

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: P241442

Luminaire Tested: **FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241442
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-LD4-35-3LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

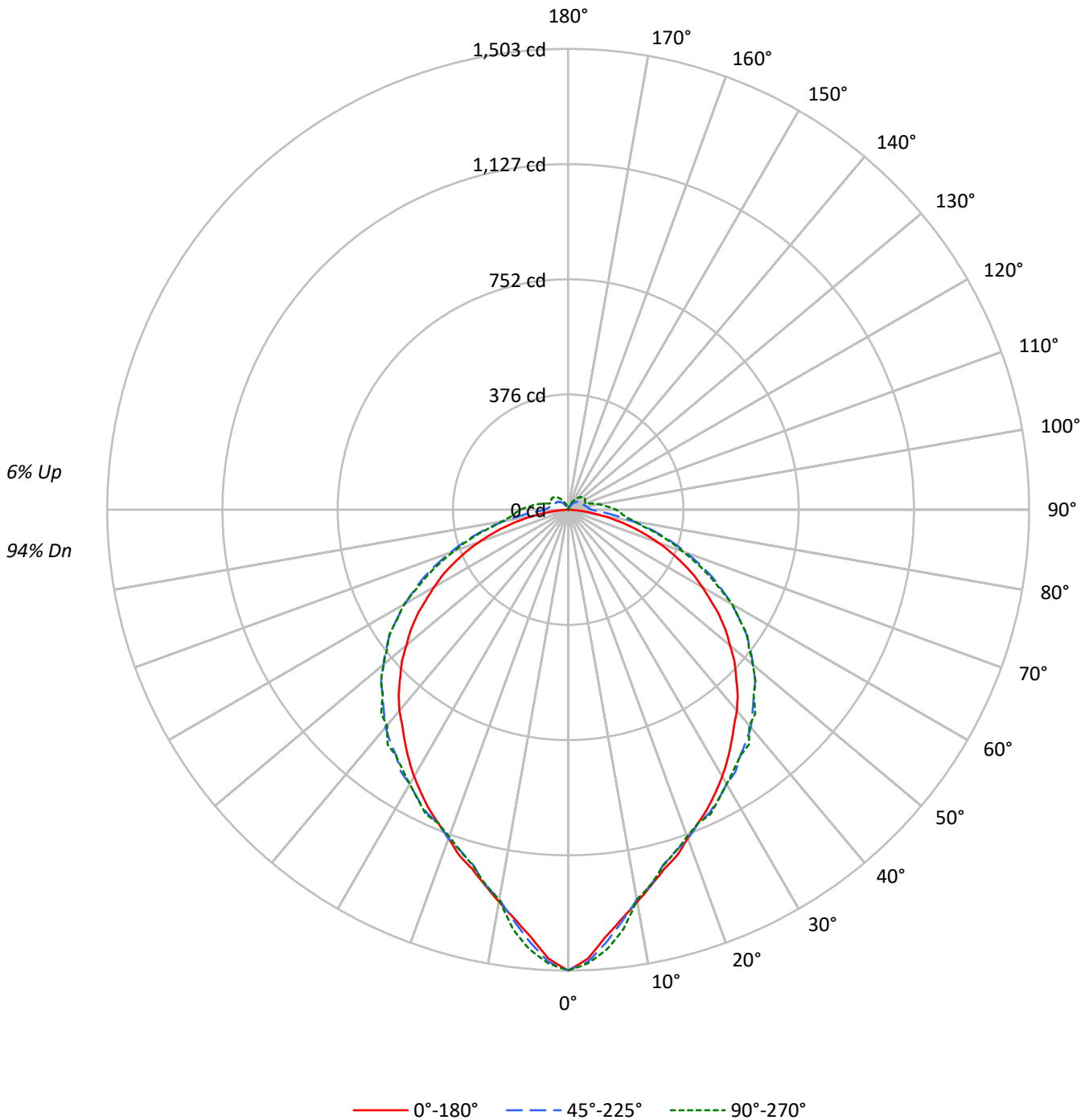
Lumens per Lamp: N/A
Luminaire Lumens: 3994.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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: P241442

CATALOG NUMBER: FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241442

CATALOG NUMBER: FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1

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°	13507	13507	13507
5°	12530	12549	12741
10°	11689	11344	11339
15°	11046	10547	10540
20°	10601	10129	10024
25°	10289	9834	9839
30°	9974	9537	9485
35°	9644	9332	9272
40°	9415	9210	9064
45°	9125	8953	8864
50°	8803	8752	8659
55°	8483	8507	8438
60°	7976	8034	7984
65°	7480	7520	7232
70°	6715	6757	6421
75°	5633	5937	5650
80°	4088	4874	4953
85°	2004	3675	5083



