FDLE

Florida Department of
Law Enforcement

Gerald M. Bailey
Commissioner

Alcohol Testing Program
P.O. Box 1489
Tallahassee, Florida 32302
(850) 617-1290
(850) 921-3787 Fax
www.fdle.state.fl.us/atp

MEMORANDUM

TO: Department Inspectors

FROM: Laura D. Barfield, Alcohol Testing Program Manager LDB

DATE: February 6, 2013

SUBJECT: CMI Inc. Intoxilyzer 8000 Instrumentation Evaluation Report – May 2010

Attached you will find the CMI, Inc. Intoxilyzer 8000 Instrumentation Evaluation Report prepared February 6, 2013. The report was generated using data obtained during the evaluation conducted on May 25 and 26, 2010, in accordance with applicable rules and forms in effect at that time.

Based on the results of this evaluation:

- The CMI, Inc. Intoxilyzer 8000 remains approved for use as an evidentiary breath test instrument in the State of Florida;
- Originally evaluated January 4, 2006, software version 8100.26 has again been evaluated in accordance with Instrument Evaluation Procedures FDLE/ATP Foprm 34, Revised March 2004, and meets the requirements of Rule 11D-8.003(2), Florida Administrative Code;
- Originally evaluated October 9, 2006, software version 8100.27 has again been evaluated in accordance with Instrument Evaluation Procedures FDLE/ATP Form 34 Revised March 2004, and meets the requirements of Rule 11D-8.003(2), Florida Administrative Code; and
- The evaluated features/updates to the CMI, Inc. Intoxilyzer 8000 listed in the Purpose section of this report did not affect the accuracy and reliability of alcohol test results obtained. These features/updates included the following:
  - Magnetic Card Reader – new manufacturer;
  - Breath Hose – made more robust;
  - Keyboard Connector;
  - R3 on the Breakout Board from 0 to 22.1 kOhm – update to the resistor;
  - AC module assembly;
  - End Block – groove in end block added for source wire;
  - Circuit board for the Thermal Printer Assembly – new board;
  - Gas Regulator Assembly – new style gas regulator;
  - Internal Battery Clip – to hold the real time clock battery more securely in position;
  - Power Distribution Board from Revision F to Revision H;
  - 2MB to 4MB memory for the storage of test and inspection results;
  - 12V Direct Current (DC) Power Cord – reduced length of DC power cord.

If you have any questions, please feel free to contact me.

LDB

Attachments

Florida Department of Law Enforcement
Alcohol Testing Program

CMI, Inc. Intoxilyzer 8000
Instrumentation Evaluation Report

Report Prepared February 6, 2013

May 25 and 26, 2010
Tallahassee, Florida

CMI, Inc. Intoxilyzer 8000
Instrumentation Evaluation Report
Conducted in Accordance with Chapter 11D-8, FAC March 2006 and corresponding FDLE/ATP Form 34 Instrument Evaluation Procedures

Introduction

In order to be considered valid under Florida law, the analysis of a person's breath must have been administered substantially in accordance with methods and procedures approved by the Florida Department of Law Enforcement (FDLE), using instrumentation approved by FDLE. The FDLE Alcohol Testing Program has been granted specific and exclusive statutory authority to ensure the accuracy and reliability of breath alcohol test results and to approve breath test instrumentation and methods of breath analysis. The process for evaluation of breath test instrumentation for evidentiary use in Florida is prescribed by Chapter 11D-8, Florida Administrative Code.

Purpose

The CMI, Inc. Intoxilyzer 8000 was approved for evidentiary use by the Florida Department of Law Enforcement Alcohol Testing Program on November 5, 2002. The purpose of this evaluation is to assess the CMI, Inc. Intoxilyzer 8000, using infrared light absorption as the method of analysis and the following features/updates:

- Magnetic Card Reader – new manufacturer;
- Breath Hose – made more robust;
- Keyboard Connector;
- R3 on the Breakout Board from 0 to 22.1 kOhm; - update to the resistor
- AC module assembly;
- End Block – groove in end block added for source wire;
- Circuit board for the Thermal Printer Assembly – new board;
- Gas Regulator Assembly – new style gas regulator;
- Internal Battery Clip – to hold the real time clock battery more securely in position;
- Power Distribution Board from Revision F to Revision H;
- 2MB to 4MB memory for the storage of test and inspection results;
- 12V Direct Current (DC) Power Cord – reduced length of DC power cord.

