

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: P241612

Luminaire Tested: **FVS8M-4-LD4-50-2LO-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241612
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-39)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-50-2LO-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

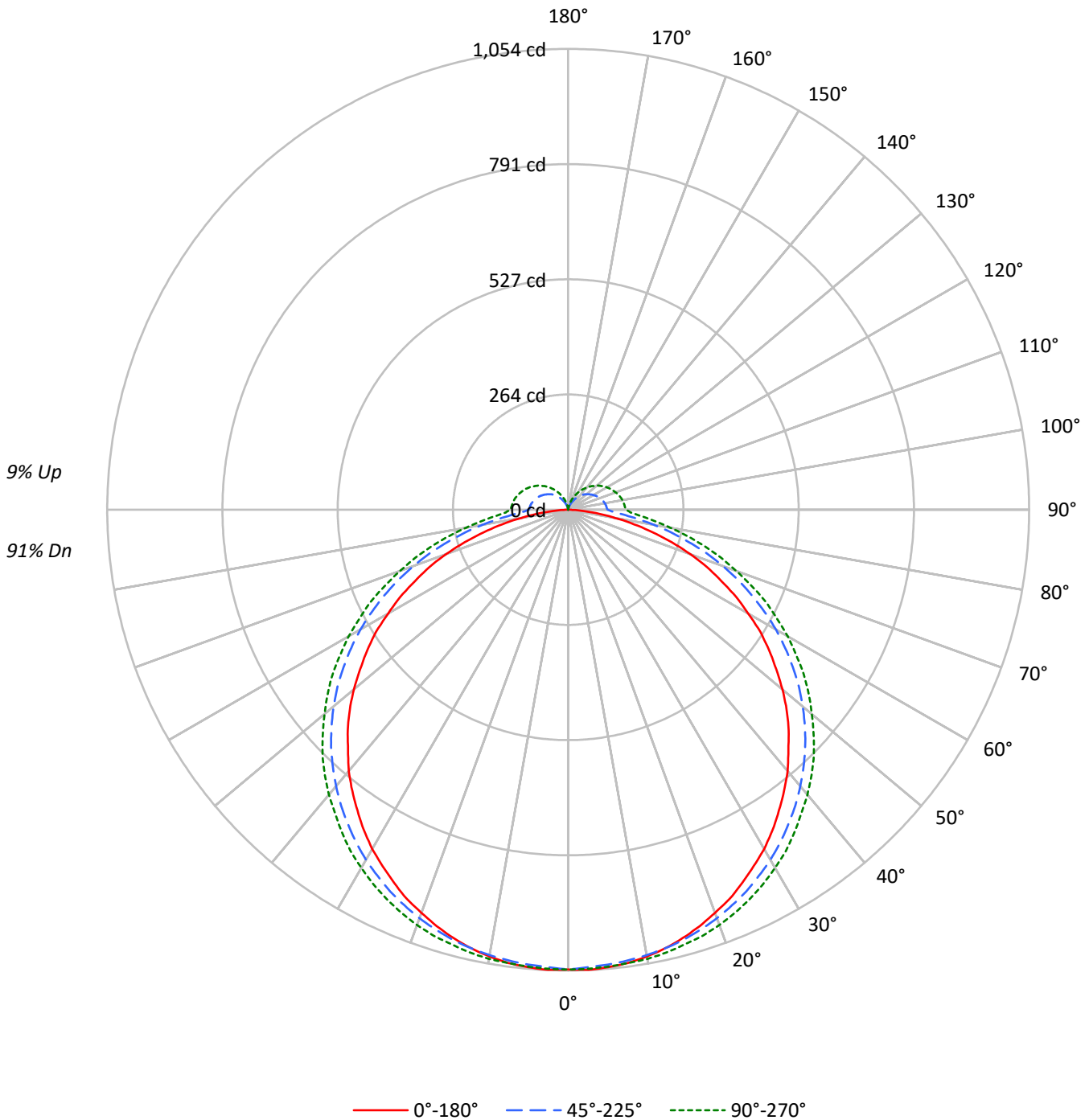
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3734.0 lumens
Efficiency: N/A
Efficacy: 82.1 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 45.5
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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CATALOG NUMBER: FVS8M-4-LD4-50-2LO-O-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241612

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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	106	106	106	100	100	100	94	94	94	91
1	106	100	96	92	102	97	93	89	91	88	85	86	83	80	81	79	77	74
2	95	87	80	73	92	84	77	72	79	74	69	74	70	66	70	66	63	60
3	87	76	67	60	83	73	66	59	69	63	57	65	60	55	61	57	53	50
4	79	67	58	51	76	65	56	50	61	54	48	58	52	47	54	49	45	42
5	73	59	50	43	70	58	49	43	55	47	41	52	45	40	49	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	39	33	45	37	32	42	36	31	40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	28	23	34	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4700	4700	4700
5°	4696	4611	4615
10°	4677	4544	4553
15°	4644	4487	4491
20°	4601	4428	4443
25°	4561	4369	4383
30°	4522	4306	4320
35°	4461	4236	4248
40°	4408	4162	4174
45°	4338	4080	4096
50°	4248	3978	3984
55°	4138	3853	3876
60°	3982	3702	3726
65°	3773	3498	3552
70°	3499	3243	3293
75°	3014	2891	3029
80°	2328	2472	2674
85°	1237	2042	2391



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.8	2.7
10°-20°	288.4	7.7
20°-30°	444.3	11.9
30°-40°	547.9	14.7
40°-50°	586.6	15.7
50°-60°	553.2	14.8
60°-70°	449.6	12.0
70°-80°	291.4	7.8
80°-90°	133.2	3.6
90°-100°	85.0	2.3
100°-110°	76.6	2.1
110°-120°	64.1	1.7
120°-130°	49.4	1.3
130°-140°	33.9	0.9
