

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: P241435

Luminaire Tested: **FVS8M-2-LD4-40-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241435
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-LD4-40-2STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

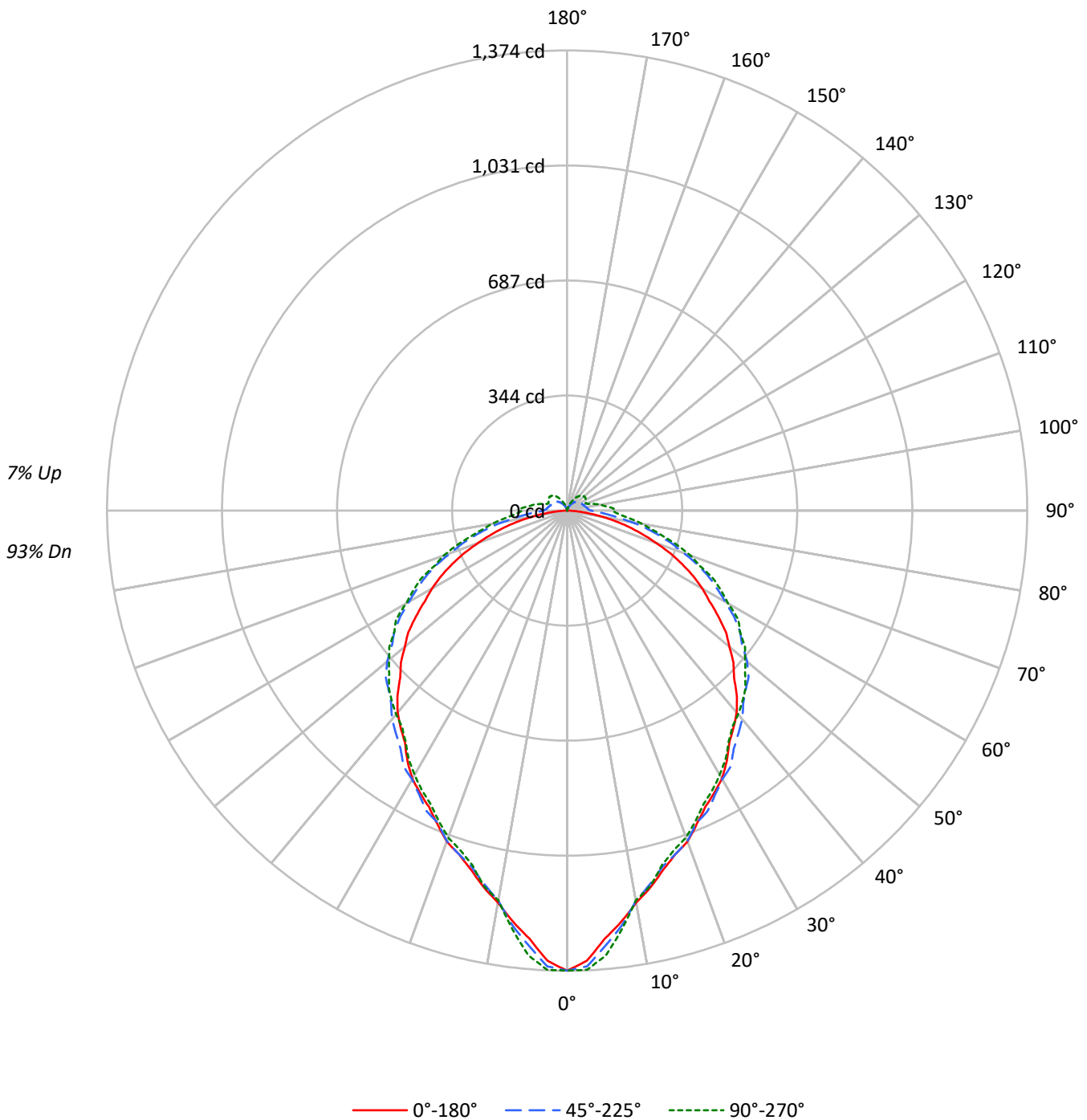
Lumens per Lamp: N/A
Luminaire Lumens: 3634.0 lumens
Efficiency: N/A
Efficacy: 108.2 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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

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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	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°	12347	12347	12347
5°	11502	11556	11791
10°	10700	10400	10375
15°	10115	9685	9609
20°	9780	9314	9180
25°	9340	8933	8665
30°	9181	8552	8363
35°	8783	8271	7971
40°	8664	8083	7838
45°	8301	7891	7806
50°	8084	7802	7645
55°	7766	7550	7464
60°	7375	7143	7176
65°	6887	6782	6901
70°	6107	6113	6363
75°	5190	5442	5618
80°	3812	4487	5132
85°	1912	3442	4695



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.8	3.3
10°-20°	312.4	8.6
20°-30°	453.3	12.5
30°-40°	539.6	14.9
40°-50°	575.3	15.8
50°-60°	544.9	15.0
60°-70°	439.0	12.1
70°-80°	282.1	7.8
80°-90°	123.2	3.4
90°-100°	65.4	1.8
100°-110°	50.6	1.4
110°-120°	40.4	1.1
120°-130°	36.0	1.0
130°-140°	27.1	0.7
140°-150°	15.8	0.4
150°-160°	6.6	0.2
160°-170°	1.5	0.0
170°-180°	0.0	0.0
0°-30°	886.6	24.4
0°-40°	1426.2	39.2
0°-60°	2546.4	70.1
0°-90°	3390.6	93.3
90°-120°	156.3	4.3
90°-150°	235.2	6.5
90°-180°	243.0	6.7
0°-180°	3634.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1374	1374	1374	1374	1374	
5°	1284	1289	1305	1324	1333	120
15°	1110	1115	1101	1093	1095	314
25°	976	981	991	983	966	453
35°	844	875	867	863	841	533
45°	704	738	754	768	753	548
55°	551	582	630	636	630	492
65°	378	410	466	473	482	374
75°	193	231	283	309	298	204
85°	35	68	116	146	163	44
90°	1	30	71	99	135	2
95°	0	27	61	91	124	0
105°	0	24	54	74	75	0
115°	0	22	48	60	61	0
125°	0	20	45	64	66	0
135°	0	15	37	56	63	0
145°	1	9	26	41	48	1
155°	1	4	15	23	26	0
165°	1	1	4	9	10	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°	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6
2.5°	1345.7	1345.7	1346.6	1346.6	1348.2	1349.0	1351.5	1351.5	1355.6	1358.8	1362.1
