

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: P241454

Luminaire Tested: **FVS8M-3-LD4-35-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241454
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-3-LD4-35-1LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

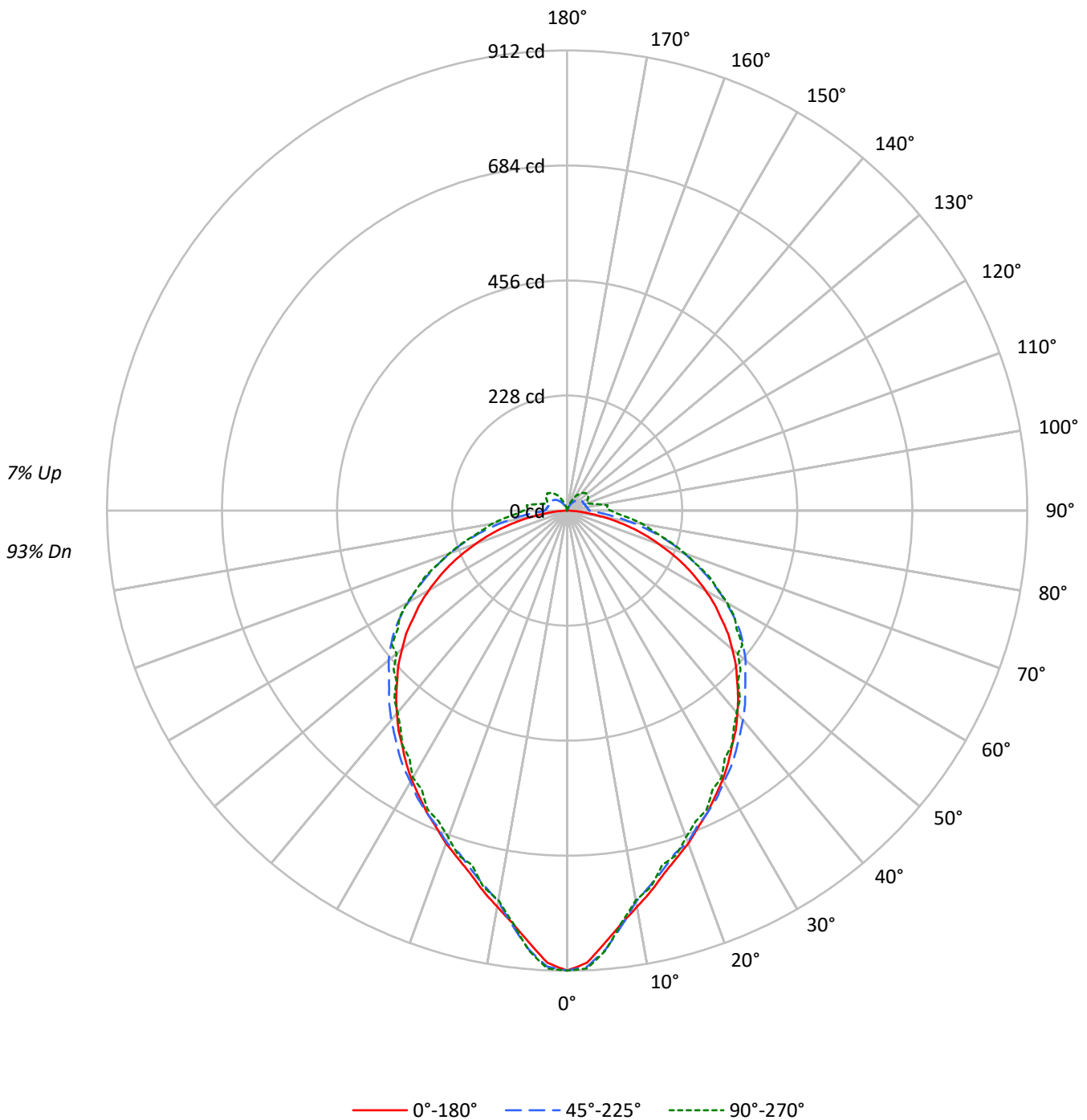
Lumens per Lamp: N/A
Luminaire Lumens: 2425.0 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 21.2
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93
1	106	101	97	92	103	98	94	90	93	89	86	87	85	82	83	80	78	76
2	96	88	81	75	93	85	79	73	80	75	70	76	72	68	72	68	65	62
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	56	51	47	44
5	74	60	51	45	71	59	50	44	56	49	43	53	47	42	51	45	41	38
6	68	54	45	39	65	53	45	38	51	43	37	48	42	37	46	40	36	33
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	28	26
9	55	41	33	27	53	40	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	34	28	24	33	27	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5323	5323	5323
5°	5017	5032	5030
10°	4686	4509	4471
15°	4436	4229	4147
20°	4283	4058	3956
25°	4148	3896	3814
30°	4037	3760	3646
35°	3920	3654	3499
40°	3837	3548	3347
45°	3742	3446	3222
50°	3657	3402	3157
55°	3537	3333	3156
60°	3398	3169	3072
65°	3198	2971	2901
70°	2881	2731	2612
75°	2497	2426	2325
80°	1875	1990	2224
85°	1015	1515	2030



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.3	3.3
10°-20°	208.3	8.6
20°-30°	303.2	12.5
30°-40°	361.1	14.9
40°-50°	379.6	15.7
50°-60°	361.7	14.9
60°-70°	290.1	12.0
70°-80°	184.9	7.6
80°-90°	81.0	3.3
90°-100°	43.1	1.8
100°-110°	35.4	1.5
110°-120°	29.4	1.2
120°-130°	27.2	1.1
130°-140°	20.9	0.9
140°-150°	12.6	0.5
150°-160°	5.1	0.2
160°-170°	0.9	0.0
170°-180°	0.0	0.0
0°-30°	591.8	24.4
0°-40°	952.9	39.3
0°-60°	1694.2	69.9
0°-90°	2250.2	92.8
90°-120°	108.0	4.5
90°-150°	168.7	7.0
90°-180°	175.0	7.2
0°-180°	2425.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	912	912	912	912	912	
5°	860	866	873	871	875	80
15°	744	741	736	732	727	210
25°	659	660	660	651	654	304
35°	570	579	583	576	568	357
45°	476	491	499	496	478	368
55°	373	394	419	416	410	334
65°	257	278	305	311	312	253
75°	132	155	186	195	190	139
85°	24	44	73	99	108	30
90°	1	18	44	66	86	1
95°	0	17	42	59	80	0
105°	0	16	38	52	52	0
