

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: P241437

Luminaire Tested: **FVS8M-2-LD4-30-2HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241437
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-10)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-2-LD4-30-2HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

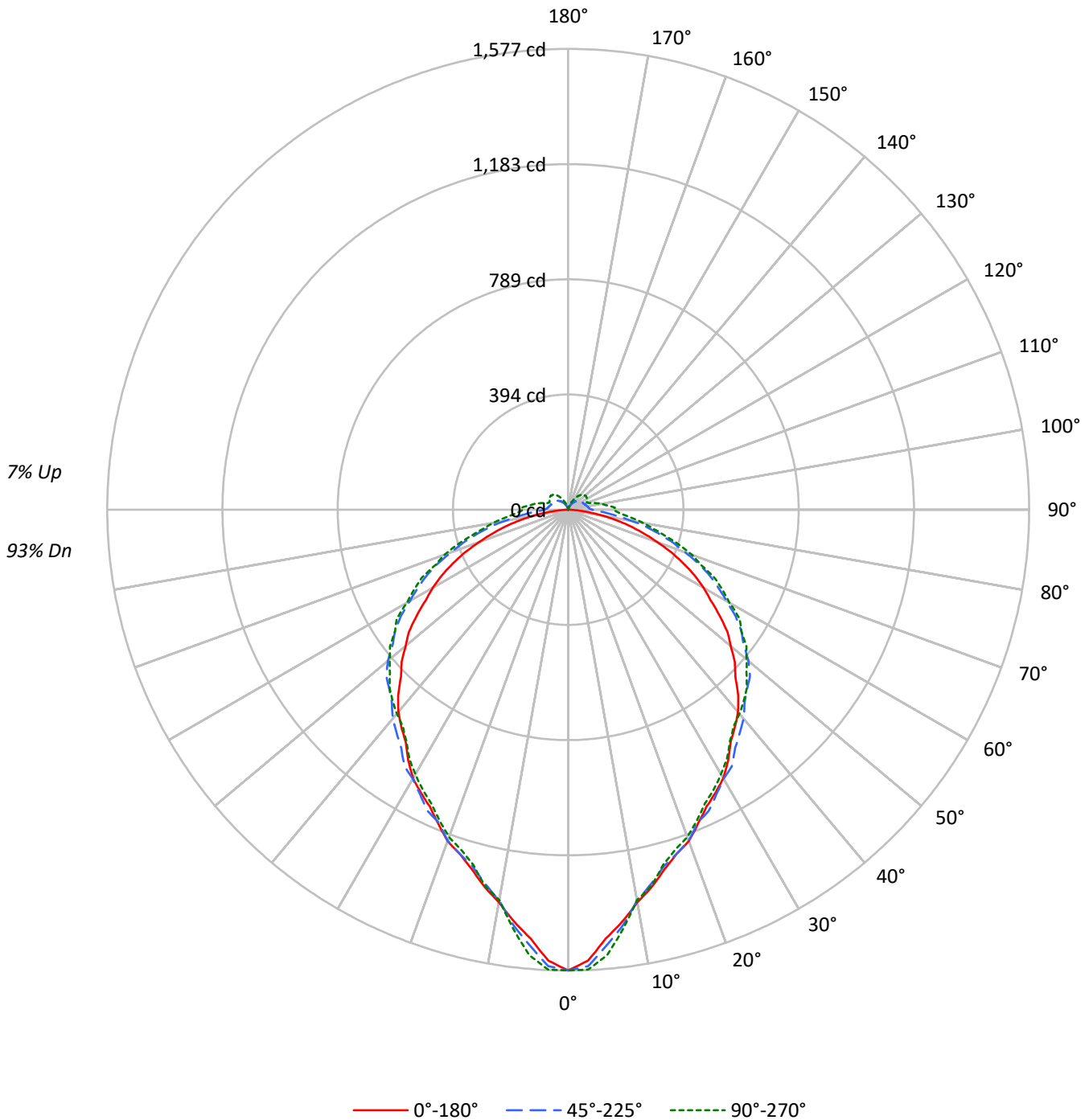
Lumens per Lamp: N/A
Luminaire Lumens: 4171.0 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 44.2
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	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	101	97	92	103	98	94	90	93	89	86	88	85	82	83	81	79	76
2	96	88	81	75	93	85	79	73	81	75	70	76	72	68	72	69	65	63
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	64	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
5	74	60	51	45	71	59	50	44	56	49	43	53	47	42	51	45	41	38
6	68	54	45	39	65	53	45	38	51	43	37	48	42	37	46	40	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30
8	59	45	36	30	57	44	36	30	42	35	30	40	34	29	39	33	28	26
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	34	28	24	33	27	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14172	14172	14172
5°	13201	13263	13534
10°	12280	11937	11908
15°	11609	11117	11029
20°	11225	10691	10537
25°	10721	10253	9946
30°	10538	9816	9599
35°	10080	9494	9148
40°	9944	9278	8996
45°	9528	9056	8960
50°	9280	8955	8774
55°	8914	8665	8566
60°	8463	8199	8237
65°	7904	7783	7922
70°	7009	7017	7303
75°	5958	6245	6449
80°	4374	5149	5890
85°	2194	3952	5389



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	3.3
10°-20°	358.6	8.6
20°-30°	520.3	12.5
30°-40°	619.4	14.8
40°-50°	660.3	15.8
50°-60°	625.4	15.0
60°-70°	503.9	12.1
70°-80°	323.8	7.8
80°-90°	141.4	3.4
90°-100°	75.1	1.8
100°-110°	58.0	1.4
110°-120°	46.3	1.1
120°-130°	41.3	1.0
130°-140°	31.0	0.7
140°-150°	18.1	0.4
150°-160°	7.5	0.2
160°-170°	1.7	0.0
170°-180°	0.0	0.0
0°-30°	1017.6	24.4
0°-40°	1636.9	39.2
0°-60°	2922.7	70.1
0°-90°	3891.7	93.3