The evaluation process ensures that the methodology utilized by the breath test instrumentation provides accurate and scientifically reliable analytical results. Evaluations are not intended to approve individual parts or components of the breath test instrumentation.

Testing Location and Operating Conditions

Testing Location:	Florida Department of Law Enforcement Alcohol Testing Program Office 2729 Fort Knox Boulevard Building 2, Suite 1200
Operating Conditions:	Indoors, 78^0 F

FDLE Personnel Present During the Evaluation

Laura D. Barfield, Program Manager (Present for Part of the Evaluation)
Matthew Malhiot, Department Inspector
Patrick Murphy, Ph.D., Department Inspector

Instrumentation Used

The following Intoxilyzer 8000 breath test instruments were provided on loan by the manufacturer, CMI, Inc.

- **CMI, Inc. Intoxilyzer 8000, Serial Number 80-001173**: Exhaust block assembly – hole in check valve; Four (4) rubber feet; No shrink wrap cover on the ends of the breath hose; No room temperature vulcanization (RTV) applied to the power supply coils; No update to case mold – case part number(s) cover (top) 440980 and chassis (bottom) 440988; No update to ring detect capacitor – 0.047 Microfarad; 2MB memory storage capacity; Update to screw securing check valve housing in exhaust block assembly; No update to system board part number 310338E.
- **CMI, Inc. Intoxilyzer 8000, Serial Number 80-001175** – Exhaust block assembly – hole in check valve; Four (4) rubber feet; Shrink wrap cover on both ends of the breath hose; Room temperature vulcanization (RTV) applied to the power supply coils; Update to case mold – case part number(s) cover (top) 440980 Rev B and chassis (bottom) 440988 Rev A; Update to ring detect capacitor – 0.47 Microfarad; Update from 2MB to 4MB memory storage capacity; Update to screw securing check valve housing in exhaust block assembly; Update to system board – part number 310338G; Update to Magnetic Card Reader; Update to Breath Hose; Update to Keyboard Connector; Update to R3 on the Breakout Board from 0 to 22.1 Ohm; Update to the AC Module Assembly; Update to the End Block; Update to the Circuit Board for the Thermal Printer Assembly; Update to the Gas Regulator Assembly; Update to the Internal Battery Clip; Update to the Power Distribution Board from Revision F to Revision H; Update to 12V DC Power Cord.

Instrumentation Description

- Make and Model Designation: CMI, Inc. Intoxilyzer 8000, listed on the US Department of Transportation Conforming Products List of Evidential Breath Measurement Devices.
- Method of Analysis: Non-dispersive infrared light absorption.
- Software Version: 8100.27
- Description of Instrumentation: An infrared-based instrument designed for both mobile and stationary evidential breath alcohol testing.
- Specification for Precision: Average Standard deviation of 0.003 g/210L or better.
- Response Prescribed to Denote an Interferent: Display INTERFERENT DETECT and a high/low tone will sound.
- Response Prescribed to Denote Mouth Alcohol: Display SLOPE NOT MET and a high/low tone will sound.

Equipment and Supplies

Reference Sample Devices (Simulators)

All simulators were operated within 34 ± 0.2C and had air leak resistant seals. The make, model and serial number of each simulator is outlined in Appendix A.

Digital Thermometer

The make, model and serial number of the digital thermometer is outlined in Appendix A.

External Printers

The make, model and serial number of each external printer is outlined in Appendix A.

Standards, Solutions, and Deionized Water

All alcohol reference solutions were analyzed by the Florida Department of Law Enforcement in accordance with Rule 11D-8.0035(2)(a), FAC. The dry gas standard was prepared and certified by AirGas. The results of the alcohol reference solution analyses and the certified concentration of the dry gas standard are outlined in Appendix B. Acetone Stock Solution, Lot Number 2010-D, and Mouth Alcohol Solution, Lot Number 2010-A, prepared and analyzed by the Florida Department of Law Enforcement were used for the acetone interference tests and the mouth alcohol tests, respectively. Distilled water was obtained from Walmart.

Other Supplies
All other supplies and equipment used were commercially available and compatible with this type of instrumentation (printer tape, mouthpieces, tubing, office supplies, etc.).

