

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: P241456

Luminaire Tested: **FVS8M-3-LD4-50-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241456  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-3-LD4-50-1LO-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
3FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

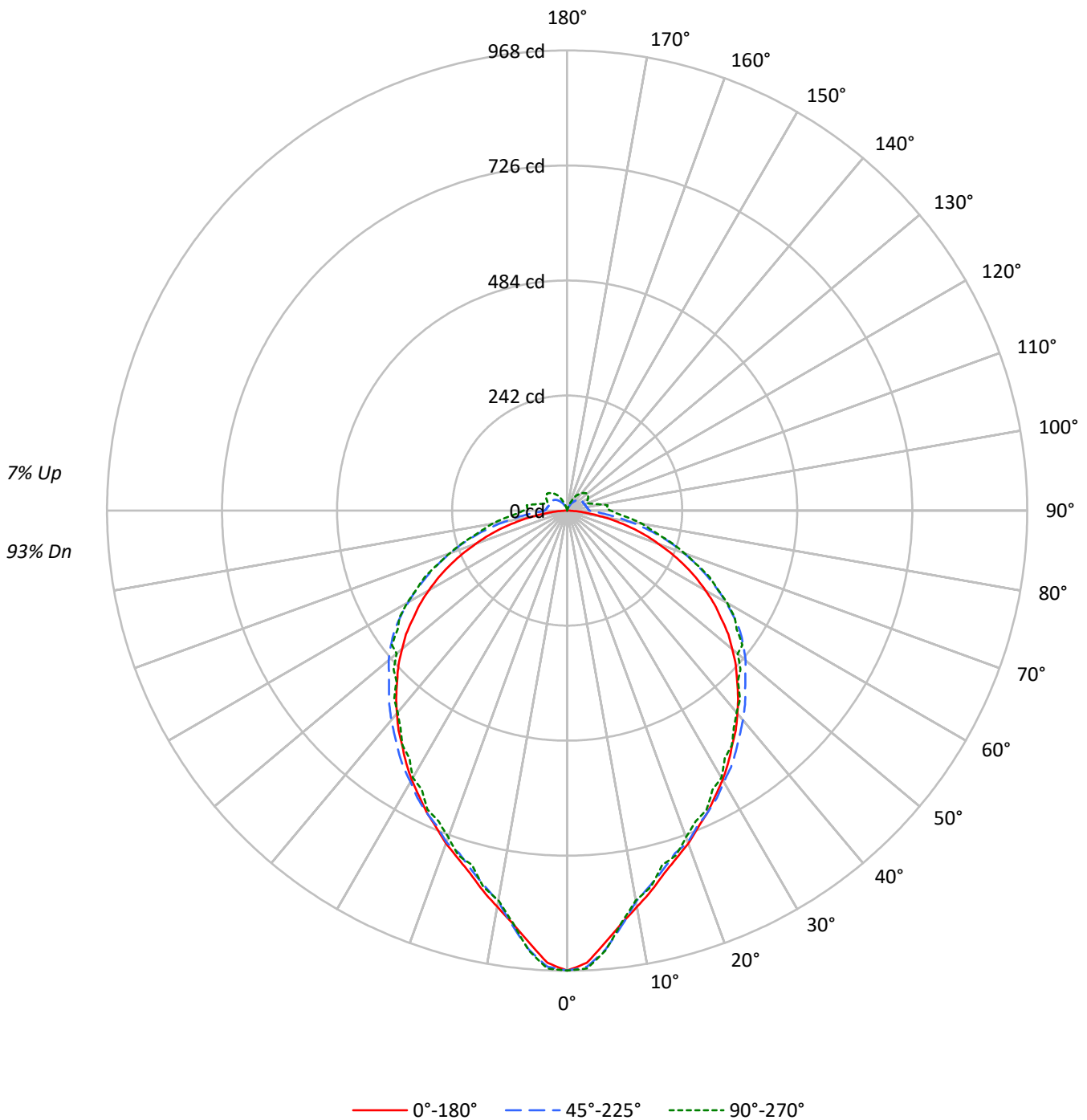
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2574.0 lumens  
Efficiency: N/A  
Efficacy: 121.4 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')  
CIE Type: Direct  
  
Input Watts (W): 21.2  
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-3-LD4-50-1LO-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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93
1	106	101	97	92	103	98	94	90	93	89	86	87	85	82	83	80	78	76
2	96	88	81	75	93	85	79	73	80	75	70	76	72	68	72	68	65	62
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	56	51	47	44
5	74	60	51	45	71	59	50	44	56	49	43	53	47	42	51	45	41	38
6	68	54	45	39	65	53	45	38	51	43	37	48	42	37	46	40	36	33
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	28	26
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	34	28	24	33	27	23	22

