

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: P231890

Luminaire Tested: **FVS4M-2-LD4-40-1STD-PFS125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231890
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-4)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS4M-2-LD4-40-1STD-PFS125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
2FT LENGTH, 1-MODULE LED WITH PFS125 LENS
Light Source: (42) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

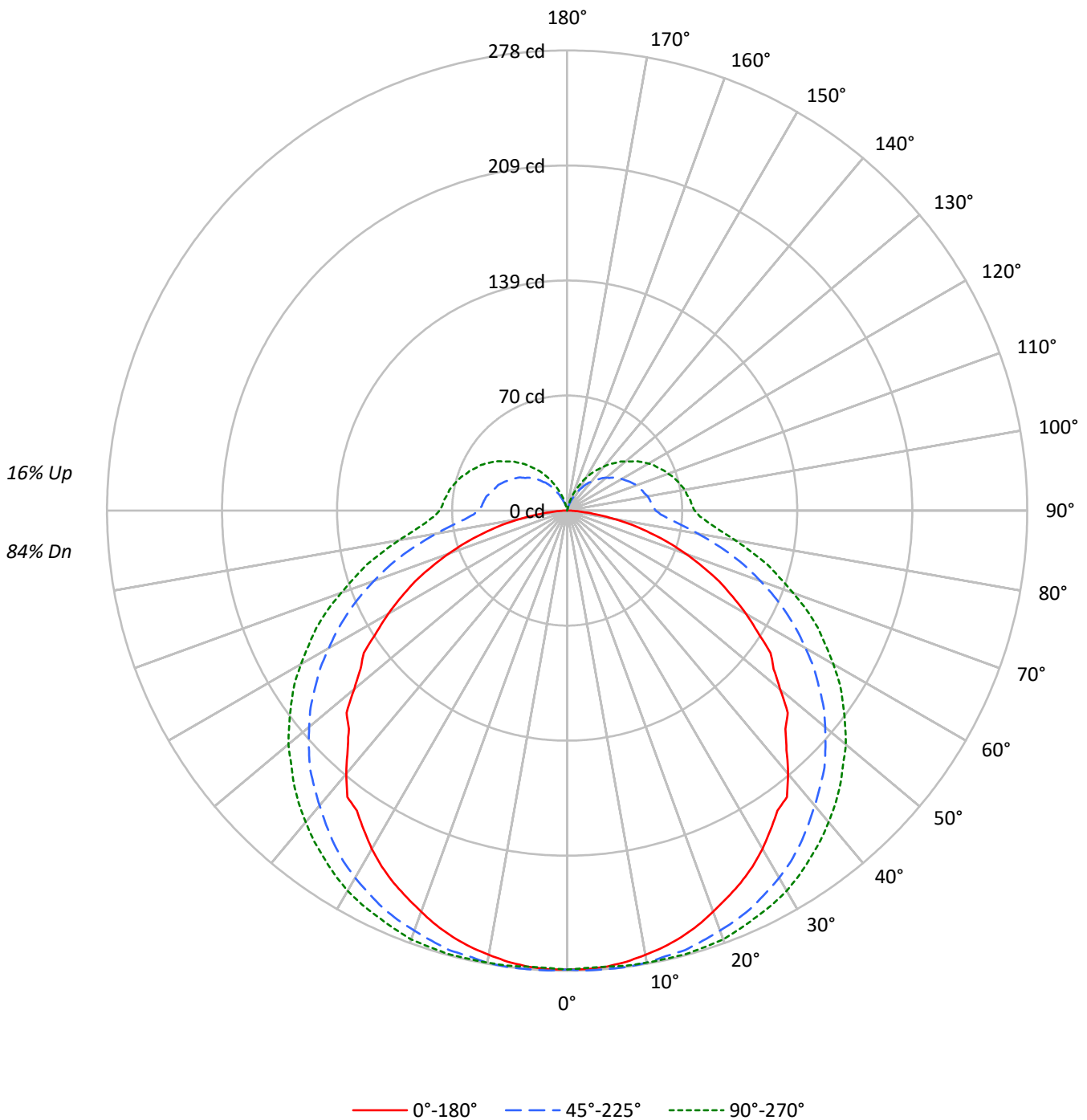
Lumens per Lamp: N/A
Luminaire Lumens: 1201.0 lumens
Efficiency: N/A
Efficacy: 70.7 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.42 / 1.5
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 16.99
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	50	30	10	50	30	10	0																
RCR																																														
0	115	115	115	115	111	111	111	111	102	102	102	95	95	95	87	87	87	84																												
1	103	98	93	88	99	94	89	85	86	83	80	80	77	74	74	71	69	66																												
2	93	84	76	70	89	81	74	68	74	69	64	69	64	60	63	60	56	53																												
3	84	73	64	57	80	70	62	56	65	58	53	60	54	50	55	51	47	44																												
4	77	64	55	48	73	62	53	47	57	50	44	53	47	42	49	44	40	37																												
5	70	57	47	41	67	55	46	40	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	39	32	27	36	30	26	24																												
8	55	42	33	27	53	40	32	27	38	31	25	35	29	24	33	27	23	21																												
9	52	38	30	24	49	37	29	24	35	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°	4983	4983	4983
5°	4946	4809	4739
10°	4888	4655	4576
15°	4837	4517	4445
20°	4763	4377	4328
25°	4705	4262	4196
30°	4635	4138	4087
35°	4546	4006	3958
40°	4501	3861	3834
45°	4318	3740	3709
50°	4204	3583	3583
55°	4124	3413	3434
60°	3839	3221	3273
65°	3564	3016	3106
70°	3156	2768	2881
75°	2640	2497	2677
80°	1890	2188	2421
85°	866	1938	2257



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.5	2.2
10°-20°	77.3	6.4
20°-30°	120.9	10.1
30°-40°	151.9	12.6
40°-50°	166.2	13.8
50°-60°	162.2	13.5
60°-70°	139.4	11.6
70°-80°	101.9	8.5
80°-90°	63.5	5.3
90°-100°	49.6	4.1
100°-110°	44.0	3.7
110°-120°	36.3	3.0
120°-130°	27.5	2.3
130°-140°	18.6	1.5
140°-150°	10.5	0.9
150°-160°	4.2	0.4
160°-170°	0.7	0.1
170°-180°	0.0	0.0
0°-30°	224.7	18.7
