

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: P231891

Luminaire Tested: **FVS4M-2-LD4-50-1STD-PFS125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231891
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-LD4-50-1STD-PFS125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
2FT LENGTH, 1-MODULE LED WITH PFS125 LENS
Light Source: (42) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

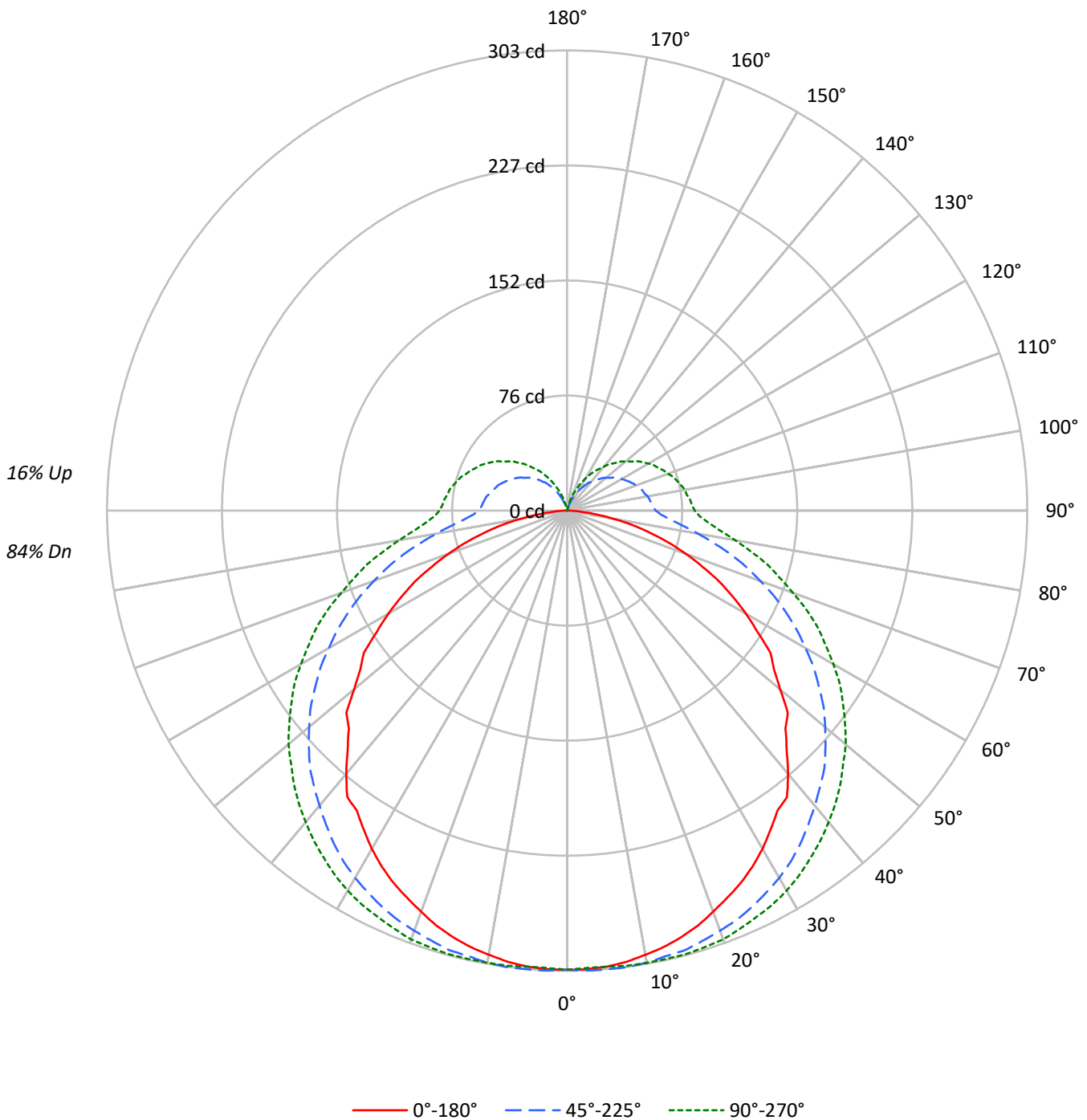
Lumens per Lamp: N/A
Luminaire Lumens: 1309.0 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.42 / 1.5
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')
CIE Type: Semi-Direct

