

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: P231963

Luminaire Tested: **FVS4M-4-LD4-50-1STD-PFS125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231963
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-LD4-50-1STD-PFS125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PFS125 LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

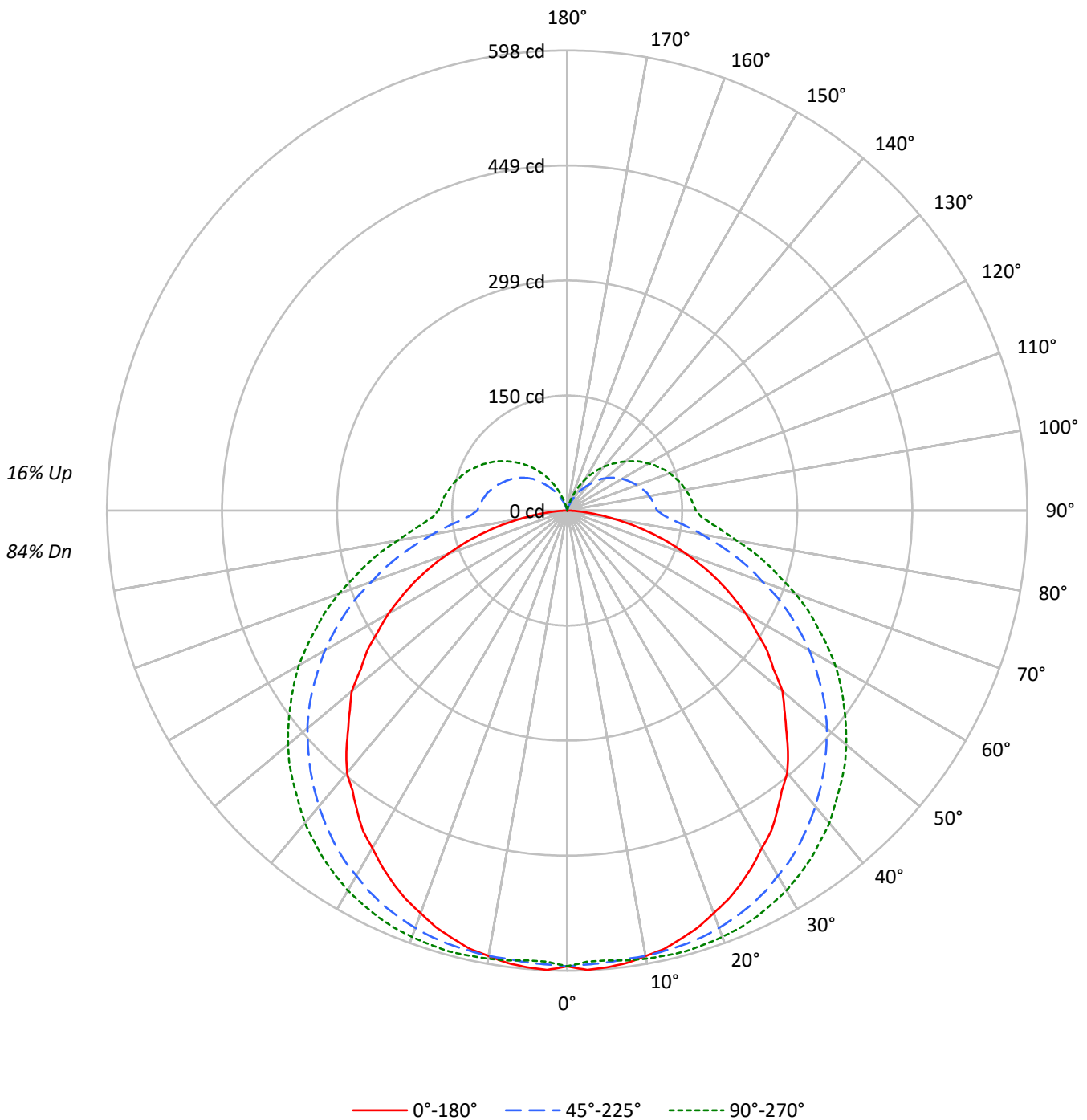
Lumens per Lamp: N/A
Luminaire Lumens: 2591.0 lumens
Efficiency: N/A
Efficacy: 77.1 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.43 / 1.51
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

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

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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	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°	5380	5380	5380
5°	5410	5169	5085
10°	5375	5016	4933
15°	5341	4893	4805
20°	5288	4781	4678
25°	5238	4669	4562
30°	5162	4543	4442
35°	5103	4427	4313
40°	5068	4295	4182
45°	4927	4161	4036
50°	4875	4024	3901
55°	4695	3858	3744
60°	4495	3678	3586
65°	4239	3457	3376
70°	3856	3175	3165
75°	3336	2901	2920
80°	2500	2573	2654
85°	1358	2277	2482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.4	2.2
10°-20°	165.4	6.4
20°-30°	259.7	10.0
30°-40°	326.8	12.6
40°-50°	358.5	13.8
50°-60°	350.9	13.5
60°-70°	303.1	11.7
70°-80°	222.4	8.6
80°-90°	138.6	5.3
90°-100°	108.5	4.2
100°-110°	96.0	3.7
110°-120°	78.6	3.0
120°-130°	58.8	2.3
130°-140°	38.4	1.5
140°-150°	20.5	0.8
150°-160°	7.6	0.3
160°-170°	1.0	0.0
170°-180°	0.0	0.0
0°-30°	481.5	18.6
0°-40°	808.3	31.2
0°-60°	1517.6	58.6
0°-90°	2181.7	84.2
90°-120°	283.0	10.9
90°-150°	400.7	15.5
90°-180°	409.0	15.8
0°-180°	2591.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	592	592	592	592	592	
5°	596	594	590	590	587	57
15°	575	577	584	593	593	162
25°	535	546	566	581	582	246
35°	476	499	528	548	552	298
45°	402	434	473	498	503	312
55°	317	357	403	432	439	282
65°	218	266	319	350	359	215
75°	113	166	224	260	270	119
85°	20	77	136	175	187	26
90°	1	56	117	155	168	1
95°	0	52	113	151	162	0
105°	0	46	103	139	150	0
115°	0	38	90	123	132	0
125°	0	30	74	103	112	0
135°	0	20	55	81	87	0
145°	0	10	34	56	60	0
155°	1	4	15	27	33	0
