

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: P241504

Luminaire Tested: **FVS8M-4-LD4-50-2LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241504
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-LD4-50-2LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

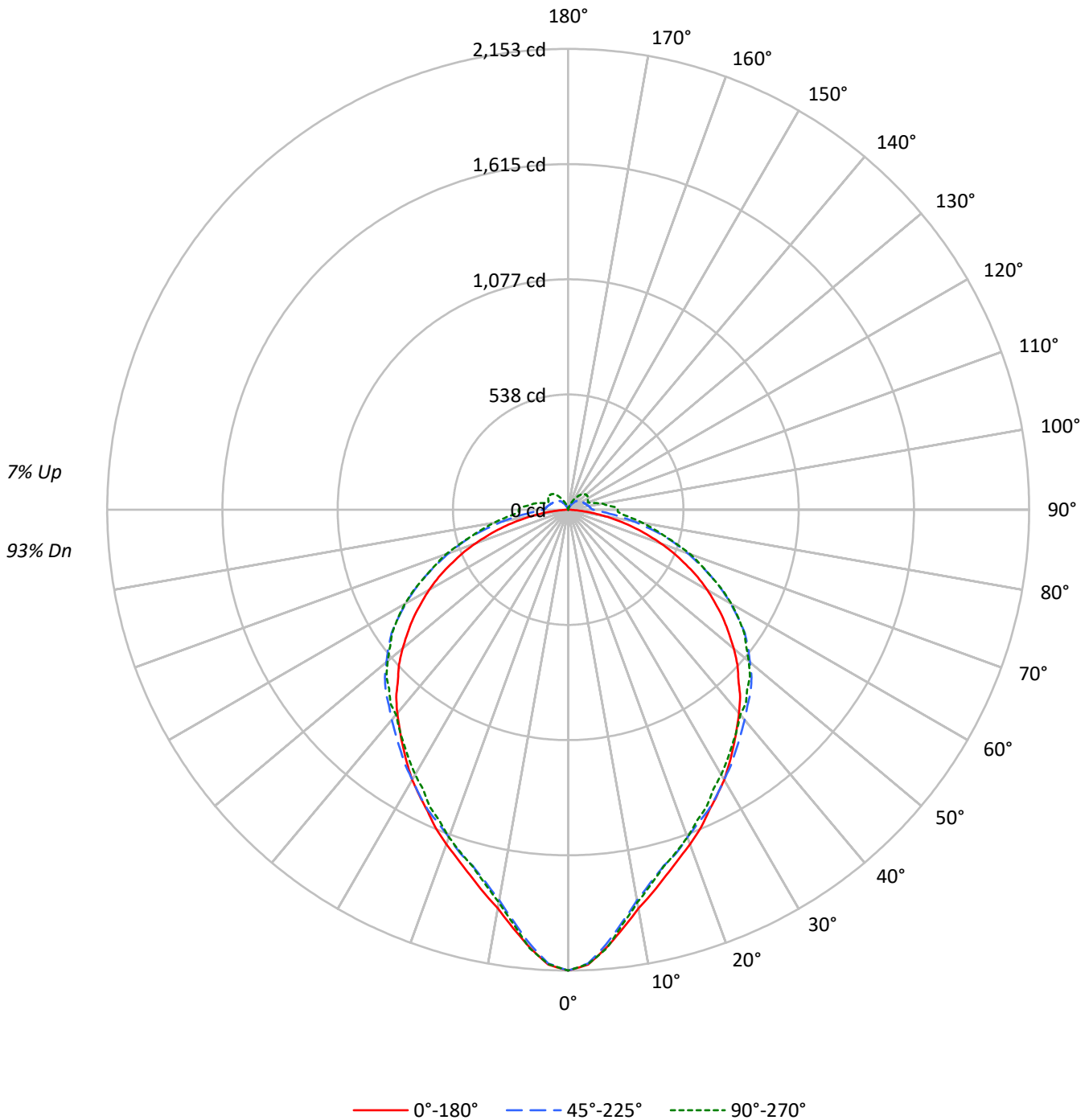
Lumens per Lamp: N/A
Luminaire Lumens: 5763.0 lumens
Efficiency: N/A
Efficacy: 126.7 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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

