

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: P241441

Luminaire Tested: **FVS8M-2-LD4-30-3LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241441
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-2-LD4-30-3LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

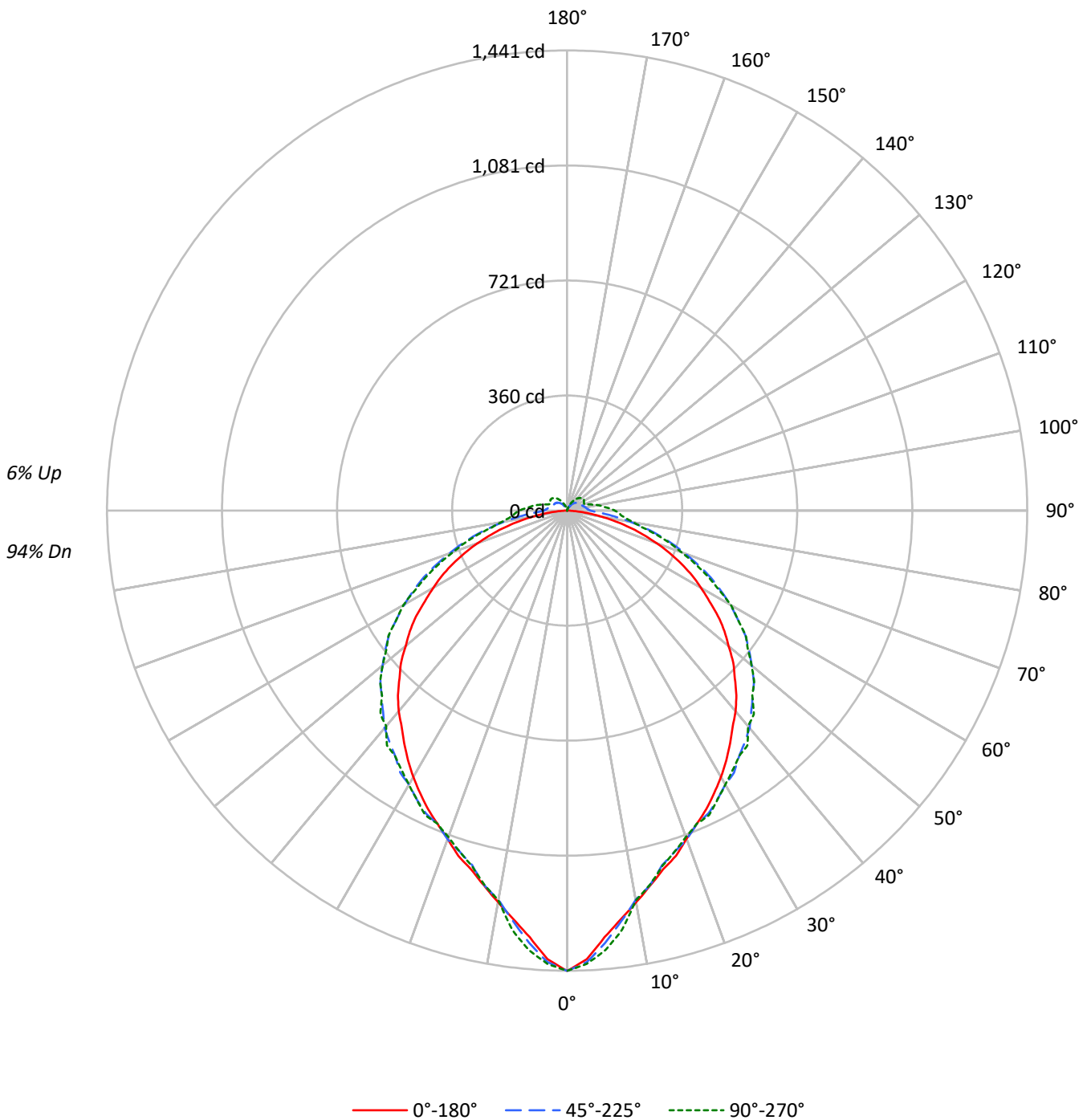
Lumens per Lamp: N/A
Luminaire Lumens: 3831.0 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 36
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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CATALOG NUMBER: FVS8M-2-LD4-30-3LO-PA187-UNV-EDC1

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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	107	101	97	93	103	99	94	91	93	90	87	88	85	83	84	81	79	77
2	97	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63
3	88	77	69	62	85	75	67	61	71	64	59	67	62	57	64	59	55	53
4	80	68	59	52	77	66	58	51	63	56	50	60	54	49	57	52	47	45
5	74	61	51	45	71	59	51	44	56	49	43	54	47	42	51	46	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
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	35	28	24	33	28	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12956	12956	12956
5°	12018	12037	12220
10°	11212	10880	10876
15°	10595	10116	10110
20°	10169	9716	9614
25°	9869	9433	9438
30°	9567	9148	9099
35°	9250	8951	8894
40°	9031	8833	8694
45°	8753	8588	8502
50°	8444	8394	8305
55°	8136	8159	8094
60°	7652	7706	7658
65°	7176	7213	6937
70°	6440	6482	6160
75°	5402	5694	5420
80°	3923	4675	4751
85°	1923	3526	4876



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	3.3
10°-20°	327.0	8.5
20°-30°	479.6	12.5
30°-40°	583.2	15.2
40°-50°	620.8	16.2
50°-60°	582.9	15.2
60°-70°	463.2	12.1
70°-80°	289.1	7.5
80°-90°	126.5	3.3
90°-100°	66.9	1.7
100°-110°	49.5	1.3
110°-120°	38.4	1.0
120°-130°	33.2	0.9
130°-140°	24.1	0.6
140°-150°	13.8	0.4
150°-160°	5.6	0.1
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	932.8	24.3
0°-40°	1515.9	39.6
0°-60°	2719.6	71.0
0°-90°	3598.3	93.9
90°-120°	154.9	4.0
90°-150°	225.9	5.9
90°-180°	233.0	6.1
0°-180°	3831.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1441	1441	1441	1441	1441	
5°	1341	1343	1359	1376	1381	125
15°	1162	1160	1150	1144	1152	329
25°	1032	1029	1047	1041	1052	475
35°	889	917	939	958	939	557
45°	743	782	821	824	820	574
55°	578	621	681	685	683	514
65°	394	440	496	500	484	389
75°	201	244	296	306	288	213
