

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: P241609

Luminaire Tested: **FVS8M-4-LD4-30-2LO-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241609
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-LD4-30-2LO-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

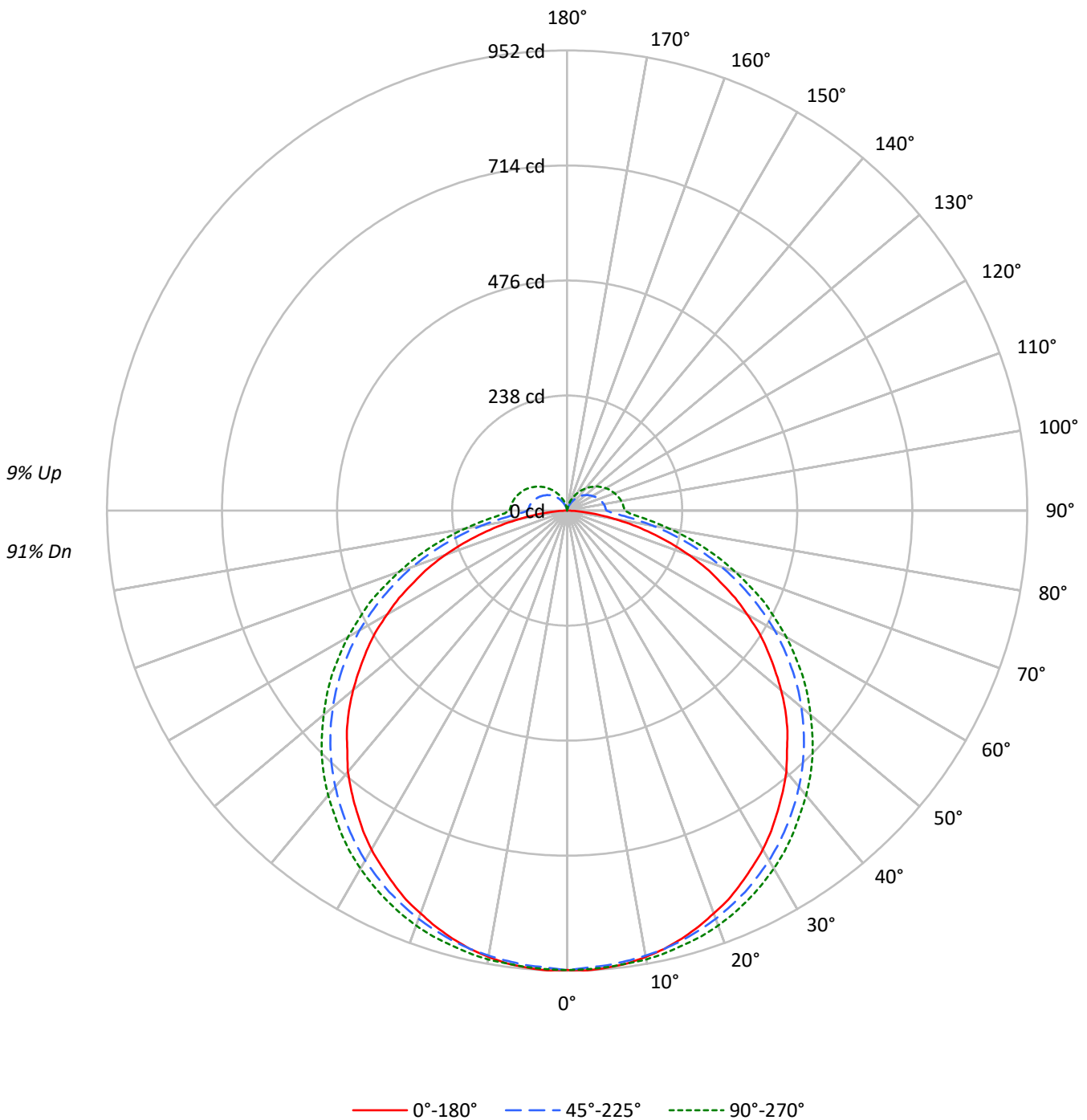
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3375.0 lumens
Efficiency: N/A
Efficacy: 74.2 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

TEST NUMBER: P241609
CATALOG NUMBER: FVS8M-4-LD4-30-2LO-O-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241609

