

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: P241452

Luminaire Tested: **FVS8M-2-LD4-50-3HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241452
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-LD4-50-3HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

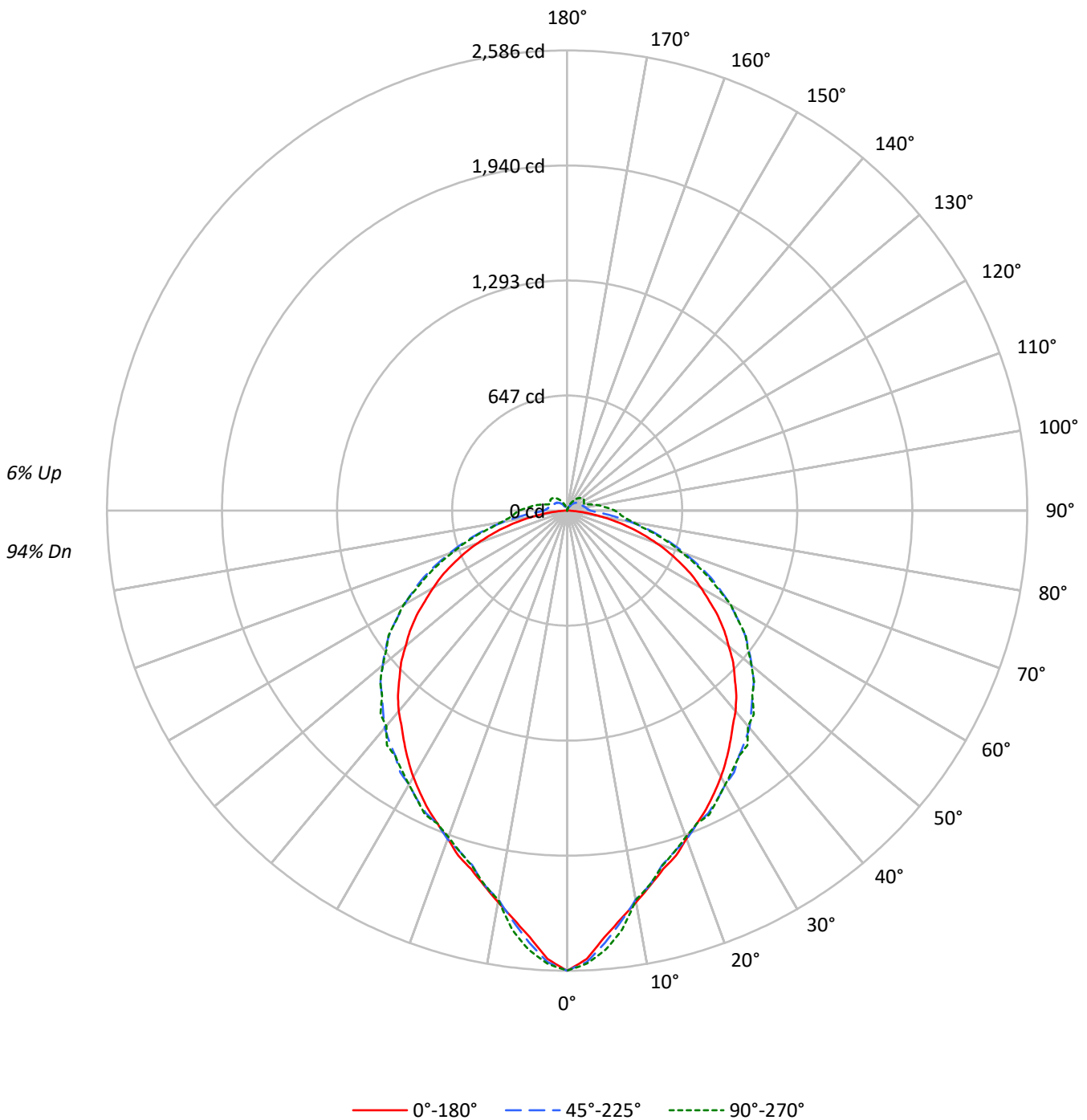
Lumens per Lamp: N/A
Luminaire Lumens: 6872.0 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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

