



Ron Smith & Associates, Inc.

Testing Division

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Summary Report

Tenprint Comparison Proficiency Test #21201

Issued: July 12, 2021

On March 15, 2021, Ron Smith and Associates, Inc. (RS&A) shipped the Tenprint Proficiency Test #21201. Participants were required to submit their responses no later than June 7, 2021, for them to be included in this summary report.

A total of 50 tests were ordered and shipped, with 46 participants returning their responses. This summary report is based on 1,242 individual responses (46 participants returning 27 responses each). This test was provided in both hard copy and/or digital copy format and included four parts: pattern recognition, presentencing packet, comparison of single inked fingerprint to a known fingerprint card, and AFIS side-by-side comparisons of unknown to known fingerprints.

The results presented in this report reflect whether or not the participants' submitted results agree or disagree with the assigned values garnered from pre-distribution testing and outlined in *The Manufacturer's Report* (Appendix 1). The primary purpose of a Summary Report is to provide an overall documentation of all the submitted responses. It is RS&A's intention to go a step further by providing more meaningful statistical results through analyzing the submitted responses in relation to the demographics obtained from each of the examiners participating in this proficiency test. All results and statistics for this test will be outlined through graphs and charts found in the remainder of this report.

Prior to distribution of this test, all the expected responses were determined, by internal and external consensus, to be either "Identification" or "Exclusion"; however, we are aware that some agencies allow for a conclusion of "Inconclusive" in their casework. In designing this Proficiency Test, there was no intention to force a participant to render a conclusion which goes beyond their considered opinion. To satisfy this option, participants were allowed to enter "Inconclusive" as a response. Due to the fact that a participant's "Inconclusive" response does not meet the assigned values, it will appear as an inconsistent response in this summary report and be incorporated as such in the statistical analysis. It will be up to each agency to decide if the participant's "Inconclusive" response qualifies as being acceptable under their policies and procedures.

RS&A strives to maintain the confidentiality of all its clients and participants. All results are obtained and published using randomly generated test codes. RS&A will not release the identity of any participant without the written consent of the participant and/or the agency involved.

For any questions or further information, please contact our Proficiency Testing Coordinator by emailing testing@ronsmithandassociates.com or by calling toll free at 1-866-832-6772.

Appendix 1

Test Manufacturer's Information

Tenprint Comparison Proficiency Test #21201

This proficiency test consisted of four parts: pattern recognition, pre-sentencing packet, comparison of questioned identity, and AFIS side-by-side comparisons of unknown to known fingerprints. The participant was expected to determine fingerprint patterns and compare the known fingerprints to the questioned fingerprints for a determination of identification or exclusion. The assigned values were as follows:

PART #1: PATTERN RECOGNITION

Image #	Pattern Type
1	Whorl
2	Left Slant Loop
3	Whorl
4	Arch
5	Right Slant Loop
6	Left Slant Loop
7	Left Slant Loop
8	Left Slant Loop
9	Right Slant Loop
10	Whorl
11	Left Slant Loop
12	Whorl
13	Whorl
14	Whorl
15	Left Slant Loop
16	Right Slant Loop
17	Right Slant Loop
*18	Right Slant Loop/Arch
19	Whorl
20	Left Slant Loop

* After the manufacturers review of the fingerprint in #18 it was determined that the right slant loop could be referenced to an arch; therefore, all answers of right slant loop and arch were accepted.

PART #2: PRE-SENTENCING PACKET

The following are the fingerprints of the same person: (Select all that apply)

Most Recent Conviction

- Prior Conviction #1
- Prior Conviction #2
- None of the tenprint cards bear the fingerprints of the same individual.
- Inconclusive

PART #3: QUESTIONED IDENTITY

What can you conclude about the fingerprint on the ID card?

- The fingerprint on the ID card was made by the same person whose fingerprints appear on the fingerprint card bearing the name "Amoli Sharma".
- The fingerprint on the ID card was **not** made by the same person whose fingerprints appear on the fingerprint card bearing the name "Amoli Sharma".
- *Inconclusive

PART #4: AFIS SIDE-BY-SIDE COMPARISONS

Comparison #	Conclusion
1	Identification
2	Exclusion
3	Identification
4	Identification
5	Exclusion

The assigned values below were determined through the ground truth information and verified through unanimous agreement during pre-distribution testing.

Individual reports will be provided to participants by early July 2021. The summary report for this test will be posted on the Ron Smith & Associates website by mid-July 2021 using the following link: <http://www.ronsmithandassociates.com/proficiency/tenprintcomparison.html>

