

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: P241514

Luminaire Tested: **FVS8M-4-LD4-35-3LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241514
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-45)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-35-3LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (252) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

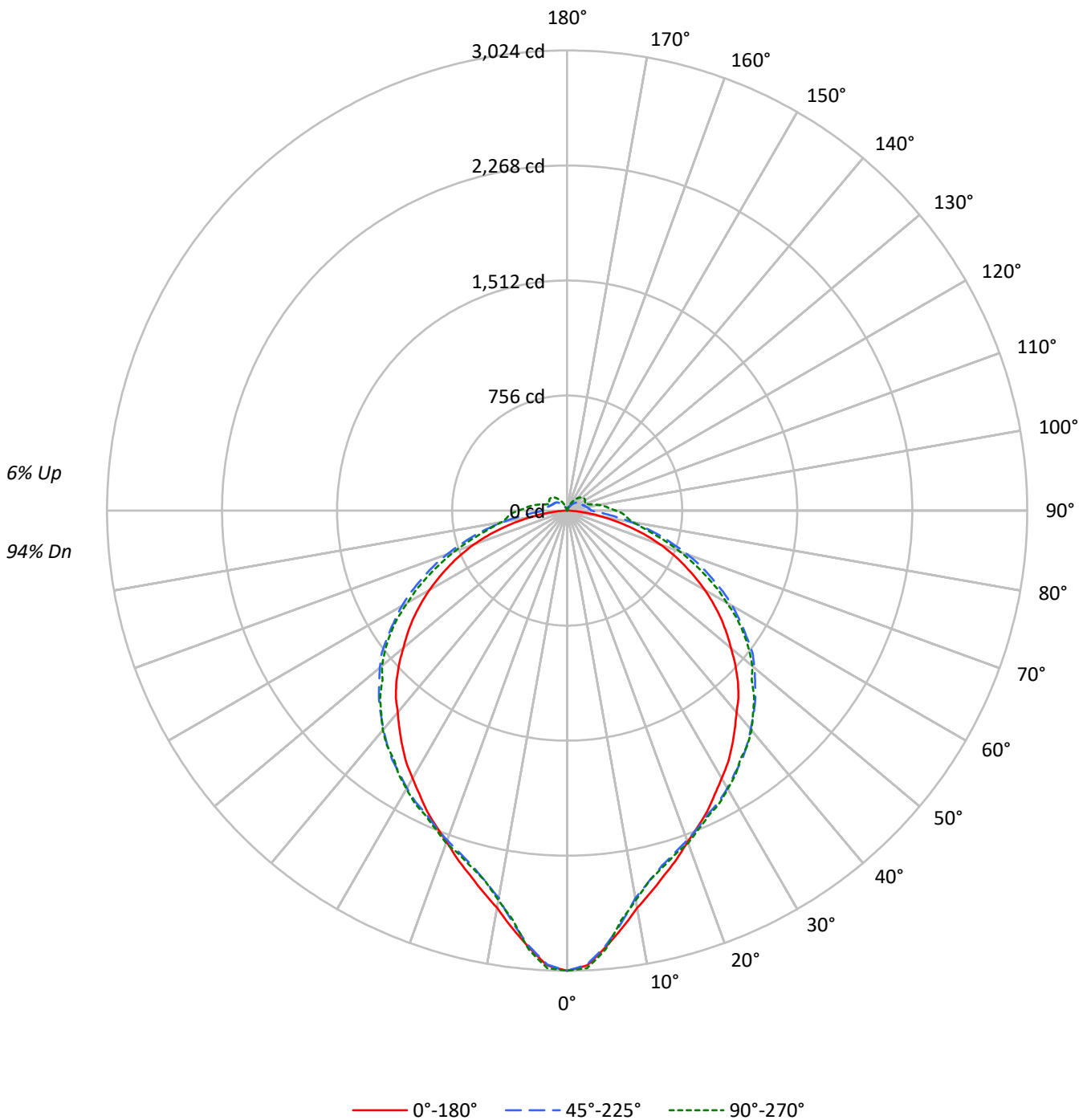
Lumens per Lamp: N/A
Luminaire Lumens: 8138.0 lumens
Efficiency: N/A
Efficacy: 242.9 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.04 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 33.5
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	106	101	97	93	103	98	94	91	93	90	87	88	85	83	83	81	79	77
2	96	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63
3	88	77	68	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	50	44	56	49	43	54	47	42	51	45	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	40	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	37	33	42	36	32	30
8	59	45	36	30	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°	13516	13516	13516
5°	12885	12678	12737
10°	11948	11358	11344
15°	11344	10633	10583
20°	10857	10263	10220
25°	10559	9961	9848
30°	10248	9808	9643
35°	10032	9658	9368
40°	9779	9463	9239
45°	9650	9315	8960
50°	9339	9134	8702
55°	9102	8830	8364
60°	8755	8470	7789
65°	8292	7908	7116
70°	7696	7249	6368
75°	6603	6390	5457
80°	5003	5304	4945
85°	2647	4114	5507



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.1	3.3
10°-20°	689.1	8.5
20°-30°	1017.4	12.5
30°-40°	1238.1	15.2
40°-50°	1317.9	16.2
50°-60°	1239.2	15.2
60°-70°	980.3	12.0
70°-80°	611.7	7.5
80°-90°	271.6	3.3
90°-100°	149.6	1.8
100°-110°	109.3	1.3
110°-120°	84.4	1.0
120°-130°	72.5	0.9
130°-140°	51.0	0.6
140°-150°	27.5	0.3
150°-160°	10.2	0.1
160°-170°	1.9	0.0
170°-180°	0.0	0.0
0°-30°	1972.7	24.2
0°-40°	3210.8	39.5
0°-60°	5767.9	70.9
0°-90°	7631.6	93.8
90°-120°	343.3	4.2
90°-150°	494.4	6.1
90°-180°	506.0	6.2
0°-180°	8138.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3024	3024	3024	3024	3024	
