

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: P241616

Luminaire Tested: **FVS8M-4-LD4-50-2STD-O-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241616  
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-LD4-50-2STD-O-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
4FT LENGTH, 2-MODULE LED WITH OPAL LENS  
Light Source: (168) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

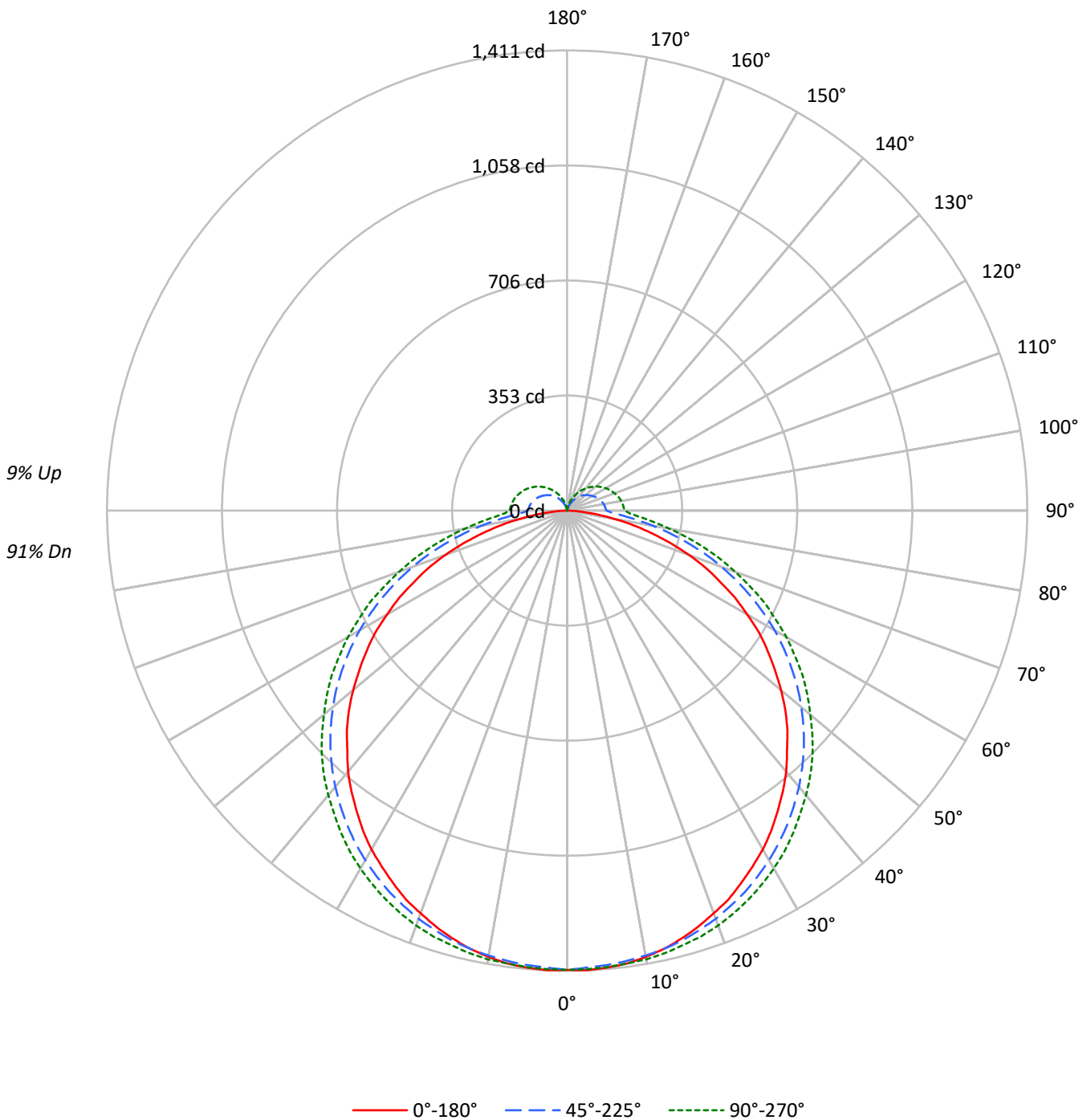
Lumens per Lamp: N/A  
Luminaire Lumens: 5001.0 lumens  
Efficiency: N/A  
Efficacy: 77.1 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.34 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')  
CIE Type: Direct

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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CATALOG NUMBER: FVS8M-4-LD4-50-2STD-O-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	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°	6295	6295	6295
5°	6289	6175	6181
10°	6264	6086	6098
15°	6219	6010	6015
20°	6162	5930	5951
25°	6108	5851	5870
30°	6056	5767	5785
35°	5975	5673	5690
40°	5904	5574	5590
45°	5810	5464	5486
50°	5689	5327	5335
55°	5542	5160	5191
60°	5333	4959	4989
65°	5053	4684	4757
70°	4687	4344	4410
75°	4037	3872	4057
80°	3118	3311	3580
85°	1659	2734	3203



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.6	2.7
10°-20°	386.3	7.7
20°-30°	595.1	11.9
30°-40°	733.8	14.7
40°-50°	785.7	15.7
50°-60°	741.0	14.8
60°-70°	602.1	12.0
70°-80°	390.2	7.8
80°-90°	178.4	3.6
90°-100°	113.8	2.3
100°-110°	102.6	2.1
110°-120°	85.9	1.7
120°-130°	66.1	1.3
130°-140°	45.4	0.9
140°-150°	26.3	0.5
150°-160°	11.7	0.2
160°-170°	3.0	0.1
170°-180°	0.1	0.0
0°-30°	1115.0	22.3
0°-40°	1848.8	37.0
0°-60°	3375.4	67.5
0°-90°	4546.1	90.9
90°-120°	302.3	6.0
90°-150°	440.1	8.8
90°-180°	455.0	9.1
0°-180°	5001.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1408	1408	1408	1408	1408	
5°	1407	1406	1399	1405	1405	134
15°	1358	1360	1364	1377	1379	383
25°	1261	1271	1290	1311	1316	582
