

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: P241513

Luminaire Tested: **FVS8M-4-LD4-30-3LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241513
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-LD4-30-3LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (252) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

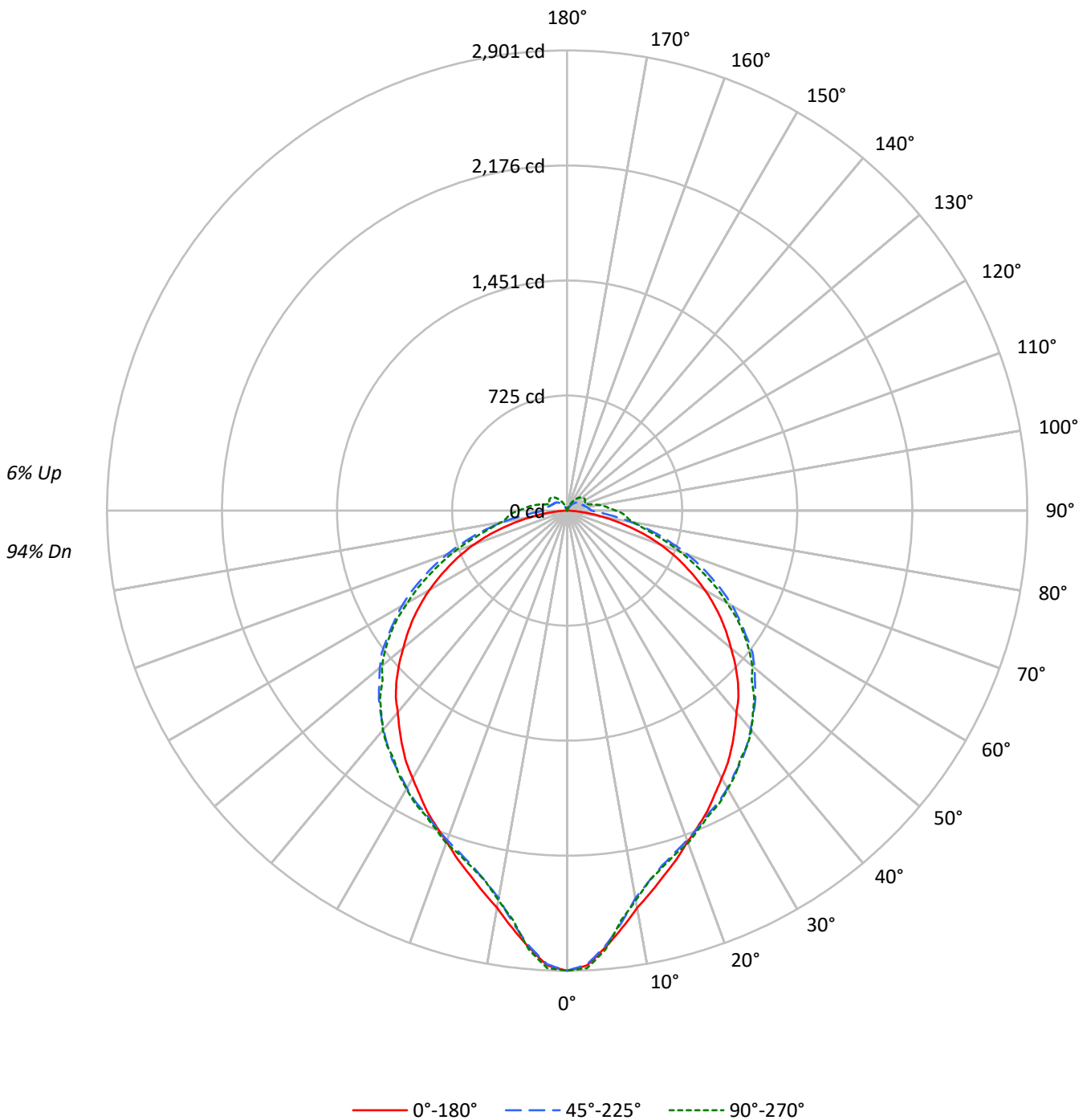
Lumens per Lamp: N/A
Luminaire Lumens: 7806.0 lumens
Efficiency: N/A
Efficacy: 233.0 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.04 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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	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°	12964	12964	12964
5°	12359	12161	12217
10°	11461	10894	10881
15°	10881	10199	10151
20°	10414	9845	9803
25°	10128	9555	9446
30°	9831	9408	9249
35°	9623	9264	8986
40°	9380	9078	8862
45°	9257	8935	8595
50°	8957	8761	8347
55°	8730	8470	8022
60°	8397	8124	7471
65°	7954	7586	6826
70°	7382	6954	6108
75°	6333	6128	5234
80°	4799	5087	4743
85°	2541	3946	5283



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.3	3.3
10°-20°	661.0	8.5
20°-30°	975.9	12.5
30°-40°	1187.6	15.2
40°-50°	1264.1	16.2
50°-60°	1188.7	15.2
60°-70°	940.3	12.0
70°-80°	586.8	7.5
80°-90°	260.6	3.3
90°-100°	143.5	1.8
100°-110°	104.8	1.3
110°-120°	81.0	1.0
120°-130°	69.5	0.9
130°-140°	49.0	0.6
140°-150°	26.4	0.3
150°-160°	9.7	0.1
160°-170°	1.8	0.0
170°-180°	0.0	0.0
0°-30°	1892.2	24.2
0°-40°	3079.8	39.5
0°-60°	5532.6	70.9
0°-90°	7320.2	93.8
90°-120°	329.3	4.2
90°-150°	474.2	6.1
90°-180°	486.0	6.2
0°-180°	7806.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2901	2901	2901	2901	2901	
5°	2764	2762	2755	2781	2777	257
15°	2376	2360	2315	2310	2327	670
25°	2091	2106	2107	2131	2117	962
35°	1812	1866	1921	1939	1907	1133
45°	1522	1605	1678	1677	1667	1170
55°	1183	1293	1378	1385	1362	1055
65°	815	912	1006	985	958	807
75°	420	512	603	606	558	446
85°	72	155	242	295	369	94
90°	2	73	154	224	306	4
