

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: P241489

Luminaire Tested: **FVS8M-4-LD4-30-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241489
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-LD4-30-1LO-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

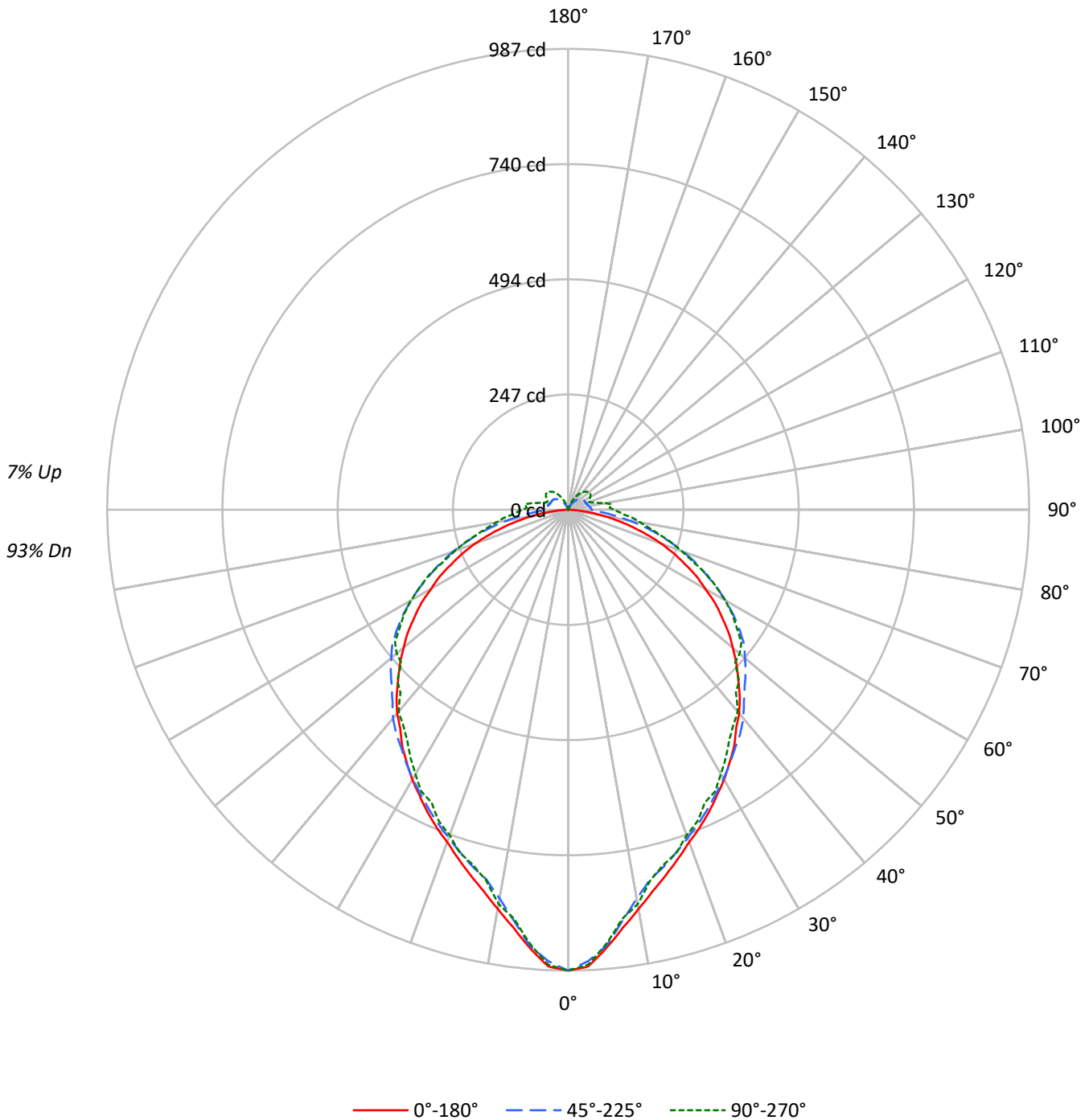
Lumens per Lamp: N/A
Luminaire Lumens: 2608.0 lumens
Efficiency: N/A
Efficacy: 110.5 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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°	4412	4412	4412
5°	4213	4139	4108
10°	3913	3714	3742
15°	3706	3486	3435
20°	3552	3330	3259
25°	3456	3205	3087
30°	3369	3098	2985
35°	3287	3005	2833
40°	3216	2940	2771
45°	3131	2843	2666
50°	3056	2809	2626
55°	2965	2750	2592
60°	2839	2627	2491
65°	2692	2443	2327
70°	2496	2257	2082
75°	2131	1993	1870
80°	1658	1650	1763
85°	868	1255	1723



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.7	3.3
10°-20°	224.8	8.6
20°-30°	326.5	12.5
30°-40°	388.4	14.9
40°-50°	406.9	15.6
50°-60°	388.1	14.9
60°-70°	309.6	11.9
70°-80°	195.9	7.5
80°-90°	87.1	3.3
90°-100°	49.7	1.9
100°-110°	40.0	1.5
110°-120°	33.2	1.3
120°-130°	30.2	1.2
130°-140°	22.6	0.9
140°-150°	13.0	0.5
150°-160°	4.6	0.2
160°-170°	0.7	0.0
170°-180°	0.0	0.0
0°-30°	638.0	24.5
0°-40°	1026.4	39.4
0°-60°	1821.4	69.8
0°-90°	2414.0	92.6
90°-120°	122.9	4.7
90°-150°	188.6	7.2
90°-180°	194.0	7.4
0°-180°	2608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	987	987	987	987	987	
5°	942	938	938	937	934	88
15°	809	804	791	793	787	228
25°	714	714	707	708	692	329
35°	619	626	623	616	601	387
45°	515	533	534	523	517	398
55°	402	424	447	451	440	360
65°	276	299	324	326	327	273
75°	141	168	196	205	200	151
85°	24	47	77	105	120	32
90°	1	20	50	78	99	1
95°	0	19	48	68	91	0
105°	0	19	43	59	58	0
115°	0	18	40	50	50	0
125°	1	15	38	53	58	1
135°	1	11	31	47	55	0
145°	1	5	20	36	42	0
155°	1	2	8	17	20	0
165°	1	1	2	3	5	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241489

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	987.2	987.2	987.2	987.2	987.2	987.2	987.2	987.2	987.2	987.2	987.2
2.5°	979.3	977.5	973.6	974.7	975.8	974.7	975.8	975.8	973.6	971.3	967.9
