

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: P241459

Luminaire Tested: **FVS8M-3-LD4-40-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241459  
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-LD4-40-1STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
3FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (84) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

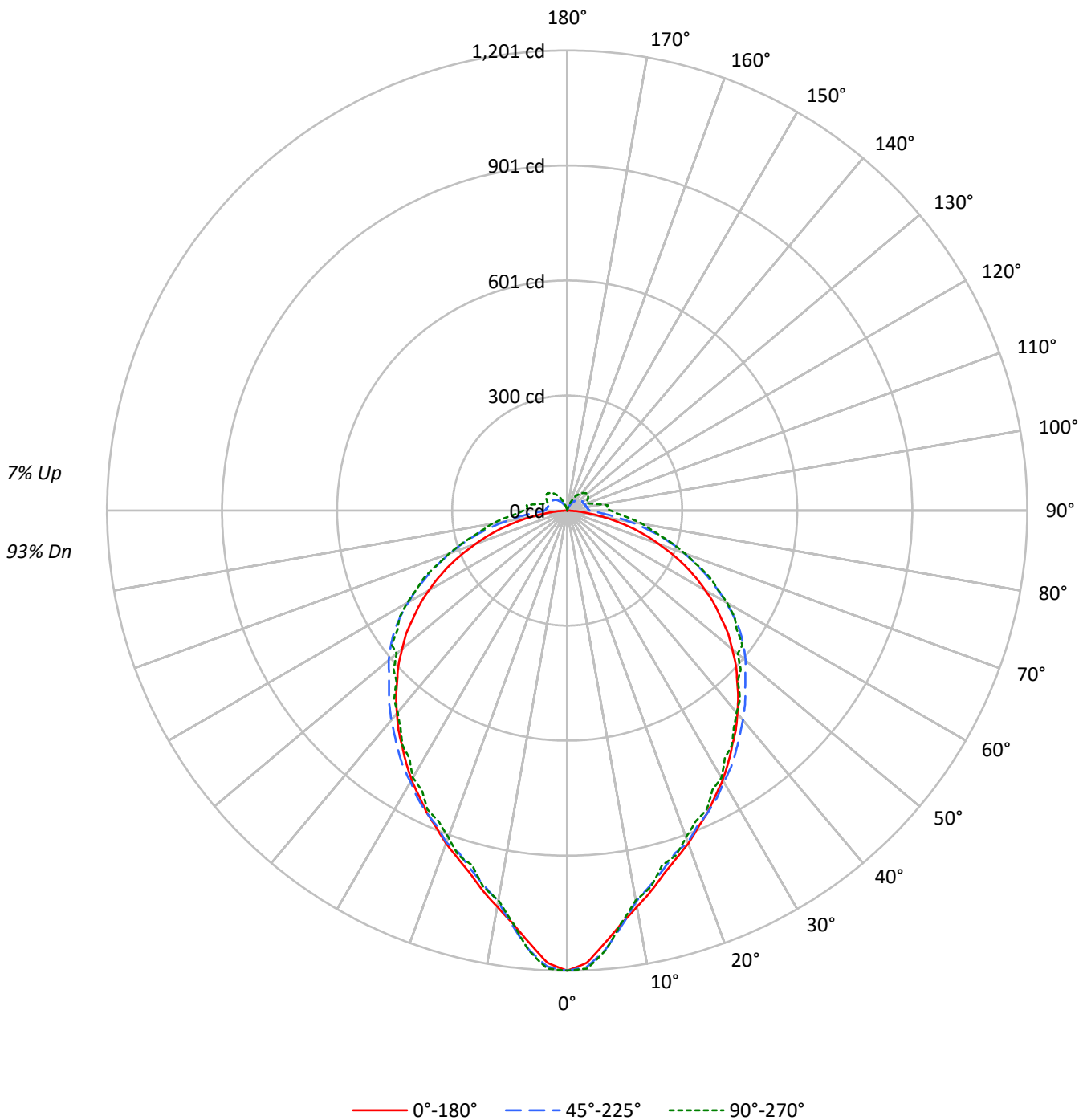
Lumens per Lamp: N/A  
Luminaire Lumens: 3194.0 lumens  
Efficiency: N/A  
Efficacy: 112.1 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 28.5  
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-3-LD4-40-1STD-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°	7011	7011	7011
5°	6609	6627	6624
10°	6172	5939	5890
15°	5842	5569	5461
20°	5642	5345	5210
25°	5464	5131	5023
30°	5317	4953	4803
35°	5164	4813	4608
40°	5053	4673	4409
45°	4929	4539	4243
50°	4817	4480	4157
55°	4660	4389	4158
60°	4475	4174	4046
65°	4212	3913	3821
70°	3794	3597	3440
75°	3291	3195	3062
80°	2469	2621	2928
85°	1337	1995	2674



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.8	3.3
10°-20°	274.3	8.6
20°-30°	399.3	12.5
30°-40°	475.6	14.9
40°-50°	499.9	15.7
50°-60°	476.5	14.9
60°-70°	382.2	12.0
70°-80°	243.5	7.6
80°-90°	106.7	3.3
90°-100°	56.8	1.8
100°-110°	46.6	1.5
110°-120°	38.8	1.2
120°-130°	35.9	1.1
130°-140°	27.5	0.9
140°-150°	16.7	0.5
150°-160°	6.7	0.2
160°-170°	1.2	0.0
170°-180°	0.0	0.0
0°-30°	779.4	24.4
0°-40°	1255.1	39.3
0°-60°	2231.5	69.9
0°-90°	2963.8	92.8
90°-120°	142.2	4.5
90°-150°	222.2	7.0
90°-180°	230.0	7.2
0°-180°	3194.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1201	1201	1201	1201	1201	
5°	1132	1140	1150	1148	1152	106
15°	980	976	970	965	958	277
25°	868	869	869	858	862	400
35°	750	763	768	759	749	471
45°	627	647	657	653	630	485
55°	491	518	552	548	540	440
65°	338	366	402	410	410	334
75°	174	204	245	257	250	183
85°	32	57	96	130	143	39
90°	1	24	58	86	114	1
95°	0	22	55	78	105	0
105°	0	22	50	68	68	0
115°	0	21	46	58	57	0
125°	0	19	46	63	66	0
135°	1	14	39	57	65	1
145°	1	8	27	45	52	1
155°	1	2	13	25	29	0
165°	1	1	2	7	8	0
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°	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6
