

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: P241444

Luminaire Tested: **FVS8M-2-LD4-50-3LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241444
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-LD4-50-3LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

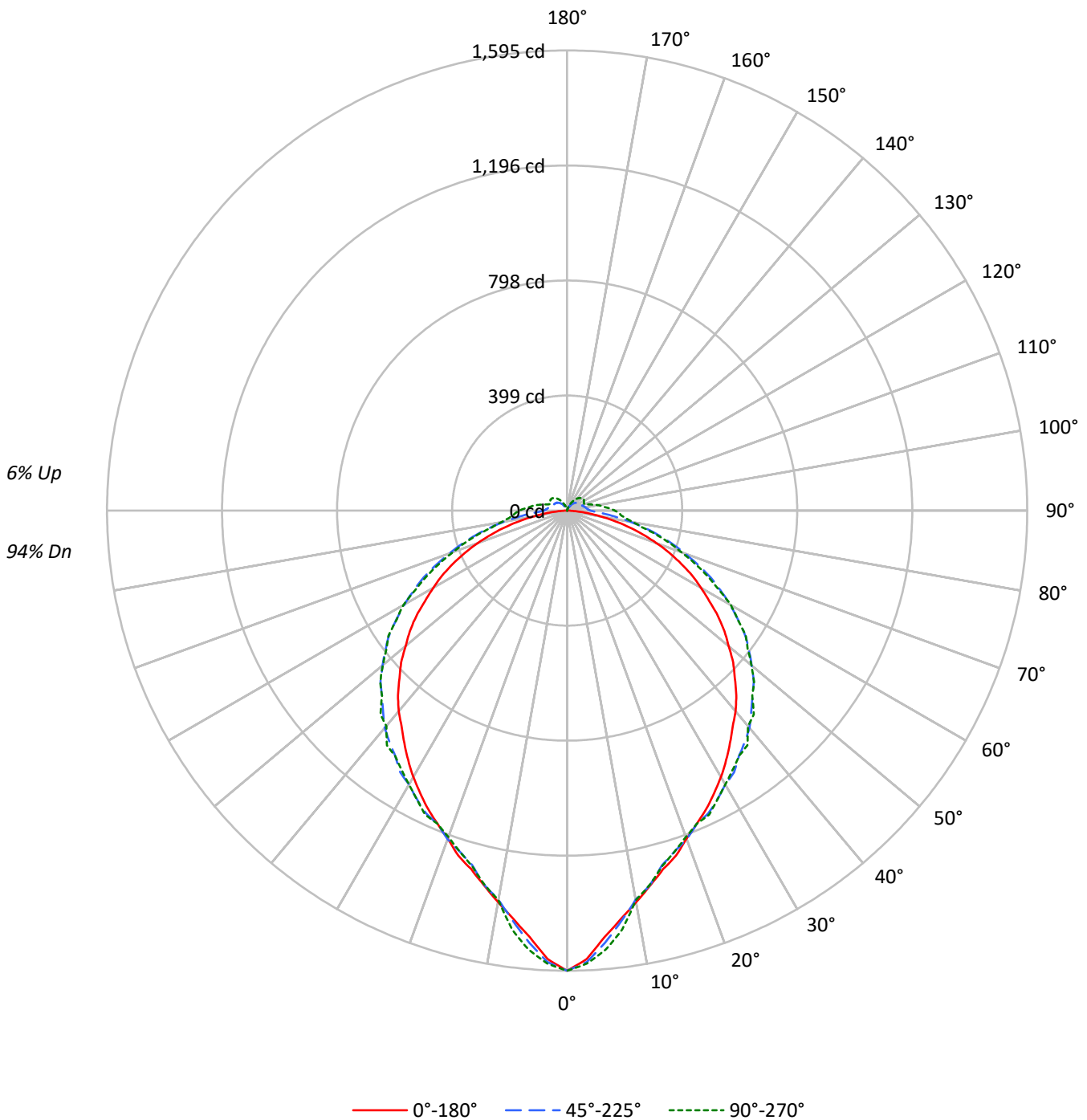
Lumens per Lamp: N/A
Luminaire Lumens: 4239.0 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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

TEST NUMBER: P241444

CATALOG NUMBER: FVS8M-2-LD4-50-3LO-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241444

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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°	14336	14336	14336
5°	13298	13318	13522
10°	12406	12039	12035
15°	11723	11193	11186
20°	11252	10750	10639
25°	10919	10437	10443
30°	10587	10122	10067
35°	10235	9905	9842
40°	9993	9775	9620
45°	9685	9502	9408
50°	9342	9289	9190
55°	9003	9028	8956
60°	8466	8527	8474
65°	7940	7981	7677
70°	7127	7172	6815
75°	5977	6301	5997
80°	4342	5174	5257
85°	2124	3901	5394



