

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: P241505

Luminaire Tested: **FVS8M-4-LD4-30-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241505
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-LD4-30-2STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

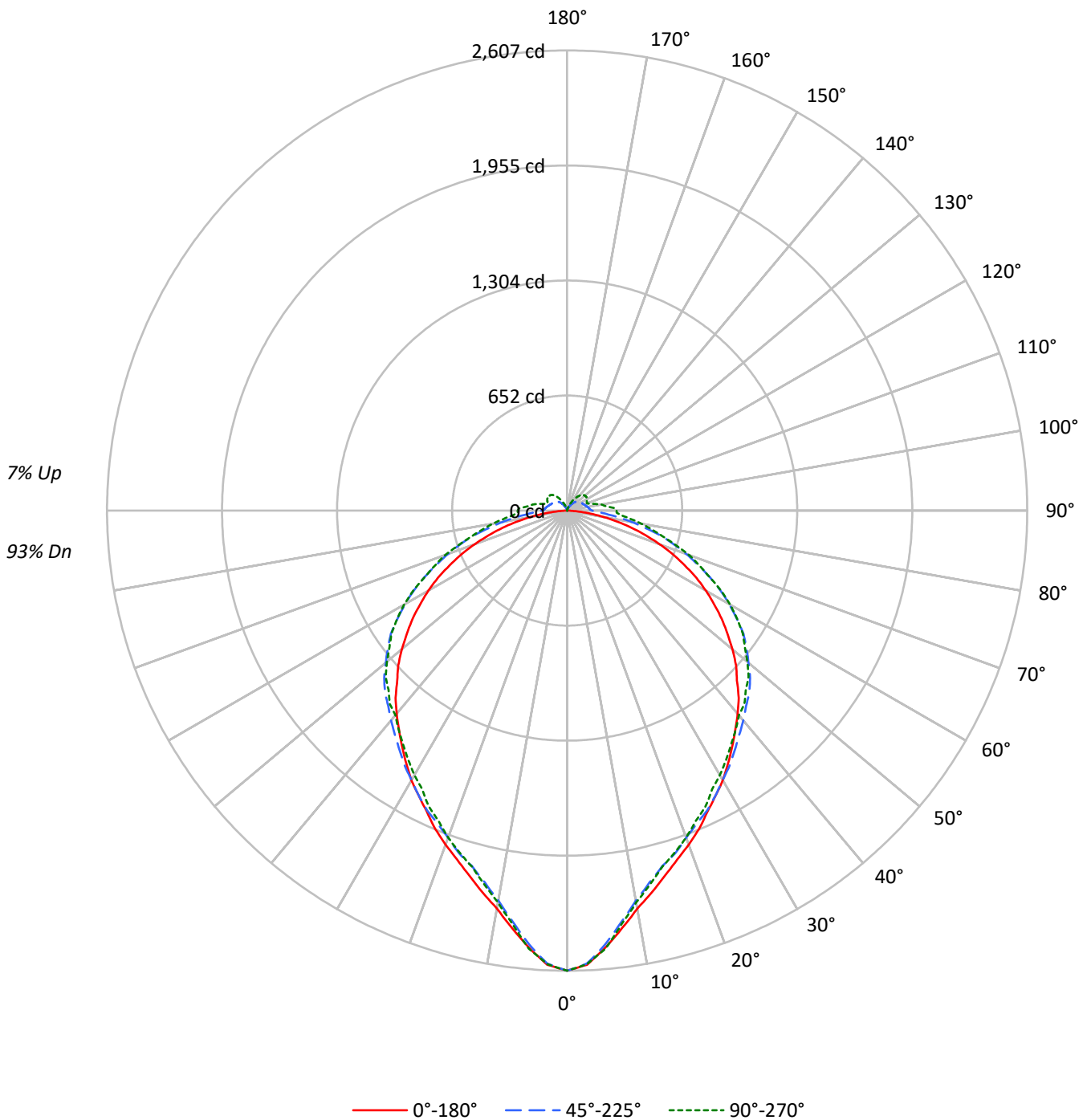
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6977.0 lumens
Efficiency: N/A
Efficacy: 107.5 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: P241505
CATALOG NUMBER: FVS8M-4-LD4-30-2STD-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241505

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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	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°	11651	11651	11651
5°	11116	10892	10958
10°	10318	9858	9841
15°	9803	9185	9109
20°	9441	8780	8662
25°	9110	8507	8265
30°	8903	8209	7900
35°	8659	7986	7627
40°	8490	7825	7424
45°	8277	7767	7384
50°	8120	7625	7299
55°	7891	7495	7152
60°	7601	7149	6851
65°	7170	6716	6337
70°	6568	6181	5926
75°	5699	5579	5216
80°	4422	4624	4814
85°	2314	3639	4403



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.6	3.3
10°-20°	595.1	8.5
20°-30°	864.2	12.4
30°-40°	1031.8	14.8
40°-50°	1105.0	15.8
50°-60°	1050.1	15.1
60°-70°	844.9	12.1
70°-80°	540.9	7.8
80°-90°	237.8	3.4
90°-100°	132.8	1.9
100°-110°	100.2	1.4
110°-120°	80.1	1.1
120°-130°	70.8	1.0
130°-140°	52.0	0.7
140°-150°	28.6	0.4
150°-160°	10.8	0.2
160°-170°	2.1	0.0
170°-180°	0.0	0.0
0°-30°	1688.9	24.2
0°-40°	2720.7	39.0
0°-60°	4875.8	69.9
0°-90°	6499.4	93.2
90°-120°	313.1	4.5
90°-150°	464.6	6.7
90°-180°	478.0	6.9
0°-180°	6977.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2607	2607	2607	2607	2607	
5°	2486	2478	2468	2478	2491	231
15°	2141	2126	2085	2091	2088	604
25°	1881	1883	1876	1862	1853	870
35°	1630	1668	1656	1652	1619	1022
45°	1361	1416	1459	1459	1432	1054
55°	1069	1131	1219	1217	1214	954
65°	735	806	890	901	889	728
75°	378	450	549	581	557	402
