

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: P241455

Luminaire Tested: **FVS8M-3-LD4-40-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241455
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-3-LD4-40-1LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

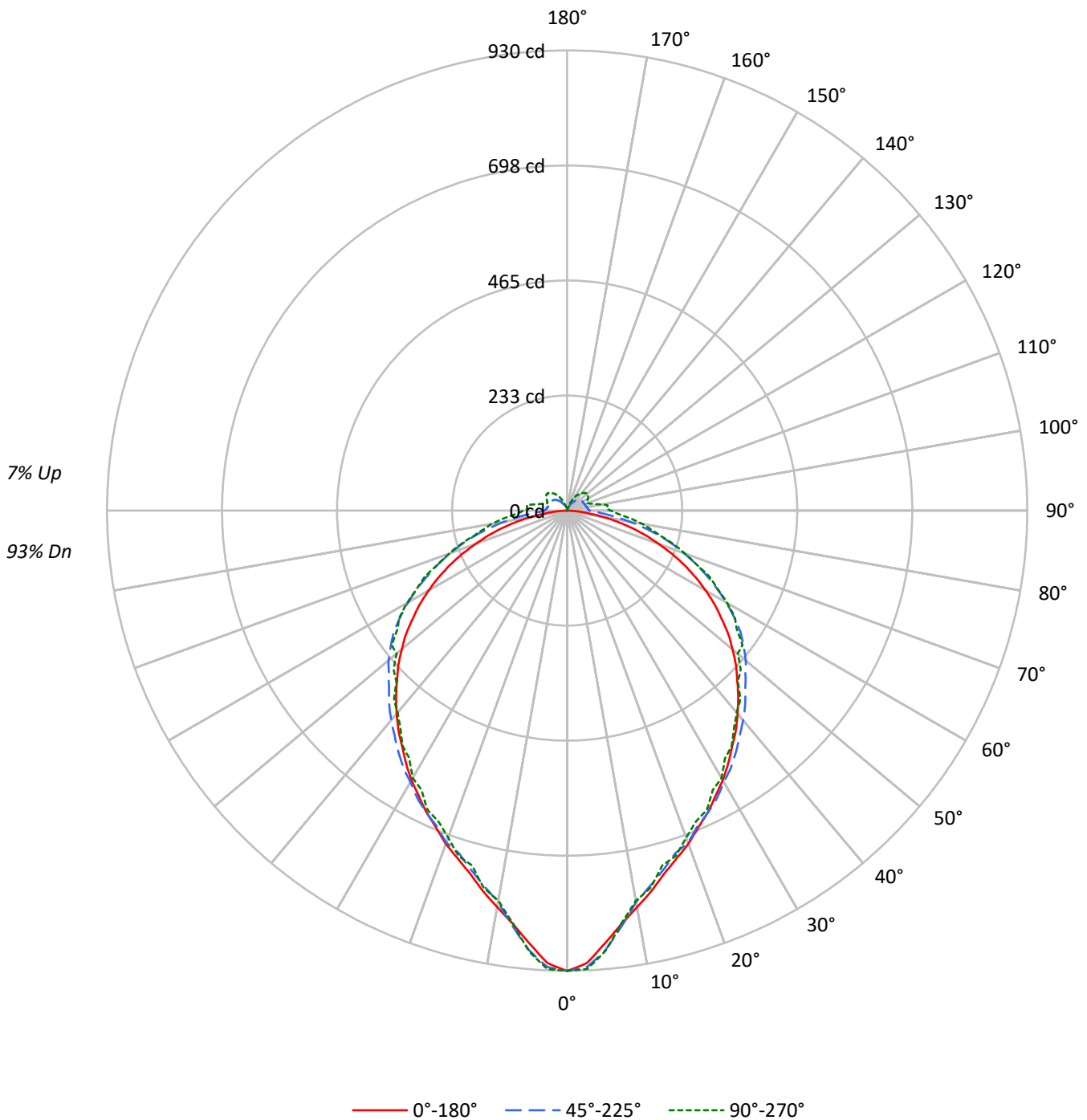
Lumens per Lamp: N/A
Luminaire Lumens: 2475.0 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 21.2
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

