

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: P241461

Luminaire Tested: **FVS8M-3-LD4-30-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241461  
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-LD4-30-1HI-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
3FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (84) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

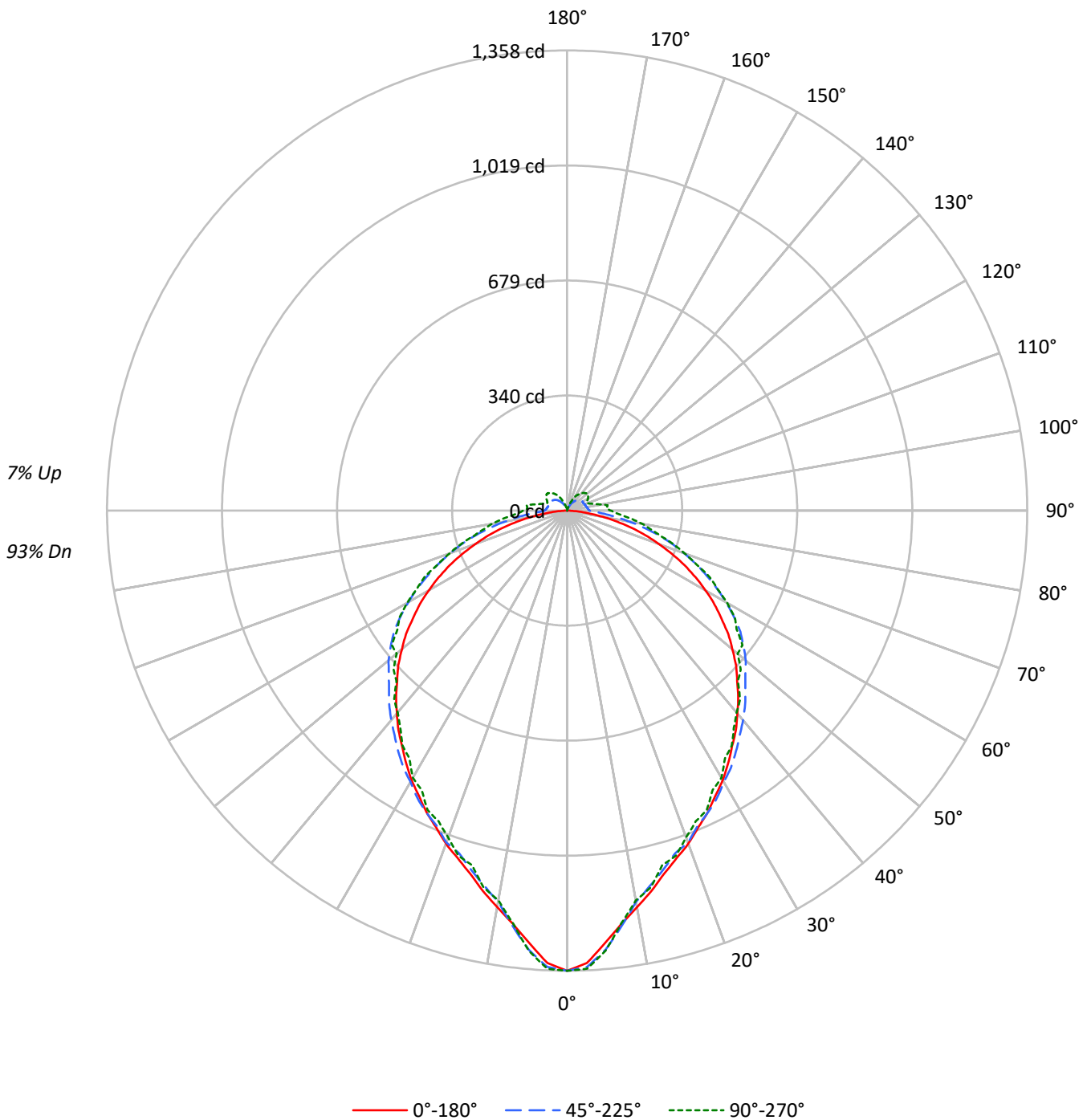
Lumens per Lamp: N/A  
Luminaire Lumens: 3613.0 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 36  
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-LD4-30-1HI-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°	7931	7931	7931
5°	7476	7497	7493
10°	6981	6717	6662
15°	6608	6300	6178
20°	6382	6046	5894
25°	6181	5804	5682
30°	6014	5602	5432
35°	5841	5445	5212
40°	5716	5286	4987
45°	5575	5134	4799
50°	5449	5068	4703
55°	5271	4965	4703
60°	5062	4722	4576
65°	4763	4427	4322
70°	4292	4070	3892
75°	3721	3615	3464
80°	2792	2965	3312
85°	1510	2255	3025



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.7	3.3
10°-20°	310.3	8.6
20°-30°	451.7	12.5
30°-40°	538.0	14.9
40°-50°	565.5	15.7
50°-60°	539.0	14.9
60°-70°	432.3	12.0
70°-80°	275.4	7.6
80°-90°	120.7	3.3
90°-100°	64.3	1.8
100°-110°	52.7	1.5
110°-120°	43.9	1.2
120°-130°	40.6	1.1
130°-140°	31.1	0.9
140°-150°	18.9	0.5
150°-160°	7.6	0.2
160°-170°	1.4	0.0
170°-180°	0.0	0.0
0°-30°	881.7	24.4
0°-40°	1419.7	39.3
0°-60°	2524.2	69.9
0°-90°	3352.6	92.8
90°-120°	160.9	4.5
90°-150°	251.4	7.0
90°-180°	260.0	7.2
0°-180°	3613.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1358	1358	1358	1358	1358	
5°	1281	1290	1301	1298	1304	119
15°	1108	1104	1097	1091	1084	313
25°	982	983	983	970	975	452
35°	849	863	868	858	847	532
45°	710	732	743	739	712	549
55°	556	586	624	619	611	498
65°	382	414	455	463	464	377
75°	196	230	277	290	283	207
85°	36	65	109	148	162	44
90°	1	27	66	98	129	2
95°	0	25	62	88	118	0
105°	0	24	56	77	77	0
115°	0	24	53	66	65	0
125°	0	22	53	71	75	0
135°	1	16	44	65	73	1
145°	1	8	31	51	58	1
155°	1	3	15	28	33	0
165°	1	1	3	8	9	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241461

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1
2.5°	1336.5	1332.8	1332.8	1336.5	1339.3	1339.3	1342.2	1345.9	1348.7	1347.8	1347.8
