

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: P241613

Luminaire Tested: **FVS8M-4-LD4-30-2STD-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241613
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-39)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-30-2STD-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

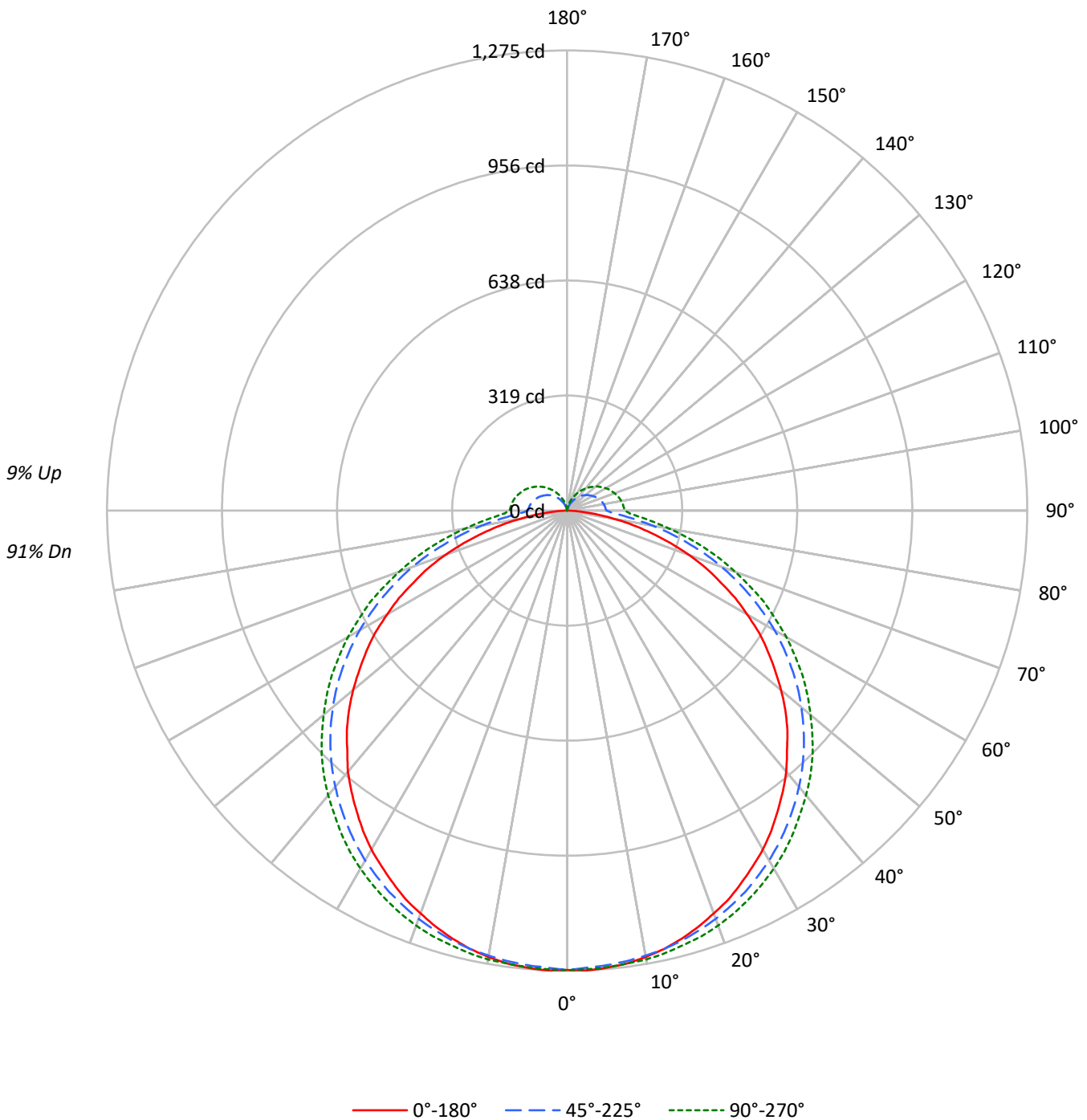
Lumens per Lamp: N/A
Luminaire Lumens: 4520.0 lumens
Efficiency: N/A
Efficacy: 69.6 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 64.9
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	100	96	92	102	97	93	89	91	88	85	86	83	80	81	79	77	74
2	95	87	80	73	92	84	77	72	79	74	69	74	70	66	70	66	63	60
3	87	76	67	60	83	73	66	59	69	63	57	65	60	55	61	57	53	50
4	79	67	58	51	76	65	56	50	61	54	48	58	52	47	54	49	45	42
5	73	59	50	43	70	58	49	43	55	47	41	52	45	40	49	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	39	33	45	37	32	42	36	31	40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28	39	32	27	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	28	23	34	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5689	5689	5689
5°	5685	5582	5586
10°	5661	5501	5512
15°	5621	5432	5436
20°	5569	5360	5378
25°	5521	5288	5305
30°	5474	5212	5229
35°	5401	5128	5142
40°	5336	5038	5052
45°	5251	4939	4958
50°	5143	4815	4822
55°	5009	4664	4692
60°	4819	4482	4509
65°	4567	4233	4299
70°	4236	3926	3986
75°	3648	3500	3667
80°	2816	2993	3236
85°	1499	2472	2895



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.8	2.7
10°-20°	349.1	7.7
20°-30°	537.8	11.9
30°-40°	663.2	14.7
40°-50°	710.1	15.7
50°-60°	669.7	14.8
60°-70°	544.2	12.0
70°-80°	352.7	7.8
80°-90°	161.2	3.6
90°-100°	102.8	2.3
100°-110°	92.7	2.1
110°-120°	77.6	1.7
120°-130°	59.7	1.3
130°-140°	41.1	0.9
140°-150°	23.8	0.5
150°-160°	10.5	0.2
160°-170°	2.7	0.1
170°-180°	0.1	0.0
0°-30°	1007.7	22.3
0°-40°	1670.9	37.0
0°-60°	3050.7	67.5
0°-90°	4108.9	90.9
90°-120°	273.2	6.0
90°-150°	397.8	8.8
90°-180°	411.0	9.1
