

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: P241614

Luminaire Tested: **FVS8M-4-LD4-35-2STD-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241614
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-LD4-35-2STD-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

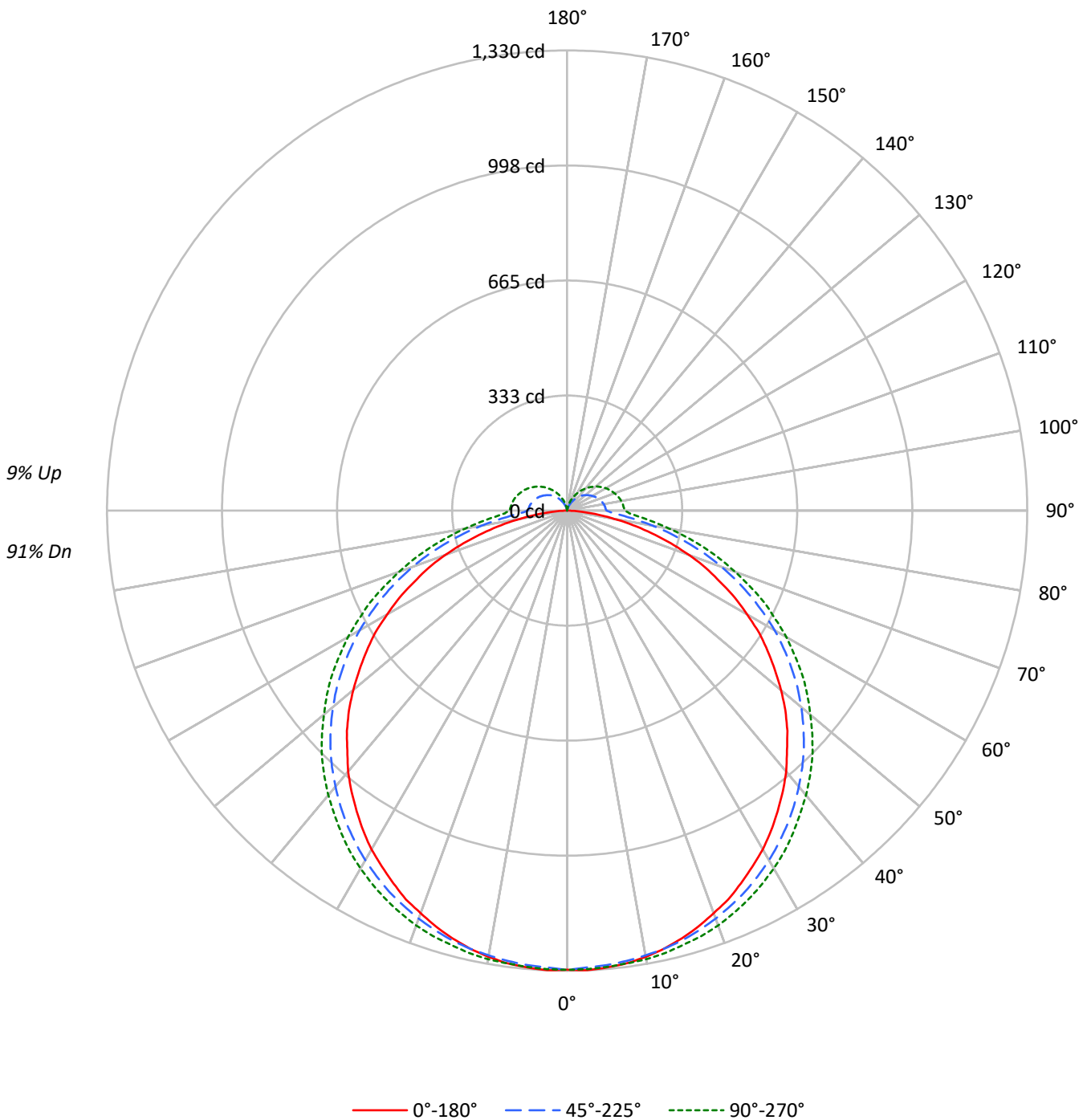
Lumens per Lamp: N/A
Luminaire Lumens: 4713.0 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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°	5932	5932	5932
5°	5927	5820	5825
10°	5903	5736	5748
15°	5861	5664	5668
20°	5807	5588	5608
25°	5756	5514	5532
30°	5707	5435	5452
35°	5631	5347	5362
40°	5564	5253	5268
45°	5475	5150	5170
50°	5362	5020	5028
55°	5223	4863	4892
60°	5025	4674	4702
65°	4762	4414	4483
70°	4417	4094	4156
75°	3805	3650	3823
80°	2939	3121	3374
85°	1563	2578	3019



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.9	2.7
10°-20°	364.1	7.7
20°-30°	560.8	11.9
30°-40°	691.5	14.7
40°-50°	740.4	15.7
50°-60°	698.3	14.8
60°-70°	567.4	12.0
70°-80°	367.8	7.8
80°-90°	168.1	3.6
90°-100°	107.2	2.3
100°-110°	96.7	2.1
110°-120°	80.9	1.7
120°-130°	62.3	1.3
130°-140°	42.8	0.9
140°-150°	24.8	0.5
150°-160°	11.0	0.2
160°-170°	2.8	0.1
170°-180°	0.1	0.0
0°-30°	1050.8	22.3
0°-40°	1742.3	37.0
0°-60°	3181.0	67.5
0°-90°	4284.3	90.9
90°-120°	284.9	6.0
90°-150°	414.8	8.8
90°-180°	429.0	9.1
0°-180°	4713.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1327	1327	1327	1327	1327	
5°	1326	1325	1318	1324	1324	126
15°	1280	1282	1286	1298	1299	361
25°	1189	1197	1216	1236	1240	548
35°	1060	1080	1108	1132	1138	664
45°	900	929	967	993	1003	694
55°	708	745	791	820	830	632
65°	488	534	585	616	629	484
75°	252	303	359	394	408	268
85°	44	99	158	196	211	58
90°	1	54	114	153	167	2
95°	1	50	111	150	163	1
105°	1	46	103	140	153	1
115°	1	40	91	126	139	1
125°	1	33	77	107	119	1
135°	1	24	62	87	96	1
145°	1	15	42	63	70	1
155°	2	8	23	40	44	1
165°	2	2	9	14	19	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°	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3
2.5°	1329.7	1329.7	1328.9	1328.1	1328.1	1328.9	1328.9	1328.1	1325.7	1322.5	1321.7
5°	1325.7	1324.9	1325.7	1324.1	1324.9	1324.9	1324.1	1324.1	1321.7	1320.1	1318.5
7.5°	1320.1	1319.3	1318.5	1317.7	1317.7	1318.5	1317.7	1317.7	1316.1	1313.6	1312.8
