

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: P241438

Luminaire Tested: **FVS8M-2-LD4-35-2HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241438
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-LD4-35-2HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

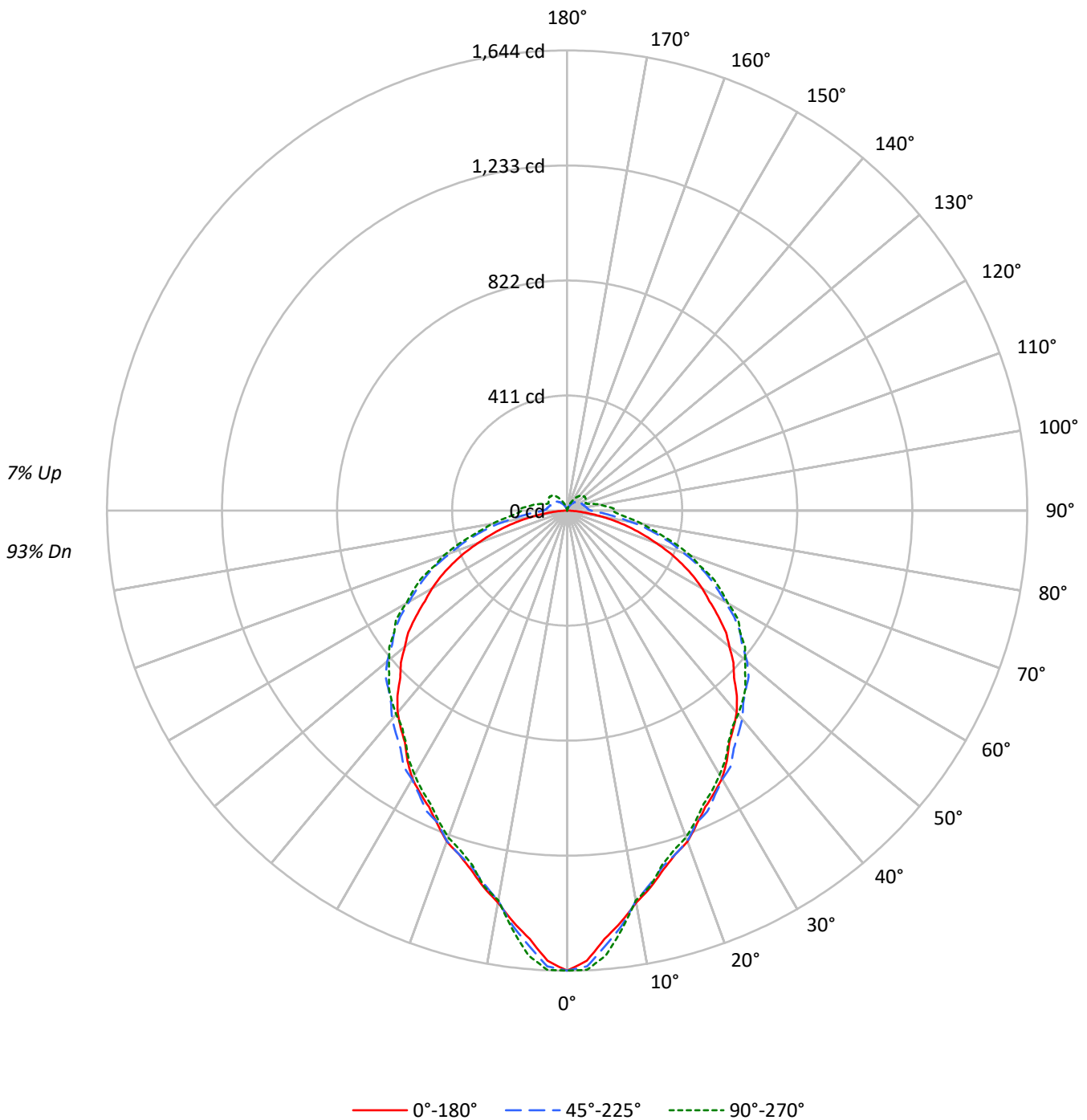
Lumens per Lamp: N/A
Luminaire Lumens: 4348.0 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 44.2
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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CATALOG NUMBER: FVS8M-2-LD4-35-2HI-PA187-UNV-EDC1

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	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°	14773	14773	14773
5°	13762	13826	14109
10°	12802	12444	12413
15°	12102	11588	11498
20°	11702	11145	10984
25°	11176	10688	10368
30°	10985	10233	10007
35°	10509	9896	9537
40°	10367	9671	9378
45°	9933	9441	9340
50°	9674	9336	9147
55°	9292	9033	8930
60°	8822	8547	8586
65°	8241	8114	8257
70°	7307	7316	7613
75°	6210	6511	6723
80°	4561	5368	6140
85°	2286	4119	5616



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.5	3.3
10°-20°	373.8	8.6
20°-30°	542.4	12.5
30°-40°	645.7	14.8
40°-50°	688.4	15.8
50°-60°	651.9	15.0
60°-70°	525.3	12.1
70°-80°	337.5	7.8
80°-90°	147.4	3.4
90°-100°	78.3	1.8
100°-110°	60.5	1.4
110°-120°	48.3	1.1
120°-130°	43.1	1.0
130°-140°	32.4	0.7
140°-150°	18.9	0.4
150°-160°	7.8	0.2
160°-170°	1.8	0.0
170°-180°	0.0	0.0
0°-30°	1060.7	24.4
0°-40°	1706.4	39.2
0°-60°	3046.7	70.1
0°-90°	4056.8	93.3
90°-120°	187.1	4.3
90°-150°	281.5	6.5
90°-180°	291.0	6.7
0°-180°	4348.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1644	1644	1644	1644	1644	
5°	1536	1542	1561	1585	1594	144
15°	1328	1334	1317	1307	1310	375
25°	1168	1174	1186	1176	1155	542
35°	1010	1047	1038	1033	1006	638
45°	843	883	903	919	901	655
55°	660	696	754	762	754	589
65°	453	491	558	566	576	447
75°	231	276	338	370	357	244
85°	42	81	138	174	195	53
90°	1	36	85	119	162	2
95°	0	32	74	109	149	0
105°	0	28	65	88	90	0
115°	0	26	58	72	74	0
125°	0	24	54	76	79	0
135°	0	18	44	68	76	0
145°	1	11	31	49	58	1
155°	1	5	18	27	31	0
165°	1	1	5	11	12	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°	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5
