

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: P231964

Luminaire Tested: **FVS4M-4-LD4-30-1HI-PFS125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231964
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-14)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS4M-4-LD4-30-1HI-PFS125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PFS125 LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

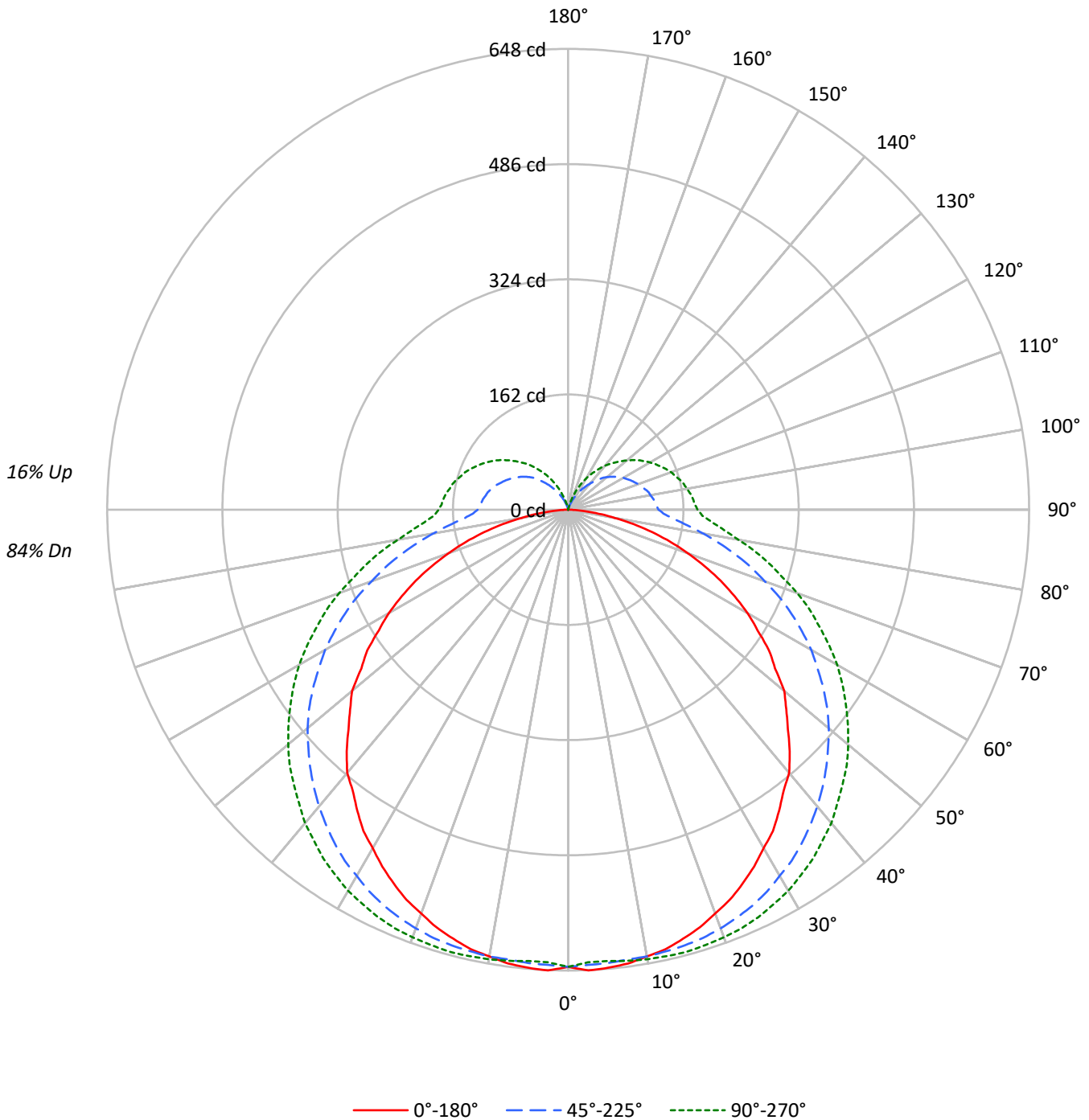
Lumens per Lamp: N/A
Luminaire Lumens: 2812.0 lumens
Efficiency: N/A
Efficacy: 63.2 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.43 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 44.5
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	115	115	115	115	111	111	111	111	102	102	102	95	95	95	88	88	88	84
1	103	98	93	88	99	94	89	85	86	83	79	80	77	74	74	71	69	66
2	93	84	76	70	89	80	74	68	74	69	64	69	64	60	63	60	56	53
3	84	73	64	57	80	70	62	55	65	58	52	60	54	50	55	51	47	44
4	77	64	55	48	73	62	53	46	57	50	44	53	47	42	49	44	40	37
5	70	57	47	40	67	55	46	39	51	43	38	47	41	36	44	38	34	31
6	65	51	42	35	62	49	40	34	46	38	33	42	36	31	39	34	30	27
7	60	46	37	31	57	44	36	30	41	34	29	38	32	27	36	30	26	24
8	55	42	33	27	53	40	32	26	38	30	25	35	29	24	33	27	23	21
9	52	38	30	24	49	37	29	24	34	28	23	32	26	22	30	25	21	19
10	48	35	27	22	46	34	26	21	32	25	20	30	24	20	28	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5839	5839	5839
5°	5871	5610	5519
10°	5833	5443	5354
15°	5796	5310	5215
20°	5739	5188	5077
25°	5684	5068	4951
30°	5603	4930	4820
35°	5538	4804	4682
40°	5500	4662	4539
45°	5347	4516	4381
50°	5290	4368	4234
55°	5096	4187	4063
60°	4878	3992	3892
65°	4600	3751	3663
70°	4186	3447	3435
75°	3621	3148	3169
80°	2713	2792	2881
85°	1472	2472	2693



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.2	2.2
10°-20°	179.5	6.4
20°-30°	281.8	10.0
30°-40°	354.6	12.6
40°-50°	389.0	13.8
50°-60°	380.9	13.5
60°-70°	329.0	11.7
70°-80°	241.3	8.6
80°-90°	150.4	5.3
90°-100°	117.7	4.2
100°-110°	104.2	3.7
110°-120°	85.3	3.0
120°-130°	63.8	2.3
130°-140°	41.7	1.5
140°-150°	22.3	0.8
150°-160°	8.2	0.3
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	522.6	18.6
0°-40°	877.2	31.2
0°-60°	1647.1	58.6
0°-90°	2367.8	84.2
90°-120°	307.2	10.9
90°-150°	434.9	15.5
90°-180°	444.0	15.8
0°-180°	2812.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	643	643	643	643	643	
5°	647	645	640	641	637	61