5°	2882	2879	2872	2899	2895	268
15°	2477	2460	2414	2409	2426	698
25°	2180	2195	2196	2221	2207	1003
35°	1889	1946	2002	2021	1988	1181
45°	1586	1673	1750	1748	1738	1220
55°	1233	1348	1436	1444	1420	1100
65°	850	951	1048	1026	999	841
75°	438	534	629	632	582	465
85°	75	162	252	307	385	98
90°	2	77	160	233	320	4
95°	1	64	144	210	262	0
105°	1	54	119	158	155	1
115°	1	45	101	126	130	1
125°	1	37	92	128	138	1
135°	1	25	71	107	122	1
145°	2	13	45	73	85	1
155°	2	5	20	37	43	1
165°	2	2	4	9	12	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°	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1
2.5°	2992.2	2995.2	2999.4	2993.4	2997.6	2994.6	2998.8	2997.0	2993.4	2992.2	2985.5
5°	2881.8	2890.9	2886.7	2883.1	2885.5	2879.4	2888.5	2883.1	2878.2	2871.0	2872.2
7.5°	2766.7	2762.5	2766.1	2755.3	2753.5	2756.5	2752.9	2751.7	2754.1	2739.0	2732.4
10°	2651.0	2656.4	2646.2	2645.0	2641.3	2642.5	2636.5	2628.7	2614.8	2597.9	2585.3
12.5°	2563.6	2563.0	2563.0	2553.9	2542.5	2544.9	2534.7	2517.2	2506.3	2497.3	2492.5
15°	2477.4	2478.0	2470.2	2461.7	2460.5	2459.9	2457.5	2443.0	2430.4	2423.1	2413.5
17.5°	2399.0	2400.2	2399.0	2394.8	2393.0	2384.6	2385.8	2372.5	2355.0	2353.2	2355.6
20°	2315.2	2324.3	2329.7	2314.0	2314.6	2309.2	2312.2	2306.8	2299.6	2303.2	2305.0
22.5°	2246.5	2255.0	2253.2	2248.3	2251.4	2252.6	2253.2	2255.0	2256.2	2252.6	2253.8
25°	2180.2	2179.0	2180.2	2191.1	2191.1	2195.3	2195.3	2193.5	2192.9	2189.3	2196.5
27.5°	2101.9	2110.3	2118.1	2123.6	2123.6	2127.8	2124.8	2140.4	2146.5	2149.5	2157.9
30°	2030.7	2043.4	2047.0	2051.8	2069.3	2075.9	2080.8	2094.6	2097.6	2099.5	2106.1
32.5°	1965.6	1969.3	1973.5	1997.6	2013.9	2018.7	2023.5	2029.5	2039.2	2040.4	2048.8
35°	1889.1	1890.9	1910.2	1927.1	1938.5	1945.7	1956.0	1973.5	1986.7	1997.0	2002.4
37.5°	1810.1	1825.2	1839.7	1848.1	1872.8	1888.5	1902.9	1922.8	1927.1	1934.3	1941.5
40°	1731.2	1746.8	1753.5	1783.0	1810.7	1822.8	1833.0	1846.9	1854.1	1869.2	1877.0
42.5°	1666.7	1669.7	1681.1	1710.1	1733.6	1742.6	1757.1	1783.0	1802.3	1814.3	1812.5