TEST NUMBER: P241504

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241504

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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°	9623	9623	9623
5°	9181	8997	9051
10°	8523	8143	8128
15°	8097	7587	7524
20°	7798	7252	7155
25°	7525	7026	6827
30°	7355	6781	6525
35°	7152	6597	6300
40°	7013	6464	6133
45°	6836	6416	6100
50°	6707	6298	6029
55°	6518	6191	5907
60°	6278	5905	5659
65°	5922	5547	5235
70°	5424	5106	4895
75°	4707	4608	4308
80°	3651	3820	3977
85°	1914	3005	3637



TEST NUMBER: P241504

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-PA187-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.6	3.3
10°-20°	491.6	8.5
20°-30°	713.8	12.4
30°-40°	852.3	14.8
40°-50°	912.7	15.8
50°-60°	867.4	15.1
60°-70°	697.9	12.1
70°-80°	446.8	7.8
80°-90°	196.4	3.4
90°-100°	109.7	1.9
100°-110°	82.8	1.4
110°-120°	66.2	1.1
120°-130°	58.5	1.0
130°-140°	43.0	0.7
140°-150°	23.6	0.4
150°-160°	8.9	0.2
160°-170°	1.8	0.0
170°-180°	0.0	0.0
0°-30°	1395.0	24.2
0°-40°	2247.3	39.0
0°-60°	4027.4	69.9
0°-90°	5368.5	93.2
90°-120°	258.6	4.5
90°-150°	383.7	6.7
90°-180°	394.0	6.8
0°-180°	5763.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2153	2153	2153	2153	2153	
5°	2054	2046	2038	2047	2057	191
15°	1768	1756	1722	1727	1725	499
25°	1554	1556	1549	1538	1530	718
35°	1347	1378	1368	1365	1337	844
45°	1124	1170	1205	1205	1183	871
55°	883	934	1007	1005	1003	788
65°	607	666	735	744	735	601
75°	312	372	453	480	460	332
85°	54	108	184	230	254	71
90°	1	50	116	164	231	3
95°	1	46	104	154	198	0
105°	1	40	90	120	120	1
115°	1	36	79	99	102	1
125°	1	30	73	105	110	1
135°	1	22	58	91	104	1
145°	1	11	38	63	75	1
155°	1	4	18	33	39	1
165°	2	1	4	9	12	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241504

