

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: P241420

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P241420  
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-LD4-50-1LO-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

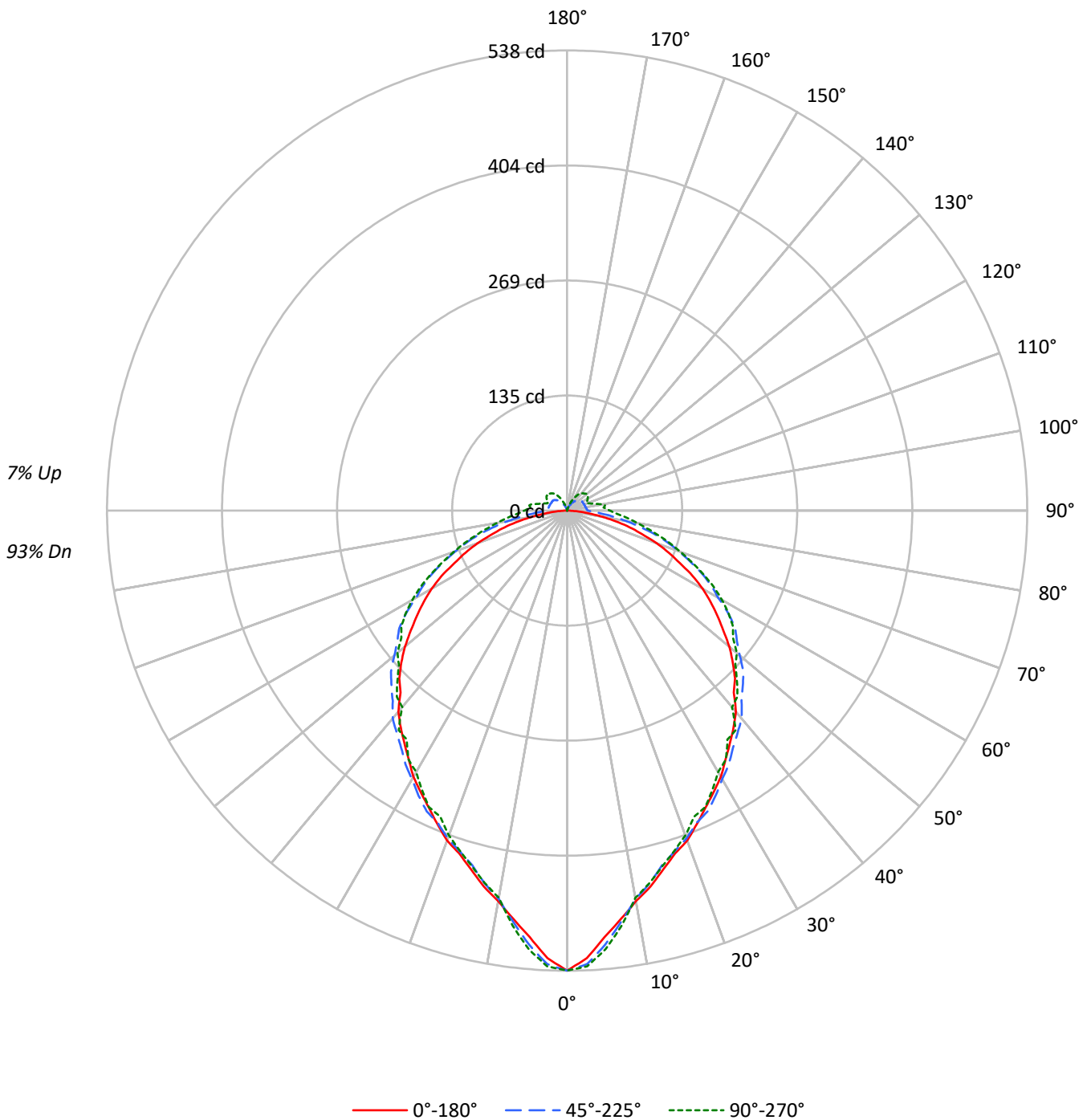
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1400.0 lumens  
Efficiency: N/A  
Efficacy: 112.9 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): 12.4  
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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### 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°	4834	4834	4834
5°	4487	4513	4555
10°	4174	4054	4036
15°	3957	3775	3777
20°	3817	3619	3572
25°	3664	3499	3431
30°	3568	3347	3241
35°	3452	3226	3096
40°	3378	3153	2958
45°	3270	3037	2911
50°	3164	2932	2854
55°	3018	2874	2804
60°	2894	2671	2702
65°	2643	2530	2511
70°	2405	2292	2282
75°	2043	2020	2060
80°	1489	1625	1886
85°	766	1201	1806



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.0	3.4
10°-20°	121.9	8.7
20°-30°	177.2	12.7
30°-40°	210.6	15.0
40°-50°	220.0	15.7
50°-60°	207.1	14.8
60°-70°	165.5	11.8
70°-80°	104.5	7.5
80°-90°	45.4	3.2
90°-100°	24.2	1.7
100°-110°	20.6	1.5
110°-120°	17.3	1.2
120°-130°	15.8	1.1
130°-140°	12.1	0.9
140°-150°	7.4	0.5
150°-160°	2.9	0.2
160°-170°	0.5	0.0
170°-180°	0.0	0.0
0°-30°	346.1	24.7
0°-40°	556.7	39.8
0°-60°	983.8	70.3
0°-90°	1299.2	92.8
90°-120°	62.0	4.4
90°-150°	97.3	7.0
90°-180°	101.0	7.2
0°-180°	1400.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	538	538	538	538	538	
5°	501	504	510	515	515	47
15°	434	434	429	426	430	123
25°	383	385	388	380	382	177
35°	332	338	338	339	327	208
45°	278	284	290	281	281	214
55°	214	224	240	244	237	192
65°	145	155	174	176	175	145
75°	76	87	105	111	109	80
85°	14	25	40	54	63	17
90°	0	10	24	38	50	1
95°	0	10	23	33	43	0
105°	0	10	22	31	31	0
115°	0	9	20	26	26	0
125°	0	8	20	28	29	0
135°	0	6	17	26	28	0
145°	0	4	12	20	23	0
155°	0	1	6	10	12	0
165°	0	0	1	3	3	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°	537.8	537.8	537.8	537.8	537.8	537.8	537.8	537.8	537.8	537.8	537.8
2.5°	523.7	523.7	525.0	525.0	526.3	526.9	526.9	527.6	528.2	529.5	530.8
