

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: P241451

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241451
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-LD4-40-3HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

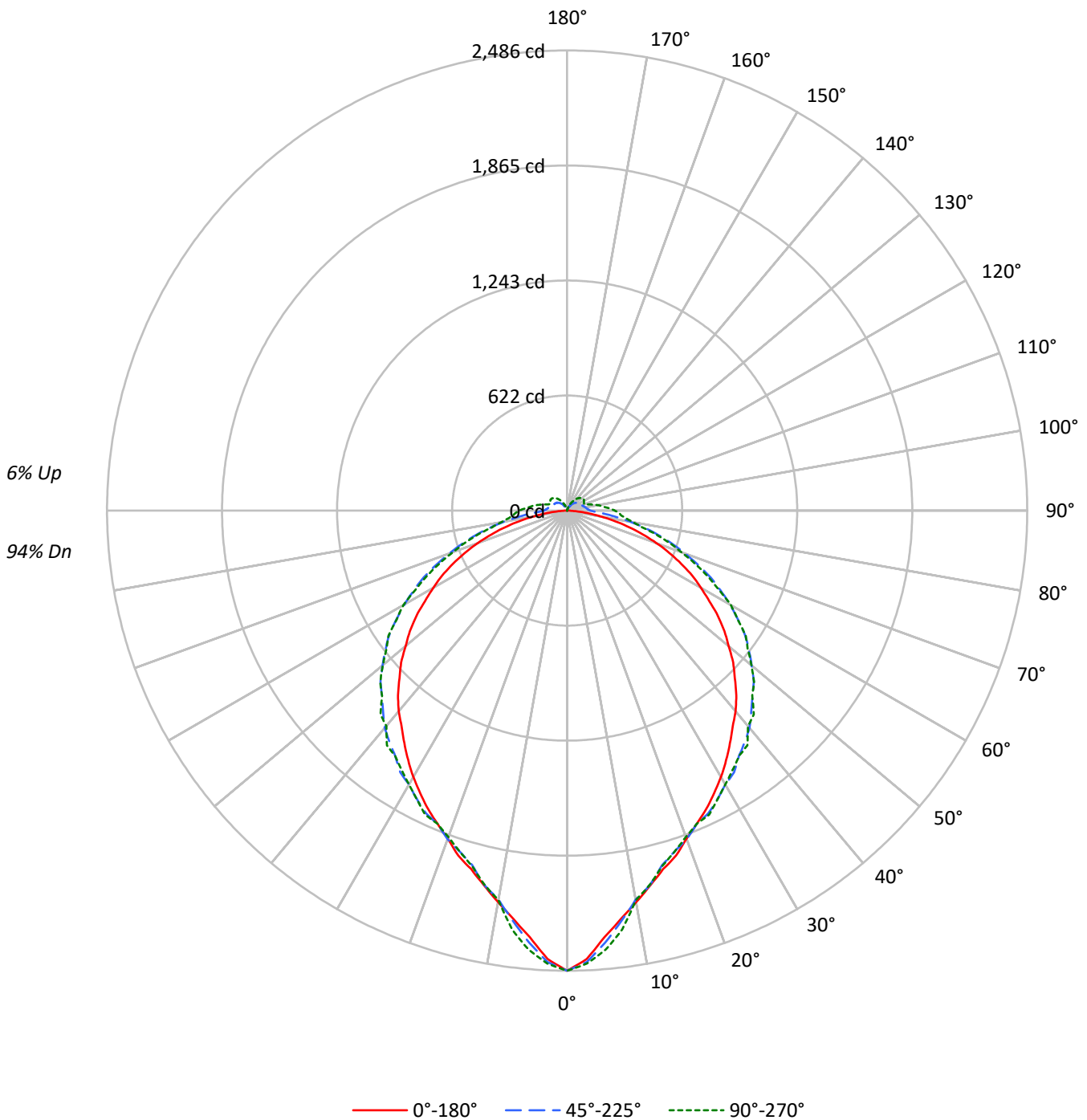
Lumens per Lamp: N/A
Luminaire Lumens: 6607.0 lumens
Efficiency: N/A
Efficacy: 99.4 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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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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°	22345	22345	22345
5°	20727	20758	21076
10°	19337	18765	18758
15°	18272	17446	17435
20°	17538	16756	16581
25°	17019	16268	16276
30°	16500	15776	15692
35°	15953	15438	15339
40°	15575	15235	14994
45°	15096	14811	14663
50°	14562	14477	14323
55°	14031	14071	13958
60°	13196	13290	13206
65°	12376	12441	11966
70°	11108	11180	10624
75°	9317	9821	9348
80°	6766	8064	8194
85°	3313	6080	8410



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.6	3.3
10°-20°	563.9	8.5
20°-30°	827.1	12.5
30°-40°	1005.7	15.2
40°-50°	1070.6	16.2
50°-60°	1005.3	15.2
60°-70°	798.8	12.1
70°-80°	498.6	7.5
80°-90°	218.1	3.3
90°-100°	115.4	1.7
100°-110°	85.4	1.3
110°-120°	66.3	1.0
120°-130°	57.3	0.9
130°-140°	41.5	0.6
140°-150°	23.7	0.4
150°-160°	9.7	0.1
160°-170°	2.0	0.0
170°-180°	0.0	0.0
0°-30°	1608.7	24.3
0°-40°	2614.4	39.6
0°-60°	4690.2	71.0
0°-90°	6205.7	93.9
90°-120°	267.1	4.0
90°-150°	389.6	5.9
90°-180°	401.0	6.1
0°-180°	6607.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2486	2486	2486	2486	2486	
5°	2313	2316	2344	2374	2382	216
15°	2005	2000	1983	1974	1987	567
25°	1779	1775	1805	1795	1814	819
35°	1534	1582	1619	1652	1619	961
45°	1281	1349	1416	1422	1414	990
55°	996	1071	1174	1181	1178	886
65°	680	758	855	863	835	672
75°	347	420	510	527	496	368
85°	61	127	204	252	292	77
90°	0	59	125	184	258	3
95°	0	48	109	160	207	0
105°	0	41	92	124	127	0
115°	0	36	79	99	100	0
125°	0	31	72	101	107	0
135°	1	23	58	86	96	1
145°	1	14	40	61	70	1
155°	1	6	21	34	39	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°	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9
2.5°	2424.9	2430.9	2430.9	2431.9	2430.9	2430.9	2434.9	2432.9	2438.9	2438.9	2440.9
5°	2312.9	2320.9	2320.9	2318.9	2319.9	2315.9	2312.9	2324.9	2331.9	2340.9	2343.9
