

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: P241464

Luminaire Tested: **FVS8M-3-LD4-50-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241464
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-3-LD4-50-1HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

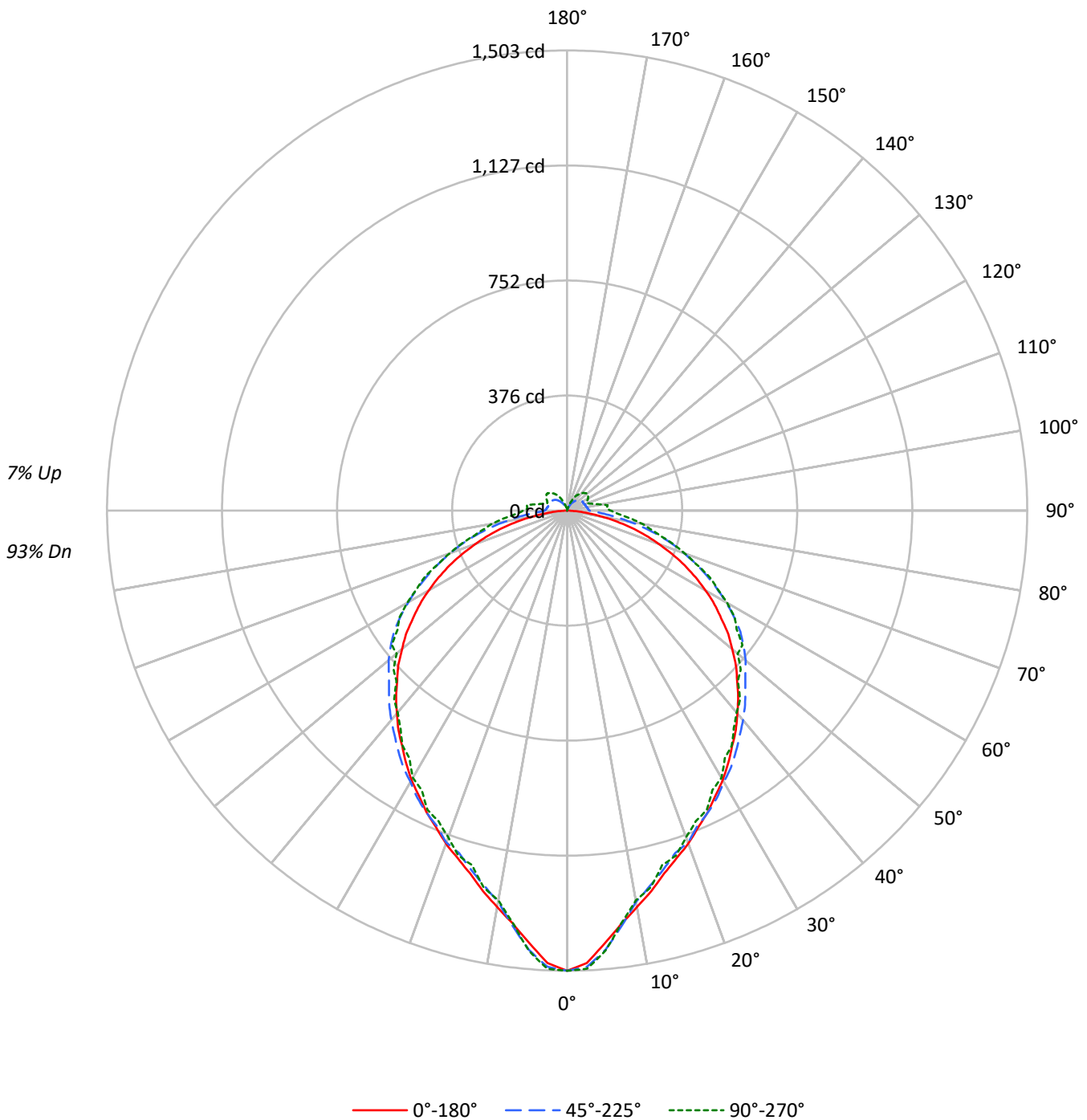
Lumens per Lamp: N/A
Luminaire Lumens: 3998.0 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

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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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	50	30	10	0	
RCR																						
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93				
1	106	101	97	92	103	98	94	90	93	89	86	87	85	82	83	80	78	76				
2	96	88	81	75	93	85	79	73	80	75	70	76	72	68	72	68	65	62				
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	63	59	55	52				
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	56	51	47	44				
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	33				
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30				
8	59	45	36	31	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°	8776	8776	8776
5°	8273	8295	8292
10°	7725	7433	7372
15°	7313	6972	6836
20°	7062	6691	6521
25°	6839	6423	6287
30°	6655	6200	6012
35°	6464	6025	5768
40°	6325	5849	5519
45°	6169	5682	5311
50°	6029	5608	5204
55°	5832	5494	5204
60°	5602	5225	5064
65°	5271	4899	4783
70°	4749	4503	4306
75°	4119	3999	3834
80°	3092	3281	3666
85°	1671	2495	3347



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.4	3.3
10°-20°	343.4	8.6
20°-30°	499.9	12.5
30°-40°	595.4	14.9
40°-50°	625.8	15.7
50°-60°	596.4	14.9
60°-70°	478.3	12.0
70°-80°	304.8	7.6
80°-90°	133.5	3.3
90°-100°	71.1	1.8
100°-110°	58.3	1.5
110°-120°	48.5	1.2
120°-130°	44.9	1.1
130°-140°	34.4	0.9
140°-150°	20.9	0.5
150°-160°	8.4	0.2
160°-170°	1.5	0.0
170°-180°	0.0	0.0
0°-30°	975.6	24.4
0°-40°	1571.0	39.3
0°-60°	2793.2	69.9
0°-90°	3709.8	92.8
90°-120°	178.0	4.5
90°-150°	278.2	7.0
90°-180°	288.0	7.2
0°-180°	3998.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1418	1427	1439	1436	1442	132
15°	1226	1222	1214	1208	1199	347
25°	1087	1088	1088	1073	1078	501
35°	939	955	961	950	937	589
45°	785	810	823	818	788	607
55°	615	649	691	685	676	551
65°	423	458	503	513	514	417
75°	217	255	307	321	313	230
85°	40	72	121	163	179	49
90°	1	30	73	108	142	2