TEST NUMBER: P241455

CATALOG NUMBER: FVS8M-3-LD4-40-1LO-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	92	103	98	94	90	93	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	60	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	37	48	42	37	46	40	36	33
7	63	49	40	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	27	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°	5433	5433	5433
5°	5121	5135	5133
10°	4782	4602	4564
15°	4527	4316	4232
20°	4372	4142	4037
25°	4234	3976	3892
30°	4120	3838	3722
35°	4001	3730	3571
40°	3916	3621	3416
45°	3819	3517	3288
50°	3733	3471	3221
55°	3610	3401	3222
60°	3468	3235	3135
65°	3263	3032	2961
70°	2940	2788	2666
75°	2550	2476	2373
80°	1914	2032	2269
85°	1036	1546	2071



TEST NUMBER: P241455

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.0	3.3
10°-20°	212.6	8.6
20°-30°	309.4	12.5
30°-40°	368.6	14.9
40°-50°	387.4	15.7
50°-60°	369.2	14.9
60°-70°	296.1	12.0
70°-80°	188.7	7.6
80°-90°	82.7	3.3
90°-100°	44.0	1.8
100°-110°	36.1	1.5
110°-120°	30.0	1.2
120°-130°	27.8	1.1
130°-140°	21.3	0.9
140°-150°	12.9	0.5
150°-160°	5.2	0.2
160°-170°	1.0	0.0
170°-180°	0.0	0.0
0°-30°	604.0	24.4
0°-40°	972.5	39.3
0°-60°	1729.1	69.9
0°-90°	2296.6	92.8
90°-120°	110.2	4.5
90°-150°	172.2	7.0
90°-180°	178.0	7.2
0°-180°	2475.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	930	930	930	930	930	
5°	878	883	891	889	893	82
15°	759	756	751	748	742	215
25°	673	674	674	664	668	310
35°	581	591	595	588	580	365
45°	486	502	509	506	488	376
55°	380	402	428	424	418	341
65°	262	283	312	317	318	258
75°	135	158	190	199	194	142
85°	24	44	75	101	111	30
90°	1	19	45	67	88	1
95°	0	17	42	60	81	0
105°	0	17	39	53	53	0
115°	0	16	36	45	44	0
125°	0	15	36	49	52	0
135°	1	11	30	44	50	0
145°	1	6	21	35	40	0
155°	1	2	10	19	22	0
165°	1	1	2	5	6	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241455