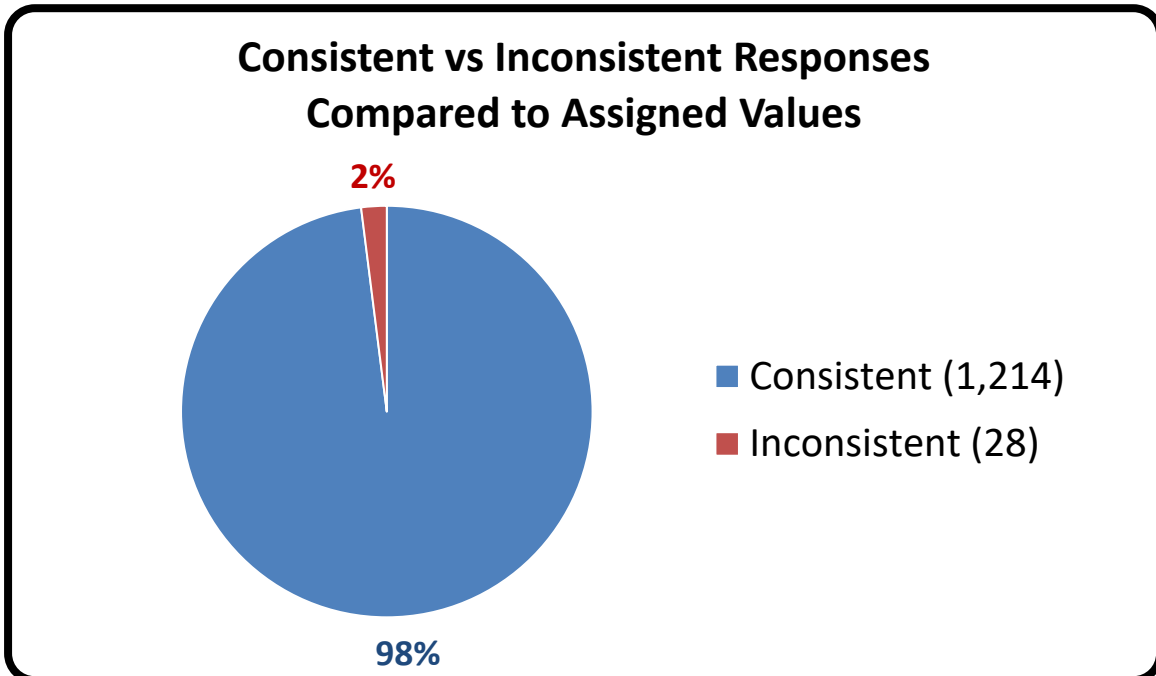
It is recommended to postpone evaluating an individual's performance until after you have received the statistical averages contained in the summary report.

For any questions or further information, contact our Proficiency Testing Coordinator by emailing testing@ronsmithandassociates.com or by calling toll free at 1-866-832-6772.

