




## Test Monitoring Center

@ Carnegie Mellon University  
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<http://astmtmc.cmu.edu>  
412-365-1000

MEMORANDUM: 16-050  
DATE: November 23, 2016  
TO: Wes Venhoff, Interim Chairman, L-37 Surveillance Panel  
FROM: Scott Parke   
SUBJECT: L-37 Rater Calibration from April 1, 2016 through September 30, 2016

Attached is a summary of L-37 rater calibration activity this period.

SDP/sdp/mem16-050.sdp.doc

cc: Frank Farber  
Jeff Clark

L-37 Surveillance Panel

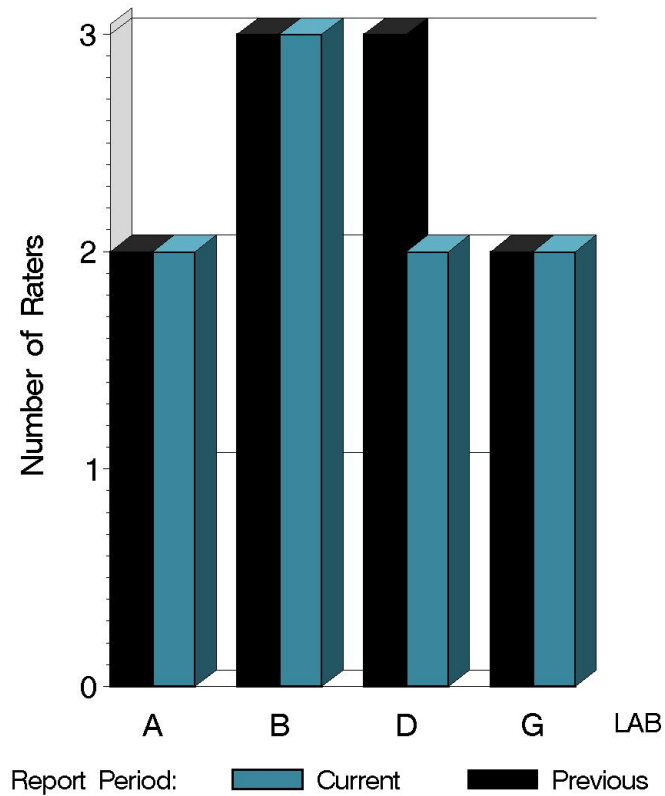
<ftp://ftp.astmtmc.cmu.edu/docs/gear/l37rc/semiannualreports/l37rc-10-2016.pdf>

Distribution: email

# L-37 Rater Calibration

	Reporting Data	Calibrated on 9-30-16
Number of Labs	4	4
Number of Raters	9	9

BY-LAB RATER  
DISTRIBUTION



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# L-37 Rater Calibration

## Test Distribution by Validity

		Totals	
		Last Period	This Period
Accepted for calibration	AC	12	11
Rejected (Mild)	OC	0	0
Rejected (Severe)	OC	6	1
Rejected (Multiple)	OC	0	0
Rejected (Precision)	OC	0	0
Workshop data	AG	24	15
<hr/>			
Total		42	27