45°	1586.5	1585.9	1610.6	1625.1	1655.2	1673.3	1691.4	1712.5	1731.2	1747.4	1749.8
47.5°	1498.5	1505.1	1523.2	1544.3	1585.9	1605.2	1616.6	1631.7	1653.4	1664.9	1674.5
50°	1405.7	1425.6	1433.4	1470.8	1502.1	1516.0	1532.2	1558.2	1581.1	1599.2	1607.0
52.5°	1320.1	1330.3	1355.0	1381.6	1412.3	1435.8	1448.5	1482.8	1504.5	1517.8	1535.3
55°	1233.3	1238.1	1267.0	1292.3	1326.1	1348.4	1363.5	1394.8	1409.3	1430.4	1436.4
57.5°	1140.4	1149.5	1171.8	1202.5	1234.5	1250.1	1261.0	1297.2	1318.9	1341.2	1344.2
60°	1045.8	1057.9	1076.5	1111.5	1133.8	1150.1	1166.4	1203.1	1225.4	1244.1	1255.0
62.5°	946.4	956.0	979.5	1008.4	1032.5	1050.0	1070.5	1101.3	1123.0	1144.1	1153.7
65°	849.9	860.2	881.3	905.4	934.9	950.6	968.7	994.0	1021.1	1036.2	1048.2
67.5°	753.5	758.3	778.2	803.5	834.8	845.7	863.8	888.5	923.4	934.9	946.4
70°	652.2	655.2	671.5	701.6	725.1	742.6	753.5	787.8	811.9	828.8	840.3
72.5°	548.5	555.8	566.0	594.9	620.9	635.3	654.0	684.1	707.1	724.5	729.4
75°	438.2	446.7	464.1	491.9	517.2	534.1	550.3	572.0	597.9	616.0	628.7
77.5°	334.5	347.2	359.9	383.4	415.3	430.4	443.6	472.6	497.3	514.8	522.0
80°	237.5	247.1	263.4	285.7	317.1	330.3	344.2	370.7	392.4	408.7	425.0
82.5°	154.9	156.1	177.8	198.3	226.0	238.7	252.0	278.5	300.8	315.9	330.9
85°	74.7	83.2	100.1	121.8	148.3	161.5	174.2	196.5	214.6	232.1	252.0
87.5°	23.5	28.9	47.6	68.7	91.0	103.1	113.9	135.0	153.1	171.2	190.5
90°	1.8	7.2	22.3	42.8	65.1	76.6	86.2	104.9	124.2	142.9	160.3
92.5°	0.6	5.4	19.3	38.6	59.1	68.7	78.4	97.0	115.1	133.8	152.5
95°	0.6	4.8	17.5	35.6	55.5	64.5	73.5	92.2	110.9	128.4	144.1
97.5°	0.6	4.8	16.9	33.8	51.8	60.9	69.9	88.6	106.1	123.0	137.4
100°	0.6	4.2	15.7	31.3	49.4	57.9	66.9	84.4	101.3	116.9	130.8
102.5°	0.6	3.6	14.5	30.1	47.0	55.5	64.5	80.8	96.4	110.9	124.8
105°	0.6	3.6	13.9	28.9	45.2	53.6	61.5	77.8	92.2	106.1	118.7
107.5°	0.6	3.0	13.3	27.1	43.4	51.2	59.1	74.7	88.6	101.9	113.3
110°	0.6	3.0	12.1	25.9	41.6	49.4	57.3	71.7	85.6	97.6	108.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	2.4	11.5	24.7	39.8	47.6	54.9	69.3	82.6	94.0	104.3
