

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: P241424

Luminaire Tested: **FVS8M-2-LD4-50-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241424  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-5)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS8M-2-LD4-50-1STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS8M LED FIXTURE  
2FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (42) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

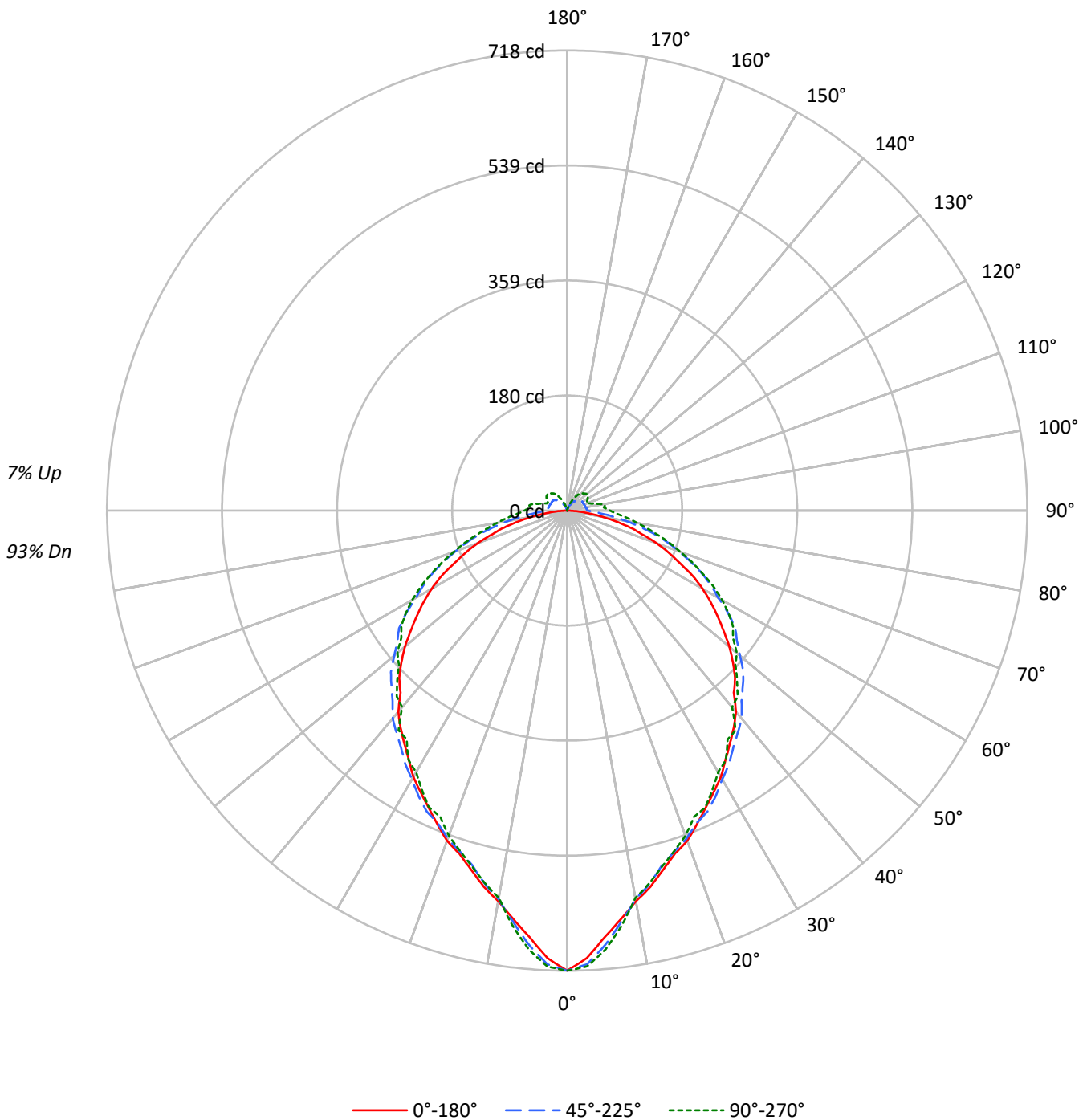
Lumens per Lamp: N/A  
Luminaire Lumens: 1869.0 lumens  
Efficiency: N/A  
Efficacy: 108.7 lumens/watt  
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 17.2  
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

