

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: P241436

Luminaire Tested: **FVS8M-2-LD4-50-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241436
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-LD4-50-2STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

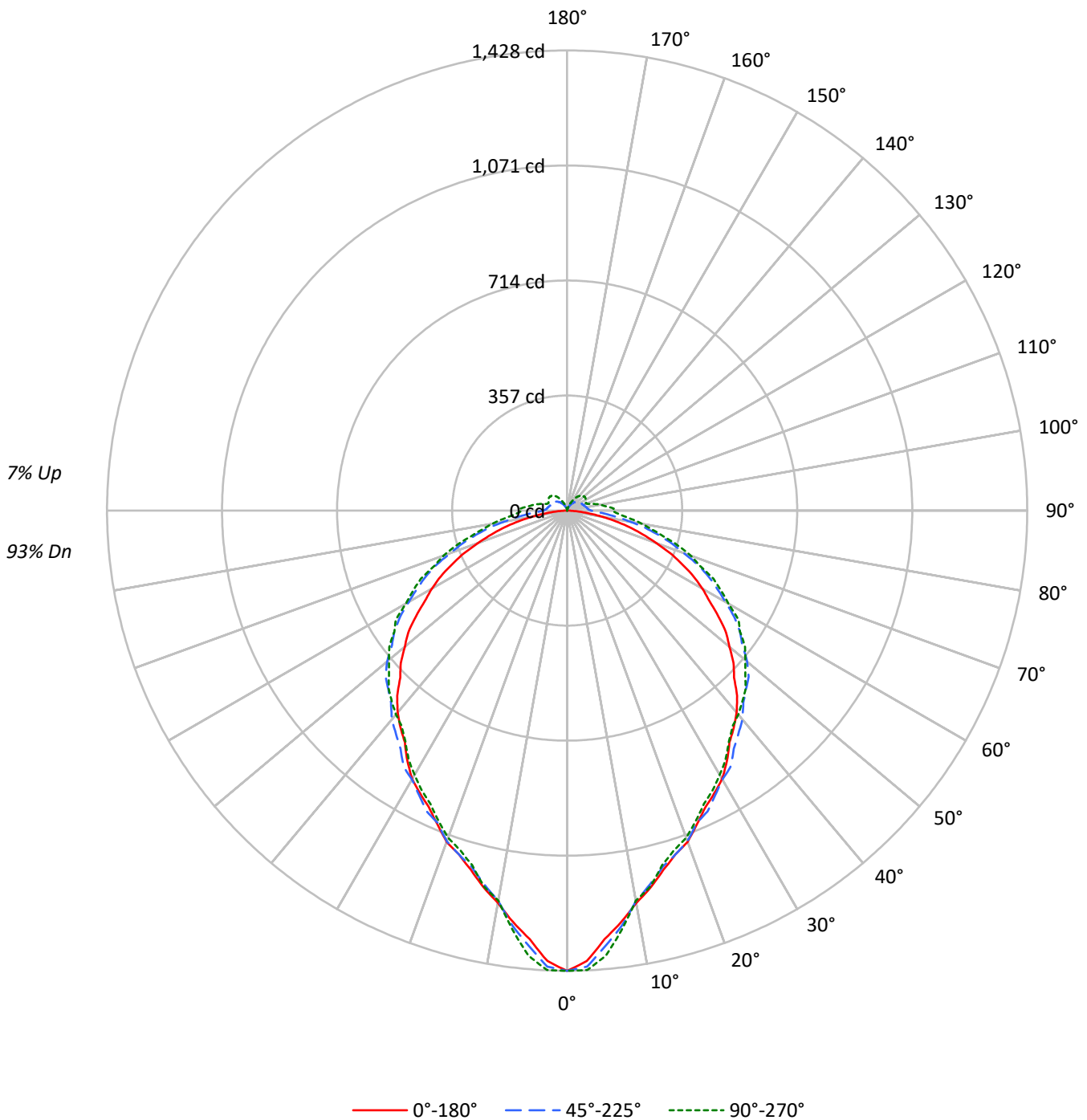
Lumens per Lamp: N/A
Luminaire Lumens: 3779.0 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 33.6
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: P241436

CATALOG NUMBER: FVS8M-2-LD4-50-2STD-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241436

CATALOG NUMBER: FVS8M-2-LD4-50-2STD-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	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°	12840	12840	12840
5°	11961	12016	12262
10°	11126	10815	10789
15°	10518	10072	9993
20°	10171	9686	9546
25°	9714	9289	9011
30°	9547	8893	8697
35°	9134	8601	8289
40°	9010	8406	8150
45°	8633	8206	8118
50°	8408	8114	7949
55°	8076	7851	7762
60°	7667	7429	7463
65°	7162	7052	7176
70°	6352	6358	6617
75°	5397	5660	5843
80°	3963	4666	5336
85°	1988	3579	4882



