

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: P241491

Luminaire Tested: **FVS8M-4-LD4-40-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241491
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-LD4-40-1LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

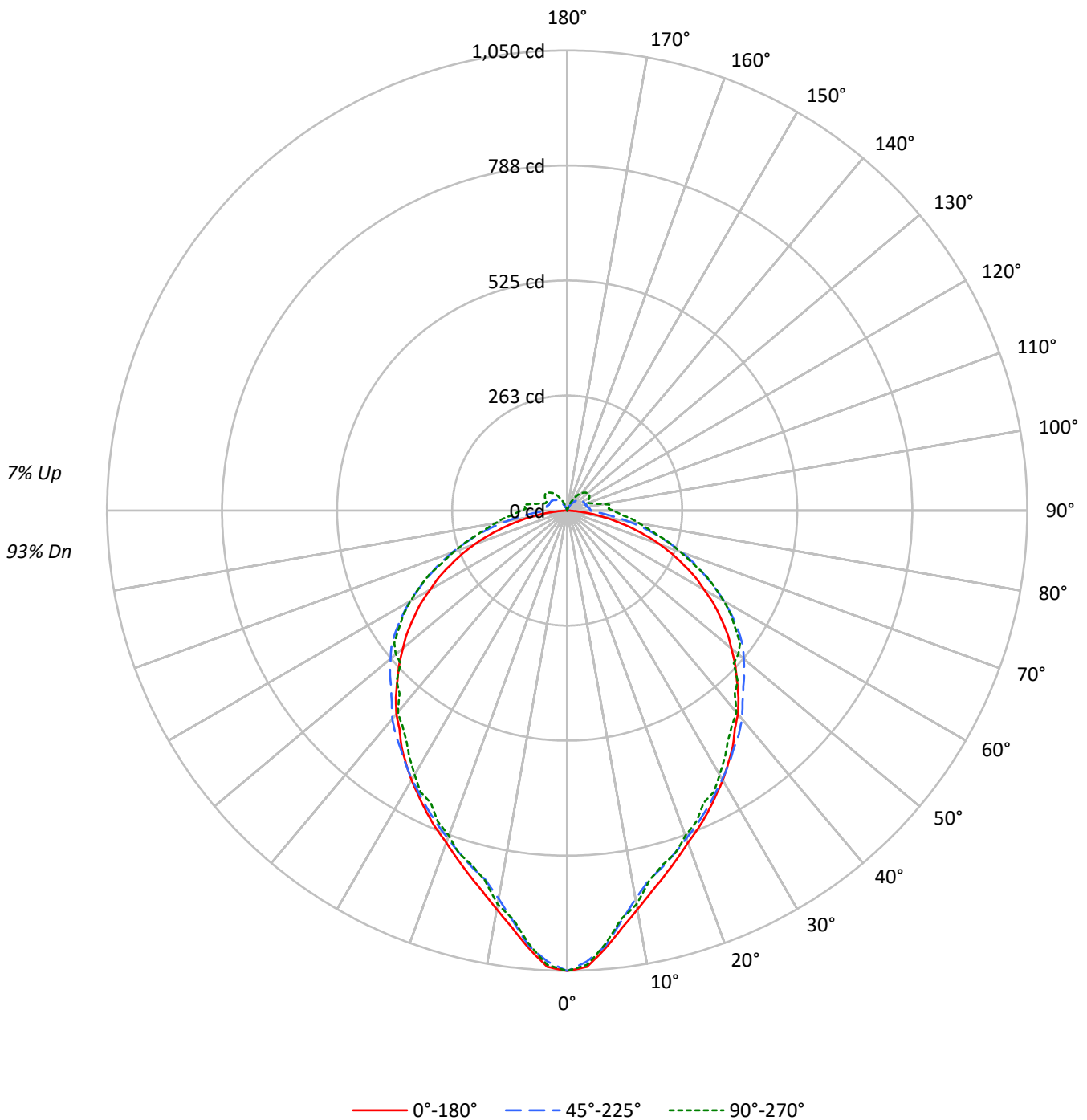
Lumens per Lamp: N/A
Luminaire Lumens: 2775.0 lumens
Efficiency: N/A
Efficacy: 117.6 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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

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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	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°	4695	4695	4695
5°	4482	4404	4370
10°	4163	3951	3981
15°	3943	3709	3654
20°	3780	3543	3468
25°	3677	3411	3285
30°	3584	3296	3176
35°	3498	3197	3015
40°	3423	3128	2948
45°	3331	3025	2836
50°	3251	2989	2795
55°	3156	2927	2759
60°	3021	2795	2650
65°	2864	2599	2476
70°	2655	2402	2215
75°	2266	2120	1989
80°	1763	1756	1876
85°	925	1337	1833



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.3	3.3
10°-20°	239.2	8.6
20°-30°	347.5	12.5
30°-40°	413.3	14.9
40°-50°	432.9	15.6
50°-60°	412.9	14.9
60°-70°	329.4	11.9
70°-80°	208.5	7.5
80°-90°	92.6	3.3
90°-100°	52.9	1.9
100°-110°	42.6	1.5
110°-120°	35.3	1.3
120°-130°	32.1	1.2
130°-140°	24.0	0.9
140°-150°	13.8	0.5
150°-160°	4.9	0.2
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	678.9	24.5
0°-40°	1092.2	39.4
0°-60°	1938.0	69.8
0°-90°	2568.6	92.6
90°-120°	130.8	4.7
90°-150°	200.7	7.2
90°-180°	206.0	7.4
0°-180°	2775.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1050	1050	1050	1050	1050	
5°	1002	998	998	997	993	93
15°	861	856	842	844	838	243
25°	759	760	752	754	736	350
35°	659	666	663	655	640	412
45°	548	567	568	557	550	423
55°	428	451	476	480	468	383
65°	294	318	344	346	348	291
75°	150	179	209	218	212	160
85°	26	50	82	112	128	34
90°	1	22	53	82	105	1
95°	0	21	52	73	97	0
105°	0	20	46	62	61	0
115°	0	19	42	53	53	0
125°	1	16	41	56	62	1
135°	1	12	33	50	58	0
145°	1	6	22	38	44	0
155°	1	2	9	18	22	0
165°	1	1	2	4	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°	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5
