

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: P241496

Luminaire Tested: **FVS8M-4-LD4-50-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241496
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-LD4-50-1STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

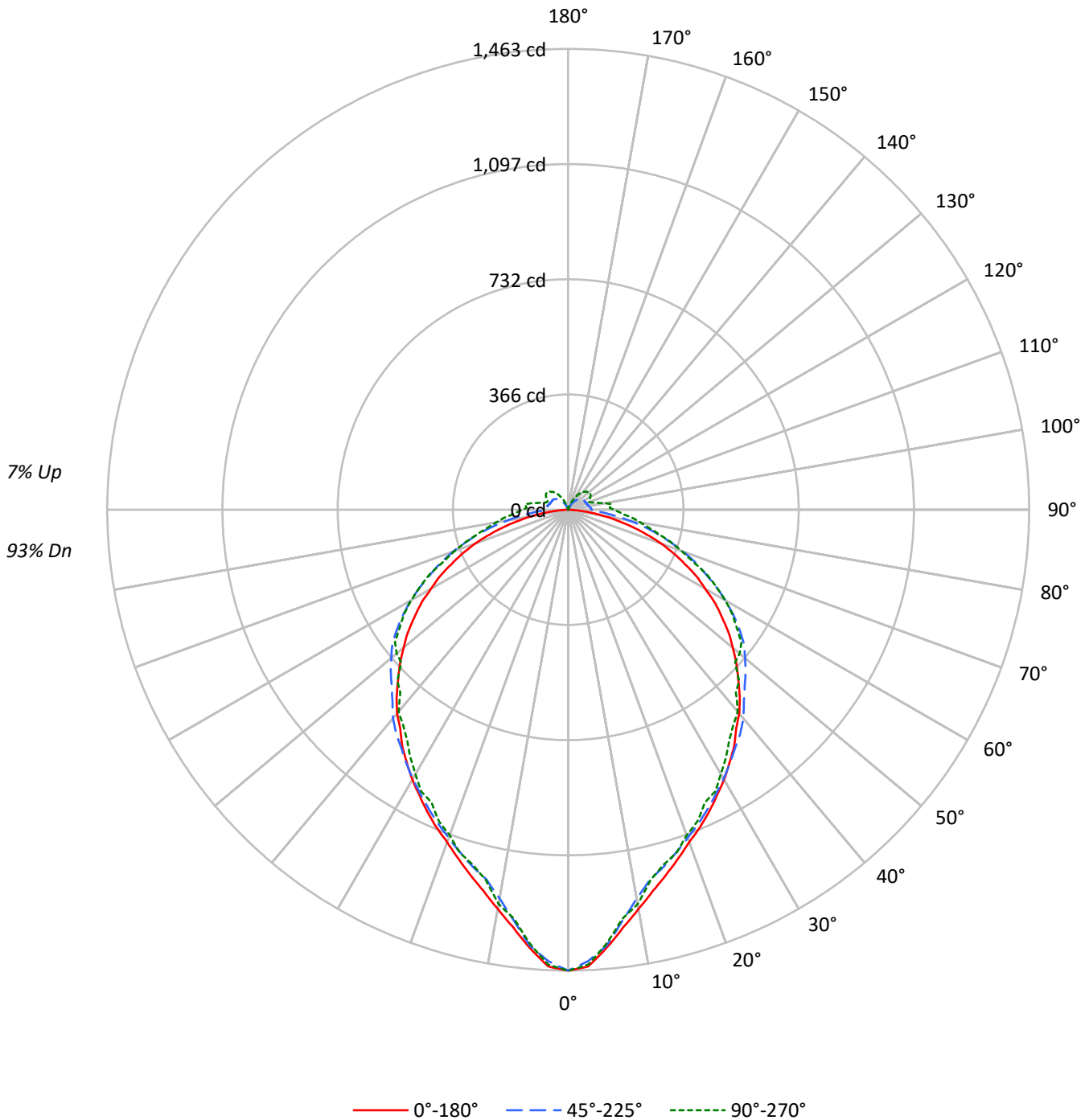
Lumens per Lamp: N/A
Luminaire Lumens: 3866.0 lumens
Efficiency: N/A
Efficacy: 115.4 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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°	6540	6540	6540
5°	6245	6135	6089
10°	5800	5505	5546
15°	5494	5167	5091
20°	5266	4936	4831
25°	5123	4751	4577
30°	4993	4592	4424
35°	4873	4454	4199
40°	4768	4358	4107
45°	4641	4214	3952
50°	4530	4164	3893
55°	4396	4078	3843
60°	4208	3895	3692
65°	3991	3621	3450
70°	3699	3346	3087
75°	3157	2954	2771
80°	2456	2446	2613
85°	1286	1863	2553



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	3.3
10°-20°	333.2	8.6
20°-30°	484.1	12.5
30°-40°	575.7	14.9
40°-50°	603.1	15.6
50°-60°	575.3	14.9
60°-70°	459.0	11.9
70°-80°	290.5	7.5
80°-90°	129.1	3.3
90°-100°	73.7	1.9
100°-110°	59.3	1.5
110°-120°	49.2	1.3
120°-130°	44.7	1.2
130°-140°	33.4	0.9
140°-150°	19.2	0.5
150°-160°	6.8	0.2
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	945.8	24.5
0°-40°	1521.6	39.4
0°-60°	2700.0	69.8
0°-90°	3578.5	92.6
90°-120°	182.2	4.7
90°-150°	279.6	7.2
90°-180°	287.0	7.4
0°-180°	3866.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1463	1463	1463	1463	1463	
5°	1397	1390	1390	1389	1384	130
15°	1200	1192	1173	1176	1167	338
25°	1058	1059	1048	1050	1026	487
35°	918	929	924	912	891	573
45°	763	790	792	776	766	590
55°	596	629	663	668	652	533
65°	409	443	480	482	484	405
75°	210	249	291	303	296	223
85°	36	69	114	156	178	48
90°	1	30	74	115	146	2
95°	0	29	72	101	135	0
105°	0	28	63	87	85	0
115°	0	26	59	74	74	0
125°	1	23	57	79	86	1
135°	1	16	46	70	81	1
145°	1	8	30	53	62	1
155°	1	2	13	25	30	0
165°	2	1	2	5	7	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°	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4
2.5°	1451.6	1449.1	1443.2	1444.8	1446.5	1444.8	1446.5	1446.5	1443.2	1439.8	1434.7
5°	1396.7	1391.6	1390.8	1391.6	1392.5	1389.9	1391.6	1393.3	1390.8	1394.2	1389.9
