

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: P241506

Luminaire Tested: **FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241506
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-LD4-35-2STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

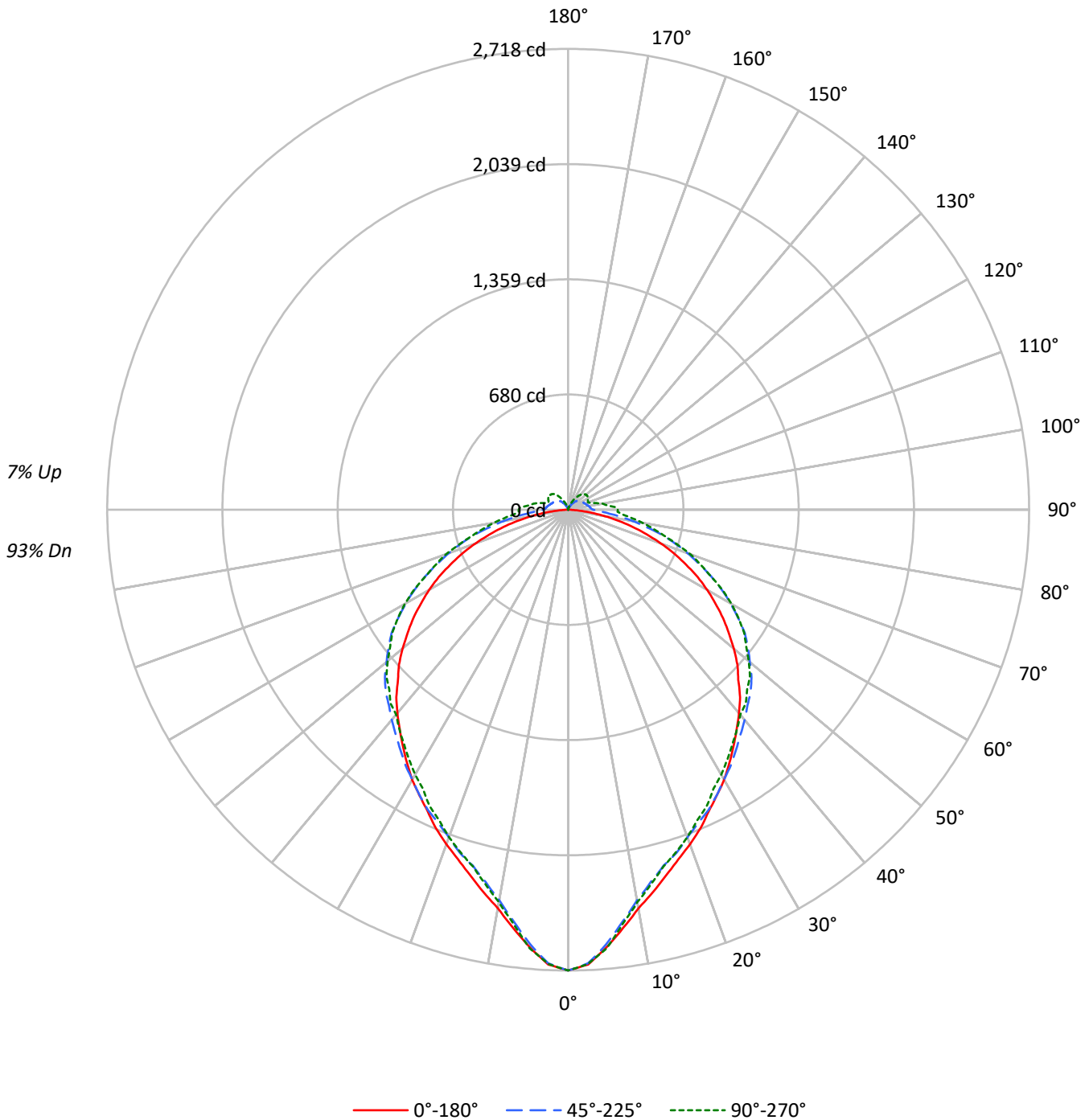
Lumens per Lamp: N/A
Luminaire Lumens: 7274.0 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 64.9
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: P241506

