

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: P241601

Luminaire Tested: **FVS8M-4-LD4-30-1STD-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241601
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-34)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-30-1STD-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH OPAL LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

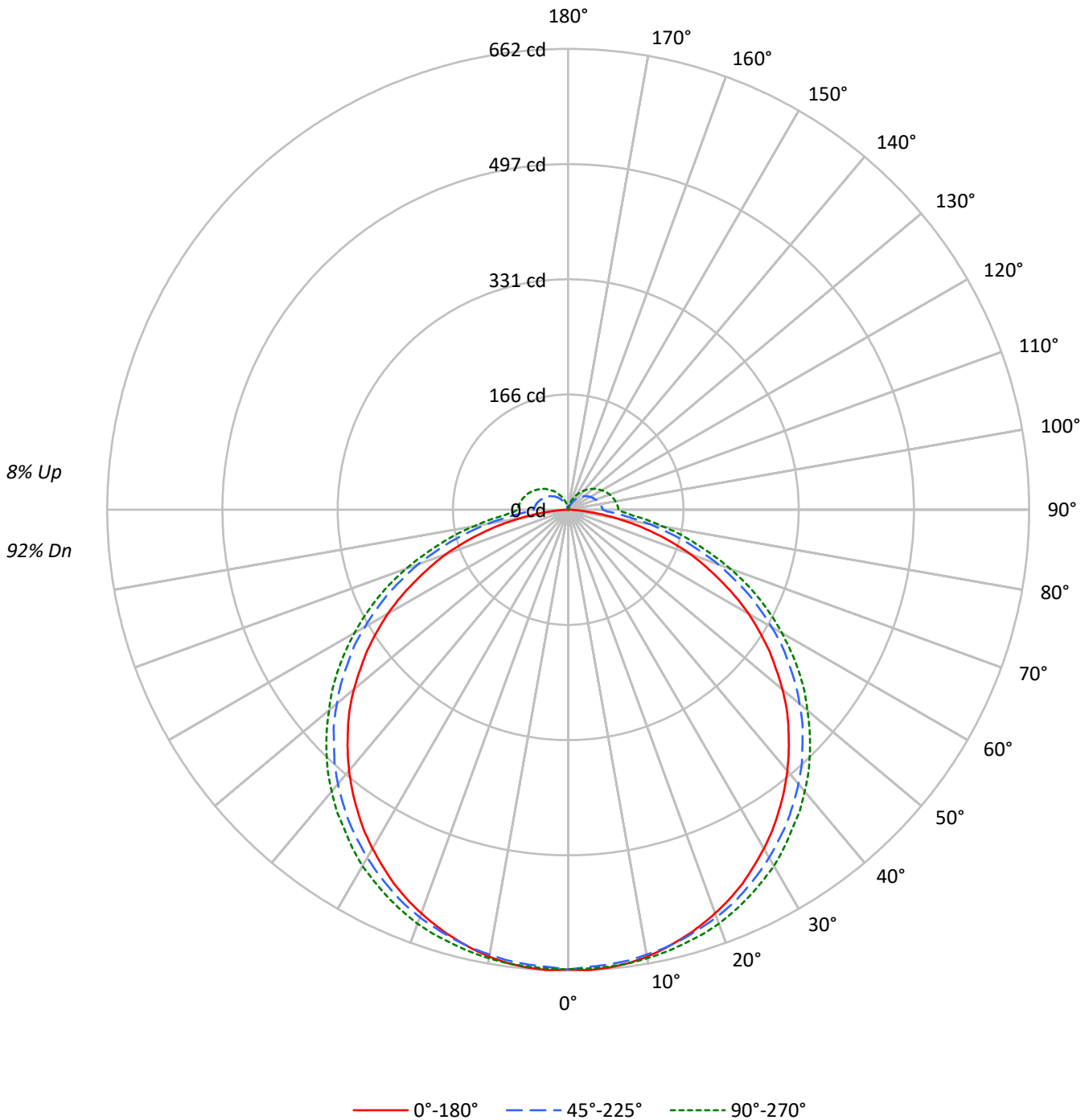
Lumens per Lamp: N/A
Luminaire Lumens: 2286.0 lumens
Efficiency: N/A
Efficacy: 68.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.32 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 33.5
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	117	117	117	117	113	113	113	113	107	107	107		100	100	100		95	95	95	92
1	106	101	96	92	102	98	94	90	92	89	85		87	84	81		82	80	78	75
2	96	87	80	74	92	85	78	72	80	74	70		75	71	67		71	67	64	61
3	87	76	68	61	84	74	66	60	70	63	58		66	60	56		62	58	54	51
4	79	67	58	51	77	65	57	50	62	55	49		58	52	47		55	50	46	43
5	73	60	51	44	70	58	50	43	55	48	42		52	46	41		50	44	40	37
6	67	54	45	38	65	52	44	37	50	42	37		47	41	36		45	39	35	32
7	62	48	40	33	60	47	39	33	45	38	32		43	36	31		41	35	31	28
8	58	44	36	30	56	43	35	29	41	34	29		39	33	28		37	32	27	25
9	54	40	32	27	52	39	32	26	38	31	26		36	30	25		35	29	25	23
10	51	37	29	24	49	36	29	24	35	28	23		33	27	23		32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2952	2952	2952
5°	2953	2895	2899
10°	2939	2851	2856
15°	2916	2812	2815
20°	2893	2774	2782
25°	2869	2732	2739
30°	2836	2688	2698
35°	2802	2644	2640
40°	2765	2594	2592
45°	2721	2532	2532
50°	2668	2465	2456
55°	2598	2380	2380
60°	2506	2278	2277
65°	2361	2149	2160
70°	2208	1976	1995
75°	1909	1746	1781
80°	1447	1468	1551
85°	783	1159	1323



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.6	2.7
10°-20°	180.9	7.9
20°-30°	278.1	12.2
30°-40°	342.1	15.0
40°-50°	365.1	16.0
50°-60°	342.7	15.0
60°-70°	276.3	12.1
70°-80°	176.0	7.7
80°-90°	76.3	3.3
90°-100°	46.5	2.0
100°-110°	42.0	1.8
110°-120°	35.1	1.5
120°-130°	27.0	1.2
130°-140°	18.5	0.8
140°-150°	10.7	0.5
150°-160°	4.7	0.2
160°-170°	1.2	0.1
170°-180°	0.0	0.0
0°-30°	521.7	22.8
0°-40°	863.8	37.8
0°-60°	1571.6	68.7
0°-90°	2100.2	91.9
90°-120°	123.6	5.4
90°-150°	179.8	7.9
90°-180°	186.0	8.1
0°-180°	2286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	660	660	660	660	660	