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2
2.5°	2127.2	2132.9	2128.4	2127.2	2126.5	2130.3	2129.7	2131.0	2130.3	2124.0	2122.1
5°	2053.5	2056.7	2052.9	2053.5	2047.8	2046.5	2049.1	2053.5	2049.1	2049.7	2038.3
7.5°	1971.0	1972.2	1965.2	1958.3	1957.0	1962.7	1961.4	1957.0	1953.2	1944.3	1942.4
10°	1890.9	1895.4	1886.5	1878.9	1875.7	1876.3	1874.4	1865.5	1864.9	1859.2	1853.5
12.5°	1830.0	1833.8	1824.3	1816.0	1812.8	1810.3	1814.1	1801.4	1798.9	1793.2	1782.4
15°	1768.4	1765.9	1767.1	1756.3	1756.3	1755.7	1752.5	1745.5	1739.2	1731.6	1722.0
17.5°	1712.5	1715.7	1709.3	1701.1	1700.5	1701.7	1701.1	1699.8	1694.7	1685.2	1682.0
20°	1663.0	1660.5	1653.5	1656.0	1654.7	1654.1	1655.4	1648.4	1640.8	1637.6	1628.7
22.5°	1612.8	1608.4	1603.9	1606.5	1606.5	1600.1	1602.7	1600.1	1594.4	1593.1	1584.9
25°	1553.8	1561.4	1557.6	1551.9	1553.8	1555.7	1561.4	1560.8	1558.2	1557.6	1549.3
27.5°	1504.9	1508.1	1503.0	1503.0	1515.0	1518.2	1517.6	1511.2	1511.9	1499.2	1503.0
30°	1457.3	1454.1	1457.3	1463.6	1464.9	1465.5	1464.2	1467.4	1461.7	1461.1	1456.0
32.5°	1402.0	1402.7	1407.1	1404.6	1415.4	1418.5	1420.4	1429.3	1428.1	1421.1	1414.7
35°	1346.8	1354.4	1351.2	1351.9	1378.5	1377.9	1379.2	1379.8	1370.9	1361.4	1367.7
37.5°	1292.8	1298.5	1296.6	1311.2	1318.8	1318.2	1317.6	1323.3	1327.7	1323.3	1323.3
40°	1241.4	1235.7	1243.9	1256.6	1261.1	1269.9	1280.7	1288.4	1287.7	1282.6	1282.0
42.5°	1188.7	1186.1	1191.8	1198.2	1218.5	1228.7	1235.0	1236.3	1229.9	1236.9	1239.5
45°	1123.9	1132.2	1127.1	1149.9	1164.5	1169.6	1173.4	1183.6	1193.1	1196.9	1205.2
47.5°	1071.8	1073.7	1075.0	1094.7	1104.2	1113.7	1120.7	1137.9	1151.8	1158.2	1161.4
50°	1009.6	1005.8	1017.9	1029.9	1051.5	1062.9	1072.5	1080.7	1093.4	1104.2	1108.0
52.5°	944.8	946.7	954.4	968.3	994.4	1004.5	1008.3	1021.7	1036.3	1047.7	1057.9
55°	883.2	885.8	890.2	912.5	926.4	934.0	946.7	967.1	983.6	991.8	1007.1
57.5°	814.7	819.1	827.4	842.6	861.0	874.4	884.5	904.8	922.0	930.9	941.0
60°	749.9	746.1	765.1	775.3	798.2	812.8	817.8	834.4	852.8	866.7	875.0
62.5°	682.0	680.7	690.9	709.3	728.9	737.2	744.2	769.0	782.3	798.2	809.0
65°	607.0	613.4	619.7	640.1	656.6	666.1	677.5	698.5	716.2	730.2	735.3
67.5°	536.6	540.4	554.3	568.3	585.4	593.7	608.3	627.4	645.1	657.2	662.3
70°	459.7	465.4	480.7	496.5	515.6	522.6	532.7	553.7	570.2	586.1	591.8
72.5°	385.4	389.9	405.7	419.1	441.3	452.7	461.6	480.7	495.3	509.9	523.2
75°	312.4	320.7	333.4	346.1	368.3	372.1	381.6	403.2	421.0	437.5	453.4
77.5°	243.8	248.9	256.5	278.1	291.5	300.3	309.2	330.2	350.5	362.6	375.3
80°	173.3	180.3	188.6	201.9	221.6	230.5	238.1	257.8	276.8	291.5	306.1
82.5°	111.1	113.7	125.1	137.8	158.7	163.8	171.4	191.1	208.3	225.4	240.0
85°	54.0	60.3	69.8	84.5	100.3	107.9	115.6	135.2	153.0	169.5	184.1
87.5°	17.8	21.6	31.7	44.4	60.3	69.2	76.2	94.0	110.5	127.6	142.9
90°	0.6	5.1	14.6	27.3	42.5	50.2	58.4	74.3	90.2	104.8	116.2
92.5°	0.6	3.8	12.7	25.4	40.0	47.6	55.2	70.5	85.1	96.5	107.9
95°	0.6	3.2	12.1	24.8	38.1	45.7	53.3	67.3	80.0	92.7	104.1
97.5°	0.6	3.2	11.4	23.5	36.8	44.4	50.8	64.1	76.8	88.9	101.0
100°	0.6	3.2	10.8	22.9	35.6	42.5	48.9	61.6	74.3	85.7	97.2
102.5°	0.6	2.5	10.8	22.2	34.3	40.6	47.0	59.7	71.8	82.5	93.3
105°	0.6	2.5	10.2	21.0	33.7	40.0	45.7	57.8	69.2	80.0	89.5
107.5°	0.6	1.9	9.5	20.3	32.4	38.7	45.1	56.5	67.3	77.5	86.4
110°	0.6	1.9	9.5	19.7	31.7	38.1	43.8	55.2	66.0	75.6	83.2