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241506

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1

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°	12146	12146	12146
5°	11589	11356	11424
10°	10757	10278	10260
15°	10221	9576	9497
20°	9843	9153	9031
25°	9498	8869	8617
30°	9282	8558	8237
35°	9027	8327	7952
40°	8851	8158	7740
45°	8629	8098	7699
50°	8466	7949	7609
55°	8227	7814	7456
60°	7924	7453	7143
65°	7476	7002	6607
70°	6847	6445	6179
75°	5942	5815	5438
80°	4609	4821	5020
85°	2413	3794	4591



TEST NUMBER: P241506

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.3	3.3
10°-20°	620.5	8.5
20°-30°	901.0	12.4
30°-40°	1075.7	14.8
40°-50°	1152.0	15.8
50°-60°	1094.8	15.1
60°-70°	880.9	12.1
70°-80°	564.0	7.8
80°-90°	248.0	3.4
90°-100°	138.5	1.9
100°-110°	104.5	1.4
110°-120°	83.5	1.1
120°-130°	73.9	1.0
130°-140°	54.2	0.7
140°-150°	29.8	0.4
150°-160°	11.3	0.2
160°-170°	2.2	0.0
170°-180°	0.0	0.0
0°-30°	1760.8	24.2
0°-40°	2836.5	39.0
0°-60°	5083.3	69.9
0°-90°	6776.1	93.2
90°-120°	326.4	4.5
90°-150°	484.3	6.7
90°-180°	498.0	6.8
0°-180°	7274.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2718	2718	2718	2718	2718	
5°	2592	2583	2573	2584	2597	241
15°	2232	2216	2174	2180	2177	630
25°	1961	1964	1956	1941	1932	907
35°	1700	1739	1726	1722	1688	1065
45°	1419	1476	1521	1521	1493	1099
55°	1115	1179	1271	1269	1266	994
65°	766	841	928	939	927	759
75°	394	470	572	606	580	419
85°	68	136	232	291	321	89
90°	1	63	147	207	292	3
95°	1	58	131	195	250	1
105°	1	50	113	152	152	1
115°	1	45	99	125	128	1
125°	1	38	92	132	139	1
135°	2	27	74	115	131	1
145°	2	14	47	79	95	1
155°	2	5	22	42	49	1
165°	2	2	6	11	15	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241506

