

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: P231965

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231965
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-LD4-35-1HI-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

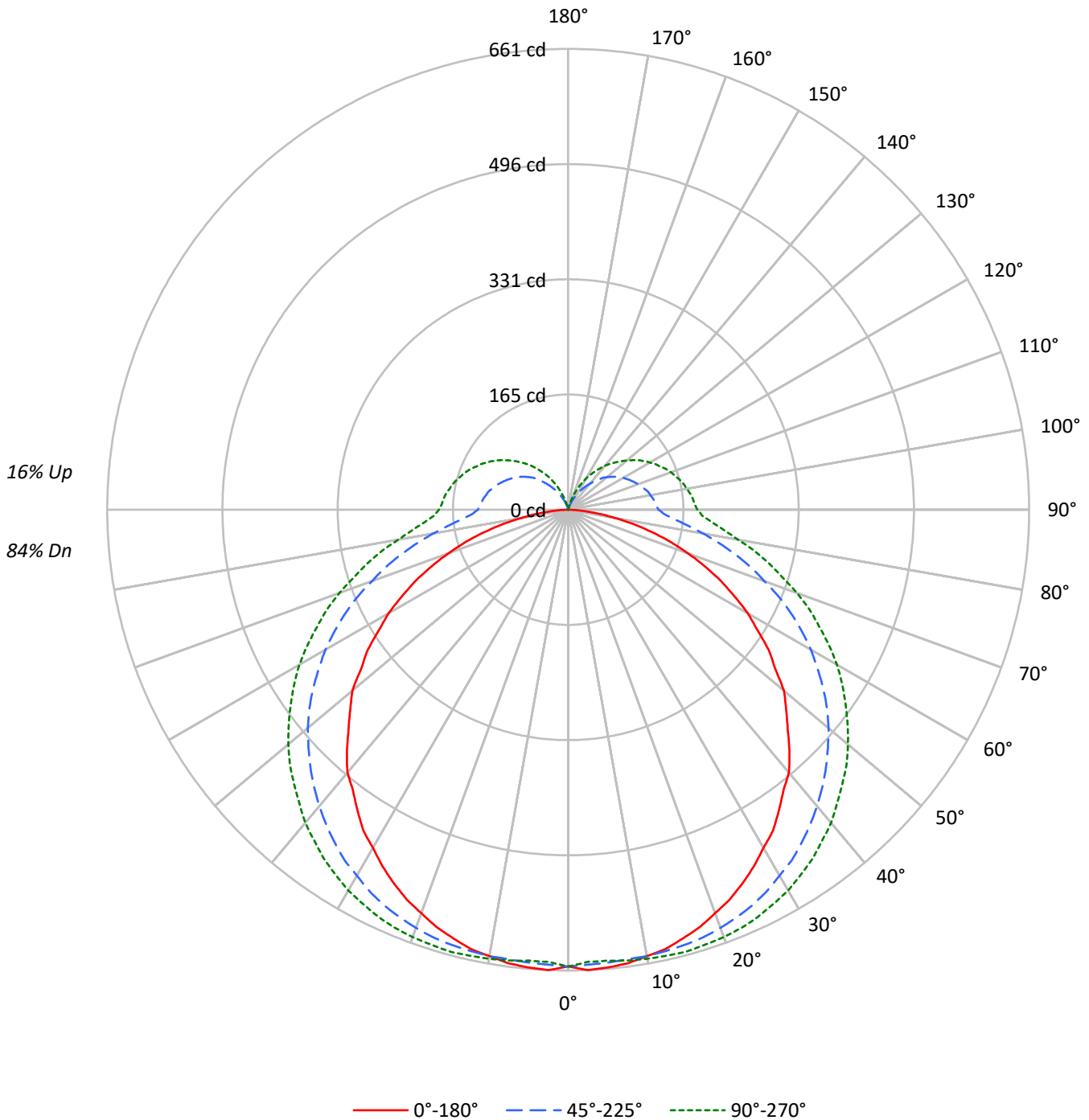
Lumens per Lamp: N/A
Luminaire Lumens: 2866.0 lumens
Efficiency: N/A
Efficacy: 64.4 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.43 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 44.5
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						84														
1	103	98	93	88	99	94	89	85	86	83	79	80	77	74	74	71	69	66						66														
2	93	84	76	70	89	80	74	68	74	69	64	69	64	60	63	60	56	53						53														
3	84	73	64	57	80	70	62	55	65	58	52	60	54	50	55	51	47	44						44														
4	77	64	55	48	73	62	53	46	57	50	44	53	47	42	49	44	40	37						37														
5	70	57	47	40	67	55	46	39	51	43	38	47	41	36	44	38	34	31						31														
6	65	51	42	35	62	49	40	34	46	38	33	42	36	31	39	34	30	27						27														
7	60	46	37	31	57	44	36	30	41	34	29	38	32	27	36	30	26	24						24														
8	55	42	33	27	53	40	32	26	38	30	25	35	29	24	33	27	23	21						21														
9	52	38	30	24	49	37	29	24	34	28	23	32	26	22	30	25	21	19						19														
10	48	35	27	22	46	34	26	21	32	25	20	30	24	20	28	23	19	17						17														

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5951	5951	5951
5°	5984	5718	5625
10°	5946	5548	5456
15°	5908	5412	5316
20°	5849	5288	5175
25°	5794	5165	5046
30°	5711	5025	4913
35°	5644	4896	4771
40°	5605	4752	4626
45°	5450	4602	4464
50°	5392	4452	4315
55°	5194	4268	4140
60°	4972	4069	3967
65°	4688	3823	3734
70°	4265	3512	3501
75°	3689	3209	3230
80°	2766	2846	2936
85°	1505	2519	2744



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.4	2.2
10°-20°	183.0	6.4
20°-30°	287.3	10.0
30°-40°	361.4	12.6
40°-50°	396.5	13.8
50°-60°	388.2	13.5
60°-70°	335.3	11.7
70°-80°	246.0	8.6
80°-90°	153.3	5.3
90°-100°	120.0	4.2
100°-110°	106.2	3.7
110°-120°	86.9	3.0
120°-130°	65.0	2.3
130°-140°	42.5	1.5
140°-150°	22.7	0.8
150°-160°	8.4	0.3
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	532.6	18.6
0°-40°	894.1	31.2
0°-60°	1678.7	58.6
0°-90°	2413.3	84.2
90°-120°	313.1	10.9
90°-150°	443.3	15.5
90°-180°	453.0	15.8
0°-180°	2866.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	659	657	652	653	649	63
