

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: P241476

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241476
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-25)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-3-LD4-50-2HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

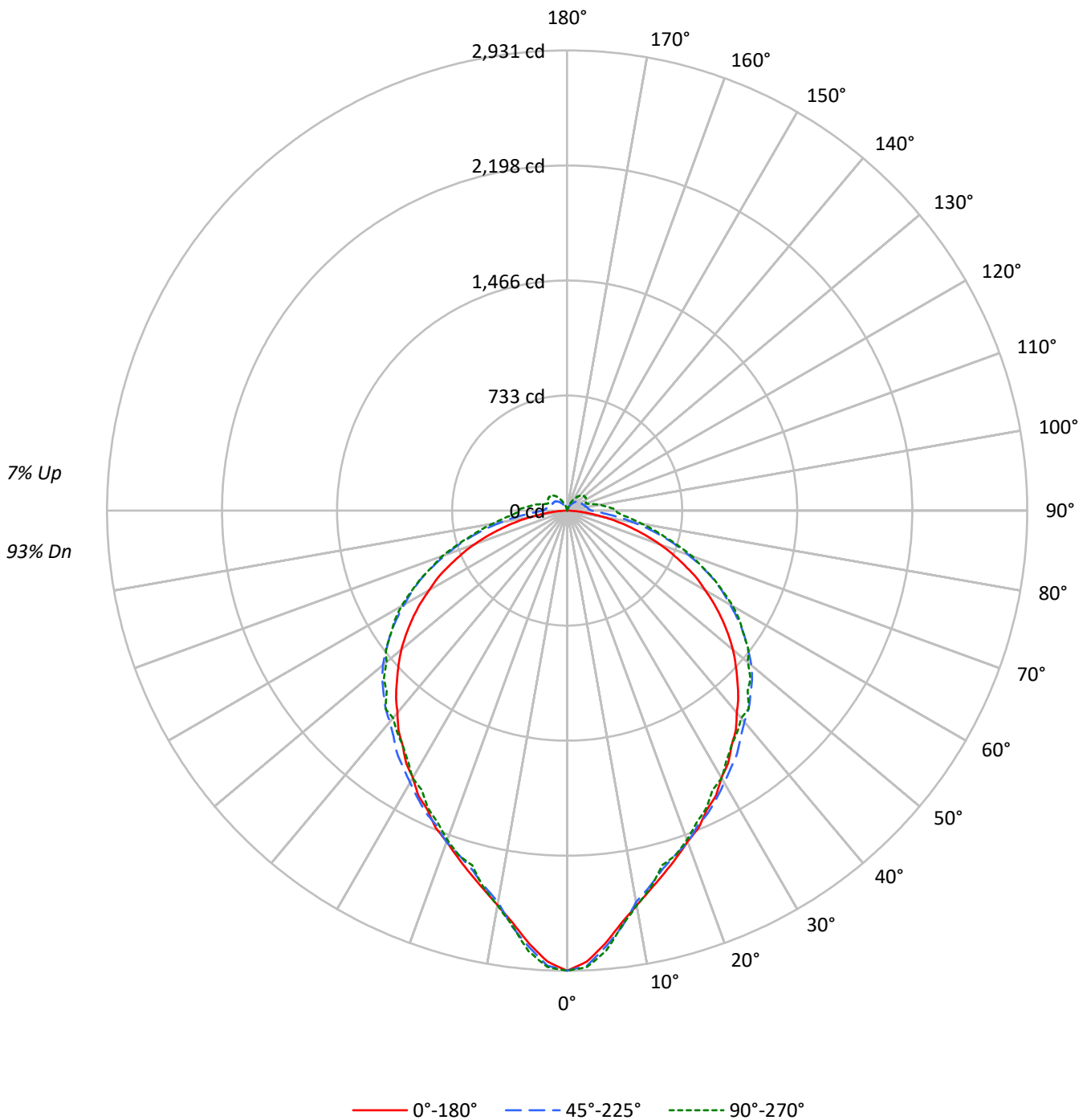
Lumens per Lamp: N/A
Luminaire Lumens: 7879.0 lumens
Efficiency: N/A
Efficacy: 113.7 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 69.3
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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CATALOG NUMBER: FVS8M-3-LD4-50-2HI-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	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	87	77	68	61	84	74	67	60	71	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	57	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	41	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	31	26	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	24	36	29	24	34	28	24	33	27	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17114	17114	17114
5°	16162	16081	16194
10°	14998	14508	14560
15°	14259	13554	13333
20°	13686	13037	12816
25°	13234	12550	12204
30°	12867	12121	11738
35°	12569	11840	11235
40°	12292	11500	11057
45°	12052	11412	10951
50°	11809	11284	10750
55°	11417	10939	10552
60°	10890	10458	10242
65°	10282	9969	9594
70°	9435	9098	8909
75°	8040	8107	7831
80°	6101	6778	7100
85°	3210	5229	6713



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.1	3.3
10°-20°	669.6	8.5
20°-30°	975.2	12.4
30°-40°	1164.9	14.8
40°-50°	1251.9	15.9
50°-60°	1188.8	15.1
60°-70°	960.6	12.2
70°-80°	617.0	7.8
80°-90°	270.1	3.4
90°-100°	143.3	1.8
100°-110°	108.5	1.4
110°-120°	86.6	1.1
120°-130°	77.2	1.0
130°-140°	57.7	0.7
140°-150°	33.4	0.4
150°-160°	13.2	0.2
160°-170°	2.8	0.0
170°-180°	0.1	0.0
0°-30°	1903.0	24.2
0°-40°	3067.9	38.9
0°-60°	5508.7	69.9
0°-90°	7356.4	93.4
90°-120°	338.4	4.3
90°-150°	506.6	6.4
90°-180°	523.0	6.6
0°-180°	7879.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2931	2931	2931	2931	2931	