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CATALOG NUMBER: FVS8M-2-LD4-50-1STD-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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93
1	106	101	97	93	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	71	76	72	68	72	69	65	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	52	63	56	50	60	54	49	57	51	47	45
5	74	61	52	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	34
7	63	50	41	35	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	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	24	22

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

	0°	45°	90°
0°	6453	6453	6453
5°	5990	6026	6081
10°	5572	5412	5388
15°	5282	5040	5041
20°	5097	4831	4769
25°	4893	4671	4581
30°	4764	4468	4327
35°	4608	4306	4133
40°	4511	4208	3950
45°	4366	4054	3887
50°	4224	3914	3809
55°	4029	3837	3743
60°	3864	3566	3608
65°	3527	3379	3352
70°	3209	3058	3046
75°	2728	2696	2752
80°	1987	2170	2519
85°	1021	1603	2411



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.8	3.4
10°-20°	162.7	8.7
20°-30°	236.6	12.7
30°-40°	281.1	15.0
40°-50°	293.7	15.7
50°-60°	276.5	14.8
60°-70°	220.9	11.8
70°-80°	139.5	7.5
80°-90°	60.6	3.2
90°-100°	32.3	1.7
100°-110°	27.5	1.5
110°-120°	23.0	1.2
120°-130°	21.1	1.1
130°-140°	16.2	0.9
140°-150°	9.9	0.5
150°-160°	3.9	0.2
160°-170°	0.7	0.0
170°-180°	0.0	0.0
0°-30°	462.1	24.7
0°-40°	743.2	39.8
0°-60°	1313.4	70.3
0°-90°	1734.5	92.8
90°-120°	82.8	4.4
90°-150°	129.9	7.0
90°-180°	135.0	7.2
0°-180°	1869.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	718	718	718	718	718	
5°	668	673	680	687	687	62
15°	580	580	573	569	574	164
25°	511	514	518	507	510	236
35°	443	451	452	452	436	278
45°	370	379	388	376	375	285
55°	286	300	320	325	316	256
65°	194	207	232	235	234	194
75°	102	116	140	148	146	106
85°	19	33	54	73	84	23
90°	0	14	32	51	67	1
95°	0	13	31	44	57	0
105°	0	13	29	41	42	0
115°	0	12	27	35	34	0
125°	0	11	27	38	39	0
135°	0	8	23	34	38	0
145°	0	5	16	26	31	0
155°	0	2	8	14	16	0
165°	0	0	2	4	4	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°	717.9	717.9	717.9	717.9	717.9	717.9	717.9	717.9	717.9	717.9	717.9
2.5°	699.2	699.2	700.9	700.9	702.6	703.4	703.4	704.3	705.1	706.8	708.6
5°	668.4	669.3	670.1	671.0	671.8	672.7	674.4	677.0	677.8	678.7	680.4
7.5°	642.8	642.0	642.8	641.1	640.3	640.3	640.3	641.1	643.7	646.2	647.1
10°	618.9	620.6	620.6	618.9	617.2	618.9	617.2	617.2	616.4	616.4	615.5
12.5°	601.0	597.6	596.7	596.7	598.4	597.6	596.7	598.4	595.0	595.9	595.9
15°	579.6	578.8	576.2	582.2	582.2	579.6	578.8	575.4	576.2	576.2	572.8
17.5°	560.9	562.6	560.0	560.0	560.0	559.2	560.9	560.0	560.9	557.5	557.5
20°	548.1	542.9	540.4	546.4	547.2	547.2	548.1	549.8	546.4	542.9	544.6
22.5°	529.3	525.0	530.1	533.5	531.0	528.4	531.0	531.0	525.0	528.4	527.6
25°	511.4	507.9	513.9	513.9	513.9	513.9	514.8	514.8	515.6	515.6	518.2
27.5°	495.1	495.1	496.0	497.7	499.4	502.0	500.3	500.3	500.3	498.5	502.0
30°	479.8	477.2	479.8	483.2	484.9	486.6	484.0	483.2	485.7	484.9	484.0
32.5°	460.1	459.3	466.1	462.7	464.4	465.3	469.5	471.2	472.9	471.2	469.5
35°	443.1	443.9	445.6	448.2	451.6	450.7	455.0	452.4	453.3	455.0	451.6
