

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: P231961

Luminaire Tested: **FVS4M-4-LD4-35-1STD-PFS125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231961
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-LD4-35-1STD-PFS125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PFS125 LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

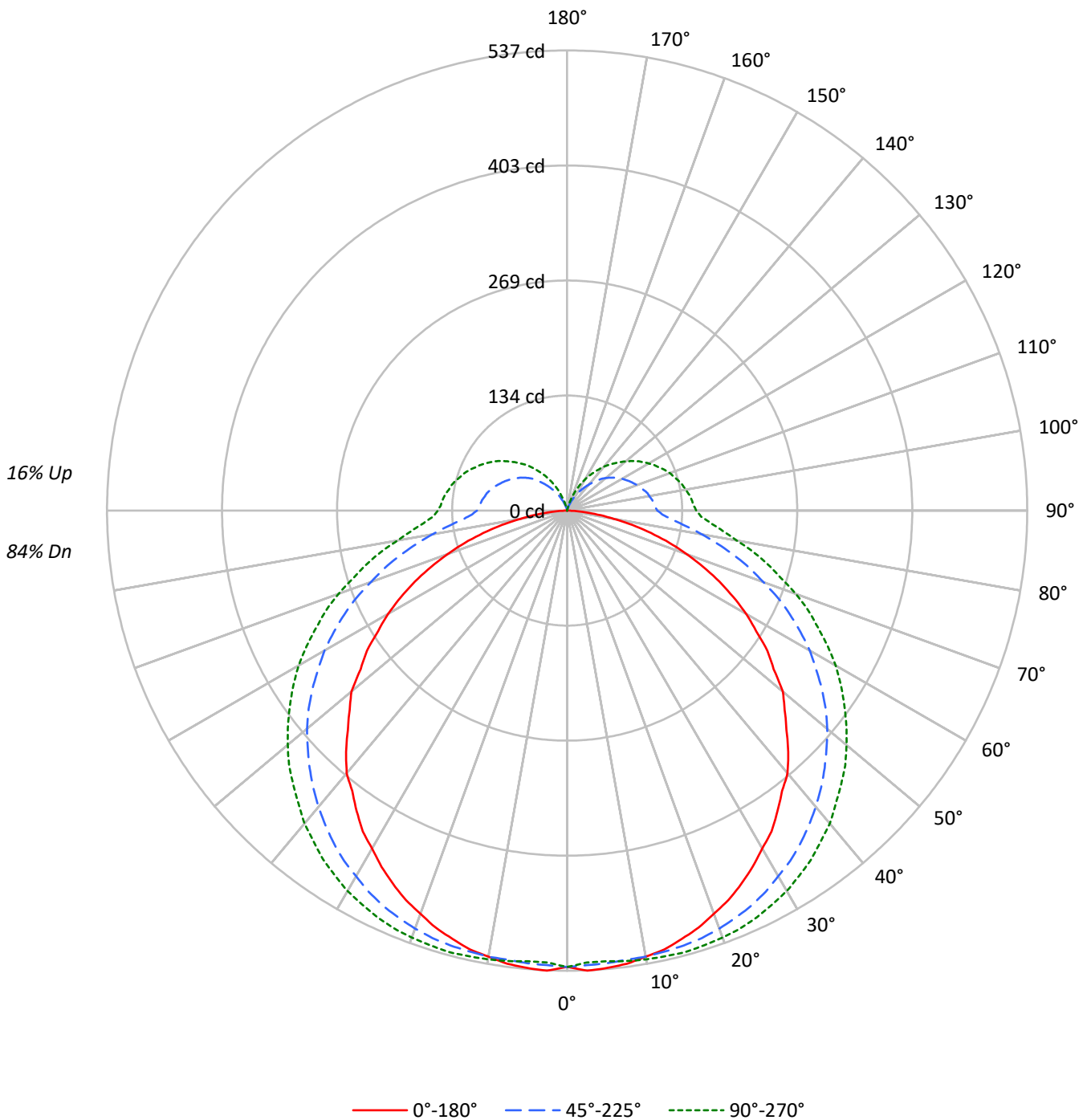
Lumens per Lamp: N/A
Luminaire Lumens: 2330.0 lumens
Efficiency: N/A
Efficacy: 69.3 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.43 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 33.6
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										
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	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°	4838	4838	4838
5°	4865	4648	4573
10°	4834	4511	4436
15°	4802	4400	4322
20°	4755	4299	4207
25°	4711	4200	4102
30°	4642	4085	3994
35°	4589	3981	3879
40°	4557	3863	3761
45°	4432	3741	3630
50°	4384	3619	3508
55°	4222	3470	3367
60°	4043	3308	3225
65°	3811	3108	3035
70°	3468	2856	2846
75°	3002	2609	2627
80°	2247	2315	2387
85°	1219	2048	2231



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.7	2.2
10°-20°	148.7	6.4
20°-30°	233.5	10.0
30°-40°	293.8	12.6
40°-50°	322.3	13.8
50°-60°	315.6	13.5
60°-70°	272.6	11.7
70°-80°	200.0	8.6
80°-90°	124.6	5.3
90°-100°	97.6	4.2
100°-110°	86.3	3.7
110°-120°	70.6	3.0
120°-130°	52.9	2.3
130°-140°	34.6	1.5
140°-150°	18.4	0.8
150°-160°	6.8	0.3
160°-170°	0.9	0.0
170°-180°	0.0	0.0
0°-30°	433.0	18.6
0°-40°	726.8	31.2
0°-60°	1364.8	58.6
0°-90°	1961.9	84.2
90°-120°	254.5	10.9
90°-150°	360.4	15.5
90°-180°	368.0	15.8
0°-180°	2330.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	533	533	533	533	533	
5°	536	534	530	531	528	51
15°	517	519	525	533	533	146
25°	481	491	509	522	524	221
35°	428	449	474	493	497	268
45°	362	391	425	448	452	280
55°	285	321	363	388	395	254
65°	196	239	287	315	323	193
75°	101	149	202	234	242	107
85°	18	69	123	157	168	23
90°	1	50	105	140	151	1
95°	0	47	101	136	146	0
105°	0	42	92	125	135	0
115°	0	34	80	111	119	0
125°	0	27	67	92	100	0
135°	0	18	49	73	78	0
145°	0	9	30	50	54	0
155°	1	3	14	24	30	0
165°	1	0	2	4	6	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231961