5°	2770	2772	2790	2812	2817	257
15°	2391	2382	2360	2356	2339	674
25°	2103	2126	2126	2103	2094	973
35°	1826	1871	1889	1869	1825	1146
45°	1534	1593	1652	1675	1626	1184
55°	1203	1279	1375	1372	1371	1075
65°	826	905	1024	1034	1031	818
75°	424	510	622	660	640	451
85°	76	147	253	315	359	96
90°	1	67	156	219	310	4
95°	1	59	135	200	258	1
105°	1	52	118	158	157	1
115°	1	48	103	129	132	1
125°	1	41	98	137	144	1
135°	1	30	80	122	135	1
145°	2	17	55	88	104	1
155°	2	6	27	48	55	1
165°	3	2	7	15	19	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°	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7
2.5°	2875.6	2879.7	2879.7	2878.7	2880.8	2879.7	2884.9	2892.2	2895.3	2899.5	2900.5
5°	2769.5	2773.6	2767.4	2761.2	2765.3	2771.6	2776.8	2787.2	2786.1	2785.1	2790.3
7.5°	2648.8	2649.9	2644.7	2641.6	2639.5	2643.6	2647.8	2652.0	2660.3	2669.6	2673.8
10°	2552.1	2555.2	2545.9	2538.6	2535.5	2534.4	2540.7	2548.0	2551.1	2542.8	2531.3
12.5°	2466.8	2464.8	2461.6	2449.2	2455.4	2457.5	2459.6	2457.5	2447.1	2441.9	2447.1
15°	2390.9	2389.9	2386.8	2379.5	2381.6	2381.6	2375.3	2371.2	2371.2	2378.4	2359.7
17.5°	2317.1	2316.0	2315.0	2304.6	2308.8	2309.8	2310.8	2309.8	2315.0	2302.5	2297.3
20°	2243.3	2239.1	2240.1	2242.2	2252.6	2248.5	2247.4	2251.6	2243.3	2241.2	2247.4
22.5°	2187.1	2185.0	2180.9	2179.8	2180.9	2178.8	2181.9	2184.0	2181.9	2188.1	2171.5
25°	2102.9	2101.8	2103.9	2108.1	2117.4	2125.7	2132.0	2117.4	2128.9	2124.7	2125.7
27.5°	2049.8	2049.8	2050.9	2047.7	2054.0	2059.2	2059.2	2068.5	2072.7	2064.4	2063.3
30°	1964.5	1964.5	1970.8	1982.2	1992.6	2005.1	2003.0	2004.1	2005.1	2006.1	2000.9
32.5°	1908.4	1910.5	1913.6	1914.6	1930.2	1928.1	1930.2	1947.9	1948.9	1947.9	1942.7
35°	1826.2	1823.1	1835.6	1843.9	1866.8	1870.9	1874.1	1876.1	1886.5	1881.3	1888.6
37.5°	1763.8	1764.9	1770.1	1782.5	1784.6	1800.2	1811.7	1814.8	1813.7	1818.9	1815.8
40°	1681.7	1678.5	1686.9	1708.7	1727.4	1734.7	1740.9	1751.3	1755.5	1760.7	1756.5
42.5°	1613.0	1610.9	1619.3	1638.0	1653.6	1667.1	1673.3	1684.8	1698.3	1705.6	1711.8