0°-180°	4520.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1273	1273	1273	1273	1273	
5°	1271	1271	1264	1270	1270	121
15°	1228	1229	1233	1244	1246	346
25°	1140	1148	1166	1185	1189	526
35°	1017	1036	1063	1085	1092	637
45°	863	891	928	952	962	665
55°	679	715	759	786	796	606
65°	468	512	561	591	603	464
75°	242	291	344	378	391	257
85°	42	94	151	188	202	55
90°	1	52	109	147	160	2
95°	1	48	106	144	156	1
105°	1	45	98	134	147	1
115°	1	38	88	121	133	1
125°	1	32	74	103	114	1
135°	1	23	59	83	92	1
145°	1	15	41	61	68	1
155°	2	8	22	38	42	1
165°	2	2	8	14	18	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°	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9
2.5°	1275.2	1275.2	1274.5	1273.7	1273.7	1274.5	1274.5	1273.7	1271.4	1268.3	1267.5
5°	1271.4	1270.6	1271.4	1269.8	1270.6	1270.6	1269.8	1269.8	1267.5	1266.0	1264.5
7.5°	1266.0	1265.2	1264.5	1263.7	1263.7	1264.5	1263.7	1263.7	1262.2	1259.9	1259.1
10°	1256.0	1255.2	1256.0	1254.5	1254.5	1255.2	1256.0	1256.0	1254.5	1253.7	1252.2
12.5°	1243.7	1243.7	1242.9	1242.2	1242.9	1243.7	1244.5	1244.5	1243.7	1244.5	1243.7
15°	1227.6	1228.3	1226.8	1226.0	1229.1	1229.1	1230.6	1232.2	1232.2	1231.4	1233.0
17.5°	1209.1	1209.1	1209.1	1209.9	1210.7	1212.2	1213.7	1215.3	1216.0	1217.6	1219.1
20°	1187.6	1189.1	1189.1	1189.9	1193.0	1195.3	1195.3	1199.1	1199.9	1200.7	1203.7
22.5°	1166.8	1166.1	1166.1	1167.6	1171.5	1173.8	1176.1	1178.4	1179.9	1182.2	1185.3
25°	1139.9	1140.7	1141.5	1143.8	1148.4	1148.4	1152.2	1155.3	1158.4	1161.5	1166.1
27.5°	1112.3	1113.8	1114.6	1116.9	1122.3	1125.3	1127.6	1131.5	1134.6	1138.4	1143.0
30°	1084.6	1084.6	1085.4	1088.4	1093.8	1097.7	1100.0	1104.6	1109.2	1114.6	1119.2
32.5°	1052.3	1052.3	1053.1	1058.5	1063.8	1067.7	1071.5	1076.1	1080.8	1086.1	1092.3
35°	1017.0	1016.2	1018.5	1026.2	1031.6	1036.2	1040.8	1046.2	1052.3	1057.7	1063.1
37.5°	981.6	982.4	983.1	990.8	999.3	1001.6	1007.0	1012.3	1018.5	1024.6	1032.3
40°	944.7	944.7	947.8	953.2	963.1	967.0	971.6	978.5	983.9	992.4	999.3
42.5°	901.7	905.5	909.3	915.5	925.5	930.1	934.7	943.2	950.1	955.5	964.7
