

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: P241500

Luminaire Tested: **FVS8M-4-LD4-50-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241500
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-35)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-50-1HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

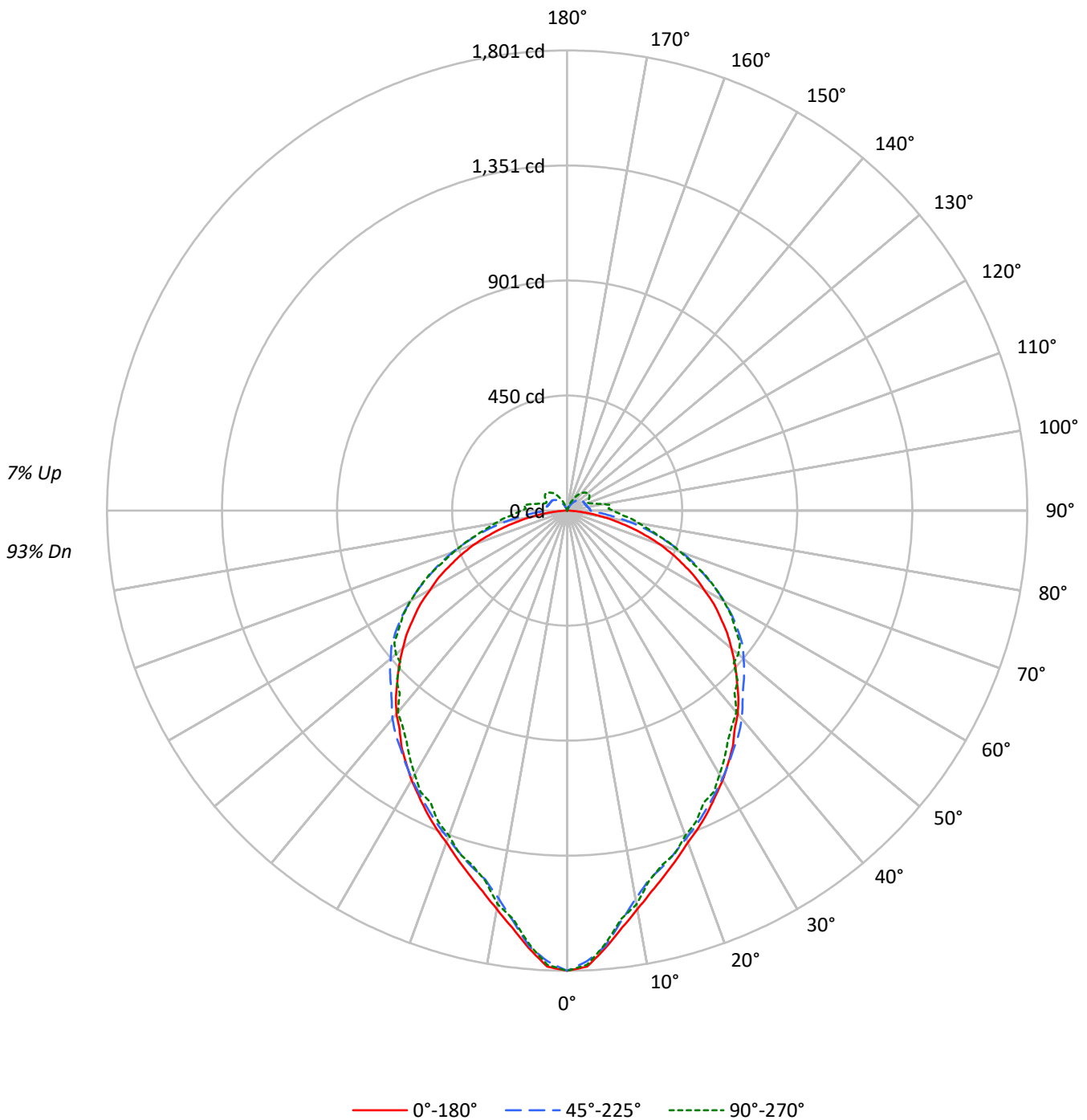
Lumens per Lamp: N/A
Luminaire Lumens: 4758.0 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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	95	95	95	93
1	106	101	97	92	103	98	94	90	92	89	86	87	85	82	83	80	78	76
2	96	88	81	75	93	85	79	73	80	75	70	76	72	68	72	68	65	62
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	56	51	47	44
5	74	61	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	38	48	42	37	46	40	36	34
7	63	49	41	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	28	26
9	55	41	33	28	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°	8050	8050	8050
5°	7685	7551	7494
10°	7138	6775	6826
15°	6761	6359	6266
20°	6481	6075	5946
25°	6305	5848	5632
30°	6145	5652	5446
35°	5997	5482	5169
40°	5869	5363	5054
45°	5712	5187	4863
50°	5575	5125	4792
55°	5410	5018	4730
60°	5179	4793	4543
65°	4911	4457	4246
70°	4552	4118	3799
75°	3886	3635	3411
80°	3023	3011	3215
85°	1584	2292	3142



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.2	3.3
10°-20°	410.1	8.6
20°-30°	595.8	12.5
30°-40°	708.6	14.9
40°-50°	742.3	15.6
50°-60°	708.0	14.9
60°-70°	564.9	11.9
70°-80°	357.5	7.5
80°-90°	158.8	3.3
90°-100°	90.7	1.9
100°-110°	73.0	1.5
110°-120°	60.6	1.3
120°-130°	55.0	1.2
130°-140°	41.1	0.9
140°-150°	23.7	0.5
150°-160°	8.4	0.2
160°-170°	1.3	0.0
170°-180°	0.0	0.0
0°-30°	1164.1	24.5
0°-40°	1872.6	39.4
0°-60°	3323.0	69.8
0°-90°	4404.1	92.6
90°-120°	224.3	4.7
90°-150°	344.1	7.2
90°-180°	354.0	7.4
0°-180°	4758.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1801	1801	1801	1801	1801	
5°	1719	1711	1711	1710	1703	160
15°	1477	1467	1443	1448	1436	416
25°	1302	1303	1290	1293	1262	600
35°	1129	1143	1137	1123	1097	706
45°	939	972	974	955	943	726
55°	733	774	816	823	803	656
65°	503	545	591	594	596	499
75°	258	307	358	373	364	275
85°	45	85	140	192	219	59
90°	1	37	90	141	180	2
95°	0	35	88	125	166	0
105°	0	34	78	107	105	0
115°	0	32	73	92	92	1
125°	1	28	70	97	106	1
135°	1	20	57	86	100	1
