

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: P241615

Luminaire Tested: **FVS8M-4-LD4-40-2STD-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241615
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-39)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-40-2STD-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

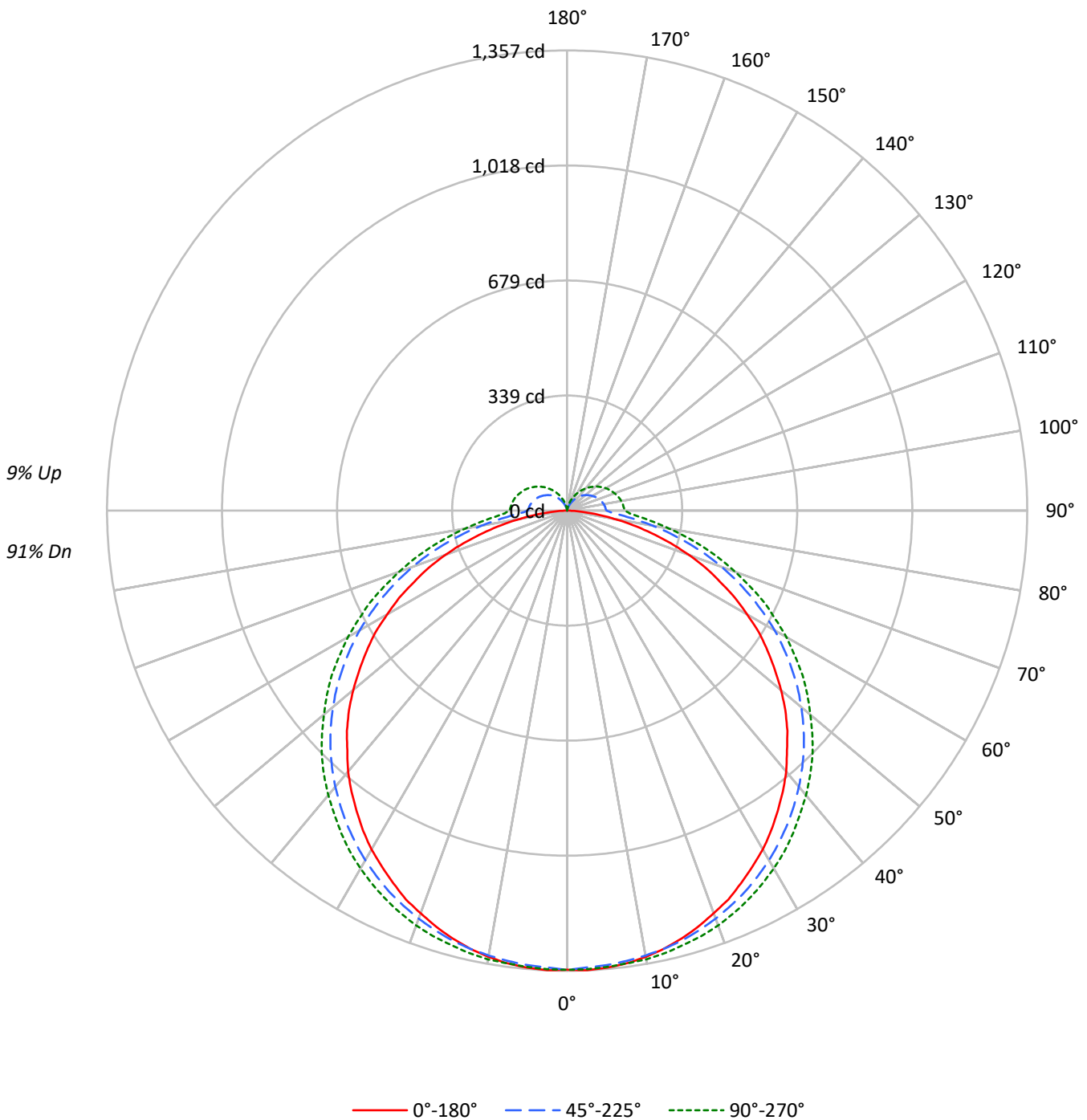
Lumens per Lamp: N/A
Luminaire Lumens: 4809.0 lumens
Efficiency: N/A
Efficacy: 74.1 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 64.9
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	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	106	100	96	92	102	97	93	89	91	88	85	86	83	80	81	79	77	74
2	95	87	80	73	92	84	77	72	79	74	69	74	70	66	70	66	63	60
3	87	76	67	60	83	73	66	59	69	63	57	65	60	55	61	57	53	50
4	79	67	58	51	76	65	56	50	61	54	48	58	52	47	54	49	45	42
5	73	59	50	43	70	58	49	43	55	47	41	52	45	40	49	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	39	33	45	37	32	42	36	31	40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	28	23	34	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6053	6053	6053
5°	6048	5938	5944
10°	6023	5853	5865
15°	5981	5780	5784
20°	5925	5702	5722
25°	5874	5626	5645
30°	5823	5545	5564
35°	5746	5455	5471
40°	5678	5360	5375
45°	5586	5255	5275
50°	5471	5122	5130
55°	5329	4962	4992
60°	5128	4769	4798
65°	4860	4504	4574
70°	4506	4176	4241
75°	3882	3724	3901
80°	2998	3185	3442
85°	1595	2630	3080



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	2.7
10°-20°	371.5	7.7
20°-30°	572.2	11.9
30°-40°	705.6	14.7
40°-50°	755.5	15.7
50°-60°	712.5	14.8
60°-70°	579.0	12.0
70°-80°	375.3	7.8
80°-90°	171.6	3.6
90°-100°	109.4	2.3
100°-110°	98.6	2.1
110°-120°	82.6	1.7
120°-130°	63.6	1.3
130°-140°	43.7	0.9
140°-150°	25.3	0.5
150°-160°	11.2	0.2
160°-170°	2.9	0.1
170°-180°	0.1	0.0
0°-30°	1072.2	22.3
0°-40°	1777.8	37.0
0°-60°	3245.8	67.5
0°-90°	4371.6	90.9
90°-120°	290.7	6.0
90°-150°	423.2	8.8
90°-180°	437.0	9.1
0°-180°	4809.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1354	1354	1354	1354	1354	
