

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: P241433

Luminaire Tested: **FVS8M-2-LD4-30-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241433  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-10)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-2-LD4-30-2STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
2FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (84) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

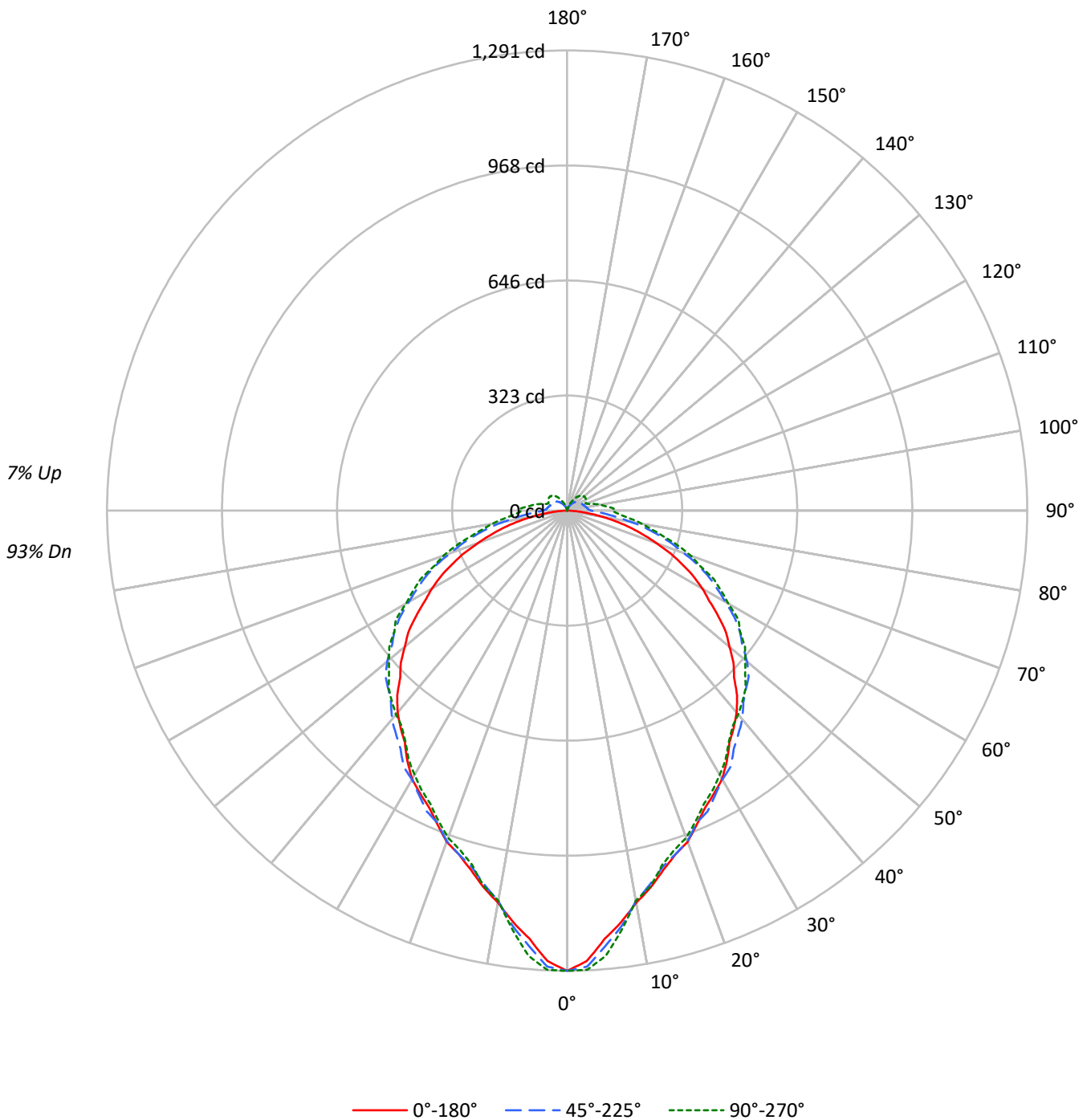
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3416.0 lumens  
Efficiency: N/A  
Efficacy: 101.7 lumens/watt  
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')  
CIE Type: Direct  
  
Input Watts (W): 33.6  
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	96	96	96	93
1	106	101	97	92	103	98	94	90	93	89	86	88	85	82	83	81	79	76
2	96	88	81	75	93	85	79	73	81	75	70	76	72	68	72	69	65	63
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	64	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
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	34
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30
8	59	45	36	30	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°	11606	11606	11606
5°	10812	10862	11084
10°	10058	9777	9752
15°	9508	9105	9033
20°	9193	8756	8630
25°	8781	8397	8146
30°	8631	8039	7862
35°	8256	7776	7492
40°	8145	7598	7367
45°	7803	7417	7338
50°	7600	7335	7185
55°	7301	7097	7016
60°	6932	6715	6746
65°	6474	6375	6487
70°	5740	5747	5982
75°	4878	5115	5283
80°	3583	4216	4823
85°	1798	3236	4412



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.5	3.3
10°-20°	293.7	8.6
20°-30°	426.1	12.5
30°-40°	507.3	14.8
40°-50°	540.8	15.8
50°-60°	512.2	15.0
60°-70°	412.7	12.1
70°-80°	265.2	7.8
80°-90°	115.8	3.4
90°-100°	61.5	1.8
100°-110°	47.5	1.4
110°-120°	38.0	1.1
120°-130°	33.9	1.0
130°-140°	25.4	0.7
140°-150°	14.9	0.4
150°-160°	6.2	0.2
160°-170°	1.4	0.0
170°-180°	0.0	0.0
0°-30°	833.4	24.4
0°-40°	1340.6	39.2
0°-60°	2393.6	70.1
0°-90°	3187.2	93.3
90°-120°	147.0	4.3
90°-150°	221.1	6.5
90°-180°	229.0	6.7
0°-180°	3416.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1291	1291	1291	1291	1291	
5°	1206	1212	1226	1245	1253	113
15°	1043	1048	1035	1027	1029	295
25°	918	922	932	924	908	426
35°	794	822	815	812	791	501
45°	662	694	709	722	708	515
55°	518	547	592	598	592	463
