

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: P241599

Luminaire Tested: **FVS8M-4-LD4-40-1LO-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241599
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-LD4-40-1LO-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH OPAL LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

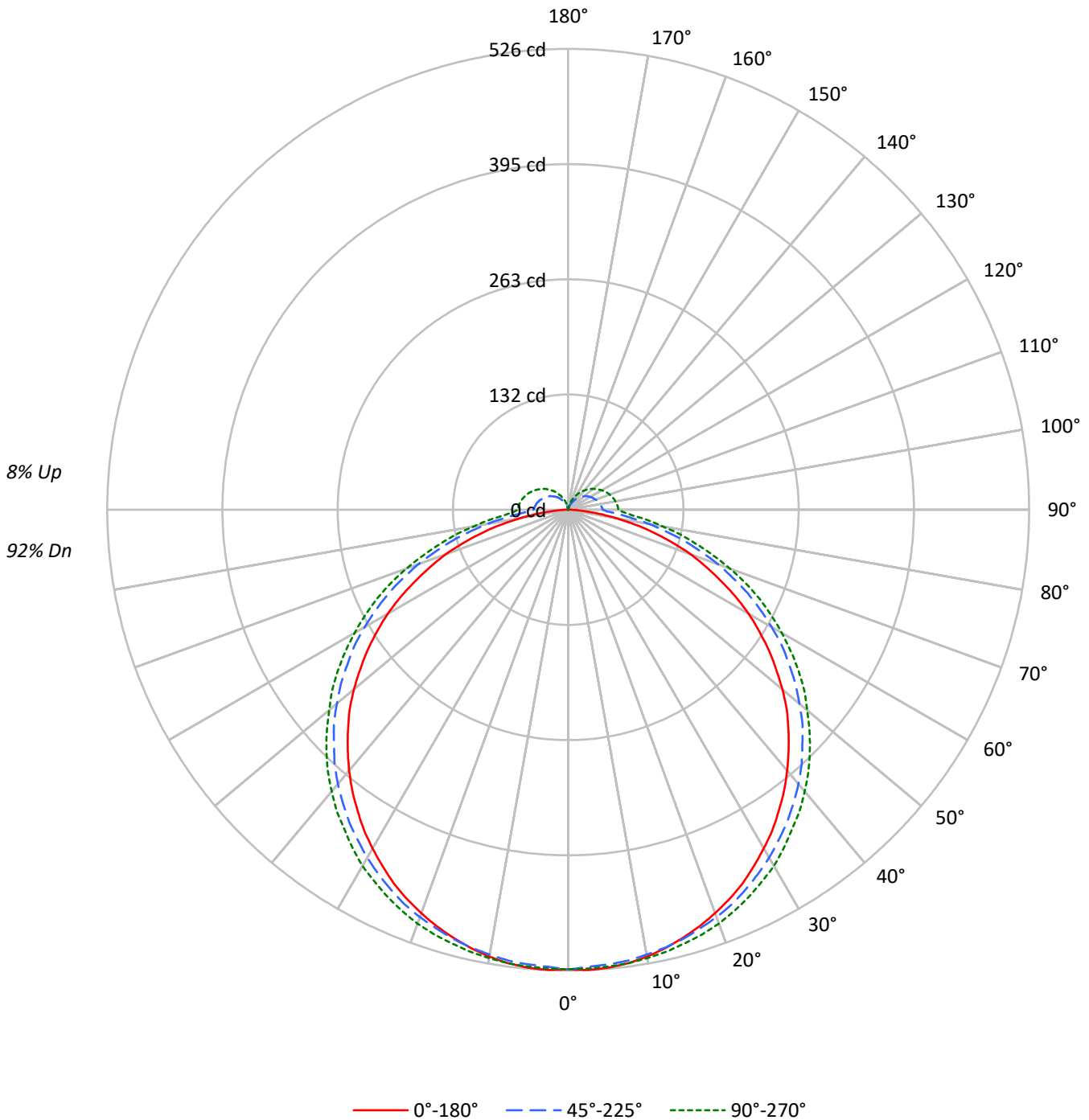
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1816.0 lumens
Efficiency: N/A
Efficacy: 76.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 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): 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	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°	2345	2345	2345
5°	2346	2300	2303
10°	2335	2265	2269
15°	2316	2234	2236
20°	2298	2204	2210
25°	2280	2171	2176
30°	2253	2136	2143
35°	2226	2101	2097
40°	2196	2061	2059
45°	2162	2012	2011
50°	2119	1958	1950
55°	2063	1890	1891
60°	1991	1809	1808
65°	1876	1707	1716
70°	1753	1570	1585
75°	1517	1387	1415
80°	1150	1166	1232
85°	624	921	1051



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.8	2.7
10°-20°	143.7	7.9
20°-30°	220.9	12.2
30°-40°	271.8	15.0
40°-50°	290.0	16.0
50°-60°	272.3	15.0
60°-70°	219.5	12.1
70°-80°	139.8	7.7
80°-90°	60.6	3.3
90°-100°	37.0	2.0
100°-110°	33.3	1.8
110°-120°	27.8	1.5
120°-130°	21.4	1.2
130°-140°	14.7	0.8
140°-150°	8.5	0.5
150°-160°	3.8	0.2
160°-170°	1.0	0.1
170°-180°	0.0	0.0
0°-30°	414.4	22.8
0°-40°	686.2	37.8
0°-60°	1248.5	68.7
0°-90°	1668.4	91.9
90°-120°	98.2	5.4
90°-150°	142.8	7.9
90°-180°	148.0	8.1
0°-180°	1816.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	525	525	525	525	525	
5°	525	524	521	524	524	50
15°	506	506	507	512	512	143
25°	471	473	479	486	488	217
35°	419	426	436	443	445	262
45°	355	366	378	387	390	274
55°	280	292	308	318	321	249
65°	192	209	226	237	241	191
75°	101	117	136	149	151	107
85°	18	36	56	69	73	23
90°	0	18	39	53	57	1
95°	0	18	38	52	56	0
105°	0	16	35	48	53	0
115°	0	14	32	43	47	0
125°	0	12	27	37	41	0
135°	1	8	21	30	33	0
145°	1	6	15	22	24	0
155°	1	2	8	13	15	0
165°	1	1	3	5	7	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°	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7