CATALOG NUMBER: FVS8M-3-LD4-40-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	930.4	930.4	930.4	930.4	930.4	930.4	930.4	930.4	930.4	930.4	930.4
2.5°	915.5	913.0	913.0	915.5	917.5	917.5	919.4	922.0	923.9	923.3	923.3
5°	877.6	876.9	876.3	880.8	882.1	883.4	884.6	890.4	891.1	893.0	891.1
7.5°	842.1	839.6	839.6	842.8	844.1	845.4	846.7	849.2	846.0	844.1	846.7
10°	813.8	810.0	809.3	811.2	810.6	810.0	810.6	808.0	809.3	806.7	802.9
12.5°	787.4	784.8	781.6	781.6	781.0	781.0	779.7	779.7	775.8	772.0	776.5
15°	759.1	758.4	754.6	756.5	756.5	756.5	757.2	756.5	753.9	755.9	751.4
17.5°	736.6	734.6	734.0	737.8	736.6	735.3	735.9	733.3	735.3	730.8	726.3
20°	716.6	714.0	714.0	714.7	713.4	712.1	712.7	714.7	712.1	708.9	714.0
22.5°	692.8	689.6	690.2	693.4	693.4	695.4	696.6	693.4	691.5	693.4	689.6
25°	672.8	670.9	672.8	672.8	671.5	673.5	675.4	676.7	674.7	674.1	673.5
27.5°	649.6	647.1	649.0	650.9	655.4	656.1	655.4	655.4	654.8	657.4	655.4
30°	629.0	627.1	629.7	632.9	632.9	633.5	634.2	636.8	634.8	638.7	633.5
32.5°	605.9	603.9	606.5	607.8	613.6	613.6	615.5	618.1	617.4	618.7	616.2
35°	581.4	580.1	583.3	589.1	591.0	591.0	594.9	594.9	597.5	597.5	594.9
37.5°	560.1	559.5	561.4	567.9	570.4	572.4	575.0	575.6	578.8	576.2	573.0
40°	535.7	534.4	537.6	543.4	546.6	548.6	550.5	555.0	555.0	554.4	553.1
42.5°	511.9	511.9	514.4	518.9	524.7	527.3	528.0	533.1	535.0	531.8	532.5
45°	486.1	486.1	488.7	495.1	499.6	501.6	504.1	507.3	509.9	513.1	509.3
47.5°	462.9	462.9	464.9	469.4	477.1	477.1	480.3	484.8	487.4	490.0	488.7
50°	435.9	437.8	440.4	444.3	448.1	452.6	457.1	462.3	464.9	467.4	471.3
52.5°	410.8	409.5	412.7	417.2	423.0	428.2	430.7	438.5	443.6	448.1	449.4
55°	380.5	384.4	385.7	391.5	394.7	401.8	405.0	410.8	418.5	423.6	427.5
57.5°	353.5	354.1	356.7	362.5	369.6	372.1	376.0	383.1	389.5	396.0	399.8
60°	323.2	325.1	329.0	332.9	339.9	343.2	346.4	356.0	360.6	366.3	370.9
62.5°	292.9	294.9	299.4	304.5	308.4	312.3	315.5	325.1	333.5	336.7	341.2
65°	262.0	264.6	267.2	271.1	277.5	283.3	285.2	294.9	302.0	307.8	311.6
67.5°	229.9	231.8	236.9	241.4	247.2	251.7	255.0	264.0	271.7	279.4	281.4
70°	196.4	200.2	203.5	210.5	216.3	220.2	224.1	233.1	240.2	245.3	251.1
72.5°	166.1	168.0	172.6	179.0	185.4	189.3	191.9	202.2	208.6	217.0	221.5
75°	134.6	137.1	141.0	146.2	153.9	157.7	162.9	170.6	178.3	185.4	189.9
77.5°	103.7	106.2	109.5	115.9	122.3	126.2	132.0	139.7	148.1	153.2	158.4
80°	73.4	76.0	79.2	86.3	93.4	95.9	101.1	107.5	116.5	122.3	127.5
82.5°	46.4	48.3	52.2	58.6	65.7	68.2	72.8	79.8	87.6	94.0	99.8
85°	24.5	25.1	30.3	34.8	41.2	44.4	47.6	54.7	62.5	68.2	74.7
87.5°	7.1	9.0	12.9	18.7	23.8	27.0	30.3	36.7	43.8	48.9	55.4
90°	0.6	1.9	5.2	10.3	15.5	18.7	21.2	27.7	33.5	39.3	45.1
92.5°	0.0	1.3	5.2	9.7	14.8	18.0	20.6	26.4	32.2	37.3	43.1
95°	0.0	1.3	4.5	9.0	14.8	17.4	20.6	26.4	31.5	37.3	42.5
97.5°	0.0	1.3	4.5	9.0	14.8	17.4	20.0	25.8	31.5	36.1	41.2
100°	0.0	1.3	4.5	9.0	14.2	17.4	20.0	25.1	30.9	35.4	39.9
102.5°	0.0	1.3	4.5	9.0	14.2	16.7	20.0	25.1	29.6	34.8	39.3
105°	0.0	1.3	4.5	9.0	14.2	16.7	19.3	24.5	29.0	34.1	38.6
107.5°	0.0	1.3	4.5	9.0	14.2	16.7	19.3	24.5	29.0	33.5	38.0
110°	0.0	0.6	3.9	9.0	14.2	16.7	19.3	23.8	29.0	33.5	37.3