85°	65	131	223	279	308	86
90°	1	61	141	198	280	3
95°	1	55	126	187	240	1
105°	1	48	108	145	145	1
115°	1	43	95	120	123	1
125°	1	36	88	127	133	1
135°	2	26	71	111	125	1
145°	2	13	45	76	91	1
155°	2	5	22	40	47	1
165°	2	2	5	11	15	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241505

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8
2.5°	2575.3	2582.2	2576.8	2575.3	2574.5	2579.1	2578.3	2579.9	2579.1	2571.4	2569.1
5°	2486.1	2489.9	2485.3	2486.1	2479.2	2477.6	2480.7	2486.1	2480.7	2481.5	2467.6
7.5°	2386.1	2387.7	2379.2	2370.8	2369.2	2376.2	2374.6	2369.2	2364.6	2353.9	2351.6
10°	2289.3	2294.7	2283.9	2274.7	2270.8	2271.6	2269.3	2258.5	2257.8	2250.8	2243.9
12.5°	2215.5	2220.1	2208.6	2198.6	2194.7	2191.7	2196.3	2180.9	2177.8	2170.9	2157.8
15°	2140.9	2137.8	2139.4	2126.3	2126.3	2125.5	2121.7	2113.2	2105.6	2096.3	2084.8
17.5°	2073.3	2077.1	2069.4	2059.4	2058.7	2060.2	2059.4	2057.9	2051.7	2040.2	2036.4
20°	2013.3	2010.2	2001.8	2004.9	2003.3	2002.5	2004.1	1995.6	1986.4	1982.6	1971.8
22.5°	1952.6	1947.2	1941.8	1944.9	1944.9	1937.2	1940.3	1937.2	1930.3	1928.7	1918.8
25°	1881.1	1890.3	1885.7	1878.8	1881.1	1883.4	1890.3	1889.5	1886.5	1885.7	1875.7
27.5°	1821.9	1825.7	1819.6	1819.6	1834.2	1838.0	1837.3	1829.6	1830.4	1815.0	1819.6
30°	1764.2	1760.4	1764.2	1771.9	1773.5	1774.2	1772.7	1776.5	1769.6	1768.9	1762.7
32.5°	1697.4	1698.1	1703.5	1700.4	1713.5	1717.3	1719.7	1730.4	1728.9	1720.4	1712.7
35°	1630.5	1639.7	1635.9	1636.6	1668.9	1668.1	1669.7	1670.5	1659.7	1648.2	1655.8
37.5°	1565.1	1572.1	1569.8	1587.4	1596.7	1595.9	1595.1	1602.0	1607.4	1602.0	1602.0
40°	1502.9	1496.0	1505.9	1521.3	1526.7	1537.5	1550.5	1559.8	1559.0	1552.8	1552.1
42.5°	1439.1	1436.0	1442.9	1450.6	1475.2	1487.5	1495.2	1496.7	1489.0	1497.5	1500.6
45°	1360.7	1370.6	1364.5	1392.2	1409.9	1416.0	1420.6	1432.9	1444.4	1449.1	1459.1
47.5°	1297.6	1299.9	1301.5	1325.3	1336.8	1348.4	1356.8	1377.6	1394.5	1402.2	1406.0
50°	1222.3	1217.7	1232.3	1246.9	1273.0	1286.9	1298.4	1308.4	1323.8	1336.8	1341.4
