

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: P231960

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231960
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-LD4-30-1STD-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

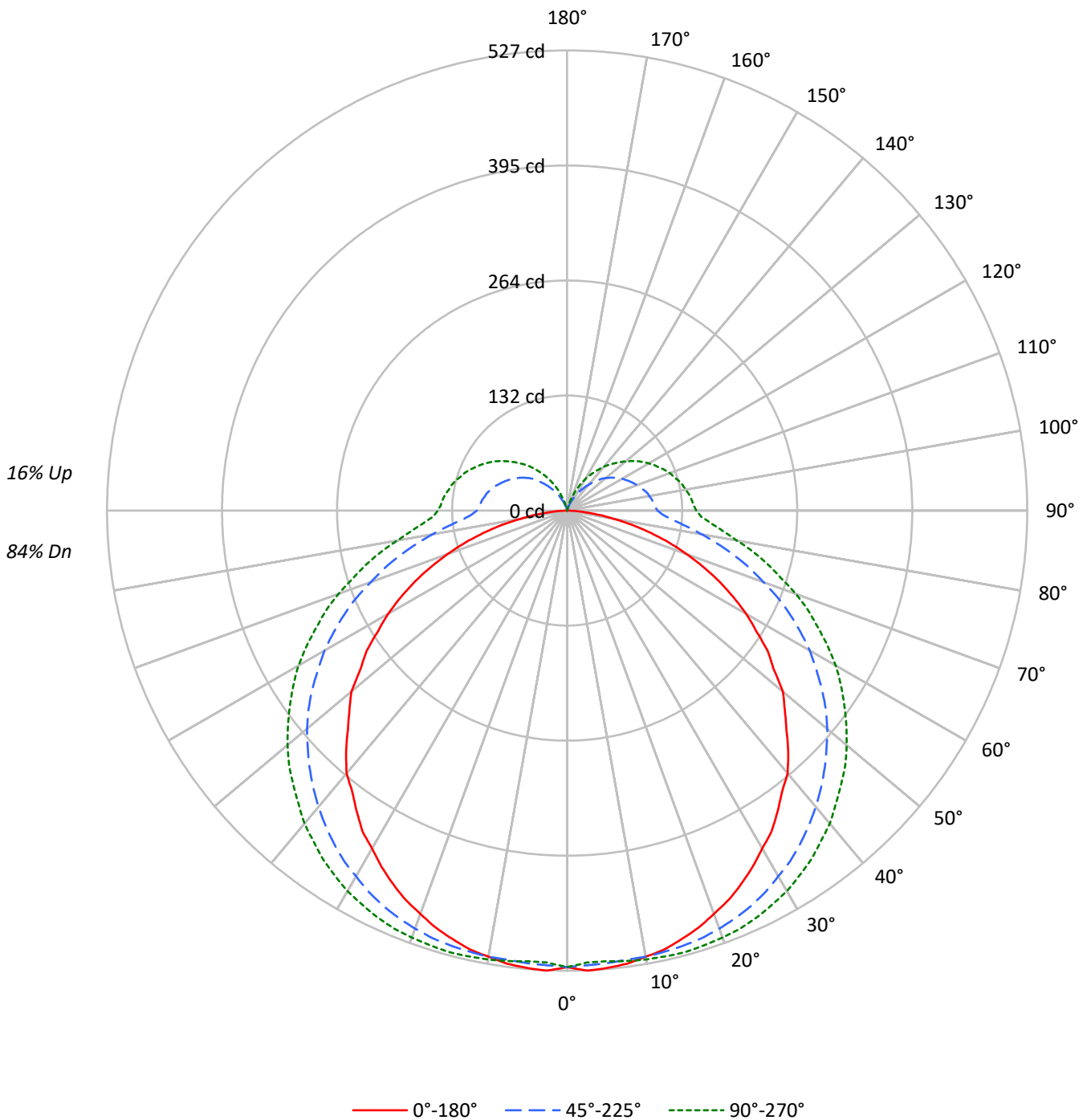
Lumens per Lamp: N/A
Luminaire Lumens: 2287.0 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.43 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