TEST NUMBER: P241442

CATALOG NUMBER: FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.6	3.3
10°-20°	340.9	8.5
20°-30°	500.0	12.5
30°-40°	608.0	15.2
40°-50°	647.2	16.2
50°-60°	607.7	15.2
60°-70°	482.9	12.1
70°-80°	301.4	7.5
80°-90°	131.8	3.3
90°-100°	69.8	1.7
100°-110°	51.6	1.3
110°-120°	40.1	1.0
120°-130°	34.6	0.9
130°-140°	25.1	0.6
140°-150°	14.3	0.4
150°-160°	5.8	0.1
160°-170°	1.2	0.0
170°-180°	0.0	0.0
0°-30°	972.5	24.3
0°-40°	1580.4	39.6
0°-60°	2835.3	71.0
0°-90°	3751.4	93.9
90°-120°	161.5	4.0
90°-150°	235.5	5.9
90°-180°	243.0	6.1
0°-180°	3994.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1398	1400	1417	1435	1440	131
15°	1212	1209	1199	1193	1201	343
25°	1075	1073	1091	1085	1096	495
35°	927	956	979	999	979	581
45°	774	815	856	860	855	598
55°	602	647	710	714	712	536
65°	411	458	517	522	505	406
75°	210	254	308	319	300	222
85°	37	77	123	152	176	47
90°	0	36	76	111	156	2
95°	0	29	66	97	125	0
105°	0	25	56	75	77	0
115°	0	22	48	60	60	0
125°	0	19	44	61	65	0
135°	1	14	35	52	58	0
145°	1	8	24	37	42	0
155°	1	4	13	21	24	0
165°	1	1	3	7	8	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241442