37.5°	426.8	425.1	426.8	432.8	433.7	433.7	434.5	435.4	438.8	439.6	437.1
40°	409.8	405.5	412.3	416.6	413.2	415.7	417.4	422.6	421.7	422.6	423.4
42.5°	385.0	390.1	391.8	391.8	399.5	402.9	402.1	403.8	402.9	402.1	402.9
45°	370.5	373.1	372.2	377.3	379.9	379.0	379.9	383.3	385.0	386.7	387.6
47.5°	350.9	350.9	351.7	356.8	359.4	359.4	360.3	368.8	369.6	372.2	373.1
50°	330.4	330.4	334.6	334.6	339.8	344.0	347.4	348.3	347.4	351.7	351.7
52.5°	307.3	308.2	311.6	314.2	322.7	321.8	323.5	327.0	327.8	333.8	333.8
55°	286.0	291.1	286.8	294.5	296.2	299.6	303.1	307.3	315.0	318.4	320.1
57.5°	265.5	266.3	268.1	273.2	270.6	276.6	282.6	290.3	294.5	297.1	297.9
60°	244.2	240.7	246.7	247.6	256.1	257.0	258.7	263.8	267.2	271.5	272.3
62.5°	221.1	223.7	224.5	225.4	231.3	233.9	236.5	239.0	246.7	251.0	253.5
65°	193.8	198.1	198.1	206.6	207.4	207.4	211.7	220.2	224.5	228.8	232.2
67.5°	171.6	175.9	174.2	179.3	185.2	187.0	189.5	196.3	198.1	204.9	208.3
70°	148.5	151.1	153.7	155.4	159.6	164.8	167.3	171.6	176.7	181.8	185.2
72.5°	122.1	123.8	128.9	132.3	137.4	140.0	143.4	147.7	153.7	160.5	163.9
75°	101.6	100.7	104.1	108.4	115.2	116.1	117.0	125.5	130.6	135.7	140.0
77.5°	77.7	79.4	82.0	86.2	90.5	93.1	95.6	102.4	108.4	111.8	115.2
80°	55.5	57.2	59.8	63.2	68.3	70.9	74.3	80.2	84.5	89.6	93.1
82.5°	34.1	36.7	39.3	43.5	47.0	50.4	52.9	58.9	63.2	69.1	72.6
85°	18.8	18.8	22.2	26.5	29.9	33.3	35.0	40.1	44.4	49.5	53.8
87.5°	6.0	6.8	9.4	13.7	17.9	19.6	22.2	26.5	30.7	35.9	40.1
90°	0.0	0.9	4.3	7.7	11.1	13.7	15.4	19.6	23.9	28.2	32.4
92.5°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	18.8	23.0	27.3	30.7
95°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	18.8	23.0	26.5	30.7
97.5°	0.0	0.9	3.4	6.8	11.1	12.8	14.5	18.8	23.0	26.5	29.9
100°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	18.8	23.0	26.5	29.0
102.5°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	18.8	22.2	25.6	29.0
105°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	17.9	22.2	25.6	29.0
107.5°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	17.9	22.2	25.6	28.2
110°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	17.9	22.2	24.8	28.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.9	3.4	6.8	10.2	12.8	14.5	17.9	21.3	24.8	28.2
115°	0.0	0.9	3.4	6.8	10.2	12.0	14.5	17.9	21.3	24.8	27.3
117.5°	0.0	0.9	3.4	6.0	10.2	12.0	14.5	17.9	21.3	24.8	27.3
120°	0.0	0.9	2.6	6.0	10.2	12.0	13.7	17.9	21.3	24.8	27.3
122.5°	0.0	0.9	2.6	6.0	9.4	12.0	13.7	17.1	20.5	23.9	27.3
125°	0.0	0.9	2.6	6.0	9.4	11.1	12.8	17.1	20.5	23.9	27.3
127.5°	0.0	0.0	2.6	5.1	8.5	11.1	12.8	16.2	19.6	23.0	26.5
130°	0.0	0.0	1.7	5.1	8.5	10.2	12.0	15.4	18.8	22.2	25.6
132.5°	0.0	0.0	1.7	4.3	7.7	9.4	11.1	14.5	17.9	21.3	23.9
135°	0.0	0.0	1.7	4.3	6.8	8.5	10.2	13.7	16.2	19.6	23.0
137.5°	0.0	0.0	1.7	3.4	6.0	7.7	9.4	12.0	15.4	17.9	21.3
140°	0.0	0.0	0.9	3.4	5.1	6.8	8.5	11.1	13.7	17.1	19.6
142.5°	0.0	0.0	0.9	2.6	5.1	6.0	7.7	10.2	12.8	15.4	17.9
145°	0.0	0.0	0.9	2.6	4.3	5.1	6.0	8.5	11.1	13.7	16.2
147.5°	0.0	0.0	0.9	1.7	3.4	4.3	5.1	7.7	10.2	12.0	14.5
150°	0.0	0.0	0.0	1.7	2.6	3.4	4.3	6.0	8.5	10.2	12.0
152.5°	0.0	0.0	0.0	0.9	1.7	2.6	3.4	5.1	6.8	8.5	10.2
155°	0.0	0.0	0.0	0.9	1.7	1.7	2.6	4.3	5.1	6.8	8.5
