

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: P241492

Luminaire Tested: **FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241492  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-35)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
4FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

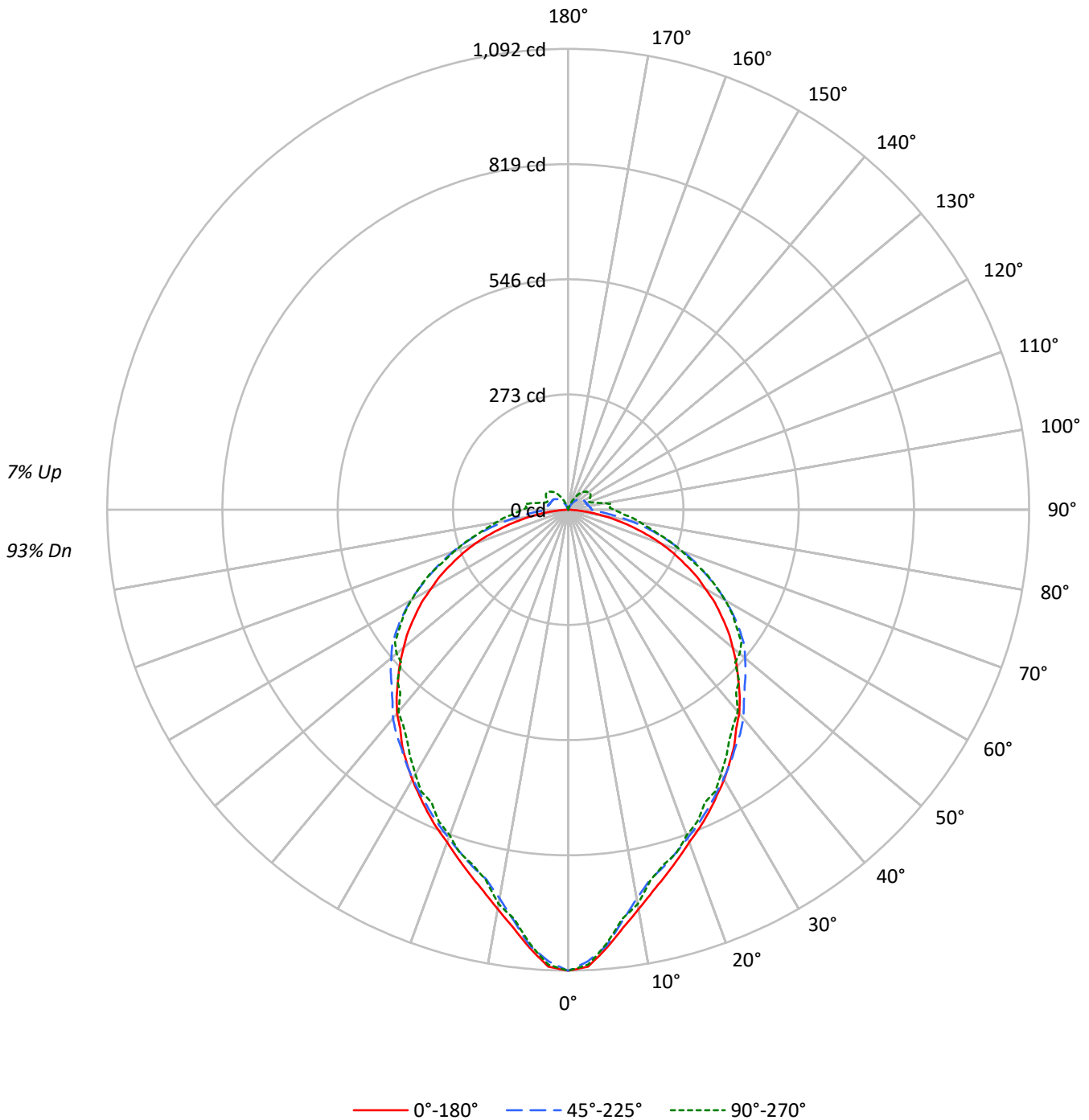
Lumens per Lamp: N/A  
Luminaire Lumens: 2886.0 lumens  
Efficiency: N/A  
Efficacy: 122.3 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 23.6  
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