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	532.6	532.6	532.6	532.6	532.6	532.6	532.6	532.6	532.6	532.6	532.6
2.5°	537.4	536.6	535.8	535.0	535.0	535.8	535.8	535.8	535.0	532.6	531.0
5°	535.8	535.0	534.2	533.4	534.2	534.2	534.2	534.2	533.4	531.8	530.2
7.5°	533.4	532.6	531.8	531.0	531.0	531.8	531.8	531.8	531.8	530.2	528.6
10°	528.6	528.6	527.0	527.0	527.8	527.8	528.6	529.4	529.4	529.4	528.6
12.5°	524.6	523.0	522.2	523.0	523.0	523.8	524.6	527.0	527.0	527.8	527.0
15°	517.4	516.6	515.8	515.8	518.2	519.0	520.6	523.0	524.6	524.6	525.4
17.5°	510.3	509.5	509.5	509.5	511.9	513.4	515.8	518.2	519.8	521.4	523.0
20°	500.7	500.7	501.5	502.3	505.5	507.1	509.5	513.4	515.0	517.4	519.0
22.5°	491.9	491.1	491.1	493.5	497.5	499.9	502.3	506.3	508.7	511.9	514.2
25°	480.8	480.8	480.8	484.7	489.5	491.1	495.1	499.1	502.3	505.5	508.7
27.5°	468.8	468.8	468.8	474.4	479.2	482.4	485.5	490.3	494.3	497.5	501.5
30°	455.2	456.0	458.4	463.2	468.8	472.0	475.2	480.8	485.5	488.7	492.7
32.5°	444.1	441.7	444.9	449.7	456.8	460.8	464.0	469.6	475.2	480.0	484.7
35°	428.1	428.1	431.3	437.7	444.9	448.9	452.1	458.4	464.0	468.8	474.4
37.5°	412.2	411.4	416.2	423.4	431.3	435.3	439.3	445.7	450.5	456.0	463.2
40°	400.2	396.2	401.0	409.0	417.0	421.8	425.7	432.1	438.5	444.9	451.3
42.5°	381.9	378.7	384.3	392.3	401.8	406.6	410.6	418.6	424.9	432.1	438.5
45°	362.0	362.0	369.1	377.1	385.1	390.7	394.7	403.4	410.6	418.6	424.9
47.5°	344.4	343.6	350.0	360.4	369.1	374.7	379.5	387.5	395.4	404.2	410.6
50°	328.5	325.3	332.5	342.0	353.2	357.2	362.8	370.7	380.3	387.5	396.2
52.5°	303.8	307.0	312.5	323.7	334.1	339.6	345.2	354.0	363.6	371.5	380.3
55°	285.4	286.2	294.2	305.4	314.9	321.3	327.7	338.0	346.0	354.8	362.8
57.5°	261.5	264.7	274.3	284.6	295.8	303.0	307.7	317.3	326.9	336.5	344.4
60°	241.6	244.8	253.5	263.1	275.1	281.4	287.0	297.4	307.0	317.3	326.9
62.5°	218.5	222.4	232.0	243.2	254.3	259.9	265.5	279.0	288.6	298.2	307.0
65°	196.1	200.1	208.9	219.3	232.8	239.2	244.8	255.9	267.9	277.5	287.0
67.5°	172.2	176.2	186.6	197.7	210.5	217.7	223.2	236.0	244.8	255.9	266.3
70°	148.3	152.3	161.8	173.8	187.4	194.5	201.7	212.9	224.0	234.4	243.2
72.5°	125.2	130.0	139.5	151.5	165.0	171.4	177.8	190.5	201.7	213.7	223.2