TEST NUMBER: P241504

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	1.9	8.9	19.0	30.5	36.8	42.5	54.0	64.1	73.0	80.6
115°	0.6	1.3	8.3	18.4	29.8	35.6	41.3	52.7	62.9	71.1	78.7
117.5°	0.6	1.3	7.6	17.8	28.6	34.3	40.0	50.8	61.0	69.8	77.5
120°	0.6	1.3	7.0	16.5	27.3	33.0	38.7	49.5	59.7	67.9	76.2
122.5°	0.6	1.3	6.3	15.2	26.0	31.7	37.5	47.6	57.8	66.7	74.9
125°	0.6	0.6	5.7	14.6	24.8	29.8	35.6	45.7	55.9	64.8	73.0
127.5°	0.6	0.6	5.1	13.3	22.9	28.6	33.7	43.8	53.3	62.2	70.5
130°	0.6	0.6	4.4	12.1	21.6	26.7	31.1	41.3	50.8	59.1	67.3
132.5°	0.6	0.6	3.8	10.2	19.0	23.5	28.6	38.1	47.6	55.2	62.9
135°	1.3	0.6	2.5	8.9	17.1	21.6	25.4	34.3	43.2	50.8	58.4
137.5°	1.3	0.6	1.9	7.6	14.6	18.4	22.2	30.5	38.7	46.4	54.0
140°	1.3	1.3	1.9	5.7	12.1	15.9	19.7	26.7	34.3	41.3	48.3
142.5°	1.3	1.3	1.3	4.4	10.2	13.3	15.9	22.9	29.8	36.2	42.5
145°	1.3	1.3	1.3	3.8	8.3	10.8	13.3	19.0	25.4	31.1	37.5
147.5°	1.3	1.3	1.3	2.5	6.3	8.9	10.8	15.9	21.0	26.7	31.7
150°	1.3	1.3	1.3	1.9	5.1	7.0	8.9	13.3	17.8	22.2	26.7
152.5°	1.3	1.3	1.3	1.3	3.8	5.1	7.0	10.2	14.0	18.4	22.2
155°	1.3	1.3	1.3	1.3	2.5	3.8	5.1	8.3	11.4	14.6	17.8
157.5°	1.9	1.3	1.3	1.3	1.9	2.5	3.8	5.7	8.3	11.4	14.0
160°	1.9	1.3	1.3	1.3	1.3	1.9	2.5	4.4	6.3	8.3	10.2
162.5°	1.9	1.9	1.3	1.3	1.3	1.3	1.3	2.5	3.8	5.7	7.0
165°	1.9	1.9	1.3	1.3	1.3	1.3	1.3	1.3	1.9	3.2	4.4
167.5°	1.9	1.9	1.3	1.3	0.6	0.6	0.6	0.6	1.3	1.3	1.9
170°	1.9	1.9	1.3	1.3	1.3	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