5°	1281.1	1280.1	1279.2	1285.8	1287.6	1289.5	1291.4	1299.9	1300.8	1303.6	1300.8
7.5°	1229.4	1225.6	1225.6	1230.3	1232.2	1234.1	1235.9	1239.7	1235.0	1232.2	1235.9
10°	1188.0	1182.4	1181.4	1184.3	1183.3	1182.4	1183.3	1179.6	1181.4	1177.7	1172.0
12.5°	1149.5	1145.7	1141.0	1141.0	1140.1	1140.1	1138.2	1138.2	1132.6	1126.9	1133.5
15°	1108.1	1107.2	1101.5	1104.4	1104.4	1104.4	1105.3	1104.4	1100.6	1103.4	1096.8
17.5°	1075.2	1072.4	1071.5	1077.1	1075.2	1073.3	1074.3	1070.5	1073.3	1066.8	1060.2
20°	1046.1	1042.3	1042.3	1043.3	1041.4	1039.5	1040.5	1043.3	1039.5	1034.8	1042.3
22.5°	1011.3	1006.6	1007.6	1012.3	1012.3	1015.1	1017.0	1012.3	1009.4	1012.3	1006.6
25°	982.2	979.4	982.2	982.2	980.3	983.1	985.9	987.8	985.0	984.1	983.1
27.5°	948.3	944.6	947.4	950.2	956.8	957.7	956.8	956.8	955.9	959.6	956.8
30°	918.3	915.4	919.2	923.9	923.9	924.8	925.8	929.5	926.7	932.4	924.8
32.5°	884.4	881.6	885.4	887.2	895.7	895.7	898.5	902.3	901.3	903.2	899.5
35°	848.7	846.8	851.5	860.0	862.8	862.8	868.5	868.5	872.2	872.2	868.5
37.5°	817.7	816.8	819.6	829.0	832.7	835.6	839.3	840.3	845.0	841.2	836.5
40°	782.0	780.1	784.8	793.3	798.0	800.8	803.6	810.2	810.2	809.2	807.4
42.5°	747.2	747.2	751.0	757.5	766.0	769.8	770.7	778.2	781.0	776.3	777.3
45°	709.6	709.6	713.4	722.8	729.3	732.2	735.9	740.6	744.4	749.1	743.4
47.5°	675.8	675.8	678.6	685.2	696.5	696.5	701.2	707.7	711.5	715.3	713.4
50°	636.3	639.1	642.9	648.5	654.2	660.7	667.3	674.8	678.6	682.4	688.0
52.5°	599.6	597.8	602.5	609.0	617.5	625.0	628.8	640.1	647.6	654.2	656.0
55°	555.5	561.1	563.0	571.4	576.1	586.5	591.2	599.6	610.9	618.4	624.1
57.5°	516.0	516.9	520.7	529.2	539.5	543.3	548.9	559.2	568.6	578.0	583.7
60°	471.8	474.6	480.3	485.9	496.3	501.0	505.7	519.8	526.3	534.8	541.4
62.5°	427.6	430.5	437.0	444.6	450.2	455.8	460.5	474.6	486.9	491.6	498.1
65°	382.5	386.3	390.1	395.7	405.1	413.5	416.4	430.5	440.8	449.3	454.9
67.5°	335.5	338.4	345.9	352.5	360.9	367.5	372.2	385.4	396.6	407.9	410.7
70°	286.7	292.3	297.0	307.3	315.8	321.4	327.1	340.2	350.6	358.1	366.6
72.5°	242.5	245.3	251.9	261.3	270.7	276.3	280.1	295.1	304.5	316.7	323.3
75°	196.4	200.2	205.8	213.4	224.6	230.3	237.8	249.1	260.3	270.7	277.3
77.5°	151.3	155.1	159.8	169.2	178.6	184.2	192.7	204.0	216.2	223.7	231.2