115°	0	16	35	44	44	0
125°	0	14	35	48	50	0
135°	1	11	30	44	49	0
145°	1	6	21	34	39	0
155°	1	2	10	19	22	0
165°	1	1	2	5	6	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241454

CATALOG NUMBER: FVS8M-3-LD4-35-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6
2.5°	897.1	894.5	894.5	897.1	898.9	898.9	900.8	903.4	905.3	904.6	904.6
5°	859.8	859.2	858.6	863.0	864.2	865.5	866.8	872.4	873.1	875.0	873.1
7.5°	825.1	822.6	822.6	825.8	827.0	828.3	829.6	832.1	828.9	827.0	829.6
10°	797.4	793.6	793.0	794.9	794.2	793.6	794.2	791.7	793.0	790.4	786.7
12.5°	771.5	769.0	765.8	765.8	765.2	765.2	763.9	763.9	760.2	756.4	760.8
15°	743.8	743.1	739.3	741.2	741.2	741.2	741.9	741.2	738.7	740.6	736.2
17.5°	721.7	719.8	719.2	722.9	721.7	720.4	721.0	718.5	720.4	716.0	711.6
20°	702.1	699.6	699.6	700.2	699.0	697.7	698.3	700.2	697.7	694.6	699.6
22.5°	678.8	675.6	676.3	679.4	679.4	681.3	682.6	679.4	677.5	679.4	675.6
25°	659.2	657.3	659.2	659.2	658.0	659.9	661.7	663.0	661.1	660.5	659.9
27.5°	636.5	634.0	635.9	637.8	642.2	642.8	642.2	642.2	641.6	644.1	642.2
30°	616.3	614.4	617.0	620.1	620.1	620.7	621.4	623.9	622.0	625.8	620.7
32.5°	593.6	591.7	594.2	595.5	601.2	601.2	603.1	605.6	605.0	606.2	603.7
35°	569.6	568.4	571.5	577.2	579.1	579.1	582.9	582.9	585.4	585.4	582.9
37.5°	548.8	548.2	550.1	556.4	558.9	560.8	563.3	564.0	567.1	564.6	561.4
40°	524.9	523.6	526.7	532.4	535.6	537.5	539.4	543.8	543.8	543.2	541.9
42.5°	501.5	501.5	504.0	508.5	514.1	516.7	517.3	522.3	524.2	521.1	521.7
45°	476.3	476.3	478.8	485.1	489.5	491.4	493.9	497.1	499.6	502.8	499.0
47.5°	453.6	453.6	455.5	459.9	467.5	467.5	470.6	475.0	477.5	480.1	478.8
50°	427.1	429.0	431.5	435.3	439.1	443.5	447.9	452.9	455.5	458.0	461.8
52.5°	402.5	401.2	404.4	408.8	414.5	419.5	422.0	429.6	434.6	439.1	440.3
55°	372.8	376.6	377.9	383.5	386.7	393.6	396.8	402.5	410.0	415.1	418.9
57.5°	346.3	347.0	349.5	355.2	362.1	364.6	368.4	375.3	381.7	388.0	391.8
60°	316.7	318.6	322.4	326.1	333.1	336.2	339.4	348.9	353.3	358.9	363.4
62.5°	287.0	288.9	293.3	298.4	302.2	306.0	309.1	318.6	326.8	329.9	334.3
65°	256.8	259.3	261.8	265.6	271.9	277.6	279.5	288.9	295.9	301.5	305.3
67.5°	225.2	227.1	232.1	236.6	242.2	246.7	249.8	258.6	266.2	273.8	275.7