TEST NUMBER: P241452

CATALOG NUMBER: FVS8M-2-LD4-50-3HI-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°	23241	23241	23241
5°	21558	21591	21921
10°	20112	19517	19510
15°	19005	18146	18134
20°	18241	17428	17246
25°	17701	16920	16930
30°	17162	16409	16321
35°	16593	16056	15954
40°	16200	15846	15595
45°	15701	15405	15251
50°	15146	15058	14899
55°	14595	14635	14519
60°	13724	13824	13736
65°	12871	12939	12444
70°	11553	11627	11048
75°	9690	10214	9723
80°	7038	8388	8523
85°	3443	6324	8747



TEST NUMBER: P241452

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.4	3.3
10°-20°	586.5	8.5
20°-30°	860.3	12.5
30°-40°	1046.1	15.2
40°-50°	1113.5	16.2
50°-60°	1045.7	15.2
60°-70°	830.8	12.1
70°-80°	518.6	7.5
80°-90°	226.8	3.3
90°-100°	120.1	1.7
100°-110°	88.8	1.3
110°-120°	68.9	1.0
120°-130°	59.6	0.9
130°-140°	43.2	0.6
140°-150°	24.7	0.4
150°-160°	10.0	0.1
160°-170°	2.0	0.0
170°-180°	0.0	0.0
0°-30°	1673.2	24.3
0°-40°	2719.2	39.6
0°-60°	4878.4	71.0
0°-90°	6454.6	93.9
90°-120°	277.8	4.0
90°-150°	405.2	5.9
90°-180°	417.0	6.1
0°-180°	6872.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2586	2586	2586	2586	2586	
5°	2406	2409	2438	2469	2477	225
15°	2085	2080	2062	2053	2067	590
25°	1850	1846	1877	1867	1887	852
35°	1595	1645	1684	1718	1684	1000
45°	1332	1403	1473	1479	1471	1030
55°	1036	1114	1221	1228	1225	922
65°	707	788	889	898	868	699
75°	361	437	530	548	516	382
85°	63	132	212	262	304	80
90°	0	61	130	191	268	3
95°	0	50	113	166	215	0
105°	0	43	96	129	132	0
115°	0	37	82	103	104	0
125°	0	32	75	105	111	0
135°	1	24	60	89	100	1
145°	1	15	42	63	73	1
155°	1	6	22	35	41	0
165°	1	1	5	11	14	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241452

