

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: P241447

Luminaire Tested: **FVS8M-2-LD4-40-3STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241447
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-2-LD4-40-3STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

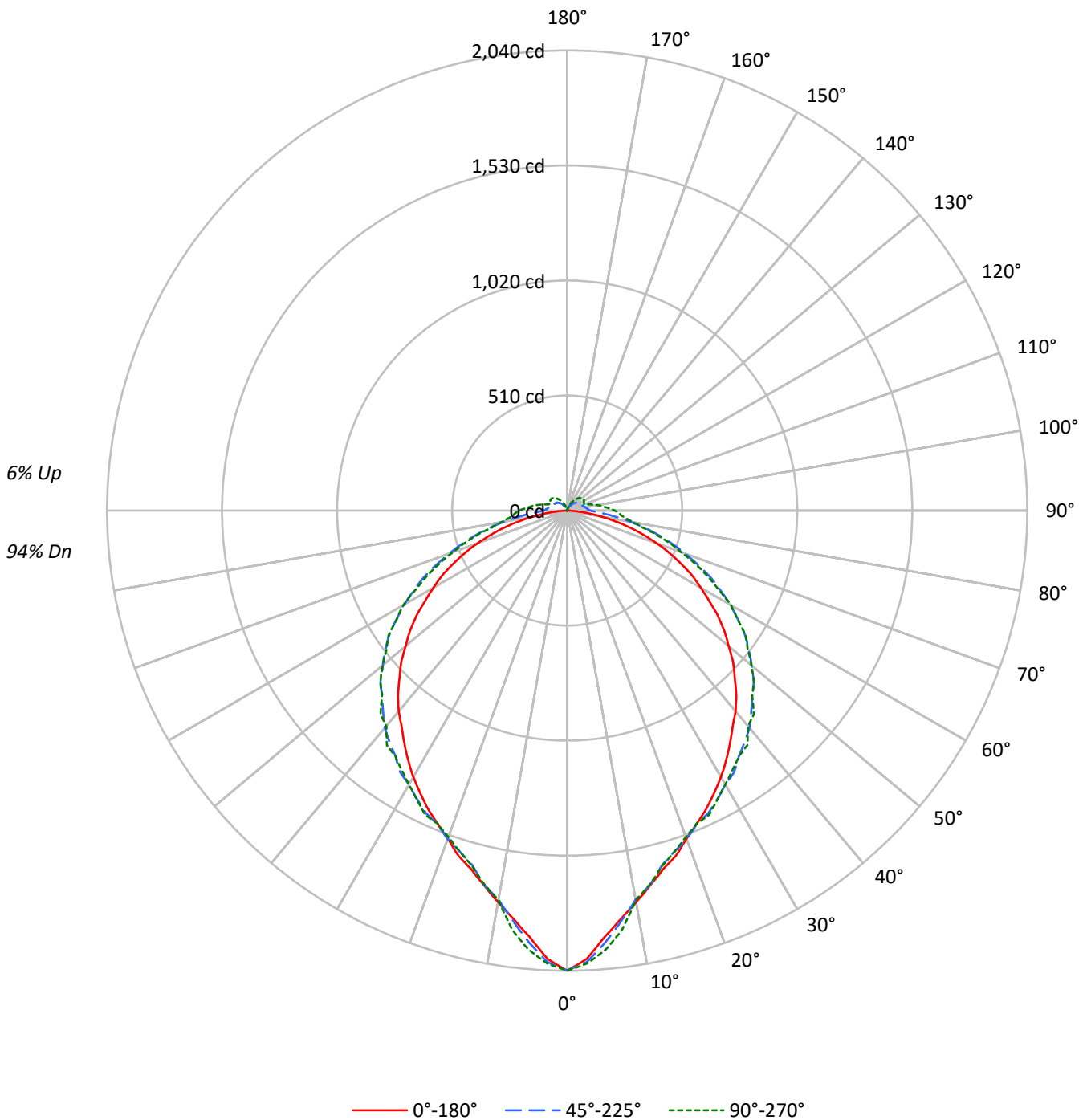
Lumens per Lamp: N/A
Luminaire Lumens: 5421.0 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 50.6
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	107	101	97	93	103	99	94	91	93	90	87	88	85	83	84	81	79	77
2	97	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63
3	88	77	69	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	51	44	56	49	43	54	47	42	51	46	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	36	31	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°	18334	18334	18334
5°	17006	17032	17292
10°	15865	15396	15390
15°	14992	14314	14305
20°	14390	13748	13605
25°	13964	13348	13355
30°	13539	12944	12874
35°	13090	12666	12586
40°	12779	12500	12303
45°	12386	12153	12031
50°	11948	11879	11753
55°	11513	11545	11453
60°	10827	10905	10836
65°	10154	10208	9818
70°	9114	9172	8716
75°	7644	8057	7669
80°	5552	6617	6723
85°	2716	4989	6901



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.6	3.3
10°-20°	462.7	8.5
20°-30°	678.7	12.5
30°-40°	825.2	15.2
40°-50°	878.4	16.2
50°-60°	824.9	15.2
60°-70°	655.4	12.1
70°-80°	409.1	7.5
80°-90°	178.9	3.3
90°-100°	94.7	1.7
100°-110°	70.1	1.3
110°-120°	54.4	1.0
120°-130°	47.0	0.9
130°-140°	34.0	0.6
140°-150°	19.4	0.4
150°-160°	7.9	0.1
160°-170°	1.6	0.0
170°-180°	0.0	0.0
0°-30°	1319.9	24.3
0°-40°	2145.1	39.6
0°-60°	3848.3	71.0
0°-90°	5091.8	93.9
90°-120°	219.2	4.0
90°-150°	319.7	5.9
90°-180°	329.0	6.1
0°-180°	5421.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2040	2040	2040	2040	2040	
5°	1898	1900	1923	1948	1954	177
15°	1645	1641	1627	1620	1630	465
25°	1460	1456	1481	1473	1488	672
35°	1259	1298	1328	1355	1328	789