TEST NUMBER: P241492

CATALOG NUMBER: FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P241492

CATALOG NUMBER: FVS8M-4-LD4-50-1LO-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	50	30	10	0		
RCR																										
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93								
1	106	101	97	92	103	98	94	90	92	89	86	87	85	82	83	80	78	76								
2	96	88	81	75	93	85	79	73	80	75	70	76	72	68	72	68	65	62								
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	63	59	55	52								
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	56	51	47	44								
5	74	61	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	38	48	42	37	46	40	36	34								
7	63	49	41	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30								
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	28	26								
9	55	41	33	28	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°	4883	4883	4883
5°	4662	4580	4546
10°	4330	4109	4141
15°	4101	3857	3801
20°	3931	3685	3606
25°	3825	3547	3416
30°	3728	3428	3303
35°	3638	3325	3135
40°	3559	3253	3066
45°	3465	3146	2950
50°	3381	3109	2906
55°	3282	3044	2869
60°	3142	2907	2756
65°	2979	2703	2575
70°	2761	2498	2304
75°	2357	2205	2069
80°	1833	1826	1950
85°	960	1391	1906



TEST NUMBER: P241492

CATALOG NUMBER: FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.0	3.3
10°-20°	248.7	8.6
20°-30°	361.4	12.5
30°-40°	429.8	14.9
40°-50°	450.2	15.6
50°-60°	429.5	14.9
60°-70°	342.6	11.9
70°-80°	216.8	7.5
80°-90°	96.3	3.3
90°-100°	55.0	1.9
100°-110°	44.3	1.5
110°-120°	36.7	1.3
120°-130°	33.4	1.2
130°-140°	25.0	0.9
140°-150°	14.3	0.5
150°-160°	5.1	0.2
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	706.1	24.5
0°-40°	1135.9	39.4
0°-60°	2015.6	69.8
0°-90°	2671.3	92.6
90°-120°	136.1	4.7
90°-150°	208.7	7.2
90°-180°	215.0	7.4
0°-180°	2886.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1092	1092	1092	1092	1092	
5°	1043	1038	1038	1037	1033	97
15°	896	890	876	878	871	253
25°	790	790	782	784	766	364
35°	685	693	689	681	665	428
45°	570	590	591	579	572	440
55°	445	469	495	499	487	398
65°	305	330	358	360	361	303
75°	156	186	217	226	221	167
85°	27	52	85	117	133	36
90°	1	23	55	86	109	1
95°	0	21	54	76	101	0
105°	0	21	47	65	64	0
115°	0	20	44	56	56	0
125°	1	17	42	59	64	1
135°	1	12	35	52	61	0
145°	1	6	23	40	46	0
155°	1	2	10	19	23	0
165°	1	1	2	4	5	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241492