90°-120°	179.5	4.3
90°-150°	270.0	6.5
90°-180°	279.0	6.7
0°-180°	4171.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1577	1577	1577	1577	1577	
5°	1473	1480	1498	1520	1530	138
15°	1274	1280	1264	1254	1257	360
25°	1121	1126	1138	1128	1108	520
35°	969	1004	996	991	966	612
45°	808	847	866	882	864	629
55°	633	668	723	730	723	565
65°	434	471	535	543	553	429
75°	222	265	324	354	342	234
85°	40	78	133	167	187	51
90°	1	35	82	114	155	2
95°	0	31	70	104	143	0
105°	0	27	62	85	86	0
115°	0	25	56	69	70	0
125°	0	23	52	73	76	0
135°	0	17	42	65	72	0
145°	1	10	30	47	56	1
155°	1	5	17	26	30	0
165°	1	1	5	10	11	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°	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6
2.5°	1544.6	1544.6	1545.5	1545.5	1547.4	1548.4	1551.2	1551.2	1555.9	1559.6	1563.4
5°	1473.1	1470.3	1473.1	1473.1	1477.8	1479.7	1484.4	1490.1	1491.0	1496.6	1497.6
7.5°	1421.4	1420.5	1416.7	1416.7	1414.9	1417.7	1417.7	1421.4	1428.0	1433.7	1434.6
10°	1364.1	1363.2	1362.2	1363.2	1358.5	1360.3	1360.3	1362.2	1366.0	1365.0	1357.5
12.5°	1321.8	1320.8	1317.1	1317.1	1318.0	1318.0	1317.1	1319.0	1312.4	1308.6	1311.4
15°	1273.8	1276.7	1279.5	1274.8	1280.4	1279.5	1279.5	1275.7	1267.3	1261.6	1263.5
17.5°	1234.4	1238.1	1235.3	1233.4	1231.5	1231.5	1234.4	1234.4	1237.2	1231.5	1234.4
20°	1207.1	1201.5	1194.9	1200.5	1204.3	1205.2	1206.2	1206.2	1202.4	1201.5	1205.2
22.5°	1162.0	1161.0	1163.9	1170.4	1169.5	1164.8	1162.9	1155.4	1159.2	1162.9	1158.2
25°	1120.6	1131.9	1134.7	1127.2	1124.4	1126.2	1131.9	1135.6	1142.2	1138.5	1137.5
27.5°	1091.5	1094.3	1081.1	1089.6	1102.7	1109.3	1105.6	1104.6	1101.8	1092.4	1098.0
30°	1061.4	1052.0	1053.9	1064.2	1065.1	1060.4	1055.7	1058.6	1064.2	1065.1	1063.3
32.5°	1018.1	1013.4	1031.3	1022.8	1022.8	1026.6	1034.1	1038.8	1044.5	1043.5	1041.6
35°	969.2	981.5	981.5	977.7	995.6	1004.0	1007.8	999.3	998.4	991.8	995.6
37.5°	937.3	938.2	934.5	954.2	960.8	958.0	955.1	954.2	958.9	962.7	963.6