45°	1051	1107	1162	1167	1160	812
55°	817	879	963	969	966	727
65°	558	622	702	708	685	551
75°	285	345	418	432	407	302
85°	50	104	167	207	240	63
90°	0	48	103	151	212	2
95°	0	39	89	131	170	0
105°	0	34	76	102	104	0
115°	0	30	65	81	82	0
125°	0	25	59	83	88	0
135°	1	19	48	71	79	1
145°	1	12	33	50	57	1
155°	1	5	17	28	32	0
165°	1	1	4	9	11	0
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°	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6
2.5°	1989.6	1994.5	1994.5	1995.3	1994.5	1994.5	1997.8	1996.1	2001.1	2001.1	2002.7
5°	1897.7	1904.3	1904.3	1902.6	1903.4	1900.2	1897.7	1907.5	1913.3	1920.7	1923.1
7.5°	1825.5	1831.2	1828.0	1824.7	1820.6	1821.4	1825.5	1830.4	1835.3	1837.8	1835.3
10°	1762.3	1761.5	1759.9	1751.7	1752.5	1752.5	1756.6	1759.0	1754.9	1750.0	1750.8
12.5°	1701.6	1700.8	1698.3	1699.1	1700.0	1700.8	1701.6	1690.9	1687.7	1697.5	1699.1
15°	1645.0	1648.3	1645.8	1645.8	1645.8	1640.9	1642.5	1637.6	1636.8	1640.9	1626.9
17.5°	1604.0	1594.1	1594.1	1595.8	1591.7	1587.6	1586.7	1591.7	1594.1	1583.5	1584.3
20°	1547.4	1545.7	1543.3	1550.6	1546.5	1545.7	1549.8	1553.9	1547.4	1537.5	1549.8
22.5°	1502.2	1497.3	1499.8	1508.8	1503.9	1499.0	1498.1	1502.2	1493.2	1502.2	1502.2
25°	1459.6	1451.4	1457.1	1455.5	1453.8	1456.3	1460.4	1465.3	1470.2	1472.7	1480.9
27.5°	1411.2	1406.2	1408.7	1411.2	1421.8	1426.8	1425.9	1425.1	1435.0	1432.5	1442.3
30°	1363.6	1352.9	1366.0	1370.1	1375.1	1375.1	1377.5	1389.0	1392.3	1400.5	1402.1
32.5°	1311.9	1308.6	1319.3	1322.6	1332.4	1335.7	1338.1	1356.2	1366.0	1370.1	1376.7
35°	1258.6	1263.5	1267.6	1273.3	1294.7	1297.9	1304.5	1313.5	1320.9	1324.2	1328.3
37.5°	1205.2	1212.6	1215.9	1238.1	1240.5	1247.1	1252.8	1263.5	1277.4	1286.5	1293.0
40°	1160.9	1157.7	1170.8	1182.3	1188.0	1200.3	1213.4	1230.7	1244.6	1248.7	1257.7
42.5°	1110.1	1106.8	1122.4	1125.7	1146.2	1161.8	1172.4	1180.6	1188.0	1198.7	1207.7
45°	1051.0	1057.6	1060.0	1077.2	1099.4	1106.8	1108.4	1126.5	1141.2	1155.2	1161.8
