

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: P241494

Luminaire Tested: **FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241494
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-35)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

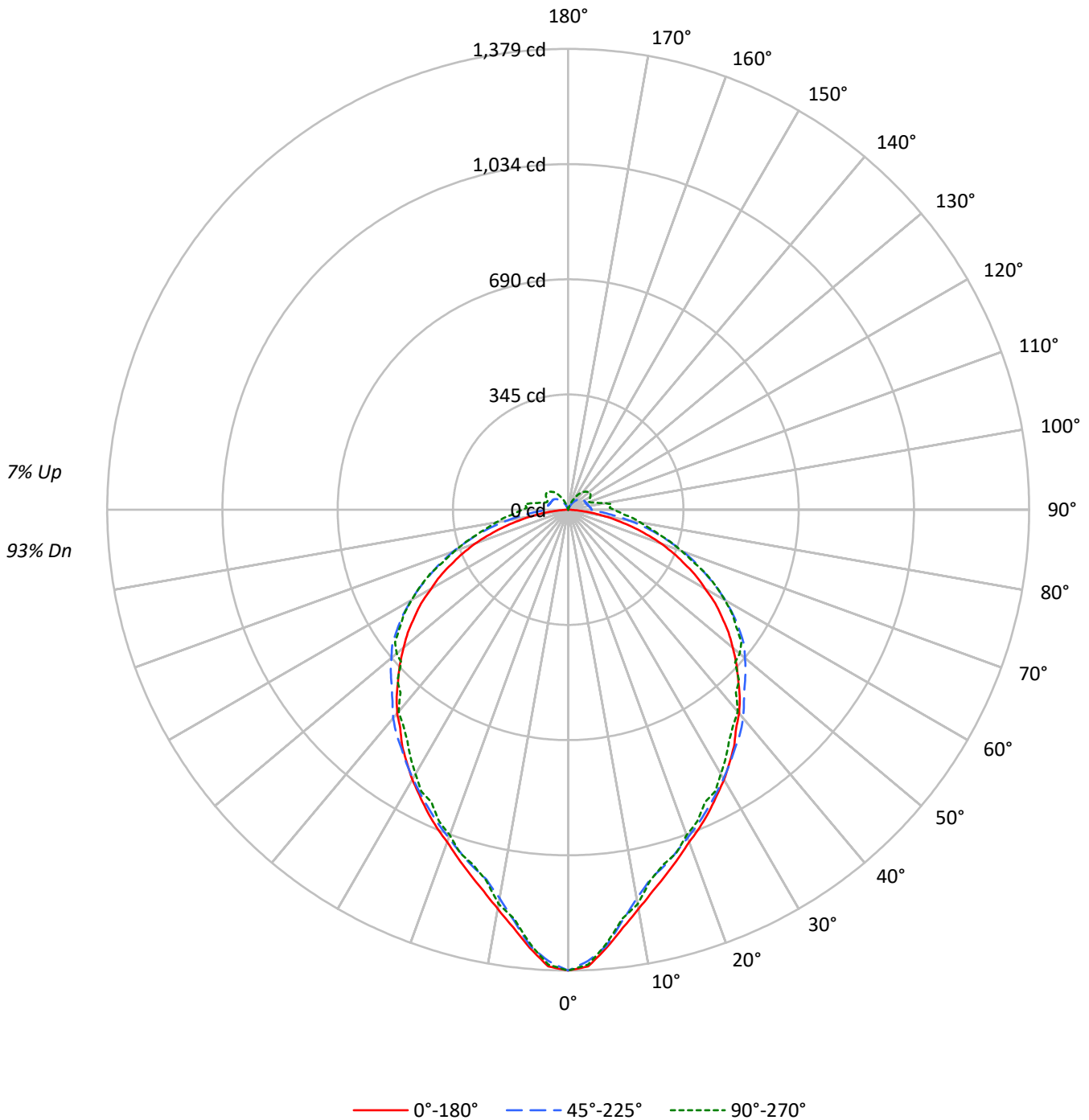
Lumens per Lamp: N/A
Luminaire Lumens: 3643.0 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 33.5
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

TEST NUMBER: P241494

CATALOG NUMBER: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241494

CATALOG NUMBER: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1

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	95	95	95	93
1	106	101	97	92	103	98	94	90	92	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	61	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	38	48	42	37	46	40	36	34
7	63	49	41	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	28	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°	6163	6163	6163
5°	5884	5781	5738
10°	5465	5187	5226
15°	5177	4869	4798
20°	4962	4651	4553
25°	4828	4478	4313
30°	4706	4327	4169
35°	4592	4197	3957
40°	4493	4107	3870
45°	4373	3971	3724
50°	4268	3924	3669
55°	4142	3842	3622
60°	3966	3670	3479
65°	3760	3412	3250
70°	3486	3153	2909
75°	2976	2784	2612
80°	2315	2305	2462
85°	1212	1755	2406



