

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: P241471

Luminaire Tested: **FVS8M-3-LD4-40-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241471
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-25)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-3-LD4-40-2STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

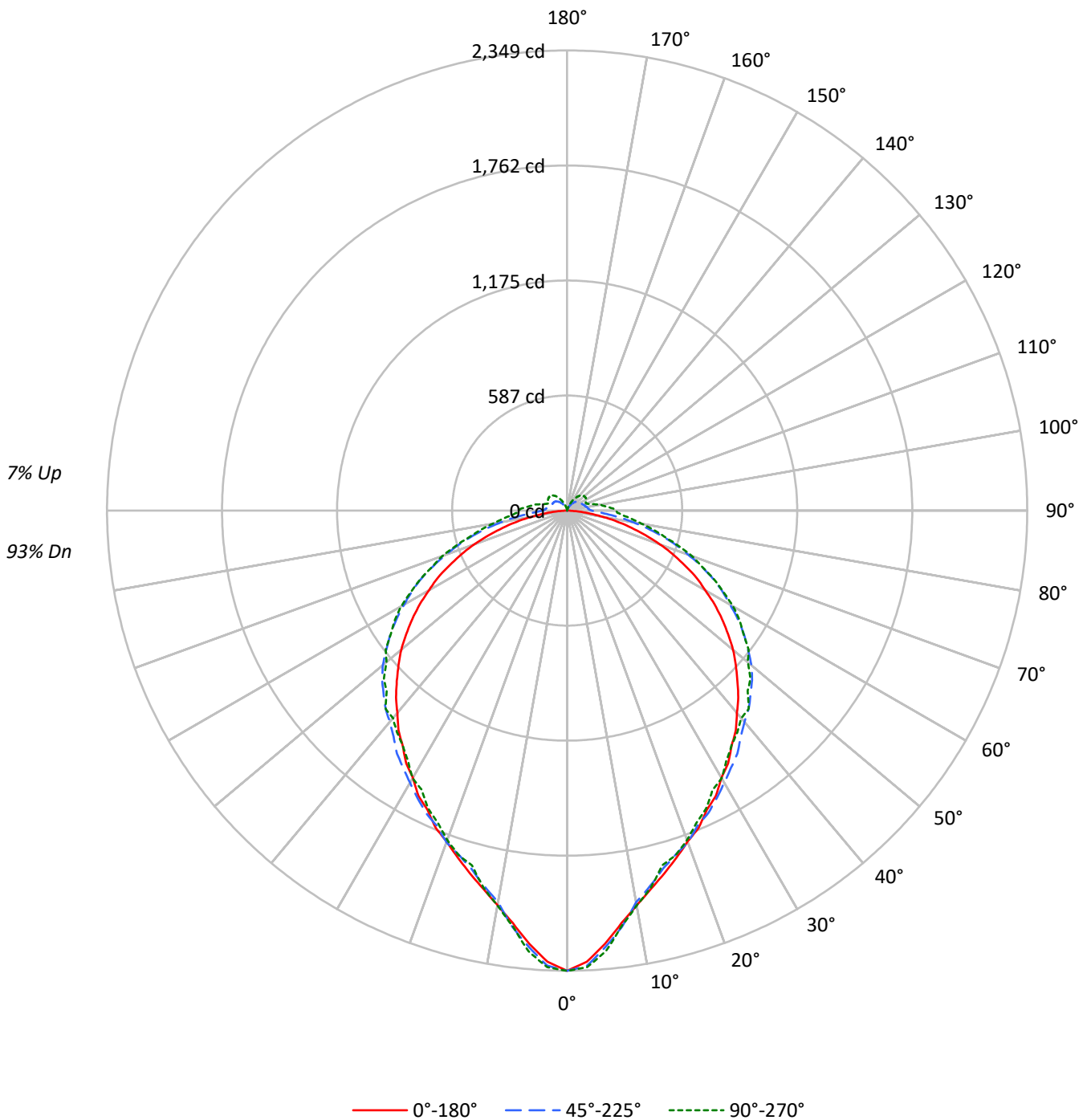
Lumens per Lamp: N/A
Luminaire Lumens: 6316.0 lumens
Efficiency: N/A
Efficacy: 115.5 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 54.7
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	87	77	68	61	84	74	67	60	71	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	57	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	41	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	31	26	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	24	36	29	24	34	28	24	33	27	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13719	13719	13719
5°	12956	12891	12982
10°	12022	11631	11671
15°	11430	10865	10688
20°	10970	10451	10273
25°	10608	10060	9783
30°	10314	9717	9409
35°	10075	9491	9006
40°	9854	9219	8864
45°	9661	9148	8778
50°	9467	9045	8617
55°	9152	8768	8459
60°	8730	8383	8210
65°	8242	7991	7691
70°	7564	7292	7142
75°	6444	6498	6277
80°	4891	5434	5692
85°	2576	4192	5381



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.9	3.3
10°-20°	536.8	8.5
20°-30°	781.8	12.4
30°-40°	933.8	14.8
40°-50°	1003.6	15.9
50°-60°	953.0	15.1
60°-70°	770.0	12.2
70°-80°	494.6	7.8
80°-90°	216.5	3.4
90°-100°	114.9	1.8
100°-110°	87.0	1.4
110°-120°	69.4	1.1
120°-130°	61.9	1.0
130°-140°	46.2	0.7
140°-150°	26.8	0.4
150°-160°	10.6	0.2
160°-170°	2.2	0.0
170°-180°	0.0	0.0
0°-30°	1525.5	24.2
0°-40°	2459.3	38.9
0°-60°	4415.9	69.9
0°-90°	5897.0	93.4
90°-120°	271.2	4.3
90°-150°	406.1	6.4
90°-180°	419.0	6.6
0°-180°	6316.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2349	2349	2349	2349	2349	
5°	2220	2222	2237	2254	2258	206
15°	1917	1909	1892	1888	1875	540
25°	1686	1704	1704	1686	1678	780