7.5°	1337.5	1333.3	1332.5	1331.6	1330.8	1329.1	1329.9	1332.5	1329.1	1321.5	1316.4
10°	1286.8	1280.9	1277.6	1275.0	1275.0	1274.2	1275.9	1271.6	1264.9	1259.8	1253.0
12.5°	1240.4	1237.0	1233.6	1235.3	1231.9	1231.1	1229.4	1222.6	1217.6	1211.6	1201.5
15°	1199.8	1199.0	1193.9	1195.6	1191.4	1192.2	1190.5	1188.0	1178.7	1172.8	1172.8
17.5°	1160.9	1161.8	1161.8	1162.6	1155.9	1155.9	1155.9	1152.5	1144.9	1142.4	1140.7
20°	1122.9	1124.6	1123.8	1122.1	1122.9	1122.1	1122.9	1119.5	1111.9	1112.8	1108.6
22.5°	1091.7	1090.8	1089.1	1090.8	1090.0	1088.3	1089.1	1085.7	1082.4	1081.5	1079.0
25°	1057.9	1057.9	1053.6	1057.9	1057.0	1058.7	1057.9	1060.4	1055.3	1053.6	1047.7
27.5°	1022.4	1019.8	1020.7	1024.9	1027.4	1027.4	1024.1	1025.8	1026.6	1017.3	1016.5
30°	989.4	988.6	986.0	991.1	994.5	992.0	993.7	997.0	997.0	987.7	986.0
32.5°	953.1	951.4	953.1	958.2	959.0	964.1	966.6	964.9	964.1	955.6	955.6
35°	917.6	916.8	919.3	922.7	926.9	928.6	933.7	937.0	932.0	924.4	923.5
37.5°	875.4	880.4	880.4	886.3	892.3	896.5	899.0	903.2	896.5	891.4	896.5
40°	844.1	841.6	840.7	850.9	855.9	860.1	864.4	866.9	861.0	862.7	864.4
42.5°	806.1	801.8	807.8	814.5	821.3	825.5	827.2	834.0	828.0	831.4	825.5
45°	763.0	764.7	768.1	771.4	785.8	790.0	791.7	792.6	797.6	796.8	791.7
47.5°	724.1	724.1	729.2	735.1	746.1	752.0	754.5	756.2	757.9	757.9	763.8
50°	681.9	682.7	687.8	696.2	704.7	709.8	714.0	720.7	725.8	728.3	732.6
52.5°	642.2	641.3	650.6	656.5	664.1	670.9	675.1	684.4	690.3	693.7	703.8
55°	595.7	598.2	604.1	612.6	623.6	628.6	632.9	643.0	648.9	657.4	663.3
57.5°	553.4	555.1	558.5	567.0	579.6	582.2	588.1	599.1	604.1	614.3	621.0
60°	502.7	509.5	513.7	523.9	529.8	534.0	543.3	557.7	563.6	572.0	577.1
62.5°	459.6	460.5	466.4	475.7	482.5	490.1	499.4	509.5	517.9	524.7	528.1
65°	409.0	412.3	421.6	426.7	437.7	442.7	450.4	459.6	468.1	475.7	479.9
67.5°	361.6	364.2	369.2	378.5	389.5	394.6	398.8	409.8	422.5	430.1	436.0
70°	313.5	316.9	319.4	331.2	338.0	344.7	350.7	365.0	376.8	381.1	387.8
72.5°	260.2	265.3	269.5	280.5	291.5	296.6	304.2	316.9	325.3	332.9	338.0
75°	209.5	214.6	222.2	230.7	240.0	249.3	255.2	264.5	274.6	283.1	290.7
77.5°	161.4	163.9	172.4	183.4	191.8	200.3	204.5	214.6	226.4	234.0	244.2