80°	107.1	110.9	115.6	125.9	136.3	140.0	147.6	157.0	170.1	178.6	186.1
82.5°	67.7	70.5	76.1	85.5	95.9	99.6	106.2	116.5	127.8	137.2	145.7
85°	35.7	36.7	44.2	50.8	60.2	64.9	69.6	79.9	91.2	99.6	109.0
87.5°	10.3	13.2	18.8	27.3	34.8	39.5	44.2	53.6	63.9	71.4	80.8
90°	0.9	2.8	7.5	15.0	22.6	27.3	31.0	40.4	48.9	57.3	65.8
92.5°	0.0	1.9	7.5	14.1	21.6	26.3	30.1	38.5	47.0	54.5	63.0
95°	0.0	1.9	6.6	13.2	21.6	25.4	30.1	38.5	46.1	54.5	62.0
97.5°	0.0	1.9	6.6	13.2	21.6	25.4	29.1	37.6	46.1	52.6	60.2
100°	0.0	1.9	6.6	13.2	20.7	25.4	29.1	36.7	45.1	51.7	58.3
102.5°	0.0	1.9	6.6	13.2	20.7	24.4	29.1	36.7	43.2	50.8	57.3
105°	0.0	1.9	6.6	13.2	20.7	24.4	28.2	35.7	42.3	49.8	56.4
107.5°	0.0	1.9	6.6	13.2	20.7	24.4	28.2	35.7	42.3	48.9	55.5
110°	0.0	0.9	5.6	13.2	20.7	24.4	28.2	34.8	42.3	48.9	54.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.9	5.6	12.2	19.7	24.4	28.2	34.8	42.3	47.9	53.6
115°	0.0	0.9	5.6	12.2	19.7	23.5	27.3	34.8	41.4	47.0	52.6
117.5°	0.0	0.9	5.6	12.2	19.7	23.5	27.3	34.8	41.4	47.0	52.6
120°	0.0	0.9	4.7	11.3	18.8	22.6	26.3	33.8	41.4	47.0	52.6
122.5°	0.0	0.9	4.7	11.3	17.9	21.6	25.4	32.9	40.4	47.0	52.6
125°	0.0	0.9	3.8	10.3	17.9	21.6	25.4	32.0	39.5	46.1	52.6
127.5°	0.9	0.9	3.8	9.4	16.9	20.7	24.4	31.0	37.6	44.2	50.8
130°	0.9	0.9	3.8	8.5	15.0	18.8	22.6	30.1	36.7	43.2	48.9
132.5°	0.9	0.9	2.8	7.5	14.1	17.9	20.7	28.2	33.8	40.4	47.0
135°	0.9	0.9	1.9	6.6	13.2	16.0	18.8	26.3	32.0	37.6	44.2
137.5°	0.9	0.9	1.9	5.6	11.3	14.1	16.9	23.5	30.1	34.8	41.4
140°	0.9	0.9	1.9	4.7	9.4	12.2	15.0	20.7	27.3	32.9	37.6
142.5°	0.9	0.9	0.9	3.8	8.5	10.3	13.2	17.9	23.5	29.1	34.8
145°	0.9	0.9	0.9	2.8	6.6	8.5	11.3	16.0	20.7	26.3	31.0
147.5°	0.9	0.9	0.9	2.8	5.6	7.5	9.4	13.2	17.9	22.6	27.3
150°	0.9	0.9	0.9	1.9	3.8	5.6	7.5	11.3	15.0	18.8	23.5
152.5°	0.9	0.9	0.9	0.9	2.8	4.7	5.6	8.5	12.2	16.0	18.8
155°	0.9	0.9	0.9	0.9	1.9	2.8	4.7	6.6	9.4	12.2	15.0
157.5°	0.9	0.9	0.9	0.9	1.9	1.9	2.8	4.7	6.6	9.4	11.3
160°	0.9	0.9	0.9	0.9	0.9	1.9	1.9	3.8	4.7	6.6	8.5
162.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	4.7	5.6
165°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	2.8	2.8
167.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9