5°	1283.5	1281.0	1283.5	1283.5	1287.6	1289.2	1293.3	1298.2	1299.0	1304.0	1304.8
7.5°	1238.4	1237.6	1234.3	1234.3	1232.7	1235.2	1235.2	1238.4	1244.2	1249.1	1249.9
10°	1188.5	1187.7	1186.8	1187.7	1183.6	1185.2	1185.2	1186.8	1190.1	1189.3	1182.7
12.5°	1151.6	1150.8	1147.5	1147.5	1148.3	1148.3	1147.5	1149.2	1143.4	1140.1	1142.6
15°	1109.8	1112.3	1114.8	1110.7	1115.6	1114.8	1114.8	1111.5	1104.1	1099.2	1100.8
17.5°	1075.4	1078.7	1076.3	1074.6	1073.0	1073.0	1075.4	1075.4	1077.9	1073.0	1075.4
20°	1051.7	1046.8	1041.0	1046.0	1049.2	1050.0	1050.9	1050.9	1047.6	1046.8	1050.0
22.5°	1012.4	1011.6	1014.0	1019.7	1018.9	1014.8	1013.2	1006.6	1009.9	1013.2	1009.1
25°	976.3	986.2	988.6	982.1	979.6	981.2	986.2	989.4	995.2	991.9	991.1
27.5°	950.9	953.4	941.9	949.3	960.8	966.5	963.2	962.4	960.0	951.8	956.7
30°	924.7	916.5	918.2	927.2	928.0	923.9	919.8	922.3	927.2	928.0	926.4
32.5°	887.1	883.0	898.5	891.1	891.1	894.4	901.0	905.1	910.0	909.2	907.5
35°	844.5	855.1	855.1	851.8	867.4	874.8	878.0	870.7	869.9	864.1	867.4
37.5°	816.6	817.4	814.2	831.4	837.1	834.6	832.2	831.4	835.5	838.7	839.5
40°	787.1	779.8	785.5	795.3	790.4	794.5	801.1	810.9	815.0	816.6	813.3
42.5°	750.3	747.8	756.8	752.7	762.6	768.3	774.8	780.6	777.3	778.9	778.1
45°	704.4	715.0	710.1	721.6	738.0	738.0	738.8	737.2	744.5	753.5	754.4
47.5°	673.3	674.9	674.1	688.0	694.6	692.9	703.6	714.2	724.1	729.0	734.7
50°	632.3	628.2	644.6	645.4	655.3	661.8	670.8	680.6	689.7	696.2	701.1
52.5°	597.9	593.8	602.0	602.0	623.3	630.7	631.5	638.9	648.7	652.0	658.5
55°	551.2	557.0	555.3	570.9	580.7	581.5	584.8	597.9	613.5	620.0	629.9
57.5°	503.7	511.9	511.1	529.1	533.2	539.8	547.1	565.2	575.0	584.0	591.4
60°	466.1	467.7	475.9	479.2	489.0	498.8	510.3	521.7	528.3	538.9	545.5
62.5°	425.1	420.2	434.1	434.9	452.9	454.6	461.1	473.4	484.1	497.2	504.5
65°	378.4	379.2	385.8	394.8	407.1	410.4	416.9	430.8	444.8	457.0	466.1
67.5°	333.4	336.6	340.7	351.4	358.8	366.9	375.1	386.6	405.4	415.3	421.0
70°	282.6	288.3	293.2	304.7	315.3	321.9	332.5	344.0	356.3	364.5	370.2
72.5°	236.7	240.8	248.2	257.2	273.6	280.1	286.7	296.5	307.2	315.3	327.6
75°	193.3	196.6	205.6	212.1	226.1	231.0	239.2	249.0	262.9	273.6	282.6
77.5°	149.1	151.5	160.5	168.7	181.0	186.7	192.5	203.9	215.4	230.2	239.2