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

	0°	45°	90°
0°	5650	5650	5650
5°	5326	5341	5338
10°	4974	4786	4746
15°	4708	4488	4401
20°	4547	4308	4199
25°	4403	4135	4048
30°	4285	3992	3870
35°	4161	3879	3714
40°	4072	3766	3553
45°	3972	3658	3420
50°	3882	3610	3350
55°	3755	3537	3350
60°	3606	3364	3261
65°	3393	3154	3080
70°	3057	2899	2773
75°	2651	2575	2467
80°	1989	2113	2359
85°	1074	1608	2155



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.3	3.3
10°-20°	221.1	8.6
20°-30°	321.8	12.5
30°-40°	383.3	14.9
40°-50°	402.9	15.7
50°-60°	384.0	14.9
60°-70°	308.0	12.0
70°-80°	196.2	7.6
80°-90°	86.0	3.3
90°-100°	45.8	1.8
100°-110°	37.6	1.5
110°-120°	31.3	1.2
120°-130°	28.9	1.1
130°-140°	22.2	0.9
140°-150°	13.4	0.5
150°-160°	5.4	0.2
160°-170°	1.0	0.0
170°-180°	0.0	0.0
0°-30°	628.1	24.4
0°-40°	1011.4	39.3
0°-60°	1798.3	69.9
0°-90°	2388.4	92.8
90°-120°	114.6	4.5
90°-150°	179.1	7.0
90°-180°	186.0	7.2
0°-180°	2574.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	968	968	968	968	968	
5°	913	919	927	925	929	85
15°	790	787	781	777	772	223
25°	700	700	700	691	694	322
35°	605	615	619	611	603	379
45°	506	522	530	526	508	391
55°	396	418	445	441	435	355
65°	272	295	324	330	331	269
75°	140	164	198	207	202	148
85°	25	46	78	105	115	31
90°	1	19	47	70	92	1
95°	0	18	44	63	84	0
105°	0	17	40	55	55	0
115°	0	17	38	47	46	0
125°	0	15	38	51	54	0
135°	1	11	32	46	52	1
145°	1	6	22	36	42	0
155°	1	2	11	20	23	0
165°	1	1	2	5	7	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241456