2.5°	525.9	525.3	525.3	525.3	525.3	525.3	525.3	525.3	524.1	523.5	522.2
5°	524.7	524.1	523.5	523.5	523.5	523.5	523.5	523.5	522.8	521.6	521.0
7.5°	522.2	521.6	521.0	521.0	521.0	521.0	521.6	521.0	520.4	519.2	519.2
10°	518.0	517.4	516.8	516.8	517.4	517.4	517.4	517.4	516.8	516.2	515.6
12.5°	512.5	512.5	511.9	511.9	511.9	512.5	512.5	513.1	512.5	511.9	511.9
15°	505.9	505.9	505.3	505.3	505.9	506.5	506.5	507.7	507.1	507.1	507.1
17.5°	498.6	498.0	498.0	498.0	499.2	499.8	499.8	500.4	501.0	501.0	501.0
20°	490.1	490.1	489.5	490.7	491.3	491.9	492.5	493.1	493.7	493.7	494.9
22.5°	481.0	480.4	480.4	481.0	482.2	482.8	484.0	485.2	485.2	485.8	487.7
25°	470.7	470.1	469.5	470.7	471.9	473.1	474.3	475.5	476.1	477.4	478.6
27.5°	458.6	458.6	459.2	459.8	461.6	462.8	464.0	465.2	466.4	467.7	468.9
30°	446.4	446.4	446.4	447.6	450.1	451.9	452.5	454.3	454.9	456.7	458.6
32.5°	433.7	432.5	433.7	435.5	437.9	439.1	440.4	442.2	443.4	445.2	447.0
35°	419.1	419.1	419.7	421.6	424.6	425.8	427.0	430.0	431.3	433.1	435.5
37.5°	404.6	404.0	405.2	407.6	410.6	411.8	413.7	415.5	417.3	419.7	422.2
40°	388.8	388.8	390.0	393.0	395.5	397.3	398.5	401.5	403.4	405.8	408.8
42.5°	372.4	373.0	374.2	376.7	380.3	382.1	383.9	386.4	388.8	391.2	394.3
45°	355.4	354.8	357.3	360.3	363.9	365.8	367.6	370.6	373.0	376.1	377.9
47.5°	338.5	336.6	339.7	342.1	346.3	349.4	350.0	353.6	356.7	359.7	362.7
50°	319.0	319.0	322.1	324.5	329.4	330.6	332.4	336.0	339.1	342.7	344.5
52.5°	299.0	299.0	302.1	306.3	310.6	312.4	314.2	318.4	321.5	323.9	326.9
55°	279.6	280.2	282.7	286.3	291.1	292.4	295.4	298.4	302.1	305.1	307.5
57.5°	258.4	259.6	262.0	265.7	271.1	272.3	275.4	279.6	282.0	285.7	289.3
60°	237.8	238.4	241.4	246.9	250.5	251.7	254.1	258.4	262.0	264.5	268.1
62.5°	215.3	217.1	219.6	224.4	228.1	231.1	232.3	236.6	240.8	243.8	246.9
65°	192.3	194.7	197.1	201.4	206.2	208.7	211.1	214.7	219.6	222.6	226.2
67.5°	169.8	171.7	174.7	179.5	183.2	186.2	187.4	192.9	195.9	200.2	203.2
70°	148.6	149.8	152.2	156.5	160.7	163.2	166.2	169.8	174.7	178.9	182.0
72.5°	124.3	124.9	128.0	132.2	137.7	140.1	141.9	148.0	151.6	155.9	158.3
75°	100.7	101.9	104.9	109.2	114.6	117.1	119.5	124.9	129.2	132.8	136.5
