.6	80.5	98.4	114.7	130.1
127.5°	1.7	1.7	9.4	23.1	40.2	48.8	58.2	76.2	93.3	108.7	124.1
130°	1.7	1.7	7.7	20.5	36.8	45.4	53.9	71.9	87.3	102.7	117.3
132.5°	1.7	1.7	6.8	18.0	32.5	40.2	48.8	65.9	81.3	95.9	109.6
135°	1.7	1.7	5.1	15.4	29.1	36.0	43.7	59.1	73.6	88.2	101.0
137.5°	2.6	1.7	4.3	12.8	24.8	31.7	37.7	52.2	65.1	79.6	93.3
140°	2.6	2.6	3.4	10.3	20.5	26.5	31.7	44.5	57.4	70.2	83.0
142.5°	2.6	2.6	3.4	8.6	17.1	22.3	27.4	37.7	49.7	61.6	73.6
145°	2.6	2.6	2.6	6.8	13.7	18.0	22.3	32.5	42.8	53.1	63.4
147.5°	2.6	2.6	2.6	5.1	11.1	14.6	18.0	26.5	36.0	45.4	53.9
150°	3.4	2.6	2.6	4.3	8.6	11.1	14.6	21.4	29.1	36.8	44.5
152.5°	3.4	2.6	2.6	3.4	6.8	8.6	11.1	17.1	23.1	29.1	36.0
155°	3.4	2.6	2.6	3.4	5.1	6.8	8.6	12.8	18.0	23.1	28.3
157.5°	3.4	3.4	2.6	2.6	4.3	5.1	6.0	9.4	12.8	17.1	21.4
160°	3.4	3.4	2.6	2.6	3.4	3.4	4.3	6.8	9.4	12.0	15.4
162.5°	3.4	3.4	2.6	2.6	2.6	2.6	3.4	4.3	6.0	7.7	10.3
165°	3.4	3.4	3.4	2.6	2.6	2.6	2.6	2.6	3.4	5.1	6.0
167.5°	3.4	3.4	3.4	2.6	2.6	1.7	1.7	1.7	2.6	2.6	3.4
170°	4.3	3.4	3.4	2.6	2.6	1.7	1.7	1.7	1.7	1.7	1.7
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°	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0	4295.0
2.5°	4243.6	4247.0	4261.6	4265.0	4270.2	4268.4	4271.0	4271.0	4273.6	4274.4
5°	4088.7	4107.5	4117.8	4110.9	4117.8	4114.3	4115.2	4110.9	4109.2	4111.8
7.5°	3857.5	3856.7	3858.4	3856.7	3857.5	3857.5	3864.4	3866.9	3858.4	3857.5
10°	3658.9	3662.3	3670.0	3672.6	3669.2	3664.9	3674.3	3676.9	3685.5	3691.4
12.5°	3529.6	3515.1	3536.5	3551.0	3552.8	3557.9	3557.9	3562.2	3553.6	3538.2
15°	3428.6	3438.9	3438.0	3421.8	3420.9	3421.8	3433.8	3426.9	3434.6	3444.9
17.5°	3340.4	3336.2	3347.3	3359.3	3363.6	3369.6	3366.1	3362.7	3362.7	3361.0
20°	3260.0	3283.1	3295.1	3289.9	3293.4	3301.1	3308.8	3310.5	3307.1	3302.8
22.5°	3206.0	3216.3	3228.3	3254.0	3245.4	3246.3	3230.0	3224.0	3218.0	3213.7
25°	3126.4	3145.3	3170.9	3159.8	3154.7	3153.8	3144.4	3144.4	3136.7	3135.0
27.5°	3069.1	3093.0	3073.3	3084.5	3084.5	3090.5	3087.0	3082.8	3079.3	3079.3
30°	3010.9	2996.3	3008.3	3018.6	3015.1	3011.7	3012.6	3000.6	3004.0	2999.7
32.5°	2918.4	2920.1	2937.2	2943.2	2944.9	2946.6	2939.8	2936.4	2933.0	2923.5
35°	2848.2	2865.3	2856.8	2869.6	2870.5	2848.2	2849.1	2839.6	2831.9	2824.2
37.5°	2767.7	2762.6	2786.6	2778.9	2766.0	2764.3	2756.6	2764.3	2761.7	2763.4
40°	2681.3	2695.0	2685.5	2685.5	2682.1	2689.8	2689.0	2683.0	2679.5	2675.3
42.5°	2598.2	2599.1	2588.8	2594.8	2593.9	2592.2	2583.7	2577.7	2580.2	2566.5
45°	2511.8	2486.9	2505.8	2489.5	2482.6	2490.4	2478.4	2474.9	2464.7	2468.1
47.5°	2389.3	2385.9	2387.6	2374.8	2372.2	2366.2	2349.1	2340.5	2337.1	2338.0
50°	2276.3	2283.2	2278.9	2273.8	2266.9	2257.5	2254.9	2258.4	2266.1	2255.8
52.5°	2177.0	2182.2	2178.7	2164.2	2158.2	2165.0	2171.0	2151.3	2143.6	2141.9
55°	2048.6	2067.4	2051.2	2058.0	2050.3	2050.3	2026.4	2024.6	2022.1	2016.1
57.5°	1923.6	1926.2	1931.3	1940.7	1917.6	1915.1	1912.5	1896.2	1882.5	1880.0
60°	1796.9	1790.1	1796.9	1783.2	1779.8	1778.1	1751.6	1731.0	1717.3	1721.6
