

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: P241439

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241439  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-10)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
2FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (84) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

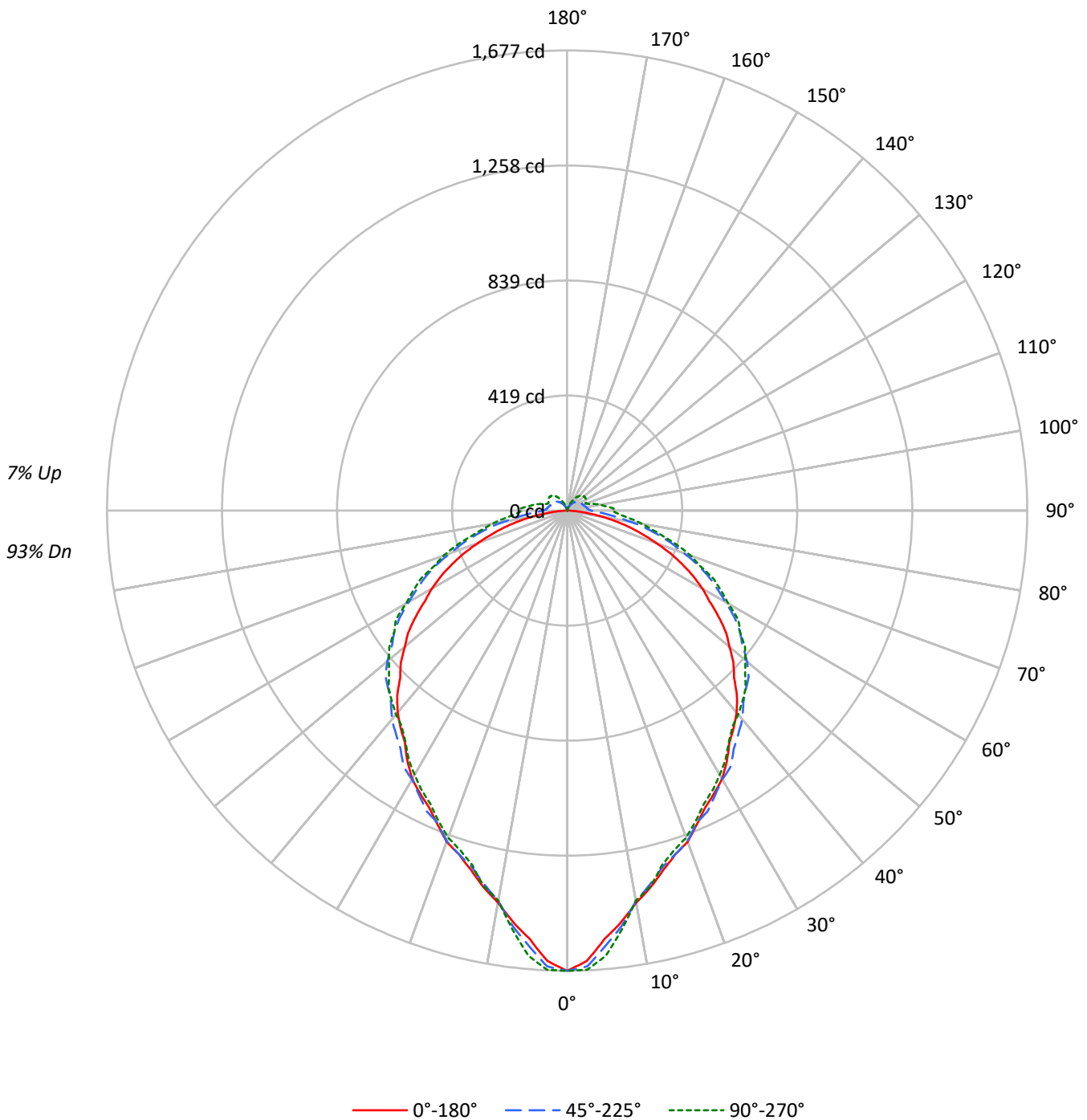
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4437.0 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')  
CIE Type: Direct  
  