CATALOG NUMBER: FVS8M-2-LD4-50-3HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6
2.5°	2522.1	2528.4	2528.4	2529.4	2528.4	2528.4	2532.5	2530.4	2536.7	2536.7	2538.8
5°	2405.6	2414.0	2414.0	2411.9	2412.9	2408.8	2405.6	2418.1	2425.4	2434.8	2437.9
7.5°	2314.1	2321.4	2317.2	2313.1	2307.9	2308.9	2314.1	2320.4	2326.6	2329.7	2326.6
10°	2234.0	2233.0	2230.9	2220.5	2221.5	2221.5	2226.7	2229.9	2224.7	2218.4	2219.5
12.5°	2157.1	2156.0	2152.9	2153.9	2155.0	2156.0	2157.1	2143.5	2139.4	2151.9	2153.9
15°	2085.3	2089.5	2086.3	2086.3	2086.3	2080.1	2082.2	2075.9	2074.9	2080.1	2062.4
17.5°	2033.3	2020.8	2020.8	2022.9	2017.7	2012.5	2011.5	2017.7	2020.8	2007.3	2008.3
20°	1961.5	1959.5	1956.3	1965.7	1960.5	1959.5	1964.7	1969.9	1961.5	1949.1	1964.7
22.5°	1904.3	1898.1	1901.2	1912.7	1906.4	1900.2	1899.1	1904.3	1892.9	1904.3	1904.3
25°	1850.2	1839.8	1847.1	1845.0	1843.0	1846.1	1851.3	1857.5	1863.8	1866.9	1877.3
27.5°	1788.9	1782.6	1785.8	1788.9	1802.4	1808.6	1807.6	1806.6	1819.0	1815.9	1828.4
30°	1728.6	1715.0	1731.7	1736.9	1743.1	1743.1	1746.2	1760.8	1765.0	1775.4	1777.4
32.5°	1663.0	1658.9	1672.4	1676.6	1689.0	1693.2	1696.3	1719.2	1731.7	1736.9	1745.2
35°	1595.4	1601.7	1606.9	1614.2	1641.2	1645.4	1653.7	1665.1	1674.5	1678.6	1683.8
37.5°	1527.8	1537.2	1541.4	1569.4	1572.6	1580.9	1588.2	1601.7	1619.4	1630.8	1639.1
40°	1471.7	1467.5	1484.2	1498.7	1506.0	1521.6	1538.2	1560.1	1577.8	1583.0	1594.4
42.5°	1407.2	1403.0	1422.8	1426.9	1453.0	1472.7	1486.2	1496.6	1506.0	1519.5	1531.0
45°	1332.3	1340.6	1343.7	1365.6	1393.7	1403.0	1405.1	1428.0	1446.7	1464.4	1472.7
47.5°	1265.7	1269.9	1275.1	1300.1	1320.9	1330.2	1342.7	1371.8	1394.7	1414.5	1422.8
50°	1184.6	1188.8	1208.5	1224.1	1251.2	1264.7	1282.4	1303.2	1320.9	1336.5	1353.1
52.5°	1113.9	1111.8	1128.5	1147.2	1186.7	1197.1	1203.3	1227.3	1256.4	1273.0	1287.6
55°	1035.9	1039.0	1050.5	1079.6	1094.1	1113.9	1127.4	1161.7	1190.9	1208.5	1221.0
57.5°	947.5	962.0	977.6	1000.5	1015.1	1034.8	1051.5	1091.0	1116.0	1127.4	1137.8
60°	867.4	877.8	898.6	915.2	942.3	960.0	969.3	1000.5	1027.6	1040.1	1055.7
62.5°	793.6	795.6	819.6	835.2	863.2	872.6	888.2	915.2	941.2	955.8	972.4
65°	707.2	713.5	723.9	750.9	774.8	788.4	802.9	837.2	853.9	878.8	889.2
67.5°	622.0	632.4	642.8	666.7	688.5	703.1	717.6	747.8	764.4	786.3	795.6
70°	534.6	540.8	555.4	577.2	601.1	614.7	629.2	651.1	672.9	691.6	704.1
72.5°	446.2	452.4	469.1	489.9	517.9	525.2	539.8	563.7	587.6	604.3	618.8
75°	360.9	365.1	383.8	401.5	429.5	436.8	450.3	475.3	500.3	521.1	530.4
77.5°	277.7	281.9	299.5	319.3	343.2	356.7	368.2	390.0	415.0	429.5	444.1
80°	196.6	204.9	216.3	237.1	261.1	272.5	287.1	311.0	331.8	346.3	359.9
82.5°	123.8	131.0	143.5	166.4	187.2	196.6	209.1	230.9	253.8	265.2	277.7
85°	63.4	68.6	83.2	100.9	121.7	132.1	143.5	165.4	181.0	197.6	212.2
87.5°	20.8	26.0	38.5	56.2	75.9	85.3	94.6	114.4	129.0	144.6	159.1
90°	0.0	6.2	18.7	34.3	52.0	61.4	70.7	85.3	99.8	116.5	130.0
92.5°	0.0	4.2	14.6	30.2	46.8	54.1	61.4	75.9	91.5	105.0	119.6
95°	0.0	4.2	13.5	28.1	42.6	49.9	58.2	71.8	86.3	100.9	113.4
97.5°	0.0	3.1	12.5	26.0	40.6	47.8	54.1	69.7	83.2	96.7	108.2
100°	0.0	3.1	12.5	25.0	38.5	45.8	53.0	66.6	80.1	91.5	104.0
102.5°	0.0	3.1	11.4	23.9	37.4	43.7	51.0	64.5	75.9	88.4	98.8
105°	0.0	3.1	11.4	22.9	36.4	42.6	48.9	62.4	73.8	84.2	95.7
107.5°	0.0	3.1	10.4	21.8	34.3	41.6	47.8	60.3	71.8	82.2	91.5
110°	0.0	2.1	10.4	21.8	33.3	39.5	45.8	58.2	68.6	79.0	87.4