TEST NUMBER: P241494

CATALOG NUMBER: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.1	3.3
10°-20°	314.0	8.6
20°-30°	456.1	12.5
30°-40°	542.5	14.9
40°-50°	568.3	15.6
50°-60°	542.1	14.9
60°-70°	432.5	11.9
70°-80°	273.7	7.5
80°-90°	121.6	3.3
90°-100°	69.5	1.9
100°-110°	55.9	1.5
110°-120°	46.4	1.3
120°-130°	42.1	1.2
130°-140°	31.5	0.9
140°-150°	18.1	0.5
150°-160°	6.4	0.2
160°-170°	1.0	0.0
170°-180°	0.0	0.0
0°-30°	891.3	24.5
0°-40°	1433.8	39.4
0°-60°	2544.2	69.8
0°-90°	3372.0	92.6
90°-120°	171.7	4.7
90°-150°	263.5	7.2
90°-180°	271.0	7.4
0°-180°	3643.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1379	1379	1379	1379	1379	
5°	1316	1310	1310	1309	1304	122
15°	1131	1123	1105	1108	1100	319
25°	997	998	987	990	967	459
35°	865	875	870	860	840	540
45°	719	744	746	731	722	556
55°	561	592	625	630	615	502
65°	385	417	452	455	456	382
75°	198	235	274	286	279	210
85°	34	65	108	147	168	45
90°	1	29	69	108	138	2
95°	0	27	68	96	127	0
105°	0	26	60	82	80	0
115°	0	25	56	70	70	0
125°	1	22	53	74	81	1
135°	1	15	44	66	76	1
145°	1	7	29	50	58	1
155°	1	2	12	24	29	0
165°	2	1	2	5	6	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241494

