

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: P241524

Luminaire Tested: **FVS8M-4-LD4-50-3HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241524
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-LD4-50-3HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (252) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

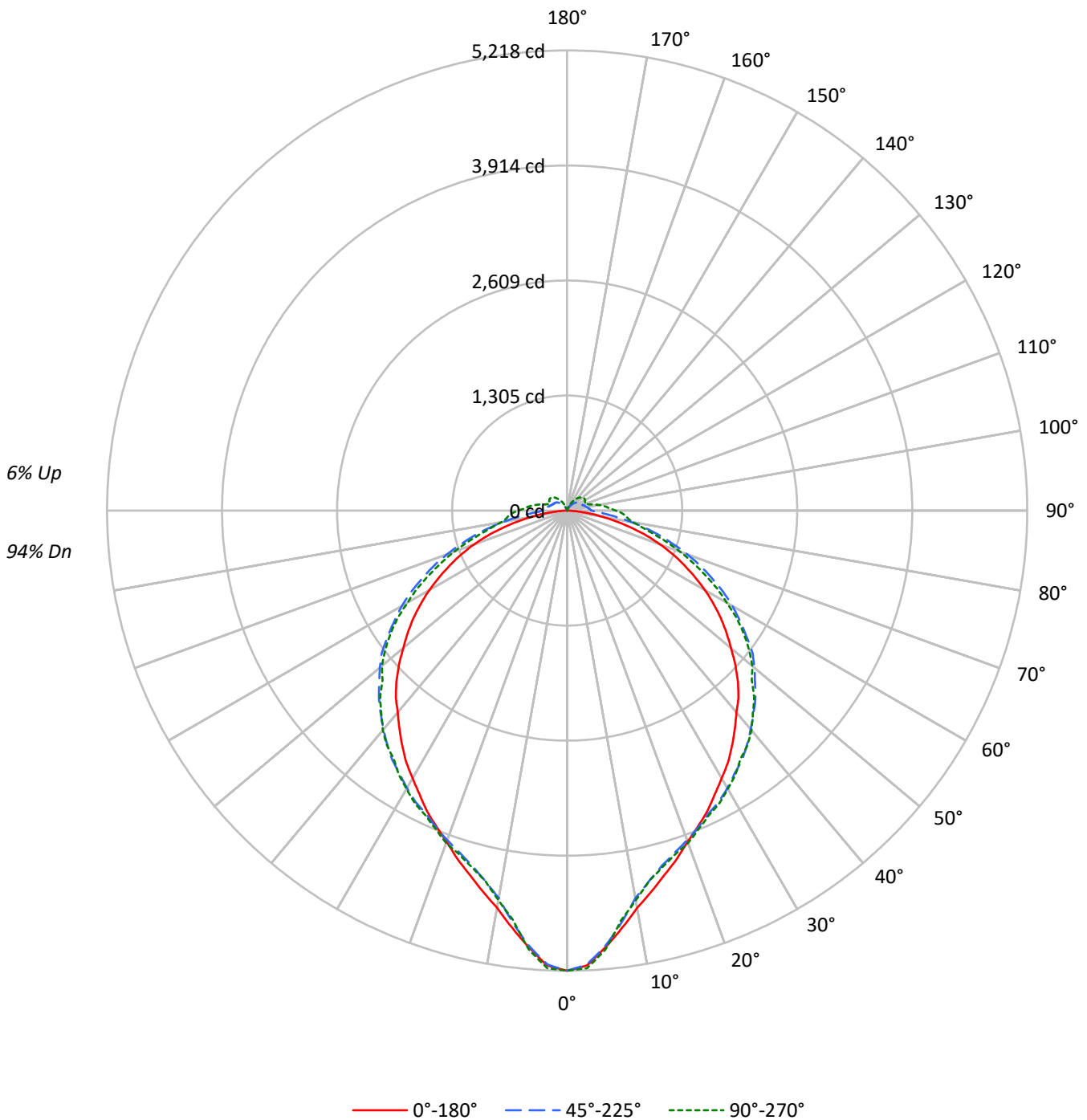
Lumens per Lamp: N/A
Luminaire Lumens: 14041.0 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.04 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23319	23319	23319
5°	22231	21874	21976
10°	20615	19596	19572
15°	19572	18347	18259
20°	18732	17708	17634
25°	18218	17187	16992
30°	17683	16923	16638
35°	17309	16664	16164
40°	16873	16328	15941
45°	16650	16072	15460
50°	16112	15760	15014
55°	15703	15235	14430
60°	15106	14613	13438
65°	14308	13645	12279
70°	13278	12508	10987
75°	11393	11024	9414
80°	8633	9150	8533
85°	4572	7097	9501



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	459.2	3.3
10°-20°	1188.9	8.5
20°-30°	1755.5	12.5
30°-40°	2136.2	15.2
40°-50°	2273.8	16.2
50°-60°	2138.1	15.2
60°-70°	1691.3	12.0
70°-80°	1055.4	7.5
80°-90°	468.7	3.3
90°-100°	258.2	1.8
100°-110°	188.5	1.3
110°-120°	145.7	1.0
120°-130°	125.0	0.9
130°-140°	88.0	0.6
140°-150°	47.5	0.3
150°-160°	17.5	0.1
160°-170°	3.2	0.0
170°-180°	0.1	0.0
0°-30°	3403.6	24.2
0°-40°	5539.8	39.5
0°-60°	9951.7	70.9
0°-90°	13167.2	93.8
90°-120°	592.4	4.2
90°-150°	853.0	6.1
90°-180°	874.0	6.2
0°-180°	14041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5218	5218	5218	5218	5218	
5°	4972	4968	4956	5002	4995	462
15°	4274	4244	4164	4156	4185	1205
25°	3762	3788	3790	3832	3808	1731
35°	3259	3357	3455	3487	3431	2038
45°	2737	2887	3019	3016	2998	2105
55°	2128	2326	2478	2491	2449	1898
65°	1466	1640	1809	1771	1723	1451
75°	756	921	1085	1091	1005	803
85°	129	279	435	530	664	169
90°	3	132	277	402	551	7
95°	1	111	249	362	451	1
105°	1	93	205	274	267	1
115°	1	78	174	217	224	1
125°	2	63	158	220	238	2
135°	2	44	123	184	210	2