35°	1464	1500	1514	1498	1463	919
45°	1230	1277	1325	1343	1303	949
55°	965	1025	1102	1100	1099	862
65°	662	725	821	829	826	656
75°	340	408	498	529	513	361
85°	61	118	203	253	288	77
90°	1	53	125	176	248	3
95°	1	48	108	160	207	1
105°	1	42	94	127	126	1
115°	1	38	82	103	106	1
125°	1	32	78	110	115	1
135°	1	24	64	98	108	1
145°	2	13	44	71	83	1
155°	2	5	22	38	44	1
165°	2	2	6	12	15	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°	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3
2.5°	2305.1	2308.5	2308.5	2307.6	2309.3	2308.5	2312.6	2318.5	2321.0	2324.3	2325.1
5°	2220.1	2223.4	2218.4	2213.4	2216.8	2221.8	2225.9	2234.3	2233.4	2232.6	2236.8
7.5°	2123.4	2124.2	2120.0	2117.5	2115.9	2119.2	2122.5	2125.9	2132.6	2140.1	2143.4
10°	2045.8	2048.3	2040.8	2035.0	2032.5	2031.7	2036.7	2042.5	2045.0	2038.3	2029.2
12.5°	1977.5	1975.8	1973.3	1963.3	1968.3	1970.0	1971.7	1970.0	1961.6	1957.5	1961.6
15°	1916.6	1915.8	1913.3	1907.5	1909.1	1909.1	1904.1	1900.8	1900.8	1906.6	1891.6
17.5°	1857.4	1856.6	1855.8	1847.4	1850.8	1851.6	1852.4	1851.6	1855.8	1845.8	1841.6
20°	1798.2	1794.9	1795.7	1797.4	1805.7	1802.4	1801.6	1804.9	1798.2	1796.6	1801.6
22.5°	1753.2	1751.6	1748.2	1747.4	1748.2	1746.6	1749.1	1750.7	1749.1	1754.1	1740.7
25°	1685.7	1684.9	1686.5	1689.9	1697.4	1704.0	1709.0	1697.4	1706.5	1703.2	1704.0
27.5°	1643.2	1643.2	1644.0	1641.5	1646.5	1650.7	1650.7	1658.2	1661.5	1654.9	1654.0
30°	1574.8	1574.8	1579.8	1589.0	1597.3	1607.3	1605.7	1606.5	1607.3	1608.2	1604.0
32.5°	1529.8	1531.5	1534.0	1534.8	1547.3	1545.6	1547.3	1561.5	1562.3	1561.5	1557.3
35°	1463.9	1461.4	1471.4	1478.1	1496.5	1499.8	1502.3	1504.0	1512.3	1508.1	1514.0
37.5°	1413.9	1414.8	1418.9	1428.9	1430.6	1443.1	1452.3	1454.8	1453.9	1458.1	1455.6
40°	1348.1	1345.6	1352.2	1369.7	1384.7	1390.6	1395.6	1403.9	1407.2	1411.4	1408.1
42.5°	1293.0	1291.4	1298.0	1313.0	1325.5	1336.4	1341.4	1350.6	1361.4	1367.2	1372.2
45°	1229.7	1228.0	1238.0	1253.0	1270.5	1277.2	1286.4	1300.5	1313.9	1321.4	1324.7