40°	903.4	895.0	901.6	912.8	907.2	911.9	919.4	930.7	935.4	937.3	933.5
42.5°	861.1	858.3	868.7	864.0	875.2	881.8	889.3	895.9	892.2	894.0	893.1
45°	808.5	820.7	815.1	828.2	847.0	847.0	848.0	846.1	854.6	864.9	865.8
47.5°	772.8	774.6	773.7	789.7	797.2	795.3	807.6	819.8	831.1	836.7	843.3
50°	725.8	721.1	739.9	740.8	752.1	759.6	769.9	781.2	791.6	799.1	804.7
52.5°	686.3	681.6	691.0	691.0	715.4	723.9	724.8	733.3	744.6	748.3	755.8
55°	632.7	639.3	637.4	655.3	666.5	667.5	671.2	686.3	704.1	711.7	722.9
57.5°	578.2	587.6	586.6	607.3	612.0	619.5	628.0	648.7	660.0	670.3	678.8
60°	534.9	536.8	546.2	550.0	561.2	572.5	585.7	598.8	606.4	618.6	626.1
62.5°	487.9	482.3	498.3	499.2	519.9	521.8	529.3	543.4	555.6	570.6	579.1
65°	434.3	435.3	442.8	453.1	467.2	471.0	478.5	494.5	510.5	524.6	534.9
67.5°	382.6	386.4	391.1	403.3	411.8	421.2	430.6	443.7	465.4	476.6	483.2
70°	324.3	330.9	336.6	349.7	361.9	369.5	381.7	394.8	408.9	418.3	424.9
72.5°	271.7	276.4	284.9	295.2	314.0	321.5	329.0	340.3	352.5	361.9	376.0
75°	221.9	225.6	236.0	243.5	259.5	265.1	274.5	285.8	301.8	314.0	324.3
77.5°	171.1	173.9	184.3	193.7	207.8	214.3	220.9	234.1	247.2	264.2	274.5
80°	122.2	125.0	135.4	143.8	155.1	160.8	168.3	184.3	199.3	208.7	220.9
82.5°	79.0	80.8	88.4	98.7	109.1	116.6	124.1	137.3	150.4	161.7	172.0
85°	40.4	42.3	50.8	59.2	70.5	78.0	82.7	95.9	109.1	120.3	132.6
87.5°	13.2	16.0	22.6	32.0	42.3	48.9	53.6	65.8	77.1	89.3	100.6
90°	0.9	3.8	10.3	18.8	29.1	34.8	40.4	50.8	61.1	71.4	81.8
92.5°	0.0	2.8	8.5	16.9	26.3	32.0	36.7	47.0	56.4	65.8	74.3
95°	0.0	1.9	8.5	16.0	25.4	31.0	35.7	45.1	54.5	63.0	70.5
97.5°	0.0	1.9	7.5	16.0	24.4	30.1	34.8	43.2	51.7	60.2	68.6
100°	0.0	1.9	7.5	15.0	24.4	29.1	32.9	41.4	49.8	58.3	65.8
102.5°	0.0	1.9	7.5	15.0	23.5	28.2	32.0	40.4	48.9	56.4	63.9
105°	0.0	1.9	7.5	15.0	23.5	27.3	32.0	39.5	47.9	55.5	62.0
107.5°	0.0	1.9	6.6	14.1	22.6	27.3	31.0	39.5	47.0	53.6	60.2
110°	0.0	1.9	6.6	14.1	22.6	26.3	31.0	38.5	46.1	52.6	58.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.9	6.6	14.1	21.6	26.3	30.1	37.6	45.1	50.8	56.4
