

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: P241490

Luminaire Tested: **FVS8M-4-LD4-35-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241490
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-35)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-35-1LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

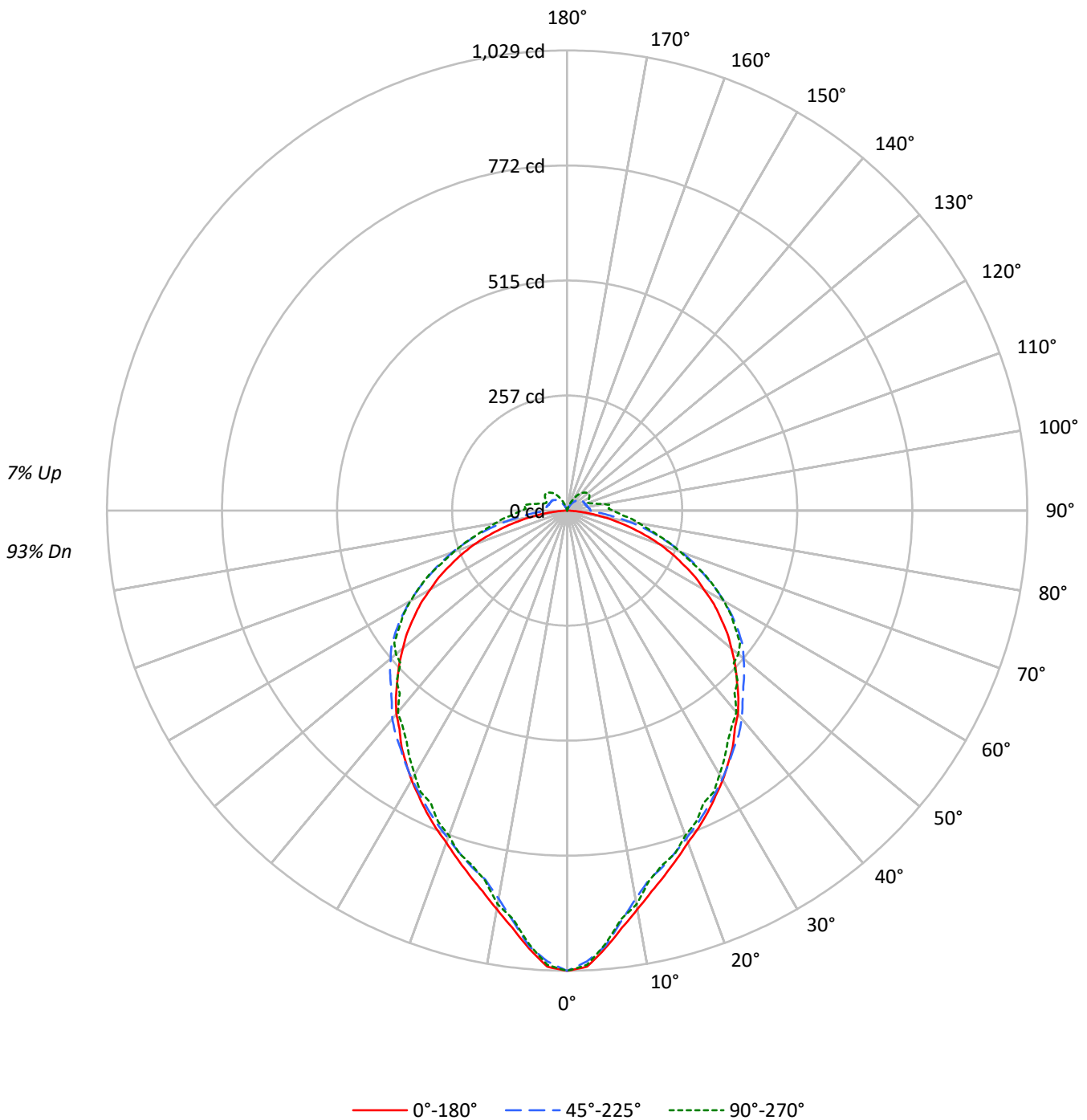
Lumens per Lamp: N/A
Luminaire Lumens: 2719.0 lumens
Efficiency: N/A
Efficacy: 115.2 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 23.6
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	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	92	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	61	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	38	48	42	37	46	40	36	34
7	63	49	41	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	28	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°	4600	4600	4600
5°	4392	4315	4282
10°	4079	3872	3901
15°	3864	3634	3581
20°	3704	3472	3398
25°	3603	3342	3219
30°	3512	3230	3112
35°	3427	3133	2953
40°	3354	3065	2888
45°	3264	2964	2779
50°	3186	2928	2738
55°	3092	2868	2703
60°	2960	2739	2597
65°	2806	2546	2426
70°	2602	2354	2171
75°	2221	2077	1949
80°	1727	1721	1837
85°	907	1309	1796



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.4	3.3
10°-20°	234.3	8.6
20°-30°	340.4	12.5
30°-40°	404.9	14.9
40°-50°	424.2	15.6
50°-60°	404.6	14.9
60°-70°	322.8	11.9
70°-80°	204.3	7.5
80°-90°	90.8	3.3
90°-100°	51.8	1.9
100°-110°	41.7	1.5
110°-120°	34.6	1.3
120°-130°	31.5	1.2
130°-140°	23.5	0.9
140°-150°	13.5	0.5
150°-160°	4.8	0.2
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	665.2	24.5
0°-40°	1070.1	39.4
0°-60°	1898.9	69.8
0°-90°	2516.8	92.6
90°-120°	128.2	4.7
90°-150°	196.7	7.2
90°-180°	202.0	7.4
0°-180°	2719.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1029	1029	1029	1029	1029	
5°	982	978	978	977	973	91
15°	844	838	825	827	821	238
25°	744	745	737	739	721	343
35°	645	653	650	642	627	403
45°	537	556	557	546	539	415
55°	419	442	466	470	459	375
65°	288	311	338	339	340	285
75°	147	175	204	213	208	157
85°	26	49	80	110	125	34
90°	1	21	52	81	103	1
95°	0	20	50	71	95	0
105°	0	20	45	61	60	0
115°	0	18	42	52	52	0
125°	1	16	40	55	61	1
135°	1	11	33	49	57	0
145°	1	5	21	37	43	0
