

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: P241560

Luminaire Tested: **FVS8M-2-LD4-50-3HI-O-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

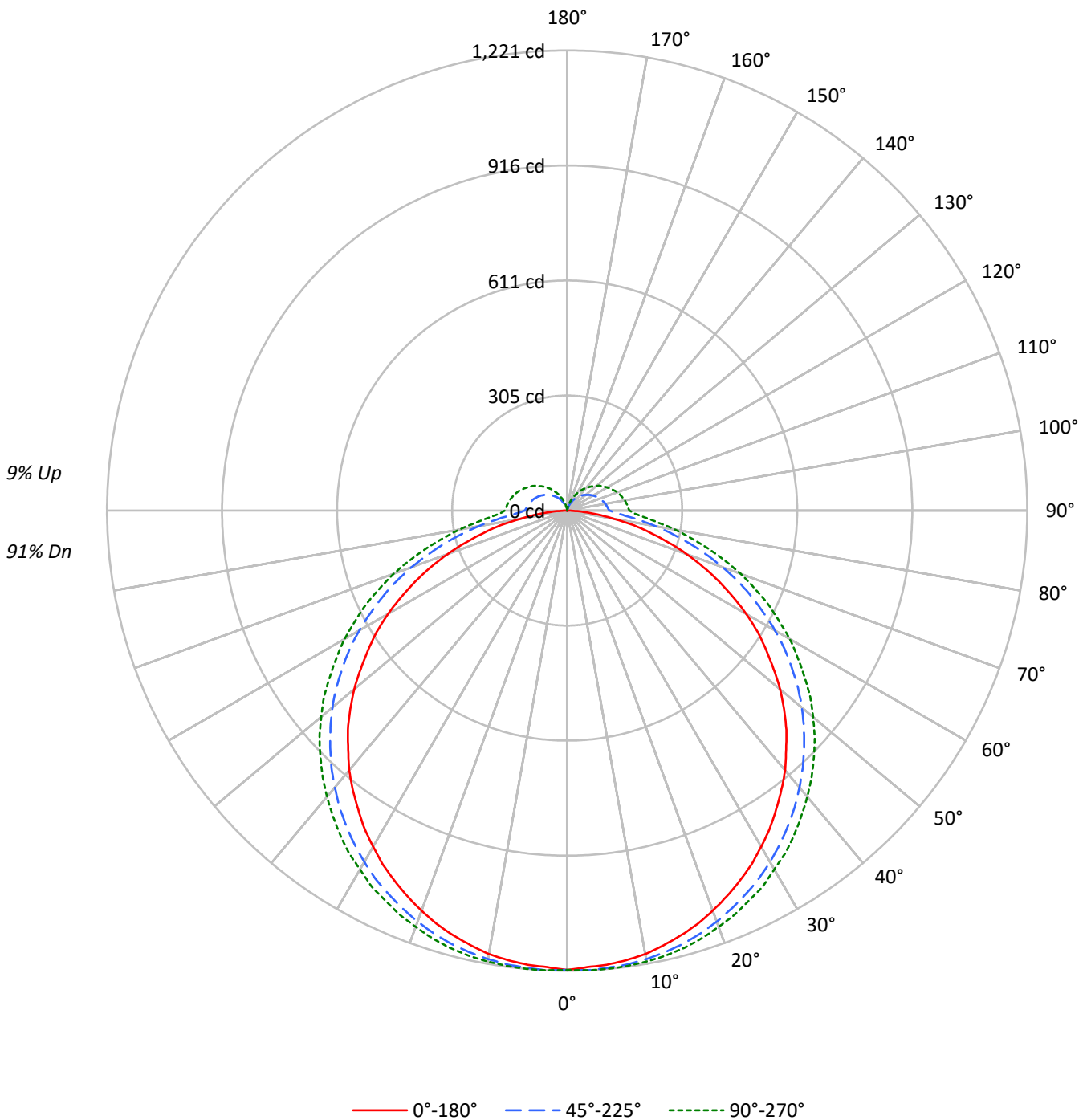
Test Method: LM-79-08  
Report Number: P241560  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-14)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-2-LD4-50-3HI-O-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
2FT LENGTH, 3-MODULE LED WITH OPAL LENS  
Light Source: (126) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4366.0 lumens  
Efficiency: N/A  
Efficacy: 65.7 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.34 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')  
CIE Type: Direct  
  
Input Watts (W): 66.5  
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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### 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	113	113	113	113	106	106	106	99	99	99	93	93	93	91
1	105	100	96	91	102	97	93	89	91	88	84	85	83	80	80	78	76	73
2	95	87	79	73	92	84	77	72	79	73	69	74	70	66	70	66	63	60
3	87	76	67	60	83	73	65	59	69	62	57	65	59	55	61	57	53	50
4	79	67	58	51	76	65	56	50	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	43	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	35	29	25	34	28	24	22
10	50	37	29	24	48	36	28	23	34	27	23	33	27	22	31	26	22	20

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

	0°	45°	90°
0°	10956	10956	10956
5°	10840	10786	10804
10°	10758	10627	10663
15°	10635	10468	10540
20°	10504	10296	10388
25°	10368	10115	10247
30°	10222	9937	10094
35°	10059	9739	9953
40°	9902	9530	9778
45°	9696	9301	9599
50°	9428	9051	9386
55°	9085	8726	9108
60°	8688	8348	8818
65°	8082	7855	8436
70°	7305	7248	7946
75°	6143	6469	7273
80°	4578	5526	6587
85°	2428	4586	5930



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.8	2.7
10°-20°	335.1	7.7
20°-30°	515.7	11.8
30°-40°	635.9	14.6
40°-50°	680.8	15.6
50°-60°	643.0	14.7
60°-70°	524.3	12.0
70°-80°	343.6	7.9
80°-90°	163.2	3.7
90°-100°	104.7	2.4
100°-110°	93.0	2.1
