

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: P241450

Luminaire Tested: **FVS8M-2-LD4-35-3HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241450  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-15)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-2-LD4-35-3HI-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
2FT LENGTH, 3-MODULE LED WITH PA187 LENS  
Light Source: (126) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

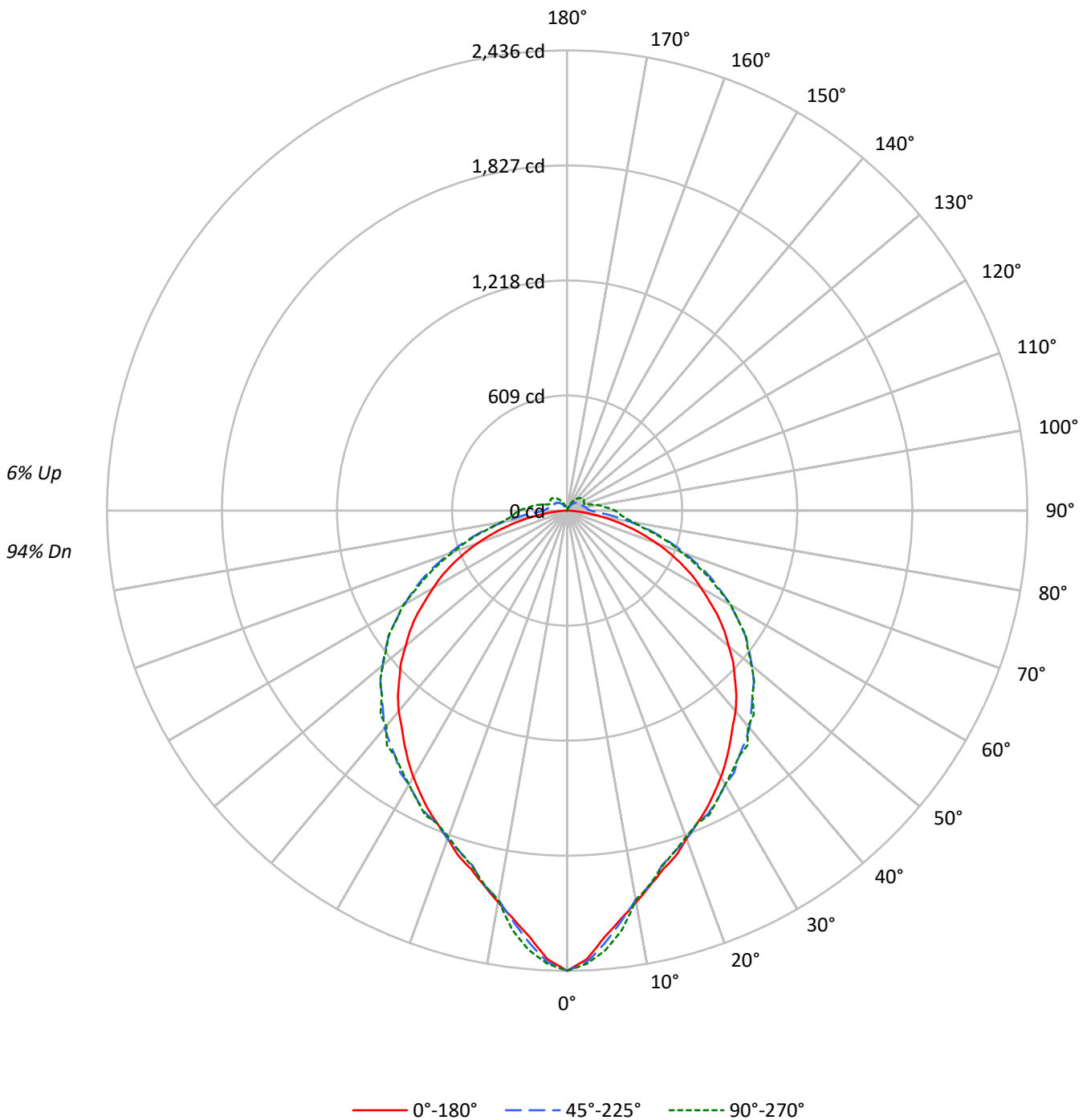
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6475.0 lumens  
Efficiency: N/A  
Efficacy: 97.4 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')  
CIE Type: Direct  
  
Input Watts (W): 66.5  
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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CATALOG NUMBER: FVS8M-2-LD4-35-3HI-PA187-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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	107	101	97	93	103	99	94	91	93	90	87	88	85	83	84	81	79	77
2	97	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63
3	88	77	69	62	85	75	67	61	71	64	59	67	62	57	64	59	55	53
4	80	68	59	52	77	66	58	51	63	56	50	60	54	49	57	52	47	45
5	74	61	51	45	71	59	51	44	56	49	43	54	47	42	51	46	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
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	35	28	24	33	28	23	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	21898	21898	21898
5°	20313	20343	20655
10°	18950	18389	18383
15°	17907	17098	17087
20°	17187	16421	16250
25°	16679	15943	15952
30°	16171	15462	15378
35°	15635	15130	15033
40°	15264	14931	14694
45°	14794	14515	14370
50°	14271	14188	14038
55°	13751	13790	13680
60°	12931	13025	12943
65°	12128	12193	11726
70°	10886	10955	10411
75°	9129	9625	9162
80°	6630	7904	8030
85°	3248	5957	8243



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.3	3.3
10°-20°	552.6	8.5
20°-30°	810.6	12.5
30°-40°	985.6	15.2
40°-50°	1049.2	16.2
50°-60°	985.2	15.2
60°-70°	782.8	12.1
70°-80°	488.6	7.5
80°-90°	213.7	3.3
90°-100°	113.1	1.7