95°	1	62	138	201	251	0
105°	1	52	114	152	149	1
115°	1	43	97	121	124	1
125°	1	35	88	123	132	1
135°	1	24	68	102	117	1
145°	2	12	43	70	82	1
155°	2	5	19	36	42	1
165°	2	2	4	9	12	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241513

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7
2.5°	2870.1	2873.0	2877.0	2871.2	2875.3	2872.4	2876.4	2874.7	2871.2	2870.1	2863.7
5°	2764.3	2773.0	2768.9	2765.4	2767.7	2762.0	2770.6	2765.4	2760.8	2753.9	2755.0
7.5°	2653.8	2649.8	2653.3	2642.9	2641.1	2644.0	2640.5	2639.4	2641.7	2627.3	2620.9
10°	2542.8	2548.0	2538.2	2537.1	2533.6	2534.7	2529.0	2521.4	2508.1	2492.0	2479.8
12.5°	2459.0	2458.4	2458.4	2449.7	2438.8	2441.1	2431.2	2414.5	2404.1	2395.4	2390.8
15°	2376.3	2376.9	2369.4	2361.3	2360.1	2359.6	2357.2	2343.4	2331.2	2324.3	2315.0
17.5°	2301.2	2302.3	2301.2	2297.1	2295.4	2287.3	2288.4	2275.7	2259.0	2257.2	2259.5
20°	2220.8	2229.5	2234.7	2219.6	2220.2	2215.0	2217.9	2212.7	2205.8	2209.2	2211.0
22.5°	2154.9	2163.0	2161.2	2156.6	2159.5	2160.7	2161.2	2163.0	2164.1	2160.7	2161.8
25°	2091.3	2090.1	2091.3	2101.7	2101.7	2105.7	2105.7	2104.0	2103.4	2100.0	2106.9
27.5°	2016.1	2024.2	2031.7	2036.9	2036.9	2041.0	2038.1	2053.1	2058.9	2061.8	2069.9
30°	1947.9	1960.0	1963.5	1968.1	1984.9	1991.3	1995.9	2009.2	2012.1	2013.8	2020.2
32.5°	1885.4	1888.9	1893.0	1916.1	1931.7	1936.3	1941.0	1946.7	1956.0	1957.1	1965.2
35°	1812.0	1813.8	1832.3	1848.4	1859.4	1866.4	1876.2	1893.0	1905.7	1915.5	1920.7
37.5°	1736.3	1750.7	1764.6	1772.7	1796.4	1811.4	1825.3	1844.4	1848.4	1855.4	1862.3
40°	1660.5	1675.6	1681.9	1710.3	1736.9	1748.4	1758.2	1771.5	1778.5	1792.9	1800.5
42.5°	1598.7	1601.6	1612.5	1640.3	1662.8	1671.5	1685.4	1710.3	1728.8	1740.3	1738.6
45°	1521.8	1521.2	1544.9	1558.8	1587.7	1605.0	1622.4	1642.6	1660.5	1676.1	1678.5
47.5°	1437.4	1443.7	1461.1	1481.3	1521.2	1539.7	1550.7	1565.1	1585.9	1596.9	1606.2
50°	1348.3	1367.4	1374.9	1410.8	1440.8	1454.1	1469.7	1494.6	1516.6	1533.9	1541.4