145°	1	9	37	66	76	1
155°	1	3	16	31	37	0
165°	2	1	3	6	8	1
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°	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1
2.5°	1786.5	1783.4	1776.1	1778.2	1780.3	1778.2	1780.3	1780.3	1776.1	1772.0	1765.7
5°	1718.9	1712.7	1711.7	1712.7	1713.7	1710.6	1712.7	1714.8	1711.7	1715.8	1710.6
7.5°	1646.2	1641.0	1639.9	1638.9	1637.8	1635.8	1636.8	1639.9	1635.8	1626.4	1620.2
10°	1583.8	1576.5	1572.3	1569.2	1569.2	1568.2	1570.2	1565.0	1556.7	1550.5	1542.2
12.5°	1526.6	1522.4	1518.2	1520.3	1516.2	1515.1	1513.0	1504.7	1498.5	1491.2	1478.7
15°	1476.6	1475.6	1469.4	1471.4	1466.3	1467.3	1465.2	1462.1	1450.7	1443.4	1443.4
17.5°	1428.8	1429.9	1429.9	1430.9	1422.6	1422.6	1422.6	1418.4	1409.1	1405.9	1403.9
20°	1382.0	1384.1	1383.1	1381.0	1382.0	1381.0	1382.0	1377.9	1368.5	1369.5	1364.3
22.5°	1343.5	1342.5	1340.4	1342.5	1341.5	1339.4	1340.4	1336.3	1332.1	1331.1	1327.9
25°	1301.9	1301.9	1296.7	1301.9	1300.9	1303.0	1301.9	1305.1	1298.8	1296.7	1289.5
27.5°	1258.3	1255.2	1256.2	1261.4	1264.5	1264.5	1260.4	1262.4	1263.5	1252.0	1251.0
30°	1217.7	1216.7	1213.6	1219.8	1224.0	1220.8	1222.9	1227.1	1227.1	1215.6	1213.6
32.5°	1173.0	1170.9	1173.0	1179.2	1180.3	1186.5	1189.6	1187.6	1186.5	1176.1	1176.1
35°	1129.3	1128.3	1131.4	1135.6	1140.8	1142.8	1149.1	1153.2	1147.0	1137.6	1136.6
37.5°	1077.3	1083.6	1083.6	1090.8	1098.1	1103.3	1106.4	1111.6	1103.3	1097.1	1103.3
40°	1038.9	1035.7	1034.7	1047.2	1053.4	1058.6	1063.8	1066.9	1059.7	1061.7	1063.8
42.5°	992.1	986.9	994.1	1002.5	1010.8	1016.0	1018.1	1026.4	1019.1	1023.3	1016.0
45°	939.0	941.1	945.3	949.4	967.1	972.3	974.4	975.4	981.7	980.6	974.4
47.5°	891.2	891.2	897.4	904.7	918.2	925.5	928.6	930.7	932.8	932.8	940.1
50°	839.2	840.2	846.5	856.9	867.3	873.5	878.7	887.0	893.3	896.4	901.6
52.5°	790.3	789.3	800.7	808.0	817.4	825.7	830.9	842.3	849.6	853.8	866.2
55°	733.1	736.2	743.5	753.9	767.4	773.7	778.9	791.4	798.6	809.0	816.3
57.5°	681.1	683.2	687.4	697.8	713.4	716.5	723.8	737.3	743.5	756.0	764.3
60°	618.7	627.1	632.3	644.7	652.0	657.2	668.7	686.3	693.6	704.0	710.2
62.5°	565.7	566.7	574.0	585.5	593.8	603.1	614.6	627.1	637.5	645.8	649.9
65°	503.3	507.5	518.9	525.1	538.7	544.9	554.3	565.7	576.1	585.5	590.7
67.5°	445.1	448.2	454.4	465.9	479.4	485.6	490.8	504.3	519.9	529.3	536.6
70°	385.8	390.0	393.1	407.6	416.0	424.3	431.6	449.2	463.8	469.0	477.3