47.5°	1167.2	1168.8	1171.3	1188.8	1213.8	1221.3	1232.2	1238.0	1263.9	1271.4	1280.5
50°	1105.5	1106.3	1113.8	1124.6	1145.5	1154.6	1169.7	1186.3	1198.0	1213.0	1228.0
52.5°	1035.4	1034.6	1046.3	1062.1	1082.1	1094.6	1103.8	1128.0	1141.3	1153.0	1163.0
55°	964.6	969.6	977.9	992.1	1012.1	1025.4	1034.6	1054.6	1080.4	1093.0	1102.1
57.5°	892.9	897.0	909.5	922.9	941.2	950.4	964.6	986.2	1005.4	1019.6	1033.8
60°	813.7	818.7	831.2	846.2	872.9	875.4	892.0	912.9	932.9	952.1	961.2
62.5°	746.1	746.1	755.3	774.5	793.7	805.3	821.2	839.5	862.0	877.9	893.7
65°	661.9	666.9	681.1	699.5	712.8	725.3	742.8	763.6	788.7	807.0	821.2
67.5°	584.4	586.9	602.7	616.9	639.4	652.8	661.1	688.6	712.0	727.8	739.5
70°	505.2	510.2	521.9	538.6	558.6	572.7	582.7	609.4	628.6	647.8	656.9
72.5°	420.2	426.8	441.8	458.5	478.5	491.0	501.0	526.9	546.9	563.6	582.7
75°	340.1	344.3	360.1	378.5	400.2	408.5	421.8	441.8	466.9	487.7	498.5
77.5°	264.3	267.6	283.5	298.5	319.3	331.0	342.6	365.2	386.0	405.2	419.3
80°	187.6	191.7	205.9	220.1	242.6	253.4	261.8	287.6	309.3	326.0	341.0
82.5°	120.0	124.2	137.6	155.1	171.7	183.4	192.6	212.6	235.1	250.9	268.4
85°	60.9	64.2	75.9	90.9	111.7	117.5	131.7	149.2	169.2	186.7	202.6
87.5°	18.3	23.3	35.0	49.2	65.9	74.2	85.0	103.4	120.9	137.6	155.1
90°	0.8	5.0	15.0	28.3	45.0	53.4	62.5	79.2	94.2	110.9	125.1
92.5°	0.8	4.2	13.3	26.7	41.7	50.0	57.5	73.4	87.5	100.9	113.4
95°	0.8	3.3	12.5	25.0	40.0	47.5	55.0	70.0	83.4	96.7	108.4
97.5°	0.8	3.3	11.7	24.2	38.3	45.9	53.4	66.7	79.2	92.5	105.0
100°	0.8	3.3	11.7	23.3	37.5	44.2	50.9	64.2	76.7	89.2	100.9
102.5°	0.8	3.3	10.8	23.3	35.8	42.5	49.2	61.7	74.2	86.7	97.5
105°	0.8	2.5	10.8	22.5	35.0	41.7	47.5	60.0	72.5	84.2	94.2
107.5°	0.8	2.5	10.0	21.7	34.2	40.9	46.7	59.2	70.0	81.7	90.9
110°	0.8	2.5	10.0	20.8	33.3	40.0	45.9	58.4	69.2	79.2	87.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	2.5	9.2	20.0	32.5	39.2	45.0	56.7	67.5	76.7	85.0
115°	0.8	1.7	9.2	19.2	31.7	38.3	44.2	55.9	65.9	75.0	82.5
117.5°	0.8	1.7	8.3	19.2	30.8	36.7	43.4	54.2	64.2	73.4	81.7