80°	116.6	118.3	127.6	134.3	146.2	150.4	155.5	167.3	178.3	187.6	196.0
82.5°	75.2	76.0	83.6	92.9	101.4	108.2	112.4	123.4	134.3	144.5	152.1
85°	36.3	39.7	46.5	54.9	65.9	69.3	74.4	86.2	95.5	104.8	114.1
87.5°	11.8	14.4	20.3	28.7	38.0	42.2	47.3	56.6	67.6	77.7	86.2
90°	0.8	3.4	9.3	16.9	26.2	30.4	34.6	44.8	54.9	64.2	73.5
92.5°	0.0	2.5	8.4	16.1	24.5	28.7	33.8	43.9	53.2	63.4	73.5
95°	0.0	2.5	7.6	15.2	24.5	28.7	33.8	43.9	53.2	63.4	71.8
97.5°	0.0	1.7	7.6	15.2	24.5	28.7	33.8	43.1	53.2	60.8	68.4
100°	0.0	1.7	7.6	15.2	23.7	28.7	33.0	43.1	50.7	59.1	66.8
102.5°	0.0	1.7	7.6	15.2	23.7	27.9	33.0	41.4	49.9	57.5	65.1
105°	0.0	1.7	6.8	15.2	23.7	27.9	32.1	40.6	48.2	55.8	63.4
107.5°	0.0	1.7	6.8	14.4	22.8	27.0	32.1	39.7	48.2	54.9	61.7
110°	0.0	1.7	6.8	14.4	22.8	27.0	31.3	39.7	47.3	54.1	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	0.8	5.9	13.5	22.8	27.0	31.3	38.9	46.5	54.1	60.0
115°	0.0	0.8	5.9	13.5	22.0	26.2	30.4	38.9	46.5	53.2	59.1
117.5°	0.8	0.8	5.9	12.7	21.1	25.3	29.6	38.0	45.6	52.4	58.3
120°	0.8	0.8	5.1	11.8	20.3	24.5	28.7	37.2	44.8	52.4	58.3
122.5°	0.8	0.8	4.2	11.0	19.4	23.7	27.9	36.3	43.9	51.5	58.3
125°	0.8	0.8	4.2	11.0	18.6	22.8	27.0	34.6	42.2	49.9	56.6
127.5°	0.8	0.8	3.4	10.1	17.7	21.1	25.3	33.8	40.6	48.2	54.9
130°	0.8	0.8	2.5	8.4	16.1	19.4	23.7	31.3	38.9	45.6	52.4
132.5°	0.8	0.8	2.5	7.6	14.4	17.7	21.1	29.6	36.3	43.1	49.9
135°	0.8	0.8	1.7	6.8	12.7	16.1	18.6	26.2	33.8	39.7	46.5
137.5°	0.8	0.8	1.7	5.1	11.0	13.5	16.9	22.8	30.4	36.3	43.1
140°	0.8	0.8	1.7	4.2	9.3	11.8	14.4	20.3	26.2	33.0	38.9
142.5°	0.8	0.8	0.8	3.4	7.6	9.3	11.8	16.9	22.8	28.7	34.6
145°	0.8	0.8	0.8	2.5	5.9	7.6	10.1	14.4	19.4	25.3	30.4
147.5°	0.8	0.8	0.8	1.7	4.2	5.9	7.6	11.8	16.1	21.1	25.3
150°	0.8	0.8	0.8	1.7	3.4	5.1	5.9	9.3	12.7	16.9	21.1
152.5°	0.8	0.8	0.8	0.8	2.5	3.4	5.1	7.6	10.1	13.5	16.9
155°	0.8	0.8	0.8	0.8	1.7	2.5	3.4	5.1	7.6	10.1	12.7
157.5°	0.8	0.8	0.8	0.8	1.7	1.7	2.5	3.4	5.1	7.6	9.3
160°	0.8	0.8	0.8	0.8	0.8	1.7	1.7	2.5	3.4	5.1	5.9
162.5°	1.7	0.8	0.8	0.8	0.8	0.8	1.7	1.7	2.5	3.4	4.2
165°	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7	1.7	2.5
167.5°	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
170°	1.7	1.7	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°	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4	1463.4
