

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: P241453

Luminaire Tested: **FVS8M-3-LD4-30-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241453
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-LD4-30-1LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

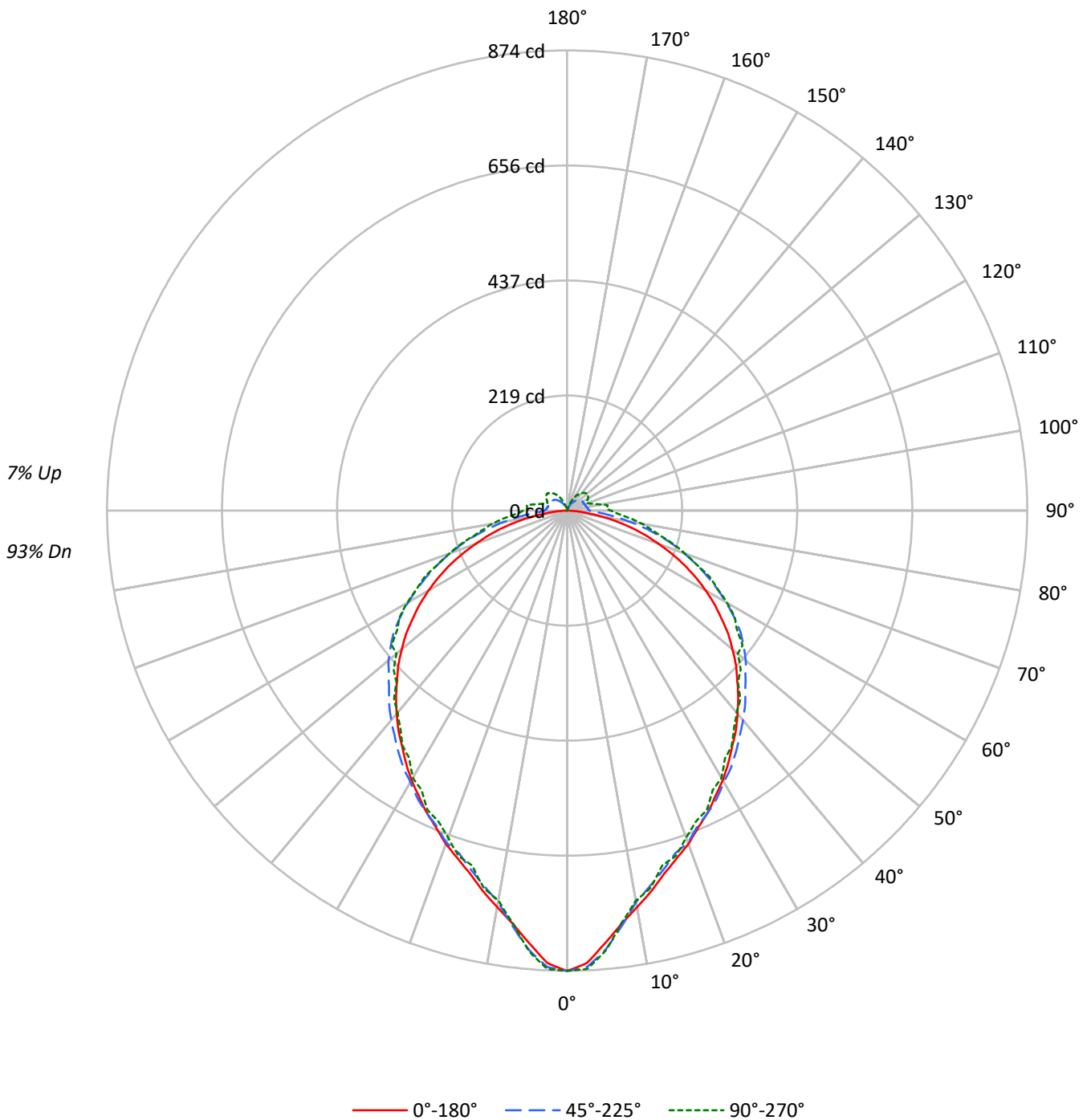
Lumens per Lamp: N/A
Luminaire Lumens: 2326.0 lumens
Efficiency: N/A
Efficacy: 109.7 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