2.5°	1181.5	1178.2	1178.2	1181.5	1184.0	1184.0	1186.5	1189.8	1192.3	1191.5	1191.5
5°	1132.5	1131.7	1130.8	1136.7	1138.3	1140.0	1141.6	1149.1	1149.9	1152.4	1149.9
7.5°	1086.8	1083.5	1083.5	1087.6	1089.3	1091.0	1092.6	1095.9	1091.8	1089.3	1092.6
10°	1050.2	1045.3	1044.4	1046.9	1046.1	1045.3	1046.1	1042.8	1044.4	1041.1	1036.1
12.5°	1016.2	1012.8	1008.7	1008.7	1007.9	1007.9	1006.2	1006.2	1001.2	996.2	1002.0
15°	979.6	978.8	973.8	976.3	976.3	976.3	977.1	976.3	973.0	975.5	969.6
17.5°	950.5	948.0	947.2	952.2	950.5	948.9	949.7	946.4	948.9	943.1	937.2
20°	924.8	921.5	921.5	922.3	920.6	919.0	919.8	922.3	919.0	914.8	921.5
22.5°	894.0	889.9	890.7	894.9	894.9	897.4	899.0	894.9	892.4	894.9	889.9
25°	868.3	865.8	868.3	868.3	866.6	869.1	871.6	873.3	870.8	869.9	869.1
27.5°	838.4	835.0	837.5	840.0	845.8	846.7	845.8	845.8	845.0	848.3	845.8
30°	811.8	809.3	812.6	816.8	816.8	817.6	818.4	821.7	819.3	824.2	817.6
32.5°	781.9	779.4	782.7	784.4	791.8	791.8	794.3	797.6	796.8	798.5	795.2
35°	750.3	748.6	752.8	760.3	762.8	762.8	767.7	767.7	771.1	771.1	767.7
37.5°	722.9	722.0	724.5	732.8	736.2	738.7	742.0	742.8	747.0	743.6	739.5
40°	691.3	689.6	693.8	701.3	705.4	707.9	710.4	716.2	716.2	715.4	713.7
42.5°	660.6	660.6	663.9	669.7	677.2	680.5	681.3	688.0	690.5	686.3	687.1
45°	627.3	627.3	630.6	639.0	644.8	647.3	650.6	654.7	658.1	662.2	657.2
47.5°	597.4	597.4	599.9	605.7	615.7	615.7	619.8	625.7	629.0	632.3	630.6
50°	562.5	565.0	568.3	573.3	578.3	584.1	589.9	596.6	599.9	603.2	608.2
52.5°	530.1	528.4	532.6	538.4	545.9	552.5	555.9	565.8	572.5	578.3	580.0
55°	491.1	496.0	497.7	505.2	509.3	518.5	522.6	530.1	540.1	546.7	551.7
57.5°	456.2	457.0	460.3	467.8	476.9	480.3	485.2	494.4	502.7	511.0	516.0
60°	417.1	419.6	424.6	429.6	438.7	442.9	447.0	459.5	465.3	472.8	478.6
62.5°	378.1	380.5	386.4	393.0	398.0	403.0	407.1	419.6	430.4	434.6	440.4
65°	338.2	341.5	344.8	349.8	358.1	365.6	368.1	380.5	389.7	397.2	402.1
67.5°	296.6	299.1	305.8	311.6	319.1	324.9	329.0	340.7	350.6	360.6	363.1
70°	253.4	258.4	262.6	271.7	279.2	284.2	289.1	300.8	309.9	316.6	324.0
72.5°	214.4	216.9	222.7	231.0	239.3	244.3	247.6	260.9	269.2	280.0	285.8
75°	173.7	177.0	182.0	188.6	198.6	203.6	210.2	220.2	230.2	239.3	245.1