77.5°	78.2	78.2	81.9	87.3	92.2	94.6	96.4	102.5	106.1	110.4	114.0
80°	54.6	56.4	60.7	64.9	70.4	73.4	75.8	79.5	84.3	89.2	93.4
82.5°	35.2	36.4	40.0	45.5	50.3	52.8	55.8	60.0	64.9	69.8	73.4
85°	17.6	20.0	23.0	27.9	33.4	35.8	38.2	43.1	47.9	52.2	56.4
87.5°	5.5	7.3	10.9	15.8	21.2	23.7	26.1	30.9	35.8	40.0	44.3
90°	0.0	1.8	6.1	10.3	15.8	18.2	20.6	26.1	30.9	35.2	39.4
92.5°	0.0	1.8	5.5	10.3	15.2	18.2	20.6	25.5	30.3	34.6	38.8
95°	0.0	1.8	5.5	9.7	15.2	17.6	20.0	24.9	29.7	34.0	38.2
97.5°	0.0	1.8	4.9	9.7	14.6	17.0	19.4	24.9	29.1	33.4	37.6
100°	0.0	1.2	4.9	9.7	14.6	17.0	19.4	24.3	28.5	32.8	37.0
102.5°	0.0	1.2	4.9	9.1	14.0	16.4	18.8	23.7	27.9	32.1	36.4
105°	0.0	1.2	4.9	9.1	13.3	15.8	18.2	23.0	27.3	31.5	35.2
107.5°	0.0	1.2	4.2	8.5	13.3	15.2	17.6	22.4	26.7	30.3	34.6
110°	0.0	1.2	4.2	8.5	12.7	15.2	17.0	21.2	25.5	29.7	33.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.2	4.2	7.9	12.1	14.6	16.4	20.6	24.9	28.5	32.1
115°	0.0	1.2	3.6	7.3	11.5	14.0	15.8	20.0	24.3	27.9	31.5
117.5°	0.0	0.6	3.6	7.3	10.9	13.3	15.2	19.4	23.0	26.7	30.3
120°	0.0	0.6	3.6	6.7	10.9	12.7	14.6	18.2	22.4	26.1	29.1
122.5°	0.0	0.6	3.0	6.7	9.7	12.1	14.0	17.6	21.2	24.9	27.9
125°	0.0	0.6	3.0	6.1	9.7	11.5	13.3	17.0	20.0	23.7	26.7
127.5°	0.0	0.6	3.0	5.5	9.1	10.9	12.1	15.8	19.4	22.4	25.5
130°	0.0	0.6	2.4	5.5	8.5	9.7	11.5	15.2	18.2	21.2	23.7
132.5°	0.0	0.6	1.8	4.9	7.9	9.1	10.9	14.0	17.0	20.0	22.4
135°	0.6	0.6	1.8	4.2	6.7	8.5	9.7	12.7	15.8	18.8	21.2
137.5°	0.6	0.6	1.8	3.6	6.1	7.3	9.1	11.5	14.6	17.0	19.4
140°	0.6	0.6	1.2	3.0	5.5	6.7	7.9	10.3	12.7	15.2	18.2
142.5°	0.6	0.6	1.2	3.0	4.9	6.1	7.3	9.1	11.5	14.0	16.4
145°	0.6	0.6	1.2	2.4	4.2	5.5	6.1	8.5	10.3	12.1	14.6
147.5°	0.6	0.6	0.6	1.8	3.6	4.2	5.5	7.3	9.1	10.9	12.7
150°	0.6	0.6	0.6	1.8	3.0	3.6	4.9	6.1	7.9	9.7	10.9
152.5°	0.6	0.6	0.6	1.2	2.4	3.0	3.6	5.5	6.7	7.9	9.7
155°	0.6	0.6	0.6	1.2	2.4	2.4	3.0	4.2	5.5	6.7	7.9
157.5°	0.6	0.6	0.6	1.2	1.8	2.4	2.4	3.6	4.9	5.5	6.7
160°	0.6	0.6	0.6	0.6	1.2	1.8	1.8	3.0	3.6	4.2	5.5
162.5°	0.6	0.6	0.6	0.6	1.2	1.2	1.2	2.4	3.0	3.6	4.2
165°	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8	2.4	3.0
167.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.8	1.8
170°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2