7.5°	2224.9	2231.9	2227.9	2223.9	2218.9	2219.9	2224.9	2230.9	2236.9	2239.9	2236.9
10°	2147.9	2146.9	2144.9	2134.9	2135.9	2135.9	2140.9	2143.9	2138.9	2132.9	2133.9
12.5°	2073.9	2072.9	2069.9	2070.9	2071.9	2072.9	2073.9	2060.9	2056.9	2068.9	2070.9
15°	2004.9	2008.9	2005.9	2005.9	2005.9	1999.9	2001.9	1995.9	1994.9	1999.9	1982.9
17.5°	1954.9	1942.9	1942.9	1944.9	1939.9	1934.9	1933.9	1939.9	1942.9	1929.9	1930.9
20°	1885.9	1883.9	1880.9	1889.9	1884.9	1883.9	1888.9	1893.9	1885.9	1873.9	1888.9
22.5°	1830.9	1824.9	1827.9	1838.9	1832.9	1826.9	1825.9	1830.9	1819.9	1830.9	1830.9
25°	1778.9	1768.9	1775.9	1773.9	1771.9	1774.9	1779.9	1785.9	1791.9	1794.9	1804.9
27.5°	1719.9	1713.9	1716.9	1719.9	1732.9	1738.9	1737.9	1736.9	1748.9	1745.9	1757.9
30°	1661.9	1648.9	1664.9	1669.9	1675.9	1675.9	1678.9	1692.9	1696.9	1706.9	1708.9
32.5°	1598.9	1594.9	1607.9	1611.9	1623.9	1627.9	1630.9	1652.9	1664.9	1669.9	1677.9
35°	1533.9	1539.9	1544.9	1551.9	1577.9	1581.9	1589.9	1600.9	1609.9	1613.9	1618.9
37.5°	1468.9	1477.9	1481.9	1508.9	1511.9	1519.9	1526.9	1539.9	1556.9	1567.9	1575.9
40°	1414.9	1410.9	1426.9	1440.9	1447.9	1462.9	1478.9	1499.9	1516.9	1521.9	1532.9
42.5°	1352.9	1348.9	1367.9	1371.9	1396.9	1415.9	1428.9	1438.9	1447.9	1460.9	1471.9
45°	1280.9	1288.9	1291.9	1312.9	1339.9	1348.9	1350.9	1372.9	1390.9	1407.9	1415.9
47.5°	1216.9	1220.9	1225.9	1249.9	1269.9	1278.9	1290.9	1318.9	1340.9	1359.9	1367.9
50°	1138.9	1142.9	1161.9	1176.9	1202.9	1215.9	1232.9	1252.9	1269.9	1284.9	1300.9
52.5°	1070.9	1068.9	1084.9	1102.9	1140.9	1150.9	1156.9	1179.9	1207.9	1223.9	1237.9
55°	995.9	998.9	1009.9	1037.9	1051.9	1070.9	1083.9	1116.9	1144.9	1161.9	1173.9
57.5°	910.9	924.9	939.9	961.9	975.9	994.9	1010.9	1048.9	1072.9	1083.9	1093.9
60°	834.0	844.0	864.0	880.0	905.9	922.9	931.9	961.9	987.9	999.9	1014.9
62.5°	763.0	765.0	788.0	803.0	830.0	839.0	854.0	880.0	904.9	918.9	934.9
65°	680.0	686.0	696.0	722.0	745.0	758.0	772.0	805.0	821.0	845.0	855.0
67.5°	598.0	608.0	618.0	641.0	662.0	676.0	690.0	719.0	735.0	756.0	765.0
70°	514.0	520.0	534.0	555.0	578.0	591.0	605.0	626.0	647.0	665.0	677.0
72.5°	429.0	435.0	451.0	471.0	498.0	505.0	519.0	542.0	565.0	581.0	595.0
75°	347.0	351.0	369.0	386.0	413.0	420.0	433.0	457.0	481.0	501.0	510.0
77.5°	267.0	271.0	288.0	307.0	330.0	343.0	354.0	375.0	399.0	413.0	427.0
