

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: P241503

Luminaire Tested: **FVS8M-4-LD4-40-2LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241503
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-40)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-40-2LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

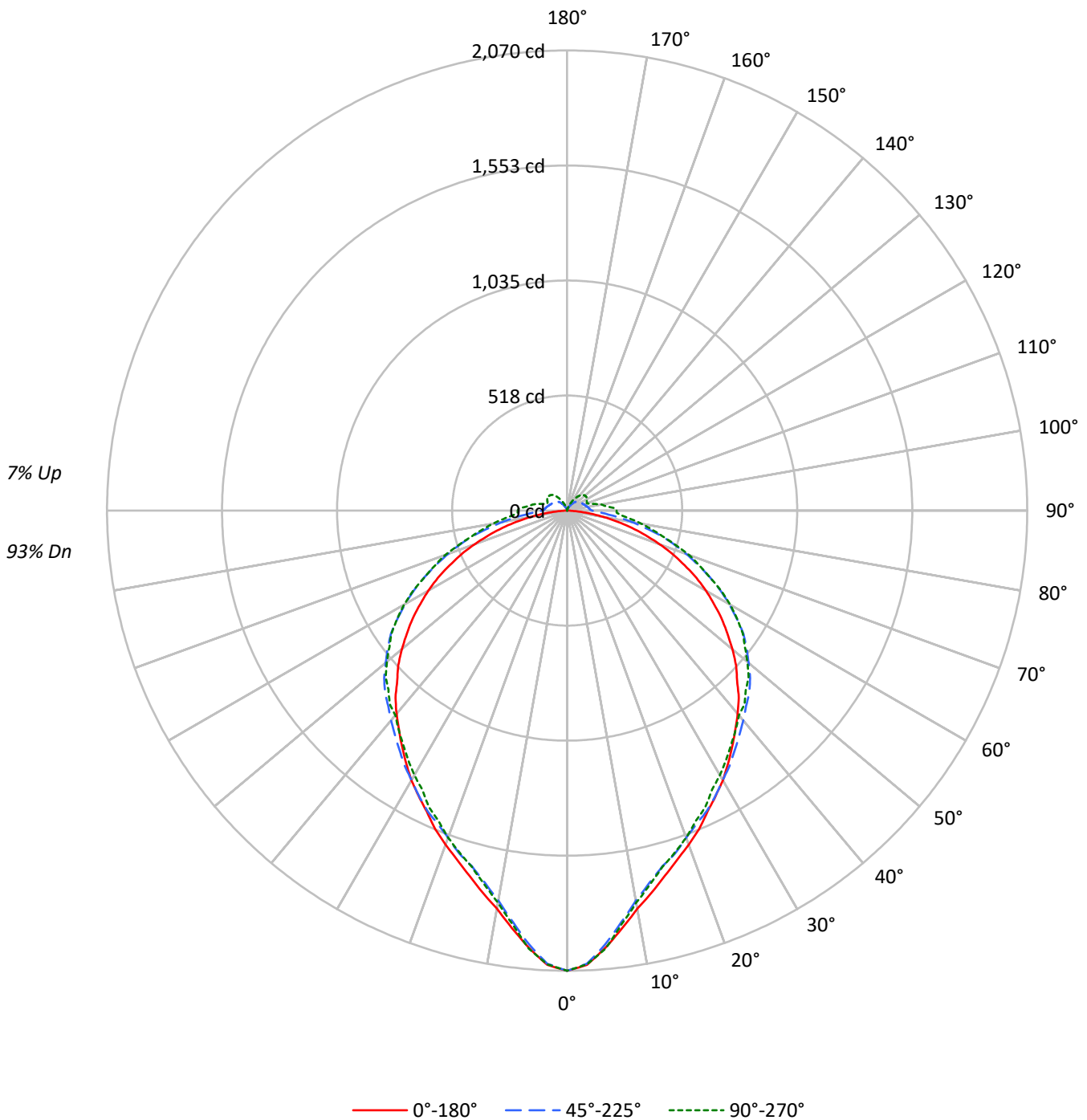
Lumens per Lamp: N/A
Luminaire Lumens: 5541.0 lumens
Efficiency: N/A
Efficacy: 121.8 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 45.5
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	80	74	93	85	79	73	80	75	70	76	72	68	72	68	65	63
3	88	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	62	55	50	59	53	48	56	51	47	44
5	73	60	51	44	71	59	50	44	56	48	43	53	47	42	51	45	41	38
6	68	54	45	39	65	53	44	38	50	43	37	48	42	36	46	40	36	33
7	63	49	40	34	61	48	40	34	46	38	33	44	37	32	42	36	32	29
8	58	45	36	30	56	44	36	30	42	35	29	40	34	29	38	33	28	26
9	55	41	33	27	53	40	32	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	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9252	9252	9252
5°	8828	8650	8703
10°	8194	7829	7815
15°	7786	7295	7235
20°	7498	6973	6880
25°	7235	6756	6564
30°	7071	6519	6274
35°	6877	6343	6057
40°	6743	6214	5896
45°	6573	6169	5865
50°	6449	6055	5796
55°	6267	5953	5680
60°	6036	5678	5441
65°	5694	5334	5033
70°	5215	4909	4706
75°	4527	4430	4142
80°	3512	3673	3823
85°	1839	2890	3497



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.3	3.3
10°-20°	472.7	8.5
20°-30°	686.3	12.4
30°-40°	819.4	14.8
40°-50°	877.5	15.8
50°-60°	834.0	15.1
60°-70°	671.0	12.1
70°-80°	429.6	7.8
80°-90°	188.9	3.4
90°-100°	105.5	1.9
100°-110°	79.6	1.4
110°-120°	63.6	1.1
120°-130°	56.3	1.0
130°-140°	41.3	0.7
140°-150°	22.7	0.4
150°-160°	8.6	0.2
160°-170°	1.7	0.0
170°-180°	0.0	0.0
0°-30°	1341.3	24.2
0°-40°	2160.7	39.0
0°-60°	3872.2	69.9
0°-90°	5161.7	93.2
90°-120°	248.7	4.5
90°-150°	368.9	6.7
90°-180°	379.0	6.8
0°-180°	5541.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2070	2070	2070	2070	2070	