155°	1	2	9	18	21	0
165°	1	1	2	4	5	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°	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3
2.5°	1020.9	1019.1	1015.0	1016.2	1017.4	1016.2	1017.4	1017.4	1015.0	1012.6	1009.0
5°	982.3	978.7	978.1	978.7	979.3	977.6	978.7	979.9	978.1	980.5	977.6
7.5°	940.7	937.7	937.1	936.5	936.0	934.8	935.4	937.1	934.8	929.4	925.9
10°	905.1	900.9	898.5	896.7	896.7	896.1	897.3	894.4	889.6	886.0	881.3
12.5°	872.4	870.0	867.6	868.8	866.4	865.8	864.6	859.9	856.3	852.2	845.0
15°	843.8	843.2	839.7	840.9	837.9	838.5	837.3	835.5	829.0	824.8	824.8
17.5°	816.5	817.1	817.1	817.7	812.9	812.9	812.9	810.6	805.2	803.4	802.2
20°	789.8	791.0	790.4	789.2	789.8	789.2	789.8	787.4	782.0	782.6	779.7
22.5°	767.8	767.2	766.0	767.2	766.6	765.4	766.0	763.6	761.2	760.6	758.9
25°	744.0	744.0	741.0	744.0	743.4	744.6	744.0	745.8	742.2	741.0	736.9
27.5°	719.1	717.3	717.9	720.8	722.6	722.6	720.2	721.4	722.0	715.5	714.9
30°	695.9	695.3	693.5	697.1	699.4	697.7	698.8	701.2	701.2	694.7	693.5
32.5°	670.3	669.1	670.3	673.9	674.5	678.0	679.8	678.6	678.0	672.1	672.1
35°	645.4	644.8	646.6	648.9	651.9	653.1	656.7	659.0	655.5	650.1	649.5
37.5°	615.6	619.2	619.2	623.4	627.5	630.5	632.3	635.3	630.5	626.9	630.5
40°	593.7	591.9	591.3	598.4	602.0	605.0	607.9	609.7	605.5	606.7	607.9
42.5°	566.9	563.9	568.1	572.9	577.6	580.6	581.8	586.5	582.4	584.7	580.6
45°	536.6	537.8	540.2	542.6	552.7	555.6	556.8	557.4	561.0	560.4	556.8
47.5°	509.3	509.3	512.8	517.0	524.7	528.9	530.7	531.9	533.0	533.0	537.2
50°	479.6	480.2	483.7	489.7	495.6	499.2	502.1	506.9	510.5	512.2	515.2
52.5°	451.6	451.0	457.6	461.7	467.1	471.8	474.8	481.3	485.5	487.9	495.0
55°	419.0	420.7	424.9	430.8	438.6	442.1	445.1	452.2	456.4	462.3	466.5
57.5°	389.2	390.4	392.8	398.7	407.7	409.4	413.6	421.3	424.9	432.0	436.8
60°	353.6	358.3	361.3	368.4	372.6	375.6	382.1	392.2	396.4	402.3	405.9
62.5°	323.3	323.9	328.0	334.6	339.3	344.7	351.2	358.3	364.3	369.0	371.4
65°	287.6	290.0	296.5	300.1	307.8	311.4	316.7	323.3	329.2	334.6	337.5
67.5°	254.3	256.1	259.7	266.2	274.0	277.5	280.5	288.2	297.1	302.5	306.6
70°	220.5	222.8	224.6	232.9	237.7	242.5	246.6	256.7	265.0	268.0	272.8
72.5°	183.0	186.6	189.6	197.3	205.0	208.6	213.9	222.8	228.8	234.1	237.7