5°	942.2	938.8	938.2	938.8	939.4	937.6	938.8	939.9	938.2	940.5	937.6
7.5°	902.3	899.5	898.9	898.3	897.7	896.6	897.2	898.9	896.6	891.5	888.1
10°	868.1	864.1	861.8	860.1	860.1	859.6	860.7	857.8	853.3	849.9	845.3
12.5°	836.8	834.5	832.2	833.3	831.1	830.5	829.3	824.8	821.4	817.4	810.5
15°	809.4	808.8	805.4	806.5	803.7	804.3	803.1	801.4	795.1	791.2	791.2
17.5°	783.2	783.7	783.7	784.3	779.8	779.8	779.8	777.5	772.3	770.6	769.5
20°	757.5	758.7	758.1	757.0	757.5	757.0	757.5	755.2	750.1	750.7	747.8
22.5°	736.4	735.9	734.7	735.9	735.3	734.2	734.7	732.4	730.2	729.6	727.9
25°	713.6	713.6	710.8	713.6	713.1	714.2	713.6	715.3	711.9	710.8	706.8
27.5°	689.7	688.0	688.6	691.4	693.1	693.1	690.8	692.0	692.5	686.3	685.7
30°	667.5	666.9	665.2	668.6	670.9	669.2	670.3	672.6	672.6	666.3	665.2
32.5°	643.0	641.8	643.0	646.4	646.9	650.4	652.1	650.9	650.4	644.7	644.7
35°	619.0	618.4	620.2	622.4	625.3	626.4	629.8	632.1	628.7	623.6	623.0
37.5°	590.5	593.9	593.9	597.9	601.9	604.8	606.5	609.3	604.8	601.3	604.8
40°	569.4	567.7	567.1	574.0	577.4	580.3	583.1	584.8	580.8	582.0	583.1
42.5°	543.8	540.9	544.9	549.5	554.0	556.9	558.0	562.6	558.6	560.9	556.9
45°	514.7	515.8	518.1	520.4	530.1	532.9	534.1	534.7	538.1	537.5	534.1
47.5°	488.5	488.5	491.9	495.9	503.3	507.3	509.0	510.1	511.3	511.3	515.3
50°	460.0	460.6	464.0	469.7	475.4	478.8	481.6	486.2	489.6	491.3	494.2
52.5°	433.2	432.6	438.9	442.9	448.0	452.6	455.4	461.7	465.7	468.0	474.8
55°	401.8	403.6	407.5	413.2	420.7	424.1	426.9	433.8	437.8	443.5	447.4
57.5°	373.3	374.5	376.8	382.5	391.0	392.7	396.7	404.1	407.5	414.4	418.9
60°	339.1	343.7	346.6	353.4	357.4	360.2	366.5	376.2	380.2	385.9	389.3
62.5°	310.1	310.6	314.6	320.9	325.5	330.6	336.9	343.7	349.4	354.0	356.2
65°	275.9	278.2	284.4	287.8	295.3	298.7	303.8	310.1	315.8	320.9	323.8
67.5°	244.0	245.7	249.1	255.4	262.8	266.2	269.0	276.4	285.0	290.1	294.1
70°	211.5	213.7	215.5	223.4	228.0	232.6	236.5	246.2	254.2	257.1	261.6
72.5°	175.6	179.0	181.8	189.2	196.6	200.1	205.2	213.7	219.4	224.6	228.0
75°	141.4	144.8	149.9	155.6	161.9	168.1	172.1	178.4	185.2	190.9	196.1
77.5°	108.9	110.6	116.3	123.7	129.4	135.1	137.9	144.8	152.8	157.9	164.7