10°	1309.6	1308.8	1309.6	1308.0	1308.0	1308.8	1309.6	1309.6	1308.0	1307.2	1305.6
12.5°	1296.8	1296.8	1296.0	1295.2	1296.0	1296.8	1297.6	1297.6	1296.8	1297.6	1296.8
15°	1280.0	1280.8	1279.2	1278.4	1281.6	1281.6	1283.2	1284.8	1284.8	1284.0	1285.6
17.5°	1260.8	1260.8	1260.8	1261.6	1262.4	1264.0	1265.6	1267.2	1268.0	1269.6	1271.2
20°	1238.3	1239.9	1239.9	1240.7	1243.9	1246.3	1246.3	1250.3	1251.1	1251.9	1255.1
22.5°	1216.7	1215.9	1215.9	1217.5	1221.5	1223.9	1226.3	1228.7	1230.3	1232.7	1235.9
25°	1188.6	1189.4	1190.2	1192.6	1197.4	1197.4	1201.4	1204.6	1207.9	1211.1	1215.9
27.5°	1159.8	1161.4	1162.2	1164.6	1170.2	1173.4	1175.8	1179.8	1183.0	1187.0	1191.8
30°	1130.9	1130.9	1131.7	1134.9	1140.5	1144.5	1146.9	1151.7	1156.6	1162.2	1167.0
32.5°	1097.2	1097.2	1098.0	1103.7	1109.3	1113.3	1117.3	1122.1	1126.9	1132.5	1138.9
35°	1060.4	1059.6	1062.0	1070.0	1075.6	1080.4	1085.2	1090.8	1097.2	1102.9	1108.5
37.5°	1023.5	1024.3	1025.1	1033.1	1041.9	1044.3	1050.0	1055.6	1062.0	1068.4	1076.4
40°	985.0	985.0	988.2	993.9	1004.3	1008.3	1013.1	1020.3	1025.9	1034.7	1041.9
42.5°	940.2	944.2	948.2	954.6	965.0	969.8	974.6	983.4	990.6	996.3	1005.9
45°	900.1	900.9	904.9	914.5	924.1	928.9	935.3	944.2	953.0	959.4	967.4
47.5°	855.2	855.2	860.8	869.6	880.8	886.5	892.1	900.9	908.9	920.1	926.5
50°	807.1	808.7	815.1	826.3	837.6	840.8	846.4	858.4	865.6	874.4	883.2
52.5°	756.6	759.8	768.6	778.3	787.9	795.1	799.9	812.7	821.5	830.3	839.2
55°	707.7	708.5	715.7	728.6	740.6	745.4	753.4	763.8	773.4	783.1	791.1
57.5°	658.0	656.4	665.2	678.9	690.9	694.9	702.1	714.9	724.6	733.4	742.2
60°	600.3	604.3	612.3	625.2	638.0	642.0	648.4	662.8	671.7	682.1	692.5
62.5°	547.4	548.2	561.0	570.7	584.3	592.3	596.3	608.3	618.0	629.2	638.8
65°	488.1	495.3	502.5	513.8	527.4	533.8	538.6	554.6	565.1	575.5	585.1
67.5°	434.4	436.8	446.4	458.5	472.1	477.7	485.7	496.9	508.9	517.8	530.6
70°	374.3	376.7	385.5	399.9	412.8	420.8	427.2	440.0	451.2	462.5	474.5
72.5°	314.2	316.6	327.8	340.6	355.9	360.7	367.9	381.5	393.5	405.6	418.4
75°	252.5	258.9	270.9	282.1	297.4	303.0	311.8	327.0	339.0	349.5	359.1
77.5°	194.8	203.6	213.2	225.2	238.8	246.9	254.1	268.5	281.3	294.9	305.4
80°	139.5	145.9	156.3	168.3	183.5	194.0	199.6	213.2	225.2	238.0	250.1
82.5°	90.6	93.8	104.2	119.4	133.8	141.9	149.1	163.5	175.5	187.5	199.6