85°	35	74	118	146	169	45
90°	0	34	72	107	150	2
95°	0	28	63	93	120	0
105°	0	24	53	72	74	0
115°	0	21	46	57	58	0
125°	0	18	42	59	62	0
135°	1	13	34	50	56	0
145°	1	8	23	35	41	0
155°	1	4	12	20	23	0
165°	1	1	3	6	8	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241441

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4
2.5°	1406.0	1409.5	1409.5	1410.1	1409.5	1409.5	1411.8	1410.7	1414.1	1414.1	1415.3
5°	1341.1	1345.7	1345.7	1344.6	1345.2	1342.8	1341.1	1348.1	1352.1	1357.3	1359.1
7.5°	1290.1	1294.1	1291.8	1289.5	1286.6	1287.2	1290.1	1293.5	1297.0	1298.8	1297.0
10°	1245.4	1244.8	1243.7	1237.9	1238.5	1238.5	1241.4	1243.1	1240.2	1236.7	1237.3
12.5°	1202.5	1201.9	1200.2	1200.8	1201.4	1201.9	1202.5	1195.0	1192.7	1199.6	1200.8
15°	1162.5	1164.8	1163.1	1163.1	1163.1	1159.6	1160.8	1157.3	1156.7	1159.6	1149.8
17.5°	1133.5	1126.6	1126.6	1127.7	1124.8	1121.9	1121.3	1124.8	1126.6	1119.0	1119.6
20°	1093.5	1092.4	1090.6	1095.8	1092.9	1092.4	1095.3	1098.2	1093.5	1086.6	1095.3
22.5°	1061.6	1058.1	1059.9	1066.3	1062.8	1059.3	1058.7	1061.6	1055.2	1061.6	1061.6
25°	1031.5	1025.7	1029.7	1028.6	1027.4	1029.2	1032.1	1035.5	1039.0	1040.8	1046.6
27.5°	997.3	993.8	995.5	997.3	1004.8	1008.3	1007.7	1007.1	1014.1	1012.3	1019.3
30°	963.6	956.1	965.4	968.3	971.8	971.8	973.5	981.6	983.9	989.7	990.9
32.5°	927.1	924.8	932.3	934.6	941.6	943.9	945.7	958.4	965.4	968.3	972.9
35°	889.4	892.9	895.8	899.9	914.9	917.3	921.9	928.3	933.5	935.8	938.7
37.5°	851.7	857.0	859.3	874.9	876.7	881.3	885.4	892.9	902.8	909.1	913.8
40°	820.4	818.1	827.4	835.5	839.6	848.3	857.5	869.7	879.6	882.5	888.8
42.5°	784.5	782.2	793.2	795.5	810.0	821.0	828.5	834.3	839.6	847.1	853.5
45°	742.7	747.4	749.1	761.3	776.9	782.2	783.3	796.1	806.5	816.4	821.0
47.5°	705.6	707.9	710.8	724.8	736.4	741.6	748.5	764.8	777.5	788.5	793.2
50°	660.4	662.7	673.7	682.4	697.5	705.0	714.9	726.5	736.4	745.1	754.3
52.5°	621.0	619.8	629.1	639.5	661.6	667.4	670.8	684.2	700.4	709.7	717.8
55°	577.5	579.2	585.6	601.8	610.0	621.0	628.5	647.6	663.9	673.7	680.7
57.5°	528.2	536.3	545.0	557.8	565.9	576.9	586.2	608.2	622.1	628.5	634.3
60°	483.6	489.4	501.0	510.2	525.3	535.2	540.4	557.8	572.8	579.8	588.5
62.5°	442.4	443.6	456.9	465.6	481.2	486.5	495.2	510.2	524.7	532.8	542.1
65°	394.3	397.7	403.5	418.6	432.0	439.5	447.6	466.7	476.0	489.9	495.7
67.5°	346.7	352.5	358.3	371.7	383.8	391.9	400.1	416.9	426.2	438.3	443.6
