

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: P241432

Luminaire Tested: **FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241432
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-LD4-50-2LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

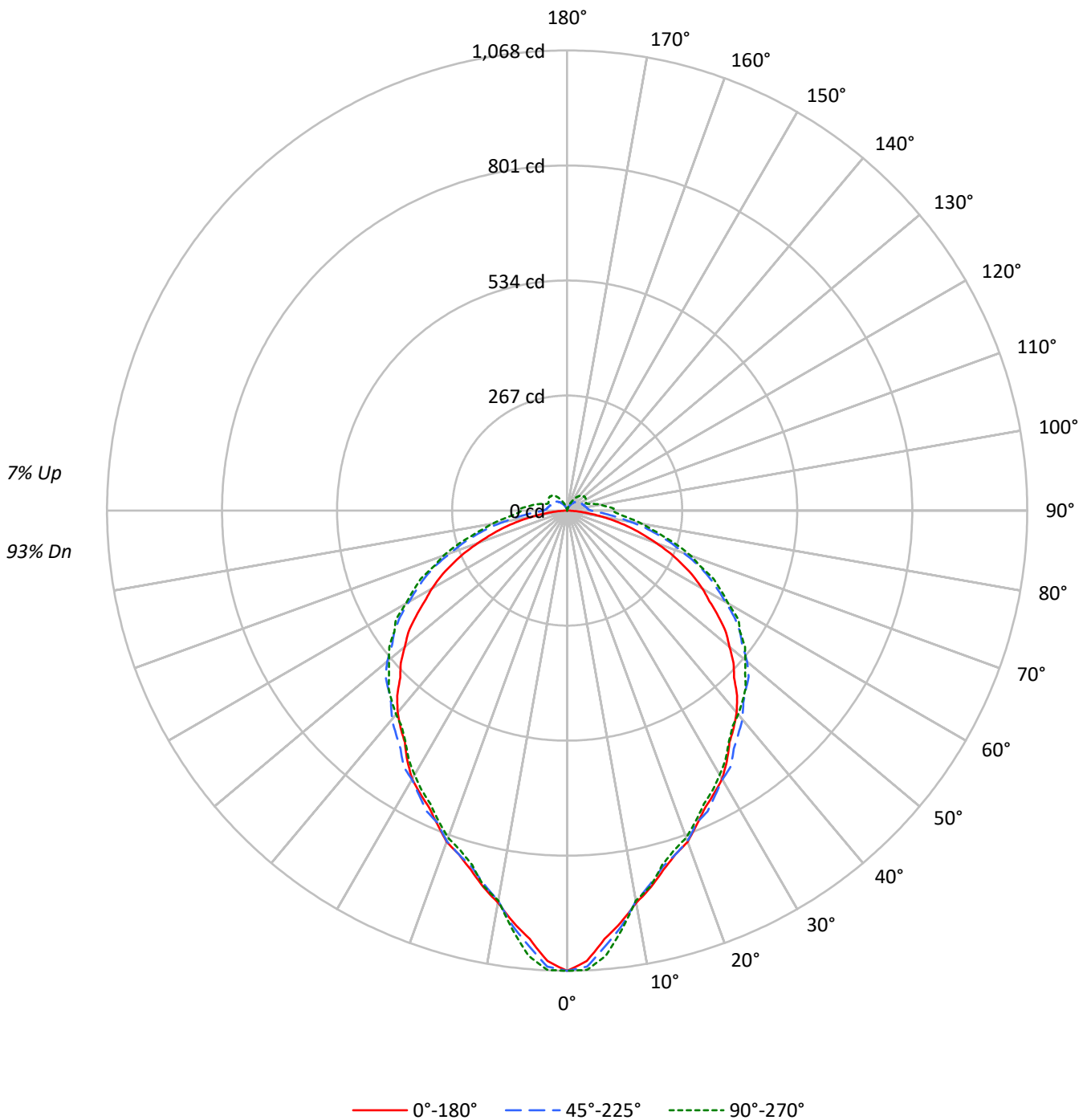
Lumens per Lamp: N/A
Luminaire Lumens: 2826.0 lumens
Efficiency: N/A
Efficacy: 119.2 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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

