

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: P241493

Luminaire Tested: **FVS8M-4-LD4-30-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241493
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-LD4-30-1STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

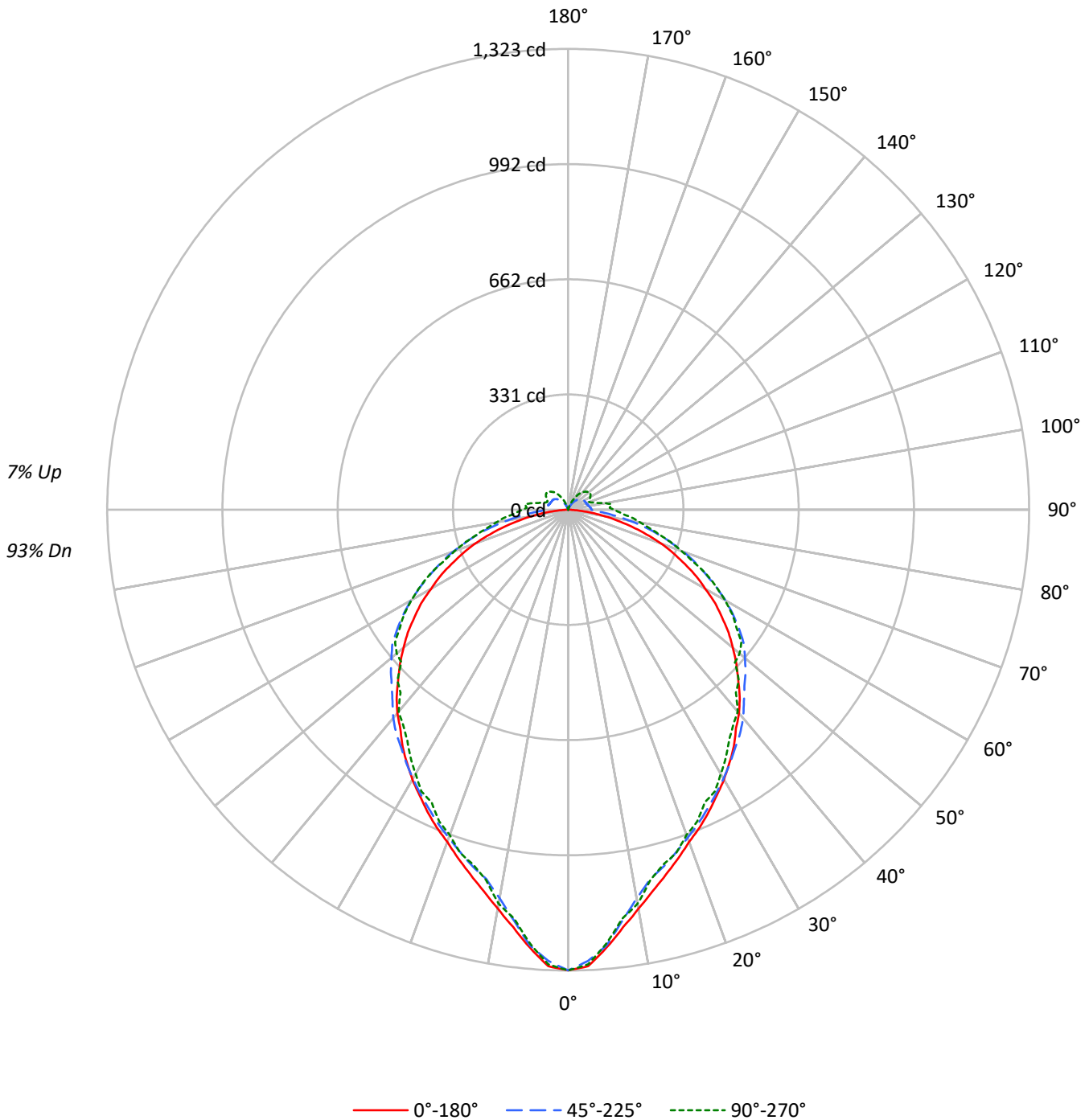
Lumens per Lamp: N/A
Luminaire Lumens: 3494.0 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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

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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	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°	5911	5911	5911
5°	5644	5545	5503
10°	5242	4975	5013
15°	4965	4670	4601
20°	4759	4461	4366
25°	4630	4294	4136
30°	4513	4150	3999
35°	4404	4026	3795
40°	4310	3939	3712
45°	4195	3809	3571
50°	4094	3763	3518
55°	3973	3685	3473
60°	3804	3520	3337
65°	3606	3272	3118
70°	3343	3024	2789
75°	2854	2670	2505
80°	2220	2211	2361
85°	1162	1683	2307



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	3.3
10°-20°	301.1	8.6
20°-30°	437.5	12.5
30°-40°	520.3	14.9
40°-50°	545.1	15.6
50°-60°	519.9	14.9
60°-70°	414.8	11.9
70°-80°	262.5	7.5
80°-90°	116.6	3.3
90°-100°	66.6	1.9
100°-110°	53.6	1.5
110°-120°	44.5	1.3
120°-130°	40.4	1.2
130°-140°	30.2	0.9
140°-150°	17.4	0.5
150°-160°	6.2	0.2
160°-170°	1.0	0.0
170°-180°	0.0	0.0
0°-30°	854.8	24.5
0°-40°	1375.2	39.4
0°-60°	2440.2	69.8
0°-90°	3234.1	92.6
90°-120°	164.7	4.7
90°-150°	252.7	7.2
90°-180°	260.0	7.4
0°-180°	3494.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1323	1323	1323	1323	1323	
5°	1262	1256	1256	1255	1251	117
15°	1084	1078	1060	1063	1055	306
25°	956	957	947	949	927	441
35°	829	839	835	825	806	518
45°	690	714	716	701	693	533
55°	538	568	600	604	590	482
65°	370	400	434	436	438	366
75°	189	225	263	274	267	202
85°	33	63	103	141	161	43
90°	1	28	66	104	132	2
95°	0	26	65	92	122	0
105°	0	25	57	79	77	0
115°	0	24	54	67	67	0
125°	1	21	51	71	78	1
135°	1	14	42	63	73	1
145°	1	7	28	48	56	1
155°	1	2	12	23	28	0
165°	2	1	2	5	6	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°	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6
2.5°	1311.9	1309.6	1304.3	1305.8	1307.3	1305.8	1307.3	1307.3	1304.3	1301.2	1296.7