170°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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°	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1	1358.1
2.5°	1349.7	1348.7	1349.7	1352.5	1352.5	1353.4	1354.4	1355.3	1354.4	1353.4
5°	1301.7	1297.0	1296.1	1299.9	1298.0	1298.9	1301.7	1304.6	1303.6	1303.6
7.5°	1236.9	1234.1	1235.0	1226.5	1225.6	1221.8	1222.8	1222.8	1224.7	1227.5
10°	1164.5	1167.3	1174.9	1181.4	1183.3	1180.5	1175.8	1170.2	1167.3	1168.3
12.5°	1134.4	1126.0	1114.7	1110.0	1114.7	1121.3	1130.7	1137.3	1139.1	1139.1
15°	1084.6	1088.4	1095.9	1100.6	1091.2	1087.4	1085.6	1082.7	1083.7	1083.7
17.5°	1069.6	1063.9	1054.5	1064.9	1071.5	1079.0	1079.0	1071.5	1064.9	1067.7
20°	1032.0	1037.6	1051.7	1038.6	1027.3	1021.7	1021.7	1022.6	1029.2	1026.4
22.5°	1013.2	1014.1	997.2	1004.7	1017.0	1020.7	1014.1	1002.9	990.6	992.5
25°	979.4	973.7	988.8	977.5	970.0	965.3	968.1	972.8	976.5	974.7
27.5°	950.2	959.6	939.9	951.2	957.7	961.5	955.9	938.0	935.2	929.5
30°	927.7	913.6	930.5	926.7	913.6	907.9	900.4	907.0	907.0	910.7
32.5°	892.9	897.6	889.1	879.7	886.3	891.9	887.2	879.7	869.4	866.6
35°	869.4	862.8	856.2	866.6	858.1	848.7	841.2	844.0	847.8	846.8
37.5°	841.2	829.9	834.6	818.6	822.4	828.0	832.7	819.6	813.9	808.3
40°	800.8	810.2	793.3	807.4	802.7	792.3	777.3	774.5	779.2	778.2
42.5°	775.4	768.8	778.2	758.5	753.8	755.7	764.1	766.9	759.4	755.7
45°	746.3	747.2	734.0	734.0	738.7	737.8	722.8	712.4	713.4	712.4
47.5°	710.6	714.3	706.8	709.6	695.5	693.6	694.6	698.3	696.5	694.6
50°	690.8	681.4	691.8	676.7	682.4	686.1	677.7	662.6	658.9	657.0
52.5°	662.6	668.3	656.0	669.2	664.5	652.3	644.8	650.4	651.3	652.3
55°	621.3	631.6	635.4	623.1	619.4	623.1	626.0	616.6	612.8	610.9
57.5°	590.2	587.4	586.5	587.4	590.2	588.4	579.9	579.9	585.5	586.5
60°	545.1	552.7	542.3	547.0	540.4	540.4	549.8	548.9	547.0	545.1
62.5°	500.0	501.9	508.5	498.1	501.9	507.5	501.9	497.2	500.0	500.0
65°	458.7	458.7	456.8	463.4	463.4	455.8	453.0	459.6	463.4	464.3
67.5°	417.3	420.1	418.2	419.2	412.6	412.6	417.3	411.7	409.8	411.7
70°	369.4	373.1	380.7	371.3	376.0	376.9	367.5	364.7	367.5	369.4
72.5°	326.1	328.0	331.8	334.6	334.6	331.8	329.0	329.0	328.0	328.0
75°	281.0	287.6	287.6	292.3	290.4	288.5	291.4	287.6	282.9	282.9
77.5°	237.8	247.2	248.1	249.1	250.0	253.8	252.8	250.0	250.0	250.9