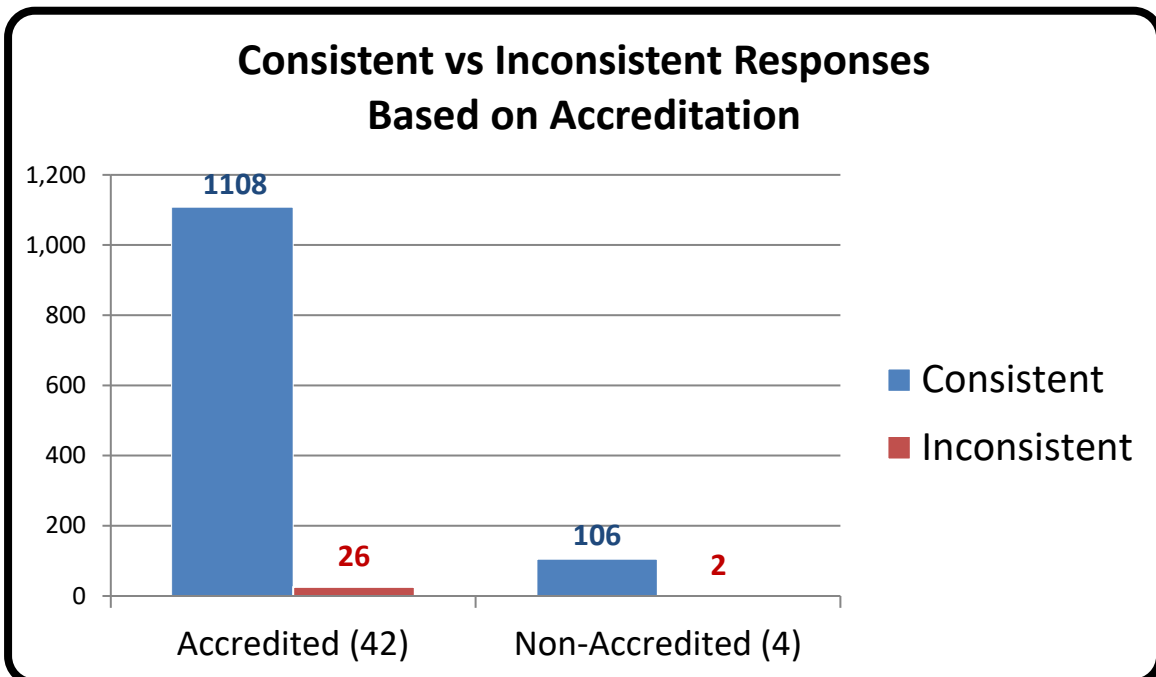
Authorized by: Ron Smith, President

Issue Date: June 28, 2021

Appendix 2



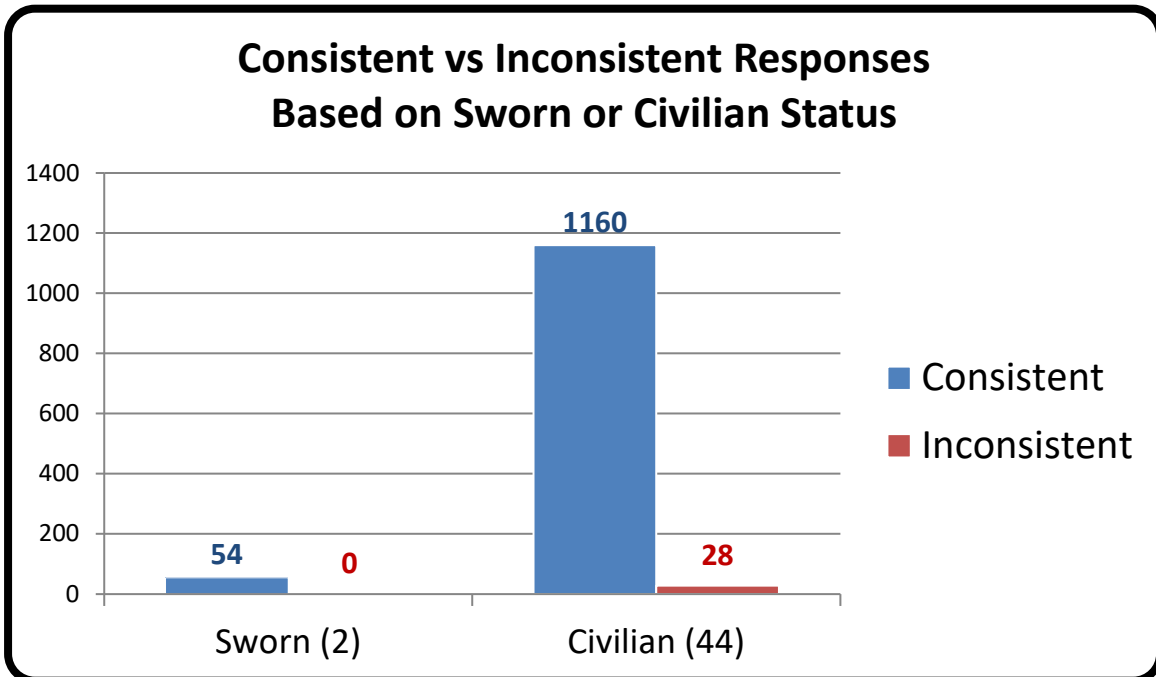
Appendix 3



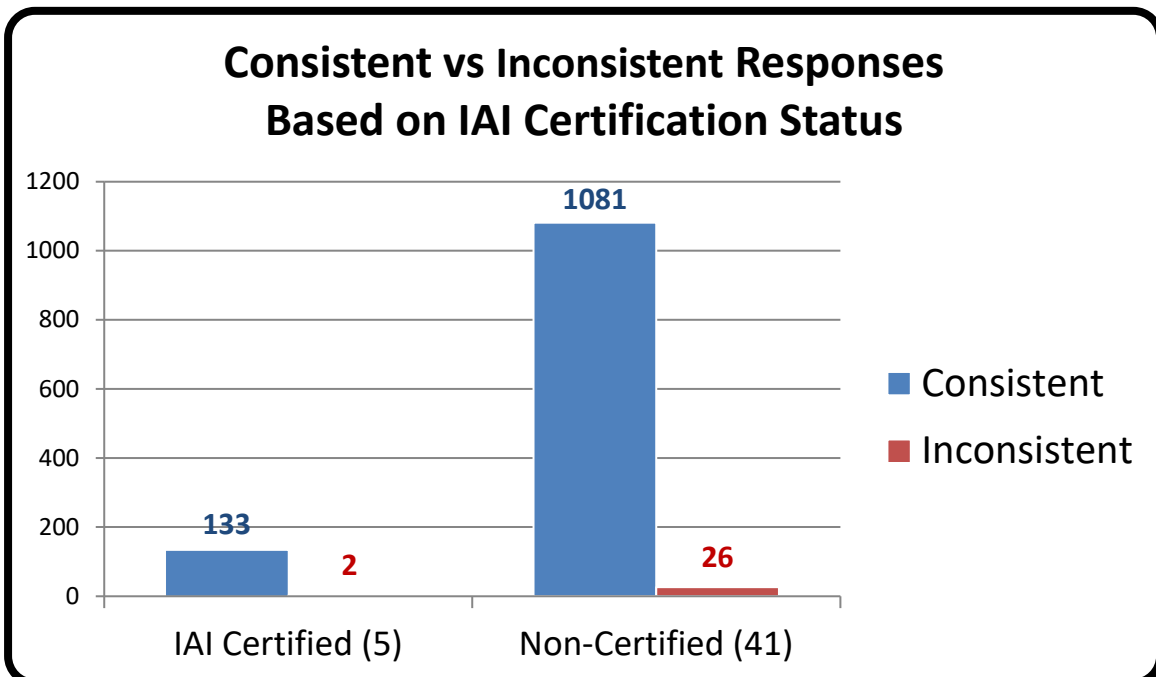
*Numerical values shown are based on 46 participant submissions, each with 27 responses, equaling 1,242 total responses.

*For further information, please read *Manufacturer's Additional Observations* on the final page of this report.

Appendix 4



Appendix 5

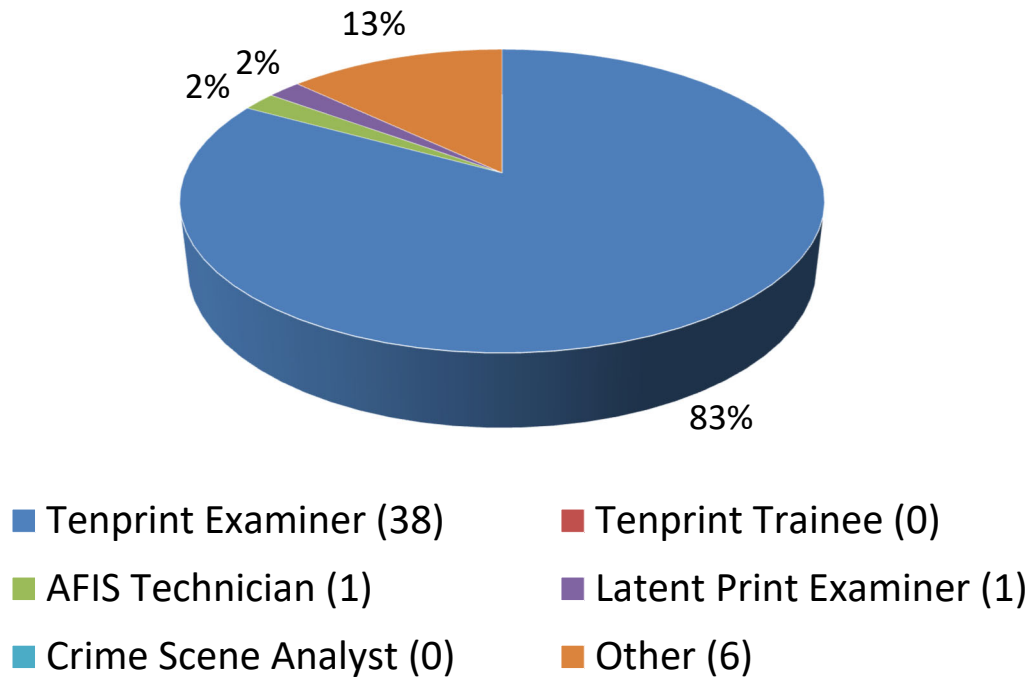


*Numerical values shown are based on **46 participant submissions, each with 27 responses, equaling 1,242 total responses.**