TEST NUMBER: P241436

CATALOG NUMBER: FVS8M-2-LD4-50-2STD-PA187-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.6	3.3
10°-20°	324.9	8.6
20°-30°	471.4	12.5
30°-40°	561.2	14.8
40°-50°	598.3	15.8
50°-60°	566.6	15.0
60°-70°	456.5	12.1
70°-80°	293.3	7.8
80°-90°	128.1	3.4
90°-100°	68.0	1.8
100°-110°	52.6	1.4
110°-120°	42.0	1.1
120°-130°	37.5	1.0
130°-140°	28.1	0.7
140°-150°	16.4	0.4
150°-160°	6.8	0.2
160°-170°	1.6	0.0
170°-180°	0.0	0.0
0°-30°	921.9	24.4
0°-40°	1483.1	39.2
0°-60°	2648.0	70.1
0°-90°	3525.9	93.3
90°-120°	162.6	4.3
90°-150°	244.6	6.5
90°-180°	253.0	6.7
0°-180°	3779.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1428	1428	1428	1428	1428	
5°	1335	1341	1357	1377	1386	125
15°	1154	1159	1145	1136	1139	326
25°	1015	1020	1031	1022	1004	471
35°	878	910	902	898	875	554
45°	732	767	784	799	783	570
55°	573	605	655	662	655	512
65°	394	427	485	492	501	389
75°	201	240	294	321	310	212
85°	37	71	120	152	170	46
90°	1	32	74	103	140	2
95°	0	28	64	94	130	0
105°	0	25	56	77	78	0
115°	0	23	50	62	64	0
125°	0	20	47	66	69	0
135°	0	15	38	59	66	0
145°	1	9	27	43	50	1
155°	1	4	15	24	27	0
165°	1	1	4	9	10	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241436