120°	0.8	1.7	8.3	18.3	29.2	35.8	41.7	52.5	63.4	72.5	80.9
122.5°	0.8	1.7	7.5	17.5	28.3	34.2	40.0	50.9	61.7	71.7	80.0
125°	0.8	0.8	6.7	15.8	26.7	32.5	38.3	49.2	59.2	69.2	78.4
127.5°	0.8	0.8	5.8	15.0	25.8	30.8	36.7	47.5	57.5	66.7	75.9
130°	0.8	0.8	5.0	13.3	24.2	29.2	34.2	44.2	54.2	63.4	72.5
132.5°	0.8	0.8	5.0	12.5	21.7	26.7	31.7	41.7	50.9	60.0	68.4
135°	0.8	0.8	4.2	10.8	20.0	24.2	29.2	38.3	47.5	55.9	64.2
137.5°	1.7	0.8	3.3	9.2	17.5	21.7	25.8	35.0	43.4	51.7	59.2
140°	1.7	0.8	2.5	7.5	15.0	19.2	23.3	30.8	39.2	46.7	55.0
142.5°	1.7	1.7	1.7	6.7	12.5	15.8	20.0	27.5	35.0	42.5	49.2
145°	1.7	1.7	1.7	5.0	10.0	13.3	16.7	23.3	30.0	37.5	44.2
147.5°	1.7	1.7	1.7	4.2	8.3	10.8	13.3	20.0	25.8	31.7	38.3
150°	1.7	1.7	1.7	3.3	6.7	9.2	10.8	15.8	21.7	27.5	32.5
152.5°	1.7	1.7	1.7	2.5	5.0	6.7	8.3	13.3	17.5	22.5	27.5
155°	1.7	1.7	1.7	1.7	4.2	5.0	6.7	10.0	14.2	17.5	21.7
157.5°	1.7	1.7	1.7	1.7	2.5	3.3	5.0	7.5	10.8	14.2	16.7
160°	1.7	1.7	1.7	1.7	1.7	2.5	3.3	5.0	7.5	10.0	12.5
162.5°	2.5	1.7	1.7	1.7	1.7	1.7	2.5	3.3	5.0	7.5	9.2
165°	2.5	1.7	1.7	1.7	0.8	1.7	1.7	2.5	3.3	4.2	5.8
167.5°	2.5	2.5	1.7	1.7	1.7	0.8	0.8	0.8	1.7	2.5	3.3
170°	2.5	2.5	1.7	1.7	1.7	0.8	0.8	0.8	0.8	0.8	0.8
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°	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3	2349.3
2.5°	2326.0	2331.0	2332.6	2333.5	2336.8	2335.1	2336.8	2333.5	2333.5	2332.6
5°	2235.9	2239.3	2245.1	2253.4	2254.3	2255.1	2256.8	2260.9	2262.6	2258.4
7.5°	2133.4	2137.6	2130.9	2125.9	2130.0	2129.2	2136.7	2131.7	2137.6	2138.4
10°	2023.3	2024.2	2033.3	2040.0	2039.2	2042.5	2039.2	2035.0	2040.0	2046.7
12.5°	1962.5	1950.0	1935.0	1942.5	1949.1	1951.6	1967.5	1970.0	1976.7	1971.7
15°	1885.8	1894.1	1904.1	1889.1	1888.3	1883.3	1878.3	1874.9	1874.1	1874.9
17.5°	1849.1	1834.9	1826.6	1834.1	1846.6	1854.1	1854.1	1855.8	1841.6	1844.1
20°	1784.9	1789.1	1804.9	1795.7	1790.7	1785.7	1782.4	1788.2	1794.1	1789.1
22.5°	1747.4	1754.1	1739.1	1756.6	1759.9	1765.7	1761.6	1738.2	1729.0	1724.9