5°	500.7	501.3	502.0	502.6	503.3	503.9	505.2	507.1	507.7	508.4	509.6
7.5°	481.5	480.9	481.5	480.2	479.6	479.6	479.6	480.2	482.2	484.1	484.7
10°	463.6	464.9	464.9	463.6	462.3	463.6	462.3	462.3	461.7	461.7	461.0
12.5°	450.2	447.6	447.0	447.0	448.3	447.6	447.0	448.3	445.7	446.3	446.3
15°	434.2	433.6	431.6	436.1	436.1	434.2	433.6	431.0	431.6	431.6	429.1
17.5°	420.1	421.4	419.5	419.5	419.5	418.8	420.1	419.5	420.1	417.6	417.6
20°	410.5	406.7	404.8	409.3	409.9	409.9	410.5	411.8	409.3	406.7	408.0
22.5°	396.5	393.3	397.1	399.7	397.7	395.8	397.7	397.7	393.3	395.8	395.2
25°	383.0	380.5	385.0	385.0	385.0	385.0	385.6	385.6	386.2	386.2	388.2
27.5°	370.9	370.9	371.5	372.8	374.1	376.0	374.7	374.7	374.7	373.4	376.0
30°	359.4	357.5	359.4	361.9	363.2	364.5	362.6	361.9	363.9	363.2	362.6
32.5°	344.7	344.0	349.1	346.6	347.9	348.5	351.7	353.0	354.3	353.0	351.7
35°	331.9	332.5	333.8	335.7	338.3	337.6	340.8	338.9	339.6	340.8	338.3
37.5°	319.7	318.5	319.7	324.2	324.8	324.8	325.5	326.1	328.7	329.3	327.4
40°	306.9	303.7	308.9	312.1	309.5	311.4	312.7	316.5	315.9	316.5	317.2
42.5°	288.4	292.2	293.5	293.5	299.3	301.8	301.2	302.5	301.8	301.2	301.8
45°	277.5	279.4	278.8	282.6	284.6	283.9	284.6	287.1	288.4	289.7	290.3
47.5°	262.8	262.8	263.5	267.3	269.2	269.2	269.9	276.2	276.9	278.8	279.4
50°	247.5	247.5	250.7	250.7	254.5	257.7	260.3	260.9	260.3	263.5	263.5
52.5°	230.2	230.8	233.4	235.3	241.7	241.1	242.4	244.9	245.6	250.0	250.0
55°	214.2	218.1	214.9	220.6	221.9	224.4	227.0	230.2	236.0	238.5	239.8
57.5°	198.9	199.5	200.8	204.6	202.7	207.2	211.7	217.4	220.6	222.5	223.2
60°	182.9	180.3	184.8	185.4	191.8	192.5	193.8	197.6	200.2	203.3	204.0
62.5°	165.6	167.5	168.2	168.8	173.3	175.2	177.1	179.0	184.8	188.0	189.9
65°	145.2	148.4	148.4	154.7	155.4	155.4	158.6	165.0	168.2	171.4	173.9
67.5°	128.5	131.7	130.4	134.3	138.8	140.0	142.0	147.1	148.4	153.5	156.0
70°	111.3	113.2	115.1	116.4	119.6	123.4	125.3	128.5	132.4	136.2	138.8
72.5°	91.4	92.7	96.6	99.1	103.0	104.9	107.4	110.6	115.1	120.2	122.8
75°	76.1	75.5	78.0	81.2	86.3	87.0	87.6	94.0	97.8	101.7	104.9
77.5°	58.2	59.5	61.4	64.6	67.8	69.7	71.6	76.7	81.2	83.8	86.3