5°	1262.3	1257.7	1256.9	1257.7	1258.5	1256.2	1257.7	1259.2	1256.9	1260.0	1256.2
7.5°	1208.8	1205.0	1204.3	1203.5	1202.7	1201.2	1202.0	1204.3	1201.2	1194.3	1189.7
10°	1163.0	1157.7	1154.6	1152.3	1152.3	1151.6	1153.1	1149.3	1143.2	1138.6	1132.5
12.5°	1121.0	1118.0	1114.9	1116.4	1113.4	1112.6	1111.1	1105.0	1100.4	1095.1	1085.9
15°	1084.4	1083.6	1079.0	1080.5	1076.7	1077.5	1076.0	1073.7	1065.3	1059.9	1059.9
17.5°	1049.2	1050.0	1050.0	1050.8	1044.7	1044.7	1044.7	1041.6	1034.7	1032.4	1030.9
20°	1014.9	1016.4	1015.6	1014.1	1014.9	1014.1	1014.9	1011.8	1004.9	1005.7	1001.9
22.5°	986.6	985.9	984.3	985.9	985.1	983.6	984.3	981.3	978.2	977.5	975.2
25°	956.1	956.1	952.3	956.1	955.3	956.8	956.1	958.4	953.8	952.3	946.9
27.5°	924.0	921.7	922.5	926.3	928.6	928.6	925.5	927.1	927.8	919.4	918.7
30°	894.2	893.5	891.2	895.7	898.8	896.5	898.0	901.1	901.1	892.7	891.2
32.5°	861.4	859.9	861.4	866.0	866.7	871.3	873.6	872.1	871.3	863.7	863.7
35°	829.3	828.5	830.8	833.9	837.7	839.2	843.8	846.9	842.3	835.4	834.7
37.5°	791.1	795.7	795.7	801.1	806.4	810.2	812.5	816.3	810.2	805.6	810.2
40°	762.9	760.6	759.8	769.0	773.6	777.4	781.2	783.5	778.1	779.7	781.2
42.5°	728.5	724.7	730.0	736.1	742.3	746.1	747.6	753.7	748.4	751.4	746.1
45°	689.6	691.1	694.1	697.2	710.2	714.0	715.5	716.3	720.9	720.1	715.5
47.5°	654.4	654.4	659.0	664.4	674.3	679.6	681.9	683.5	685.0	685.0	690.3
50°	616.3	617.0	621.6	629.2	636.9	641.5	645.3	651.4	656.0	658.3	662.1
52.5°	580.4	579.6	588.0	593.3	600.2	606.3	610.1	618.5	623.9	626.9	636.1
55°	538.4	540.7	546.0	553.6	563.6	568.1	572.0	581.1	586.5	594.1	599.5
57.5°	500.2	501.7	504.8	512.4	523.9	526.1	531.5	541.4	546.0	555.2	561.3
60°	454.4	460.5	464.3	473.5	478.8	482.6	491.0	504.0	509.3	517.0	521.6
62.5°	415.4	416.2	421.5	429.9	436.0	442.9	451.3	460.5	468.1	474.2	477.3
65°	369.6	372.7	381.1	385.6	395.6	400.1	407.0	415.4	423.1	429.9	433.7
67.5°	326.8	329.1	333.7	342.1	352.0	356.6	360.4	370.4	381.8	388.7	394.0
70°	283.3	286.4	288.7	299.3	305.5	311.6	316.9	329.9	340.6	344.4	350.5
72.5°	235.2	239.8	243.6	253.5	263.5	268.0	274.9	286.4	294.0	300.9	305.5
75°	189.4	194.0	200.8	208.5	216.9	225.3	230.6	239.0	248.2	255.8	262.7