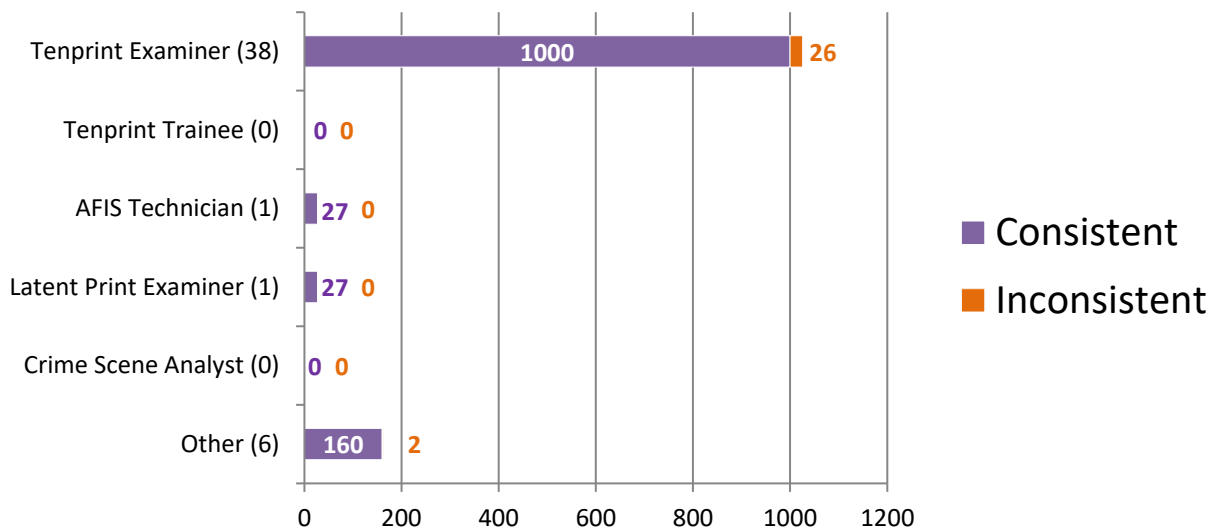
*For further information, please read **Manufacturer's Additional Observations** on the final page of this report.

Appendix 6

Percentage of Participants Based on Primary Job Position



Consistent vs Inconsistent Responses Based on Primary Job Position

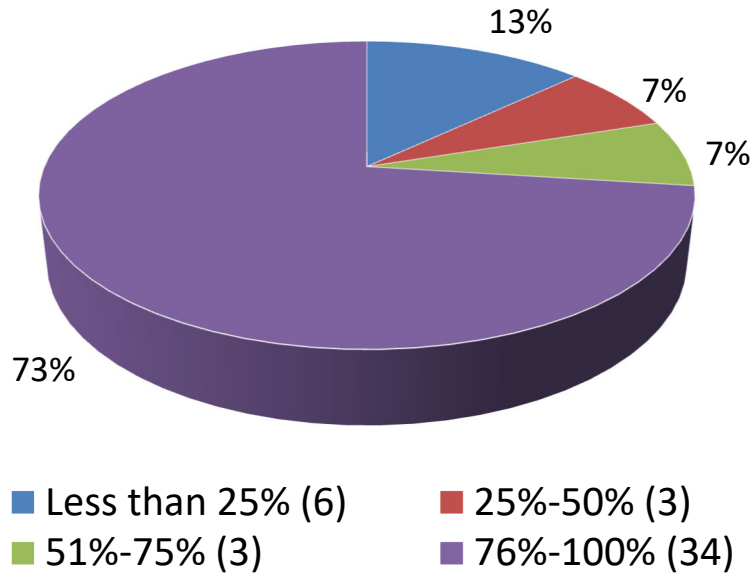


* Numerical values shown are based on **46 participant submissions, each with 27 responses, equaling 1,242 total responses.**

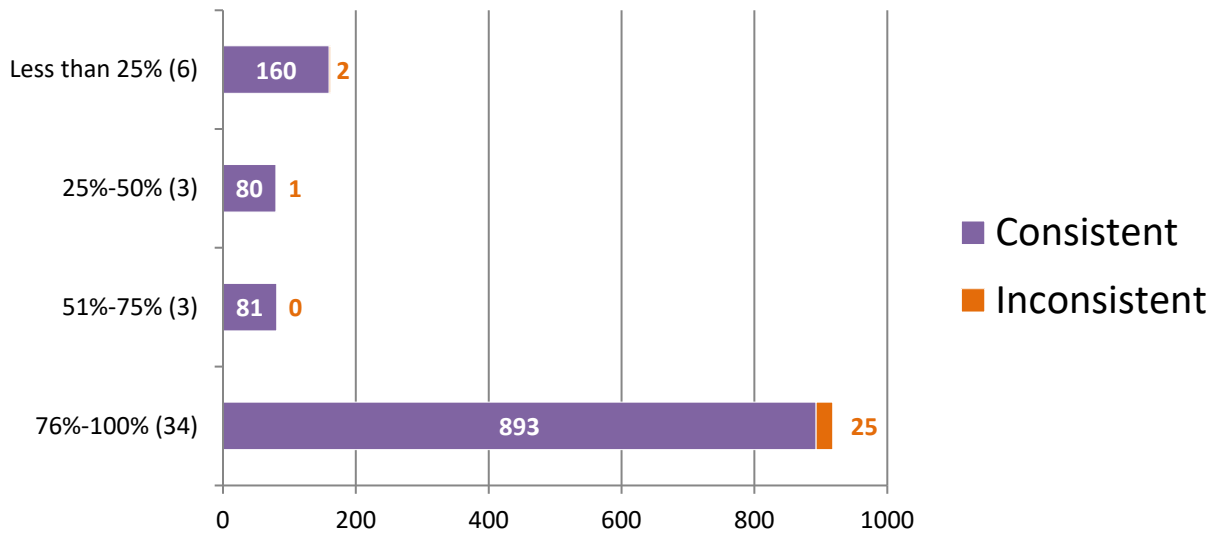
* For further information, please read **Manufacturer's Additional Observations** on the final page of this report.