35°	1125	1146	1176	1201	1208	705
45°	955	986	1026	1054	1064	736
55°	751	791	839	870	881	671
65°	518	566	621	654	668	514
75°	268	322	381	418	433	285
85°	47	105	168	208	224	61
90°	1	57	121	162	177	2
95°	1	54	117	159	173	1
105°	1	49	109	149	162	1
115°	1	42	97	134	147	1
125°	1	35	82	114	126	1
135°	1	26	66	92	102	1
145°	1	16	45	67	75	1
155°	2	8	25	42	47	1
165°	2	3	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°	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4
2.5°	1410.9	1410.9	1410.1	1409.2	1409.2	1410.1	1410.1	1409.2	1406.7	1403.3	1402.4
5°	1406.7	1405.8	1406.7	1405.0	1405.8	1405.8	1405.0	1405.0	1402.4	1400.7	1399.0
7.5°	1400.7	1399.9	1399.0	1398.2	1398.2	1399.0	1398.2	1398.2	1396.5	1393.9	1393.1
10°	1389.7	1388.8	1389.7	1388.0	1388.0	1388.8	1389.7	1389.7	1388.0	1387.1	1385.4
12.5°	1376.1	1376.1	1375.2	1374.4	1375.2	1376.1	1376.9	1376.9	1376.1	1376.9	1376.1
15°	1358.2	1359.1	1357.4	1356.5	1359.9	1359.9	1361.6	1363.3	1363.3	1362.5	1364.2
17.5°	1337.8	1337.8	1337.8	1338.6	1339.5	1341.2	1342.9	1344.6	1345.4	1347.1	1348.8
20°	1314.0	1315.7	1315.7	1316.5	1319.9	1322.5	1322.5	1326.7	1327.6	1328.4	1331.8
22.5°	1291.0	1290.2	1290.2	1291.9	1296.1	1298.7	1301.2	1303.8	1305.5	1308.0	1311.4
25°	1261.2	1262.1	1263.0	1265.5	1270.6	1270.6	1274.9	1278.3	1281.7	1285.1	1290.2
27.5°	1230.6	1232.3	1233.2	1235.7	1241.7	1245.1	1247.6	1251.9	1255.3	1259.5	1264.7
30°	1200.0	1200.0	1200.9	1204.3	1210.2	1214.5	1217.0	1222.1	1227.2	1233.2	1238.3
32.5°	1164.3	1164.3	1165.1	1171.1	1177.1	1181.3	1185.6	1190.7	1195.8	1201.7	1208.5
35°	1125.2	1124.3	1126.9	1135.4	1141.3	1146.4	1151.5	1157.5	1164.3	1170.2	1176.2
37.5°	1086.1	1086.9	1087.8	1096.3	1105.6	1108.2	1114.1	1120.1	1126.9	1133.7	1142.2
40°	1045.2	1045.2	1048.6	1054.6	1065.6	1069.9	1075.0	1082.7	1088.6	1098.0	1105.6
42.5°	997.6	1001.9	1006.1	1012.9	1024.0	1029.1	1034.2	1043.5	1051.2	1057.1	1067.3
45°	955.1	955.9	960.2	970.4	980.6	985.7	992.5	1001.9	1011.2	1018.0	1026.5