140°-150°	19.6	0.5
150°-160°	8.7	0.2
160°-170°	2.3	0.1
170°-180°	0.1	0.0
0°-30°	832.5	22.3
0°-40°	1380.4	37.0
0°-60°	2520.2	67.5
0°-90°	3394.4	90.9
90°-120°	225.7	6.0
90°-150°	328.6	8.8
90°-180°	340.0	9.1
0°-180°	3734.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1052	1052	1052	1052	1052	
5°	1050	1050	1045	1049	1049	100
15°	1014	1015	1018	1028	1029	286
25°	942	949	963	979	982	434
35°	840	856	878	897	902	526
45°	713	736	766	787	794	549
55°	561	591	627	650	658	501
65°	387	423	464	488	498	384
75°	200	240	284	312	323	213
85°	35	78	125	156	167	46
90°	1	42	90	121	132	2
95°	1	40	88	119	129	0
105°	1	37	81	111	121	1
115°	1	32	72	100	110	1
125°	1	26	61	85	94	1
135°	1	19	49	69	76	0
145°	1	12	34	50	56	0
155°	1	6	18	32	35	1
165°	1	2	7	11	15	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241612

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-O-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6
2.5°	1053.5	1053.5	1052.8	1052.2	1052.2	1052.8	1052.8	1052.2	1050.3	1047.8	1047.1
5°	1050.3	1049.7	1050.3	1049.0	1049.7	1049.7	1049.0	1049.0	1047.1	1045.9	1044.6
7.5°	1045.9	1045.2	1044.6	1043.9	1043.9	1044.6	1043.9	1043.9	1042.7	1040.8	1040.1
10°	1037.6	1037.0	1037.6	1036.3	1036.3	1037.0	1037.6	1037.6	1036.3	1035.7	1034.4
12.5°	1027.4	1027.4	1026.8	1026.2	1026.8	1027.4	1028.1	1028.1	1027.4	1028.1	1027.4
15°	1014.1	1014.7	1013.5	1012.8	1015.4	1015.4	1016.6	1017.9	1017.9	1017.3	1018.5
17.5°	998.9	998.9	998.9	999.5	1000.1	1001.4	1002.7	1003.9	1004.6	1005.8	1007.1
20°	981.1	982.4	982.4	983.0	985.5	987.4	987.4	990.6	991.2	991.9	994.4
22.5°	963.9	963.3	963.3	964.6	967.7	969.7	971.6	973.5	974.7	976.6	979.2
25°	941.7	942.3	943.0	944.9	948.7	948.7	951.9	954.4	957.0	959.5	963.3
27.5°	918.9	920.1	920.8	922.7	927.1	929.6	931.6	934.7	937.3	940.4	944.3
30°	896.0	896.0	896.6	899.2	903.6	906.8	908.7	912.5	916.3	920.8	924.6
32.5°	869.3	869.3	870.0	874.4	878.8	882.0	885.2	889.0	892.8	897.3	902.3
35°	840.1	839.5	841.4	847.7	852.2	856.0	859.8	864.2	869.3	873.8	878.2
