

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: P241427

Luminaire Tested: **FVS8M-2-LD4-40-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241427
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-LD4-40-1HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (42) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

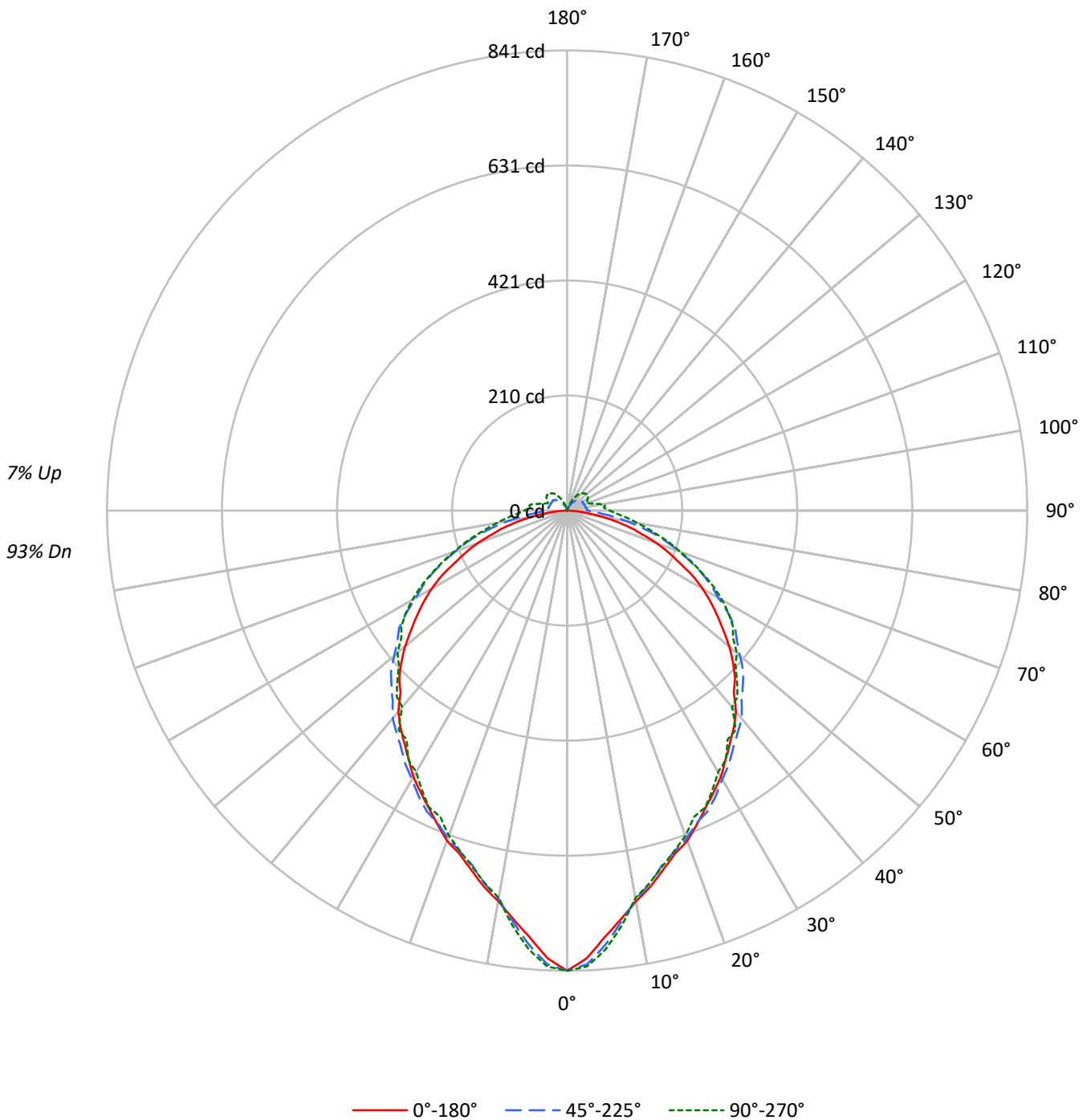
Lumens per Lamp: N/A
Luminaire Lumens: 2189.0 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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	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°	7559	7559	7559
5°	7016	7058	7122
10°	6526	6339	6310
15°	6187	5903	5905
20°	5969	5659	5585
25°	5730	5470	5365
30°	5579	5234	5068
35°	5397	5043	4841
40°	5283	4929	4626
45°	5114	4748	4552
50°	4947	4584	4462
55°	4718	4494	4383
60°	4525	4176	4225
65°	4131	3958	3926
70°	3760	3583	3568
75°	3195	3158	3223
80°	2327	2541	2951
85°	1195	1878	2822



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.5	3.4
10°-20°	190.6	8.7
20°-30°	277.1	12.7
30°-40°	329.2	15.0
40°-50°	344.0	15.7
50°-60°	323.8	14.8
60°-70°	258.8	11.8
70°-80°	163.4	7.5
80°-90°	71.0	3.2
90°-100°	37.8	1.7
100°-110°	32.2	1.5
110°-120°	27.0	1.2
120°-130°	24.7	1.1
130°-140°	19.0	0.9
140°-150°	11.5	0.5
150°-160°	4.6	0.2
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	541.2	24.7
0°-40°	870.4	39.8
0°-60°	1538.3	70.3
0°-90°	2031.4	92.8
90°-120°	97.0	4.4
90°-150°	152.2	7.0
90°-180°	158.0	7.2
0°-180°	2189.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	841	841	841	841	841	
5°	783	788	797	805	805	73
15°	679	679	671	667	673	192
25°	599	602	607	594	598	277
35°	519	528	529	530	511	325
45°	434	444	454	440	439	334
55°	335	351	375	381	370	300
65°	227	243	272	275	274	227
75°	119	136	164	173	171	125
85°	22	39	63	85	98	27
90°	0	16	38	60	78	1
95°	0	15	36	52	67	0
105°	0	15	34	48	49	0
115°	0	14	32	41	40	0
125°	0	13	32	44	46	0
135°	0	10	27	40	44	0
145°	0	6	19	31	36	0
155°	0	2	10	16	19	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°	840.9	840.9	840.9	840.9	840.9	840.9	840.9	840.9	840.9	840.9	840.9
2.5°	818.9	818.9	820.9	820.9	822.9	823.9	823.9	824.9	825.9	827.9	829.9
5°	782.9	783.9	784.9	785.9	786.9	787.9	789.9	792.9	793.9	794.9	796.9