47.5°	998.5	1001.8	1005.9	1025.6	1042.0	1049.4	1059.2	1082.2	1100.2	1115.8	1122.4
50°	934.5	937.8	953.4	965.7	987.0	997.7	1011.6	1028.0	1042.0	1054.3	1067.4
52.5°	878.7	877.1	890.2	905.0	936.1	944.3	949.3	968.1	991.1	1004.2	1015.7
55°	817.2	819.6	828.7	851.6	863.1	878.7	889.4	916.4	939.4	953.4	963.2
57.5°	747.4	758.9	771.2	789.3	800.8	816.3	829.5	860.6	880.3	889.4	897.6
60°	684.3	692.5	708.9	722.0	743.3	757.3	764.7	789.3	810.6	820.4	832.8
62.5°	626.0	627.6	646.5	658.8	681.0	688.4	700.7	722.0	742.5	754.0	767.1
65°	557.9	562.8	571.0	592.4	611.2	621.9	633.4	660.5	673.6	693.3	701.5
67.5°	490.6	498.8	507.0	525.9	543.1	554.6	566.1	589.9	603.0	620.3	627.6
70°	421.7	426.6	438.1	455.3	474.2	484.9	496.4	513.6	530.8	545.6	555.4
72.5°	352.0	356.9	370.0	386.4	408.6	414.3	425.8	444.7	463.6	476.7	488.2
75°	284.7	288.0	302.7	316.7	338.8	344.6	355.3	374.9	394.6	411.0	418.4
77.5°	219.1	222.3	236.3	251.9	270.7	281.4	290.4	307.7	327.4	338.8	350.3
80°	155.1	161.6	170.7	187.1	205.9	215.0	226.4	245.3	261.7	273.2	283.9
82.5°	97.6	103.4	113.2	131.3	147.7	155.1	164.9	182.1	200.2	209.2	219.1
85°	50.0	54.1	65.6	79.6	96.0	104.2	113.2	130.5	142.8	155.9	167.4
87.5°	16.4	20.5	30.4	44.3	59.9	67.3	74.7	90.2	101.7	114.0	125.5
90°	0.0	4.9	14.8	27.1	41.0	48.4	55.8	67.3	78.8	91.9	102.6
92.5°	0.0	3.3	11.5	23.8	36.9	42.7	48.4	59.9	72.2	82.9	94.4
95°	0.0	3.3	10.7	22.2	33.6	39.4	45.9	56.6	68.1	79.6	89.4
97.5°	0.0	2.5	9.8	20.5	32.0	37.7	42.7	55.0	65.6	76.3	85.3
100°	0.0	2.5	9.8	19.7	30.4	36.1	41.8	52.5	63.2	72.2	82.0
102.5°	0.0	2.5	9.0	18.9	29.5	34.5	40.2	50.9	59.9	69.7	77.9
105°	0.0	2.5	9.0	18.0	28.7	33.6	38.6	49.2	58.3	66.5	75.5
107.5°	0.0	2.5	8.2	17.2	27.1	32.8	37.7	47.6	56.6	64.8	72.2
110°	0.0	1.6	8.2	17.2	26.3	31.2	36.1	45.9	54.1	62.4	68.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.6	8.2	16.4	25.4	30.4	35.3	44.3	53.3	59.9	66.5
115°	0.0	1.6	7.4	15.6	24.6	29.5	34.5	43.5	50.9	58.3	64.8
117.5°	0.0	1.6	7.4	14.8	23.8	28.7	32.8	41.8	50.0	56.6	63.2