145°	3	22	77	126	147	2
155°	4	8	34	64	75	2
165°	4	3	7	16	21	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°	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7
2.5°	5162.6	5167.8	5175.0	5164.6	5171.9	5166.7	5174.0	5170.9	5164.6	5162.6	5151.1
5°	4972.2	4987.8	4980.6	4974.3	4978.5	4968.1	4983.7	4974.3	4966.0	4953.5	4955.6
7.5°	4773.6	4766.3	4772.6	4753.8	4750.7	4755.9	4749.7	4747.6	4751.8	4725.8	4714.3
10°	4573.9	4583.3	4565.6	4563.5	4557.3	4559.4	4549.0	4535.4	4511.5	4482.4	4460.6
12.5°	4423.1	4422.1	4422.1	4406.5	4386.7	4390.9	4373.2	4343.0	4324.3	4308.7	4300.4
15°	4274.4	4275.4	4261.9	4247.4	4245.3	4244.2	4240.1	4215.1	4193.3	4180.8	4164.2
17.5°	4139.2	4141.3	4139.2	4131.9	4128.8	4114.2	4116.3	4093.4	4063.3	4060.2	4064.3
20°	3994.6	4010.2	4019.6	3992.6	3993.6	3984.2	3989.4	3980.1	3967.6	3973.8	3977.0
22.5°	3876.1	3890.6	3887.5	3879.2	3884.4	3886.5	3887.5	3890.6	3892.7	3886.5	3888.6
25°	3761.7	3759.6	3761.7	3780.4	3780.4	3787.7	3787.7	3784.6	3783.5	3777.3	3789.8
27.5°	3626.5	3641.0	3654.6	3663.9	3663.9	3671.2	3666.0	3693.0	3703.4	3708.6	3723.2
30°	3503.8	3525.6	3531.8	3540.2	3570.3	3581.8	3590.1	3614.0	3619.2	3622.3	3633.8
32.5°	3391.4	3397.7	3405.0	3446.6	3474.6	3483.0	3491.3	3501.7	3518.3	3520.4	3535.0
35°	3259.4	3262.5	3295.8	3324.9	3344.6	3357.1	3374.8	3405.0	3427.8	3445.5	3454.9
37.5°	3123.1	3149.1	3174.1	3188.6	3231.3	3258.3	3283.3	3317.6	3324.9	3337.4	3349.8
40°	2986.9	3013.9	3025.4	3076.3	3124.2	3145.0	3162.6	3186.6	3199.0	3225.0	3238.6
42.5°	2875.6	2880.8	2900.6	2950.5	2991.0	3006.6	3031.6	3076.3	3109.6	3130.4	3127.3
45°	2737.3	2736.2	2778.9	2803.8	2855.8	2887.0	2918.2	2954.6	2986.9	3015.0	3019.1
47.5°	2585.4	2596.9	2628.1	2664.5	2736.2	2769.5	2789.3	2815.3	2852.7	2872.5	2889.1
50°	2425.3	2459.6	2473.1	2537.6	2591.7	2615.6	2643.7	2688.4	2727.9	2759.1	2772.6
52.5°	2277.6	2295.3	2337.9	2383.7	2436.7	2477.3	2499.1	2558.4	2595.8	2618.7	2648.9
55°	2127.8	2136.2	2186.1	2229.8	2288.0	2326.5	2352.5	2406.6	2431.5	2467.9	2478.3