CATALOG NUMBER: FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5
2.5°	1083.6	1081.7	1077.3	1078.6	1079.9	1078.6	1079.9	1079.9	1077.3	1074.8	1071.0
5°	1042.6	1038.9	1038.2	1038.9	1039.5	1037.6	1038.9	1040.1	1038.2	1040.7	1037.6
7.5°	998.5	995.3	994.7	994.1	993.4	992.2	992.8	994.7	992.2	986.5	982.7
10°	960.6	956.2	953.7	951.8	951.8	951.2	952.4	949.3	944.2	940.5	935.4
12.5°	925.9	923.4	920.9	922.2	919.6	919.0	917.7	912.7	908.9	904.5	896.9
15°	895.7	895.0	891.3	892.5	889.4	890.0	888.7	886.8	879.9	875.5	875.5
17.5°	866.7	867.3	867.3	867.9	862.9	862.9	862.9	860.4	854.7	852.8	851.5
20°	838.3	839.5	838.9	837.6	838.3	837.6	838.3	835.8	830.1	830.7	827.6
22.5°	814.9	814.3	813.0	814.3	813.7	812.4	813.0	810.5	808.0	807.4	805.5
25°	789.7	789.7	786.6	789.7	789.1	790.3	789.7	791.6	787.8	786.6	782.1
27.5°	763.2	761.3	762.0	765.1	767.0	767.0	764.5	765.7	766.4	759.4	758.8
30°	738.6	738.0	736.1	739.9	742.4	740.5	741.8	744.3	744.3	737.4	736.1
32.5°	711.5	710.2	711.5	715.3	715.9	719.7	721.6	720.3	719.7	713.4	713.4
35°	685.0	684.4	686.3	688.8	691.9	693.2	697.0	699.5	695.7	690.0	689.4
37.5°	653.5	657.2	657.2	661.7	666.1	669.2	671.1	674.3	669.2	665.4	669.2
40°	630.1	628.2	627.6	635.2	639.0	642.1	645.3	647.2	642.7	644.0	645.3
42.5°	601.7	598.6	603.0	608.0	613.1	616.2	617.5	622.6	618.1	620.7	616.2
45°	569.6	570.8	573.4	575.9	586.6	589.8	591.0	591.6	595.4	594.8	591.0
47.5°	540.6	540.6	544.3	548.8	557.0	561.4	563.3	564.5	565.8	565.8	570.2
50°	509.0	509.7	513.4	519.7	526.0	529.8	533.0	538.0	541.8	543.7	546.9
52.5°	479.4	478.7	485.7	490.1	495.8	500.8	504.0	510.9	515.3	517.9	525.4
55°	444.7	446.6	451.0	457.3	465.5	469.3	472.4	480.0	484.4	490.7	495.1
57.5°	413.1	414.4	416.9	423.2	432.7	434.6	439.0	447.2	451.0	458.6	463.6
60°	375.3	380.3	383.5	391.1	395.5	398.6	405.6	416.3	420.7	427.0	430.8
62.5°	343.1	343.8	348.2	355.1	360.2	365.8	372.8	380.3	386.7	391.7	394.2
65°	305.3	307.8	314.7	318.5	326.7	330.5	336.2	343.1	349.4	355.1	358.3
67.5°	270.0	271.9	275.6	282.6	290.8	294.6	297.7	305.9	315.4	321.1	325.5
70°	234.0	236.5	238.4	247.3	252.3	257.3	261.8	272.5	281.3	284.5	289.5
72.5°	194.3	198.1	201.2	209.4	217.6	221.4	227.1	236.5	242.8	248.5	252.3
75°	156.4	160.2	165.9	172.2	179.1	186.1	190.5	197.4	205.0	211.3	217.0
77.5°	120.5	122.4	128.7	136.9	143.2	149.5	152.6	160.2	169.0	174.7	182.3
80°	87.0	88.3	95.2	100.3	109.1	112.3	116.1	124.9	133.1	140.0	146.3
82.5°	56.1	56.8	62.4	69.4	75.7	80.7	83.9	92.1	100.3	107.9	113.5
85°	27.1	29.6	34.7	41.0	49.2	51.7	55.5	64.3	71.3	78.2	85.2
87.5°	8.8	10.7	15.1	21.4	28.4	31.5	35.3	42.3	50.5	58.0	64.3
90°	0.6	2.5	6.9	12.6	19.6	22.7	25.9	33.4	41.0	47.9	54.9
92.5°	0.0	1.9	6.3	12.0	18.3	21.4	25.2	32.8	39.7	47.3	54.9
95°	0.0	1.9	5.7	11.4	18.3	21.4	25.2	32.8	39.7	47.3	53.6
97.5°	0.0	1.3	5.7	11.4	18.3	21.4	25.2	32.2	39.7	45.4	51.1
100°	0.0	1.3	5.7	11.4	17.7	21.4	24.6	32.2	37.8	44.2	49.8
102.5°	0.0	1.3	5.7	11.4	17.7	20.8	24.6	30.9	37.2	42.9	48.6
105°	0.0	1.3	5.0	11.4	17.7	20.8	24.0	30.3	36.0	41.6	47.3
107.5°	0.0	1.3	5.0	10.7	17.0	20.2	24.0	29.6	36.0	41.0	46.0
110°	0.0	1.3	5.0	10.7	17.0	20.2	23.3	29.6	35.3	40.4	45.4