45°	1534.0	1531.9	1544.4	1563.1	1584.9	1593.3	1604.7	1622.4	1639.0	1648.4	1652.5
47.5°	1456.0	1458.1	1461.2	1483.0	1514.2	1523.6	1537.1	1544.4	1576.6	1586.0	1597.4
50°	1379.0	1380.1	1389.4	1402.9	1428.9	1440.4	1459.1	1479.9	1494.5	1513.2	1531.9
52.5°	1291.7	1290.6	1305.2	1324.9	1349.9	1365.5	1376.9	1407.1	1423.7	1438.3	1450.8
55°	1203.3	1209.5	1219.9	1237.6	1262.5	1279.2	1290.6	1315.6	1347.8	1363.4	1374.9
57.5°	1113.8	1119.0	1134.6	1151.3	1174.1	1185.6	1203.3	1230.3	1254.2	1271.9	1289.6
60°	1015.0	1021.3	1036.9	1055.6	1088.9	1092.0	1112.8	1138.8	1163.7	1187.7	1199.1
62.5°	930.8	930.8	942.2	966.1	990.1	1004.6	1024.4	1047.3	1075.3	1095.1	1114.9
65°	825.7	832.0	849.7	872.5	889.2	904.8	926.6	952.6	983.8	1006.7	1024.4
67.5°	729.0	732.2	751.9	769.6	797.7	814.3	824.7	859.0	888.1	907.9	922.5
70°	630.2	636.5	651.0	671.8	696.8	714.5	727.0	760.2	784.1	808.1	819.5
72.5°	524.2	532.5	551.2	572.0	597.0	612.6	625.0	657.3	682.2	703.0	727.0
75°	424.3	429.5	449.3	472.2	499.2	509.6	526.2	551.2	582.4	608.4	621.9
77.5°	329.7	333.8	353.6	372.3	398.3	412.9	427.4	455.5	481.5	505.4	523.1
80°	234.0	239.2	256.9	274.6	302.6	316.2	326.6	358.8	385.8	406.6	425.4
82.5°	149.8	155.0	171.6	193.4	214.2	228.8	240.2	265.2	293.3	313.0	334.9
85°	75.9	80.1	94.6	113.4	139.4	146.6	164.3	186.2	211.1	233.0	252.7
87.5°	22.9	29.1	43.7	61.4	82.2	92.6	106.1	129.0	150.8	171.6	193.4
90°	1.0	6.2	18.7	35.4	56.2	66.6	78.0	98.8	117.5	138.3	156.0
92.5°	1.0	5.2	16.6	33.3	52.0	62.4	71.8	91.5	109.2	125.8	141.4
95°	1.0	4.2	15.6	31.2	49.9	59.3	68.6	87.4	104.0	120.6	135.2
97.5°	1.0	4.2	14.6	30.2	47.8	57.2	66.6	83.2	98.8	115.4	131.0
100°	1.0	4.2	14.6	29.1	46.8	55.1	63.4	80.1	95.7	111.3	125.8
102.5°	1.0	4.2	13.5	29.1	44.7	53.0	61.4	77.0	92.6	108.2	121.7
105°	1.0	3.1	13.5	28.1	43.7	52.0	59.3	74.9	90.5	105.0	117.5
107.5°	1.0	3.1	12.5	27.0	42.6	51.0	58.2	73.8	87.4	101.9	113.4
110°	1.0	3.1	12.5	26.0	41.6	49.9	57.2	72.8	86.3	98.8	109.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.0	3.1	11.4	25.0	40.6	48.9	56.2	70.7	84.2	95.7	106.1