70°	298.0	301.5	309.6	321.8	335.1	342.7	350.8	363.0	375.1	385.6	392.5
72.5°	248.7	252.2	261.5	273.1	288.7	292.8	300.9	314.3	327.6	336.9	345.0
75°	201.2	203.5	213.9	223.8	239.5	243.5	251.1	265.0	278.9	290.5	295.7
77.5°	154.8	157.1	167.0	178.0	191.3	198.9	205.3	217.4	231.3	239.5	247.6
80°	109.6	114.2	120.6	132.2	145.5	151.9	160.0	173.4	185.0	193.1	200.6
82.5°	69.0	73.1	80.0	92.8	104.4	109.6	116.5	128.7	141.5	147.9	154.8
85°	35.4	38.3	46.4	56.2	67.8	73.6	80.0	92.2	100.9	110.2	118.3
87.5°	11.6	14.5	21.5	31.3	42.3	47.5	52.8	63.8	71.9	80.6	88.7
90°	0.0	3.5	10.4	19.1	29.0	34.2	39.4	47.5	55.7	64.9	72.5
92.5°	0.0	2.3	8.1	16.8	26.1	30.1	34.2	42.3	51.0	58.6	66.7
95°	0.0	2.3	7.5	15.7	23.8	27.8	32.5	40.0	48.1	56.2	63.2
97.5°	0.0	1.7	7.0	14.5	22.6	26.7	30.1	38.8	46.4	53.9	60.3
100°	0.0	1.7	7.0	13.9	21.5	25.5	29.6	37.1	44.6	51.0	58.0
102.5°	0.0	1.7	6.4	13.3	20.9	24.4	28.4	35.9	42.3	49.3	55.1
105°	0.0	1.7	6.4	12.8	20.3	23.8	27.3	34.8	41.2	47.0	53.3
107.5°	0.0	1.7	5.8	12.2	19.1	23.2	26.7	33.6	40.0	45.8	51.0
110°	0.0	1.2	5.8	12.2	18.6	22.0	25.5	32.5	38.3	44.1	48.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.2	5.8	11.6	18.0	21.5	24.9	31.3	37.7	42.3	47.0
115°	0.0	1.2	5.2	11.0	17.4	20.9	24.4	30.7	35.9	41.2	45.8
117.5°	0.0	1.2	5.2	10.4	16.8	20.3	23.2	29.6	35.4	40.0	44.6
120°	0.0	1.2	4.6	9.9	16.2	19.7	22.6	28.4	34.2	39.4	44.1
122.5°	0.0	0.6	4.6	9.9	15.7	18.6	21.5	27.8	33.0	38.3	43.5
125°	0.0	0.6	4.1	9.3	14.5	18.0	20.9	26.7	31.9	37.1	41.7
127.5°	0.0	0.6	3.5	8.7	13.9	16.8	19.7	25.5	30.7	35.4	40.6
130°	0.6	0.6	3.5	8.1	12.8	15.7	18.6	23.8	29.0	33.6	38.3
132.5°	0.6	0.6	2.9	7.0	12.2	14.5	16.8	22.0	27.3	31.9	35.9
135°	0.6	0.6	2.9	6.4	11.0	13.3	15.7	20.3	24.9	29.6	33.6
137.5°	0.6	0.6	2.3	5.8	9.9	12.2	13.9	18.6	23.2	27.3	31.3
140°	0.6	0.6	1.7	4.6	8.7	10.4	12.8	16.8	20.9	24.9	28.4
142.5°	0.6	0.6	1.7	4.1	7.5	9.3	11.0	15.1	18.6	22.0	26.1
145°	0.6	0.6	1.2	3.5	6.4	8.1	9.9	13.3	16.8	19.7	23.2
147.5°	0.6	0.6	1.2	2.9	5.2	7.0	8.1	11.6	14.5	17.4	20.3
150°	0.6	0.6	0.6	2.3	4.1	5.2	7.0	9.3	12.2	15.1	18.0
152.5°	0.6	0.6	0.6	1.7	3.5	4.1	5.2	7.5	9.9	12.8	15.1
155°	0.6	0.6	0.6	1.2	2.3	3.5	4.1	5.8	8.1	10.4	12.2
157.5°	0.6	0.6	0.6	0.6	1.7	2.3	2.9	4.6	6.4	8.1	9.9
160°	0.6	0.6	0.6	0.6	1.2	1.7	2.3	3.5	4.6	5.8	7.0
162.5°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	2.3	2.9	4.1	5.2