CATALOG NUMBER: FVS8M-2-LD4-50-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4
2.5°	1399.4	1399.4	1400.3	1400.3	1402.0	1402.8	1405.4	1405.4	1409.7	1413.1	1416.5
5°	1334.7	1332.1	1334.7	1334.7	1339.0	1340.7	1344.9	1350.0	1350.9	1356.0	1356.8
7.5°	1287.9	1287.0	1283.6	1283.6	1281.9	1284.4	1284.4	1287.9	1293.8	1298.9	1299.8
10°	1235.9	1235.0	1234.2	1235.0	1230.8	1232.5	1232.5	1234.2	1237.6	1236.7	1229.9
12.5°	1197.6	1196.7	1193.3	1193.3	1194.2	1194.2	1193.3	1195.0	1189.0	1185.6	1188.2
15°	1154.1	1156.7	1159.2	1155.0	1160.1	1159.2	1159.2	1155.8	1148.2	1143.1	1144.8
17.5°	1118.4	1121.8	1119.2	1117.5	1115.8	1115.8	1118.4	1118.4	1120.9	1115.8	1118.4
20°	1093.7	1088.5	1082.6	1087.7	1091.1	1091.9	1092.8	1092.8	1089.4	1088.5	1091.9
22.5°	1052.8	1051.9	1054.5	1060.4	1059.6	1055.3	1053.6	1046.8	1050.2	1053.6	1049.4
25°	1015.3	1025.5	1028.1	1021.3	1018.7	1020.4	1025.5	1028.9	1034.9	1031.5	1030.6
27.5°	988.9	991.4	979.5	987.2	999.1	1005.1	1001.7	1000.8	998.3	989.7	994.8
30°	961.6	953.1	954.8	964.2	965.0	960.8	956.5	959.1	964.2	965.0	963.3
32.5°	922.4	918.2	934.4	926.7	926.7	930.1	936.9	941.2	946.3	945.4	943.7
35°	878.2	889.2	889.2	885.8	902.0	909.7	913.1	905.4	904.6	898.6	902.0
37.5°	849.2	850.0	846.6	864.5	870.5	867.9	865.4	864.5	868.8	872.2	873.0
40°	818.5	810.9	816.8	827.1	821.9	826.2	833.0	843.2	847.5	849.2	845.8
42.5°	780.2	777.7	787.0	782.8	793.0	798.9	805.8	811.7	808.3	810.0	809.2
45°	732.5	743.6	738.5	750.4	767.4	767.4	768.3	766.6	774.2	783.6	784.5
47.5°	700.1	701.8	701.0	715.5	722.3	720.6	731.7	742.7	752.9	758.1	764.0
50°	657.6	653.3	670.3	671.2	681.4	688.2	697.6	707.8	717.2	724.0	729.1
52.5°	621.8	617.5	626.0	626.0	648.2	655.8	656.7	664.4	674.6	678.0	684.8
55°	573.2	579.2	577.5	593.7	603.9	604.7	608.2	621.8	638.0	644.8	655.0
57.5°	523.8	532.3	531.5	550.2	554.5	561.3	569.0	587.7	597.9	607.3	615.0
60°	484.6	486.4	494.9	498.3	508.5	518.7	530.6	542.6	549.4	560.5	567.3
62.5°	442.1	436.9	451.4	452.3	471.0	472.7	479.5	492.3	503.4	517.0	524.7
65°	393.5	394.4	401.2	410.5	423.3	426.7	433.5	448.0	462.5	475.3	484.6
67.5°	346.7	350.1	354.3	365.4	373.1	381.6	390.1	402.0	421.6	431.8	437.8
70°	293.9	299.8	304.9	316.9	327.9	334.7	345.8	357.7	370.5	379.0	385.0
72.5°	246.2	250.4	258.1	267.5	284.5	291.3	298.1	308.3	319.4	327.9	340.7
75°	201.0	204.4	213.8	220.6	235.1	240.2	248.7	258.9	273.4	284.5	293.9
77.5°	155.0	157.6	166.9	175.5	188.2	194.2	200.2	212.1	224.0	239.3	248.7
80°	110.7	113.3	122.7	130.3	140.5	145.6	152.5	166.9	180.6	189.1	200.2
82.5°	71.5	73.3	80.1	89.4	98.8	105.6	112.4	124.4	136.3	146.5	155.9
85°	36.6	38.3	46.0	53.7	63.9	70.7	75.0	86.9	98.8	109.0	120.1
87.5°	11.9	14.5	20.4	29.0	38.3	44.3	48.5	59.6	69.8	80.9	91.1
90°	0.9	3.4	9.4	17.0	26.4	31.5	36.6	46.0	55.4	64.7	74.1
92.5°	0.0	2.6	7.7	15.3	23.8	29.0	33.2	42.6	51.1	59.6	67.3
95°	0.0	1.7	7.7	14.5	23.0	28.1	32.4	40.9	49.4	57.1	63.9
97.5°	0.0	1.7	6.8	14.5	22.1	27.3	31.5	39.2	46.8	54.5	62.2
100°	0.0	1.7	6.8	13.6	22.1	26.4	29.8	37.5	45.1	52.8	59.6
102.5°	0.0	1.7	6.8	13.6	21.3	25.6	29.0	36.6	44.3	51.1	57.9
105°	0.0	1.7	6.8	13.6	21.3	24.7	29.0	35.8	43.4	50.3	56.2
107.5°	0.0	1.7	6.0	12.8	20.4	24.7	28.1	35.8	42.6	48.5	54.5
110°	0.0	1.7	6.0	12.8	20.4	23.8	28.1	34.9	41.7	47.7	52.8



TEST NUMBER: P241436

CATALOG NUMBER: FVS8M-2-LD4-50-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.7	6.0	12.8	19.6	23.8	27.3	34.1	40.9	46.0	51.1
115°	0.0	1.7	6.0	11.9	19.6	23.0	26.4	33.2	40.0	45.1	50.3
117.5°	0.0	0.9	6.0	11.9	18.7	22.1	26.4	33.2	39.2	44.3	49.4
120°	0.0	0.9	5.1	11.1	17.9	22.1	25.6	32.4	38.3	43.4	48.5
122.5°	0.0	0.9	5.1	11.1	17.9	21.3	24.7	31.5	37.5	43.4	48.5
125°	0.0	0.9	5.1	10.2	17.0	20.4	23.8	29.8	36.6	41.7	46.8
127.5°	0.0	0.9	4.3	10.2	16.2	19.6	23.0	29.0	34.9	40.0	45.1
130°	0.0	0.9	4.3	9.4	15.3	17.9	21.3	27.3	33.2	38.3	43.4
132.5°	0.0	0.9	3.4	8.5	14.5	17.0	19.6	25.6	31.5	36.6	40.9
135°	0.0	0.9	3.4	7.7	12.8	15.3	18.7	23.8	29.0	34.1	38.3
137.5°	0.0	0.0	2.6	6.8	11.9	14.5	17.0	22.1	27.3	31.5	35.8
140°	0.9	0.0	2.6	6.0	10.2	12.8	15.3	19.6	24.7	29.0	33.2
142.5°	0.9	0.0	1.7	5.1	9.4	11.1	13.6	17.9	22.1	26.4	29.8
145°	0.9	0.0	1.7	4.3	7.7	9.4	11.9	15.3	19.6	23.0	27.3
147.5°	0.9	0.0	0.9	3.4	6.8	8.5	10.2	13.6	17.0	20.4	23.8
150°	0.9	0.9	0.9	2.6	5.1	6.8	8.5	11.9	14.5	17.9	21.3
152.5°	0.9	0.9	0.9	1.7	4.3	5.1	6.8	9.4	12.8	15.3	18.7
155°	0.9	0.9	0.9	1.7	3.4	4.3	5.1	7.7	10.2	12.8	15.3
157.5°	0.9	0.9	0.0	0.9	2.6	3.4	4.3	6.0	7.7	10.2	11.9
160°	0.9	0.9	0.0	0.9	1.7	2.6	2.6	4.3	6.0	7.7	9.4
162.5°	0.9	0.9	0.9	0.9	0.9	1.7	1.7	3.4	4.3	6.0	6.8
165°	0.9	0.9	0.9	0.0	0.9	0.9	0.9	1.7	2.6	3.4	4.3
167.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.9	0.9	1.7	1.7	2.6
170°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
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: P241436