65°	356	386	438	445	453	351
75°	182	217	266	290	280	192
85°	33	64	109	137	153	42
90°	1	28	67	93	127	2
95°	0	25	58	86	117	0
105°	0	22	51	69	71	0
115°	0	21	45	56	58	0
125°	0	18	42	60	62	0
135°	0	14	35	53	59	0
145°	1	8	25	38	45	1
155°	1	4	14	22	25	0
165°	1	1	4	8	9	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°	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2
2.5°	1265.0	1265.0	1265.8	1265.8	1267.3	1268.1	1270.4	1270.4	1274.2	1277.3	1280.4
5°	1206.5	1204.2	1206.5	1206.5	1210.3	1211.9	1215.7	1220.3	1221.1	1225.7	1226.5
7.5°	1164.1	1163.4	1160.3	1160.3	1158.8	1161.1	1161.1	1164.1	1169.5	1174.2	1174.9
10°	1117.2	1116.4	1115.6	1116.4	1112.6	1114.1	1114.1	1115.6	1118.7	1117.9	1111.8
12.5°	1082.5	1081.8	1078.7	1078.7	1079.5	1079.5	1078.7	1080.2	1074.8	1071.8	1074.1
15°	1043.3	1045.6	1047.9	1044.0	1048.7	1047.9	1047.9	1044.8	1037.9	1033.3	1034.8
17.5°	1010.9	1014.0	1011.7	1010.2	1008.6	1008.6	1010.9	1010.9	1013.2	1008.6	1010.9
20°	988.6	984.0	978.6	983.2	986.3	987.1	987.8	987.8	984.7	984.0	987.1
22.5°	951.6	950.9	953.2	958.6	957.8	954.0	952.4	946.3	949.3	952.4	948.6
25°	917.8	927.0	929.3	923.2	920.8	922.4	927.0	930.1	935.5	932.4	931.6
27.5°	893.9	896.2	885.4	892.4	903.1	908.5	905.4	904.7	902.4	894.7	899.3
30°	869.3	861.6	863.1	871.6	872.3	868.5	864.6	866.9	871.6	872.3	870.8
32.5°	833.8	830.0	844.6	837.7	837.7	840.8	846.9	850.8	855.4	854.6	853.1
35°	793.8	803.8	803.8	800.7	815.4	822.3	825.4	818.4	817.7	812.3	815.4
37.5°	767.6	768.4	765.3	781.5	786.9	784.6	782.3	781.5	785.3	788.4	789.2
40°	739.9	733.0	738.4	747.6	743.0	746.8	753.0	762.2	766.1	767.6	764.5
42.5°	705.3	703.0	711.4	707.6	716.8	722.2	728.4	733.7	730.7	732.2	731.4
45°	662.1	672.2	667.5	678.3	693.7	693.7	694.5	692.9	699.9	708.3	709.1
47.5°	632.9	634.4	633.7	646.7	652.9	651.4	661.4	671.4	680.6	685.2	690.6
50°	594.4	590.5	605.9	606.7	615.9	622.1	630.6	639.8	648.3	654.4	659.1
52.5°	562.1	558.2	565.9	565.9	585.9	592.9	593.6	600.6	609.8	612.9	619.0
55°	518.2	523.6	522.0	536.6	545.9	546.7	549.7	562.1	576.7	582.8	592.1
57.5°	473.5	481.2	480.4	497.4	501.2	507.4	514.3	531.3	540.5	549.0	555.9
60°	438.1	439.6	447.3	450.4	459.7	468.9	479.7	490.4	496.6	506.6	512.8
62.5°	399.6	395.0	408.1	408.8	425.8	427.3	433.5	445.0	455.0	467.4	474.3
65°	355.7	356.5	362.6	371.1	382.7	385.7	391.9	405.0	418.1	429.6	438.1