TEST NUMBER: P241492

CATALOG NUMBER: FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.6	4.4	10.1	17.0	20.2	23.3	29.0	34.7	40.4	44.8
115°	0.0	0.6	4.4	10.1	16.4	19.6	22.7	29.0	34.7	39.7	44.2
117.5°	0.6	0.6	4.4	9.5	15.8	18.9	22.1	28.4	34.1	39.1	43.5
120°	0.6	0.6	3.8	8.8	15.1	18.3	21.4	27.8	33.4	39.1	43.5
122.5°	0.6	0.6	3.2	8.2	14.5	17.7	20.8	27.1	32.8	38.5	43.5
125°	0.6	0.6	3.2	8.2	13.9	17.0	20.2	25.9	31.5	37.2	42.3
127.5°	0.6	0.6	2.5	7.6	13.2	15.8	18.9	25.2	30.3	36.0	41.0
130°	0.6	0.6	1.9	6.3	12.0	14.5	17.7	23.3	29.0	34.1	39.1
132.5°	0.6	0.6	1.9	5.7	10.7	13.2	15.8	22.1	27.1	32.2	37.2
135°	0.6	0.6	1.3	5.0	9.5	12.0	13.9	19.6	25.2	29.6	34.7
137.5°	0.6	0.6	1.3	3.8	8.2	10.1	12.6	17.0	22.7	27.1	32.2
140°	0.6	0.6	1.3	3.2	6.9	8.8	10.7	15.1	19.6	24.6	29.0
142.5°	0.6	0.6	0.6	2.5	5.7	6.9	8.8	12.6	17.0	21.4	25.9
145°	0.6	0.6	0.6	1.9	4.4	5.7	7.6	10.7	14.5	18.9	22.7
147.5°	0.6	0.6	0.6	1.3	3.2	4.4	5.7	8.8	12.0	15.8	18.9
150°	0.6	0.6	0.6	1.3	2.5	3.8	4.4	6.9	9.5	12.6	15.8
152.5°	0.6	0.6	0.6	0.6	1.9	2.5	3.8	5.7	7.6	10.1	12.6
155°	0.6	0.6	0.6	0.6	1.3	1.9	2.5	3.8	5.7	7.6	9.5
157.5°	0.6	0.6	0.6	0.6	1.3	1.3	1.9	2.5	3.8	5.7	6.9
160°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.9	2.5	3.8	4.4
162.5°	1.3	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.9	2.5	3.2
165°	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.9
167.5°	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
170°	1.3	1.3	0.6	0.6	0.6	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: P241492

CATALOG NUMBER: FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5	1092.5
2.5°	1070.4	1075.4	1076.7	1078.6	1078.0	1079.9	1080.5	1081.7	1080.5	1079.2
5°	1037.0	1040.1	1038.9	1037.0	1037.0	1036.3	1035.1	1035.1	1035.7	1033.2
7.5°	978.9	982.7	984.0	984.6	985.2	984.0	984.0	983.3	979.6	978.3
10°	930.4	929.7	931.6	935.4	938.6	939.2	944.2	946.8	946.8	948.7
12.5°	898.8	904.5	903.9	905.8	901.3	899.5	904.5	900.7	900.1	899.5
15°	873.6	873.6	874.9	876.7	878.0	878.6	876.7	872.3	868.5	871.1
17.5°	849.0	852.8	849.6	842.1	841.4	844.0	847.1	850.3	851.5	852.8
20°	828.8	823.8	824.4	832.6	834.5	833.9	829.4	826.3	823.1	820.6
22.5°	799.8	807.4	810.5	804.2	801.1	801.1	803.6	803.0	804.8	799.8
25°	782.8	783.4	779.0	784.0	784.0	784.7	777.7	772.7	766.4	765.7
27.5°	758.2	756.3	762.0	758.2	751.2	749.3	748.7	751.2	752.5	753.1
30°	735.5	737.4	726.6	731.7	736.1	737.4	736.7	726.6	723.5	723.5
32.5°	717.8	709.6	714.0	714.6	709.0	705.2	698.2	698.9	698.2	695.7
35°	689.4	688.8	693.2	683.7	681.2	680.6	683.7	680.0	671.8	665.4
37.5°	662.9	667.3	660.4	665.4	662.9	656.6	647.2	643.4	642.7	642.7
40°	645.3	638.3	640.8	628.9	624.4	627.0	628.9	628.2	625.7	625.1
42.5°	618.1	618.1	610.6	606.2	607.4	608.0	601.7	595.4	591.6	588.5
45°	592.3	587.9	585.3	586.0	579.0	574.6	570.8	573.4	570.2	572.1
47.5°	569.6	562.6	562.6	550.6	551.3	554.4	552.5	542.4	539.3	536.1
50°	545.6	550.6	539.9	543.1	541.8	536.1	530.5	530.5	534.2	530.5
52.5°	523.5	526.7	527.3	523.5	519.1	519.7	524.8	521.6	517.9	517.2
55°	497.7	496.4	498.9	497.7	498.9	500.8	493.9	490.7	489.5	486.9
57.5°	464.9	468.7	464.2	471.8	468.7	463.6	464.2	464.2	464.2	461.1
60°	432.1	432.7	436.5	432.1	430.8	433.3	433.3	430.8	428.3	428.9
62.5°	398.6	399.3	398.6	396.1	399.3	396.7	393.0	393.0	396.7	395.5
65°	360.8	364.6	361.4	360.8	360.2	357.6	360.8	362.1	360.8	361.4
67.5°	328.6	329.3	328.6	325.5	324.2	325.5	323.6	319.8	320.4	318.5
70°	293.3	292.7	293.9	292.0	292.7	293.3	288.3	285.1	285.7	285.7
72.5°	256.7	258.6	258.6	260.5	259.9	258.0	256.1	254.8	254.2	254.2
75°	222.0	225.2	225.8	227.1	226.4	225.8	225.8	223.3	221.4	220.8
77.5°	186.7	189.9	194.9	193.6	194.9	194.9	196.2	193.0	194.9	194.9
80°	152.0	155.8	160.8	164.6	165.9	166.5	167.8	169.0	172.8	172.8
82.5°	120.5	124.9	131.2	136.2	140.0	141.3	146.3	151.4	153.9	155.2
85°	92.1	99.0	105.3	111.6	116.7	120.5	124.9	126.8	130.6	133.1
87.5°	71.9	79.5	87.7	95.9	99.0	100.9	104.7	109.1	115.4	119.2
90°	63.1	71.3	78.8	84.5	85.8	87.7	92.1	97.1	104.1	109.1
92.5°	62.4	68.8	73.8	77.6	79.5	82.0	85.8	88.3	94.0	98.4
95°	59.3	65.0	70.0	73.8	75.7	77.6	81.4	87.7	95.9	100.9
97.5°	57.4	63.1	66.9	71.3	73.8	76.3	84.5	94.0	100.9	102.8
100°	55.5	60.6	65.0	70.6	73.8	77.0	83.9	87.7	88.9	87.7
102.5°	53.6	58.7	63.7	68.8	70.6	73.2	76.3	75.7	75.1	73.8
105°	52.4	56.8	61.2	64.3	65.0	66.2	66.9	66.2	65.0	63.7
107.5°	51.1	54.9	58.0	59.3	59.9	60.6	60.6	59.3	58.0	56.8
110°	49.2	53.0	54.9	56.1	56.1	56.8	56.1	55.5	53.6	53.0