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

TEST NUMBER: P231891

CATALOG NUMBER: FVS4M-2-LD4-50-1STD-PFS125-UNV-EDC1

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	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°	5433	5433	5433
5°	5391	5243	5166
10°	5328	5075	4989
15°	5272	4923	4845
20°	5191	4771	4717
25°	5130	4644	4574
30°	5052	4511	4454
35°	4954	4366	4315
40°	4906	4209	4179
45°	4706	4076	4043
50°	4582	3905	3904
55°	4495	3720	3742
60°	4183	3512	3567
65°	3884	3287	3386
70°	3441	3016	3139
75°	2879	2722	2917
80°	2057	2384	2637
85°	944	2115	2459



TEST NUMBER: P231891

CATALOG NUMBER: FVS4M-2-LD4-50-1STD-PFS125-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.8	2.2
10°-20°	84.2	6.4
20°-30°	131.8	10.1
30°-40°	165.6	12.6
40°-50°	181.1	13.8
50°-60°	176.8	13.5
60°-70°	151.9	11.6
70°-80°	111.1	8.5
80°-90°	69.2	5.3
90°-100°	54.1	4.1
100°-110°	47.9	3.7
110°-120°	39.5	3.0
120°-130°	30.0	2.3
130°-140°	20.2	1.5
140°-150°	11.4	0.9
150°-160°	4.6	0.4
160°-170°	0.7	0.1
170°-180°	0.0	0.0
0°-30°	244.9	18.7
0°-40°	410.5	31.4
0°-60°	768.4	58.7
0°-90°	1100.5	84.1
90°-120°	141.6	10.8
90°-150°	203.2	15.5
90°-180°	209.0	16.0
0°-180°	1309.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	302	302	302	302	302	
5°	301	302	303	303	301	29
15°	291	293	300	302	302	82
25°	270	278	288	294	295	125
35°	241	253	268	277	279	152
45°	203	219	240	251	254	158
55°	164	179	202	217	222	144
65°	110	133	159	177	182	109
75°	57	82	111	130	136	60
85°	10	38	68	88	94	13
90°	0	28	58	78	84	1
95°	0	26	56	75	81	0
105°	0	23	51	69	75	0
115°	0	19	45	62	66	0
125°	0	16	38	52	57	0
135°	0	12	29	41	44	0
145°	0	7	20	29	32	0
155°	0	3	10	17	18	0
165°	0	1	2	4	4	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231891