CATALOG NUMBER: FVS8M-3-LD4-50-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	967.6	967.6	967.6	967.6	967.6	967.6	967.6	967.6	967.6	967.6	967.6
2.5°	952.2	949.5	949.5	952.2	954.2	954.2	956.2	958.9	960.9	960.2	960.2
5°	912.7	912.0	911.3	916.0	917.3	918.7	920.0	926.1	926.7	928.7	926.7
7.5°	875.8	873.2	873.2	876.5	877.8	879.2	880.5	883.2	879.9	877.8	880.5
10°	846.4	842.4	841.7	843.7	843.0	842.4	843.0	840.3	841.7	839.0	835.0
12.5°	818.9	816.2	812.9	812.9	812.2	812.2	810.9	810.9	806.9	802.8	807.5
15°	789.5	788.8	784.8	786.8	786.8	786.8	787.4	786.8	784.1	786.1	781.4
17.5°	766.0	764.0	763.3	767.4	766.0	764.7	765.4	762.7	764.7	760.0	755.3
20°	745.3	742.6	742.6	743.3	741.9	740.6	741.2	743.3	740.6	737.2	742.6
22.5°	720.5	717.1	717.8	721.2	721.2	723.2	724.5	721.2	719.1	721.2	717.1
25°	699.7	697.7	699.7	699.7	698.4	700.4	702.4	703.7	701.7	701.1	700.4
27.5°	675.6	672.9	675.0	677.0	681.7	682.3	681.7	681.7	681.0	683.7	681.7
30°	654.2	652.2	654.9	658.2	658.2	658.9	659.6	662.2	660.2	664.2	658.9
32.5°	630.1	628.1	630.8	632.1	638.1	638.1	640.1	642.8	642.1	643.5	640.8
35°	604.6	603.3	606.7	612.7	614.7	614.7	618.7	618.7	621.4	621.4	618.7
37.5°	582.6	581.9	583.9	590.6	593.3	595.3	598.0	598.6	602.0	599.3	595.9
40°	557.1	555.8	559.1	565.1	568.5	570.5	572.5	577.2	577.2	576.5	575.2
42.5°	532.3	532.3	535.0	539.7	545.7	548.4	549.1	554.4	556.4	553.1	553.8
45°	505.5	505.5	508.2	514.9	519.6	521.6	524.3	527.6	530.3	533.7	529.7
47.5°	481.4	481.4	483.4	488.1	496.2	496.2	499.5	504.2	506.9	509.6	508.2
50°	453.3	455.3	458.0	462.0	466.0	470.7	475.4	480.8	483.4	486.1	490.1
52.5°	427.2	425.9	429.2	433.9	439.9	445.3	448.0	456.0	461.4	466.0	467.4
55°	395.7	399.8	401.1	407.1	410.5	417.8	421.2	427.2	435.2	440.6	444.6
57.5°	367.6	368.3	371.0	377.0	384.3	387.0	391.0	398.4	405.1	411.8	415.8
60°	336.1	338.1	342.2	346.2	353.5	356.9	360.2	370.3	375.0	381.0	385.7
62.5°	304.7	306.7	311.4	316.7	320.7	324.8	328.1	338.1	346.9	350.2	354.9
65°	272.5	275.2	277.9	281.9	288.6	294.6	296.6	306.7	314.0	320.1	324.1
67.5°	239.0	241.1	246.4	251.1	257.1	261.8	265.2	274.5	282.6	290.6	292.6
70°	204.2	208.2	211.6	219.0	225.0	229.0	233.0	242.4	249.8	255.1	261.1
72.5°	172.8	174.8	179.5	186.1	192.8	196.9	199.5	210.3	216.9	225.7	230.3
75°	139.9	142.6	146.6	152.0	160.0	164.1	169.4	177.4	185.5	192.8	197.5
77.5°	107.8	110.5	113.8	120.5	127.2	131.2	137.3	145.3	154.0	159.4	164.7
80°	76.3	79.0	82.4	89.7	97.1	99.8	105.1	111.8	121.2	127.2	132.6
82.5°	48.2	50.2	54.2	60.9	68.3	71.0	75.7	83.0	91.1	97.8	103.8
85°	25.4	26.1	31.5	36.2	42.9	46.2	49.6	56.9	65.0	71.0	77.7
87.5°	7.4	9.4	13.4	19.4	24.8	28.1	31.5	38.2	45.5	50.9	57.6
90°	0.7	2.0	5.4	10.7	16.1	19.4	22.1	28.8	34.8	40.8	46.9
92.5°	0.0	1.3	5.4	10.0	15.4	18.7	21.4	27.5	33.5	38.8	44.9
95°	0.0	1.3	4.7	9.4	15.4	18.1	21.4	27.5	32.8	38.8	44.2
97.5°	0.0	1.3	4.7	9.4	15.4	18.1	20.8	26.8	32.8	37.5	42.9
100°	0.0	1.3	4.7	9.4	14.7	18.1	20.8	26.1	32.1	36.8	41.5
102.5°	0.0	1.3	4.7	9.4	14.7	17.4	20.8	26.1	30.8	36.2	40.8
105°	0.0	1.3	4.7	9.4	14.7	17.4	20.1	25.4	30.1	35.5	40.2
107.5°	0.0	1.3	4.7	9.4	14.7	17.4	20.1	25.4	30.1	34.8	39.5
110°	0.0	0.7	4.0	9.4	14.7	17.4	20.1	24.8	30.1	34.8	38.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.7	4.0	8.7	14.1	17.4	20.1	24.8	30.1	34.1	38.2
115°	0.0	0.7	4.0	8.7	14.1	16.7	19.4	24.8	29.5	33.5	37.5
117.5°	0.0	0.7	4.0	8.7	14.1	16.7	19.4	24.8	29.5	33.5	37.5
120°	0.0	0.7	3.3	8.0	13.4	16.1	18.7	24.1	29.5	33.5	37.5
122.5°	0.0	0.7	3.3	8.0	12.7	15.4	18.1	23.4	28.8	33.5	37.5
125°	0.0	0.7	2.7	7.4	12.7	15.4	18.1	22.8	28.1	32.8	37.5
127.5°	0.7	0.7	2.7	6.7	12.1	14.7	17.4	22.1	26.8	31.5	36.2
130°	0.7	0.7	2.7	6.0	10.7	13.4	16.1	21.4	26.1	30.8	34.8
132.5°	0.7	0.7	2.0	5.4	10.0	12.7	14.7	20.1	24.1	28.8	33.5