2.5°	1610.1	1610.1	1611.1	1611.1	1613.1	1614.1	1617.0	1617.0	1621.9	1625.8	1629.7
5°	1535.7	1532.7	1535.7	1535.7	1540.6	1542.5	1547.4	1553.3	1554.3	1560.2	1561.1
7.5°	1481.8	1480.8	1476.9	1476.9	1474.9	1477.8	1477.8	1481.8	1488.6	1494.5	1495.5
10°	1422.0	1421.0	1420.0	1421.0	1416.1	1418.1	1418.1	1420.0	1423.9	1423.0	1415.1
12.5°	1377.9	1376.9	1373.0	1373.0	1374.0	1374.0	1373.0	1374.9	1368.1	1364.2	1367.1
15°	1327.9	1330.8	1333.8	1328.9	1334.8	1333.8	1333.8	1329.9	1321.0	1315.2	1317.1
17.5°	1286.7	1290.7	1287.7	1285.8	1283.8	1283.8	1286.7	1286.7	1289.7	1283.8	1286.7
20°	1258.3	1252.4	1245.6	1251.5	1255.4	1256.4	1257.3	1257.3	1253.4	1252.4	1256.4
22.5°	1211.3	1210.3	1213.2	1220.1	1219.1	1214.2	1212.3	1204.4	1208.3	1212.3	1207.4
25°	1168.2	1179.9	1182.9	1175.0	1172.1	1174.0	1179.9	1183.8	1190.7	1186.8	1185.8
27.5°	1137.8	1140.7	1127.0	1135.8	1149.5	1156.4	1152.5	1151.5	1148.6	1138.8	1144.6
30°	1106.4	1096.6	1098.6	1109.4	1110.3	1105.4	1100.5	1103.5	1109.4	1110.3	1108.4
32.5°	1061.3	1056.4	1075.1	1066.2	1066.2	1070.2	1078.0	1082.9	1088.8	1087.8	1085.8
35°	1010.4	1023.1	1023.1	1019.2	1037.8	1046.6	1050.6	1041.7	1040.8	1033.9	1037.8
37.5°	977.1	978.0	974.1	994.7	1001.6	998.6	995.7	994.7	999.6	1003.5	1004.5
40°	941.8	933.0	939.8	951.6	945.7	950.6	958.4	970.2	975.1	977.1	973.1
42.5°	897.7	894.7	905.5	900.6	912.4	919.2	927.1	933.9	930.0	932.0	931.0
45°	842.8	855.5	849.7	863.4	883.0	883.0	884.0	882.0	890.8	901.6	902.6
47.5°	805.6	807.5	806.5	823.2	831.0	829.1	841.8	854.6	866.3	872.2	879.1
50°	756.6	751.7	771.3	772.2	784.0	791.8	802.6	814.4	825.2	833.0	838.9
52.5°	715.4	710.5	720.3	720.3	745.8	754.6	755.6	764.4	776.2	780.1	787.9
55°	659.5	666.4	664.4	683.1	694.8	695.8	699.7	715.4	734.0	741.9	753.6
57.5°	602.7	612.5	611.5	633.1	638.0	645.8	654.6	676.2	688.0	698.7	707.6
60°	557.6	559.6	569.4	573.3	585.1	596.8	610.5	624.3	632.1	644.8	652.7
62.5°	508.6	502.7	519.4	520.4	541.9	543.9	551.7	566.4	579.2	594.9	603.7
65°	452.8	453.7	461.6	472.4	487.1	491.0	498.8	515.5	532.1	546.8	557.6
67.5°	398.9	402.8	407.7	420.4	429.2	439.0	448.8	462.6	485.1	496.9	503.7
70°	338.1	345.0	350.8	364.6	377.3	385.1	397.9	411.6	426.3	436.1	443.0
72.5°	283.2	288.1	296.9	307.7	327.3	335.2	343.0	354.8	367.5	377.3	392.0
75°	231.3	235.2	246.0	253.8	270.5	276.4	286.2	297.9	314.6	327.3	338.1