5°	1974	1968	1960	1968	1978	184
15°	1700	1688	1656	1661	1658	480
25°	1494	1496	1490	1479	1471	691
35°	1295	1325	1315	1312	1286	811
45°	1081	1125	1159	1159	1137	837
55°	849	898	968	966	964	757
65°	584	640	707	716	706	578
75°	300	358	436	462	442	319
85°	52	104	177	222	244	68
90°	1	48	112	158	222	3
95°	1	44	100	148	190	0
105°	1	38	86	115	115	1
115°	1	34	76	95	98	1
125°	1	29	70	101	106	1
135°	1	21	56	88	100	1
145°	1	10	36	60	72	1
155°	1	4	17	32	37	1
165°	2	1	4	8	12	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°	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2
2.5°	2045.2	2050.7	2046.4	2045.2	2044.6	2048.3	2047.7	2048.9	2048.3	2042.2	2040.3
5°	1974.4	1977.5	1973.8	1974.4	1968.9	1967.7	1970.1	1974.4	1970.1	1970.7	1959.7
7.5°	1895.0	1896.3	1889.5	1882.8	1881.6	1887.1	1885.9	1881.6	1877.9	1869.4	1867.6
10°	1818.1	1822.4	1813.8	1806.5	1803.5	1804.1	1802.2	1793.7	1793.1	1787.6	1782.1
12.5°	1759.5	1763.2	1754.0	1746.1	1743.0	1740.6	1744.2	1732.0	1729.6	1724.1	1713.7
15°	1700.3	1697.8	1699.1	1688.7	1688.7	1688.1	1685.0	1678.3	1672.2	1664.9	1655.7
17.5°	1646.6	1649.6	1643.5	1635.6	1635.0	1636.2	1635.6	1634.3	1629.5	1620.3	1617.2
20°	1598.9	1596.5	1589.8	1592.2	1591.0	1590.4	1591.6	1584.9	1577.6	1574.5	1566.0
22.5°	1550.7	1546.4	1542.2	1544.6	1544.6	1538.5	1540.9	1538.5	1533.0	1531.8	1523.8
25°	1493.9	1501.3	1497.6	1492.1	1493.9	1495.8	1501.3	1500.6	1498.2	1497.6	1489.7
27.5°	1446.9	1450.0	1445.1	1445.1	1456.7	1459.7	1459.1	1453.0	1453.6	1441.4	1445.1
30°	1401.1	1398.1	1401.1	1407.2	1408.5	1409.1	1407.8	1410.9	1405.4	1404.8	1399.9
32.5°	1348.0	1348.6	1352.9	1350.5	1360.8	1363.9	1365.7	1374.3	1373.0	1366.3	1360.2
35°	1294.9	1302.2	1299.2	1299.8	1325.4	1324.8	1326.0	1326.6	1318.1	1308.9	1315.0
37.5°	1243.0	1248.5	1246.7	1260.7	1268.0	1267.4	1266.8	1272.3	1276.6	1272.3	1272.3
40°	1193.6	1188.1	1196.0	1208.2	1212.5	1221.0	1231.4	1238.7	1238.1	1233.2	1232.6
42.5°	1142.9	1140.4	1145.9	1152.0	1171.6	1181.3	1187.4	1188.7	1182.6	1189.3	1191.7