5°	1353	1352	1345	1351	1351	129
15°	1306	1308	1312	1324	1326	369
25°	1213	1222	1241	1261	1265	559
35°	1082	1102	1131	1155	1161	677
45°	918	948	987	1013	1023	708
55°	722	761	807	837	847	645
65°	498	545	597	629	642	494
75°	258	309	366	402	416	274
85°	45	101	161	200	215	59
90°	1	55	116	156	170	2
95°	1	52	113	153	166	1
105°	1	47	105	143	156	1
115°	1	41	93	128	142	1
125°	1	34	78	110	121	1
135°	1	24	63	88	98	1
145°	1	16	43	65	72	1
155°	2	8	24	41	45	1
165°	2	2	9	15	20	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°	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3
2.5°	1356.8	1356.8	1355.9	1355.1	1355.1	1355.9	1355.9	1355.1	1352.7	1349.4	1348.6
5°	1352.7	1351.9	1352.7	1351.0	1351.9	1351.9	1351.0	1351.0	1348.6	1346.9	1345.3
7.5°	1346.9	1346.1	1345.3	1344.5	1344.5	1345.3	1344.5	1344.5	1342.9	1340.4	1339.6
10°	1336.3	1335.5	1336.3	1334.7	1334.7	1335.5	1336.3	1336.3	1334.7	1333.9	1332.2
12.5°	1323.2	1323.2	1322.4	1321.6	1322.4	1323.2	1324.1	1324.1	1323.2	1324.1	1323.2
15°	1306.1	1306.9	1305.2	1304.4	1307.7	1307.7	1309.3	1311.0	1311.0	1310.1	1311.8
17.5°	1286.4	1286.4	1286.4	1287.2	1288.1	1289.7	1291.3	1293.0	1293.8	1295.4	1297.1
20°	1263.5	1265.2	1265.2	1266.0	1269.3	1271.7	1271.7	1275.8	1276.6	1277.4	1280.7
22.5°	1241.5	1240.6	1240.6	1242.3	1246.4	1248.8	1251.3	1253.7	1255.4	1257.8	1261.1
25°	1212.8	1213.6	1214.5	1216.9	1221.8	1221.8	1225.9	1229.2	1232.5	1235.7	1240.6
27.5°	1183.4	1185.0	1185.8	1188.3	1194.0	1197.3	1199.7	1203.8	1207.1	1211.2	1216.1
30°	1153.9	1153.9	1154.8	1158.0	1163.8	1167.8	1170.3	1175.2	1180.1	1185.8	1190.7
32.5°	1119.6	1119.6	1120.4	1126.1	1131.9	1136.0	1140.0	1144.9	1149.9	1155.6	1162.1
35°	1082.0	1081.2	1083.6	1091.8	1097.5	1102.4	1107.3	1113.1	1119.6	1125.3	1131.0
37.5°	1044.4	1045.2	1046.0	1054.2	1063.2	1065.6	1071.3	1077.1	1083.6	1090.2	1098.3
40°	1005.1	1005.1	1008.4	1014.1	1024.7	1028.8	1033.7	1041.1	1046.8	1055.8	1063.2
42.5°	959.3	963.4	967.5	974.0	984.7	989.6	994.5	1003.5	1010.8	1016.6	1026.4