157.5°	0.0	0.0	0.0	0.9	0.9	1.7	1.7	2.6	4.3	5.1	6.0
160°	0.0	0.0	0.0	0.0	0.9	0.9	1.7	1.7	2.6	3.4	4.3
162.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.7	2.6	3.4
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	1.7	1.7
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
170°	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	717.9	717.9	717.9	717.9	717.9	717.9	717.9	717.9	717.9	717.9
2.5°	709.4	710.3	711.1	712.0	711.1	711.1	712.8	712.8	712.8	712.0
5°	681.2	682.1	683.8	686.4	687.2	687.2	688.1	688.1	688.1	687.2
7.5°	646.2	646.2	647.1	646.2	647.9	648.8	651.4	652.2	653.1	653.1
10°	615.5	616.4	616.4	615.5	611.2	613.8	611.2	610.4	611.2	613.8
12.5°	591.6	589.0	588.2	593.3	595.0	597.6	598.4	595.0	592.5	595.0
15°	571.1	573.7	575.4	571.1	569.4	568.5	569.4	572.0	574.5	574.5
17.5°	558.3	554.0	559.2	567.7	569.4	568.5	566.0	560.0	555.7	556.6
20°	544.6	551.5	551.5	541.2	535.3	534.4	534.4	538.7	538.7	539.5
22.5°	533.5	527.6	525.0	530.1	534.4	537.0	528.4	524.2	519.9	517.3
25°	516.5	511.4	520.7	511.4	507.1	504.5	504.5	509.6	512.2	510.5
27.5°	496.0	503.7	491.7	498.5	503.7	506.2	504.5	497.7	490.9	490.9
30°	487.4	478.1	488.3	490.0	484.9	476.4	468.7	468.7	468.7	471.2
32.5°	467.0	472.9	470.4	456.7	459.3	462.7	466.1	464.4	461.0	461.0
35°	452.4	455.9	443.9	454.2	452.4	449.0	440.5	435.4	435.4	436.2
37.5°	442.2	429.4	440.5	430.3	425.1	425.1	429.4	434.5	432.8	432.0
40°	420.9	421.7	415.7	414.9	420.9	423.4	413.2	407.2	402.9	400.4
42.5°	402.1	403.8	401.2	407.2	399.5	392.7	390.1	392.7	394.4	393.5
45°	386.7	382.4	390.1	376.5	375.6	378.2	381.6	378.2	375.6	374.8
47.5°	372.2	373.9	362.0	365.4	367.1	365.4	356.8	354.3	356.8	356.0
50°	350.9	353.4	353.4	350.0	344.9	343.2	346.6	346.6	344.0	345.7
52.5°	338.9	334.6	339.8	335.5	338.9	338.1	336.3	328.7	325.3	326.1
55°	323.5	325.3	318.4	325.3	325.3	320.1	314.2	317.6	316.7	315.9
57.5°	299.6	305.6	306.5	299.6	297.1	298.8	302.2	301.3	298.8	298.8
60°	276.6	278.3	282.6	279.2	280.0	280.9	279.2	278.3	280.0	279.2
62.5°	257.0	257.0	253.5	260.4	261.2	257.0	257.8	258.7	258.7	257.8
65°	234.8	237.3	235.6	235.6	234.8	236.5	236.5	234.8	233.1	233.9
67.5°	211.7	211.7	217.7	214.3	215.1	215.1	210.9	210.0	210.9	210.9
70°	187.8	188.7	190.4	192.9	192.1	189.5	188.7	188.7	188.7	187.8
72.5°	165.6	167.3	169.0	169.0	168.2	167.3	168.2	166.5	166.5	167.3
75°	143.4	146.8	146.8	146.8	147.7	149.4	147.7	147.7	146.0	146.0
77.5°	119.5	122.9	124.6	125.5	126.3	128.1	127.2	128.1	126.3	127.2
80°	97.3	100.7	103.3	105.9	106.7	108.4	108.4	110.1	110.1	111.0
82.5°	76.8	81.1	84.5	87.1	88.8	90.5	93.1	94.8	96.5	97.3
85°	58.9	62.3	66.6	70.9	72.6	75.1	79.4	81.1	82.0	83.7
87.5°	44.4	48.7	53.8	58.1	60.6	63.2	64.9	67.4	70.9	73.4
90°	36.7	41.0	45.2	49.5	51.2	52.1	54.6	58.1	63.2	66.6
92.5°	35.0	39.3	42.7	45.2	46.1	47.8	50.4	53.8	58.1	61.5
95°	34.1	38.4	41.0	43.5	44.4	46.1	48.7	51.2	54.6	57.2
97.5°	33.3	36.7	40.1	42.7	44.4	45.2	48.7	52.9	57.2	59.8
100°	33.3	35.9	39.3	42.7	43.5	45.2	49.5	53.8	56.3	56.3
102.5°	32.4	35.9	38.4	41.8	43.5	45.2	47.8	49.5	47.8	47.8
105°	31.6	35.0	37.6	40.1	41.0	41.8	42.7	42.7	41.8	41.8
107.5°	31.6	34.1	36.7	37.6	38.4	38.4	38.4	37.6	36.7	36.7
110°	30.7	33.3	35.0	35.9	35.9	35.9	35.9	35.0	34.1	33.3