2.5°	1042.0	1040.1	1035.9	1037.1	1038.3	1037.1	1038.3	1038.3	1035.9	1033.5	1029.8
5°	1002.5	998.9	998.3	998.9	999.5	997.7	998.9	1000.1	998.3	1000.7	997.7
7.5°	960.1	957.0	956.4	955.8	955.2	954.0	954.6	956.4	954.0	948.6	944.9
10°	923.7	919.4	917.0	915.2	915.2	914.6	915.8	912.8	907.9	904.3	899.4
12.5°	890.3	887.9	885.5	886.7	884.3	883.7	882.5	877.6	874.0	869.7	862.4
15°	861.2	860.6	857.0	858.2	855.2	855.8	854.6	852.7	846.1	841.8	841.8
17.5°	833.3	833.9	833.9	834.5	829.7	829.7	829.7	827.3	821.8	820.0	818.8
20°	806.0	807.2	806.6	805.4	806.0	805.4	806.0	803.6	798.1	798.8	795.7
22.5°	783.6	783.0	781.8	783.0	782.4	781.2	781.8	779.3	776.9	776.3	774.5
25°	759.3	759.3	756.3	759.3	758.7	759.9	759.3	761.2	757.5	756.3	752.1
27.5°	733.9	732.0	732.6	735.7	737.5	737.5	735.1	736.3	736.9	730.2	729.6
30°	710.2	709.6	707.8	711.4	713.8	712.0	713.2	715.7	715.7	709.0	707.8
32.5°	684.1	682.9	684.1	687.8	688.4	692.0	693.8	692.6	692.0	685.9	685.9
35°	658.7	658.0	659.9	662.3	665.3	666.5	670.2	672.6	669.0	663.5	662.9
37.5°	628.3	632.0	632.0	636.2	640.5	643.5	645.3	648.3	643.5	639.9	643.5
40°	605.9	604.1	603.5	610.7	614.4	617.4	620.4	622.3	618.0	619.2	620.4
42.5°	578.6	575.6	579.8	584.7	589.5	592.5	593.8	598.6	594.4	596.8	592.5
45°	547.7	548.9	551.3	553.7	564.0	567.1	568.3	568.9	572.5	571.9	568.3
47.5°	519.8	519.8	523.4	527.7	535.5	539.8	541.6	542.8	544.0	544.0	548.3
50°	489.4	490.0	493.7	499.8	505.8	509.5	512.5	517.3	521.0	522.8	525.8
52.5°	460.9	460.3	467.0	471.2	476.7	481.6	484.6	491.3	495.5	497.9	505.2
55°	427.6	429.4	433.6	439.7	447.6	451.2	454.3	461.5	465.8	471.9	476.1
57.5°	397.3	398.5	400.9	407.0	416.1	417.9	422.1	430.0	433.6	440.9	445.8
60°	360.9	365.7	368.7	376.0	380.3	383.3	390.0	400.3	404.5	410.6	414.2
62.5°	329.9	330.5	334.8	341.5	346.3	351.8	358.4	365.7	371.8	376.6	379.1
65°	293.5	296.0	302.6	306.3	314.2	317.8	323.3	329.9	336.0	341.5	344.5
67.5°	259.6	261.4	265.0	271.7	279.6	283.2	286.3	294.2	303.2	308.7	313.0
70°	225.0	227.4	229.3	237.7	242.6	247.5	251.7	262.0	270.5	273.5	278.4
72.5°	186.8	190.4	193.5	201.4	209.2	212.9	218.3	227.4	233.5	239.0	242.6
75°	150.4	154.0	159.5	165.6	172.2	178.9	183.2	189.8	197.1	203.2	208.6