120°	0.0	1.6	6.6	13.9	23.0	27.9	32.0	40.2	48.4	55.8	62.4
122.5°	0.0	0.8	6.6	13.9	22.2	26.3	30.4	39.4	46.8	54.1	61.5
125°	0.0	0.8	5.7	13.1	20.5	25.4	29.5	37.7	45.1	52.5	59.1
127.5°	0.0	0.8	4.9	12.3	19.7	23.8	27.9	36.1	43.5	50.0	57.4
130°	0.8	0.8	4.9	11.5	18.0	22.2	26.3	33.6	41.0	47.6	54.1
132.5°	0.8	0.8	4.1	9.8	17.2	20.5	23.8	31.2	38.6	45.1	50.9
135°	0.8	0.8	4.1	9.0	15.6	18.9	22.2	28.7	35.3	41.8	47.6
137.5°	0.8	0.8	3.3	8.2	13.9	17.2	19.7	26.3	32.8	38.6	44.3
140°	0.8	0.8	2.5	6.6	12.3	14.8	18.0	23.8	29.5	35.3	40.2
142.5°	0.8	0.8	2.5	5.7	10.7	13.1	15.6	21.3	26.3	31.2	36.9
145°	0.8	0.8	1.6	4.9	9.0	11.5	13.9	18.9	23.8	27.9	32.8
147.5°	0.8	0.8	1.6	4.1	7.4	9.8	11.5	16.4	20.5	24.6	28.7
150°	0.8	0.8	0.8	3.3	5.7	7.4	9.8	13.1	17.2	21.3	25.4
152.5°	0.8	0.8	0.8	2.5	4.9	5.7	7.4	10.7	13.9	18.0	21.3
155°	0.8	0.8	0.8	1.6	3.3	4.9	5.7	8.2	11.5	14.8	17.2
157.5°	0.8	0.8	0.8	0.8	2.5	3.3	4.1	6.6	9.0	11.5	13.9
160°	0.8	0.8	0.8	0.8	1.6	2.5	3.3	4.9	6.6	8.2	9.8
162.5°	0.8	0.8	0.8	0.8	0.8	1.6	1.6	3.3	4.1	5.7	7.4
165°	0.8	0.8	0.8	0.0	0.8	0.8	0.8	1.6	2.5	3.3	4.1
167.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.8	0.8	1.6	2.5
170°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	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°	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6	2039.6
2.5°	2003.5	2006.0	2006.0	2006.8	2006.8	2009.3	2009.3	2009.3	2010.9	2010.1
5°	1929.7	1935.4	1939.5	1944.5	1947.7	1951.0	1951.0	1951.8	1956.8	1954.3
7.5°	1833.7	1840.3	1845.2	1855.0	1858.3	1860.8	1867.3	1871.4	1873.9	1872.3
10°	1757.4	1756.6	1761.5	1758.2	1754.1	1756.6	1755.8	1759.0	1754.9	1753.3
12.5°	1689.3	1672.1	1677.0	1688.5	1690.9	1692.6	1698.3	1699.1	1702.4	1697.5
15°	1622.8	1632.7	1631.9	1623.7	1619.6	1617.1	1618.7	1625.3	1631.0	1630.2
17.5°	1588.4	1580.2	1583.5	1604.8	1612.2	1614.6	1607.3	1597.4	1586.7	1584.3
20°	1542.4	1560.5	1569.5	1544.1	1526.9	1524.4	1524.4	1531.0	1539.2	1539.2
22.5°	1514.5	1513.7	1489.1	1510.4	1521.9	1528.5	1525.2	1511.3	1498.1	1502.2