CATALOG NUMBER: FVS8M-2-LD4-50-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4	1428.4
2.5°	1419.9	1422.4	1424.1	1426.7	1425.8	1426.7	1426.7	1425.0	1426.7	1426.7
5°	1361.1	1367.1	1370.5	1375.6	1377.3	1377.3	1381.5	1385.0	1386.7	1385.8
7.5°	1298.9	1293.8	1294.7	1291.3	1291.3	1293.0	1297.2	1300.6	1305.7	1309.1
10°	1228.2	1229.9	1229.9	1233.3	1231.6	1231.6	1232.5	1235.0	1234.2	1229.1
12.5°	1189.0	1179.7	1181.4	1189.0	1191.6	1189.0	1191.6	1188.2	1194.2	1194.2
15°	1145.6	1151.6	1155.0	1144.8	1136.2	1139.6	1143.9	1140.5	1138.8	1138.8
17.5°	1126.9	1114.9	1108.1	1110.7	1112.4	1110.7	1111.5	1111.5	1109.0	1104.7
20°	1080.0	1081.7	1086.0	1087.7	1086.8	1086.0	1081.7	1080.9	1081.7	1080.0
22.5°	1051.9	1051.9	1052.8	1062.1	1062.1	1059.6	1054.5	1049.4	1043.4	1042.5
25°	1036.6	1028.9	1034.9	1026.4	1022.1	1015.3	1012.7	1009.3	998.3	1004.2
27.5°	990.6	1003.4	995.7	991.4	986.3	982.9	977.0	976.1	977.8	977.8
30°	965.0	957.4	954.8	955.7	957.4	964.2	957.4	947.1	947.1	947.1
32.5°	945.4	936.9	931.8	928.4	929.3	926.7	922.4	913.9	913.1	915.6
35°	897.7	903.7	904.6	902.9	897.7	891.8	890.9	889.2	879.0	874.8
37.5°	868.8	865.4	864.5	867.9	869.6	864.5	851.8	845.8	846.6	843.2
40°	848.3	848.3	840.7	829.6	824.5	825.3	831.3	826.2	824.5	826.2
42.5°	815.1	822.8	821.1	814.3	813.4	815.1	813.4	808.3	804.9	804.9
45°	789.6	787.9	789.6	798.9	798.9	793.8	784.5	787.9	787.9	782.8
47.5°	770.8	764.9	768.3	758.9	762.3	764.9	759.8	754.7	752.9	749.5
50°	733.4	738.5	739.3	734.2	729.1	730.0	724.0	718.9	724.0	721.4
52.5°	689.1	696.7	698.4	701.0	692.5	689.1	691.6	698.4	695.0	695.9
55°	661.8	661.8	661.0	657.6	661.8	666.9	657.6	656.7	652.4	655.0
57.5°	626.0	627.7	623.5	627.7	624.3	624.3	620.9	623.5	625.2	630.3
60°	574.9	581.7	587.7	586.0	579.2	580.0	584.3	580.9	581.7	577.5
62.5°	531.5	531.5	540.9	536.6	541.7	539.2	533.2	534.0	537.5	539.2
65°	489.8	491.5	487.2	493.2	492.3	488.9	490.6	498.3	497.4	500.8
67.5°	440.4	448.9	447.2	444.6	444.6	446.3	453.1	447.2	444.6	443.8
70°	392.7	396.9	404.6	401.2	405.4	406.3	401.2	399.5	401.2	408.0
72.5°	348.4	352.6	356.9	363.7	364.6	361.1	364.6	362.0	362.8	360.3
75°	301.5	307.5	311.7	322.0	321.1	317.7	318.6	314.3	310.9	310.0
77.5°	254.7	263.2	272.6	271.7	271.7	275.1	272.6	270.0	270.9	268.3
80°	210.4	219.8	227.4	228.3	230.0	235.1	231.7	233.4	232.5	235.1
82.5°	166.9	176.3	183.1	187.4	189.9	190.8	193.3	195.9	199.3	201.0
85°	130.3	138.8	143.9	149.1	151.6	153.3	158.4	162.7	166.9	169.5
87.5°	99.7	105.6	112.4	119.2	121.8	125.2	130.3	136.3	143.9	150.8
90°	80.1	86.9	93.7	100.5	103.1	106.5	112.4	120.1	131.2	140.5
92.5°	73.3	80.1	86.0	92.8	96.2	100.5	108.2	118.4	133.7	144.8
95°	70.7	77.5	84.3	91.1	94.5	98.0	107.3	117.5	126.9	129.5
97.5°	68.1	75.0	80.9	87.7	91.1	95.4	103.1	108.2	111.6	114.1
100°	66.4	72.4	78.4	85.2	87.7	90.3	95.4	99.7	103.1	105.6
102.5°	63.9	69.8	75.8	80.1	82.6	84.3	88.6	92.8	92.8	92.8
105°	62.2	67.3	71.5	75.0	76.7	78.4	80.9	80.1	79.2	78.4
107.5°	59.6	63.9	67.3	70.7	70.7	71.5	71.5	69.8	69.0	68.1
110°	57.1	61.3	63.9	64.7	65.6	65.6	65.6	64.7	63.9	63.9



