

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: P241502

Luminaire Tested: **FVS8M-4-LD4-35-2LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241502
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-LD4-35-2LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

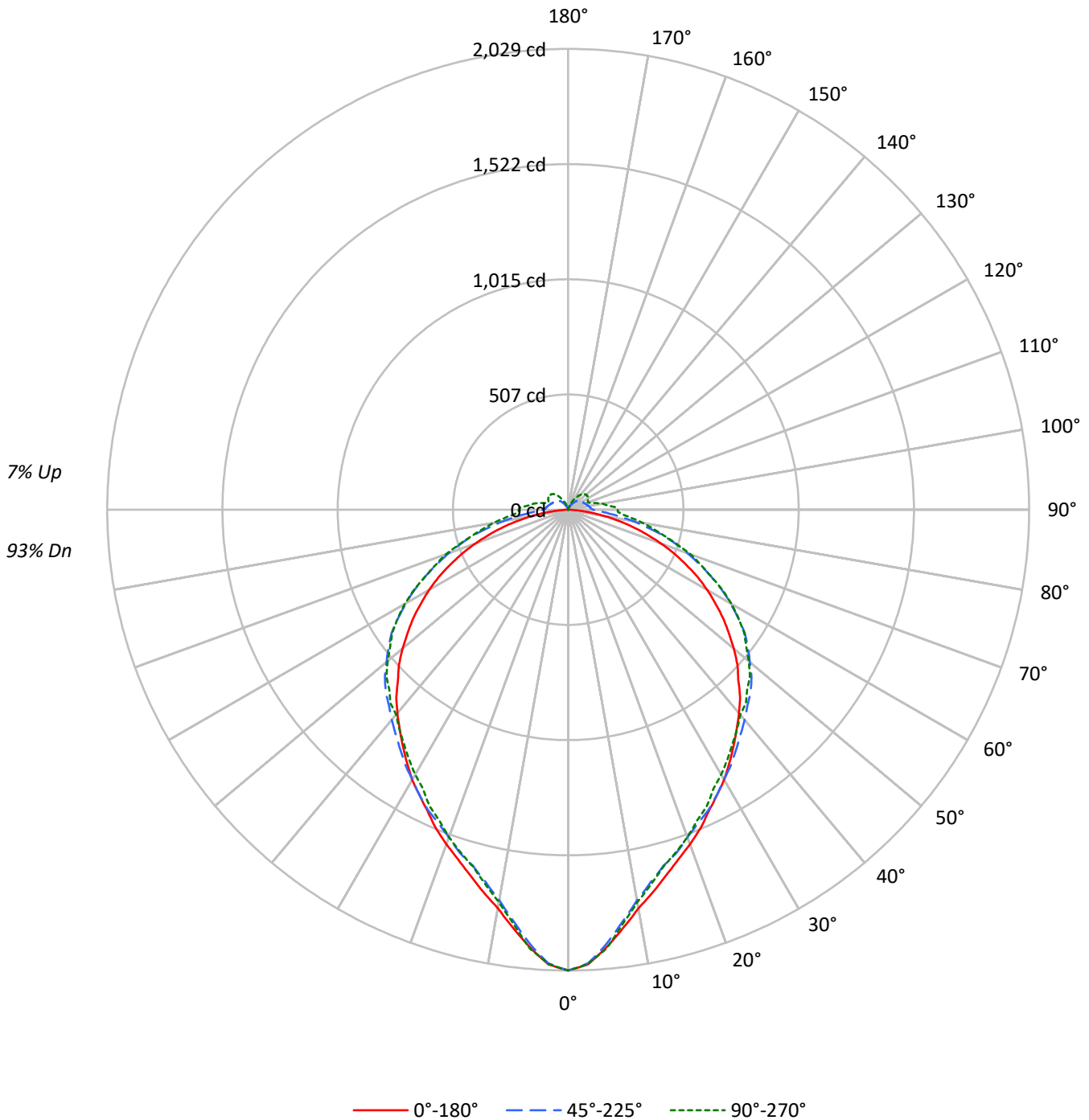
Lumens per Lamp: N/A
Luminaire Lumens: 5430.0 lumens
Efficiency: N/A
Efficacy: 119.3 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 45.5
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	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°	9067	9067	9067
5°	8651	8477	8528
10°	8030	7672	7659
15°	7629	7148	7089
20°	7348	6833	6742
25°	7090	6620	6433
30°	6930	6389	6148
35°	6739	6216	5936
40°	6607	6090	5778
45°	6442	6045	5747
50°	6320	5934	5680
55°	6141	5833	5566
60°	5915	5564	5332
65°	5581	5227	4932
70°	5112	4811	4613
75°	4436	4342	4059
80°	3440	3599	3747
85°	1804	2832	3427



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.7	3.3
10°-20°	463.2	8.5
20°-30°	672.6	12.4
30°-40°	803.0	14.8
40°-50°	860.0	15.8
50°-60°	817.3	15.1
60°-70°	657.6	12.1
70°-80°	421.0	7.8
80°-90°	185.1	3.4
90°-100°	103.4	1.9
100°-110°	78.0	1.4
110°-120°	62.3	1.1
120°-130°	55.1	1.0
130°-140°	40.5	0.7
140°-150°	22.3	0.4
150°-160°	8.4	0.2
160°-170°	1.7	0.0
170°-180°	0.0	0.0
0°-30°	1314.4	24.2
0°-40°	2117.4	39.0
0°-60°	3794.7	69.9
0°-90°	5058.3	93.2
90°-120°	243.7	4.5
90°-150°	361.6	6.7
90°-180°	372.0	6.9
0°-180°	5430.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2029	2029	2029	2029	2029	
5°	1935	1928	1920	1929	1938	180
15°	1666	1654	1622	1627	1625	470
25°	1464	1466	1460	1449	1442	677
35°	1269	1298	1289	1286	1260	795
45°	1059	1102	1136	1136	1115	820
55°	832	880	949	947	945	742
65°	572	628	693	701	692	567
75°	294	351	427	452	433	313
85°	51	102	174	217	239	67
90°	1	47	110	154	218	3
95°	1	43	98	145	187	0
105°	1	38	84	113	113	1
115°	1	34	74	93	96	1
125°	1	28	69	99	104	1