5°	660	659	656	659	659	63
15°	637	638	638	644	645	180
25°	592	596	602	612	614	273
35°	528	536	548	558	560	330
45°	447	460	476	487	491	345
55°	352	368	387	400	404	314
65°	242	263	285	298	303	240
75°	127	147	172	187	190	134
85°	22	45	71	87	92	28
90°	0	23	50	66	72	1
95°	0	22	48	65	71	0
105°	0	20	44	61	66	0
115°	0	18	40	54	60	0
125°	0	14	34	47	51	0
135°	1	11	27	37	41	0
145°	1	7	18	28	30	1
155°	1	3	10	17	19	0
165°	1	1	4	6	8	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°	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5
2.5°	662.0	661.2	661.2	661.2	661.2	661.2	661.2	661.2	659.7	658.9	657.4
5°	660.5	659.7	658.9	658.9	658.9	658.9	658.9	658.9	658.2	656.6	655.9
7.5°	657.4	656.6	655.9	655.9	655.9	655.9	656.6	655.9	655.1	653.6	653.6
10°	652.1	651.3	650.5	650.5	651.3	651.3	651.3	651.3	650.5	649.8	649.0
12.5°	645.2	645.2	644.4	644.4	644.4	645.2	645.2	645.9	645.2	644.4	644.4
15°	636.8	636.8	636.0	636.0	636.8	637.6	637.6	639.1	638.3	638.3	638.3
17.5°	627.6	626.9	626.9	626.9	628.4	629.2	629.2	629.9	630.7	630.7	630.7
20°	616.9	616.9	616.2	617.7	618.5	619.2	620.0	620.8	621.5	621.5	623.0
22.5°	605.5	604.7	604.7	605.5	607.0	607.8	609.3	610.8	610.8	611.6	613.9
25°	592.5	591.7	591.0	592.5	594.0	595.6	597.1	598.6	599.4	600.9	602.4
27.5°	577.2	577.2	578.0	578.8	581.0	582.6	584.1	585.6	587.2	588.7	590.2
30°	562.0	562.0	562.0	563.5	566.5	568.8	569.6	571.9	572.6	574.9	577.2
32.5°	545.9	544.4	545.9	548.2	551.3	552.8	554.3	556.6	558.1	560.4	562.7
35°	527.6	527.6	528.4	530.7	534.5	536.0	537.5	541.3	542.9	545.2	548.2
37.5°	509.3	508.5	510.0	513.1	516.9	518.4	520.7	523.0	525.3	528.4	531.4
40°	489.4	489.4	491.0	494.8	497.8	500.1	501.6	505.5	507.7	510.8	514.6
42.5°	468.8	469.6	471.1	474.2	478.7	481.0	483.3	486.4	489.4	492.5	496.3
45°	447.4	446.7	449.7	453.5	458.1	460.4	462.7	466.5	469.6	473.4	475.7
47.5°	426.1	423.8	427.6	430.6	436.0	439.8	440.6	445.1	449.0	452.8	456.6
50°	401.6	401.6	405.4	408.5	414.6	416.1	418.4	423.0	426.8	431.4	433.7
52.5°	376.4	376.4	380.2	385.6	390.9	393.2	395.5	400.9	404.7	407.7	411.5
55°	352.0	352.8	355.8	360.4	366.5	368.0	371.8	375.7	380.2	384.1	387.1
57.5°	325.3	326.8	329.8	334.4	341.3	342.8	346.6	352.0	355.0	359.6	364.2
60°	299.3	300.1	303.9	310.8	315.3	316.9	319.9	325.3	329.8	332.9	337.5
62.5°	271.1	273.3	276.4	282.5	287.1	290.9	292.4	297.8	303.1	306.9	310.8