80°	106.5	108.9	117.9	125.3	135.1	140.1	146.6	160.5	173.6	181.8	192.5
82.5°	68.8	70.4	77.0	86.0	95.0	101.6	108.1	119.6	131.1	140.9	149.9
85°	35.2	36.9	44.2	51.6	61.4	68.0	72.1	83.5	95.0	104.8	115.5
87.5°	11.5	13.9	19.7	27.8	36.9	42.6	46.7	57.3	67.2	77.8	87.6
90°	0.8	3.3	9.0	16.4	25.4	30.3	35.2	44.2	53.2	62.2	71.3
92.5°	0.0	2.5	7.4	14.7	22.9	27.8	31.9	41.0	49.1	57.3	64.7
95°	0.0	1.6	7.4	13.9	22.1	27.0	31.1	39.3	47.5	54.9	61.4
97.5°	0.0	1.6	6.6	13.9	21.3	26.2	30.3	37.7	45.0	52.4	59.8
100°	0.0	1.6	6.6	13.1	21.3	25.4	28.7	36.0	43.4	50.8	57.3
102.5°	0.0	1.6	6.6	13.1	20.5	24.6	27.8	35.2	42.6	49.1	55.7
105°	0.0	1.6	6.6	13.1	20.5	23.8	27.8	34.4	41.8	48.3	54.1
107.5°	0.0	1.6	5.7	12.3	19.7	23.8	27.0	34.4	41.0	46.7	52.4
110°	0.0	1.6	5.7	12.3	19.7	22.9	27.0	33.6	40.1	45.9	50.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.6	5.7	12.3	18.8	22.9	26.2	32.8	39.3	44.2	49.1
115°	0.0	1.6	5.7	11.5	18.8	22.1	25.4	31.9	38.5	43.4	48.3
117.5°	0.0	0.8	5.7	11.5	18.0	21.3	25.4	31.9	37.7	42.6	47.5
120°	0.0	0.8	4.9	10.6	17.2	21.3	24.6	31.1	36.9	41.8	46.7
122.5°	0.0	0.8	4.9	10.6	17.2	20.5	23.8	30.3	36.0	41.8	46.7
125°	0.0	0.8	4.9	9.8	16.4	19.7	22.9	28.7	35.2	40.1	45.0
127.5°	0.0	0.8	4.1	9.8	15.6	18.8	22.1	27.8	33.6	38.5	43.4
130°	0.0	0.8	4.1	9.0	14.7	17.2	20.5	26.2	31.9	36.9	41.8
132.5°	0.0	0.8	3.3	8.2	13.9	16.4	18.8	24.6	30.3	35.2	39.3
135°	0.0	0.8	3.3	7.4	12.3	14.7	18.0	22.9	27.8	32.8	36.9
137.5°	0.0	0.0	2.5	6.6	11.5	13.9	16.4	21.3	26.2	30.3	34.4
140°	0.8	0.0	2.5	5.7	9.8	12.3	14.7	18.8	23.8	27.8	31.9
142.5°	0.8	0.0	1.6	4.9	9.0	10.6	13.1	17.2	21.3	25.4	28.7
145°	0.8	0.0	1.6	4.1	7.4	9.0	11.5	14.7	18.8	22.1	26.2
147.5°	0.8	0.0	0.8	3.3	6.6	8.2	9.8	13.1	16.4	19.7	22.9
150°	0.8	0.8	0.8	2.5	4.9	6.6	8.2	11.5	13.9	17.2	20.5
152.5°	0.8	0.8	0.8	1.6	4.1	4.9	6.6	9.0	12.3	14.7	18.0
155°	0.8	0.8	0.8	1.6	3.3	4.1	4.9	7.4	9.8	12.3	14.7
157.5°	0.8	0.8	0.0	0.8	2.5	3.3	4.1	5.7	7.4	9.8	11.5
160°	0.8	0.8	0.0	0.8	1.6	2.5	2.5	4.1	5.7	7.4	9.0
162.5°	0.8	0.8	0.8	0.8	0.8	1.6	1.6	3.3	4.1	5.7	6.6
165°	0.8	0.8	0.8	0.0	0.8	0.8	0.8	1.6	2.5	3.3	4.1
167.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.8	0.8	1.6	1.6	2.5