75°	147.4	150.9	156.3	162.2	168.8	175.3	179.5	186.0	193.1	199.1	204.4
77.5°	113.5	115.3	121.2	129.0	134.9	140.8	143.8	150.9	159.3	164.6	171.7
80°	82.0	83.2	89.7	94.5	102.8	105.8	109.3	117.7	125.4	131.9	137.9
82.5°	52.9	53.5	58.8	65.4	71.3	76.1	79.0	86.8	94.5	101.6	107.0
85°	25.6	27.9	32.7	38.6	46.4	48.7	52.3	60.6	67.2	73.7	80.2
87.5°	8.3	10.1	14.3	20.2	26.7	29.7	33.3	39.8	47.5	54.7	60.6
90°	0.6	2.4	6.5	11.9	18.4	21.4	24.4	31.5	38.6	45.2	51.7
92.5°	0.0	1.8	5.9	11.3	17.2	20.2	23.8	30.9	37.4	44.6	51.7
95°	0.0	1.8	5.3	10.7	17.2	20.2	23.8	30.9	37.4	44.6	50.5
97.5°	0.0	1.2	5.3	10.7	17.2	20.2	23.8	30.3	37.4	42.8	48.1
100°	0.0	1.2	5.3	10.7	16.6	20.2	23.2	30.3	35.7	41.6	46.9
102.5°	0.0	1.2	5.3	10.7	16.6	19.6	23.2	29.1	35.1	40.4	45.8
105°	0.0	1.2	4.8	10.7	16.6	19.6	22.6	28.5	33.9	39.2	44.6
107.5°	0.0	1.2	4.8	10.1	16.0	19.0	22.6	27.9	33.9	38.6	43.4
110°	0.0	1.2	4.8	10.1	16.0	19.0	22.0	27.9	33.3	38.0	42.8



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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	4.2	9.5	16.0	19.0	22.0	27.3	32.7	38.0	42.2
115°	0.0	0.6	4.2	9.5	15.5	18.4	21.4	27.3	32.7	37.4	41.6
117.5°	0.6	0.6	4.2	8.9	14.9	17.8	20.8	26.7	32.1	36.8	41.0
120°	0.6	0.6	3.6	8.3	14.3	17.2	20.2	26.1	31.5	36.8	41.0
122.5°	0.6	0.6	3.0	7.7	13.7	16.6	19.6	25.6	30.9	36.2	41.0
125°	0.6	0.6	3.0	7.7	13.1	16.0	19.0	24.4	29.7	35.1	39.8
127.5°	0.6	0.6	2.4	7.1	12.5	14.9	17.8	23.8	28.5	33.9	38.6
130°	0.6	0.6	1.8	5.9	11.3	13.7	16.6	22.0	27.3	32.1	36.8
132.5°	0.6	0.6	1.8	5.3	10.1	12.5	14.9	20.8	25.6	30.3	35.1
135°	0.6	0.6	1.2	4.8	8.9	11.3	13.1	18.4	23.8	27.9	32.7
137.5°	0.6	0.6	1.2	3.6	7.7	9.5	11.9	16.0	21.4	25.6	30.3
140°	0.6	0.6	1.2	3.0	6.5	8.3	10.1	14.3	18.4	23.2	27.3
142.5°	0.6	0.6	0.6	2.4	5.3	6.5	8.3	11.9	16.0	20.2	24.4
145°	0.6	0.6	0.6	1.8	4.2	5.3	7.1	10.1	13.7	17.8	21.4
147.5°	0.6	0.6	0.6	1.2	3.0	4.2	5.3	8.3	11.3	14.9	17.8
150°	0.6	0.6	0.6	1.2	2.4	3.6	4.2	6.5	8.9	11.9	14.9
152.5°	0.6	0.6	0.6	0.6	1.8	2.4	3.6	5.3	7.1	9.5	11.9
155°	0.6	0.6	0.6	0.6	1.2	1.8	2.4	3.6	5.3	7.1	8.9
157.5°	0.6	0.6	0.6	0.6	1.2	1.2	1.8	2.4	3.6	5.3	6.5
160°	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8	2.4	3.6	4.2
162.5°	1.2	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8	2.4	3.0
165°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8