77.5°	115.8	117.7	123.7	131.6	137.7	143.7	146.8	154.0	162.5	168.0	175.3
80°	83.7	84.9	91.6	96.4	104.9	108.0	111.6	120.1	128.0	134.6	140.7
82.5°	54.0	54.6	60.0	66.7	72.8	77.6	80.7	88.5	96.4	103.7	109.2
85°	26.1	28.5	33.4	39.4	47.3	49.7	53.4	61.9	68.5	75.2	81.9
87.5°	8.5	10.3	14.6	20.6	27.3	30.3	34.0	40.6	48.5	55.8	61.9
90°	0.6	2.4	6.7	12.1	18.8	21.8	24.9	32.1	39.4	46.1	52.8
92.5°	0.0	1.8	6.1	11.5	17.6	20.6	24.3	31.5	38.2	45.5	52.8
95°	0.0	1.8	5.5	10.9	17.6	20.6	24.3	31.5	38.2	45.5	51.6
97.5°	0.0	1.2	5.5	10.9	17.6	20.6	24.3	30.9	38.2	43.7	49.1
100°	0.0	1.2	5.5	10.9	17.0	20.6	23.7	30.9	36.4	42.5	47.9
102.5°	0.0	1.2	5.5	10.9	17.0	20.0	23.7	29.7	35.8	41.2	46.7
105°	0.0	1.2	4.9	10.9	17.0	20.0	23.0	29.1	34.6	40.0	45.5
107.5°	0.0	1.2	4.9	10.3	16.4	19.4	23.0	28.5	34.6	39.4	44.3
110°	0.0	1.2	4.9	10.3	16.4	19.4	22.4	28.5	34.0	38.8	43.7



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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	4.2	9.7	16.4	19.4	22.4	27.9	33.4	38.8	43.1
115°	0.0	0.6	4.2	9.7	15.8	18.8	21.8	27.9	33.4	38.2	42.5
117.5°	0.6	0.6	4.2	9.1	15.2	18.2	21.2	27.3	32.8	37.6	41.8
120°	0.6	0.6	3.6	8.5	14.6	17.6	20.6	26.7	32.1	37.6	41.8
122.5°	0.6	0.6	3.0	7.9	13.9	17.0	20.0	26.1	31.5	37.0	41.8
125°	0.6	0.6	3.0	7.9	13.3	16.4	19.4	24.9	30.3	35.8	40.6
127.5°	0.6	0.6	2.4	7.3	12.7	15.2	18.2	24.3	29.1	34.6	39.4
130°	0.6	0.6	1.8	6.1	11.5	13.9	17.0	22.4	27.9	32.8	37.6
132.5°	0.6	0.6	1.8	5.5	10.3	12.7	15.2	21.2	26.1	30.9	35.8
135°	0.6	0.6	1.2	4.9	9.1	11.5	13.3	18.8	24.3	28.5	33.4
137.5°	0.6	0.6	1.2	3.6	7.9	9.7	12.1	16.4	21.8	26.1	30.9
140°	0.6	0.6	1.2	3.0	6.7	8.5	10.3	14.6	18.8	23.7	27.9
142.5°	0.6	0.6	0.6	2.4	5.5	6.7	8.5	12.1	16.4	20.6	24.9
145°	0.6	0.6	0.6	1.8	4.2	5.5	7.3	10.3	13.9	18.2	21.8
147.5°	0.6	0.6	0.6	1.2	3.0	4.2	5.5	8.5	11.5	15.2	18.2
150°	0.6	0.6	0.6	1.2	2.4	3.6	4.2	6.7	9.1	12.1	15.2
152.5°	0.6	0.6	0.6	0.6	1.8	2.4	3.6	5.5	7.3	9.7	12.1
155°	0.6	0.6	0.6	0.6	1.2	1.8	2.4	3.6	5.5	7.3	9.1
157.5°	0.6	0.6	0.6	0.6	1.2	1.2	1.8	2.4	3.6	5.5	6.7
160°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8	2.4	3.6	4.2
162.5°	1.2	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8	2.4	3.0
165°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8