115°	0.0	1.9	6.6	13.2	21.6	25.4	29.1	36.7	44.2	49.8	55.5
117.5°	0.0	0.9	6.6	13.2	20.7	24.4	29.1	36.7	43.2	48.9	54.5
120°	0.0	0.9	5.6	12.2	19.7	24.4	28.2	35.7	42.3	47.9	53.6
122.5°	0.0	0.9	5.6	12.2	19.7	23.5	27.3	34.8	41.4	47.9	53.6
125°	0.0	0.9	5.6	11.3	18.8	22.6	26.3	32.9	40.4	46.1	51.7
127.5°	0.0	0.9	4.7	11.3	17.9	21.6	25.4	32.0	38.5	44.2	49.8
130°	0.0	0.9	4.7	10.3	16.9	19.7	23.5	30.1	36.7	42.3	47.9
132.5°	0.0	0.9	3.8	9.4	16.0	18.8	21.6	28.2	34.8	40.4	45.1
135°	0.0	0.9	3.8	8.5	14.1	16.9	20.7	26.3	32.0	37.6	42.3
137.5°	0.0	0.0	2.8	7.5	13.2	16.0	18.8	24.4	30.1	34.8	39.5
140°	0.9	0.0	2.8	6.6	11.3	14.1	16.9	21.6	27.3	32.0	36.7
142.5°	0.9	0.0	1.9	5.6	10.3	12.2	15.0	19.7	24.4	29.1	32.9
145°	0.9	0.0	1.9	4.7	8.5	10.3	13.2	16.9	21.6	25.4	30.1
147.5°	0.9	0.0	0.9	3.8	7.5	9.4	11.3	15.0	18.8	22.6	26.3
150°	0.9	0.9	0.9	2.8	5.6	7.5	9.4	13.2	16.0	19.7	23.5
152.5°	0.9	0.9	0.9	1.9	4.7	5.6	7.5	10.3	14.1	16.9	20.7
155°	0.9	0.9	0.9	1.9	3.8	4.7	5.6	8.5	11.3	14.1	16.9
157.5°	0.9	0.9	0.0	0.9	2.8	3.8	4.7	6.6	8.5	11.3	13.2
160°	0.9	0.9	0.0	0.9	1.9	2.8	2.8	4.7	6.6	8.5	10.3
162.5°	0.9	0.9	0.9	0.9	0.9	1.9	1.9	3.8	4.7	6.6	7.5
165°	0.9	0.9	0.9	0.0	0.9	0.9	0.9	1.9	2.8	3.8	4.7
167.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.9	0.9	1.9	1.9	2.8
170°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
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°	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6	1576.6
2.5°	1567.2	1570.0	1571.9	1574.7	1573.7	1574.7	1574.7	1572.8	1574.7	1574.7
5°	1502.3	1508.9	1512.6	1518.3	1520.2	1520.2	1524.9	1528.6	1530.5	1529.6
7.5°	1433.7	1428.0	1429.0	1425.2	1425.2	1427.1	1431.8	1435.5	1441.2	1444.9
10°	1355.6	1357.5	1357.5	1361.3	1359.4	1359.4	1360.3	1363.2	1362.2	1356.6
12.5°	1312.4	1302.0	1303.9	1312.4	1315.2	1312.4	1315.2	1311.4	1318.0	1318.0
15°	1264.4	1271.0	1274.8	1263.5	1254.1	1257.9	1262.6	1258.8	1256.9	1256.9
17.5°	1243.8	1230.6	1223.1	1225.9	1227.8	1225.9	1226.8	1226.8	1224.0	1219.3