Procedures

0.00 g/210L Test, Acetone Interference Test and Mouth Alcohol Test

The Intoxilyzer 8000 instrumentation was subjected to twenty-five (25) repetitions of a 0.00 g/210L test, twenty-five (25) repetitions of an acetone interference test, and twenty-five repetitions of a mouth alcohol test. The results are outlined in Appendix C-1, Appendix C-2 and Appendix C-3.

Alcohol Reference Solution Analyses

The Intoxilyzer 8000 instrumentation was subjected to twenty-five (25) repetitions of alcohol reference solution analyses at each of the following concentrations: 0.05, 0.08, 0.20 g/210L. The results are outlined in Appendix C-1, Appendix C-2 and Appendix C-3.

Dry Gas Standard Analyses

The Intoxilyzer 8000 instrumentation was subjected to twenty-five (25) repetitions of dry gas standard analyses at the following concentration: 0.08 g/210L. The results are outlined in Appendix C-1, Appendix C-2 and Appendix C-3.

Analytical Results

All results met the requirements of FDLE/ATP Form 34 Instrument Evaluation Procedures for accuracy, precision, and correct instrument responses as prescribed by the manufacturer.

NOTE: Intoxilyzer 8000 Serial Number 80-001173 was delivered with software version 8100.26 installed. The results of testing with this software version are outlined in Appendix C-1. Although all results met the requirements of Instrument Evaluation Procedures FDLE/ATP Form 34, software version 8100.26 was not the subject of this evaluation. Software version 8100.27 was then installed onto 80-001173 using a directly connected laptop computer and testing was repeated. The results are outlined in Appendix C-2. Intoxilyzer 8000 Serial Number 80-001175 was delivered with software version 8100.27. The results are outlined in Appendix C-3.

Conclusion

The results of this evaluation establish that the CMI, Inc. Intoxilyzer 8000 evidentiary breath test instrument, using software version 8100.27 and the features/updates listed above, produces accurate and reliable breath alcohol test results.

Based on the results of this evaluation:

- The CMI, Inc. Intoxilyzer 8000 remains approved for use as an evidentiary breath test instrument in the State of Florida;
- Originally evaluated January 4, 2006, software version 8100.26 has again been evaluated in accordance with Instrument Evaluation Procedures FDLE/ATP Form 34, Revised March 2004, and meets the requirements of Rule 11D-8.003(2), Florida Administrative Code;
- Originally evaluated October 9, 2006, software version 8100.27 has again been evaluated in accordance with Instrument Evaluation Procedures FDLE/ATP Form 34 Revised March 2004, and meets the requirements of Rule 11D-8.003(2), Florida Administrative Code; and
- The evaluated features/updates to the CMI, Inc. Intoxilyzer 8000 listed in the Purpose section of this report did not affect the accuracy and reliability of alcohol test results obtained.

APPENDIX A

External Equipment

Reference Sample Devices (Simulators)

Make	Model	Serial Number
Guth	10-4D	SD1015
Guth	210021	DR1279
Guth	210021	DR1280
Guth	10-4D	SD1025
Guth	10-4D	SD1016

Digital Thermometer

Make	Model	Serial Number
Ertco-Eutechnics	5500	300505

Digital Pressure Indicator

Make	Model	Serial Number
Druck	DPI705	70530793

External Printers

Make	Model	Serial Number
Brother	HL-2070N	U61230G6J169439
HP	1200	CNBJK47835

APPENDIX B

Alcohol Reference Solution

	0.05 g/210L (g/100mL)	0.08 g/210L (g/100mL)	0.20 g/210L (g/100mL)
Source	Alcohol Countermeasure Systems, Inc.	Alcohol Countermeasure Systems, Inc.	Alcohol Countermeasure Systems, Inc.
Lot Number	200912C	200908B	200908C
Manufacture Date	12/1/2009	8/13/2009	8/27/2009
Expiration Date	12/1/2011	8/13/2011	8/27/2011
Approval Date	1/31/2010	9/5/2009	9/7/2009
Target Concentration (g/100mL)	0.0605	0.0968	0.2420
Acceptable Range (g/100mL)	0.0586 to 0.0623	0.0938 to 0.0997	0.2347 to 0.2492
1	0.0610	0.0958	0.2434
2	0.0609	0.0972	0.2410
3	0.0605	0.0982	0.2381
4	0.0608	0.0968	0.2409
5	0.0608	0.0967	0.2449
6	0.0604	0.0962	0.2433
7	0.0605	0.0962	0.2433
8	0.0608	0.0977	0.2429
9	0.0609	0.0967	0.2395
10	0.0605	0.0981	0.2447
11	0.0600	0.0977	0.2414
12	0.0607	0.0962	0.2433
13	0.0606	0.0956	0.2401
14	0.0608	0.0971	0.2420
15	0.0609	0.0973	0.2421
16	0.0610	0.0953	0.2411
17	0.0615	0.0967	0.2429
18	0.0610	0.0975	0.2421
19	0.0606	0.0970	0.2422
20	0.0603	0.0961	0.2446
Mean	0.0607	0.0968	0.2422
Std Dev	0.0003	0.0008	0.0018
Minimum	0.0600	0.0953	0.2381
Maximum	0.0615	0.0982	0.2449