70°	192.4	196.2	199.3	206.3	212.0	215.7	219.5	228.4	235.3	240.3	246.0
72.5°	162.8	164.6	169.1	175.4	181.7	185.5	188.0	198.1	204.4	212.6	217.0
75°	131.8	134.4	138.2	143.2	150.8	154.6	159.6	167.2	174.7	181.7	186.1
77.5°	101.6	104.1	107.2	113.6	119.9	123.6	129.3	136.9	145.1	150.1	155.2
80°	71.9	74.4	77.6	84.5	91.5	94.0	99.0	105.3	114.2	119.9	124.9
82.5°	45.4	47.3	51.1	57.4	64.3	66.9	71.3	78.2	85.8	92.1	97.8
85°	24.0	24.6	29.6	34.1	40.4	43.5	46.7	53.6	61.2	66.9	73.2
87.5°	6.9	8.8	12.6	18.3	23.3	26.5	29.6	36.0	42.9	47.9	54.3
90°	0.6	1.9	5.0	10.1	15.1	18.3	20.8	27.1	32.8	38.5	44.2
92.5°	0.0	1.3	5.0	9.5	14.5	17.7	20.2	25.9	31.5	36.6	42.3
95°	0.0	1.3	4.4	8.8	14.5	17.0	20.2	25.9	30.9	36.6	41.6
97.5°	0.0	1.3	4.4	8.8	14.5	17.0	19.6	25.2	30.9	35.3	40.4
100°	0.0	1.3	4.4	8.8	13.9	17.0	19.6	24.6	30.3	34.7	39.1
102.5°	0.0	1.3	4.4	8.8	13.9	16.4	19.6	24.6	29.0	34.1	38.5
105°	0.0	1.3	4.4	8.8	13.9	16.4	18.9	24.0	28.4	33.4	37.9
107.5°	0.0	1.3	4.4	8.8	13.9	16.4	18.9	24.0	28.4	32.8	37.2
110°	0.0	0.6	3.8	8.8	13.9	16.4	18.9	23.3	28.4	32.8	36.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.6	3.8	8.2	13.2	16.4	18.9	23.3	28.4	32.2	36.0
115°	0.0	0.6	3.8	8.2	13.2	15.8	18.3	23.3	27.8	31.5	35.3
117.5°	0.0	0.6	3.8	8.2	13.2	15.8	18.3	23.3	27.8	31.5	35.3
120°	0.0	0.6	3.2	7.6	12.6	15.1	17.7	22.7	27.8	31.5	35.3
122.5°	0.0	0.6	3.2	7.6	12.0	14.5	17.0	22.1	27.1	31.5	35.3
125°	0.0	0.6	2.5	6.9	12.0	14.5	17.0	21.4	26.5	30.9	35.3
127.5°	0.6	0.6	2.5	6.3	11.4	13.9	16.4	20.8	25.2	29.6	34.1
130°	0.6	0.6	2.5	5.7	10.1	12.6	15.1	20.2	24.6	29.0	32.8
132.5°	0.6	0.6	1.9	5.0	9.5	12.0	13.9	18.9	22.7	27.1	31.5
135°	0.6	0.6	1.3	4.4	8.8	10.7	12.6	17.7	21.4	25.2	29.6
137.5°	0.6	0.6	1.3	3.8	7.6	9.5	11.4	15.8	20.2	23.3	27.8
140°	0.6	0.6	1.3	3.2	6.3	8.2	10.1	13.9	18.3	22.1	25.2
142.5°	0.6	0.6	0.6	2.5	5.7	6.9	8.8	12.0	15.8	19.6	23.3
145°	0.6	0.6	0.6	1.9	4.4	5.7	7.6	10.7	13.9	17.7	20.8
147.5°	0.6	0.6	0.6	1.9	3.8	5.0	6.3	8.8	12.0	15.1	18.3
150°	0.6	0.6	0.6	1.3	2.5	3.8	5.0	7.6	10.1	12.6	15.8
152.5°	0.6	0.6	0.6	0.6	1.9	3.2	3.8	5.7	8.2	10.7	12.6
155°	0.6	0.6	0.6	0.6	1.3	1.9	3.2	4.4	6.3	8.2	10.1
157.5°	0.6	0.6	0.6	0.6	1.3	1.3	1.9	3.2	4.4	6.3	7.6
160°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	2.5	3.2	4.4	5.7
162.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.9	3.2	3.8