67.5°	313.4	316.4	320.3	330.3	337.2	344.9	352.6	363.4	381.1	390.4	395.7
70°	265.6	271.0	275.6	286.4	296.4	302.6	312.6	323.4	334.9	342.6	348.0
72.5°	222.5	226.4	233.3	241.8	257.2	263.3	269.5	278.7	288.7	296.4	308.0
75°	181.7	184.8	193.3	199.4	212.5	217.1	224.8	234.1	247.1	257.2	265.6
77.5°	140.1	142.4	150.9	158.6	170.2	175.5	180.9	191.7	202.5	216.4	224.8
80°	100.1	102.4	110.9	117.8	127.0	131.7	137.8	150.9	163.2	170.9	180.9
82.5°	64.7	66.2	72.4	80.8	89.3	95.5	101.6	112.4	123.2	132.4	140.9
85°	33.1	34.6	41.6	48.5	57.7	63.9	67.8	78.5	89.3	98.6	108.6
87.5°	10.8	13.1	18.5	26.2	34.6	40.0	43.9	53.9	63.1	73.1	82.4
90°	0.8	3.1	8.5	15.4	23.9	28.5	33.1	41.6	50.0	58.5	67.0
92.5°	0.0	2.3	6.9	13.9	21.6	26.2	30.0	38.5	46.2	53.9	60.8
95°	0.0	1.5	6.9	13.1	20.8	25.4	29.3	37.0	44.7	51.6	57.7
97.5°	0.0	1.5	6.2	13.1	20.0	24.6	28.5	35.4	42.3	49.3	56.2
100°	0.0	1.5	6.2	12.3	20.0	23.9	26.9	33.9	40.8	47.7	53.9
102.5°	0.0	1.5	6.2	12.3	19.2	23.1	26.2	33.1	40.0	46.2	52.4
105°	0.0	1.5	6.2	12.3	19.2	22.3	26.2	32.3	39.3	45.4	50.8
107.5°	0.0	1.5	5.4	11.5	18.5	22.3	25.4	32.3	38.5	43.9	49.3
110°	0.0	1.5	5.4	11.5	18.5	21.6	25.4	31.6	37.7	43.1	47.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.5	5.4	11.5	17.7	21.6	24.6	30.8	37.0	41.6	46.2
115°	0.0	1.5	5.4	10.8	17.7	20.8	23.9	30.0	36.2	40.8	45.4
117.5°	0.0	0.8	5.4	10.8	16.9	20.0	23.9	30.0	35.4	40.0	44.7
120°	0.0	0.8	4.6	10.0	16.2	20.0	23.1	29.3	34.6	39.3	43.9
122.5°	0.0	0.8	4.6	10.0	16.2	19.2	22.3	28.5	33.9	39.3	43.9
125°	0.0	0.8	4.6	9.2	15.4	18.5	21.6	26.9	33.1	37.7	42.3
127.5°	0.0	0.8	3.8	9.2	14.6	17.7	20.8	26.2	31.6	36.2	40.8
130°	0.0	0.8	3.8	8.5	13.9	16.2	19.2	24.6	30.0	34.6	39.3
132.5°	0.0	0.8	3.1	7.7	13.1	15.4	17.7	23.1	28.5	33.1	37.0
135°	0.0	0.8	3.1	6.9	11.5	13.9	16.9	21.6	26.2	30.8	34.6
137.5°	0.0	0.0	2.3	6.2	10.8	13.1	15.4	20.0	24.6	28.5	32.3
140°	0.8	0.0	2.3	5.4	9.2	11.5	13.9	17.7	22.3	26.2	30.0
142.5°	0.8	0.0	1.5	4.6	8.5	10.0	12.3	16.2	20.0	23.9	26.9
145°	0.8	0.0	1.5	3.8	6.9	8.5	10.8	13.9	17.7	20.8	24.6
147.5°	0.8	0.0	0.8	3.1	6.2	7.7	9.2	12.3	15.4	18.5	21.6
150°	0.8	0.8	0.8	2.3	4.6	6.2	7.7	10.8	13.1	16.2	19.2
152.5°	0.8	0.8	0.8	1.5	3.8	4.6	6.2	8.5	11.5	13.9	16.9
155°	0.8	0.8	0.8	1.5	3.1	3.8	4.6	6.9	9.2	11.5	13.9
157.5°	0.8	0.8	0.0	0.8	2.3	3.1	3.8	5.4	6.9	9.2	10.8
160°	0.8	0.8	0.0	0.8	1.5	2.3	2.3	3.8	5.4	6.9	8.5
162.5°	0.8	0.8	0.8	0.8	0.8	1.5	1.5	3.1	3.8	5.4	6.2