15°	624	626	634	644	644	176
25°	580	593	614	630	632	267
35°	517	542	572	595	600	324
45°	437	472	513	541	546	338
55°	344	388	438	469	476	307
65°	237	289	346	380	390	233
75°	122	180	243	282	292	129
85°	22	84	148	190	203	28
90°	1	61	127	168	182	1
95°	0	57	122	164	176	0
105°	0	50	112	151	163	0
115°	0	41	97	134	143	0
125°	0	33	81	112	121	0
135°	0	21	60	88	94	0
145°	0	11	37	61	65	0
155°	1	4	16	29	36	0
165°	1	0	2	5	7	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231964

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8
2.5°	648.5	647.6	646.6	645.6	645.6	646.6	646.6	646.6	645.6	642.8	640.8
5°	646.6	645.6	644.7	643.7	644.7	644.7	644.7	644.7	643.7	641.8	639.9
7.5°	643.7	642.8	641.8	640.8	640.8	641.8	641.8	641.8	641.8	639.9	637.9
10°	637.9	637.9	636.0	636.0	637.0	637.0	637.9	638.9	638.9	638.9	637.9
12.5°	633.1	631.2	630.2	631.2	631.2	632.2	633.1	636.0	636.0	637.0	636.0
15°	624.5	623.5	622.5	622.5	625.4	626.4	628.3	631.2	633.1	633.1	634.1
17.5°	615.8	614.9	614.9	614.9	617.7	619.7	622.5	625.4	627.4	629.3	631.2
20°	604.3	604.3	605.2	606.2	610.0	612.0	614.9	619.7	621.6	624.5	626.4
22.5°	593.7	592.7	592.7	595.6	600.4	603.3	606.2	611.0	613.9	617.7	620.6
25°	580.2	580.2	580.2	585.0	590.8	592.7	597.5	602.3	606.2	610.0	613.9
27.5°	565.8	565.8	565.8	572.5	578.3	582.1	586.0	591.8	596.6	600.4	605.2
30°	549.4	550.4	553.3	559.0	565.8	569.6	573.5	580.2	586.0	589.8	594.6
32.5°	535.9	533.1	536.9	542.7	551.3	556.2	560.0	566.7	573.5	579.2	585.0
35°	516.7	516.7	520.6	528.3	536.9	541.7	545.6	553.3	560.0	565.8	572.5
37.5°	497.5	496.5	502.3	510.9	520.6	525.4	530.2	537.9	543.6	550.4	559.0
40°	483.0	478.2	484.0	493.6	503.2	509.0	513.8	521.5	529.2	536.9	544.6
42.5°	460.9	457.0	463.8	473.4	485.0	490.7	495.5	505.2	512.9	521.5	529.2
45°	436.8	436.8	445.5	455.1	464.7	471.5	476.3	486.9	495.5	505.2	512.9
47.5°	415.7	414.7	422.4	434.9	445.5	452.2	458.0	467.6	477.3	487.8	495.5
50°	396.4	392.6	401.2	412.8	426.3	431.1	437.8	447.4	459.0	467.6	478.2
52.5°	366.6	370.5	377.2	390.7	403.2	409.9	416.6	427.2	438.8	448.4	459.0
55°	344.5	345.4	355.1	368.5	380.1	387.8	395.5	408.0	417.6	428.2	437.8
57.5°	315.6	319.5	331.0	343.5	357.0	365.6	371.4	383.0	394.5	406.1	415.7
60°	291.5	295.4	306.0	317.5	332.0	339.7	346.4	358.9	370.5	383.0	394.5
62.5°	263.6	268.5	280.0	293.5	306.9	313.7	320.4	336.8	348.3	359.9	370.5
65°	236.7	241.5	252.1	264.6	281.0	288.7	295.4	308.9	323.3	334.8	346.4