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7
2.5°	2684.9	2692.1	2686.5	2684.9	2684.1	2688.9	2688.1	2689.7	2688.9	2680.9	2678.5
5°	2591.9	2595.9	2591.1	2591.9	2584.7	2583.1	2586.3	2591.9	2586.3	2587.1	2572.7
7.5°	2487.7	2489.3	2480.5	2471.7	2470.1	2477.3	2475.7	2470.1	2465.3	2454.1	2451.7
10°	2386.7	2392.3	2381.1	2371.5	2367.5	2368.3	2365.9	2354.7	2353.9	2346.7	2339.5
12.5°	2309.8	2314.6	2302.6	2292.2	2288.2	2285.0	2289.8	2273.7	2270.5	2263.3	2249.7
15°	2232.1	2228.8	2230.5	2216.8	2216.8	2216.0	2212.0	2203.2	2195.2	2185.6	2173.5
17.5°	2161.5	2165.5	2157.5	2147.1	2146.3	2147.9	2147.1	2145.5	2139.1	2127.1	2123.1
20°	2099.0	2095.8	2087.0	2090.2	2088.6	2087.8	2089.4	2080.6	2071.0	2067.0	2055.7
22.5°	2035.7	2030.1	2024.5	2027.7	2027.7	2019.7	2022.9	2019.7	2012.5	2010.9	2000.4
25°	1961.2	1970.8	1966.0	1958.8	1961.2	1963.6	1970.8	1970.0	1966.8	1966.0	1955.6
27.5°	1899.5	1903.5	1897.0	1897.0	1912.3	1916.3	1915.5	1907.5	1908.3	1892.2	1897.0
30°	1839.3	1835.3	1839.3	1847.4	1849.0	1849.8	1848.2	1852.2	1845.0	1844.2	1837.7
32.5°	1769.6	1770.4	1776.0	1772.8	1786.4	1790.5	1792.9	1804.1	1802.5	1793.7	1785.6
35°	1699.9	1709.5	1705.5	1706.3	1740.0	1739.2	1740.8	1741.6	1730.3	1718.3	1726.3
37.5°	1631.8	1639.0	1636.6	1655.0	1664.6	1663.8	1663.0	1670.2	1675.8	1670.2	1670.2
40°	1566.8	1559.6	1570.1	1586.1	1591.7	1602.9	1616.5	1626.2	1625.4	1618.9	1618.1
42.5°	1500.3	1497.1	1504.3	1512.3	1538.0	1550.8	1558.8	1560.4	1552.4	1561.2	1564.4
45°	1418.6	1429.0	1422.6	1451.4	1469.9	1476.3	1481.1	1493.9	1505.9	1510.7	1521.2
47.5°	1352.9	1355.3	1356.9	1381.7	1393.7	1405.8	1414.6	1436.2	1453.8	1461.9	1465.9
50°	1274.3	1269.5	1284.7	1300.0	1327.2	1341.6	1353.7	1364.1	1380.1	1393.7	1398.5
52.5°	1192.6	1195.0	1204.6	1222.2	1255.1	1267.9	1272.7	1289.5	1308.0	1322.4	1335.2
55°	1114.8	1118.0	1123.6	1151.7	1169.3	1178.9	1195.0	1220.6	1241.5	1251.9	1271.1
57.5°	1028.3	1033.9	1044.3	1063.5	1086.8	1103.6	1116.4	1142.1	1163.7	1174.9	1187.8
60°	946.5	941.7	965.8	978.6	1007.4	1025.9	1032.3	1053.1	1076.4	1094.0	1104.4
62.5°	860.8	859.2	872.0	895.2	920.1	930.5	939.3	970.6	987.4	1007.4	1021.1
65°	766.2	774.2	782.2	807.9	828.7	840.7	855.2	881.6	904.0	921.7	928.1
67.5°	677.2	682.0	699.7	717.3	738.9	749.4	767.8	791.8	814.3	829.5	835.9
70°	580.3	587.5	606.7	626.7	650.8	659.6	672.4	698.9	719.7	739.7	747.0
72.5°	486.5	492.1	512.1	529.0	557.0	571.4	582.7	606.7	625.1	643.6	660.4
75°	394.3	404.7	420.8	436.8	464.8	469.7	481.7	508.9	531.4	552.2	572.2
77.5°	307.8	314.2	323.8	351.0	367.9	379.1	390.3	416.8	442.4	457.6	473.7
80°	218.8	227.6	238.0	254.9	279.7	290.9	300.5	325.4	349.4	367.9	386.3
82.5°	140.3	143.5	157.9	173.9	200.4	206.8	216.4	241.2	262.9	284.5	303.0
85°	68.1	76.1	88.2	106.6	126.6	136.2	145.9	170.7	193.2	214.0	232.4
87.5°	22.4	27.2	40.1	56.1	76.1	87.4	96.2	118.6	139.5	161.1	180.3
90°	0.8	6.4	18.4	34.5	53.7	63.3	73.7	93.8	113.8	132.2	146.7
92.5°	0.8	4.8	16.0	32.1	50.5	60.1	69.7	89.0	107.4	121.8	136.2
95°	0.8	4.0	15.2	31.3	48.1	57.7	67.3	85.0	101.0	117.0	131.4
97.5°	0.8	4.0	14.4	29.7	46.5	56.1	64.1	80.9	97.0	112.2	127.4
100°	0.8	4.0	13.6	28.9	44.9	53.7	61.7	77.7	93.8	108.2	122.6
102.5°	0.8	3.2	13.6	28.1	43.3	51.3	59.3	75.3	90.6	104.2	117.8
105°	0.8	3.2	12.8	26.4	42.5	50.5	57.7	72.9	87.4	101.0	113.0
107.5°	0.8	2.4	12.0	25.6	40.9	48.9	56.9	71.3	85.0	97.8	109.0
110°	0.8	2.4	12.0	24.8	40.1	48.1	55.3	69.7	83.4	95.4	105.0