100°-110°	83.7	1.3
110°-120°	64.9	1.0
120°-130°	56.2	0.9
130°-140°	40.7	0.6
140°-150°	23.2	0.4
150°-160°	9.5	0.1
160°-170°	1.9	0.0
170°-180°	0.0	0.0
0°-30°	1576.5	24.3
0°-40°	2562.1	39.6
0°-60°	4596.6	71.0
0°-90°	6081.8	93.9
90°-120°	261.8	4.0
90°-150°	381.9	5.9
90°-180°	393.0	6.1
0°-180°	6475.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2436	2436	2436	2436	2436	
5°	2267	2270	2297	2326	2334	212
15°	1965	1960	1943	1934	1947	556
25°	1743	1739	1769	1759	1778	803
35°	1503	1550	1587	1619	1587	942
45°	1255	1322	1388	1394	1386	970
55°	976	1050	1150	1157	1154	869
65°	666	743	838	846	818	658
75°	340	412	500	516	486	360
85°	60	124	200	247	286	76
90°	0	58	122	180	253	3
95°	0	47	107	157	203	0
105°	0	40	90	122	124	0
115°	0	35	77	97	98	0
125°	0	30	71	99	105	0
135°	1	22	57	84	94	1
145°	1	14	39	60	69	1
155°	1	6	21	33	38	0
165°	1	1	5	11	13	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°	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2
2.5°	2376.4	2382.3	2382.3	2383.3	2382.3	2382.3	2386.2	2384.3	2390.1	2390.1	2392.1
5°	2266.7	2274.5	2274.5	2272.5	2273.5	2269.6	2266.7	2278.4	2285.3	2294.1	2297.0
7.5°	2180.4	2187.3	2183.4	2179.4	2174.5	2175.5	2180.4	2186.3	2192.2	2195.1	2192.2
10°	2105.0	2104.0	2102.0	2092.2	2093.2	2093.2	2098.1	2101.0	2096.1	2090.3	2091.2
12.5°	2032.4	2031.5	2028.5	2029.5	2030.5	2031.5	2032.4	2019.7	2015.8	2027.5	2029.5
15°	1964.8	1968.8	1965.8	1965.8	1965.8	1959.9	1961.9	1956.0	1955.0	1959.9	1943.3
17.5°	1915.8	1904.1	1904.1	1906.0	1901.1	1896.2	1895.3	1901.1	1904.1	1891.3	1892.3
20°	1848.2	1846.3	1843.3	1852.1	1847.2	1846.3	1851.2	1856.1	1848.2	1836.5	1851.2
22.5°	1794.3	1788.4	1791.4	1802.2	1796.3	1790.4	1789.4	1794.3	1783.5	1794.3	1794.3
25°	1743.4	1733.6	1740.4	1738.5	1736.5	1739.4	1744.3	1750.2	1756.1	1759.0	1768.8
27.5°	1685.5	1679.7	1682.6	1685.5	1698.3	1704.2	1703.2	1702.2	1714.0	1711.0	1722.8
30°	1628.7	1616.0	1631.6	1636.5	1642.4	1642.4	1645.4	1659.1	1663.0	1672.8	1674.8
32.5°	1567.0	1563.0	1575.8	1579.7	1591.5	1595.4	1598.3	1619.9	1631.6	1636.5	1644.4