25°	1701.5	1694.9	1719.0	1694.0	1685.7	1672.4	1670.7	1674.0	1679.0	1678.2
27.5°	1647.3	1662.4	1631.5	1639.0	1651.5	1653.2	1649.9	1631.5	1621.5	1607.3
30°	1614.0	1586.5	1601.5	1599.8	1582.3	1578.2	1569.0	1574.0	1578.2	1577.3
32.5°	1550.6	1557.3	1540.6	1529.0	1539.8	1548.1	1547.3	1528.1	1516.5	1513.1
35°	1503.1	1497.3	1490.6	1507.3	1498.1	1481.4	1461.4	1462.3	1463.1	1463.1
37.5°	1456.4	1441.4	1459.8	1428.9	1426.4	1433.1	1443.1	1437.3	1428.1	1426.4
40°	1402.2	1418.9	1392.2	1410.6	1413.1	1409.8	1388.9	1382.2	1383.1	1383.1
42.5°	1373.9	1368.1	1382.2	1378.9	1369.7	1368.9	1378.9	1378.9	1374.7	1372.2
45°	1335.6	1332.2	1335.6	1334.7	1343.1	1343.9	1324.7	1309.7	1304.7	1303.0
47.5°	1279.7	1298.9	1285.5	1292.2	1281.4	1268.9	1268.0	1271.4	1270.5	1268.9
50°	1231.3	1230.5	1246.3	1218.8	1221.3	1228.0	1226.3	1213.8	1209.7	1203.8
52.5°	1178.0	1183.0	1169.7	1174.7	1173.8	1164.6	1154.6	1158.8	1163.8	1167.2
55°	1108.8	1116.3	1113.8	1109.6	1099.6	1103.0	1114.6	1108.8	1100.5	1098.8
57.5°	1050.4	1042.1	1050.4	1045.4	1052.1	1047.9	1033.8	1035.4	1038.8	1043.8
60°	974.6	985.4	970.4	982.1	972.1	962.1	970.4	982.1	978.7	977.9
62.5°	896.2	901.2	906.2	896.2	894.5	901.2	902.0	892.0	895.4	898.7
65°	823.7	818.7	827.8	827.8	828.7	825.3	817.0	822.0	826.2	826.2
67.5°	744.5	752.0	747.8	752.0	746.1	747.8	751.1	744.5	746.1	742.0
70°	666.1	672.8	677.8	675.3	678.6	681.1	675.3	674.4	675.3	677.8
72.5°	589.4	595.2	606.1	608.6	614.4	611.1	601.9	597.7	593.6	593.6
75°	509.4	520.2	526.1	535.2	529.4	525.2	529.4	519.4	515.2	512.7
77.5°	431.8	444.4	455.2	450.2	452.7	456.9	452.7	450.2	447.7	449.4
80°	353.5	369.3	375.2	378.5	382.7	382.7	384.3	385.2	386.0	386.0
82.5°	285.1	296.0	305.1	312.6	315.1	315.1	321.0	326.0	331.0	334.3
85°	222.6	231.8	240.9	247.6	252.6	256.8	265.9	273.4	281.8	287.6
87.5°	170.1	179.2	189.2	199.2	204.3	210.1	220.1	230.9	245.1	256.8
90°	135.9	147.6	159.2	170.9	175.9	181.7	194.2	208.4	231.8	248.4
92.5°	125.1	136.7	147.6	159.2	165.1	170.9	184.2	204.3	226.8	235.9
95°	120.0	131.7	142.6	153.4	160.1	166.7	180.9	194.2	203.4	206.8