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

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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	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°	5105	5105	5105
5°	4813	4826	4824
10°	4494	4325	4289
15°	4255	4056	3977
20°	4109	3892	3794
25°	3979	3737	3658
30°	3872	3607	3497
35°	3761	3505	3356
40°	3680	3403	3211
45°	3589	3305	3090
50°	3507	3262	3028
55°	3393	3197	3028
60°	3260	3039	2946
65°	3067	2850	2783
70°	2764	2620	2506
75°	2397	2327	2230
80°	1799	1909	2132
85°	973	1453	1948



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.0	3.3
10°-20°	199.8	8.6
20°-30°	290.8	12.5
30°-40°	346.4	14.9
40°-50°	364.1	15.7
50°-60°	347.0	14.9
60°-70°	278.3	12.0
70°-80°	177.3	7.6
80°-90°	77.7	3.3
90°-100°	41.4	1.8
100°-110°	33.9	1.5
110°-120°	28.2	1.2
120°-130°	26.1	1.1
130°-140°	20.0	0.9
140°-150°	12.1	0.5
150°-160°	4.9	0.2
160°-170°	0.9	0.0
170°-180°	0.0	0.0
0°-30°	567.6	24.4
0°-40°	914.0	39.3
0°-60°	1625.0	69.9
0°-90°	2158.3	92.8
90°-120°	103.6	4.5
90°-150°	161.9	7.0
90°-180°	168.0	7.2
0°-180°	2326.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	874	874	874	874	874	
5°	825	830	837	836	839	77
15°	713	711	706	702	698	202
25°	632	633	633	624	628	291
35°	546	556	559	552	545	343
45°	457	471	479	476	459	353
55°	358	378	402	399	393	320
65°	246	266	293	298	299	243
75°	126	148	178	187	182	134
85°	23	42	70	95	104	28
90°	1	18	42	63	83	1
95°	0	16	40	57	76	0
105°	0	16	36	50	50	0
115°	0	15	34	42	42	0
125°	0	14	34	46	48	0
135°	1	10	28	42	47	0
145°	1	5	20	33	38	0
155°	1	2	10	18	21	0
165°	1	1	2	5	6	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241453

