

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: P231957

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231957
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-LD4-35-1LO-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

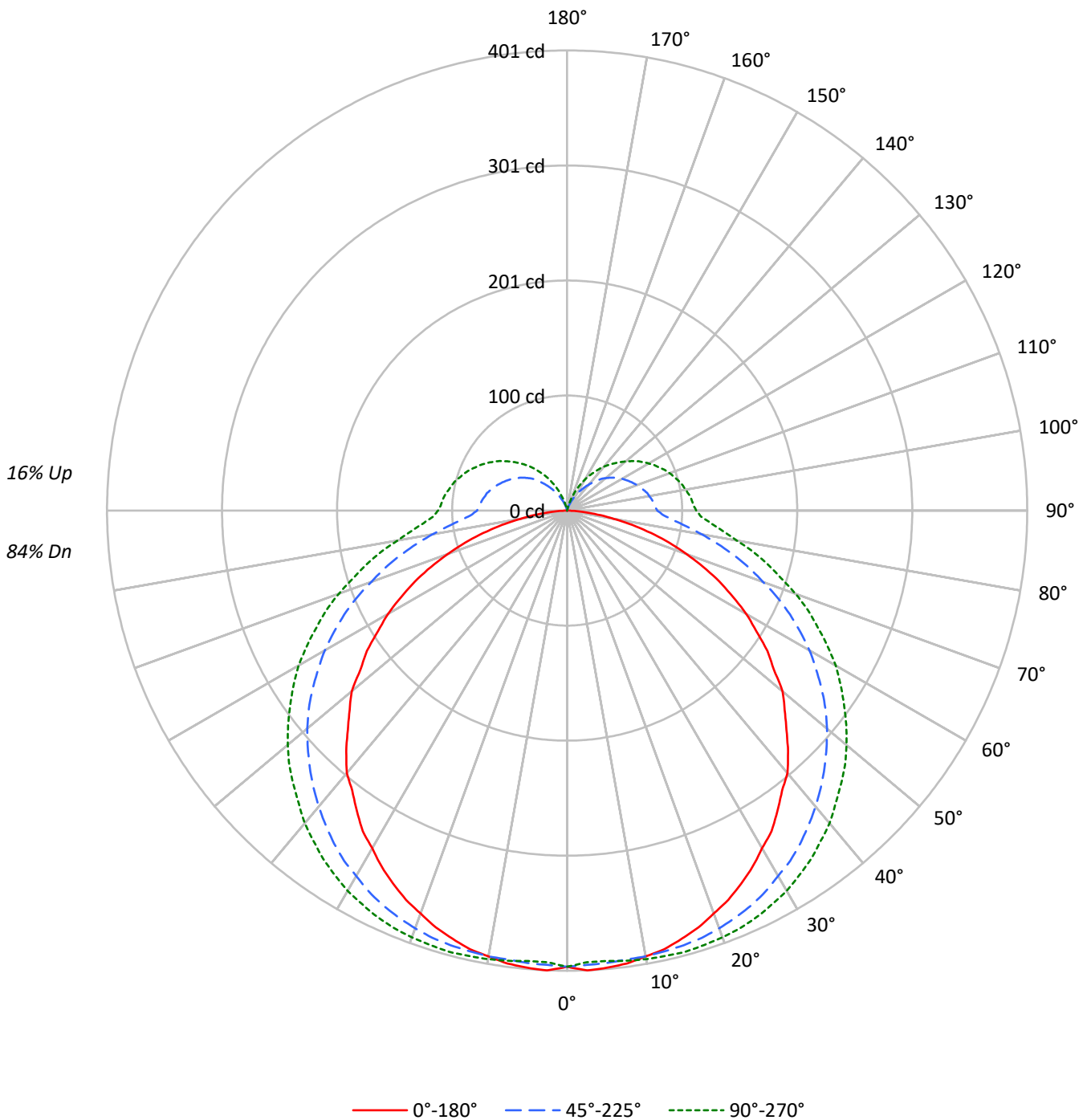
Lumens per Lamp: N/A
Luminaire Lumens: 1739.0 lumens
Efficiency: N/A
Efficacy: 73.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.43 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 23.6
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°	3611	3611	3611
5°	3631	3469	3413
10°	3608	3366	3311
15°	3585	3284	3225
20°	3549	3209	3140
25°	3515	3134	3062
30°	3465	3049	2981
35°	3425	2971	2895
40°	3401	2883	2806
45°	3308	2793	2709
50°	3272	2701	2619
55°	3151	2589	2512
60°	3017	2469	2407
65°	2845	2320	2265
70°	2589	2131	2124
75°	2240	1946	1960
80°	1679	1727	1782
85°	912	1528	1666



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.9	2.2
10°-20°	111.0	6.4
20°-30°	174.3	10.0
30°-40°	219.3	12.6
40°-50°	240.6	13.8
50°-60°	235.5	13.5
60°-70°	203.4	11.7
70°-80°	149.3	8.6
80°-90°	93.0	5.3
90°-100°	72.8	4.2
100°-110°	64.4	3.7
110°-120°	52.7	3.0
120°-130°	39.5	2.3
130°-140°	25.8	1.5
140°-150°	13.8	0.8
150°-160°	5.1	0.3
160°-170°	0.7	0.0
170°-180°	0.0	0.0
0°-30°	323.2	18.6
0°-40°	542.5	31.2
0°-60°	1018.6	58.6
0°-90°	1464.3	84.2
90°-120°	190.0	10.9
90°-150°	269.0	15.5
90°-180°	275.0	15.8
0°-180°	1739.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	400	399	396	396	394	38
15°	386	387	392	398	398	109
25°	359	367	380	390	391	165
35°	320	335	354	368	371	200
45°	270	292	317	334	337	209
55°	213	240	271	290	294	190
65°	146	178	214	235	241	144
75°	76	111	150	174	181	80
85°	14	52	92	117	126	17
90°	1	38	78	104	112	1
95°	0	35	76	101	109	0
105°	0	31	69	93	101	0
115°	0	26	60	83	89	0
125°	0	20	50	69	75	0
135°	0	13	37	54	58	0
145°	0	6	23	38	40	0
155°	1	2	10	18	22	0
165°	1	0	1	3	4	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231957

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5
2.5°	401.1	400.5	399.9	399.3	399.3	399.9	399.9	399.9	399.3	397.5	396.3