57.5°	1967.7	1983.3	2021.8	2074.8	2129.9	2157.0	2175.7	2238.1	2275.5	2314.0	2319.2
60°	1804.4	1825.2	1857.4	1917.8	1956.2	1984.3	2012.4	2075.8	2114.3	2146.6	2165.3
62.5°	1632.8	1649.4	1690.0	1739.9	1781.5	1811.7	1847.0	1900.1	1937.5	1973.9	1990.6
65°	1466.4	1484.1	1520.5	1562.1	1613.0	1640.1	1671.3	1715.0	1761.8	1787.8	1808.6
67.5°	1300.0	1308.3	1342.6	1386.3	1440.4	1459.1	1490.3	1533.0	1593.3	1613.0	1632.8
70°	1125.3	1130.5	1158.6	1210.6	1251.1	1281.3	1300.0	1359.3	1400.9	1430.0	1449.8
72.5°	946.4	958.9	976.6	1026.5	1071.2	1096.2	1128.4	1180.4	1219.9	1250.1	1258.4
75°	756.1	770.6	800.8	848.6	892.3	921.4	949.5	987.0	1031.7	1062.9	1084.7
77.5°	577.2	599.0	620.9	661.4	716.6	742.6	765.4	815.4	858.0	888.2	900.6
80°	409.8	426.4	454.5	493.0	547.0	569.9	593.8	639.6	677.0	705.1	733.2
82.5°	267.3	269.4	306.8	342.2	390.0	411.8	434.7	480.5	519.0	545.0	571.0
85°	129.0	143.5	172.6	210.1	255.8	278.7	300.6	339.0	370.2	400.4	434.7
87.5°	40.6	49.9	82.2	118.6	157.0	177.8	196.6	233.0	264.2	295.4	328.6
90°	3.1	12.5	38.5	73.8	112.3	132.1	148.7	181.0	214.2	246.5	276.6
92.5°	1.0	9.4	33.3	66.6	101.9	118.6	135.2	167.4	198.6	230.9	263.1
95°	1.0	8.3	30.2	61.4	95.7	111.3	126.9	159.1	191.4	221.5	248.6
97.5°	1.0	8.3	29.1	58.2	89.4	105.0	120.6	152.9	183.0	212.2	237.1
100°	1.0	7.3	27.0	54.1	85.3	99.8	115.4	145.6	174.7	201.8	225.7
102.5°	1.0	6.2	25.0	52.0	81.1	95.7	111.3	139.4	166.4	191.4	215.3
105°	1.0	6.2	23.9	49.9	78.0	92.6	106.1	134.2	159.1	183.0	204.9
107.5°	1.0	5.2	22.9	46.8	74.9	88.4	101.9	129.0	152.9	175.8	195.5
110°	1.0	5.2	20.8	44.7	71.8	85.3	98.8	123.8	147.7	168.5	187.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.0	4.2	19.8	42.6	68.6	82.2	94.6	119.6	142.5	162.2	179.9
115°	1.0	4.2	18.7	40.6	65.5	78.0	91.5	115.4	137.3	157.0	173.7
117.5°	2.1	3.1	16.6	38.5	62.4	74.9	87.4	111.3	133.1	152.9	170.6
120°	2.1	3.1	15.6	36.4	59.3	71.8	83.2	107.1	129.0	148.7	167.4
122.5°	2.1	3.1	14.6	33.3	56.2	67.6	80.1	103.0	124.8	145.6	163.3
125°	2.1	3.1	12.5	31.2	53.0	63.4	74.9	97.8	119.6	139.4	158.1