72.5°	320.3	326.5	331.7	345.2	358.8	365.0	374.4	390.0	400.4	409.7	416.0
75°	257.9	264.1	273.5	283.9	295.3	306.8	314.0	325.5	338.0	348.4	357.7
77.5°	198.6	201.7	212.1	225.7	236.1	246.5	251.7	264.1	278.7	288.1	300.5
80°	143.5	145.6	157.0	165.3	179.9	185.1	191.3	205.9	219.4	230.9	241.3
82.5°	92.6	93.6	102.9	114.4	124.8	133.1	138.3	151.8	165.3	177.8	187.2
85°	44.7	48.9	57.2	67.6	81.1	85.3	91.5	106.1	117.5	128.9	140.4
87.5°	14.6	17.7	25.0	35.4	46.8	52.0	58.2	69.7	83.2	95.7	106.1
90°	1.0	4.2	11.4	20.8	32.2	37.4	42.6	55.1	67.6	79.0	90.5
92.5°	0.0	3.1	10.4	19.8	30.2	35.4	41.6	54.1	65.5	78.0	90.5
95°	0.0	3.1	9.4	18.7	30.2	35.4	41.6	54.1	65.5	78.0	88.4
97.5°	0.0	2.1	9.4	18.7	30.2	35.4	41.6	53.0	65.5	74.9	84.2
100°	0.0	2.1	9.4	18.7	29.1	35.4	40.6	53.0	62.4	72.8	82.2
102.5°	0.0	2.1	9.4	18.7	29.1	34.3	40.6	51.0	61.4	70.7	80.1
105°	0.0	2.1	8.3	18.7	29.1	34.3	39.5	49.9	59.3	68.6	78.0
107.5°	0.0	2.1	8.3	17.7	28.1	33.3	39.5	48.9	59.3	67.6	75.9
110°	0.0	2.1	8.3	17.7	28.1	33.3	38.5	48.9	58.2	66.6	74.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.0	7.3	16.6	28.1	33.3	38.5	47.8	57.2	66.6	73.8
115°	0.0	1.0	7.3	16.6	27.0	32.2	37.4	47.8	57.2	65.5	72.8
117.5°	1.0	1.0	7.3	15.6	26.0	31.2	36.4	46.8	56.2	64.5	71.8
120°	1.0	1.0	6.2	14.6	25.0	30.2	35.4	45.8	55.1	64.5	71.8
122.5°	1.0	1.0	5.2	13.5	23.9	29.1	34.3	44.7	54.1	63.4	71.8
125°	1.0	1.0	5.2	13.5	22.9	28.1	33.3	42.6	52.0	61.4	69.7
127.5°	1.0	1.0	4.2	12.5	21.8	26.0	31.2	41.6	49.9	59.3	67.6
130°	1.0	1.0	3.1	10.4	19.8	23.9	29.1	38.5	47.8	56.2	64.5
132.5°	1.0	1.0	3.1	9.4	17.7	21.8	26.0	36.4	44.7	53.0	61.4
135°	1.0	1.0	2.1	8.3	15.6	19.8	22.9	32.2	41.6	48.9	57.2
137.5°	1.0	1.0	2.1	6.2	13.5	16.6	20.8	28.1	37.4	44.7	53.0
140°	1.0	1.0	2.1	5.2	11.4	14.6	17.7	25.0	32.2	40.6	47.8
142.5°	1.0	1.0	1.0	4.2	9.4	11.4	14.6	20.8	28.1	35.4	42.6
145°	1.0	1.0	1.0	3.1	7.3	9.4	12.5	17.7	23.9	31.2	37.4
147.5°	1.0	1.0	1.0	2.1	5.2	7.3	9.4	14.6	19.8	26.0	31.2
150°	1.0	1.0	1.0	2.1	4.2	6.2	7.3	11.4	15.6	20.8	26.0
152.5°	1.0	1.0	1.0	1.0	3.1	4.2	6.2	9.4	12.5	16.6	20.8
155°	1.0	1.0	1.0	1.0	2.1	3.1	4.2	6.2	9.4	12.5	15.6
157.5°	1.0	1.0	1.0	1.0	2.1	2.1	3.1	4.2	6.2	9.4	11.4
160°	1.0	1.0	1.0	1.0	1.0	2.1	2.1	3.1	4.2	6.2	7.3
162.5°	2.1	1.0	1.0	1.0	1.0	1.0	2.1	2.1	3.1	4.2	5.2
165°	2.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.1	2.1	3.1