67.5°	207.8	212.6	225.2	238.6	254.0	262.7	269.4	284.8	295.4	308.9	321.4
70°	179.0	183.8	195.3	209.8	226.1	234.8	243.4	256.9	270.4	282.9	293.5
72.5°	151.1	156.8	168.4	182.8	199.2	206.9	214.6	230.0	243.4	257.9	269.4
75°	122.2	128.0	140.5	155.9	172.2	179.9	187.6	204.0	217.5	230.9	243.4
77.5°	94.3	99.1	113.5	129.9	144.3	151.1	160.7	177.0	191.5	205.0	217.5
80°	66.4	72.2	86.6	102.0	118.4	127.0	134.7	152.0	165.5	179.9	192.4
82.5°	43.3	48.1	62.5	77.9	95.3	103.0	111.6	128.0	141.4	157.8	169.3
85°	22.1	27.9	41.4	57.7	74.1	83.7	90.4	107.8	121.2	136.6	148.2
87.5°	6.7	13.5	26.0	42.3	58.7	68.3	77.0	92.4	107.8	121.2	134.7
90°	1.0	6.7	19.2	35.6	52.9	60.6	69.3	85.6	100.1	114.5	127.0
92.5°	0.0	5.8	18.3	33.7	50.0	58.7	67.4	82.7	98.1	111.6	124.1
95°	0.0	4.8	17.3	32.7	49.1	56.8	65.4	80.8	96.2	109.7	122.2
97.5°	0.0	4.8	16.4	30.8	47.1	55.8	63.5	79.9	94.3	107.8	120.3
100°	0.0	3.8	15.4	29.8	45.2	53.9	61.6	77.0	91.4	104.9	117.4
102.5°	0.0	3.8	14.4	28.9	44.3	52.0	59.7	75.1	89.5	103.0	115.5
105°	0.0	2.9	13.5	26.9	42.3	50.0	57.7	72.2	86.6	100.1	111.6
107.5°	0.0	2.9	12.5	26.0	40.4	48.1	54.8	70.2	83.7	96.2	108.7
110°	0.0	2.9	11.5	24.1	38.5	45.2	52.9	67.4	80.8	93.3	104.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.9	10.6	23.1	36.6	43.3	51.0	64.5	77.9	90.4	101.0
115°	0.0	1.9	9.6	21.2	34.6	41.4	48.1	61.6	74.1	86.6	97.2
117.5°	0.0	1.0	8.7	20.2	32.7	39.5	46.2	58.7	71.2	82.7	93.3
120°	0.0	1.0	7.7	18.3	30.8	37.5	43.3	55.8	67.4	78.9	89.5
122.5°	0.0	1.0	6.7	17.3	28.9	34.6	40.4	52.9	64.5	75.1	84.7
125°	0.0	1.0	5.8	15.4	26.9	32.7	38.5	50.0	60.6	71.2	80.8
127.5°	0.0	0.0	4.8	13.5	24.1	28.9	34.6	46.2	56.8	66.4	76.0
130°	0.0	0.0	3.8	12.5	21.2	26.0	31.8	42.3	52.0	62.5	71.2
132.5°	0.0	0.0	2.9	10.6	19.2	24.1	27.9	37.5	47.1	56.8	66.4
135°	0.0	0.0	2.9	8.7	16.4	21.2	25.0	33.7	42.3	52.0	59.7
137.5°	0.0	0.0	1.9	6.7	14.4	18.3	22.1	29.8	37.5	46.2	53.9
140°	0.0	0.0	1.0	5.8	12.5	15.4	19.2	26.9	33.7	40.4	48.1
142.5°	0.0	0.0	1.0	4.8	9.6	13.5	16.4	23.1	29.8	35.6	42.3
145°	0.0	0.0	1.0	2.9	7.7	10.6	13.5	19.2	25.0	30.8	36.6
147.5°	1.0	1.0	1.0	2.9	6.7	8.7	11.5	16.4	21.2	26.9	31.8
150°	1.0	1.0	1.0	1.9	4.8	6.7	9.6	13.5	17.3	22.1	26.9
152.5°	1.0	1.0	0.0	1.0	3.8	4.8	6.7	10.6	14.4	17.3	21.2
155°	1.0	1.0	1.0	1.0	1.9	3.8	4.8	7.7	11.5	14.4	16.4
157.5°	1.0	1.0	0.0	0.0	1.0	1.9	2.9	5.8	8.7	10.6	12.5
160°	1.0	1.0	0.0	0.0	1.0	1.0	1.9	3.8	5.8	6.7	8.7