165°	0.8	0.8	0.8	0.0	0.8	0.8	0.8	1.5	2.3	3.1	3.8
167.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.8	0.8	1.5	1.5	2.3
170°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	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°	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2	1291.2
2.5°	1283.5	1285.8	1287.3	1289.6	1288.9	1289.6	1289.6	1288.1	1289.6	1289.6
5°	1230.4	1235.7	1238.8	1243.4	1245.0	1245.0	1248.8	1251.9	1253.5	1252.7
7.5°	1174.2	1169.5	1170.3	1167.2	1167.2	1168.8	1172.6	1175.7	1180.3	1183.4
10°	1110.2	1111.8	1111.8	1114.9	1113.3	1113.3	1114.1	1116.4	1115.6	1111.0
12.5°	1074.8	1066.4	1067.9	1074.8	1077.1	1074.8	1077.1	1074.1	1079.5	1079.5
15°	1035.6	1041.0	1044.0	1034.8	1027.1	1030.2	1034.0	1030.9	1029.4	1029.4
17.5°	1018.6	1007.8	1001.7	1004.0	1005.5	1004.0	1004.8	1004.8	1002.5	998.6
20°	976.3	977.8	981.7	983.2	982.4	981.7	977.8	977.0	977.8	976.3
22.5°	950.9	950.9	951.6	960.1	960.1	957.8	953.2	948.6	943.2	942.4
25°	937.0	930.1	935.5	927.8	923.9	917.8	915.5	912.4	902.4	907.8
27.5°	895.4	907.0	900.1	896.2	891.6	888.5	883.1	882.3	883.9	883.9
30°	872.3	865.4	863.1	863.9	865.4	871.6	865.4	856.2	856.2	856.2
32.5°	854.6	846.9	842.3	839.2	840.0	837.7	833.8	826.1	825.4	827.7
35°	811.5	816.9	817.7	816.1	811.5	806.1	805.4	803.8	794.6	790.7
37.5°	785.3	782.3	781.5	784.6	786.1	781.5	769.9	764.5	765.3	762.2
40°	766.9	766.9	759.9	749.9	745.3	746.1	751.5	746.8	745.3	746.8
42.5°	736.8	743.8	742.2	736.1	735.3	736.8	735.3	730.7	727.6	727.6
45°	713.7	712.2	713.7	722.2	722.2	717.6	709.1	712.2	712.2	707.6
47.5°	696.8	691.4	694.5	686.0	689.1	691.4	686.8	682.2	680.6	677.5
50°	662.9	667.5	668.3	663.7	659.1	659.8	654.4	649.8	654.4	652.1
52.5°	622.9	629.8	631.3	633.7	626.0	622.9	625.2	631.3	628.3	629.0
55°	598.2	598.2	597.5	594.4	598.2	602.9	594.4	593.6	589.8	592.1
57.5°	565.9	567.4	563.6	567.4	564.4	564.4	561.3	563.6	565.1	569.8
60°	519.7	525.9	531.3	529.7	523.6	524.3	528.2	525.1	525.9	522.0
62.5°	480.4	480.4	488.9	485.1	489.7	487.4	482.0	482.7	485.8	487.4
65°	442.7	444.3	440.4	445.8	445.0	441.9	443.5	450.4	449.6	452.7
67.5°	398.1	405.8	404.2	401.9	401.9	403.4	409.6	404.2	401.9	401.1
70°	354.9	358.8	365.7	362.6	366.5	367.3	362.6	361.1	362.6	368.8
72.5°	314.9	318.8	322.6	328.8	329.5	326.5	329.5	327.2	328.0	325.7
75°	272.6	277.9	281.8	291.0	290.3	287.2	288.0	284.1	281.0	280.3
