

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: P241522

Luminaire Tested: **FVS8M-4-LD4-35-3HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241522
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-45)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-35-3HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (252) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

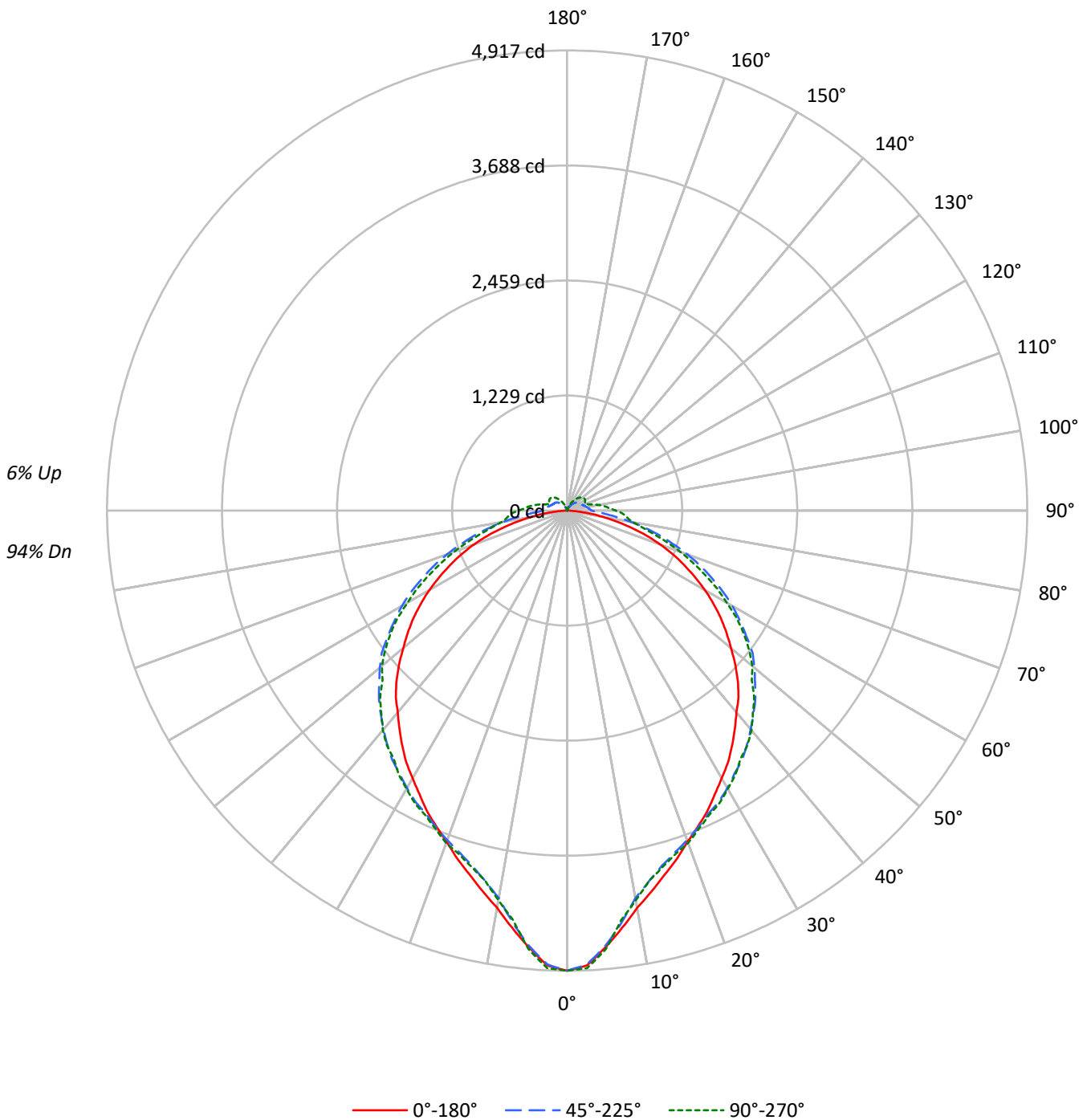
Lumens per Lamp: N/A
Luminaire Lumens: 13231.0 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.04 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 129.5
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	50	30	10	50	30	10	0		
RCR																										
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94					94			
1	106	101	97	93	103	98	94	91	93	90	87	88	85	83	83	81	79	77					77			
2	96	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63					63			
3	88	77	68	62	85	75	67	61	71	64	59	67	62	57	64	59	55	53					53			
4	80	68	59	52	77	66	58	51	63	56	50	60	54	49	57	52	47	45					45			
5	74	61	51	45	71	59	50	44	56	49	43	54	47	42	51	45	41	39					39			
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	40	36	34					34			
7	63	49	40	34	61	48	40	34	46	39	33	44	37	33	42	36	32	30					30			
8	59	45	36	30	57	44	36	30	42	35	30	40	34	29	39	33	29	27					27			
9	55	41	33	27	53	40	33	27	39	32	27	37	31	26	36	30	26	24					24			
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	23	22					22			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21974	21974	21974
5°	20949	20612	20708
10°	19426	18465	18443
15°	18443	17288	17205
20°	17652	16686	16617
25°	17167	16196	16012
30°	16662	15946	15677
35°	16310	15703	15231
40°	15899	15386	15021
45°	15690	15144	14568
50°	15183	14851	14148
55°	14797	14356	13598
60°	14234	13770	12663
65°	13482	12857	11570
70°	12512	11786	10353
75°	10737	10388	8871
80°	8133	8622	8041
85°	4306	6687	8953



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	432.7	3.3
10°-20°	1120.4	8.5
20°-30°	1654.2	12.5
30°-40°	2013.0	15.2
40°-50°	2142.6	16.2
50°-60°	2014.8	15.2
60°-70°	1593.8	12.0
70°-80°	994.6	7.5
80°-90°	441.6	3.3
90°-100°	243.3	1.8
100°-110°	177.7	1.3