CATALOG NUMBER: FVS8M-4-LD4-30-2LO-O-UNV-EDC1

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°	4248	4248	4248
5°	4244	4168	4172
10°	4227	4108	4116
15°	4197	4056	4059
20°	4159	4002	4016
25°	4122	3949	3961
30°	4087	3892	3904
35°	4032	3829	3840
40°	3985	3762	3772
45°	3920	3688	3702
50°	3840	3595	3601
55°	3740	3483	3503
60°	3599	3347	3367
65°	3410	3161	3211
70°	3162	2932	2977
75°	2724	2613	2737
80°	2104	2235	2416
85°	1120	1846	2161



TEST NUMBER: P241609

CATALOG NUMBER: FVS8M-4-LD4-30-2LO-O-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.2	2.7
10°-20°	260.7	7.7
20°-30°	401.6	11.9
30°-40°	495.2	14.7
40°-50°	530.2	15.7
50°-60°	500.1	14.8
60°-70°	406.3	12.0
70°-80°	263.4	7.8
80°-90°	120.4	3.6
90°-100°	76.8	2.3
100°-110°	69.2	2.1
110°-120°	58.0	1.7
120°-130°	44.6	1.3
130°-140°	30.7	0.9
140°-150°	17.7	0.5
150°-160°	7.9	0.2
160°-170°	2.0	0.1
170°-180°	0.1	0.0
0°-30°	752.4	22.3
0°-40°	1247.7	37.0
0°-60°	2277.9	67.5
0°-90°	3068.0	90.9
90°-120°	204.0	6.0
90°-150°	297.0	8.8
90°-180°	307.0	9.1
0°-180°	3375.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	950	950	950	950	950	
5°	949	949	944	948	948	90
15°	917	918	921	929	930	259
25°	851	858	871	885	888	393
35°	759	774	794	810	815	475
45°	644	665	693	711	718	497
55°	507	534	566	587	595	453
65°	350	382	419	441	451	347
75°	181	217	257	282	292	192
85°	32	71	113	141	151	41
90°	1	38	82	110	119	2
95°	1	36	79	107	116	0
105°	1	33	74	100	110	1
115°	1	29	65	90	99	1
125°	1	24	55	77	85	1
135°	1	17	44	62	69	0
145°	1	11	30	45	50	0
155°	1	6	17	29	32	1
165°	1	2	6	10	14	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241609