167.5°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
170°	1.2	1.2	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5	1050.5
2.5°	1029.2	1034.1	1035.3	1037.1	1036.5	1038.3	1038.9	1040.1	1038.9	1037.7
5°	997.1	1000.1	998.9	997.1	997.1	996.5	995.3	995.3	995.9	993.4
7.5°	941.3	944.9	946.1	946.7	947.3	946.1	946.1	945.5	941.9	940.7
10°	894.6	894.0	895.8	899.4	902.5	903.1	907.9	910.3	910.3	912.2
12.5°	864.3	869.7	869.1	870.9	866.7	864.9	869.7	866.1	865.5	864.9
15°	840.0	840.0	841.2	843.0	844.2	844.8	843.0	838.8	835.1	837.6
17.5°	816.3	820.0	816.9	809.7	809.1	811.5	814.5	817.6	818.8	820.0
20°	796.9	792.1	792.7	800.6	802.4	801.8	797.5	794.5	791.5	789.1
22.5°	769.0	776.3	779.3	773.3	770.2	770.2	772.7	772.1	773.9	769.0
25°	752.7	753.3	749.0	753.9	753.9	754.5	747.8	743.0	736.9	736.3
27.5°	729.0	727.2	732.6	729.0	722.3	720.5	719.9	722.3	723.5	724.2
30°	707.2	709.0	698.7	703.5	707.8	709.0	708.4	698.7	695.7	695.7
32.5°	690.2	682.3	686.6	687.2	681.7	678.1	671.4	672.0	671.4	669.0
35°	662.9	662.3	666.5	657.4	655.0	654.4	657.4	653.8	645.9	639.9
37.5°	637.4	641.7	635.0	639.9	637.4	631.4	622.3	618.6	618.0	618.0
40°	620.4	613.8	616.2	604.7	600.4	602.9	604.7	604.1	601.6	601.0
42.5°	594.4	594.4	587.1	582.8	584.1	584.7	578.6	572.5	568.9	565.9
45°	569.5	565.3	562.8	563.4	556.8	552.5	548.9	551.3	548.3	550.1
47.5°	547.7	541.0	541.0	529.5	530.1	533.1	531.3	521.6	518.6	515.5
50°	524.6	529.5	519.2	522.2	521.0	515.5	510.1	510.1	513.7	510.1
52.5°	503.4	506.4	507.0	503.4	499.1	499.8	504.6	501.6	497.9	497.3
55°	478.5	477.3	479.7	478.5	479.7	481.6	474.9	471.9	470.6	468.2
57.5°	447.0	450.6	446.4	453.7	450.6	445.8	446.4	446.4	446.4	443.3
60°	415.4	416.1	419.7	415.4	414.2	416.7	416.7	414.2	411.8	412.4
62.5°	383.3	383.9	383.3	380.9	383.9	381.5	377.8	377.8	381.5	380.3
65°	346.9	350.6	347.5	346.9	346.3	343.9	346.9	348.1	346.9	347.5
67.5°	316.0	316.6	316.0	313.0	311.7	313.0	311.1	307.5	308.1	306.3
70°	282.0	281.4	282.6	280.8	281.4	282.0	277.2	274.1	274.7	274.7
72.5°	246.8	248.7	248.7	250.5	249.9	248.1	246.2	245.0	244.4	244.4
75°	213.5	216.5	217.1	218.3	217.7	217.1	217.1	214.7	212.9	212.3
77.5°	179.5	182.6	187.4	186.2	187.4	187.4	188.6	185.6	187.4	187.4