110°-120°	137.3	1.0
120°-130°	117.8	0.9
130°-140°	83.0	0.6
140°-150°	44.8	0.3
150°-160°	16.5	0.1
160°-170°	3.0	0.0
170°-180°	0.1	0.0
0°-30°	3207.2	24.2
0°-40°	5220.2	39.5
0°-60°	9377.6	70.9
0°-90°	12407.6	93.8
90°-120°	558.2	4.2
90°-150°	803.8	6.1
90°-180°	823.0	6.2
0°-180°	13231.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4917	4917	4917	4917	4917	
5°	4685	4682	4670	4714	4707	436
15°	4028	3999	3924	3916	3944	1135
25°	3545	3569	3571	3611	3589	1631
35°	3071	3163	3256	3286	3233	1921
45°	2579	2720	2845	2842	2825	1984
55°	2005	2192	2335	2347	2308	1789
65°	1382	1546	1704	1669	1624	1367
75°	712	868	1022	1028	947	757
85°	122	263	410	500	625	159
90°	3	124	261	379	519	6
95°	1	105	234	341	425	1
105°	1	87	193	258	252	1
115°	1	74	164	205	211	1
125°	2	60	149	208	224	2
135°	2	41	116	174	198	2
145°	3	21	72	119	138	2
155°	4	8	32	61	71	2
165°	4	3	7	15	20	1
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°	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7
2.5°	4864.7	4869.6	4876.5	4866.7	4873.6	4868.7	4875.5	4872.6	4866.7	4864.7	4854.0
5°	4685.4	4700.1	4693.2	4687.4	4691.3	4681.5	4696.2	4687.4	4679.5	4667.8	4669.7
7.5°	4498.2	4491.4	4497.2	4479.6	4476.7	4481.6	4475.7	4473.7	4477.6	4453.1	4442.4
10°	4310.1	4318.9	4302.2	4300.3	4294.4	4296.3	4286.5	4273.8	4251.3	4223.8	4203.2
12.5°	4168.0	4167.0	4167.0	4152.3	4133.7	4137.6	4120.9	4092.5	4074.9	4060.2	4052.3
15°	4027.8	4028.8	4016.1	4002.3	4000.4	3999.4	3995.5	3972.0	3951.4	3939.6	3923.9
17.5°	3900.4	3902.4	3900.4	3893.6	3890.6	3876.9	3878.9	3857.3	3828.9	3825.9	3829.9
20°	3764.2	3778.9	3787.7	3762.2	3763.2	3754.4	3759.3	3750.5	3738.7	3744.6	3747.5
22.5°	3652.5	3666.2	3663.3	3655.4	3660.3	3662.3	3663.3	3666.2	3668.2	3662.3	3664.2
25°	3544.7	3542.7	3544.7	3562.3	3562.3	3569.2	3569.2	3566.2	3565.3	3559.4	3571.1
27.5°	3417.3	3431.0	3443.7	3452.6	3452.6	3459.4	3454.5	3480.0	3489.8	3494.7	3508.4
30°	3301.6	3322.2	3328.1	3335.9	3364.4	3375.1	3383.0	3405.5	3410.4	3413.4	3424.1
32.5°	3195.8	3201.7	3208.5	3247.7	3274.2	3282.0	3289.9	3299.7	3315.4	3317.3	3331.0
35°	3071.3	3074.3	3105.6	3133.1	3151.7	3163.4	3180.1	3208.5	3230.1	3246.8	3255.6