115°	1.0	2.1	11.4	23.9	39.5	47.8	55.1	69.7	82.2	93.6	103.0
117.5°	1.0	2.1	10.4	23.9	38.5	45.8	54.1	67.6	80.1	91.5	101.9
120°	1.0	2.1	10.4	22.9	36.4	44.7	52.0	65.5	79.0	90.5	100.9
122.5°	1.0	2.1	9.4	21.8	35.4	42.6	49.9	63.4	77.0	89.4	99.8
125°	1.0	1.0	8.3	19.8	33.3	40.6	47.8	61.4	73.8	86.3	97.8
127.5°	1.0	1.0	7.3	18.7	32.2	38.5	45.8	59.3	71.8	83.2	94.6
130°	1.0	1.0	6.2	16.6	30.2	36.4	42.6	55.1	67.6	79.0	90.5
132.5°	1.0	1.0	6.2	15.6	27.0	33.3	39.5	52.0	63.4	74.9	85.3
135°	1.0	1.0	5.2	13.5	25.0	30.2	36.4	47.8	59.3	69.7	80.1
137.5°	2.1	1.0	4.2	11.4	21.8	27.0	32.2	43.7	54.1	64.5	73.8
140°	2.1	1.0	3.1	9.4	18.7	23.9	29.1	38.5	48.9	58.2	68.6
142.5°	2.1	2.1	2.1	8.3	15.6	19.8	25.0	34.3	43.7	53.0	61.4
145°	2.1	2.1	2.1	6.2	12.5	16.6	20.8	29.1	37.4	46.8	55.1
147.5°	2.1	2.1	2.1	5.2	10.4	13.5	16.6	25.0	32.2	39.5	47.8
150°	2.1	2.1	2.1	4.2	8.3	11.4	13.5	19.8	27.0	34.3	40.6
152.5°	2.1	2.1	2.1	3.1	6.2	8.3	10.4	16.6	21.8	28.1	34.3
155°	2.1	2.1	2.1	2.1	5.2	6.2	8.3	12.5	17.7	21.8	27.0
157.5°	2.1	2.1	2.1	2.1	3.1	4.2	6.2	9.4	13.5	17.7	20.8
160°	2.1	2.1	2.1	2.1	2.1	3.1	4.2	6.2	9.4	12.5	15.6
162.5°	3.1	2.1	2.1	2.1	2.1	2.1	3.1	4.2	6.2	9.4	11.4
165°	3.1	2.1	2.1	2.1	1.0	2.1	2.1	3.1	4.2	5.2	7.3
167.5°	3.1	3.1	2.1	2.1	2.1	1.0	1.0	1.0	2.1	3.1	4.2
170°	3.1	3.1	2.1	2.1	2.1	1.0	1.0	1.0	1.0	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°	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7	2930.7
2.5°	2901.6	2907.8	2909.9	2910.9	2915.1	2913.0	2915.1	2910.9	2910.9	2909.9
5°	2789.2	2793.4	2800.7	2811.1	2812.1	2813.2	2815.2	2820.4	2822.5	2817.3
7.5°	2661.3	2666.5	2658.2	2652.0	2657.2	2656.1	2665.5	2659.2	2666.5	2667.6
10°	2524.0	2525.1	2536.5	2544.8	2543.8	2548.0	2543.8	2538.6	2544.8	2553.2
12.5°	2448.1	2432.5	2413.8	2423.2	2431.5	2434.6	2454.4	2457.5	2465.8	2459.6
15°	2352.4	2362.8	2375.3	2356.6	2355.6	2349.3	2343.1	2338.9	2337.9	2338.9
17.5°	2306.7	2289.0	2278.6	2288.0	2303.6	2312.9	2312.9	2315.0	2297.3	2300.5
20°	2226.6	2231.8	2251.6	2240.1	2233.9	2227.7	2223.5	2230.8	2238.1	2231.8
22.5°	2179.8	2188.1	2169.4	2191.3	2195.4	2202.7	2197.5	2168.4	2156.9	2151.7
