

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: P241580

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241580
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-24)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-3-LD4-50-2STD-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

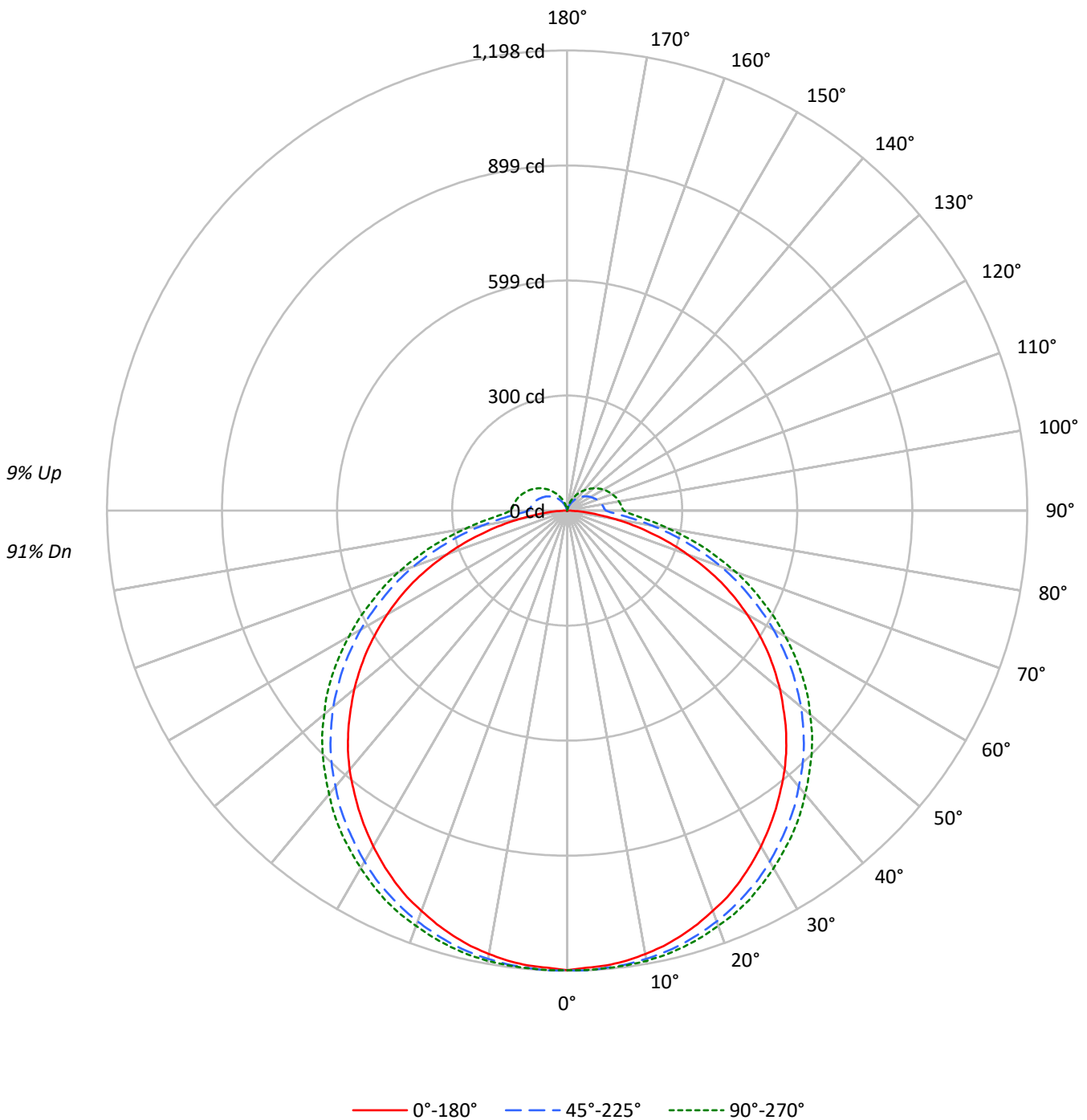
Lumens per Lamp: N/A
Luminaire Lumens: 4212.0 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.33 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 54.7
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	100	100	100	94	94	94	91
1	106	101	96	92	102	97	93	89	92	88	85	86	83	81	81	79	77	74
2	96	87	80	74	92	84	78	72	79	74	69	75	70	66	70	67	64	61
3	87	76	67	61	84	74	66	59	69	63	57	65	60	55	62	57	53	51
4	79	67	58	51	76	65	57	50	61	54	48	58	52	47	55	50	45	43
5	73	60	50	43	70	58	49	43	55	47	42	52	45	40	49	44	39	37
6	67	53	44	38	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	40	35	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6987	6987	6987
5°	6937	6886	6873
10°	6889	6793	6788
15°	6836	6703	6702
20°	6765	6604	6607
25°	6700	6501	6525
30°	6610	6392	6413
35°	6522	6273	6308
40°	6439	6142	6179
45°	6329	6018	6063
50°	6192	5857	5908
55°	6030	5657	5747
60°	5805	5414	5510
65°	5507	5087	5230
70°	4998	4726	4915
75°	4288	4194	4491
80°	3256	3564	3950
85°	1798	2924	3504



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.6	2.7
10°-20°	328.6	7.8
20°-30°	505.6	12.0
30°-40°	622.5	14.8
40°-50°	665.5	15.8
50°-60°	627.2	14.9
60°-70°	508.8	12.1
70°-80°	329.3	7.8
80°-90°	150.5	3.6
90°-100°	93.0	2.2
100°-110°	82.4	2.0
110°-120°	68.0	1.6
120°-130°	51.5	1.2
130°-140°	34.9	0.8
140°-150°	19.9	0.5
150°-160°	8.5	0.2
160°-170°	1.9	0.0
170°-180°	0.0	0.0
0°-30°	947.8	22.5
0°-40°	1570.3	37.3
0°-60°	2863.1	68.0
0°-90°	3851.7	91.4
90°-120°	243.5	5.8
90°-150°	349.9	8.3
90°-180°	360.0	8.5
0°-180°	4212.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1189	1190	1195	1196	1196	113