165°	1	0	2	4	6	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	592.2	592.2	592.2	592.2	592.2	592.2	592.2	592.2	592.2	592.2	592.2
2.5°	597.6	596.7	595.8	594.9	594.9	595.8	595.8	595.8	594.9	592.2	590.5
5°	595.8	594.9	594.0	593.1	594.0	594.0	594.0	594.0	593.1	591.4	589.6
7.5°	593.1	592.2	591.4	590.5	590.5	591.4	591.4	591.4	591.4	589.6	587.8
10°	587.8	587.8	586.0	586.0	586.9	586.9	587.8	588.7	588.7	588.7	587.8
12.5°	583.4	581.6	580.7	581.6	581.6	582.5	583.4	586.0	586.0	586.9	586.0
15°	575.4	574.5	573.6	573.6	576.3	577.2	578.9	581.6	583.4	583.4	584.3
17.5°	567.4	566.5	566.5	566.5	569.2	571.0	573.6	576.3	578.1	579.8	581.6
20°	556.8	556.8	557.7	558.5	562.1	563.9	566.5	571.0	572.7	575.4	577.2
22.5°	547.0	546.1	546.1	548.8	553.2	555.9	558.5	563.0	565.6	569.2	571.8
25°	534.6	534.6	534.6	539.0	544.4	546.1	550.6	555.0	558.5	562.1	565.6
27.5°	521.3	521.3	521.3	527.5	532.8	536.4	539.9	545.3	549.7	553.2	557.7
30°	506.2	507.1	509.8	515.1	521.3	524.9	528.4	534.6	539.9	543.5	547.9
32.5°	493.8	491.2	494.7	500.0	508.0	512.4	516.0	522.2	528.4	533.7	539.0
35°	476.1	476.1	479.6	486.7	494.7	499.1	502.7	509.8	516.0	521.3	527.5
37.5°	458.4	457.5	462.8	470.8	479.6	484.1	488.5	495.6	500.9	507.1	515.1
40°	445.1	440.6	446.0	454.8	463.7	469.0	473.4	480.5	487.6	494.7	501.8
42.5°	424.7	421.1	427.3	436.2	446.8	452.2	456.6	465.5	472.6	480.5	487.6
45°	402.5	402.5	410.5	419.4	428.2	434.4	438.9	448.6	456.6	465.5	472.6
47.5°	383.0	382.1	389.2	400.7	410.5	416.7	422.0	430.9	439.7	449.5	456.6
50°	365.3	361.7	369.7	380.3	392.8	397.2	403.4	412.3	422.9	430.9	440.6
52.5°	337.8	341.3	347.5	360.0	371.5	377.7	383.9	393.6	404.3	413.1	422.9
55°	317.4	318.3	327.2	339.6	350.2	357.3	364.4	375.9	384.8	394.5	403.4
57.5°	290.8	294.3	305.0	316.5	328.9	336.9	342.2	352.9	363.5	374.1	383.0
60°	268.6	272.2	281.9	292.6	305.9	313.0	319.2	330.7	341.3	352.9	363.5
62.5°	242.9	247.4	258.0	270.4	282.8	289.0	295.2	310.3	320.9	331.6	341.3
65°	218.1	222.5	232.3	243.8	258.9	266.0	272.2	284.6	297.9	308.5	319.2
67.5°	191.5	195.9	207.5	219.9	234.1	242.0	248.2	262.4	272.2	284.6	296.1
70°	164.9	169.3	180.0	193.3	208.3	216.3	224.3	236.7	249.1	260.7	270.4
72.5°	139.2	144.5	155.2	168.5	183.5	190.6	197.7	211.9	224.3	237.6	248.2