Input Watts (W): 44.2  
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: P241439

CATALOG NUMBER: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P241439

CATALOG NUMBER: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1

**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	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	81	75	93	85	79	73	81	75	70	76	72	68	72	69	65	63				
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	64	59	55	52				
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45				
5	74	60	51	45	71	59	50	44	56	49	43	53	47	42	51	45	41	38				
6	68	54	45	39	65	53	45	38	51	43	37	48	42	37	46	40	36	34				
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30				
8	59	45	36	30	57	44	36	30	42	35	30	40	34	29	39	33	28	26				
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	34	28	24	33	27	23	22				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	15075	15075	15075
5°	14044	14109	14397
10°	13064	12699	12667
15°	12350	11826	11733
20°	11941	11373	11209
25°	11405	10907	10580
30°	11210	10442	10212
35°	10724	10099	9732
40°	10579	9870	9570
45°	10136	9635	9531
50°	9871	9527	9334
55°	9482	9217	9113
60°	9003	8721	8762
65°	8408	8280	8426
70°	7456	7464	7769
75°	6336	6644	6860
80°	4654	5477	6265
85°	2335	4202	5731



TEST NUMBER: P241439

CATALOG NUMBER: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.5	3.3
10°-20°	381.5	8.6
20°-30°	553.5	12.5
30°-40°	658.9	14.9
40°-50°	702.5	15.8
50°-60°	665.2	15.0
60°-70°	536.0	12.1
70°-80°	344.4	7.8
80°-90°	150.4	3.4
90°-100°	79.9	1.8
100°-110°	61.7	1.4
110°-120°	49.3	1.1
120°-130°	44.0	1.0
130°-140°	33.0	0.7
140°-150°	19.3	0.4
150°-160°	8.0	0.2
160°-170°	1.9	0.0
170°-180°	0.0	0.0
0°-30°	1082.5	24.4
0°-40°	1741.4	39.2
0°-60°	3109.1	70.1
0°-90°	4139.8	93.3
90°-120°	190.9	4.3
90°-150°	287.2	6.5
90°-180°	297.0	6.7
0°-180°	4437.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1677	1677	1677	1677	1677	
5°	1567	1574	1593	1617	1627	146
15°	1355	1361	1344	1334	1337	383
25°	1192	1198	1210	1200	1179	553
35°	1031	1068	1059	1054	1027	651
45°	860	901	921	938	919	669
55°	673	710	769	777	769	601
65°	462	501	569	578	588	456
75°	236	282	345	377	364	249
85°	43	83	141	178	199	54
90°	1	37	87	121	165	2
95°	0	33	75	111	152	0
105°	0	29	66	90	92	0
115°	0	27	59	73	75	0
125°	0	24	55	78	81	0
135°	0	18	45	69	77	0
145°	1	11	32	50	59	1
155°	1	5	18	28	32	0
165°	1	1	5	11	12	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241439