127.5°	2.1	2.1	11.4	28.1	48.9	59.3	70.7	92.6	113.4	132.1	150.8
130°	2.1	2.1	9.4	25.0	44.7	55.1	65.5	87.4	106.1	124.8	142.5
132.5°	2.1	2.1	8.3	21.8	39.5	48.9	59.3	80.1	98.8	116.5	133.1
135°	2.1	2.1	6.2	18.7	35.4	43.7	53.0	71.8	89.4	107.1	122.7
137.5°	3.1	2.1	5.2	15.6	30.2	38.5	45.8	63.4	79.0	96.7	113.4
140°	3.1	3.1	4.2	12.5	25.0	32.2	38.5	54.1	69.7	85.3	100.9
142.5°	3.1	3.1	4.2	10.4	20.8	27.0	33.3	45.8	60.3	74.9	89.4
145°	3.1	3.1	3.1	8.3	16.6	21.8	27.0	39.5	52.0	64.5	77.0
147.5°	3.1	3.1	3.1	6.2	13.5	17.7	21.8	32.2	43.7	55.1	65.5
150°	4.2	3.1	3.1	5.2	10.4	13.5	17.7	26.0	35.4	44.7	54.1
152.5°	4.2	3.1	3.1	4.2	8.3	10.4	13.5	20.8	28.1	35.4	43.7
155°	4.2	3.1	3.1	4.2	6.2	8.3	10.4	15.6	21.8	28.1	34.3
157.5°	4.2	4.2	3.1	3.1	5.2	6.2	7.3	11.4	15.6	20.8	26.0
160°	4.2	4.2	3.1	3.1	4.2	4.2	5.2	8.3	11.4	14.6	18.7
162.5°	4.2	4.2	3.1	3.1	3.1	3.1	4.2	5.2	7.3	9.4	12.5
165°	4.2	4.2	4.2	3.1	3.1	3.1	3.1	3.1	4.2	6.2	7.3
167.5°	4.2	4.2	4.2	3.1	3.1	2.1	2.1	2.1	3.1	3.1	4.2
170°	5.2	4.2	4.2	3.1	3.1	2.1	2.1	2.1	2.1	2.1	2.1
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°	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7	5217.7
2.5°	5155.3	5159.4	5177.1	5181.3	5187.5	5185.4	5188.6	5188.6	5191.7	5192.7
5°	4967.0	4989.9	5002.4	4994.1	5002.4	4998.2	4999.3	4994.1	4992.0	4995.1
7.5°	4686.2	4685.2	4687.3	4685.2	4686.2	4686.2	4694.6	4697.7	4687.3	4686.2
10°	4445.0	4449.1	4458.5	4461.6	4457.4	4452.2	4463.7	4466.8	4477.2	4484.5
12.5°	4287.9	4270.2	4296.2	4313.9	4316.0	4322.2	4322.2	4327.4	4317.0	4298.3
15°	4165.2	4177.7	4176.6	4156.9	4155.8	4156.9	4171.4	4163.1	4172.5	4185.0
17.5°	4058.1	4052.9	4066.4	4081.0	4086.2	4093.4	4089.3	4085.1	4085.1	4083.0
20°	3960.3	3988.4	4003.0	3996.7	4000.9	4010.2	4019.6	4021.7	4017.5	4012.3
22.5°	3894.8	3907.3	3921.8	3953.0	3942.6	3943.7	3923.9	3916.6	3909.4	3904.2
25°	3798.1	3821.0	3852.2	3838.6	3832.4	3831.4	3819.9	3819.9	3810.6	3808.5
27.5°	3728.4	3757.5	3733.6	3747.1	3747.1	3754.4	3750.2	3745.0	3740.9	3740.9