77.5°	178.4	181.3	192.1	201.9	216.6	223.4	230.3	244.0	257.7	275.4	286.2
80°	127.4	130.3	141.1	149.9	161.7	167.6	175.4	192.1	207.8	217.6	230.3
82.5°	82.3	84.3	92.1	102.9	113.7	121.5	129.4	143.1	156.8	168.6	179.3
85°	42.1	44.1	52.9	61.7	73.5	81.3	86.2	100.0	113.7	125.4	138.2
87.5°	13.7	16.7	23.5	33.3	44.1	51.0	55.9	68.6	80.4	93.1	104.9
90°	1.0	3.9	10.8	19.6	30.4	36.3	42.1	52.9	63.7	74.5	85.3
92.5°	0.0	2.9	8.8	17.6	27.4	33.3	38.2	49.0	58.8	68.6	77.4
95°	0.0	2.0	8.8	16.7	26.5	32.3	37.2	47.0	56.8	65.7	73.5
97.5°	0.0	2.0	7.8	16.7	25.5	31.4	36.3	45.1	53.9	62.7	71.5
100°	0.0	2.0	7.8	15.7	25.5	30.4	34.3	43.1	51.9	60.8	68.6
102.5°	0.0	2.0	7.8	15.7	24.5	29.4	33.3	42.1	51.0	58.8	66.6
105°	0.0	2.0	7.8	15.7	24.5	28.4	33.3	41.2	50.0	57.8	64.7
107.5°	0.0	2.0	6.9	14.7	23.5	28.4	32.3	41.2	49.0	55.9	62.7
110°	0.0	2.0	6.9	14.7	23.5	27.4	32.3	40.2	48.0	54.9	60.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	2.0	6.9	14.7	22.5	27.4	31.4	39.2	47.0	52.9	58.8
115°	0.0	2.0	6.9	13.7	22.5	26.5	30.4	38.2	46.1	51.9	57.8
117.5°	0.0	1.0	6.9	13.7	21.6	25.5	30.4	38.2	45.1	51.0	56.8
120°	0.0	1.0	5.9	12.7	20.6	25.5	29.4	37.2	44.1	50.0	55.9
122.5°	0.0	1.0	5.9	12.7	20.6	24.5	28.4	36.3	43.1	50.0	55.9
125°	0.0	1.0	5.9	11.8	19.6	23.5	27.4	34.3	42.1	48.0	53.9
127.5°	0.0	1.0	4.9	11.8	18.6	22.5	26.5	33.3	40.2	46.1	51.9
130°	0.0	1.0	4.9	10.8	17.6	20.6	24.5	31.4	38.2	44.1	50.0
132.5°	0.0	1.0	3.9	9.8	16.7	19.6	22.5	29.4	36.3	42.1	47.0
135°	0.0	1.0	3.9	8.8	14.7	17.6	21.6	27.4	33.3	39.2	44.1
137.5°	0.0	0.0	2.9	7.8	13.7	16.7	19.6	25.5	31.4	36.3	41.2
140°	1.0	0.0	2.9	6.9	11.8	14.7	17.6	22.5	28.4	33.3	38.2
142.5°	1.0	0.0	2.0	5.9	10.8	12.7	15.7	20.6	25.5	30.4	34.3
145°	1.0	0.0	2.0	4.9	8.8	10.8	13.7	17.6	22.5	26.5	31.4
147.5°	1.0	0.0	1.0	3.9	7.8	9.8	11.8	15.7	19.6	23.5	27.4
150°	1.0	1.0	1.0	2.9	5.9	7.8	9.8	13.7	16.7	20.6	24.5
152.5°	1.0	1.0	1.0	2.0	4.9	5.9	7.8	10.8	14.7	17.6	21.6
155°	1.0	1.0	1.0	2.0	3.9	4.9	5.9	8.8	11.8	14.7	17.6
157.5°	1.0	1.0	0.0	1.0	2.9	3.9	4.9	6.9	8.8	11.8	13.7
160°	1.0	1.0	0.0	1.0	2.0	2.9	2.9	4.9	6.9	8.8	10.8
162.5°	1.0	1.0	1.0	1.0	1.0	2.0	2.0	3.9	4.9	6.9	7.8
165°	1.0	1.0	1.0	0.0	1.0	1.0	1.0	2.0	2.9	3.9	4.9
167.5°	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0	2.9
170°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	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°	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5	1643.5
