

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: P241445

Luminaire Tested: **FVS8M-2-LD4-30-3STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241445  
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-LD4-30-3STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
2FT LENGTH, 3-MODULE LED WITH PA187 LENS  
Light Source: (126) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

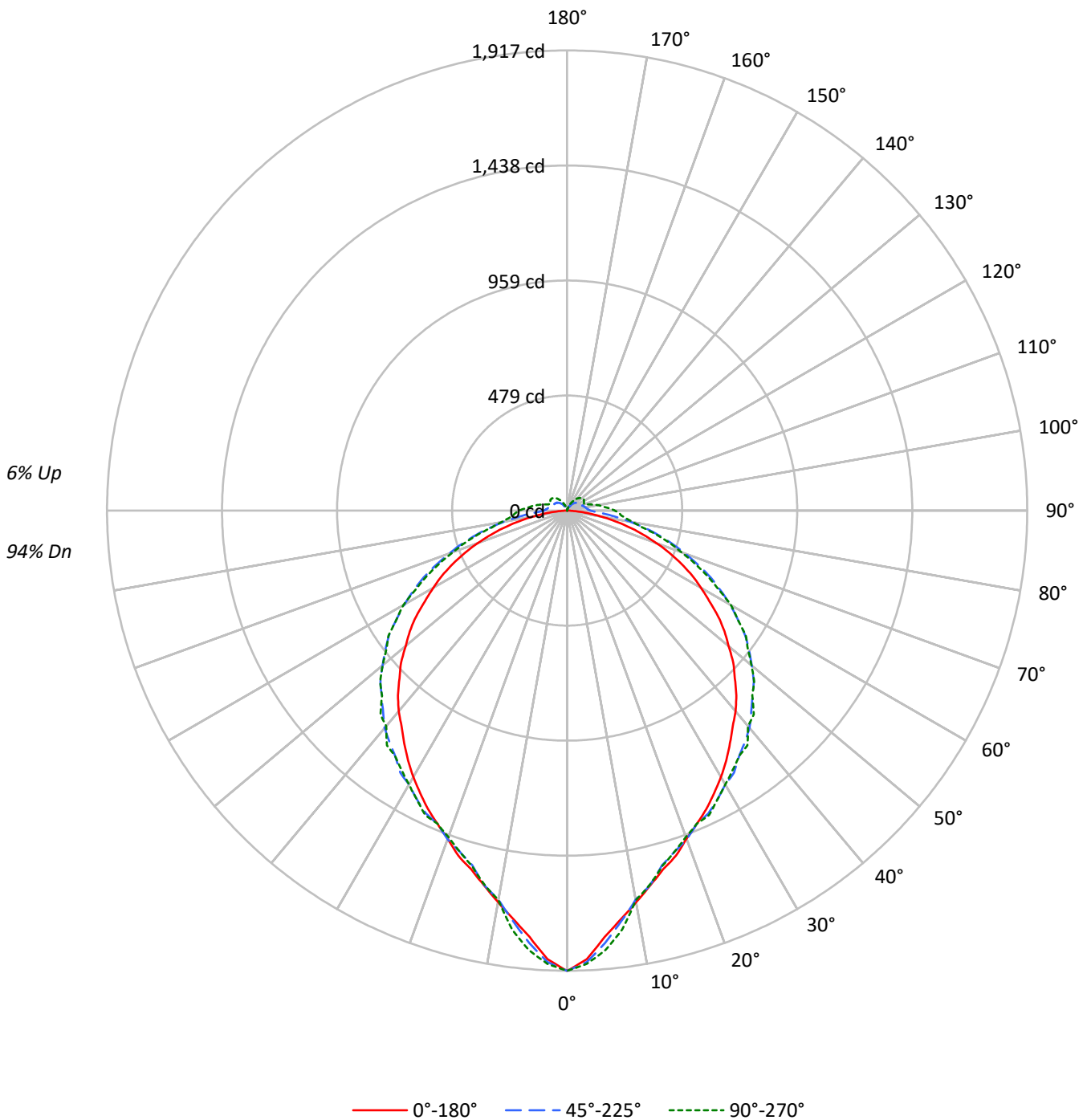
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5096.0 lumens  
Efficiency: N/A  
Efficacy: 100.7 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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CATALOG NUMBER: FVS8M-2-LD4-30-3STD-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	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°	17235	17235	17235
5°	15986	16010	16255
10°	14915	14473	14468
15°	14094	13456	13448
20°	13527	12924	12789
25°	13127	12547	12554
30°	12726	12169	12103
35°	12305	11907	11832
40°	12013	11750	11565
45°	11644	11424	11310
50°	11232	11167	11047
55°	10823	10854	10766
60°	10177	10251	10186
65°	9546	9595	9229
70°	8567	8622	8194
75°	7185	7574	7209
80°	5219	6221	6319
85°	2553	4688	6486



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.9	3.3
10°-20°	434.9	8.5
20°-30°	638.0	12.5
30°-40°	775.7	15.2
40°-50°	825.7	16.2
50°-60°	775.4	15.2
60°-70°	616.1	12.1
70°-80°	384.6	7.5
80°-90°	168.2	3.3
90°-100°	89.0	1.7
100°-110°	65.9	1.3
110°-120°	51.1	1.0
120°-130°	44.2	0.9
130°-140°	32.0	0.6
140°-150°	18.3	0.4
150°-160°	7.4	0.1
160°-170°	1.5	0.0
170°-180°	0.0	0.0
0°-30°	1240.8	24.3
0°-40°	2016.5	39.6
0°-60°	3617.6	71.0
0°-90°	4786.5	93.9
90°-120°	206.0	4.0
90°-150°	300.5	5.9
90°-180°	310.0	6.1
0°-180°	5096.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1917	1917	1917	1917	1917	
5°	1784	1786	1808	1831	1837	167
15°	1546	1542	1529	1522	1532	437
25°	1372	1369	1392	1384	1399	632
35°	1183	1220	1249	1274	1249	741
45°	988	1040	1092	1097	1091	763
55°	768	826	906	911	908	684
65°	524	585	659	666	644	518
75°	268	324	393	406	382	283
85°	47	98	157	194	225	60
90°	0	46	96	142	199	2
95°	0	37	84	123	160	0
105°	0	32	71	96	98	0
115°	0	28	61	76	77	0
125°	0	24	56	78	82	0
135°	1	18	45	66	74	1
145°	1	11	31	47	54	1
155°	1	5	16	26	30	0
165°	1	1	4	8	10	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°	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4