37.5°	810.9	811.5	812.2	818.5	825.5	827.4	831.9	836.3	841.4	846.5	852.8
40°	780.4	780.4	783.0	787.4	795.7	798.8	802.6	808.4	812.8	819.8	825.5
42.5°	744.9	748.0	751.2	756.3	764.5	768.4	772.2	779.2	784.9	789.3	796.9
45°	713.1	713.7	716.9	724.5	732.2	736.0	741.1	748.0	755.0	760.1	766.5
47.5°	677.6	677.6	682.0	689.0	697.9	702.3	706.8	713.7	720.1	729.0	734.1
50°	639.5	640.7	645.8	654.7	663.6	666.1	670.6	680.1	685.8	692.8	699.8
52.5°	599.4	602.0	609.0	616.6	624.2	629.9	633.7	643.9	650.9	657.9	664.9
55°	560.7	561.3	567.1	577.2	586.7	590.6	596.9	605.2	612.8	620.4	626.8
57.5°	521.3	520.1	527.1	537.8	547.4	550.5	556.3	566.4	574.0	581.0	588.0
60°	475.6	478.8	485.1	495.3	505.5	508.6	513.7	525.1	532.1	540.4	548.6
62.5°	433.7	434.3	444.5	452.1	462.9	469.3	472.4	482.0	489.6	498.5	506.1
65°	386.7	392.4	398.1	407.0	417.8	422.9	426.7	439.4	447.7	455.9	463.6
67.5°	344.2	346.1	353.7	363.2	374.0	378.5	384.8	393.7	403.2	410.2	420.4
70°	296.5	298.5	305.4	316.9	327.0	333.4	338.5	348.6	357.5	366.4	375.9
72.5°	248.9	250.8	259.7	269.9	281.9	285.8	291.5	302.3	311.8	321.3	331.5
75°	200.0	205.1	214.6	223.5	235.6	240.0	247.0	259.1	268.6	276.9	284.5
77.5°	154.3	161.3	168.9	178.4	189.2	195.6	201.3	212.7	222.9	233.7	241.9
80°	110.5	115.6	123.8	133.4	145.4	153.7	158.1	168.9	178.4	188.6	198.1
82.5°	71.8	74.3	82.6	94.6	106.0	112.4	118.1	129.5	139.1	148.6	158.1
85°	34.9	39.4	47.6	60.3	71.8	78.1	83.8	95.3	105.4	116.2	125.1
87.5°	11.4	16.5	24.8	35.6	47.6	53.3	59.1	70.5	81.3	90.8	101.0
90°	0.6	4.4	13.3	24.8	36.2	42.5	48.3	59.7	70.5	80.6	90.2
92.5°	0.6	3.8	12.7	23.5	34.9	41.3	47.0	58.4	69.2	79.4	88.3
95°	0.6	3.8	12.1	22.9	34.3	40.0	46.4	57.2	67.9	78.1	87.6
97.5°	0.6	3.8	11.4	22.2	33.7	39.4	45.1	56.5	67.3	77.5	86.4
100°	0.6	3.2	11.4	21.6	33.0	38.7	44.5	55.2	66.0	75.6	85.1
102.5°	0.6	3.2	10.8	21.0	31.8	37.5	43.2	54.0	64.1	73.7	83.2
105°	0.6	3.2	10.8	20.3	31.1	36.8	41.9	52.7	62.9	72.4	81.3
107.5°	0.6	3.2	10.2	19.7	29.8	35.6	40.6	50.8	61.0	70.5	79.4
110°	0.6	2.5	9.5	19.1	29.2	34.3	39.4	49.5	59.1	68.6	76.8