115°	0.6	2.4	10.8	23.5	38.0	45.2	53.0	66.9	79.6	91.0	100.7
117.5°	1.2	1.8	9.6	22.3	36.2	43.4	50.6	64.5	77.2	88.6	98.9
120°	1.2	1.8	9.0	21.1	34.4	41.6	48.2	62.1	74.7	86.2	97.0
122.5°	1.2	1.8	8.4	19.3	32.5	39.2	46.4	59.7	72.3	84.4	94.6
125°	1.2	1.8	7.2	18.1	30.7	36.8	43.4	56.7	69.3	80.8	91.6
127.5°	1.2	1.2	6.6	16.3	28.3	34.4	41.0	53.6	65.7	76.6	87.4
130°	1.2	1.2	5.4	14.5	25.9	31.9	38.0	50.6	61.5	72.3	82.6
132.5°	1.2	1.2	4.8	12.7	22.9	28.3	34.4	46.4	57.3	67.5	77.2
135°	1.2	1.2	3.6	10.8	20.5	25.3	30.7	41.6	51.8	62.1	71.1
137.5°	1.8	1.2	3.0	9.0	17.5	22.3	26.5	36.8	45.8	56.1	65.7
140°	1.8	1.8	2.4	7.2	14.5	18.7	22.3	31.3	40.4	49.4	58.5
142.5°	1.8	1.8	2.4	6.0	12.1	15.7	19.3	26.5	35.0	43.4	51.8
145°	1.8	1.8	1.8	4.8	9.6	12.7	15.7	22.9	30.1	37.4	44.6
147.5°	1.8	1.8	1.8	3.6	7.8	10.2	12.7	18.7	25.3	31.9	38.0
150°	2.4	1.8	1.8	3.0	6.0	7.8	10.2	15.1	20.5	25.9	31.3
152.5°	2.4	1.8	1.8	2.4	4.8	6.0	7.8	12.1	16.3	20.5	25.3
155°	2.4	1.8	1.8	2.4	3.6	4.8	6.0	9.0	12.7	16.3	19.9
157.5°	2.4	2.4	1.8	1.8	3.0	3.6	4.2	6.6	9.0	12.1	15.1
160°	2.4	2.4	1.8	1.8	2.4	2.4	3.0	4.8	6.6	8.4	10.8
162.5°	2.4	2.4	1.8	1.8	1.8	1.8	2.4	3.0	4.2	5.4	7.2
165°	2.4	2.4	2.4	1.8	1.8	1.8	1.8	1.8	2.4	3.6	4.2
167.5°	2.4	2.4	2.4	1.8	1.8	1.2	1.2	1.2	1.8	1.8	2.4
170°	3.0	2.4	2.4	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2
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°	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1	3024.1
2.5°	2987.9	2990.3	3000.6	3003.0	3006.6	3005.4	3007.2	3007.2	3009.0	3009.6
5°	2878.8	2892.1	2899.3	2894.5	2899.3	2896.9	2897.5	2894.5	2893.3	2895.1
7.5°	2716.1	2715.5	2716.7	2715.5	2716.1	2716.1	2720.9	2722.7	2716.7	2716.1
10°	2576.2	2578.7	2584.1	2585.9	2583.5	2580.5	2587.1	2588.9	2594.9	2599.1
12.5°	2485.2	2475.0	2490.0	2500.3	2501.5	2505.1	2505.1	2508.1	2502.1	2491.3
15°	2414.1	2421.3	2420.7	2409.3	2408.7	2409.3	2417.7	2412.9	2418.3	2425.6
17.5°	2352.0	2349.0	2356.8	2365.3	2368.3	2372.5	2370.1	2367.7	2367.7	2366.5
20°	2295.4	2311.6	2320.1	2316.4	2318.9	2324.3	2329.7	2330.9	2328.5	2325.5
22.5°	2257.4	2264.6	2273.0	2291.1	2285.1	2285.7	2274.3	2270.0	2265.8	2262.8