75°	101.3	106.0	116.4	129.2	142.7	149.1	155.5	169.0	180.2	191.3	201.7
77.5°	78.1	82.1	94.1	107.6	119.6	125.2	133.1	146.7	158.7	169.8	180.2
80°	55.0	59.8	71.8	84.5	98.1	105.2	111.6	126.0	137.1	149.1	159.5
82.5°	35.9	39.9	51.8	64.6	78.9	85.3	92.5	106.0	117.2	130.8	140.3
85°	18.3	23.1	34.3	47.8	61.4	69.4	74.9	89.3	100.5	113.2	122.8
87.5°	5.6	11.2	21.5	35.1	48.6	56.6	63.8	76.5	89.3	100.5	111.6
90°	0.8	5.6	15.9	29.5	43.9	50.2	57.4	71.0	82.9	94.9	105.2
92.5°	0.0	4.8	15.1	27.9	41.5	48.6	55.8	68.6	81.3	92.5	102.8
95°	0.0	4.0	14.4	27.1	40.7	47.0	54.2	67.0	79.7	90.9	101.3
97.5°	0.0	4.0	13.6	25.5	39.1	46.2	52.6	66.2	78.1	89.3	99.7
100°	0.0	3.2	12.8	24.7	37.5	44.6	51.0	63.8	75.7	86.9	97.3
102.5°	0.0	3.2	12.0	23.9	36.7	43.1	49.4	62.2	74.1	85.3	95.7
105°	0.0	2.4	11.2	22.3	35.1	41.5	47.8	59.8	71.8	82.9	92.5
107.5°	0.0	2.4	10.4	21.5	33.5	39.9	45.4	58.2	69.4	79.7	90.1
110°	0.0	2.4	9.6	19.9	31.9	37.5	43.9	55.8	67.0	77.3	86.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.6	8.8	19.1	30.3	35.9	42.3	53.4	64.6	74.9	83.7
115°	0.0	1.6	8.0	17.5	28.7	34.3	39.9	51.0	61.4	71.8	80.5
117.5°	0.0	0.8	7.2	16.7	27.1	32.7	38.3	48.6	59.0	68.6	77.3
120°	0.0	0.8	6.4	15.1	25.5	31.1	35.9	46.2	55.8	65.4	74.1
122.5°	0.0	0.8	5.6	14.4	23.9	28.7	33.5	43.9	53.4	62.2	70.2
125°	0.0	0.8	4.8	12.8	22.3	27.1	31.9	41.5	50.2	59.0	67.0
127.5°	0.0	0.0	4.0	11.2	19.9	23.9	28.7	38.3	47.0	55.0	63.0
130°	0.0	0.0	3.2	10.4	17.5	21.5	26.3	35.1	43.1	51.8	59.0
132.5°	0.0	0.0	2.4	8.8	15.9	19.9	23.1	31.1	39.1	47.0	55.0
135°	0.0	0.0	2.4	7.2	13.6	17.5	20.7	27.9	35.1	43.1	49.4
137.5°	0.0	0.0	1.6	5.6	12.0	15.1	18.3	24.7	31.1	38.3	44.6
140°	0.0	0.0	0.8	4.8	10.4	12.8	15.9	22.3	27.9	33.5	39.9
142.5°	0.0	0.0	0.8	4.0	8.0	11.2	13.6	19.1	24.7	29.5	35.1
145°	0.0	0.0	0.8	2.4	6.4	8.8	11.2	15.9	20.7	25.5	30.3
147.5°	0.8	0.8	0.8	2.4	5.6	7.2	9.6	13.6	17.5	22.3	26.3
150°	0.8	0.8	0.8	1.6	4.0	5.6	8.0	11.2	14.4	18.3	22.3
152.5°	0.8	0.8	0.0	0.8	3.2	4.0	5.6	8.8	12.0	14.4	17.5
155°	0.8	0.8	0.8	0.8	1.6	3.2	4.0	6.4	9.6	12.0	13.6
157.5°	0.8	0.8	0.0	0.0	0.8	1.6	2.4	4.8	7.2	8.8	10.4
160°	0.8	0.8	0.0	0.0	0.8	0.8	1.6	3.2	4.8	5.6	7.2
162.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.8	1.6	2.4	3.2	4.8
165°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.8	1.6	1.6