25°	1485.0	1470.2	1496.5	1482.5	1472.7	1467.8	1473.5	1481.7	1485.0	1488.3
27.5°	1433.3	1456.3	1439.1	1449.7	1462.9	1473.5	1469.4	1448.1	1441.5	1443.2
30°	1407.9	1401.3	1421.0	1437.4	1427.6	1412.8	1398.9	1395.6	1402.1	1402.1
32.5°	1379.2	1389.0	1393.9	1369.3	1371.0	1376.7	1383.3	1382.5	1372.6	1364.4
35°	1330.8	1352.1	1331.6	1350.5	1355.4	1347.2	1326.7	1329.9	1332.4	1328.3
37.5°	1307.0	1294.7	1311.9	1305.3	1299.6	1302.9	1316.8	1311.9	1313.5	1311.9
40°	1265.9	1273.3	1258.6	1265.1	1271.7	1274.2	1268.4	1247.9	1245.4	1247.1
42.5°	1211.8	1220.0	1229.9	1236.4	1220.8	1207.7	1211.0	1220.0	1222.5	1224.9
45°	1170.0	1170.0	1180.6	1161.8	1166.7	1174.9	1175.7	1172.4	1165.0	1160.1
47.5°	1128.1	1135.5	1115.8	1126.5	1124.0	1124.8	1115.8	1122.4	1124.8	1124.0
50°	1076.4	1073.1	1078.1	1067.4	1064.1	1064.9	1077.2	1072.3	1068.2	1066.6
52.5°	1023.9	1013.3	1023.1	1022.3	1030.5	1031.3	1014.9	1008.3	1011.6	1009.1
55°	968.9	970.6	967.3	973.9	968.9	963.2	961.6	963.2	963.2	966.5
57.5°	901.7	914.8	924.6	909.9	907.4	911.5	911.5	902.5	895.9	895.1
60°	837.7	843.4	850.0	851.6	846.7	841.8	840.1	837.7	839.3	838.5
62.5°	776.1	780.2	773.7	775.3	770.4	773.7	772.9	769.6	763.0	756.5
65°	707.2	710.5	708.0	704.8	708.0	711.3	695.7	690.0	684.3	685.1
67.5°	634.2	636.7	637.5	640.8	634.2	629.3	622.7	621.9	616.2	612.1
70°	566.9	565.3	571.9	569.4	563.6	562.8	554.6	544.8	539.0	537.4
72.5°	496.4	499.7	504.6	495.6	501.3	494.7	484.9	479.1	477.5	475.9
75°	426.6	434.0	435.7	432.4	432.4	426.6	425.0	420.1	414.3	406.9
77.5°	359.4	365.1	368.4	369.2	365.9	365.1	361.8	355.3	345.4	339.7
80°	292.9	298.6	303.6	306.0	304.4	309.3	301.9	297.8	294.5	296.2
82.5°	232.2	237.9	245.3	248.6	251.9	252.7	254.3	256.8	259.3	262.5
85°	176.4	185.4	193.6	201.0	206.8	209.2	215.0	222.3	232.2	239.6
87.5°	137.8	146.0	157.5	168.2	172.3	176.4	185.4	198.5	215.8	228.9
90°	114.0	123.9	134.6	145.2	151.0	155.1	168.2	182.1	200.2	211.7
92.5°	103.4	114.0	123.9	133.7	138.7	143.6	155.1	169.0	181.3	191.2