TEST NUMBER: P241452

CATALOG NUMBER: FVS8M-2-LD4-50-3HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	2.1	10.4	20.8	32.2	38.5	44.7	56.2	67.6	75.9	84.2
115°	0.0	2.1	9.4	19.8	31.2	37.4	43.7	55.1	64.5	73.8	82.2
117.5°	0.0	2.1	9.4	18.7	30.2	36.4	41.6	53.0	63.4	71.8	80.1
120°	0.0	2.1	8.3	17.7	29.1	35.4	40.6	51.0	61.4	70.7	79.0
122.5°	0.0	1.0	8.3	17.7	28.1	33.3	38.5	49.9	59.3	68.6	78.0
125°	0.0	1.0	7.3	16.6	26.0	32.2	37.4	47.8	57.2	66.6	74.9
127.5°	0.0	1.0	6.2	15.6	25.0	30.2	35.4	45.8	55.1	63.4	72.8
130°	1.0	1.0	6.2	14.6	22.9	28.1	33.3	42.6	52.0	60.3	68.6
132.5°	1.0	1.0	5.2	12.5	21.8	26.0	30.2	39.5	48.9	57.2	64.5
135°	1.0	1.0	5.2	11.4	19.8	23.9	28.1	36.4	44.7	53.0	60.3
137.5°	1.0	1.0	4.2	10.4	17.7	21.8	25.0	33.3	41.6	48.9	56.2
140°	1.0	1.0	3.1	8.3	15.6	18.7	22.9	30.2	37.4	44.7	51.0
142.5°	1.0	1.0	3.1	7.3	13.5	16.6	19.8	27.0	33.3	39.5	46.8
145°	1.0	1.0	2.1	6.2	11.4	14.6	17.7	23.9	30.2	35.4	41.6
147.5°	1.0	1.0	2.1	5.2	9.4	12.5	14.6	20.8	26.0	31.2	36.4
150°	1.0	1.0	1.0	4.2	7.3	9.4	12.5	16.6	21.8	27.0	32.2
152.5°	1.0	1.0	1.0	3.1	6.2	7.3	9.4	13.5	17.7	22.9	27.0
155°	1.0	1.0	1.0	2.1	4.2	6.2	7.3	10.4	14.6	18.7	21.8
157.5°	1.0	1.0	1.0	1.0	3.1	4.2	5.2	8.3	11.4	14.6	17.7
160°	1.0	1.0	1.0	1.0	2.1	3.1	4.2	6.2	8.3	10.4	12.5
162.5°	1.0	1.0	1.0	1.0	1.0	2.1	2.1	4.2	5.2	7.3	9.4
165°	1.0	1.0	1.0	0.0	1.0	1.0	1.0	2.1	3.1	4.2	5.2
167.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	2.1	3.1
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



