

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: P241443

Luminaire Tested: **FVS8M-2-LD4-40-3LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241443  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-15)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-2-LD4-40-3LO-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
2FT LENGTH, 3-MODULE LED WITH PA187 LENS  
Light Source: (126) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

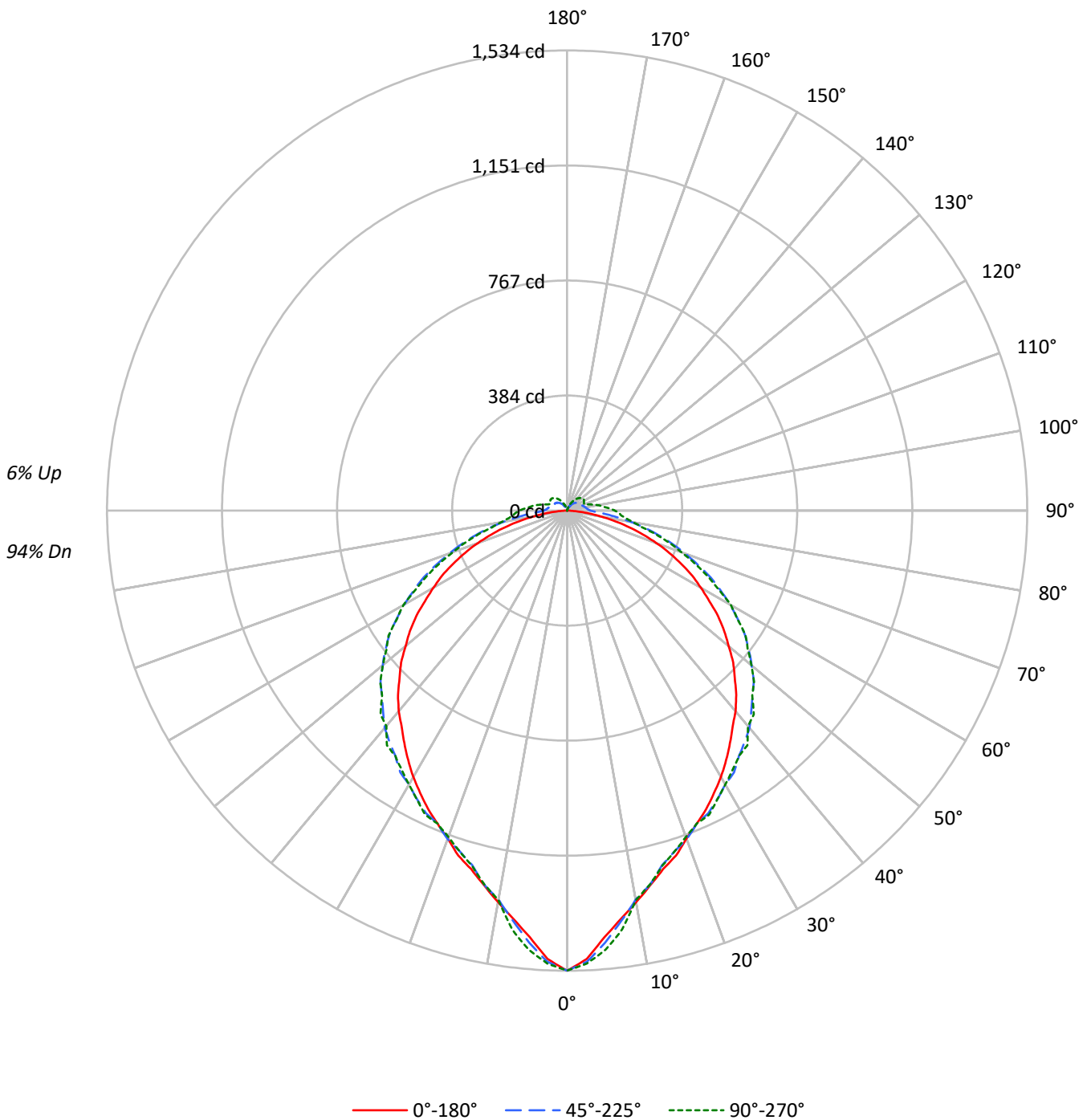
Lumens per Lamp: N/A  
Luminaire Lumens: 4076.0 lumens  
Efficiency: N/A  
Efficacy: 113.2 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')  
CIE Type: Direct

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-2-LD4-40-3LO-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	107	101	97	93	103	99	94	91	93	90	87	88	85	83	84	81	79	77
2	97	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63
3	88	77	69	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	51	44	56	49	43	54	47	42	51	46	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	36	31	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°	13785	13785	13785
5°	12787	12806	13002
10°	11929	11576	11572
15°	11273	10763	10756
20°	10819	10337	10230
25°	10499	10036	10041
30°	10180	9733	9681
35°	9842	9523	9463
40°	9609	9399	9250
45°	9313	9137	9046
50°	8983	8932	8837
55°	8656	8680	8611
60°	8140	8199	8148
65°	7635	7674	7381
70°	6853	6896	6554
75°	5748	6058	5767
80°	4174	4974	5055
85°	2042	3749	5187



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.3	3.3
10°-20°	347.9	8.5
20°-30°	510.3	12.5
30°-40°	620.4	15.2
40°-50°	660.5	16.2
50°-60°	620.2	15.2
60°-70°	492.8	12.1
70°-80°	307.6	7.5
80°-90°	134.5	3.3
90°-100°	71.2	1.7
100°-110°	52.7	1.3
110°-120°	40.9	1.0
120°-130°	35.4	0.9
130°-140°	25.6	0.6
140°-150°	14.6	0.4
150°-160°	6.0	0.1
160°-170°	1.2	0.0
170°-180°	0.0	0.0
0°-30°	992.4	24.3
0°-40°	1612.9	39.6
0°-60°	2893.5	71.0
0°-90°	3828.4	93.9
90°-120°	164.8	4.0
90°-150°	240.4	5.9
90°-180°	248.0	6.1
0°-180°	4076.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1534	1534	1534	1534	1534	
5°	1427	1429	1446	1464	1469	133
15°	1237	1234	1223	1218	1226	350
25°	1097	1095	1114	1107	1119	505
35°	946	976	999	1019	999	593
45°	790	832	874	877	872	611
55°	614	661	724	728	727	547
65°	420	468	527	532	515	414
75°	214	259	315	325	306	227
85°	38	78	126	156	180	48