47.5°	907.5	907.5	913.4	922.8	934.7	940.6	946.6	955.9	964.4	976.3	983.1
50°	856.4	858.1	864.9	876.8	888.7	892.1	898.1	910.9	918.5	927.9	937.2
52.5°	802.8	806.2	815.6	825.8	836.0	843.7	848.8	862.4	871.7	881.1	890.4
55°	751.0	751.8	759.5	773.1	785.8	790.9	799.4	810.5	820.7	830.9	839.4
57.5°	698.2	696.5	705.9	720.3	733.1	737.4	745.0	758.6	768.8	778.2	787.5
60°	637.0	641.3	649.8	663.4	677.0	681.2	688.0	703.3	712.7	723.8	734.8
62.5°	580.9	581.7	595.3	605.5	620.0	628.5	632.8	645.5	655.7	667.6	677.8
65°	517.9	525.6	533.2	545.2	559.6	566.4	571.5	588.5	599.6	610.6	620.8
67.5°	461.0	463.5	473.7	486.5	500.9	506.9	515.4	527.3	540.0	549.4	563.0
70°	397.2	399.7	409.1	424.4	438.0	446.5	453.3	466.9	478.8	490.7	503.5
72.5°	333.4	335.9	347.8	361.5	377.6	382.7	390.4	404.8	417.6	430.3	443.9
75°	267.9	274.7	287.5	299.4	315.5	321.5	330.8	347.0	359.7	370.8	381.0
77.5°	206.7	216.0	226.2	239.0	253.4	261.9	269.6	284.9	298.5	313.0	324.0
80°	148.0	154.8	165.8	178.6	194.8	205.8	211.8	226.2	239.0	252.6	265.3
82.5°	96.1	99.5	110.6	126.7	142.0	150.5	158.2	173.5	186.3	199.0	211.8
85°	46.8	52.7	63.8	80.8	96.1	104.6	112.3	127.6	141.2	155.6	167.5
87.5°	15.3	22.1	33.2	47.6	63.8	71.4	79.1	94.4	108.9	121.6	135.2
90°	0.9	6.0	17.9	33.2	48.5	57.0	64.6	79.9	94.4	108.0	120.8
92.5°	0.9	5.1	17.0	31.5	46.8	55.3	62.9	78.2	92.7	106.3	118.2
95°	0.9	5.1	16.2	30.6	45.9	53.6	62.1	76.5	91.0	104.6	117.4
97.5°	0.9	5.1	15.3	29.8	45.1	52.7	60.4	75.7	90.1	103.8	115.7
100°	0.9	4.3	15.3	28.9	44.2	51.9	59.5	74.0	88.4	101.2	114.0
102.5°	0.9	4.3	14.5	28.1	42.5	50.2	57.8	72.3	85.9	98.7	111.4
105°	0.9	4.3	14.5	27.2	41.7	49.3	56.1	70.6	84.2	97.0	108.9
107.5°	0.9	4.3	13.6	26.4	40.0	47.6	54.4	68.0	81.6	94.4	106.3
110°	0.9	3.4	12.8	25.5	39.1	45.9	52.7	66.3	79.1	91.9	102.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	3.4	12.8	24.7	37.4	44.2	51.0	63.8	76.5	88.4	100.4
115°	0.9	3.4	11.9	23.0	35.7	42.5	49.3	62.1	74.0	85.9	97.0
117.5°	0.9	2.6	11.1	22.1	34.0	40.8	46.8	59.5	71.4	82.5	93.6
120°	0.9	2.6	10.2	21.3	32.3	39.1	45.1	57.0	68.0	79.9	89.3