52.5°	1266.2	1276.0	1299.7	1325.2	1354.7	1377.2	1389.4	1422.3	1443.1	1455.9	1472.6
55°	1183.0	1187.6	1215.3	1239.6	1272.0	1293.4	1307.8	1337.9	1351.8	1372.0	1377.8
57.5°	1093.9	1102.6	1124.0	1153.5	1184.1	1199.1	1209.6	1244.2	1265.1	1286.5	1289.3
60°	1003.1	1014.7	1032.6	1066.2	1087.6	1103.2	1118.8	1154.0	1175.4	1193.4	1203.8
62.5°	907.7	917.0	939.5	967.3	990.4	1007.2	1026.8	1056.3	1077.1	1097.4	1106.6
65°	815.2	825.1	845.3	868.4	896.8	911.8	929.1	953.4	979.4	993.9	1005.5
67.5°	722.7	727.4	746.4	770.7	800.8	811.2	828.5	852.2	885.8	896.8	907.7
70°	625.6	628.5	644.1	673.0	695.6	712.3	722.7	755.7	778.8	795.0	806.0
72.5°	526.1	533.1	542.9	570.7	595.5	609.4	627.3	656.2	678.2	695.0	699.6
75°	420.3	428.4	445.2	471.8	496.1	512.3	527.9	548.7	573.6	590.9	603.0
77.5°	320.9	333.0	345.2	367.7	398.4	412.8	425.5	453.3	477.0	493.8	500.7
80°	227.8	237.1	252.7	274.1	304.1	316.8	330.1	355.6	376.4	392.0	407.6
82.5°	148.6	149.7	170.6	190.2	216.8	229.0	241.7	267.1	288.5	303.0	317.4
85°	71.7	79.8	96.0	116.8	142.2	155.0	167.1	188.5	205.8	222.6	241.7
87.5°	22.5	27.8	45.7	65.9	87.3	98.9	109.3	129.5	146.9	164.2	182.7
90°	1.7	6.9	21.4	41.1	62.4	73.4	82.7	100.6	119.1	137.0	153.8
92.5°	0.6	5.2	18.5	37.0	56.7	65.9	75.2	93.1	110.4	128.4	146.3
95°	0.6	4.6	16.8	34.1	53.2	61.9	70.5	88.5	106.4	123.2	138.2
97.5°	0.6	4.6	16.2	32.4	49.7	58.4	67.1	85.0	101.8	117.9	131.8
100°	0.6	4.0	15.0	30.1	47.4	55.5	64.2	80.9	97.1	112.2	125.5
102.5°	0.6	3.5	13.9	28.9	45.1	53.2	61.9	77.5	92.5	106.4	119.7
105°	0.6	3.5	13.3	27.8	43.4	51.5	59.0	74.6	88.5	101.8	113.9
107.5°	0.6	2.9	12.7	26.0	41.6	49.1	56.7	71.7	85.0	97.7	108.7
110°	0.6	2.9	11.6	24.9	39.9	47.4	54.9	68.8	82.1	93.7	104.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	2.3	11.0	23.7	38.2	45.7	52.6	66.5	79.2	90.2	100.0
115°	0.6	2.3	10.4	22.5	36.4	43.4	50.9	64.2	76.3	87.3	96.6
117.5°	1.2	1.7	9.3	21.4	34.7	41.6	48.6	61.9	74.0	85.0	94.8
120°	1.2	1.7	8.7	20.2	33.0	39.9	46.3	59.6	71.7	82.7	93.1
122.5°	1.2	1.7	8.1	18.5	31.2	37.6	44.5	57.2	69.4	80.9	90.8