110°-120°	76.9	1.8
120°-130°	58.6	1.3
130°-140°	39.9	0.9
140°-150°	23.1	0.5
150°-160°	10.0	0.2
160°-170°	2.3	0.1
170°-180°	0.0	0.0
0°-30°	966.7	22.1
0°-40°	1602.6	36.7
0°-60°	2926.4	67.0
0°-90°	3957.4	90.6
90°-120°	274.6	6.3
90°-150°	396.2	9.1
90°-180°	409.0	9.4
0°-180°	4366.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1219	1219	1219	1219	1219	
5°	1210	1213	1218	1221	1221	115
15°	1167	1175	1190	1198	1201	329
25°	1084	1099	1122	1138	1142	500
35°	967	991	1021	1043	1050	606
45°	823	851	889	916	926	634
55°	645	682	728	759	769	577
65°	444	486	540	575	589	439
75°	229	279	336	374	386	244
85°	45	95	154	193	206	54
90°	0	53	112	153	165	2
95°	0	49	107	147	160	0
105°	0	43	98	136	149	0
115°	0	36	86	121	132	0
125°	0	29	73	103	113	0
135°	1	22	57	82	90	0
145°	1	14	41	59	67	1
155°	1	5	23	36	40	0
165°	1	1	6	14	16	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241560

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9
2.5°	1212.7	1212.7	1213.7	1214.8	1214.8	1215.8	1215.8	1216.8	1218.9	1220.0	1221.0
5°	1209.6	1209.6	1210.6	1211.6	1212.7	1212.7	1213.7	1214.8	1215.8	1216.8	1217.9
7.5°	1203.3	1203.3	1204.4	1205.4	1206.4	1207.5	1207.5	1208.5	1210.6	1212.7	1214.8
10°	1195.0	1194.0	1195.0	1196.0	1197.1	1198.1	1200.2	1202.3	1204.4	1207.5	1208.5
12.5°	1181.5	1182.5	1182.5	1184.6	1186.7	1188.8	1188.8	1191.9	1195.0	1198.1	1200.2
15°	1166.9	1166.9	1168.0	1171.1	1173.2	1175.2	1176.3	1180.4	1183.6	1186.7	1189.8
17.5°	1150.3	1150.3	1152.4	1154.4	1157.6	1159.6	1161.7	1164.8	1169.0	1173.2	1176.3
20°	1129.5	1130.5	1132.6	1135.7	1139.9	1142.0	1143.0	1148.2	1153.4	1156.5	1160.7
22.5°	1107.6	1107.6	1110.8	1114.9	1119.1	1121.2	1123.2	1128.4	1133.6	1137.8	1142.0
25°	1083.7	1084.8	1087.9	1092.0	1096.2	1099.3	1101.4	1108.7	1112.8	1117.0	1122.2
27.5°	1058.8	1058.8	1062.9	1067.1	1072.3	1074.4	1078.5	1083.7	1090.0	1095.2	1101.4
30°	1029.6	1030.7	1035.9	1041.1	1045.2	1050.4	1052.5	1058.8	1065.0	1070.2	1076.4
32.5°	1000.5	1000.5	1004.7	1012.0	1016.1	1020.3	1023.4	1030.7	1038.0	1044.2	1050.4
35°	967.2	970.4	974.5	980.8	987.0	991.2	994.3	1001.6	1009.9	1015.1	1021.3
