

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: P241428

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241428
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-LD4-50-1HI-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

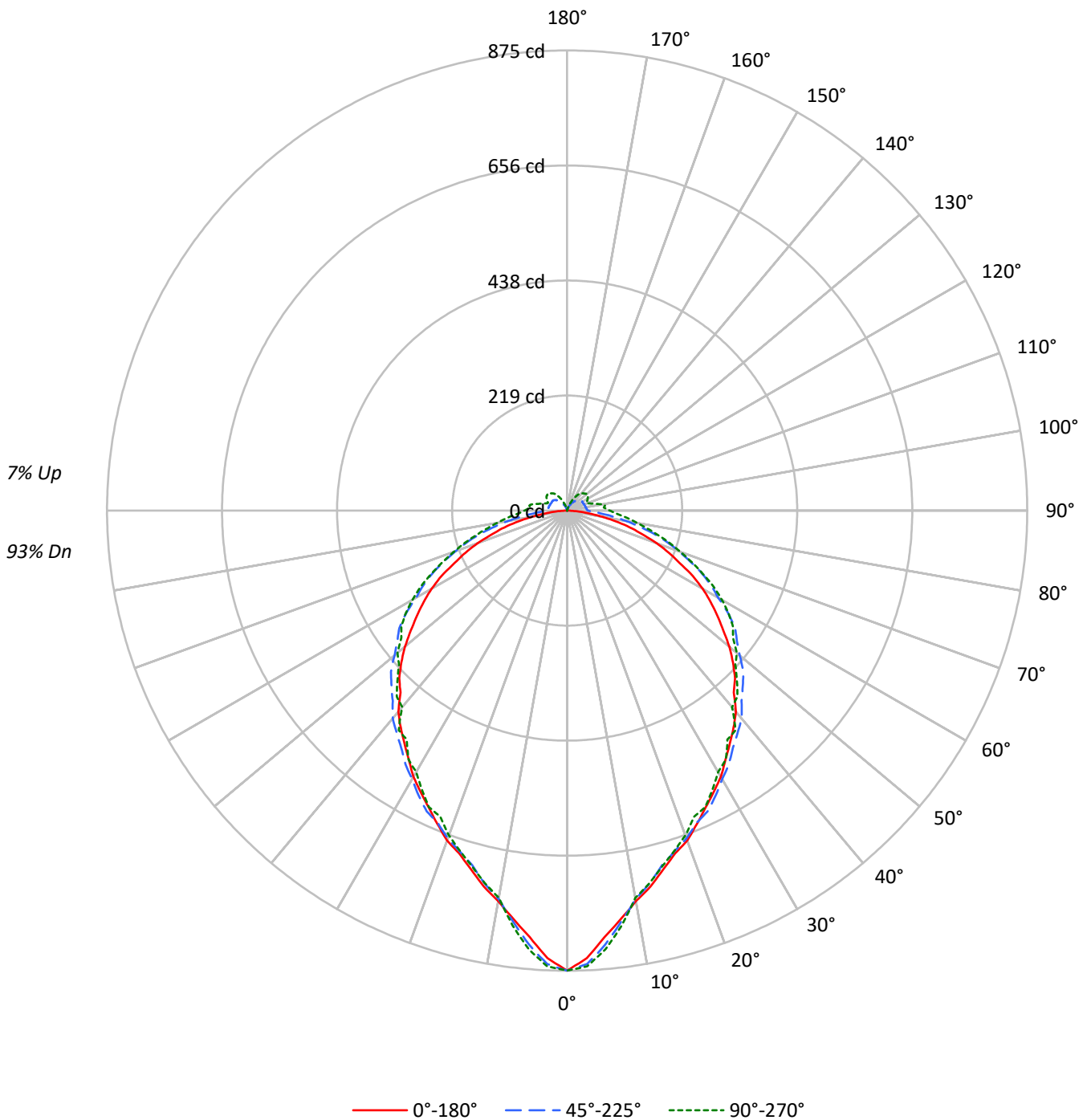
Lumens per Lamp: N/A
Luminaire Lumens: 2277.0 lumens
Efficiency: N/A
Efficacy: 102.1 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 22.3
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	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°	7862	7862	7862
5°	7297	7341	7408
10°	6788	6594	6564
15°	6436	6140	6142
20°	6209	5886	5810
25°	5960	5690	5580
30°	5803	5444	5272
35°	5614	5247	5036
40°	5495	5127	4812
45°	5320	4939	4735
50°	5146	4769	4641
55°	4909	4675	4560
60°	4706	4345	4395
65°	4297	4117	4084
70°	3912	3727	3711
75°	3324	3285	3351
80°	2420	2643	3069
85°	1244	1952	2935



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.5	3.4
10°-20°	198.2	8.7
20°-30°	288.2	12.7
30°-40°	342.5	15.0
40°-50°	357.9	15.7
50°-60°	336.9	14.8
60°-70°	269.1	11.8
70°-80°	170.0	7.5
80°-90°	73.8	3.2
90°-100°	39.3	1.7
100°-110°	33.5	1.5
110°-120°	28.1	1.2
120°-130°	25.7	1.1
130°-140°	19.7	0.9
140°-150°	12.0	0.5
150°-160°	4.7	0.2
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	562.9	24.7
0°-40°	905.4	39.8
0°-60°	1600.2	70.3
0°-90°	2113.1	92.8
90°-120°	100.8	4.4
90°-150°	158.3	7.0
90°-180°	164.0	7.2
0°-180°	2277.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	875	875	875	875	875	
5°	814	820	829	837	837	76
15°	706	706	698	694	700	199
25°	623	626	631	618	622	288
35°	540	549	550	551	532	339
45°	451	462	472	458	457	347
55°	348	365	390	396	385	312
65°	236	253	283	286	285	236
75°	124	141	171	180	178	130
85°	23	41	66	88	102	28
90°	0	17	40	62	81	1
95°	0	16	37	54	70	0
105°	0	16	35	50	51	0
115°	0	15	33	43	42	0
125°	0	14	33	46	48	0
135°	0	10	28	42	46	0
145°	0	6	20	32	37	0
155°	0	2	10	17	20	0
165°	0	0	2	5	5	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°	874.7	874.7	874.7	874.7	874.7	874.7	874.7	874.7	874.7	874.7	874.7
2.5°	851.8	851.8	853.9	853.9	855.9	857.0	857.0	858.0	859.1	861.1	863.2
5°	814.3	815.4	816.4	817.5	818.5	819.5	821.6	824.7	825.8	826.8	828.9