7.5°	752.9	751.9	752.9	750.9	749.9	749.9	749.9	750.9	753.9	756.9	757.9
10°	724.9	726.9	726.9	724.9	722.9	724.9	722.9	722.9	721.9	721.9	720.9
12.5°	703.9	699.9	698.9	698.9	700.9	699.9	698.9	700.9	696.9	697.9	697.9
15°	678.9	677.9	674.9	681.9	681.9	678.9	677.9	673.9	674.9	674.9	670.9
17.5°	656.9	658.9	655.9	655.9	655.9	654.9	656.9	655.9	656.9	652.9	652.9
20°	641.9	635.9	632.9	639.9	640.9	640.9	641.9	643.9	639.9	635.9	637.9
22.5°	619.9	614.9	620.9	624.9	621.9	618.9	621.9	621.9	614.9	618.9	617.9
25°	598.9	594.9	601.9	601.9	601.9	601.9	602.9	602.9	603.9	603.9	606.9
27.5°	579.9	579.9	580.9	582.9	584.9	587.9	585.9	585.9	585.9	583.9	587.9
30°	561.9	558.9	561.9	565.9	567.9	569.9	566.9	565.9	568.9	567.9	566.9
32.5°	538.9	537.9	545.9	541.9	543.9	544.9	549.9	551.9	553.9	551.9	549.9
35°	518.9	519.9	521.9	524.9	528.9	527.9	532.9	529.9	530.9	532.9	528.9
37.5°	499.9	497.9	499.9	506.9	507.9	507.9	508.9	509.9	513.9	514.9	511.9
40°	479.9	474.9	482.9	487.9	483.9	486.9	488.9	494.9	493.9	494.9	495.9
42.5°	450.9	456.9	458.9	458.9	467.9	471.9	470.9	472.9	471.9	470.9	471.9
45°	433.9	436.9	435.9	441.9	444.9	443.9	444.9	448.9	450.9	452.9	453.9
47.5°	410.9	410.9	411.9	417.9	420.9	420.9	421.9	431.9	432.9	435.9	436.9
50°	386.9	386.9	391.9	391.9	397.9	402.9	406.9	407.9	406.9	411.9	411.9
52.5°	359.9	360.9	364.9	367.9	377.9	376.9	378.9	382.9	383.9	390.9	390.9
55°	334.9	340.9	335.9	344.9	346.9	350.9	354.9	359.9	368.9	372.9	374.9
57.5°	311.0	311.9	313.9	319.9	316.9	323.9	330.9	339.9	344.9	347.9	348.9
60°	286.0	282.0	289.0	290.0	300.0	301.0	303.0	309.0	312.9	317.9	318.9
62.5°	259.0	262.0	263.0	264.0	271.0	274.0	277.0	280.0	289.0	294.0	297.0
65°	227.0	232.0	232.0	242.0	243.0	243.0	248.0	258.0	263.0	268.0	272.0
67.5°	201.0	206.0	204.0	210.0	217.0	219.0	222.0	230.0	232.0	240.0	244.0
70°	174.0	177.0	180.0	182.0	187.0	193.0	196.0	201.0	207.0	213.0	217.0
72.5°	143.0	145.0	151.0	155.0	161.0	164.0	168.0	173.0	180.0	188.0	192.0
75°	119.0	118.0	122.0	127.0	135.0	136.0	137.0	147.0	153.0	159.0	164.0
77.5°	91.0	93.0	96.0	101.0	106.0	109.0	112.0	120.0	127.0	131.0	135.0
80°	65.0	67.0	70.0	74.0	80.0	83.0	87.0	94.0	99.0	105.0	109.0
82.5°	40.0	43.0	46.0	51.0	55.0	59.0	62.0	69.0	74.0	81.0	85.0
