

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: P241462

Luminaire Tested: **FVS8M-3-LD4-35-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241462  
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-LD4-35-1HI-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
3FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (84) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

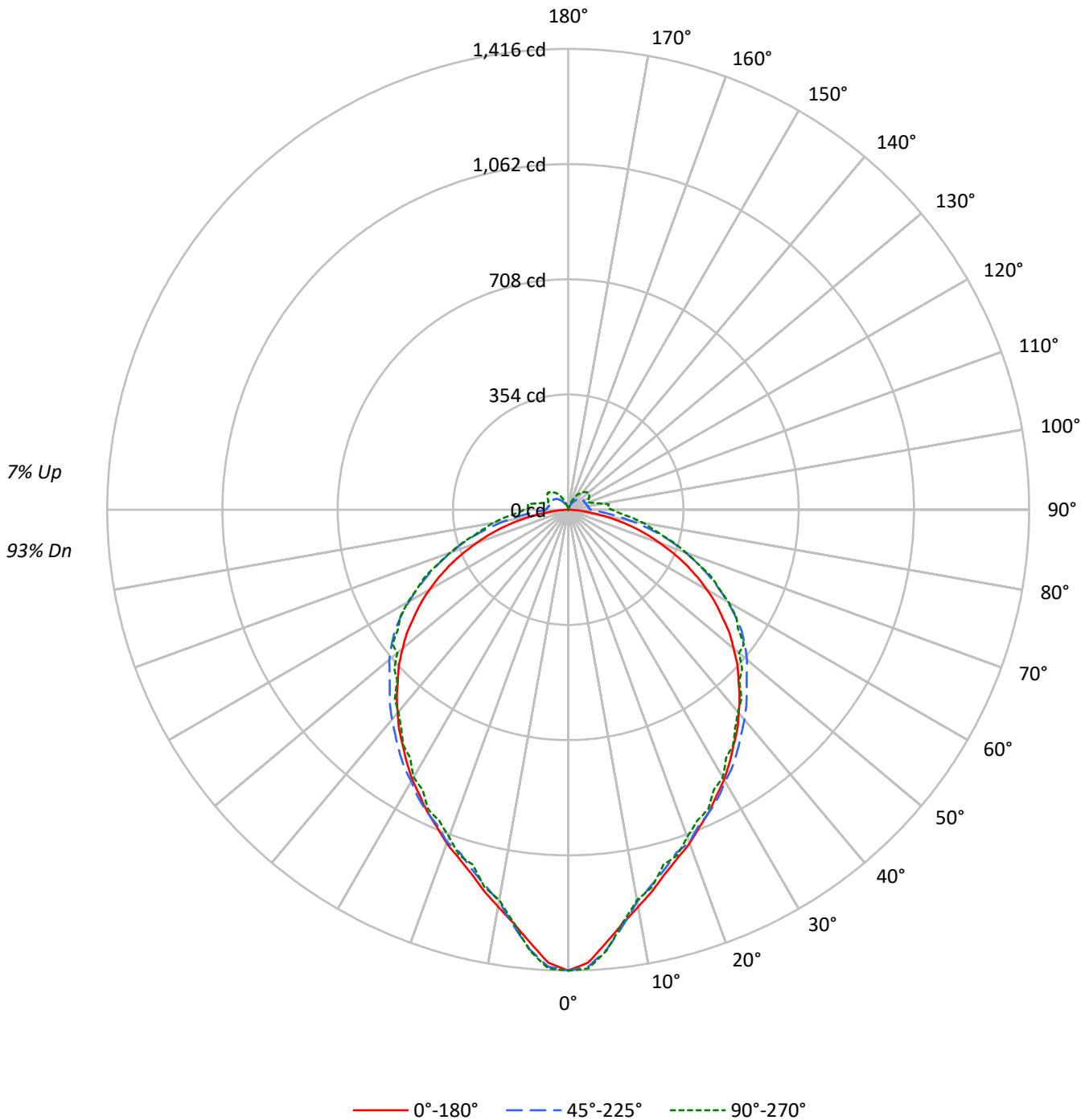
Lumens per Lamp: N/A  
Luminaire Lumens: 3767.1 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')  
CIE Type: Direct

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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### 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°	8269	8269	8269
5°	7795	7816	7813
10°	7279	7004	6946
15°	6891	6569	6441
20°	6654	6304	6145
25°	6444	6052	5924
30°	6271	5842	5664
35°	6090	5677	5435
40°	5959	5511	5200
45°	5813	5353	5004
50°	5681	5283	4903
55°	5495	5177	4904
60°	5278	4922	4772
65°	4966	4616	4507
70°	4475	4243	4058
75°	3881	3769	3612
80°	2912	3091	3453
85°	1573	2353	3155



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.8	3.3
10°-20°	323.5	8.6
20°-30°	471.0	12.5
30°-40°	561.0	14.9
40°-50°	589.6	15.7
50°-60°	561.9	14.9
60°-70°	450.7	12.0
70°-80°	287.1	7.6
80°-90°	125.8	3.3
90°-100°	67.0	1.8
100°-110°	55.0	1.5
110°-120°	45.7	1.2
120°-130°	42.3	1.1
130°-140°	32.5	0.9
140°-150°	19.7	0.5
150°-160°	7.9	0.2
160°-170°	1.5	0.0
170°-180°	0.0	0.0
0°-30°	919.3	24.4
0°-40°	1480.2	39.3
0°-60°	2631.8	69.9
0°-90°	3495.5	92.8
90°-120°	167.7	4.5
90°-150°	262.2	7.0
90°-180°	272.0	7.2
0°-180°	3767.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1416	1416	1416	1416	1416	
5°	1336	1344	1356	1353	1359	124
15°	1155	1151	1144	1138	1130	327
25°	1024	1025	1025	1011	1016	472
35°	885	900	906	895	883	555
45°	740	763	775	770	743	572
55°	579	612	651	646	637	519
65°	399	431	474	483	484	393
75°	205	240	289	303	295	216
85°	37	68	114	154	169	46
90°	1	28	69	102	134	2
95°	0	26	65	92	124	0
105°	0	26	59	80	80	0
115°	0	24	55	69	68	0
125°	0	22	55	74	78	1
135°	1	17	46	68	76	1
145°	1	9	32	53	61	1
155°	1	3	16	29	34	0
165°	1	1	3	8	10	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°	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0