7.5°	783.1	782.1	783.1	781.1	780.0	780.0	780.0	781.1	784.2	787.3	788.3
10°	754.0	756.1	756.1	754.0	751.9	754.0	751.9	751.9	750.9	750.9	749.9
12.5°	732.2	728.0	727.0	727.0	729.1	728.0	727.0	729.1	724.9	725.9	725.9
15°	706.2	705.1	702.0	709.3	709.3	706.2	705.1	701.0	702.0	702.0	697.9
17.5°	683.3	685.4	682.3	682.3	682.3	681.2	683.3	682.3	683.3	679.1	679.1
20°	667.7	661.5	658.3	665.6	666.7	666.7	667.7	669.8	665.6	661.5	663.5
22.5°	644.8	639.6	645.9	650.0	646.9	643.8	646.9	646.9	639.6	643.8	642.7
25°	623.0	618.8	626.1	626.1	626.1	626.1	627.1	627.1	628.2	628.2	631.3
27.5°	603.2	603.2	604.3	606.3	608.4	611.5	609.5	609.5	609.5	607.4	611.5
30°	584.5	581.4	584.5	588.7	590.7	592.8	589.7	588.7	591.8	590.7	589.7
32.5°	560.6	559.5	567.9	563.7	565.8	566.8	572.0	574.1	576.2	574.1	572.0
35°	539.8	540.8	542.9	546.0	550.2	549.1	554.3	551.2	552.3	554.3	550.2
37.5°	520.0	517.9	520.0	527.3	528.3	528.3	529.4	530.4	534.6	535.6	532.5
40°	499.2	494.0	502.3	507.5	503.4	506.5	508.6	514.8	513.8	514.8	515.9
42.5°	469.1	475.3	477.4	477.4	486.7	490.9	489.9	491.9	490.9	489.9	490.9
45°	451.4	454.5	453.5	459.7	462.8	461.8	462.8	467.0	469.1	471.1	472.2
47.5°	427.5	427.5	428.5	434.7	437.9	437.9	438.9	449.3	450.3	453.5	454.5
50°	402.5	402.5	407.7	407.7	413.9	419.1	423.3	424.3	423.3	428.5	428.5
52.5°	374.4	375.5	379.6	382.7	393.1	392.1	394.2	398.3	399.4	406.7	406.7
55°	348.4	354.7	349.5	358.8	360.9	365.1	369.2	374.4	383.8	387.9	390.0
57.5°	323.5	324.5	326.6	332.8	329.7	337.0	344.3	353.6	358.8	361.9	363.0
60°	297.4	293.3	300.6	301.6	312.0	313.1	315.1	321.4	325.5	330.7	331.8
62.5°	269.4	272.5	273.5	274.6	281.8	285.0	288.1	291.2	300.6	305.8	308.9
65°	236.1	241.3	241.3	251.7	252.7	252.7	257.9	268.3	273.5	278.7	282.9
67.5°	209.0	214.2	212.2	218.4	225.7	227.8	230.9	239.2	241.3	249.6	253.8
70°	181.0	184.1	187.2	189.3	194.5	200.7	203.8	209.0	215.3	221.5	225.7
72.5°	148.7	150.8	157.0	161.2	167.4	170.6	174.7	179.9	187.2	195.5	199.7
75°	123.8	122.7	126.9	132.1	140.4	141.4	142.5	152.9	159.1	165.4	170.6
77.5°	94.6	96.7	99.8	105.0	110.2	113.4	116.5	124.8	132.1	136.2	140.4
80°	67.6	69.7	72.8	77.0	83.2	86.3	90.5	97.8	103.0	109.2	113.4
82.5°	41.6	44.7	47.8	53.0	57.2	61.4	64.5	71.8	77.0	84.2	88.4