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°	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7	524.7
2.5°	522.2	523.5	524.1	524.7	524.7	524.7	524.7	524.7	524.7	524.1
5°	521.0	522.2	522.8	523.5	523.5	523.5	523.5	523.5	523.5	523.5
7.5°	519.2	520.4	521.0	521.6	521.6	522.2	522.2	522.2	522.2	522.2
10°	516.2	517.4	518.6	519.2	519.2	519.8	519.8	519.8	519.8	519.8
12.5°	513.1	514.4	515.0	516.2	516.2	516.2	516.8	516.8	516.8	516.8
15°	508.3	510.1	510.7	511.9	511.9	511.9	512.5	512.5	513.1	512.5
17.5°	502.8	504.0	505.9	505.9	507.1	507.1	507.1	507.7	507.7	508.3
20°	496.2	498.0	499.2	500.4	500.4	501.6	501.6	502.2	502.2	502.8
22.5°	488.9	490.7	492.5	493.7	493.7	494.3	494.9	495.6	495.6	495.6
25°	480.4	482.2	484.0	485.2	485.8	486.5	487.1	487.1	487.7	487.7
27.5°	470.7	473.1	474.9	476.1	476.7	476.7	478.0	478.6	478.6	478.6
30°	461.0	462.8	464.6	466.4	466.4	467.0	468.3	468.9	468.3	469.5
32.5°	450.1	451.9	453.7	454.9	455.5	456.1	456.7	457.9	457.9	457.9
35°	437.3	439.7	441.6	443.4	443.4	444.0	445.2	445.8	445.8	445.2
37.5°	424.6	427.0	428.8	430.7	431.3	431.3	432.5	432.5	433.1	433.7
40°	411.2	413.7	415.5	416.1	417.3	417.9	419.1	419.7	419.1	419.7
42.5°	397.3	398.5	400.3	402.8	402.8	404.0	404.6	405.2	405.8	405.8
45°	380.9	382.7	385.2	387.0	387.0	388.2	388.8	389.4	390.6	390.0
47.5°	365.1	367.0	368.8	370.6	370.6	371.8	373.6	373.6	373.6	373.6
50°	347.6	350.0	351.2	353.6	354.2	354.8	355.4	356.7	356.7	356.0
52.5°	329.4	332.4	334.8	336.0	336.6	337.2	337.8	339.1	339.1	339.7
55°	310.6	313.6	315.4	317.8	317.8	318.4	320.3	320.9	320.3	320.9
57.5°	291.1	293.6	296.0	297.8	299.0	299.0	300.2	301.5	301.5	301.5
60°	271.1	272.9	276.0	277.8	279.6	279.0	281.4	281.4	281.4	281.4
62.5°	249.3	252.9	254.8	257.8	258.4	259.0	260.2	260.8	260.8	261.4
65°	228.7	231.7	234.1	235.9	237.2	237.2	239.0	239.6	240.2	240.8
67.5°	206.8	209.9	212.3	215.3	215.9	215.9	216.5	219.0	218.4	219.0
70°	184.4	187.4	189.9	192.3	192.9	193.5	194.7	196.5	196.5	196.5
72.5°	161.9	165.6	168.0	169.8	169.8	171.0	173.5	172.9	174.7	173.5
75°	140.1	142.5	146.2	147.4	148.6	149.8	151.0	151.6	152.2	151.0
77.5°	118.3	121.3	123.7	125.6	126.8	128.0	129.2	130.4	129.8	131.6