167.5°	2.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
170°	2.1	2.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1	1801.1
2.5°	1764.7	1773.0	1775.1	1778.2	1777.2	1780.3	1781.3	1783.4	1781.3	1779.3
5°	1709.6	1714.8	1712.7	1709.6	1709.6	1708.5	1706.5	1706.5	1707.5	1703.3
7.5°	1613.9	1620.2	1622.2	1623.3	1624.3	1622.2	1622.2	1621.2	1615.0	1612.9
10°	1533.8	1532.8	1535.9	1542.2	1547.4	1548.4	1556.7	1560.9	1560.9	1564.0
12.5°	1481.8	1491.2	1490.2	1493.3	1486.0	1482.9	1491.2	1485.0	1483.9	1482.9
15°	1440.3	1440.3	1442.3	1445.5	1447.5	1448.6	1445.5	1438.2	1431.9	1436.1
17.5°	1399.7	1405.9	1400.7	1388.3	1387.2	1391.4	1396.6	1401.8	1403.9	1405.9
20°	1366.4	1358.1	1359.1	1372.7	1375.8	1374.7	1367.5	1362.3	1357.1	1352.9
22.5°	1318.6	1331.1	1336.3	1325.9	1320.7	1320.7	1324.8	1323.8	1326.9	1318.6
25°	1290.5	1291.5	1284.3	1292.6	1292.6	1293.6	1282.2	1273.9	1263.5	1262.4
27.5°	1250.0	1246.8	1256.2	1250.0	1238.5	1235.4	1234.4	1238.5	1240.6	1241.6
30°	1212.5	1215.6	1198.0	1206.3	1213.6	1215.6	1214.6	1198.0	1192.8	1192.8
32.5°	1183.4	1169.9	1177.2	1178.2	1168.8	1162.6	1151.2	1152.2	1151.2	1147.0
35°	1136.6	1135.6	1142.8	1127.2	1123.1	1122.0	1127.2	1121.0	1107.5	1097.1
37.5°	1092.9	1100.2	1088.8	1097.1	1092.9	1082.5	1066.9	1060.7	1059.7	1059.7
40°	1063.8	1052.4	1056.5	1036.8	1029.5	1033.7	1036.8	1035.7	1031.6	1030.5
42.5°	1019.1	1019.1	1006.6	999.3	1001.4	1002.5	992.1	981.7	975.4	970.2
45°	976.5	969.2	965.0	966.1	954.6	947.3	941.1	945.3	940.1	943.2
47.5°	939.0	927.6	927.6	907.8	908.9	914.1	910.9	894.3	889.1	883.9
50°	899.5	907.8	890.1	895.3	893.3	883.9	874.6	874.6	880.8	874.6
52.5°	863.1	868.3	869.4	863.1	855.8	856.9	865.2	860.0	853.8	852.7
55°	820.5	818.4	822.6	820.5	822.6	825.7	814.2	809.0	807.0	802.8
57.5°	766.4	772.6	765.4	777.8	772.6	764.3	765.4	765.4	765.4	760.2
60°	712.3	713.4	719.6	712.3	710.2	714.4	714.4	710.2	706.1	707.1
62.5°	657.2	658.3	657.2	653.1	658.3	654.1	647.9	647.9	654.1	652.0
65°	594.8	601.1	595.9	594.8	593.8	589.6	594.8	596.9	594.8	595.9
67.5°	541.8	542.8	541.8	536.6	534.5	536.6	533.5	527.2	528.3	525.1
70°	483.6	482.5	484.6	481.5	482.5	483.6	475.2	470.0	471.1	471.1
72.5°	423.2	426.4	426.4	429.5	428.4	425.3	422.2	420.1	419.1	419.1
75°	366.0	371.2	372.3	374.4	373.3	372.3	372.3	368.1	365.0	364.0
77.5°	307.8	313.0	321.3	319.2	321.3	321.3	323.4	318.2	321.3	321.3