85°	22.9	22.9	27.0	32.2	36.4	40.6	42.6	48.9	54.1	60.3	65.5
87.5°	7.3	8.3	11.4	16.6	21.8	23.9	27.0	32.2	37.4	43.7	48.9
90°	0.0	1.0	5.2	9.4	13.5	16.6	18.7	23.9	29.1	34.3	39.5
92.5°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	22.9	28.1	33.3	37.4
95°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	22.9	28.1	32.2	37.4
97.5°	0.0	1.0	4.2	8.3	13.5	15.6	17.7	22.9	28.1	32.2	36.4
100°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	22.9	28.1	32.2	35.4
102.5°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	22.9	27.0	31.2	35.4
105°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	21.8	27.0	31.2	35.4
107.5°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	21.8	27.0	31.2	34.3
110°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	21.8	27.0	30.2	34.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.0	4.2	8.3	12.5	15.6	17.7	21.8	26.0	30.2	34.3
115°	0.0	1.0	4.2	8.3	12.5	14.6	17.7	21.8	26.0	30.2	33.3
117.5°	0.0	1.0	4.2	7.3	12.5	14.6	17.7	21.8	26.0	30.2	33.3
120°	0.0	1.0	3.1	7.3	12.5	14.6	16.6	21.8	26.0	30.2	33.3
122.5°	0.0	1.0	3.1	7.3	11.4	14.6	16.6	20.8	25.0	29.1	33.3
125°	0.0	1.0	3.1	7.3	11.4	13.5	15.6	20.8	25.0	29.1	33.3
127.5°	0.0	0.0	3.1	6.2	10.4	13.5	15.6	19.8	23.9	28.1	32.2
130°	0.0	0.0	2.1	6.2	10.4	12.5	14.6	18.7	22.9	27.0	31.2
132.5°	0.0	0.0	2.1	5.2	9.4	11.4	13.5	17.7	21.8	26.0	29.1
135°	0.0	0.0	2.1	5.2	8.3	10.4	12.5	16.6	19.8	23.9	28.1
137.5°	0.0	0.0	2.1	4.2	7.3	9.4	11.4	14.6	18.7	21.8	26.0
140°	0.0	0.0	1.0	4.2	6.2	8.3	10.4	13.5	16.6	20.8	23.9
142.5°	0.0	0.0	1.0	3.1	6.2	7.3	9.4	12.5	15.6	18.7	21.8
145°	0.0	0.0	1.0	3.1	5.2	6.2	7.3	10.4	13.5	16.6	19.8
147.5°	0.0	0.0	1.0	2.1	4.2	5.2	6.2	9.4	12.5	14.6	17.7
150°	0.0	0.0	0.0	2.1	3.1	4.2	5.2	7.3	10.4	12.5	14.6
152.5°	0.0	0.0	0.0	1.0	2.1	3.1	4.2	6.2	8.3	10.4	12.5
155°	0.0	0.0	0.0	1.0	2.1	2.1	3.1	5.2	6.2	8.3	10.4
157.5°	0.0	0.0	0.0	1.0	1.0	2.1	2.1	3.1	5.2	6.2	7.3
160°	0.0	0.0	0.0	0.0	1.0	1.0	2.1	2.1	3.1	4.2	5.2
162.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.1	3.1	4.2
165°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.1	2.1
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