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.6	3.3
10°-20°	361.8	8.5
20°-30°	530.7	12.5
30°-40°	645.3	15.2
40°-50°	686.9	16.2
50°-60°	645.0	15.2
60°-70°	512.5	12.1
70°-80°	319.9	7.5
80°-90°	139.9	3.3
90°-100°	74.1	1.7
100°-110°	54.8	1.3
110°-120°	42.5	1.0
120°-130°	36.8	0.9
130°-140°	26.6	0.6
140°-150°	15.2	0.4
150°-160°	6.2	0.1
160°-170°	1.3	0.0
170°-180°	0.0	0.0
0°-30°	1032.1	24.3
0°-40°	1677.4	39.6
0°-60°	3009.2	71.0
0°-90°	3981.5	93.9
90°-120°	171.4	4.0
90°-150°	250.0	5.9
90°-180°	257.0	6.1
0°-180°	4239.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1595	1595	1595	1595	1595	
5°	1484	1486	1504	1523	1528	139
15°	1286	1283	1272	1266	1275	364
25°	1141	1139	1158	1152	1164	525
35°	984	1015	1039	1060	1039	617
45°	822	866	908	912	907	635
55°	639	687	753	758	756	569
65°	436	486	548	554	536	431
75°	223	270	327	338	318	236
85°	39	82	131	162	187	50
90°	0	38	80	118	166	2
95°	0	31	70	103	133	0
105°	0	26	59	80	82	0
115°	0	23	51	64	64	0
125°	0	20	46	65	69	0
135°	1	15	37	55	62	0
145°	1	9	26	39	45	0
155°	1	4	14	22	25	0
165°	1	1	3	7	8	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241444