0°-40°	376.6	31.4
0°-60°	704.9	58.7
0°-90°	1009.7	84.1
90°-120°	129.9	10.8
90°-150°	186.4	15.5
90°-180°	191.0	15.9
0°-180°	1201.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	277	277	277	277	277	
5°	276	277	278	278	276	26
15°	267	269	275	277	277	75
25°	248	255	264	270	271	114
35°	221	232	246	254	256	139
45°	186	201	220	230	234	145
55°	150	165	186	200	204	132
65°	101	122	146	162	167	100
75°	52	75	102	119	125	55
85°	9	35	62	80	86	12
90°	0	26	54	71	77	1
95°	0	24	51	69	75	0
105°	0	21	47	63	69	0
115°	0	18	41	57	61	0
125°	0	15	35	48	52	0
135°	0	10	27	37	40	0
145°	0	6	19	27	29	0
155°	0	2	9	15	16	0
165°	0	1	2	3	4	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231890

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	277.3	277.3	277.3	277.3	277.3	277.3	277.3	277.3	277.3	277.3	277.3
2.5°	277.3	278.1	277.3	278.1	278.1	278.1	278.1	278.1	278.1	278.1	278.1
5°	276.5	276.5	276.5	277.3	277.3	277.3	277.3	278.1	278.1	278.1	278.1
7.5°	274.9	275.7	275.7	275.7	276.5	276.5	276.5	277.3	277.3	277.3	278.1
10°	272.5	273.3	273.3	274.1	274.9	274.9	274.9	274.9	275.7	276.5	277.3
12.5°	270.0	270.0	270.8	270.8	271.7	271.7	272.5	273.3	274.1	274.9	275.7
15°	266.8	266.8	267.6	268.4	269.2	269.2	270.0	271.7	272.5	274.1	274.9
17.5°	262.7	262.7	263.5	264.4	265.2	266.0	266.8	268.4	270.0	271.7	272.5
20°	257.9	258.7	259.5	260.3	261.9	262.7	263.5	265.2	266.8	269.2	270.0
22.5°	253.0	253.8	255.4	256.2	257.9	258.7	259.5	261.9	263.5	265.2	267.6
25°	248.1	249.0	249.8	251.4	253.8	254.6	255.4	257.9	260.3	261.9	264.4
27.5°	242.5	243.3	244.1	245.7	248.1	249.8	250.6	253.0	255.4	257.9	260.3
30°	236.0	236.8	237.6	240.0	242.5	244.1	245.7	248.1	250.6	253.8	256.2
32.5°	228.7	230.3	231.1	234.4	236.8	238.4	240.0	242.5	245.7	249.0	251.4
35°	221.4	223.0	223.8	227.1	229.5	231.9	232.7	236.0	239.2	242.5	245.7
37.5°	218.1	214.1	216.5	219.8	222.2	224.6	226.2	229.5	232.7	236.8	239.2
40°	207.6	206.0	207.6	211.6	214.9	216.5	218.9	223.0	226.2	230.3	232.7
42.5°	196.2	197.1	199.5	203.5	206.8	209.2	211.6	214.9	218.9	223.0	226.2
45°	186.5	188.1	190.6	194.6	198.7	201.1	203.5	207.6	211.6	215.7	219.8
47.5°	180.8	178.4	181.6	185.7	189.8	192.2	194.6	198.7	203.5	207.6	211.6
50°	167.9	169.5	172.7	176.8	180.8	184.1	185.7	190.6	195.4	199.5	203.5
52.5°	157.3	158.9	162.2	167.0	171.1	174.3	176.8	181.6	186.5	190.6	195.4