35°	1503.3	1509.1	1514.0	1520.9	1546.4	1550.3	1558.1	1568.9	1577.7	1581.7	1586.6
37.5°	1439.6	1448.4	1452.3	1478.8	1481.7	1489.5	1496.4	1509.1	1525.8	1536.6	1544.4
40°	1386.7	1382.7	1398.4	1412.1	1419.0	1433.7	1449.4	1469.9	1486.6	1491.5	1502.3
42.5°	1325.9	1322.0	1340.6	1344.5	1369.0	1387.6	1400.4	1410.2	1419.0	1431.7	1442.5
45°	1255.3	1263.2	1266.1	1286.7	1313.2	1322.0	1323.9	1345.5	1363.1	1379.8	1387.6
47.5°	1192.6	1196.5	1201.4	1225.0	1244.6	1253.4	1265.1	1292.6	1314.1	1332.8	1340.6
50°	1116.2	1120.1	1138.7	1153.4	1178.9	1191.6	1208.3	1227.9	1244.6	1259.3	1274.9
52.5°	1049.5	1047.6	1063.3	1080.9	1118.1	1127.9	1133.8	1156.4	1183.8	1199.5	1213.2
55°	976.0	979.0	989.8	1017.2	1030.9	1049.5	1062.3	1094.6	1122.1	1138.7	1150.5
57.5°	892.7	906.5	921.2	942.7	956.4	975.1	990.7	1028.0	1051.5	1062.3	1072.1
60°	817.3	827.1	846.7	862.4	887.8	904.5	913.3	942.7	968.2	980.0	994.7
62.5°	747.7	749.7	772.2	786.9	813.4	822.2	836.9	862.4	886.9	900.6	916.3
65°	666.4	672.3	682.1	707.5	730.1	742.8	756.5	788.9	804.6	828.1	837.9
67.5°	586.0	595.8	605.6	628.2	648.7	662.5	676.2	704.6	720.3	740.9	749.7
70°	503.7	509.6	523.3	543.9	566.4	579.2	592.9	613.5	634.0	651.7	663.4
72.5°	420.4	426.3	442.0	461.6	488.0	494.9	508.6	531.1	553.7	569.4	583.1
75°	340.0	344.0	361.6	378.3	404.7	411.6	424.3	447.8	471.4	491.0	499.8
77.5°	261.7	265.6	282.2	300.8	323.4	336.1	346.9	367.5	391.0	404.7	418.4
80°	185.2	193.1	203.8	223.4	246.0	256.8	270.5	293.0	312.6	326.3	339.1
82.5°	116.6	123.5	135.2	156.8	176.4	185.2	197.0	217.6	239.1	249.9	261.7
85°	59.8	64.7	78.4	95.1	114.7	124.5	135.2	155.8	170.5	186.2	199.9
87.5°	19.6	24.5	36.3	52.9	71.5	80.4	89.2	107.8	121.5	136.2	149.9
90°	0.0	5.9	17.6	32.3	49.0	57.8	66.6	80.4	94.1	109.8	122.5
92.5°	0.0	3.9	13.7	28.4	44.1	51.0	57.8	71.5	86.2	99.0	112.7
95°	0.0	3.9	12.7	26.5	40.2	47.0	54.9	67.6	81.3	95.1	106.8
97.5°	0.0	2.9	11.8	24.5	38.2	45.1	51.0	65.7	78.4	91.1	101.9
100°	0.0	2.9	11.8	23.5	36.3	43.1	50.0	62.7	75.5	86.2	98.0
102.5°	0.0	2.9	10.8	22.5	35.3	41.2	48.0	60.8	71.5	83.3	93.1
105°	0.0	2.9	10.8	21.6	34.3	40.2	46.1	58.8	69.6	79.4	90.2