90°	0	36	77	114	159	2
95°	0	30	67	99	128	0
105°	0	25	57	76	78	0
115°	0	22	49	61	62	0
125°	0	19	44	62	66	0
135°	1	14	36	53	59	0
145°	1	9	25	38	43	0
155°	1	4	13	21	24	0
165°	1	1	3	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°	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6
2.5°	1495.9	1499.7	1499.7	1500.3	1499.7	1499.7	1502.1	1500.9	1504.6	1504.6	1505.8
5°	1426.9	1431.8	1431.8	1430.6	1431.2	1428.7	1426.9	1434.3	1438.6	1444.1	1446.0
7.5°	1372.6	1376.9	1374.4	1372.0	1368.9	1369.5	1372.6	1376.3	1380.0	1381.8	1380.0
10°	1325.1	1324.5	1323.2	1317.1	1317.7	1317.7	1320.8	1322.6	1319.5	1315.8	1316.4
12.5°	1279.4	1278.8	1277.0	1277.6	1278.2	1278.8	1279.4	1271.4	1268.9	1276.3	1277.6
15°	1236.9	1239.3	1237.5	1237.5	1237.5	1233.8	1235.0	1231.3	1230.7	1233.8	1223.3
17.5°	1206.0	1198.6	1198.6	1199.8	1196.8	1193.7	1193.1	1196.8	1198.6	1190.6	1191.2
20°	1163.4	1162.2	1160.4	1165.9	1162.8	1162.2	1165.3	1168.4	1163.4	1156.0	1165.3
22.5°	1129.5	1125.8	1127.7	1134.5	1130.8	1127.1	1126.4	1129.5	1122.7	1129.5	1129.5
25°	1097.4	1091.3	1095.6	1094.4	1093.1	1095.0	1098.1	1101.8	1105.5	1107.3	1113.5
27.5°	1061.0	1057.3	1059.2	1061.0	1069.1	1072.8	1072.1	1071.5	1078.9	1077.1	1084.5
30°	1025.3	1017.2	1027.1	1030.2	1033.9	1033.9	1035.8	1044.4	1046.9	1053.0	1054.3
32.5°	986.4	983.9	992.0	994.4	1001.8	1004.3	1006.1	1019.7	1027.1	1030.2	1035.1
35°	946.3	950.0	953.1	957.4	973.4	975.9	980.8	987.6	993.2	995.7	998.7
37.5°	906.2	911.8	914.2	930.9	932.7	937.7	942.0	950.0	960.5	967.3	972.2
40°	872.9	870.4	880.3	888.9	893.3	902.5	912.4	925.3	935.8	938.9	945.7
42.5°	834.6	832.2	843.9	846.4	861.8	873.5	881.5	887.7	893.3	901.3	908.1
45°	790.2	795.2	797.0	810.0	826.6	832.2	833.4	847.0	858.1	868.6	873.5
47.5°	750.8	753.2	756.3	771.1	783.4	789.0	796.4	813.7	827.2	839.0	843.9
50°	702.6	705.1	716.8	726.1	742.1	750.1	760.6	773.0	783.4	792.7	802.6
52.5°	660.7	659.5	669.3	680.4	703.9	710.0	713.7	727.9	745.2	755.1	763.7
55°	614.4	616.3	623.1	640.3	649.0	660.7	668.7	689.1	706.3	716.8	724.2
57.5°	562.0	570.6	579.9	593.4	602.1	613.8	623.7	647.1	661.9	668.7	674.9
60°	514.5	520.7	533.0	542.9	558.9	569.4	574.9	593.4	609.5	616.9	626.1
62.5°	470.7	471.9	486.1	495.4	512.0	517.6	526.8	542.9	558.3	566.9	576.8
65°	419.5	423.2	429.4	445.4	459.6	467.6	476.2	496.6	506.5	521.3	527.4
67.5°	368.9	375.1	381.2	395.4	408.4	417.0	425.7	443.5	453.4	466.4	471.9