52.5°	1143.9	1146.2	1155.4	1172.3	1203.8	1216.1	1220.7	1236.9	1254.6	1268.4	1280.7
55°	1069.3	1072.4	1077.8	1104.7	1121.6	1130.8	1146.2	1170.8	1190.8	1200.8	1219.2
57.5°	986.3	991.7	1001.7	1020.1	1042.4	1058.5	1070.8	1095.4	1116.2	1127.0	1139.3
60°	907.9	903.3	926.3	938.6	966.3	984.0	990.1	1010.1	1032.4	1049.3	1059.3
62.5°	825.6	824.1	836.4	858.7	882.5	892.5	901.0	930.9	947.1	966.3	979.4
65°	734.9	742.6	750.3	774.9	794.9	806.4	820.2	845.6	867.1	884.0	890.2
67.5°	649.6	654.2	671.1	688.0	708.8	718.8	736.4	759.5	781.0	795.6	801.8
70°	556.6	563.5	581.9	601.1	624.2	632.7	645.0	670.3	690.3	709.5	716.5
72.5°	466.6	472.0	491.2	507.4	534.3	548.1	558.9	581.9	599.6	617.3	633.4
75°	378.2	388.2	403.6	419.0	445.9	450.5	462.0	488.1	509.7	529.7	548.9
77.5°	295.2	301.3	310.6	336.7	352.8	363.6	374.4	399.7	424.3	438.9	454.3
80°	209.9	218.3	228.3	244.5	268.3	279.0	288.3	312.1	335.2	352.8	370.5
82.5°	134.5	137.6	151.4	166.8	192.2	198.3	207.6	231.4	252.1	272.9	290.6
85°	65.3	73.0	84.6	102.2	121.5	130.7	139.9	163.7	185.3	205.3	222.9
87.5°	21.5	26.1	38.4	53.8	73.0	83.8	92.2	113.8	133.8	154.5	173.0
90°	0.8	6.1	17.7	33.1	51.5	60.7	70.7	89.9	109.2	126.8	140.7
92.5°	0.8	4.6	15.4	30.7	48.4	57.7	66.9	85.3	103.0	116.8	130.7
95°	0.8	3.8	14.6	30.0	46.1	55.3	64.6	81.5	96.9	112.2	126.1
97.5°	0.8	3.8	13.8	28.4	44.6	53.8	61.5	77.6	93.0	107.6	122.2
100°	0.8	3.8	13.1	27.7	43.0	51.5	59.2	74.6	89.9	103.8	117.6
102.5°	0.8	3.1	13.1	26.9	41.5	49.2	56.9	72.3	86.9	99.9	113.0
105°	0.8	3.1	12.3	25.4	40.7	48.4	55.3	70.0	83.8	96.9	108.4
107.5°	0.8	2.3	11.5	24.6	39.2	46.9	54.6	68.4	81.5	93.8	104.5
110°	0.8	2.3	11.5	23.8	38.4	46.1	53.0	66.9	79.9	91.5	100.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	2.3	10.8	23.1	36.9	44.6	51.5	65.3	77.6	88.4	97.6
115°	0.8	1.5	10.0	22.3	36.1	43.0	50.0	63.8	76.1	86.1	95.3
117.5°	0.8	1.5	9.2	21.5	34.6	41.5	48.4	61.5	73.8	84.6	93.8
120°	0.8	1.5	8.5	20.0	33.1	40.0	46.9	60.0	72.3	82.3	92.2