30°	3657.7	3640.0	3654.6	3667.0	3662.9	3658.7	3659.8	3645.2	3649.4	3644.2
32.5°	3545.4	3547.4	3568.2	3575.5	3577.6	3579.7	3571.4	3567.2	3563.0	3551.6
35°	3460.1	3480.9	3470.5	3486.1	3487.1	3460.1	3461.1	3449.7	3440.3	3431.0
37.5°	3362.3	3356.1	3385.2	3375.8	3360.2	3358.2	3348.8	3358.2	3355.0	3357.1
40°	3257.3	3273.9	3262.5	3262.5	3258.3	3267.7	3266.6	3259.4	3255.2	3250.0
42.5°	3156.4	3157.4	3145.0	3152.2	3151.2	3149.1	3138.7	3131.4	3134.6	3117.9
45°	3051.4	3021.2	3044.1	3024.3	3016.0	3025.4	3010.8	3006.6	2994.2	2998.3
47.5°	2902.6	2898.5	2900.6	2885.0	2881.8	2874.6	2853.8	2843.4	2839.2	2840.2
50°	2765.4	2773.7	2768.5	2762.2	2753.9	2742.5	2739.4	2743.5	2752.9	2740.4
52.5°	2644.7	2651.0	2646.8	2629.1	2621.8	2630.2	2637.4	2613.5	2604.2	2602.1
55°	2488.7	2511.6	2491.8	2500.2	2490.8	2490.8	2461.7	2459.6	2456.5	2449.2
57.5°	2336.9	2340.0	2346.2	2357.7	2329.6	2326.5	2323.4	2303.6	2287.0	2283.8
60°	2183.0	2174.6	2183.0	2166.3	2162.2	2160.1	2127.8	2102.9	2086.2	2091.4
62.5°	2004.1	2014.5	1999.9	1979.1	1972.9	1960.4	1925.0	1931.3	1925.0	1918.8
65°	1809.6	1821.0	1803.4	1780.5	1771.1	1762.8	1756.6	1733.7	1734.7	1723.3
67.5°	1634.9	1625.5	1625.5	1599.5	1596.4	1596.4	1570.4	1553.8	1552.7	1542.3
70°	1451.8	1457.0	1443.5	1434.2	1439.4	1421.7	1396.7	1387.4	1364.5	1362.4
72.5°	1270.9	1286.5	1270.9	1269.8	1259.4	1254.2	1227.2	1212.6	1195.0	1181.4
75°	1091.0	1105.5	1102.4	1096.2	1091.0	1080.6	1060.8	1031.7	1014.0	1004.6
77.5°	920.4	926.6	940.2	931.8	935.0	924.6	909.0	886.1	868.4	865.3
80°	750.9	765.4	777.9	780.0	780.0	779.0	765.4	758.2	760.2	756.1
82.5°	595.9	612.6	632.3	640.6	646.9	649.0	658.3	668.7	686.4	696.8
85°	458.6	483.6	503.4	520.0	530.4	541.8	564.7	593.8	637.5	663.5
87.5°	356.7	383.8	408.7	437.8	455.5	467.0	494.0	536.6	585.5	616.7
90°	305.8	332.8	364.0	391.0	402.5	418.1	453.4	487.8	529.4	551.2
92.5°	288.1	317.2	342.2	367.1	381.7	394.2	422.2	445.1	474.2	489.8
95°	274.6	298.5	326.6	349.4	361.9	373.4	391.0	412.9	436.8	451.4
97.5°	262.1	287.0	308.9	329.7	340.1	347.4	369.2	390.0	407.7	411.8