TEST NUMBER: P241432

CATALOG NUMBER: FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241432

CATALOG NUMBER: FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1

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°	9602	9602	9602
5°	8944	8987	9170
10°	8320	8088	8068
15°	7866	7532	7473
20°	7606	7244	7139
25°	7264	6946	6739
30°	7140	6651	6504
35°	6830	6432	6199
40°	6738	6286	6095
45°	6456	6136	6071
50°	6287	6067	5945
55°	6040	5871	5804
60°	5734	5555	5582
65°	5356	5273	5367
70°	4748	4754	4948
75°	4035	4231	4371
80°	2964	3489	3990
85°	1488	2676	3652



TEST NUMBER: P241432

CATALOG NUMBER: FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.9	3.3
10°-20°	243.0	8.6
20°-30°	352.5	12.5
30°-40°	419.7	14.8
40°-50°	447.4	15.8
50°-60°	423.7	15.0
60°-70°	341.4	12.1
70°-80°	219.4	7.8
80°-90°	95.8	3.4
90°-100°	50.9	1.8
100°-110°	39.3	1.4
110°-120°	31.4	1.1
120°-130°	28.0	1.0
130°-140°	21.0	0.7
140°-150°	12.3	0.4
150°-160°	5.1	0.2
160°-170°	1.2	0.0
170°-180°	0.0	0.0
0°-30°	689.4	24.4
0°-40°	1109.1	39.2
0°-60°	1980.2	70.1
0°-90°	2636.7	93.3
90°-120°	121.6	4.3
90°-150°	183.0	6.5
90°-180°	189.0	6.7
0°-180°	2826.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	998	1003	1015	1030	1036	93
15°	863	867	856	850	852	244
25°	759	763	771	764	751	352
35°	657	680	674	671	654	414
45°	548	574	587	598	585	426
55°	429	452	490	495	490	383
65°	294	319	362	368	374	291
75°	150	180	220	240	232	159
85°	27	53	90	113	127	34
90°	1	24	55	77	105	1
95°	0	21	48	71	97	0
105°	0	18	42	57	59	0
115°	0	17	38	46	48	0
125°	0	15	35	50	52	0
135°	0	12	29	44	49	0
145°	1	7	20	32	38	0
155°	1	3	12	18	20	0
165°	1	1	3	7	8	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241432