95°	99.3	108.3	118.1	127.2	131.3	136.2	146.0	154.2	164.1	169.8
97.5°	94.4	103.4	112.4	120.6	123.9	128.0	137.0	142.8	150.1	155.1
100°	90.2	99.3	106.7	114.0	117.3	120.6	128.0	133.7	134.6	137.8
102.5°	87.0	94.4	100.9	107.5	109.1	112.4	118.1	121.4	121.4	120.6
105°	82.9	89.4	95.2	100.1	101.7	104.2	105.8	105.8	105.0	104.2
107.5°	78.8	84.5	89.4	92.7	94.4	94.4	94.4	92.7	91.1	90.2
110°	75.5	80.4	84.5	86.1	86.1	86.1	85.3	84.5	83.7	82.9



TEST NUMBER: P241447

CATALOG NUMBER: FVS8M-2-LD4-40-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	72.2	77.1	80.4	82.0	82.0	82.0	82.0	82.0	81.2	80.4
115°	70.6	74.7	77.9	80.4	81.2	82.0	82.9	82.9	82.9	82.0
117.5°	68.9	73.8	77.9	81.2	82.0	83.7	84.5	85.3	84.5	84.5
120°	68.9	73.8	77.9	82.0	83.7	84.5	86.1	87.0	87.0	86.1
122.5°	67.3	73.0	77.9	82.0	83.7	85.3	87.0	87.8	87.8	87.8
125°	65.6	71.4	77.1	81.2	82.9	83.7	86.1	87.8	87.8	87.8
127.5°	63.2	69.7	74.7	78.8	80.4	82.0	84.5	86.1	87.0	87.0
130°	60.7	66.5	72.2	76.3	77.9	79.6	82.0	83.7	84.5	85.3
132.5°	57.4	63.2	68.1	73.0	74.7	76.3	78.8	81.2	81.2	82.0
135°	53.3	59.1	64.0	68.1	70.6	72.2	75.5	77.1	77.9	78.8
137.5°	49.2	54.1	59.1	64.0	65.6	67.3	70.6	73.0	74.7	74.7
140°	45.1	50.0	54.1	58.3	60.7	62.4	65.6	68.1	68.9	69.7
142.5°	41.0	45.9	50.0	53.3	55.8	57.4	59.9	62.4	63.2	64.0
145°	36.9	41.0	45.1	48.4	50.0	51.7	54.1	55.8	56.6	57.4
147.5°	32.8	36.9	40.2	43.5	44.3	45.9	48.4	50.0	50.9	50.9
150°	28.7	32.0	35.3	37.7	38.6	40.2	42.7	43.5	44.3	44.3
152.5°	24.6	27.1	29.5	32.0	33.6	34.5	36.1	37.7	37.7	38.6
155°	20.5	23.0	25.4	27.1	27.9	28.7	30.4	31.2	32.0	32.0
157.5°	16.4	18.9	20.5	22.2	23.0	23.8	24.6	25.4	26.3	26.3
160°	12.3	13.9	15.6	17.2	18.0	18.0	19.7	19.7	20.5	20.5
162.5°	8.2	9.8	11.5	13.1	13.1	13.9	13.9	14.8	14.8	14.8
165°	4.9	6.6	7.4	9.0	9.0	9.8	9.8	10.7	10.7	10.7
167.5°	3.3	3.3	4.1	4.9	5.7	5.7	5.7	6.6	6.6	6.6
170°	0.8	1.6	1.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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)