80°	41.6	42.8	44.8	47.3	51.2	53.1	55.6	60.1	63.3	67.1	69.7
82.5°	25.6	27.5	29.4	32.6	35.2	37.7	39.6	44.1	47.3	51.8	54.4
85°	14.1	14.1	16.6	19.8	22.4	24.9	26.2	30.1	33.3	37.1	40.3
87.5°	4.5	5.1	7.0	10.2	13.4	14.7	16.6	19.8	23.0	26.9	30.1
90°	0.0	0.6	3.2	5.8	8.3	10.2	11.5	14.7	17.9	21.1	24.3
92.5°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	14.1	17.3	20.5	23.0
95°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	14.1	17.3	19.8	23.0
97.5°	0.0	0.6	2.6	5.1	8.3	9.6	10.9	14.1	17.3	19.8	22.4
100°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	14.1	17.3	19.8	21.7
102.5°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	14.1	16.6	19.2	21.7
105°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	13.4	16.6	19.2	21.7
107.5°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	13.4	16.6	19.2	21.1
110°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	13.4	16.6	18.5	21.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.6	2.6	5.1	7.7	9.6	10.9	13.4	16.0	18.5	21.1
115°	0.0	0.6	2.6	5.1	7.7	9.0	10.9	13.4	16.0	18.5	20.5
117.5°	0.0	0.6	2.6	4.5	7.7	9.0	10.9	13.4	16.0	18.5	20.5
120°	0.0	0.6	1.9	4.5	7.7	9.0	10.2	13.4	16.0	18.5	20.5
122.5°	0.0	0.6	1.9	4.5	7.0	9.0	10.2	12.8	15.3	17.9	20.5
125°	0.0	0.6	1.9	4.5	7.0	8.3	9.6	12.8	15.3	17.9	20.5
127.5°	0.0	0.0	1.9	3.8	6.4	8.3	9.6	12.1	14.7	17.3	19.8
130°	0.0	0.0	1.3	3.8	6.4	7.7	9.0	11.5	14.1	16.6	19.2
132.5°	0.0	0.0	1.3	3.2	5.8	7.0	8.3	10.9	13.4	16.0	17.9
135°	0.0	0.0	1.3	3.2	5.1	6.4	7.7	10.2	12.1	14.7	17.3
137.5°	0.0	0.0	1.3	2.6	4.5	5.8	7.0	9.0	11.5	13.4	16.0
140°	0.0	0.0	0.6	2.6	3.8	5.1	6.4	8.3	10.2	12.8	14.7
142.5°	0.0	0.0	0.6	1.9	3.8	4.5	5.8	7.7	9.6	11.5	13.4
145°	0.0	0.0	0.6	1.9	3.2	3.8	4.5	6.4	8.3	10.2	12.1
147.5°	0.0	0.0	0.6	1.3	2.6	3.2	3.8	5.8	7.7	9.0	10.9
150°	0.0	0.0	0.0	1.3	1.9	2.6	3.2	4.5	6.4	7.7	9.0
152.5°	0.0	0.0	0.0	0.6	1.3	1.9	2.6	3.8	5.1	6.4	7.7
155°	0.0	0.0	0.0	0.6	1.3	1.3	1.9	3.2	3.8	5.1	6.4
157.5°	0.0	0.0	0.0	0.6	0.6	1.3	1.3	1.9	3.2	3.8	4.5
160°	0.0	0.0	0.0	0.0	0.6	0.6	1.3	1.3	1.9	2.6	3.2
162.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.3	1.9	2.6
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.3	1.3
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
