

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: P241421

Luminaire Tested: **FVS8M-2-LD4-30-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241421
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-2-LD4-30-1STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (42) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

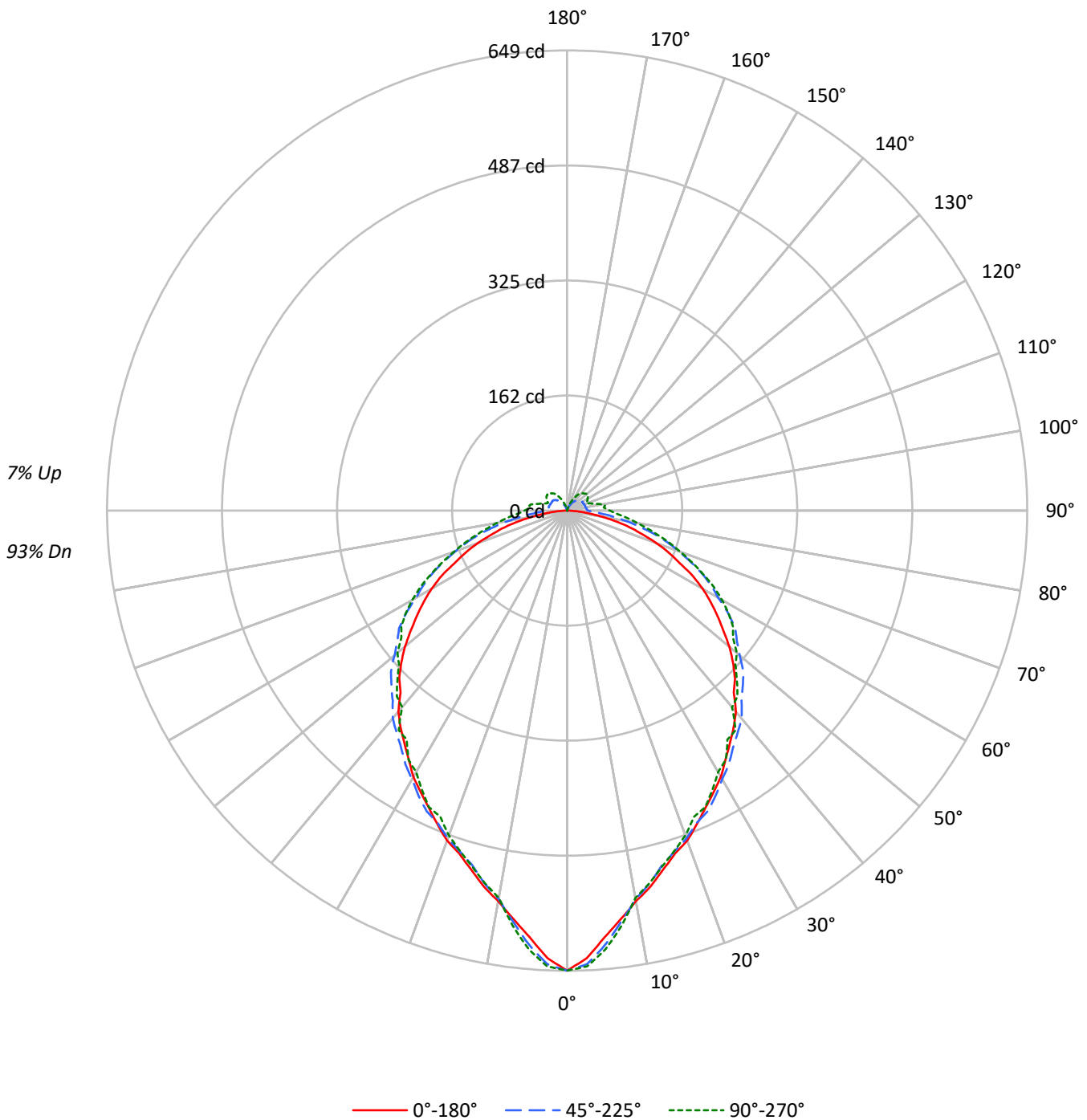
Lumens per Lamp: N/A
Luminaire Lumens: 1689.0 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 17.2
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	93	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	71	76	72	68	72	69	65	63
3	88	77	69	62	85	75	67	61	71	64	59	67	62	57	64	59	55	53
4	80	68	59	52	77	66	58	52	63	56	50	60	54	49	57	51	47	45
5	74	61	52	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	34
7	63	50	41	35	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5832	5832	5832
5°	5414	5446	5495
10°	5035	4891	4869
15°	4774	4555	4556
20°	4606	4366	4310
25°	4421	4221	4139
30°	4305	4038	3910
35°	4164	3892	3735
40°	4076	3803	3569
45°	3946	3663	3512
50°	3818	3537	3442
55°	3641	3468	3382
60°	3490	3223	3261
65°	3187	3053	3029
70°	2900	2764	2752
75°	2465	2436	2486
80°	1793	1960	2277
85°	923	1448	2177



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.7	3.4
10°-20°	147.0	8.7
20°-30°	213.8	12.7
30°-40°	254.0	15.0
40°-50°	265.4	15.7
50°-60°	249.9	14.8
60°-70°	199.6	11.8
70°-80°	126.1	7.5
80°-90°	54.7	3.2
90°-100°	29.2	1.7
100°-110°	24.8	1.5
110°-120°	20.8	1.2
120°-130°	19.1	1.1
130°-140°	14.6	0.9
140°-150°	8.9	0.5
150°-160°	3.5	0.2
160°-170°	0.6	0.0
170°-180°	0.0	0.0
0°-30°	417.6	24.7
0°-40°	671.6	39.8
0°-60°	1186.9	70.3
0°-90°	1567.4	92.8
90°-120°	74.8	4.4
90°-150°	117.5	7.0
90°-180°	122.0	7.2
0°-180°	1689.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	649	649	649	649	649	
5°	604	608	615	621	621	56
15°	524	524	518	515	519	148
25°	462	464	468	458	461	213
35°	400	407	408	409	394	251
45°	335	342	350	339	339	258
55°	258	271	289	294	285	232
65°	175	188	210	212	211	175
75°	92	105	126	134	132	96
85°	17	30	49	66	76	21
90°	0	12	29	46	60	1
95°	0	12	28	40	52	0
105°	0	12	26	37	38	0
115°	0	11	25	32	31	0
125°	0	10	25	34	36	0
135°	0	8	21	31	34	0
145°	0	5	15	24	28	0
155°	0	2	8	12	15	0