70°	317.1	320.8	329.4	342.4	356.6	364.6	373.2	386.2	399.1	410.2	417.6
72.5°	264.6	268.3	278.2	290.6	307.2	311.5	320.2	334.4	348.5	358.4	367.0
75°	214.1	216.5	227.6	238.1	254.8	259.1	267.1	281.9	296.7	309.1	314.6
77.5°	164.7	167.2	177.7	189.4	203.6	211.6	218.4	231.3	246.1	254.8	263.4
80°	116.6	121.5	128.3	140.7	154.8	161.6	170.3	184.4	196.8	205.4	213.4
82.5°	73.4	77.7	85.1	98.7	111.0	116.6	124.0	136.9	150.5	157.3	164.7
85°	37.6	40.7	49.4	59.8	72.2	78.3	85.1	98.1	107.3	117.2	125.8
87.5°	12.3	15.4	22.8	33.3	45.0	50.6	56.1	67.9	76.5	85.7	94.4
90°	0.0	3.7	11.1	20.4	30.8	36.4	41.9	50.6	59.2	69.1	77.1
92.5°	0.0	2.5	8.6	17.9	27.8	32.1	36.4	45.0	54.3	62.3	70.9
95°	0.0	2.5	8.0	16.7	25.3	29.6	34.5	42.6	51.2	59.8	67.2
97.5°	0.0	1.9	7.4	15.4	24.1	28.4	32.1	41.3	49.4	57.4	64.2
100°	0.0	1.9	7.4	14.8	22.8	27.1	31.5	39.5	47.5	54.3	61.7
102.5°	0.0	1.9	6.8	14.2	22.2	25.9	30.2	38.2	45.0	52.4	58.6
105°	0.0	1.9	6.8	13.6	21.6	25.3	29.0	37.0	43.8	50.0	56.8
107.5°	0.0	1.9	6.2	13.0	20.4	24.7	28.4	35.8	42.6	48.7	54.3
110°	0.0	1.2	6.2	13.0	19.7	23.4	27.1	34.5	40.7	46.9	51.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.2	6.2	12.3	19.1	22.8	26.5	33.3	40.1	45.0	50.0
115°	0.0	1.2	5.6	11.7	18.5	22.2	25.9	32.7	38.2	43.8	48.7
117.5°	0.0	1.2	5.6	11.1	17.9	21.6	24.7	31.5	37.6	42.6	47.5
120°	0.0	1.2	4.9	10.5	17.3	21.0	24.1	30.2	36.4	41.9	46.9
122.5°	0.0	0.6	4.9	10.5	16.7	19.7	22.8	29.6	35.2	40.7	46.3
125°	0.0	0.6	4.3	9.9	15.4	19.1	22.2	28.4	33.9	39.5	44.4
127.5°	0.0	0.6	3.7	9.3	14.8	17.9	21.0	27.1	32.7	37.6	43.2
130°	0.6	0.6	3.7	8.6	13.6	16.7	19.7	25.3	30.8	35.8	40.7
132.5°	0.6	0.6	3.1	7.4	13.0	15.4	17.9	23.4	29.0	33.9	38.2
135°	0.6	0.6	3.1	6.8	11.7	14.2	16.7	21.6	26.5	31.5	35.8
137.5°	0.6	0.6	2.5	6.2	10.5	13.0	14.8	19.7	24.7	29.0	33.3
140°	0.6	0.6	1.9	4.9	9.3	11.1	13.6	17.9	22.2	26.5	30.2
142.5°	0.6	0.6	1.9	4.3	8.0	9.9	11.7	16.0	19.7	23.4	27.8
145°	0.6	0.6	1.2	3.7	6.8	8.6	10.5	14.2	17.9	21.0	24.7
147.5°	0.6	0.6	1.2	3.1	5.6	7.4	8.6	12.3	15.4	18.5	21.6
150°	0.6	0.6	0.6	2.5	4.3	5.6	7.4	9.9	13.0	16.0	19.1
152.5°	0.6	0.6	0.6	1.9	3.7	4.3	5.6	8.0	10.5	13.6	16.0
155°	0.6	0.6	0.6	1.2	2.5	3.7	4.3	6.2	8.6	11.1	13.0
157.5°	0.6	0.6	0.6	0.6	1.9	2.5	3.1	4.9	6.8	8.6	10.5
160°	0.6	0.6	0.6	0.6	1.2	1.9	2.5	3.7	4.9	6.2	7.4
162.5°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	2.5	3.1	4.3	5.6