CATALOG NUMBER: FVS8M-4-LD4-30-2LO-O-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	950.5	950.5	950.5	950.5	950.5	950.5	950.5	950.5	950.5	950.5	950.5
2.5°	952.2	952.2	951.6	951.0	951.0	951.6	951.6	951.0	949.3	947.0	946.4
5°	949.3	948.7	949.3	948.2	948.7	948.7	948.2	948.2	946.4	945.3	944.2
7.5°	945.3	944.7	944.2	943.6	943.6	944.2	943.6	943.6	942.4	940.7	940.1
10°	937.8	937.3	937.8	936.7	936.7	937.3	937.8	937.8	936.7	936.1	935.0
12.5°	928.7	928.7	928.1	927.5	928.1	928.7	929.2	929.2	928.7	929.2	928.7
15°	916.6	917.2	916.0	915.5	917.8	917.8	918.9	920.0	920.0	919.5	920.6
17.5°	902.8	902.8	902.8	903.4	904.0	905.1	906.3	907.4	908.0	909.1	910.3
20°	886.8	887.9	887.9	888.5	890.8	892.5	892.5	895.4	895.9	896.5	898.8
22.5°	871.3	870.7	870.7	871.8	874.7	876.4	878.1	879.9	881.0	882.7	885.0
25°	851.2	851.7	852.3	854.0	857.5	857.5	860.4	862.7	864.9	867.2	870.7
27.5°	830.5	831.7	832.2	834.0	838.0	840.3	842.0	844.9	847.2	850.0	853.5
30°	809.8	809.8	810.4	812.7	816.7	819.6	821.3	824.8	828.2	832.2	835.7
32.5°	785.7	785.7	786.3	790.3	794.4	797.2	800.1	803.5	807.0	811.0	815.6
35°	759.3	758.8	760.5	766.2	770.2	773.7	777.1	781.2	785.7	789.8	793.8
37.5°	732.9	733.5	734.1	739.8	746.1	747.9	751.9	755.9	760.5	765.1	770.8
40°	705.4	705.4	707.7	711.7	719.2	722.0	725.5	730.6	734.7	741.0	746.1
42.5°	673.2	676.1	679.0	683.6	691.0	694.5	697.9	704.2	709.4	713.4	720.3
45°	644.5	645.1	648.0	654.9	661.8	665.2	669.8	676.1	682.4	687.0	692.8
47.5°	612.4	612.4	616.4	622.7	630.8	634.8	638.8	645.1	650.9	658.9	663.5
50°	578.0	579.1	583.7	591.7	599.8	602.1	606.1	614.7	619.9	626.2	632.5
52.5°	541.8	544.1	550.4	557.3	564.2	569.4	572.8	582.0	588.3	594.6	600.9
55°	506.8	507.4	512.5	521.7	530.3	533.8	539.5	547.0	553.9	560.8	566.5
57.5°	471.2	470.1	476.4	486.1	494.7	497.6	502.8	512.0	518.9	525.2	531.5
60°	429.9	432.8	438.5	447.7	456.9	459.7	464.3	474.7	481.0	488.4	495.9
62.5°	392.0	392.6	401.8	408.7	418.4	424.2	427.0	435.6	442.5	450.6	457.4
65°	349.5	354.7	359.9	367.9	377.7	382.3	385.7	397.2	404.6	412.1	419.0
67.5°	311.1	312.8	319.7	328.3	338.1	342.1	347.8	355.9	364.5	370.8	380.0
70°	268.0	269.8	276.1	286.4	295.6	301.3	305.9	315.1	323.1	331.2	339.8
72.5°	225.0	226.7	234.7	243.9	254.8	258.3	263.4	273.2	281.8	290.4	299.6
75°	180.8	185.4	194.0	202.0	212.9	217.0	223.3	234.2	242.8	250.2	257.1
77.5°	139.5	145.8	152.7	161.3	171.0	176.8	181.9	192.3	201.5	211.2	218.7
80°	99.9	104.5	111.9	120.5	131.4	138.9	142.9	152.7	161.3	170.5	179.1
82.5°	64.9	67.2	74.6	85.5	95.9	101.6	106.8	117.1	125.7	134.3	142.9
85°	31.6	35.6	43.0	54.5	64.9	70.6	75.8	86.1	95.3	105.0	113.1
87.5°	10.3	14.9	22.4	32.1	43.0	48.2	53.4	63.7	73.5	82.1	91.3
90°	0.6	4.0	12.1	22.4	32.7	38.5	43.6	54.0	63.7	72.9	81.5
92.5°	0.6	3.4	11.5	21.2	31.6	37.3	42.5	52.8	62.6	71.7	79.8
95°	0.6	3.4	10.9	20.7	31.0	36.2	41.9	51.7	61.4	70.6	79.2
97.5°	0.6	3.4	10.3	20.1	30.4	35.6	40.8	51.1	60.8	70.0	78.1
100°	0.6	2.9	10.3	19.5	29.8	35.0	40.2	49.9	59.7	68.3	76.9
102.5°	0.6	2.9	9.8	18.9	28.7	33.9	39.0	48.8	58.0	66.6	75.2
105°	0.6	2.9	9.8	18.4	28.1	33.3	37.9	47.6	56.8	65.4	73.5
107.5°	0.6	2.9	9.2	17.8	27.0	32.1	36.7	45.9	55.1	63.7	71.7
110°	0.6	2.3	8.6	17.2	26.4	31.0	35.6	44.8	53.4	62.0	69.4



TEST NUMBER: P241609

CATALOG NUMBER: FVS8M-4-LD4-30-2LO-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	2.3	8.6	16.6	25.3	29.8	34.4	43.0	51.7	59.7	67.7
115°	0.6	2.3	8.0	15.5	24.1	28.7	33.3	41.9	49.9	58.0	65.4
117.5°	0.6	1.7	7.5	14.9	23.0	27.5	31.6	40.2	48.2	55.7	63.1
120°	0.6	1.7	6.9	14.3	21.8	26.4	30.4	38.5	45.9	54.0	60.3
122.5°	0.6	1.7	6.3	13.2	21.2	24.7	28.7	36.7	44.2	51.7	58.0
125°	0.6	1.1	6.3	12.6	20.1	23.5	27.5	35.0	41.9	48.8	55.1
127.5°	0.6	1.1	5.7	12.1	18.9	22.4	25.8	32.7	40.2	46.5	52.8
130°	0.6	1.1	5.2	10.9	17.2	20.7	24.1	31.0	37.3	44.2	49.9
132.5°	0.6	1.1	4.6	9.8	16.1	18.9	22.4	29.3	35.6	41.3	47.1
135°	0.6	1.1	4.0	8.6	14.3	17.2	20.7	26.4	32.7	38.5	44.2
137.5°	0.6	1.1	3.4	8.0	12.6	15.5	18.4	24.1	29.8	35.6	40.8
140°	0.6	0.6	2.9	6.9	11.5	13.8	16.6	21.8	27.0	32.1	37.3
142.5°	0.6	0.6	2.3	5.7	10.3	12.1	14.9	19.5	24.1	29.3	33.9
145°	0.6	0.6	1.7	5.2	8.6	10.9	13.2	17.2	21.2	25.8	30.4
147.5°	0.6	0.6	1.7	4.0	7.5	9.2	10.9	14.9	18.9	23.0	26.4
150°	1.1	1.1	1.7	3.4	6.3	8.0	9.8	13.2	16.6	20.1	23.0
152.5°	1.1	1.1	1.1	2.9	5.2	6.9	8.0	10.9	13.8	17.2	20.1
155°	1.1	1.1	1.1	2.3	4.6	5.7	6.9	9.2	11.5	14.3	16.6
157.5°	1.1	1.1	1.1	1.7	3.4	4.6	5.2	7.5	9.8	11.5	13.8
160°	1.1	1.1	1.1	1.7	2.9	3.4	4.0	5.7	7.5	9.2	10.9
162.5°	1.1	1.1	1.1	1.1	2.3	2.9	3.4	4.6	5.7	7.5	8.6
165°	1.1	1.1	1.1	1.1	1.7	1.7	2.3	3.4	4.0	5.2	6.3
167.5°	1.1	1.1	1.1	1.1	1.1	1.7	1.7	2.3	2.9	3.4	4.0
170°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.7	2.3	2.3
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