CATALOG NUMBER: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1
2.5°	1643.1	1643.1	1644.1	1644.1	1646.1	1647.1	1650.1	1650.1	1655.1	1659.1	1663.1
5°	1567.1	1564.1	1567.1	1567.1	1572.1	1574.1	1579.1	1585.1	1586.1	1592.1	1593.1
7.5°	1512.1	1511.1	1507.1	1507.1	1505.1	1508.1	1508.1	1512.1	1519.1	1525.1	1526.1
10°	1451.1	1450.1	1449.1	1450.1	1445.1	1447.1	1447.1	1449.1	1453.1	1452.1	1444.1
12.5°	1406.1	1405.1	1401.1	1401.1	1402.1	1402.1	1401.1	1403.1	1396.1	1392.1	1395.1
15°	1355.1	1358.1	1361.1	1356.1	1362.1	1361.1	1361.1	1357.1	1348.1	1342.1	1344.1
17.5°	1313.1	1317.1	1314.1	1312.1	1310.1	1310.1	1313.1	1313.1	1316.1	1310.1	1313.1
20°	1284.1	1278.1	1271.1	1277.1	1281.1	1282.1	1283.1	1283.1	1279.1	1278.1	1282.1
22.5°	1236.1	1235.1	1238.1	1245.1	1244.1	1239.1	1237.1	1229.1	1233.1	1237.1	1232.1
25°	1192.1	1204.1	1207.1	1199.1	1196.1	1198.1	1204.1	1208.1	1215.1	1211.1	1210.1
27.5°	1161.1	1164.1	1150.1	1159.1	1173.1	1180.1	1176.1	1175.1	1172.1	1162.1	1168.1
30°	1129.1	1119.1	1121.1	1132.1	1133.1	1128.1	1123.1	1126.1	1132.1	1133.1	1131.1
32.5°	1083.1	1078.1	1097.1	1088.1	1088.1	1092.1	1100.1	1105.1	1111.1	1110.1	1108.1
35°	1031.1	1044.1	1044.1	1040.1	1059.1	1068.1	1072.1	1063.1	1062.1	1055.1	1059.1
37.5°	997.1	998.1	994.1	1015.1	1022.1	1019.1	1016.1	1015.1	1020.1	1024.1	1025.1
40°	961.1	952.1	959.1	971.1	965.1	970.1	978.1	990.1	995.1	997.1	993.1
42.5°	916.1	913.1	924.1	919.1	931.1	938.1	946.1	953.1	949.1	951.1	950.1
45°	860.1	873.1	867.1	881.1	901.1	901.1	902.1	900.1	909.1	920.1	921.1
47.5°	822.0	824.0	823.0	840.1	848.1	846.1	859.1	872.1	884.1	890.1	897.1
50°	772.0	767.0	787.0	788.0	800.0	808.0	819.0	831.1	842.1	850.1	856.1
52.5°	730.0	725.0	735.0	735.0	761.0	770.0	771.0	780.0	792.0	796.0	804.0
55°	673.0	680.0	678.0	697.0	709.0	710.0	714.0	730.0	749.0	757.0	769.0
57.5°	615.0	625.0	624.0	646.0	651.0	659.0	668.0	690.0	702.0	713.0	722.0
60°	569.0	571.0	581.0	585.0	597.0	609.0	623.0	637.0	645.0	658.0	666.0
62.5°	519.0	513.0	530.0	531.0	553.0	555.0	563.0	578.0	591.0	607.0	616.0
65°	462.0	463.0	471.0	482.0	497.0	501.0	509.0	526.0	543.0	558.0	569.0
67.5°	407.0	411.0	416.0	429.0	438.0	448.0	458.0	472.0	495.0	507.0	514.0
70°	345.0	352.0	358.0	372.0	385.0	393.0	406.0	420.0	435.0	445.0	452.0
72.5°	289.0	294.0	303.0	314.0	334.0	342.0	350.0	362.0	375.0	385.0	400.0
75°	236.0	240.0	251.0	259.0	276.0	282.0	292.0	304.0	321.0	334.0	345.0
77.5°	182.0	185.0	196.0	206.0	221.0	228.0	235.0	249.0	263.0	281.0	292.0
80°	130.0	133.0	144.0	153.0	165.0	171.0	179.0	196.0	212.0	222.0	235.0
82.5°	84.0	86.0	94.0	105.0	116.0	124.0	132.0	146.0	160.0	172.0	183.0
85°	43.0	45.0	54.0	63.0	75.0	83.0	88.0	102.0	116.0	128.0	141.0
87.5°	14.0	17.0	24.0	34.0	45.0	52.0	57.0	70.0	82.0	95.0	107.0
90°	1.0	4.0	11.0	20.0	31.0	37.0	43.0	54.0	65.0	76.0	87.0
92.5°	0.0	3.0	9.0	18.0	28.0	34.0	39.0	50.0	60.0	70.0	79.0
95°	0.0	2.0	9.0	17.0	27.0	33.0	38.0	48.0	58.0	67.0	75.0
97.5°	0.0	2.0	8.0	17.0	26.0	32.0	37.0	46.0	55.0	64.0	73.0
100°	0.0	2.0	8.0	16.0	26.0	31.0	35.0	44.0	53.0	62.0	70.0
102.5°	0.0	2.0	8.0	16.0	25.0	30.0	34.0	43.0	52.0	60.0	68.0
105°	0.0	2.0	8.0	16.0	25.0	29.0	34.0	42.0	51.0	59.0	66.0
107.5°	0.0	2.0	7.0	15.0	24.0	29.0	33.0	42.0	50.0	57.0	64.0
110°	0.0	2.0	7.0	15.0	24.0	28.0	33.0	41.0	49.0	56.0	62.0