45°	863.2	864.0	867.8	877.1	886.3	890.9	897.0	905.5	914.0	920.1	927.8
47.5°	820.2	820.2	825.6	834.0	844.8	850.2	855.5	864.0	871.7	882.4	888.6
50°	774.1	775.6	781.7	792.5	803.3	806.3	811.7	823.2	830.2	838.6	847.1
52.5°	725.6	728.7	737.2	746.4	755.6	762.5	767.1	779.4	787.9	796.3	804.8
55°	678.7	679.5	686.4	698.7	710.3	714.9	722.6	732.5	741.8	751.0	758.7
57.5°	631.1	629.5	638.0	651.1	662.6	666.4	673.4	685.7	694.9	703.3	711.8
60°	575.7	579.6	587.3	599.6	611.9	615.7	621.9	635.7	644.1	654.1	664.1
62.5°	525.0	525.8	538.1	547.3	560.4	568.0	571.9	583.4	592.6	603.4	612.6
65°	468.1	475.0	482.0	492.7	505.8	511.9	516.5	531.9	541.9	551.9	561.1
67.5°	416.6	418.9	428.2	439.7	452.7	458.1	465.8	476.6	488.1	496.6	508.9
70°	359.0	361.3	369.7	383.6	395.9	403.6	409.7	422.0	432.8	443.5	455.1
72.5°	301.3	303.6	314.4	326.7	341.3	345.9	352.8	365.9	377.4	388.9	401.2
75°	242.1	248.3	259.8	270.6	285.2	290.6	299.0	313.6	325.1	335.1	344.4
77.5°	186.8	195.2	204.5	216.0	229.1	236.8	243.7	257.5	269.8	282.9	292.9
80°	133.7	139.9	149.9	161.4	176.0	186.0	191.4	204.5	216.0	228.3	239.8
82.5°	86.9	89.9	99.9	114.5	128.4	136.1	143.0	156.8	168.3	179.9	191.4
85°	42.3	47.7	57.7	73.0	86.9	94.5	101.5	115.3	127.6	140.7	151.4
87.5°	13.8	20.0	30.0	43.0	57.7	64.6	71.5	85.3	98.4	109.9	122.2
90°	0.8	5.4	16.1	30.0	43.8	51.5	58.4	72.3	85.3	97.6	109.2
92.5°	0.8	4.6	15.4	28.4	42.3	50.0	56.9	70.7	83.8	96.1	106.8
95°	0.8	4.6	14.6	27.7	41.5	48.4	56.1	69.2	82.2	94.5	106.1
97.5°	0.8	4.6	13.8	26.9	40.7	47.7	54.6	68.4	81.5	93.8	104.5
100°	0.8	3.8	13.8	26.1	40.0	46.9	53.8	66.9	79.9	91.5	103.0
102.5°	0.8	3.8	13.1	25.4	38.4	45.4	52.3	65.3	77.6	89.2	100.7
105°	0.8	3.8	13.1	24.6	37.7	44.6	50.7	63.8	76.1	87.6	98.4
107.5°	0.8	3.8	12.3	23.8	36.1	43.0	49.2	61.5	73.8	85.3	96.1
110°	0.8	3.1	11.5	23.1	35.4	41.5	47.7	60.0	71.5	83.0	93.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	3.1	11.5	22.3	33.8	40.0	46.1	57.7	69.2	79.9	90.7
115°	0.8	3.1	10.8	20.8	32.3	38.4	44.6	56.1	66.9	77.6	87.6