45°	1080.6	1088.5	1083.7	1105.6	1119.7	1124.6	1128.2	1138.0	1147.2	1150.8	1158.8
47.5°	1030.5	1032.4	1033.6	1052.5	1061.7	1070.8	1077.6	1094.0	1107.5	1113.6	1116.6
50°	970.7	967.1	978.7	990.3	1011.0	1022.0	1031.2	1039.1	1051.3	1061.7	1065.3
52.5°	908.4	910.3	917.6	931.0	956.1	965.8	969.5	982.3	996.4	1007.3	1017.1
55°	849.2	851.7	855.9	877.3	890.7	898.1	910.3	929.8	945.7	953.6	968.3
57.5°	783.3	787.6	795.5	810.2	827.9	840.7	850.4	870.0	886.5	895.0	904.8
60°	721.0	717.4	735.7	745.4	767.4	781.5	786.3	802.2	819.9	833.3	841.3
62.5°	655.7	654.5	664.2	681.9	700.9	708.8	715.5	739.3	752.2	767.4	777.8
65°	583.6	589.8	595.9	615.4	631.3	640.4	651.4	671.6	688.7	702.1	707.0
67.5°	515.9	519.5	533.0	546.4	562.9	570.8	584.9	603.2	620.3	631.9	636.8
70°	442.0	447.5	462.2	477.4	495.7	502.5	512.2	532.4	548.2	563.5	569.0
72.5°	370.6	374.9	390.1	402.9	424.3	435.3	443.8	462.2	476.2	490.2	503.1
75°	300.4	308.3	320.5	332.7	354.1	357.8	366.9	387.7	404.8	420.6	435.9
77.5°	234.4	239.3	246.6	267.4	280.2	288.8	297.3	317.5	337.0	348.6	360.8
80°	166.7	173.4	181.3	194.1	213.1	221.6	228.9	247.9	266.2	280.2	294.3
82.5°	106.8	109.3	120.3	132.5	152.6	157.5	164.8	183.8	200.2	216.7	230.8
85°	51.9	58.0	67.2	81.2	96.5	103.8	111.1	130.0	147.1	163.0	177.0
87.5°	17.1	20.8	30.5	42.7	58.0	66.5	73.3	90.4	106.2	122.7	137.4
90°	0.6	4.9	14.0	26.3	40.9	48.2	56.2	71.4	86.7	100.7	111.7
92.5°	0.6	3.7	12.2	24.4	38.5	45.8	53.1	67.8	81.8	92.8	103.8
95°	0.6	3.1	11.6	23.8	36.6	44.0	51.3	64.7	76.9	89.1	100.1
97.5°	0.6	3.1	11.0	22.6	35.4	42.7	48.8	61.7	73.9	85.5	97.1
100°	0.6	3.1	10.4	22.0	34.2	40.9	47.0	59.2	71.4	82.4	93.4
102.5°	0.6	2.4	10.4	21.4	33.0	39.1	45.2	57.4	69.0	79.4	89.7
105°	0.6	2.4	9.8	20.1	32.4	38.5	44.0	55.6	66.5	76.9	86.1
107.5°	0.6	1.8	9.2	19.5	31.1	37.2	43.3	54.3	64.7	74.5	83.0
110°	0.6	1.8	9.2	18.9	30.5	36.6	42.1	53.1	63.5	72.7	80.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	1.8	8.5	18.3	29.3	35.4	40.9	51.9	61.7	70.2	77.5
115°	0.6	1.2	7.9	17.7	28.7	34.2	39.7	50.7	60.4	68.4	75.7