15°	1146	1153	1167	1174	1176	323
25°	1065	1079	1101	1113	1119	490
35°	948	972	1001	1020	1025	593
45°	806	836	871	891	900	621
55°	636	669	711	736	746	567
65°	442	479	523	554	562	436
75°	226	270	322	352	367	240
85°	42	88	141	176	187	53
90°	1	47	101	136	147	2
95°	1	43	95	130	141	0
105°	1	38	88	120	132	0
115°	1	32	76	107	117	1
125°	1	26	64	90	100	1
135°	1	19	50	72	80	1
145°	1	10	35	52	57	1
155°	1	4	18	31	35	0
165°	2	1	5	10	13	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°	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5
2.5°	1191.3	1192.2	1192.2	1192.2	1193.0	1193.9	1194.8	1196.5	1197.4	1198.2	1198.2
5°	1188.7	1188.7	1188.7	1188.7	1189.6	1190.4	1192.2	1193.0	1193.9	1194.8	1194.8
7.5°	1181.8	1182.6	1182.6	1182.6	1183.5	1184.4	1185.2	1187.8	1189.6	1190.4	1191.3
10°	1172.2	1174.0	1174.0	1174.0	1174.8	1176.6	1177.4	1180.0	1182.6	1184.4	1185.2
12.5°	1161.0	1161.0	1161.8	1161.8	1164.4	1165.3	1167.9	1171.4	1173.1	1175.7	1177.4
15°	1146.2	1147.1	1147.1	1148.0	1151.4	1153.2	1154.9	1158.4	1162.7	1164.4	1167.0
17.5°	1128.9	1129.7	1131.5	1132.4	1135.8	1138.4	1140.2	1144.5	1148.8	1151.4	1153.2
20°	1108.9	1110.7	1111.5	1114.1	1118.5	1121.1	1122.8	1128.0	1132.4	1135.0	1138.4
22.5°	1089.0	1089.0	1090.7	1094.2	1098.5	1102.0	1104.6	1108.9	1114.1	1116.7	1121.1
25°	1064.7	1064.7	1067.3	1071.7	1076.0	1078.6	1081.2	1087.3	1093.3	1097.7	1101.1
27.5°	1037.8	1038.7	1042.2	1046.5	1051.7	1056.1	1057.8	1064.7	1069.9	1076.0	1080.3
30°	1009.2	1011.8	1015.3	1019.6	1026.6	1030.0	1033.5	1039.6	1045.6	1051.7	1055.2
32.5°	978.9	980.6	986.7	991.0	998.0	1002.3	1005.8	1012.7	1018.8	1024.0	1028.3
35°	947.7	949.4	954.6	960.7	968.5	971.9	974.5	983.2	991.0	996.2	1000.6
37.5°	913.9	917.3	921.7	927.7	937.3	940.7	944.2	952.0	959.8	965.0	971.9
40°	880.9	881.8	887.0	895.6	903.5	906.1	911.3	920.8	926.9	933.8	938.1
42.5°	844.5	845.4	850.6	859.2	867.0	872.2	877.4	886.1	893.0	900.0	906.1