80°	250.6	256.9	265.2	271.4	273.5	274.5	276.6	278.7	284.9	284.9
82.5°	198.6	205.9	216.3	224.6	230.9	232.9	241.3	249.6	253.7	255.8
85°	151.8	163.3	173.7	184.1	192.4	198.6	205.9	209.0	215.3	219.4
87.5°	118.5	131.0	144.5	158.1	163.3	166.4	172.6	179.9	190.3	196.5
90°	104.0	117.5	130.0	139.3	141.4	144.5	151.8	160.1	171.6	179.9
92.5°	102.9	113.3	121.7	127.9	131.0	135.2	141.4	145.6	154.9	162.2
95°	97.8	107.1	115.4	121.7	124.8	127.9	134.1	144.5	158.1	166.4
97.5°	94.6	104.0	110.2	117.5	121.7	125.8	139.3	154.9	166.4	169.5
100°	91.5	99.8	107.1	116.5	121.7	126.9	138.3	144.5	146.6	144.5
102.5°	88.4	96.7	105.0	113.3	116.5	120.6	125.8	124.8	123.7	121.7
105°	86.3	93.6	100.9	106.1	107.1	109.2	110.2	109.2	107.1	105.0
107.5°	84.2	90.5	95.7	97.8	98.8	99.8	99.8	97.8	95.7	93.6
110°	81.1	87.4	90.5	92.6	92.6	93.6	92.6	91.5	88.4	87.4



TEST NUMBER: P241500

CATALOG NUMBER: FVS8M-4-LD4-50-1HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	80.1	84.2	87.4	89.4	90.5	91.5	91.5	90.5	88.4	87.4
115°	79.0	84.2	87.4	90.5	91.5	92.6	93.6	93.6	91.5	91.5
117.5°	79.0	85.3	89.4	92.6	94.6	95.7	96.7	97.8	96.7	95.7
120°	79.0	86.3	90.5	95.7	96.7	97.8	99.8	100.9	100.9	99.8
122.5°	79.0	86.3	91.5	95.7	97.8	98.8	101.9	102.9	102.9	102.9
125°	78.0	85.3	90.5	94.6	96.7	98.8	101.9	104.0	105.0	106.1
127.5°	75.9	83.2	88.4	93.6	95.7	97.8	100.9	102.9	105.0	107.1
130°	72.8	80.1	86.3	91.5	93.6	95.7	98.8	101.9	104.0	105.0
132.5°	69.7	75.9	83.2	88.4	90.5	92.6	96.7	99.8	101.9	102.9
135°	65.5	71.8	79.0	84.2	86.3	89.4	93.6	96.7	98.8	99.8
137.5°	60.3	67.6	73.8	80.1	82.2	84.2	89.4	92.6	94.6	94.6
140°	56.2	62.4	69.7	74.9	78.0	80.1	84.2	87.4	89.4	90.5
142.5°	51.0	58.2	64.5	69.7	71.8	73.8	78.0	81.1	83.2	84.2
145°	44.7	52.0	57.2	62.4	65.5	67.6	70.7	73.8	75.9	75.9
147.5°	38.5	44.7	49.9	54.1	57.2	59.3	62.4	65.5	67.6	67.6
150°	31.2	36.4	42.6	46.8	47.8	49.9	53.0	55.1	56.2	57.2
152.5°	25.0	29.1	34.3	37.4	39.5	41.6	43.7	45.8	46.8	46.8
155°	18.7	22.9	26.0	30.2	31.2	33.3	34.3	36.4	36.4	37.4
157.5°	13.5	16.6	18.7	21.8	22.9	25.0	26.0	27.0	28.1	28.1
160°	9.4	11.4	13.5	15.6	16.6	17.7	18.7	19.8	20.8	19.8
162.5°	6.2	7.3	8.3	10.4	10.4	11.4	12.5	13.5	13.5	13.5
165°	3.1	4.2	5.2	5.2	6.2	6.2	7.3	8.3	8.3	8.3
167.5°	2.1	2.1	2.1	3.1	3.1	3.1	3.1	4.2	4.2	4.2
170°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)