CATALOG NUMBER: FVS4M-2-LD4-50-1STD-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	302.3	302.3	302.3	302.3	302.3	302.3	302.3	302.3	302.3	302.3	302.3
2.5°	302.3	303.2	302.3	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2
5°	301.4	301.4	301.4	302.3	302.3	302.3	302.3	303.2	303.2	303.2	303.2
7.5°	299.6	300.5	300.5	300.5	301.4	301.4	301.4	302.3	302.3	302.3	303.2
10°	297.0	297.9	297.9	298.7	299.6	299.6	299.6	299.6	300.5	301.4	302.3
12.5°	294.3	294.3	295.2	295.2	296.1	296.1	297.0	297.9	298.7	299.6	300.5
15°	290.8	290.8	291.7	292.6	293.4	293.4	294.3	296.1	297.0	298.7	299.6
17.5°	286.4	286.4	287.2	288.1	289.0	289.9	290.8	292.6	294.3	296.1	297.0
20°	281.1	281.9	282.8	283.7	285.5	286.4	287.2	289.0	290.8	293.4	294.3
22.5°	275.8	276.6	278.4	279.3	281.1	281.9	282.8	285.5	287.2	289.0	291.7
25°	270.5	271.3	272.2	274.0	276.6	277.5	278.4	281.1	283.7	285.5	288.1
27.5°	264.3	265.2	266.0	267.8	270.5	272.2	273.1	275.8	278.4	281.1	283.7
30°	257.2	258.1	259.0	261.6	264.3	266.0	267.8	270.5	273.1	276.6	279.3
32.5°	249.2	251.0	251.9	255.4	258.1	259.8	261.6	264.3	267.8	271.3	274.0
35°	241.3	243.1	243.9	247.5	250.1	252.8	253.7	257.2	260.7	264.3	267.8
37.5°	237.8	233.3	236.0	239.5	242.2	244.8	246.6	250.1	253.7	258.1	260.7
40°	226.3	224.5	226.3	230.7	234.2	236.0	238.6	243.1	246.6	251.0	253.7
42.5°	213.9	214.8	217.4	221.8	225.4	228.0	230.7	234.2	238.6	243.1	246.6
45°	203.3	205.1	207.7	212.1	216.5	219.2	221.8	226.3	230.7	235.1	239.5
47.5°	197.1	194.4	198.0	202.4	206.8	209.5	212.1	216.5	221.8	226.3	230.7
50°	183.0	184.7	188.3	192.7	197.1	200.6	202.4	207.7	213.0	217.4	221.8
52.5°	171.5	173.2	176.8	182.1	186.5	190.0	192.7	198.0	203.3	207.7	213.0
55°	163.5	162.6	166.2	170.6	176.8	179.4	182.1	187.4	192.7	198.0	202.4
57.5°	148.5	150.3	154.7	160.0	165.3	167.9	171.5	176.8	182.1	187.4	192.7
60°	136.1	137.9	142.3	147.6	153.8	156.4	160.0	165.3	171.5	175.9	181.2
62.5°	122.9	124.6	129.9	135.2	141.4	144.9	148.5	153.8	160.0	165.3	170.6
65°	110.5	112.2	117.6	122.9	129.0	132.6	136.1	142.3	147.6	153.8	159.1
67.5°	96.3	99.0	103.4	110.5	116.7	120.2	122.9	129.9	137.0	141.4	147.6
70°	83.1	84.8	91.0	97.2	104.3	106.9	110.5	117.6	123.7	129.9	135.2
72.5°	69.8	72.5	76.9	84.0	91.0	94.6	98.1	105.2	111.4	117.6	123.7
75°	56.6	59.2	64.5	71.6	78.7	82.2	85.7	92.8	99.9	106.1	111.4
77.5°	44.2	46.8	52.1	59.2	66.3	69.8	73.4	80.4	87.5	93.7	99.0
80°	30.9	33.6	39.8	46.8	53.9	57.4	61.9	68.9	75.1	82.2	87.5
82.5°	19.4	23.0	28.3	35.4	43.3	46.8	51.3	57.4	64.5	71.6	76.9
85°	9.7	13.3	18.6	26.5	34.5	38.0	41.5	48.6	55.7	62.8	68.1
87.5°	4.4	7.1	12.4	19.4	27.4	30.9	35.4	42.4	49.5	55.7	61.9
90°	0.0	3.5	9.7	16.8	23.9	28.3	31.8	38.9	46.0	52.1	58.3
92.5°	0.0	2.7	8.8	15.9	23.0	26.5	30.9	38.0	45.1	51.3	56.6
95°	0.0	2.7	8.0	15.0	22.1	25.6	30.1	37.1	43.3	50.4	55.7
97.5°	0.0	2.7	8.0	14.1	22.1	25.6	29.2	36.2	42.4	49.5	54.8
100°	0.0	2.7	7.1	14.1	21.2	24.7	28.3	35.4	41.5	47.7	53.9
102.5°	0.0	1.8	7.1	13.3	20.3	23.9	27.4	34.5	40.7	46.8	52.1
105°	0.0	1.8	7.1	12.4	19.4	23.0	26.5	32.7	39.8	46.0	51.3
107.5°	0.0	1.8	6.2	12.4	18.6	22.1	25.6	31.8	38.0	44.2	49.5
110°	0.0	1.8	6.2	11.5	17.7	21.2	24.7	30.9	37.1	43.3	48.6