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

TEST NUMBER: P231960

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

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°	4749	4749	4749
5°	4775	4562	4489
10°	4744	4427	4354
15°	4714	4319	4241
20°	4667	4219	4129
25°	4623	4122	4026
30°	4557	4010	3920
35°	4504	3907	3807
40°	4473	3791	3691
45°	4349	3672	3563
50°	4303	3552	3444
55°	4145	3406	3304
60°	3968	3247	3166
65°	3741	3051	2979
70°	3405	2803	2794
75°	2945	2561	2578
80°	2206	2271	2343
85°	1199	2010	2190



TEST NUMBER: P231960

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.8	2.2
10°-20°	146.0	6.4
20°-30°	229.2	10.0
30°-40°	288.4	12.6
40°-50°	316.4	13.8
50°-60°	309.7	13.5
60°-70°	267.5	11.7
70°-80°	196.3	8.6
80°-90°	122.3	5.3
90°-100°	95.8	4.2
100°-110°	84.7	3.7
110°-120°	69.3	3.0
120°-130°	51.9	2.3
130°-140°	33.9	1.5
140°-150°	18.1	0.8
150°-160°	6.7	0.3
160°-170°	0.9	0.0
170°-180°	0.0	0.0
0°-30°	425.0	18.6
0°-40°	713.4	31.2
0°-60°	1339.6	58.6
0°-90°	1925.7	84.2
90°-120°	249.8	10.9
90°-150°	353.7	15.5
90°-180°	361.0	15.8
0°-180°	2287.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	523	523	523	523	523	
5°	526	524	520	521	518	50
15°	508	509	516	524	524	143
25°	472	482	499	513	514	217
35°	420	441	466	484	488	263
45°	355	384	417	440	444	275
55°	280	315	356	381	387	249
65°	192	235	282	309	317	190
75°	99	146	198	229	238	105
85°	18	68	120	154	165	23
90°	1	49	103	137	148	1
95°	0	46	99	133	143	0
105°	0	41	91	123	132	0
115°	0	34	79	109	117	0
125°	0	27	66	91	99	0
135°	0	17	48	71	77	0
145°	0	9	30	49	53	0
155°	1	3	13	24	29	0
165°	1	0	2	4	6	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231960