100°	249.6	272.5	290.2	307.8	319.3	327.6	345.3	357.8	361.9	363.0
102.5°	237.1	256.9	274.6	289.1	297.4	304.7	314.1	321.4	322.4	319.3
105°	223.6	241.3	256.9	270.4	273.5	277.7	280.8	275.6	271.4	267.3
107.5°	212.2	227.8	240.2	247.5	248.6	249.6	247.5	243.4	239.2	238.2
110°	202.8	216.3	224.6	227.8	228.8	228.8	225.7	222.6	220.5	218.4



TEST NUMBER: P241524

CATALOG NUMBER: FVS8M-4-LD4-50-3HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	194.5	205.9	213.2	217.4	218.4	219.4	219.4	218.4	217.4	216.3
115°	188.2	200.7	209.0	214.2	217.4	219.4	222.6	223.6	223.6	223.6
117.5°	185.1	198.6	209.0	217.4	221.5	224.6	228.8	230.9	230.9	229.8
120°	183.0	197.6	209.0	220.5	224.6	227.8	233.0	236.1	236.1	235.0
122.5°	179.9	195.5	208.0	219.4	224.6	228.8	235.0	238.2	238.2	238.2
125°	174.7	191.4	203.8	216.3	220.5	225.7	231.9	236.1	237.1	238.2
127.5°	167.4	184.1	197.6	210.1	215.3	219.4	226.7	231.9	234.0	235.0
130°	159.1	174.7	188.2	201.8	207.0	212.2	219.4	224.6	227.8	228.8
132.5°	148.7	164.3	177.8	190.3	196.6	200.7	210.1	215.3	219.4	219.4
135°	138.3	152.9	165.4	177.8	184.1	189.3	198.6	204.9	209.0	210.1
137.5°	126.9	140.4	152.9	165.4	170.6	175.8	184.1	191.4	196.6	197.6
140°	115.4	127.9	140.4	151.8	157.0	161.2	169.5	176.8	181.0	182.0
142.5°	103.0	115.4	126.9	137.3	141.4	145.6	153.9	160.2	162.2	164.3
145°	90.5	101.9	112.3	121.7	125.8	130.0	136.2	142.5	144.6	146.6
147.5°	77.0	88.4	97.8	106.1	110.2	113.4	119.6	123.8	127.9	127.9
150°	63.4	73.8	83.2	91.5	94.6	97.8	101.9	106.1	108.2	110.2
152.5°	51.0	59.3	68.6	77.0	79.0	81.1	86.3	88.4	91.5	92.6
155°	40.6	46.8	54.1	61.4	64.5	66.6	70.7	72.8	74.9	74.9
157.5°	31.2	36.4	40.6	46.8	49.9	53.0	56.2	58.2	59.3	59.3
160°	21.8	26.0	30.2	34.3	36.4	38.5	41.6	42.6	44.7	44.7
162.5°	14.6	17.7	20.8	23.9	25.0	26.0	29.1	31.2	32.2	32.2
165°	9.4	10.4	12.5	14.6	15.6	16.6	18.7	19.8	20.8	20.8
167.5°	4.2	5.2	6.2	7.3	7.3	8.3	9.4	11.4	11.4	11.4
170°	2.1	2.1	2.1	2.1	3.1	3.1	3.1	4.2	4.2	4.2
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)