

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: P241431

Luminaire Tested: **FVS8M-2-LD4-40-2LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241431
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-10)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-2-LD4-40-2LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

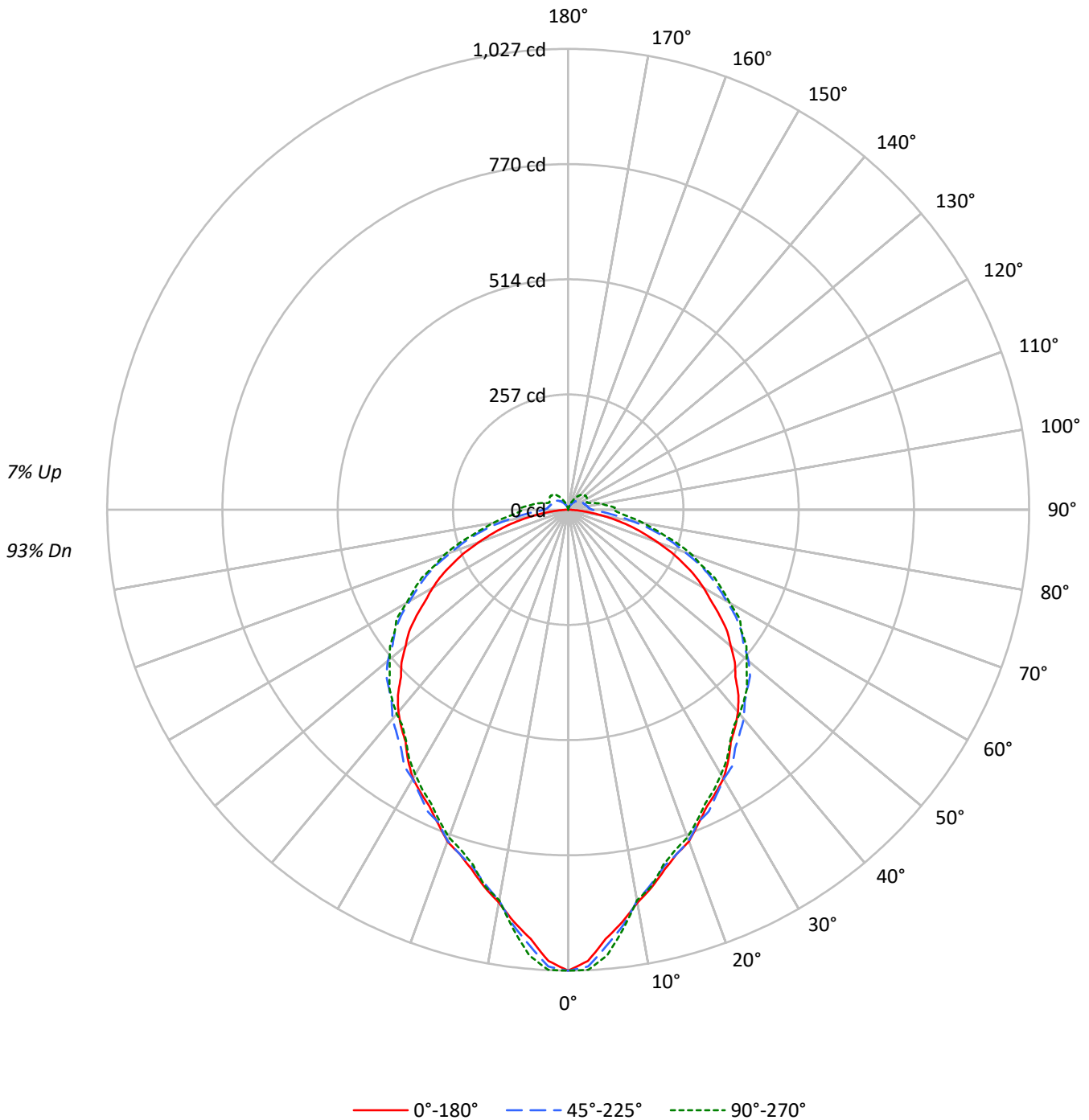
Lumens per Lamp: N/A
Luminaire Lumens: 2718.0 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 23.7
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	96	96	96	93
1	106	101	97	92	103	98	94	90	93	89	86	88	85	82	83	81	79	76
2	96	88	81	75	93	85	79	73	81	75	70	76	72	68	72	69	65	63
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	64	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
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	34
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30
8	59	45	36	30	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°	9235	9235	9235
5°	8603	8643	8819
10°	8002	7779	7760
15°	7565	7245	7188
20°	7315	6967	6866
25°	6986	6681	6481
30°	6867	6397	6255
35°	6569	6187	5962
40°	6480	6046	5862
45°	6208	5902	5839
50°	6046	5836	5718
55°	5809	5647	5583
60°	5516	5343	5368
65°	5150	5073	5162
70°	4569	4573	4759
75°	3882	4071	4203
80°	2849	3356	3838
85°	1428	2575	3511



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.3	3.3
10°-20°	233.7	8.6
20°-30°	339.0	12.5
30°-40°	403.6	14.8
40°-50°	430.3	15.8
50°-60°	407.5	15.0
60°-70°	328.4	12.1
70°-80°	211.0	7.8
80°-90°	92.1	3.4
90°-100°	48.9	1.8
100°-110°	37.8	1.4
110°-120°	30.2	1.1
120°-130°	26.9	1.0
130°-140°	20.2	0.7
140°-150°	11.8	0.4
150°-160°	4.9	0.2
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	663.1	24.4
0°-40°	1066.7	39.2
0°-60°	1904.5	70.1
0°-90°	2536.0	93.3
90°-120°	116.9	4.3
90°-150°	175.9	6.5
90°-180°	182.0	6.7
0°-180°	2718.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1027	1027	1027	1027	1027	
5°	960	964	976	991	997	90
15°	830	834	823	817	819	235
25°	730	734	741	735	722	339
35°	632	654	649	646	629	399
45°	527	552	564	575	563	410
55°	412	435	471	476	471	368
65°	283	307	349	354	360	280
75°	145	173	211	231	223	153
85°	26	51	86	109	122	33
90°	1	23	53	74	101	1
95°	0	20	46	68	93	0
105°	0	18	40	55	56	0
115°	0	16	36	45	46	0