117.5°	0.6	1.2	7.3	17.1	27.5	33.0	38.5	48.8	58.6	67.2	74.5
120°	0.6	1.2	6.7	15.9	26.3	31.7	37.2	47.6	57.4	65.3	73.3
122.5°	0.6	1.2	6.1	14.7	25.0	30.5	36.0	45.8	55.6	64.1	72.0
125°	0.6	0.6	5.5	14.0	23.8	28.7	34.2	44.0	53.7	62.3	70.2
127.5°	0.6	0.6	4.9	12.8	22.0	27.5	32.4	42.1	51.3	59.8	67.8
130°	0.6	0.6	4.3	11.6	20.8	25.6	29.9	39.7	48.8	56.8	64.7
132.5°	0.6	0.6	3.7	9.8	18.3	22.6	27.5	36.6	45.8	53.1	60.4
135°	1.2	0.6	2.4	8.5	16.5	20.8	24.4	33.0	41.5	48.8	56.2
137.5°	1.2	0.6	1.8	7.3	14.0	17.7	21.4	29.3	37.2	44.6	51.9
140°	1.2	1.2	1.8	5.5	11.6	15.3	18.9	25.6	33.0	39.7	46.4
142.5°	1.2	1.2	1.2	4.3	9.8	12.8	15.3	22.0	28.7	34.8	40.9
145°	1.2	1.2	1.2	3.7	7.9	10.4	12.8	18.3	24.4	29.9	36.0
147.5°	1.2	1.2	1.2	2.4	6.1	8.5	10.4	15.3	20.1	25.6	30.5
150°	1.2	1.2	1.2	1.8	4.9	6.7	8.5	12.8	17.1	21.4	25.6
152.5°	1.2	1.2	1.2	1.2	3.7	4.9	6.7	9.8	13.4	17.7	21.4
155°	1.2	1.2	1.2	1.2	2.4	3.7	4.9	7.9	11.0	14.0	17.1
157.5°	1.8	1.2	1.2	1.2	1.8	2.4	3.7	5.5	7.9	11.0	13.4
160°	1.8	1.2	1.2	1.2	1.2	1.8	2.4	4.3	6.1	7.9	9.8
162.5°	1.8	1.8	1.2	1.2	1.2	1.2	1.2	2.4	3.7	5.5	6.7
165°	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2	1.8	3.1	4.3
167.5°	1.8	1.8	1.2	1.2	0.6	0.6	0.6	0.6	1.2	1.2	1.8
170°	1.8	1.8	1.2	1.2	1.2	0.6	0.6	0.6	0.6	0.6	0.6
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°	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2	2070.2
2.5°	2038.5	2041.6	2044.0	2042.8	2043.4	2048.3	2040.3	2043.4	2044.6	2042.8
5°	1961.0	1962.8	1968.9	1970.7	1968.3	1970.1	1970.7	1973.8	1978.7	1978.1
7.5°	1865.7	1870.6	1869.4	1873.7	1875.5	1876.7	1877.3	1877.9	1877.3	1877.3
10°	1777.2	1782.7	1785.7	1791.2	1789.4	1790.6	1787.6	1791.9	1788.8	1790.6
12.5°	1719.2	1719.8	1709.4	1714.3	1713.1	1714.3	1719.8	1714.9	1719.8	1722.3
15°	1653.9	1655.1	1661.8	1663.6	1660.6	1658.8	1661.8	1664.3	1663.0	1658.2
17.5°	1616.0	1614.2	1616.0	1618.5	1618.5	1620.3	1617.9	1620.9	1613.6	1612.4
20°	1572.1	1573.9	1578.8	1577.0	1569.0	1564.7	1564.7	1562.3	1561.1	1565.4