TEST NUMBER: P241492

CATALOG NUMBER: FVS8M-4-LD4-50-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	48.6	51.1	53.0	54.2	54.9	55.5	55.5	54.9	53.6	53.0
115°	47.9	51.1	53.0	54.9	55.5	56.1	56.8	56.8	55.5	55.5
117.5°	47.9	51.7	54.2	56.1	57.4	58.0	58.7	59.3	58.7	58.0
120°	47.9	52.4	54.9	58.0	58.7	59.3	60.6	61.2	61.2	60.6
122.5°	47.9	52.4	55.5	58.0	59.3	59.9	61.8	62.4	62.4	62.4
125°	47.3	51.7	54.9	57.4	58.7	59.9	61.8	63.1	63.7	64.3
127.5°	46.0	50.5	53.6	56.8	58.0	59.3	61.2	62.4	63.7	65.0
130°	44.2	48.6	52.4	55.5	56.8	58.0	59.9	61.8	63.1	63.7
132.5°	42.3	46.0	50.5	53.6	54.9	56.1	58.7	60.6	61.8	62.4
135°	39.7	43.5	47.9	51.1	52.4	54.2	56.8	58.7	59.9	60.6
137.5°	36.6	41.0	44.8	48.6	49.8	51.1	54.2	56.1	57.4	57.4
140°	34.1	37.8	42.3	45.4	47.3	48.6	51.1	53.0	54.2	54.9
142.5°	30.9	35.3	39.1	42.3	43.5	44.8	47.3	49.2	50.5	51.1
145°	27.1	31.5	34.7	37.8	39.7	41.0	42.9	44.8	46.0	46.0
147.5°	23.3	27.1	30.3	32.8	34.7	36.0	37.8	39.7	41.0	41.0
150°	18.9	22.1	25.9	28.4	29.0	30.3	32.2	33.4	34.1	34.7
152.5°	15.1	17.7	20.8	22.7	24.0	25.2	26.5	27.8	28.4	28.4
155°	11.4	13.9	15.8	18.3	18.9	20.2	20.8	22.1	22.1	22.7
157.5°	8.2	10.1	11.4	13.2	13.9	15.1	15.8	16.4	17.0	17.0
160°	5.7	6.9	8.2	9.5	10.1	10.7	11.4	12.0	12.6	12.0
162.5°	3.8	4.4	5.0	6.3	6.3	6.9	7.6	8.2	8.2	8.2
165°	1.9	2.5	3.2	3.2	3.8	3.8	4.4	5.0	5.0	5.0
167.5°	1.3	1.3	1.3	1.9	1.9	1.9	1.9	2.5	2.5	2.5
170°	0.6	0.6	0.6	0.6	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
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)