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	874.3	874.3	874.3	874.3	874.3	874.3	874.3	874.3	874.3	874.3	874.3
2.5°	860.4	858.0	858.0	860.4	862.2	862.2	864.1	866.5	868.3	867.7	867.7
5°	824.7	824.1	823.5	827.8	829.0	830.2	831.4	836.8	837.4	839.3	837.4
7.5°	791.4	789.0	789.0	792.1	793.3	794.5	795.7	798.1	795.1	793.3	795.7
10°	764.8	761.2	760.6	762.4	761.8	761.2	761.8	759.4	760.6	758.2	754.5
12.5°	740.0	737.6	734.6	734.6	734.0	734.0	732.8	732.8	729.1	725.5	729.7
15°	713.4	712.8	709.2	711.0	711.0	711.0	711.6	711.0	708.6	710.4	706.1
17.5°	692.2	690.4	689.8	693.4	692.2	691.0	691.6	689.2	691.0	686.8	682.5
20°	673.5	671.0	671.0	671.6	670.4	669.2	669.8	671.6	669.2	666.2	671.0
22.5°	651.1	648.0	648.6	651.7	651.7	653.5	654.7	651.7	649.9	651.7	648.0
25°	632.3	630.5	632.3	632.3	631.1	632.9	634.7	635.9	634.1	633.5	632.9
27.5°	610.5	608.1	609.9	611.7	616.0	616.6	616.0	616.0	615.4	617.8	616.0
30°	591.2	589.4	591.8	594.8	594.8	595.4	596.0	598.4	596.6	600.2	595.4
32.5°	569.4	567.6	570.0	571.2	576.6	576.6	578.5	580.9	580.3	581.5	579.1
35°	546.4	545.2	548.2	553.7	555.5	555.5	559.1	559.1	561.5	561.5	559.1
37.5°	526.4	525.8	527.6	533.7	536.1	537.9	540.3	540.9	544.0	541.5	538.5
40°	503.4	502.2	505.2	510.7	513.7	515.5	517.3	521.6	521.6	521.0	519.8
42.5°	481.0	481.0	483.5	487.7	493.1	495.6	496.2	501.0	502.8	499.8	500.4
45°	456.8	456.8	459.3	465.3	469.5	471.4	473.8	476.8	479.2	482.3	478.6
47.5°	435.1	435.1	436.9	441.1	448.4	448.4	451.4	455.6	458.0	460.5	459.3
50°	409.6	411.5	413.9	417.5	421.1	425.4	429.6	434.5	436.9	439.3	442.9
52.5°	386.0	384.8	387.9	392.1	397.5	402.4	404.8	412.1	416.9	421.1	422.3
55°	357.6	361.2	362.4	367.9	370.9	377.6	380.6	386.0	393.3	398.1	401.8
57.5°	332.2	332.8	335.2	340.7	347.3	349.7	353.4	360.0	366.1	372.1	375.8
60°	303.8	305.6	309.2	312.8	319.5	322.5	325.5	334.6	338.8	344.3	348.5
62.5°	275.3	277.1	281.4	286.2	289.8	293.5	296.5	305.6	313.4	316.5	320.7
65°	246.3	248.7	251.1	254.7	260.8	266.2	268.1	277.1	283.8	289.2	292.9
67.5°	216.0	217.8	222.7	226.9	232.4	236.6	239.6	248.1	255.3	262.6	264.4
70°	184.6	188.2	191.2	197.9	203.3	206.9	210.6	219.0	225.7	230.5	236.0
72.5°	156.1	157.9	162.2	168.2	174.3	177.9	180.3	190.0	196.0	203.9	208.1
75°	126.5	128.9	132.5	137.4	144.6	148.2	153.1	160.3	167.6	174.3	178.5
77.5°	97.4	99.8	102.9	108.9	115.0	118.6	124.0	131.3	139.2	144.0	148.9
80°	69.0	71.4	74.4	81.1	87.7	90.2	95.0	101.0	109.5	115.0	119.8
82.5°	43.6	45.4	49.0	55.1	61.7	64.1	68.4	75.0	82.3	88.3	93.8
85°	23.0	23.6	28.4	32.7	38.7	41.8	44.8	51.4	58.7	64.1	70.2
87.5°	6.7	8.5	12.1	17.5	22.4	25.4	28.4	34.5	41.1	46.0	52.0
90°	0.6	1.8	4.8	9.7	14.5	17.5	20.0	26.0	31.5	36.9	42.4
92.5°	0.0	1.2	4.8	9.1	13.9	16.9	19.4	24.8	30.3	35.1	40.5
95°	0.0	1.2	4.2	8.5	13.9	16.3	19.4	24.8	29.6	35.1	39.9
97.5°	0.0	1.2	4.2	8.5	13.9	16.3	18.8	24.2	29.6	33.9	38.7
100°	0.0	1.2	4.2	8.5	13.3	16.3	18.8	23.6	29.0	33.3	37.5
102.5°	0.0	1.2	4.2	8.5	13.3	15.7	18.8	23.6	27.8	32.7	36.9
105°	0.0	1.2	4.2	8.5	13.3	15.7	18.2	23.0	27.2	32.1	36.3
107.5°	0.0	1.2	4.2	8.5	13.3	15.7	18.2	23.0	27.2	31.5	35.7
110°	0.0	0.6	3.6	8.5	13.3	15.7	18.2	22.4	27.2	31.5	35.1