CATALOG NUMBER: FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2
2.5°	1046.5	1046.5	1047.2	1047.2	1048.4	1049.1	1051.0	1051.0	1054.2	1056.7	1059.3
5°	998.1	996.2	998.1	998.1	1001.3	1002.6	1005.8	1009.6	1010.2	1014.0	1014.7
7.5°	963.1	962.4	959.9	959.9	958.6	960.5	960.5	963.1	967.5	971.4	972.0
10°	924.2	923.6	922.9	923.6	920.4	921.7	921.7	922.9	925.5	924.9	919.8
12.5°	895.6	894.9	892.4	892.4	893.0	893.0	892.4	893.6	889.2	886.6	888.6
15°	863.1	865.0	866.9	863.7	867.5	866.9	866.9	864.3	858.6	854.8	856.1
17.5°	836.3	838.9	837.0	835.7	834.4	834.4	836.3	836.3	838.2	834.4	836.3
20°	817.9	814.0	809.6	813.4	815.9	816.6	817.2	817.2	814.7	814.0	816.6
22.5°	787.3	786.6	788.6	793.0	792.4	789.2	787.9	782.8	785.4	787.9	784.7
25°	759.3	766.9	768.8	763.7	761.8	763.1	766.9	769.4	773.9	771.4	770.7
27.5°	739.5	741.4	732.5	738.2	747.1	751.6	749.1	748.4	746.5	740.1	744.0
30°	719.1	712.8	714.0	721.0	721.7	718.5	715.3	717.2	721.0	721.7	720.4
32.5°	689.8	686.6	698.7	693.0	693.0	695.6	700.7	703.8	707.7	707.0	705.7
35°	656.7	665.0	665.0	662.4	674.5	680.3	682.8	677.1	676.4	672.0	674.5
37.5°	635.0	635.7	633.1	646.5	651.0	649.1	647.1	646.5	649.7	652.2	652.9
40°	612.1	606.4	610.8	618.5	614.7	617.8	622.9	630.6	633.8	635.0	632.5
42.5°	583.5	581.5	588.5	585.4	593.0	597.5	602.6	607.0	604.5	605.7	605.1
45°	547.8	556.1	552.2	561.2	573.9	573.9	574.5	573.3	579.0	586.0	586.6
47.5°	523.6	524.9	524.2	535.0	540.1	538.9	547.1	555.4	563.1	566.9	571.3
50°	491.7	488.5	501.3	501.9	509.6	514.7	521.7	529.3	536.3	541.4	545.2
52.5°	465.0	461.8	468.2	468.2	484.7	490.5	491.1	496.8	504.5	507.0	512.1
55°	428.7	433.1	431.9	444.0	451.6	452.2	454.8	465.0	477.1	482.2	489.8
57.5°	391.7	398.1	397.5	411.5	414.7	419.8	425.5	439.5	447.1	454.1	459.9
60°	362.4	363.7	370.1	372.6	380.3	387.9	396.8	405.7	410.8	419.1	424.2
62.5°	330.6	326.8	337.6	338.2	352.2	353.5	358.6	368.2	376.4	386.6	392.4
65°	294.3	294.9	300.0	307.0	316.6	319.1	324.2	335.0	345.9	355.4	362.4
67.5°	259.2	261.8	265.0	273.3	279.0	285.4	291.7	300.6	315.3	322.9	327.4
70°	219.7	224.2	228.0	236.9	245.2	250.3	258.6	267.5	277.1	283.4	287.9
72.5°	184.1	187.3	193.0	200.0	212.7	217.8	222.9	230.6	238.9	245.2	254.8
75°	150.3	152.9	159.9	165.0	175.8	179.6	186.0	193.6	204.5	212.7	219.7
77.5°	115.9	117.8	124.8	131.2	140.8	145.2	149.7	158.6	167.5	179.0	186.0
80°	82.8	84.7	91.7	97.5	105.1	108.9	114.0	124.8	135.0	141.4	149.7
82.5°	53.5	54.8	59.9	66.9	73.9	79.0	84.1	93.0	101.9	109.6	116.6
85°	27.4	28.7	34.4	40.1	47.8	52.9	56.1	65.0	73.9	81.5	89.8
87.5°	8.9	10.8	15.3	21.7	28.7	33.1	36.3	44.6	52.2	60.5	68.2
90°	0.6	2.5	7.0	12.7	19.7	23.6	27.4	34.4	41.4	48.4	55.4
92.5°	0.0	1.9	5.7	11.5	17.8	21.7	24.8	31.8	38.2	44.6	50.3
95°	0.0	1.3	5.7	10.8	17.2	21.0	24.2	30.6	36.9	42.7	47.8
97.5°	0.0	1.3	5.1	10.8	16.6	20.4	23.6	29.3	35.0	40.8	46.5
100°	0.0	1.3	5.1	10.2	16.6	19.7	22.3	28.0	33.8	39.5	44.6
102.5°	0.0	1.3	5.1	10.2	15.9	19.1	21.7	27.4	33.1	38.2	43.3
105°	0.0	1.3	5.1	10.2	15.9	18.5	21.7	26.8	32.5	37.6	42.0
107.5°	0.0	1.3	4.5	9.6	15.3	18.5	21.0	26.8	31.8	36.3	40.8
110°	0.0	1.3	4.5	9.6	15.3	17.8	21.0	26.1	31.2	35.7	39.5



TEST NUMBER: P241432

CATALOG NUMBER: FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.3	4.5	9.6	14.6	17.8	20.4	25.5	30.6	34.4	38.2
115°	0.0	1.3	4.5	8.9	14.6	17.2	19.7	24.8	29.9	33.8	37.6
117.5°	0.0	0.6	4.5	8.9	14.0	16.6	19.7	24.8	29.3	33.1	36.9
120°	0.0	0.6	3.8	8.3	13.4	16.6	19.1	24.2	28.7	32.5	36.3
122.5°	0.0	0.6	3.8	8.3	13.4	15.9	18.5	23.6	28.0	32.5	36.3
125°	0.0	0.6	3.8	7.6	12.7	15.3	17.8	22.3	27.4	31.2	35.0
127.5°	0.0	0.6	3.2	7.6	12.1	14.6	17.2	21.7	26.1	29.9	33.8
130°	0.0	0.6	3.2	7.0	11.5	13.4	15.9	20.4	24.8	28.7	32.5
132.5°	0.0	0.6	2.5	6.4	10.8	12.7	14.6	19.1	23.6	27.4	30.6
135°	0.0	0.6	2.5	5.7	9.6	11.5	14.0	17.8	21.7	25.5	28.7
137.5°	0.0	0.0	1.9	5.1	8.9	10.8	12.7	16.6	20.4	23.6	26.8
140°	0.6	0.0	1.9	4.5	7.6	9.6	11.5	14.6	18.5	21.7	24.8
142.5°	0.6	0.0	1.3	3.8	7.0	8.3	10.2	13.4	16.6	19.7	22.3
145°	0.6	0.0	1.3	3.2	5.7	7.0	8.9	11.5	14.6	17.2	20.4
147.5°	0.6	0.0	0.6	2.5	5.1	6.4	7.6	10.2	12.7	15.3	17.8
150°	0.6	0.6	0.6	1.9	3.8	5.1	6.4	8.9	10.8	13.4	15.9
152.5°	0.6	0.6	0.6	1.3	3.2	3.8	5.1	7.0	9.6	11.5	14.0
155°	0.6	0.6	0.6	1.3	2.5	3.2	3.8	5.7	7.6	9.6	11.5
157.5°	0.6	0.6	0.0	0.6	1.9	2.5	3.2	4.5	5.7	7.6	8.9
160°	0.6	0.6	0.0	0.6	1.3	1.9	1.9	3.2	4.5	5.7	7.0
162.5°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	2.5	3.2	4.5	5.1
165°	0.6	0.6	0.6	0.0	0.6	0.6	0.6	1.3	1.9	2.5	3.2
167.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.6	0.6	1.3	1.3	1.9
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