TEST NUMBER: P241452

CATALOG NUMBER: FVS8M-2-LD4-50-3HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6	2585.6
2.5°	2539.8	2542.9	2542.9	2544.0	2544.0	2547.1	2547.1	2547.1	2549.2	2548.1
5°	2446.2	2453.5	2458.7	2464.9	2469.1	2473.2	2473.2	2474.3	2480.5	2477.4
7.5°	2324.5	2332.8	2339.1	2351.6	2355.7	2358.8	2367.2	2372.4	2375.5	2373.4
10°	2227.8	2226.7	2233.0	2228.8	2223.6	2226.7	2225.7	2229.9	2224.7	2222.6
12.5°	2141.5	2119.6	2125.9	2140.4	2143.5	2145.6	2152.9	2153.9	2158.1	2151.9
15°	2057.2	2069.7	2068.7	2058.3	2053.1	2049.9	2052.0	2060.3	2067.6	2066.6
17.5°	2013.5	2003.1	2007.3	2034.3	2043.7	2046.8	2037.5	2025.0	2011.5	2008.3
20°	1955.3	1978.2	1989.6	1957.4	1935.5	1932.4	1932.4	1940.7	1951.1	1951.1
22.5°	1919.9	1918.9	1887.7	1914.7	1929.3	1937.6	1933.5	1915.8	1899.1	1904.3
25°	1882.5	1863.8	1897.1	1879.4	1866.9	1860.6	1867.9	1878.3	1882.5	1886.7
27.5°	1817.0	1846.1	1824.2	1837.8	1854.4	1867.9	1862.7	1835.7	1827.4	1829.4
30°	1784.7	1776.4	1801.4	1822.2	1809.7	1791.0	1773.3	1769.1	1777.4	1777.4
32.5°	1748.3	1760.8	1767.0	1735.8	1737.9	1745.2	1753.5	1752.5	1740.0	1729.6
35°	1687.0	1714.0	1688.0	1711.9	1718.2	1707.8	1681.8	1685.9	1689.0	1683.8
37.5°	1656.8	1641.2	1663.0	1654.7	1647.4	1651.6	1669.3	1663.0	1665.1	1663.0
40°	1604.8	1614.2	1595.4	1603.8	1612.1	1615.2	1607.9	1581.9	1578.8	1580.9
42.5°	1536.2	1546.6	1559.0	1567.4	1547.6	1531.0	1535.1	1546.6	1549.7	1552.8
45°	1483.1	1483.1	1496.6	1472.7	1479.0	1489.4	1490.4	1486.2	1476.9	1470.6
47.5°	1430.1	1439.4	1414.5	1428.0	1424.9	1425.9	1414.5	1422.8	1425.9	1424.9
50°	1364.5	1360.4	1366.6	1353.1	1348.9	1350.0	1365.6	1359.3	1354.1	1352.1
52.5°	1298.0	1284.5	1296.9	1295.9	1306.3	1307.3	1286.5	1278.2	1282.4	1279.3
55°	1228.3	1230.4	1226.2	1234.5	1228.3	1221.0	1218.9	1221.0	1221.0	1225.2
57.5°	1143.0	1159.7	1172.1	1153.4	1150.3	1155.5	1155.5	1144.1	1135.7	1134.7
60°	1061.9	1069.2	1077.5	1079.6	1073.3	1067.1	1065.0	1061.9	1064.0	1062.9
62.5°	983.9	989.1	980.8	982.8	976.6	980.8	979.7	975.6	967.2	958.9
65°	896.5	900.7	897.6	893.4	897.6	901.7	882.0	874.7	867.4	868.4
67.5°	804.0	807.1	808.1	812.3	804.0	797.7	789.4	788.4	781.1	775.9
70°	718.7	716.6	724.9	721.8	714.5	713.5	703.1	690.6	683.3	681.2
72.5°	629.2	633.4	639.6	628.2	635.5	627.2	614.7	607.4	605.3	603.2
75°	540.8	550.2	552.3	548.1	548.1	540.8	538.7	532.5	525.2	515.9
77.5°	455.5	462.8	467.0	468.0	463.9	462.8	458.7	450.3	437.9	430.6
80°	371.3	378.6	384.8	387.9	385.9	392.1	382.7	377.5	373.4	375.5
82.5°	294.3	301.6	311.0	315.1	319.3	320.3	322.4	325.5	328.7	332.8
85°	223.6	235.1	245.5	254.8	262.1	265.2	272.5	281.9	294.3	303.7
87.5°	174.7	185.1	199.7	213.2	218.4	223.6	235.1	251.7	273.5	290.2
90°	144.6	157.0	170.6	184.1	191.4	196.6	213.2	230.9	253.8	268.3
92.5°	131.0	144.6	157.0	169.5	175.8	182.0	196.6	214.3	229.9	242.3
95°	125.8	137.3	149.8	161.2	166.4	172.6	185.1	195.5	208.0	215.3
97.5°	119.6	131.0	142.5	152.9	157.0	162.2	173.7	181.0	190.3	196.6
100°	114.4	125.8	135.2	144.6	148.7	152.9	162.2	169.5	170.6	174.7
102.5°	110.2	119.6	127.9	136.2	138.3	142.5	149.8	153.9	153.9	152.9
105°	105.0	113.4	120.6	126.9	129.0	132.1	134.2	134.2	133.1	132.1
107.5°	99.8	107.1	113.4	117.5	119.6	119.6	119.6	117.5	115.4	114.4
110°	95.7	101.9	107.1	109.2	109.2	109.2	108.2	107.1	106.1	105.0