85°	22.0	22.0	26.0	31.0	35.0	39.0	41.0	47.0	52.0	58.0	63.0
87.5°	7.0	8.0	11.0	16.0	21.0	23.0	26.0	31.0	36.0	42.0	47.0
90°	0.0	1.0	5.0	9.0	13.0	16.0	18.0	23.0	28.0	33.0	38.0
92.5°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	22.0	27.0	32.0	36.0
95°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	22.0	27.0	31.0	36.0
97.5°	0.0	1.0	4.0	8.0	13.0	15.0	17.0	22.0	27.0	31.0	35.0
100°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	22.0	27.0	31.0	34.0
102.5°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	22.0	26.0	30.0	34.0
105°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	21.0	26.0	30.0	34.0
107.5°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	21.0	26.0	30.0	33.0
110°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	21.0	26.0	29.0	33.0



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CATALOG NUMBER: FVS8M-2-LD4-40-1HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.0	4.0	8.0	12.0	15.0	17.0	21.0	25.0	29.0	33.0
115°	0.0	1.0	4.0	8.0	12.0	14.0	17.0	21.0	25.0	29.0	32.0
117.5°	0.0	1.0	4.0	7.0	12.0	14.0	17.0	21.0	25.0	29.0	32.0
120°	0.0	1.0	3.0	7.0	12.0	14.0	16.0	21.0	25.0	29.0	32.0
122.5°	0.0	1.0	3.0	7.0	11.0	14.0	16.0	20.0	24.0	28.0	32.0
125°	0.0	1.0	3.0	7.0	11.0	13.0	15.0	20.0	24.0	28.0	32.0
127.5°	0.0	0.0	3.0	6.0	10.0	13.0	15.0	19.0	23.0	27.0	31.0
130°	0.0	0.0	2.0	6.0	10.0	12.0	14.0	18.0	22.0	26.0	30.0
132.5°	0.0	0.0	2.0	5.0	9.0	11.0	13.0	17.0	21.0	25.0	28.0
135°	0.0	0.0	2.0	5.0	8.0	10.0	12.0	16.0	19.0	23.0	27.0
137.5°	0.0	0.0	2.0	4.0	7.0	9.0	11.0	14.0	18.0	21.0	25.0
140°	0.0	0.0	1.0	4.0	6.0	8.0	10.0	13.0	16.0	20.0	23.0
142.5°	0.0	0.0	1.0	3.0	6.0	7.0	9.0	12.0	15.0	18.0	21.0
145°	0.0	0.0	1.0	3.0	5.0	6.0	7.0	10.0	13.0	16.0	19.0
147.5°	0.0	0.0	1.0	2.0	4.0	5.0	6.0	9.0	12.0	14.0	17.0
150°	0.0	0.0	0.0	2.0	3.0	4.0	5.0	7.0	10.0	12.0	14.0
152.5°	0.0	0.0	0.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0
155°	0.0	0.0	0.0	1.0	2.0	2.0	3.0	5.0	6.0	8.0	10.0
157.5°	0.0	0.0	0.0	1.0	1.0	2.0	2.0	3.0	5.0	6.0	7.0
160°	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0	3.0	4.0	5.0
162.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0	4.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	2.0	2.0