TEST NUMBER: P241432

CATALOG NUMBER: FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2	1068.2
2.5°	1061.8	1063.7	1065.0	1066.9	1066.3	1066.9	1066.9	1065.6	1066.9	1066.9
5°	1017.9	1022.3	1024.9	1028.7	1030.0	1030.0	1033.1	1035.7	1037.0	1036.3
7.5°	971.4	967.5	968.2	965.6	965.6	966.9	970.1	972.6	976.5	979.0
10°	918.5	919.8	919.8	922.3	921.0	921.0	921.7	923.6	922.9	919.1
12.5°	889.2	882.2	883.5	889.2	891.1	889.2	891.1	888.6	893.0	893.0
15°	856.7	861.2	863.7	856.1	849.7	852.2	855.4	852.9	851.6	851.6
17.5°	842.7	833.8	828.7	830.6	831.9	830.6	831.2	831.2	829.3	826.1
20°	807.7	808.9	812.1	813.4	812.8	812.1	808.9	808.3	808.9	807.7
22.5°	786.6	786.6	787.3	794.3	794.3	792.4	788.6	784.7	780.3	779.6
25°	775.2	769.4	773.9	767.5	764.3	759.3	757.3	754.8	746.5	751.0
27.5°	740.8	750.3	744.6	741.4	737.6	735.0	730.6	730.0	731.2	731.2
30°	721.7	715.9	714.0	714.7	715.9	721.0	715.9	708.3	708.3	708.3
32.5°	707.0	700.7	696.8	694.3	694.9	693.0	689.8	683.5	682.8	684.7
35°	671.4	675.8	676.4	675.2	671.4	666.9	666.3	665.0	657.3	654.2
37.5°	649.7	647.1	646.5	649.1	650.3	646.5	637.0	632.5	633.1	630.6
40°	634.4	634.4	628.7	620.4	616.6	617.2	621.7	617.8	616.6	617.8
42.5°	609.6	615.3	614.0	608.9	608.3	609.6	608.3	604.5	601.9	601.9
45°	590.5	589.2	590.5	597.5	597.5	593.6	586.6	589.2	589.2	585.4
47.5°	576.4	572.0	574.5	567.5	570.1	572.0	568.2	564.3	563.1	560.5
50°	548.4	552.2	552.9	549.1	545.2	545.9	541.4	537.6	541.4	539.5
52.5°	515.3	521.0	522.3	524.2	517.8	515.3	517.2	522.3	519.8	520.4
55°	494.9	494.9	494.3	491.7	494.9	498.7	491.7	491.1	487.9	489.8
57.5°	468.2	469.4	466.3	469.4	466.9	466.9	464.3	466.3	467.5	471.3
60°	429.9	435.0	439.5	438.2	433.1	433.8	437.0	434.4	435.0	431.9
62.5°	397.5	397.5	404.5	401.3	405.1	403.2	398.7	399.4	401.9	403.2
65°	366.2	367.5	364.3	368.8	368.2	365.6	366.9	372.6	372.0	374.5
67.5°	329.3	335.7	334.4	332.5	332.5	333.8	338.9	334.4	332.5	331.9
70°	293.6	296.8	302.6	300.0	303.2	303.8	300.0	298.7	300.0	305.1
72.5°	260.5	263.7	266.9	272.0	272.6	270.1	272.6	270.7	271.3	269.4
75°	225.5	229.9	233.1	240.8	240.1	237.6	238.2	235.0	232.5	231.9
77.5°	190.4	196.8	203.8	203.2	203.2	205.7	203.8	201.9	202.6	200.6
80°	157.3	164.3	170.1	170.7	172.0	175.8	173.3	174.5	173.9	175.8
82.5°	124.8	131.8	136.9	140.1	142.0	142.7	144.6	146.5	149.0	150.3
85°	97.5	103.8	107.6	111.5	113.4	114.7	118.5	121.7	124.8	126.8
87.5°	74.5	79.0	84.1	89.2	91.1	93.6	97.5	101.9	107.6	112.7
90°	59.9	65.0	70.1	75.2	77.1	79.6	84.1	89.8	98.1	105.1
92.5°	54.8	59.9	64.3	69.4	72.0	75.2	80.9	88.5	100.0	108.3
95°	52.9	58.0	63.1	68.2	70.7	73.2	80.3	87.9	94.9	96.8
97.5°	51.0	56.1	60.5	65.6	68.2	71.3	77.1	80.9	83.4	85.4
100°	49.7	54.1	58.6	63.7	65.6	67.5	71.3	74.5	77.1	79.0
102.5°	47.8	52.2	56.7	59.9	61.8	63.1	66.2	69.4	69.4	69.4
105°	46.5	50.3	53.5	56.1	57.3	58.6	60.5	59.9	59.2	58.6
107.5°	44.6	47.8	50.3	52.9	52.9	53.5	53.5	52.2	51.6	51.0
110°	42.7	45.9	47.8	48.4	49.0	49.0	49.0	48.4	47.8	47.8