122.5°	0.9	2.6	9.4	19.6	31.5	36.6	42.5	54.4	65.5	76.5	85.9
125°	0.9	1.7	9.4	18.7	29.8	34.9	40.8	51.9	62.1	72.3	81.6
127.5°	0.9	1.7	8.5	17.9	28.1	33.2	38.3	48.5	59.5	68.9	78.2
130°	0.9	1.7	7.7	16.2	25.5	30.6	35.7	45.9	55.3	65.5	74.0
132.5°	0.9	1.7	6.8	14.5	23.8	28.1	33.2	43.4	52.7	61.2	69.7
135°	0.9	1.7	6.0	12.8	21.3	25.5	30.6	39.1	48.5	57.0	65.5
137.5°	0.9	1.7	5.1	11.9	18.7	23.0	27.2	35.7	44.2	52.7	60.4
140°	0.9	0.9	4.3	10.2	17.0	20.4	24.7	32.3	40.0	47.6	55.3
142.5°	0.9	0.9	3.4	8.5	15.3	17.9	22.1	28.9	35.7	43.4	50.2
145°	0.9	0.9	2.6	7.7	12.8	16.2	19.6	25.5	31.5	38.3	45.1
147.5°	0.9	0.9	2.6	6.0	11.1	13.6	16.2	22.1	28.1	34.0	39.1
150°	1.7	1.7	2.6	5.1	9.4	11.9	14.5	19.6	24.7	29.8	34.0
152.5°	1.7	1.7	1.7	4.3	7.7	10.2	11.9	16.2	20.4	25.5	29.8
155°	1.7	1.7	1.7	3.4	6.8	8.5	10.2	13.6	17.0	21.3	24.7
157.5°	1.7	1.7	1.7	2.6	5.1	6.8	7.7	11.1	14.5	17.0	20.4
160°	1.7	1.7	1.7	2.6	4.3	5.1	6.0	8.5	11.1	13.6	16.2
162.5°	1.7	1.7	1.7	1.7	3.4	4.3	5.1	6.8	8.5	11.1	12.8
165°	1.7	1.7	1.7	1.7	2.6	2.6	3.4	5.1	6.0	7.7	9.4
167.5°	1.7	1.7	1.7	1.7	1.7	2.6	2.6	3.4	4.3	5.1	6.0
170°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.6	2.6	3.4	3.4
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°	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4	1408.4
2.5°	1404.1	1405.0	1406.7	1408.4	1407.5	1407.5	1408.4	1407.5	1408.4	1407.5
5°	1399.0	1401.6	1403.3	1405.0	1405.0	1405.0	1405.0	1405.0	1405.0	1405.0
7.5°	1393.9	1395.6	1398.2	1400.7	1400.7	1401.6	1401.6	1400.7	1401.6	1400.7
10°	1387.1	1390.5	1393.1	1394.8	1395.6	1395.6	1396.5	1396.5	1396.5	1397.3
12.5°	1377.8	1381.2	1384.6	1387.1	1388.0	1387.1	1388.8	1389.7	1388.8	1389.7
15°	1366.7	1369.3	1374.4	1376.1	1376.9	1377.8	1378.6	1379.5	1379.5	1378.6
17.5°	1352.2	1356.5	1359.1	1364.2	1364.2	1365.0	1366.7	1367.6	1366.7	1368.4
20°	1336.1	1340.3	1344.6	1348.0	1348.0	1349.7	1351.4	1352.2	1354.0	1354.0
22.5°	1316.5	1321.6	1326.7	1330.1	1331.8	1331.8	1334.4	1335.2	1336.9	1336.1