125°	1.2	1.7	6.9	17.3	29.5	35.3	41.6	54.3	66.5	77.5	87.9
127.5°	1.2	1.2	6.4	15.6	27.2	33.0	39.3	51.5	63.0	73.4	83.8
130°	1.2	1.2	5.2	13.9	24.9	30.6	36.4	48.6	59.0	69.4	79.2
132.5°	1.2	1.2	4.6	12.1	22.0	27.2	33.0	44.5	54.9	64.8	74.0
135°	1.2	1.2	3.5	10.4	19.7	24.3	29.5	39.9	49.7	59.6	68.2
137.5°	1.7	1.2	2.9	8.7	16.8	21.4	25.4	35.3	43.9	53.8	63.0
140°	1.7	1.7	2.3	6.9	13.9	17.9	21.4	30.1	38.7	47.4	56.1
142.5°	1.7	1.7	2.3	5.8	11.6	15.0	18.5	25.4	33.5	41.6	49.7
145°	1.7	1.7	1.7	4.6	9.3	12.1	15.0	22.0	28.9	35.8	42.8
147.5°	1.7	1.7	1.7	3.5	7.5	9.8	12.1	17.9	24.3	30.6	36.4
150°	2.3	1.7	1.7	2.9	5.8	7.5	9.8	14.5	19.7	24.9	30.1
152.5°	2.3	1.7	1.7	2.3	4.6	5.8	7.5	11.6	15.6	19.7	24.3
155°	2.3	1.7	1.7	2.3	3.5	4.6	5.8	8.7	12.1	15.6	19.1
157.5°	2.3	2.3	1.7	1.7	2.9	3.5	4.0	6.4	8.7	11.6	14.5
160°	2.3	2.3	1.7	1.7	2.3	2.3	2.9	4.6	6.4	8.1	10.4
162.5°	2.3	2.3	1.7	1.7	1.7	1.7	2.3	2.9	4.0	5.2	6.9
165°	2.3	2.3	2.3	1.7	1.7	1.7	1.7	1.7	2.3	3.5	4.0
167.5°	2.3	2.3	2.3	1.7	1.7	1.2	1.2	1.2	1.7	1.7	2.3
170°	2.9	2.3	2.3	1.7	1.7	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°	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7	2900.7
2.5°	2866.0	2868.4	2878.2	2880.5	2884.0	2882.8	2884.5	2884.5	2886.3	2886.9
5°	2761.4	2774.1	2781.0	2776.4	2781.0	2778.7	2779.3	2776.4	2775.3	2777.0
7.5°	2605.3	2604.7	2605.9	2604.7	2605.3	2605.3	2609.9	2611.6	2605.9	2605.3
10°	2471.1	2473.5	2478.7	2480.4	2478.1	2475.2	2481.5	2483.3	2489.1	2493.1
12.5°	2383.8	2374.0	2388.5	2398.3	2399.4	2402.9	2402.9	2405.8	2400.0	2389.6
15°	2315.6	2322.6	2322.0	2311.0	2310.4	2311.0	2319.1	2314.5	2319.7	2326.6
17.5°	2256.1	2253.2	2260.7	2268.8	2271.7	2275.7	2273.4	2271.1	2271.1	2269.9
20°	2201.7	2217.3	2225.4	2221.9	2224.3	2229.5	2234.7	2235.8	2233.5	2230.6
22.5°	2165.3	2172.2	2180.3	2197.7	2191.9	2192.5	2181.5	2177.4	2173.4	2170.5
25°	2111.5	2124.2	2141.6	2134.1	2130.6	2130.0	2123.7	2123.7	2118.5	2117.3
27.5°	2072.8	2089.0	2075.7	2083.2	2083.2	2087.2	2084.9	2082.0	2079.7	2079.7