5°	399.9	399.3	398.7	398.1	398.7	398.7	398.7	398.7	398.1	396.9	395.7
7.5°	398.1	397.5	396.9	396.3	396.3	396.9	396.9	396.9	396.9	395.7	394.5
10°	394.5	394.5	393.3	393.3	393.9	393.9	394.5	395.1	395.1	395.1	394.5
12.5°	391.5	390.4	389.8	390.4	390.4	390.9	391.5	393.3	393.3	393.9	393.3
15°	386.2	385.6	385.0	385.0	386.8	387.4	388.6	390.4	391.5	391.5	392.1
17.5°	380.8	380.2	380.2	380.2	382.0	383.2	385.0	386.8	388.0	389.2	390.4
20°	373.7	373.7	374.3	374.9	377.3	378.5	380.2	383.2	384.4	386.2	387.4
22.5°	367.1	366.6	366.6	368.3	371.3	373.1	374.9	377.9	379.6	382.0	383.8
25°	358.8	358.8	358.8	361.8	365.4	366.6	369.5	372.5	374.9	377.3	379.6
27.5°	349.9	349.9	349.9	354.1	357.6	360.0	362.4	366.0	368.9	371.3	374.3
30°	339.8	340.4	342.2	345.7	349.9	352.3	354.6	358.8	362.4	364.8	367.7
32.5°	331.4	329.7	332.0	335.6	341.0	343.9	346.3	350.5	354.6	358.2	361.8
35°	319.5	319.5	321.9	326.7	332.0	335.0	337.4	342.2	346.3	349.9	354.1
37.5°	307.6	307.0	310.6	316.0	321.9	324.9	327.9	332.6	336.2	340.4	345.7
40°	298.7	295.7	299.3	305.3	311.2	314.8	317.8	322.5	327.3	332.0	336.8
42.5°	285.0	282.6	286.8	292.8	299.9	303.5	306.5	312.4	317.2	322.5	327.3
45°	270.2	270.2	275.5	281.5	287.4	291.6	294.5	301.1	306.5	312.4	317.2
47.5°	257.1	256.5	261.2	269.0	275.5	279.7	283.2	289.2	295.1	301.7	306.5
50°	245.2	242.8	248.1	255.3	263.6	266.6	270.7	276.7	283.8	289.2	295.7
52.5°	226.7	229.1	233.3	241.6	249.3	253.5	257.7	264.2	271.3	277.3	283.8
55°	213.0	213.6	219.6	227.9	235.0	239.8	244.6	252.3	258.3	264.8	270.7
57.5°	195.2	197.6	204.7	212.4	220.8	226.1	229.7	236.8	244.0	251.1	257.1
60°	180.3	182.7	189.2	196.4	205.3	210.1	214.2	222.0	229.1	236.8	244.0
62.5°	163.0	166.0	173.2	181.5	189.8	194.0	198.2	208.3	215.4	222.5	229.1
65°	146.4	149.4	155.9	163.6	173.8	178.5	182.7	191.0	199.9	207.1	214.2
67.5°	128.5	131.5	139.2	147.6	157.1	162.4	166.6	176.1	182.7	191.0	198.7
70°	110.7	113.7	120.8	129.7	139.8	145.2	150.5	158.9	167.2	174.9	181.5
72.5°	93.4	97.0	104.1	113.1	123.2	127.9	132.7	142.2	150.5	159.5	166.6
75°	75.6	79.1	86.9	96.4	106.5	111.3	116.0	126.2	134.5	142.8	150.5
77.5°	58.3	61.3	70.2	80.3	89.3	93.4	99.4	109.5	118.4	126.7	134.5