55°	150.0	149.2	152.5	156.5	162.2	164.6	167.0	171.9	176.8	181.6	185.7
57.5°	136.2	137.9	141.9	146.8	151.6	154.1	157.3	162.2	167.0	171.9	176.8
60°	124.9	126.5	130.6	135.4	141.1	143.5	146.8	151.6	157.3	161.4	166.2
62.5°	112.7	114.3	119.2	124.1	129.7	133.0	136.2	141.1	146.8	151.6	156.5
65°	101.4	103.0	107.9	112.7	118.4	121.6	124.9	130.6	135.4	141.1	146.0
67.5°	88.4	90.8	94.9	101.4	107.0	110.3	112.7	119.2	125.7	129.7	135.4
70°	76.2	77.8	83.5	89.2	95.7	98.1	101.4	107.9	113.5	119.2	124.1
72.5°	64.1	66.5	70.5	77.0	83.5	86.8	90.0	96.5	102.2	107.9	113.5
75°	51.9	54.3	59.2	65.7	72.2	75.4	78.7	85.1	91.6	97.3	102.2
77.5°	40.5	43.0	47.8	54.3	60.8	64.1	67.3	73.8	80.3	86.0	90.8
80°	28.4	30.8	36.5	43.0	49.5	52.7	56.8	63.3	68.9	75.4	80.3
82.5°	17.8	21.1	25.9	32.4	39.7	43.0	47.0	52.7	59.2	65.7	70.5
85°	8.9	12.2	17.0	24.3	31.6	34.9	38.1	44.6	51.1	57.6	62.4
87.5°	4.1	6.5	11.4	17.8	25.1	28.4	32.4	38.9	45.4	51.1	56.8
90°	0.0	3.2	8.9	15.4	21.9	25.9	29.2	35.7	42.2	47.8	53.5
92.5°	0.0	2.4	8.1	14.6	21.1	24.3	28.4	34.9	41.4	47.0	51.9
95°	0.0	2.4	7.3	13.8	20.3	23.5	27.6	34.1	39.7	46.2	51.1
97.5°	0.0	2.4	7.3	13.0	20.3	23.5	26.8	33.2	38.9	45.4	50.3
100°	0.0	2.4	6.5	13.0	19.5	22.7	25.9	32.4	38.1	43.8	49.5
102.5°	0.0	1.6	6.5	12.2	18.7	21.9	25.1	31.6	37.3	43.0	47.8
105°	0.0	1.6	6.5	11.4	17.8	21.1	24.3	30.0	36.5	42.2	47.0
107.5°	0.0	1.6	5.7	11.4	17.0	20.3	23.5	29.2	34.9	40.5	45.4
110°	0.0	1.6	5.7	10.5	16.2	19.5	22.7	28.4	34.1	39.7	44.6



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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	4.9	10.5	16.2	18.7	21.9	27.6	33.2	38.1	43.0
115°	0.0	0.8	4.9	9.7	15.4	17.8	21.1	25.9	31.6	36.5	41.4
117.5°	0.0	0.8	4.9	8.9	14.6	17.0	19.5	25.1	30.0	34.9	39.7
120°	0.0	0.8	4.1	8.9	13.8	16.2	18.7	24.3	29.2	33.2	38.1
122.5°	0.0	0.8	4.1	8.1	13.0	15.4	17.8	22.7	27.6	32.4	36.5
125°	0.0	0.8	3.2	7.3	12.2	14.6	17.0	21.9	25.9	30.8	34.9
127.5°	0.0	0.8	3.2	6.5	11.4	13.8	16.2	20.3	24.3	29.2	32.4
130°	0.0	0.8	2.4	6.5	10.5	12.2	14.6	18.7	23.5	27.6	30.8
132.5°	0.0	0.8	2.4	5.7	9.7	11.4	13.8	17.8	21.9	25.1	29.2
135°	0.0	0.8	2.4	4.9	8.9	10.5	12.2	16.2	20.3	23.5	26.8
137.5°	0.0	0.8	1.6	4.9	8.1	9.7	11.4	15.4	18.7	21.9	25.1
140°	0.0	0.0	1.6	4.1	7.3	8.9	10.5	13.8	17.0	20.3	22.7
142.5°	0.0	0.0	0.8	3.2	5.7	7.3	8.9	12.2	15.4	17.8	21.1
145°	0.0	0.0	0.8	2.4	4.9	6.5	8.1	10.5	13.8	16.2	18.7
147.5°	0.0	0.0	0.8	2.4	4.1	5.7	6.5	8.9	11.4	13.8	16.2