135°	1	20	55	86	98	1
145°	1	10	35	59	71	1
155°	1	4	17	31	36	1
165°	2	1	4	8	11	1
175°	0	0	0	0	0	0
180°	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°	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8
2.5°	2004.2	2009.6	2005.4	2004.2	2003.6	2007.2	2006.6	2007.8	2007.2	2001.3	1999.5
5°	1934.8	1937.8	1934.2	1934.8	1929.5	1928.3	1930.7	1934.8	1930.7	1931.3	1920.5
7.5°	1857.1	1858.3	1851.7	1845.1	1843.9	1849.3	1848.1	1843.9	1840.3	1831.9	1830.1
10°	1781.7	1785.9	1777.5	1770.3	1767.3	1767.9	1766.1	1757.8	1757.2	1751.8	1746.4
12.5°	1724.2	1727.8	1718.9	1711.1	1708.1	1705.7	1709.3	1697.3	1694.9	1689.5	1679.4
15°	1666.2	1663.8	1665.0	1654.8	1654.8	1654.3	1651.3	1644.7	1638.7	1631.5	1622.5
17.5°	1613.6	1616.6	1610.6	1602.8	1602.2	1603.4	1602.8	1601.6	1596.8	1587.8	1584.9
20°	1566.9	1564.5	1557.9	1560.3	1559.1	1558.5	1559.7	1553.1	1546.0	1543.0	1534.6
22.5°	1519.6	1515.4	1511.3	1513.7	1513.7	1507.7	1510.1	1507.7	1502.3	1501.1	1493.3
25°	1464.0	1471.2	1467.6	1462.2	1464.0	1465.8	1471.2	1470.6	1468.2	1467.6	1459.8
27.5°	1417.9	1420.9	1416.1	1416.1	1427.5	1430.5	1429.9	1423.9	1424.5	1412.5	1416.1
30°	1373.1	1370.1	1373.1	1379.0	1380.2	1380.8	1379.6	1382.6	1377.2	1376.6	1371.9
32.5°	1321.0	1321.6	1325.8	1323.4	1333.6	1336.6	1338.4	1346.7	1345.5	1339.0	1333.0
35°	1269.0	1276.1	1273.1	1273.7	1298.9	1298.3	1299.5	1300.1	1291.7	1282.7	1288.7
37.5°	1218.1	1223.5	1221.7	1235.5	1242.6	1242.0	1241.4	1246.8	1251.0	1246.8	1246.8
40°	1169.6	1164.3	1172.0	1184.0	1188.2	1196.6	1206.7	1213.9	1213.3	1208.5	1207.9
42.5°	1120.0	1117.6	1123.0	1129.0	1148.1	1157.7	1163.7	1164.9	1158.9	1165.5	1167.8
45°	1059.0	1066.7	1062.0	1083.5	1097.2	1102.0	1105.6	1115.2	1124.2	1127.8	1135.5
47.5°	1009.9	1011.7	1012.9	1031.4	1040.4	1049.4	1056.0	1072.1	1085.3	1091.3	1094.3
50°	951.3	947.7	959.0	970.4	990.8	1001.5	1010.5	1018.3	1030.2	1040.4	1044.0
52.5°	890.2	892.0	899.2	912.4	936.9	946.5	950.1	962.6	976.4	987.2	996.7