80°	41.1	44.6	53.6	63.1	73.2	78.5	83.3	94.0	102.3	111.3	119.0
82.5°	26.8	29.8	38.7	48.2	58.9	63.7	69.0	79.1	87.5	97.6	104.7
85°	13.7	17.3	25.6	35.7	45.8	51.8	55.9	66.6	75.0	84.5	91.6
87.5°	4.2	8.3	16.1	26.2	36.3	42.2	47.6	57.1	66.6	75.0	83.3
90°	0.6	4.2	11.9	22.0	32.7	37.5	42.8	53.0	61.9	70.8	78.5
92.5°	0.0	3.6	11.3	20.8	30.9	36.3	41.7	51.2	60.7	69.0	76.8
95°	0.0	3.0	10.7	20.2	30.3	35.1	40.5	50.0	59.5	67.8	75.6
97.5°	0.0	3.0	10.1	19.0	29.2	34.5	39.3	49.4	58.3	66.6	74.4
100°	0.0	2.4	9.5	18.4	28.0	33.3	38.1	47.6	56.5	64.9	72.6
102.5°	0.0	2.4	8.9	17.9	27.4	32.1	36.9	46.4	55.3	63.7	71.4
105°	0.0	1.8	8.3	16.7	26.2	30.9	35.7	44.6	53.6	61.9	69.0
107.5°	0.0	1.8	7.7	16.1	25.0	29.8	33.9	43.4	51.8	59.5	67.2
110°	0.0	1.8	7.1	14.9	23.8	28.0	32.7	41.7	50.0	57.7	64.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.2	6.5	14.3	22.6	26.8	31.5	39.9	48.2	55.9	62.5
115°	0.0	1.2	6.0	13.1	21.4	25.6	29.8	38.1	45.8	53.6	60.1
117.5°	0.0	0.6	5.4	12.5	20.2	24.4	28.6	36.3	44.0	51.2	57.7
120°	0.0	0.6	4.8	11.3	19.0	23.2	26.8	34.5	41.7	48.8	55.3
122.5°	0.0	0.6	4.2	10.7	17.9	21.4	25.0	32.7	39.9	46.4	52.4
125°	0.0	0.6	3.6	9.5	16.7	20.2	23.8	30.9	37.5	44.0	50.0
127.5°	0.0	0.0	3.0	8.3	14.9	17.9	21.4	28.6	35.1	41.1	47.0
130°	0.0	0.0	2.4	7.7	13.1	16.1	19.6	26.2	32.1	38.7	44.0
132.5°	0.0	0.0	1.8	6.5	11.9	14.9	17.3	23.2	29.2	35.1	41.1
135°	0.0	0.0	1.8	5.4	10.1	13.1	15.5	20.8	26.2	32.1	36.9
137.5°	0.0	0.0	1.2	4.2	8.9	11.3	13.7	18.4	23.2	28.6	33.3
140°	0.0	0.0	0.6	3.6	7.7	9.5	11.9	16.7	20.8	25.0	29.8
142.5°	0.0	0.0	0.6	3.0	6.0	8.3	10.1	14.3	18.4	22.0	26.2
145°	0.0	0.0	0.6	1.8	4.8	6.5	8.3	11.9	15.5	19.0	22.6
147.5°	0.6	0.6	0.6	1.8	4.2	5.4	7.1	10.1	13.1	16.7	19.6
150°	0.6	0.6	0.6	1.2	3.0	4.2	6.0	8.3	10.7	13.7	16.7
152.5°	0.6	0.6	0.0	0.6	2.4	3.0	4.2	6.5	8.9	10.7	13.1
155°	0.6	0.6	0.6	0.6	1.2	2.4	3.0	4.8	7.1	8.9	10.1
157.5°	0.6	0.6	0.0	0.0	0.6	1.2	1.8	3.6	5.4	6.5	7.7
160°	0.6	0.6	0.0	0.0	0.6	0.6	1.2	2.4	3.6	4.2	5.4
162.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.6	1.2	1.8	2.4	3.6
165°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.6	1.2	1.2