25°	2201.3	2214.6	2232.7	2224.8	2221.2	2220.6	2214.0	2214.0	2208.6	2207.3
27.5°	2160.9	2177.8	2163.9	2171.8	2171.8	2176.0	2173.6	2170.6	2168.2	2168.2
30°	2119.9	2109.7	2118.1	2125.4	2123.0	2120.5	2121.2	2112.7	2115.1	2112.1
32.5°	2054.8	2056.1	2068.1	2072.3	2073.5	2074.7	2069.9	2067.5	2065.1	2058.5
35°	2005.4	2017.5	2011.4	2020.5	2021.1	2005.4	2006.0	1999.4	1994.0	1988.5
37.5°	1948.8	1945.1	1962.0	1956.6	1947.6	1946.3	1940.9	1946.3	1944.5	1945.7
40°	1887.9	1897.5	1890.9	1890.9	1888.5	1893.9	1893.3	1889.1	1886.7	1883.7
42.5°	1829.4	1830.0	1822.8	1827.0	1826.4	1825.2	1819.2	1814.9	1816.8	1807.1
45°	1768.5	1751.1	1764.3	1752.9	1748.0	1753.5	1745.0	1742.6	1735.4	1737.8
47.5°	1682.3	1679.9	1681.1	1672.1	1670.3	1666.1	1654.0	1648.0	1645.6	1646.2
50°	1602.8	1607.6	1604.6	1601.0	1596.1	1589.5	1587.7	1590.1	1595.5	1588.3
52.5°	1532.8	1536.5	1534.1	1523.8	1519.6	1524.4	1528.6	1514.8	1509.3	1508.1
55°	1442.4	1455.7	1444.2	1449.1	1443.6	1443.6	1426.8	1425.6	1423.7	1419.5
57.5°	1354.4	1356.2	1359.9	1366.5	1350.2	1348.4	1346.6	1335.1	1325.5	1323.7
60°	1265.2	1260.4	1265.2	1255.6	1253.2	1252.0	1233.3	1218.8	1209.2	1212.2
62.5°	1161.5	1167.6	1159.1	1147.1	1143.5	1136.2	1115.7	1119.3	1115.7	1112.1
65°	1048.8	1055.5	1045.2	1031.9	1026.5	1021.7	1018.1	1004.8	1005.4	998.8
67.5°	947.6	942.1	942.1	927.1	925.3	925.3	910.2	900.5	899.9	893.9
70°	841.5	844.5	836.6	831.2	834.2	824.0	809.5	804.1	790.8	789.6
72.5°	736.6	745.6	736.6	736.0	730.0	726.9	711.3	702.8	692.6	684.7
75°	632.3	640.7	638.9	635.3	632.3	626.3	614.8	597.9	587.7	582.3
77.5°	533.5	537.1	544.9	540.1	541.9	535.9	526.8	513.6	503.3	501.5
80°	435.2	443.6	450.9	452.1	452.1	451.5	443.6	439.4	440.6	438.2
82.5°	345.4	355.0	366.5	371.3	374.9	376.1	381.6	387.6	397.8	403.9
85°	265.8	280.3	291.7	301.4	307.4	314.0	327.3	344.2	369.5	384.6
87.5°	206.8	222.4	236.9	253.8	264.0	270.6	286.3	311.0	339.4	357.4
90°	177.2	192.9	211.0	226.6	233.3	242.3	262.8	282.7	306.8	319.5
92.5°	167.0	183.8	198.3	212.8	221.2	228.5	244.7	258.0	274.9	283.9