CATALOG NUMBER: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0
2.5°	1367.9	1365.5	1359.9	1361.5	1363.1	1361.5	1363.1	1363.1	1359.9	1356.7	1352.0
5°	1316.1	1311.3	1310.5	1311.3	1312.1	1309.8	1311.3	1312.9	1310.5	1313.7	1309.8
7.5°	1260.4	1256.4	1255.6	1254.8	1254.0	1252.4	1253.2	1255.6	1252.4	1245.3	1240.5
10°	1212.6	1207.0	1203.9	1201.5	1201.5	1200.7	1202.3	1198.3	1191.9	1187.1	1180.8
12.5°	1168.8	1165.6	1162.5	1164.0	1160.9	1160.1	1158.5	1152.1	1147.3	1141.8	1132.2
15°	1130.6	1129.8	1125.0	1126.6	1122.6	1123.4	1121.8	1119.5	1110.7	1105.1	1105.1
17.5°	1094.0	1094.8	1094.8	1095.6	1089.2	1089.2	1089.2	1086.0	1078.9	1076.5	1074.9
20°	1058.2	1059.7	1058.9	1057.4	1058.2	1057.4	1058.2	1055.0	1047.8	1048.6	1044.6
22.5°	1028.7	1027.9	1026.3	1027.9	1027.1	1025.5	1026.3	1023.1	1019.9	1019.1	1016.8
25°	996.8	996.8	992.9	996.8	996.0	997.6	996.8	999.2	994.5	992.9	987.3
27.5°	963.4	961.0	961.8	965.8	968.2	968.2	965.0	966.6	967.4	958.6	957.8
30°	932.4	931.6	929.2	933.9	937.1	934.7	936.3	939.5	939.5	930.8	929.2
32.5°	898.1	896.5	898.1	902.9	903.7	908.5	910.9	909.3	908.5	900.5	900.5
35°	864.7	863.9	866.3	869.5	873.4	875.0	879.8	883.0	878.2	871.0	870.2
37.5°	824.9	829.6	829.6	835.2	840.8	844.8	847.2	851.1	844.8	840.0	844.8
40°	795.4	793.0	792.2	801.8	806.6	810.5	814.5	816.9	811.3	812.9	814.5
42.5°	759.6	755.6	761.2	767.5	773.9	777.9	779.5	785.9	780.3	783.5	777.9
45°	719.0	720.6	723.7	726.9	740.5	744.4	746.0	746.8	751.6	750.8	746.0
47.5°	682.3	682.3	687.1	692.7	703.0	708.6	711.0	712.6	714.2	714.2	719.8
50°	642.5	643.3	648.1	656.1	664.0	668.8	672.8	679.2	683.9	686.3	690.3
52.5°	605.1	604.3	613.1	618.6	625.8	632.2	636.2	644.9	650.5	653.7	663.2
55°	561.3	563.7	569.3	577.2	587.6	592.4	596.4	605.9	611.5	619.4	625.0
57.5°	521.5	523.1	526.3	534.3	546.2	548.6	554.2	564.5	569.3	578.8	585.2
60°	473.7	480.1	484.1	493.6	499.2	503.2	512.0	525.5	531.1	539.0	543.8
62.5°	433.1	433.9	439.5	448.3	454.6	461.8	470.6	480.1	488.1	494.4	497.6
65°	385.4	388.5	397.3	402.1	412.4	417.2	424.4	433.1	441.1	448.3	452.2
67.5°	340.8	343.2	347.9	356.7	367.0	371.8	375.8	386.2	398.1	405.3	410.8
70°	295.4	298.6	301.0	312.1	318.5	324.9	330.4	344.0	355.1	359.1	365.5
72.5°	245.2	250.0	254.0	264.3	274.7	279.5	286.6	298.6	306.5	313.7	318.5
75°	197.5	202.2	209.4	217.4	226.1	234.9	240.5	249.2	258.8	266.7	273.9
77.5°	152.1	154.5	162.4	172.8	180.7	188.7	192.7	202.2	213.4	220.5	230.1
80°	109.9	111.5	120.2	126.6	137.7	141.7	146.5	157.6	168.0	176.8	184.7
82.5°	70.9	71.7	78.8	87.6	95.5	101.9	105.9	116.2	126.6	136.2	143.3
85°	34.2	37.4	43.8	51.8	62.1	65.3	70.1	81.2	90.0	98.7	107.5
87.5°	11.1	13.5	19.1	27.1	35.8	39.8	44.6	53.3	63.7	73.3	81.2
90°	0.8	3.2	8.8	15.9	24.7	28.7	32.6	42.2	51.8	60.5	69.3
92.5°	0.0	2.4	8.0	15.1	23.1	27.1	31.8	41.4	50.2	59.7	69.3
95°	0.0	2.4	7.2	14.3	23.1	27.1	31.8	41.4	50.2	59.7	67.7
97.5°	0.0	1.6	7.2	14.3	23.1	27.1	31.8	40.6	50.2	57.3	64.5
100°	0.0	1.6	7.2	14.3	22.3	27.1	31.1	40.6	47.8	55.7	62.9
102.5°	0.0	1.6	7.2	14.3	22.3	26.3	31.1	39.0	47.0	54.1	61.3
105°	0.0	1.6	6.4	14.3	22.3	26.3	30.3	38.2	45.4	52.5	59.7
107.5°	0.0	1.6	6.4	13.5	21.5	25.5	30.3	37.4	45.4	51.8	58.1
110°	0.0	1.6	6.4	13.5	21.5	25.5	29.5	37.4	44.6	51.0	57.3



TEST NUMBER: P241494

CATALOG NUMBER: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.8	5.6	12.7	21.5	25.5	29.5	36.6	43.8	51.0	56.5
115°	0.0	0.8	5.6	12.7	20.7	24.7	28.7	36.6	43.8	50.2	55.7
117.5°	0.8	0.8	5.6	11.9	19.9	23.9	27.9	35.8	43.0	49.4	54.9
120°	0.8	0.8	4.8	11.1	19.1	23.1	27.1	35.0	42.2	49.4	54.9
122.5°	0.8	0.8	4.0	10.4	18.3	22.3	26.3	34.2	41.4	48.6	54.9
125°	0.8	0.8	4.0	10.4	17.5	21.5	25.5	32.6	39.8	47.0	53.3
127.5°	0.8	0.8	3.2	9.6	16.7	19.9	23.9	31.8	38.2	45.4	51.8
130°	0.8	0.8	2.4	8.0	15.1	18.3	22.3	29.5	36.6	43.0	49.4
132.5°	0.8	0.8	2.4	7.2	13.5	16.7	19.9	27.9	34.2	40.6	47.0
135°	0.8	0.8	1.6	6.4	11.9	15.1	17.5	24.7	31.8	37.4	43.8
137.5°	0.8	0.8	1.6	4.8	10.4	12.7	15.9	21.5	28.7	34.2	40.6
140°	0.8	0.8	1.6	4.0	8.8	11.1	13.5	19.1	24.7	31.1	36.6
142.5°	0.8	0.8	0.8	3.2	7.2	8.8	11.1	15.9	21.5	27.1	32.6
145°	0.8	0.8	0.8	2.4	5.6	7.2	9.6	13.5	18.3	23.9	28.7
147.5°	0.8	0.8	0.8	1.6	4.0	5.6	7.2	11.1	15.1	19.9	23.9
150°	0.8	0.8	0.8	1.6	3.2	4.8	5.6	8.8	11.9	15.9	19.9
152.5°	0.8	0.8	0.8	0.8	2.4	3.2	4.8	7.2	9.6	12.7	15.9
155°	0.8	0.8	0.8	0.8	1.6	2.4	3.2	4.8	7.2	9.6	11.9
157.5°	0.8	0.8	0.8	0.8	1.6	1.6	2.4	3.2	4.8	7.2	8.8
160°	0.8	0.8	0.8	0.8	0.8	1.6	1.6	2.4	3.2	4.8	5.6
162.5°	1.6	0.8	0.8	0.8	0.8	0.8	1.6	1.6	2.4	3.2	4.0
165°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6	2.4
167.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
170°	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8	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