85°	44.1	49.7	60.1	76.1	90.6	98.6	105.8	120.2	133.0	146.7	157.9
87.5°	14.4	20.8	31.3	44.9	60.1	67.3	74.5	89.0	102.6	114.6	127.4
90°	0.8	5.6	16.8	31.3	45.7	53.7	60.9	75.3	89.0	101.8	113.8
92.5°	0.8	4.8	16.0	29.7	44.1	52.1	59.3	73.7	87.4	100.2	111.4
95°	0.8	4.8	15.2	28.9	43.3	50.5	58.5	72.1	85.8	98.6	110.6
97.5°	0.8	4.8	14.4	28.1	42.5	49.7	56.9	71.3	85.0	97.8	109.0
100°	0.8	4.0	14.4	27.3	41.7	48.9	56.1	69.7	83.4	95.4	107.4
102.5°	0.8	4.0	13.6	26.4	40.1	47.3	54.5	68.1	81.0	93.0	105.0
105°	0.8	4.0	13.6	25.6	39.3	46.5	52.9	66.5	79.3	91.4	102.6
107.5°	0.8	4.0	12.8	24.8	37.7	44.9	51.3	64.1	76.9	89.0	100.2
110°	0.8	3.2	12.0	24.0	36.9	43.3	49.7	62.5	74.5	86.6	97.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	3.2	12.0	23.2	35.3	41.7	48.1	60.1	72.1	83.4	94.6
115°	0.8	3.2	11.2	21.6	33.7	40.1	46.5	58.5	69.7	81.0	91.4
117.5°	0.8	2.4	10.4	20.8	32.1	38.5	44.1	56.1	67.3	77.7	88.2
120°	0.8	2.4	9.6	20.0	30.5	36.9	42.5	53.7	64.1	75.3	84.2
122.5°	0.8	2.4	8.8	18.4	29.7	34.5	40.1	51.3	61.7	72.1	81.0
125°	0.8	1.6	8.8	17.6	28.1	32.9	38.5	48.9	58.5	68.1	76.9
127.5°	0.8	1.6	8.0	16.8	26.4	31.3	36.1	45.7	56.1	64.9	73.7
130°	0.8	1.6	7.2	15.2	24.0	28.9	33.7	43.3	52.1	61.7	69.7
132.5°	0.8	1.6	6.4	13.6	22.4	26.4	31.3	40.9	49.7	57.7	65.7
135°	0.8	1.6	5.6	12.0	20.0	24.0	28.9	36.9	45.7	53.7	61.7
137.5°	0.8	1.6	4.8	11.2	17.6	21.6	25.6	33.7	41.7	49.7	56.9
140°	0.8	0.8	4.0	9.6	16.0	19.2	23.2	30.5	37.7	44.9	52.1
142.5°	0.8	0.8	3.2	8.0	14.4	16.8	20.8	27.3	33.7	40.9	47.3
145°	0.8	0.8	2.4	7.2	12.0	15.2	18.4	24.0	29.7	36.1	42.5
147.5°	0.8	0.8	2.4	5.6	10.4	12.8	15.2	20.8	26.4	32.1	36.9
150°	1.6	1.6	2.4	4.8	8.8	11.2	13.6	18.4	23.2	28.1	32.1
152.5°	1.6	1.6	1.6	4.0	7.2	9.6	11.2	15.2	19.2	24.0	28.1
155°	1.6	1.6	1.6	3.2	6.4	8.0	9.6	12.8	16.0	20.0	23.2
157.5°	1.6	1.6	1.6	2.4	4.8	6.4	7.2	10.4	13.6	16.0	19.2
160°	1.6	1.6	1.6	2.4	4.0	4.8	5.6	8.0	10.4	12.8	15.2
162.5°	1.6	1.6	1.6	1.6	3.2	4.0	4.8	6.4	8.0	10.4	12.0
165°	1.6	1.6	1.6	1.6	2.4	2.4	3.2	4.8	5.6	7.2	8.8
167.5°	1.6	1.6	1.6	1.6	1.6	2.4	2.4	3.2	4.0	4.8	5.6
170°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	3.2	3.2
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°	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3	1327.3
2.5°	1323.3	1324.1	1325.7	1327.3	1326.5	1326.5	1327.3	1326.5	1327.3	1326.5