37.5°	2942.9	2967.4	2991.0	3004.7	3044.9	3070.3	3093.9	3126.2	3133.1	3144.8	3156.6
40°	2814.6	2840.0	2850.8	2898.8	2943.9	2963.5	2980.2	3002.7	3014.5	3039.0	3051.7
42.5°	2709.7	2714.6	2733.2	2780.3	2818.5	2833.2	2856.7	2898.8	2930.2	2949.8	2946.9
45°	2579.4	2578.4	2618.6	2642.1	2691.1	2720.5	2749.9	2784.2	2814.6	2841.0	2844.9
47.5°	2436.3	2447.1	2476.5	2510.8	2578.4	2609.7	2628.4	2652.9	2688.1	2706.8	2722.4
50°	2285.4	2317.7	2330.4	2391.2	2442.2	2464.7	2491.2	2533.3	2570.5	2599.9	2612.7
52.5°	2146.2	2162.9	2203.0	2246.2	2296.1	2334.4	2354.9	2410.8	2446.1	2467.6	2496.1
55°	2005.1	2012.9	2060.0	2101.1	2156.0	2192.3	2216.8	2267.7	2291.2	2325.5	2335.3
57.5°	1854.2	1868.9	1905.1	1955.1	2007.0	2032.5	2050.2	2109.0	2144.2	2180.5	2185.4
60°	1700.3	1719.9	1750.3	1807.1	1843.4	1869.8	1896.3	1956.1	1992.3	2022.7	2040.4
62.5°	1538.6	1554.3	1592.5	1639.5	1678.7	1707.2	1740.5	1790.5	1825.7	1860.0	1875.7
65°	1381.8	1398.5	1432.8	1472.0	1520.0	1545.5	1574.9	1616.0	1660.1	1684.6	1704.2
67.5°	1225.0	1232.8	1265.2	1306.3	1357.3	1374.9	1404.3	1444.5	1501.4	1520.0	1538.6
70°	1060.4	1065.3	1091.7	1140.7	1178.9	1207.4	1225.0	1280.9	1320.1	1347.5	1366.1
72.5°	891.8	903.6	920.2	967.3	1009.4	1032.9	1063.3	1112.3	1149.5	1178.0	1185.8
75°	712.5	726.2	754.6	799.7	840.8	868.3	894.7	930.0	972.2	1001.6	1022.1
77.5°	543.9	564.5	585.1	623.3	675.2	699.7	721.3	768.3	808.5	836.9	848.7
80°	386.1	401.8	428.3	464.5	515.5	537.0	559.6	602.7	638.0	664.4	690.9
82.5°	251.9	253.8	289.1	322.4	367.5	388.1	409.6	452.8	489.0	513.5	538.0
85°	121.5	135.2	162.7	198.0	241.1	262.6	283.2	319.5	348.9	377.3	409.6
87.5°	38.2	47.0	77.4	111.7	148.0	167.6	185.2	219.5	248.9	278.3	309.7
90°	2.9	11.8	36.3	69.6	105.8	124.5	140.1	170.5	201.9	232.3	260.7
92.5°	1.0	8.8	31.4	62.7	96.0	111.7	127.4	157.8	187.2	217.6	247.9
95°	1.0	7.8	28.4	57.8	90.2	104.9	119.6	149.9	180.3	208.7	234.2
97.5°	1.0	7.8	27.4	54.9	84.3	99.0	113.7	144.1	172.5	199.9	223.4
100°	1.0	6.9	25.5	51.0	80.4	94.1	108.8	137.2	164.6	190.1	212.7
102.5°	1.0	5.9	23.5	49.0	76.4	90.2	104.9	131.3	156.8	180.3	202.9
105°	1.0	5.9	22.5	47.0	73.5	87.2	100.0	126.4	149.9	172.5	193.1
107.5°	1.0	4.9	21.6	44.1	70.6	83.3	96.0	121.5	144.1	165.6	184.2