77.5°	145.9	148.1	155.8	165.7	173.3	181.0	184.8	194.0	204.7	211.5	220.7
80°	105.4	106.9	115.3	121.4	132.1	135.9	140.5	151.2	161.1	169.5	177.2
82.5°	68.0	68.7	75.6	84.0	91.6	97.7	101.6	111.5	121.4	130.6	137.5
85°	32.8	35.9	42.0	49.6	59.6	62.6	67.2	77.9	86.3	94.7	103.1
87.5°	10.7	13.0	18.3	26.0	34.4	38.2	42.8	51.2	61.1	70.3	77.9
90°	0.8	3.1	8.4	15.3	23.7	27.5	31.3	40.5	49.6	58.0	66.4
92.5°	0.0	2.3	7.6	14.5	22.1	26.0	30.5	39.7	48.1	57.3	66.4
95°	0.0	2.3	6.9	13.7	22.1	26.0	30.5	39.7	48.1	57.3	64.9
97.5°	0.0	1.5	6.9	13.7	22.1	26.0	30.5	38.9	48.1	55.0	61.9
100°	0.0	1.5	6.9	13.7	21.4	26.0	29.8	38.9	45.8	53.5	60.3
102.5°	0.0	1.5	6.9	13.7	21.4	25.2	29.8	37.4	45.1	51.9	58.8
105°	0.0	1.5	6.1	13.7	21.4	25.2	29.0	36.7	43.5	50.4	57.3
107.5°	0.0	1.5	6.1	13.0	20.6	24.4	29.0	35.9	43.5	49.6	55.7
110°	0.0	1.5	6.1	13.0	20.6	24.4	28.3	35.9	42.8	48.9	55.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.8	5.3	12.2	20.6	24.4	28.3	35.1	42.0	48.9	54.2
115°	0.0	0.8	5.3	12.2	19.9	23.7	27.5	35.1	42.0	48.1	53.5
117.5°	0.8	0.8	5.3	11.5	19.1	22.9	26.7	34.4	41.2	47.3	52.7
120°	0.8	0.8	4.6	10.7	18.3	22.1	26.0	33.6	40.5	47.3	52.7
122.5°	0.8	0.8	3.8	9.9	17.6	21.4	25.2	32.8	39.7	46.6	52.7
125°	0.8	0.8	3.8	9.9	16.8	20.6	24.4	31.3	38.2	45.1	51.2
127.5°	0.8	0.8	3.1	9.2	16.0	19.1	22.9	30.5	36.7	43.5	49.6
130°	0.8	0.8	2.3	7.6	14.5	17.6	21.4	28.3	35.1	41.2	47.3
132.5°	0.8	0.8	2.3	6.9	13.0	16.0	19.1	26.7	32.8	38.9	45.1
135°	0.8	0.8	1.5	6.1	11.5	14.5	16.8	23.7	30.5	35.9	42.0
137.5°	0.8	0.8	1.5	4.6	9.9	12.2	15.3	20.6	27.5	32.8	38.9
140°	0.8	0.8	1.5	3.8	8.4	10.7	13.0	18.3	23.7	29.8	35.1
142.5°	0.8	0.8	0.8	3.1	6.9	8.4	10.7	15.3	20.6	26.0	31.3
145°	0.8	0.8	0.8	2.3	5.3	6.9	9.2	13.0	17.6	22.9	27.5
147.5°	0.8	0.8	0.8	1.5	3.8	5.3	6.9	10.7	14.5	19.1	22.9
150°	0.8	0.8	0.8	1.5	3.1	4.6	5.3	8.4	11.5	15.3	19.1
152.5°	0.8	0.8	0.8	0.8	2.3	3.1	4.6	6.9	9.2	12.2	15.3
155°	0.8	0.8	0.8	0.8	1.5	2.3	3.1	4.6	6.9	9.2	11.5
157.5°	0.8	0.8	0.8	0.8	1.5	1.5	2.3	3.1	4.6	6.9	8.4
160°	0.8	0.8	0.8	0.8	0.8	1.5	1.5	2.3	3.1	4.6	5.3
162.5°	1.5	0.8	0.8	0.8	0.8	0.8	1.5	1.5	2.3	3.1	3.8
165°	1.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5	1.5	2.3
167.5°	1.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