2.5°	1870.3	1874.9	1874.9	1875.7	1874.9	1874.9	1878.0	1876.5	1881.1	1881.1	1882.6
5°	1783.9	1790.1	1790.1	1788.6	1789.3	1786.2	1783.9	1793.2	1798.6	1805.5	1807.8
7.5°	1716.1	1721.5	1718.4	1715.3	1711.4	1712.2	1716.1	1720.7	1725.3	1727.6	1725.3
10°	1656.7	1655.9	1654.4	1646.6	1647.4	1647.4	1651.3	1653.6	1649.7	1645.1	1645.9
12.5°	1599.6	1598.8	1596.5	1597.3	1598.0	1598.8	1599.6	1589.6	1586.5	1595.7	1597.3
15°	1546.4	1549.5	1547.1	1547.1	1547.1	1542.5	1544.1	1539.4	1538.7	1542.5	1529.4
17.5°	1507.8	1498.6	1498.6	1500.1	1496.2	1492.4	1491.6	1496.2	1498.6	1488.5	1489.3
20°	1454.6	1453.1	1450.7	1457.7	1453.8	1453.1	1456.9	1460.8	1454.6	1445.3	1456.9
22.5°	1412.2	1407.5	1409.9	1418.3	1413.7	1409.1	1408.3	1412.2	1403.7	1412.2	1412.2
25°	1372.1	1364.4	1369.8	1368.2	1366.7	1369.0	1372.8	1377.5	1382.1	1384.4	1392.1
27.5°	1326.6	1321.9	1324.3	1326.6	1336.6	1341.2	1340.4	1339.7	1348.9	1346.6	1355.9
30°	1281.8	1271.8	1284.1	1288.0	1292.6	1292.6	1294.9	1305.7	1308.8	1316.5	1318.1
32.5°	1233.2	1230.2	1240.2	1243.3	1252.5	1255.6	1257.9	1274.9	1284.1	1288.0	1294.2
35°	1183.1	1187.7	1191.6	1197.0	1217.0	1220.1	1226.3	1234.8	1241.7	1244.8	1248.7
37.5°	1133.0	1139.9	1143.0	1163.8	1166.1	1172.3	1177.7	1187.7	1200.9	1209.3	1215.5
40°	1091.3	1088.2	1100.6	1111.4	1116.8	1128.4	1140.7	1156.9	1170.0	1173.9	1182.3
42.5°	1043.5	1040.4	1055.1	1058.2	1077.4	1092.1	1102.1	1109.8	1116.8	1126.8	1135.3
45°	988.0	994.2	996.5	1012.7	1033.5	1040.4	1042.0	1058.9	1072.8	1085.9	1092.1
47.5°	938.6	941.7	945.6	964.1	979.5	986.4	995.7	1017.3	1034.3	1048.9	1055.1
50°	878.5	881.5	896.2	907.8	927.8	937.9	951.0	966.4	979.5	991.1	1003.4
52.5°	826.0	824.5	836.8	850.7	880.0	887.7	892.3	910.1	931.7	944.0	954.8
55°	768.2	770.5	779.0	800.6	811.4	826.0	836.0	861.5	883.1	896.2	905.5
57.5°	702.6	713.4	725.0	742.0	752.7	767.4	779.7	809.1	827.6	836.0	843.8
60°	643.2	650.9	666.4	678.7	698.8	711.9	718.8	742.0	762.0	771.3	782.8
62.5°	588.5	590.0	607.8	619.3	640.1	647.1	658.7	678.7	698.0	708.8	721.1
65°	524.5	529.1	536.8	556.8	574.6	584.6	595.4	620.9	633.2	651.7	659.4
67.5°	461.2	468.9	476.6	494.4	510.6	521.4	532.2	554.5	566.9	583.1	590.0
70°	396.4	401.1	411.9	428.0	445.8	455.8	466.6	482.8	499.0	512.9	522.1
72.5°	330.9	335.5	347.8	363.3	384.1	389.5	400.3	418.0	435.8	448.1	458.9