165°	0.6	0.6	0.6	0.0	0.6	0.6	0.6	1.2	1.7	2.3	2.9
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.6	0.6	1.2	1.7
170°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
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°	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4	1441.4
2.5°	1415.9	1417.6	1417.6	1418.2	1418.2	1419.9	1419.9	1419.9	1421.1	1420.5
5°	1363.7	1367.8	1370.7	1374.1	1376.5	1378.8	1378.8	1379.4	1382.8	1381.1
7.5°	1295.9	1300.5	1304.0	1310.9	1313.3	1315.0	1319.6	1322.5	1324.3	1323.1
10°	1241.9	1241.4	1244.8	1242.5	1239.6	1241.4	1240.8	1243.1	1240.2	1239.0
12.5°	1193.8	1181.6	1185.1	1193.2	1195.0	1196.1	1200.2	1200.8	1203.1	1199.6
15°	1146.9	1153.8	1153.2	1147.4	1144.5	1142.8	1144.0	1148.6	1152.7	1152.1
17.5°	1122.5	1116.7	1119.0	1134.1	1139.3	1141.1	1135.8	1128.9	1121.3	1119.6
20°	1090.0	1102.8	1109.2	1091.2	1079.0	1077.3	1077.3	1081.9	1087.7	1087.7
22.5°	1070.3	1069.7	1052.3	1067.4	1075.5	1080.2	1077.9	1068.0	1058.7	1061.6
25°	1049.5	1039.0	1057.6	1047.7	1040.8	1037.3	1041.3	1047.1	1049.5	1051.8
27.5°	1012.9	1029.2	1017.0	1024.5	1033.8	1041.3	1038.4	1023.4	1018.7	1019.9
30°	994.9	990.3	1004.2	1015.8	1008.9	998.4	988.6	986.3	990.9	990.9
32.5°	974.7	981.6	985.1	967.7	968.9	972.9	977.6	977.0	970.0	964.2
35°	940.4	955.5	941.0	954.4	957.8	952.0	937.5	939.9	941.6	938.7
37.5°	923.6	914.9	927.1	922.5	918.4	920.7	930.6	927.1	928.3	927.1
40°	894.6	899.9	889.4	894.1	898.7	900.4	896.4	881.9	880.1	881.3
42.5°	856.4	862.2	869.1	873.8	862.8	853.5	855.8	862.2	863.9	865.7
45°	826.8	826.8	834.3	821.0	824.5	830.3	830.9	828.5	823.3	819.8
47.5°	797.2	802.5	788.5	796.1	794.3	794.9	788.5	793.2	794.9	794.3
50°	760.7	758.4	761.9	754.3	752.0	752.6	761.3	757.8	754.9	753.7
52.5°	723.6	716.1	723.0	722.4	728.2	728.8	717.2	712.6	714.9	713.2
55°	684.8	685.9	683.6	688.2	684.8	680.7	679.5	680.7	680.7	683.0
57.5°	637.2	646.5	653.4	643.0	641.3	644.2	644.2	637.8	633.1	632.6
60°	592.0	596.0	600.7	601.8	598.4	594.9	593.7	592.0	593.1	592.6
62.5°	548.5	551.4	546.8	547.9	544.4	546.8	546.2	543.9	539.2	534.6
65°	499.8	502.1	500.4	498.1	500.4	502.7	491.7	487.6	483.6	484.1
67.5°	448.2	449.9	450.5	452.8	448.2	444.7	440.1	439.5	435.4	432.5
70°	400.6	399.5	404.1	402.4	398.3	397.7	391.9	385.0	380.9	379.8
72.5°	350.8	353.1	356.6	350.2	354.3	349.6	342.7	338.6	337.4	336.3
75°	301.5	306.7	307.9	305.6	305.6	301.5	300.3	296.9	292.8	287.6