15°	636	638	646	656	656	180
25°	591	604	626	642	644	272
35°	527	552	584	606	611	330
45°	445	480	523	551	556	345
55°	351	395	446	478	485	312
65°	241	294	353	387	397	238
75°	124	183	248	287	298	132
85°	23	85	151	193	207	28
90°	1	62	130	172	185	1
95°	0	58	124	167	180	0
105°	0	51	114	154	166	0
115°	0	42	99	136	146	0
125°	0	33	82	114	124	0
135°	0	22	61	89	96	0
145°	0	11	37	62	67	0
155°	1	4	17	29	36	0
165°	1	0	2	5	7	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231965

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	655.1	655.1	655.1	655.1	655.1	655.1	655.1	655.1	655.1	655.1	655.1
2.5°	661.0	660.0	659.0	658.0	658.0	659.0	659.0	659.0	658.0	655.1	653.1
5°	659.0	658.0	657.1	656.1	657.1	657.1	657.1	657.1	656.1	654.1	652.2
7.5°	656.1	655.1	654.1	653.1	653.1	654.1	654.1	654.1	654.1	652.2	650.2
10°	650.2	650.2	648.2	648.2	649.2	649.2	650.2	651.2	651.2	651.2	650.2
12.5°	645.3	643.3	642.3	643.3	643.3	644.3	645.3	648.2	648.2	649.2	648.2
15°	636.5	635.5	634.5	634.5	637.4	638.4	640.4	643.3	645.3	645.3	646.3
17.5°	627.6	626.7	626.7	626.7	629.6	631.6	634.5	637.4	639.4	641.4	643.3
20°	615.9	615.9	616.9	617.8	621.8	623.7	626.7	631.6	633.5	636.5	638.4
22.5°	605.1	604.1	604.1	607.0	611.9	614.9	617.8	622.7	625.7	629.6	632.5
25°	591.4	591.4	591.4	596.3	602.1	604.1	609.0	613.9	617.8	621.8	625.7
27.5°	576.6	576.6	576.6	583.5	589.4	593.3	597.2	603.1	608.0	611.9	616.9
30°	560.0	561.0	563.9	569.8	576.6	580.6	584.5	591.4	597.2	601.2	606.1
32.5°	546.2	543.3	547.2	553.1	561.9	566.8	570.8	577.6	584.5	590.4	596.3
35°	526.6	526.6	530.6	538.4	547.2	552.1	556.0	563.9	570.8	576.6	583.5
37.5°	507.0	506.0	511.9	520.7	530.6	535.5	540.4	548.2	554.1	561.0	569.8
40°	492.3	487.4	493.3	503.1	512.9	518.8	523.7	531.5	539.4	547.2	555.1
42.5°	469.7	465.8	472.7	482.5	494.3	500.1	505.1	514.9	522.7	531.5	539.4
45°	445.2	445.2	454.1	463.9	473.7	480.5	485.4	496.2	505.1	514.9	522.7
47.5°	423.7	422.7	430.5	443.3	454.1	460.9	466.8	476.6	486.4	497.2	505.1
50°	404.0	400.1	408.9	420.7	434.4	439.3	446.2	456.0	467.8	476.6	487.4
52.5°	373.6	377.6	384.4	398.2	410.9	417.8	424.6	435.4	447.2	457.0	467.8
55°	351.1	352.1	361.9	375.6	387.4	395.2	403.1	415.8	425.6	436.4	446.2
57.5°	321.7	325.6	337.4	350.1	363.8	372.7	378.5	390.3	402.1	413.8	423.7
60°	297.1	301.1	311.9	323.6	338.3	346.2	353.0	365.8	377.6	390.3	402.1