80°	146.2	149.8	154.7	158.3	159.5	160.1	161.3	162.5	166.2	166.2
82.5°	115.8	120.1	126.2	131.0	134.6	135.9	140.7	145.6	148.0	149.2
85°	88.5	95.2	101.3	107.3	112.2	115.8	120.1	121.9	125.5	128.0
87.5°	69.1	76.4	84.3	92.2	95.2	97.0	100.7	104.9	111.0	114.6
90°	60.6	68.5	75.8	81.3	82.5	84.3	88.5	93.4	100.1	104.9
92.5°	60.0	66.1	71.0	74.6	76.4	78.8	82.5	84.9	90.4	94.6
95°	57.0	62.5	67.3	71.0	72.8	74.6	78.2	84.3	92.2	97.0
97.5°	55.2	60.6	64.3	68.5	71.0	73.4	81.3	90.4	97.0	98.9
100°	53.4	58.2	62.5	67.9	71.0	74.0	80.7	84.3	85.5	84.3
102.5°	51.6	56.4	61.3	66.1	67.9	70.4	73.4	72.8	72.2	71.0
105°	50.3	54.6	58.8	61.9	62.5	63.7	64.3	63.7	62.5	61.3
107.5°	49.1	52.8	55.8	57.0	57.6	58.2	58.2	57.0	55.8	54.6
110°	47.3	50.9	52.8	54.0	54.0	54.6	54.0	53.4	51.6	50.9



TEST NUMBER: P241491

CATALOG NUMBER: FVS8M-4-LD4-40-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	46.7	49.1	50.9	52.2	52.8	53.4	53.4	52.8	51.6	50.9
115°	46.1	49.1	50.9	52.8	53.4	54.0	54.6	54.6	53.4	53.4
117.5°	46.1	49.7	52.2	54.0	55.2	55.8	56.4	57.0	56.4	55.8
120°	46.1	50.3	52.8	55.8	56.4	57.0	58.2	58.8	58.8	58.2
122.5°	46.1	50.3	53.4	55.8	57.0	57.6	59.4	60.0	60.0	60.0
125°	45.5	49.7	52.8	55.2	56.4	57.6	59.4	60.6	61.3	61.9
127.5°	44.3	48.5	51.6	54.6	55.8	57.0	58.8	60.0	61.3	62.5
130°	42.5	46.7	50.3	53.4	54.6	55.8	57.6	59.4	60.6	61.3
132.5°	40.6	44.3	48.5	51.6	52.8	54.0	56.4	58.2	59.4	60.0
135°	38.2	41.8	46.1	49.1	50.3	52.2	54.6	56.4	57.6	58.2
137.5°	35.2	39.4	43.1	46.7	47.9	49.1	52.2	54.0	55.2	55.2
140°	32.8	36.4	40.6	43.7	45.5	46.7	49.1	50.9	52.2	52.8
142.5°	29.7	34.0	37.6	40.6	41.8	43.1	45.5	47.3	48.5	49.1
145°	26.1	30.3	33.4	36.4	38.2	39.4	41.2	43.1	44.3	44.3
147.5°	22.4	26.1	29.1	31.5	33.4	34.6	36.4	38.2	39.4	39.4
150°	18.2	21.2	24.9	27.3	27.9	29.1	30.9	32.1	32.8	33.4
152.5°	14.6	17.0	20.0	21.8	23.0	24.3	25.5	26.7	27.3	27.3
155°	10.9	13.3	15.2	17.6	18.2	19.4	20.0	21.2	21.2	21.8
157.5°	7.9	9.7	10.9	12.7	13.3	14.6	15.2	15.8	16.4	16.4
160°	5.5	6.7	7.9	9.1	9.7	10.3	10.9	11.5	12.1	11.5
162.5°	3.6	4.2	4.9	6.1	6.1	6.7	7.3	7.9	7.9	7.9
165°	1.8	2.4	3.0	3.0	3.6	3.6	4.2	4.9	4.9	4.9
167.5°	1.2	1.2	1.2	1.8	1.8	1.8	1.8	2.4	2.4	2.4
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)