165°	0	0	2	4	4	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°	648.8	648.8	648.8	648.8	648.8	648.8	648.8	648.8	648.8	648.8	648.8
2.5°	631.8	631.8	633.4	633.4	634.9	635.7	635.7	636.5	637.2	638.8	640.3
5°	604.1	604.8	605.6	606.4	607.1	607.9	609.5	611.8	612.5	613.3	614.9
7.5°	580.9	580.1	580.9	579.4	578.6	578.6	578.6	579.4	581.7	584.0	584.8
10°	559.3	560.9	560.9	559.3	557.8	559.3	557.8	557.8	557.0	557.0	556.2
12.5°	543.1	540.0	539.3	539.3	540.8	540.0	539.3	540.8	537.7	538.5	538.5
15°	523.8	523.1	520.7	526.1	526.1	523.8	523.1	520.0	520.7	520.7	517.7
17.5°	506.9	508.4	506.1	506.1	506.1	505.3	506.9	506.1	506.9	503.8	503.8
20°	495.3	490.6	488.3	493.7	494.5	494.5	495.3	496.8	493.7	490.6	492.2
22.5°	478.3	474.4	479.1	482.2	479.8	477.5	479.8	479.8	474.4	477.5	476.8
25°	462.1	459.0	464.4	464.4	464.4	464.4	465.2	465.2	466.0	466.0	468.3
27.5°	447.4	447.4	448.2	449.8	451.3	453.6	452.1	452.1	452.1	450.5	453.6
30°	433.6	431.2	433.6	436.6	438.2	439.7	437.4	436.6	439.0	438.2	437.4
32.5°	415.8	415.0	421.2	418.1	419.7	420.4	424.3	425.8	427.4	425.8	424.3
35°	400.4	401.2	402.7	405.0	408.1	407.3	411.2	408.9	409.6	411.2	408.1
37.5°	385.7	384.2	385.7	391.1	391.9	391.9	392.7	393.4	396.5	397.3	395.0
40°	370.3	366.4	372.6	376.5	373.4	375.7	377.2	381.9	381.1	381.9	382.6
42.5°	347.9	352.6	354.1	354.1	361.0	364.1	363.4	364.9	364.1	363.4	364.1
45°	334.8	337.1	336.4	341.0	343.3	342.5	343.3	346.4	347.9	349.5	350.2
47.5°	317.1	317.1	317.8	322.5	324.8	324.8	325.6	333.3	334.0	336.4	337.1
50°	298.6	298.6	302.4	302.4	307.0	310.9	314.0	314.8	314.0	317.8	317.8
52.5°	277.7	278.5	281.6	283.9	291.6	290.8	292.4	295.5	296.2	301.6	301.6
55°	258.4	263.1	259.2	266.2	267.7	270.8	273.9	277.7	284.7	287.8	289.3
57.5°	239.9	240.7	242.2	246.9	244.6	250.0	255.4	262.3	266.2	268.5	269.2
60°	220.6	217.6	223.0	223.7	231.4	232.2	233.8	238.4	241.5	245.3	246.1
62.5°	199.8	202.1	202.9	203.7	209.1	211.4	213.7	216.0	223.0	226.8	229.1
65°	175.1	179.0	179.0	186.7	187.5	187.5	191.3	199.0	202.9	206.8	209.8
67.5°	155.1	158.9	157.4	162.0	167.4	169.0	171.3	177.4	179.0	185.2	188.2
70°	134.2	136.5	138.9	140.4	144.3	148.9	151.2	155.1	159.7	164.3	167.4
72.5°	110.3	111.9	116.5	119.6	124.2	126.5	129.6	133.5	138.9	145.0	148.1