77.5°	133.8	137.1	141.3	149.6	157.9	162.9	170.3	180.3	191.1	197.8	204.4
80°	94.7	98.0	102.2	111.3	120.5	123.8	130.4	138.8	150.4	157.9	164.5
82.5°	59.8	62.3	67.3	75.6	84.8	88.1	93.9	103.0	113.0	121.3	128.8
85°	31.6	32.4	39.1	44.9	53.2	57.3	61.5	70.6	80.6	88.1	96.4
87.5°	9.1	11.6	16.6	24.1	30.7	34.9	39.1	47.4	56.5	63.1	71.5
90°	0.8	2.5	6.6	13.3	19.9	24.1	27.4	35.7	43.2	50.7	58.2
92.5°	0.0	1.7	6.6	12.5	19.1	23.3	26.6	34.1	41.5	48.2	55.7
95°	0.0	1.7	5.8	11.6	19.1	22.4	26.6	34.1	40.7	48.2	54.8
97.5°	0.0	1.7	5.8	11.6	19.1	22.4	25.8	33.2	40.7	46.5	53.2
100°	0.0	1.7	5.8	11.6	18.3	22.4	25.8	32.4	39.9	45.7	51.5
102.5°	0.0	1.7	5.8	11.6	18.3	21.6	25.8	32.4	38.2	44.9	50.7
105°	0.0	1.7	5.8	11.6	18.3	21.6	24.9	31.6	37.4	44.0	49.9
107.5°	0.0	1.7	5.8	11.6	18.3	21.6	24.9	31.6	37.4	43.2	49.0
110°	0.0	0.8	5.0	11.6	18.3	21.6	24.9	30.7	37.4	43.2	48.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.8	5.0	10.8	17.4	21.6	24.9	30.7	37.4	42.4	47.4
115°	0.0	0.8	5.0	10.8	17.4	20.8	24.1	30.7	36.6	41.5	46.5
117.5°	0.0	0.8	5.0	10.8	17.4	20.8	24.1	30.7	36.6	41.5	46.5
120°	0.0	0.8	4.2	10.0	16.6	19.9	23.3	29.9	36.6	41.5	46.5
122.5°	0.0	0.8	4.2	10.0	15.8	19.1	22.4	29.1	35.7	41.5	46.5
125°	0.0	0.8	3.3	9.1	15.8	19.1	22.4	28.3	34.9	40.7	46.5
127.5°	0.8	0.8	3.3	8.3	15.0	18.3	21.6	27.4	33.2	39.1	44.9
130°	0.8	0.8	3.3	7.5	13.3	16.6	19.9	26.6	32.4	38.2	43.2
132.5°	0.8	0.8	2.5	6.6	12.5	15.8	18.3	24.9	29.9	35.7	41.5
135°	0.8	0.8	1.7	5.8	11.6	14.1	16.6	23.3	28.3	33.2	39.1
137.5°	0.8	0.8	1.7	5.0	10.0	12.5	15.0	20.8	26.6	30.7	36.6
140°	0.8	0.8	1.7	4.2	8.3	10.8	13.3	18.3	24.1	29.1	33.2
142.5°	0.8	0.8	0.8	3.3	7.5	9.1	11.6	15.8	20.8	25.8	30.7
145°	0.8	0.8	0.8	2.5	5.8	7.5	10.0	14.1	18.3	23.3	27.4
147.5°	0.8	0.8	0.8	2.5	5.0	6.6	8.3	11.6	15.8	19.9	24.1
150°	0.8	0.8	0.8	1.7	3.3	5.0	6.6	10.0	13.3	16.6	20.8
152.5°	0.8	0.8	0.8	0.8	2.5	4.2	5.0	7.5	10.8	14.1	16.6
155°	0.8	0.8	0.8	0.8	1.7	2.5	4.2	5.8	8.3	10.8	13.3
157.5°	0.8	0.8	0.8	0.8	1.7	1.7	2.5	4.2	5.8	8.3	10.0
160°	0.8	0.8	0.8	0.8	0.8	1.7	1.7	3.3	4.2	5.8	7.5
162.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7	2.5	4.2	5.0
165°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7	2.5	2.5
167.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7