65°	242.0	245.1	248.1	253.5	259.6	262.7	265.7	270.3	276.4	280.2	284.8
67.5°	213.8	216.1	219.9	226.0	230.6	234.4	235.9	242.8	246.6	252.0	255.8
70°	187.1	188.6	191.6	197.0	202.3	205.4	209.2	213.8	219.9	225.2	229.1
72.5°	156.5	157.3	161.1	166.5	173.3	176.4	178.7	186.3	190.9	196.2	199.3
75°	126.7	128.3	132.1	137.4	144.3	147.4	150.4	157.3	162.6	167.2	171.8
77.5°	98.5	98.5	103.1	109.9	116.1	119.1	121.4	129.0	133.6	139.0	143.5
80°	68.7	71.0	76.4	81.7	88.6	92.4	95.4	100.0	106.1	112.2	117.6
82.5°	44.3	45.8	50.4	57.3	63.4	66.4	70.2	75.6	81.7	87.8	92.4
85°	22.1	25.2	29.0	35.1	42.0	45.0	48.1	54.2	60.3	65.7	71.0
87.5°	6.9	9.2	13.7	19.9	26.7	29.8	32.8	38.9	45.0	50.4	55.7
90°	0.0	2.3	7.6	13.0	19.9	22.9	26.0	32.8	38.9	44.3	49.6
92.5°	0.0	2.3	6.9	13.0	19.1	22.9	26.0	32.1	38.2	43.5	48.9
95°	0.0	2.3	6.9	12.2	19.1	22.1	25.2	31.3	37.4	42.8	48.1
97.5°	0.0	2.3	6.1	12.2	18.3	21.4	24.4	31.3	36.6	42.0	47.3
100°	0.0	1.5	6.1	12.2	18.3	21.4	24.4	30.5	35.9	41.2	46.6
102.5°	0.0	1.5	6.1	11.5	17.6	20.6	23.7	29.8	35.1	40.5	45.8
105°	0.0	1.5	6.1	11.5	16.8	19.9	22.9	29.0	34.4	39.7	44.3
107.5°	0.0	1.5	5.3	10.7	16.8	19.1	22.1	28.3	33.6	38.2	43.5
110°	0.0	1.5	5.3	10.7	16.0	19.1	21.4	26.7	32.1	37.4	42.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.5	5.3	9.9	15.3	18.3	20.6	26.0	31.3	35.9	40.5
115°	0.0	1.5	4.6	9.2	14.5	17.6	19.9	25.2	30.5	35.1	39.7
117.5°	0.0	0.8	4.6	9.2	13.7	16.8	19.1	24.4	29.0	33.6	38.2
120°	0.0	0.8	4.6	8.4	13.7	16.0	18.3	22.9	28.3	32.8	36.6
122.5°	0.0	0.8	3.8	8.4	12.2	15.3	17.6	22.1	26.7	31.3	35.1
125°	0.0	0.8	3.8	7.6	12.2	14.5	16.8	21.4	25.2	29.8	33.6
127.5°	0.0	0.8	3.8	6.9	11.5	13.7	15.3	19.9	24.4	28.3	32.1
130°	0.0	0.8	3.1	6.9	10.7	12.2	14.5	19.1	22.9	26.7	29.8
132.5°	0.0	0.8	2.3	6.1	9.9	11.5	13.7	17.6	21.4	25.2	28.3
135°	0.8	0.8	2.3	5.3	8.4	10.7	12.2	16.0	19.9	23.7	26.7
137.5°	0.8	0.8	2.3	4.6	7.6	9.2	11.5	14.5	18.3	21.4	24.4
140°	0.8	0.8	1.5	3.8	6.9	8.4	9.9	13.0	16.0	19.1	22.9
142.5°	0.8	0.8	1.5	3.8	6.1	7.6	9.2	11.5	14.5	17.6	20.6
145°	0.8	0.8	1.5	3.1	5.3	6.9	7.6	10.7	13.0	15.3	18.3
147.5°	0.8	0.8	0.8	2.3	4.6	5.3	6.9	9.2	11.5	13.7	16.0
150°	0.8	0.8	0.8	2.3	3.8	4.6	6.1	7.6	9.9	12.2	13.7
152.5°	0.8	0.8	0.8	1.5	3.1	3.8	4.6	6.9	8.4	9.9	12.2
155°	0.8	0.8	0.8	1.5	3.1	3.1	3.8	5.3	6.9	8.4	9.9
157.5°	0.8	0.8	0.8	1.5	2.3	3.1	3.1	4.6	6.1	6.9	8.4