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°	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5
2.5°	396.3	396.9	396.9	396.3	396.3	396.3	395.7	395.1	394.5	393.9
5°	395.7	396.3	396.3	396.3	396.3	396.3	395.1	395.1	394.5	393.9
7.5°	395.1	396.3	396.9	396.9	396.9	396.9	396.9	396.3	395.7	395.7
10°	395.1	396.9	397.5	398.1	398.1	398.1	398.1	397.5	397.5	396.9
12.5°	395.1	396.9	397.5	398.1	398.1	398.7	398.7	398.1	398.1	397.5
15°	393.9	395.7	396.9	398.1	398.1	398.7	398.7	398.1	398.1	398.1
17.5°	392.1	394.5	395.7	396.9	396.9	397.5	398.1	397.5	397.5	396.9
20°	389.8	392.1	393.9	395.1	395.7	395.7	396.3	396.3	396.3	395.7
22.5°	386.8	389.2	390.9	392.1	392.7	393.3	394.5	394.5	393.9	393.9
25°	382.0	385.0	387.4	389.2	389.8	390.4	390.9	391.5	390.9	390.9
27.5°	377.9	380.2	383.2	385.0	385.6	386.2	386.8	388.0	387.4	386.8
30°	372.5	374.9	377.9	379.6	380.2	381.4	382.6	383.2	382.6	382.6
32.5°	366.0	368.9	371.3	373.7	374.9	375.5	376.7	377.3	377.3	376.7
35°	358.2	361.8	364.8	367.1	367.7	368.3	370.1	370.7	370.7	370.7
37.5°	350.5	353.5	357.0	359.4	360.6	361.2	362.4	363.6	363.0	363.0
40°	341.0	345.1	348.7	351.1	352.3	352.9	354.6	355.8	355.8	355.8
42.5°	332.0	335.6	339.2	342.2	343.3	345.1	346.3	346.3	346.9	346.3
45°	321.9	326.1	330.3	333.2	334.4	335.6	337.4	337.4	338.0	337.4
47.5°	311.8	317.2	320.1	323.1	323.7	325.5	327.3	327.9	327.9	328.5
50°	300.5	305.9	308.8	312.4	313.6	314.8	316.6	317.2	317.8	317.8
52.5°	288.6	292.8	298.1	301.1	302.3	303.5	304.7	305.9	307.0	306.5
55°	276.7	280.9	285.0	288.6	289.8	291.0	293.4	294.5	294.5	294.5
57.5°	263.0	267.8	272.5	276.1	277.3	278.5	280.9	281.5	282.1	282.6
60°	249.3	254.7	258.3	263.0	263.6	265.4	267.8	269.0	270.2	270.2
62.5°	235.0	239.8	245.2	248.7	249.9	251.7	254.1	255.3	255.9	255.9
65°	220.2	225.5	230.3	234.4	235.0	237.4	240.4	241.0	242.2	241.0
67.5°	205.3	210.6	215.4	219.0	221.4	223.1	224.9	225.5	227.3	227.3
70°	189.2	194.6	199.9	204.1	205.9	207.1	209.5	211.2	211.2	211.8
72.5°	173.2	178.5	183.9	187.4	189.2	191.0	194.0	195.2	195.8	195.2
75°	157.1	163.0	168.4	172.0	174.3	176.1	177.9	180.3	180.9	180.9
77.5°	141.0	148.2	152.3	157.1	158.9	160.7	162.4	164.2	165.4	166.0