30°	2033.5	2023.6	2031.7	2038.7	2036.4	2034.0	2034.6	2026.5	2028.8	2025.9
32.5°	1971.0	1972.2	1983.7	1987.8	1988.9	1990.1	1985.5	1983.2	1980.8	1974.5
35°	1923.6	1935.2	1929.4	1938.1	1938.6	1923.6	1924.2	1917.8	1912.6	1907.4
37.5°	1869.3	1865.8	1882.0	1876.8	1868.1	1866.9	1861.7	1866.9	1865.2	1866.4
40°	1810.9	1820.1	1813.8	1813.8	1811.4	1816.6	1816.1	1812.0	1809.7	1806.8
42.5°	1754.8	1755.4	1748.4	1752.5	1751.9	1750.7	1744.9	1740.9	1742.6	1733.4
45°	1696.4	1679.6	1692.3	1681.3	1676.7	1681.9	1673.8	1671.5	1664.6	1666.9
47.5°	1613.7	1611.4	1612.5	1603.9	1602.1	1598.1	1586.5	1580.7	1578.4	1579.0
50°	1537.4	1542.0	1539.1	1535.6	1531.0	1524.7	1522.9	1525.2	1530.4	1523.5
52.5°	1470.3	1473.8	1471.5	1461.6	1457.6	1462.2	1466.3	1453.0	1447.8	1446.6
55°	1383.6	1396.3	1385.3	1389.9	1384.7	1384.7	1368.6	1367.4	1365.7	1361.6
57.5°	1299.2	1300.9	1304.4	1310.7	1295.1	1293.4	1291.7	1280.7	1271.4	1269.7
60°	1213.6	1209.0	1213.6	1204.3	1202.0	1200.9	1183.0	1169.1	1159.8	1162.7
62.5°	1114.2	1119.9	1111.8	1100.3	1096.8	1089.9	1070.2	1073.7	1070.2	1066.7
65°	1006.0	1012.4	1002.6	989.8	984.6	980.0	976.5	963.8	964.4	958.0
67.5°	908.9	903.7	903.7	889.2	887.5	887.5	873.1	863.8	863.2	857.4
70°	807.1	810.0	802.5	797.3	800.2	790.4	776.5	771.3	758.6	757.4
72.5°	706.5	715.2	706.5	706.0	700.2	697.3	682.3	674.2	664.3	656.8
75°	606.5	614.6	612.9	609.4	606.5	600.7	589.7	573.6	563.7	558.5
77.5°	511.7	515.2	522.7	518.0	519.8	514.0	505.3	492.6	482.8	481.0
80°	417.4	425.5	432.5	433.6	433.6	433.1	425.5	421.5	422.6	420.3
82.5°	331.3	340.5	351.5	356.2	359.6	360.8	366.0	371.8	381.6	387.4
85°	255.0	268.9	279.8	289.1	294.9	301.2	314.0	330.1	354.4	368.9
87.5°	198.3	213.3	227.2	243.4	253.2	259.6	274.6	298.3	325.5	342.9
90°	170.0	185.0	202.4	217.4	223.8	232.4	252.1	271.2	294.3	306.4
92.5°	160.2	176.3	190.2	204.1	212.2	219.1	234.7	247.5	263.7	272.3
95°	152.6	165.9	181.5	194.3	201.2	207.6	217.4	229.5	242.8	250.9