2.5°	1433.9	1440.6	1442.3	1444.8	1444.0	1446.5	1447.4	1449.1	1447.4	1445.7
5°	1389.1	1393.3	1391.6	1389.1	1389.1	1388.2	1386.5	1386.5	1387.4	1384.0
7.5°	1311.3	1316.4	1318.1	1319.0	1319.8	1318.1	1318.1	1317.3	1312.2	1310.5
10°	1246.3	1245.4	1248.0	1253.0	1257.3	1258.1	1264.9	1268.3	1268.3	1270.8
12.5°	1204.0	1211.6	1210.8	1213.3	1207.4	1204.9	1211.6	1206.6	1205.7	1204.9
15°	1170.2	1170.2	1171.9	1174.5	1176.2	1177.0	1174.5	1168.6	1163.5	1166.9
17.5°	1137.3	1142.4	1138.1	1128.0	1127.2	1130.5	1134.8	1139.0	1140.7	1142.4
20°	1110.3	1103.5	1104.3	1115.3	1117.9	1117.0	1111.1	1106.9	1102.6	1099.3
22.5°	1071.4	1081.5	1085.7	1077.3	1073.1	1073.1	1076.5	1075.6	1078.1	1071.4
25°	1048.6	1049.4	1043.5	1050.3	1050.3	1051.1	1041.8	1035.1	1026.6	1025.8
27.5°	1015.6	1013.1	1020.7	1015.6	1006.3	1003.8	1002.9	1006.3	1008.0	1008.9
30°	985.2	987.7	973.4	980.1	986.0	987.7	986.9	973.4	969.1	969.1
32.5°	961.5	950.6	956.5	957.3	949.7	944.6	935.3	936.2	935.3	932.0
35°	923.5	922.7	928.6	915.9	912.5	911.7	915.9	910.8	899.9	891.4
37.5°	888.0	893.9	884.7	891.4	888.0	879.6	866.9	861.8	861.0	861.0
40°	864.4	855.1	858.5	842.4	836.5	839.9	842.4	841.6	838.2	837.3
42.5°	828.0	828.0	817.9	812.0	813.7	814.5	806.1	797.6	792.6	788.3
45°	793.4	787.5	784.1	785.0	775.7	769.7	764.7	768.1	763.8	766.4
47.5°	763.0	753.7	753.7	737.6	738.5	742.7	740.2	726.6	722.4	718.2
50°	730.9	737.6	723.3	727.5	725.8	718.2	710.6	710.6	715.7	710.6
52.5°	701.3	705.5	706.4	701.3	695.4	696.2	703.0	698.8	693.7	692.9
55°	666.7	665.0	668.3	666.7	668.3	670.9	661.6	657.4	655.7	652.3
57.5°	622.7	627.8	621.9	632.0	627.8	621.0	621.9	621.9	621.9	617.7
60°	578.8	579.6	584.7	578.8	577.1	580.5	580.5	577.1	573.7	574.6
62.5°	534.0	534.8	534.0	530.6	534.8	531.5	526.4	526.4	531.5	529.8
65°	483.3	488.4	484.2	483.3	482.5	479.1	483.3	485.0	483.3	484.2
67.5°	440.2	441.1	440.2	436.0	434.3	436.0	433.5	428.4	429.2	426.7
70°	392.9	392.1	393.7	391.2	392.1	392.9	386.1	381.9	382.8	382.8
72.5°	343.9	346.4	346.4	349.0	348.1	345.6	343.0	341.4	340.5	340.5
75°	297.4	301.6	302.5	304.2	303.3	302.5	302.5	299.1	296.6	295.7
77.5°	250.1	254.3	261.1	259.4	261.1	261.1	262.8	258.6	261.1	261.1