125°	0	15	34	48	50	0
135°	0	11	28	42	47	0
145°	1	7	20	31	36	0
155°	1	3	11	17	20	0
165°	1	1	3	7	7	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°	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4
2.5°	1006.5	1006.5	1007.1	1007.1	1008.4	1009.0	1010.8	1010.8	1013.9	1016.3	1018.8
5°	960.0	958.1	960.0	960.0	963.0	964.3	967.3	971.0	971.6	975.3	975.9
7.5°	926.3	925.7	923.2	923.2	922.0	923.8	923.8	926.3	930.6	934.2	934.8
10°	888.9	888.3	887.7	888.3	885.2	886.5	886.5	887.7	890.1	889.5	884.6
12.5°	861.3	860.7	858.3	858.3	858.9	858.9	858.3	859.5	855.2	852.8	854.6
15°	830.1	831.9	833.8	830.7	834.4	833.8	833.8	831.3	825.8	822.1	823.4
17.5°	804.4	806.8	805.0	803.7	802.5	802.5	804.4	804.4	806.2	802.5	804.4
20°	786.6	782.9	778.6	782.3	784.8	785.4	786.0	786.0	783.5	782.9	785.4
22.5°	757.2	756.6	758.4	762.7	762.1	759.0	757.8	752.9	755.4	757.8	754.7
25°	730.2	737.6	739.4	734.5	732.7	733.9	737.6	740.0	744.3	741.9	741.3
27.5°	711.2	713.1	704.5	710.0	718.6	722.9	720.4	719.8	718.0	711.9	715.5
30°	691.6	685.5	686.7	693.5	694.1	691.0	688.0	689.8	693.5	694.1	692.9
32.5°	663.5	660.4	672.0	666.5	666.5	669.0	673.9	676.9	680.6	680.0	678.8
35°	631.6	639.6	639.6	637.1	648.8	654.3	656.7	651.2	650.6	646.3	648.8
37.5°	610.8	611.4	608.9	621.8	626.1	624.3	622.4	621.8	624.9	627.3	627.9
40°	588.7	583.2	587.5	594.8	591.2	594.2	599.1	606.5	609.6	610.8	608.3
42.5°	561.2	559.3	566.1	563.0	570.3	574.6	579.5	583.8	581.4	582.6	582.0
45°	526.8	534.8	531.1	539.7	552.0	552.0	552.6	551.4	556.9	563.6	564.2
47.5°	503.6	504.8	504.2	514.6	519.5	518.3	526.2	534.2	541.5	545.2	549.5
50°	472.9	469.9	482.1	482.7	490.1	495.0	501.7	509.1	515.8	520.7	524.4
52.5°	447.2	444.1	450.3	450.3	466.2	471.7	472.3	477.8	485.2	487.6	492.5
55°	412.3	416.6	415.4	427.0	434.3	435.0	437.4	447.2	458.8	463.7	471.1
57.5°	376.8	382.9	382.3	395.7	398.8	403.7	409.2	422.7	430.1	436.8	442.3
60°	348.6	349.8	355.9	358.4	365.7	373.1	381.7	390.2	395.1	403.1	408.0
62.5°	317.9	314.3	324.7	325.3	338.8	340.0	344.9	354.1	362.1	371.9	377.4
65°	283.0	283.6	288.5	295.3	304.5	306.9	311.8	322.2	332.6	341.8	348.6
67.5°	249.3	251.8	254.8	262.8	268.3	274.5	280.6	289.2	303.2	310.6	314.9
70°	211.4	215.6	219.3	227.9	235.9	240.8	248.7	257.3	266.5	272.6	276.9
72.5°	177.0	180.1	185.6	192.4	204.6	209.5	214.4	221.8	229.7	235.9	245.0