80°	78.7	79.8	86.1	90.6	98.6	101.5	104.9	112.9	120.3	126.5	132.2
82.5°	50.7	51.3	56.4	62.7	68.4	73.0	75.8	83.2	90.6	97.5	102.6
85°	24.5	26.8	31.3	37.0	44.5	46.7	50.2	58.1	64.4	70.7	76.9
87.5°	8.0	9.7	13.7	19.4	25.6	28.5	31.9	38.2	45.6	52.4	58.1
90°	0.6	2.3	6.3	11.4	17.7	20.5	23.4	30.2	37.0	43.3	49.6
92.5°	0.0	1.7	5.7	10.8	16.5	19.4	22.8	29.6	35.9	42.7	49.6
95°	0.0	1.7	5.1	10.3	16.5	19.4	22.8	29.6	35.9	42.7	48.4
97.5°	0.0	1.1	5.1	10.3	16.5	19.4	22.8	29.1	35.9	41.0	46.2
100°	0.0	1.1	5.1	10.3	16.0	19.4	22.2	29.1	34.2	39.9	45.0
102.5°	0.0	1.1	5.1	10.3	16.0	18.8	22.2	27.9	33.6	38.8	43.9
105°	0.0	1.1	4.6	10.3	16.0	18.8	21.7	27.4	32.5	37.6	42.7
107.5°	0.0	1.1	4.6	9.7	15.4	18.2	21.7	26.8	32.5	37.0	41.6
110°	0.0	1.1	4.6	9.7	15.4	18.2	21.1	26.8	31.9	36.5	41.0



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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	4.0	9.1	15.4	18.2	21.1	26.2	31.3	36.5	40.5
115°	0.0	0.6	4.0	9.1	14.8	17.7	20.5	26.2	31.3	35.9	39.9
117.5°	0.6	0.6	4.0	8.5	14.2	17.1	19.9	25.6	30.8	35.3	39.3
120°	0.6	0.6	3.4	8.0	13.7	16.5	19.4	25.1	30.2	35.3	39.3
122.5°	0.6	0.6	2.8	7.4	13.1	16.0	18.8	24.5	29.6	34.8	39.3
125°	0.6	0.6	2.8	7.4	12.5	15.4	18.2	23.4	28.5	33.6	38.2
127.5°	0.6	0.6	2.3	6.8	12.0	14.2	17.1	22.8	27.4	32.5	37.0
130°	0.6	0.6	1.7	5.7	10.8	13.1	16.0	21.1	26.2	30.8	35.3
132.5°	0.6	0.6	1.7	5.1	9.7	12.0	14.2	19.9	24.5	29.1	33.6
135°	0.6	0.6	1.1	4.6	8.5	10.8	12.5	17.7	22.8	26.8	31.3
137.5°	0.6	0.6	1.1	3.4	7.4	9.1	11.4	15.4	20.5	24.5	29.1
140°	0.6	0.6	1.1	2.8	6.3	8.0	9.7	13.7	17.7	22.2	26.2
142.5°	0.6	0.6	0.6	2.3	5.1	6.3	8.0	11.4	15.4	19.4	23.4
145°	0.6	0.6	0.6	1.7	4.0	5.1	6.8	9.7	13.1	17.1	20.5
147.5°	0.6	0.6	0.6	1.1	2.8	4.0	5.1	8.0	10.8	14.2	17.1
150°	0.6	0.6	0.6	1.1	2.3	3.4	4.0	6.3	8.5	11.4	14.2
152.5°	0.6	0.6	0.6	0.6	1.7	2.3	3.4	5.1	6.8	9.1	11.4
155°	0.6	0.6	0.6	0.6	1.1	1.7	2.3	3.4	5.1	6.8	8.5
157.5°	0.6	0.6	0.6	0.6	1.1	1.1	1.7	2.3	3.4	5.1	6.3
160°	0.6	0.6	0.6	0.6	0.6	1.1	1.1	1.7	2.3	3.4	4.0
162.5°	1.1	0.6	0.6	0.6	0.6	0.6	1.1	1.1	1.7	2.3	2.8
165°	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.1	1.1	1.7
167.5°	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