37.5°	934.0	936.0	941.2	947.5	953.7	957.9	962.0	970.4	977.6	984.9	992.2
40°	899.6	899.6	904.8	913.1	920.4	923.6	927.7	936.0	943.3	951.6	958.9
42.5°	860.1	862.2	868.4	875.7	884.0	888.2	892.3	900.7	909.0	917.3	925.6
45°	822.7	823.7	829.9	837.2	845.5	850.7	855.9	863.2	873.6	880.9	889.2
47.5°	781.1	783.1	789.4	797.7	806.0	812.3	815.4	824.7	834.1	843.5	851.8
50°	737.4	739.5	746.7	757.1	765.5	768.6	774.8	786.3	794.6	805.0	813.3
52.5°	690.6	695.8	705.1	712.4	721.8	727.0	732.2	741.5	754.0	762.3	771.7
55°	644.8	647.9	656.3	665.6	677.1	682.3	687.5	697.9	710.3	719.7	728.0
57.5°	599.1	602.2	610.5	618.8	631.3	636.5	642.7	654.2	664.6	672.9	684.3
60°	549.1	551.2	560.6	572.0	582.4	589.7	593.9	606.3	616.7	627.1	637.5
62.5°	496.1	502.3	509.6	522.1	532.5	541.9	546.0	556.4	568.9	579.3	587.6
65°	444.1	449.3	457.6	471.1	481.5	485.7	494.0	505.5	517.9	530.4	539.8
67.5°	391.1	398.3	403.5	418.1	432.7	436.8	445.1	454.5	469.1	480.5	490.9
70°	338.0	342.2	351.5	365.1	376.5	383.8	390.0	403.5	416.0	429.5	438.9
72.5°	282.9	289.1	299.5	311.0	326.6	331.8	339.1	350.5	366.1	377.5	386.9
75°	228.8	234.0	243.4	259.0	272.5	278.7	286.0	299.5	313.1	325.5	335.9
77.5°	181.0	183.0	193.4	207.0	220.5	227.8	235.0	248.6	262.1	276.6	286.0
80°	127.9	134.2	143.5	157.0	171.6	178.9	186.2	198.6	212.2	224.6	237.1
82.5°	81.1	87.4	97.8	111.3	126.9	132.1	140.4	156.0	167.4	178.9	192.4
85°	44.7	48.9	58.2	72.8	87.4	94.6	101.9	116.5	129.0	141.4	153.9
87.5°	15.6	20.8	31.2	44.7	59.3	66.6	73.8	88.4	100.9	114.4	126.9
90°	0.0	7.3	17.7	31.2	45.8	53.0	60.3	73.8	88.4	100.9	112.3
92.5°	0.0	5.2	15.6	28.1	42.6	49.9	57.2	71.8	85.3	97.8	109.2
95°	0.0	4.2	14.6	27.0	41.6	48.9	56.2	69.7	83.2	95.7	107.1
97.5°	0.0	4.2	13.5	26.0	40.6	46.8	54.1	68.6	81.1	93.6	105.0
100°	0.0	4.2	13.5	25.0	39.5	45.8	53.0	66.6	79.0	91.5	103.0
102.5°	0.0	4.2	12.5	25.0	37.4	44.7	51.0	64.5	77.0	89.4	100.9
105°	0.0	3.1	11.4	23.9	36.4	42.6	49.9	62.4	74.9	87.4	97.8
107.5°	0.0	3.1	11.4	22.9	35.4	41.6	47.8	60.3	72.8	84.2	95.7