170°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	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°	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6	1373.6
2.5°	1365.4	1367.8	1369.5	1371.9	1371.1	1371.9	1371.9	1370.3	1371.9	1371.9
5°	1308.9	1314.6	1317.9	1322.8	1324.4	1324.4	1328.5	1331.8	1333.4	1332.6
7.5°	1249.1	1244.2	1245.0	1241.7	1241.7	1243.4	1247.4	1250.7	1255.6	1258.9
10°	1181.1	1182.7	1182.7	1186.0	1184.4	1184.4	1185.2	1187.7	1186.8	1181.9
12.5°	1143.4	1134.4	1136.1	1143.4	1145.9	1143.4	1145.9	1142.6	1148.3	1148.3
15°	1101.7	1107.4	1110.7	1100.8	1092.6	1095.9	1100.0	1096.7	1095.1	1095.1
17.5°	1083.6	1072.2	1065.6	1068.1	1069.7	1068.1	1068.9	1068.9	1066.4	1062.3
20°	1038.6	1040.2	1044.3	1046.0	1045.1	1044.3	1040.2	1039.4	1040.2	1038.6
22.5°	1011.6	1011.6	1012.4	1021.4	1021.4	1018.9	1014.0	1009.1	1003.4	1002.5
25°	996.8	989.4	995.2	987.0	982.9	976.3	973.9	970.6	960.0	965.7
27.5°	952.6	964.9	957.5	953.4	948.5	945.2	939.5	938.7	940.3	940.3
30°	928.0	920.6	918.2	919.0	920.6	927.2	920.6	910.8	910.8	910.8
32.5°	909.2	901.0	896.1	892.8	893.6	891.1	887.1	878.9	878.0	880.5
35°	863.3	869.0	869.9	868.2	863.3	857.6	856.7	855.1	845.3	841.2
37.5°	835.5	832.2	831.4	834.6	836.3	831.4	819.1	813.3	814.2	810.9
40°	815.8	815.8	808.4	797.8	792.9	793.7	799.4	794.5	792.9	794.5
42.5°	783.9	791.2	789.6	783.0	782.2	783.9	782.2	777.3	774.0	774.0
45°	759.3	757.6	759.3	768.3	768.3	763.4	754.4	757.6	757.6	752.7
47.5°	741.3	735.5	738.8	729.8	733.1	735.5	730.6	725.7	724.1	720.8
50°	705.2	710.1	711.0	706.0	701.1	701.9	696.2	691.3	696.2	693.8
52.5°	662.6	670.0	671.6	674.1	665.9	662.6	665.1	671.6	668.4	669.2
55°	636.4	636.4	635.6	632.3	636.4	641.3	632.3	631.5	627.4	629.9
57.5°	602.0	603.7	599.6	603.7	600.4	600.4	597.1	599.6	601.2	606.1
60°	552.9	559.4	565.2	563.5	557.0	557.8	561.9	558.6	559.4	555.3
62.5°	511.1	511.1	520.1	516.0	520.9	518.5	512.7	513.6	516.8	518.5
65°	471.0	472.6	468.5	474.2	473.4	470.1	471.8	479.2	478.3	481.6
67.5°	423.5	431.7	430.0	427.6	427.6	429.2	435.7	430.0	427.6	426.7
70°	377.6	381.7	389.1	385.8	389.9	390.7	385.8	384.1	385.8	392.3
72.5°	335.0	339.1	343.2	349.7	350.6	347.3	350.6	348.1	348.9	346.5
75°	290.0	295.7	299.8	309.6	308.8	305.5	306.3	302.2	299.0	298.1
77.5°	244.9	253.1	262.1	261.3	261.3	264.6	262.1	259.6	260.5	258.0