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°	840.9	840.9	840.9	840.9	840.9	840.9	840.9	840.9	840.9	840.9
2.5°	830.9	831.9	832.9	833.9	832.9	832.9	834.9	834.9	834.9	833.9
5°	797.9	798.9	800.9	803.9	804.9	804.9	805.9	805.9	805.9	804.9
7.5°	756.9	756.9	757.9	756.9	758.9	759.9	762.9	763.9	764.9	764.9
10°	720.9	721.9	721.9	720.9	715.9	718.9	715.9	714.9	715.9	718.9
12.5°	692.9	689.9	688.9	694.9	696.9	699.9	700.9	696.9	693.9	696.9
15°	668.9	671.9	673.9	668.9	666.9	665.9	666.9	669.9	672.9	672.9
17.5°	653.9	648.9	654.9	664.9	666.9	665.9	662.9	655.9	650.9	651.9
20°	637.9	645.9	645.9	633.9	626.9	625.9	625.9	630.9	630.9	631.9
22.5°	624.9	617.9	614.9	620.9	625.9	628.9	618.9	613.9	608.9	605.9
25°	604.9	598.9	609.9	598.9	593.9	590.9	590.9	596.9	599.9	597.9
27.5°	580.9	589.9	575.9	583.9	589.9	592.9	590.9	582.9	574.9	574.9
30°	570.9	559.9	571.9	573.9	567.9	557.9	548.9	548.9	548.9	551.9
32.5°	546.9	553.9	550.9	534.9	537.9	541.9	545.9	543.9	539.9	539.9
35°	529.9	533.9	519.9	531.9	529.9	525.9	515.9	509.9	509.9	510.9
37.5°	517.9	502.9	515.9	503.9	497.9	497.9	502.9	508.9	506.9	505.9
40°	492.9	493.9	486.9	485.9	492.9	495.9	483.9	476.9	471.9	468.9
42.5°	470.9	472.9	469.9	476.9	467.9	459.9	456.9	459.9	461.9	460.9
45°	452.9	447.9	456.9	440.9	439.9	442.9	446.9	442.9	439.9	438.9
47.5°	435.9	437.9	423.9	427.9	429.9	427.9	417.9	414.9	417.9	416.9
50°	410.9	413.9	413.9	409.9	403.9	401.9	405.9	405.9	402.9	404.9
52.5°	396.9	391.9	397.9	392.9	396.9	395.9	393.9	384.9	380.9	381.9
55°	378.9	380.9	372.9	380.9	380.9	374.9	367.9	371.9	370.9	369.9
57.5°	350.9	357.9	358.9	350.9	347.9	349.9	353.9	352.9	349.9	349.9
60°	323.9	325.9	330.9	326.9	327.9	328.9	326.9	325.9	327.9	326.9
62.5°	301.0	301.0	297.0	305.0	306.0	301.0	302.0	303.0	303.0	302.0
65°	275.0	278.0	276.0	276.0	275.0	277.0	277.0	275.0	273.0	274.0
67.5°	248.0	248.0	255.0	251.0	252.0	252.0	247.0	246.0	247.0	247.0
70°	220.0	221.0	223.0	226.0	225.0	222.0	221.0	221.0	221.0	220.0
72.5°	194.0	196.0	198.0	198.0	197.0	196.0	197.0	195.0	195.0	196.0
75°	168.0	172.0	172.0	172.0	173.0	175.0	173.0	173.0	171.0	171.0
77.5°	140.0	144.0	146.0	147.0	148.0	150.0	149.0	150.0	148.0	149.0
80°	114.0	118.0	121.0	124.0	125.0	127.0	127.0	129.0	129.0	130.0