97.5°	145.7	159.6	171.7	183.3	189.1	193.1	205.3	216.8	226.6	229.0
100°	138.8	151.5	161.3	171.1	177.5	182.1	192.0	198.9	201.2	201.8
102.5°	131.8	142.8	152.6	160.7	165.4	169.4	174.6	178.7	179.2	177.5
105°	124.3	134.1	142.8	150.3	152.1	154.4	156.1	153.2	150.9	148.6
107.5°	117.9	126.6	133.6	137.6	138.2	138.8	137.6	135.3	133.0	132.4
110°	112.7	120.3	124.9	126.6	127.2	127.2	125.5	123.7	122.6	121.4



TEST NUMBER: P241513

CATALOG NUMBER: FVS8M-4-LD4-30-3LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	108.1	114.5	118.5	120.8	121.4	122.0	122.0	121.4	120.8	120.3
115°	104.7	111.6	116.2	119.1	120.8	122.0	123.7	124.3	124.3	124.3
117.5°	102.9	110.4	116.2	120.8	123.2	124.9	127.2	128.4	128.4	127.8
120°	101.8	109.9	116.2	122.6	124.9	126.6	129.5	131.2	131.2	130.7
122.5°	100.0	108.7	115.6	122.0	124.9	127.2	130.7	132.4	132.4	132.4
125°	97.1	106.4	113.3	120.3	122.6	125.5	128.9	131.2	131.8	132.4
127.5°	93.1	102.3	109.9	116.8	119.7	122.0	126.0	128.9	130.1	130.7
130°	88.5	97.1	104.7	112.2	115.1	117.9	122.0	124.9	126.6	127.2
132.5°	82.7	91.4	98.9	105.8	109.3	111.6	116.8	119.7	122.0	122.0
135°	76.9	85.0	91.9	98.9	102.3	105.2	110.4	113.9	116.2	116.8
137.5°	70.5	78.1	85.0	91.9	94.8	97.7	102.3	106.4	109.3	109.9
140°	64.2	71.1	78.1	84.4	87.3	89.6	94.2	98.3	100.6	101.2
142.5°	57.2	64.2	70.5	76.3	78.6	80.9	85.6	89.0	90.2	91.4
145°	50.3	56.7	62.4	67.6	70.0	72.3	75.7	79.2	80.4	81.5
147.5°	42.8	49.1	54.3	59.0	61.3	63.0	66.5	68.8	71.1	71.1
150°	35.3	41.1	46.3	50.9	52.6	54.3	56.7	59.0	60.1	61.3
152.5°	28.3	33.0	38.2	42.8	43.9	45.1	48.0	49.1	50.9	51.5
155°	22.5	26.0	30.1	34.1	35.8	37.0	39.3	40.5	41.6	41.6
157.5°	17.3	20.2	22.5	26.0	27.8	29.5	31.2	32.4	33.0	33.0
160°	12.1	14.5	16.8	19.1	20.2	21.4	23.1	23.7	24.9	24.9
162.5°	8.1	9.8	11.6	13.3	13.9	14.5	16.2	17.3	17.9	17.9
165°	5.2	5.8	6.9	8.1	8.7	9.3	10.4	11.0	11.6	11.6
167.5°	2.3	2.9	3.5	4.0	4.0	4.6	5.2	6.4	6.4	6.4
170°	1.2	1.2	1.2	1.2	1.7	1.7	1.7	2.3	2.3	2.3
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)