95°	0	28	69	98	131	0
105°	0	27	62	85	85	0
115°	0	26	58	73	72	0
125°	0	24	58	79	83	1
135°	1	18	49	72	81	1
145°	1	9	34	56	64	1
155°	1	3	17	31	36	0
165°	1	1	3	8	10	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°	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9
2.5°	1478.9	1474.8	1474.8	1478.9	1482.1	1482.1	1485.2	1489.3	1492.5	1491.4	1491.4
5°	1417.6	1416.5	1415.5	1422.8	1424.8	1426.9	1429.0	1438.4	1439.4	1442.5	1439.4
7.5°	1360.4	1356.2	1356.2	1361.4	1363.5	1365.6	1367.6	1371.8	1366.6	1363.5	1367.6
10°	1314.6	1308.4	1307.3	1310.4	1309.4	1308.4	1309.4	1305.2	1307.3	1303.2	1296.9
12.5°	1272.0	1267.8	1262.6	1262.6	1261.6	1261.6	1259.5	1259.5	1253.2	1247.0	1254.3
15°	1226.2	1225.2	1218.9	1222.0	1222.0	1222.0	1223.1	1222.0	1217.9	1221.0	1213.7
17.5°	1189.8	1186.7	1185.6	1191.9	1189.8	1187.7	1188.8	1184.6	1187.7	1180.4	1173.2
20°	1157.6	1153.4	1153.4	1154.4	1152.4	1150.3	1151.3	1154.4	1150.3	1145.1	1153.4
22.5°	1119.1	1113.9	1114.9	1120.1	1120.1	1123.2	1125.3	1120.1	1117.0	1120.1	1113.9
25°	1086.8	1083.7	1086.8	1086.8	1084.8	1087.9	1091.0	1093.1	1090.0	1088.9	1087.9
27.5°	1049.4	1045.2	1048.4	1051.5	1058.8	1059.8	1058.8	1058.8	1057.7	1061.9	1058.8
30°	1016.1	1013.0	1017.2	1022.4	1022.4	1023.4	1024.4	1028.6	1025.5	1031.7	1023.4
32.5°	978.7	975.6	979.7	981.8	991.2	991.2	994.3	998.4	997.4	999.5	995.3
35°	939.2	937.1	942.3	951.6	954.8	954.8	961.0	961.0	965.2	965.2	961.0
37.5°	904.8	903.8	906.9	917.3	921.5	924.6	928.8	929.8	935.0	930.8	925.6
40°	865.3	863.2	868.4	877.8	883.0	886.1	889.2	896.5	896.5	895.5	893.4
42.5°	826.8	826.8	831.0	838.3	847.6	851.8	852.8	861.2	864.3	859.1	860.1
45°	785.2	785.2	789.4	799.8	807.1	810.2	814.3	819.5	823.7	828.9	822.7
47.5°	747.8	747.8	750.9	758.2	770.7	770.7	775.9	783.1	787.3	791.5	789.4
50°	704.1	707.2	711.4	717.6	723.9	731.1	738.4	746.7	750.9	755.1	761.3
52.5°	663.5	661.5	666.7	673.9	683.3	691.6	695.8	708.3	716.6	723.9	725.9
55°	614.7	620.9	623.0	632.3	637.5	649.0	654.2	663.5	676.0	684.3	690.6
57.5°	571.0	572.0	576.2	585.5	597.0	601.1	607.4	618.8	629.2	639.6	645.9
60°	522.1	525.2	531.5	537.7	549.1	554.3	559.5	575.1	582.4	591.8	599.1
62.5°	473.2	476.3	483.6	491.9	498.2	504.4	509.6	525.2	538.7	543.9	551.2
65°	423.3	427.5	431.6	437.9	448.3	457.6	460.7	476.3	487.8	497.1	503.4
67.5°	371.3	374.4	382.7	390.0	399.4	406.7	411.9	426.4	438.9	451.4	454.5