TEST NUMBER: P241432

CATALOG NUMBER: FVS8M-2-LD4-50-2LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	41.4	43.9	45.9	46.5	47.1	47.1	47.1	47.1	46.5	46.5
115°	40.1	42.7	44.6	45.9	46.5	47.1	47.8	47.8	47.8	47.8
117.5°	40.1	42.7	45.2	46.5	47.8	48.4	49.7	49.7	49.0	49.7
120°	39.5	42.7	45.2	47.8	49.0	49.7	51.0	51.0	50.3	50.3
122.5°	39.5	42.7	45.9	48.4	49.7	50.3	51.6	52.2	51.6	51.0
125°	38.9	42.0	45.2	48.4	49.7	51.0	52.2	52.2	51.6	51.6
127.5°	37.6	41.4	44.6	47.8	49.0	50.3	51.6	52.2	51.6	51.6
130°	36.3	40.1	43.3	46.5	47.8	49.0	50.3	51.0	51.0	51.0
132.5°	34.4	38.2	41.4	44.6	45.9	47.1	49.0	49.7	50.3	50.3
135°	32.5	36.3	39.5	42.7	43.9	45.2	47.1	48.4	48.4	49.0
137.5°	30.6	33.8	36.9	40.1	41.4	42.7	45.2	45.9	46.5	47.1
140°	28.0	31.2	33.8	36.9	38.9	40.1	42.0	43.3	44.6	44.6
142.5°	25.5	28.0	31.2	33.8	35.0	36.3	38.9	40.1	41.4	41.4
145°	22.9	25.5	28.0	30.6	31.8	33.1	35.0	36.3	36.9	37.6
147.5°	20.4	22.9	24.8	27.4	28.0	29.3	30.6	31.8	32.5	33.1
150°	17.8	20.4	21.7	23.6	24.2	25.5	26.8	27.4	28.0	28.7
152.5°	15.3	17.2	19.1	20.4	21.0	21.7	22.9	23.6	24.2	24.2
155°	13.4	14.6	15.9	17.2	17.8	18.5	19.1	19.7	20.4	20.4
157.5°	10.8	12.1	13.4	14.6	14.6	15.3	15.9	16.6	17.2	17.2
160°	8.3	9.6	10.8	11.5	12.1	12.1	12.7	13.4	13.4	14.0
162.5°	6.4	7.0	8.3	8.9	9.6	9.6	10.2	10.8	10.8	10.8
165°	4.5	5.1	5.7	6.4	7.0	7.0	7.6	7.6	7.6	7.6
167.5°	2.5	3.2	3.2	3.8	4.5	4.5	5.1	5.1	5.1	5.1
170°	1.3	1.3	1.9	1.9	1.9	1.9	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)