77.5°	230.2	237.9	246.4	245.6	245.6	248.7	246.4	244.1	244.8	242.5
80°	190.2	198.6	205.6	206.3	207.9	212.5	209.4	211.0	210.2	212.5
82.5°	150.9	159.4	165.5	169.4	171.7	172.5	174.8	177.1	180.2	181.7
85°	117.8	125.5	130.1	134.7	137.0	138.6	143.2	147.1	150.9	153.2
87.5°	90.1	95.5	101.6	107.8	110.1	113.2	117.8	123.2	130.1	136.3
90°	72.4	78.5	84.7	90.9	93.2	96.2	101.6	108.6	118.6	127.0
92.5°	66.2	72.4	77.8	83.9	87.0	90.9	97.8	107.0	120.9	130.9
95°	63.9	70.1	76.2	82.4	85.5	88.5	97.0	106.3	114.7	117.0
97.5°	61.6	67.8	73.1	79.3	82.4	86.2	93.2	97.8	100.9	103.2
100°	60.1	65.4	70.8	77.0	79.3	81.6	86.2	90.1	93.2	95.5
102.5°	57.7	63.1	68.5	72.4	74.7	76.2	80.1	83.9	83.9	83.9
105°	56.2	60.8	64.7	67.8	69.3	70.8	73.1	72.4	71.6	70.8
107.5°	53.9	57.7	60.8	63.9	63.9	64.7	64.7	63.1	62.4	61.6
110°	51.6	55.4	57.7	58.5	59.3	59.3	59.3	58.5	57.7	57.7





TEST NUMBER: P241433

CATALOG NUMBER: FVS8M-2-LD4-30-2STD-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	50.0	53.1	55.4	56.2	57.0	57.0	57.0	57.0	56.2	56.2
115°	48.5	51.6	53.9	55.4	56.2	57.0	57.7	57.7	57.7	57.7
117.5°	48.5	51.6	54.7	56.2	57.7	58.5	60.1	60.1	59.3	60.1
120°	47.7	51.6	54.7	57.7	59.3	60.1	61.6	61.6	60.8	60.8
122.5°	47.7	51.6	55.4	58.5	60.1	60.8	62.4	63.1	62.4	61.6
125°	47.0	50.8	54.7	58.5	60.1	61.6	63.1	63.1	62.4	62.4
127.5°	45.4	50.0	53.9	57.7	59.3	60.8	62.4	63.1	62.4	62.4
130°	43.9	48.5	52.4	56.2	57.7	59.3	60.8	61.6	61.6	61.6
132.5°	41.6	46.2	50.0	53.9	55.4	57.0	59.3	60.1	60.8	60.8
135°	39.3	43.9	47.7	51.6	53.1	54.7	57.0	58.5	58.5	59.3
137.5°	37.0	40.8	44.7	48.5	50.0	51.6	54.7	55.4	56.2	57.0
140°	33.9	37.7	40.8	44.7	47.0	48.5	50.8	52.4	53.9	53.9
142.5°	30.8	33.9	37.7	40.8	42.3	43.9	47.0	48.5	50.0	50.0
145°	27.7	30.8	33.9	37.0	38.5	40.0	42.3	43.9	44.7	45.4
147.5°	24.6	27.7	30.0	33.1	33.9	35.4	37.0	38.5	39.3	40.0
150°	21.6	24.6	26.2	28.5	29.3	30.8	32.3	33.1	33.9	34.6
152.5°	18.5	20.8	23.1	24.6	25.4	26.2	27.7	28.5	29.3	29.3
155°	16.2	17.7	19.2	20.8	21.6	22.3	23.1	23.9	24.6	24.6
157.5°	13.1	14.6	16.2	17.7	17.7	18.5	19.2	20.0	20.8	20.8
160°	10.0	11.5	13.1	13.9	14.6	14.6	15.4	16.2	16.2	16.9
162.5°	7.7	8.5	10.0	10.8	11.5	11.5	12.3	13.1	13.1	13.1
165°	5.4	6.2	6.9	7.7	8.5	8.5	9.2	9.2	9.2	9.2
167.5°	3.1	3.8	3.8	4.6	5.4	5.4	6.2	6.2	6.2	6.2
170°	1.5	1.5	2.3	2.3	2.3	2.3	3.1	3.1	3.1	3.1
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)