Appendix 7

Percentage of Participants Based on Time Devoted to Tenprint Casework



Consistent vs Inconsistent Responses Based on Time Devoted to Tenprint Casework

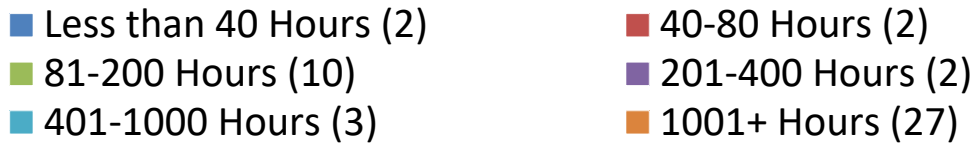
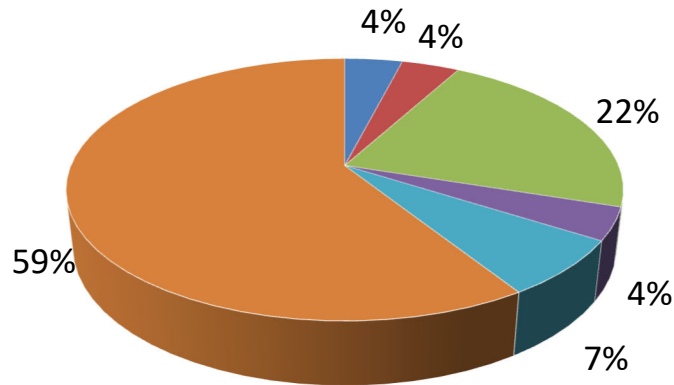


*Numerical values shown are based on **46 participant submissions, each with 27 responses, equaling 1,242 total responses.**

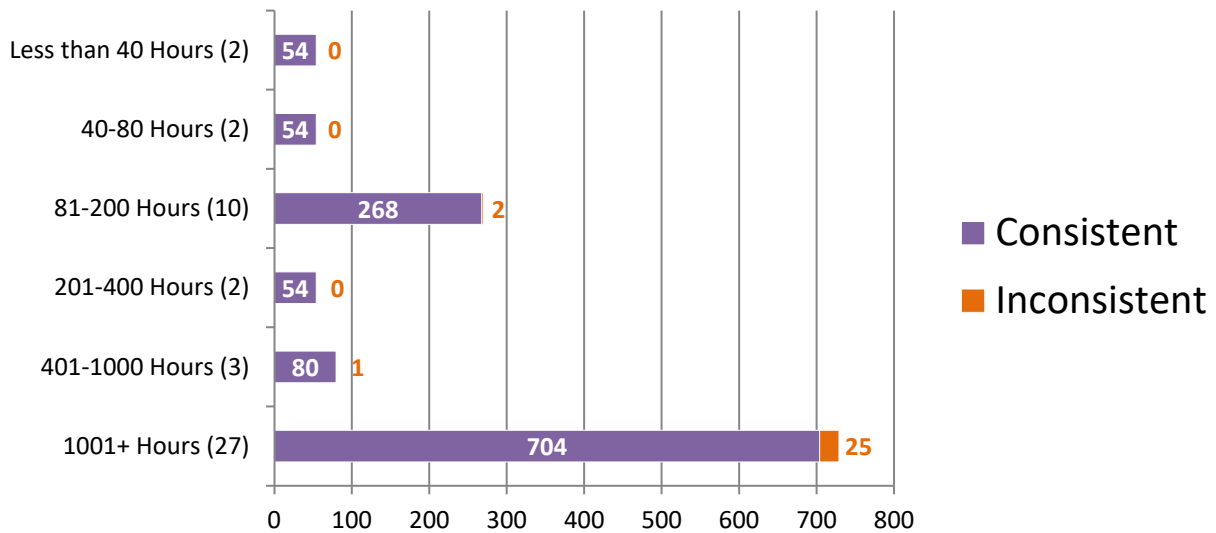
*For further information, please read *Manufacturer's Additional Observations* on the final page of this report.

Appendix 8

Percentage of Participants Based on Hours of Tenprint Training Completed



Consistent vs Inconsistent Responses Based on Hours of Tenprint Training Completed