95°	159.1	173.0	189.3	202.5	209.8	216.4	226.6	239.3	253.2	261.6
97.5°	151.9	166.4	179.0	191.1	197.1	201.3	214.0	226.0	236.3	238.7
100°	144.7	157.9	168.2	178.4	185.1	189.9	200.1	207.4	209.8	210.4
102.5°	137.4	148.9	159.1	167.6	172.4	176.6	182.0	186.3	186.9	185.1
105°	129.6	139.8	148.9	156.7	158.5	160.9	162.7	159.7	157.3	154.9
107.5°	123.0	132.0	139.2	143.5	144.1	144.7	143.5	141.0	138.6	138.0
110°	117.5	125.4	130.2	132.0	132.6	132.6	130.8	129.0	127.8	126.6



TEST NUMBER: P241514

CATALOG NUMBER: FVS8M-4-LD4-35-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	112.7	119.3	123.6	126.0	126.6	127.2	127.2	126.6	126.0	125.4
115°	109.1	116.3	121.2	124.2	126.0	127.2	129.0	129.6	129.6	129.6
117.5°	107.3	115.1	121.2	126.0	128.4	130.2	132.6	133.8	133.8	133.2
120°	106.1	114.5	121.2	127.8	130.2	132.0	135.0	136.8	136.8	136.2
122.5°	104.3	113.3	120.6	127.2	130.2	132.6	136.2	138.0	138.0	138.0
125°	101.3	110.9	118.1	125.4	127.8	130.8	134.4	136.8	137.4	138.0
127.5°	97.0	106.7	114.5	121.8	124.8	127.2	131.4	134.4	135.6	136.2
130°	92.2	101.3	109.1	116.9	120.0	123.0	127.2	130.2	132.0	132.6
132.5°	86.2	95.2	103.1	110.3	113.9	116.3	121.8	124.8	127.2	127.2
135°	80.2	88.6	95.8	103.1	106.7	109.7	115.1	118.7	121.2	121.8
137.5°	73.5	81.4	88.6	95.8	98.9	101.9	106.7	110.9	113.9	114.5
140°	66.9	74.1	81.4	88.0	91.0	93.4	98.3	102.5	104.9	105.5
142.5°	59.7	66.9	73.5	79.6	82.0	84.4	89.2	92.8	94.0	95.2
145°	52.4	59.1	65.1	70.5	72.9	75.3	79.0	82.6	83.8	85.0
147.5°	44.6	51.2	56.7	61.5	63.9	65.7	69.3	71.7	74.1	74.1
150°	36.8	42.8	48.2	53.0	54.9	56.7	59.1	61.5	62.7	63.9
152.5°	29.5	34.4	39.8	44.6	45.8	47.0	50.0	51.2	53.0	53.6
155°	23.5	27.1	31.3	35.6	37.4	38.6	41.0	42.2	43.4	43.4
157.5°	18.1	21.1	23.5	27.1	28.9	30.7	32.5	33.8	34.4	34.4
160°	12.7	15.1	17.5	19.9	21.1	22.3	24.1	24.7	25.9	25.9
162.5°	8.4	10.2	12.1	13.9	14.5	15.1	16.9	18.1	18.7	18.7
165°	5.4	6.0	7.2	8.4	9.0	9.6	10.8	11.5	12.1	12.1
167.5°	2.4	3.0	3.6	4.2	4.2	4.8	5.4	6.6	6.6	6.6
170°	1.2	1.2	1.2	1.2	1.8	1.8	1.8	2.4	2.4	2.4
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)