TEST NUMBER: P241609

CATALOG NUMBER: FVS8M-4-LD4-30-2LO-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	950.5	950.5	950.5	950.5	950.5	950.5	950.5	950.5	950.5	950.5
2.5°	947.6	948.2	949.3	950.5	949.9	949.9	950.5	949.9	950.5	949.9
5°	944.2	945.9	947.0	948.2	948.2	948.2	948.2	948.2	948.2	948.2
7.5°	940.7	941.9	943.6	945.3	945.3	945.9	945.9	945.3	945.9	945.3
10°	936.1	938.4	940.1	941.3	941.9	941.9	942.4	942.4	942.4	943.0
12.5°	929.8	932.1	934.4	936.1	936.7	936.1	937.3	937.8	937.3	937.8
15°	922.3	924.1	927.5	928.7	929.2	929.8	930.4	931.0	931.0	930.4
17.5°	912.6	915.5	917.2	920.6	920.6	921.2	922.3	922.9	922.3	923.5
20°	901.7	904.6	907.4	909.7	909.7	910.9	912.0	912.6	913.7	913.7
22.5°	888.5	891.9	895.4	897.7	898.8	898.8	900.5	901.1	902.3	901.7
25°	873.6	878.1	881.6	883.3	885.0	885.6	886.8	887.3	887.3	887.9
27.5°	857.5	860.9	864.9	867.8	869.5	869.5	871.3	871.8	871.8	872.4
30°	839.1	844.3	847.2	850.0	850.6	851.7	853.5	854.0	855.8	855.2
32.5°	819.6	824.2	827.6	829.9	832.2	832.8	834.0	835.7	835.7	836.8
35°	798.9	802.4	805.8	809.3	810.4	812.1	813.9	814.4	815.6	815.0
37.5°	776.0	780.6	784.0	785.2	788.0	789.2	791.5	792.1	792.6	791.5
40°	751.3	755.3	759.9	762.2	763.9	764.5	767.4	767.9	768.5	769.1
42.5°	725.5	730.6	734.1	737.0	738.7	739.3	742.1	742.1	743.8	744.4
45°	697.9	703.1	707.1	710.6	711.1	712.9	715.1	716.3	715.7	718.0
47.5°	669.2	674.4	678.4	681.3	681.9	683.0	685.9	686.4	687.6	688.2
50°	637.7	642.8	647.4	650.9	652.0	653.7	656.0	657.2	657.8	657.2
52.5°	606.7	611.8	614.7	619.3	621.0	620.4	623.9	626.2	625.6	626.8
55°	573.4	578.0	582.6	586.0	587.2	588.9	591.2	591.7	592.9	594.6
57.5°	536.6	544.7	548.1	549.8	552.1	553.9	555.0	559.0	559.0	558.5
60°	501.1	506.8	511.4	515.4	516.6	518.9	521.1	522.9	522.9	524.0
62.5°	464.9	470.1	474.7	478.1	478.7	481.5	484.4	485.6	486.1	485.6
65°	426.4	429.9	437.4	439.1	441.4	444.2	446.0	447.7	448.8	450.6
67.5°	386.3	391.4	397.2	401.8	404.1	405.2	407.5	409.2	410.4	409.2
70°	346.7	351.8	356.4	361.0	363.3	363.9	366.2	368.5	369.6	369.1
72.5°	305.9	311.7	317.4	320.8	323.1	324.9	328.9	329.4	329.4	331.7
75°	265.2	271.5	277.2	281.8	282.4	284.7	287.0	289.3	292.7	292.1
77.5°	225.0	231.9	236.5	240.5	243.4	245.7	247.9	249.7	250.8	252.5
80°	187.1	194.6	198.0	203.2	205.5	207.8	210.1	212.9	215.2	214.1
82.5°	150.4	158.4	164.2	169.3	170.5	174.5	175.6	177.9	178.5	180.2
85°	120.5	128.0	133.2	139.5	140.6	143.5	146.4	148.1	149.2	150.9
87.5°	98.7	105.6	111.3	117.1	118.8	120.5	124.0	126.8	128.0	129.1
90°	89.0	95.9	102.2	107.3	109.6	111.3	114.8	117.7	118.8	119.4
92.5°	87.8	94.7	100.4	105.6	107.9	110.2	113.6	115.9	117.1	117.7
95°	86.7	93.6	99.9	105.0	107.3	109.1	112.5	114.8	115.9	116.5
97.5°	85.5	92.4	98.7	103.9	106.2	107.9	111.3	113.6	114.8	115.4
100°	84.4	91.3	97.0	102.2	104.5	106.2	109.6	111.9	113.1	113.6
102.5°	82.6	89.5	95.3	100.4	102.7	104.5	107.3	110.2	111.3	111.9
105°	80.9	87.2	93.0	98.1	100.4	102.2	105.6	107.9	109.1	109.6
107.5°	78.6	85.5	90.7	95.9	98.1	99.9	103.3	105.0	106.8	107.3
110°	76.9	83.2	88.4	93.6	95.9	97.6	100.4	102.7	103.9	104.5