117.5°	0.8	2.3	10.0	20.0	30.7	36.9	42.3	53.8	64.6	74.6	84.6
120°	0.8	2.3	9.2	19.2	29.2	35.4	40.7	51.5	61.5	72.3	80.7
122.5°	0.8	2.3	8.5	17.7	28.4	33.1	38.4	49.2	59.2	69.2	77.6
125°	0.8	1.5	8.5	16.9	26.9	31.5	36.9	46.9	56.1	65.3	73.8
127.5°	0.8	1.5	7.7	16.1	25.4	30.0	34.6	43.8	53.8	62.3	70.7
130°	0.8	1.5	6.9	14.6	23.1	27.7	32.3	41.5	50.0	59.2	66.9
132.5°	0.8	1.5	6.1	13.1	21.5	25.4	30.0	39.2	47.7	55.3	63.0
135°	0.8	1.5	5.4	11.5	19.2	23.1	27.7	35.4	43.8	51.5	59.2
137.5°	0.8	1.5	4.6	10.8	16.9	20.8	24.6	32.3	40.0	47.7	54.6
140°	0.8	0.8	3.8	9.2	15.4	18.4	22.3	29.2	36.1	43.0	50.0
142.5°	0.8	0.8	3.1	7.7	13.8	16.1	20.0	26.1	32.3	39.2	45.4
145°	0.8	0.8	2.3	6.9	11.5	14.6	17.7	23.1	28.4	34.6	40.7
147.5°	0.8	0.8	2.3	5.4	10.0	12.3	14.6	20.0	25.4	30.7	35.4
150°	1.5	1.5	2.3	4.6	8.5	10.8	13.1	17.7	22.3	26.9	30.7
152.5°	1.5	1.5	1.5	3.8	6.9	9.2	10.8	14.6	18.4	23.1	26.9
155°	1.5	1.5	1.5	3.1	6.1	7.7	9.2	12.3	15.4	19.2	22.3
157.5°	1.5	1.5	1.5	2.3	4.6	6.1	6.9	10.0	13.1	15.4	18.4
160°	1.5	1.5	1.5	2.3	3.8	4.6	5.4	7.7	10.0	12.3	14.6
162.5°	1.5	1.5	1.5	1.5	3.1	3.8	4.6	6.1	7.7	10.0	11.5
165°	1.5	1.5	1.5	1.5	2.3	2.3	3.1	4.6	5.4	6.9	8.5
167.5°	1.5	1.5	1.5	1.5	1.5	2.3	2.3	3.1	3.8	4.6	5.4
170°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.3	2.3	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	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°	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9	1272.9
2.5°	1269.1	1269.8	1271.4	1272.9	1272.2	1272.2	1272.9	1272.2	1272.9	1272.2
5°	1264.5	1266.8	1268.3	1269.8	1269.8	1269.8	1269.8	1269.8	1269.8	1269.8
7.5°	1259.9	1261.4	1263.7	1266.0	1266.0	1266.8	1266.8	1266.0	1266.8	1266.0
10°	1253.7	1256.8	1259.1	1260.6	1261.4	1261.4	1262.2	1262.2	1262.2	1262.9
12.5°	1245.2	1248.3	1251.4	1253.7	1254.5	1253.7	1255.2	1256.0	1255.2	1256.0
15°	1235.3	1237.6	1242.2	1243.7	1244.5	1245.2	1246.0	1246.8	1246.8	1246.0
17.5°	1222.2	1226.0	1228.3	1233.0	1233.0	1233.7	1235.3	1236.0	1235.3	1236.8
20°	1207.6	1211.4	1215.3	1218.3	1218.3	1219.9	1221.4	1222.2	1223.7	1223.7