# L-37 Rater Calibration

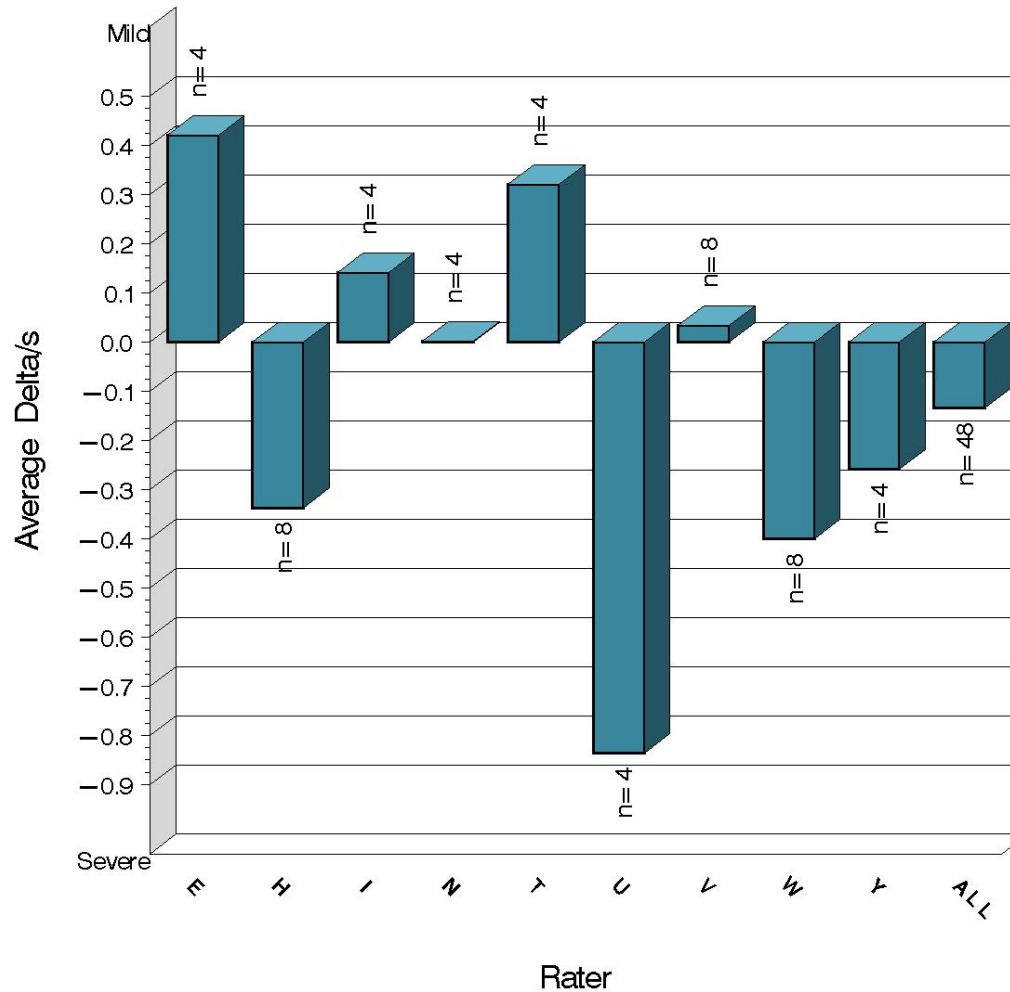
Rater	N	RIDG		RIPP		SPIT		WEAR	
		Avg Yi	STD*	Avg Yi	STD*	Avg Yi	STD*	Avg Yi	STD*
E	4	0.421	1.038	-0.291	1.259	0.073	0.371	0.186	0.575
H	8	-0.338	0.927	-0.171	0.849	-0.031	0.342	-0.026	0.667
I	4	0.140	0.448	0.673	1.179	-0.250	0.291	0.170	0.901
N	4	0.002	0.632	0.064	0.238	0.158	0.423	0.267	0.628
T	4	0.320	0.188	-0.329	0.673	-0.022	0.932	0.202	1.009
U	4	-0.836	0.980	-0.201	0.306	-0.056	0.419	0.623	0.786
V	8	0.034	0.738	-0.099	0.504	-0.082	0.367	0.120	0.844
W	8	-0.401	0.639	-0.145	0.854	0.571	0.513	0.356	0.684
Y	4	-0.259	0.917	0.106	0.533	-0.249	1.171	0.094	0.684
ALL	48	-0.135	0.783	-0.068	0.752	0.048	0.570	0.203	0.711

\* Due to the small number of ratings per pinion, the standard deviation of the Yi values is given in place of a pooled standard deviation.