2.5°	1393.5	1389.6	1389.6	1393.5	1396.4	1396.4	1399.4	1403.3	1406.2	1405.2	1405.2
5°	1335.7	1334.7	1333.7	1340.6	1342.5	1344.5	1346.4	1355.3	1356.2	1359.2	1356.2
7.5°	1281.8	1277.8	1277.8	1282.7	1284.7	1286.7	1288.6	1292.5	1287.6	1284.7	1288.6
10°	1238.6	1232.8	1231.8	1234.7	1233.7	1232.8	1233.7	1229.8	1231.8	1227.9	1222.0
12.5°	1198.5	1194.6	1189.7	1189.7	1188.7	1188.7	1186.7	1186.7	1180.8	1175.0	1181.8
15°	1155.4	1154.4	1148.5	1151.4	1151.4	1151.4	1152.4	1151.4	1147.5	1150.5	1143.6
17.5°	1121.1	1118.1	1117.1	1123.0	1121.1	1119.1	1120.1	1116.2	1119.1	1112.2	1105.4
20°	1090.7	1086.8	1086.8	1087.7	1085.8	1083.8	1084.8	1087.7	1083.8	1078.9	1086.8
22.5°	1054.4	1049.5	1050.5	1055.4	1055.4	1058.3	1060.3	1055.4	1052.5	1055.4	1049.5
25°	1024.0	1021.1	1024.0	1024.0	1022.1	1025.0	1028.0	1029.9	1027.0	1026.0	1025.0
27.5°	988.8	984.8	987.8	990.7	997.6	998.6	997.6	997.6	996.6	1000.5	997.6
30°	957.4	954.5	958.4	963.3	963.3	964.3	965.2	969.2	966.2	972.1	964.3
32.5°	922.1	919.2	923.1	925.1	933.9	933.9	936.8	940.7	939.8	941.7	937.8
35°	884.9	882.9	887.8	896.6	899.6	899.6	905.5	905.5	909.4	909.4	905.5
37.5°	852.6	851.6	854.5	864.3	868.2	871.2	875.1	876.1	881.0	877.1	872.2
40°	815.3	813.4	818.3	827.1	832.0	834.9	837.9	844.7	844.7	843.7	841.8
42.5°	779.1	779.1	783.0	789.8	798.7	802.6	803.6	811.4	814.3	809.4	810.4
45°	739.9	739.9	743.8	753.6	760.4	763.4	767.3	772.2	776.1	781.0	775.1
47.5°	704.6	704.6	707.5	714.4	726.1	726.1	731.0	737.9	741.8	745.7	743.8
50°	663.4	666.4	670.3	676.2	682.0	688.9	695.8	703.6	707.5	711.4	717.3
52.5°	625.2	623.2	628.1	635.0	643.8	651.7	655.6	667.3	675.2	682.0	684.0
55°	579.1	585.0	587.0	595.8	600.7	611.5	616.4	625.2	637.0	644.8	650.7
57.5°	538.0	539.0	542.9	551.7	562.5	566.4	572.3	583.1	592.9	602.7	608.5
60°	491.9	494.9	500.8	506.6	517.4	522.3	527.2	541.9	548.8	557.6	564.4
62.5°	445.9	448.8	455.7	463.5	469.4	475.3	480.2	494.9	507.6	512.5	519.4
65°	398.8	402.8	406.7	412.6	422.4	431.2	434.1	448.8	459.6	468.4	474.3
67.5°	349.8	352.8	360.6	367.5	376.3	383.2	388.1	401.8	413.5	425.3	428.2
70°	298.9	304.8	309.7	320.4	329.3	335.1	341.0	354.7	365.5	373.4	382.2
72.5°	252.8	255.8	262.6	272.4	282.2	288.1	292.0	307.7	317.5	330.2	337.1
75°	204.8	208.7	214.6	222.4	234.2	240.1	247.9	259.7	271.4	282.2	289.1