110°	0.0	3.1	10.4	21.8	33.3	39.5	46.8	59.3	70.7	82.2	92.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	3.1	10.4	20.8	32.2	38.5	44.7	56.2	68.6	79.0	89.4
115°	0.0	2.1	9.4	19.8	30.2	36.4	42.6	54.1	65.5	75.9	86.3
117.5°	0.0	2.1	8.3	18.7	29.1	34.3	40.6	52.0	63.4	73.8	83.2
120°	0.0	2.1	8.3	17.7	28.1	33.3	38.5	49.9	60.3	70.7	80.1
122.5°	0.0	1.0	7.3	16.6	26.0	31.2	36.4	46.8	57.2	67.6	75.9
125°	0.0	1.0	7.3	14.6	25.0	29.1	34.3	44.7	54.1	63.4	72.8
127.5°	0.0	1.0	6.2	13.5	22.9	28.1	32.2	42.6	52.0	60.3	68.6
130°	0.0	1.0	5.2	12.5	20.8	26.0	30.2	39.5	48.9	57.2	64.5
132.5°	0.0	1.0	5.2	11.4	19.8	23.9	28.1	36.4	45.8	53.0	61.4
135°	1.0	1.0	4.2	10.4	17.7	21.8	26.0	34.3	42.6	49.9	57.2
137.5°	0.0	1.0	3.1	9.4	16.6	19.8	23.9	31.2	39.5	45.8	53.0
140°	0.0	1.0	3.1	8.3	14.6	17.7	21.8	29.1	35.4	42.6	48.9
142.5°	1.0	1.0	2.1	7.3	12.5	15.6	18.7	26.0	32.2	38.5	44.7
145°	1.0	1.0	1.0	5.2	10.4	13.5	16.6	22.9	29.1	35.4	40.6
147.5°	1.0	1.0	1.0	4.2	9.4	11.4	14.6	19.8	26.0	31.2	36.4
150°	1.0	1.0	1.0	3.1	7.3	9.4	11.4	16.6	21.8	27.0	32.2
152.5°	1.0	1.0	1.0	2.1	5.2	7.3	9.4	13.5	18.7	22.9	27.0
155°	1.0	1.0	1.0	2.1	4.2	5.2	7.3	11.4	14.6	18.7	22.9
157.5°	1.0	1.0	1.0	1.0	3.1	4.2	5.2	8.3	11.4	14.6	17.7
160°	1.0	1.0	1.0	1.0	2.1	3.1	3.1	6.2	8.3	11.4	13.5
162.5°	1.0	1.0	1.0	1.0	1.0	1.0	2.1	4.2	5.2	7.3	9.4
165°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1	3.1	5.2	6.2
167.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1	2.1	3.1
170°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	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°	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9
2.5°	1221.0	1222.0	1222.0	1222.0	1222.0	1222.0	1222.0	1222.0	1222.0	1221.0
5°	1218.9	1220.0	1220.0	1221.0	1221.0	1221.0	1221.0	1221.0	1221.0	1221.0
7.5°	1215.8	1216.8	1217.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9
10°	1210.6	1211.6	1213.7	1213.7	1214.8	1214.8	1214.8	1214.8	1215.8	1214.8
12.5°	1202.3	1204.4	1206.4	1207.5	1207.5	1208.5	1208.5	1208.5	1209.6	1209.6
15°	1191.9	1194.0	1196.0	1197.1	1198.1	1199.2	1199.2	1200.2	1200.2	1201.2
17.5°	1179.4	1182.5	1184.6	1185.6	1186.7	1187.7	1187.7	1188.8	1189.8	1189.8