75°	144.6	147.0	153.8	158.7	169.1	172.8	178.9	186.2	196.6	204.6	211.4
77.5°	111.5	113.3	120.1	126.2	135.4	139.7	144.0	152.5	161.1	172.1	178.9
80°	79.6	81.5	88.2	93.7	101.1	104.8	109.7	120.1	129.9	136.0	144.0
82.5°	51.5	52.7	57.6	64.3	71.1	76.0	80.9	89.4	98.0	105.4	112.1
85°	26.3	27.6	33.1	38.6	45.9	50.8	53.9	62.5	71.1	78.4	86.4
87.5°	8.6	10.4	14.7	20.8	27.6	31.9	34.9	42.9	50.2	58.2	65.5
90°	0.6	2.5	6.7	12.3	19.0	22.7	26.3	33.1	39.8	46.6	53.3
92.5°	0.0	1.8	5.5	11.0	17.2	20.8	23.9	30.6	36.8	42.9	48.4
95°	0.0	1.2	5.5	10.4	16.5	20.2	23.3	29.4	35.5	41.0	45.9
97.5°	0.0	1.2	4.9	10.4	15.9	19.6	22.7	28.2	33.7	39.2	44.7
100°	0.0	1.2	4.9	9.8	15.9	19.0	21.4	27.0	32.5	38.0	42.9
102.5°	0.0	1.2	4.9	9.8	15.3	18.4	20.8	26.3	31.9	36.8	41.7
105°	0.0	1.2	4.9	9.8	15.3	17.8	20.8	25.7	31.2	36.1	40.4
107.5°	0.0	1.2	4.3	9.2	14.7	17.8	20.2	25.7	30.6	34.9	39.2
110°	0.0	1.2	4.3	9.2	14.7	17.2	20.2	25.1	30.0	34.3	38.0



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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	4.3	9.2	14.1	17.2	19.6	24.5	29.4	33.1	36.8
115°	0.0	1.2	4.3	8.6	14.1	16.5	19.0	23.9	28.8	32.5	36.1
117.5°	0.0	0.6	4.3	8.6	13.5	15.9	19.0	23.9	28.2	31.9	35.5
120°	0.0	0.6	3.7	8.0	12.9	15.9	18.4	23.3	27.6	31.2	34.9
122.5°	0.0	0.6	3.7	8.0	12.9	15.3	17.8	22.7	27.0	31.2	34.9
125°	0.0	0.6	3.7	7.4	12.3	14.7	17.2	21.4	26.3	30.0	33.7
127.5°	0.0	0.6	3.1	7.4	11.6	14.1	16.5	20.8	25.1	28.8	32.5
130°	0.0	0.6	3.1	6.7	11.0	12.9	15.3	19.6	23.9	27.6	31.2
132.5°	0.0	0.6	2.5	6.1	10.4	12.3	14.1	18.4	22.7	26.3	29.4
135°	0.0	0.6	2.5	5.5	9.2	11.0	13.5	17.2	20.8	24.5	27.6
137.5°	0.0	0.0	1.8	4.9	8.6	10.4	12.3	15.9	19.6	22.7	25.7
140°	0.6	0.0	1.8	4.3	7.4	9.2	11.0	14.1	17.8	20.8	23.9
142.5°	0.6	0.0	1.2	3.7	6.7	8.0	9.8	12.9	15.9	19.0	21.4
145°	0.6	0.0	1.2	3.1	5.5	6.7	8.6	11.0	14.1	16.5	19.6
147.5°	0.6	0.0	0.6	2.5	4.9	6.1	7.4	9.8	12.3	14.7	17.2
150°	0.6	0.6	0.6	1.8	3.7	4.9	6.1	8.6	10.4	12.9	15.3
152.5°	0.6	0.6	0.6	1.2	3.1	3.7	4.9	6.7	9.2	11.0	13.5
155°	0.6	0.6	0.6	1.2	2.5	3.1	3.7	5.5	7.4	9.2	11.0
157.5°	0.6	0.6	0.0	0.6	1.8	2.5	3.1	4.3	5.5	7.4	8.6
160°	0.6	0.6	0.0	0.6	1.2	1.8	1.8	3.1	4.3	5.5	6.7
162.5°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	2.5	3.1	4.3	4.9
165°	0.6	0.6	0.6	0.0	0.6	0.6	0.6	1.2	1.8	2.5	3.1