CATALOG NUMBER: FVS8M-2-LD4-50-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9
2.5°	1555.8	1559.6	1559.6	1560.3	1559.6	1559.6	1562.2	1560.9	1564.8	1564.8	1566.0
5°	1483.9	1489.1	1489.1	1487.8	1488.4	1485.8	1483.9	1491.6	1496.1	1501.9	1503.8
7.5°	1427.5	1432.0	1429.4	1426.8	1423.6	1424.3	1427.5	1431.3	1435.2	1437.1	1435.2
10°	1378.1	1377.4	1376.1	1369.7	1370.4	1370.4	1373.6	1375.5	1372.3	1368.4	1369.1
12.5°	1330.6	1329.9	1328.0	1328.7	1329.3	1329.9	1330.6	1322.2	1319.7	1327.4	1328.7
15°	1286.3	1288.9	1287.0	1287.0	1287.0	1283.1	1284.4	1280.5	1279.9	1283.1	1272.2
17.5°	1254.2	1246.5	1246.5	1247.8	1244.6	1241.4	1240.8	1244.6	1246.5	1238.2	1238.8
20°	1210.0	1208.7	1206.8	1212.5	1209.3	1208.7	1211.9	1215.1	1210.0	1202.3	1211.9
22.5°	1174.7	1170.8	1172.8	1179.8	1176.0	1172.1	1171.5	1174.7	1167.6	1174.7	1174.7
25°	1141.3	1134.9	1139.4	1138.1	1136.8	1138.8	1142.0	1145.8	1149.7	1151.6	1158.0
27.5°	1103.5	1099.6	1101.6	1103.5	1111.8	1115.7	1115.0	1114.4	1122.1	1120.2	1127.9
30°	1066.3	1057.9	1068.2	1071.4	1075.2	1075.2	1077.2	1086.2	1088.7	1095.1	1096.4
32.5°	1025.8	1023.3	1031.6	1034.2	1041.9	1044.5	1046.4	1060.5	1068.2	1071.4	1076.5
35°	984.1	988.0	991.2	995.7	1012.4	1014.9	1020.1	1027.1	1032.9	1035.5	1038.7
37.5°	942.4	948.2	950.8	968.1	970.0	975.2	979.7	988.0	998.9	1006.0	1011.1
40°	907.8	905.2	915.5	924.5	929.0	938.6	948.9	962.3	973.2	976.4	983.5
42.5°	868.0	865.5	877.6	880.2	896.3	908.4	916.8	923.2	929.0	937.3	944.4
45°	821.8	827.0	828.9	842.4	859.7	865.5	866.7	880.9	892.4	903.3	908.4
47.5°	780.8	783.3	786.5	801.9	814.8	820.6	828.2	846.2	860.3	872.5	877.6
50°	730.7	733.3	745.5	755.1	771.8	780.1	791.0	803.9	814.8	824.4	834.7
52.5°	687.1	685.8	696.1	707.6	732.0	738.4	742.3	757.0	775.0	785.3	794.2
55°	639.0	640.9	648.0	665.9	674.9	687.1	695.4	716.6	734.6	745.5	753.2
57.5°	584.5	593.4	603.1	617.2	626.2	638.3	648.6	673.0	688.4	695.4	701.9
60°	535.1	541.5	554.3	564.6	581.2	592.2	597.9	617.2	633.9	641.6	651.2
62.5°	489.5	490.8	505.5	515.2	532.5	538.3	547.9	564.6	580.6	589.6	599.9
65°	436.3	440.1	446.5	463.2	478.0	486.3	495.3	516.5	526.7	542.1	548.5
67.5°	383.7	390.1	396.5	411.2	424.7	433.7	442.7	461.3	471.5	485.0	490.8
70°	329.8	333.6	342.6	356.1	370.8	379.2	388.1	401.6	415.1	426.6	434.3
72.5°	275.2	279.1	289.3	302.2	319.5	324.0	333.0	347.7	362.5	372.7	381.7
75°	222.6	225.2	236.7	247.6	265.0	269.5	277.8	293.2	308.6	321.4	327.2
77.5°	171.3	173.9	184.8	197.0	211.7	220.1	227.1	240.6	256.0	265.0	273.9
80°	121.3	126.4	133.4	146.3	161.0	168.1	177.1	191.8	204.7	213.6	222.0
82.5°	76.3	80.8	88.5	102.6	115.5	121.3	129.0	142.4	156.5	163.6	171.3
85°	39.1	42.3	51.3	62.2	75.1	81.5	88.5	102.0	111.6	121.9	130.9
87.5°	12.8	16.0	23.7	34.6	46.8	52.6	58.4	70.6	79.6	89.2	98.2
90°	0.0	3.8	11.5	21.2	32.1	37.9	43.6	52.6	61.6	71.9	80.2
92.5°	0.0	2.6	9.0	18.6	28.9	33.4	37.9	46.8	56.5	64.8	73.8
95°	0.0	2.6	8.3	17.3	26.3	30.8	35.9	44.3	53.2	62.2	69.9
97.5°	0.0	1.9	7.7	16.0	25.0	29.5	33.4	43.0	51.3	59.7	66.7
100°	0.0	1.9	7.7	15.4	23.7	28.2	32.7	41.1	49.4	56.5	64.2
102.5°	0.0	1.9	7.1	14.8	23.1	26.9	31.4	39.8	46.8	54.5	60.9
105°	0.0	1.9	7.1	14.1	22.5	26.3	30.2	38.5	45.6	52.0	59.0
107.5°	0.0	1.9	6.4	13.5	21.2	25.7	29.5	37.2	44.3	50.7	56.5
110°	0.0	1.3	6.4	13.5	20.5	24.4	28.2	35.9	42.3	48.8	53.9



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CATALOG NUMBER: FVS8M-2-LD4-50-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.3	6.4	12.8	19.9	23.7	27.6	34.6	41.7	46.8	52.0
115°	0.0	1.3	5.8	12.2	19.2	23.1	26.9	34.0	39.8	45.6	50.7
117.5°	0.0	1.3	5.8	11.5	18.6	22.5	25.7	32.7	39.1	44.3	49.4
120°	0.0	1.3	5.1	10.9	18.0	21.8	25.0	31.4	37.9	43.6	48.8
122.5°	0.0	0.6	5.1	10.9	17.3	20.5	23.7	30.8	36.6	42.3	48.1
125°	0.0	0.6	4.5	10.3	16.0	19.9	23.1	29.5	35.3	41.1	46.2
127.5°	0.0	0.6	3.8	9.6	15.4	18.6	21.8	28.2	34.0	39.1	44.9
130°	0.6	0.6	3.8	9.0	14.1	17.3	20.5	26.3	32.1	37.2	42.3
132.5°	0.6	0.6	3.2	7.7	13.5	16.0	18.6	24.4	30.2	35.3	39.8
135°	0.6	0.6	3.2	7.1	12.2	14.8	17.3	22.5	27.6	32.7	37.2
137.5°	0.6	0.6	2.6	6.4	10.9	13.5	15.4	20.5	25.7	30.2	34.6
140°	0.6	0.6	1.9	5.1	9.6	11.5	14.1	18.6	23.1	27.6	31.4
142.5°	0.6	0.6	1.9	4.5	8.3	10.3	12.2	16.7	20.5	24.4	28.9
145°	0.6	0.6	1.3	3.8	7.1	9.0	10.9	14.8	18.6	21.8	25.7
147.5°	0.6	0.6	1.3	3.2	5.8	7.7	9.0	12.8	16.0	19.2	22.5
150°	0.6	0.6	0.6	2.6	4.5	5.8	7.7	10.3	13.5	16.7	19.9
152.5°	0.6	0.6	0.6	1.9	3.8	4.5	5.8	8.3	10.9	14.1	16.7
155°	0.6	0.6	0.6	1.3	2.6	3.8	4.5	6.4	9.0	11.5	13.5
157.5°	0.6	0.6	0.6	0.6	1.9	2.6	3.2	5.1	7.1	9.0	10.9
160°	0.6	0.6	0.6	0.6	1.3	1.9	2.6	3.8	5.1	6.4	7.7
162.5°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	2.6	3.2	4.5	5.8
165°	0.6	0.6	0.6	0.0	0.6	0.6	0.6	1.3	1.9	2.6	3.2
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.6	0.6	1.3	1.9
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