170°	1.5	1.5	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6	1322.6
2.5°	1295.9	1302.0	1303.5	1305.8	1305.1	1307.3	1308.1	1309.6	1308.1	1306.6
5°	1255.4	1259.2	1257.7	1255.4	1255.4	1254.7	1253.1	1253.1	1253.9	1250.8
7.5°	1185.2	1189.7	1191.3	1192.0	1192.8	1191.3	1191.3	1190.5	1185.9	1184.4
10°	1126.4	1125.6	1127.9	1132.5	1136.3	1137.1	1143.2	1146.2	1146.2	1148.5
12.5°	1088.2	1095.1	1094.3	1096.6	1091.2	1088.9	1095.1	1090.5	1089.7	1088.9
15°	1057.6	1057.6	1059.2	1061.5	1063.0	1063.7	1061.5	1056.1	1051.5	1054.6
17.5°	1027.9	1032.4	1028.6	1019.5	1018.7	1021.7	1025.6	1029.4	1030.9	1032.4
20°	1003.4	997.3	998.1	1008.0	1010.3	1009.5	1004.2	1000.4	996.5	993.5
22.5°	968.3	977.5	981.3	973.6	969.8	969.8	972.9	972.1	974.4	968.3
25°	947.7	948.4	943.1	949.2	949.2	950.0	941.6	935.5	927.8	927.1
27.5°	917.9	915.6	922.5	917.9	909.5	907.2	906.4	909.5	911.0	911.8
30°	890.4	892.7	879.7	885.8	891.2	892.7	891.9	879.7	875.9	875.9
32.5°	869.0	859.1	864.4	865.2	858.3	853.7	845.3	846.1	845.3	842.3
35°	834.7	833.9	839.2	827.8	824.7	824.0	827.8	823.2	813.3	805.6
37.5°	802.6	807.9	799.5	805.6	802.6	794.9	783.5	778.9	778.1	778.1
40°	781.2	772.8	775.9	761.3	756.0	759.1	761.3	760.6	757.5	756.8
42.5°	748.4	748.4	739.2	733.9	735.4	736.1	728.5	720.9	716.3	712.5
45°	717.1	711.7	708.7	709.4	701.0	695.7	691.1	694.1	690.3	692.6
47.5°	689.6	681.2	681.2	666.7	667.4	671.2	668.9	656.7	652.9	649.1
50°	660.5	666.7	653.7	657.5	656.0	649.1	642.2	642.2	646.8	642.2
52.5°	633.8	637.6	638.4	633.8	628.5	629.2	635.3	631.5	626.9	626.2
55°	602.5	601.0	604.0	602.5	604.0	606.3	597.9	594.1	592.6	589.5
57.5°	562.8	567.4	562.0	571.2	567.4	561.3	562.0	562.0	562.0	558.2
60°	523.1	523.9	528.4	523.1	521.6	524.6	524.6	521.6	518.5	519.3
62.5°	482.6	483.4	482.6	479.6	483.4	480.3	475.7	475.7	480.3	478.8
65°	436.8	441.4	437.6	436.8	436.0	433.0	436.8	438.3	436.8	437.6
67.5°	397.9	398.6	397.9	394.0	392.5	394.0	391.7	387.2	387.9	385.6
70°	355.1	354.3	355.9	353.6	354.3	355.1	349.0	345.2	345.9	345.9
72.5°	310.8	313.1	313.1	315.4	314.6	312.3	310.0	308.5	307.7	307.7
75°	268.8	272.6	273.4	274.9	274.1	273.4	273.4	270.3	268.0	267.3
77.5°	226.0	229.9	236.0	234.4	236.0	236.0	237.5	233.7	236.0	236.0