80°	189.0	197.0	208.0	228.0	251.0	262.0	276.0	299.0	319.0	333.0	346.0
82.5°	119.0	126.0	138.0	160.0	180.0	189.0	201.0	222.0	244.0	255.0	267.0
85°	61.0	66.0	80.0	97.0	117.0	127.0	138.0	159.0	174.0	190.0	204.0
87.5°	20.0	25.0	37.0	54.0	73.0	82.0	91.0	110.0	124.0	139.0	153.0
90°	0.0	6.0	18.0	33.0	50.0	59.0	68.0	82.0	96.0	112.0	125.0
92.5°	0.0	4.0	14.0	29.0	45.0	52.0	59.0	73.0	88.0	101.0	115.0
95°	0.0	4.0	13.0	27.0	41.0	48.0	56.0	69.0	83.0	97.0	109.0
97.5°	0.0	3.0	12.0	25.0	39.0	46.0	52.0	67.0	80.0	93.0	104.0
100°	0.0	3.0	12.0	24.0	37.0	44.0	51.0	64.0	77.0	88.0	100.0
102.5°	0.0	3.0	11.0	23.0	36.0	42.0	49.0	62.0	73.0	85.0	95.0
105°	0.0	3.0	11.0	22.0	35.0	41.0	47.0	60.0	71.0	81.0	92.0
107.5°	0.0	3.0	10.0	21.0	33.0	40.0	46.0	58.0	69.0	79.0	88.0
110°	0.0	2.0	10.0	21.0	32.0	38.0	44.0	56.0	66.0	76.0	84.0



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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	10.0	20.0	31.0	37.0	43.0	54.0	65.0	73.0	81.0
115°	0.0	2.0	9.0	19.0	30.0	36.0	42.0	53.0	62.0	71.0	79.0
117.5°	0.0	2.0	9.0	18.0	29.0	35.0	40.0	51.0	61.0	69.0	77.0
120°	0.0	2.0	8.0	17.0	28.0	34.0	39.0	49.0	59.0	68.0	76.0
122.5°	0.0	1.0	8.0	17.0	27.0	32.0	37.0	48.0	57.0	66.0	75.0
125°	0.0	1.0	7.0	16.0	25.0	31.0	36.0	46.0	55.0	64.0	72.0
127.5°	0.0	1.0	6.0	15.0	24.0	29.0	34.0	44.0	53.0	61.0	70.0
130°	1.0	1.0	6.0	14.0	22.0	27.0	32.0	41.0	50.0	58.0	66.0
132.5°	1.0	1.0	5.0	12.0	21.0	25.0	29.0	38.0	47.0	55.0	62.0
135°	1.0	1.0	5.0	11.0	19.0	23.0	27.0	35.0	43.0	51.0	58.0
137.5°	1.0	1.0	4.0	10.0	17.0	21.0	24.0	32.0	40.0	47.0	54.0
140°	1.0	1.0	3.0	8.0	15.0	18.0	22.0	29.0	36.0	43.0	49.0
142.5°	1.0	1.0	3.0	7.0	13.0	16.0	19.0	26.0	32.0	38.0	45.0
145°	1.0	1.0	2.0	6.0	11.0	14.0	17.0	23.0	29.0	34.0	40.0
147.5°	1.0	1.0	2.0	5.0	9.0	12.0	14.0	20.0	25.0	30.0	35.0
150°	1.0	1.0	1.0	4.0	7.0	9.0	12.0	16.0	21.0	26.0	31.0
152.5°	1.0	1.0	1.0	3.0	6.0	7.0	9.0	13.0	17.0	22.0	26.0
155°	1.0	1.0	1.0	2.0	4.0	6.0	7.0	10.0	14.0	18.0	21.0
157.5°	1.0	1.0	1.0	1.0	3.0	4.0	5.0	8.0	11.0	14.0	17.0
160°	1.0	1.0	1.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0
162.5°	1.0	1.0	1.0	1.0	1.0	2.0	2.0	4.0	5.0	7.0	9.0
165°	1.0	1.0	1.0	0.0	1.0	1.0	1.0	2.0	3.0	4.0	5.0
167.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	3.0
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°	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9	2485.9