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CATALOG NUMBER: FVS8M-3-LD4-40-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.6	3.9	8.4	13.5	16.7	19.3	23.8	29.0	32.8	36.7
115°	0.0	0.6	3.9	8.4	13.5	16.1	18.7	23.8	28.3	32.2	36.1
117.5°	0.0	0.6	3.9	8.4	13.5	16.1	18.7	23.8	28.3	32.2	36.1
120°	0.0	0.6	3.2	7.7	12.9	15.5	18.0	23.2	28.3	32.2	36.1
122.5°	0.0	0.6	3.2	7.7	12.2	14.8	17.4	22.5	27.7	32.2	36.1
125°	0.0	0.6	2.6	7.1	12.2	14.8	17.4	21.9	27.0	31.5	36.1
127.5°	0.6	0.6	2.6	6.4	11.6	14.2	16.7	21.2	25.8	30.3	34.8
130°	0.6	0.6	2.6	5.8	10.3	12.9	15.5	20.6	25.1	29.6	33.5
132.5°	0.6	0.6	1.9	5.2	9.7	12.2	14.2	19.3	23.2	27.7	32.2
135°	0.6	0.6	1.3	4.5	9.0	10.9	12.9	18.0	21.9	25.8	30.3
137.5°	0.6	0.6	1.3	3.9	7.7	9.7	11.6	16.1	20.6	23.8	28.3
140°	0.6	0.6	1.3	3.2	6.4	8.4	10.3	14.2	18.7	22.5	25.8
142.5°	0.6	0.6	0.6	2.6	5.8	7.1	9.0	12.2	16.1	20.0	23.8
145°	0.6	0.6	0.6	1.9	4.5	5.8	7.7	10.9	14.2	18.0	21.2
147.5°	0.6	0.6	0.6	1.9	3.9	5.2	6.4	9.0	12.2	15.5	18.7
150°	0.6	0.6	0.6	1.3	2.6	3.9	5.2	7.7	10.3	12.9	16.1
152.5°	0.6	0.6	0.6	0.6	1.9	3.2	3.9	5.8	8.4	10.9	12.9
155°	0.6	0.6	0.6	0.6	1.3	1.9	3.2	4.5	6.4	8.4	10.3
157.5°	0.6	0.6	0.6	0.6	1.3	1.3	1.9	3.2	4.5	6.4	7.7
160°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	2.6	3.2	4.5	5.8
162.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.9	3.2	3.9
165°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.9	1.9
167.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3
170°	0.6	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	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°	930.4	930.4	930.4	930.4	930.4	930.4	930.4	930.4	930.4	930.4
2.5°	924.6	923.9	924.6	926.5	926.5	927.1	927.8	928.4	927.8	927.1
5°	891.7	888.5	887.9	890.4	889.1	889.8	891.7	893.7	893.0	893.0
7.5°	847.3	845.4	846.0	840.2	839.6	837.0	837.6	837.6	838.9	840.9
10°	797.7	799.7	804.8	809.3	810.6	808.7	805.4	801.6	799.7	800.3
12.5°	777.1	771.3	763.6	760.4	763.6	768.1	774.5	779.1	780.3	780.3
15°	743.0	745.6	750.7	753.9	747.5	744.9	743.6	741.7	742.4	742.4
17.5°	732.7	728.8	722.4	729.5	734.0	739.1	739.1	734.0	729.5	731.4
20°	706.9	710.8	720.5	711.4	703.7	699.9	699.9	700.5	705.0	703.1
22.5°	694.1	694.7	683.1	688.3	696.6	699.2	694.7	687.0	678.6	679.9
25°	670.9	667.0	677.3	669.6	664.4	661.2	663.2	666.4	669.0	667.7
27.5°	650.9	657.4	643.8	651.6	656.1	658.7	654.8	642.6	640.6	636.8
30°	635.5	625.8	637.4	634.8	625.8	622.0	616.8	621.3	621.3	623.9
32.5°	611.7	614.9	609.1	602.6	607.1	611.0	607.8	602.6	595.6	593.6
35°	595.6	591.0	586.5	593.6	587.8	581.4	576.2	578.2	580.7	580.1
37.5°	576.2	568.5	571.7	560.8	563.4	567.2	570.4	561.4	557.6	553.7
40°	548.6	555.0	543.4	553.1	549.8	542.8	532.5	530.5	533.7	533.1
42.5°	531.2	526.7	533.1	519.6	516.4	517.7	523.4	525.4	520.2	517.7
45°	511.2	511.9	502.8	502.8	506.1	505.4	495.1	488.0	488.7	488.0
47.5°	486.7	489.3	484.2	486.1	476.4	475.2	475.8	478.4	477.1	475.8
50°	473.2	466.8	473.9	463.6	467.4	470.0	464.2	453.9	451.3	450.0
52.5°	453.9	457.8	449.4	458.4	455.2	446.8	441.7	445.5	446.2	446.8
55°	425.6	432.7	435.2	426.9	424.3	426.9	428.8	422.4	419.8	418.5
57.5°	404.3	402.4	401.8	402.4	404.3	403.0	397.3	397.3	401.1	401.8
60°	373.4	378.6	371.5	374.7	370.2	370.2	376.6	376.0	374.7	373.4
62.5°	342.5	343.8	348.3	341.2	343.8	347.7	343.8	340.6	342.5	342.5
65°	314.2	314.2	312.9	317.4	317.4	312.3	310.3	314.8	317.4	318.1
67.5°	285.9	287.8	286.5	287.2	282.6	282.6	285.9	282.0	280.7	282.0
70°	253.0	255.6	260.8	254.3	257.5	258.2	251.7	249.8	251.7	253.0
72.5°	223.4	224.7	227.3	229.2	229.2	227.3	225.3	225.3	224.7	224.7
75°	192.5	197.0	197.0	200.2	198.9	197.7	199.6	197.0	193.8	193.8
77.5°	162.9	169.3	170.0	170.6	171.3	173.8	173.2	171.3	171.3	171.9
80°	133.3	138.4	142.3	143.6	144.9	147.4	148.1	151.9	153.2	153.9
82.5°	104.9	111.4	115.2	120.4	122.3	124.9	128.8	132.0	134.6	132.6
85°	81.1	86.3	92.1	99.2	101.1	104.3	106.9	107.5	108.8	110.7
87.5°	61.2	68.2	75.3	81.1	82.4	83.1	85.0	88.9	93.4	96.6
90°	51.5	57.9	63.7	66.3	67.0	68.2	72.1	77.3	83.1	88.2
92.5°	48.9	54.1	57.3	59.9	61.8	63.7	67.0	70.8	76.6	80.5
95°	47.0	51.5	54.7	57.9	60.5	62.5	65.7	70.8	77.3	81.1
97.5°	45.7	50.2	54.1	57.9	60.5	62.5	68.2	75.3	81.8	82.4
100°	45.1	48.9	52.8	57.3	59.9	62.5	68.2	71.5	70.8	70.8
102.5°	43.8	47.6	52.2	56.0	57.9	59.2	61.8	61.8	60.5	59.9
105°	43.1	46.4	50.2	52.8	52.8	54.1	54.7	54.1	53.4	52.8
107.5°	41.8	45.1	47.6	48.3	48.9	49.6	49.6	48.9	47.6	47.0
110°	40.6	43.1	45.1	45.7	45.7	46.4	45.7	45.1	43.8	43.1