165°	0.6	0.6	0.6	0.0	0.6	0.6	0.6	1.2	1.9	2.5	3.1
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.6	0.6	1.2	1.9
170°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
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°	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6	1533.6
2.5°	1506.4	1508.3	1508.3	1508.9	1508.9	1510.8	1510.8	1510.8	1512.0	1511.4
5°	1450.9	1455.2	1458.3	1462.0	1464.5	1467.0	1467.0	1467.6	1471.3	1469.4
7.5°	1378.7	1383.7	1387.4	1394.8	1397.2	1399.1	1404.0	1407.1	1409.0	1407.7
10°	1321.4	1320.8	1324.5	1322.0	1318.9	1320.8	1320.1	1322.6	1319.5	1318.3
12.5°	1270.2	1257.2	1260.9	1269.6	1271.4	1272.6	1277.0	1277.6	1280.0	1276.3
15°	1220.2	1227.6	1227.0	1220.8	1217.7	1215.9	1217.1	1222.1	1226.4	1225.8
17.5°	1194.3	1188.1	1190.6	1206.6	1212.2	1214.0	1208.5	1201.1	1193.1	1191.2
20°	1159.7	1173.3	1180.1	1161.0	1148.0	1146.2	1146.2	1151.1	1157.3	1157.3
22.5°	1138.8	1138.2	1119.6	1135.7	1144.3	1149.3	1146.8	1136.3	1126.4	1129.5
25°	1116.6	1105.5	1125.2	1114.7	1107.3	1103.6	1107.9	1114.1	1116.6	1119.0
27.5°	1077.7	1095.0	1082.0	1090.0	1099.9	1107.9	1104.8	1088.8	1083.9	1085.1
30°	1058.6	1053.6	1068.4	1080.8	1073.4	1062.3	1051.8	1049.3	1054.3	1054.3
32.5°	1037.0	1044.4	1048.1	1029.6	1030.8	1035.1	1040.1	1039.5	1032.1	1025.9
35°	1000.6	1016.6	1001.2	1015.4	1019.1	1012.9	997.5	1000.0	1001.8	998.7
37.5°	982.7	973.4	986.4	981.5	977.1	979.6	990.1	986.4	987.6	986.4
40°	951.9	957.4	946.3	951.2	956.2	958.0	953.7	938.3	936.4	937.7
42.5°	911.1	917.3	924.7	929.6	917.9	908.1	910.5	917.3	919.2	921.0
45°	879.7	879.7	887.7	873.5	877.2	883.4	884.0	881.5	876.0	872.3
47.5°	848.2	853.8	839.0	847.0	845.1	845.8	839.0	843.9	845.8	845.1
50°	809.4	806.9	810.6	802.6	800.1	800.7	810.0	806.3	803.2	802.0
52.5°	769.9	761.9	769.3	768.6	774.8	775.4	763.1	758.2	760.6	758.8
55°	728.5	729.8	727.3	732.2	728.5	724.2	723.0	724.2	724.2	726.7
57.5°	678.0	687.8	695.2	684.1	682.3	685.4	685.4	678.6	673.6	673.0
60°	629.8	634.2	639.1	640.3	636.6	632.9	631.7	629.8	631.1	630.5
62.5°	583.6	586.7	581.7	583.0	579.3	581.7	581.1	578.6	573.7	568.8
65°	531.8	534.2	532.4	529.9	532.4	534.8	523.1	518.8	514.5	515.1
67.5°	476.9	478.7	479.3	481.8	476.9	473.2	468.2	467.6	463.3	460.2
70°	426.3	425.0	430.0	428.1	423.8	423.2	417.0	409.6	405.3	404.1
72.5°	373.2	375.7	379.4	372.6	376.9	372.0	364.6	360.3	359.0	357.8
75°	320.8	326.3	327.6	325.1	325.1	320.8	319.5	315.8	311.5	306.0