TEST NUMBER: P241444

CATALOG NUMBER: FVS8M-2-LD4-50-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9	1594.9
2.5°	1566.7	1568.6	1568.6	1569.2	1569.2	1571.2	1571.2	1571.2	1572.5	1571.8
5°	1508.9	1513.4	1516.6	1520.5	1523.1	1525.6	1525.6	1526.3	1530.1	1528.2
7.5°	1433.9	1439.0	1442.9	1450.6	1453.1	1455.0	1460.2	1463.4	1465.3	1464.0
10°	1374.2	1373.6	1377.4	1374.9	1371.6	1373.6	1372.9	1375.5	1372.3	1371.0
12.5°	1321.0	1307.5	1311.3	1320.3	1322.2	1323.5	1328.0	1328.7	1331.2	1327.4
15°	1269.0	1276.7	1276.1	1269.6	1266.4	1264.5	1265.8	1270.9	1275.4	1274.8
17.5°	1242.1	1235.6	1238.2	1254.9	1260.7	1262.6	1256.8	1249.1	1240.8	1238.8
20°	1206.1	1220.2	1227.3	1207.4	1193.9	1192.0	1192.0	1197.1	1203.6	1203.6
22.5°	1184.3	1183.7	1164.4	1181.1	1190.1	1195.2	1192.7	1181.7	1171.5	1174.7
25°	1161.2	1149.7	1170.2	1159.3	1151.6	1147.7	1152.2	1158.7	1161.2	1163.8
27.5°	1120.8	1138.8	1125.3	1133.6	1143.9	1152.2	1149.0	1132.3	1127.2	1128.5
30°	1100.9	1095.8	1111.2	1124.0	1116.3	1104.8	1093.9	1091.3	1096.4	1096.4
32.5°	1078.5	1086.2	1090.0	1070.8	1072.0	1076.5	1081.7	1081.0	1073.3	1066.9
35°	1040.6	1057.3	1041.2	1056.0	1059.9	1053.4	1037.4	1040.0	1041.9	1038.7
37.5°	1022.0	1012.4	1025.8	1020.7	1016.2	1018.8	1029.7	1025.8	1027.1	1025.8
40°	989.9	995.7	984.1	989.3	994.4	996.3	991.8	975.8	973.9	975.2
42.5°	947.6	954.0	961.7	966.8	954.6	944.4	946.9	954.0	955.9	957.8
45°	914.9	914.9	923.2	908.4	912.3	918.7	919.3	916.8	911.0	907.2
47.5°	882.1	887.9	872.5	880.9	878.9	879.6	872.5	877.6	879.6	878.9
50°	841.7	839.2	843.0	834.7	832.1	832.7	842.4	838.5	835.3	834.0
52.5°	800.7	792.3	800.0	799.4	805.8	806.4	793.6	788.5	791.0	789.1
55°	757.7	759.0	756.4	761.5	757.7	753.2	751.9	753.2	753.2	755.8
57.5°	705.1	715.3	723.0	711.5	709.6	712.8	712.8	705.7	700.6	699.9
60°	655.0	659.5	664.7	665.9	662.1	658.2	657.0	655.0	656.3	655.7
62.5°	606.9	610.1	605.0	606.3	602.4	605.0	604.3	601.8	596.6	591.5
65°	553.0	555.6	553.7	551.1	553.7	556.2	544.0	539.5	535.1	535.7
67.5°	495.9	497.8	498.5	501.1	495.9	492.1	486.9	486.3	481.8	478.6
70°	443.3	442.0	447.2	445.2	440.7	440.1	433.7	426.0	421.5	420.2
72.5°	388.1	390.7	394.6	387.5	392.0	386.9	379.2	374.7	373.4	372.1
75°	333.6	339.4	340.7	338.1	338.1	333.6	332.3	328.5	324.0	318.2
77.5°	281.0	285.5	288.1	288.7	286.1	285.5	282.9	277.8	270.1	265.6
80°	229.0	233.5	237.4	239.3	238.0	241.9	236.1	232.9	230.3	231.6
82.5°	181.6	186.1	191.8	194.4	197.0	197.6	198.9	200.8	202.7	205.3
85°	137.9	145.0	151.4	157.2	161.7	163.6	168.1	173.9	181.6	187.3
87.5°	107.8	114.2	123.2	131.5	134.7	137.9	145.0	155.3	168.7	179.0
90°	89.2	96.9	105.2	113.6	118.0	121.3	131.5	142.4	156.5	165.5
92.5°	80.8	89.2	96.9	104.6	108.4	112.3	121.3	132.2	141.8	149.5
95°	77.6	84.7	92.4	99.4	102.6	106.5	114.2	120.6	128.3	132.8
97.5°	73.8	80.8	87.9	94.3	96.9	100.1	107.1	111.6	117.4	121.3
100°	70.6	77.6	83.4	89.2	91.7	94.3	100.1	104.6	105.2	107.8
102.5°	68.0	73.8	78.9	84.0	85.3	87.9	92.4	95.0	95.0	94.3
105°	64.8	69.9	74.4	78.3	79.6	81.5	82.8	82.8	82.1	81.5
107.5°	61.6	66.1	69.9	72.5	73.8	73.8	73.8	72.5	71.2	70.6
110°	59.0	62.9	66.1	67.4	67.4	67.4	66.7	66.1	65.4	64.8