70°	317.2	323.5	328.7	340.1	349.5	355.7	361.9	376.5	387.9	396.3	405.6
72.5°	268.3	271.4	278.7	289.1	299.5	305.8	309.9	326.6	337.0	350.5	357.8
75°	217.4	221.5	227.8	236.1	248.6	254.8	263.1	275.6	288.1	299.5	306.8
77.5°	167.4	171.6	176.8	187.2	197.6	203.8	213.2	225.7	239.2	247.5	255.8
80°	118.6	122.7	127.9	139.4	150.8	155.0	163.3	173.7	188.2	197.6	205.9
82.5°	74.9	78.0	84.2	94.6	106.1	110.2	117.5	129.0	141.4	151.8	161.2
85°	39.5	40.6	48.9	56.2	66.6	71.8	77.0	88.4	100.9	110.2	120.6
87.5°	11.4	14.6	20.8	30.2	38.5	43.7	48.9	59.3	70.7	79.0	89.4
90°	1.0	3.1	8.3	16.6	25.0	30.2	34.3	44.7	54.1	63.4	72.8
92.5°	0.0	2.1	8.3	15.6	23.9	29.1	33.3	42.6	52.0	60.3	69.7
95°	0.0	2.1	7.3	14.6	23.9	28.1	33.3	42.6	51.0	60.3	68.6
97.5°	0.0	2.1	7.3	14.6	23.9	28.1	32.2	41.6	51.0	58.2	66.6
100°	0.0	2.1	7.3	14.6	22.9	28.1	32.2	40.6	49.9	57.2	64.5
102.5°	0.0	2.1	7.3	14.6	22.9	27.0	32.2	40.6	47.8	56.2	63.4
105°	0.0	2.1	7.3	14.6	22.9	27.0	31.2	39.5	46.8	55.1	62.4
107.5°	0.0	2.1	7.3	14.6	22.9	27.0	31.2	39.5	46.8	54.1	61.4
110°	0.0	1.0	6.2	14.6	22.9	27.0	31.2	38.5	46.8	54.1	60.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.0	6.2	13.5	21.8	27.0	31.2	38.5	46.8	53.0	59.3
115°	0.0	1.0	6.2	13.5	21.8	26.0	30.2	38.5	45.8	52.0	58.2
117.5°	0.0	1.0	6.2	13.5	21.8	26.0	30.2	38.5	45.8	52.0	58.2
120°	0.0	1.0	5.2	12.5	20.8	25.0	29.1	37.4	45.8	52.0	58.2
122.5°	0.0	1.0	5.2	12.5	19.8	23.9	28.1	36.4	44.7	52.0	58.2
125°	0.0	1.0	4.2	11.4	19.8	23.9	28.1	35.4	43.7	51.0	58.2
127.5°	1.0	1.0	4.2	10.4	18.7	22.9	27.0	34.3	41.6	48.9	56.2
130°	1.0	1.0	4.2	9.4	16.6	20.8	25.0	33.3	40.6	47.8	54.1
132.5°	1.0	1.0	3.1	8.3	15.6	19.8	22.9	31.2	37.4	44.7	52.0
135°	1.0	1.0	2.1	7.3	14.6	17.7	20.8	29.1	35.4	41.6	48.9
137.5°	1.0	1.0	2.1	6.2	12.5	15.6	18.7	26.0	33.3	38.5	45.8
140°	1.0	1.0	2.1	5.2	10.4	13.5	16.6	22.9	30.2	36.4	41.6
142.5°	1.0	1.0	1.0	4.2	9.4	11.4	14.6	19.8	26.0	32.2	38.5
145°	1.0	1.0	1.0	3.1	7.3	9.4	12.5	17.7	22.9	29.1	34.3
147.5°	1.0	1.0	1.0	3.1	6.2	8.3	10.4	14.6	19.8	25.0	30.2
150°	1.0	1.0	1.0	2.1	4.2	6.2	8.3	12.5	16.6	20.8	26.0
152.5°	1.0	1.0	1.0	1.0	3.1	5.2	6.2	9.4	13.5	17.7	20.8
155°	1.0	1.0	1.0	1.0	2.1	3.1	5.2	7.3	10.4	13.5	16.6
157.5°	1.0	1.0	1.0	1.0	2.1	2.1	3.1	5.2	7.3	10.4	12.5
160°	1.0	1.0	1.0	1.0	1.0	2.1	2.1	4.2	5.2	7.3	9.4
162.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1	3.1	5.2	6.2
165°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1	3.1	3.1