45°	805.5	808.1	813.3	822.0	829.8	835.8	840.2	849.7	857.5	863.6	871.4
47.5°	763.9	767.3	773.4	782.1	790.7	796.8	801.1	809.8	819.4	826.3	833.2
50°	723.1	727.4	732.6	742.2	750.9	756.9	760.4	769.9	778.6	787.3	795.1
52.5°	679.8	683.2	690.2	699.7	708.4	714.4	717.9	729.2	738.7	745.7	752.6
55°	635.5	639.0	645.9	654.6	665.0	669.4	674.6	685.8	694.5	703.2	711.0
57.5°	588.7	593.1	600.0	609.5	619.1	623.4	628.6	639.0	650.3	658.1	665.0
60°	541.0	543.6	550.6	561.8	570.5	575.7	581.8	591.3	602.6	611.3	620.8
62.5°	492.5	495.1	502.0	513.3	523.7	527.2	534.1	545.4	554.0	565.3	572.2
65°	442.2	445.7	452.6	460.4	473.4	478.6	483.8	495.1	504.6	514.2	522.8
67.5°	389.3	391.0	401.4	411.0	419.6	427.4	433.5	444.8	455.2	465.6	476.0
70°	333.8	338.1	346.8	358.1	368.5	375.4	379.8	392.8	404.0	417.0	425.7
72.5°	280.9	287.0	295.7	305.2	315.6	324.3	329.5	340.7	352.0	363.3	373.7
75°	226.3	233.2	242.8	253.2	264.4	270.5	279.2	290.5	301.7	312.1	321.7
77.5°	175.1	179.5	191.6	202.0	215.9	221.1	226.3	239.3	250.6	261.8	273.1
80°	124.9	130.1	140.5	152.6	165.6	170.8	177.7	189.9	202.0	213.3	223.7
82.5°	80.6	85.8	94.5	106.6	119.7	125.7	132.7	144.8	157.8	169.1	179.5
85°	42.5	46.8	56.4	68.5	81.5	88.4	93.6	107.5	117.9	131.8	141.3
87.5°	15.6	19.1	27.7	41.6	53.8	61.6	66.8	79.8	91.9	103.2	114.4
90°	0.9	6.1	15.6	27.7	40.8	46.8	53.8	66.8	78.9	90.2	100.6
92.5°	0.0	4.3	13.9	25.1	38.1	45.1	51.2	63.3	75.4	86.7	97.1
95°	0.9	4.3	13.0	24.3	37.3	43.4	50.3	62.4	73.7	85.0	95.4
97.5°	0.0	3.5	12.1	23.4	35.5	42.5	48.6	60.7	72.8	83.2	93.6
100°	0.9	3.5	11.3	22.5	34.7	40.8	46.8	59.0	71.1	81.5	91.9
102.5°	0.0	3.5	11.3	21.7	33.8	39.9	46.0	57.2	68.5	79.8	89.3
105°	0.9	2.6	10.4	20.8	32.1	38.1	44.2	55.5	66.8	77.2	87.6
107.5°	0.0	2.6	9.5	19.9	31.2	36.4	42.5	53.8	65.0	75.4	85.0
110°	0.9	2.6	9.5	19.1	29.5	35.5	40.8	52.0	62.4	72.8	82.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	1.7	8.7	18.2	28.6	33.8	39.0	50.3	60.7	70.2	79.8
115°	0.9	1.7	7.8	17.3	26.9	32.1	37.3	47.7	58.1	67.6	76.3