77.5°	270.2	274.5	277.0	277.6	275.1	274.5	272.0	267.1	259.7	255.4
80°	220.2	224.5	228.2	230.1	228.9	232.6	227.0	223.9	221.5	222.7
82.5°	174.6	178.9	184.4	186.9	189.4	190.0	191.2	193.1	194.9	197.4
85°	132.6	139.4	145.6	151.1	155.5	157.3	161.6	167.2	174.6	180.1
87.5°	103.6	109.8	118.4	126.5	129.5	132.6	139.4	149.3	162.2	172.1
90°	85.7	93.1	101.2	109.2	113.5	116.6	126.5	136.9	150.5	159.2
92.5°	77.7	85.7	93.1	100.6	104.3	108.0	116.6	127.1	136.3	143.7
95°	74.6	81.4	88.8	95.6	98.7	102.4	109.8	116.0	123.4	127.7
97.5°	70.9	77.7	84.5	90.7	93.1	96.2	103.0	107.3	112.9	116.6
100°	67.9	74.6	80.2	85.7	88.2	90.7	96.2	100.6	101.2	103.6
102.5°	65.4	70.9	75.9	80.8	82.0	84.5	88.8	91.3	91.3	90.7
105°	62.3	67.2	71.6	75.3	76.5	78.3	79.6	79.6	79.0	78.3
107.5°	59.2	63.5	67.2	69.7	70.9	70.9	70.9	69.7	68.5	67.9
110°	56.8	60.5	63.5	64.8	64.8	64.8	64.2	63.5	62.9	62.3





TEST NUMBER: P241443

CATALOG NUMBER: FVS8M-2-LD4-40-3LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	54.3	58.0	60.5	61.7	61.7	61.7	61.7	61.7	61.1	60.5
115°	53.1	56.1	58.6	60.5	61.1	61.7	62.3	62.3	62.3	61.7
117.5°	51.8	55.5	58.6	61.1	61.7	62.9	63.5	64.2	63.5	63.5
120°	51.8	55.5	58.6	61.7	62.9	63.5	64.8	65.4	65.4	64.8
122.5°	50.6	54.9	58.6	61.7	62.9	64.2	65.4	66.0	66.0	66.0
125°	49.4	53.7	58.0	61.1	62.3	62.9	64.8	66.0	66.0	66.0
127.5°	47.5	52.4	56.1	59.2	60.5	61.7	63.5	64.8	65.4	65.4
130°	45.6	50.0	54.3	57.4	58.6	59.8	61.7	62.9	63.5	64.2
132.5°	43.2	47.5	51.2	54.9	56.1	57.4	59.2	61.1	61.1	61.7
135°	40.1	44.4	48.1	51.2	53.1	54.3	56.8	58.0	58.6	59.2
137.5°	37.0	40.7	44.4	48.1	49.4	50.6	53.1	54.9	56.1	56.1
140°	33.9	37.6	40.7	43.8	45.6	46.9	49.4	51.2	51.8	52.4
142.5°	30.8	34.5	37.6	40.1	41.9	43.2	45.0	46.9	47.5	48.1
145°	27.8	30.8	33.9	36.4	37.6	38.9	40.7	41.9	42.6	43.2
147.5°	24.7	27.8	30.2	32.7	33.3	34.5	36.4	37.6	38.2	38.2
150°	21.6	24.1	26.5	28.4	29.0	30.2	32.1	32.7	33.3	33.3
152.5°	18.5	20.4	22.2	24.1	25.3	25.9	27.1	28.4	28.4	29.0
155°	15.4	17.3	19.1	20.4	21.0	21.6	22.8	23.4	24.1	24.1
157.5°	12.3	14.2	15.4	16.7	17.3	17.9	18.5	19.1	19.7	19.7
160°	9.3	10.5	11.7	13.0	13.6	13.6	14.8	14.8	15.4	15.4
162.5°	6.2	7.4	8.6	9.9	9.9	10.5	10.5	11.1	11.1	11.1
165°	3.7	4.9	5.6	6.8	6.8	7.4	7.4	8.0	8.0	8.0
167.5°	2.5	2.5	3.1	3.7	4.3	4.3	4.3	4.9	4.9	4.9
170°	0.6	1.2	1.2	1.9	1.9	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)