75°	91.8	91.0	94.1	98.0	104.1	104.9	105.7	113.4	118.0	122.7	126.5
77.5°	70.2	71.7	74.1	77.9	81.8	84.1	86.4	92.6	98.0	101.1	104.1
80°	50.1	51.7	54.0	57.1	61.7	64.0	67.1	72.5	76.4	81.0	84.1
82.5°	30.9	33.2	35.5	39.3	42.4	45.5	47.8	53.2	57.1	62.5	65.6
85°	17.0	17.0	20.1	23.9	27.0	30.1	31.6	36.3	40.1	44.7	48.6
87.5°	5.4	6.2	8.5	12.3	16.2	17.7	20.1	23.9	27.8	32.4	36.3
90°	0.0	0.8	3.9	6.9	10.0	12.3	13.9	17.7	21.6	25.5	29.3
92.5°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	17.0	20.8	24.7	27.8
95°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	17.0	20.8	23.9	27.8
97.5°	0.0	0.8	3.1	6.2	10.0	11.6	13.1	17.0	20.8	23.9	27.0
100°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	17.0	20.8	23.9	26.2
102.5°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	17.0	20.1	23.1	26.2
105°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	16.2	20.1	23.1	26.2
107.5°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	16.2	20.1	23.1	25.5
110°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	16.2	20.1	22.4	25.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.8	3.1	6.2	9.3	11.6	13.1	16.2	19.3	22.4	25.5
115°	0.0	0.8	3.1	6.2	9.3	10.8	13.1	16.2	19.3	22.4	24.7
117.5°	0.0	0.8	3.1	5.4	9.3	10.8	13.1	16.2	19.3	22.4	24.7
120°	0.0	0.8	2.3	5.4	9.3	10.8	12.3	16.2	19.3	22.4	24.7
122.5°	0.0	0.8	2.3	5.4	8.5	10.8	12.3	15.4	18.5	21.6	24.7
125°	0.0	0.8	2.3	5.4	8.5	10.0	11.6	15.4	18.5	21.6	24.7
127.5°	0.0	0.0	2.3	4.6	7.7	10.0	11.6	14.7	17.7	20.8	23.9
130°	0.0	0.0	1.5	4.6	7.7	9.3	10.8	13.9	17.0	20.1	23.1
132.5°	0.0	0.0	1.5	3.9	6.9	8.5	10.0	13.1	16.2	19.3	21.6
135°	0.0	0.0	1.5	3.9	6.2	7.7	9.3	12.3	14.7	17.7	20.8
137.5°	0.0	0.0	1.5	3.1	5.4	6.9	8.5	10.8	13.9	16.2	19.3
140°	0.0	0.0	0.8	3.1	4.6	6.2	7.7	10.0	12.3	15.4	17.7
142.5°	0.0	0.0	0.8	2.3	4.6	5.4	6.9	9.3	11.6	13.9	16.2
145°	0.0	0.0	0.8	2.3	3.9	4.6	5.4	7.7	10.0	12.3	14.7
147.5°	0.0	0.0	0.8	1.5	3.1	3.9	4.6	6.9	9.3	10.8	13.1
150°	0.0	0.0	0.0	1.5	2.3	3.1	3.9	5.4	7.7	9.3	10.8
152.5°	0.0	0.0	0.0	0.8	1.5	2.3	3.1	4.6	6.2	7.7	9.3
155°	0.0	0.0	0.0	0.8	1.5	1.5	2.3	3.9	4.6	6.2	7.7
157.5°	0.0	0.0	0.0	0.8	0.8	1.5	1.5	2.3	3.9	4.6	5.4
160°	0.0	0.0	0.0	0.0	0.8	0.8	1.5	1.5	2.3	3.1	3.9
162.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.5	2.3	3.1