45°	918.4	919.2	923.3	933.1	942.9	947.9	954.4	963.4	972.4	978.9	987.1
47.5°	872.6	872.6	878.3	887.3	898.8	904.5	910.2	919.2	927.4	938.9	945.4
50°	823.5	825.2	831.7	843.2	854.6	857.9	863.6	875.9	883.2	892.2	901.2
52.5°	772.0	775.3	784.3	794.1	803.9	811.3	816.2	829.3	838.3	847.3	856.3
55°	722.1	723.0	730.3	743.4	755.7	760.6	768.8	779.4	789.2	799.0	807.2
57.5°	671.4	669.8	678.8	692.7	705.0	709.0	716.4	729.5	739.3	748.3	757.3
60°	612.5	616.6	624.8	637.9	651.0	655.1	661.6	676.3	685.3	696.0	706.6
62.5°	558.6	559.4	572.5	582.3	596.2	604.4	608.5	620.7	630.5	642.0	651.8
65°	498.1	505.4	512.8	524.2	538.1	544.7	549.6	565.9	576.6	587.2	597.0
67.5°	443.3	445.7	455.5	467.8	481.7	487.4	495.6	507.0	519.3	528.3	541.4
70°	381.9	384.4	393.4	408.1	421.2	429.4	435.9	449.0	460.4	471.9	484.1
72.5°	320.6	323.0	334.5	347.6	363.1	368.0	375.4	389.3	401.5	413.8	426.9
75°	257.6	264.2	276.4	287.9	303.4	309.1	318.1	333.7	345.9	356.6	366.4
77.5°	198.7	207.7	217.5	229.8	243.7	251.9	259.2	274.0	287.1	301.0	311.6
80°	142.3	148.8	159.5	171.7	187.3	197.9	203.6	217.5	229.8	242.9	255.2
82.5°	92.4	95.7	106.3	121.9	136.6	144.8	152.1	166.8	179.1	191.4	203.6
85°	45.0	50.7	61.3	77.7	92.4	100.6	108.0	122.7	135.8	149.7	161.1
87.5°	14.7	21.3	31.9	45.8	61.3	68.7	76.1	90.8	104.7	116.9	130.0
90°	0.8	5.7	17.2	31.9	46.6	54.8	62.2	76.9	90.8	103.9	116.1
92.5°	0.8	4.9	16.4	30.3	45.0	53.2	60.5	75.2	89.1	102.2	113.7
95°	0.8	4.9	15.5	29.4	44.2	51.5	59.7	73.6	87.5	100.6	112.9
97.5°	0.8	4.9	14.7	28.6	43.3	50.7	58.1	72.8	86.7	99.8	111.2
100°	0.8	4.1	14.7	27.8	42.5	49.9	57.2	71.2	85.1	97.3	109.6
102.5°	0.8	4.1	13.9	27.0	40.9	48.3	55.6	69.5	82.6	94.9	107.1
105°	0.8	4.1	13.9	26.2	40.1	47.4	54.0	67.9	81.0	93.2	104.7
107.5°	0.8	4.1	13.1	25.4	38.4	45.8	52.3	65.4	78.5	90.8	102.2
110°	0.8	3.3	12.3	24.5	37.6	44.2	50.7	63.8	76.1	88.3	99.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	3.3	12.3	23.7	36.0	42.5	49.1	61.3	73.6	85.1	96.5
115°	0.8	3.3	11.4	22.1	34.3	40.9	47.4	59.7	71.2	82.6	93.2