22.5°	1189.9	1194.5	1199.1	1202.2	1203.7	1203.7	1206.0	1206.8	1208.4	1207.6
25°	1169.9	1176.1	1180.7	1183.0	1185.3	1186.1	1187.6	1188.4	1188.4	1189.1
27.5°	1148.4	1153.0	1158.4	1162.2	1164.5	1164.5	1166.8	1167.6	1167.6	1168.4
30°	1123.8	1130.7	1134.6	1138.4	1139.2	1140.7	1143.0	1143.8	1146.1	1145.3
32.5°	1097.7	1103.8	1108.4	1111.5	1114.6	1115.3	1116.9	1119.2	1119.2	1120.7
35°	1070.0	1074.6	1079.2	1083.8	1085.4	1087.7	1090.0	1090.7	1092.3	1091.5
37.5°	1039.2	1045.4	1050.0	1051.5	1055.4	1056.9	1060.0	1060.8	1061.5	1060.0
40°	1006.2	1011.6	1017.7	1020.8	1023.1	1023.9	1027.7	1028.5	1029.3	1030.0
42.5°	971.6	978.5	983.1	987.0	989.3	990.1	993.9	993.9	996.2	997.0
45°	934.7	941.6	947.0	951.6	952.4	954.7	957.8	959.3	958.5	961.6
47.5°	896.3	903.2	908.6	912.4	913.2	914.7	918.6	919.3	920.9	921.6
50°	854.0	860.9	867.1	871.7	873.2	875.5	878.6	880.1	880.9	880.1
52.5°	812.5	819.4	823.2	829.4	831.7	830.9	835.5	838.6	837.9	839.4
55°	767.9	774.1	780.2	784.8	786.4	788.7	791.7	792.5	794.0	796.3
57.5°	718.7	729.5	734.1	736.4	739.5	741.8	743.3	748.7	748.7	747.9
60°	671.1	678.7	684.9	690.3	691.8	694.9	698.0	700.3	700.3	701.8
62.5°	622.6	629.5	635.7	640.3	641.1	644.9	648.8	650.3	651.1	650.3
65°	571.1	575.7	585.7	588.0	591.1	595.0	597.3	599.6	601.1	603.4
67.5°	517.3	524.2	531.9	538.1	541.1	542.7	545.8	548.1	549.6	548.1
70°	464.3	471.2	477.3	483.5	486.6	487.3	490.4	493.5	495.0	494.3
72.5°	409.7	417.4	425.1	429.7	432.8	435.1	440.4	441.2	441.2	444.3
75°	355.1	363.6	371.3	377.4	378.2	381.3	384.3	387.4	392.0	391.3
77.5°	301.3	310.5	316.7	322.1	325.9	329.0	332.1	334.4	335.9	338.2
80°	250.6	260.6	265.2	272.1	275.2	278.3	281.3	285.2	288.3	286.7
82.5°	201.4	212.2	219.8	226.8	228.3	233.7	235.2	238.3	239.1	241.4
85°	161.4	171.4	178.3	186.8	188.3	192.2	196.0	198.3	199.9	202.2
87.5°	132.2	141.4	149.1	156.8	159.1	161.4	166.0	169.9	171.4	173.0
90°	119.1	128.4	136.8	143.7	146.8	149.1	153.7	157.6	159.1	159.9
92.5°	117.6	126.8	134.5	141.4	144.5	147.6	152.2	155.3	156.8	157.6