80°	184.0	188.6	194.7	199.3	200.8	201.6	203.1	204.7	209.2	209.2
82.5°	145.9	151.2	158.8	164.9	169.5	171.1	177.2	183.3	186.3	187.9
85°	111.5	119.9	127.5	135.2	141.3	145.9	151.2	153.5	158.1	161.1
87.5°	87.1	96.2	106.1	116.1	119.9	122.2	126.8	132.1	139.7	144.3
90°	76.4	86.3	95.5	102.3	103.9	106.1	111.5	117.6	126.0	132.1
92.5°	75.6	83.2	89.3	93.9	96.2	99.3	103.9	106.9	113.8	119.1
95°	71.8	78.7	84.8	89.3	91.6	93.9	98.5	106.1	116.1	122.2
97.5°	69.5	76.4	80.9	86.3	89.3	92.4	102.3	113.8	122.2	124.5
100°	67.2	73.3	78.7	85.5	89.3	93.2	101.6	106.1	107.7	106.1
102.5°	64.9	71.0	77.1	83.2	85.5	88.6	92.4	91.6	90.9	89.3
105°	63.4	68.7	74.1	77.9	78.7	80.2	80.9	80.2	78.7	77.1
107.5°	61.9	66.4	70.3	71.8	72.5	73.3	73.3	71.8	70.3	68.7
110°	59.6	64.1	66.4	68.0	68.0	68.7	68.0	67.2	64.9	64.1



TEST NUMBER: P241493

CATALOG NUMBER: FVS8M-4-LD4-30-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	58.8	61.9	64.1	65.7	66.4	67.2	67.2	66.4	64.9	64.1
115°	58.0	61.9	64.1	66.4	67.2	68.0	68.7	68.7	67.2	67.2
117.5°	58.0	62.6	65.7	68.0	69.5	70.3	71.0	71.8	71.0	70.3
120°	58.0	63.4	66.4	70.3	71.0	71.8	73.3	74.1	74.1	73.3
122.5°	58.0	63.4	67.2	70.3	71.8	72.5	74.8	75.6	75.6	75.6
125°	57.3	62.6	66.4	69.5	71.0	72.5	74.8	76.4	77.1	77.9
127.5°	55.7	61.1	64.9	68.7	70.3	71.8	74.1	75.6	77.1	78.7
130°	53.5	58.8	63.4	67.2	68.7	70.3	72.5	74.8	76.4	77.1
132.5°	51.2	55.7	61.1	64.9	66.4	68.0	71.0	73.3	74.8	75.6
135°	48.1	52.7	58.0	61.9	63.4	65.7	68.7	71.0	72.5	73.3
137.5°	44.3	49.6	54.2	58.8	60.3	61.9	65.7	68.0	69.5	69.5
140°	41.2	45.8	51.2	55.0	57.3	58.8	61.9	64.1	65.7	66.4
142.5°	37.4	42.8	47.3	51.2	52.7	54.2	57.3	59.6	61.1	61.9
145°	32.8	38.2	42.0	45.8	48.1	49.6	51.9	54.2	55.7	55.7
147.5°	28.3	32.8	36.7	39.7	42.0	43.5	45.8	48.1	49.6	49.6
150°	22.9	26.7	31.3	34.4	35.1	36.7	38.9	40.5	41.2	42.0
152.5°	18.3	21.4	25.2	27.5	29.0	30.5	32.1	33.6	34.4	34.4
155°	13.7	16.8	19.1	22.1	22.9	24.4	25.2	26.7	26.7	27.5
157.5°	9.9	12.2	13.7	16.0	16.8	18.3	19.1	19.9	20.6	20.6
160°	6.9	8.4	9.9	11.5	12.2	13.0	13.7	14.5	15.3	14.5
162.5°	4.6	5.3	6.1	7.6	7.6	8.4	9.2	9.9	9.9	9.9
165°	2.3	3.1	3.8	3.8	4.6	4.6	5.3	6.1	6.1	6.1
167.5°	1.5	1.5	1.5	2.3	2.3	2.3	2.3	3.1	3.1	3.1
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)