2.5°	1633.7	1636.6	1638.6	1641.5	1640.5	1641.5	1641.5	1639.5	1641.5	1641.5
5°	1566.0	1572.9	1576.8	1582.7	1584.7	1584.7	1589.6	1593.5	1595.4	1594.5
7.5°	1494.5	1488.6	1489.6	1485.7	1485.7	1487.6	1492.5	1496.5	1502.3	1506.3
10°	1413.2	1415.1	1415.1	1419.0	1417.1	1417.1	1418.1	1421.0	1420.0	1414.1
12.5°	1368.1	1357.3	1359.3	1368.1	1371.0	1368.1	1371.0	1367.1	1374.0	1374.0
15°	1318.1	1325.0	1328.9	1317.1	1307.3	1311.2	1316.1	1312.2	1310.3	1310.3
17.5°	1296.5	1282.8	1275.0	1277.9	1279.9	1277.9	1278.9	1278.9	1276.0	1271.1
20°	1242.6	1244.6	1249.5	1251.5	1250.5	1249.5	1244.6	1243.6	1244.6	1242.6
22.5°	1210.3	1210.3	1211.3	1222.1	1222.1	1219.1	1213.2	1207.4	1200.5	1199.5
25°	1192.7	1183.8	1190.7	1180.9	1176.0	1168.2	1165.2	1161.3	1148.6	1155.4
27.5°	1139.7	1154.4	1145.6	1140.7	1134.8	1130.9	1124.1	1123.1	1125.0	1125.0
30°	1110.3	1101.5	1098.6	1099.6	1101.5	1109.4	1101.5	1089.8	1089.8	1089.8
32.5°	1087.8	1078.0	1072.1	1068.2	1069.2	1066.2	1061.3	1051.5	1050.6	1053.5
35°	1032.9	1039.8	1040.8	1038.8	1032.9	1026.1	1025.1	1023.1	1011.4	1006.5
37.5°	999.6	995.7	994.7	998.6	1000.6	994.7	980.0	973.1	974.1	970.2
40°	976.1	976.1	967.3	954.5	948.6	949.6	956.5	950.6	948.6	950.6
42.5°	937.9	946.7	944.7	936.9	935.9	937.9	935.9	930.0	926.1	926.1
45°	908.5	906.5	908.5	919.2	919.2	913.4	902.6	906.5	906.5	900.6
47.5°	886.9	880.0	884.0	873.2	877.1	880.0	874.2	868.3	866.3	862.4
50°	843.8	849.7	850.6	844.8	838.9	839.9	833.0	827.1	833.0	830.1
52.5°	792.8	801.6	803.6	806.5	796.7	792.8	795.8	803.6	799.7	800.7
55°	761.5	761.5	760.5	756.6	761.5	767.3	756.6	755.6	750.7	753.6
57.5°	720.3	722.3	717.4	722.3	718.3	718.3	714.4	717.4	719.3	725.2
60°	661.5	669.3	676.2	674.2	666.4	667.4	672.3	668.4	669.3	664.4
62.5°	611.5	611.5	622.3	617.4	623.3	620.3	613.5	614.5	618.4	620.3
65°	563.5	565.5	560.6	567.4	566.4	562.5	564.5	573.3	572.3	576.2
67.5°	506.7	516.5	514.5	511.6	511.6	513.5	521.4	514.5	511.6	510.6
70°	451.8	456.7	465.5	461.6	466.5	467.5	461.6	459.6	461.6	469.4
72.5°	400.8	405.7	410.6	418.5	419.4	415.5	419.4	416.5	417.5	414.5
75°	346.9	353.8	358.7	370.4	369.5	365.5	366.5	361.6	357.7	356.7
77.5°	293.0	302.8	313.6	312.6	312.6	316.5	313.6	310.7	311.6	308.7