122.5°	0.8	1.5	7.7	18.4	31.5	38.4	45.4	57.7	70.0	80.7	90.7
125°	0.8	0.8	6.9	17.7	30.0	36.1	43.0	55.3	67.6	78.4	88.4
127.5°	0.8	0.8	6.1	16.1	27.7	34.6	40.7	53.0	64.6	75.3	85.3
130°	0.8	0.8	5.4	14.6	26.1	32.3	37.7	50.0	61.5	71.5	81.5
132.5°	0.8	0.8	4.6	12.3	23.1	28.4	34.6	46.1	57.7	66.9	76.1
135°	1.5	0.8	3.1	10.8	20.8	26.1	30.7	41.5	52.3	61.5	70.7
137.5°	1.5	0.8	2.3	9.2	17.7	22.3	26.9	36.9	46.9	56.1	65.3
140°	1.5	1.5	2.3	6.9	14.6	19.2	23.8	32.3	41.5	50.0	58.4
142.5°	1.5	1.5	1.5	5.4	12.3	16.1	19.2	27.7	36.1	43.8	51.5
145°	1.5	1.5	1.5	4.6	10.0	13.1	16.1	23.1	30.7	37.7	45.4
147.5°	1.5	1.5	1.5	3.1	7.7	10.8	13.1	19.2	25.4	32.3	38.4
150°	1.5	1.5	1.5	2.3	6.1	8.5	10.8	16.1	21.5	26.9	32.3
152.5°	1.5	1.5	1.5	1.5	4.6	6.1	8.5	12.3	16.9	22.3	26.9
155°	1.5	1.5	1.5	1.5	3.1	4.6	6.1	10.0	13.8	17.7	21.5
157.5°	2.3	1.5	1.5	1.5	2.3	3.1	4.6	6.9	10.0	13.8	16.9
160°	2.3	1.5	1.5	1.5	1.5	2.3	3.1	5.4	7.7	10.0	12.3
162.5°	2.3	2.3	1.5	1.5	1.5	1.5	1.5	3.1	4.6	6.9	8.5
165°	2.3	2.3	1.5	1.5	1.5	1.5	1.5	1.5	2.3	3.8	5.4
167.5°	2.3	2.3	1.5	1.5	0.8	0.8	0.8	0.8	1.5	1.5	2.3
170°	2.3	2.3	1.5	1.5	1.5	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°	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8	2606.8
2.5°	2566.8	2570.6	2573.7	2572.2	2572.9	2579.1	2569.1	2572.9	2574.5	2572.2
5°	2469.2	2471.5	2479.2	2481.5	2478.4	2480.7	2481.5	2485.3	2491.5	2490.7
7.5°	2349.2	2355.4	2353.9	2359.2	2361.5	2363.1	2363.9	2364.6	2363.9	2363.9
10°	2237.8	2244.7	2248.5	2255.5	2253.2	2254.7	2250.8	2256.2	2252.4	2254.7
12.5°	2164.8	2165.5	2152.5	2158.6	2157.1	2158.6	2165.5	2159.4	2165.5	2168.6
15°	2082.5	2084.0	2092.5	2094.8	2091.0	2088.6	2092.5	2095.6	2094.0	2087.9
17.5°	2034.8	2032.5	2034.8	2037.9	2037.9	2040.2	2037.1	2041.0	2031.8	2030.2
20°	1979.5	1981.8	1987.9	1985.6	1975.6	1970.3	1970.3	1967.2	1965.6	1971.0
22.5°	1925.7	1928.0	1921.8	1921.8	1926.4	1924.1	1921.1	1913.4	1902.6	1903.4
25°	1877.2	1874.2	1879.6	1874.2	1861.9	1862.6	1855.0	1857.3	1855.0	1852.6