22.5°	1529.3	1531.2	1526.3	1526.3	1529.9	1528.1	1525.7	1519.6	1511.0	1511.6
25°	1490.9	1488.4	1492.7	1488.4	1478.7	1479.3	1473.2	1475.0	1473.2	1471.3
27.5°	1437.1	1446.3	1443.3	1442.6	1442.0	1446.9	1435.9	1431.0	1423.7	1413.3
30°	1399.9	1394.4	1401.1	1396.9	1393.2	1384.0	1380.4	1371.8	1373.7	1374.3
32.5°	1362.7	1362.1	1357.8	1343.1	1343.7	1343.1	1343.1	1337.6	1330.3	1330.3
35°	1309.5	1313.8	1303.4	1313.2	1312.0	1301.0	1293.1	1289.4	1289.4	1285.7
37.5°	1274.1	1264.4	1266.2	1260.7	1258.3	1260.7	1261.3	1252.8	1252.8	1244.8
40°	1234.5	1235.7	1228.4	1231.4	1235.7	1225.9	1222.9	1206.4	1200.9	1202.1
42.5°	1194.2	1199.0	1207.0	1201.5	1192.9	1186.2	1180.7	1182.6	1178.9	1180.7
45°	1161.2	1163.0	1164.9	1152.0	1158.8	1160.6	1151.4	1143.5	1141.7	1137.4
47.5°	1124.0	1131.3	1116.6	1120.3	1114.8	1106.2	1105.6	1105.0	1109.9	1106.9
50°	1073.3	1076.9	1076.3	1066.6	1064.7	1066.6	1073.9	1066.0	1059.8	1058.0
52.5°	1021.4	1019.6	1020.8	1023.8	1026.3	1023.2	1012.2	1006.7	1004.9	1008.0
55°	975.0	972.5	967.7	971.3	966.4	965.2	965.8	967.1	966.4	964.0
57.5°	910.3	914.5	924.3	907.2	909.1	913.9	915.8	908.4	904.8	906.6
60°	844.3	849.2	848.0	854.1	852.9	846.2	845.6	845.6	847.4	846.8
62.5°	779.6	783.9	779.6	783.3	779.6	779.6	778.4	782.1	779.0	780.8
65°	714.3	714.9	721.6	717.4	715.5	719.2	708.8	703.3	703.9	706.4
67.5°	644.1	649.6	650.8	652.0	648.4	645.3	639.2	639.2	642.9	642.3
70°	575.1	583.0	584.9	582.4	578.8	577.5	580.6	587.3	591.6	583.6
72.5°	509.2	518.9	520.2	518.3	523.2	526.3	521.4	512.2	506.1	507.9
75°	442.0	449.3	455.4	459.7	461.5	457.3	449.3	443.8	439.6	442.0
77.5°	374.2	383.4	389.5	389.5	390.1	391.9	390.1	390.1	388.3	388.9
80°	307.1	319.3	319.3	329.1	332.1	330.3	336.4	337.0	338.2	338.8
82.5°	247.9	256.4	261.9	270.5	276.0	276.6	282.7	283.9	286.3	288.8
85°	191.1	200.2	210.6	218.0	221.6	225.9	233.2	235.0	243.0	244.2
87.5°	147.1	156.9	167.3	177.7	181.9	184.4	191.1	199.6	213.7	222.2
90°	122.1	133.7	144.7	153.2	157.5	161.8	172.2	185.6	207.6	222.2
92.5°	116.0	127.0	135.5	145.3	151.4	156.9	171.6	189.9	209.4	216.7