80°	242.1	252.8	261.7	262.6	264.6	270.5	266.6	268.5	267.5	270.5
82.5°	192.1	202.9	210.7	215.6	218.5	219.5	222.5	225.4	229.3	231.3
85°	149.9	159.7	165.6	171.5	174.4	176.4	182.3	187.2	192.1	195.0
87.5°	114.7	121.5	129.4	137.2	140.1	144.1	149.9	156.8	165.6	173.5
90°	92.1	100.0	107.8	115.6	118.6	122.5	129.4	138.2	150.9	161.7
92.5°	84.3	92.1	99.0	106.8	110.7	115.6	124.5	136.2	153.9	166.6
95°	81.3	89.2	97.0	104.9	108.8	112.7	123.5	135.2	146.0	149.0
97.5°	78.4	86.2	93.1	100.9	104.9	109.8	118.6	124.5	128.4	131.3
100°	76.4	83.3	90.2	98.0	100.9	103.9	109.8	114.7	118.6	121.5
102.5°	73.5	80.4	87.2	92.1	95.1	97.0	101.9	106.8	106.8	106.8
105°	71.5	77.4	82.3	86.2	88.2	90.2	93.1	92.1	91.1	90.2
107.5°	68.6	73.5	77.4	81.3	81.3	82.3	82.3	80.4	79.4	78.4
110°	65.7	70.6	73.5	74.5	75.5	75.5	75.5	74.5	73.5	73.5



TEST NUMBER: P241438

CATALOG NUMBER: FVS8M-2-LD4-35-2HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	63.7	67.6	70.6	71.5	72.5	72.5	72.5	72.5	71.5	71.5
115°	61.7	65.7	68.6	70.6	71.5	72.5	73.5	73.5	73.5	73.5
117.5°	61.7	65.7	69.6	71.5	73.5	74.5	76.4	76.4	75.5	76.4
120°	60.8	65.7	69.6	73.5	75.5	76.4	78.4	78.4	77.4	77.4
122.5°	60.8	65.7	70.6	74.5	76.4	77.4	79.4	80.4	79.4	78.4
125°	59.8	64.7	69.6	74.5	76.4	78.4	80.4	80.4	79.4	79.4
127.5°	57.8	63.7	68.6	73.5	75.5	77.4	79.4	80.4	79.4	79.4
130°	55.9	61.7	66.6	71.5	73.5	75.5	77.4	78.4	78.4	78.4
132.5°	52.9	58.8	63.7	68.6	70.6	72.5	75.5	76.4	77.4	77.4
135°	50.0	55.9	60.8	65.7	67.6	69.6	72.5	74.5	74.5	75.5
137.5°	47.0	51.9	56.8	61.7	63.7	65.7	69.6	70.6	71.5	72.5
140°	43.1	48.0	51.9	56.8	59.8	61.7	64.7	66.6	68.6	68.6
142.5°	39.2	43.1	48.0	51.9	53.9	55.9	59.8	61.7	63.7	63.7
145°	35.3	39.2	43.1	47.0	49.0	51.0	53.9	55.9	56.8	57.8
147.5°	31.4	35.3	38.2	42.1	43.1	45.1	47.0	49.0	50.0	51.0
150°	27.4	31.4	33.3	36.3	37.2	39.2	41.2	42.1	43.1	44.1
152.5°	23.5	26.5	29.4	31.4	32.3	33.3	35.3	36.3	37.2	37.2
155°	20.6	22.5	24.5	26.5	27.4	28.4	29.4	30.4	31.4	31.4
157.5°	16.7	18.6	20.6	22.5	22.5	23.5	24.5	25.5	26.5	26.5
160°	12.7	14.7	16.7	17.6	18.6	18.6	19.6	20.6	20.6	21.6
162.5°	9.8	10.8	12.7	13.7	14.7	14.7	15.7	16.7	16.7	16.7
165°	6.9	7.8	8.8	9.8	10.8	10.8	11.8	11.8	11.8	11.8
167.5°	3.9	4.9	4.9	5.9	6.9	6.9	7.8	7.8	7.8	7.8
170°	2.0	2.0	2.9	2.9	2.9	2.9	3.9	3.9	3.9	3.9
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)