62.5°	268.7	273.6	285.4	299.1	312.8	319.7	326.6	343.2	355.0	366.8	377.6
65°	241.2	246.2	256.9	269.7	286.4	294.2	301.1	314.8	329.5	341.3	353.0
67.5°	211.8	216.7	229.5	243.2	258.9	267.7	274.6	290.3	301.1	314.8	327.5
70°	182.4	187.3	199.1	213.8	230.5	239.3	248.1	261.8	275.6	288.3	299.1
72.5°	154.0	159.9	171.6	186.3	203.0	210.8	218.7	234.4	248.1	262.8	274.6
75°	124.5	130.4	143.2	158.9	175.5	183.4	191.2	207.9	221.6	235.4	248.1
77.5°	96.1	101.0	115.7	132.4	147.1	154.0	163.8	180.4	195.2	208.9	221.6
80°	67.7	73.6	88.3	104.0	120.6	129.5	137.3	154.9	168.7	183.4	196.1
82.5°	44.1	49.0	63.7	79.4	97.1	104.9	113.8	130.4	144.2	160.8	172.6
85°	22.6	28.4	42.2	58.8	75.5	85.3	92.2	109.8	123.6	139.3	151.0
87.5°	6.9	13.7	26.5	43.2	59.8	69.6	78.5	94.1	109.8	123.6	137.3
90°	1.0	6.9	19.6	36.3	53.9	61.8	70.6	87.3	102.0	116.7	129.5
92.5°	0.0	5.9	18.6	34.3	51.0	59.8	68.6	84.3	100.0	113.8	126.5
95°	0.0	4.9	17.7	33.3	50.0	57.9	66.7	82.4	98.1	111.8	124.5
97.5°	0.0	4.9	16.7	31.4	48.1	56.9	64.7	81.4	96.1	109.8	122.6
100°	0.0	3.9	15.7	30.4	46.1	54.9	62.8	78.5	93.2	106.9	119.6
102.5°	0.0	3.9	14.7	29.4	45.1	53.0	60.8	76.5	91.2	104.9	117.7
105°	0.0	2.9	13.7	27.5	43.2	51.0	58.8	73.6	88.3	102.0	113.8
107.5°	0.0	2.9	12.7	26.5	41.2	49.0	55.9	71.6	85.3	98.1	110.8
110°	0.0	2.9	11.8	24.5	39.2	46.1	53.9	68.6	82.4	95.1	106.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	2.0	10.8	23.5	37.3	44.1	52.0	65.7	79.4	92.2	103.0
115°	0.0	2.0	9.8	21.6	35.3	42.2	49.0	62.8	75.5	88.3	99.0
117.5°	0.0	1.0	8.8	20.6	33.3	40.2	47.1	59.8	72.6	84.3	95.1
120°	0.0	1.0	7.8	18.6	31.4	38.2	44.1	56.9	68.6	80.4	91.2
122.5°	0.0	1.0	6.9	17.7	29.4	35.3	41.2	53.9	65.7	76.5	86.3
125°	0.0	1.0	5.9	15.7	27.5	33.3	39.2	51.0	61.8	72.6	82.4
127.5°	0.0	0.0	4.9	13.7	24.5	29.4	35.3	47.1	57.9	67.7	77.5
130°	0.0	0.0	3.9	12.7	21.6	26.5	32.4	43.2	53.0	63.7	72.6
132.5°	0.0	0.0	2.9	10.8	19.6	24.5	28.4	38.2	48.1	57.9	67.7
135°	0.0	0.0	2.9	8.8	16.7	21.6	25.5	34.3	43.2	53.0	60.8
137.5°	0.0	0.0	2.0	6.9	14.7	18.6	22.6	30.4	38.2	47.1	54.9
140°	0.0	0.0	1.0	5.9	12.7	15.7	19.6	27.5	34.3	41.2	49.0
142.5°	0.0	0.0	1.0	4.9	9.8	13.7	16.7	23.5	30.4	36.3	43.2
145°	0.0	0.0	1.0	2.9	7.8	10.8	13.7	19.6	25.5	31.4	37.3
147.5°	1.0	1.0	1.0	2.9	6.9	8.8	11.8	16.7	21.6	27.5	32.4
150°	1.0	1.0	1.0	2.0	4.9	6.9	9.8	13.7	17.7	22.6	27.5
152.5°	1.0	1.0	0.0	1.0	3.9	4.9	6.9	10.8	14.7	17.7	21.6