170°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6	1200.6
2.5°	1193.2	1192.3	1193.2	1195.6	1195.6	1196.5	1197.3	1198.1	1197.3	1196.5
5°	1150.8	1146.6	1145.8	1149.1	1147.5	1148.3	1150.8	1153.3	1152.4	1152.4
7.5°	1093.4	1091.0	1091.8	1084.3	1083.5	1080.1	1081.0	1081.0	1082.6	1085.1
10°	1029.5	1032.0	1038.6	1044.4	1046.1	1043.6	1039.4	1034.5	1032.0	1032.8
12.5°	1002.9	995.4	985.4	981.3	985.4	991.2	999.6	1005.4	1007.0	1007.0
15°	958.8	962.2	968.8	973.0	964.7	961.3	959.7	957.2	958.0	958.0
17.5°	945.5	940.6	932.3	941.4	947.2	953.9	953.9	947.2	941.4	943.9
20°	912.3	917.3	929.8	918.1	908.2	903.2	903.2	904.0	909.8	907.3
22.5°	895.7	896.5	881.6	888.2	899.0	902.3	896.5	886.6	875.8	877.4
25°	865.8	860.8	874.1	864.1	857.5	853.3	855.8	860.0	863.3	861.6
27.5°	840.0	848.3	830.9	840.9	846.7	850.0	845.0	829.2	826.7	821.7
30°	820.1	807.6	822.6	819.3	807.6	802.6	796.0	801.8	801.8	805.1
32.5°	789.3	793.5	786.0	777.7	783.5	788.5	784.4	777.7	768.6	766.1
35°	768.6	762.8	756.9	766.1	758.6	750.3	743.6	746.1	749.5	748.6
37.5°	743.6	733.7	737.8	723.7	727.0	732.0	736.2	724.5	719.5	714.6
40°	707.9	716.2	701.3	713.7	709.6	700.4	687.1	684.6	688.8	688.0
42.5°	685.5	679.7	688.0	670.5	666.4	668.0	675.5	678.0	671.4	668.0
45°	659.7	660.6	648.9	648.9	653.1	652.2	639.0	629.8	630.6	629.8
47.5°	628.1	631.5	624.8	627.3	614.9	613.2	614.0	617.3	615.7	614.0
50°	610.7	602.4	611.5	598.2	603.2	606.5	599.1	585.8	582.5	580.8
52.5°	585.8	590.8	580.0	591.6	587.4	576.6	570.0	575.0	575.8	576.6
55°	549.2	558.4	561.7	550.9	547.6	550.9	553.4	545.1	541.7	540.1
57.5°	521.8	519.3	518.5	519.3	521.8	520.1	512.7	512.7	517.6	518.5
60°	481.9	488.6	479.4	483.6	477.8	477.8	486.1	485.2	483.6	481.9
62.5°	442.0	443.7	449.5	440.4	443.7	448.7	443.7	439.5	442.0	442.0
65°	405.5	405.5	403.8	409.6	409.6	403.0	400.5	406.3	409.6	410.5
67.5°	368.9	371.4	369.7	370.6	364.8	364.8	368.9	363.9	362.3	363.9
70°	326.5	329.9	336.5	328.2	332.4	333.2	324.9	322.4	324.9	326.5
72.5°	288.3	290.0	293.3	295.8	295.8	293.3	290.8	290.8	290.0	290.0
75°	248.4	254.3	254.3	258.4	256.7	255.1	257.6	254.3	250.1	250.1
77.5°	210.2	218.5	219.4	220.2	221.0	224.3	223.5	221.0	221.0	221.8
80°	172.0	178.6	183.6	185.3	186.9	190.3	191.1	196.1	197.8	198.6