Dry Gas Standard

Manufacturer	Lot Number	Expiration Date	Certified Concentration
Air Gas	AG907207	3/13/2011	0.080 g/210L

APPENDIX C-1
Analytical Results
Intoxilyzer 8000 S.N. 80-001173
Software Version 8100.26

	0.00 g/210L Test (g/210L)	0.05 g/210L Test (g/210L)	0.08 g/210L Test (g/210L)	0.20 g/210L Test (g/210L)	0.08 g/210L (g/210L) Dry Gas Std Test	Acetone Interference Test *= Interferent Detect	Mouth Alcohol Test *= Slope Not Met
1	0.000	0.049	0.079	0.199	0.081	INT*	SNM*
2	0.000	0.050	0.079	0.198	0.081	INT*	SNM*
3	0.000	0.050	0.078	0.197	0.081	INT*	SNM*
4	0.000	0.049	0.080	0.198	0.082	INT*	SNM*
5	0.000	0.049	0.080	0.197	0.082	INT*	SNM*
6	0.000	0.050	0.079	0.197	0.081	INT*	SNM*
7	0.000	0.049	0.080	0.197	0.082	INT*	SNM*
8	0.000	0.050	0.079	0.197	0.082	INT*	SNM*
9	0.000	0.049	0.079	0.197	0.082	INT*	SNM*
10	0.000	0.050	0.079	0.197	0.081	INT*	SNM*
11	0.000	0.050	0.079	0.197	0.081	INT*	SNM*
12	0.000	0.049	0.079	0.197	0.082	INT*	SNM*
13	0.000	0.050	0.079	0.198	0.081	INT*	SNM*
14	0.000	0.050	0.079	0.198	0.081	INT*	SNM*
15	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
16	0.000	0.050	0.079	0.198	0.082	INT*	SNM*
17	0.000	0.050	0.079	0.197	0.082	INT*	SNM*
18	0.000	0.050	0.079	0.197	0.081	INT*	SNM*
19	0.000	0.050	0.079	0.198	0.081	INT*	SNM*
20	0.000	0.049	0.078	0.197	0.082	INT*	SNM*
21	0.000	0.050	0.079	0.197	0.081	INT*	SNM*
22	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
23	0.000	0.049	0.079	0.198	0.082	INT*	SNM*
24	0.000	0.050	0.079	0.197	0.081	INT*	SNM*
25	0.000	0.050	0.079	0.197	0.082	INT*	SNM*
Mean		0.050	0.079	0.197	0.081		
Std Dev		0.0005	0.0005	0.0006	0.0005		
Minimum		0.049	0.078	0.197	0.081		
Maximum		0.050	0.080	0.199	0.082		

Average Standard Deviation: **0.0005**

APPENDIX C-2
Analytical Results
Intoxilyzer 8000 S.N. 80-001173
Software Version 8100.27