TEST NUMBER: P241506

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	2.4	11.2	24.0	38.5	46.5	53.7	68.1	80.9	92.2	101.8
115°	0.8	1.6	10.4	23.2	37.7	44.9	52.1	66.5	79.3	89.8	99.4
117.5°	0.8	1.6	9.6	22.4	36.1	43.3	50.5	64.1	76.9	88.2	97.8
120°	0.8	1.6	8.8	20.8	34.5	41.7	48.9	62.5	75.3	85.8	96.2
122.5°	0.8	1.6	8.0	19.2	32.9	40.1	47.3	60.1	72.9	84.2	94.6
125°	0.8	0.8	7.2	18.4	31.3	37.7	44.9	57.7	70.5	81.7	92.2
127.5°	0.8	0.8	6.4	16.8	28.9	36.1	42.5	55.3	67.3	78.5	89.0
130°	0.8	0.8	5.6	15.2	27.2	33.7	39.3	52.1	64.1	74.5	85.0
132.5°	0.8	0.8	4.8	12.8	24.0	29.7	36.1	48.1	60.1	69.7	79.3
135°	1.6	0.8	3.2	11.2	21.6	27.2	32.1	43.3	54.5	64.1	73.7
137.5°	1.6	0.8	2.4	9.6	18.4	23.2	28.1	38.5	48.9	58.5	68.1
140°	1.6	1.6	2.4	7.2	15.2	20.0	24.8	33.7	43.3	52.1	60.9
142.5°	1.6	1.6	1.6	5.6	12.8	16.8	20.0	28.9	37.7	45.7	53.7
145°	1.6	1.6	1.6	4.8	10.4	13.6	16.8	24.0	32.1	39.3	47.3
147.5°	1.6	1.6	1.6	3.2	8.0	11.2	13.6	20.0	26.4	33.7	40.1
150°	1.6	1.6	1.6	2.4	6.4	8.8	11.2	16.8	22.4	28.1	33.7
152.5°	1.6	1.6	1.6	1.6	4.8	6.4	8.8	12.8	17.6	23.2	28.1
155°	1.6	1.6	1.6	1.6	3.2	4.8	6.4	10.4	14.4	18.4	22.4
157.5°	2.4	1.6	1.6	1.6	2.4	3.2	4.8	7.2	10.4	14.4	17.6
160°	2.4	1.6	1.6	1.6	1.6	2.4	3.2	5.6	8.0	10.4	12.8
162.5°	2.4	2.4	1.6	1.6	1.6	1.6	1.6	3.2	4.8	7.2	8.8
165°	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	2.4	4.0	5.6
167.5°	2.4	2.4	1.6	1.6	0.8	0.8	0.8	0.8	1.6	1.6	2.4
170°	2.4	2.4	1.6	1.6	1.6	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