77.5°	157.8	161.7	166.6	176.4	186.2	192.1	200.9	212.6	225.4	233.2	241.1
80°	111.7	115.6	120.5	131.3	142.1	146.0	153.9	163.7	177.4	186.2	194.0
82.5°	70.6	73.5	79.4	89.2	100.0	103.9	110.7	121.5	133.3	143.1	151.9
85°	37.2	38.2	46.1	52.9	62.7	67.6	72.5	83.3	95.1	103.9	113.7
87.5°	10.8	13.7	19.6	28.4	36.3	41.2	46.1	55.9	66.6	74.5	84.3
90°	1.0	2.9	7.8	15.7	23.5	28.4	32.3	42.1	51.0	59.8	68.6
92.5°	0.0	2.0	7.8	14.7	22.5	27.4	31.4	40.2	49.0	56.8	65.7
95°	0.0	2.0	6.9	13.7	22.5	26.5	31.4	40.2	48.0	56.8	64.7
97.5°	0.0	2.0	6.9	13.7	22.5	26.5	30.4	39.2	48.0	54.9	62.7
100°	0.0	2.0	6.9	13.7	21.6	26.5	30.4	38.2	47.0	53.9	60.8
102.5°	0.0	2.0	6.9	13.7	21.6	25.5	30.4	38.2	45.1	52.9	59.8
105°	0.0	2.0	6.9	13.7	21.6	25.5	29.4	37.2	44.1	51.9	58.8
107.5°	0.0	2.0	6.9	13.7	21.6	25.5	29.4	37.2	44.1	51.0	57.8
110°	0.0	1.0	5.9	13.7	21.6	25.5	29.4	36.3	44.1	51.0	56.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.0	5.9	12.7	20.6	25.5	29.4	36.3	44.1	50.0	55.9
115°	0.0	1.0	5.9	12.7	20.6	24.5	28.4	36.3	43.1	49.0	54.9
117.5°	0.0	1.0	5.9	12.7	20.6	24.5	28.4	36.3	43.1	49.0	54.9
120°	0.0	1.0	4.9	11.8	19.6	23.5	27.4	35.3	43.1	49.0	54.9
122.5°	0.0	1.0	4.9	11.8	18.6	22.5	26.5	34.3	42.1	49.0	54.9
125°	0.0	1.0	3.9	10.8	18.6	22.5	26.5	33.3	41.2	48.0	54.9
127.5°	1.0	1.0	3.9	9.8	17.6	21.6	25.5	32.3	39.2	46.1	52.9
130°	1.0	1.0	3.9	8.8	15.7	19.6	23.5	31.4	38.2	45.1	51.0
132.5°	1.0	1.0	2.9	7.8	14.7	18.6	21.6	29.4	35.3	42.1	49.0
135°	1.0	1.0	2.0	6.9	13.7	16.7	19.6	27.4	33.3	39.2	46.1
137.5°	1.0	1.0	2.0	5.9	11.8	14.7	17.6	24.5	31.4	36.3	43.1
140°	1.0	1.0	2.0	4.9	9.8	12.7	15.7	21.6	28.4	34.3	39.2
142.5°	1.0	1.0	1.0	3.9	8.8	10.8	13.7	18.6	24.5	30.4	36.3
145°	1.0	1.0	1.0	2.9	6.9	8.8	11.8	16.7	21.6	27.4	32.3
147.5°	1.0	1.0	1.0	2.9	5.9	7.8	9.8	13.7	18.6	23.5	28.4
150°	1.0	1.0	1.0	2.0	3.9	5.9	7.8	11.8	15.7	19.6	24.5
152.5°	1.0	1.0	1.0	1.0	2.9	4.9	5.9	8.8	12.7	16.7	19.6
155°	1.0	1.0	1.0	1.0	2.0	2.9	4.9	6.9	9.8	12.7	15.7
157.5°	1.0	1.0	1.0	1.0	2.0	2.0	2.9	4.9	6.9	9.8	11.8
160°	1.0	1.0	1.0	1.0	1.0	2.0	2.0	3.9	4.9	6.9	8.8
162.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9	4.9	5.9
165°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.9	2.9
167.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0