75°	112.6	117.9	129.4	143.6	158.7	165.8	172.9	188.0	200.4	212.8	224.3
77.5°	86.9	91.3	104.6	119.7	133.0	139.2	148.1	163.1	176.4	188.8	200.4
80°	61.2	66.5	79.8	94.0	109.1	117.0	124.1	140.1	152.5	165.8	177.3
82.5°	39.9	44.3	57.6	71.8	87.8	94.9	102.8	117.9	130.3	145.4	156.0
85°	20.4	25.7	38.1	53.2	68.3	77.1	83.3	99.3	111.7	125.9	136.5
87.5°	6.2	12.4	23.9	39.0	54.1	62.9	70.9	85.1	99.3	111.7	124.1
90°	0.9	6.2	17.7	32.8	48.8	55.9	63.8	78.9	92.2	105.5	117.0
92.5°	0.0	5.3	16.8	31.0	46.1	54.1	62.1	76.2	90.4	102.8	114.4
95°	0.0	4.4	16.0	30.1	45.2	52.3	60.3	74.5	88.7	101.1	112.6
97.5°	0.0	4.4	15.1	28.4	43.4	51.4	58.5	73.6	86.9	99.3	110.8
100°	0.0	3.5	14.2	27.5	41.7	49.6	56.7	70.9	84.2	96.6	108.2
102.5°	0.0	3.5	13.3	26.6	40.8	47.9	55.0	69.2	82.5	94.9	106.4
105°	0.0	2.7	12.4	24.8	39.0	46.1	53.2	66.5	79.8	92.2	102.8
107.5°	0.0	2.7	11.5	23.9	37.2	44.3	50.5	64.7	77.1	88.7	100.2
110°	0.0	2.7	10.6	22.2	35.5	41.7	48.8	62.1	74.5	86.0	96.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.8	9.8	21.3	33.7	39.9	47.0	59.4	71.8	83.3	93.1
115°	0.0	1.8	8.9	19.5	31.9	38.1	44.3	56.7	68.3	79.8	89.5
117.5°	0.0	0.9	8.0	18.6	30.1	36.4	42.6	54.1	65.6	76.2	86.0
120°	0.0	0.9	7.1	16.8	28.4	34.6	39.9	51.4	62.1	72.7	82.5
122.5°	0.0	0.9	6.2	16.0	26.6	31.9	37.2	48.8	59.4	69.2	78.0
125°	0.0	0.9	5.3	14.2	24.8	30.1	35.5	46.1	55.9	65.6	74.5
127.5°	0.0	0.0	4.4	12.4	22.2	26.6	31.9	42.6	52.3	61.2	70.0
130°	0.0	0.0	3.5	11.5	19.5	23.9	29.3	39.0	47.9	57.6	65.6
132.5°	0.0	0.0	2.7	9.8	17.7	22.2	25.7	34.6	43.4	52.3	61.2
135°	0.0	0.0	2.7	8.0	15.1	19.5	23.1	31.0	39.0	47.9	55.0
137.5°	0.0	0.0	1.8	6.2	13.3	16.8	20.4	27.5	34.6	42.6	49.6
140°	0.0	0.0	0.9	5.3	11.5	14.2	17.7	24.8	31.0	37.2	44.3
142.5°	0.0	0.0	0.9	4.4	8.9	12.4	15.1	21.3	27.5	32.8	39.0
145°	0.0	0.0	0.9	2.7	7.1	9.8	12.4	17.7	23.1	28.4	33.7
147.5°	0.9	0.9	0.9	2.7	6.2	8.0	10.6	15.1	19.5	24.8	29.3
150°	0.9	0.9	0.9	1.8	4.4	6.2	8.9	12.4	16.0	20.4	24.8
152.5°	0.9	0.9	0.0	0.9	3.5	4.4	6.2	9.8	13.3	16.0	19.5
155°	0.9	0.9	0.9	0.9	1.8	3.5	4.4	7.1	10.6	13.3	15.1
157.5°	0.9	0.9	0.0	0.0	0.9	1.8	2.7	5.3	8.0	9.8	11.5
160°	0.9	0.9	0.0	0.0	0.9	0.9	1.8	3.5	5.3	6.2	8.0
162.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.9	1.8	2.7	3.5	5.3