27.5°	1809.6	1821.1	1817.3	1816.5	1815.7	1821.9	1808.1	1801.9	1792.7	1779.6
30°	1762.7	1755.8	1764.2	1758.9	1754.2	1742.7	1738.1	1727.3	1729.6	1730.4
32.5°	1715.8	1715.0	1709.7	1691.2	1692.0	1691.2	1691.2	1684.3	1675.1	1675.1
35°	1648.9	1654.3	1641.2	1653.5	1652.0	1638.2	1628.2	1623.6	1623.6	1619.0
37.5°	1604.3	1592.0	1594.4	1587.4	1584.4	1587.4	1588.2	1577.4	1577.4	1567.4
40°	1554.4	1555.9	1546.7	1550.5	1555.9	1543.6	1539.8	1519.0	1512.1	1513.6
42.5°	1503.6	1509.8	1519.8	1512.9	1502.1	1493.6	1486.7	1489.0	1484.4	1486.7
45°	1462.1	1464.4	1466.7	1450.6	1459.1	1461.4	1449.8	1439.8	1437.5	1432.1
47.5°	1415.2	1424.5	1406.0	1410.6	1403.7	1392.9	1392.2	1391.4	1397.6	1393.7
50°	1351.4	1356.0	1355.3	1343.0	1340.7	1343.0	1352.2	1342.2	1334.5	1332.2
52.5°	1286.1	1283.8	1285.3	1289.2	1292.2	1288.4	1274.6	1267.6	1265.3	1269.2
55°	1227.7	1224.6	1218.4	1223.1	1216.9	1215.4	1216.1	1217.7	1216.9	1213.8
57.5°	1146.2	1151.6	1163.9	1142.3	1144.6	1150.8	1153.1	1143.9	1139.3	1141.6
60°	1063.2	1069.3	1067.8	1075.5	1073.9	1065.5	1064.7	1064.7	1067.0	1066.2
62.5°	981.7	987.1	981.7	986.3	981.7	981.7	980.1	984.7	980.9	983.2
65°	899.4	900.2	908.6	903.3	901.0	905.6	892.5	885.6	886.3	889.4
67.5°	811.0	817.9	819.5	821.0	816.4	812.6	804.9	804.9	809.5	808.7
70°	724.1	734.1	736.4	733.4	728.8	727.2	731.1	739.5	744.9	734.9
72.5°	641.1	653.4	655.0	652.7	658.8	662.6	656.5	645.0	637.3	639.6
75°	556.6	565.8	573.5	578.9	581.2	575.8	565.8	558.9	553.5	556.6
77.5°	471.2	482.8	490.5	490.5	491.2	493.5	491.2	491.2	488.9	489.7
80°	386.7	402.0	402.0	414.3	418.2	415.9	423.6	424.3	425.9	426.6
82.5°	312.1	322.9	329.8	340.5	347.5	348.2	355.9	357.5	360.5	363.6
85°	240.6	252.1	265.2	274.4	279.0	284.4	293.7	296.0	306.0	307.5
87.5°	185.3	197.6	210.6	223.7	229.1	232.2	240.6	251.4	269.1	279.8
90°	153.7	168.4	182.2	193.0	198.3	203.7	216.8	233.7	261.4	279.8
92.5°	146.1	159.9	170.7	183.0	190.6	197.6	216.0	239.1	263.7	272.9
95°	140.7	153.7	166.0	179.9	186.8	194.5	210.6	225.2	236.8	239.8