97.5°	115.9	126.7	136.7	148.4	154.2	160.1	170.9	177.6	183.4	185.9
100°	111.7	122.6	132.6	142.6	146.7	150.1	157.6	165.1	171.7	173.4
102.5°	108.4	117.5	125.9	133.4	136.7	140.1	146.7	150.1	148.4	147.6
105°	103.4	111.7	118.4	124.2	126.7	128.4	130.9	130.1	127.6	125.9
107.5°	99.2	105.0	110.9	114.2	115.9	115.9	115.0	114.2	112.5	112.5
110°	95.0	100.0	104.2	106.7	107.5	107.5	107.5	105.9	105.9	105.0



TEST NUMBER: P241471

CATALOG NUMBER: FVS8M-3-LD4-40-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	91.7	96.7	100.0	102.5	103.4	103.4	104.2	104.2	103.4	103.4
115°	89.2	94.2	98.4	101.7	103.4	104.2	105.9	106.7	105.9	105.9
117.5°	88.4	94.2	99.2	104.2	105.9	107.5	110.0	110.0	109.2	109.2
120°	88.4	95.0	100.9	105.9	108.4	110.9	113.4	113.4	112.5	112.5
122.5°	88.4	95.0	100.9	106.7	110.0	111.7	115.0	115.0	114.2	114.2
125°	86.7	94.2	100.9	106.7	110.0	112.5	115.0	115.9	115.0	115.0
127.5°	84.2	91.7	99.2	105.0	108.4	110.9	114.2	115.0	115.0	115.0
130°	80.9	89.2	95.9	102.5	105.9	108.4	111.7	113.4	114.2	114.2
132.5°	77.5	84.2	91.7	98.4	101.7	104.2	108.4	110.0	111.7	111.7
135°	72.5	80.0	87.5	94.2	97.5	100.0	104.2	106.7	107.5	108.4
137.5°	67.5	75.0	81.7	88.4	91.7	94.2	99.2	101.7	103.4	104.2
140°	61.7	69.2	75.9	82.5	85.9	88.4	92.5	95.9	97.5	98.4
142.5°	55.9	62.5	69.2	75.9	78.4	80.9	85.9	89.2	90.9	91.7
145°	50.0	55.9	62.5	68.4	70.9	72.5	77.5	80.0	82.5	83.4
147.5°	44.2	50.0	55.0	60.0	62.5	64.2	68.4	70.9	72.5	73.4
150°	38.3	43.4	48.4	52.5	54.2	55.9	58.4	60.9	62.5	63.4
152.5°	32.5	36.7	40.9	44.2	45.9	46.7	50.0	51.7	52.5	53.4
155°	25.8	30.0	34.2	36.7	38.3	39.2	41.7	42.5	43.4	44.2
157.5°	20.0	23.3	26.7	30.0	30.8	32.5	33.3	35.0	35.0	35.0
160°	15.0	17.5	20.8	23.3	24.2	25.8	26.7	27.5	28.3	28.3
162.5°	10.8	12.5	15.0	16.7	17.5	19.2	20.0	20.8	21.7	21.7
165°	7.5	8.3	10.0	11.7	11.7	12.5	14.2	14.2	15.0	15.0
167.5°	4.2	5.0	5.8	6.7	6.7	7.5	8.3	9.2	9.2	9.2
170°	1.7	1.7	2.5	2.5	2.5	3.3	3.3	4.2	4.2	4.2
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)