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CATALOG NUMBER: FVS8M-4-LD4-50-2LO-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	2.5	9.5	18.4	27.9	33.0	38.1	47.6	57.2	66.0	74.9
115°	0.6	2.5	8.9	17.1	26.7	31.8	36.8	46.4	55.2	64.1	72.4
117.5°	0.6	1.9	8.3	16.5	25.4	30.5	34.9	44.5	53.3	61.6	69.9
120°	0.6	1.9	7.6	15.9	24.1	29.2	33.7	42.5	50.8	59.7	66.7
122.5°	0.6	1.9	7.0	14.6	23.5	27.3	31.8	40.6	48.9	57.2	64.1
125°	0.6	1.3	7.0	14.0	22.2	26.0	30.5	38.7	46.4	54.0	61.0
127.5°	0.6	1.3	6.4	13.3	21.0	24.8	28.6	36.2	44.5	51.4	58.4
130°	0.6	1.3	5.7	12.1	19.1	22.9	26.7	34.3	41.3	48.9	55.2
132.5°	0.6	1.3	5.1	10.8	17.8	21.0	24.8	32.4	39.4	45.7	52.1
135°	0.6	1.3	4.4	9.5	15.9	19.1	22.9	29.2	36.2	42.5	48.9
137.5°	0.6	1.3	3.8	8.9	14.0	17.1	20.3	26.7	33.0	39.4	45.1
140°	0.6	0.6	3.2	7.6	12.7	15.2	18.4	24.1	29.8	35.6	41.3
142.5°	0.6	0.6	2.5	6.4	11.4	13.3	16.5	21.6	26.7	32.4	37.5
145°	0.6	0.6	1.9	5.7	9.5	12.1	14.6	19.1	23.5	28.6	33.7
147.5°	0.6	0.6	1.9	4.4	8.3	10.2	12.1	16.5	21.0	25.4	29.2
150°	1.3	1.3	1.9	3.8	7.0	8.9	10.8	14.6	18.4	22.2	25.4
152.5°	1.3	1.3	1.3	3.2	5.7	7.6	8.9	12.1	15.2	19.1	22.2
155°	1.3	1.3	1.3	2.5	5.1	6.4	7.6	10.2	12.7	15.9	18.4
157.5°	1.3	1.3	1.3	1.9	3.8	5.1	5.7	8.3	10.8	12.7	15.2
160°	1.3	1.3	1.3	1.9	3.2	3.8	4.4	6.4	8.3	10.2	12.1
162.5°	1.3	1.3	1.3	1.3	2.5	3.2	3.8	5.1	6.4	8.3	9.5
165°	1.3	1.3	1.3	1.3	1.9	1.9	2.5	3.8	4.4	5.7	7.0
167.5°	1.3	1.3	1.3	1.3	1.3	1.9	1.9	2.5	3.2	3.8	4.4
170°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.9	1.9	2.5	2.5
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°	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6
2.5°	1048.4	1049.0	1050.3	1051.6	1050.9	1050.9	1051.6	1050.9	1051.6	1050.9
5°	1044.6	1046.5	1047.8	1049.0	1049.0	1049.0	1049.0	1049.0	1049.0	1049.0
7.5°	1040.8	1042.0	1043.9	1045.9	1045.9	1046.5	1046.5	1045.9	1046.5	1045.9
10°	1035.7	1038.2	1040.1	1041.4	1042.0	1042.0	1042.7	1042.7	1042.7	1043.3
12.5°	1028.7	1031.2	1033.8	1035.7	1036.3	1035.7	1037.0	1037.6	1037.0	1037.6
15°	1020.5	1022.4	1026.2	1027.4	1028.1	1028.7	1029.3	1030.0	1030.0	1029.3