TEST NUMBER: P241506

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7	2717.7
2.5°	2676.1	2680.1	2683.3	2681.7	2682.5	2688.9	2678.5	2682.5	2684.1	2681.7
5°	2574.3	2576.7	2584.7	2587.1	2583.9	2586.3	2587.1	2591.1	2597.5	2596.7
7.5°	2449.2	2455.7	2454.1	2459.7	2462.1	2463.7	2464.5	2465.3	2464.5	2464.5
10°	2333.0	2340.3	2344.3	2351.5	2349.1	2350.7	2346.7	2352.3	2348.3	2350.7
12.5°	2256.9	2257.7	2244.1	2250.5	2248.9	2250.5	2257.7	2251.3	2257.7	2260.9
15°	2171.1	2172.7	2181.6	2184.0	2180.0	2177.6	2181.6	2184.8	2183.2	2176.8
17.5°	2121.5	2119.0	2121.5	2124.7	2124.7	2127.1	2123.9	2127.9	2118.2	2116.6
20°	2063.7	2066.2	2072.6	2070.2	2059.7	2054.1	2054.1	2050.9	2049.3	2054.9
22.5°	2007.6	2010.1	2003.6	2003.6	2008.4	2006.0	2002.8	1994.8	1983.6	1984.4
25°	1957.2	1953.9	1959.6	1953.9	1941.1	1941.9	1933.9	1936.3	1933.9	1931.5
27.5°	1886.6	1898.6	1894.6	1893.8	1893.0	1899.5	1885.0	1878.6	1869.0	1855.4
30°	1837.7	1830.5	1839.3	1833.7	1828.9	1816.9	1812.1	1800.9	1803.3	1804.1
32.5°	1788.8	1788.0	1782.4	1763.2	1764.0	1763.2	1763.2	1756.0	1746.4	1746.4
35°	1719.1	1724.7	1711.1	1723.9	1722.3	1707.9	1697.5	1692.7	1692.7	1687.9
37.5°	1672.6	1659.8	1662.2	1655.0	1651.8	1655.0	1655.8	1644.6	1644.6	1634.2
40°	1620.5	1622.1	1612.5	1616.5	1622.1	1609.3	1605.3	1583.7	1576.5	1578.1
42.5°	1567.6	1574.1	1584.5	1577.3	1566.0	1557.2	1550.0	1552.4	1547.6	1550.0
45°	1524.4	1526.8	1529.2	1512.3	1521.2	1523.6	1511.5	1501.1	1498.7	1493.1
47.5°	1475.5	1485.1	1465.9	1470.7	1463.5	1452.2	1451.4	1450.6	1457.0	1453.0
50°	1409.0	1413.8	1413.0	1400.1	1397.7	1400.1	1409.8	1399.3	1391.3	1388.9
52.5°	1340.8	1338.4	1340.0	1344.0	1347.2	1343.2	1328.8	1321.6	1319.2	1323.2
55°	1279.9	1276.7	1270.3	1275.1	1268.7	1267.1	1267.9	1269.5	1268.7	1265.5
57.5°	1195.0	1200.6	1213.4	1191.0	1193.4	1199.8	1202.2	1192.6	1187.8	1190.2
60°	1108.4	1114.8	1113.2	1121.2	1119.6	1110.8	1110.0	1110.0	1112.4	1111.6
62.5°	1023.5	1029.1	1023.5	1028.3	1023.5	1023.5	1021.9	1026.7	1022.7	1025.1
65°	937.7	938.5	947.3	941.7	939.3	944.1	930.5	923.3	924.1	927.3
67.5°	845.5	852.7	854.4	856.0	851.1	847.1	839.1	839.1	843.9	843.1
70°	755.0	765.4	767.8	764.6	759.8	758.2	762.2	771.0	776.6	766.2
72.5°	668.4	681.2	682.8	680.4	686.8	690.9	684.4	672.4	664.4	666.8
75°	580.3	589.9	597.9	603.5	605.9	600.3	589.9	582.7	577.0	580.3
77.5°	491.3	503.3	511.3	511.3	512.1	514.5	512.1	512.1	509.7	510.5
80°	403.1	419.2	419.2	432.0	436.0	433.6	441.6	442.4	444.0	444.8
82.5°	325.4	336.6	343.8	355.0	362.3	363.1	371.1	372.7	375.9	379.1
85°	250.9	262.9	276.5	286.1	290.9	296.5	306.2	308.6	319.0	320.6
87.5°	193.2	206.0	219.6	233.2	238.8	242.0	250.9	262.1	280.5	291.7
90°	160.3	175.5	189.9	201.2	206.8	212.4	226.0	243.6	272.5	291.7
92.5°	152.3	166.7	177.9	190.7	198.8	206.0	225.2	249.3	274.9	284.5
95°	146.7	160.3	173.1	187.5	194.8	202.8	219.6	234.8	246.8	250.1
97.5°	140.3	153.1	165.9	179.5	186.7	192.3	203.6	211.6	218.8	221.2
100°	134.6	146.7	159.5	170.7	175.5	180.3	189.1	198.8	204.4	206.0
102.5°	129.0	140.3	150.7	159.5	164.3	168.3	175.5	178.7	178.7	177.9
105°	124.2	133.8	141.9	149.1	151.5	154.7	157.1	154.7	152.3	151.5
107.5°	118.6	126.6	133.0	137.9	139.5	140.3	139.5	137.0	135.4	134.6
110°	113.8	121.0	125.8	129.0	129.8	129.8	129.0	127.4	125.8	125.0