165°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	592.2	592.2	592.2	592.2	592.2	592.2	592.2	592.2	592.2	592.2
2.5°	590.5	591.4	591.4	590.5	590.5	590.5	589.6	588.7	587.8	586.9
5°	589.6	590.5	590.5	590.5	590.5	590.5	588.7	588.7	587.8	586.9
7.5°	588.7	590.5	591.4	591.4	591.4	591.4	591.4	590.5	589.6	589.6
10°	588.7	591.4	592.2	593.1	593.1	593.1	593.1	592.2	592.2	591.4
12.5°	588.7	591.4	592.2	593.1	593.1	594.0	594.0	593.1	593.1	592.2
15°	586.9	589.6	591.4	593.1	593.1	594.0	594.0	593.1	593.1	593.1
17.5°	584.3	587.8	589.6	591.4	591.4	592.2	593.1	592.2	592.2	591.4
20°	580.7	584.3	586.9	588.7	589.6	589.6	590.5	590.5	590.5	589.6
22.5°	576.3	579.8	582.5	584.3	585.1	586.0	587.8	587.8	586.9	586.9
25°	569.2	573.6	577.2	579.8	580.7	581.6	582.5	583.4	582.5	582.5
27.5°	563.0	566.5	571.0	573.6	574.5	575.4	576.3	578.1	577.2	576.3
30°	555.0	558.5	563.0	565.6	566.5	568.3	570.1	571.0	570.1	570.1
32.5°	545.3	549.7	553.2	556.8	558.5	559.4	561.2	562.1	562.1	561.2
35°	533.7	539.0	543.5	547.0	547.9	548.8	551.5	552.3	552.3	552.3
37.5°	522.2	526.6	532.0	535.5	537.3	538.2	539.9	541.7	540.8	540.8
40°	508.0	514.2	519.5	523.1	524.9	525.7	528.4	530.2	530.2	530.2
42.5°	494.7	500.0	505.4	509.8	511.6	514.2	516.0	516.0	516.9	516.0
45°	479.6	485.8	492.1	496.5	498.3	500.0	502.7	502.7	503.6	502.7
47.5°	464.6	472.6	477.0	481.4	482.3	485.0	487.6	488.5	488.5	489.4
50°	447.7	455.7	460.1	465.5	467.2	469.0	471.7	472.6	473.4	473.4
52.5°	430.0	436.2	444.2	448.6	450.4	452.2	453.9	455.7	457.5	456.6
55°	412.3	418.5	424.7	430.0	431.8	433.5	437.1	438.9	438.9	438.9
57.5°	391.9	399.0	406.1	411.4	413.1	414.9	418.5	419.4	420.2	421.1
60°	371.5	379.5	384.8	391.9	392.8	395.4	399.0	400.7	402.5	402.5
62.5°	350.2	357.3	365.3	370.6	372.4	375.0	378.6	380.3	381.2	381.2
65°	328.0	336.0	343.1	349.3	350.2	353.7	358.2	359.1	360.8	359.1
67.5°	305.9	313.9	320.9	326.3	329.8	332.5	335.1	336.0	338.7	338.7
70°	281.9	289.9	297.9	304.1	306.8	308.5	312.1	314.7	314.7	315.6
72.5°	258.0	266.0	274.0	279.3	281.9	284.6	289.0	290.8	291.7	290.8
75°	234.1	242.9	250.9	256.2	259.8	262.4	265.1	268.6	269.5	269.5
77.5°	210.1	220.8	227.0	234.1	236.7	239.4	242.0	244.7	246.5	247.4
80°	187.1	196.8	203.9	210.1	213.7	217.2	220.8	222.5	223.4	223.4