82.5°	135.4	143.7	148.7	155.4	157.9	161.2	166.2	170.3	173.7	171.2
85°	104.7	111.3	118.8	128.0	130.4	134.6	137.9	138.8	140.4	142.9
87.5°	78.9	88.1	97.2	104.7	106.4	107.2	109.7	114.7	120.5	124.6
90°	66.5	74.8	82.3	85.6	86.4	88.1	93.1	99.7	107.2	113.8
92.5°	63.1	69.8	73.9	77.3	79.8	82.3	86.4	91.4	98.9	103.9
95°	60.7	66.5	70.6	74.8	78.1	80.6	84.8	91.4	99.7	104.7
97.5°	59.0	64.8	69.8	74.8	78.1	80.6	88.1	97.2	105.5	106.4
100°	58.2	63.1	68.1	73.9	77.3	80.6	88.1	92.2	91.4	91.4
102.5°	56.5	61.5	67.3	72.3	74.8	76.4	79.8	79.8	78.1	77.3
105°	55.7	59.8	64.8	68.1	68.1	69.8	70.6	69.8	69.0	68.1
107.5°	54.0	58.2	61.5	62.3	63.1	64.0	64.0	63.1	61.5	60.7
110°	52.3	55.7	58.2	59.0	59.0	59.8	59.0	58.2	56.5	55.7





TEST NUMBER: P241459

CATALOG NUMBER: FVS8M-3-LD4-40-1STD-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	51.5	54.0	56.5	57.3	57.3	58.2	58.2	57.3	56.5	55.7
115°	50.7	54.0	56.5	57.3	58.2	59.0	59.8	59.0	58.2	57.3
117.5°	50.7	54.0	57.3	59.0	59.8	60.7	61.5	62.3	60.7	59.8
120°	51.5	54.8	58.2	60.7	61.5	62.3	64.0	64.0	63.1	63.1
122.5°	51.5	55.7	59.0	61.5	63.1	64.0	64.8	65.6	64.8	64.8
125°	51.5	55.7	59.0	61.5	63.1	64.0	65.6	67.3	66.5	66.5
127.5°	50.7	54.8	58.2	61.5	62.3	63.1	65.6	67.3	67.3	68.1
130°	49.0	53.2	57.3	59.8	61.5	62.3	64.8	66.5	67.3	68.1
132.5°	46.5	51.5	54.8	58.2	59.0	60.7	63.1	64.8	66.5	67.3
135°	44.0	48.2	52.3	55.7	57.3	59.0	60.7	63.1	64.8	64.8
137.5°	40.7	45.7	49.9	53.2	54.0	55.7	58.2	60.7	61.5	62.3
140°	38.2	42.4	46.5	49.9	51.5	53.2	55.7	57.3	59.0	59.0
142.5°	34.9	39.9	43.2	46.5	48.2	49.9	52.3	54.0	55.7	55.7
145°	32.4	36.6	39.9	43.2	44.9	45.7	48.2	49.9	51.5	51.5
147.5°	29.1	32.4	36.6	39.1	40.7	41.5	44.0	45.7	46.5	47.4
150°	24.9	28.3	31.6	34.1	35.7	36.6	39.1	40.7	41.5	42.4
152.5°	19.9	23.3	26.6	29.1	29.9	31.6	33.2	34.1	35.7	35.7
155°	16.6	19.1	21.6	24.1	24.9	25.8	27.4	28.3	29.1	29.1
157.5°	12.5	14.1	16.6	19.1	19.9	19.9	21.6	22.4	23.3	23.3
160°	9.1	10.8	12.5	14.1	15.0	15.8	16.6	17.4	17.4	17.4
162.5°	5.8	7.5	8.3	10.0	10.0	10.8	11.6	12.5	12.5	12.5
165°	3.3	4.2	5.0	5.8	6.6	6.6	7.5	7.5	8.3	8.3
167.5°	1.7	2.5	2.5	3.3	3.3	3.3	4.2	4.2	5.0	4.2
170°	0.8	0.8	0.8	0.8	0.8	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
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)