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°	532.6	532.6	532.6	532.6	532.6	532.6	532.6	532.6	532.6	532.6
2.5°	531.0	531.8	531.8	531.0	531.0	531.0	530.2	529.4	528.6	527.8
5°	530.2	531.0	531.0	531.0	531.0	531.0	529.4	529.4	528.6	527.8
7.5°	529.4	531.0	531.8	531.8	531.8	531.8	531.8	531.0	530.2	530.2
10°	529.4	531.8	532.6	533.4	533.4	533.4	533.4	532.6	532.6	531.8
12.5°	529.4	531.8	532.6	533.4	533.4	534.2	534.2	533.4	533.4	532.6
15°	527.8	530.2	531.8	533.4	533.4	534.2	534.2	533.4	533.4	533.4
17.5°	525.4	528.6	530.2	531.8	531.8	532.6	533.4	532.6	532.6	531.8
20°	522.2	525.4	527.8	529.4	530.2	530.2	531.0	531.0	531.0	530.2
22.5°	518.2	521.4	523.8	525.4	526.2	527.0	528.6	528.6	527.8	527.8
25°	511.9	515.8	519.0	521.4	522.2	523.0	523.8	524.6	523.8	523.8
27.5°	506.3	509.5	513.4	515.8	516.6	517.4	518.2	519.8	519.0	518.2
30°	499.1	502.3	506.3	508.7	509.5	511.1	512.6	513.4	512.6	512.6
32.5°	490.3	494.3	497.5	500.7	502.3	503.1	504.7	505.5	505.5	504.7
35°	480.0	484.7	488.7	491.9	492.7	493.5	495.9	496.7	496.7	496.7
37.5°	469.6	473.6	478.4	481.6	483.2	483.9	485.5	487.1	486.3	486.3
40°	456.8	462.4	467.2	470.4	472.0	472.8	475.2	476.8	476.8	476.8
42.5°	444.9	449.7	454.4	458.4	460.0	462.4	464.0	464.0	464.8	464.0
45°	431.3	436.9	442.5	446.5	448.1	449.7	452.1	452.1	452.9	452.1
47.5°	417.8	424.9	428.9	432.9	433.7	436.1	438.5	439.3	439.3	440.1
50°	402.6	409.8	413.8	418.6	420.2	421.8	424.2	424.9	425.7	425.7
52.5°	386.7	392.3	399.4	403.4	405.0	406.6	408.2	409.8	411.4	410.6
55°	370.7	376.3	381.9	386.7	388.3	389.9	393.1	394.7	394.7	394.7
57.5°	352.4	358.8	365.2	369.9	371.5	373.1	376.3	377.1	377.9	378.7
60°	334.1	341.2	346.0	352.4	353.2	355.6	358.8	360.4	362.0	362.0
62.5°	314.9	321.3	328.5	333.3	334.9	337.2	340.4	342.0	342.8	342.8
65°	295.0	302.2	308.5	314.1	314.9	318.1	322.1	322.9	324.5	322.9
67.5°	275.1	282.2	288.6	293.4	296.6	299.0	301.4	302.2	304.6	304.6
70°	253.5	260.7	267.9	273.5	275.9	277.5	280.6	283.0	283.0	283.8
72.5°	232.0	239.2	246.4	251.1	253.5	255.9	259.9	261.5	262.3	261.5
75°	210.5	218.5	225.6	230.4	233.6	236.0	238.4	241.6	242.4	242.4
77.5°	189.0	198.5	204.1	210.5	212.9	215.3	217.7	220.0	221.6	222.4
80°	168.2	177.0	183.4	189.0	192.1	195.3	198.5	200.1	200.9	200.9