170°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0	1416.0
2.5°	1407.2	1406.2	1407.2	1410.1	1410.1	1411.1	1412.1	1413.1	1412.1	1411.1
5°	1357.2	1352.3	1351.3	1355.3	1353.3	1354.3	1357.2	1360.2	1359.2	1359.2
7.5°	1289.6	1286.7	1287.6	1278.8	1277.8	1273.9	1274.9	1274.9	1276.9	1279.8
10°	1214.2	1217.1	1224.9	1231.8	1233.7	1230.8	1225.9	1220.0	1217.1	1218.1
12.5°	1182.8	1174.0	1162.2	1157.3	1162.2	1169.1	1178.9	1185.7	1187.7	1187.7
15°	1130.9	1134.8	1142.6	1147.5	1137.7	1133.8	1131.8	1128.9	1129.9	1129.9
17.5°	1115.2	1109.3	1099.5	1110.3	1117.1	1125.0	1125.0	1117.1	1110.3	1113.2
20°	1076.0	1081.9	1096.6	1082.8	1071.1	1065.2	1065.2	1066.2	1073.0	1070.1
22.5°	1056.4	1057.4	1039.7	1047.6	1060.3	1064.2	1057.4	1045.6	1032.9	1034.8
25°	1021.1	1015.2	1030.9	1019.1	1011.3	1006.4	1009.3	1014.2	1018.2	1016.2
27.5°	990.7	1000.5	979.9	991.7	998.6	1002.5	996.6	978.0	975.0	969.2
30°	967.2	952.5	970.1	966.2	952.5	946.6	938.8	945.6	945.6	949.6
32.5°	930.9	935.8	927.0	917.2	924.1	930.0	925.1	917.2	906.4	903.5
35°	906.4	899.6	892.7	903.5	894.7	884.9	877.1	880.0	883.9	882.9
37.5°	877.1	865.3	870.2	853.5	857.5	863.3	868.2	854.5	848.6	842.8
40°	834.9	844.7	827.1	841.8	836.9	826.1	810.4	807.5	812.4	811.4
42.5°	808.5	801.6	811.4	790.8	785.9	787.9	796.7	799.6	791.8	787.9
45°	778.1	779.1	765.3	765.3	770.2	769.3	753.6	742.8	743.8	742.8
47.5°	740.8	744.8	736.9	739.9	725.2	723.2	724.2	728.1	726.1	724.2
50°	720.3	710.5	721.2	705.6	711.4	715.4	706.5	690.9	686.9	685.0
52.5°	690.9	696.7	684.0	697.7	692.8	680.1	672.2	678.1	679.1	680.1
55°	647.7	658.5	662.4	649.7	645.8	649.7	652.6	642.8	638.9	637.0
57.5°	615.4	612.5	611.5	612.5	615.4	613.4	604.6	604.6	610.5	611.5
60°	568.4	576.2	565.4	570.3	563.5	563.5	573.3	572.3	570.3	568.4
62.5°	521.3	523.3	530.1	519.4	523.3	529.2	523.3	518.4	521.3	521.3
65°	478.2	478.2	476.3	483.1	483.1	475.3	472.3	479.2	483.1	484.1
67.5°	435.1	438.0	436.1	437.1	430.2	430.2	435.1	429.2	427.3	429.2
70°	385.1	389.0	396.9	387.1	392.0	393.0	383.2	380.2	383.2	385.1
72.5°	340.0	342.0	345.9	348.9	348.9	345.9	343.0	343.0	342.0	342.0
75°	293.0	299.9	299.9	304.8	302.8	300.8	303.8	299.9	295.0	295.0
77.5°	247.9	257.7	258.7	259.7	260.7	264.6	263.6	260.7	260.7	261.6
80°	202.8	210.7	216.6	218.5	220.5	224.4	225.4	231.3	233.2	234.2