TEST NUMBER: P241439

CATALOG NUMBER: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	2.0	7.0	15.0	23.0	28.0	32.0	40.0	48.0	54.0	60.0
115°	0.0	2.0	7.0	14.0	23.0	27.0	31.0	39.0	47.0	53.0	59.0
117.5°	0.0	1.0	7.0	14.0	22.0	26.0	31.0	39.0	46.0	52.0	58.0
120°	0.0	1.0	6.0	13.0	21.0	26.0	30.0	38.0	45.0	51.0	57.0
122.5°	0.0	1.0	6.0	13.0	21.0	25.0	29.0	37.0	44.0	51.0	57.0
125°	0.0	1.0	6.0	12.0	20.0	24.0	28.0	35.0	43.0	49.0	55.0
127.5°	0.0	1.0	5.0	12.0	19.0	23.0	27.0	34.0	41.0	47.0	53.0
130°	0.0	1.0	5.0	11.0	18.0	21.0	25.0	32.0	39.0	45.0	51.0
132.5°	0.0	1.0	4.0	10.0	17.0	20.0	23.0	30.0	37.0	43.0	48.0
135°	0.0	1.0	4.0	9.0	15.0	18.0	22.0	28.0	34.0	40.0	45.0
137.5°	0.0	0.0	3.0	8.0	14.0	17.0	20.0	26.0	32.0	37.0	42.0
140°	1.0	0.0	3.0	7.0	12.0	15.0	18.0	23.0	29.0	34.0	39.0
142.5°	1.0	0.0	2.0	6.0	11.0	13.0	16.0	21.0	26.0	31.0	35.0
145°	1.0	0.0	2.0	5.0	9.0	11.0	14.0	18.0	23.0	27.0	32.0
147.5°	1.0	0.0	1.0	4.0	8.0	10.0	12.0	16.0	20.0	24.0	28.0
150°	1.0	1.0	1.0	3.0	6.0	8.0	10.0	14.0	17.0	21.0	25.0
152.5°	1.0	1.0	1.0	2.0	5.0	6.0	8.0	11.0	15.0	18.0	22.0
155°	1.0	1.0	1.0	2.0	4.0	5.0	6.0	9.0	12.0	15.0	18.0
157.5°	1.0	1.0	0.0	1.0	3.0	4.0	5.0	7.0	9.0	12.0	14.0
160°	1.0	1.0	0.0	1.0	2.0	3.0	3.0	5.0	7.0	9.0	11.0
162.5°	1.0	1.0	1.0	1.0	1.0	2.0	2.0	4.0	5.0	7.0	8.0
165°	1.0	1.0	1.0	0.0	1.0	1.0	1.0	2.0	3.0	4.0	5.0
167.5°	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0	3.0
170°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
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: P241439