CATALOG NUMBER: FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7
2.5°	1465.9	1469.5	1469.5	1470.1	1469.5	1469.5	1471.9	1470.7	1474.3	1474.3	1475.5
5°	1398.2	1403.0	1403.0	1401.8	1402.4	1400.0	1398.2	1405.4	1409.6	1415.1	1416.9
7.5°	1345.0	1349.2	1346.8	1344.4	1341.3	1341.9	1345.0	1348.6	1352.2	1354.0	1352.2
10°	1298.4	1297.8	1296.6	1290.6	1291.2	1291.2	1294.2	1296.0	1293.0	1289.3	1290.0
12.5°	1253.7	1253.1	1251.3	1251.9	1252.5	1253.1	1253.7	1245.8	1243.4	1250.7	1251.9
15°	1212.0	1214.4	1212.6	1212.6	1212.6	1209.0	1210.2	1206.5	1205.9	1209.0	1198.7
17.5°	1181.8	1174.5	1174.5	1175.7	1172.7	1169.7	1169.1	1172.7	1174.5	1166.6	1167.2
20°	1140.0	1138.8	1137.0	1142.5	1139.4	1138.8	1141.9	1144.9	1140.0	1132.8	1141.9
22.5°	1106.8	1103.2	1105.0	1111.6	1108.0	1104.4	1103.8	1106.8	1100.1	1106.8	1106.8
25°	1075.4	1069.3	1073.5	1072.3	1071.1	1072.9	1076.0	1079.6	1083.2	1085.0	1091.1
27.5°	1039.7	1036.1	1037.9	1039.7	1047.6	1051.2	1050.6	1050.0	1057.2	1055.4	1062.7
30°	1004.6	996.8	1006.5	1009.5	1013.1	1013.1	1014.9	1023.4	1025.8	1031.8	1033.0
32.5°	966.6	964.1	972.0	974.4	981.7	984.1	985.9	999.2	1006.5	1009.5	1014.3
35°	927.3	930.9	933.9	938.1	953.9	956.3	961.1	967.8	973.2	975.6	978.6
37.5°	888.0	893.4	895.8	912.2	914.0	918.8	923.0	930.9	941.2	947.8	952.7
40°	855.3	852.9	862.6	871.1	875.3	884.3	894.0	906.7	917.0	920.0	926.7
42.5°	817.9	815.4	826.9	829.3	844.5	855.9	863.8	869.8	875.3	883.1	889.8
45°	774.3	779.2	781.0	793.7	810.0	815.4	816.6	829.9	840.8	851.1	855.9
47.5°	735.6	738.1	741.1	755.6	767.7	773.1	780.4	797.3	810.6	822.1	826.9
50°	688.5	690.9	702.4	711.5	727.2	735.0	745.3	757.4	767.7	776.8	786.4
52.5°	647.4	646.2	655.9	666.7	689.7	695.8	699.4	713.3	730.2	739.9	748.3
55°	602.1	603.9	610.5	627.4	635.9	647.4	655.3	675.2	692.1	702.4	709.7
57.5°	550.7	559.1	568.2	581.5	590.0	601.5	611.1	634.1	648.6	655.3	661.3
60°	504.1	510.2	522.3	531.9	547.7	557.9	563.4	581.5	597.2	604.5	613.5
62.5°	461.2	462.4	476.3	485.4	501.7	507.2	516.2	531.9	547.1	555.5	565.2
65°	411.0	414.7	420.7	436.4	450.3	458.2	466.7	486.6	496.3	510.8	516.8
67.5°	361.5	367.5	373.6	387.5	400.2	408.6	417.1	434.6	444.3	457.0	462.4
70°	310.7	314.3	322.8	335.5	349.4	357.2	365.7	378.4	391.1	402.0	409.2
72.5°	259.3	262.9	272.6	284.7	301.0	305.3	313.7	327.6	341.5	351.2	359.7
75°	209.8	212.2	223.1	233.3	249.6	253.9	261.7	276.2	290.8	302.8	308.3
77.5°	161.4	163.8	174.1	185.6	199.5	207.3	214.0	226.7	241.2	249.6	258.1
80°	114.2	119.1	125.7	137.8	151.7	158.4	166.8	180.7	192.8	201.3	209.1
82.5°	71.9	76.2	83.4	96.7	108.8	114.2	121.5	134.2	147.5	154.1	161.4
85°	36.9	39.9	48.4	58.6	70.7	76.8	83.4	96.1	105.2	114.9	123.3
87.5°	12.1	15.1	22.4	32.6	44.1	49.6	55.0	66.5	75.0	84.0	92.5
90°	0.0	3.6	10.9	19.9	30.2	35.7	41.1	49.6	58.0	67.7	75.6
92.5°	0.0	2.4	8.5	17.5	27.2	31.4	35.7	44.1	53.2	61.1	69.5
95°	0.0	2.4	7.9	16.3	24.8	29.0	33.9	41.7	50.2	58.6	65.9
97.5°	0.0	1.8	7.3	15.1	23.6	27.8	31.4	40.5	48.4	56.2	62.9
100°	0.0	1.8	7.3	14.5	22.4	26.6	30.8	38.7	46.5	53.2	60.4
102.5°	0.0	1.8	6.6	13.9	21.8	25.4	29.6	37.5	44.1	51.4	57.4
105°	0.0	1.8	6.6	13.3	21.2	24.8	28.4	36.3	42.9	49.0	55.6
107.5°	0.0	1.8	6.0	12.7	19.9	24.2	27.8	35.1	41.7	47.8	53.2
110°	0.0	1.2	6.0	12.7	19.3	23.0	26.6	33.9	39.9	45.9	50.8



TEST NUMBER: P241442

CATALOG NUMBER: FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.2	6.0	12.1	18.7	22.4	26.0	32.6	39.3	44.1	49.0
115°	0.0	1.2	5.4	11.5	18.1	21.8	25.4	32.0	37.5	42.9	47.8
117.5°	0.0	1.2	5.4	10.9	17.5	21.2	24.2	30.8	36.9	41.7	46.5
120°	0.0	1.2	4.8	10.3	16.9	20.6	23.6	29.6	35.7	41.1	45.9
122.5°	0.0	0.6	4.8	10.3	16.3	19.3	22.4	29.0	34.5	39.9	45.3
125°	0.0	0.6	4.2	9.7	15.1	18.7	21.8	27.8	33.2	38.7	43.5
127.5°	0.0	0.6	3.6	9.1	14.5	17.5	20.6	26.6	32.0	36.9	42.3
130°	0.6	0.6	3.6	8.5	13.3	16.3	19.3	24.8	30.2	35.1	39.9
132.5°	0.6	0.6	3.0	7.3	12.7	15.1	17.5	23.0	28.4	33.2	37.5
135°	0.6	0.6	3.0	6.6	11.5	13.9	16.3	21.2	26.0	30.8	35.1
137.5°	0.6	0.6	2.4	6.0	10.3	12.7	14.5	19.3	24.2	28.4	32.6
140°	0.6	0.6	1.8	4.8	9.1	10.9	13.3	17.5	21.8	26.0	29.6
142.5°	0.6	0.6	1.8	4.2	7.9	9.7	11.5	15.7	19.3	23.0	27.2
145°	0.6	0.6	1.2	3.6	6.6	8.5	10.3	13.9	17.5	20.6	24.2
147.5°	0.6	0.6	1.2	3.0	5.4	7.3	8.5	12.1	15.1	18.1	21.2
150°	0.6	0.6	0.6	2.4	4.2	5.4	7.3	9.7	12.7	15.7	18.7
152.5°	0.6	0.6	0.6	1.8	3.6	4.2	5.4	7.9	10.3	13.3	15.7
155°	0.6	0.6	0.6	1.2	2.4	3.6	4.2	6.0	8.5	10.9	12.7
157.5°	0.6	0.6	0.6	0.6	1.8	2.4	3.0	4.8	6.6	8.5	10.3
160°	0.6	0.6	0.6	0.6	1.2	1.8	2.4	3.6	4.8	6.0	7.3
162.5°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	2.4	3.0	4.2	5.4
165°	0.6	0.6	0.6	0.0	0.6	0.6	0.6	1.2	1.8	2.4	3.0
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.6	0.6	1.2	1.8
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: P241442