2.5°	2441.9	2444.9	2444.9	2445.9	2445.9	2448.9	2448.9	2448.9	2450.9	2449.9
5°	2351.9	2358.9	2363.9	2369.9	2373.9	2377.9	2377.9	2378.9	2384.9	2381.9
7.5°	2234.9	2242.9	2248.9	2260.9	2264.9	2267.9	2275.9	2280.9	2283.9	2281.9
10°	2141.9	2140.9	2146.9	2142.9	2137.9	2140.9	2139.9	2143.9	2138.9	2136.9
12.5°	2058.9	2037.9	2043.9	2057.9	2060.9	2062.9	2069.9	2070.9	2074.9	2068.9
15°	1977.9	1989.9	1988.9	1978.9	1973.9	1970.9	1972.9	1980.9	1987.9	1986.9
17.5°	1935.9	1925.9	1929.9	1955.9	1964.9	1967.9	1958.9	1946.9	1933.9	1930.9
20°	1879.9	1901.9	1912.9	1881.9	1860.9	1857.9	1857.9	1865.9	1875.9	1875.9
22.5°	1845.9	1844.9	1814.9	1840.9	1854.9	1862.9	1858.9	1841.9	1825.9	1830.9
25°	1809.9	1791.9	1823.9	1806.9	1794.9	1788.9	1795.9	1805.9	1809.9	1813.9
27.5°	1746.9	1774.9	1753.9	1766.9	1782.9	1795.9	1790.9	1764.9	1756.9	1758.9
30°	1715.9	1707.9	1731.9	1751.9	1739.9	1721.9	1704.9	1700.9	1708.9	1708.9
32.5°	1680.9	1692.9	1698.9	1668.9	1670.9	1677.9	1685.9	1684.9	1672.9	1662.9
35°	1621.9	1647.9	1622.9	1645.9	1651.9	1641.9	1616.9	1620.9	1623.9	1618.9
37.5°	1592.9	1577.9	1598.9	1590.9	1583.9	1587.9	1604.9	1598.9	1600.9	1598.9
40°	1542.9	1551.9	1533.9	1541.9	1549.9	1552.9	1545.9	1520.9	1517.9	1519.9
42.5°	1476.9	1486.9	1498.9	1506.9	1487.9	1471.9	1475.9	1486.9	1489.9	1492.9
45°	1425.9	1425.9	1438.9	1415.9	1421.9	1431.9	1432.9	1428.9	1419.9	1413.9
47.5°	1374.9	1383.9	1359.9	1372.9	1369.9	1370.9	1359.9	1367.9	1370.9	1369.9
50°	1311.9	1307.9	1313.9	1300.9	1296.9	1297.9	1312.9	1306.9	1301.9	1299.9
52.5°	1247.9	1234.9	1246.9	1245.9	1255.9	1256.9	1236.9	1228.9	1232.9	1229.9
55°	1180.9	1182.9	1178.9	1186.9	1180.9	1173.9	1171.9	1173.9	1173.9	1177.9
57.5°	1098.9	1114.9	1126.9	1108.9	1105.9	1110.9	1110.9	1099.9	1091.9	1090.9
60°	1020.9	1027.9	1035.9	1037.9	1031.9	1025.9	1023.9	1020.9	1022.9	1021.9
62.5°	945.9	950.9	942.9	944.9	938.9	942.9	941.9	937.9	929.9	921.9
65°	862.0	866.0	863.0	859.0	863.0	867.0	848.0	841.0	834.0	835.0
67.5°	773.0	776.0	777.0	781.0	773.0	767.0	759.0	758.0	751.0	746.0
70°	691.0	689.0	697.0	694.0	687.0	686.0	676.0	664.0	657.0	655.0
72.5°	605.0	609.0	615.0	604.0	611.0	603.0	591.0	584.0	582.0	580.0
75°	520.0	529.0	531.0	527.0	527.0	520.0	518.0	512.0	505.0	496.0
77.5°	438.0	445.0	449.0	450.0	446.0	445.0	441.0	433.0	421.0	414.0