82.5°	149.9	157.9	165.0	170.6	173.8	175.4	179.4	181.0	183.4	183.4
85°	133.1	140.3	148.3	155.5	157.1	159.5	163.4	166.6	167.4	168.2
87.5°	121.2	130.0	137.1	143.5	145.9	148.3	152.3	154.7	155.5	156.3
90°	115.6	123.6	130.8	137.1	139.5	141.9	145.9	148.3	149.9	150.7
92.5°	112.4	121.2	128.4	134.7	137.1	139.5	142.7	145.9	146.7	147.5
95°	110.8	119.6	126.8	133.1	135.5	137.9	141.1	143.5	145.1	145.9
97.5°	109.2	117.2	125.2	130.8	133.1	135.5	139.5	141.9	142.7	143.5
100°	106.8	115.6	122.0	128.4	130.8	133.1	136.3	138.7	140.3	140.3
102.5°	104.4	112.4	119.6	126.0	128.4	130.0	133.9	136.3	137.1	137.9
105°	102.1	110.0	117.2	122.8	125.2	127.6	130.8	133.1	133.9	134.7
107.5°	98.9	106.8	114.0	119.6	122.0	123.6	127.6	129.2	130.8	130.8
110°	95.7	103.6	110.0	116.4	118.0	120.4	123.6	126.0	126.8	127.6



TEST NUMBER: P231961

CATALOG NUMBER: FVS4M-4-LD4-35-1STD-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	92.5	99.7	106.8	111.6	114.8	116.4	119.6	122.0	122.8	123.6
115°	89.3	96.5	102.8	108.4	110.8	112.4	115.6	118.0	118.8	118.8
117.5°	85.3	92.5	98.9	104.4	106.0	108.4	110.8	113.2	114.0	114.8
120°	81.3	88.5	94.9	99.7	102.1	103.6	106.8	108.4	109.2	110.0
122.5°	78.1	84.5	90.1	95.7	97.3	99.7	102.1	103.6	104.4	105.2
125°	74.1	80.5	86.1	90.9	92.5	94.9	97.3	99.7	99.7	100.5
127.5°	70.2	75.7	81.3	86.1	87.7	89.3	92.5	94.1	94.9	94.9
130°	65.4	71.8	76.5	81.3	82.9	84.5	86.9	88.5	89.3	89.3
132.5°	61.4	67.0	71.8	75.7	77.3	78.9	81.3	82.9	83.7	83.7
135°	56.6	62.2	67.0	71.0	72.6	74.1	75.7	77.3	78.1	78.1
137.5°	51.0	57.4	61.4	65.4	67.0	68.6	70.2	71.8	72.6	72.6
140°	45.4	51.8	56.6	60.6	61.4	63.0	64.6	65.4	66.2	67.0
142.5°	40.7	45.4	51.0	54.2	55.8	56.6	59.0	59.8	59.8	60.6
145°	35.1	39.1	44.6	48.6	50.2	51.0	52.6	54.2	54.2	54.2
147.5°	29.5	34.3	37.5	42.3	43.9	45.4	47.0	47.8	47.8	48.6
150°	25.5	28.7	31.9	35.9	37.5	39.1	40.7	41.5	42.3	42.3
152.5°	20.7	23.9	26.3	29.5	30.3	31.9	34.3	35.1	35.1	35.9
155°	16.7	18.3	20.7	23.1	23.9	25.5	27.9	29.5	29.5	29.5
157.5°	12.0	14.4	15.9	17.5	18.3	19.1	21.5	23.1	23.1	23.1
160°	8.8	9.6	11.2	12.0	12.8	13.6	15.1	16.7	17.5	16.7
162.5°	5.6	6.4	7.2	8.0	8.0	8.8	8.8	10.4	11.2	11.2
165°	2.4	3.2	3.2	3.2	4.0	4.0	4.0	4.0	5.6	5.6
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)