170°	0.6	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°	537.8	537.8	537.8	537.8	537.8	537.8	537.8	537.8	537.8	537.8
2.5°	531.4	532.0	532.7	533.3	532.7	532.7	533.9	533.9	533.9	533.3
5°	510.3	510.9	512.2	514.1	514.8	514.8	515.4	515.4	515.4	514.8
7.5°	484.1	484.1	484.7	484.1	485.3	486.0	487.9	488.5	489.2	489.2
10°	461.0	461.7	461.7	461.0	457.9	459.8	457.9	457.2	457.9	459.8
12.5°	443.1	441.2	440.6	444.4	445.7	447.6	448.3	445.7	443.8	445.7
15°	427.8	429.7	431.0	427.8	426.5	425.9	426.5	428.4	430.4	430.4
17.5°	418.2	415.0	418.8	425.2	426.5	425.9	424.0	419.5	416.3	416.9
20°	408.0	413.1	413.1	405.4	400.9	400.3	400.3	403.5	403.5	404.1
22.5°	399.7	395.2	393.3	397.1	400.3	402.2	395.8	392.6	389.4	387.5
25°	386.9	383.0	390.1	383.0	379.8	377.9	377.9	381.8	383.7	382.4
27.5°	371.5	377.3	368.3	373.4	377.3	379.2	377.9	372.8	367.7	367.7
30°	365.1	358.1	365.8	367.0	363.2	356.8	351.1	351.1	351.1	353.0
32.5°	349.8	354.3	352.3	342.1	344.0	346.6	349.1	347.9	345.3	345.3
35°	338.9	341.5	332.5	340.2	338.9	336.4	330.0	326.1	326.1	326.8
37.5°	331.2	321.6	330.0	322.3	318.5	318.5	321.6	325.5	324.2	323.6
40°	315.3	315.9	311.4	310.8	315.3	317.2	309.5	305.0	301.8	299.9
42.5°	301.2	302.5	300.5	305.0	299.3	294.2	292.2	294.2	295.4	294.8
45°	289.7	286.5	292.2	282.0	281.4	283.3	285.8	283.3	281.4	280.7
47.5°	278.8	280.1	271.1	273.7	275.0	273.7	267.3	265.4	267.3	266.7
50°	262.8	264.7	264.7	262.2	258.3	257.1	259.6	259.6	257.7	259.0
52.5°	253.9	250.7	254.5	251.3	253.9	253.2	251.9	246.2	243.6	244.3
55°	242.4	243.6	238.5	243.6	243.6	239.8	235.3	237.9	237.2	236.6
57.5°	224.4	228.9	229.6	224.4	222.5	223.8	226.4	225.7	223.8	223.8
60°	207.2	208.5	211.7	209.1	209.7	210.4	209.1	208.5	209.7	209.1
62.5°	192.5	192.5	189.9	195.0	195.7	192.5	193.1	193.8	193.8	193.1
65°	175.9	177.8	176.5	176.5	175.9	177.1	177.1	175.9	174.6	175.2
67.5°	158.6	158.6	163.1	160.5	161.1	161.1	157.9	157.3	157.9	157.9
70°	140.7	141.3	142.6	144.5	143.9	142.0	141.3	141.3	141.3	140.7
72.5°	124.1	125.3	126.6	126.6	126.0	125.3	126.0	124.7	124.7	125.3
75°	107.4	110.0	110.0	110.0	110.6	111.9	110.6	110.6	109.3	109.3
77.5°	89.5	92.1	93.4	94.0	94.6	95.9	95.3	95.9	94.6	95.3