95°	111.7	122.1	131.9	142.9	148.4	154.5	167.3	178.9	188.0	190.5
97.5°	106.8	116.6	126.4	136.8	142.2	146.5	155.1	161.2	166.7	168.5
100°	102.6	111.7	121.5	130.0	133.7	137.4	144.1	151.4	155.7	156.9
102.5°	98.3	106.8	114.8	121.5	125.2	128.2	133.7	136.1	136.1	135.5
105°	94.6	102.0	108.1	113.6	115.4	117.8	119.7	117.8	116.0	115.4
107.5°	90.4	96.5	101.3	105.0	106.2	106.8	106.2	104.4	103.2	102.6
110°	86.7	92.2	95.9	98.3	98.9	98.9	98.3	97.1	95.9	95.2



TEST NUMBER: P241503

CATALOG NUMBER: FVS8M-4-LD4-40-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	83.6	88.5	92.2	94.0	94.6	95.2	96.5	95.9	95.2	95.2
115°	81.8	86.7	91.0	94.0	95.2	96.5	98.3	98.3	98.3	97.7
117.5°	80.6	86.7	91.6	95.2	97.7	99.5	102.0	102.6	101.3	100.7
120°	80.6	86.7	92.2	97.7	99.5	102.0	104.4	105.0	103.8	103.2
122.5°	79.4	86.7	92.8	98.3	101.3	103.8	106.2	106.2	105.6	105.0
125°	78.1	85.5	91.6	97.7	100.7	103.2	106.2	106.8	106.2	105.6
127.5°	75.7	83.0	89.7	95.9	98.3	100.7	104.4	106.2	106.2	105.6
130°	72.7	80.6	86.7	92.8	95.9	98.3	102.6	104.4	104.4	104.4
132.5°	68.4	76.3	82.4	89.1	92.2	95.2	99.5	101.3	102.6	102.6
135°	64.1	70.8	78.1	84.3	87.9	91.0	95.9	97.7	98.9	99.5
137.5°	59.2	65.3	72.0	78.8	82.4	85.5	91.0	92.8	94.6	95.2
140°	53.7	59.8	66.5	72.7	75.7	78.8	83.6	86.1	88.5	88.5
142.5°	47.6	54.3	60.4	65.9	68.4	71.4	75.7	78.1	80.0	80.6
145°	42.1	48.2	53.1	58.6	60.4	62.9	66.5	69.0	71.4	72.0
147.5°	36.6	42.1	47.0	51.3	53.1	54.9	57.4	59.8	61.7	62.3
150°	30.5	34.8	39.7	44.0	45.8	47.0	49.5	50.7	52.5	53.1
152.5°	25.0	29.3	33.0	37.2	38.5	39.7	41.5	43.3	44.0	44.6
155°	20.1	23.2	26.9	30.5	31.7	33.0	34.8	36.0	36.6	37.2
157.5°	15.9	18.3	20.8	23.8	25.6	26.9	28.1	29.3	29.9	30.5
160°	11.6	14.0	15.9	17.7	19.5	20.1	22.6	23.2	23.2	23.8
162.5°	8.5	9.8	11.6	12.8	13.4	14.7	16.5	16.5	17.7	17.1
165°	4.9	6.1	7.3	7.9	8.5	9.2	11.0	11.6	11.6	11.6
167.5°	2.4	3.1	3.7	4.3	4.3	4.9	5.5	6.7	6.7	6.7
170°	0.6	0.6	1.2	1.2	1.2	1.2	1.8	2.4	2.4	2.4
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)