82.5°	90.0	95.0	99.0	102.0	104.0	106.0	109.0	111.0	113.0	114.0
85°	69.0	73.0	78.0	83.0	85.0	88.0	93.0	95.0	96.0	98.0
87.5°	52.0	57.0	63.0	68.0	71.0	74.0	76.0	79.0	83.0	86.0
90°	43.0	48.0	53.0	58.0	60.0	61.0	64.0	68.0	74.0	78.0
92.5°	41.0	46.0	50.0	53.0	54.0	56.0	59.0	63.0	68.0	72.0
95°	40.0	45.0	48.0	51.0	52.0	54.0	57.0	60.0	64.0	67.0
97.5°	39.0	43.0	47.0	50.0	52.0	53.0	57.0	62.0	67.0	70.0
100°	39.0	42.0	46.0	50.0	51.0	53.0	58.0	63.0	66.0	66.0
102.5°	38.0	42.0	45.0	49.0	51.0	53.0	56.0	58.0	56.0	56.0
105°	37.0	41.0	44.0	47.0	48.0	49.0	50.0	50.0	49.0	49.0
107.5°	37.0	40.0	43.0	44.0	45.0	45.0	45.0	44.0	43.0	43.0
110°	36.0	39.0	41.0	42.0	42.0	42.0	42.0	41.0	40.0	39.0



TEST NUMBER: P241427

CATALOG NUMBER: FVS8M-2-LD4-40-1HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	36.0	38.0	40.0	40.0	41.0	41.0	41.0	40.0	39.0	38.0
115°	35.0	38.0	39.0	40.0	41.0	41.0	41.0	41.0	40.0	40.0
117.5°	35.0	38.0	40.0	41.0	42.0	42.0	43.0	43.0	42.0	42.0
120°	35.0	38.0	41.0	42.0	43.0	43.0	44.0	44.0	44.0	43.0
122.5°	35.0	38.0	41.0	43.0	44.0	44.0	45.0	45.0	45.0	45.0
125°	35.0	38.0	41.0	43.0	44.0	44.0	45.0	46.0	46.0	46.0
127.5°	34.0	38.0	40.0	42.0	43.0	44.0	45.0	46.0	46.0	46.0
130°	33.0	36.0	39.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0
132.5°	32.0	35.0	38.0	40.0	41.0	42.0	44.0	45.0	45.0	46.0
135°	30.0	33.0	36.0	39.0	40.0	41.0	42.0	44.0	44.0	44.0
137.5°	28.0	31.0	34.0	37.0	38.0	39.0	41.0	42.0	42.0	43.0
140°	26.0	29.0	32.0	34.0	36.0	37.0	39.0	40.0	41.0	41.0
142.5°	24.0	27.0	30.0	32.0	33.0	35.0	36.0	38.0	39.0	39.0
145°	22.0	25.0	27.0	30.0	31.0	32.0	33.0	35.0	36.0	36.0
147.5°	19.0	22.0	24.0	26.0	27.0	28.0	30.0	31.0	32.0	32.0
150°	17.0	19.0	21.0	23.0	24.0	25.0	26.0	27.0	28.0	28.0
152.5°	14.0	16.0	18.0	19.0	20.0	21.0	22.0	23.0	23.0	24.0
155°	11.0	13.0	14.0	16.0	16.0	17.0	18.0	19.0	19.0	19.0
157.5°	9.0	10.0	12.0	13.0	13.0	14.0	14.0	15.0	15.0	15.0
160°	6.0	8.0	9.0	9.0	10.0	10.0	11.0	11.0	11.0	12.0
162.5°	4.0	5.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0
165°	3.0	3.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
167.5°	1.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
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)