25°	2122.6	2114.3	2144.5	2113.3	2102.9	2086.2	2084.1	2088.3	2094.5	2093.5
27.5°	2055.0	2073.7	2035.3	2044.6	2060.2	2062.3	2058.1	2035.3	2022.8	2005.1
30°	2013.4	1979.1	1997.8	1995.7	1973.9	1968.7	1957.3	1963.5	1968.7	1967.7
32.5°	1934.4	1942.7	1921.9	1907.3	1920.9	1931.3	1930.2	1906.3	1891.7	1887.6
35°	1875.1	1867.8	1859.5	1880.3	1868.9	1848.1	1823.1	1824.1	1825.2	1825.2
37.5°	1816.9	1798.1	1821.0	1782.5	1779.4	1787.7	1800.2	1792.9	1781.5	1779.4
40°	1749.3	1770.1	1736.8	1759.7	1762.8	1758.6	1732.6	1724.3	1725.3	1725.3
42.5°	1713.9	1706.6	1724.3	1720.1	1708.7	1707.7	1720.1	1720.1	1714.9	1711.8
45°	1666.1	1661.9	1666.1	1665.0	1675.4	1676.5	1652.5	1633.8	1627.6	1625.5
47.5°	1596.4	1620.3	1603.7	1612.0	1598.5	1582.9	1581.8	1586.0	1584.9	1582.9
50°	1536.1	1535.0	1554.8	1520.5	1523.6	1531.9	1529.8	1514.2	1509.0	1501.7
52.5°	1469.5	1475.7	1459.1	1465.3	1464.3	1452.9	1440.4	1445.6	1451.8	1456.0
55°	1383.2	1392.5	1389.4	1384.2	1371.7	1375.9	1390.5	1383.2	1372.8	1370.7
57.5°	1310.4	1300.0	1310.4	1304.1	1312.5	1307.3	1289.6	1291.7	1295.8	1302.1
60°	1215.7	1229.3	1210.5	1225.1	1212.6	1200.1	1210.5	1225.1	1220.9	1219.9
62.5°	1118.0	1124.2	1130.5	1118.0	1115.9	1124.2	1125.3	1112.8	1116.9	1121.1
65°	1027.5	1021.3	1032.7	1032.7	1033.7	1029.6	1019.2	1025.4	1030.6	1030.6
67.5°	928.7	938.1	932.9	938.1	930.8	932.9	937.0	928.7	930.8	925.6
70°	830.9	839.3	845.5	842.4	846.5	849.7	842.4	841.3	842.4	845.5
72.5°	735.3	742.6	756.1	759.2	766.5	762.3	750.9	745.7	740.5	740.5
75°	635.4	649.0	656.2	667.7	660.4	655.2	660.4	647.9	642.7	639.6
77.5°	538.7	554.3	567.8	561.6	564.7	569.9	564.7	561.6	558.5	560.6
80°	441.0	460.7	468.0	472.2	477.4	477.4	479.4	480.5	481.5	481.5
82.5°	355.7	369.2	380.6	390.0	393.1	393.1	400.4	406.6	412.9	417.0
85°	277.7	289.1	300.6	308.9	315.1	320.3	331.8	341.1	351.5	358.8
87.5°	212.2	223.6	236.1	248.6	254.8	262.1	274.6	288.1	305.8	320.3
90°	169.5	184.1	198.6	213.2	219.4	226.7	242.3	260.0	289.1	309.9
92.5°	156.0	170.6	184.1	198.6	205.9	213.2	229.8	254.8	282.9	294.3