CATALOG NUMBER: FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7	1502.7
2.5°	1476.1	1477.9	1477.9	1478.5	1478.5	1480.4	1480.4	1480.4	1481.6	1481.0
5°	1421.7	1426.0	1429.0	1432.6	1435.0	1437.4	1437.4	1438.0	1441.7	1439.9
7.5°	1351.0	1355.8	1359.5	1366.7	1369.1	1371.0	1375.8	1378.8	1380.6	1379.4
10°	1294.8	1294.2	1297.8	1295.4	1292.4	1294.2	1293.6	1296.0	1293.0	1291.8
12.5°	1244.6	1231.9	1235.5	1244.0	1245.8	1247.0	1251.3	1251.9	1254.3	1250.7
15°	1195.7	1202.9	1202.3	1196.3	1193.2	1191.4	1192.6	1197.5	1201.7	1201.1
17.5°	1170.3	1164.2	1166.6	1182.4	1187.8	1189.6	1184.2	1176.9	1169.1	1167.2
20°	1136.4	1149.7	1156.4	1137.6	1124.9	1123.1	1123.1	1128.0	1134.0	1134.0
22.5°	1115.9	1115.3	1097.1	1112.8	1121.3	1126.1	1123.7	1113.4	1103.8	1106.8
25°	1094.1	1083.2	1102.6	1092.3	1085.0	1081.4	1085.6	1091.7	1094.1	1096.5
27.5°	1056.0	1072.9	1060.3	1068.1	1077.8	1085.6	1082.6	1066.9	1062.1	1063.3
30°	1037.3	1032.4	1047.0	1059.0	1051.8	1040.9	1030.6	1028.2	1033.0	1033.0
32.5°	1016.1	1023.4	1027.0	1008.9	1010.1	1014.3	1019.1	1018.5	1011.3	1005.2
35°	980.5	996.2	981.1	995.0	998.6	992.5	977.4	979.9	981.7	978.6
37.5°	962.9	953.9	966.6	961.7	957.5	959.9	970.2	966.6	967.8	966.6
40°	932.7	938.1	927.3	932.1	936.9	938.8	934.5	919.4	917.6	918.8
42.5°	892.8	898.9	906.1	910.9	899.5	889.8	892.2	898.9	900.7	902.5
45°	862.0	862.0	869.8	855.9	859.6	865.6	866.2	863.8	858.4	854.7
47.5°	831.2	836.6	822.1	829.9	828.1	828.7	822.1	826.9	828.7	828.1
50°	793.1	790.7	794.3	786.4	784.0	784.6	793.7	790.1	787.0	785.8
52.5°	754.4	746.5	753.8	753.2	759.2	759.8	747.7	742.9	745.3	743.5
55°	713.9	715.1	712.7	717.5	713.9	709.7	708.4	709.7	709.7	712.1
57.5°	664.3	674.0	681.2	670.4	668.6	671.6	671.6	664.9	660.1	659.5
60°	617.2	621.4	626.2	627.4	623.8	620.2	619.0	617.2	618.4	617.8
62.5°	571.8	574.9	570.0	571.2	567.6	570.0	569.4	567.0	562.2	557.3
65°	521.1	523.5	521.7	519.2	521.7	524.1	512.6	508.4	504.1	504.7
67.5°	467.3	469.1	469.7	472.1	467.3	463.6	458.8	458.2	454.0	450.9
70°	417.7	416.5	421.3	419.5	415.3	414.7	408.6	401.4	397.1	395.9
72.5°	365.7	368.1	371.8	365.1	369.3	364.5	357.2	353.0	351.8	350.6
75°	314.3	319.8	321.0	318.6	318.6	314.3	313.1	309.5	305.3	299.8
77.5°	264.8	269.0	271.4	272.0	269.6	269.0	266.6	261.7	254.5	250.3
80°	215.8	220.0	223.7	225.5	224.3	227.9	222.4	219.4	217.0	218.2
82.5°	171.1	175.3	180.7	183.2	185.6	186.2	187.4	189.2	191.0	193.4
85°	130.0	136.6	142.7	148.1	152.3	154.1	158.4	163.8	171.1	176.5
87.5°	101.6	107.6	116.1	123.9	126.9	130.0	136.6	146.3	159.0	168.6
90°	84.0	91.3	99.1	107.0	111.2	114.2	123.9	134.2	147.5	156.0
92.5°	76.2	84.0	91.3	98.5	102.2	105.8	114.2	124.5	133.6	140.8
95°	73.1	79.8	87.0	93.7	96.7	100.3	107.6	113.6	120.9	125.1
97.5°	69.5	76.2	82.8	88.9	91.3	94.3	100.9	105.2	110.6	114.2
100°	66.5	73.1	78.6	84.0	86.4	88.9	94.3	98.5	99.1	101.6
102.5°	64.1	69.5	74.4	79.2	80.4	82.8	87.0	89.5	89.5	88.9
105°	61.1	65.9	70.1	73.7	75.0	76.8	78.0	78.0	77.4	76.8
107.5°	58.0	62.3	65.9	68.3	69.5	69.5	69.5	68.3	67.1	66.5
110°	55.6	59.2	62.3	63.5	63.5	63.5	62.9	62.3	61.7	61.1