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	522.8	522.8	522.8	522.8	522.8	522.8	522.8	522.8	522.8	522.8	522.8
2.5°	527.4	526.7	525.9	525.1	525.1	525.9	525.9	525.9	525.1	522.8	521.2
5°	525.9	525.1	524.3	523.5	524.3	524.3	524.3	524.3	523.5	522.0	520.4
7.5°	523.5	522.8	522.0	521.2	521.2	522.0	522.0	522.0	522.0	520.4	518.8
10°	518.8	518.8	517.3	517.3	518.1	518.1	518.8	519.6	519.6	519.6	518.8
12.5°	514.9	513.4	512.6	513.4	513.4	514.1	514.9	517.3	517.3	518.1	517.3
15°	507.9	507.1	506.3	506.3	508.7	509.4	511.0	513.4	514.9	514.9	515.7
17.5°	500.8	500.1	500.1	500.1	502.4	504.0	506.3	508.7	510.2	511.8	513.4
20°	491.5	491.5	492.2	493.0	496.1	497.7	500.1	504.0	505.5	507.9	509.4
22.5°	482.8	482.1	482.1	484.4	488.3	490.7	493.0	496.9	499.3	502.4	504.8
25°	471.9	471.9	471.9	475.8	480.5	482.1	486.0	489.9	493.0	496.1	499.3
27.5°	460.1	460.1	460.1	465.6	470.3	473.5	476.6	481.3	485.2	488.3	492.2
30°	446.8	447.6	450.0	454.7	460.1	463.3	466.4	471.9	476.6	479.7	483.6
32.5°	435.9	433.5	436.7	441.4	448.4	452.3	455.5	460.9	466.4	471.1	475.8
35°	420.2	420.2	423.4	429.6	436.7	440.6	443.7	450.0	455.5	460.1	465.6
37.5°	404.6	403.8	408.5	415.5	423.4	427.3	431.2	437.5	442.1	447.6	454.7
40°	392.8	388.9	393.6	401.5	409.3	414.0	417.9	424.1	430.4	436.7	442.9
42.5°	374.8	371.7	377.2	385.0	394.4	399.1	403.0	410.8	417.1	424.1	430.4
45°	355.3	355.3	362.3	370.2	378.0	383.5	387.4	396.0	403.0	410.8	417.1
47.5°	338.1	337.3	343.5	353.7	362.3	367.8	372.5	380.3	388.2	396.8	403.0
50°	322.4	319.3	326.3	335.7	346.7	350.6	356.1	363.9	373.3	380.3	388.9
52.5°	298.2	301.3	306.8	317.7	327.9	333.4	338.9	347.5	356.8	364.7	373.3
55°	280.2	280.9	288.8	299.7	309.1	315.4	321.6	331.8	339.6	348.2	356.1
57.5°	256.7	259.8	269.2	279.4	290.3	297.4	302.1	311.5	320.9	330.2	338.1
60°	237.1	240.2	248.9	258.2	270.0	276.2	281.7	291.9	301.3	311.5	320.9
62.5°	214.4	218.3	227.7	238.7	249.6	255.1	260.6	273.9	283.3	292.7	301.3
65°	192.5	196.4	205.0	215.2	228.5	234.8	240.2	251.2	262.9	272.3	281.7
67.5°	169.0	172.9	183.1	194.1	206.6	213.6	219.1	231.6	240.2	251.2	261.4
70°	145.6	149.5	158.9	170.6	183.9	190.9	198.0	208.9	219.9	230.1	238.7
72.5°	122.9	127.6	136.9	148.7	162.0	168.3	174.5	187.0	198.0	209.7	219.1
75°	99.4	104.1	114.3	126.8	140.1	146.3	152.6	165.9	176.9	187.8	198.0
77.5°	76.7	80.6	92.3	105.6	117.4	122.9	130.7	144.0	155.7	166.7	176.9
80°	54.0	58.7	70.4	83.0	96.3	103.3	109.6	123.6	134.6	146.3	156.5
82.5°	35.2	39.1	50.9	63.4	77.5	83.7	90.8	104.1	115.0	128.3	137.7
85°	18.0	22.7	33.7	47.0	60.3	68.1	73.6	87.6	98.6	111.1	120.5
87.5°	5.5	11.0	21.1	34.4	47.7	55.6	62.6	75.1	87.6	98.6	109.6
90°	0.8	5.5	15.7	29.0	43.0	49.3	56.3	69.6	81.4	93.1	103.3
92.5°	0.0	4.7	14.9	27.4	40.7	47.7	54.8	67.3	79.8	90.8	101.0
95°	0.0	3.9	14.1	26.6	39.9	46.2	53.2	65.7	78.3	89.2	99.4
97.5°	0.0	3.9	13.3	25.0	38.3	45.4	51.6	65.0	76.7	87.6	97.8
100°	0.0	3.1	12.5	24.3	36.8	43.8	50.1	62.6	74.3	85.3	95.5
102.5°	0.0	3.1	11.7	23.5	36.0	42.3	48.5	61.0	72.8	83.7	93.9
105°	0.0	2.3	11.0	21.9	34.4	40.7	47.0	58.7	70.4	81.4	90.8
107.5°	0.0	2.3	10.2	21.1	32.9	39.1	44.6	57.1	68.1	78.3	88.4
110°	0.0	2.3	9.4	19.6	31.3	36.8	43.0	54.8	65.7	75.9	85.3