TEST NUMBER: P241452

CATALOG NUMBER: FVS8M-2-LD4-50-3HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	91.5	97.8	101.9	104.0	104.0	104.0	104.0	104.0	103.0	101.9
115°	89.4	94.6	98.8	101.9	103.0	104.0	105.0	105.0	105.0	104.0
117.5°	87.4	93.6	98.8	103.0	104.0	106.1	107.1	108.2	107.1	107.1
120°	87.4	93.6	98.8	104.0	106.1	107.1	109.2	110.2	110.2	109.2
122.5°	85.3	92.6	98.8	104.0	106.1	108.2	110.2	111.3	111.3	111.3
125°	83.2	90.5	97.8	103.0	105.0	106.1	109.2	111.3	111.3	111.3
127.5°	80.1	88.4	94.6	99.8	101.9	104.0	107.1	109.2	110.2	110.2
130°	77.0	84.2	91.5	96.7	98.8	100.9	104.0	106.1	107.1	108.2
132.5°	72.8	80.1	86.3	92.6	94.6	96.7	99.8	103.0	103.0	104.0
135°	67.6	74.9	81.1	86.3	89.4	91.5	95.7	97.8	98.8	99.8
137.5°	62.4	68.6	74.9	81.1	83.2	85.3	89.4	92.6	94.6	94.6
140°	57.2	63.4	68.6	73.8	77.0	79.0	83.2	86.3	87.4	88.4
142.5°	52.0	58.2	63.4	67.6	70.7	72.8	75.9	79.0	80.1	81.1
145°	46.8	52.0	57.2	61.4	63.4	65.5	68.6	70.7	71.8	72.8
147.5°	41.6	46.8	51.0	55.1	56.2	58.2	61.4	63.4	64.5	64.5
150°	36.4	40.6	44.7	47.8	48.9	51.0	54.1	55.1	56.2	56.2
152.5°	31.2	34.3	37.4	40.6	42.6	43.7	45.8	47.8	47.8	48.9
155°	26.0	29.1	32.2	34.3	35.4	36.4	38.5	39.5	40.6	40.6
157.5°	20.8	23.9	26.0	28.1	29.1	30.2	31.2	32.2	33.3	33.3
160°	15.6	17.7	19.8	21.8	22.9	22.9	25.0	25.0	26.0	26.0
162.5°	10.4	12.5	14.6	16.6	16.6	17.7	17.7	18.7	18.7	18.7
165°	6.2	8.3	9.4	11.4	11.4	12.5	12.5	13.5	13.5	13.5
167.5°	4.2	4.2	5.2	6.2	7.3	7.3	7.3	8.3	8.3	8.3
170°	1.0	2.1	2.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)