80°	194.6	202.1	207.7	209.6	211.5	215.2	216.2	221.8	223.7	224.6
82.5°	153.2	162.6	168.2	175.8	178.6	182.3	188.0	192.7	196.4	193.6
85°	118.4	125.9	134.4	144.7	147.6	152.3	156.0	157.0	158.8	161.7
87.5°	89.3	99.6	110.0	118.4	120.3	121.2	124.1	129.7	136.3	141.0
90°	75.2	84.6	93.0	96.8	97.7	99.6	105.3	112.8	121.2	128.8
92.5°	71.4	79.0	83.6	87.4	90.2	93.0	97.7	103.4	111.8	117.5
95°	68.6	75.2	79.9	84.6	88.3	91.2	95.9	103.4	112.8	118.4
97.5°	66.7	73.3	79.0	84.6	88.3	91.2	99.6	110.0	119.4	120.3
100°	65.8	71.4	77.1	83.6	87.4	91.2	99.6	104.3	103.4	103.4
102.5°	63.9	69.6	76.1	81.8	84.6	86.5	90.2	90.2	88.3	87.4
105°	63.0	67.7	73.3	77.1	77.1	79.0	79.9	79.0	78.0	77.1
107.5°	61.1	65.8	69.6	70.5	71.4	72.4	72.4	71.4	69.6	68.6
110°	59.2	63.0	65.8	66.7	66.7	67.7	66.7	65.8	63.9	63.0





TEST NUMBER: P241461

CATALOG NUMBER: FVS8M-3-LD4-30-1HI-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	58.3	61.1	63.9	64.9	64.9	65.8	65.8	64.9	63.9	63.0
115°	57.3	61.1	63.9	64.9	65.8	66.7	67.7	66.7	65.8	64.9
117.5°	57.3	61.1	64.9	66.7	67.7	68.6	69.6	70.5	68.6	67.7
120°	58.3	62.0	65.8	68.6	69.6	70.5	72.4	72.4	71.4	71.4
122.5°	58.3	63.0	66.7	69.6	71.4	72.4	73.3	74.3	73.3	73.3
125°	58.3	63.0	66.7	69.6	71.4	72.4	74.3	76.1	75.2	75.2
127.5°	57.3	62.0	65.8	69.6	70.5	71.4	74.3	76.1	76.1	77.1
130°	55.5	60.2	64.9	67.7	69.6	70.5	73.3	75.2	76.1	77.1
132.5°	52.6	58.3	62.0	65.8	66.7	68.6	71.4	73.3	75.2	76.1
135°	49.8	54.5	59.2	63.0	64.9	66.7	68.6	71.4	73.3	73.3
137.5°	46.1	51.7	56.4	60.2	61.1	63.0	65.8	68.6	69.6	70.5
140°	43.2	47.9	52.6	56.4	58.3	60.2	63.0	64.9	66.7	66.7
142.5°	39.5	45.1	48.9	52.6	54.5	56.4	59.2	61.1	63.0	63.0
145°	36.7	41.4	45.1	48.9	50.8	51.7	54.5	56.4	58.3	58.3
147.5°	32.9	36.7	41.4	44.2	46.1	47.0	49.8	51.7	52.6	53.6
150°	28.2	32.0	35.7	38.5	40.4	41.4	44.2	46.1	47.0	47.9
152.5°	22.6	26.3	30.1	32.9	33.8	35.7	37.6	38.5	40.4	40.4
155°	18.8	21.6	24.4	27.3	28.2	29.1	31.0	32.0	32.9	32.9
157.5°	14.1	16.0	18.8	21.6	22.6	22.6	24.4	25.4	26.3	26.3
160°	10.3	12.2	14.1	16.0	16.9	17.9	18.8	19.7	19.7	19.7
162.5°	6.6	8.5	9.4	11.3	11.3	12.2	13.2	14.1	14.1	14.1
165°	3.8	4.7	5.6	6.6	7.5	7.5	8.5	8.5	9.4	9.4
167.5°	1.9	2.8	2.8	3.8	3.8	3.8	4.7	4.7	5.6	4.7
170°	0.9	0.9	0.9	0.9	0.9	1.9	1.9	1.9	1.9	1.9
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)