135°	0.7	0.7	1.3	4.7	9.4	11.4	13.4	18.7	22.8	26.8	31.5
137.5°	0.7	0.7	1.3	4.0	8.0	10.0	12.1	16.7	21.4	24.8	29.5
140°	0.7	0.7	1.3	3.3	6.7	8.7	10.7	14.7	19.4	23.4	26.8
142.5°	0.7	0.7	0.7	2.7	6.0	7.4	9.4	12.7	16.7	20.8	24.8
145°	0.7	0.7	0.7	2.0	4.7	6.0	8.0	11.4	14.7	18.7	22.1
147.5°	0.7	0.7	0.7	2.0	4.0	5.4	6.7	9.4	12.7	16.1	19.4
150°	0.7	0.7	0.7	1.3	2.7	4.0	5.4	8.0	10.7	13.4	16.7
152.5°	0.7	0.7	0.7	0.7	2.0	3.3	4.0	6.0	8.7	11.4	13.4
155°	0.7	0.7	0.7	0.7	1.3	2.0	3.3	4.7	6.7	8.7	10.7
157.5°	0.7	0.7	0.7	0.7	1.3	1.3	2.0	3.3	4.7	6.7	8.0
160°	0.7	0.7	0.7	0.7	0.7	1.3	1.3	2.7	3.3	4.7	6.0
162.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.3	2.0	3.3	4.0
165°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.3	2.0	2.0
167.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.3
170°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	967.6	967.6	967.6	967.6	967.6	967.6	967.6	967.6	967.6	967.6
2.5°	961.5	960.9	961.5	963.6	963.6	964.2	964.9	965.6	964.9	964.2
5°	927.4	924.0	923.4	926.1	924.7	925.4	927.4	929.4	928.7	928.7
7.5°	881.2	879.2	879.9	873.8	873.2	870.5	871.1	871.1	872.5	874.5
10°	829.6	831.6	837.0	841.7	843.0	841.0	837.7	833.6	831.6	832.3
12.5°	808.2	802.2	794.1	790.8	794.1	798.8	805.5	810.2	811.6	811.6
15°	772.7	775.4	780.8	784.1	777.4	774.7	773.4	771.4	772.0	772.0
17.5°	762.0	758.0	751.3	758.7	763.3	768.7	768.7	763.3	758.7	760.7
20°	735.2	739.2	749.3	739.9	731.9	727.9	727.9	728.5	733.2	731.2
22.5°	721.8	722.5	710.4	715.8	724.5	727.2	722.5	714.5	705.8	707.1
25°	697.7	693.7	704.4	696.4	691.0	687.7	689.7	693.0	695.7	694.4
27.5°	677.0	683.7	669.6	677.6	682.3	685.0	681.0	668.3	666.3	662.2
30°	660.9	650.8	662.9	660.2	650.8	646.8	641.5	646.2	646.2	648.8
32.5°	636.1	639.5	633.4	626.7	631.4	635.4	632.1	626.7	619.4	617.4
35°	619.4	614.7	610.0	617.4	611.3	604.6	599.3	601.3	604.0	603.3
37.5°	599.3	591.3	594.6	583.2	585.9	589.9	593.3	583.9	579.9	575.9
40°	570.5	577.2	565.1	575.2	571.8	564.5	553.8	551.7	555.1	554.4
42.5°	552.4	547.7	554.4	540.4	537.0	538.4	544.4	546.4	541.0	538.4
45°	531.7	532.3	523.0	523.0	526.3	525.6	514.9	507.6	508.2	507.6
47.5°	506.2	508.9	503.5	505.5	495.5	494.2	494.8	497.5	496.2	494.8
50°	492.2	485.5	492.8	482.1	486.1	488.8	482.8	472.1	469.4	468.0
52.5°	472.1	476.1	467.4	476.8	473.4	464.7	459.3	463.4	464.0	464.7
55°	442.6	450.0	452.6	443.9	441.3	443.9	446.0	439.3	436.6	435.2
57.5°	420.5	418.5	417.8	418.5	420.5	419.2	413.1	413.1	417.2	417.8
60°	388.4	393.7	386.4	389.7	385.0	385.0	391.7	391.0	389.7	388.4
62.5°	356.2	357.6	362.3	354.9	357.6	361.6	357.6	354.2	356.2	356.2
65°	326.8	326.8	325.4	330.1	330.1	324.8	322.7	327.4	330.1	330.8
67.5°	297.3	299.3	298.0	298.6	294.0	294.0	297.3	293.3	291.9	293.3
70°	263.2	265.8	271.2	264.5	267.8	268.5	261.8	259.8	261.8	263.2
72.5°	232.4	233.7	236.4	238.4	238.4	236.4	234.4	234.4	233.7	233.7
75°	200.2	204.9	204.9	208.2	206.9	205.6	207.6	204.9	201.5	201.5
77.5°	169.4	176.1	176.8	177.4	178.1	180.8	180.1	178.1	178.1	178.8
80°	138.6	144.0	148.0	149.3	150.7	153.3	154.0	158.0	159.4	160.0
82.5°	109.1	115.8	119.9	125.2	127.2	129.9	133.9	137.3	139.9	137.9
85°	84.4	89.7	95.8	103.1	105.1	108.5	111.2	111.8	113.2	115.2
87.5°	63.6	71.0	78.3	84.4	85.7	86.4	88.4	92.4	97.1	100.4
90°	53.6	60.3	66.3	69.0	69.6	71.0	75.0	80.4	86.4	91.7
92.5°	50.9	56.2	59.6	62.3	64.3	66.3	69.6	73.7	79.7	83.7
95°	48.9	53.6	56.9	60.3	62.9	65.0	68.3	73.7	80.4	84.4
97.5°	47.5	52.2	56.2	60.3	62.9	65.0	71.0	78.3	85.0	85.7
100°	46.9	50.9	54.9	59.6	62.3	65.0	71.0	74.3	73.7	73.7
102.5°	45.5	49.6	54.2	58.3	60.3	61.6	64.3	64.3	62.9	62.3
105°	44.9	48.2	52.2	54.9	54.9	56.2	56.9	56.2	55.6	54.9
107.5°	43.5	46.9	49.6	50.2	50.9	51.6	51.6	50.9	49.6	48.9
110°	42.2	44.9	46.9	47.5	47.5	48.2	47.5	46.9	45.5	44.9