62.5°	1649.7	1658.2	1646.3	1629.1	1624.0	1613.7	1584.6	1589.8	1584.6	1579.5
65°	1489.6	1499.0	1484.5	1465.6	1457.9	1451.1	1445.9	1427.1	1428.0	1418.5
67.5°	1345.8	1338.1	1338.1	1316.7	1314.1	1314.1	1292.7	1279.0	1278.1	1269.6
70°	1195.1	1199.4	1188.2	1180.5	1184.8	1170.3	1149.7	1142.0	1123.2	1121.5
72.5°	1046.1	1059.0	1046.1	1045.3	1036.7	1032.4	1010.2	998.2	983.6	972.5
75°	898.0	910.0	907.5	902.3	898.0	889.5	873.2	849.2	834.7	827.0
77.5°	757.6	762.8	773.9	767.1	769.6	761.1	748.2	729.4	714.8	712.3
80°	618.1	630.1	640.4	642.1	642.1	641.2	630.1	624.1	625.8	622.4
82.5°	490.5	504.2	520.5	527.3	532.5	534.2	541.9	550.5	565.0	573.6
85°	377.5	398.1	414.3	428.0	436.6	446.0	464.9	488.8	524.8	546.2
87.5°	293.6	315.9	336.4	360.4	375.0	384.4	406.6	441.7	482.0	507.7
90°	251.7	273.9	299.6	321.9	331.3	344.1	373.3	401.5	435.7	453.7
92.5°	237.1	261.1	281.7	302.2	314.2	324.5	347.6	366.4	390.4	403.2
95°	226.0	245.7	268.8	287.6	297.9	307.3	321.9	339.9	359.6	371.5
97.5°	215.7	236.3	254.3	271.4	279.9	285.9	303.9	321.0	335.6	339.0
100°	205.5	224.3	238.8	253.4	262.8	269.7	284.2	294.5	297.9	298.8
102.5°	195.2	211.5	226.0	238.0	244.8	250.8	258.5	264.5	265.4	262.8
105°	184.1	198.6	211.5	222.6	225.2	228.6	231.1	226.9	223.4	220.0
107.5°	174.6	187.5	197.8	203.7	204.6	205.5	203.7	200.3	196.9	196.0
110°	166.9	178.1	184.9	187.5	188.3	188.3	185.8	183.2	181.5	179.8





TEST NUMBER: P241520

CATALOG NUMBER: FVS8M-4-LD4-50-3STD-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	160.1	169.5	175.5	178.9	179.8	180.6	180.6	179.8	178.9	178.1
115°	155.0	165.2	172.1	176.4	178.9	180.6	183.2	184.1	184.1	184.1
117.5°	152.4	163.5	172.1	178.9	182.3	184.9	188.3	190.1	190.1	189.2
120°	150.7	162.7	172.1	181.5	184.9	187.5	191.8	194.3	194.3	193.5
122.5°	148.1	160.9	171.2	180.6	184.9	188.3	193.5	196.0	196.0	196.0
125°	143.8	157.5	167.8	178.1	181.5	185.8	190.9	194.3	195.2	196.0
127.5°	137.8	151.5	162.7	172.9	177.2	180.6	186.6	190.9	192.6	193.5
130°	131.0	143.8	155.0	166.1	170.4	174.6	180.6	184.9	187.5	188.3
132.5°	122.4	135.3	146.4	156.7	161.8	165.2	172.9	177.2	180.6	180.6
135°	113.9	125.8	136.1	146.4	151.5	155.8	163.5	168.6	172.1	172.9
137.5°	104.4	115.6	125.8	136.1	140.4	144.7	151.5	157.5	161.8	162.7
140°	95.0	105.3	115.6	125.0	129.3	132.7	139.5	145.5	149.0	149.8
142.5°	84.8	95.0	104.4	113.0	116.4	119.9	126.7	131.8	133.5	135.3
145°	74.5	83.9	92.5	100.2	103.6	107.0	112.1	117.3	119.0	120.7
147.5°	63.4	72.8	80.5	87.3	90.7	93.3	98.4	101.9	105.3	105.3
150°	52.2	60.8	68.5	75.3	77.9	80.5	83.9	87.3	89.0	90.7
152.5°	41.9	48.8	56.5	63.4	65.1	66.8	71.1	72.8	75.3	76.2
155°	33.4	38.5	44.5	50.5	53.1	54.8	58.2	59.9	61.6	61.6
157.5°	25.7	30.0	33.4	38.5	41.1	43.7	46.2	47.9	48.8	48.8
160°	18.0	21.4	24.8	28.3	30.0	31.7	34.2	35.1	36.8	36.8
162.5°	12.0	14.6	17.1	19.7	20.5	21.4	24.0	25.7	26.5	26.5
165°	7.7	8.6	10.3	12.0	12.8	13.7	15.4	16.3	17.1	17.1
167.5°	3.4	4.3	5.1	6.0	6.0	6.8	7.7	9.4	9.4	9.4
170°	1.7	1.7	1.7	1.7	2.6	2.6	2.6	3.4	3.4	3.4
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)