117.5°	0.8	2.5	10.6	21.3	32.7	39.3	45.0	57.2	68.7	79.3	90.0
120°	0.8	2.5	9.8	20.4	31.1	37.6	43.3	54.8	65.4	76.9	85.9
122.5°	0.8	2.5	9.0	18.8	30.3	35.2	40.9	52.3	63.0	73.6	82.6
125°	0.8	1.6	9.0	18.0	28.6	33.5	39.3	49.9	59.7	69.5	78.5
127.5°	0.8	1.6	8.2	17.2	27.0	31.9	36.8	46.6	57.2	66.2	75.2
130°	0.8	1.6	7.4	15.5	24.5	29.4	34.3	44.2	53.2	63.0	71.2
132.5°	0.8	1.6	6.5	13.9	22.9	27.0	31.9	41.7	50.7	58.9	67.1
135°	0.8	1.6	5.7	12.3	20.4	24.5	29.4	37.6	46.6	54.8	63.0
137.5°	0.8	1.6	4.9	11.4	18.0	22.1	26.2	34.3	42.5	50.7	58.1
140°	0.8	0.8	4.1	9.8	16.4	19.6	23.7	31.1	38.4	45.8	53.2
142.5°	0.8	0.8	3.3	8.2	14.7	17.2	21.3	27.8	34.3	41.7	48.3
145°	0.8	0.8	2.5	7.4	12.3	15.5	18.8	24.5	30.3	36.8	43.3
147.5°	0.8	0.8	2.5	5.7	10.6	13.1	15.5	21.3	27.0	32.7	37.6
150°	1.6	1.6	2.5	4.9	9.0	11.4	13.9	18.8	23.7	28.6	32.7
152.5°	1.6	1.6	1.6	4.1	7.4	9.8	11.4	15.5	19.6	24.5	28.6
155°	1.6	1.6	1.6	3.3	6.5	8.2	9.8	13.1	16.4	20.4	23.7
157.5°	1.6	1.6	1.6	2.5	4.9	6.5	7.4	10.6	13.9	16.4	19.6
160°	1.6	1.6	1.6	2.5	4.1	4.9	5.7	8.2	10.6	13.1	15.5
162.5°	1.6	1.6	1.6	1.6	3.3	4.1	4.9	6.5	8.2	10.6	12.3
165°	1.6	1.6	1.6	1.6	2.5	2.5	3.3	4.9	5.7	7.4	9.0
167.5°	1.6	1.6	1.6	1.6	1.6	2.5	2.5	3.3	4.1	4.9	5.7
170°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.5	2.5	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	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°	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3	1354.3
2.5°	1350.2	1351.0	1352.7	1354.3	1353.5	1353.5	1354.3	1353.5	1354.3	1353.5
5°	1345.3	1347.8	1349.4	1351.0	1351.0	1351.0	1351.0	1351.0	1351.0	1351.0
7.5°	1340.4	1342.0	1344.5	1346.9	1346.9	1347.8	1347.8	1346.9	1347.8	1346.9
10°	1333.9	1337.1	1339.6	1341.2	1342.0	1342.0	1342.9	1342.9	1342.9	1343.7
12.5°	1324.9	1328.1	1331.4	1333.9	1334.7	1333.9	1335.5	1336.3	1335.5	1336.3
15°	1314.2	1316.7	1321.6	1323.2	1324.1	1324.9	1325.7	1326.5	1326.5	1325.7
17.5°	1300.3	1304.4	1306.9	1311.8	1311.8	1312.6	1314.2	1315.1	1314.2	1315.9
20°	1284.8	1288.9	1293.0	1296.2	1296.2	1297.9	1299.5	1300.3	1302.0	1302.0