20°	1164.8	1166.9	1170.0	1171.1	1172.1	1173.2	1175.2	1175.2	1176.3	1175.2
22.5°	1146.1	1150.3	1153.4	1155.5	1156.5	1156.5	1158.6	1160.7	1160.7	1160.7
25°	1126.4	1130.5	1134.7	1136.8	1137.8	1137.8	1140.9	1140.9	1142.0	1142.0
27.5°	1104.5	1109.7	1112.8	1116.0	1117.0	1118.0	1119.1	1121.2	1122.2	1124.3
30°	1080.6	1084.8	1088.9	1093.1	1094.1	1095.2	1097.2	1098.3	1100.4	1099.3
32.5°	1055.6	1059.8	1065.0	1069.2	1070.2	1070.2	1073.3	1073.3	1075.4	1077.5
35°	1027.6	1032.8	1036.9	1041.1	1043.2	1043.2	1047.3	1048.4	1050.4	1050.4
37.5°	997.4	1004.7	1007.8	1013.0	1015.1	1016.1	1019.2	1019.2	1021.3	1021.3
40°	966.2	971.4	977.6	980.8	982.8	986.0	987.0	991.2	991.2	991.2
42.5°	932.9	937.1	945.4	948.5	951.6	951.6	954.8	956.8	958.9	960.0
45°	897.5	902.7	909.0	914.2	916.3	918.4	920.4	922.5	925.6	925.6
47.5°	859.1	867.4	871.5	877.8	879.9	881.9	885.1	887.1	889.2	891.3
50°	819.5	827.9	835.1	839.3	840.3	843.5	846.6	848.7	850.7	851.8
52.5°	779.0	786.3	792.5	798.7	800.8	806.0	806.0	809.1	811.2	813.3
55°	737.4	743.6	751.9	756.1	759.2	760.3	766.5	768.6	768.6	768.6
57.5°	691.6	701.0	706.2	714.5	715.5	717.6	720.7	724.9	724.9	724.9
60°	645.9	654.2	661.5	666.7	670.8	670.8	676.0	680.2	681.2	682.3
62.5°	599.1	606.3	614.7	619.9	624.0	626.1	629.2	633.4	635.5	633.4
65°	549.1	557.5	565.8	572.0	575.1	577.2	581.4	584.5	587.6	588.7
67.5°	500.3	507.5	516.9	524.2	526.3	530.4	533.5	535.6	537.7	537.7
70°	449.3	458.7	467.0	473.2	474.3	478.4	483.6	486.7	485.7	489.9
72.5°	398.3	407.7	415.0	423.3	424.3	427.5	431.6	434.7	435.8	436.8
75°	346.3	357.8	364.0	371.3	374.4	376.5	381.7	385.9	385.9	385.9
77.5°	296.4	305.8	313.1	319.3	323.5	326.6	331.8	334.9	334.9	335.9
80°	245.4	257.9	264.2	271.4	276.6	278.7	282.9	287.0	288.1	290.2
82.5°	201.8	213.2	220.5	227.8	231.9	236.1	238.2	242.3	243.4	243.4
85°	164.3	173.7	182.0	189.3	193.4	196.6	200.7	202.8	205.9	205.9
87.5°	137.3	145.6	155.0	162.2	165.4	168.5	172.6	175.8	178.9	177.8
90°	123.8	133.1	141.4	148.7	152.9	156.0	159.1	163.3	165.4	165.4