55°	832.2	834.6	838.8	859.7	872.9	880.1	892.0	911.2	926.7	934.5	948.9
57.5°	767.6	771.8	779.6	793.9	811.3	823.8	833.4	852.6	868.7	877.1	886.7
60°	706.6	703.0	720.9	730.5	752.0	765.8	770.6	786.1	803.5	816.7	824.4
62.5°	642.6	641.4	650.9	668.3	686.8	694.6	701.2	724.5	737.1	752.0	762.2
65°	572.0	577.9	583.9	603.1	618.6	627.6	638.4	658.1	674.9	688.0	692.8
67.5°	505.5	509.1	522.3	535.5	551.6	559.4	573.2	591.1	607.9	619.2	624.0
70°	433.2	438.5	452.9	467.9	485.8	492.4	502.0	521.7	537.3	552.2	557.6
72.5°	363.2	367.3	382.3	394.9	415.8	426.6	435.0	452.9	466.7	480.4	493.0
75°	294.4	302.1	314.1	326.1	347.0	350.6	359.6	379.9	396.7	412.2	427.2
77.5°	229.7	234.5	241.7	262.0	274.6	283.0	291.4	311.1	330.3	341.6	353.6
80°	163.3	169.9	177.7	190.3	208.8	217.2	224.4	242.9	260.9	274.6	288.4
82.5°	104.7	107.1	117.9	129.8	149.6	154.4	161.5	180.1	196.2	212.4	226.2
85°	50.9	56.8	65.8	79.6	94.5	101.7	108.9	127.4	144.2	159.7	173.5
87.5°	16.8	20.3	29.9	41.9	56.8	65.2	71.8	88.5	104.1	120.3	134.6
90°	0.6	4.8	13.8	25.7	40.1	47.3	55.0	70.0	85.0	98.7	109.5
92.5°	0.6	3.6	12.0	23.9	37.7	44.9	52.1	66.4	80.2	90.9	101.7
95°	0.6	3.0	11.4	23.3	35.9	43.1	50.3	63.4	75.4	87.3	98.1
97.5°	0.6	3.0	10.8	22.1	34.7	41.9	47.9	60.4	72.4	83.8	95.1
100°	0.6	3.0	10.2	21.5	33.5	40.1	46.1	58.0	70.0	80.8	91.5
102.5°	0.6	2.4	10.2	20.9	32.3	38.3	44.3	56.2	67.6	77.8	87.9
105°	0.6	2.4	9.6	19.7	31.7	37.7	43.1	54.4	65.2	75.4	84.4
107.5°	0.6	1.8	9.0	19.1	30.5	36.5	42.5	53.2	63.4	73.0	81.4
110°	0.6	1.8	9.0	18.5	29.9	35.9	41.3	52.1	62.2	71.2	78.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	1.8	8.4	17.9	28.7	34.7	40.1	50.9	60.4	68.8	76.0
115°	0.6	1.2	7.8	17.4	28.1	33.5	38.9	49.7	59.2	67.0	74.2
117.5°	0.6	1.2	7.2	16.8	26.9	32.3	37.7	47.9	57.4	65.8	73.0
120°	0.6	1.2	6.6	15.6	25.7	31.1	36.5	46.7	56.2	64.0	71.8
122.5°	0.6	1.2	6.0	14.4	24.5	29.9	35.3	44.9	54.4	62.8	70.6