80°	125.6	132.1	136.9	141.0	143.4	145.8	148.2	149.4	150.0	150.0
82.5°	111.9	117.8	123.2	127.3	129.7	130.9	133.9	135.1	136.9	136.9
85°	99.4	104.7	110.7	116.0	117.2	119.0	122.0	124.4	125.0	125.6
87.5°	90.4	97.0	102.3	107.1	108.9	110.7	113.7	115.4	116.0	116.6
90°	86.3	92.2	97.6	102.3	104.1	105.9	108.9	110.7	111.9	112.5
92.5°	83.9	90.4	95.8	100.6	102.3	104.1	106.5	108.9	109.5	110.1
95°	82.7	89.3	94.6	99.4	101.2	102.9	105.3	107.1	108.3	108.9
97.5°	81.5	87.5	93.4	97.6	99.4	101.2	104.1	105.9	106.5	107.1
100°	79.7	86.3	91.0	95.8	97.6	99.4	101.8	103.5	104.7	104.7
102.5°	78.0	83.9	89.3	94.0	95.8	97.0	100.0	101.8	102.3	102.9
105°	76.2	82.1	87.5	91.6	93.4	95.2	97.6	99.4	100.0	100.6
107.5°	73.8	79.7	85.1	89.3	91.0	92.2	95.2	96.4	97.6	97.6
110°	71.4	77.4	82.1	86.9	88.1	89.9	92.2	94.0	94.6	95.2



TEST NUMBER: P231957

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	69.0	74.4	79.7	83.3	85.7	86.9	89.3	91.0	91.6	92.2
115°	66.6	72.0	76.8	80.9	82.7	83.9	86.3	88.1	88.7	88.7
117.5°	63.7	69.0	73.8	78.0	79.1	80.9	82.7	84.5	85.1	85.7
120°	60.7	66.1	70.8	74.4	76.2	77.4	79.7	80.9	81.5	82.1
122.5°	58.3	63.1	67.2	71.4	72.6	74.4	76.2	77.4	78.0	78.5
125°	55.3	60.1	64.3	67.8	69.0	70.8	72.6	74.4	74.4	75.0
127.5°	52.4	56.5	60.7	64.3	65.5	66.6	69.0	70.2	70.8	70.8
130°	48.8	53.6	57.1	60.7	61.9	63.1	64.9	66.1	66.6	66.6
132.5°	45.8	50.0	53.6	56.5	57.7	58.9	60.7	61.9	62.5	62.5
135°	42.2	46.4	50.0	53.0	54.1	55.3	56.5	57.7	58.3	58.3
137.5°	38.1	42.8	45.8	48.8	50.0	51.2	52.4	53.6	54.1	54.1
140°	33.9	38.7	42.2	45.2	45.8	47.0	48.2	48.8	49.4	50.0
142.5°	30.3	33.9	38.1	40.5	41.7	42.2	44.0	44.6	44.6	45.2
145°	26.2	29.2	33.3	36.3	37.5	38.1	39.3	40.5	40.5	40.5
147.5°	22.0	25.6	28.0	31.5	32.7	33.9	35.1	35.7	35.7	36.3
150°	19.0	21.4	23.8	26.8	28.0	29.2	30.3	30.9	31.5	31.5
152.5°	15.5	17.9	19.6	22.0	22.6	23.8	25.6	26.2	26.2	26.8
155°	12.5	13.7	15.5	17.3	17.9	19.0	20.8	22.0	22.0	22.0
157.5°	8.9	10.7	11.9	13.1	13.7	14.3	16.1	17.3	17.3	17.3
160°	6.5	7.1	8.3	8.9	9.5	10.1	11.3	12.5	13.1	12.5
162.5°	4.2	4.8	5.4	6.0	6.0	6.5	6.5	7.7	8.3	8.3
165°	1.8	2.4	2.4	2.4	3.0	3.0	3.0	3.0	4.2	4.2
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)