TEST NUMBER: P241424

CATALOG NUMBER: FVS8M-2-LD4-50-1STD-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	30.7	32.4	34.1	34.1	35.0	35.0	35.0	34.1	33.3	32.4
115°	29.9	32.4	33.3	34.1	35.0	35.0	35.0	35.0	34.1	34.1
117.5°	29.9	32.4	34.1	35.0	35.9	35.9	36.7	36.7	35.9	35.9
120°	29.9	32.4	35.0	35.9	36.7	36.7	37.6	37.6	37.6	36.7
122.5°	29.9	32.4	35.0	36.7	37.6	37.6	38.4	38.4	38.4	38.4
125°	29.9	32.4	35.0	36.7	37.6	37.6	38.4	39.3	39.3	39.3
127.5°	29.0	32.4	34.1	35.9	36.7	37.6	38.4	39.3	39.3	39.3
130°	28.2	30.7	33.3	35.0	35.9	36.7	37.6	38.4	39.3	40.1
132.5°	27.3	29.9	32.4	34.1	35.0	35.9	37.6	38.4	38.4	39.3
135°	25.6	28.2	30.7	33.3	34.1	35.0	35.9	37.6	37.6	37.6
137.5°	23.9	26.5	29.0	31.6	32.4	33.3	35.0	35.9	35.9	36.7
140°	22.2	24.8	27.3	29.0	30.7	31.6	33.3	34.1	35.0	35.0
142.5°	20.5	23.0	25.6	27.3	28.2	29.9	30.7	32.4	33.3	33.3
145°	18.8	21.3	23.0	25.6	26.5	27.3	28.2	29.9	30.7	30.7
147.5°	16.2	18.8	20.5	22.2	23.0	23.9	25.6	26.5	27.3	27.3
150°	14.5	16.2	17.9	19.6	20.5	21.3	22.2	23.0	23.9	23.9
152.5°	12.0	13.7	15.4	16.2	17.1	17.9	18.8	19.6	19.6	20.5
155°	9.4	11.1	12.0	13.7	13.7	14.5	15.4	16.2	16.2	16.2
157.5°	7.7	8.5	10.2	11.1	11.1	12.0	12.0	12.8	12.8	12.8
160°	5.1	6.8	7.7	7.7	8.5	8.5	9.4	9.4	9.4	10.2
162.5°	3.4	4.3	5.1	6.0	6.0	6.0	6.8	6.8	6.8	6.8
165°	2.6	2.6	3.4	3.4	4.3	4.3	4.3	4.3	4.3	4.3
167.5°	0.9	1.7	1.7	1.7	2.6	2.6	2.6	2.6	2.6	2.6
170°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)