155°	1.0	1.0	1.0	1.0	2.0	3.9	4.9	7.8	11.8	14.7	16.7
157.5°	1.0	1.0	0.0	0.0	1.0	2.0	2.9	5.9	8.8	10.8	12.7
160°	1.0	1.0	0.0	0.0	1.0	1.0	2.0	3.9	5.9	6.9	8.8
162.5°	1.0	1.0	1.0	0.0	0.0	0.0	1.0	2.0	2.9	3.9	5.9
165°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	2.0
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°	655.1	655.1	655.1	655.1	655.1	655.1	655.1	655.1	655.1	655.1
2.5°	653.1	654.1	654.1	653.1	653.1	653.1	652.2	651.2	650.2	649.2
5°	652.2	653.1	653.1	653.1	653.1	653.1	651.2	651.2	650.2	649.2
7.5°	651.2	653.1	654.1	654.1	654.1	654.1	654.1	653.1	652.2	652.2
10°	651.2	654.1	655.1	656.1	656.1	656.1	656.1	655.1	655.1	654.1
12.5°	651.2	654.1	655.1	656.1	656.1	657.1	657.1	656.1	656.1	655.1
15°	649.2	652.2	654.1	656.1	656.1	657.1	657.1	656.1	656.1	656.1
17.5°	646.3	650.2	652.2	654.1	654.1	655.1	656.1	655.1	655.1	654.1
20°	642.3	646.3	649.2	651.2	652.2	652.2	653.1	653.1	653.1	652.2
22.5°	637.4	641.4	644.3	646.3	647.3	648.2	650.2	650.2	649.2	649.2
25°	629.6	634.5	638.4	641.4	642.3	643.3	644.3	645.3	644.3	644.3
27.5°	622.7	626.7	631.6	634.5	635.5	636.5	637.4	639.4	638.4	637.4
30°	613.9	617.8	622.7	625.7	626.7	628.6	630.6	631.6	630.6	630.6
32.5°	603.1	608.0	611.9	615.9	617.8	618.8	620.8	621.8	621.8	620.8
35°	590.4	596.3	601.2	605.1	606.1	607.0	610.0	611.0	611.0	611.0
37.5°	577.6	582.5	588.4	592.3	594.3	595.3	597.2	599.2	598.2	598.2
40°	561.9	568.8	574.7	578.6	580.6	581.5	584.5	586.5	586.5	586.5
42.5°	547.2	553.1	559.0	563.9	565.9	568.8	570.8	570.8	571.7	570.8
45°	530.6	537.4	544.3	549.2	551.1	553.1	556.0	556.0	557.0	556.0
47.5°	513.9	522.7	527.6	532.5	533.5	536.4	539.4	540.4	540.4	541.3
50°	495.2	504.1	509.0	514.9	516.8	518.8	521.7	522.7	523.7	523.7
52.5°	475.6	482.5	491.3	496.2	498.2	500.1	502.1	504.1	506.0	505.1
55°	456.0	462.9	469.7	475.6	477.6	479.6	483.5	485.4	485.4	485.4
57.5°	433.5	441.3	449.2	455.0	457.0	459.0	462.9	463.9	464.8	465.8
60°	410.9	419.7	425.6	433.5	434.4	437.4	441.3	443.3	445.2	445.2
62.5°	387.4	395.2	404.0	409.9	411.9	414.8	418.8	420.7	421.7	421.7
65°	362.9	371.7	379.5	386.4	387.4	391.3	396.2	397.2	399.1	397.2
67.5°	338.3	347.2	355.0	360.9	364.8	367.8	370.7	371.7	374.6	374.6
70°	311.9	320.7	329.5	336.4	339.3	341.3	345.2	348.1	348.1	349.1
72.5°	285.4	294.2	303.0	308.9	311.9	314.8	319.7	321.7	322.6	321.7
75°	258.9	268.7	277.5	283.4	287.3	290.3	293.2	297.1	298.1	298.1