TEST NUMBER: P241494

CATALOG NUMBER: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0	1379.0
2.5°	1351.2	1357.5	1359.1	1361.5	1360.7	1363.1	1363.9	1365.5	1363.9	1362.3
5°	1309.0	1312.9	1311.3	1309.0	1309.0	1308.2	1306.6	1306.6	1307.4	1304.2
7.5°	1235.7	1240.5	1242.1	1242.9	1243.7	1242.1	1242.1	1241.3	1236.5	1234.9
10°	1174.4	1173.6	1176.0	1180.8	1184.7	1185.5	1191.9	1195.1	1195.1	1197.5
12.5°	1134.6	1141.8	1141.0	1143.3	1137.8	1135.4	1141.8	1137.0	1136.2	1135.4
15°	1102.7	1102.7	1104.3	1106.7	1108.3	1109.1	1106.7	1101.1	1096.4	1099.6
17.5°	1071.7	1076.5	1072.5	1062.9	1062.1	1065.3	1069.3	1073.3	1074.9	1076.5
20°	1046.2	1039.8	1040.6	1051.0	1053.4	1052.6	1047.0	1043.0	1039.0	1035.9
22.5°	1009.6	1019.1	1023.1	1015.2	1011.2	1011.2	1014.4	1013.6	1016.0	1009.6
25°	988.1	988.9	983.3	989.7	989.7	990.5	981.7	975.3	967.4	966.6
27.5°	957.0	954.6	961.8	957.0	948.3	945.9	945.1	948.3	949.9	950.7
30°	928.4	930.8	917.2	923.6	929.2	930.8	930.0	917.2	913.2	913.2
32.5°	906.1	895.7	901.3	902.1	894.9	890.2	881.4	882.2	881.4	878.2
35°	870.2	869.5	875.0	863.1	859.9	859.1	863.1	858.3	848.0	840.0
37.5°	836.8	842.4	833.6	840.0	836.8	828.8	816.9	812.1	811.3	811.3
40°	814.5	805.8	808.9	793.8	788.2	791.4	793.8	793.0	789.8	789.0
42.5°	780.3	780.3	770.7	765.2	766.7	767.5	759.6	751.6	746.8	742.9
45°	747.6	742.1	738.9	739.7	730.9	725.3	720.6	723.7	719.8	722.2
47.5°	719.0	710.2	710.2	695.1	695.9	699.9	697.5	684.7	680.8	676.8
50°	688.7	695.1	681.5	685.5	683.9	676.8	669.6	669.6	674.4	669.6
52.5°	660.8	664.8	665.6	660.8	655.3	656.1	662.4	658.5	653.7	652.9
55°	628.2	626.6	629.8	628.2	629.8	632.2	623.4	619.4	617.9	614.7
57.5°	586.8	591.6	586.0	595.6	591.6	585.2	586.0	586.0	586.0	582.0
60°	545.4	546.2	551.0	545.4	543.8	547.0	547.0	543.8	540.6	541.4
62.5°	503.2	504.0	503.2	500.0	504.0	500.8	496.0	496.0	500.8	499.2
65°	455.4	460.2	456.2	455.4	454.6	451.4	455.4	457.0	455.4	456.2
67.5°	414.8	415.6	414.8	410.8	409.2	410.8	408.5	403.7	404.5	402.1
70°	370.2	369.4	371.0	368.6	369.4	370.2	363.9	359.9	360.7	360.7
72.5°	324.1	326.4	326.4	328.8	328.0	325.6	323.3	321.7	320.9	320.9
75°	280.3	284.2	285.0	286.6	285.8	285.0	285.0	281.9	279.5	278.7
77.5°	235.7	239.7	246.0	244.4	246.0	246.0	247.6	243.6	246.0	246.0
80°	191.9	196.7	203.0	207.8	209.4	210.2	211.8	213.4	218.2	218.2
82.5°	152.1	157.6	165.6	172.0	176.8	178.3	184.7	191.1	194.3	195.9
85°	116.2	125.0	133.0	140.9	147.3	152.1	157.6	160.0	164.8	168.0
87.5°	90.8	100.3	110.7	121.0	125.0	127.4	132.2	137.7	145.7	150.5
90°	79.6	90.0	99.5	106.7	108.3	110.7	116.2	122.6	131.4	137.7
92.5°	78.8	86.8	93.2	97.9	100.3	103.5	108.3	111.5	118.6	124.2
95°	74.8	82.0	88.4	93.2	95.5	97.9	102.7	110.7	121.0	127.4
97.5°	72.5	79.6	84.4	90.0	93.2	96.3	106.7	118.6	127.4	129.8
100°	70.1	76.4	82.0	89.2	93.2	97.1	105.9	110.7	112.3	110.7
102.5°	67.7	74.0	80.4	86.8	89.2	92.4	96.3	95.5	94.7	93.2
105°	66.1	71.7	77.2	81.2	82.0	83.6	84.4	83.6	82.0	80.4
107.5°	64.5	69.3	73.3	74.8	75.6	76.4	76.4	74.8	73.3	71.7
110°	62.1	66.9	69.3	70.9	70.9	71.7	70.9	70.1	67.7	66.9