82.5°	166.7	175.5	183.5	189.7	193.3	195.0	199.5	201.3	203.9	203.9
85°	148.1	156.0	164.9	172.9	174.7	177.3	181.8	185.3	186.2	187.1
87.5°	134.8	144.5	152.5	159.6	162.2	164.9	169.3	172.0	172.9	173.8
90°	128.6	137.4	145.4	152.5	155.2	157.8	162.2	164.9	166.7	167.6
92.5°	125.0	134.8	142.7	149.8	152.5	155.2	158.7	162.2	163.1	164.0
95°	123.2	133.0	141.0	148.1	150.7	153.4	156.9	159.6	161.4	162.2
97.5°	121.5	130.3	139.2	145.4	148.1	150.7	155.2	157.8	158.7	159.6
100°	118.8	128.6	135.6	142.7	145.4	148.1	151.6	154.3	156.0	156.0
102.5°	116.1	125.0	133.0	140.1	142.7	144.5	148.9	151.6	152.5	153.4
105°	113.5	122.3	130.3	136.5	139.2	141.9	145.4	148.1	148.9	149.8
107.5°	109.9	118.8	126.8	133.0	135.6	137.4	141.9	143.6	145.4	145.4
110°	106.4	115.3	122.3	129.4	131.2	133.9	137.4	140.1	141.0	141.9



TEST NUMBER: P231963

CATALOG NUMBER: FVS4M-4-LD4-50-1STD-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	102.8	110.8	118.8	124.1	127.7	129.4	133.0	135.6	136.5	137.4
115°	99.3	107.3	114.4	120.6	123.2	125.0	128.6	131.2	132.1	132.1
117.5°	94.9	102.8	109.9	116.1	117.9	120.6	123.2	125.9	126.8	127.7
120°	90.4	98.4	105.5	110.8	113.5	115.3	118.8	120.6	121.5	122.3
122.5°	86.9	94.0	100.2	106.4	108.2	110.8	113.5	115.3	116.1	117.0
125°	82.5	89.5	95.8	101.1	102.8	105.5	108.2	110.8	110.8	111.7
127.5°	78.0	84.2	90.4	95.8	97.5	99.3	102.8	104.6	105.5	105.5
130°	72.7	79.8	85.1	90.4	92.2	94.0	96.6	98.4	99.3	99.3
132.5°	68.3	74.5	79.8	84.2	86.0	87.8	90.4	92.2	93.1	93.1
135°	62.9	69.2	74.5	78.9	80.7	82.5	84.2	86.0	86.9	86.9
137.5°	56.7	63.8	68.3	72.7	74.5	76.2	78.0	79.8	80.7	80.7
140°	50.5	57.6	62.9	67.4	68.3	70.0	71.8	72.7	73.6	74.5
142.5°	45.2	50.5	56.7	60.3	62.1	62.9	65.6	66.5	66.5	67.4
145°	39.0	43.4	49.6	54.1	55.9	56.7	58.5	60.3	60.3	60.3
147.5°	32.8	38.1	41.7	47.0	48.8	50.5	52.3	53.2	53.2	54.1
150°	28.4	31.9	35.5	39.9	41.7	43.4	45.2	46.1	47.0	47.0
152.5°	23.1	26.6	29.3	32.8	33.7	35.5	38.1	39.0	39.0	39.9
155°	18.6	20.4	23.1	25.7	26.6	28.4	31.0	32.8	32.8	32.8
157.5°	13.3	16.0	17.7	19.5	20.4	21.3	23.9	25.7	25.7	25.7
160°	9.8	10.6	12.4	13.3	14.2	15.1	16.8	18.6	19.5	18.6
162.5°	6.2	7.1	8.0	8.9	8.9	9.8	9.8	11.5	12.4	12.4
165°	2.7	3.5	3.5	3.5	4.4	4.4	4.4	4.4	6.2	6.2
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)