17.5°	1009.7	1012.8	1014.7	1018.5	1018.5	1019.2	1020.5	1021.1	1020.5	1021.7
20°	997.6	1000.8	1003.9	1006.5	1006.5	1007.8	1009.0	1009.7	1010.9	1010.9
22.5°	983.0	986.8	990.6	993.1	994.4	994.4	996.3	997.0	998.2	997.6
25°	966.5	971.6	975.4	977.3	979.2	979.8	981.1	981.7	981.7	982.4
27.5°	948.7	952.5	957.0	960.1	962.0	962.0	963.9	964.6	964.6	965.2
30°	928.4	934.1	937.3	940.4	941.1	942.3	944.3	944.9	946.8	946.2
32.5°	906.8	911.9	915.7	918.2	920.8	921.4	922.7	924.6	924.6	925.8
35°	883.9	887.7	891.5	895.4	896.6	898.5	900.4	901.1	902.3	901.7
37.5°	858.5	863.6	867.4	868.7	871.9	873.1	875.7	876.3	876.9	875.7
40°	831.2	835.7	840.7	843.3	845.2	845.8	849.0	849.6	850.3	850.9
42.5°	802.6	808.4	812.2	815.3	817.3	817.9	821.1	821.1	823.0	823.6
45°	772.2	777.9	782.3	786.1	786.8	788.7	791.2	792.5	791.9	794.4
47.5°	740.4	746.1	750.6	753.8	754.4	755.7	758.8	759.5	760.7	761.4
50°	705.5	711.2	716.3	720.1	721.4	723.3	725.8	727.1	727.7	727.1
52.5°	671.2	676.9	680.1	685.2	687.1	686.4	690.3	692.8	692.2	693.4
55°	634.4	639.5	644.5	648.3	649.6	651.5	654.1	654.7	656.0	657.9
57.5°	593.7	602.6	606.4	608.3	610.9	612.8	614.0	618.5	618.5	617.9
60°	554.4	560.7	565.8	570.2	571.5	574.0	576.6	578.5	578.5	579.8
62.5°	514.4	520.1	525.1	529.0	529.6	532.8	535.9	537.2	537.8	537.2
65°	471.8	475.6	483.9	485.8	488.3	491.5	493.4	495.3	496.6	498.5
67.5°	427.4	433.1	439.4	444.5	447.0	448.3	450.9	452.8	454.0	452.8
70°	383.5	389.3	394.3	399.4	402.0	402.6	405.1	407.7	408.9	408.3
72.5°	338.5	344.8	351.2	355.0	357.5	359.4	363.9	364.5	364.5	367.0
75°	293.4	300.4	306.7	311.8	312.4	315.0	317.5	320.0	323.9	323.2
77.5°	248.9	256.5	261.6	266.1	269.2	271.8	274.3	276.2	277.5	279.4
80°	207.0	215.3	219.1	224.8	227.3	229.9	232.4	235.6	238.1	236.9
82.5°	166.4	175.3	181.6	187.3	188.6	193.0	194.3	196.9	197.5	199.4
85°	133.4	141.6	147.3	154.3	155.6	158.8	161.9	163.8	165.1	167.0
87.5°	109.2	116.8	123.2	129.5	131.4	133.4	137.2	140.3	141.6	142.9
90°	98.4	106.0	113.0	118.7	121.3	123.2	127.0	130.2	131.4	132.1