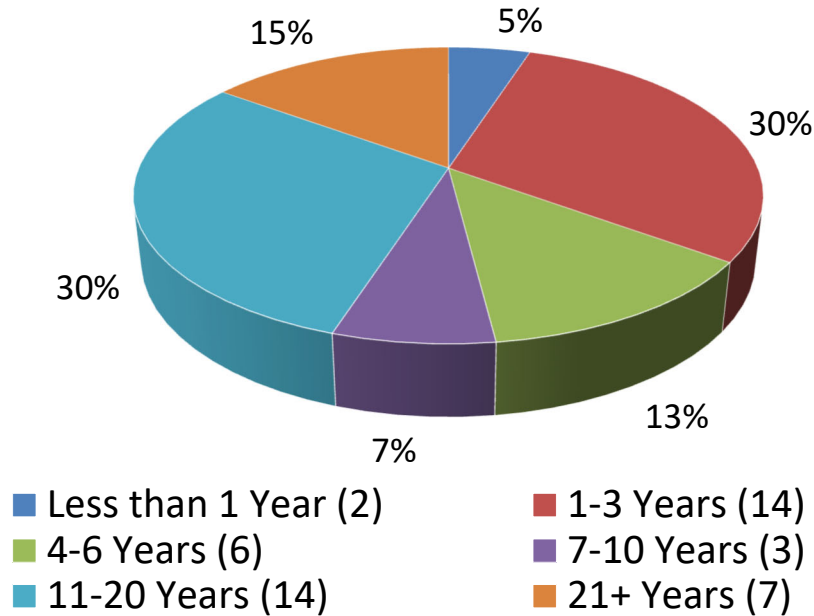


*Numerical values shown are based on **46 participant submissions, each with 27 responses, equaling 1,242 total responses.**

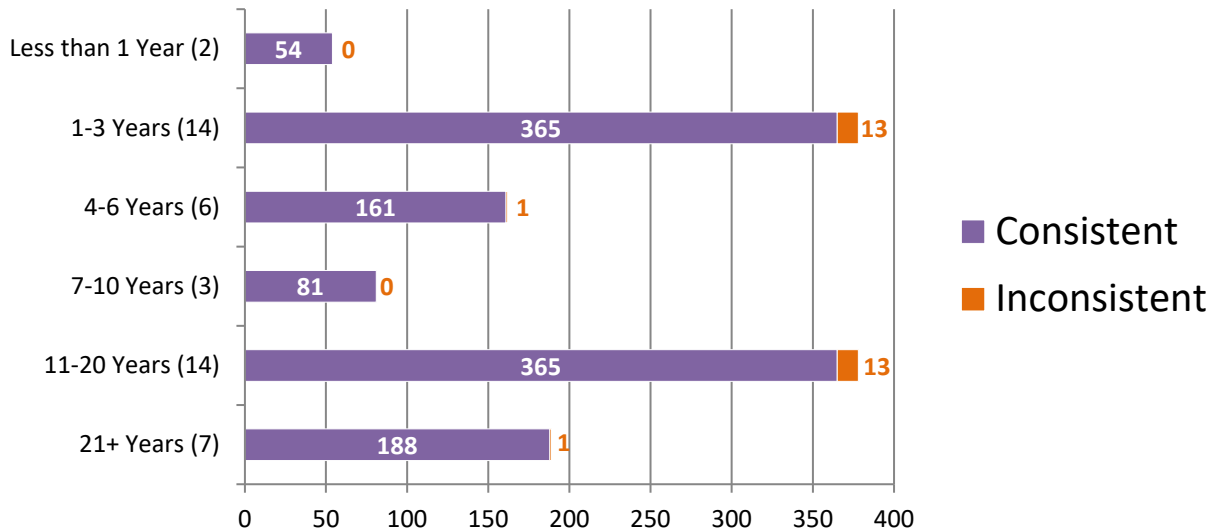
*For further information, please read *Manufacturer's Additional Observations* on the final page of this report.

Appendix 9

Percentage of Participants Based on Years of Experience in Tenprints



Consistent vs Inconsistent Responses Based on Years of Experience in Tenprints

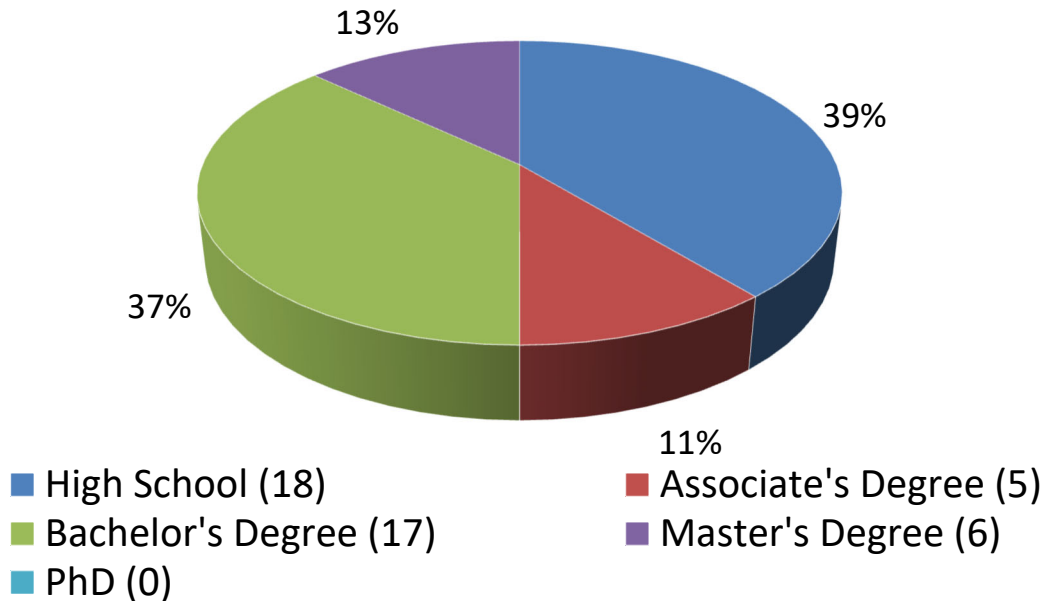


*Numerical values shown are based on **46 participant submissions, each with 27 responses, equaling 1,242 total responses.**