160°	0.8	0.8	0.8	0.8	1.5	2.3	2.3	3.8	4.6	5.3	6.9
162.5°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	3.1	3.8	4.6	5.3
165°	0.8	0.8	0.8	0.8	0.8	0.8	1.5	1.5	2.3	3.1	3.8
167.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5	1.5	2.3	2.3
170°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.5	1.5
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°	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5
2.5°	657.4	658.9	659.7	660.5	660.5	660.5	660.5	660.5	660.5	659.7
5°	655.9	657.4	658.2	658.9	658.9	658.9	658.9	658.9	658.9	658.9
7.5°	653.6	655.1	655.9	656.6	656.6	657.4	657.4	657.4	657.4	657.4
10°	649.8	651.3	652.8	653.6	653.6	654.3	654.3	654.3	654.3	654.3
12.5°	645.9	647.5	648.2	649.8	649.8	649.8	650.5	650.5	650.5	650.5
15°	639.8	642.1	642.9	644.4	644.4	644.4	645.2	645.2	645.9	645.2
17.5°	633.0	634.5	636.8	636.8	638.3	638.3	638.3	639.1	639.1	639.8
20°	624.6	626.9	628.4	629.9	629.9	631.4	631.4	632.2	632.2	633.0
22.5°	615.4	617.7	620.0	621.5	621.5	622.3	623.0	623.8	623.8	623.8
25°	604.7	607.0	609.3	610.8	611.6	612.4	613.1	613.1	613.9	613.9
27.5°	592.5	595.6	597.8	599.4	600.1	600.1	601.7	602.4	602.4	602.4
30°	580.3	582.6	584.9	587.2	587.2	587.9	589.4	590.2	589.4	591.0
32.5°	566.5	568.8	571.1	572.6	573.4	574.2	574.9	576.5	576.5	576.5
35°	550.5	553.6	555.9	558.1	558.1	558.9	560.4	561.2	561.2	560.4
37.5°	534.5	537.5	539.8	542.1	542.9	542.9	544.4	544.4	545.2	545.9
40°	517.7	520.7	523.0	523.8	525.3	526.1	527.6	528.4	527.6	528.4
42.5°	500.1	501.6	503.9	507.0	507.0	508.5	509.3	510.0	510.8	510.8
45°	479.5	481.8	484.8	487.1	487.1	488.7	489.4	490.2	491.7	491.0
47.5°	459.6	461.9	464.2	466.5	466.5	468.0	470.3	470.3	470.3	470.3
50°	437.5	440.6	442.1	445.1	445.9	446.7	447.4	449.0	449.0	448.2
52.5°	414.6	418.4	421.5	423.0	423.8	424.5	425.3	426.8	426.8	427.6
55°	390.9	394.7	397.0	400.1	400.1	400.9	403.1	403.9	403.1	403.9
57.5°	366.5	369.6	372.6	374.9	376.4	376.4	377.9	379.5	379.5	379.5
60°	341.3	343.6	347.4	349.7	352.0	351.2	354.3	354.3	354.3	354.3
62.5°	313.8	318.4	320.7	324.5	325.3	326.0	327.6	328.3	328.3	329.1
65°	287.9	291.7	294.7	297.0	298.5	298.5	300.8	301.6	302.4	303.1
67.5°	260.4	264.2	267.2	271.1	271.8	271.8	272.6	275.6	274.9	275.6
70°	232.1	235.9	239.0	242.0	242.8	243.6	245.1	247.4	247.4	247.4
72.5°	203.9	208.4	211.5	213.8	213.8	215.3	218.4	217.6	219.9	218.4