80°	97.0	98.9	101.3	104.3	105.5	106.8	108.6	109.2	108.6	109.2
82.5°	77.0	80.1	82.5	85.5	86.1	87.3	88.6	90.4	90.4	91.0
85°	60.0	63.1	66.7	68.5	69.1	70.4	72.2	72.8	74.0	73.4
87.5°	47.9	51.6	54.6	56.4	57.6	58.8	60.0	61.3	61.9	62.5
90°	43.1	46.1	49.1	51.6	52.8	53.4	55.2	56.4	57.0	57.0
92.5°	42.5	45.5	48.5	51.0	52.2	53.4	54.6	55.8	56.4	57.0
95°	41.9	44.9	47.9	50.3	51.6	52.8	54.0	55.2	55.8	56.4
97.5°	41.2	44.9	47.3	49.7	51.0	52.2	53.4	54.6	55.2	55.8
100°	40.6	43.7	46.7	49.1	50.3	51.0	52.8	54.0	54.6	54.6
102.5°	40.0	43.1	46.1	48.5	49.1	50.3	51.6	52.8	53.4	54.0
105°	38.8	41.9	44.9	47.3	48.5	49.1	51.0	52.2	52.8	52.8
107.5°	38.2	41.2	43.7	46.1	47.3	48.5	49.7	51.0	51.6	51.6
110°	37.0	40.0	42.5	44.9	46.1	46.7	48.5	49.7	50.3	50.3



TEST NUMBER: P241599

CATALOG NUMBER: FVS8M-4-LD4-40-1LO-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	35.8	38.8	41.2	43.7	44.9	45.5	47.3	47.9	48.5	49.1
115°	34.6	37.6	40.0	42.5	43.1	44.3	45.5	46.7	47.3	47.3
117.5°	33.4	36.4	38.8	40.6	41.9	42.5	44.3	44.9	45.5	46.1
120°	32.1	35.2	37.6	39.4	40.6	41.2	42.5	43.7	44.3	44.3
122.5°	30.9	33.4	35.8	37.6	38.8	39.4	40.6	41.9	42.5	42.5
125°	29.7	32.1	34.0	36.4	37.0	37.6	39.4	40.0	40.6	40.6
127.5°	27.9	30.3	32.8	34.6	35.2	36.4	37.0	38.2	38.8	38.8
130°	26.7	29.1	30.9	32.8	33.4	34.6	35.2	36.4	37.0	37.0
132.5°	24.9	27.3	29.1	30.9	31.5	32.1	33.4	34.6	34.6	35.2
135°	23.7	25.5	27.3	29.1	29.7	30.3	31.5	32.1	32.8	32.8
137.5°	21.8	23.7	25.5	27.3	27.9	28.5	29.7	30.3	30.9	30.9
140°	20.0	22.4	23.7	25.5	26.1	26.7	27.3	27.9	28.5	28.5
142.5°	18.8	20.6	21.8	23.0	23.7	24.3	25.5	26.1	26.1	26.7
145°	16.4	18.8	20.0	21.2	21.8	22.4	23.0	23.7	24.3	24.3
147.5°	14.6	16.4	18.2	19.4	20.0	20.0	21.2	21.2	21.8	21.8
150°	12.7	14.6	16.4	17.6	17.6	18.2	18.8	19.4	19.4	19.4
152.5°	10.9	12.1	14.0	15.2	15.8	15.8	16.4	17.0	17.6	17.6
155°	9.1	10.3	11.5	12.7	13.3	14.0	14.6	15.2	15.2	15.2
157.5°	7.9	8.5	9.7	10.9	11.5	12.1	12.1	12.7	12.7	12.7
160°	6.1	6.7	7.9	8.5	9.1	9.7	10.3	10.3	10.9	10.9
162.5°	4.9	5.5	6.1	6.7	7.3	7.3	7.9	8.5	8.5	8.5
165°	3.6	3.6	4.2	4.9	4.9	5.5	6.1	6.7	6.7	6.7
167.5°	2.4	2.4	3.0	3.0	3.6	3.6	3.6	4.2	4.2	4.2
170°	1.2	1.2	1.8	1.8	1.8	1.8	2.4	2.4	2.4	2.4
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)