165°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.9	1.9
167.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3
170°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6
2.5°	905.9	905.3	905.9	907.8	907.8	908.4	909.0	909.7	909.0	908.4
5°	873.7	870.6	869.9	872.4	871.2	871.8	873.7	875.6	875.0	875.0
7.5°	830.2	828.3	828.9	823.2	822.6	820.1	820.7	820.7	822.0	823.9
10°	781.6	783.5	788.5	793.0	794.2	792.3	789.2	785.4	783.5	784.1
12.5°	761.4	755.7	748.2	745.0	748.2	752.6	758.9	763.3	764.6	764.6
15°	728.0	730.5	735.6	738.7	732.4	729.9	728.6	726.7	727.4	727.4
17.5°	717.9	714.1	707.8	714.7	719.2	724.2	724.2	719.2	714.7	716.6
20°	692.7	696.4	705.9	697.1	689.5	685.7	685.7	686.4	690.8	688.9
22.5°	680.0	680.7	669.3	674.4	682.6	685.1	680.7	673.1	664.9	666.2
25°	657.3	653.5	663.6	656.1	651.0	647.9	649.8	652.9	655.4	654.2
27.5°	637.8	644.1	630.8	638.4	642.8	645.3	641.6	629.6	627.7	623.9
30°	622.6	613.2	624.5	622.0	613.2	609.4	604.3	608.8	608.8	611.3
32.5°	599.3	602.4	596.8	590.5	594.9	598.7	595.5	590.5	583.5	581.6
35°	583.5	579.1	574.7	581.6	576.0	569.6	564.6	566.5	569.0	568.4
37.5°	564.6	557.0	560.2	549.5	552.0	555.8	558.9	550.1	546.3	542.5
40°	537.5	543.8	532.4	541.9	538.7	531.8	521.7	519.8	523.0	522.3
42.5°	520.4	516.0	522.3	509.1	505.9	507.2	512.9	514.8	509.7	507.2
45°	500.9	501.5	492.7	492.7	495.8	495.2	485.1	478.2	478.8	478.2
47.5°	476.9	479.4	474.4	476.3	466.8	465.6	466.2	468.7	467.5	466.2
50°	463.7	457.4	464.3	454.2	458.0	460.5	454.8	444.7	442.2	441.0
52.5°	444.7	448.5	440.3	449.2	446.0	437.8	432.8	436.5	437.2	437.8
55°	417.0	423.9	426.4	418.2	415.7	418.2	420.1	413.8	411.3	410.0
57.5°	396.2	394.3	393.6	394.3	396.2	394.9	389.2	389.2	393.0	393.6
60°	365.9	370.9	364.0	367.1	362.7	362.7	369.0	368.4	367.1	365.9
62.5°	335.6	336.9	341.3	334.3	336.9	340.7	336.9	333.7	335.6	335.6
65°	307.8	307.8	306.6	311.0	311.0	306.0	304.1	308.5	311.0	311.6
67.5°	280.1	282.0	280.7	281.4	276.9	276.9	280.1	276.3	275.0	276.3
70°	247.9	250.4	255.5	249.2	252.3	253.0	246.7	244.8	246.7	247.9
72.5°	218.9	220.2	222.7	224.6	224.6	222.7	220.8	220.8	220.2	220.2
75°	188.6	193.0	193.0	196.2	194.9	193.7	195.6	193.0	189.9	189.9
77.5°	159.6	165.9	166.5	167.2	167.8	170.3	169.7	167.8	167.8	168.4