95°	116.1	125.3	133.7	140.7	143.7	146.0	150.7	153.7	155.3	156.0
97.5°	114.5	123.8	132.2	139.1	142.2	144.5	149.1	152.2	153.7	154.5
100°	113.0	122.2	129.9	136.8	139.9	142.2	146.8	149.9	151.4	152.2
102.5°	110.7	119.9	127.6	134.5	137.6	139.9	143.7	147.6	149.1	149.9
105°	108.4	116.8	124.5	131.4	134.5	136.8	141.4	144.5	146.0	146.8
107.5°	105.3	114.5	121.5	128.4	131.4	133.7	138.4	140.7	143.0	143.7
110°	103.0	111.5	118.4	125.3	128.4	130.7	134.5	137.6	139.1	139.9



TEST NUMBER: P241613

CATALOG NUMBER: FVS8M-4-LD4-30-2STD-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	99.9	108.4	115.3	121.5	124.5	126.8	131.4	133.7	136.1	136.1
115°	96.1	104.5	111.5	117.6	120.7	123.0	126.8	129.9	131.4	133.0
117.5°	93.0	100.7	108.4	113.8	116.8	119.1	123.0	126.1	127.6	128.4
120°	89.9	97.6	103.8	109.9	112.2	114.5	118.4	121.5	123.0	123.8
122.5°	86.1	93.8	99.9	105.3	107.6	109.9	113.8	116.8	118.4	119.1
125°	82.2	89.2	95.3	100.7	103.0	105.3	109.2	111.5	113.0	113.8
127.5°	78.4	85.3	91.5	96.1	98.4	100.7	103.8	106.8	108.4	109.2
130°	73.8	80.7	86.9	91.5	93.8	95.3	98.4	101.5	103.0	103.8
132.5°	69.9	76.1	81.5	86.9	88.4	90.7	93.0	96.1	97.6	97.6
135°	65.3	71.5	76.9	81.5	83.0	85.3	88.4	90.7	91.5	92.2
137.5°	61.5	66.9	72.3	76.1	77.6	79.9	82.2	84.6	86.1	86.1
140°	56.9	62.3	66.9	70.7	72.3	73.8	76.9	78.4	79.9	79.9
142.5°	51.5	56.9	61.5	65.3	66.9	68.4	70.7	73.0	73.8	73.8
145°	46.1	52.3	56.1	60.0	60.7	62.3	64.6	66.1	67.6	67.6
147.5°	40.7	46.1	50.7	53.8	55.3	56.9	58.4	60.0	61.5	61.5
150°	36.1	40.7	45.4	48.4	50.0	50.7	53.0	53.8	54.6	55.3
152.5°	30.7	34.6	39.2	43.0	43.8	44.6	46.9	48.4	48.4	49.2
155°	25.4	29.2	32.3	36.1	38.4	39.2	40.7	41.5	42.3	42.3
157.5°	21.5	24.6	26.9	30.0	31.5	33.1	34.6	36.1	36.1	36.1
160°	16.9	19.2	21.5	23.8	25.4	26.9	29.2	29.2	30.0	30.7
162.5°	13.1	14.6	16.9	18.4	20.0	20.8	23.1	23.8	23.8	23.8
165°	9.2	10.8	12.3	13.8	13.8	14.6	16.9	17.7	17.7	18.4
167.5°	6.1	6.9	8.5	9.2	9.2	10.0	10.8	13.1	12.3	12.3
170°	3.8	3.8	4.6	5.4	5.4	5.4	6.1	6.9	7.7	7.7
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)