TEST NUMBER: P231960

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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	8.6	18.8	29.7	35.2	41.5	52.4	63.4	73.6	82.2
115°	0.0	1.6	7.8	17.2	28.2	33.7	39.1	50.1	60.3	70.4	79.0
117.5°	0.0	0.8	7.0	16.4	26.6	32.1	37.6	47.7	57.9	67.3	75.9
120°	0.0	0.8	6.3	14.9	25.0	30.5	35.2	45.4	54.8	64.2	72.8
122.5°	0.0	0.8	5.5	14.1	23.5	28.2	32.9	43.0	52.4	61.0	68.9
125°	0.0	0.8	4.7	12.5	21.9	26.6	31.3	40.7	49.3	57.9	65.7
127.5°	0.0	0.0	3.9	11.0	19.6	23.5	28.2	37.6	46.2	54.0	61.8
130°	0.0	0.0	3.1	10.2	17.2	21.1	25.8	34.4	42.3	50.9	57.9
132.5°	0.0	0.0	2.3	8.6	15.7	19.6	22.7	30.5	38.3	46.2	54.0
135°	0.0	0.0	2.3	7.0	13.3	17.2	20.3	27.4	34.4	42.3	48.5
137.5°	0.0	0.0	1.6	5.5	11.7	14.9	18.0	24.3	30.5	37.6	43.8
140°	0.0	0.0	0.8	4.7	10.2	12.5	15.7	21.9	27.4	32.9	39.1
142.5°	0.0	0.0	0.8	3.9	7.8	11.0	13.3	18.8	24.3	29.0	34.4
145°	0.0	0.0	0.8	2.3	6.3	8.6	11.0	15.7	20.3	25.0	29.7
147.5°	0.8	0.8	0.8	2.3	5.5	7.0	9.4	13.3	17.2	21.9	25.8
150°	0.8	0.8	0.8	1.6	3.9	5.5	7.8	11.0	14.1	18.0	21.9
152.5°	0.8	0.8	0.0	0.8	3.1	3.9	5.5	8.6	11.7	14.1	17.2
155°	0.8	0.8	0.8	0.8	1.6	3.1	3.9	6.3	9.4	11.7	13.3
157.5°	0.8	0.8	0.0	0.0	0.8	1.6	2.3	4.7	7.0	8.6	10.2
160°	0.8	0.8	0.0	0.0	0.8	0.8	1.6	3.1	4.7	5.5	7.0
162.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.8	1.6	2.3	3.1	4.7
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°	522.8	522.8	522.8	522.8	522.8	522.8	522.8	522.8	522.8	522.8
2.5°	521.2	522.0	522.0	521.2	521.2	521.2	520.4	519.6	518.8	518.1
5°	520.4	521.2	521.2	521.2	521.2	521.2	519.6	519.6	518.8	518.1
7.5°	519.6	521.2	522.0	522.0	522.0	522.0	522.0	521.2	520.4	520.4
10°	519.6	522.0	522.8	523.5	523.5	523.5	523.5	522.8	522.8	522.0
12.5°	519.6	522.0	522.8	523.5	523.5	524.3	524.3	523.5	523.5	522.8
15°	518.1	520.4	522.0	523.5	523.5	524.3	524.3	523.5	523.5	523.5
17.5°	515.7	518.8	520.4	522.0	522.0	522.8	523.5	522.8	522.8	522.0
20°	512.6	515.7	518.1	519.6	520.4	520.4	521.2	521.2	521.2	520.4
22.5°	508.7	511.8	514.1	515.7	516.5	517.3	518.8	518.8	518.1	518.1
25°	502.4	506.3	509.4	511.8	512.6	513.4	514.1	514.9	514.1	514.1
27.5°	496.9	500.1	504.0	506.3	507.1	507.9	508.7	510.2	509.4	508.7
30°	489.9	493.0	496.9	499.3	500.1	501.6	503.2	504.0	503.2	503.2
32.5°	481.3	485.2	488.3	491.5	493.0	493.8	495.4	496.1	496.1	495.4
35°	471.1	475.8	479.7	482.8	483.6	484.4	486.8	487.5	487.5	487.5
37.5°	460.9	464.8	469.5	472.7	474.2	475.0	476.6	478.1	477.4	477.4
40°	448.4	453.9	458.6	461.7	463.3	464.1	466.4	468.0	468.0	468.0
42.5°	436.7	441.4	446.1	450.0	451.5	453.9	455.5	455.5	456.2	455.5
45°	423.4	428.8	434.3	438.2	439.8	441.4	443.7	443.7	444.5	443.7
47.5°	410.1	417.1	421.0	424.9	425.7	428.1	430.4	431.2	431.2	432.0
50°	395.2	402.2	406.2	410.8	412.4	414.0	416.3	417.1	417.9	417.9
52.5°	379.5	385.0	392.1	396.0	397.5	399.1	400.7	402.2	403.8	403.0
55°	363.9	369.4	374.8	379.5	381.1	382.7	385.8	387.4	387.4	387.4
57.5°	345.9	352.2	358.4	363.1	364.7	366.2	369.4	370.2	370.9	371.7
60°	327.9	334.9	339.6	345.9	346.7	349.0	352.2	353.7	355.3	355.3
62.5°	309.1	315.4	322.4	327.1	328.7	331.0	334.2	335.7	336.5	336.5
65°	289.5	296.6	302.9	308.3	309.1	312.2	316.2	316.9	318.5	316.9
67.5°	270.0	277.0	283.3	288.0	291.1	293.5	295.8	296.6	298.9	298.9
70°	248.9	255.9	262.9	268.4	270.8	272.3	275.5	277.8	277.8	278.6
72.5°	227.7	234.8	241.8	246.5	248.9	251.2	255.1	256.7	257.5	256.7
75°	206.6	214.4	221.5	226.2	229.3	231.6	234.0	237.1	237.9	237.9
77.5°	185.5	194.9	200.3	206.6	208.9	211.3	213.6	216.0	217.6	218.3
80°	165.1	173.7	180.0	185.5	188.6	191.7	194.9	196.4	197.2	197.2
82.5°	147.1	154.9	162.0	167.5	170.6	172.2	176.1	177.6	180.0	180.0
85°	130.7	137.7	145.6	152.6	154.2	156.5	160.4	163.6	164.3	165.1
87.5°	118.9	127.6	134.6	140.9	143.2	145.6	149.5	151.8	152.6	153.4
90°	113.5	121.3	128.3	134.6	136.9	139.3	143.2	145.6	147.1	147.9
92.5°	110.3	118.9	126.0	132.3	134.6	136.9	140.1	143.2	144.0	144.8
95°	108.8	117.4	124.4	130.7	133.0	135.4	138.5	140.9	142.4	143.2
97.5°	107.2	115.0	122.9	128.3	130.7	133.0	136.9	139.3	140.1	140.9
100°	104.9	113.5	119.7	126.0	128.3	130.7	133.8	136.2	137.7	137.7
102.5°	102.5	110.3	117.4	123.6	126.0	127.6	131.5	133.8	134.6	135.4
105°	100.2	108.0	115.0	120.5	122.9	125.2	128.3	130.7	131.5	132.3
107.5°	97.0	104.9	111.9	117.4	119.7	121.3	125.2	126.8	128.3	128.3
110°	93.9	101.7	108.0	114.3	115.8	118.2	121.3	123.6	124.4	125.2