	0.00 g/210L Test (g/210L)	0.05 g/210L Test (g/210L)	0.08 g/210L Test (g/210L)	0.20 g/210L Test (g/210L)	0.08 g/210L (g/210L) Dry Gas Std Test	Acetone Interference Test *= Interferent Detect	Mouth Alcohol Test *= Slope Not Met
1	0.000	0.049	0.078	0.197	0.081	INT*	SNM*
2	0.000	0.049	0.079	0.198	0.081	INT*	SNM*
3	0.000	0.049	0.078	0.197	0.081	INT*	SNM*
4	0.000	0.050	0.079	0.198	0.081	INT*	SNM*
5	0.000	0.050	0.078	0.197	0.082	INT*	SNM*
6	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
7	0.000	0.049	0.079	0.197	0.082	INT*	SNM*
8	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
9	0.000	0.049	0.079	0.197	0.082	INT*	SNM*
10	0.000	0.049	0.079	0.198	0.081	INT*	SNM*
11	0.000	0.049	0.079	0.198	0.082	INT*	SNM*
12	0.000	0.049	0.079	0.198	0.081	INT*	SNM*
13	0.000	0.049	0.079	0.198	0.081	INT*	SNM*
14	0.000	0.049	0.080	0.197	0.082	INT*	SNM*
15	0.000	0.049	0.079	0.197	0.082	INT*	SNM*
16	0.000	0.049	0.078	0.197	0.082	INT*	SNM*
17	0.000	0.049	0.079	0.197	0.082	INT*	SNM*
18	0.000	0.048	0.079	0.197	0.081	INT*	SNM*
19	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
20	0.000	0.050	0.079	0.197	0.081	INT*	SNM*
21	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
22	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
23	0.000	0.050	0.078	0.197	0.082	INT*	SNM*
24	0.000	0.049	0.079	0.197	0.081	INT*	SNM*
25	0.000	0.049	0.079	0.197	0.082	INT*	SNM*
Mean		0.049	0.079	0.197	0.081		
Std Dev		0.0004	0.0005	0.0004	0.0005		
Minimum		0.048	0.078	0.197	0.081		
Maximum		0.050	0.080	0.198	0.082		

Average Standard Deviation: **0.0005**

APPENDIX C-3
Analytical Results
Intoxilyzer 8000 S.N. 80-001175
Software Version 8100.27

	0.00 g/210L Test (g/210L)	0.05 g/210L Test (g/210L)	0.08 g/210L Test (g/210L)	0.20 g/210L Test (g/210L)	0.08 g/210L (g/210L) Dry Gas Std Test	Acetone Interference Test * = Interferent Detect	Mouth Alcohol Test * = Slope Not Met
1	0.000	0.049	0.079	0.199	0.081	INT*	SNM*
2	0.000	0.049	0.079	0.199	0.081	INT*	SNM*
3	0.000	0.049	0.079	0.199	0.081	INT*	SNM*
4	0.000	0.050	0.080	0.198	0.081	INT*	SNM*
5	0.000	0.049	0.080	0.198	0.081	INT*	SNM*
6	0.000	0.049	0.080	0.198	0.081	INT*	SNM*
7	0.000	0.050	0.080	0.198	0.081	INT*	SNM*
8	0.000	0.050	0.079	0.198	0.081	INT*	SNM*
9	0.000	0.051	0.080	0.199	0.081	INT*	SNM*
10	0.000	0.050	0.080	0.199	0.081	INT*	SNM*
11	0.000	0.050	0.080	0.199	0.081	INT*	SNM*
12	0.000	0.049	0.079	0.198	0.081	INT*	SNM*
13	0.000	0.050	0.080	0.198	0.081	INT*	SNM*
14	0.000	0.050	0.079	0.199	0.081	INT*	SNM*
15	0.000	0.050	0.080	0.198	0.081	INT*	SNM*
16	0.000	0.050	0.080	0.198	0.082	INT*	SNM*
17	0.000	0.050	0.080	0.199	0.082	INT*	SNM*
18	0.000	0.050	0.079	0.198	0.081	INT*	SNM*
19	0.000	0.049	0.079	0.199	0.081	INT*	SNM*
20	0.000	0.050	0.080	0.198	0.081	INT*	SNM*
21	0.000	0.049	0.080	0.199	0.081	INT*	SNM*
22	0.000	0.049	0.080	0.199	0.081	INT*	SNM*
23	0.000	0.050	0.080	0.199	0.082	INT*	SNM*
24	0.000	0.049	0.079	0.199	0.081	INT*	SNM*
25	0.000	0.050	0.079	0.199	0.081	INT*	SNM*
Mean		0.050	0.080	0.199	0.081		
Std Dev		0.0006	0.0005	0.0005	0.0003		
Minimum		0.049	0.079	0.198	0.081		
Maximum		0.051	0.080	0.199	0.082		

Average Standard Deviation: **0.0005**