22.5°	1266.0	1270.9	1275.8	1279.1	1280.7	1280.7	1283.2	1284.0	1285.6	1284.8
25°	1244.7	1251.3	1256.2	1258.6	1261.1	1261.9	1263.5	1264.3	1264.3	1265.2
27.5°	1221.8	1226.7	1232.5	1236.5	1239.0	1239.0	1241.5	1242.3	1242.3	1243.1
30°	1195.7	1203.0	1207.1	1211.2	1212.0	1213.6	1216.1	1216.9	1219.4	1218.6
32.5°	1167.8	1174.4	1179.3	1182.6	1185.8	1186.7	1188.3	1190.7	1190.7	1192.4
35°	1138.4	1143.3	1148.2	1153.1	1154.8	1157.2	1159.7	1160.5	1162.1	1161.3
37.5°	1105.7	1112.2	1117.1	1118.8	1122.9	1124.5	1127.8	1128.6	1129.4	1127.8
40°	1070.5	1076.3	1082.8	1086.1	1088.5	1089.3	1093.4	1094.2	1095.1	1095.9
42.5°	1033.7	1041.1	1046.0	1050.1	1052.5	1053.4	1057.4	1057.4	1059.9	1060.7
45°	994.5	1001.8	1007.6	1012.5	1013.3	1015.7	1019.0	1020.6	1019.8	1023.1
47.5°	953.6	960.9	966.7	970.8	971.6	973.2	977.3	978.1	979.7	980.6
50°	908.6	916.0	922.5	927.4	929.0	931.5	934.8	936.4	937.2	936.4
52.5°	864.4	871.8	875.9	882.4	884.9	884.1	889.0	892.2	891.4	893.1
55°	817.0	823.5	830.1	835.0	836.6	839.1	842.4	843.2	844.8	847.3
57.5°	764.7	776.1	781.0	783.5	786.7	789.2	790.8	796.6	796.6	795.7
60°	714.0	722.1	728.7	734.4	736.0	739.3	742.6	745.0	745.0	746.7
62.5°	662.4	669.8	676.3	681.2	682.1	686.2	690.2	691.9	692.7	691.9
65°	607.6	612.5	623.2	625.6	628.9	633.0	635.4	637.9	639.5	642.0
67.5°	550.4	557.8	565.9	572.5	575.7	577.4	580.7	583.1	584.7	583.1
70°	494.0	501.3	507.9	514.4	517.7	518.5	521.8	525.0	526.7	525.9
72.5°	435.9	444.1	452.3	457.2	460.4	462.9	468.6	469.4	469.4	472.7
75°	377.8	386.8	395.0	401.5	402.4	405.6	408.9	412.2	417.1	416.3
77.5°	320.6	330.4	336.9	342.7	346.8	350.0	353.3	355.8	357.4	359.8
80°	266.6	277.2	282.1	289.5	292.8	296.1	299.3	303.4	306.7	305.0
82.5°	214.3	225.7	233.9	241.3	242.9	248.6	250.3	253.5	254.3	256.8
85°	171.7	182.4	189.7	198.7	200.4	204.5	208.5	211.0	212.6	215.1
87.5°	140.7	150.5	158.7	166.8	169.3	171.7	176.6	180.7	182.4	184.0
90°	126.8	136.6	145.6	152.9	156.2	158.7	163.6	167.7	169.3	170.1
92.5°	125.1	134.9	143.1	150.5	153.8	157.0	161.9	165.2	166.8	167.7