25°	1294.4	1301.2	1306.3	1308.9	1311.4	1312.3	1314.0	1314.8	1314.8	1315.7
27.5°	1270.6	1275.7	1281.7	1285.9	1288.5	1288.5	1291.0	1291.9	1291.9	1292.7
30°	1243.4	1251.0	1255.3	1259.5	1260.4	1262.1	1264.7	1265.5	1268.1	1267.2
32.5°	1214.5	1221.3	1226.4	1229.8	1233.2	1234.0	1235.7	1238.3	1238.3	1240.0
35°	1183.9	1189.0	1194.1	1199.2	1200.9	1203.4	1206.0	1206.8	1208.5	1207.7
37.5°	1149.8	1156.6	1161.7	1163.4	1167.7	1169.4	1172.8	1173.7	1174.5	1172.8
40°	1113.3	1119.2	1126.0	1129.4	1132.0	1132.8	1137.1	1137.9	1138.8	1139.6
42.5°	1075.0	1082.7	1087.8	1092.0	1094.6	1095.4	1099.7	1099.7	1102.2	1103.1
45°	1034.2	1041.8	1047.8	1052.9	1053.7	1056.3	1059.7	1061.4	1060.5	1063.9
47.5°	991.6	999.3	1005.3	1009.5	1010.4	1012.1	1016.3	1017.2	1018.9	1019.7
50°	944.9	952.5	959.3	964.4	966.1	968.7	972.1	973.8	974.6	973.8
52.5°	898.9	906.6	910.9	917.7	920.2	919.4	924.5	927.9	927.0	928.7
55°	849.6	856.4	863.2	868.3	870.0	872.6	876.0	876.8	878.5	881.1
57.5°	795.2	807.1	812.2	814.8	818.2	820.7	822.4	828.4	828.4	827.5
60°	742.5	751.0	757.8	763.7	765.4	768.8	772.2	774.8	774.8	776.5
62.5°	688.9	696.5	703.3	708.4	709.3	713.5	717.8	719.5	720.3	719.5
65°	631.9	637.0	648.1	650.6	654.0	658.3	660.8	663.4	665.1	667.6
67.5°	572.4	580.0	588.5	595.3	598.7	600.4	603.8	606.4	608.1	606.4
70°	513.7	521.3	528.1	534.9	538.3	539.2	542.6	546.0	547.7	546.9
72.5°	453.3	461.8	470.3	475.4	478.8	481.4	487.3	488.2	488.2	491.6
75°	392.9	402.3	410.8	417.6	418.4	421.8	425.2	428.6	433.7	432.9
77.5°	333.4	343.6	350.4	356.3	360.6	364.0	367.4	370.0	371.7	374.2
80°	277.3	288.3	293.4	301.1	304.5	307.9	311.3	315.5	318.9	317.2
82.5°	222.8	234.7	243.2	250.9	252.6	258.5	260.2	263.6	264.5	267.0
85°	178.6	189.7	197.3	206.7	208.4	212.6	216.9	219.4	221.1	223.7
87.5°	146.3	156.5	165.0	173.5	176.0	178.6	183.7	188.0	189.7	191.4
90°	131.8	142.0	151.4	159.0	162.4	165.0	170.1	174.3	176.0	176.9
92.5°	130.1	140.3	148.8	156.5	159.9	163.3	168.4	171.8	173.5	174.3
95°	128.4	138.6	148.0	155.6	159.0	161.6	166.7	170.1	171.8	172.6