CATALOG NUMBER: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1	1677.1
2.5°	1667.1	1670.1	1672.1	1675.1	1674.1	1675.1	1675.1	1673.1	1675.1	1675.1
5°	1598.1	1605.1	1609.1	1615.1	1617.1	1617.1	1622.1	1626.1	1628.1	1627.1
7.5°	1525.1	1519.1	1520.1	1516.1	1516.1	1518.1	1523.1	1527.1	1533.1	1537.1
10°	1442.1	1444.1	1444.1	1448.1	1446.1	1446.1	1447.1	1450.1	1449.1	1443.1
12.5°	1396.1	1385.1	1387.1	1396.1	1399.1	1396.1	1399.1	1395.1	1402.1	1402.1
15°	1345.1	1352.1	1356.1	1344.1	1334.1	1338.1	1343.1	1339.1	1337.1	1337.1
17.5°	1323.1	1309.1	1301.1	1304.1	1306.1	1304.1	1305.1	1305.1	1302.1	1297.1
20°	1268.1	1270.1	1275.1	1277.1	1276.1	1275.1	1270.1	1269.1	1270.1	1268.1
22.5°	1235.1	1235.1	1236.1	1247.1	1247.1	1244.1	1238.1	1232.1	1225.1	1224.1
25°	1217.1	1208.1	1215.1	1205.1	1200.1	1192.1	1189.1	1185.1	1172.1	1179.1
27.5°	1163.1	1178.1	1169.1	1164.1	1158.1	1154.1	1147.1	1146.1	1148.1	1148.1
30°	1133.1	1124.1	1121.1	1122.1	1124.1	1132.1	1124.1	1112.1	1112.1	1112.1
32.5°	1110.1	1100.1	1094.1	1090.1	1091.1	1088.1	1083.1	1073.1	1072.1	1075.1
35°	1054.1	1061.1	1062.1	1060.1	1054.1	1047.1	1046.1	1044.1	1032.1	1027.1
37.5°	1020.1	1016.1	1015.1	1019.1	1021.1	1015.1	1000.1	993.1	994.1	990.1
40°	996.1	996.1	987.1	974.1	968.1	969.1	976.1	970.1	968.1	970.1
42.5°	957.1	966.1	964.1	956.1	955.1	957.1	955.1	949.1	945.1	945.1
45°	927.1	925.1	927.1	938.1	938.1	932.1	921.1	925.1	925.1	919.1
47.5°	905.1	898.1	902.1	891.1	895.1	898.1	892.1	886.1	884.1	880.1
50°	861.1	867.1	868.1	862.1	856.1	857.1	850.1	844.1	850.1	847.1
52.5°	809.0	818.0	820.0	823.0	813.0	809.0	812.0	820.0	816.0	817.0
55°	777.0	777.0	776.0	772.0	777.0	783.0	772.0	771.0	766.0	769.0
57.5°	735.0	737.0	732.0	737.0	733.0	733.0	729.0	732.0	734.0	740.0
60°	675.0	683.0	690.0	688.0	680.0	681.0	686.0	682.0	683.0	678.0
62.5°	624.0	624.0	635.0	630.0	636.0	633.0	626.0	627.0	631.0	633.0
65°	575.0	577.0	572.0	579.0	578.0	574.0	576.0	585.0	584.0	588.0
67.5°	517.0	527.0	525.0	522.0	522.0	524.0	532.0	525.0	522.0	521.0
70°	461.0	466.0	475.0	471.0	476.0	477.0	471.0	469.0	471.0	479.0
72.5°	409.0	414.0	419.0	427.0	428.0	424.0	428.0	425.0	426.0	423.0
75°	354.0	361.0	366.0	378.0	377.0	373.0	374.0	369.0	365.0	364.0
77.5°	299.0	309.0	320.0	319.0	319.0	323.0	320.0	317.0	318.0	315.0
80°	247.0	258.0	267.0	268.0	270.0	276.0	272.0	274.0	273.0	276.0
82.5°	196.0	207.0	215.0	220.0	223.0	224.0	227.0	230.0	234.0	236.0
85°	153.0	163.0	169.0	175.0	178.0	180.0	186.0	191.0	196.0	199.0
87.5°	117.0	124.0	132.0	140.0	143.0	147.0	153.0	160.0	169.0	177.0
90°	94.0	102.0	110.0	118.0	121.0	125.0	132.0	141.0	154.0	165.0
92.5°	86.0	94.0	101.0	109.0	113.0	118.0	127.0	139.0	157.0	170.0
95°	83.0	91.0	99.0	107.0	111.0	115.0	126.0	138.0	149.0	152.0
97.5°	80.0	88.0	95.0	103.0	107.0	112.0	121.0	127.0	131.0	134.0
100°	78.0	85.0	92.0	100.0	103.0	106.0	112.0	117.0	121.0	124.0
102.5°	75.0	82.0	89.0	94.0	97.0	99.0	104.0	109.0	109.0	109.0
105°	73.0	79.0	84.0	88.0	90.0	92.0	95.0	94.0	93.0	92.0
107.5°	70.0	75.0	79.0	83.0	83.0	84.0	84.0	82.0	81.0	80.0
110°	67.0	72.0	75.0	76.0	77.0	77.0	77.0	76.0	75.0	75.0