167.5°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
170°	1.2	1.2	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°	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3
2.5°	1008.5	1013.2	1014.4	1016.2	1015.6	1017.4	1018.0	1019.1	1018.0	1016.8
5°	977.0	979.9	978.7	977.0	977.0	976.4	975.2	975.2	975.8	973.4
7.5°	922.3	925.9	927.0	927.6	928.2	927.0	927.0	926.4	922.9	921.7
10°	876.5	875.9	877.7	881.3	884.3	884.8	889.6	892.0	892.0	893.8
12.5°	846.8	852.2	851.6	853.4	849.2	847.4	852.2	848.6	848.0	847.4
15°	823.0	823.0	824.2	826.0	827.2	827.8	826.0	821.9	818.3	820.7
17.5°	799.9	803.4	800.5	793.3	792.7	795.1	798.1	801.1	802.2	803.4
20°	780.9	776.1	776.7	784.4	786.2	785.6	781.4	778.5	775.5	773.1
22.5°	753.5	760.6	763.6	757.7	754.7	754.7	757.1	756.5	758.3	753.5
25°	737.5	738.1	733.9	738.7	738.7	739.3	732.7	728.0	722.0	721.4
27.5°	714.3	712.5	717.9	714.3	707.8	706.0	705.4	707.8	708.9	709.5
30°	692.9	694.7	684.6	689.3	693.5	694.7	694.1	684.6	681.6	681.6
32.5°	676.3	668.5	672.7	673.3	667.9	664.4	657.8	658.4	657.8	655.5
35°	649.5	648.9	653.1	644.2	641.8	641.2	644.2	640.6	632.9	626.9
37.5°	624.6	628.7	622.2	626.9	624.6	618.6	609.7	606.1	605.5	605.5
40°	607.9	601.4	603.8	592.5	588.3	590.7	592.5	591.9	589.5	588.9
42.5°	582.4	582.4	575.2	571.1	572.3	572.9	566.9	561.0	557.4	554.4
45°	558.0	553.8	551.5	552.1	545.5	541.4	537.8	540.2	537.2	539.0
47.5°	536.6	530.1	530.1	518.8	519.4	522.4	520.6	511.1	508.1	505.1
50°	514.0	518.8	508.7	511.7	510.5	505.1	499.8	499.8	503.3	499.8
52.5°	493.2	496.2	496.8	493.2	489.1	489.7	494.4	491.4	487.9	487.3
55°	468.9	467.7	470.1	468.9	470.1	471.8	465.3	462.3	461.1	458.8
57.5°	438.0	441.5	437.4	444.5	441.5	436.8	437.4	437.4	437.4	434.4
60°	407.1	407.7	411.2	407.1	405.9	408.3	408.3	405.9	403.5	404.1
62.5°	375.6	376.2	375.6	373.2	376.2	373.8	370.2	370.2	373.8	372.6
65°	339.9	343.5	340.5	339.9	339.3	336.9	339.9	341.1	339.9	340.5
67.5°	309.6	310.2	309.6	306.6	305.4	306.6	304.9	301.3	301.9	300.1
70°	276.3	275.7	276.9	275.1	275.7	276.3	271.6	268.6	269.2	269.2
72.5°	241.9	243.6	243.6	245.4	244.8	243.1	241.3	240.1	239.5	239.5
75°	209.2	212.1	212.7	213.9	213.3	212.7	212.7	210.4	208.6	208.0
77.5°	175.9	178.9	183.6	182.4	183.6	183.6	184.8	181.8	183.6	183.6