80°	130.6	135.6	139.4	140.7	141.9	144.5	145.1	148.9	150.1	150.8
82.5°	102.8	109.1	112.9	118.0	119.9	122.4	126.2	129.3	131.8	130.0
85°	79.5	84.5	90.2	97.1	99.0	102.2	104.7	105.3	106.6	108.5
87.5°	59.9	66.9	73.8	79.5	80.7	81.4	83.3	87.1	91.5	94.6
90°	50.5	56.8	62.5	65.0	65.6	66.9	70.7	75.7	81.4	86.4
92.5°	47.9	53.0	56.1	58.7	60.6	62.5	65.6	69.4	75.1	78.9
95°	46.1	50.5	53.6	56.8	59.3	61.2	64.3	69.4	75.7	79.5
97.5°	44.8	49.2	53.0	56.8	59.3	61.2	66.9	73.8	80.1	80.7
100°	44.2	47.9	51.7	56.1	58.7	61.2	66.9	70.0	69.4	69.4
102.5°	42.9	46.7	51.1	54.9	56.8	58.0	60.6	60.6	59.3	58.7
105°	42.3	45.4	49.2	51.7	51.7	53.0	53.6	53.0	52.4	51.7
107.5°	41.0	44.2	46.7	47.3	47.9	48.6	48.6	47.9	46.7	46.1
110°	39.7	42.3	44.2	44.8	44.8	45.4	44.8	44.2	42.9	42.3



TEST NUMBER: P241454

CATALOG NUMBER: FVS8M-3-LD4-35-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	39.1	41.0	42.9	43.5	43.5	44.2	44.2	43.5	42.9	42.3
115°	38.5	41.0	42.9	43.5	44.2	44.8	45.4	44.8	44.2	43.5
117.5°	38.5	41.0	43.5	44.8	45.4	46.1	46.7	47.3	46.1	45.4
120°	39.1	41.6	44.2	46.1	46.7	47.3	48.6	48.6	47.9	47.9
122.5°	39.1	42.3	44.8	46.7	47.9	48.6	49.2	49.8	49.2	49.2
125°	39.1	42.3	44.8	46.7	47.9	48.6	49.8	51.1	50.5	50.5
127.5°	38.5	41.6	44.2	46.7	47.3	47.9	49.8	51.1	51.1	51.7
130°	37.2	40.4	43.5	45.4	46.7	47.3	49.2	50.5	51.1	51.7
132.5°	35.3	39.1	41.6	44.2	44.8	46.1	47.9	49.2	50.5	51.1
135°	33.4	36.6	39.7	42.3	43.5	44.8	46.1	47.9	49.2	49.2
137.5°	30.9	34.7	37.9	40.4	41.0	42.3	44.2	46.1	46.7	47.3
140°	29.0	32.2	35.3	37.9	39.1	40.4	42.3	43.5	44.8	44.8
142.5°	26.5	30.3	32.8	35.3	36.6	37.9	39.7	41.0	42.3	42.3
145°	24.6	27.8	30.3	32.8	34.1	34.7	36.6	37.9	39.1	39.1
147.5°	22.1	24.6	27.8	29.6	30.9	31.5	33.4	34.7	35.3	36.0
150°	18.9	21.4	24.0	25.9	27.1	27.8	29.6	30.9	31.5	32.2
152.5°	15.1	17.7	20.2	22.1	22.7	24.0	25.2	25.9	27.1	27.1
155°	12.6	14.5	16.4	18.3	18.9	19.6	20.8	21.4	22.1	22.1
157.5°	9.5	10.7	12.6	14.5	15.1	15.1	16.4	17.0	17.7	17.7
160°	6.9	8.2	9.5	10.7	11.4	12.0	12.6	13.2	13.2	13.2
162.5°	4.4	5.7	6.3	7.6	7.6	8.2	8.8	9.5	9.5	9.5
165°	2.5	3.2	3.8	4.4	5.0	5.0	5.7	5.7	6.3	6.3
167.5°	1.3	1.9	1.9	2.5	2.5	2.5	3.2	3.2	3.8	3.2
170°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3	1.3
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)