TEST NUMBER: P241494

CATALOG NUMBER: FVS8M-4-LD4-35-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	61.3	64.5	66.9	68.5	69.3	70.1	70.1	69.3	67.7	66.9
115°	60.5	64.5	66.9	69.3	70.1	70.9	71.7	71.7	70.1	70.1
117.5°	60.5	65.3	68.5	70.9	72.5	73.3	74.0	74.8	74.0	73.3
120°	60.5	66.1	69.3	73.3	74.0	74.8	76.4	77.2	77.2	76.4
122.5°	60.5	66.1	70.1	73.3	74.8	75.6	78.0	78.8	78.8	78.8
125°	59.7	65.3	69.3	72.5	74.0	75.6	78.0	79.6	80.4	81.2
127.5°	58.1	63.7	67.7	71.7	73.3	74.8	77.2	78.8	80.4	82.0
130°	55.7	61.3	66.1	70.1	71.7	73.3	75.6	78.0	79.6	80.4
132.5°	53.3	58.1	63.7	67.7	69.3	70.9	74.0	76.4	78.0	78.8
135°	50.2	54.9	60.5	64.5	66.1	68.5	71.7	74.0	75.6	76.4
137.5°	46.2	51.8	56.5	61.3	62.9	64.5	68.5	70.9	72.5	72.5
140°	43.0	47.8	53.3	57.3	59.7	61.3	64.5	66.9	68.5	69.3
142.5°	39.0	44.6	49.4	53.3	54.9	56.5	59.7	62.1	63.7	64.5
145°	34.2	39.8	43.8	47.8	50.2	51.8	54.1	56.5	58.1	58.1
147.5°	29.5	34.2	38.2	41.4	43.8	45.4	47.8	50.2	51.8	51.8
150°	23.9	27.9	32.6	35.8	36.6	38.2	40.6	42.2	43.0	43.8
152.5°	19.1	22.3	26.3	28.7	30.3	31.8	33.4	35.0	35.8	35.8
155°	14.3	17.5	19.9	23.1	23.9	25.5	26.3	27.9	27.9	28.7
157.5°	10.4	12.7	14.3	16.7	17.5	19.1	19.9	20.7	21.5	21.5
160°	7.2	8.8	10.4	11.9	12.7	13.5	14.3	15.1	15.9	15.1
162.5°	4.8	5.6	6.4	8.0	8.0	8.8	9.6	10.4	10.4	10.4
165°	2.4	3.2	4.0	4.0	4.8	4.8	5.6	6.4	6.4	6.4
167.5°	1.6	1.6	1.6	2.4	2.4	2.4	2.4	3.2	3.2	3.2
170°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	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
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)