80°	203.6	208.7	215.5	220.5	222.2	223.1	224.8	226.4	231.5	231.5
82.5°	161.4	167.3	175.7	182.5	187.6	189.3	196.0	202.8	206.2	207.9
85°	123.4	132.7	141.1	149.6	156.3	161.4	167.3	169.8	174.9	178.3
87.5°	96.3	106.5	117.4	128.4	132.7	135.2	140.3	146.2	154.6	159.7
90°	84.5	95.5	105.6	113.2	114.9	117.4	123.4	130.1	139.4	146.2
92.5°	83.6	92.1	98.9	103.9	106.5	109.8	114.9	118.3	125.9	131.8
95°	79.4	87.0	93.8	98.9	101.4	103.9	109.0	117.4	128.4	135.2
97.5°	76.9	84.5	89.6	95.5	98.9	102.2	113.2	125.9	135.2	137.7
100°	74.4	81.1	87.0	94.6	98.9	103.1	112.4	117.4	119.1	117.4
102.5°	71.8	78.6	85.3	92.1	94.6	98.0	102.2	101.4	100.5	98.9
105°	70.1	76.0	82.0	86.2	87.0	88.7	89.6	88.7	87.0	85.3
107.5°	68.4	73.5	77.7	79.4	80.3	81.1	81.1	79.4	77.7	76.0
110°	65.9	71.0	73.5	75.2	75.2	76.0	75.2	74.4	71.8	71.0



TEST NUMBER: P241496

CATALOG NUMBER: FVS8M-4-LD4-50-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	65.1	68.4	71.0	72.7	73.5	74.4	74.4	73.5	71.8	71.0
115°	64.2	68.4	71.0	73.5	74.4	75.2	76.0	76.0	74.4	74.4
117.5°	64.2	69.3	72.7	75.2	76.9	77.7	78.6	79.4	78.6	77.7
120°	64.2	70.1	73.5	77.7	78.6	79.4	81.1	82.0	82.0	81.1
122.5°	64.2	70.1	74.4	77.7	79.4	80.3	82.8	83.6	83.6	83.6
125°	63.4	69.3	73.5	76.9	78.6	80.3	82.8	84.5	85.3	86.2
127.5°	61.7	67.6	71.8	76.0	77.7	79.4	82.0	83.6	85.3	87.0
130°	59.1	65.1	70.1	74.4	76.0	77.7	80.3	82.8	84.5	85.3
132.5°	56.6	61.7	67.6	71.8	73.5	75.2	78.6	81.1	82.8	83.6
135°	53.2	58.3	64.2	68.4	70.1	72.7	76.0	78.6	80.3	81.1
137.5°	49.0	54.9	60.0	65.1	66.8	68.4	72.7	75.2	76.9	76.9
140°	45.6	50.7	56.6	60.8	63.4	65.1	68.4	71.0	72.7	73.5
142.5°	41.4	47.3	52.4	56.6	58.3	60.0	63.4	65.9	67.6	68.4
145°	36.3	42.2	46.5	50.7	53.2	54.9	57.5	60.0	61.7	61.7
147.5°	31.3	36.3	40.6	43.9	46.5	48.2	50.7	53.2	54.9	54.9
150°	25.3	29.6	34.6	38.0	38.9	40.6	43.1	44.8	45.6	46.5
152.5°	20.3	23.7	27.9	30.4	32.1	33.8	35.5	37.2	38.0	38.0
155°	15.2	18.6	21.1	24.5	25.3	27.0	27.9	29.6	29.6	30.4
157.5°	11.0	13.5	15.2	17.7	18.6	20.3	21.1	22.0	22.8	22.8
160°	7.6	9.3	11.0	12.7	13.5	14.4	15.2	16.1	16.9	16.1
162.5°	5.1	5.9	6.8	8.4	8.4	9.3	10.1	11.0	11.0	11.0
165°	2.5	3.4	4.2	4.2	5.1	5.1	5.9	6.8	6.8	6.8
167.5°	1.7	1.7	1.7	2.5	2.5	2.5	2.5	3.4	3.4	3.4
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)