TEST NUMBER: P241444

CATALOG NUMBER: FVS8M-2-LD4-50-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	56.5	60.3	62.9	64.2	64.2	64.2	64.2	64.2	63.5	62.9
115°	55.2	58.4	60.9	62.9	63.5	64.2	64.8	64.8	64.8	64.2
117.5°	53.9	57.7	60.9	63.5	64.2	65.4	66.1	66.7	66.1	66.1
120°	53.9	57.7	60.9	64.2	65.4	66.1	67.4	68.0	68.0	67.4
122.5°	52.6	57.1	60.9	64.2	65.4	66.7	68.0	68.6	68.6	68.6
125°	51.3	55.8	60.3	63.5	64.8	65.4	67.4	68.6	68.6	68.6
127.5°	49.4	54.5	58.4	61.6	62.9	64.2	66.1	67.4	68.0	68.0
130°	47.5	52.0	56.5	59.7	60.9	62.2	64.2	65.4	66.1	66.7
132.5°	44.9	49.4	53.2	57.1	58.4	59.7	61.6	63.5	63.5	64.2
135°	41.7	46.2	50.0	53.2	55.2	56.5	59.0	60.3	60.9	61.6
137.5°	38.5	42.3	46.2	50.0	51.3	52.6	55.2	57.1	58.4	58.4
140°	35.3	39.1	42.3	45.6	47.5	48.8	51.3	53.2	53.9	54.5
142.5°	32.1	35.9	39.1	41.7	43.6	44.9	46.8	48.8	49.4	50.0
145°	28.9	32.1	35.3	37.9	39.1	40.4	42.3	43.6	44.3	44.9
147.5°	25.7	28.9	31.4	34.0	34.6	35.9	37.9	39.1	39.8	39.8
150°	22.5	25.0	27.6	29.5	30.2	31.4	33.4	34.0	34.6	34.6
152.5°	19.2	21.2	23.1	25.0	26.3	26.9	28.2	29.5	29.5	30.2
155°	16.0	18.0	19.9	21.2	21.8	22.5	23.7	24.4	25.0	25.0
157.5°	12.8	14.8	16.0	17.3	18.0	18.6	19.2	19.9	20.5	20.5
160°	9.6	10.9	12.2	13.5	14.1	14.1	15.4	15.4	16.0	16.0
162.5°	6.4	7.7	9.0	10.3	10.3	10.9	10.9	11.5	11.5	11.5
165°	3.8	5.1	5.8	7.1	7.1	7.7	7.7	8.3	8.3	8.3
167.5°	2.6	2.6	3.2	3.8	4.5	4.5	4.5	5.1	5.1	5.1
170°	0.6	1.3	1.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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)