77.5°	254.0	258.0	260.3	260.9	258.6	258.0	255.7	251.1	244.1	240.0
80°	207.0	211.0	214.5	216.3	215.1	218.6	213.4	210.5	208.2	209.3
82.5°	164.1	168.1	173.4	175.7	178.0	178.6	179.7	181.5	183.2	185.5
85°	124.7	131.0	136.8	142.1	146.1	147.9	151.9	157.1	164.1	169.3
87.5°	97.4	103.2	111.3	118.9	121.8	124.7	131.0	140.3	152.5	161.8
90°	80.6	87.6	95.1	102.6	106.7	109.6	118.9	128.7	141.5	149.6
92.5°	73.1	80.6	87.6	94.5	98.0	101.5	109.6	119.4	128.1	135.1
95°	70.2	76.5	83.5	89.9	92.8	96.2	103.2	109.0	116.0	120.0
97.5°	66.7	73.1	79.4	85.2	87.6	90.4	96.8	100.9	106.1	109.6
100°	63.8	70.2	75.4	80.6	82.9	85.2	90.4	94.5	95.1	97.4
102.5°	61.5	66.7	71.3	76.0	77.1	79.4	83.5	85.8	85.8	85.2
105°	58.6	63.2	67.3	70.7	71.9	73.6	74.8	74.8	74.2	73.6
107.5°	55.7	59.7	63.2	65.5	66.7	66.7	66.7	65.5	64.4	63.8
110°	53.3	56.8	59.7	60.9	60.9	60.9	60.3	59.7	59.1	58.6



TEST NUMBER: P241441

CATALOG NUMBER: FVS8M-2-LD4-30-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	51.0	54.5	56.8	58.0	58.0	58.0	58.0	58.0	57.4	56.8
115°	49.9	52.8	55.1	56.8	57.4	58.0	58.6	58.6	58.6	58.0
117.5°	48.7	52.2	55.1	57.4	58.0	59.1	59.7	60.3	59.7	59.7
120°	48.7	52.2	55.1	58.0	59.1	59.7	60.9	61.5	61.5	60.9
122.5°	47.5	51.6	55.1	58.0	59.1	60.3	61.5	62.0	62.0	62.0
125°	46.4	50.4	54.5	57.4	58.6	59.1	60.9	62.0	62.0	62.0
127.5°	44.6	49.3	52.8	55.7	56.8	58.0	59.7	60.9	61.5	61.5
130°	42.9	47.0	51.0	53.9	55.1	56.2	58.0	59.1	59.7	60.3
132.5°	40.6	44.6	48.1	51.6	52.8	53.9	55.7	57.4	57.4	58.0
135°	37.7	41.7	45.2	48.1	49.9	51.0	53.3	54.5	55.1	55.7
137.5°	34.8	38.3	41.7	45.2	46.4	47.5	49.9	51.6	52.8	52.8
140°	31.9	35.4	38.3	41.2	42.9	44.1	46.4	48.1	48.7	49.3
142.5°	29.0	32.5	35.4	37.7	39.4	40.6	42.3	44.1	44.6	45.2
145°	26.1	29.0	31.9	34.2	35.4	36.5	38.3	39.4	40.0	40.6
147.5°	23.2	26.1	28.4	30.7	31.3	32.5	34.2	35.4	35.9	35.9
150°	20.3	22.6	24.9	26.7	27.3	28.4	30.1	30.7	31.3	31.3
152.5°	17.4	19.1	20.9	22.6	23.8	24.4	25.5	26.7	26.7	27.3
155°	14.5	16.2	18.0	19.1	19.7	20.3	21.5	22.0	22.6	22.6
157.5°	11.6	13.3	14.5	15.7	16.2	16.8	17.4	18.0	18.6	18.6
160°	8.7	9.9	11.0	12.2	12.8	12.8	13.9	13.9	14.5	14.5
162.5°	5.8	7.0	8.1	9.3	9.3	9.9	9.9	10.4	10.4	10.4
165°	3.5	4.6	5.2	6.4	6.4	7.0	7.0	7.5	7.5	7.5
167.5°	2.3	2.3	2.9	3.5	4.1	4.1	4.1	4.6	4.6	4.6
170°	0.6	1.2	1.2	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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)