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	1.5	1.5
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8
170°	0.8	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°	648.8	648.8	648.8	648.8	648.8	648.8	648.8	648.8	648.8	648.8
2.5°	641.1	641.9	642.6	643.4	642.6	642.6	644.2	644.2	644.2	643.4
5°	615.6	616.4	617.9	620.3	621.0	621.0	621.8	621.8	621.8	621.0
7.5°	584.0	584.0	584.8	584.0	585.5	586.3	588.6	589.4	590.2	590.2
10°	556.2	557.0	557.0	556.2	552.4	554.7	552.4	551.6	552.4	554.7
12.5°	534.6	532.3	531.5	536.2	537.7	540.0	540.8	537.7	535.4	537.7
15°	516.1	518.4	520.0	516.1	514.6	513.8	514.6	516.9	519.2	519.2
17.5°	504.5	500.7	505.3	513.0	514.6	513.8	511.5	506.1	502.2	503.0
20°	492.2	498.4	498.4	489.1	483.7	482.9	482.9	486.8	486.8	487.6
22.5°	482.2	476.8	474.4	479.1	482.9	485.2	477.5	473.7	469.8	467.5
25°	466.7	462.1	470.6	462.1	458.2	455.9	455.9	460.6	462.9	461.3
27.5°	448.2	455.2	444.4	450.5	455.2	457.5	455.9	449.8	443.6	443.6
30°	440.5	432.0	441.3	442.8	438.2	430.5	423.5	423.5	423.5	425.8
32.5°	422.0	427.4	425.1	412.7	415.0	418.1	421.2	419.7	416.6	416.6
35°	408.9	412.0	401.2	410.4	408.9	405.8	398.1	393.4	393.4	394.2
37.5°	399.6	388.0	398.1	388.8	384.2	384.2	388.0	392.7	391.1	390.4
40°	380.3	381.1	375.7	374.9	380.3	382.6	373.4	368.0	364.1	361.8
42.5°	363.4	364.9	362.6	368.0	361.0	354.9	352.6	354.9	356.4	355.6
45°	349.5	345.6	352.6	340.2	339.4	341.8	344.8	341.8	339.4	338.7
47.5°	336.4	337.9	327.1	330.2	331.7	330.2	322.5	320.2	322.5	321.7
50°	317.1	319.4	319.4	316.3	311.7	310.1	313.2	313.2	310.9	312.4
52.5°	306.3	302.4	307.0	303.2	306.3	305.5	304.0	297.0	293.9	294.7
55°	292.4	293.9	287.8	293.9	293.9	289.3	283.9	287.0	286.2	285.4
57.5°	270.8	276.2	277.0	270.8	268.5	270.0	273.1	272.3	270.0	270.0
60°	250.0	251.5	255.4	252.3	253.0	253.8	252.3	251.5	253.0	252.3
62.5°	232.2	232.2	229.1	235.3	236.1	232.2	233.0	233.8	233.8	233.0
65°	212.2	214.5	212.9	212.9	212.2	213.7	213.7	212.2	210.6	211.4
67.5°	191.3	191.3	196.7	193.6	194.4	194.4	190.6	189.8	190.6	190.6
70°	169.7	170.5	172.0	174.4	173.6	171.3	170.5	170.5	170.5	169.7
72.5°	149.7	151.2	152.7	152.7	152.0	151.2	152.0	150.4	150.4	151.2
75°	129.6	132.7	132.7	132.7	133.5	135.0	133.5	133.5	131.9	131.9