117.5°	0.9	1.7	7.8	15.6	26.0	30.3	35.5	46.0	55.5	65.0	73.7
120°	0.9	1.7	6.9	14.7	24.3	28.6	33.8	43.4	52.9	62.4	70.2
122.5°	0.9	0.9	6.1	13.9	22.5	27.7	32.1	41.6	50.3	59.0	67.6
125°	0.9	0.9	5.2	13.0	21.7	26.0	30.3	39.0	47.7	56.4	64.2
127.5°	0.9	0.9	5.2	12.1	19.9	24.3	28.6	36.4	45.1	52.9	60.7
130°	0.9	0.9	4.3	10.4	18.2	22.5	26.0	34.7	42.5	50.3	57.2
132.5°	0.9	0.9	3.5	9.5	16.5	20.8	24.3	32.1	39.9	46.8	53.8
135°	0.9	0.9	3.5	8.7	15.6	19.1	22.5	29.5	36.4	43.4	50.3
137.5°	0.9	0.9	2.6	6.9	13.0	16.5	19.9	26.9	33.8	39.9	46.0
140°	0.9	0.9	1.7	6.1	11.3	14.7	18.2	24.3	31.2	37.3	42.5
142.5°	0.9	0.9	1.7	5.2	10.4	13.0	15.6	21.7	27.7	33.8	39.0
145°	0.9	0.9	1.7	4.3	8.7	10.4	13.0	18.2	24.3	29.5	34.7
147.5°	0.9	0.9	0.9	3.5	6.9	8.7	11.3	15.6	20.8	26.0	30.3
150°	0.9	0.9	0.9	2.6	6.1	7.8	9.5	13.0	17.3	21.7	26.0
152.5°	0.9	0.9	0.9	1.7	4.3	6.1	7.8	11.3	14.7	18.2	21.7
155°	0.9	0.9	0.9	1.7	3.5	4.3	6.1	8.7	12.1	14.7	18.2
157.5°	0.9	0.9	0.9	1.7	2.6	3.5	4.3	6.9	8.7	11.3	14.7
160°	0.9	0.9	0.9	0.9	1.7	2.6	3.5	4.3	6.9	8.7	10.4
162.5°	1.7	1.7	0.9	0.9	1.7	1.7	2.6	3.5	4.3	6.1	7.8
165°	1.7	1.7	1.7	0.9	0.9	0.9	1.7	2.6	3.5	4.3	5.2
167.5°	1.7	1.7	1.7	1.7	0.9	0.9	0.9	0.9	1.7	2.6	2.6
170°	1.7	1.7	1.7	1.7	0.9	0.9	0.9	0.9	0.9	0.9	1.7
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°	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5	1196.5
2.5°	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1197.4	1197.4
5°	1194.8	1194.8	1195.6	1196.5	1196.5	1196.5	1196.5	1195.6	1195.6	1195.6
7.5°	1191.3	1193.0	1193.9	1193.9	1193.9	1193.9	1194.8	1194.8	1193.9	1193.9
10°	1186.1	1187.0	1188.7	1189.6	1189.6	1189.6	1189.6	1190.4	1190.4	1190.4
12.5°	1179.2	1180.0	1180.9	1182.6	1182.6	1183.5	1184.4	1183.5	1185.2	1184.4
15°	1167.9	1170.5	1172.2	1173.1	1174.0	1174.0	1174.8	1175.7	1175.7	1175.7
17.5°	1155.8	1157.5	1160.1	1161.8	1161.8	1163.6	1162.7	1164.4	1165.3	1164.4
20°	1140.2	1142.8	1145.4	1147.1	1148.8	1148.8	1149.7	1150.6	1150.6	1150.6