80°	143.2	146.8	151.5	155.1	156.3	156.9	158.1	159.3	162.8	162.8
82.5°	113.5	117.7	123.6	128.4	131.9	133.1	137.9	142.6	145.0	146.2
85°	86.8	93.3	99.2	105.2	109.9	113.5	117.7	119.4	123.0	125.4
87.5°	67.7	74.9	82.6	90.3	93.3	95.1	98.6	102.8	108.7	112.3
90°	59.4	67.2	74.3	79.6	80.8	82.6	86.8	91.5	98.1	102.8
92.5°	58.8	64.8	69.5	73.1	74.9	77.3	80.8	83.2	88.5	92.7
95°	55.9	61.2	66.0	69.5	71.3	73.1	76.7	82.6	90.3	95.1
97.5°	54.1	59.4	63.0	67.2	69.5	71.9	79.6	88.5	95.1	96.9
100°	52.3	57.0	61.2	66.6	69.5	72.5	79.0	82.6	83.8	82.6
102.5°	50.5	55.3	60.0	64.8	66.6	68.9	71.9	71.3	70.7	69.5
105°	49.3	53.5	57.6	60.6	61.2	62.4	63.0	62.4	61.2	60.0
107.5°	48.1	51.7	54.7	55.9	56.5	57.0	57.0	55.9	54.7	53.5
110°	46.4	49.9	51.7	52.9	52.9	53.5	52.9	52.3	50.5	49.9



TEST NUMBER: P241490

CATALOG NUMBER: FVS8M-4-LD4-35-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	45.8	48.1	49.9	51.1	51.7	52.3	52.3	51.7	50.5	49.9
115°	45.2	48.1	49.9	51.7	52.3	52.9	53.5	53.5	52.3	52.3
117.5°	45.2	48.7	51.1	52.9	54.1	54.7	55.3	55.9	55.3	54.7
120°	45.2	49.3	51.7	54.7	55.3	55.9	57.0	57.6	57.6	57.0
122.5°	45.2	49.3	52.3	54.7	55.9	56.5	58.2	58.8	58.8	58.8
125°	44.6	48.7	51.7	54.1	55.3	56.5	58.2	59.4	60.0	60.6
127.5°	43.4	47.5	50.5	53.5	54.7	55.9	57.6	58.8	60.0	61.2
130°	41.6	45.8	49.3	52.3	53.5	54.7	56.5	58.2	59.4	60.0
132.5°	39.8	43.4	47.5	50.5	51.7	52.9	55.3	57.0	58.2	58.8
135°	37.4	41.0	45.2	48.1	49.3	51.1	53.5	55.3	56.5	57.0
137.5°	34.5	38.6	42.2	45.8	46.9	48.1	51.1	52.9	54.1	54.1
140°	32.1	35.7	39.8	42.8	44.6	45.8	48.1	49.9	51.1	51.7
142.5°	29.1	33.3	36.8	39.8	41.0	42.2	44.6	46.4	47.5	48.1
145°	25.6	29.7	32.7	35.7	37.4	38.6	40.4	42.2	43.4	43.4
147.5°	22.0	25.6	28.5	30.9	32.7	33.9	35.7	37.4	38.6	38.6
150°	17.8	20.8	24.4	26.7	27.3	28.5	30.3	31.5	32.1	32.7
152.5°	14.3	16.6	19.6	21.4	22.6	23.8	25.0	26.1	26.7	26.7
155°	10.7	13.1	14.9	17.2	17.8	19.0	19.6	20.8	20.8	21.4
157.5°	7.7	9.5	10.7	12.5	13.1	14.3	14.9	15.5	16.0	16.0
160°	5.3	6.5	7.7	8.9	9.5	10.1	10.7	11.3	11.9	11.3
162.5°	3.6	4.2	4.8	5.9	5.9	6.5	7.1	7.7	7.7	7.7
165°	1.8	2.4	3.0	3.0	3.6	3.6	4.2	4.8	4.8	4.8
167.5°	1.2	1.2	1.2	1.8	1.8	1.8	1.8	2.4	2.4	2.4
170°	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
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)