77.5°	232.4	244.2	251.1	258.9	261.8	264.8	267.7	270.7	272.6	273.6
80°	206.9	217.7	225.6	232.4	236.3	240.3	244.2	246.2	247.1	247.1
82.5°	184.4	194.2	203.0	209.9	213.8	215.8	220.7	222.6	225.6	225.6
85°	163.8	172.6	182.4	191.2	193.2	196.1	201.0	205.0	205.9	206.9
87.5°	149.1	159.9	168.7	176.5	179.5	182.4	187.3	190.3	191.2	192.2
90°	142.2	152.0	160.8	168.7	171.6	174.6	179.5	182.4	184.4	185.3
92.5°	138.3	149.1	157.9	165.7	168.7	171.6	175.5	179.5	180.4	181.4
95°	136.3	147.1	155.9	163.8	166.7	169.7	173.6	176.5	178.5	179.5
97.5°	134.4	144.2	154.0	160.8	163.8	166.7	171.6	174.6	175.5	176.5
100°	131.4	142.2	150.0	157.9	160.8	163.8	167.7	170.6	172.6	172.6
102.5°	128.5	138.3	147.1	154.9	157.9	159.9	164.8	167.7	168.7	169.7
105°	125.5	135.3	144.2	151.0	154.0	156.9	160.8	163.8	164.8	165.7
107.5°	121.6	131.4	140.2	147.1	150.0	152.0	156.9	158.9	160.8	160.8
110°	117.7	127.5	135.3	143.2	145.1	148.1	152.0	154.9	155.9	156.9



TEST NUMBER: P231965

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	113.8	122.6	131.4	137.3	141.2	143.2	147.1	150.0	151.0	152.0
115°	109.8	118.7	126.5	133.4	136.3	138.3	142.2	145.1	146.1	146.1
117.5°	104.9	113.8	121.6	128.5	130.4	133.4	136.3	139.3	140.2	141.2
120°	100.0	108.9	116.7	122.6	125.5	127.5	131.4	133.4	134.4	135.3
122.5°	96.1	104.0	110.8	117.7	119.6	122.6	125.5	127.5	128.5	129.5
125°	91.2	99.0	105.9	111.8	113.8	116.7	119.6	122.6	122.6	123.6
127.5°	86.3	93.2	100.0	105.9	107.9	109.8	113.8	115.7	116.7	116.7
130°	80.4	88.3	94.1	100.0	102.0	104.0	106.9	108.9	109.8	109.8
132.5°	75.5	82.4	88.3	93.2	95.1	97.1	100.0	102.0	103.0	103.0
135°	69.6	76.5	82.4	87.3	89.2	91.2	93.2	95.1	96.1	96.1
137.5°	62.8	70.6	75.5	80.4	82.4	84.3	86.3	88.3	89.2	89.2
140°	55.9	63.7	69.6	74.5	75.5	77.5	79.4	80.4	81.4	82.4
142.5°	50.0	55.9	62.8	66.7	68.6	69.6	72.6	73.6	73.6	74.5
145°	43.2	48.1	54.9	59.8	61.8	62.8	64.7	66.7	66.7	66.7
147.5°	36.3	42.2	46.1	52.0	53.9	55.9	57.9	58.8	58.8	59.8
150°	31.4	35.3	39.2	44.1	46.1	48.1	50.0	51.0	52.0	52.0
152.5°	25.5	29.4	32.4	36.3	37.3	39.2	42.2	43.2	43.2	44.1
155°	20.6	22.6	25.5	28.4	29.4	31.4	34.3	36.3	36.3	36.3
157.5°	14.7	17.7	19.6	21.6	22.6	23.5	26.5	28.4	28.4	28.4
160°	10.8	11.8	13.7	14.7	15.7	16.7	18.6	20.6	21.6	20.6
162.5°	6.9	7.8	8.8	9.8	9.8	10.8	10.8	12.7	13.7	13.7
165°	2.9	3.9	3.9	3.9	4.9	4.9	4.9	4.9	6.9	6.9
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)