75°	267.6	270.7	284.6	297.7	318.5	323.9	334.0	352.5	371.0	386.4	393.3
77.5°	205.9	209.0	222.1	236.8	254.5	264.5	273.0	289.2	307.7	318.5	329.3
80°	145.8	151.9	160.4	175.8	193.6	202.1	212.9	230.6	246.0	256.8	266.9
82.5°	91.8	97.2	106.4	123.4	138.8	145.8	155.0	171.2	188.2	196.7	205.9
85°	47.0	50.9	61.7	74.8	90.2	97.9	106.4	122.6	134.2	146.5	157.3
87.5°	15.4	19.3	28.5	41.6	56.3	63.2	70.2	84.8	95.6	107.2	118.0
90°	0.0	4.6	13.9	25.5	38.6	45.5	52.4	63.2	74.0	86.4	96.4
92.5°	0.0	3.1	10.8	22.4	34.7	40.1	45.5	56.3	67.9	77.9	88.7
95°	0.0	3.1	10.0	20.8	31.6	37.0	43.2	53.2	64.0	74.8	84.1
97.5°	0.0	2.3	9.3	19.3	30.1	35.5	40.1	51.7	61.7	71.7	80.2
100°	0.0	2.3	9.3	18.5	28.5	33.9	39.3	49.4	59.4	67.9	77.1
102.5°	0.0	2.3	8.5	17.7	27.8	32.4	37.8	47.8	56.3	65.6	73.3
105°	0.0	2.3	8.5	17.0	27.0	31.6	36.2	46.3	54.8	62.5	71.0
107.5°	0.0	2.3	7.7	16.2	25.5	30.9	35.5	44.7	53.2	60.9	67.9
110°	0.0	1.5	7.7	16.2	24.7	29.3	33.9	43.2	50.9	58.6	64.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.5	7.7	15.4	23.9	28.5	33.2	41.6	50.1	56.3	62.5
115°	0.0	1.5	6.9	14.7	23.1	27.8	32.4	40.9	47.8	54.8	60.9
117.5°	0.0	1.5	6.9	13.9	22.4	27.0	30.9	39.3	47.0	53.2	59.4
120°	0.0	1.5	6.2	13.1	21.6	26.2	30.1	37.8	45.5	52.4	58.6
122.5°	0.0	0.8	6.2	13.1	20.8	24.7	28.5	37.0	44.0	50.9	57.8
125°	0.0	0.8	5.4	12.3	19.3	23.9	27.8	35.5	42.4	49.4	55.5
127.5°	0.0	0.8	4.6	11.6	18.5	22.4	26.2	33.9	40.9	47.0	54.0
130°	0.8	0.8	4.6	10.8	17.0	20.8	24.7	31.6	38.6	44.7	50.9
132.5°	0.8	0.8	3.9	9.3	16.2	19.3	22.4	29.3	36.2	42.4	47.8
135°	0.8	0.8	3.9	8.5	14.7	17.7	20.8	27.0	33.2	39.3	44.7
137.5°	0.8	0.8	3.1	7.7	13.1	16.2	18.5	24.7	30.9	36.2	41.6
140°	0.8	0.8	2.3	6.2	11.6	13.9	17.0	22.4	27.8	33.2	37.8
142.5°	0.8	0.8	2.3	5.4	10.0	12.3	14.7	20.1	24.7	29.3	34.7
145°	0.8	0.8	1.5	4.6	8.5	10.8	13.1	17.7	22.4	26.2	30.9
147.5°	0.8	0.8	1.5	3.9	6.9	9.3	10.8	15.4	19.3	23.1	27.0
150°	0.8	0.8	0.8	3.1	5.4	6.9	9.3	12.3	16.2	20.1	23.9
152.5°	0.8	0.8	0.8	2.3	4.6	5.4	6.9	10.0	13.1	17.0	20.1
155°	0.8	0.8	0.8	1.5	3.1	4.6	5.4	7.7	10.8	13.9	16.2
157.5°	0.8	0.8	0.8	0.8	2.3	3.1	3.9	6.2	8.5	10.8	13.1
160°	0.8	0.8	0.8	0.8	1.5	2.3	3.1	4.6	6.2	7.7	9.3
162.5°	0.8	0.8	0.8	0.8	0.8	1.5	1.5	3.1	3.9	5.4	6.9
165°	0.8	0.8	0.8	0.0	0.8	0.8	0.8	1.5	2.3	3.1	3.9
167.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.8	0.8	1.5	2.3