TEST NUMBER: P241506

CATALOG NUMBER: FVS8M-4-LD4-35-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	109.8	116.2	121.0	123.4	124.2	125.0	126.6	125.8	125.0	125.0
115°	107.4	113.8	119.4	123.4	125.0	126.6	129.0	129.0	129.0	128.2
117.5°	105.8	113.8	120.2	125.0	128.2	130.6	133.8	134.6	133.0	132.2
120°	105.8	113.8	121.0	128.2	130.6	133.8	137.0	137.9	136.2	135.4
122.5°	104.2	113.8	121.8	129.0	133.0	136.2	139.5	139.5	138.7	137.9
125°	102.6	112.2	120.2	128.2	132.2	135.4	139.5	140.3	139.5	138.7
127.5°	99.4	109.0	117.8	125.8	129.0	132.2	137.0	139.5	139.5	138.7
130°	95.4	105.8	113.8	121.8	125.8	129.0	134.6	137.0	137.0	137.0
132.5°	89.8	100.2	108.2	117.0	121.0	125.0	130.6	133.0	134.6	134.6
135°	84.2	93.0	102.6	110.6	115.4	119.4	125.8	128.2	129.8	130.6
137.5°	77.7	85.8	94.6	103.4	108.2	112.2	119.4	121.8	124.2	125.0
140°	70.5	78.5	87.4	95.4	99.4	103.4	109.8	113.0	116.2	116.2
142.5°	62.5	71.3	79.3	86.6	89.8	93.8	99.4	102.6	105.0	105.8
145°	55.3	63.3	69.7	76.9	79.3	82.5	87.4	90.6	93.8	94.6
147.5°	48.1	55.3	61.7	67.3	69.7	72.1	75.3	78.5	80.9	81.7
150°	40.1	45.7	52.1	57.7	60.1	61.7	64.9	66.5	68.9	69.7
152.5°	32.9	38.5	43.3	48.9	50.5	52.1	54.5	56.9	57.7	58.5
155°	26.4	30.5	35.3	40.1	41.7	43.3	45.7	47.3	48.1	48.9
157.5°	20.8	24.0	27.2	31.3	33.7	35.3	36.9	38.5	39.3	40.1
160°	15.2	18.4	20.8	23.2	25.6	26.4	29.7	30.5	30.5	31.3
162.5°	11.2	12.8	15.2	16.8	17.6	19.2	21.6	21.6	23.2	22.4
165°	6.4	8.0	9.6	10.4	11.2	12.0	14.4	15.2	15.2	15.2
167.5°	3.2	4.0	4.8	5.6	5.6	6.4	7.2	8.8	8.8	8.8
170°	0.8	0.8	1.6	1.6	1.6	1.6	2.4	3.2	3.2	3.2
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)