TEST NUMBER: P241439

CATALOG NUMBER: FVS8M-2-LD4-40-2HI-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	65.0	69.0	72.0	73.0	74.0	74.0	74.0	74.0	73.0	73.0
115°	63.0	67.0	70.0	72.0	73.0	74.0	75.0	75.0	75.0	75.0
117.5°	63.0	67.0	71.0	73.0	75.0	76.0	78.0	78.0	77.0	78.0
120°	62.0	67.0	71.0	75.0	77.0	78.0	80.0	80.0	79.0	79.0
122.5°	62.0	67.0	72.0	76.0	78.0	79.0	81.0	82.0	81.0	80.0
125°	61.0	66.0	71.0	76.0	78.0	80.0	82.0	82.0	81.0	81.0
127.5°	59.0	65.0	70.0	75.0	77.0	79.0	81.0	82.0	81.0	81.0
130°	57.0	63.0	68.0	73.0	75.0	77.0	79.0	80.0	80.0	80.0
132.5°	54.0	60.0	65.0	70.0	72.0	74.0	77.0	78.0	79.0	79.0
135°	51.0	57.0	62.0	67.0	69.0	71.0	74.0	76.0	76.0	77.0
137.5°	48.0	53.0	58.0	63.0	65.0	67.0	71.0	72.0	73.0	74.0
140°	44.0	49.0	53.0	58.0	61.0	63.0	66.0	68.0	70.0	70.0
142.5°	40.0	44.0	49.0	53.0	55.0	57.0	61.0	63.0	65.0	65.0
145°	36.0	40.0	44.0	48.0	50.0	52.0	55.0	57.0	58.0	59.0
147.5°	32.0	36.0	39.0	43.0	44.0	46.0	48.0	50.0	51.0	52.0
150°	28.0	32.0	34.0	37.0	38.0	40.0	42.0	43.0	44.0	45.0
152.5°	24.0	27.0	30.0	32.0	33.0	34.0	36.0	37.0	38.0	38.0
155°	21.0	23.0	25.0	27.0	28.0	29.0	30.0	31.0	32.0	32.0
157.5°	17.0	19.0	21.0	23.0	23.0	24.0	25.0	26.0	27.0	27.0
160°	13.0	15.0	17.0	18.0	19.0	19.0	20.0	21.0	21.0	22.0
162.5°	10.0	11.0	13.0	14.0	15.0	15.0	16.0	17.0	17.0	17.0
165°	7.0	8.0	9.0	10.0	11.0	11.0	12.0	12.0	12.0	12.0
167.5°	4.0	5.0	5.0	6.0	7.0	7.0	8.0	8.0	8.0	8.0
170°	2.0	2.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
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)