TEST NUMBER: P241442

CATALOG NUMBER: FVS8M-2-LD4-35-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	53.2	56.8	59.2	60.4	60.4	60.4	60.4	60.4	59.8	59.2
115°	52.0	55.0	57.4	59.2	59.8	60.4	61.1	61.1	61.1	60.4
117.5°	50.8	54.4	57.4	59.8	60.4	61.7	62.3	62.9	62.3	62.3
120°	50.8	54.4	57.4	60.4	61.7	62.3	63.5	64.1	64.1	63.5
122.5°	49.6	53.8	57.4	60.4	61.7	62.9	64.1	64.7	64.7	64.7
125°	48.4	52.6	56.8	59.8	61.1	61.7	63.5	64.7	64.7	64.7
127.5°	46.5	51.4	55.0	58.0	59.2	60.4	62.3	63.5	64.1	64.1
130°	44.7	49.0	53.2	56.2	57.4	58.6	60.4	61.7	62.3	62.9
132.5°	42.3	46.5	50.2	53.8	55.0	56.2	58.0	59.8	59.8	60.4
135°	39.3	43.5	47.1	50.2	52.0	53.2	55.6	56.8	57.4	58.0
137.5°	36.3	39.9	43.5	47.1	48.4	49.6	52.0	53.8	55.0	55.0
140°	33.2	36.9	39.9	42.9	44.7	45.9	48.4	50.2	50.8	51.4
142.5°	30.2	33.9	36.9	39.3	41.1	42.3	44.1	45.9	46.5	47.1
145°	27.2	30.2	33.2	35.7	36.9	38.1	39.9	41.1	41.7	42.3
147.5°	24.2	27.2	29.6	32.0	32.6	33.9	35.7	36.9	37.5	37.5
150°	21.2	23.6	26.0	27.8	28.4	29.6	31.4	32.0	32.6	32.6
152.5°	18.1	19.9	21.8	23.6	24.8	25.4	26.6	27.8	27.8	28.4
155°	15.1	16.9	18.7	19.9	20.6	21.2	22.4	23.0	23.6	23.6
157.5°	12.1	13.9	15.1	16.3	16.9	17.5	18.1	18.7	19.3	19.3
160°	9.1	10.3	11.5	12.7	13.3	13.3	14.5	14.5	15.1	15.1
162.5°	6.0	7.3	8.5	9.7	9.7	10.3	10.3	10.9	10.9	10.9
165°	3.6	4.8	5.4	6.6	6.6	7.3	7.3	7.9	7.9	7.9
167.5°	2.4	2.4	3.0	3.6	4.2	4.2	4.2	4.8	4.8	4.8
170°	0.6	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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)