# L-37 Rater Calibration

## RIDGING

Severity as Measured by Delta/s

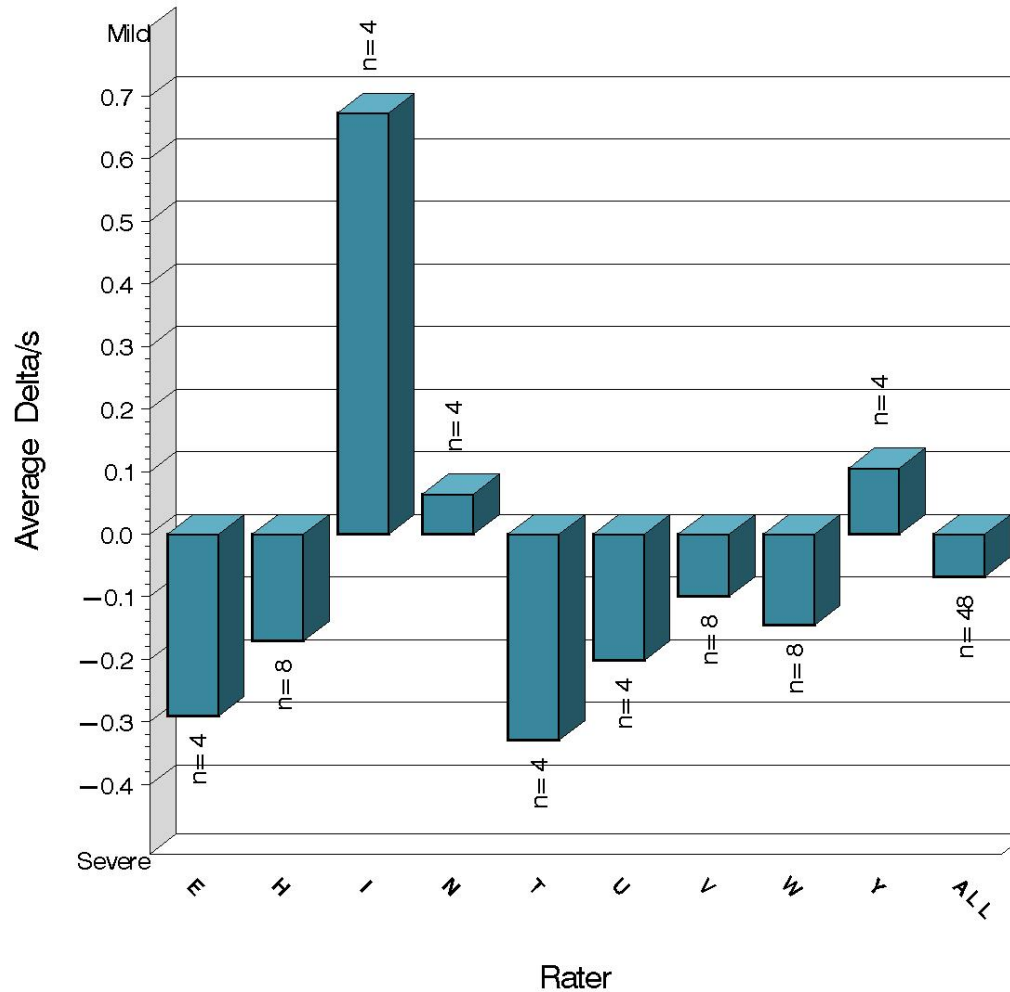


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# L-37 Rater Calibration

## RIPPLING

Severity as Measured by Delta/s

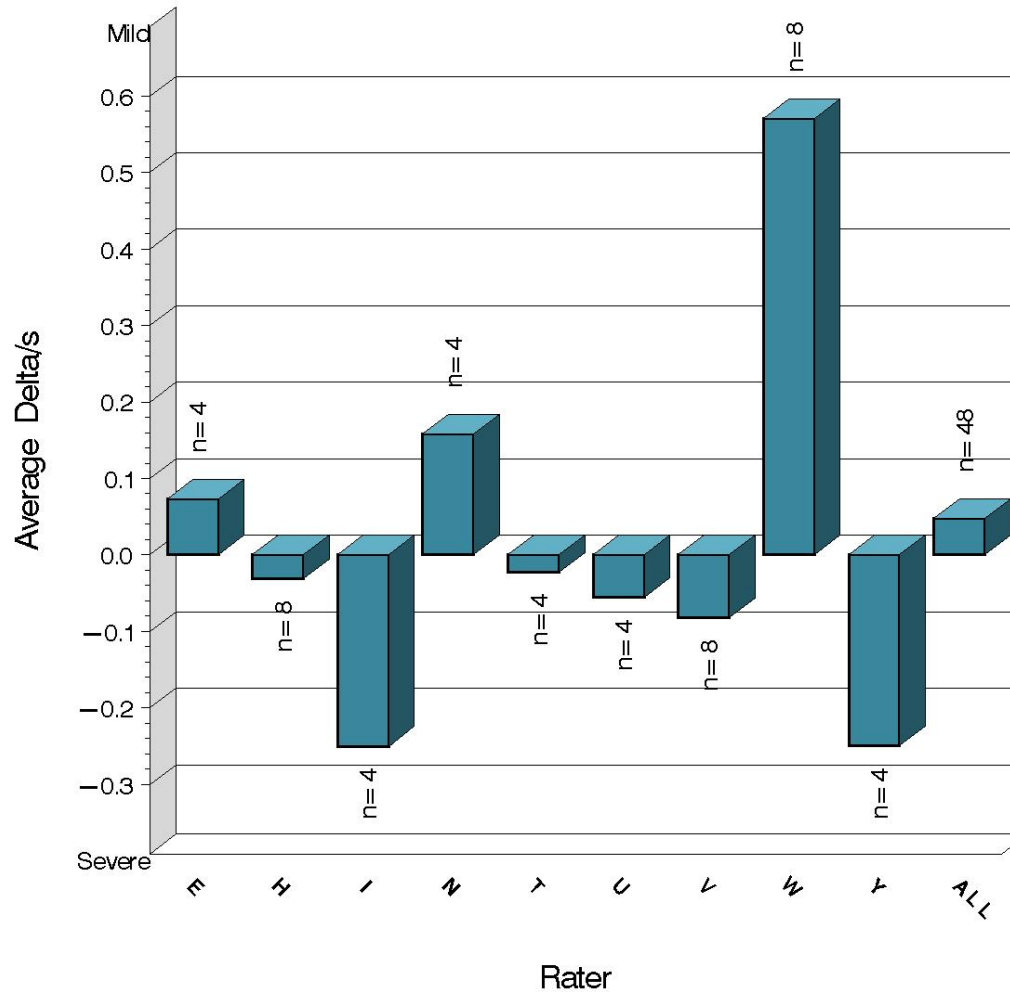