TEST NUMBER: P241609

CATALOG NUMBER: FVS8M-4-LD4-30-2LO-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	74.6	80.9	86.1	90.7	93.0	94.7	98.1	99.9	101.6	101.6
115°	71.7	78.1	83.2	87.8	90.1	91.8	94.7	97.0	98.1	99.3
117.5°	69.4	75.2	80.9	84.9	87.2	89.0	91.8	94.1	95.3	95.9
120°	67.2	72.9	77.5	82.1	83.8	85.5	88.4	90.7	91.8	92.4
122.5°	64.3	70.0	74.6	78.6	80.4	82.1	84.9	87.2	88.4	89.0
125°	61.4	66.6	71.2	75.2	76.9	78.6	81.5	83.2	84.4	84.9
127.5°	58.5	63.7	68.3	71.7	73.5	75.2	77.5	79.8	80.9	81.5
130°	55.1	60.3	64.9	68.3	70.0	71.2	73.5	75.8	76.9	77.5
132.5°	52.2	56.8	60.8	64.9	66.0	67.7	69.4	71.7	72.9	72.9
135°	48.8	53.4	57.4	60.8	62.0	63.7	66.0	67.7	68.3	68.9
137.5°	45.9	49.9	54.0	56.8	58.0	59.7	61.4	63.1	64.3	64.3
140°	42.5	46.5	49.9	52.8	54.0	55.1	57.4	58.5	59.7	59.7
142.5°	38.5	42.5	45.9	48.8	49.9	51.1	52.8	54.5	55.1	55.1
145°	34.4	39.0	41.9	44.8	45.3	46.5	48.2	49.4	50.5	50.5
147.5°	30.4	34.4	37.9	40.2	41.3	42.5	43.6	44.8	45.9	45.9
150°	27.0	30.4	33.9	36.2	37.3	37.9	39.6	40.2	40.8	41.3
152.5°	23.0	25.8	29.3	32.1	32.7	33.3	35.0	36.2	36.2	36.7
155°	18.9	21.8	24.1	27.0	28.7	29.3	30.4	31.0	31.6	31.6
157.5°	16.1	18.4	20.1	22.4	23.5	24.7	25.8	27.0	27.0	27.0
160°	12.6	14.3	16.1	17.8	18.9	20.1	21.8	21.8	22.4	23.0
162.5°	9.8	10.9	12.6	13.8	14.9	15.5	17.2	17.8	17.8	17.8
165°	6.9	8.0	9.2	10.3	10.3	10.9	12.6	13.2	13.2	13.8
167.5°	4.6	5.2	6.3	6.9	6.9	7.5	8.0	9.8	9.2	9.2
170°	2.9	2.9	3.4	4.0	4.0	4.0	4.6	5.2	5.7	5.7
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)