107.5°	0.0	2.9	9.8	20.6	32.3	39.2	45.1	56.8	67.6	77.4	86.2
110°	0.0	2.0	9.8	20.6	31.4	37.2	43.1	54.9	64.7	74.5	82.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	2.0	9.8	19.6	30.4	36.3	42.1	52.9	63.7	71.5	79.4
115°	0.0	2.0	8.8	18.6	29.4	35.3	41.2	51.9	60.8	69.6	77.4
117.5°	0.0	2.0	8.8	17.6	28.4	34.3	39.2	50.0	59.8	67.6	75.5
120°	0.0	2.0	7.8	16.7	27.4	33.3	38.2	48.0	57.8	66.6	74.5
122.5°	0.0	1.0	7.8	16.7	26.5	31.4	36.3	47.0	55.9	64.7	73.5
125°	0.0	1.0	6.9	15.7	24.5	30.4	35.3	45.1	53.9	62.7	70.6
127.5°	0.0	1.0	5.9	14.7	23.5	28.4	33.3	43.1	51.9	59.8	68.6
130°	1.0	1.0	5.9	13.7	21.6	26.5	31.4	40.2	49.0	56.8	64.7
132.5°	1.0	1.0	4.9	11.8	20.6	24.5	28.4	37.2	46.1	53.9	60.8
135°	1.0	1.0	4.9	10.8	18.6	22.5	26.5	34.3	42.1	50.0	56.8
137.5°	1.0	1.0	3.9	9.8	16.7	20.6	23.5	31.4	39.2	46.1	52.9
140°	1.0	1.0	2.9	7.8	14.7	17.6	21.6	28.4	35.3	42.1	48.0
142.5°	1.0	1.0	2.9	6.9	12.7	15.7	18.6	25.5	31.4	37.2	44.1
145°	1.0	1.0	2.0	5.9	10.8	13.7	16.7	22.5	28.4	33.3	39.2
147.5°	1.0	1.0	2.0	4.9	8.8	11.8	13.7	19.6	24.5	29.4	34.3
150°	1.0	1.0	1.0	3.9	6.9	8.8	11.8	15.7	20.6	25.5	30.4
152.5°	1.0	1.0	1.0	2.9	5.9	6.9	8.8	12.7	16.7	21.6	25.5
155°	1.0	1.0	1.0	2.0	3.9	5.9	6.9	9.8	13.7	17.6	20.6
157.5°	1.0	1.0	1.0	1.0	2.9	3.9	4.9	7.8	10.8	13.7	16.7
160°	1.0	1.0	1.0	1.0	2.0	2.9	3.9	5.9	7.8	9.8	11.8
162.5°	1.0	1.0	1.0	1.0	1.0	2.0	2.0	3.9	4.9	6.9	8.8
165°	1.0	1.0	1.0	0.0	1.0	1.0	1.0	2.0	2.9	3.9	4.9
167.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.9
170°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2
2.5°	2393.1	2396.0	2396.0	2397.0	2397.0	2399.9	2399.9	2399.9	2401.9	2400.9
5°	2304.9	2311.7	2316.6	2322.5	2326.4	2330.4	2330.4	2331.3	2337.2	2334.3
7.5°	2190.2	2198.1	2203.9	2215.7	2219.6	2222.6	2230.4	2235.3	2238.2	2236.3
10°	2099.1	2098.1	2104.0	2100.1	2095.2	2098.1	2097.1	2101.0	2096.1	2094.2
12.5°	2017.7	1997.2	2003.1	2016.8	2019.7	2021.7	2028.5	2029.5	2033.4	2027.5
15°	1938.4	1950.1	1949.2	1939.4	1934.5	1931.5	1933.5	1941.3	1948.2	1947.2
17.5°	1897.2	1887.4	1891.3	1916.8	1925.6	1928.6	1919.8	1908.0	1895.3	1892.3