110°	1.0	4.9	19.6	42.1	67.6	80.4	93.1	116.6	139.2	158.8	176.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.0	3.9	18.6	40.2	64.7	77.4	89.2	112.7	134.3	152.9	169.5
115°	1.0	3.9	17.6	38.2	61.7	73.5	86.2	108.8	129.4	148.0	163.7
117.5°	2.0	2.9	15.7	36.3	58.8	70.6	82.3	104.9	125.4	144.1	160.7
120°	2.0	2.9	14.7	34.3	55.9	67.6	78.4	100.9	121.5	140.1	157.8
122.5°	2.0	2.9	13.7	31.4	52.9	63.7	75.5	97.0	117.6	137.2	153.9
125°	2.0	2.9	11.8	29.4	50.0	59.8	70.6	92.1	112.7	131.3	149.0
127.5°	2.0	2.0	10.8	26.5	46.1	55.9	66.6	87.2	106.8	124.5	142.1
130°	2.0	2.0	8.8	23.5	42.1	51.9	61.7	82.3	100.0	117.6	134.3
132.5°	2.0	2.0	7.8	20.6	37.2	46.1	55.9	75.5	93.1	109.8	125.4
135°	2.0	2.0	5.9	17.6	33.3	41.2	50.0	67.6	84.3	100.9	115.6
137.5°	2.9	2.0	4.9	14.7	28.4	36.3	43.1	59.8	74.5	91.1	106.8
140°	2.9	2.9	3.9	11.8	23.5	30.4	36.3	51.0	65.7	80.4	95.1
142.5°	2.9	2.9	3.9	9.8	19.6	25.5	31.4	43.1	56.8	70.6	84.3
145°	2.9	2.9	2.9	7.8	15.7	20.6	25.5	37.2	49.0	60.8	72.5
147.5°	2.9	2.9	2.9	5.9	12.7	16.7	20.6	30.4	41.2	51.9	61.7
150°	3.9	2.9	2.9	4.9	9.8	12.7	16.7	24.5	33.3	42.1	51.0
152.5°	3.9	2.9	2.9	3.9	7.8	9.8	12.7	19.6	26.5	33.3	41.2
155°	3.9	2.9	2.9	3.9	5.9	7.8	9.8	14.7	20.6	26.5	32.3
157.5°	3.9	3.9	2.9	2.9	4.9	5.9	6.9	10.8	14.7	19.6	24.5
160°	3.9	3.9	2.9	2.9	3.9	3.9	4.9	7.8	10.8	13.7	17.6
162.5°	3.9	3.9	2.9	2.9	2.9	2.9	3.9	4.9	6.9	8.8	11.8
165°	3.9	3.9	3.9	2.9	2.9	2.9	2.9	2.9	3.9	5.9	6.9
167.5°	3.9	3.9	3.9	2.9	2.9	2.0	2.0	2.0	2.9	2.9	3.9
170°	4.9	3.9	3.9	2.9	2.9	2.0	2.0	2.0	2.0	2.0	2.0
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°	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7	4916.7
2.5°	4857.9	4861.8	4878.5	4882.4	4888.3	4886.3	4889.2	4889.2	4892.2	4893.2
5°	4680.5	4702.1	4713.8	4706.0	4713.8	4709.9	4710.9	4706.0	4704.0	4707.0
7.5°	4415.9	4414.9	4416.9	4414.9	4415.9	4415.9	4423.7	4426.7	4416.9	4415.9
10°	4188.5	4192.5	4201.3	4204.2	4200.3	4195.4	4206.2	4209.1	4218.9	4225.8
12.5°	4040.6	4023.9	4048.4	4065.1	4067.0	4072.9	4072.9	4077.8	4068.0	4050.4
15°	3924.9	3936.7	3935.7	3917.1	3916.1	3917.1	3930.8	3923.0	3931.8	3943.5
17.5°	3824.0	3819.1	3831.8	3845.5	3850.4	3857.3	3853.4	3849.5	3849.5	3847.5