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.6	0.6	1.2	1.2	1.8
170°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	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°	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4	1027.4
2.5°	1021.2	1023.1	1024.3	1026.1	1025.5	1026.1	1026.1	1024.9	1026.1	1026.1
5°	979.0	983.2	985.7	989.4	990.6	990.6	993.7	996.1	997.3	996.7
7.5°	934.2	930.6	931.2	928.7	928.7	929.9	933.0	935.5	939.1	941.6
10°	883.4	884.6	884.6	887.1	885.8	885.8	886.5	888.3	887.7	884.0
12.5°	855.2	848.5	849.7	855.2	857.0	855.2	857.0	854.6	858.9	858.9
15°	824.0	828.3	830.7	823.4	817.2	819.7	822.7	820.3	819.1	819.1
17.5°	810.5	801.9	797.0	798.8	800.1	798.8	799.5	799.5	797.6	794.6
20°	776.8	778.0	781.1	782.3	781.7	781.1	778.0	777.4	778.0	776.8
22.5°	756.6	756.6	757.2	763.9	763.9	762.1	758.4	754.7	750.5	749.8
25°	745.6	740.0	744.3	738.2	735.1	730.2	728.4	725.9	718.0	722.3
27.5°	712.5	721.7	716.1	713.1	709.4	707.0	702.7	702.1	703.3	703.3
30°	694.1	688.6	686.7	687.4	688.6	693.5	688.6	681.2	681.2	681.2
32.5°	680.0	673.9	670.2	667.7	668.4	666.5	663.5	657.3	656.7	658.6
35°	645.7	650.0	650.6	649.4	645.7	641.4	640.8	639.6	632.2	629.2
37.5°	624.9	622.4	621.8	624.3	625.5	621.8	612.6	608.3	608.9	606.5
40°	610.2	610.2	604.6	596.7	593.0	593.6	597.9	594.2	593.0	594.2
42.5°	586.3	591.8	590.6	585.7	585.0	586.3	585.0	581.4	578.9	578.9
45°	567.9	566.7	567.9	574.6	574.6	571.0	564.2	566.7	566.7	563.0
47.5°	554.4	550.1	552.6	545.8	548.3	550.1	546.5	542.8	541.5	539.1
50°	527.5	531.1	531.7	528.1	524.4	525.0	520.7	517.0	520.7	518.9
52.5°	495.6	501.1	502.3	504.2	498.1	495.6	497.4	502.3	499.9	500.5
55°	476.0	476.0	475.4	472.9	476.0	479.7	472.9	472.3	469.3	471.1
57.5°	450.3	451.5	448.4	451.5	449.0	449.0	446.6	448.4	449.7	453.3
60°	413.5	418.4	422.7	421.5	416.6	417.2	420.3	417.8	418.4	415.4
62.5°	382.3	382.3	389.0	385.9	389.6	387.8	383.5	384.1	386.6	387.8
65°	352.3	353.5	350.4	354.7	354.1	351.6	352.9	358.4	357.8	360.2
67.5°	316.7	322.8	321.6	319.8	319.8	321.0	325.9	321.6	319.8	319.2
70°	282.4	285.5	291.0	288.5	291.6	292.2	288.5	287.3	288.5	293.4
72.5°	250.6	253.6	256.7	261.6	262.2	259.7	262.2	260.4	261.0	259.1
75°	216.9	221.2	224.2	231.6	231.0	228.5	229.1	226.1	223.6	223.0
77.5°	183.2	189.3	196.0	195.4	195.4	197.9	196.0	194.2	194.8	193.0