TEST NUMBER: P231960

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	90.8	97.8	104.9	109.6	112.7	114.3	117.4	119.7	120.5	121.3
115°	87.6	94.7	101.0	106.4	108.8	110.3	113.5	115.8	116.6	116.6
117.5°	83.7	90.8	97.0	102.5	104.1	106.4	108.8	111.1	111.9	112.7
120°	79.8	86.9	93.1	97.8	100.2	101.7	104.9	106.4	107.2	108.0
122.5°	76.7	83.0	88.4	93.9	95.5	97.8	100.2	101.7	102.5	103.3
125°	72.8	79.0	84.5	89.2	90.8	93.1	95.5	97.8	97.8	98.6
127.5°	68.9	74.3	79.8	84.5	86.1	87.6	90.8	92.3	93.1	93.1
130°	64.2	70.4	75.1	79.8	81.4	83.0	85.3	86.9	87.6	87.6
132.5°	60.3	65.7	70.4	74.3	75.9	77.5	79.8	81.4	82.2	82.2
135°	55.6	61.0	65.7	69.6	71.2	72.8	74.3	75.9	76.7	76.7
137.5°	50.1	56.3	60.3	64.2	65.7	67.3	68.9	70.4	71.2	71.2
140°	44.6	50.9	55.6	59.5	60.3	61.8	63.4	64.2	65.0	65.7
142.5°	39.9	44.6	50.1	53.2	54.8	55.6	57.9	58.7	58.7	59.5
145°	34.4	38.3	43.8	47.7	49.3	50.1	51.6	53.2	53.2	53.2
147.5°	29.0	33.7	36.8	41.5	43.0	44.6	46.2	47.0	47.0	47.7
150°	25.0	28.2	31.3	35.2	36.8	38.3	39.9	40.7	41.5	41.5
152.5°	20.3	23.5	25.8	29.0	29.7	31.3	33.7	34.4	34.4	35.2
155°	16.4	18.0	20.3	22.7	23.5	25.0	27.4	29.0	29.0	29.0
157.5°	11.7	14.1	15.7	17.2	18.0	18.8	21.1	22.7	22.7	22.7
160°	8.6	9.4	11.0	11.7	12.5	13.3	14.9	16.4	17.2	16.4
162.5°	5.5	6.3	7.0	7.8	7.8	8.6	8.6	10.2	11.0	11.0
165°	2.3	3.1	3.1	3.1	3.9	3.9	3.9	3.9	5.5	5.5
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)