20°	3731.9	3758.3	3772.0	3766.2	3770.1	3778.9	3787.7	3789.7	3785.8	3780.9
22.5°	3670.1	3681.9	3695.6	3725.0	3715.2	3716.2	3697.6	3690.7	3683.8	3678.9
25°	3579.0	3600.5	3629.9	3617.2	3611.3	3610.3	3599.6	3599.6	3590.7	3588.8
27.5°	3513.3	3540.8	3518.2	3531.0	3531.0	3537.8	3533.9	3529.0	3525.1	3525.1
30°	3446.7	3430.0	3443.7	3455.5	3451.6	3447.7	3448.6	3434.9	3438.8	3433.9
32.5°	3340.8	3342.8	3362.4	3369.3	3371.2	3373.2	3365.3	3361.4	3357.5	3346.7
35°	3260.5	3280.1	3270.3	3285.0	3286.0	3260.5	3261.5	3250.7	3241.9	3233.0
37.5°	3168.3	3162.5	3189.9	3181.1	3166.4	3164.4	3155.6	3164.4	3161.5	3163.4
40°	3069.4	3085.0	3074.3	3074.3	3070.3	3079.2	3078.2	3071.3	3067.4	3062.5
42.5°	2974.3	2975.3	2963.5	2970.4	2969.4	2967.4	2957.6	2950.8	2953.7	2938.0
45°	2875.3	2846.9	2868.5	2849.8	2842.0	2850.8	2837.1	2833.2	2821.4	2825.3
47.5°	2735.2	2731.3	2733.2	2718.5	2715.6	2708.7	2689.1	2679.3	2675.4	2676.4
50°	2605.8	2613.7	2608.8	2602.9	2595.0	2584.3	2581.3	2585.2	2594.1	2582.3
52.5°	2492.1	2498.0	2494.1	2477.4	2470.6	2478.4	2485.3	2462.7	2453.9	2452.0
55°	2345.1	2366.7	2348.1	2355.9	2347.1	2347.1	2319.7	2317.7	2314.8	2307.9
57.5°	2202.1	2205.0	2210.9	2221.7	2195.2	2192.3	2189.3	2170.7	2155.0	2152.1
60°	2057.0	2049.2	2057.0	2041.3	2037.4	2035.5	2005.1	1981.6	1965.9	1970.8
62.5°	1888.5	1898.3	1884.5	1864.9	1859.1	1847.3	1814.0	1819.9	1814.0	1808.1
65°	1705.2	1716.0	1699.3	1677.8	1668.9	1661.1	1655.2	1633.7	1634.6	1623.9
67.5°	1540.6	1531.7	1531.7	1507.2	1504.3	1504.3	1479.8	1464.1	1463.1	1453.3
70°	1368.1	1373.0	1360.2	1351.4	1356.3	1339.7	1316.1	1307.3	1285.8	1283.8
72.5°	1197.6	1212.3	1197.6	1196.6	1186.8	1181.9	1156.4	1142.7	1126.0	1113.3
75°	1028.0	1041.7	1038.8	1032.9	1028.0	1018.2	999.6	972.2	955.5	946.7
77.5°	867.3	873.2	885.9	878.1	881.0	871.2	856.5	835.0	818.3	815.4
80°	707.6	721.3	733.0	735.0	735.0	734.0	721.3	714.4	716.4	712.5
82.5°	561.5	577.2	595.8	603.7	609.6	611.5	620.3	630.1	646.8	656.6
85°	432.2	455.7	474.3	490.0	499.8	510.6	532.1	559.6	600.7	625.2
87.5°	336.1	361.6	385.1	412.6	429.2	440.0	465.5	505.7	551.7	581.1
90°	288.1	313.6	343.0	368.5	379.3	394.0	427.3	459.6	498.8	519.4