162.5°	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.9	2.9	3.8	5.8
165°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.9	1.9
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	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°	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8
2.5°	640.8	641.8	641.8	640.8	640.8	640.8	639.9	638.9	637.9	637.0
5°	639.9	640.8	640.8	640.8	640.8	640.8	638.9	638.9	637.9	637.0
7.5°	638.9	640.8	641.8	641.8	641.8	641.8	641.8	640.8	639.9	639.9
10°	638.9	641.8	642.8	643.7	643.7	643.7	643.7	642.8	642.8	641.8
12.5°	638.9	641.8	642.8	643.7	643.7	644.7	644.7	643.7	643.7	642.8
15°	637.0	639.9	641.8	643.7	643.7	644.7	644.7	643.7	643.7	643.7
17.5°	634.1	637.9	639.9	641.8	641.8	642.8	643.7	642.8	642.8	641.8
20°	630.2	634.1	637.0	638.9	639.9	639.9	640.8	640.8	640.8	639.9
22.5°	625.4	629.3	632.2	634.1	635.1	636.0	637.9	637.9	637.0	637.0
25°	617.7	622.5	626.4	629.3	630.2	631.2	632.2	633.1	632.2	632.2
27.5°	611.0	614.9	619.7	622.5	623.5	624.5	625.4	627.4	626.4	625.4
30°	602.3	606.2	611.0	613.9	614.9	616.8	618.7	619.7	618.7	618.7
32.5°	591.8	596.6	600.4	604.3	606.2	607.2	609.1	610.0	610.0	609.1
35°	579.2	585.0	589.8	593.7	594.6	595.6	598.5	599.5	599.5	599.5
37.5°	566.7	571.6	577.3	581.2	583.1	584.1	586.0	587.9	586.9	586.9
40°	551.3	558.1	563.9	567.7	569.6	570.6	573.5	575.4	575.4	575.4
42.5°	536.9	542.7	548.5	553.3	555.2	558.1	560.0	560.0	561.0	560.0
45°	520.6	527.3	534.0	538.8	540.8	542.7	545.6	545.6	546.5	545.6
47.5°	504.2	512.9	517.7	522.5	523.4	526.3	529.2	530.2	530.2	531.1
50°	485.9	494.6	499.4	505.2	507.1	509.0	511.9	512.9	513.8	513.8
52.5°	466.7	473.4	482.1	486.9	488.8	490.7	492.7	494.6	496.5	495.5
55°	447.4	454.2	460.9	466.7	468.6	470.5	474.4	476.3	476.3	476.3
57.5°	425.3	433.0	440.7	446.5	448.4	450.3	454.2	455.1	456.1	457.0
60°	403.2	411.8	417.6	425.3	426.3	429.1	433.0	434.9	436.8	436.8
62.5°	380.1	387.8	396.4	402.2	404.1	407.0	410.9	412.8	413.7	413.7
65°	356.0	364.7	372.4	379.1	380.1	383.9	388.7	389.7	391.6	389.7
67.5°	332.0	340.6	348.3	354.1	357.9	360.8	363.7	364.7	367.6	367.6
70°	306.0	314.6	323.3	330.0	332.9	334.8	338.7	341.6	341.6	342.5
72.5°	280.0	288.7	297.3	303.1	306.0	308.9	313.7	315.6	316.6	315.6
75°	254.0	263.6	272.3	278.1	281.9	284.8	287.7	291.5	292.5	292.5
77.5°	228.0	239.6	246.3	254.0	256.9	259.8	262.7	265.6	267.5	268.5
80°	203.0	213.6	221.3	228.0	231.9	235.7	239.6	241.5	242.5	242.5