170°	1.1	1.1	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°	987.2	987.2	987.2	987.2	987.2	987.2	987.2	987.2	987.2	987.2
2.5°	967.3	971.8	973.0	974.7	974.1	975.8	976.4	977.5	976.4	975.3
5°	937.1	939.9	938.8	937.1	937.1	936.5	935.4	935.4	935.9	933.7
7.5°	884.6	888.1	889.2	889.8	890.3	889.2	889.2	888.6	885.2	884.1
10°	840.7	840.2	841.9	845.3	848.2	848.7	853.3	855.6	855.6	857.3
12.5°	812.2	817.4	816.8	818.5	814.5	812.8	817.4	814.0	813.4	812.8
15°	789.4	789.4	790.6	792.3	793.4	794.0	792.3	788.3	784.9	787.2
17.5°	767.2	770.6	767.8	760.9	760.4	762.7	765.5	768.4	769.5	770.6
20°	749.0	744.4	745.0	752.4	754.1	753.5	749.5	746.7	743.8	741.6
22.5°	722.8	729.6	732.4	726.7	723.9	723.9	726.2	725.6	727.3	722.8
25°	707.4	707.9	703.9	708.5	708.5	709.1	702.8	698.2	692.5	692.0
27.5°	685.1	683.4	688.6	685.1	678.9	677.2	676.6	678.9	680.0	680.6
30°	664.6	666.3	656.6	661.2	665.2	666.3	665.8	656.6	653.8	653.8
32.5°	648.7	641.2	645.2	645.8	640.7	637.3	631.0	631.6	631.0	628.7
35°	623.0	622.4	626.4	617.9	615.6	615.0	617.9	614.5	607.0	601.3
37.5°	599.1	603.1	596.8	601.3	599.1	593.4	584.8	581.4	580.8	580.8
40°	583.1	576.8	579.1	568.3	564.3	566.6	568.3	567.7	565.4	564.9
42.5°	558.6	558.6	551.8	547.8	548.9	549.5	543.8	538.1	534.7	531.8
45°	535.2	531.2	529.0	529.5	523.3	519.3	515.8	518.1	515.3	517.0
47.5°	514.7	508.4	508.4	497.6	498.2	501.0	499.3	490.2	487.3	484.5
50°	493.0	497.6	487.9	490.8	489.6	484.5	479.4	479.4	482.8	479.4
52.5°	473.1	475.9	476.5	473.1	469.1	469.7	474.2	471.4	468.0	467.4
55°	449.7	448.6	450.9	449.7	450.9	452.6	446.3	443.5	442.3	440.0
57.5°	420.1	423.5	419.5	426.4	423.5	418.9	419.5	419.5	419.5	416.7
60°	390.4	391.0	394.4	390.4	389.3	391.6	391.6	389.3	387.0	387.6
62.5°	360.2	360.8	360.2	358.0	360.8	358.5	355.1	355.1	358.5	357.4
65°	326.0	329.5	326.6	326.0	325.5	323.2	326.0	327.2	326.0	326.6
67.5°	297.0	297.5	297.0	294.1	293.0	294.1	292.4	289.0	289.6	287.8
70°	265.0	264.5	265.6	263.9	264.5	265.0	260.5	257.6	258.2	258.2
72.5°	232.0	233.7	233.7	235.4	234.8	233.1	231.4	230.3	229.7	229.7
75°	200.6	203.5	204.1	205.2	204.6	204.1	204.1	201.8	200.1	199.5
77.5°	168.7	171.6	176.1	175.0	176.1	176.1	177.3	174.4	176.1	176.1