20°	1842.3	1863.9	1874.7	1844.3	1823.7	1820.8	1820.8	1828.6	1838.4	1838.4
22.5°	1809.0	1808.0	1778.6	1804.1	1817.8	1825.7	1821.8	1805.1	1789.4	1794.3
25°	1773.7	1756.1	1787.5	1770.8	1759.0	1753.2	1760.0	1769.8	1773.7	1777.7
27.5°	1712.0	1739.4	1718.9	1731.6	1747.3	1760.0	1755.1	1729.6	1721.8	1723.8
30°	1681.6	1673.8	1697.3	1716.9	1705.1	1687.5	1670.8	1666.9	1674.8	1674.8
32.5°	1647.3	1659.1	1665.0	1635.6	1637.5	1644.4	1652.2	1651.2	1639.5	1629.7
35°	1589.5	1615.0	1590.5	1613.0	1618.9	1609.1	1584.6	1588.5	1591.5	1586.6
37.5°	1561.1	1546.4	1567.0	1559.1	1552.3	1556.2	1572.8	1567.0	1568.9	1567.0
40°	1512.1	1520.9	1503.3	1511.1	1518.9	1521.9	1515.0	1490.5	1487.6	1489.5
42.5°	1447.4	1457.2	1469.0	1476.8	1458.2	1442.5	1446.4	1457.2	1460.1	1463.1
45°	1397.4	1397.4	1410.2	1387.6	1393.5	1403.3	1404.3	1400.4	1391.6	1385.7
47.5°	1347.5	1356.3	1332.8	1345.5	1342.6	1343.5	1332.8	1340.6	1343.5	1342.6
50°	1285.7	1281.8	1287.7	1274.9	1271.0	1272.0	1286.7	1280.8	1275.9	1274.0
52.5°	1223.0	1210.3	1222.0	1221.0	1230.8	1231.8	1212.2	1204.4	1208.3	1205.4
55°	1157.3	1159.3	1155.4	1163.2	1157.3	1150.5	1148.5	1150.5	1150.5	1154.4
57.5°	1077.0	1092.7	1104.4	1086.8	1083.8	1088.7	1088.7	1078.0	1070.1	1069.1
60°	1000.5	1007.4	1015.2	1017.2	1011.3	1005.4	1003.5	1000.5	1002.5	1001.5
62.5°	927.0	931.9	924.1	926.1	920.2	924.1	923.1	919.2	911.4	903.5
65°	844.7	848.7	845.7	841.8	845.7	849.6	831.0	824.2	817.3	818.3
67.5°	757.5	760.5	761.4	765.4	757.5	751.6	743.8	742.8	736.0	731.1
70°	677.2	675.2	683.0	680.1	673.2	672.3	662.5	650.7	643.8	641.9
72.5°	592.9	596.8	602.7	591.9	598.8	590.9	579.2	572.3	570.3	568.4
75°	509.6	518.4	520.4	516.4	516.4	509.6	507.6	501.7	494.9	486.1
77.5°	429.2	436.1	440.0	441.0	437.1	436.1	432.2	424.3	412.6	405.7
80°	349.8	356.7	362.6	365.5	363.6	369.4	360.6	355.7	351.8	353.8
82.5°	277.3	284.2	293.0	296.9	300.8	301.8	303.8	306.7	309.7	313.6
85°	210.7	221.5	231.3	240.1	247.0	249.9	256.8	265.6	277.3	286.2
87.5°	164.6	174.4	188.2	200.9	205.8	210.7	221.5	237.2	257.7	273.4
90°	136.2	148.0	160.7	173.5	180.3	185.2	200.9	217.6	239.1	252.8