20°	1192.1	1193.9	1198.6	1200.5	1199.6	1198.6	1193.9	1193.0	1193.9	1192.1
22.5°	1161.0	1161.0	1162.0	1172.3	1172.3	1169.5	1163.9	1158.2	1151.6	1150.7
25°	1144.1	1135.6	1142.2	1132.8	1128.1	1120.6	1117.8	1114.0	1101.8	1108.4
27.5°	1093.3	1107.4	1099.0	1094.3	1088.6	1084.9	1078.3	1077.4	1079.2	1079.2
30°	1065.1	1056.7	1053.9	1054.8	1056.7	1064.2	1056.7	1045.4	1045.4	1045.4
32.5°	1043.5	1034.1	1028.5	1024.7	1025.7	1022.8	1018.1	1008.7	1007.8	1010.6
35°	990.9	997.5	998.4	996.5	990.9	984.3	983.4	981.5	970.2	965.5
37.5°	958.9	955.1	954.2	958.0	959.8	954.2	940.1	933.5	934.5	930.7
40°	936.3	936.3	927.9	915.7	910.0	911.0	917.5	911.9	910.0	911.9
42.5°	899.7	908.1	906.3	898.7	897.8	899.7	897.8	892.2	888.4	888.4
45°	871.5	869.6	871.5	881.8	881.8	876.2	865.8	869.6	869.6	864.0
47.5°	850.8	844.2	848.0	837.6	841.4	844.2	838.6	832.9	831.1	827.3
50°	809.4	815.1	816.0	810.4	804.7	805.7	799.1	793.4	799.1	796.3
52.5°	760.5	769.0	770.9	773.7	764.3	760.5	763.4	770.9	767.1	768.1
55°	730.5	730.5	729.5	725.8	730.5	736.1	725.8	724.8	720.1	722.9
57.5°	691.0	692.9	688.2	692.9	689.1	689.1	685.3	688.2	690.0	695.7
60°	634.6	642.1	648.7	646.8	639.3	640.2	644.9	641.2	642.1	637.4
62.5°	586.6	586.6	597.0	592.3	597.9	595.1	588.5	589.4	593.2	595.1
65°	540.6	542.4	537.7	544.3	543.4	539.6	541.5	550.0	549.0	552.8
67.5°	486.0	495.4	493.6	490.7	490.7	492.6	500.1	493.6	490.7	489.8
70°	433.4	438.1	446.6	442.8	447.5	448.4	442.8	440.9	442.8	450.3
72.5°	384.5	389.2	393.9	401.4	402.4	398.6	402.4	399.5	400.5	397.7
75°	332.8	339.4	344.1	355.4	354.4	350.7	351.6	346.9	343.1	342.2
77.5°	281.1	290.5	300.8	299.9	299.9	303.7	300.8	298.0	299.0	296.1
80°	232.2	242.5	251.0	251.9	253.8	259.5	255.7	257.6	256.6	259.5
82.5°	184.3	194.6	202.1	206.8	209.6	210.6	213.4	216.2	220.0	221.9
85°	143.8	153.2	158.9	164.5	167.3	169.2	174.9	179.6	184.3	187.1
87.5°	110.0	116.6	124.1	131.6	134.4	138.2	143.8	150.4	158.9	166.4
90°	88.4	95.9	103.4	110.9	113.8	117.5	124.1	132.6	144.8	155.1