80°	151.3	158.1	163.6	164.2	165.4	169.1	166.6	167.9	167.2	169.1
82.5°	120.1	126.8	131.7	134.8	136.6	137.2	139.1	140.9	143.4	144.6
85°	93.7	99.9	103.5	107.2	109.0	110.3	113.9	117.0	120.1	121.9
87.5°	71.7	76.0	80.9	85.8	87.6	90.1	93.7	98.0	103.5	108.4
90°	57.6	62.5	67.4	72.3	74.1	76.6	80.9	86.4	94.3	101.1
92.5°	52.7	57.6	61.9	66.8	69.2	72.3	77.8	85.2	96.2	104.1
95°	50.8	55.7	60.6	65.5	68.0	70.5	77.2	84.5	91.3	93.1
97.5°	49.0	53.9	58.2	63.1	65.5	68.6	74.1	77.8	80.3	82.1
100°	47.8	52.1	56.4	61.3	63.1	64.9	68.6	71.7	74.1	76.0
102.5°	45.9	50.2	54.5	57.6	59.4	60.6	63.7	66.8	66.8	66.8
105°	44.7	48.4	51.5	53.9	55.1	56.4	58.2	57.6	57.0	56.4
107.5°	42.9	45.9	48.4	50.8	50.8	51.5	51.5	50.2	49.6	49.0
110°	41.0	44.1	45.9	46.6	47.2	47.2	47.2	46.6	45.9	45.9



TEST NUMBER: P241431

CATALOG NUMBER: FVS8M-2-LD4-40-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	39.8	42.3	44.1	44.7	45.3	45.3	45.3	45.3	44.7	44.7
115°	38.6	41.0	42.9	44.1	44.7	45.3	45.9	45.9	45.9	45.9
117.5°	38.6	41.0	43.5	44.7	45.9	46.6	47.8	47.8	47.2	47.8
120°	38.0	41.0	43.5	45.9	47.2	47.8	49.0	49.0	48.4	48.4
122.5°	38.0	41.0	44.1	46.6	47.8	48.4	49.6	50.2	49.6	49.0
125°	37.4	40.4	43.5	46.6	47.8	49.0	50.2	50.2	49.6	49.6
127.5°	36.1	39.8	42.9	45.9	47.2	48.4	49.6	50.2	49.6	49.6
130°	34.9	38.6	41.7	44.7	45.9	47.2	48.4	49.0	49.0	49.0
132.5°	33.1	36.8	39.8	42.9	44.1	45.3	47.2	47.8	48.4	48.4
135°	31.2	34.9	38.0	41.0	42.3	43.5	45.3	46.6	46.6	47.2
137.5°	29.4	32.5	35.5	38.6	39.8	41.0	43.5	44.1	44.7	45.3
140°	27.0	30.0	32.5	35.5	37.4	38.6	40.4	41.7	42.9	42.9
142.5°	24.5	27.0	30.0	32.5	33.7	34.9	37.4	38.6	39.8	39.8
145°	22.1	24.5	27.0	29.4	30.6	31.9	33.7	34.9	35.5	36.1
147.5°	19.6	22.1	23.9	26.3	27.0	28.2	29.4	30.6	31.2	31.9
150°	17.2	19.6	20.8	22.7	23.3	24.5	25.7	26.3	27.0	27.6
152.5°	14.7	16.5	18.4	19.6	20.2	20.8	22.1	22.7	23.3	23.3
155°	12.9	14.1	15.3	16.5	17.2	17.8	18.4	19.0	19.6	19.6
157.5°	10.4	11.6	12.9	14.1	14.1	14.7	15.3	15.9	16.5	16.5
160°	8.0	9.2	10.4	11.0	11.6	11.6	12.3	12.9	12.9	13.5
162.5°	6.1	6.7	8.0	8.6	9.2	9.2	9.8	10.4	10.4	10.4
165°	4.3	4.9	5.5	6.1	6.7	6.7	7.4	7.4	7.4	7.4
167.5°	2.5	3.1	3.1	3.7	4.3	4.3	4.9	4.9	4.9	4.9
170°	1.2	1.2	1.8	1.8	1.8	1.8	2.5	2.5	2.5	2.5
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)