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°	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4	1917.4
2.5°	1883.4	1885.7	1885.7	1886.5	1886.5	1888.8	1888.8	1888.8	1890.4	1889.6
5°	1814.0	1819.4	1823.3	1827.9	1831.0	1834.1	1834.1	1834.8	1839.5	1837.1
7.5°	1723.8	1729.9	1734.6	1743.8	1746.9	1749.2	1755.4	1759.2	1761.6	1760.0
10°	1652.0	1651.3	1655.9	1652.8	1649.0	1651.3	1650.5	1653.6	1649.7	1648.2
12.5°	1588.0	1571.8	1576.5	1587.3	1589.6	1591.1	1596.5	1597.3	1600.4	1595.7
15°	1525.6	1534.8	1534.0	1526.3	1522.5	1520.2	1521.7	1527.9	1533.3	1532.5
17.5°	1493.2	1485.4	1488.5	1508.6	1515.5	1517.8	1510.9	1501.6	1491.6	1489.3
20°	1450.0	1466.9	1475.4	1451.5	1435.3	1433.0	1433.0	1439.2	1446.9	1446.9
22.5°	1423.7	1423.0	1399.8	1419.9	1430.7	1436.9	1433.8	1420.7	1408.3	1412.2
25°	1396.0	1382.1	1406.8	1393.7	1384.4	1379.8	1385.2	1392.9	1396.0	1399.1
27.5°	1347.4	1369.0	1352.8	1362.8	1375.2	1385.2	1381.3	1361.3	1355.1	1356.6
30°	1323.5	1317.3	1335.8	1351.2	1342.0	1328.1	1315.0	1311.9	1318.1	1318.1
32.5°	1296.5	1305.7	1310.4	1287.2	1288.8	1294.2	1300.3	1299.6	1290.3	1282.6
35°	1251.0	1271.0	1251.8	1269.5	1274.1	1266.4	1247.1	1250.2	1252.5	1248.7
37.5°	1228.6	1217.0	1233.2	1227.1	1221.7	1224.8	1237.9	1233.2	1234.8	1233.2
40°	1190.1	1197.0	1183.1	1189.3	1195.5	1197.8	1192.4	1173.1	1170.8	1172.3
42.5°	1139.2	1146.9	1156.1	1162.3	1147.6	1135.3	1138.4	1146.9	1149.2	1151.5
45°	1099.8	1099.8	1109.8	1092.1	1096.7	1104.4	1105.2	1102.1	1095.2	1090.6
47.5°	1060.5	1067.4	1048.9	1058.9	1056.6	1057.4	1048.9	1055.1	1057.4	1056.6
50°	1011.9	1008.8	1013.4	1003.4	1000.3	1001.1	1012.7	1008.0	1004.2	1002.6
52.5°	962.5	952.5	961.8	961.0	968.7	969.5	954.0	947.9	951.0	948.6
55°	910.9	912.4	909.3	915.5	910.9	905.5	903.9	905.5	905.5	908.5
57.5°	847.6	860.0	869.2	855.3	853.0	856.9	856.9	848.4	842.2	841.4
60°	787.5	792.9	799.0	800.6	795.9	791.3	789.8	787.5	789.0	788.2
62.5°	729.6	733.5	727.3	728.8	724.2	727.3	726.5	723.4	717.3	711.1
65°	664.8	667.9	665.6	662.5	665.6	668.7	654.0	648.6	643.2	644.0
67.5°	596.2	598.5	599.3	602.4	596.2	591.6	585.4	584.6	579.2	575.4
70°	532.9	531.4	537.6	535.3	529.9	529.1	521.4	512.1	506.7	505.2
72.5°	466.6	469.7	474.3	465.8	471.2	465.1	455.8	450.4	448.9	447.3
75°	401.1	408.0	409.5	406.5	406.5	401.1	399.5	394.9	389.5	382.5
77.5°	337.8	343.2	346.3	347.1	344.0	343.2	340.1	334.0	324.7	319.3