92.5°	119.6	129.0	138.3	145.6	148.7	150.8	156.0	159.1	161.2	162.2
95°	117.5	127.9	136.2	143.5	146.6	149.8	153.9	157.0	159.1	160.2
97.5°	116.5	125.8	134.2	141.4	144.6	147.7	151.8	155.0	157.0	158.1
100°	113.4	122.7	132.1	139.4	141.4	144.6	149.8	152.9	155.0	155.0
102.5°	111.3	120.6	129.0	136.2	139.4	141.4	146.6	149.8	151.8	151.8
105°	108.2	117.5	125.8	133.1	136.2	138.3	143.5	146.6	147.7	148.7
107.5°	105.0	114.4	122.7	129.0	132.1	135.2	139.4	142.5	144.6	145.6
110°	101.9	111.3	118.6	125.8	129.0	131.0	136.2	138.3	140.4	141.4





TEST NUMBER: P241560

CATALOG NUMBER: FVS8M-2-LD4-50-3HI-O-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	98.8	107.1	115.4	121.7	124.8	126.9	131.0	135.2	136.2	137.3
115°	95.7	104.0	111.3	117.5	120.6	122.7	126.9	130.0	132.1	132.1
117.5°	91.5	99.8	107.1	113.4	116.5	118.6	122.7	125.8	126.9	127.9
120°	88.4	96.7	103.0	109.2	112.3	114.4	117.5	120.6	122.7	122.7
122.5°	84.2	92.6	98.8	105.0	107.1	109.2	113.4	116.5	117.5	117.5
125°	80.1	88.4	94.6	99.8	103.0	105.0	108.2	111.3	112.3	113.4
127.5°	77.0	83.2	90.5	95.7	97.8	99.8	103.0	106.1	107.1	108.2
130°	72.8	79.0	85.3	90.5	92.6	94.6	97.8	99.8	101.9	101.9
132.5°	67.6	74.9	80.1	85.3	87.4	88.4	92.6	94.6	95.7	95.7
135°	63.4	69.7	74.9	80.1	82.2	83.2	86.3	88.4	90.5	90.5
137.5°	59.3	64.5	69.7	74.9	75.9	78.0	81.1	83.2	84.2	84.2
140°	55.1	60.3	64.5	68.6	70.7	71.8	74.9	77.0	78.0	78.0
142.5°	49.9	55.1	59.3	63.4	65.5	66.6	68.6	70.7	71.8	72.8
145°	45.8	49.9	54.1	58.2	59.3	60.3	63.4	64.5	65.5	66.6
147.5°	40.6	44.7	48.9	52.0	53.0	55.1	57.2	58.2	59.3	59.3
150°	36.4	39.5	43.7	46.8	47.8	48.9	51.0	52.0	53.0	53.0
152.5°	31.2	35.4	38.5	40.6	41.6	42.6	44.7	45.8	46.8	46.8
155°	27.0	30.2	32.2	35.4	36.4	37.4	38.5	39.5	39.5	39.5
157.5°	21.8	25.0	27.0	29.1	30.2	31.2	32.2	33.3	33.3	34.3
160°	16.6	19.8	21.8	23.9	23.9	25.0	26.0	27.0	27.0	27.0
162.5°	12.5	14.6	16.6	17.7	18.7	18.7	20.8	20.8	20.8	20.8
165°	7.3	9.4	10.4	12.5	13.5	13.5	14.6	14.6	14.6	15.6
167.5°	4.2	5.2	6.2	7.3	8.3	8.3	9.4	9.4	9.4	9.4
170°	1.0	2.1	2.1	3.1	3.1	3.1	4.2	4.2	4.2	4.2
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)