150°	0.0	0.0	0.8	1.6	3.2	4.1	5.7	7.3	9.7	12.2	13.8
152.5°	0.0	0.0	0.8	0.8	2.4	3.2	4.1	5.7	8.1	9.7	11.4
155°	0.0	0.0	0.8	0.8	1.6	2.4	3.2	4.9	6.5	8.1	8.9
157.5°	0.0	0.0	0.0	0.8	1.6	1.6	2.4	3.2	4.9	5.7	7.3
160°	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.4	3.2	4.1	4.9
162.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.6	1.6	2.4	3.2
165°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	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°	277.3	277.3	277.3	277.3	277.3	277.3	277.3	277.3	277.3	277.3
2.5°	278.1	278.1	278.1	277.3	277.3	277.3	277.3	276.5	276.5	276.5
5°	278.1	278.1	278.1	278.1	278.1	277.3	277.3	276.5	276.5	276.5
7.5°	278.1	278.1	278.1	278.1	278.1	278.1	277.3	277.3	277.3	277.3
10°	277.3	278.1	278.1	278.1	278.1	278.1	278.1	278.1	278.1	277.3
12.5°	276.5	277.3	277.3	278.1	278.1	278.1	278.1	277.3	277.3	277.3
15°	275.7	276.5	277.3	277.3	277.3	278.1	278.1	277.3	277.3	277.3
17.5°	274.1	274.9	275.7	275.7	276.5	276.5	276.5	276.5	276.5	276.5
20°	271.7	272.5	274.1	274.9	274.9	274.9	274.9	275.7	275.7	275.7
22.5°	269.2	270.0	271.7	272.5	272.5	273.3	273.3	273.3	273.3	273.3
25°	266.0	267.6	268.4	269.2	270.0	270.8	270.8	270.8	271.7	270.8
27.5°	262.7	264.4	266.0	266.8	266.8	267.6	268.4	268.4	268.4	268.4
30°	257.9	260.3	261.1	262.7	263.5	263.5	264.4	265.2	265.2	265.2
32.5°	253.8	255.4	257.9	258.7	259.5	260.3	260.3	261.1	261.1	261.1
35°	248.1	249.8	252.2	253.8	253.8	254.6	255.4	256.2	256.2	256.2
37.5°	241.7	244.9	246.5	248.1	249.0	249.0	250.6	251.4	251.4	251.4
40°	236.0	238.4	240.8	242.5	243.3	243.3	244.9	244.9	245.7	245.7
42.5°	228.7	231.9	234.4	236.0	236.8	237.6	238.4	239.2	240.0	240.0
45°	223.0	225.4	227.9	229.5	230.3	231.1	232.7	233.5	233.5	233.5
47.5°	214.9	218.1	220.6	222.2	223.0	224.6	225.4	226.2	226.2	226.2
50°	206.8	210.0	213.3	215.7	215.7	217.3	218.1	219.8	219.8	219.8
52.5°	198.7	201.9	205.2	207.6	208.4	209.2	210.8	211.6	212.5	211.6
55°	189.8	193.0	196.2	198.7	199.5	200.3	201.9	202.7	203.5	203.5
57.5°	180.0	184.1	187.3	189.8	190.6	191.4	193.0	194.6	194.6	195.4
60°	171.1	174.3	177.6	180.0	181.6	182.5	184.1	184.9	185.7	185.7
62.5°	160.6	164.6	168.7	171.1	171.9	173.5	174.3	175.2	176.0	176.0
65°	150.0	154.1	158.1	160.6	162.2	163.0	164.6	165.4	166.2	167.0
67.5°	140.3	143.5	147.6	150.0	150.8	152.5	154.1	155.7	156.5	156.5