TEST NUMBER: P241504

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2	2153.2
2.5°	2120.2	2123.3	2125.9	2124.6	2125.3	2130.3	2122.1	2125.3	2126.5	2124.6
5°	2039.5	2041.4	2047.8	2049.7	2047.2	2049.1	2049.7	2052.9	2057.9	2057.3
7.5°	1940.5	1945.6	1944.3	1948.7	1950.6	1951.9	1952.5	1953.2	1952.5	1952.5
10°	1848.4	1854.1	1857.3	1863.0	1861.1	1862.4	1859.2	1863.6	1860.5	1862.4
12.5°	1788.1	1788.7	1777.9	1783.0	1781.7	1783.0	1788.7	1783.6	1788.7	1791.3
15°	1720.1	1721.4	1728.4	1730.3	1727.1	1725.2	1728.4	1730.9	1729.7	1724.6
17.5°	1680.8	1678.9	1680.8	1683.3	1683.3	1685.2	1682.7	1685.9	1678.2	1677.0
20°	1635.1	1637.0	1642.0	1640.1	1631.9	1627.4	1627.4	1624.9	1623.6	1628.1
22.5°	1590.6	1592.5	1587.4	1587.4	1591.2	1589.3	1586.8	1580.4	1571.6	1572.2
25°	1550.6	1548.1	1552.5	1548.1	1537.9	1538.5	1532.2	1534.1	1532.2	1530.3
27.5°	1494.7	1504.3	1501.1	1500.4	1499.8	1504.9	1493.5	1488.4	1480.8	1470.0
30°	1456.0	1450.3	1457.3	1452.8	1449.0	1439.5	1435.7	1426.8	1428.7	1429.3
32.5°	1417.3	1416.6	1412.2	1396.9	1397.6	1396.9	1396.9	1391.2	1383.6	1383.6
35°	1362.0	1366.5	1355.7	1365.8	1364.6	1353.1	1344.9	1341.1	1341.1	1337.3
37.5°	1325.2	1315.0	1316.9	1311.2	1308.7	1311.2	1311.9	1303.0	1303.0	1294.7
40°	1283.9	1285.2	1277.6	1280.7	1285.2	1275.0	1271.9	1254.7	1249.0	1250.3
42.5°	1242.0	1247.1	1255.3	1249.6	1240.7	1233.8	1228.0	1229.9	1226.1	1228.0
45°	1207.7	1209.6	1211.5	1198.2	1205.2	1207.1	1197.6	1189.3	1187.4	1183.0
47.5°	1169.0	1176.6	1161.4	1165.2	1159.5	1150.6	1149.9	1149.3	1154.4	1151.2
50°	1116.3	1120.1	1119.5	1109.3	1107.4	1109.3	1116.9	1108.7	1102.3	1100.4
52.5°	1062.3	1060.4	1061.7	1064.8	1067.4	1064.2	1052.8	1047.1	1045.2	1048.3
55°	1014.1	1011.5	1006.4	1010.2	1005.2	1003.9	1004.5	1005.8	1005.2	1002.6
57.5°	946.7	951.2	961.3	943.6	945.5	950.6	952.5	944.8	941.0	942.9
60°	878.2	883.2	882.0	888.3	887.1	880.1	879.4	879.4	881.3	880.7
62.5°	810.9	815.3	810.9	814.7	810.9	810.9	809.6	813.4	810.2	812.1
65°	742.9	743.6	750.5	746.1	744.2	748.0	737.2	731.5	732.1	734.7
67.5°	669.9	675.6	676.9	678.2	674.3	671.2	664.8	664.8	668.6	668.0
70°	598.1	606.4	608.3	605.8	602.0	600.7	603.9	610.8	615.3	607.0
72.5°	529.6	539.7	541.0	539.1	544.2	547.3	542.3	532.7	526.4	528.3
75°	459.7	467.3	473.7	478.1	480.0	475.6	467.3	461.6	457.2	459.7
77.5°	389.2	398.8	405.1	405.1	405.7	407.7	405.7	405.7	403.8	404.5
80°	319.4	332.1	332.1	342.3	345.4	343.5	349.9	350.5	351.8	352.4
82.5°	257.8	266.7	272.4	281.3	287.0	287.6	294.0	295.3	297.8	300.3
85°	198.7	208.3	219.1	226.7	230.5	234.9	242.6	244.5	252.7	254.0
87.5°	153.0	163.2	174.0	184.8	189.2	191.8	198.7	207.6	222.2	231.1
90°	127.0	139.1	150.5	159.4	163.8	168.3	179.1	193.0	215.9	231.1
92.5°	120.6	132.1	141.0	151.1	157.5	163.2	178.4	197.5	217.8	225.4
95°	116.2	127.0	137.2	148.6	154.3	160.6	174.0	186.0	195.6	198.1
97.5°	111.1	121.3	131.4	142.2	147.9	152.4	161.3	167.6	173.3	175.3
100°	106.7	116.2	126.4	135.2	139.1	142.9	149.9	157.5	161.9	163.2
102.5°	102.2	111.1	119.4	126.4	130.2	133.3	139.1	141.6	141.6	141.0
105°	98.4	106.0	112.4	118.1	120.0	122.5	124.5	122.5	120.6	120.0
107.5°	94.0	100.3	105.4	109.2	110.5	111.1	110.5	108.6	107.3	106.7
110°	90.2	95.9	99.7	102.2	102.9	102.9	102.2	101.0	99.7	99.1