5°	1318.5	1320.9	1322.5	1324.1	1324.1	1324.1	1324.1	1324.1	1324.1	1324.1
7.5°	1313.6	1315.3	1317.7	1320.1	1320.1	1320.9	1320.9	1320.1	1320.9	1320.1
10°	1307.2	1310.4	1312.8	1314.5	1315.3	1315.3	1316.1	1316.1	1316.1	1316.9
12.5°	1298.4	1301.6	1304.8	1307.2	1308.0	1307.2	1308.8	1309.6	1308.8	1309.6
15°	1288.0	1290.4	1295.2	1296.8	1297.6	1298.4	1299.2	1300.0	1300.0	1299.2
17.5°	1274.4	1278.4	1280.8	1285.6	1285.6	1286.4	1288.0	1288.8	1288.0	1289.6
20°	1259.1	1263.2	1267.2	1270.4	1270.4	1272.0	1273.6	1274.4	1276.0	1276.0
22.5°	1240.7	1245.5	1250.3	1253.5	1255.1	1255.1	1257.5	1258.3	1259.9	1259.1
25°	1219.9	1226.3	1231.1	1233.5	1235.9	1236.7	1238.3	1239.1	1239.1	1239.9
27.5°	1197.4	1202.2	1207.9	1211.9	1214.3	1214.3	1216.7	1217.5	1217.5	1218.3
30°	1171.8	1179.0	1183.0	1187.0	1187.8	1189.4	1191.8	1192.6	1195.0	1194.2
32.5°	1144.5	1150.9	1155.8	1159.0	1162.2	1163.0	1164.6	1167.0	1167.0	1168.6
35°	1115.7	1120.5	1125.3	1130.1	1131.7	1134.1	1136.5	1137.3	1138.9	1138.1
37.5°	1083.6	1090.0	1094.8	1096.4	1100.5	1102.1	1105.3	1106.1	1106.9	1105.3
40°	1049.2	1054.8	1061.2	1064.4	1066.8	1067.6	1071.6	1072.4	1073.2	1074.0
42.5°	1013.1	1020.3	1025.1	1029.1	1031.5	1032.3	1036.3	1036.3	1038.7	1039.5
45°	974.6	981.8	987.4	992.2	993.1	995.5	998.7	1000.3	999.5	1002.7
47.5°	934.5	941.8	947.4	951.4	952.2	953.8	957.8	958.6	960.2	961.0
50°	890.5	897.7	904.1	908.9	910.5	912.9	916.1	917.7	918.5	917.7
52.5°	847.2	854.4	858.4	864.8	867.2	866.4	871.2	874.4	873.6	875.2
55°	800.7	807.1	813.5	818.3	819.9	822.3	825.5	826.3	827.9	830.3
57.5°	749.4	760.6	765.4	767.8	771.0	773.4	775.0	780.7	780.7	779.9
60°	699.7	707.7	714.1	719.7	721.3	724.6	727.8	730.2	730.2	731.8
62.5°	649.2	656.4	662.8	667.6	668.4	672.5	676.5	678.1	678.9	678.1
65°	595.5	600.3	610.7	613.1	616.3	620.4	622.8	625.2	626.8	629.2
67.5°	539.4	546.6	554.6	561.0	564.3	565.9	569.1	571.5	573.1	571.5
70°	484.1	491.3	497.7	504.1	507.3	508.1	511.4	514.6	516.2	515.4
72.5°	427.2	435.2	443.2	448.0	451.2	453.6	459.3	460.1	460.1	463.3
75°	370.3	379.1	387.1	393.5	394.3	397.5	400.7	404.0	408.8	408.0
77.5°	314.2	323.8	330.2	335.8	339.8	343.0	346.2	348.6	350.3	352.7
80°	261.3	271.7	276.5	283.7	286.9	290.1	293.3	297.4	300.6	299.0
82.5°	210.0	221.2	229.2	236.4	238.0	243.7	245.3	248.5	249.3	251.7