170°	1.0	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°	874.7	874.7	874.7	874.7	874.7	874.7	874.7	874.7	874.7	874.7
2.5°	864.3	865.3	866.3	867.4	866.3	866.3	868.4	868.4	868.4	867.4
5°	829.9	831.0	833.1	836.2	837.2	837.2	838.3	838.3	838.3	837.2
7.5°	787.3	787.3	788.3	787.3	789.4	790.4	793.5	794.6	795.6	795.6
10°	749.9	750.9	750.9	749.9	744.7	747.8	744.7	743.6	744.7	747.8
12.5°	720.7	717.6	716.6	722.8	724.9	728.0	729.1	724.9	721.8	724.9
15°	695.8	698.9	701.0	695.8	693.7	692.7	693.7	696.8	699.9	699.9
17.5°	680.2	675.0	681.2	691.6	693.7	692.7	689.5	682.3	677.1	678.1
20°	663.5	671.9	671.9	659.4	652.1	651.1	651.1	656.3	656.3	657.3
22.5°	650.0	642.7	639.6	645.9	651.1	654.2	643.8	638.6	633.4	630.3
25°	629.2	623.0	634.4	623.0	617.8	614.7	614.7	620.9	624.0	621.9
27.5°	604.3	613.6	599.1	607.4	613.6	616.7	614.7	606.3	598.0	598.0
30°	593.9	582.4	594.9	597.0	590.7	580.3	571.0	571.0	571.0	574.1
32.5°	568.9	576.2	573.1	556.4	559.5	563.7	567.9	565.8	561.6	561.6
35°	551.2	555.4	540.8	553.3	551.2	547.1	536.7	530.4	530.4	531.5
37.5°	538.7	523.1	536.7	524.2	517.9	517.9	523.1	529.4	527.3	526.3
40°	512.7	513.8	506.5	505.5	512.7	515.9	503.4	496.1	490.9	487.8
42.5°	489.9	491.9	488.8	496.1	486.7	478.4	475.3	478.4	480.5	479.5
45°	471.1	465.9	475.3	458.7	457.6	460.7	464.9	460.7	457.6	456.6
47.5°	453.5	455.5	441.0	445.1	447.2	445.1	434.7	431.6	434.7	433.7
50°	427.5	430.6	430.6	426.4	420.2	418.1	422.3	422.3	419.1	421.2
52.5°	412.9	407.7	413.9	408.7	412.9	411.9	409.8	400.4	396.3	397.3
55°	394.2	396.3	387.9	396.3	396.3	390.0	382.7	386.9	385.9	384.8
57.5°	365.1	372.3	373.4	365.1	361.9	364.0	368.2	367.1	364.0	364.0
60°	337.0	339.1	344.3	340.1	341.1	342.2	340.1	339.1	341.1	340.1
62.5°	313.1	313.1	308.9	317.2	318.3	313.1	314.1	315.1	315.1	314.1
65°	286.0	289.1	287.0	287.0	286.0	288.1	288.1	286.0	283.9	285.0
67.5°	257.9	257.9	265.2	261.0	262.1	262.1	256.9	255.8	256.9	256.9
70°	228.8	229.8	231.9	235.0	234.0	230.9	229.8	229.8	229.8	228.8
72.5°	201.8	203.8	205.9	205.9	204.9	203.8	204.9	202.8	202.8	203.8
75°	174.7	178.9	178.9	178.9	179.9	182.0	179.9	179.9	177.8	177.8
77.5°	145.6	149.8	151.8	152.9	153.9	156.0	155.0	156.0	153.9	155.0
80°	118.6	122.7	125.8	129.0	130.0	132.1	132.1	134.2	134.2	135.2