TEST NUMBER: P241504

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	87.0	92.1	95.9	97.8	98.4	99.1	100.3	99.7	99.1	99.1
115°	85.1	90.2	94.6	97.8	99.1	100.3	102.2	102.2	102.2	101.6
117.5°	83.8	90.2	95.2	99.1	101.6	103.5	106.0	106.7	105.4	104.8
120°	83.8	90.2	95.9	101.6	103.5	106.0	108.6	109.2	107.9	107.3
122.5°	82.5	90.2	96.5	102.2	105.4	107.9	110.5	110.5	109.9	109.2
125°	81.3	88.9	95.2	101.6	104.8	107.3	110.5	111.1	110.5	109.9
127.5°	78.7	86.4	93.3	99.7	102.2	104.8	108.6	110.5	110.5	109.9
130°	75.6	83.8	90.2	96.5	99.7	102.2	106.7	108.6	108.6	108.6
132.5°	71.1	79.4	85.7	92.7	95.9	99.1	103.5	105.4	106.7	106.7
135°	66.7	73.7	81.3	87.6	91.4	94.6	99.7	101.6	102.9	103.5
137.5°	61.6	67.9	74.9	81.9	85.7	88.9	94.6	96.5	98.4	99.1
140°	55.9	62.2	69.2	75.6	78.7	81.9	87.0	89.5	92.1	92.1
142.5°	49.5	56.5	62.9	68.6	71.1	74.3	78.7	81.3	83.2	83.8
145°	43.8	50.2	55.2	61.0	62.9	65.4	69.2	71.8	74.3	74.9
147.5°	38.1	43.8	48.9	53.3	55.2	57.1	59.7	62.2	64.1	64.8
150°	31.7	36.2	41.3	45.7	47.6	48.9	51.4	52.7	54.6	55.2
152.5°	26.0	30.5	34.3	38.7	40.0	41.3	43.2	45.1	45.7	46.4
155°	21.0	24.1	27.9	31.7	33.0	34.3	36.2	37.5	38.1	38.7
157.5°	16.5	19.0	21.6	24.8	26.7	27.9	29.2	30.5	31.1	31.7
160°	12.1	14.6	16.5	18.4	20.3	21.0	23.5	24.1	24.1	24.8
162.5°	8.9	10.2	12.1	13.3	14.0	15.2	17.1	17.1	18.4	17.8
165°	5.1	6.3	7.6	8.3	8.9	9.5	11.4	12.1	12.1	12.1
167.5°	2.5	3.2	3.8	4.4	4.4	5.1	5.7	7.0	7.0	7.0
170°	0.6	0.6	1.3	1.3	1.3	1.3	1.9	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)