80°	275.3	280.7	285.4	287.7	286.1	290.8	283.8	280.0	276.9	278.4
82.5°	218.3	223.7	230.6	233.7	236.8	237.5	239.1	241.4	243.7	246.8
85°	165.8	174.3	182.0	189.0	194.4	196.7	202.1	209.0	218.3	225.2
87.5°	129.6	137.3	148.1	158.1	162.0	165.8	174.3	186.6	202.8	215.2
90°	107.2	116.5	126.5	136.5	141.9	145.8	158.1	171.2	188.2	199.0
92.5°	97.2	107.2	116.5	125.7	130.3	135.0	145.8	158.9	170.4	179.7
95°	93.3	101.8	111.1	119.5	123.4	128.0	137.3	145.0	154.3	159.7
97.5°	88.7	97.2	105.7	113.4	116.5	120.3	128.8	134.2	141.1	145.8
100°	84.8	93.3	100.3	107.2	110.3	113.4	120.3	125.7	126.5	129.6
102.5°	81.8	88.7	94.9	101.0	102.6	105.7	111.1	114.1	114.1	113.4
105°	77.9	84.1	89.5	94.1	95.6	97.9	99.5	99.5	98.7	97.9
107.5°	74.0	79.4	84.1	87.2	88.7	88.7	88.7	87.2	85.6	84.8
110°	71.0	75.6	79.4	81.0	81.0	81.0	80.2	79.4	78.7	77.9





TEST NUMBER: P241445

CATALOG NUMBER: FVS8M-2-LD4-30-3STD-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	67.9	72.5	75.6	77.1	77.1	77.1	77.1	77.1	76.4	75.6
115°	66.3	70.2	73.3	75.6	76.4	77.1	77.9	77.9	77.9	77.1
117.5°	64.8	69.4	73.3	76.4	77.1	78.7	79.4	80.2	79.4	79.4
120°	64.8	69.4	73.3	77.1	78.7	79.4	81.0	81.8	81.8	81.0
122.5°	63.2	68.6	73.3	77.1	78.7	80.2	81.8	82.5	82.5	82.5
125°	61.7	67.1	72.5	76.4	77.9	78.7	81.0	82.5	82.5	82.5
127.5°	59.4	65.6	70.2	74.0	75.6	77.1	79.4	81.0	81.8	81.8
130°	57.1	62.5	67.9	71.7	73.3	74.8	77.1	78.7	79.4	80.2
132.5°	54.0	59.4	64.0	68.6	70.2	71.7	74.0	76.4	76.4	77.1
135°	50.1	55.5	60.2	64.0	66.3	67.9	71.0	72.5	73.3	74.0
137.5°	46.3	50.9	55.5	60.2	61.7	63.2	66.3	68.6	70.2	70.2
140°	42.4	47.0	50.9	54.8	57.1	58.6	61.7	64.0	64.8	65.6
142.5°	38.6	43.2	47.0	50.1	52.4	54.0	56.3	58.6	59.4	60.2
145°	34.7	38.6	42.4	45.5	47.0	48.6	50.9	52.4	53.2	54.0
147.5°	30.9	34.7	37.8	40.9	41.6	43.2	45.5	47.0	47.8	47.8
150°	27.0	30.1	33.2	35.5	36.2	37.8	40.1	40.9	41.6	41.6
152.5°	23.1	25.5	27.8	30.1	31.6	32.4	33.9	35.5	35.5	36.2
155°	19.3	21.6	23.9	25.5	26.2	27.0	28.5	29.3	30.1	30.1
157.5°	15.4	17.7	19.3	20.8	21.6	22.4	23.1	23.9	24.7	24.7
160°	11.6	13.1	14.7	16.2	17.0	17.0	18.5	18.5	19.3	19.3
162.5°	7.7	9.3	10.8	12.3	12.3	13.1	13.1	13.9	13.9	13.9
165°	4.6	6.2	6.9	8.5	8.5	9.3	9.3	10.0	10.0	10.0
167.5°	3.1	3.1	3.9	4.6	5.4	5.4	5.4	6.2	6.2	6.2
170°	0.8	1.5	1.5	2.3	2.3	2.3	2.3	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)