92.5°	97.2	104.8	111.1	116.8	119.4	121.9	125.7	128.3	129.5	130.2
95°	95.9	103.5	110.5	116.2	118.7	120.7	124.5	127.0	128.3	128.9
97.5°	94.6	102.2	109.2	114.9	117.5	119.4	123.2	125.7	127.0	127.6
100°	93.3	101.0	107.3	113.0	115.6	117.5	121.3	123.8	125.1	125.7
102.5°	91.4	99.1	105.4	111.1	113.7	115.6	118.7	121.9	123.2	123.8
105°	89.5	96.5	102.9	108.6	111.1	113.0	116.8	119.4	120.7	121.3
107.5°	87.0	94.6	100.3	106.0	108.6	110.5	114.3	116.2	118.1	118.7
110°	85.1	92.1	97.8	103.5	106.0	108.0	111.1	113.7	114.9	115.6



TEST NUMBER: P241612

CATALOG NUMBER: FVS8M-4-LD4-50-2LO-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	82.6	89.5	95.3	100.3	102.9	104.8	108.6	110.5	112.4	112.4
115°	79.4	86.4	92.1	97.2	99.7	101.6	104.8	107.3	108.6	109.9
117.5°	76.8	83.2	89.5	94.0	96.5	98.4	101.6	104.1	105.4	106.0
120°	74.3	80.6	85.7	90.8	92.7	94.6	97.8	100.3	101.6	102.2
122.5°	71.1	77.5	82.6	87.0	88.9	90.8	94.0	96.5	97.8	98.4
125°	67.9	73.7	78.7	83.2	85.1	87.0	90.2	92.1	93.3	94.0
127.5°	64.8	70.5	75.6	79.4	81.3	83.2	85.7	88.3	89.5	90.2
130°	61.0	66.7	71.8	75.6	77.5	78.7	81.3	83.8	85.1	85.7
132.5°	57.8	62.9	67.3	71.8	73.0	74.9	76.8	79.4	80.6	80.6
135°	54.0	59.1	63.5	67.3	68.6	70.5	73.0	74.9	75.6	76.2
137.5°	50.8	55.2	59.7	62.9	64.1	66.0	67.9	69.9	71.1	71.1
140°	47.0	51.4	55.2	58.4	59.7	61.0	63.5	64.8	66.0	66.0
142.5°	42.5	47.0	50.8	54.0	55.2	56.5	58.4	60.3	61.0	61.0
145°	38.1	43.2	46.4	49.5	50.2	51.4	53.3	54.6	55.9	55.9
147.5°	33.7	38.1	41.9	44.5	45.7	47.0	48.3	49.5	50.8	50.8
150°	29.8	33.7	37.5	40.0	41.3	41.9	43.8	44.5	45.1	45.7
152.5°	25.4	28.6	32.4	35.6	36.2	36.8	38.7	40.0	40.0	40.6
155°	21.0	24.1	26.7	29.8	31.8	32.4	33.7	34.3	34.9	34.9
157.5°	17.8	20.3	22.2	24.8	26.0	27.3	28.6	29.8	29.8	29.8
160°	14.0	15.9	17.8	19.7	21.0	22.2	24.1	24.1	24.8	25.4
162.5°	10.8	12.1	14.0	15.2	16.5	17.1	19.1	19.7	19.7	19.7
165°	7.6	8.9	10.2	11.4	11.4	12.1	14.0	14.6	14.6	15.2
167.5°	5.1	5.7	7.0	7.6	7.6	8.3	8.9	10.8	10.2	10.2
170°	3.2	3.2	3.8	4.4	4.4	4.4	5.1	5.7	6.4	6.4
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)