125°	0.6	0.6	5.4	13.8	23.3	28.1	33.5	43.1	52.6	61.0	68.8
127.5°	0.6	0.6	4.8	12.6	21.5	26.9	31.7	41.3	50.3	58.6	66.4
130°	0.6	0.6	4.2	11.4	20.3	25.1	29.3	38.9	47.9	55.6	63.4
132.5°	0.6	0.6	3.6	9.6	17.9	22.1	26.9	35.9	44.9	52.1	59.2
135°	1.2	0.6	2.4	8.4	16.2	20.3	23.9	32.3	40.7	47.9	55.0
137.5°	1.2	0.6	1.8	7.2	13.8	17.4	20.9	28.7	36.5	43.7	50.9
140°	1.2	1.2	1.8	5.4	11.4	15.0	18.5	25.1	32.3	38.9	45.5
142.5°	1.2	1.2	1.2	4.2	9.6	12.6	15.0	21.5	28.1	34.1	40.1
145°	1.2	1.2	1.2	3.6	7.8	10.2	12.6	17.9	23.9	29.3	35.3
147.5°	1.2	1.2	1.2	2.4	6.0	8.4	10.2	15.0	19.7	25.1	29.9
150°	1.2	1.2	1.2	1.8	4.8	6.6	8.4	12.6	16.8	20.9	25.1
152.5°	1.2	1.2	1.2	1.2	3.6	4.8	6.6	9.6	13.2	17.4	20.9
155°	1.2	1.2	1.2	1.2	2.4	3.6	4.8	7.8	10.8	13.8	16.8
157.5°	1.8	1.2	1.2	1.2	1.8	2.4	3.6	5.4	7.8	10.8	13.2
160°	1.8	1.2	1.2	1.2	1.2	1.8	2.4	4.2	6.0	7.8	9.6
162.5°	1.8	1.8	1.2	1.2	1.2	1.2	1.2	2.4	3.6	5.4	6.6
165°	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2	1.8	3.0	4.2
167.5°	1.8	1.8	1.2	1.2	0.6	0.6	0.6	0.6	1.2	1.2	1.8
170°	1.8	1.8	1.2	1.2	1.2	0.6	0.6	0.6	0.6	0.6	0.6
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°	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8	2028.8
2.5°	1997.7	2000.7	2003.0	2001.9	2002.5	2007.2	1999.5	2002.5	2003.6	2001.9
5°	1921.7	1923.5	1929.5	1931.3	1928.9	1930.7	1931.3	1934.2	1939.0	1938.4
7.5°	1828.4	1833.1	1831.9	1836.1	1837.9	1839.1	1839.7	1840.3	1839.7	1839.7
10°	1741.6	1747.0	1750.0	1755.4	1753.6	1754.8	1751.8	1756.0	1753.0	1754.8
12.5°	1684.8	1685.4	1675.2	1680.0	1678.8	1680.0	1685.4	1680.6	1685.4	1687.8
15°	1620.7	1621.9	1628.5	1630.3	1627.3	1625.5	1628.5	1630.9	1629.7	1624.9
17.5°	1583.7	1581.9	1583.7	1586.0	1586.0	1587.8	1585.4	1588.4	1581.3	1580.1
20°	1540.6	1542.4	1547.2	1545.4	1537.6	1533.4	1533.4	1531.0	1529.8	1534.0
22.5°	1498.7	1500.5	1495.7	1495.7	1499.3	1497.5	1495.1	1489.1	1480.7	1481.3
25°	1461.0	1458.6	1462.8	1458.6	1449.0	1449.6	1443.7	1445.5	1443.7	1441.9