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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	3.6	7.9	12.7	15.7	18.2	22.4	27.2	30.9	34.5
115°	0.0	0.6	3.6	7.9	12.7	15.1	17.5	22.4	26.6	30.3	33.9
117.5°	0.0	0.6	3.6	7.9	12.7	15.1	17.5	22.4	26.6	30.3	33.9
120°	0.0	0.6	3.0	7.3	12.1	14.5	16.9	21.8	26.6	30.3	33.9
122.5°	0.0	0.6	3.0	7.3	11.5	13.9	16.3	21.2	26.0	30.3	33.9
125°	0.0	0.6	2.4	6.7	11.5	13.9	16.3	20.6	25.4	29.6	33.9
127.5°	0.6	0.6	2.4	6.1	10.9	13.3	15.7	20.0	24.2	28.4	32.7
130°	0.6	0.6	2.4	5.4	9.7	12.1	14.5	19.4	23.6	27.8	31.5
132.5°	0.6	0.6	1.8	4.8	9.1	11.5	13.3	18.2	21.8	26.0	30.3
135°	0.6	0.6	1.2	4.2	8.5	10.3	12.1	16.9	20.6	24.2	28.4
137.5°	0.6	0.6	1.2	3.6	7.3	9.1	10.9	15.1	19.4	22.4	26.6
140°	0.6	0.6	1.2	3.0	6.1	7.9	9.7	13.3	17.5	21.2	24.2
142.5°	0.6	0.6	0.6	2.4	5.4	6.7	8.5	11.5	15.1	18.8	22.4
145°	0.6	0.6	0.6	1.8	4.2	5.4	7.3	10.3	13.3	16.9	20.0
147.5°	0.6	0.6	0.6	1.8	3.6	4.8	6.1	8.5	11.5	14.5	17.5
150°	0.6	0.6	0.6	1.2	2.4	3.6	4.8	7.3	9.7	12.1	15.1
152.5°	0.6	0.6	0.6	0.6	1.8	3.0	3.6	5.4	7.9	10.3	12.1
155°	0.6	0.6	0.6	0.6	1.2	1.8	3.0	4.2	6.1	7.9	9.7
157.5°	0.6	0.6	0.6	0.6	1.2	1.2	1.8	3.0	4.2	6.1	7.3
160°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	2.4	3.0	4.2	5.4
162.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.8	3.0	3.6
165°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.8	1.8
167.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2
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°	874.3	874.3	874.3	874.3	874.3	874.3	874.3	874.3	874.3	874.3
2.5°	868.9	868.3	868.9	870.7	870.7	871.3	871.9	872.5	871.9	871.3
5°	838.0	835.0	834.4	836.8	835.6	836.2	838.0	839.9	839.3	839.3
7.5°	796.3	794.5	795.1	789.6	789.0	786.6	787.2	787.2	788.4	790.2
10°	749.7	751.5	756.4	760.6	761.8	760.0	757.0	753.3	751.5	752.1
12.5°	730.3	724.9	717.6	714.6	717.6	721.9	727.9	732.2	733.4	733.4
15°	698.3	700.7	705.5	708.6	702.5	700.1	698.9	697.1	697.7	697.7
17.5°	688.6	685.0	678.9	685.6	689.8	694.6	694.6	689.8	685.6	687.4
20°	664.4	668.0	677.1	668.6	661.4	657.7	657.7	658.3	662.6	660.8
22.5°	652.3	652.9	642.0	646.8	654.7	657.1	652.9	645.6	637.8	639.0
25°	630.5	626.9	636.5	629.3	624.4	621.4	623.2	626.3	628.7	627.5
27.5°	611.7	617.8	605.1	612.3	616.6	619.0	615.4	603.9	602.1	598.4
30°	597.2	588.1	599.0	596.6	588.1	584.5	579.7	583.9	583.9	586.3
32.5°	574.8	577.9	572.4	566.4	570.6	574.2	571.2	566.4	559.7	557.9
35°	559.7	555.5	551.2	557.9	552.4	546.4	541.5	543.4	545.8	545.2
37.5°	541.5	534.3	537.3	527.0	529.4	533.1	536.1	527.6	524.0	520.4
40°	515.5	521.6	510.7	519.8	516.7	510.1	500.4	498.6	501.6	501.0
42.5°	499.2	495.0	501.0	488.3	485.3	486.5	491.9	493.7	488.9	486.5
45°	480.4	481.0	472.6	472.6	475.6	475.0	465.3	458.7	459.3	458.7
47.5°	457.4	459.9	455.0	456.8	447.8	446.6	447.2	449.6	448.4	447.2
50°	444.7	438.7	445.3	435.7	439.3	441.7	436.3	426.6	424.2	423.0
52.5°	426.6	430.2	422.3	430.8	427.8	419.9	415.1	418.7	419.3	419.9
55°	400.0	406.6	409.0	401.2	398.8	401.2	403.0	396.9	394.5	393.3
57.5°	380.0	378.2	377.6	378.2	380.0	378.8	373.3	373.3	377.0	377.6
60°	350.9	355.8	349.1	352.2	347.9	347.9	354.0	353.4	352.2	350.9
62.5°	321.9	323.1	327.4	320.7	323.1	326.7	323.1	320.1	321.9	321.9
65°	295.3	295.3	294.1	298.3	298.3	293.5	291.7	295.9	298.3	298.9
67.5°	268.7	270.5	269.3	269.9	265.6	265.6	268.7	265.0	263.8	265.0
70°	237.8	240.2	245.1	239.0	242.0	242.6	236.6	234.8	236.6	237.8
72.5°	210.0	211.2	213.6	215.4	215.4	213.6	211.8	211.8	211.2	211.2
75°	180.9	185.2	185.2	188.2	187.0	185.8	187.6	185.2	182.1	182.1
77.5°	153.1	159.1	159.7	160.3	161.0	163.4	162.8	161.0	161.0	161.6
80°	125.3	130.1	133.7	134.9	136.1	138.6	139.2	142.8	144.0	144.6
82.5°	98.6	104.7	108.3	113.2	115.0	117.4	121.0	124.0	126.5	124.6
85°	76.2	81.1	86.5	93.2	95.0	98.0	100.4	101.0	102.3	104.1
87.5°	57.5	64.1	70.8	76.2	77.5	78.1	79.9	83.5	87.7	90.8
90°	48.4	54.5	59.9	62.3	62.9	64.1	67.8	72.6	78.1	82.9
92.5°	46.0	50.8	53.9	56.3	58.1	59.9	62.9	66.6	72.0	75.6
95°	44.2	48.4	51.4	54.5	56.9	58.7	61.7	66.6	72.6	76.2
97.5°	43.0	47.2	50.8	54.5	56.9	58.7	64.1	70.8	76.8	77.5
100°	42.4	46.0	49.6	53.9	56.3	58.7	64.1	67.2	66.6	66.6
102.5°	41.1	44.8	49.0	52.6	54.5	55.7	58.1	58.1	56.9	56.3
105°	40.5	43.6	47.2	49.6	49.6	50.8	51.4	50.8	50.2	49.6
107.5°	39.3	42.4	44.8	45.4	46.0	46.6	46.6	46.0	44.8	44.2
110°	38.1	40.5	42.4	43.0	43.0	43.6	43.0	42.4	41.1	40.5