82.5°	159.7	169.5	175.4	183.2	186.2	190.1	196.0	200.9	204.8	201.9
85°	123.5	131.3	140.1	150.9	153.9	158.8	162.7	163.7	165.6	168.6
87.5°	93.1	103.9	114.7	123.5	125.4	126.4	129.4	135.2	142.1	147.0
90°	78.4	88.2	97.0	100.9	101.9	103.9	109.8	117.6	126.4	134.3
92.5°	74.5	82.3	87.2	91.1	94.1	97.0	101.9	107.8	116.6	122.5
95°	71.5	78.4	83.3	88.2	92.1	95.1	100.0	107.8	117.6	123.5
97.5°	69.6	76.4	82.3	88.2	92.1	95.1	103.9	114.7	124.5	125.4
100°	68.6	74.5	80.4	87.2	91.1	95.1	103.9	108.8	107.8	107.8
102.5°	66.6	72.5	79.4	85.3	88.2	90.2	94.1	94.1	92.1	91.1
105°	65.7	70.6	76.4	80.4	80.4	82.3	83.3	82.3	81.3	80.4
107.5°	63.7	68.6	72.5	73.5	74.5	75.5	75.5	74.5	72.5	71.5
110°	61.7	65.7	68.6	69.6	69.6	70.6	69.6	68.6	66.6	65.7





TEST NUMBER: P241462

CATALOG NUMBER: FVS8M-3-LD4-35-1HI-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	60.8	63.7	66.6	67.6	67.6	68.6	68.6	67.6	66.6	65.7
115°	59.8	63.7	66.6	67.6	68.6	69.6	70.6	69.6	68.6	67.6
117.5°	59.8	63.7	67.6	69.6	70.6	71.5	72.5	73.5	71.5	70.6
120°	60.8	64.7	68.6	71.5	72.5	73.5	75.5	75.5	74.5	74.5
122.5°	60.8	65.7	69.6	72.5	74.5	75.5	76.4	77.4	76.4	76.4
125°	60.8	65.7	69.6	72.5	74.5	75.5	77.4	79.4	78.4	78.4
127.5°	59.8	64.7	68.6	72.5	73.5	74.5	77.4	79.4	79.4	80.4
130°	57.8	62.7	67.6	70.6	72.5	73.5	76.4	78.4	79.4	80.4
132.5°	54.9	60.8	64.7	68.6	69.6	71.5	74.5	76.4	78.4	79.4
135°	51.9	56.8	61.7	65.7	67.6	69.6	71.5	74.5	76.4	76.4
137.5°	48.0	53.9	58.8	62.7	63.7	65.7	68.6	71.5	72.5	73.5
140°	45.1	50.0	54.9	58.8	60.8	62.7	65.7	67.6	69.6	69.6
142.5°	41.2	47.0	51.0	54.9	56.8	58.8	61.7	63.7	65.7	65.7
145°	38.2	43.1	47.0	51.0	52.9	53.9	56.8	58.8	60.8	60.8
147.5°	34.3	38.2	43.1	46.1	48.0	49.0	51.9	53.9	54.9	55.9
150°	29.4	33.3	37.2	40.2	42.1	43.1	46.1	48.0	49.0	50.0
152.5°	23.5	27.4	31.4	34.3	35.3	37.2	39.2	40.2	42.1	42.1
155°	19.6	22.5	25.5	28.4	29.4	30.4	32.3	33.3	34.3	34.3
157.5°	14.7	16.7	19.6	22.5	23.5	23.5	25.5	26.5	27.4	27.4
160°	10.8	12.7	14.7	16.7	17.6	18.6	19.6	20.6	20.6	20.6
162.5°	6.9	8.8	9.8	11.8	11.8	12.7	13.7	14.7	14.7	14.7
165°	3.9	4.9	5.9	6.9	7.8	7.8	8.8	8.8	9.8	9.8
167.5°	2.0	2.9	2.9	3.9	3.9	3.9	4.9	4.9	5.9	4.9
170°	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0
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)