TEST NUMBER: P231891

CATALOG NUMBER: FVS4M-2-LD4-50-1STD-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.8	5.3	11.5	17.7	20.3	23.9	30.1	36.2	41.5	46.8
115°	0.0	0.9	5.3	10.6	16.8	19.4	23.0	28.3	34.5	39.8	45.1
117.5°	0.0	0.9	5.3	9.7	15.9	18.6	21.2	27.4	32.7	38.0	43.3
120°	0.0	0.9	4.4	9.7	15.0	17.7	20.3	26.5	31.8	36.2	41.5
122.5°	0.0	0.9	4.4	8.8	14.1	16.8	19.4	24.7	30.1	35.4	39.8
125°	0.0	0.9	3.5	8.0	13.3	15.9	18.6	23.9	28.3	33.6	38.0
127.5°	0.0	0.9	3.5	7.1	12.4	15.0	17.7	22.1	26.5	31.8	35.4
130°	0.0	0.9	2.7	7.1	11.5	13.3	15.9	20.3	25.6	30.1	33.6
132.5°	0.0	0.9	2.7	6.2	10.6	12.4	15.0	19.4	23.9	27.4	31.8
135°	0.0	0.9	2.7	5.3	9.7	11.5	13.3	17.7	22.1	25.6	29.2
137.5°	0.0	0.9	1.8	5.3	8.8	10.6	12.4	16.8	20.3	23.9	27.4
140°	0.0	0.0	1.8	4.4	8.0	9.7	11.5	15.0	18.6	22.1	24.7
142.5°	0.0	0.0	0.9	3.5	6.2	8.0	9.7	13.3	16.8	19.4	23.0
145°	0.0	0.0	0.9	2.7	5.3	7.1	8.8	11.5	15.0	17.7	20.3
147.5°	0.0	0.0	0.9	2.7	4.4	6.2	7.1	9.7	12.4	15.0	17.7
150°	0.0	0.0	0.9	1.8	3.5	4.4	6.2	8.0	10.6	13.3	15.0
152.5°	0.0	0.0	0.9	0.9	2.7	3.5	4.4	6.2	8.8	10.6	12.4
155°	0.0	0.0	0.9	0.9	1.8	2.7	3.5	5.3	7.1	8.8	9.7
157.5°	0.0	0.0	0.0	0.9	1.8	1.8	2.7	3.5	5.3	6.2	8.0
160°	0.0	0.0	0.0	0.9	0.9	0.9	1.8	2.7	3.5	4.4	5.3
162.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	1.8	1.8	2.7	3.5
165°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.8	1.8
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



TEST NUMBER: P231891

CATALOG NUMBER: FVS4M-2-LD4-50-1STD-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	302.3	302.3	302.3	302.3	302.3	302.3	302.3	302.3	302.3	302.3
2.5°	303.2	303.2	303.2	302.3	302.3	302.3	302.3	301.4	301.4	301.4
5°	303.2	303.2	303.2	303.2	303.2	302.3	302.3	301.4	301.4	301.4
7.5°	303.2	303.2	303.2	303.2	303.2	303.2	302.3	302.3	302.3	302.3
10°	302.3	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	302.3
12.5°	301.4	302.3	302.3	303.2	303.2	303.2	303.2	302.3	302.3	302.3
15°	300.5	301.4	302.3	302.3	302.3	303.2	303.2	302.3	302.3	302.3
17.5°	298.7	299.6	300.5	300.5	301.4	301.4	301.4	301.4	301.4	301.4
20°	296.1	297.0	298.7	299.6	299.6	299.6	299.6	300.5	300.5	300.5
22.5°	293.4	294.3	296.1	297.0	297.0	297.9	297.9	297.9	297.9	297.9
25°	289.9	291.7	292.6	293.4	294.3	295.2	295.2	295.2	296.1	295.2
27.5°	286.4	288.1	289.9	290.8	290.8	291.7	292.6	292.6	292.6	292.6
30°	281.1	283.7	284.6	286.4	287.2	287.2	288.1	289.0	289.0	289.0
32.5°	276.6	278.4	281.1	281.9	282.8	283.7	283.7	284.6	284.6	284.6
35°	270.5	272.2	274.9	276.6	276.6	277.5	278.4	279.3	279.3	279.3
37.5°	263.4	266.9	268.7	270.5	271.3	271.3	273.1	274.0	274.0	274.0
40°	257.2	259.8	262.5	264.3	265.2	265.2	266.9	266.9	267.8	267.8
42.5°	249.2	252.8	255.4	257.2	258.1	259.0	259.8	260.7	261.6	261.6
45°	243.1	245.7	248.4	250.1	251.0	251.9	253.7	254.5	254.5	254.5
47.5°	234.2	237.8	240.4	242.2	243.1	244.8	245.7	246.6	246.6	246.6
50°	225.4	228.9	232.4	235.1	235.1	236.9	237.8	239.5	239.5	239.5
52.5°	216.5	220.1	223.6	226.3	227.1	228.0	229.8	230.7	231.6	230.7
55°	206.8	210.4	213.9	216.5	217.4	218.3	220.1	221.0	221.8	221.8
57.5°	196.2	200.6	204.2	206.8	207.7	208.6	210.4	212.1	212.1	213.0
60°	186.5	190.0	193.6	196.2	198.0	198.9	200.6	201.5	202.4	202.4
62.5°	175.0	179.4	183.8	186.5	187.4	189.1	190.0	190.9	191.8	191.8
65°	163.5	167.9	172.3	175.0	176.8	177.7	179.4	180.3	181.2	182.1
67.5°	152.9	156.4	160.9	163.5	164.4	166.2	167.9	169.7	170.6	170.6
70°	140.5	144.9	148.5	152.0	153.8	154.7	156.4	157.3	159.1	158.2
72.5°	128.2	132.6	137.9	140.5	141.4	143.2	144.9	146.7	147.6	146.7
75°	116.7	121.1	125.5	128.2	129.9	130.8	133.5	135.2	135.2	136.1
77.5°	104.3	109.6	114.0	116.7	118.4	119.3	122.0	122.9	123.7	123.7
80°	92.8	98.1	101.6	105.2	107.8	107.8	110.5	111.4	112.2	112.2
82.5°	82.2	87.5	91.9	94.6	96.3	98.1	99.9	100.8	101.6	101.6
85°	73.4	78.7	82.2	86.6	87.5	89.3	91.0	92.8	93.7	93.7
87.5°	67.2	72.5	76.0	79.5	81.3	83.1	84.8	86.6	87.5	87.5
90°	63.6	68.9	72.5	76.0	77.8	79.5	81.3	83.1	84.0	84.0
92.5°	61.9	67.2	71.6	74.2	76.0	77.8	79.5	81.3	82.2	82.2
95°	61.0	66.3	69.8	73.4	75.1	76.0	78.7	79.5	80.4	81.3
97.5°	60.1	64.5	68.9	72.5	74.2	75.1	77.8	78.7	79.5	79.5
100°	59.2	63.6	68.1	70.7	72.5	74.2	76.0	77.8	77.8	78.7
102.5°	57.4	61.9	66.3	69.8	70.7	72.5	74.2	76.0	76.9	76.9
105°	55.7	61.0	64.5	68.1	68.9	70.7	72.5	74.2	75.1	75.1
107.5°	54.8	59.2	62.8	66.3	67.2	68.9	70.7	72.5	73.4	73.4
110°	53.0	57.4	61.0	64.5	65.4	67.2	68.9	69.8	70.7	70.7