85°	168.3	178.7	185.9	194.8	196.4	200.4	204.4	206.8	208.4	210.8
87.5°	137.9	147.5	155.5	163.5	165.9	168.3	173.1	177.1	178.7	180.3
90°	124.2	133.8	142.7	149.9	153.1	155.5	160.3	164.3	165.9	166.7
92.5°	122.6	132.2	140.3	147.5	150.7	153.9	158.7	161.9	163.5	164.3
95°	121.0	130.6	139.5	146.7	149.9	152.3	157.1	160.3	161.9	162.7
97.5°	119.4	129.0	137.9	145.1	148.3	150.7	155.5	158.7	160.3	161.1
100°	117.8	127.4	135.5	142.7	145.9	148.3	153.1	156.3	157.9	158.7
102.5°	115.4	125.0	133.0	140.3	143.5	145.9	149.9	153.9	155.5	156.3
105°	113.0	121.8	129.8	137.1	140.3	142.7	147.5	150.7	152.3	153.1
107.5°	109.8	119.4	126.6	133.8	137.1	139.5	144.3	146.7	149.1	149.9
110°	107.4	116.2	123.4	130.6	133.8	136.3	140.3	143.5	145.1	145.9



TEST NUMBER: P241614

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	104.2	113.0	120.2	126.6	129.8	132.2	137.1	139.5	141.9	141.9
115°	100.2	109.0	116.2	122.6	125.8	128.2	132.2	135.5	137.1	138.7
117.5°	97.0	105.0	113.0	118.6	121.8	124.2	128.2	131.4	133.0	133.8
120°	93.8	101.8	108.2	114.6	117.0	119.4	123.4	126.6	128.2	129.0
122.5°	89.8	97.8	104.2	109.8	112.2	114.6	118.6	121.8	123.4	124.2
125°	85.8	93.0	99.4	105.0	107.4	109.8	113.8	116.2	117.8	118.6
127.5°	81.8	89.0	95.4	100.2	102.6	105.0	108.2	111.4	113.0	113.8
130°	76.9	84.2	90.6	95.4	97.8	99.4	102.6	105.8	107.4	108.2
132.5°	72.9	79.3	85.0	90.6	92.2	94.6	97.0	100.2	101.8	101.8
135°	68.1	74.5	80.1	85.0	86.6	89.0	92.2	94.6	95.4	96.2
137.5°	64.1	69.7	75.3	79.3	81.0	83.4	85.8	88.2	89.8	89.8
140°	59.3	64.9	69.7	73.7	75.3	76.9	80.1	81.8	83.4	83.4
142.5°	53.7	59.3	64.1	68.1	69.7	71.3	73.7	76.1	76.9	76.9
145°	48.1	54.5	58.5	62.5	63.3	64.9	67.3	68.9	70.5	70.5
147.5°	42.5	48.1	52.9	56.1	57.7	59.3	60.9	62.5	64.1	64.1
150°	37.7	42.5	47.3	50.5	52.1	52.9	55.3	56.1	56.9	57.7
152.5°	32.1	36.1	40.9	44.9	45.7	46.5	48.9	50.5	50.5	51.3
155°	26.4	30.5	33.7	37.7	40.1	40.9	42.5	43.3	44.1	44.1
157.5°	22.4	25.6	28.1	31.3	32.9	34.5	36.1	37.7	37.7	37.7
160°	17.6	20.0	22.4	24.8	26.4	28.1	30.5	30.5	31.3	32.1
162.5°	13.6	15.2	17.6	19.2	20.8	21.6	24.0	24.8	24.8	24.8
165°	9.6	11.2	12.8	14.4	14.4	15.2	17.6	18.4	18.4	19.2
167.5°	6.4	7.2	8.8	9.6	9.6	10.4	11.2	13.6	12.8	12.8
170°	4.0	4.0	4.8	5.6	5.6	5.6	6.4	7.2	8.0	8.0
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)