75°	176.4	179.4	184.0	185.5	187.1	188.6	190.1	190.9	191.6	190.1
77.5°	148.9	152.7	155.8	158.1	159.6	161.1	162.6	164.2	163.4	165.7
80°	122.2	124.5	127.5	131.3	132.9	134.4	136.7	137.4	136.7	137.4
82.5°	97.0	100.8	103.8	107.7	108.4	109.9	111.5	113.8	113.8	114.5
85°	75.6	79.4	84.0	86.3	87.0	88.6	90.9	91.6	93.2	92.4
87.5°	60.3	64.9	68.7	71.0	72.5	74.1	75.6	77.1	77.9	78.6
90°	54.2	58.0	61.8	64.9	66.4	67.2	69.5	71.0	71.8	71.8
92.5°	53.4	57.3	61.1	64.1	65.7	67.2	68.7	70.2	71.0	71.8
95°	52.7	56.5	60.3	63.4	64.9	66.4	68.0	69.5	70.2	71.0
97.5°	51.9	56.5	59.6	62.6	64.1	65.7	67.2	68.7	69.5	70.2
100°	51.2	55.0	58.8	61.8	63.4	64.1	66.4	68.0	68.7	68.7
102.5°	50.4	54.2	58.0	61.1	61.8	63.4	64.9	66.4	67.2	68.0
105°	48.9	52.7	56.5	59.6	61.1	61.8	64.1	65.7	66.4	66.4
107.5°	48.1	51.9	55.0	58.0	59.6	61.1	62.6	64.1	64.9	64.9
110°	46.6	50.4	53.4	56.5	58.0	58.8	61.1	62.6	63.4	63.4



TEST NUMBER: P241601

CATALOG NUMBER: FVS8M-4-LD4-30-1STD-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	45.0	48.9	51.9	55.0	56.5	57.3	59.6	60.3	61.1	61.8
115°	43.5	47.3	50.4	53.4	54.2	55.7	57.3	58.8	59.6	59.6
117.5°	42.0	45.8	48.9	51.2	52.7	53.4	55.7	56.5	57.3	58.0
120°	40.5	44.3	47.3	49.6	51.2	51.9	53.4	55.0	55.7	55.7
122.5°	38.9	42.0	45.0	47.3	48.9	49.6	51.2	52.7	53.4	53.4
125°	37.4	40.5	42.8	45.8	46.6	47.3	49.6	50.4	51.2	51.2
127.5°	35.1	38.2	41.2	43.5	44.3	45.8	46.6	48.1	48.9	48.9
130°	33.6	36.6	38.9	41.2	42.0	43.5	44.3	45.8	46.6	46.6
132.5°	31.3	34.4	36.6	38.9	39.7	40.5	42.0	43.5	43.5	44.3
135°	29.8	32.1	34.4	36.6	37.4	38.2	39.7	40.5	41.2	41.2
137.5°	27.5	29.8	32.1	34.4	35.1	35.9	37.4	38.2	38.9	38.9
140°	25.2	28.3	29.8	32.1	32.8	33.6	34.4	35.1	35.9	35.9
142.5°	23.7	26.0	27.5	29.0	29.8	30.5	32.1	32.8	32.8	33.6
145°	20.6	23.7	25.2	26.7	27.5	28.3	29.0	29.8	30.5	30.5
147.5°	18.3	20.6	22.9	24.4	25.2	25.2	26.7	26.7	27.5	27.5
150°	16.0	18.3	20.6	22.1	22.1	22.9	23.7	24.4	24.4	24.4
152.5°	13.7	15.3	17.6	19.1	19.9	19.9	20.6	21.4	22.1	22.1
155°	11.5	13.0	14.5	16.0	16.8	17.6	18.3	19.1	19.1	19.1
157.5°	9.9	10.7	12.2	13.7	14.5	15.3	15.3	16.0	16.0	16.0
160°	7.6	8.4	9.9	10.7	11.5	12.2	13.0	13.0	13.7	13.7
162.5°	6.1	6.9	7.6	8.4	9.2	9.2	9.9	10.7	10.7	10.7
165°	4.6	4.6	5.3	6.1	6.1	6.9	7.6	8.4	8.4	8.4
167.5°	3.1	3.1	3.8	3.8	4.6	4.6	4.6	5.3	5.3	5.3
170°	1.5	1.5	2.3	2.3	2.3	2.3	3.1	3.1	3.1	3.1
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)