TEST NUMBER: P231891

CATALOG NUMBER: FVS4M-2-LD4-50-1STD-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	51.3	55.7	59.2	61.9	63.6	64.5	66.3	68.1	68.9	68.9
115°	49.5	53.9	57.4	60.1	61.9	62.8	64.5	65.4	66.3	66.3
117.5°	47.7	51.3	54.8	58.3	59.2	60.1	61.9	63.6	63.6	64.5
120°	46.0	49.5	53.0	55.7	56.6	58.3	59.2	61.0	61.0	61.9
122.5°	43.3	47.7	50.4	53.0	54.8	55.7	57.4	58.3	58.3	59.2
125°	41.5	45.1	48.6	51.3	52.1	53.0	54.8	55.7	55.7	56.6
127.5°	39.8	42.4	46.0	48.6	49.5	50.4	52.1	53.0	53.0	53.0
130°	37.1	40.7	43.3	46.0	46.8	47.7	48.6	49.5	50.4	50.4
132.5°	35.4	38.0	40.7	43.3	44.2	45.1	46.0	46.8	47.7	47.7
135°	32.7	35.4	38.0	39.8	40.7	41.5	43.3	44.2	44.2	44.2
137.5°	30.1	32.7	35.4	37.1	38.0	38.9	39.8	40.7	41.5	41.5
140°	27.4	30.1	32.7	34.5	35.4	36.2	37.1	38.0	38.0	38.0
142.5°	25.6	27.4	30.1	31.8	32.7	32.7	33.6	34.5	34.5	34.5
145°	23.0	24.7	26.5	28.3	29.2	30.1	30.9	30.9	31.8	31.8
147.5°	20.3	22.1	23.9	25.6	26.5	26.5	27.4	28.3	28.3	28.3
150°	17.7	19.4	21.2	22.1	23.0	23.0	23.9	24.7	24.7	24.7
152.5°	15.0	16.8	18.6	19.4	19.4	20.3	21.2	21.2	21.2	21.2
155°	12.4	13.3	15.0	15.9	16.8	16.8	17.7	17.7	17.7	17.7
157.5°	8.8	10.6	11.5	13.3	13.3	14.1	14.1	14.1	14.1	14.1
160°	7.1	8.0	8.8	9.7	10.6	10.6	10.6	11.5	11.5	11.5
162.5°	4.4	5.3	5.3	6.2	7.1	7.1	8.0	8.0	8.0	8.0
165°	2.7	2.7	3.5	3.5	3.5	4.4	4.4	4.4	4.4	4.4
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)