97.5°	126.7	136.9	146.3	153.9	157.3	159.9	165.0	168.4	170.1	170.9
100°	125.0	135.2	143.7	151.4	154.8	157.3	162.4	165.8	167.5	168.4
102.5°	122.5	132.7	141.2	148.8	152.2	154.8	159.0	163.3	165.0	165.8
105°	119.9	129.3	137.8	145.4	148.8	151.4	156.5	159.9	161.6	162.4
107.5°	116.5	126.7	134.4	142.0	145.4	148.0	153.1	155.6	158.2	159.0
110°	114.0	123.3	131.0	138.6	142.0	144.6	148.8	152.2	153.9	154.8





TEST NUMBER: P241616

CATALOG NUMBER: FVS8M-4-LD4-50-2STD-O-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	110.6	119.9	127.6	134.4	137.8	140.3	145.4	148.0	150.5	150.5
115°	106.3	115.7	123.3	130.1	133.5	136.1	140.3	143.7	145.4	147.1
117.5°	102.9	111.4	119.9	125.9	129.3	131.8	136.1	139.5	141.2	142.0
120°	99.5	108.0	114.8	121.6	124.2	126.7	131.0	134.4	136.1	136.9
122.5°	95.3	103.8	110.6	116.5	119.1	121.6	125.9	129.3	131.0	131.8
125°	91.0	98.7	105.5	111.4	114.0	116.5	120.8	123.3	125.0	125.9
127.5°	86.7	94.4	101.2	106.3	108.9	111.4	114.8	118.2	119.9	120.8
130°	81.6	89.3	96.1	101.2	103.8	105.5	108.9	112.3	114.0	114.8
132.5°	77.4	84.2	90.1	96.1	97.8	100.4	102.9	106.3	108.0	108.0
135°	72.3	79.1	85.0	90.1	91.9	94.4	97.8	100.4	101.2	102.1
137.5°	68.0	74.0	79.9	84.2	85.9	88.4	91.0	93.6	95.3	95.3
140°	62.9	68.9	74.0	78.2	79.9	81.6	85.0	86.7	88.4	88.4
142.5°	57.0	62.9	68.0	72.3	74.0	75.7	78.2	80.8	81.6	81.6
145°	51.0	57.8	62.1	66.3	67.2	68.9	71.4	73.1	74.8	74.8
147.5°	45.1	51.0	56.1	59.5	61.2	62.9	64.6	66.3	68.0	68.0
150°	40.0	45.1	50.2	53.6	55.3	56.1	58.7	59.5	60.4	61.2
152.5°	34.0	38.3	43.4	47.6	48.5	49.3	51.9	53.6	53.6	54.4
155°	28.1	32.3	35.7	40.0	42.5	43.4	45.1	45.9	46.8	46.8
157.5°	23.8	27.2	29.8	33.2	34.9	36.6	38.3	40.0	40.0	40.0
160°	18.7	21.3	23.8	26.4	28.1	29.8	32.3	32.3	33.2	34.0
162.5°	14.5	16.2	18.7	20.4	22.1	23.0	25.5	26.4	26.4	26.4
165°	10.2	11.9	13.6	15.3	15.3	16.2	18.7	19.6	19.6	20.4
167.5°	6.8	7.7	9.4	10.2	10.2	11.1	11.9	14.5	13.6	13.6
170°	4.3	4.3	5.1	6.0	6.0	6.0	6.8	7.7	8.5	8.5
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)