80°	72.9	75.5	77.4	79.3	79.9	81.2	81.2	82.5	82.5	83.1
82.5°	57.6	60.7	63.3	65.2	66.5	67.8	69.7	71.0	72.3	72.9
85°	44.1	46.7	49.9	53.1	54.4	56.3	59.5	60.7	61.4	62.7
87.5°	33.3	36.4	40.3	43.5	45.4	47.3	48.6	50.5	53.1	55.0
90°	27.5	30.7	33.9	37.1	38.4	39.0	40.9	43.5	47.3	49.9
92.5°	26.2	29.4	32.0	33.9	34.5	35.8	37.7	40.3	43.5	46.0
95°	25.6	28.8	30.7	32.6	33.3	34.5	36.4	38.4	40.9	42.8
97.5°	24.9	27.5	30.1	32.0	33.3	33.9	36.4	39.6	42.8	44.8
100°	24.9	26.9	29.4	32.0	32.6	33.9	37.1	40.3	42.2	42.2
102.5°	24.3	26.9	28.8	31.3	32.6	33.9	35.8	37.1	35.8	35.8
105°	23.7	26.2	28.1	30.1	30.7	31.3	32.0	32.0	31.3	31.3
107.5°	23.7	25.6	27.5	28.1	28.8	28.8	28.8	28.1	27.5	27.5
110°	23.0	24.9	26.2	26.9	26.9	26.9	26.9	26.2	25.6	24.9





TEST NUMBER: P241420

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

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	23.0	24.3	25.6	25.6	26.2	26.2	26.2	25.6	24.9	24.3
115°	22.4	24.3	24.9	25.6	26.2	26.2	26.2	26.2	25.6	25.6
117.5°	22.4	24.3	25.6	26.2	26.9	26.9	27.5	27.5	26.9	26.9
120°	22.4	24.3	26.2	26.9	27.5	27.5	28.1	28.1	28.1	27.5
122.5°	22.4	24.3	26.2	27.5	28.1	28.1	28.8	28.8	28.8	28.8
125°	22.4	24.3	26.2	27.5	28.1	28.1	28.8	29.4	29.4	29.4
127.5°	21.7	24.3	25.6	26.9	27.5	28.1	28.8	29.4	29.4	29.4
130°	21.1	23.0	24.9	26.2	26.9	27.5	28.1	28.8	29.4	30.1
132.5°	20.5	22.4	24.3	25.6	26.2	26.9	28.1	28.8	28.8	29.4
135°	19.2	21.1	23.0	24.9	25.6	26.2	26.9	28.1	28.1	28.1
137.5°	17.9	19.8	21.7	23.7	24.3	24.9	26.2	26.9	26.9	27.5
140°	16.6	18.5	20.5	21.7	23.0	23.7	24.9	25.6	26.2	26.2
142.5°	15.3	17.3	19.2	20.5	21.1	22.4	23.0	24.3	24.9	24.9
145°	14.1	16.0	17.3	19.2	19.8	20.5	21.1	22.4	23.0	23.0
147.5°	12.1	14.1	15.3	16.6	17.3	17.9	19.2	19.8	20.5	20.5
150°	10.9	12.1	13.4	14.7	15.3	16.0	16.6	17.3	17.9	17.9
152.5°	9.0	10.2	11.5	12.1	12.8	13.4	14.1	14.7	14.7	15.3
155°	7.0	8.3	9.0	10.2	10.2	10.9	11.5	12.1	12.1	12.1
157.5°	5.8	6.4	7.7	8.3	8.3	9.0	9.0	9.6	9.6	9.6
160°	3.8	5.1	5.8	5.8	6.4	6.4	7.0	7.0	7.0	7.7
162.5°	2.6	3.2	3.8	4.5	4.5	4.5	5.1	5.1	5.1	5.1
165°	1.9	1.9	2.6	2.6	3.2	3.2	3.2	3.2	3.2	3.2
167.5°	0.6	1.3	1.3	1.3	1.9	1.9	1.9	1.9	1.9	1.9
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)