167.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1
170°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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°	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9	1502.9
2.5°	1493.5	1492.5	1493.5	1496.6	1496.6	1497.7	1498.7	1499.7	1498.7	1497.7
5°	1440.5	1435.3	1434.2	1438.4	1436.3	1437.3	1440.5	1443.6	1442.5	1442.5
7.5°	1368.7	1365.6	1366.6	1357.2	1356.2	1352.0	1353.1	1353.1	1355.2	1358.3
10°	1288.6	1291.7	1300.0	1307.3	1309.4	1306.3	1301.1	1294.8	1291.7	1292.8
12.5°	1255.3	1246.0	1233.5	1228.3	1233.5	1240.8	1251.2	1258.4	1260.5	1260.5
15°	1200.2	1204.4	1212.7	1217.9	1207.5	1203.3	1201.2	1198.1	1199.2	1199.2
17.5°	1183.6	1177.3	1166.9	1178.4	1185.6	1194.0	1194.0	1185.6	1178.4	1181.5
20°	1142.0	1148.2	1163.8	1149.2	1136.8	1130.5	1130.5	1131.6	1138.8	1135.7
22.5°	1121.2	1122.2	1103.5	1111.8	1125.3	1129.5	1122.2	1109.7	1096.2	1098.3
25°	1083.7	1077.5	1094.1	1081.6	1073.3	1068.1	1071.2	1076.4	1080.6	1078.5
27.5°	1051.5	1061.9	1040.0	1052.5	1059.8	1064.0	1057.7	1038.0	1034.8	1028.6
30°	1026.5	1010.9	1029.6	1025.5	1010.9	1004.7	996.4	1003.6	1003.6	1007.8
32.5°	988.0	993.2	983.9	973.5	980.8	987.0	981.8	973.5	962.0	958.9
35°	962.0	954.8	947.5	958.9	949.6	939.2	930.8	934.0	938.1	937.1
37.5°	930.8	918.4	923.6	905.9	910.0	916.3	921.5	906.9	900.7	894.4
40°	886.1	896.5	877.8	893.4	888.2	876.8	860.1	857.0	862.2	861.2
42.5°	858.0	850.7	861.2	839.3	834.1	836.2	845.5	848.7	840.3	836.2
45°	825.8	826.8	812.3	812.3	817.5	816.4	799.8	788.3	789.4	788.3
47.5°	786.3	790.4	782.1	785.2	769.6	767.5	768.6	772.7	770.7	768.6
50°	764.4	754.0	765.5	748.8	755.1	759.2	749.9	733.2	729.1	727.0
52.5°	733.2	739.5	725.9	740.5	735.3	721.8	713.5	719.7	720.7	721.8
55°	687.5	698.9	703.1	689.5	685.4	689.5	692.7	682.3	678.1	676.0
57.5°	653.1	650.0	649.0	650.0	653.1	651.1	641.7	641.7	647.9	649.0
60°	603.2	611.5	600.1	605.3	598.0	598.0	608.4	607.4	605.3	603.2
62.5°	553.3	555.4	562.7	551.2	555.4	561.6	555.4	550.2	553.3	553.3
65°	507.5	507.5	505.5	512.7	512.7	504.4	501.3	508.6	512.7	513.8
67.5°	461.8	464.9	462.8	463.9	456.6	456.6	461.8	455.5	453.5	455.5
70°	408.7	412.9	421.2	410.8	416.0	417.1	406.7	403.5	406.7	408.7
72.5°	360.9	363.0	367.1	370.3	370.3	367.1	364.0	364.0	363.0	363.0
75°	311.0	318.3	318.3	323.5	321.4	319.3	322.4	318.3	313.1	313.1