22.5°	1123.7	1126.3	1128.9	1131.5	1132.4	1133.2	1135.0	1135.8	1135.8	1136.7
25°	1103.7	1107.2	1110.7	1112.4	1113.3	1115.0	1115.9	1116.7	1117.6	1119.3
27.5°	1082.9	1086.4	1089.9	1092.5	1092.5	1095.1	1096.8	1097.7	1097.7	1097.7
30°	1059.5	1063.0	1065.6	1069.9	1069.9	1070.8	1072.5	1075.1	1074.3	1075.1
32.5°	1033.5	1037.8	1041.3	1043.0	1045.6	1047.4	1047.4	1050.0	1051.7	1050.0
35°	1005.8	1010.1	1014.4	1017.0	1019.6	1019.6	1023.1	1023.1	1024.8	1024.8
37.5°	977.2	980.6	985.0	987.6	990.2	992.8	994.5	994.5	995.4	996.2
40°	944.2	948.5	954.6	958.9	959.8	960.7	963.3	964.1	965.9	964.1
42.5°	911.3	916.5	921.7	926.0	926.0	928.6	930.3	932.1	932.9	932.1
45°	875.7	882.6	886.1	891.3	891.3	893.9	895.6	899.1	900.0	900.0
47.5°	838.4	844.5	850.6	855.8	855.8	858.4	859.2	861.8	862.7	865.3
50°	801.1	807.2	811.5	817.6	818.5	820.2	822.8	824.6	825.4	825.4
52.5°	761.3	766.5	771.7	776.0	779.5	779.5	783.8	784.7	785.5	789.0
55°	718.8	724.8	730.0	736.1	736.1	737.8	740.4	742.2	744.8	746.5
57.5°	673.7	679.8	687.6	690.2	693.6	695.4	698.8	699.7	700.6	702.3
60°	627.7	634.7	639.9	645.1	647.7	649.4	652.0	654.6	656.3	656.3
62.5°	581.8	586.1	593.9	600.0	601.7	605.2	606.9	608.7	610.4	611.3
65°	532.4	539.3	547.1	551.4	554.0	554.0	558.4	561.8	561.0	561.8
67.5°	482.9	490.7	495.9	502.0	504.6	507.2	511.6	512.4	515.0	515.9
70°	431.8	441.3	447.4	451.7	456.1	455.2	461.3	462.1	464.7	466.5
72.5°	382.4	389.3	398.0	402.3	404.9	406.6	410.1	412.7	412.7	414.4
75°	331.2	338.1	345.1	352.0	352.0	357.2	360.7	364.2	364.2	366.8
77.5°	280.1	290.5	297.4	301.7	305.2	307.8	310.4	314.7	313.9	314.7
80°	231.5	240.2	247.1	254.0	256.6	259.2	261.8	265.3	267.0	267.9
82.5°	187.3	196.0	203.8	209.8	212.4	215.9	220.2	222.8	223.7	226.3
85°	150.0	158.7	166.5	173.4	176.0	177.7	182.1	184.7	186.4	187.3
87.5°	124.0	132.7	140.5	146.5	149.1	151.7	156.1	158.7	161.3	161.3
90°	110.1	118.8	126.6	132.7	136.1	138.7	143.1	145.7	147.4	147.4
92.5°	106.6	114.4	122.3	128.3	131.8	134.4	137.9	140.5	143.1	143.1