77.5°	108.0	111.1	112.6	113.4	114.2	115.7	114.9	115.7	114.2	114.9
80°	87.9	91.0	93.3	95.7	96.4	98.0	98.0	99.5	99.5	100.3
82.5°	69.4	73.3	76.4	78.7	80.2	81.8	84.1	85.6	87.2	87.9
85°	53.2	56.3	60.2	64.0	65.6	67.9	71.7	73.3	74.1	75.6
87.5°	40.1	44.0	48.6	52.5	54.8	57.1	58.6	60.9	64.0	66.3
90°	33.2	37.0	40.9	44.7	46.3	47.1	49.4	52.5	57.1	60.2
92.5°	31.6	35.5	38.6	40.9	41.7	43.2	45.5	48.6	52.5	55.5
95°	30.9	34.7	37.0	39.3	40.1	41.7	44.0	46.3	49.4	51.7
97.5°	30.1	33.2	36.3	38.6	40.1	40.9	44.0	47.8	51.7	54.0
100°	30.1	32.4	35.5	38.6	39.3	40.9	44.7	48.6	50.9	50.9
102.5°	29.3	32.4	34.7	37.8	39.3	40.9	43.2	44.7	43.2	43.2
105°	28.5	31.6	33.9	36.3	37.0	37.8	38.6	38.6	37.8	37.8
107.5°	28.5	30.9	33.2	33.9	34.7	34.7	34.7	33.9	33.2	33.2
110°	27.8	30.1	31.6	32.4	32.4	32.4	32.4	31.6	30.9	30.1



TEST NUMBER: P241421

CATALOG NUMBER: FVS8M-2-LD4-30-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	27.8	29.3	30.9	30.9	31.6	31.6	31.6	30.9	30.1	29.3
115°	27.0	29.3	30.1	30.9	31.6	31.6	31.6	31.6	30.9	30.9
117.5°	27.0	29.3	30.9	31.6	32.4	32.4	33.2	33.2	32.4	32.4
120°	27.0	29.3	31.6	32.4	33.2	33.2	33.9	33.9	33.9	33.2
122.5°	27.0	29.3	31.6	33.2	33.9	33.9	34.7	34.7	34.7	34.7
125°	27.0	29.3	31.6	33.2	33.9	33.9	34.7	35.5	35.5	35.5
127.5°	26.2	29.3	30.9	32.4	33.2	33.9	34.7	35.5	35.5	35.5
130°	25.5	27.8	30.1	31.6	32.4	33.2	33.9	34.7	35.5	36.3
132.5°	24.7	27.0	29.3	30.9	31.6	32.4	33.9	34.7	34.7	35.5
135°	23.1	25.5	27.8	30.1	30.9	31.6	32.4	33.9	33.9	33.9
137.5°	21.6	23.9	26.2	28.5	29.3	30.1	31.6	32.4	32.4	33.2
140°	20.1	22.4	24.7	26.2	27.8	28.5	30.1	30.9	31.6	31.6
142.5°	18.5	20.8	23.1	24.7	25.5	27.0	27.8	29.3	30.1	30.1
145°	17.0	19.3	20.8	23.1	23.9	24.7	25.5	27.0	27.8	27.8
147.5°	14.7	17.0	18.5	20.1	20.8	21.6	23.1	23.9	24.7	24.7
150°	13.1	14.7	16.2	17.7	18.5	19.3	20.1	20.8	21.6	21.6
152.5°	10.8	12.3	13.9	14.7	15.4	16.2	17.0	17.7	17.7	18.5
155°	8.5	10.0	10.8	12.3	12.3	13.1	13.9	14.7	14.7	14.7
157.5°	6.9	7.7	9.3	10.0	10.0	10.8	10.8	11.6	11.6	11.6
160°	4.6	6.2	6.9	6.9	7.7	7.7	8.5	8.5	8.5	9.3
162.5°	3.1	3.9	4.6	5.4	5.4	5.4	6.2	6.2	6.2	6.2
165°	2.3	2.3	3.1	3.1	3.9	3.9	3.9	3.9	3.9	3.9
167.5°	0.8	1.5	1.5	1.5	2.3	2.3	2.3	2.3	2.3	2.3
170°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)