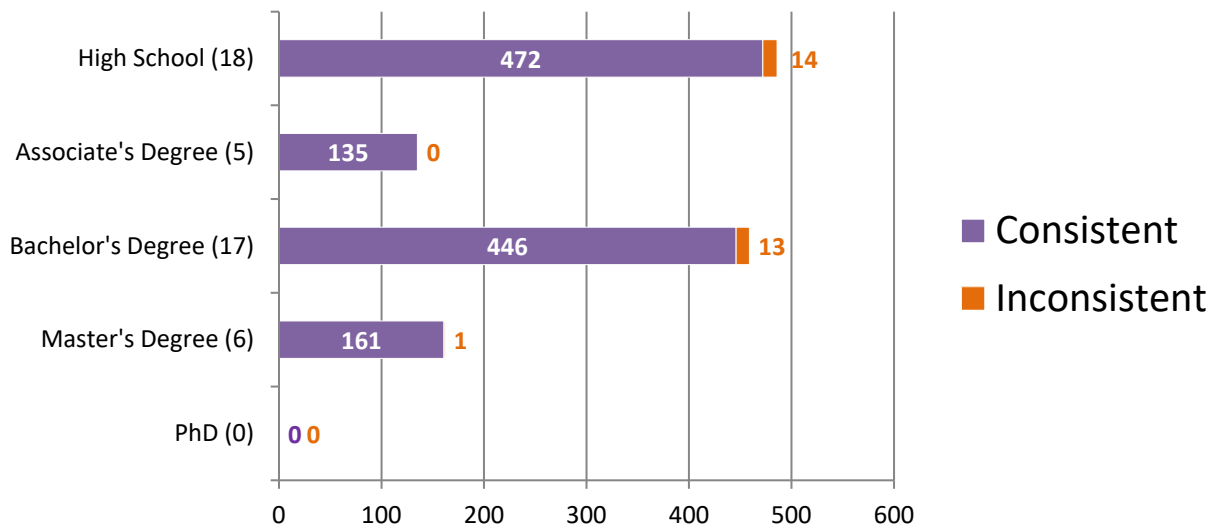
*For further information, please read **Manufacturer's Additional Observations** on the final page of this report.

Appendix 10

Percentage of Participants Based on Highest Level of Education Completed



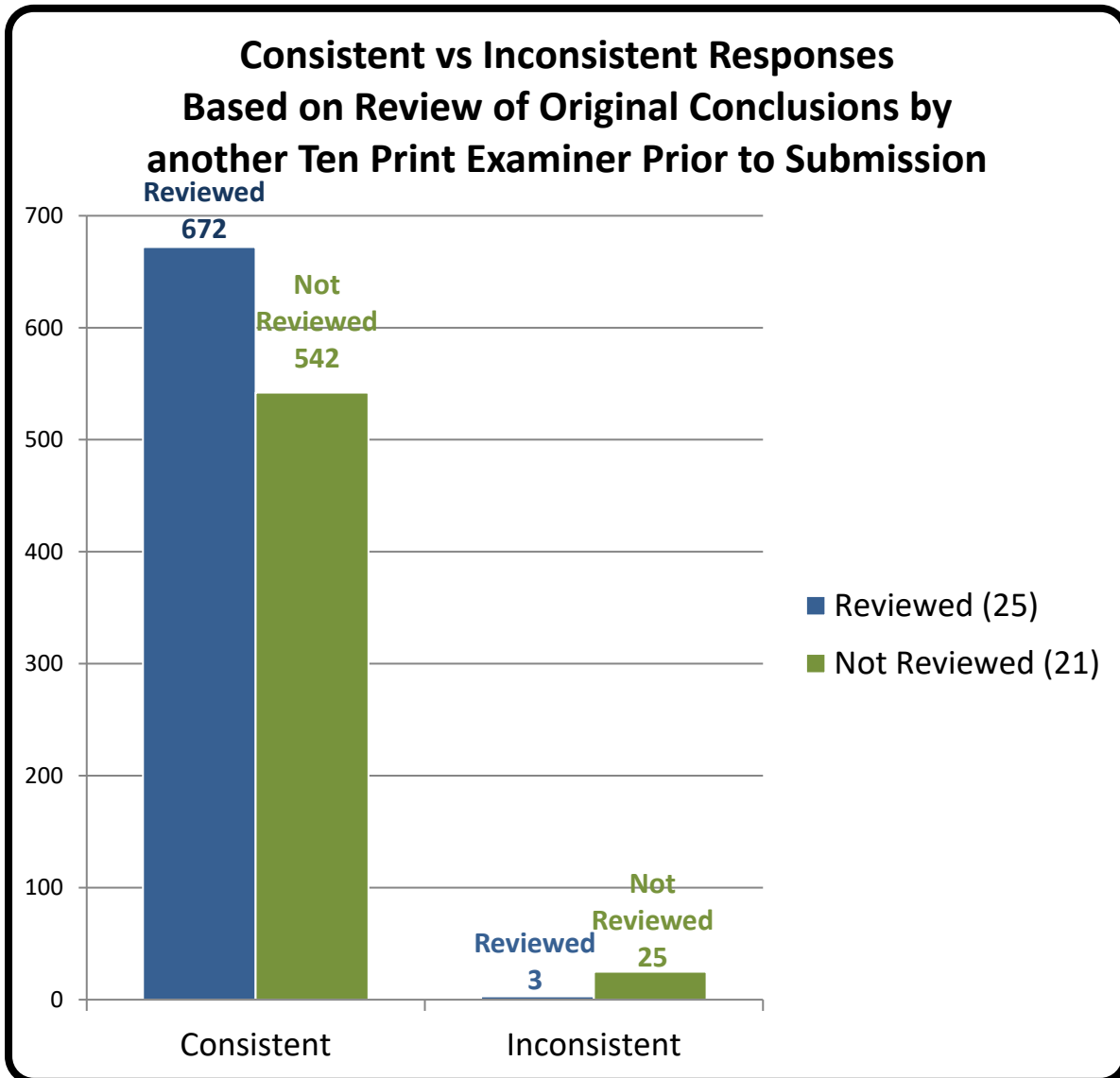
Consistent vs Inconsistent Responses Based on Highest Level of Education Completed



*Numerical values shown are based on **46 participant submissions, each with 27 responses, equaling 1,242 total responses.**

*For further information, please read **Manufacturer's Additional Observations** on the final page of this report.