95°	104.9	113.6	120.5	126.6	130.1	132.7	136.1	139.6	141.3	141.3
97.5°	103.2	111.8	118.8	124.9	128.3	130.9	134.4	137.0	138.7	139.6
100°	100.6	109.2	117.1	123.1	125.7	128.3	132.7	135.3	137.0	137.0
102.5°	98.8	106.6	114.4	120.5	123.1	125.7	129.2	132.7	133.5	134.4
105°	96.2	104.0	111.8	117.9	120.5	123.1	126.6	129.2	130.9	131.8
107.5°	93.6	101.4	108.4	114.4	117.1	119.7	124.0	126.6	128.3	128.3
110°	91.0	98.8	105.8	111.0	114.4	116.2	120.5	123.1	124.9	124.9



TEST NUMBER: P241580

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	87.6	95.4	102.3	107.5	110.1	112.7	116.2	118.8	120.5	121.4
115°	85.0	91.9	98.8	104.0	106.6	109.2	112.7	115.3	117.1	117.1
117.5°	81.5	88.4	94.5	100.6	103.2	104.9	108.4	111.0	112.7	113.6
120°	78.0	85.0	91.0	96.2	98.8	100.6	104.0	106.6	108.4	109.2
122.5°	74.6	81.5	87.6	92.8	94.5	96.2	99.7	102.3	104.0	104.9
125°	71.1	77.2	83.2	88.4	90.2	91.9	95.4	98.0	98.8	99.7
127.5°	67.6	73.7	78.9	84.1	85.8	87.6	91.0	92.8	94.5	95.4
130°	63.3	69.4	74.6	78.9	81.5	83.2	85.8	88.4	89.3	90.2
132.5°	59.8	65.0	70.2	74.6	76.3	78.0	81.5	83.2	85.0	85.0
135°	55.5	60.7	65.9	70.2	72.0	73.7	76.3	78.0	78.9	79.8
137.5°	52.0	57.2	61.6	65.0	66.8	68.5	71.1	72.8	73.7	74.6
140°	47.7	52.0	56.4	59.8	61.6	63.3	65.9	67.6	68.5	68.5
142.5°	43.4	47.7	52.0	55.5	57.2	58.1	60.7	61.6	62.4	63.3
145°	39.9	43.4	46.8	50.3	52.0	52.9	54.6	56.4	57.2	57.2
147.5°	35.5	39.0	42.5	45.1	46.8	47.7	49.4	51.2	52.0	52.0
150°	30.3	34.7	37.3	39.9	41.6	42.5	44.2	45.1	46.0	46.0
152.5°	26.0	29.5	32.9	35.5	36.4	37.3	39.0	39.9	40.8	40.8
155°	21.7	24.3	27.7	30.3	31.2	32.1	32.9	33.8	34.7	34.7
157.5°	17.3	19.9	22.5	25.1	26.0	26.9	27.7	28.6	28.6	29.5
160°	13.0	14.7	17.3	19.9	20.8	21.7	22.5	22.5	23.4	23.4
162.5°	9.5	11.3	13.0	14.7	14.7	16.5	17.3	18.2	18.2	18.2
165°	6.1	7.8	8.7	9.5	10.4	11.3	12.1	12.1	13.0	13.0
167.5°	3.5	4.3	5.2	6.1	6.1	6.9	6.9	7.8	7.8	7.8
170°	1.7	1.7	2.6	2.6	2.6	2.6	3.5	3.5	3.5	4.3
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)