70°	128.9	133.0	136.2	139.5	141.1	141.9	143.5	144.3	146.0	145.2
72.5°	117.6	121.6	126.5	128.9	129.7	131.4	133.0	134.6	135.4	134.6
75°	107.0	111.1	115.2	117.6	119.2	120.0	122.4	124.1	124.1	124.9
77.5°	95.7	100.6	104.6	107.0	108.7	109.5	111.9	112.7	113.5	113.5
80°	85.1	90.0	93.3	96.5	98.9	98.9	101.4	102.2	103.0	103.0
82.5°	75.4	80.3	84.3	86.8	88.4	90.0	91.6	92.4	93.3	93.3
85°	67.3	72.2	75.4	79.5	80.3	81.9	83.5	85.1	86.0	86.0
87.5°	61.6	66.5	69.7	73.0	74.6	76.2	77.8	79.5	80.3	80.3
90°	58.4	63.3	66.5	69.7	71.4	73.0	74.6	76.2	77.0	77.0
92.5°	56.8	61.6	65.7	68.1	69.7	71.4	73.0	74.6	75.4	75.4
95°	56.0	60.8	64.1	67.3	68.9	69.7	72.2	73.0	73.8	74.6
97.5°	55.1	59.2	63.3	66.5	68.1	68.9	71.4	72.2	73.0	73.0
100°	54.3	58.4	62.4	64.9	66.5	68.1	69.7	71.4	71.4	72.2
102.5°	52.7	56.8	60.8	64.1	64.9	66.5	68.1	69.7	70.5	70.5
105°	51.1	56.0	59.2	62.4	63.3	64.9	66.5	68.1	68.9	68.9
107.5°	50.3	54.3	57.6	60.8	61.6	63.3	64.9	66.5	67.3	67.3
110°	48.7	52.7	56.0	59.2	60.0	61.6	63.3	64.1	64.9	64.9



TEST NUMBER: P231890

CATALOG NUMBER: FVS4M-2-LD4-40-1STD-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	47.0	51.1	54.3	56.8	58.4	59.2	60.8	62.4	63.3	63.3
115°	45.4	49.5	52.7	55.1	56.8	57.6	59.2	60.0	60.8	60.8
117.5°	43.8	47.0	50.3	53.5	54.3	55.1	56.8	58.4	58.4	59.2
120°	42.2	45.4	48.7	51.1	51.9	53.5	54.3	56.0	56.0	56.8
122.5°	39.7	43.8	46.2	48.7	50.3	51.1	52.7	53.5	53.5	54.3
125°	38.1	41.4	44.6	47.0	47.8	48.7	50.3	51.1	51.1	51.9
127.5°	36.5	38.9	42.2	44.6	45.4	46.2	47.8	48.7	48.7	48.7
130°	34.1	37.3	39.7	42.2	43.0	43.8	44.6	45.4	46.2	46.2
132.5°	32.4	34.9	37.3	39.7	40.5	41.4	42.2	43.0	43.8	43.8
135°	30.0	32.4	34.9	36.5	37.3	38.1	39.7	40.5	40.5	40.5
137.5°	27.6	30.0	32.4	34.1	34.9	35.7	36.5	37.3	38.1	38.1
140°	25.1	27.6	30.0	31.6	32.4	33.2	34.1	34.9	34.9	34.9
142.5°	23.5	25.1	27.6	29.2	30.0	30.0	30.8	31.6	31.6	31.6
145°	21.1	22.7	24.3	25.9	26.8	27.6	28.4	28.4	29.2	29.2
147.5°	18.7	20.3	21.9	23.5	24.3	24.3	25.1	25.9	25.9	25.9
150°	16.2	17.8	19.5	20.3	21.1	21.1	21.9	22.7	22.7	22.7
152.5°	13.8	15.4	17.0	17.8	17.8	18.7	19.5	19.5	19.5	19.5
155°	11.4	12.2	13.8	14.6	15.4	15.4	16.2	16.2	16.2	16.2
157.5°	8.1	9.7	10.5	12.2	12.2	13.0	13.0	13.0	13.0	13.0
160°	6.5	7.3	8.1	8.9	9.7	9.7	9.7	10.5	10.5	10.5
162.5°	4.1	4.9	4.9	5.7	6.5	6.5	7.3	7.3	7.3	7.3
165°	2.4	2.4	3.2	3.2	3.2	4.1	4.1	4.1	4.1	4.1
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)