97.5°	134.5	146.8	159.1	172.2	179.1	184.5	195.3	202.9	209.9	212.2
100°	129.1	140.7	153.0	163.7	168.4	173.0	181.4	190.6	196.0	197.6
102.5°	123.8	134.5	144.5	153.0	157.6	161.4	168.4	171.4	171.4	170.7
105°	119.2	128.4	136.1	143.0	145.3	148.4	150.7	148.4	146.1	145.3
107.5°	113.8	121.5	127.6	132.2	133.8	134.5	133.8	131.5	129.9	129.1
110°	109.2	116.1	120.7	123.8	124.5	124.5	123.8	122.2	120.7	119.9



TEST NUMBER: P241505

CATALOG NUMBER: FVS8M-4-LD4-30-2STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	105.3	111.5	116.1	118.4	119.2	119.9	121.5	120.7	119.9	119.9
115°	103.0	109.2	114.5	118.4	119.9	121.5	123.8	123.8	123.8	123.0
117.5°	101.5	109.2	115.3	119.9	123.0	125.3	128.4	129.1	127.6	126.8
120°	101.5	109.2	116.1	123.0	125.3	128.4	131.5	132.2	130.7	129.9
122.5°	99.9	109.2	116.8	123.8	127.6	130.7	133.8	133.8	133.0	132.2
125°	98.4	107.6	115.3	123.0	126.8	129.9	133.8	134.5	133.8	133.0
127.5°	95.3	104.5	113.0	120.7	123.8	126.8	131.5	133.8	133.8	133.0
130°	91.5	101.5	109.2	116.8	120.7	123.8	129.1	131.5	131.5	131.5
132.5°	86.1	96.1	103.8	112.2	116.1	119.9	125.3	127.6	129.1	129.1
135°	80.7	89.2	98.4	106.1	110.7	114.5	120.7	123.0	124.5	125.3
137.5°	74.6	82.3	90.7	99.2	103.8	107.6	114.5	116.8	119.2	119.9
140°	67.6	75.3	83.8	91.5	95.3	99.2	105.3	108.4	111.5	111.5
142.5°	60.0	68.4	76.1	83.0	86.1	89.9	95.3	98.4	100.7	101.5
145°	53.0	60.7	66.9	73.8	76.1	79.2	83.8	86.9	89.9	90.7
147.5°	46.1	53.0	59.2	64.6	66.9	69.2	72.3	75.3	77.6	78.4
150°	38.4	43.8	50.0	55.3	57.7	59.2	62.3	63.8	66.1	66.9
152.5°	31.5	36.9	41.5	46.9	48.4	50.0	52.3	54.6	55.3	56.1
155°	25.4	29.2	33.8	38.4	40.0	41.5	43.8	45.4	46.1	46.9
157.5°	20.0	23.1	26.1	30.0	32.3	33.8	35.4	36.9	37.7	38.4
160°	14.6	17.7	20.0	22.3	24.6	25.4	28.4	29.2	29.2	30.0
162.5°	10.8	12.3	14.6	16.1	16.9	18.4	20.8	20.8	22.3	21.5
165°	6.1	7.7	9.2	10.0	10.8	11.5	13.8	14.6	14.6	14.6
167.5°	3.1	3.8	4.6	5.4	5.4	6.1	6.9	8.5	8.5	8.5
170°	0.8	0.8	1.5	1.5	1.5	1.5	2.3	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)