77.5°	263.1	273.5	274.6	275.6	276.6	280.8	279.8	276.6	276.6	277.7
80°	215.3	223.6	229.8	231.9	234.0	238.2	239.2	245.4	247.5	248.6
82.5°	169.5	179.9	186.2	194.5	197.6	201.8	208.0	213.2	217.4	214.2
85°	131.0	139.4	148.7	160.2	163.3	168.5	172.6	173.7	175.8	178.9
87.5°	98.8	110.2	121.7	131.0	133.1	134.2	137.3	143.5	150.8	156.0
90°	83.2	93.6	103.0	107.1	108.2	110.2	116.5	124.8	134.2	142.5
92.5°	79.0	87.4	92.6	96.7	99.8	103.0	108.2	114.4	123.8	130.0
95°	75.9	83.2	88.4	93.6	97.8	100.9	106.1	114.4	124.8	131.0
97.5°	73.8	81.1	87.4	93.6	97.8	100.9	110.2	121.7	132.1	133.1
100°	72.8	79.0	85.3	92.6	96.7	100.9	110.2	115.4	114.4	114.4
102.5°	70.7	77.0	84.2	90.5	93.6	95.7	99.8	99.8	97.8	96.7
105°	69.7	74.9	81.1	85.3	85.3	87.4	88.4	87.4	86.3	85.3
107.5°	67.6	72.8	77.0	78.0	79.0	80.1	80.1	79.0	77.0	75.9
110°	65.5	69.7	72.8	73.8	73.8	74.9	73.8	72.8	70.7	69.7



TEST NUMBER: P241464

CATALOG NUMBER: FVS8M-3-LD4-50-1HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	64.5	67.6	70.7	71.8	71.8	72.8	72.8	71.8	70.7	69.7
115°	63.4	67.6	70.7	71.8	72.8	73.8	74.9	73.8	72.8	71.8
117.5°	63.4	67.6	71.8	73.8	74.9	75.9	77.0	78.0	75.9	74.9
120°	64.5	68.6	72.8	75.9	77.0	78.0	80.1	80.1	79.0	79.0
122.5°	64.5	69.7	73.8	77.0	79.0	80.1	81.1	82.2	81.1	81.1
125°	64.5	69.7	73.8	77.0	79.0	80.1	82.2	84.2	83.2	83.2
127.5°	63.4	68.6	72.8	77.0	78.0	79.0	82.2	84.2	84.2	85.3
130°	61.4	66.6	71.8	74.9	77.0	78.0	81.1	83.2	84.2	85.3
132.5°	58.2	64.5	68.6	72.8	73.8	75.9	79.0	81.1	83.2	84.2
135°	55.1	60.3	65.5	69.7	71.8	73.8	75.9	79.0	81.1	81.1
137.5°	51.0	57.2	62.4	66.6	67.6	69.7	72.8	75.9	77.0	78.0
140°	47.8	53.0	58.2	62.4	64.5	66.6	69.7	71.8	73.8	73.8
142.5°	43.7	49.9	54.1	58.2	60.3	62.4	65.5	67.6	69.7	69.7
145°	40.6	45.8	49.9	54.1	56.2	57.2	60.3	62.4	64.5	64.5
147.5°	36.4	40.6	45.8	48.9	51.0	52.0	55.1	57.2	58.2	59.3
150°	31.2	35.4	39.5	42.6	44.7	45.8	48.9	51.0	52.0	53.0
152.5°	25.0	29.1	33.3	36.4	37.4	39.5	41.6	42.6	44.7	44.7
155°	20.8	23.9	27.0	30.2	31.2	32.2	34.3	35.4	36.4	36.4
157.5°	15.6	17.7	20.8	23.9	25.0	25.0	27.0	28.1	29.1	29.1
160°	11.4	13.5	15.6	17.7	18.7	19.8	20.8	21.8	21.8	21.8
162.5°	7.3	9.4	10.4	12.5	12.5	13.5	14.6	15.6	15.6	15.6
165°	4.2	5.2	6.2	7.3	8.3	8.3	9.4	9.4	10.4	10.4
167.5°	2.1	3.1	3.1	4.2	4.2	4.2	5.2	5.2	6.2	5.2
170°	1.0	1.0	1.0	1.0	1.0	2.1	2.1	2.1	2.1	2.1
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)