80°	357.0	364.0	370.0	373.0	371.0	377.0	368.0	363.0	359.0	361.0
82.5°	283.0	290.0	299.0	303.0	307.0	308.0	310.0	313.0	316.0	320.0
85°	215.0	226.0	236.0	245.0	252.0	255.0	262.0	271.0	283.0	292.0
87.5°	168.0	178.0	192.0	205.0	210.0	215.0	226.0	242.0	263.0	279.0
90°	139.0	151.0	164.0	177.0	184.0	189.0	205.0	222.0	244.0	258.0
92.5°	126.0	139.0	151.0	163.0	169.0	175.0	189.0	206.0	221.0	233.0
95°	121.0	132.0	144.0	155.0	160.0	166.0	178.0	188.0	200.0	207.0
97.5°	115.0	126.0	137.0	147.0	151.0	156.0	167.0	174.0	183.0	189.0
100°	110.0	121.0	130.0	139.0	143.0	147.0	156.0	163.0	164.0	168.0
102.5°	106.0	115.0	123.0	131.0	133.0	137.0	144.0	148.0	148.0	147.0
105°	101.0	109.0	116.0	122.0	124.0	127.0	129.0	129.0	128.0	127.0
107.5°	96.0	103.0	109.0	113.0	115.0	115.0	115.0	113.0	111.0	110.0
110°	92.0	98.0	103.0	105.0	105.0	105.0	104.0	103.0	102.0	101.0



TEST NUMBER: P241451

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	88.0	94.0	98.0	100.0	100.0	100.0	100.0	100.0	99.0	98.0
115°	86.0	91.0	95.0	98.0	99.0	100.0	101.0	101.0	101.0	100.0
117.5°	84.0	90.0	95.0	99.0	100.0	102.0	103.0	104.0	103.0	103.0
120°	84.0	90.0	95.0	100.0	102.0	103.0	105.0	106.0	106.0	105.0
122.5°	82.0	89.0	95.0	100.0	102.0	104.0	106.0	107.0	107.0	107.0
125°	80.0	87.0	94.0	99.0	101.0	102.0	105.0	107.0	107.0	107.0
127.5°	77.0	85.0	91.0	96.0	98.0	100.0	103.0	105.0	106.0	106.0
130°	74.0	81.0	88.0	93.0	95.0	97.0	100.0	102.0	103.0	104.0
132.5°	70.0	77.0	83.0	89.0	91.0	93.0	96.0	99.0	99.0	100.0
135°	65.0	72.0	78.0	83.0	86.0	88.0	92.0	94.0	95.0	96.0
137.5°	60.0	66.0	72.0	78.0	80.0	82.0	86.0	89.0	91.0	91.0
140°	55.0	61.0	66.0	71.0	74.0	76.0	80.0	83.0	84.0	85.0
142.5°	50.0	56.0	61.0	65.0	68.0	70.0	73.0	76.0	77.0	78.0
145°	45.0	50.0	55.0	59.0	61.0	63.0	66.0	68.0	69.0	70.0
147.5°	40.0	45.0	49.0	53.0	54.0	56.0	59.0	61.0	62.0	62.0
150°	35.0	39.0	43.0	46.0	47.0	49.0	52.0	53.0	54.0	54.0
152.5°	30.0	33.0	36.0	39.0	41.0	42.0	44.0	46.0	46.0	47.0
155°	25.0	28.0	31.0	33.0	34.0	35.0	37.0	38.0	39.0	39.0
157.5°	20.0	23.0	25.0	27.0	28.0	29.0	30.0	31.0	32.0	32.0
160°	15.0	17.0	19.0	21.0	22.0	22.0	24.0	24.0	25.0	25.0
162.5°	10.0	12.0	14.0	16.0	16.0	17.0	17.0	18.0	18.0	18.0
165°	6.0	8.0	9.0	11.0	11.0	12.0	12.0	13.0	13.0	13.0
167.5°	4.0	4.0	5.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0
170°	1.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)