TEST NUMBER: P241455

CATALOG NUMBER: FVS8M-3-LD4-40-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	39.9	41.8	43.8	44.4	44.4	45.1	45.1	44.4	43.8	43.1
115°	39.3	41.8	43.8	44.4	45.1	45.7	46.4	45.7	45.1	44.4
117.5°	39.3	41.8	44.4	45.7	46.4	47.0	47.6	48.3	47.0	46.4
120°	39.9	42.5	45.1	47.0	47.6	48.3	49.6	49.6	48.9	48.9
122.5°	39.9	43.1	45.7	47.6	48.9	49.6	50.2	50.9	50.2	50.2
125°	39.9	43.1	45.7	47.6	48.9	49.6	50.9	52.2	51.5	51.5
127.5°	39.3	42.5	45.1	47.6	48.3	48.9	50.9	52.2	52.2	52.8
130°	38.0	41.2	44.4	46.4	47.6	48.3	50.2	51.5	52.2	52.8
132.5°	36.1	39.9	42.5	45.1	45.7	47.0	48.9	50.2	51.5	52.2
135°	34.1	37.3	40.6	43.1	44.4	45.7	47.0	48.9	50.2	50.2
137.5°	31.5	35.4	38.6	41.2	41.8	43.1	45.1	47.0	47.6	48.3
140°	29.6	32.8	36.1	38.6	39.9	41.2	43.1	44.4	45.7	45.7
142.5°	27.0	30.9	33.5	36.1	37.3	38.6	40.6	41.8	43.1	43.1
145°	25.1	28.3	30.9	33.5	34.8	35.4	37.3	38.6	39.9	39.9
147.5°	22.5	25.1	28.3	30.3	31.5	32.2	34.1	35.4	36.1	36.7
150°	19.3	21.9	24.5	26.4	27.7	28.3	30.3	31.5	32.2	32.8
152.5°	15.5	18.0	20.6	22.5	23.2	24.5	25.8	26.4	27.7	27.7
155°	12.9	14.8	16.7	18.7	19.3	20.0	21.2	21.9	22.5	22.5
157.5°	9.7	10.9	12.9	14.8	15.5	15.5	16.7	17.4	18.0	18.0
160°	7.1	8.4	9.7	10.9	11.6	12.2	12.9	13.5	13.5	13.5
162.5°	4.5	5.8	6.4	7.7	7.7	8.4	9.0	9.7	9.7	9.7
165°	2.6	3.2	3.9	4.5	5.2	5.2	5.8	5.8	6.4	6.4
167.5°	1.3	1.9	1.9	2.6	2.6	2.6	3.2	3.2	3.9	3.2
170°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3	1.3
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)