Appendix 11



*Numerical values shown are based on **46 participant submissions, each with 27 responses, equaling 1,242 total responses.**

*For further information, please read *Manufacturer's Additional Observations* on the final page of this report.

Appendix 12

Participant Responses listed by Test Code

		Part 1																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assigned Values		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
4834P21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	RSL	W
382E21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	RSL	W
3747W21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
4678R21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
3692O21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
8219K21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
5227E21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
9745B21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
1756Z21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
3455E21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
5709H21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
6054U21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
6528C21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
622Z21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
5017V21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	RSL	W
2011P21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	RSL	W
551M21201		W	LSL	W	RSL	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
8537H21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
9686U21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
1242I21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
5532H21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
8867Z21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
9631L21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
813P21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
970E21201		W	RSL	W	A	LSL	RSL	RSL	RSL	LSL	W	RSL	W	W	W	RSL	LSL	LSL	A	W	RSL
6424I21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	RSL	W
1533B21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
5770H21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
4557N21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	A	W	LSL
915U21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
4447W21201		W	RSL	W	A	LSL	RSL	RSL	RSL	LSL	W	RSL	W	W	W	RSL	LSL	LSL	A	W	RSL
98Q21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
3667D21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
1378C21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
267I21201		W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL

Test Code	355W21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	837A21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	7046D21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	3510M21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	4312J21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	5818F21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	9624S21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	5887I21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	8686G21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	5216W21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
	9531S21201	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL

Participant's Comments on Section #1

Test Code	Comments
5216W21201	Image 4- would also reference a Right Slant Loop for search purposes. Image 18- would also reference an Arch for search purposes.
8219K21201	#18. Reference an Arch pattern
3455E21201	Image 18: Referenced as a Right Slant Loop
382E21201	18 - right slant loop, reference: arch
5709H21201	Number 18 reference Right Slant Loop.
4678R21201	#18 XX (ARCH)
5227E21201	I would reference #18 as an Arch.
3747W21201	#18 Ref. Arch
9745B21201	# 18 Ref XX Arch
6054U21201	*Image 18: Referenced to Right Slant Loop
1756Z21201	Image # 18 referred as an Arch

Test Code	Assigned Values	Part 2	Part 3	Part 4				
		Pre-Sentencing	Questioned ID	1	2	3	4	5
		MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
4834P21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
382E21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
3747W21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
4678R21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
3692O21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
8219K21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
5227E21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
9745B21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
1756Z21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
3455E21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
5709H21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	
6054U21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC	

	6528C21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	622Z21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	5017V21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	2011P21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	551M21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	8537H21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	9686U21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	1242I21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	5532H21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	8867Z21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	9631L21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	813P21201	MRC & PC1	"Not made by"	ID	EXC	EXC	ID	EXC
	970E21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	6424I21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	1533B21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	5770H21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	4557N21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	915U21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	4447W21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	98Q21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	3667D21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	1378C21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	267I21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	355W21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	837A21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	7046D21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
Test Code	3510M21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	4312J21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	5818F21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	9624S21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	5887I21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	8686G21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	5216W21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC
	9531S21201	MRC & PC1	"Not made by"	ID	EXC	ID	ID	EXC

Arch=A, Right Slant Loop=RSL, Left Slant Loop=LSL, Whorl=W, Most Recent Conviction=MRC, Prior Conviction #1=PC1, Prior Conviction #2=PC2, Applicant Card = AC, Criminal Card = CC, Identification=ID, Exclusion=EXC, Inconclusive=INC, None of the above=None

TOTALS

	Part 1																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assigned Values	W	LSL	W	A	RSL	LSL	LSL	LSL	RSL	W	LSL	W	W	W	LSL	RSL	RSL	RSL	W	LSL
Consistent Responses	46	44	46	45	44	44	44	44	44	46	44	46	46	46	44	44	44	46	42	44
Inconsistent Responses	0	2	0	1	2	2	2	2	2	0	2	0	0	0	2	2	2	0	4	2
Percentage of Consistent Responses	100	96	100	98	96	96	96	96	96	100	96	100	100	100	96	96	96	100	91	96

	Part 2	Part 3	Part 4				
	Pre-Sentencing	Questioned ID	1	2	3	4	5
Assigned Values	<i>MRC & PC1</i>	<i>"Not made by"</i>	<i>ID</i>	<i>EXC</i>	<i>ID</i>	<i>ID</i>	<i>EXC</i>
Consistent Responses	46	46	46	46	45	46	46
Inconsistent Responses	0	0	0	0	1	0	0
Percentage of Consistent Responses	100	100	100	100	98	100	100

Participant's Comments on Sections 2, 3 and 4

Test Code	Comments
622Z21201	The name Amoli Sharma does not appear on the known fingerprint card as described above but is present on the ID card. Granted the key phrase is "was made" or "was not made" which determines the Identification or not however this incorrect wording may be confusing to some and lead to incorrect answers.

Manufacturer's Additional Observations

Based upon a review of the all submitted responses, the following observations were noted:

1. Even though the number of participants in specific sub-categories varied within an overall category, regardless of accreditation status, civilian or sworn status, IAI certification status, primary job position, the amount of time devoted to Tenprint examination, the number of hours of formal training in Tenprint examination, the years of experience, or the level of education of participants', there were no major patterns noticed.
2. The most significant observation was seeing the numbers of those agencies that have their work reviewed prior to being submitted. Of the 25 agencies having the examiners work reviewed prior to being submitted, less than 1% of the answers had inconsistencies; whereas, of the 21 agencies not having the examiners work reviewed prior to being submitted, 5% of the answers were inconsistent.

Authorized by: Ron Smith, President
Date of Issue: July 12, 2021