80°	202.3	211.3	218.7	219.5	221.1	226.1	222.8	224.4	223.6	226.1
82.5°	160.5	169.5	176.1	180.2	182.7	183.5	185.9	188.4	191.7	193.3
85°	125.3	133.5	138.4	143.3	145.8	147.4	152.3	156.4	160.5	163.0
87.5°	95.8	101.6	108.1	114.7	117.1	120.4	125.3	131.1	138.4	145.0
90°	77.0	83.5	90.1	96.7	99.1	102.4	108.1	115.5	126.1	135.1
92.5°	70.4	77.0	82.7	89.3	92.6	96.7	104.0	113.9	128.6	139.2
95°	68.0	74.5	81.1	87.6	90.9	94.2	103.2	113.0	122.0	124.5
97.5°	65.5	72.1	77.8	84.4	87.6	91.7	99.1	104.0	107.3	109.8
100°	63.9	69.6	75.4	81.9	84.4	86.8	91.7	95.8	99.1	101.6
102.5°	61.4	67.2	72.9	77.0	79.4	81.1	85.2	89.3	89.3	89.3
105°	59.8	64.7	68.8	72.1	73.7	75.4	77.8	77.0	76.2	75.4
107.5°	57.3	61.4	64.7	68.0	68.0	68.8	68.8	67.2	66.3	65.5
110°	54.9	59.0	61.4	62.2	63.1	63.1	63.1	62.2	61.4	61.4



TEST NUMBER: P241435

CATALOG NUMBER: FVS8M-2-LD4-40-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	53.2	56.5	59.0	59.8	60.6	60.6	60.6	60.6	59.8	59.8
115°	51.6	54.9	57.3	59.0	59.8	60.6	61.4	61.4	61.4	61.4
117.5°	51.6	54.9	58.2	59.8	61.4	62.2	63.9	63.9	63.1	63.9
120°	50.8	54.9	58.2	61.4	63.1	63.9	65.5	65.5	64.7	64.7
122.5°	50.8	54.9	59.0	62.2	63.9	64.7	66.3	67.2	66.3	65.5
125°	50.0	54.1	58.2	62.2	63.9	65.5	67.2	67.2	66.3	66.3
127.5°	48.3	53.2	57.3	61.4	63.1	64.7	66.3	67.2	66.3	66.3
130°	46.7	51.6	55.7	59.8	61.4	63.1	64.7	65.5	65.5	65.5
132.5°	44.2	49.1	53.2	57.3	59.0	60.6	63.1	63.9	64.7	64.7
135°	41.8	46.7	50.8	54.9	56.5	58.2	60.6	62.2	62.2	63.1
137.5°	39.3	43.4	47.5	51.6	53.2	54.9	58.2	59.0	59.8	60.6
140°	36.0	40.1	43.4	47.5	50.0	51.6	54.1	55.7	57.3	57.3
142.5°	32.8	36.0	40.1	43.4	45.0	46.7	50.0	51.6	53.2	53.2
145°	29.5	32.8	36.0	39.3	41.0	42.6	45.0	46.7	47.5	48.3
147.5°	26.2	29.5	31.9	35.2	36.0	37.7	39.3	41.0	41.8	42.6
150°	22.9	26.2	27.8	30.3	31.1	32.8	34.4	35.2	36.0	36.9
152.5°	19.7	22.1	24.6	26.2	27.0	27.8	29.5	30.3	31.1	31.1
155°	17.2	18.8	20.5	22.1	22.9	23.8	24.6	25.4	26.2	26.2
157.5°	13.9	15.6	17.2	18.8	18.8	19.7	20.5	21.3	22.1	22.1
160°	10.6	12.3	13.9	14.7	15.6	15.6	16.4	17.2	17.2	18.0
162.5°	8.2	9.0	10.6	11.5	12.3	12.3	13.1	13.9	13.9	13.9
165°	5.7	6.6	7.4	8.2	9.0	9.0	9.8	9.8	9.8	9.8
167.5°	3.3	4.1	4.1	4.9	5.7	5.7	6.6	6.6	6.6	6.6
170°	1.6	1.6	2.5	2.5	2.5	2.5	3.3	3.3	3.3	3.3
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)