TEST NUMBER: P241436

CATALOG NUMBER: FVS8M-2-LD4-50-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	55.4	58.8	61.3	62.2	63.0	63.0	63.0	63.0	62.2	62.2
115°	53.7	57.1	59.6	61.3	62.2	63.0	63.9	63.9	63.9	63.9
117.5°	53.7	57.1	60.5	62.2	63.9	64.7	66.4	66.4	65.6	66.4
120°	52.8	57.1	60.5	63.9	65.6	66.4	68.1	68.1	67.3	67.3
122.5°	52.8	57.1	61.3	64.7	66.4	67.3	69.0	69.8	69.0	68.1
125°	52.0	56.2	60.5	64.7	66.4	68.1	69.8	69.8	69.0	69.0
127.5°	50.3	55.4	59.6	63.9	65.6	67.3	69.0	69.8	69.0	69.0
130°	48.5	53.7	57.9	62.2	63.9	65.6	67.3	68.1	68.1	68.1
132.5°	46.0	51.1	55.4	59.6	61.3	63.0	65.6	66.4	67.3	67.3
135°	43.4	48.5	52.8	57.1	58.8	60.5	63.0	64.7	64.7	65.6
137.5°	40.9	45.1	49.4	53.7	55.4	57.1	60.5	61.3	62.2	63.0
140°	37.5	41.7	45.1	49.4	52.0	53.7	56.2	57.9	59.6	59.6
142.5°	34.1	37.5	41.7	45.1	46.8	48.5	52.0	53.7	55.4	55.4
145°	30.7	34.1	37.5	40.9	42.6	44.3	46.8	48.5	49.4	50.3
147.5°	27.3	30.7	33.2	36.6	37.5	39.2	40.9	42.6	43.4	44.3
150°	23.8	27.3	29.0	31.5	32.4	34.1	35.8	36.6	37.5	38.3
152.5°	20.4	23.0	25.6	27.3	28.1	29.0	30.7	31.5	32.4	32.4
155°	17.9	19.6	21.3	23.0	23.8	24.7	25.6	26.4	27.3	27.3
157.5°	14.5	16.2	17.9	19.6	19.6	20.4	21.3	22.1	23.0	23.0
160°	11.1	12.8	14.5	15.3	16.2	16.2	17.0	17.9	17.9	18.7
162.5°	8.5	9.4	11.1	11.9	12.8	12.8	13.6	14.5	14.5	14.5
165°	6.0	6.8	7.7	8.5	9.4	9.4	10.2	10.2	10.2	10.2
167.5°	3.4	4.3	4.3	5.1	6.0	6.0	6.8	6.8	6.8	6.8
170°	1.7	1.7	2.6	2.6	2.6	2.6	3.4	3.4	3.4	3.4
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)