TEST NUMBER: P241453

CATALOG NUMBER: FVS8M-3-LD4-30-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	37.5	39.3	41.1	41.8	41.8	42.4	42.4	41.8	41.1	40.5
115°	36.9	39.3	41.1	41.8	42.4	43.0	43.6	43.0	42.4	41.8
117.5°	36.9	39.3	41.8	43.0	43.6	44.2	44.8	45.4	44.2	43.6
120°	37.5	39.9	42.4	44.2	44.8	45.4	46.6	46.6	46.0	46.0
122.5°	37.5	40.5	43.0	44.8	46.0	46.6	47.2	47.8	47.2	47.2
125°	37.5	40.5	43.0	44.8	46.0	46.6	47.8	49.0	48.4	48.4
127.5°	36.9	39.9	42.4	44.8	45.4	46.0	47.8	49.0	49.0	49.6
130°	35.7	38.7	41.8	43.6	44.8	45.4	47.2	48.4	49.0	49.6
132.5°	33.9	37.5	39.9	42.4	43.0	44.2	46.0	47.2	48.4	49.0
135°	32.1	35.1	38.1	40.5	41.8	43.0	44.2	46.0	47.2	47.2
137.5°	29.6	33.3	36.3	38.7	39.3	40.5	42.4	44.2	44.8	45.4
140°	27.8	30.9	33.9	36.3	37.5	38.7	40.5	41.8	43.0	43.0
142.5°	25.4	29.0	31.5	33.9	35.1	36.3	38.1	39.3	40.5	40.5
145°	23.6	26.6	29.0	31.5	32.7	33.3	35.1	36.3	37.5	37.5
147.5°	21.2	23.6	26.6	28.4	29.6	30.3	32.1	33.3	33.9	34.5
150°	18.2	20.6	23.0	24.8	26.0	26.6	28.4	29.6	30.3	30.9
152.5°	14.5	16.9	19.4	21.2	21.8	23.0	24.2	24.8	26.0	26.0
155°	12.1	13.9	15.7	17.5	18.2	18.8	20.0	20.6	21.2	21.2
157.5°	9.1	10.3	12.1	13.9	14.5	14.5	15.7	16.3	16.9	16.9
160°	6.7	7.9	9.1	10.3	10.9	11.5	12.1	12.7	12.7	12.7
162.5°	4.2	5.4	6.1	7.3	7.3	7.9	8.5	9.1	9.1	9.1
165°	2.4	3.0	3.6	4.2	4.8	4.8	5.4	5.4	6.1	6.1
167.5°	1.2	1.8	1.8	2.4	2.4	2.4	3.0	3.0	3.6	3.0
170°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.2	1.2	1.2
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)