82.5°	180.9	190.5	199.2	205.9	209.8	211.7	216.5	218.4	221.3	221.3
85°	160.7	169.3	179.0	187.6	189.6	192.4	197.3	201.1	202.1	203.0
87.5°	146.3	156.8	165.5	173.2	176.1	179.0	183.8	186.7	187.6	188.6
90°	139.5	149.1	157.8	165.5	168.4	171.3	176.1	179.0	180.9	181.9
92.5°	135.7	146.3	154.9	162.6	165.5	168.4	172.2	176.1	177.0	178.0
95°	133.7	144.3	153.0	160.7	163.6	166.5	170.3	173.2	175.1	176.1
97.5°	131.8	141.4	151.1	157.8	160.7	163.6	168.4	171.3	172.2	173.2
100°	128.9	139.5	147.2	154.9	157.8	160.7	164.5	167.4	169.3	169.3
102.5°	126.0	135.7	144.3	152.0	154.9	156.8	161.7	164.5	165.5	166.5
105°	123.2	132.8	141.4	148.2	151.1	154.0	157.8	160.7	161.7	162.6
107.5°	119.3	128.9	137.6	144.3	147.2	149.1	154.0	155.9	157.8	157.8
110°	115.5	125.1	132.8	140.5	142.4	145.3	149.1	152.0	153.0	154.0



TEST NUMBER: P231964

CATALOG NUMBER: FVS4M-4-LD4-30-1HI-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	111.6	120.3	128.9	134.7	138.6	140.5	144.3	147.2	148.2	149.1
115°	107.8	116.4	124.1	130.9	133.7	135.7	139.5	142.4	143.4	143.4
117.5°	103.0	111.6	119.3	126.0	128.0	130.9	133.7	136.6	137.6	138.6
120°	98.1	106.8	114.5	120.3	123.2	125.1	128.9	130.9	131.8	132.8
122.5°	94.3	102.0	108.7	115.5	117.4	120.3	123.2	125.1	126.0	127.0
125°	89.5	97.2	103.9	109.7	111.6	114.5	117.4	120.3	120.3	121.2
127.5°	84.7	91.4	98.1	103.9	105.8	107.8	111.6	113.5	114.5	114.5
130°	78.9	86.6	92.4	98.1	100.1	102.0	104.9	106.8	107.8	107.8
132.5°	74.1	80.8	86.6	91.4	93.3	95.3	98.1	100.1	101.0	101.0
135°	68.3	75.1	80.8	85.6	87.6	89.5	91.4	93.3	94.3	94.3
137.5°	61.6	69.3	74.1	78.9	80.8	82.7	84.7	86.6	87.6	87.6
140°	54.8	62.5	68.3	73.1	74.1	76.0	77.9	78.9	79.9	80.8
142.5°	49.1	54.8	61.6	65.4	67.4	68.3	71.2	72.2	72.2	73.1
145°	42.3	47.1	53.9	58.7	60.6	61.6	63.5	65.4	65.4	65.4
147.5°	35.6	41.4	45.2	51.0	52.9	54.8	56.8	57.7	57.7	58.7
150°	30.8	34.6	38.5	43.3	45.2	47.1	49.1	50.0	51.0	51.0
152.5°	25.0	28.9	31.8	35.6	36.6	38.5	41.4	42.3	42.3	43.3
155°	20.2	22.1	25.0	27.9	28.9	30.8	33.7	35.6	35.6	35.6
157.5°	14.4	17.3	19.2	21.2	22.1	23.1	26.0	27.9	27.9	27.9
160°	10.6	11.5	13.5	14.4	15.4	16.4	18.3	20.2	21.2	20.2
162.5°	6.7	7.7	8.7	9.6	9.6	10.6	10.6	12.5	13.5	13.5
165°	2.9	3.8	3.8	3.8	4.8	4.8	4.8	4.8	6.7	6.7
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	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
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)