92.5°	80.8	88.4	95.0	102.5	106.2	110.9	119.4	130.7	147.6	159.8
95°	78.0	85.5	93.1	100.6	104.4	108.1	118.5	129.7	140.1	142.9
97.5°	75.2	82.7	89.3	96.8	100.6	105.3	113.8	119.4	123.2	126.0
100°	73.3	79.9	86.5	94.0	96.8	99.7	105.3	110.0	113.8	116.6
102.5°	70.5	77.1	83.7	88.4	91.2	93.1	97.8	102.5	102.5	102.5
105°	68.6	74.3	79.0	82.7	84.6	86.5	89.3	88.4	87.4	86.5
107.5°	65.8	70.5	74.3	78.0	78.0	79.0	79.0	77.1	76.1	75.2
110°	63.0	67.7	70.5	71.4	72.4	72.4	72.4	71.4	70.5	70.5



TEST NUMBER: P241437

CATALOG NUMBER: FVS8M-2-LD4-30-2HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	61.1	64.9	67.7	68.6	69.6	69.6	69.6	69.6	68.6	68.6
115°	59.2	63.0	65.8	67.7	68.6	69.6	70.5	70.5	70.5	70.5
117.5°	59.2	63.0	66.7	68.6	70.5	71.4	73.3	73.3	72.4	73.3
120°	58.3	63.0	66.7	70.5	72.4	73.3	75.2	75.2	74.3	74.3
122.5°	58.3	63.0	67.7	71.4	73.3	74.3	76.1	77.1	76.1	75.2
125°	57.3	62.0	66.7	71.4	73.3	75.2	77.1	77.1	76.1	76.1
127.5°	55.5	61.1	65.8	70.5	72.4	74.3	76.1	77.1	76.1	76.1
130°	53.6	59.2	63.9	68.6	70.5	72.4	74.3	75.2	75.2	75.2
132.5°	50.8	56.4	61.1	65.8	67.7	69.6	72.4	73.3	74.3	74.3
135°	47.9	53.6	58.3	63.0	64.9	66.7	69.6	71.4	71.4	72.4
137.5°	45.1	49.8	54.5	59.2	61.1	63.0	66.7	67.7	68.6	69.6
140°	41.4	46.1	49.8	54.5	57.3	59.2	62.0	63.9	65.8	65.8
142.5°	37.6	41.4	46.1	49.8	51.7	53.6	57.3	59.2	61.1	61.1
145°	33.8	37.6	41.4	45.1	47.0	48.9	51.7	53.6	54.5	55.5
147.5°	30.1	33.8	36.7	40.4	41.4	43.2	45.1	47.0	47.9	48.9
150°	26.3	30.1	32.0	34.8	35.7	37.6	39.5	40.4	41.4	42.3
152.5°	22.6	25.4	28.2	30.1	31.0	32.0	33.8	34.8	35.7	35.7
155°	19.7	21.6	23.5	25.4	26.3	27.3	28.2	29.1	30.1	30.1
157.5°	16.0	17.9	19.7	21.6	21.6	22.6	23.5	24.4	25.4	25.4
160°	12.2	14.1	16.0	16.9	17.9	17.9	18.8	19.7	19.7	20.7
162.5°	9.4	10.3	12.2	13.2	14.1	14.1	15.0	16.0	16.0	16.0
165°	6.6	7.5	8.5	9.4	10.3	10.3	11.3	11.3	11.3	11.3
167.5°	3.8	4.7	4.7	5.6	6.6	6.6	7.5	7.5	7.5	7.5
170°	1.9	1.9	2.8	2.8	2.8	2.8	3.8	3.8	3.8	3.8
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)