95°	149.8	164.3	177.8	191.4	199.7	208.0	225.7	242.3	253.8	257.9
97.5°	144.6	158.1	170.6	185.1	192.4	199.7	213.2	221.5	228.8	231.9
100°	139.4	152.9	165.4	177.8	183.0	187.2	196.6	205.9	214.2	216.3
102.5°	135.2	146.6	157.0	166.4	170.6	174.7	183.0	187.2	185.1	184.1
105°	129.0	139.4	147.7	155.0	158.1	160.2	163.3	162.2	159.1	157.0
107.5°	123.8	131.0	138.3	142.5	144.6	144.6	143.5	142.5	140.4	140.4
110°	118.6	124.8	130.0	133.1	134.2	134.2	134.2	132.1	132.1	131.0



TEST NUMBER: P241476

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	114.4	120.6	124.8	127.9	129.0	129.0	130.0	130.0	129.0	129.0
115°	111.3	117.5	122.7	126.9	129.0	130.0	132.1	133.1	132.1	132.1
117.5°	110.2	117.5	123.8	130.0	132.1	134.2	137.3	137.3	136.2	136.2
120°	110.2	118.6	125.8	132.1	135.2	138.3	141.4	141.4	140.4	140.4
122.5°	110.2	118.6	125.8	133.1	137.3	139.4	143.5	143.5	142.5	142.5
125°	108.2	117.5	125.8	133.1	137.3	140.4	143.5	144.6	143.5	143.5
127.5°	105.0	114.4	123.8	131.0	135.2	138.3	142.5	143.5	143.5	143.5
130°	100.9	111.3	119.6	127.9	132.1	135.2	139.4	141.4	142.5	142.5
132.5°	96.7	105.0	114.4	122.7	126.9	130.0	135.2	137.3	139.4	139.4
135°	90.5	99.8	109.2	117.5	121.7	124.8	130.0	133.1	134.2	135.2
137.5°	84.2	93.6	101.9	110.2	114.4	117.5	123.8	126.9	129.0	130.0
140°	77.0	86.3	94.6	103.0	107.1	110.2	115.4	119.6	121.7	122.7
142.5°	69.7	78.0	86.3	94.6	97.8	100.9	107.1	111.3	113.4	114.4
145°	62.4	69.7	78.0	85.3	88.4	90.5	96.7	99.8	103.0	104.0
147.5°	55.1	62.4	68.6	74.9	78.0	80.1	85.3	88.4	90.5	91.5
150°	47.8	54.1	60.3	65.5	67.6	69.7	72.8	75.9	78.0	79.0
152.5°	40.6	45.8	51.0	55.1	57.2	58.2	62.4	64.5	65.5	66.6
155°	32.2	37.4	42.6	45.8	47.8	48.9	52.0	53.0	54.1	55.1
157.5°	25.0	29.1	33.3	37.4	38.5	40.6	41.6	43.7	43.7	43.7
160°	18.7	21.8	26.0	29.1	30.2	32.2	33.3	34.3	35.4	35.4
162.5°	13.5	15.6	18.7	20.8	21.8	23.9	25.0	26.0	27.0	27.0
165°	9.4	10.4	12.5	14.6	14.6	15.6	17.7	17.7	18.7	18.7
167.5°	5.2	6.2	7.3	8.3	8.3	9.4	10.4	11.4	11.4	11.4
170°	2.1	2.1	3.1	3.1	3.1	4.2	4.2	5.2	5.2	5.2
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)