92.5°	271.5	298.9	322.4	345.9	359.7	371.4	397.9	419.4	446.9	461.6
95°	258.7	281.3	307.7	329.3	341.0	351.8	368.5	389.1	411.6	425.3
97.5°	247.0	270.5	291.1	310.7	320.5	327.3	347.9	367.5	384.2	388.1
100°	235.2	256.8	273.4	290.1	300.9	308.7	325.4	337.1	341.0	342.0
102.5°	223.4	242.1	258.7	272.4	280.3	287.1	296.0	302.8	303.8	300.9
105°	210.7	227.4	242.1	254.8	257.7	261.7	264.6	259.7	255.8	251.9
107.5°	199.9	214.6	226.4	233.2	234.2	235.2	233.2	229.3	225.4	224.4
110°	191.1	203.8	211.7	214.6	215.6	215.6	212.7	209.7	207.8	205.8



TEST NUMBER: P241522

CATALOG NUMBER: FVS8M-4-LD4-35-3HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	183.3	194.0	200.9	204.8	205.8	206.8	206.8	205.8	204.8	203.8
115°	177.4	189.1	197.0	201.9	204.8	206.8	209.7	210.7	210.7	210.7
117.5°	174.4	187.2	197.0	204.8	208.7	211.7	215.6	217.6	217.6	216.6
120°	172.5	186.2	197.0	207.8	211.7	214.6	219.5	222.5	222.5	221.5
122.5°	169.5	184.2	196.0	206.8	211.7	215.6	221.5	224.4	224.4	224.4
125°	164.6	180.3	192.1	203.8	207.8	212.7	218.5	222.5	223.4	224.4
127.5°	157.8	173.5	186.2	198.0	202.9	206.8	213.6	218.5	220.5	221.5
130°	149.9	164.6	177.4	190.1	195.0	199.9	206.8	211.7	214.6	215.6
132.5°	140.1	154.8	167.6	179.3	185.2	189.1	198.0	202.9	206.8	206.8
135°	130.3	144.1	155.8	167.6	173.5	178.4	187.2	193.1	197.0	198.0
137.5°	119.6	132.3	144.1	155.8	160.7	165.6	173.5	180.3	185.2	186.2
140°	108.8	120.5	132.3	143.1	148.0	151.9	159.7	166.6	170.5	171.5
142.5°	97.0	108.8	119.6	129.4	133.3	137.2	145.0	150.9	152.9	154.8
145°	85.3	96.0	105.8	114.7	118.6	122.5	128.4	134.3	136.2	138.2
147.5°	72.5	83.3	92.1	100.0	103.9	106.8	112.7	116.6	120.5	120.5
150°	59.8	69.6	78.4	86.2	89.2	92.1	96.0	100.0	101.9	103.9
152.5°	48.0	55.9	64.7	72.5	74.5	76.4	81.3	83.3	86.2	87.2
155°	38.2	44.1	51.0	57.8	60.8	62.7	66.6	68.6	70.6	70.6
157.5°	29.4	34.3	38.2	44.1	47.0	50.0	52.9	54.9	55.9	55.9
160°	20.6	24.5	28.4	32.3	34.3	36.3	39.2	40.2	42.1	42.1
162.5°	13.7	16.7	19.6	22.5	23.5	24.5	27.4	29.4	30.4	30.4
165°	8.8	9.8	11.8	13.7	14.7	15.7	17.6	18.6	19.6	19.6
167.5°	3.9	4.9	5.9	6.9	6.9	7.8	8.8	10.8	10.8	10.8
170°	2.0	2.0	2.0	2.0	2.9	2.9	2.9	3.9	3.9	3.9
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)