27.5°	1408.4	1417.3	1414.3	1413.7	1413.1	1417.9	1407.2	1402.4	1395.2	1385.0
30°	1371.9	1366.5	1373.1	1368.9	1365.3	1356.3	1352.7	1344.3	1346.1	1346.7
32.5°	1335.4	1334.8	1330.6	1316.2	1316.8	1316.2	1316.2	1310.8	1303.7	1303.7
35°	1283.3	1287.5	1277.3	1286.9	1285.7	1274.9	1267.2	1263.6	1263.6	1260.0
37.5°	1248.6	1239.0	1240.8	1235.5	1233.1	1235.5	1236.1	1227.7	1227.7	1219.9
40°	1209.7	1210.9	1203.7	1206.7	1210.9	1201.4	1198.4	1182.2	1176.8	1178.0
42.5°	1170.2	1175.0	1182.8	1177.4	1169.0	1162.5	1157.1	1158.9	1155.3	1157.1
45°	1137.9	1139.7	1141.5	1129.0	1135.5	1137.3	1128.4	1120.6	1118.8	1114.6
47.5°	1101.4	1108.6	1094.3	1097.8	1092.5	1084.1	1083.5	1082.9	1087.7	1084.7
50°	1051.8	1055.4	1054.8	1045.2	1043.4	1045.2	1052.4	1044.6	1038.6	1036.8
52.5°	1000.9	999.1	1000.3	1003.3	1005.7	1002.7	992.0	986.6	984.8	987.8
55°	955.5	953.1	948.3	951.9	947.1	945.9	946.5	947.7	947.1	944.7
57.5°	892.0	896.2	905.8	889.0	890.8	895.6	897.4	890.2	886.7	888.4
60°	827.4	832.2	831.0	837.0	835.8	829.2	828.6	828.6	830.4	829.8
62.5°	764.0	768.2	764.0	767.6	764.0	764.0	762.8	766.4	763.4	765.2
65°	700.0	700.6	707.2	703.0	701.2	704.8	694.6	689.2	689.8	692.2
67.5°	631.2	636.6	637.8	639.0	635.4	632.4	626.4	626.4	630.0	629.4
70°	563.6	571.4	573.2	570.8	567.2	566.0	569.0	575.5	579.7	572.0
72.5°	499.0	508.5	509.7	507.9	512.7	515.7	510.9	502.0	496.0	497.8
75°	433.2	440.3	446.3	450.5	452.3	448.1	440.3	435.0	430.8	433.2
77.5°	366.7	375.7	381.7	381.7	382.3	384.1	382.3	382.3	380.5	381.1
80°	300.9	312.9	312.9	322.5	325.5	323.7	329.7	330.3	331.4	332.0
82.5°	242.9	251.3	256.7	265.0	270.4	271.0	277.0	278.2	280.6	283.0
85°	187.3	196.2	206.4	213.6	217.2	221.4	228.5	230.3	238.1	239.3
87.5°	144.2	153.8	163.9	174.1	178.3	180.7	187.3	195.6	209.4	217.8
90°	119.7	131.0	141.8	150.2	154.4	158.5	168.7	181.9	203.4	217.8
92.5°	113.7	124.4	132.8	142.4	148.4	153.8	168.1	186.1	205.2	212.4