95°	123.5	133.3	142.3	149.7	152.9	155.4	160.3	163.6	165.2	166.0
97.5°	121.9	131.7	140.7	148.0	151.3	153.8	158.7	161.9	163.6	164.4
100°	120.2	130.0	138.2	145.6	148.8	151.3	156.2	159.5	161.1	161.9
102.5°	117.8	127.6	135.8	143.1	146.4	148.8	152.9	157.0	158.7	159.5
105°	115.3	124.3	132.5	139.8	143.1	145.6	150.5	153.8	155.4	156.2
107.5°	112.0	121.9	129.2	136.6	139.8	142.3	147.2	149.7	152.1	152.9
110°	109.6	118.6	125.9	133.3	136.6	139.0	143.1	146.4	148.0	148.8



TEST NUMBER: P241615

CATALOG NUMBER: FVS8M-4-LD4-40-2STD-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	106.3	115.3	122.7	129.2	132.5	134.9	139.8	142.3	144.8	144.8
115°	102.2	111.2	118.6	125.1	128.4	130.9	134.9	138.2	139.8	141.5
117.5°	99.0	107.1	115.3	121.0	124.3	126.8	130.9	134.1	135.8	136.6
120°	95.7	103.9	110.4	116.9	119.4	121.9	125.9	129.2	130.9	131.7
122.5°	91.6	99.8	106.3	112.0	114.5	116.9	121.0	124.3	125.9	126.8
125°	87.5	94.9	101.4	107.1	109.6	112.0	116.1	118.6	120.2	121.0
127.5°	83.4	90.8	97.3	102.2	104.7	107.1	110.4	113.7	115.3	116.1
130°	78.5	85.9	92.4	97.3	99.8	101.4	104.7	108.0	109.6	110.4
132.5°	74.4	81.0	86.7	92.4	94.0	96.5	99.0	102.2	103.9	103.9
135°	69.5	76.1	81.8	86.7	88.3	90.8	94.0	96.5	97.3	98.1
137.5°	65.4	71.2	76.9	81.0	82.6	85.1	87.5	90.0	91.6	91.6
140°	60.5	66.2	71.2	75.2	76.9	78.5	81.8	83.4	85.1	85.1
142.5°	54.8	60.5	65.4	69.5	71.2	72.8	75.2	77.7	78.5	78.5
145°	49.1	55.6	59.7	63.8	64.6	66.2	68.7	70.3	72.0	72.0
147.5°	43.3	49.1	54.0	57.2	58.9	60.5	62.2	63.8	65.4	65.4
150°	38.4	43.3	48.3	51.5	53.2	54.0	56.4	57.2	58.1	58.9
152.5°	32.7	36.8	41.7	45.8	46.6	47.4	49.9	51.5	51.5	52.3
155°	27.0	31.1	34.3	38.4	40.9	41.7	43.3	44.2	45.0	45.0
157.5°	22.9	26.2	28.6	31.9	33.5	35.2	36.8	38.4	38.4	38.4
160°	18.0	20.4	22.9	25.4	27.0	28.6	31.1	31.1	31.9	32.7
162.5°	13.9	15.5	18.0	19.6	21.3	22.1	24.5	25.4	25.4	25.4
165°	9.8	11.4	13.1	14.7	14.7	15.5	18.0	18.8	18.8	19.6
167.5°	6.5	7.4	9.0	9.8	9.8	10.6	11.4	13.9	13.1	13.1
170°	4.1	4.1	4.9	5.7	5.7	5.7	6.5	7.4	8.2	8.2
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)