92.5°	123.5	136.2	148.0	159.7	165.6	171.5	185.2	201.9	216.6	228.3
95°	118.6	129.4	141.1	151.9	156.8	162.7	174.4	184.2	196.0	202.9
97.5°	112.7	123.5	134.3	144.1	148.0	152.9	163.7	170.5	179.3	185.2
100°	107.8	118.6	127.4	136.2	140.1	144.1	152.9	159.7	160.7	164.6
102.5°	103.9	112.7	120.5	128.4	130.3	134.3	141.1	145.0	145.0	144.1
105°	99.0	106.8	113.7	119.6	121.5	124.5	126.4	126.4	125.4	124.5
107.5°	94.1	100.9	106.8	110.7	112.7	112.7	112.7	110.7	108.8	107.8
110°	90.2	96.0	100.9	102.9	102.9	102.9	101.9	100.9	100.0	99.0





TEST NUMBER: P241450

CATALOG NUMBER: FVS8M-2-LD4-35-3HI-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	86.2	92.1	96.0	98.0	98.0	98.0	98.0	98.0	97.0	96.0
115°	84.3	89.2	93.1	96.0	97.0	98.0	99.0	99.0	99.0	98.0
117.5°	82.3	88.2	93.1	97.0	98.0	100.0	100.9	101.9	100.9	100.9
120°	82.3	88.2	93.1	98.0	100.0	100.9	102.9	103.9	103.9	102.9
122.5°	80.4	87.2	93.1	98.0	100.0	101.9	103.9	104.9	104.9	104.9
125°	78.4	85.3	92.1	97.0	99.0	100.0	102.9	104.9	104.9	104.9
127.5°	75.5	83.3	89.2	94.1	96.0	98.0	100.9	102.9	103.9	103.9
130°	72.5	79.4	86.2	91.1	93.1	95.1	98.0	100.0	100.9	101.9
132.5°	68.6	75.5	81.3	87.2	89.2	91.1	94.1	97.0	97.0	98.0
135°	63.7	70.6	76.4	81.3	84.3	86.2	90.2	92.1	93.1	94.1
137.5°	58.8	64.7	70.6	76.4	78.4	80.4	84.3	87.2	89.2	89.2
140°	53.9	59.8	64.7	69.6	72.5	74.5	78.4	81.3	82.3	83.3
142.5°	49.0	54.9	59.8	63.7	66.6	68.6	71.5	74.5	75.5	76.4
145°	44.1	49.0	53.9	57.8	59.8	61.7	64.7	66.6	67.6	68.6
147.5°	39.2	44.1	48.0	51.9	52.9	54.9	57.8	59.8	60.8	60.8
150°	34.3	38.2	42.1	45.1	46.1	48.0	51.0	51.9	52.9	52.9
152.5°	29.4	32.3	35.3	38.2	40.2	41.2	43.1	45.1	45.1	46.1
155°	24.5	27.4	30.4	32.3	33.3	34.3	36.3	37.2	38.2	38.2
157.5°	19.6	22.5	24.5	26.5	27.4	28.4	29.4	30.4	31.4	31.4
160°	14.7	16.7	18.6	20.6	21.6	21.6	23.5	23.5	24.5	24.5
162.5°	9.8	11.8	13.7	15.7	15.7	16.7	16.7	17.6	17.6	17.6
165°	5.9	7.8	8.8	10.8	10.8	11.8	11.8	12.7	12.7	12.7
167.5°	3.9	3.9	4.9	5.9	6.9	6.9	6.9	7.8	7.8	7.8
170°	1.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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)