95°	109.5	119.7	129.2	140.0	145.4	151.4	163.9	175.3	184.3	186.7
97.5°	104.7	114.3	123.8	134.0	139.4	143.6	152.0	157.9	163.3	165.1
100°	100.5	109.5	119.1	127.4	131.0	134.6	141.2	148.4	152.6	153.8
102.5°	96.3	104.7	112.5	119.1	122.6	125.6	131.0	133.4	133.4	132.8
105°	92.7	99.9	105.9	111.3	113.1	115.5	117.3	115.5	113.7	113.1
107.5°	88.5	94.5	99.3	102.9	104.1	104.7	104.1	102.3	101.1	100.5
110°	85.0	90.3	93.9	96.3	96.9	96.9	96.3	95.1	93.9	93.3



TEST NUMBER: P241502

CATALOG NUMBER: FVS8M-4-LD4-35-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	82.0	86.8	90.3	92.1	92.7	93.3	94.5	93.9	93.3	93.3
115°	80.2	85.0	89.1	92.1	93.3	94.5	96.3	96.3	96.3	95.7
117.5°	79.0	85.0	89.7	93.3	95.7	97.5	99.9	100.5	99.3	98.7
120°	79.0	85.0	90.3	95.7	97.5	99.9	102.3	102.9	101.7	101.1
122.5°	77.8	85.0	90.9	96.3	99.3	101.7	104.1	104.1	103.5	102.9
125°	76.6	83.8	89.7	95.7	98.7	101.1	104.1	104.7	104.1	103.5
127.5°	74.2	81.4	87.9	93.9	96.3	98.7	102.3	104.1	104.1	103.5
130°	71.2	79.0	85.0	90.9	93.9	96.3	100.5	102.3	102.3	102.3
132.5°	67.0	74.8	80.8	87.3	90.3	93.3	97.5	99.3	100.5	100.5
135°	62.8	69.4	76.6	82.6	86.2	89.1	93.9	95.7	96.9	97.5
137.5°	58.0	64.0	70.6	77.2	80.8	83.8	89.1	90.9	92.7	93.3
140°	52.6	58.6	65.2	71.2	74.2	77.2	82.0	84.4	86.8	86.8
142.5°	46.7	53.2	59.2	64.6	67.0	70.0	74.2	76.6	78.4	79.0
145°	41.3	47.3	52.1	57.4	59.2	61.6	65.2	67.6	70.0	70.6
147.5°	35.9	41.3	46.1	50.3	52.1	53.8	56.2	58.6	60.4	61.0
150°	29.9	34.1	38.9	43.1	44.9	46.1	48.5	49.7	51.5	52.1
152.5°	24.5	28.7	32.3	36.5	37.7	38.9	40.7	42.5	43.1	43.7
155°	19.7	22.7	26.3	29.9	31.1	32.3	34.1	35.3	35.9	36.5
157.5°	15.6	17.9	20.3	23.3	25.1	26.3	27.5	28.7	29.3	29.9
160°	11.4	13.8	15.6	17.4	19.1	19.7	22.1	22.7	22.7	23.3
162.5°	8.4	9.6	11.4	12.6	13.2	14.4	16.2	16.2	17.4	16.8
165°	4.8	6.0	7.2	7.8	8.4	9.0	10.8	11.4	11.4	11.4
167.5°	2.4	3.0	3.6	4.2	4.2	4.8	5.4	6.6	6.6	6.6
170°	0.6	0.6	1.2	1.2	1.2	1.2	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)