82.5°	93.6	98.8	103.0	106.1	108.2	110.2	113.4	115.4	117.5	118.6
85°	71.8	75.9	81.1	86.3	88.4	91.5	96.7	98.8	99.8	101.9
87.5°	54.1	59.3	65.5	70.7	73.8	77.0	79.0	82.2	86.3	89.4
90°	44.7	49.9	55.1	60.3	62.4	63.4	66.6	70.7	77.0	81.1
92.5°	42.6	47.8	52.0	55.1	56.2	58.2	61.4	65.5	70.7	74.9
95°	41.6	46.8	49.9	53.0	54.1	56.2	59.3	62.4	66.6	69.7
97.5°	40.6	44.7	48.9	52.0	54.1	55.1	59.3	64.5	69.7	72.8
100°	40.6	43.7	47.8	52.0	53.0	55.1	60.3	65.5	68.6	68.6
102.5°	39.5	43.7	46.8	51.0	53.0	55.1	58.2	60.3	58.2	58.2
105°	38.5	42.6	45.8	48.9	49.9	51.0	52.0	52.0	51.0	51.0
107.5°	38.5	41.6	44.7	45.8	46.8	46.8	46.8	45.8	44.7	44.7
110°	37.4	40.6	42.6	43.7	43.7	43.7	43.7	42.6	41.6	40.6



TEST NUMBER: P241428

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	37.4	39.5	41.6	41.6	42.6	42.6	42.6	41.6	40.6	39.5
115°	36.4	39.5	40.6	41.6	42.6	42.6	42.6	42.6	41.6	41.6
117.5°	36.4	39.5	41.6	42.6	43.7	43.7	44.7	44.7	43.7	43.7
120°	36.4	39.5	42.6	43.7	44.7	44.7	45.8	45.8	45.8	44.7
122.5°	36.4	39.5	42.6	44.7	45.8	45.8	46.8	46.8	46.8	46.8
125°	36.4	39.5	42.6	44.7	45.8	45.8	46.8	47.8	47.8	47.8
127.5°	35.4	39.5	41.6	43.7	44.7	45.8	46.8	47.8	47.8	47.8
130°	34.3	37.4	40.6	42.6	43.7	44.7	45.8	46.8	47.8	48.9
132.5°	33.3	36.4	39.5	41.6	42.6	43.7	45.8	46.8	46.8	47.8
135°	31.2	34.3	37.4	40.6	41.6	42.6	43.7	45.8	45.8	45.8
137.5°	29.1	32.2	35.4	38.5	39.5	40.6	42.6	43.7	43.7	44.7
140°	27.0	30.2	33.3	35.4	37.4	38.5	40.6	41.6	42.6	42.6
142.5°	25.0	28.1	31.2	33.3	34.3	36.4	37.4	39.5	40.6	40.6
145°	22.9	26.0	28.1	31.2	32.2	33.3	34.3	36.4	37.4	37.4
147.5°	19.8	22.9	25.0	27.0	28.1	29.1	31.2	32.2	33.3	33.3
150°	17.7	19.8	21.8	23.9	25.0	26.0	27.0	28.1	29.1	29.1
152.5°	14.6	16.6	18.7	19.8	20.8	21.8	22.9	23.9	23.9	25.0
155°	11.4	13.5	14.6	16.6	16.6	17.7	18.7	19.8	19.8	19.8
157.5°	9.4	10.4	12.5	13.5	13.5	14.6	14.6	15.6	15.6	15.6
160°	6.2	8.3	9.4	9.4	10.4	10.4	11.4	11.4	11.4	12.5
162.5°	4.2	5.2	6.2	7.3	7.3	7.3	8.3	8.3	8.3	8.3
165°	3.1	3.1	4.2	4.2	5.2	5.2	5.2	5.2	5.2	5.2
167.5°	1.0	2.1	2.1	2.1	3.1	3.1	3.1	3.1	3.1	3.1
170°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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
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)