TEST NUMBER: P241456

CATALOG NUMBER: FVS8M-3-LD4-50-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	41.5	43.5	45.5	46.2	46.2	46.9	46.9	46.2	45.5	44.9
115°	40.8	43.5	45.5	46.2	46.9	47.5	48.2	47.5	46.9	46.2
117.5°	40.8	43.5	46.2	47.5	48.2	48.9	49.6	50.2	48.9	48.2
120°	41.5	44.2	46.9	48.9	49.6	50.2	51.6	51.6	50.9	50.9
122.5°	41.5	44.9	47.5	49.6	50.9	51.6	52.2	52.9	52.2	52.2
125°	41.5	44.9	47.5	49.6	50.9	51.6	52.9	54.2	53.6	53.6
127.5°	40.8	44.2	46.9	49.6	50.2	50.9	52.9	54.2	54.2	54.9
130°	39.5	42.9	46.2	48.2	49.6	50.2	52.2	53.6	54.2	54.9
132.5°	37.5	41.5	44.2	46.9	47.5	48.9	50.9	52.2	53.6	54.2
135°	35.5	38.8	42.2	44.9	46.2	47.5	48.9	50.9	52.2	52.2
137.5°	32.8	36.8	40.2	42.9	43.5	44.9	46.9	48.9	49.6	50.2
140°	30.8	34.1	37.5	40.2	41.5	42.9	44.9	46.2	47.5	47.5
142.5°	28.1	32.1	34.8	37.5	38.8	40.2	42.2	43.5	44.9	44.9
145°	26.1	29.5	32.1	34.8	36.2	36.8	38.8	40.2	41.5	41.5
147.5°	23.4	26.1	29.5	31.5	32.8	33.5	35.5	36.8	37.5	38.2
150°	20.1	22.8	25.4	27.5	28.8	29.5	31.5	32.8	33.5	34.1
152.5°	16.1	18.7	21.4	23.4	24.1	25.4	26.8	27.5	28.8	28.8
155°	13.4	15.4	17.4	19.4	20.1	20.8	22.1	22.8	23.4	23.4
157.5°	10.0	11.4	13.4	15.4	16.1	16.1	17.4	18.1	18.7	18.7
160°	7.4	8.7	10.0	11.4	12.1	12.7	13.4	14.1	14.1	14.1
162.5°	4.7	6.0	6.7	8.0	8.0	8.7	9.4	10.0	10.0	10.0
165°	2.7	3.3	4.0	4.7	5.4	5.4	6.0	6.0	6.7	6.7
167.5°	1.3	2.0	2.0	2.7	2.7	2.7	3.3	3.3	4.0	3.3
170°	0.7	0.7	0.7	0.7	0.7	1.3	1.3	1.3	1.3	1.3
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)