80°	137.4	140.8	145.3	148.8	149.9	150.5	151.6	152.8	156.2	156.2
82.5°	108.9	112.9	118.6	123.1	126.5	127.7	132.2	136.8	139.1	140.2
85°	83.2	89.5	95.2	100.9	105.4	108.9	112.9	114.6	118.0	120.3
87.5°	65.0	71.8	79.2	86.6	89.5	91.2	94.6	98.6	104.3	107.7
90°	57.0	64.4	71.2	76.4	77.5	79.2	83.2	87.8	94.0	98.6
92.5°	56.4	62.1	66.7	70.1	71.8	74.1	77.5	79.8	84.9	88.9
95°	53.6	58.7	63.3	66.7	68.4	70.1	73.5	79.2	86.6	91.2
97.5°	51.9	57.0	60.4	64.4	66.7	69.0	76.4	84.9	91.2	92.9
100°	50.2	54.7	58.7	63.8	66.7	69.5	75.8	79.2	80.4	79.2
102.5°	48.4	53.0	57.6	62.1	63.8	66.1	69.0	68.4	67.8	66.7
105°	47.3	51.3	55.3	58.1	58.7	59.8	60.4	59.8	58.7	57.6
107.5°	46.2	49.6	52.4	53.6	54.1	54.7	54.7	53.6	52.4	51.3
110°	44.5	47.9	49.6	50.7	50.7	51.3	50.7	50.2	48.4	47.9



TEST NUMBER: P241489

CATALOG NUMBER: FVS8M-4-LD4-30-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	43.9	46.2	47.9	49.0	49.6	50.2	50.2	49.6	48.4	47.9
115°	43.3	46.2	47.9	49.6	50.2	50.7	51.3	51.3	50.2	50.2
117.5°	43.3	46.7	49.0	50.7	51.9	52.4	53.0	53.6	53.0	52.4
120°	43.3	47.3	49.6	52.4	53.0	53.6	54.7	55.3	55.3	54.7
122.5°	43.3	47.3	50.2	52.4	53.6	54.1	55.9	56.4	56.4	56.4
125°	42.7	46.7	49.6	51.9	53.0	54.1	55.9	57.0	57.6	58.1
127.5°	41.6	45.6	48.4	51.3	52.4	53.6	55.3	56.4	57.6	58.7
130°	39.9	43.9	47.3	50.2	51.3	52.4	54.1	55.9	57.0	57.6
132.5°	38.2	41.6	45.6	48.4	49.6	50.7	53.0	54.7	55.9	56.4
135°	35.9	39.3	43.3	46.2	47.3	49.0	51.3	53.0	54.1	54.7
137.5°	33.1	37.0	40.5	43.9	45.0	46.2	49.0	50.7	51.9	51.9
140°	30.8	34.2	38.2	41.0	42.7	43.9	46.2	47.9	49.0	49.6
142.5°	27.9	31.9	35.3	38.2	39.3	40.5	42.7	44.5	45.6	46.2
145°	24.5	28.5	31.3	34.2	35.9	37.0	38.8	40.5	41.6	41.6
147.5°	21.1	24.5	27.4	29.6	31.3	32.5	34.2	35.9	37.0	37.0
150°	17.1	19.9	23.4	25.6	26.2	27.4	29.1	30.2	30.8	31.3
152.5°	13.7	16.0	18.8	20.5	21.7	22.8	23.9	25.1	25.6	25.6
155°	10.3	12.5	14.2	16.5	17.1	18.2	18.8	19.9	19.9	20.5
157.5°	7.4	9.1	10.3	12.0	12.5	13.7	14.2	14.8	15.4	15.4
160°	5.1	6.3	7.4	8.5	9.1	9.7	10.3	10.8	11.4	10.8
162.5°	3.4	4.0	4.6	5.7	5.7	6.3	6.8	7.4	7.4	7.4
165°	1.7	2.3	2.8	2.8	3.4	3.4	4.0	4.6	4.6	4.6
167.5°	1.1	1.1	1.1	1.7	1.7	1.7	1.7	2.3	2.3	2.3
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)