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# L-37 Rater Calibration

## SPITTING

Severity as Measured by Delta/s

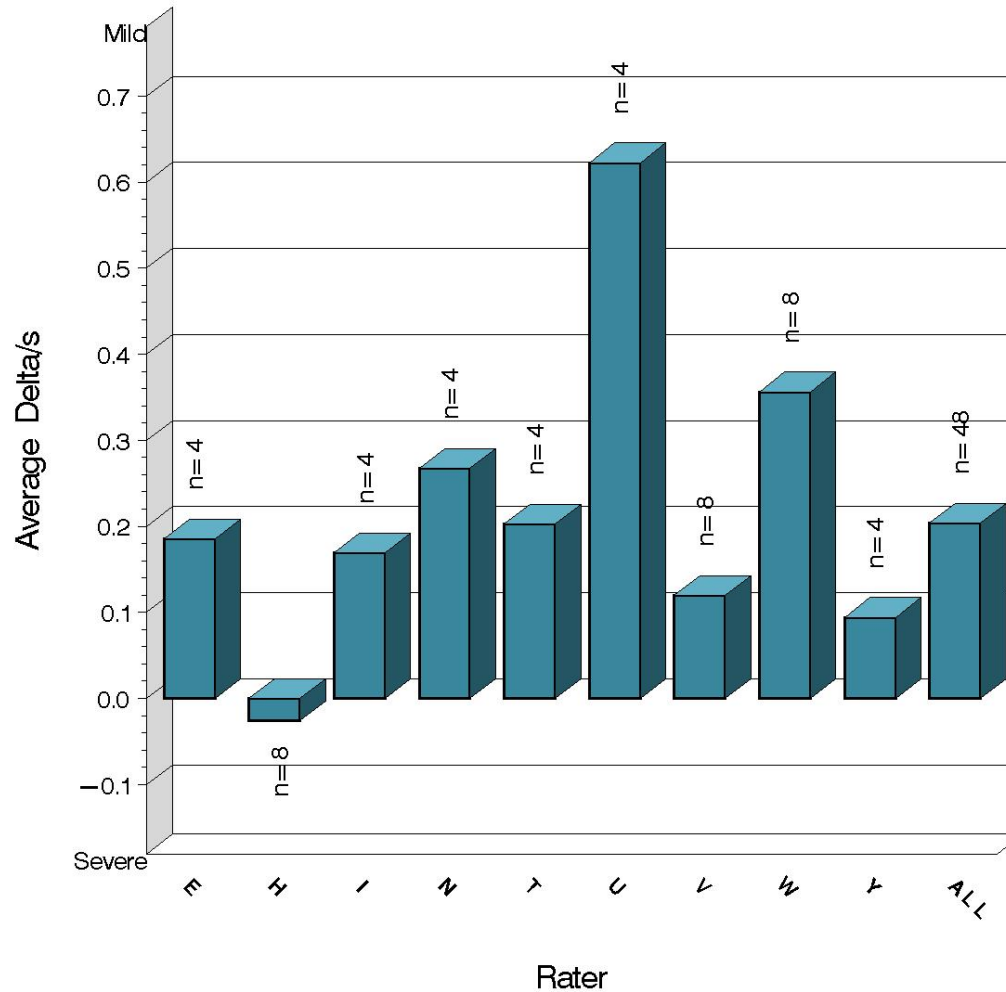


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# L-37 Rater Calibration

## WEAR

Severity as Measured by Delta/s



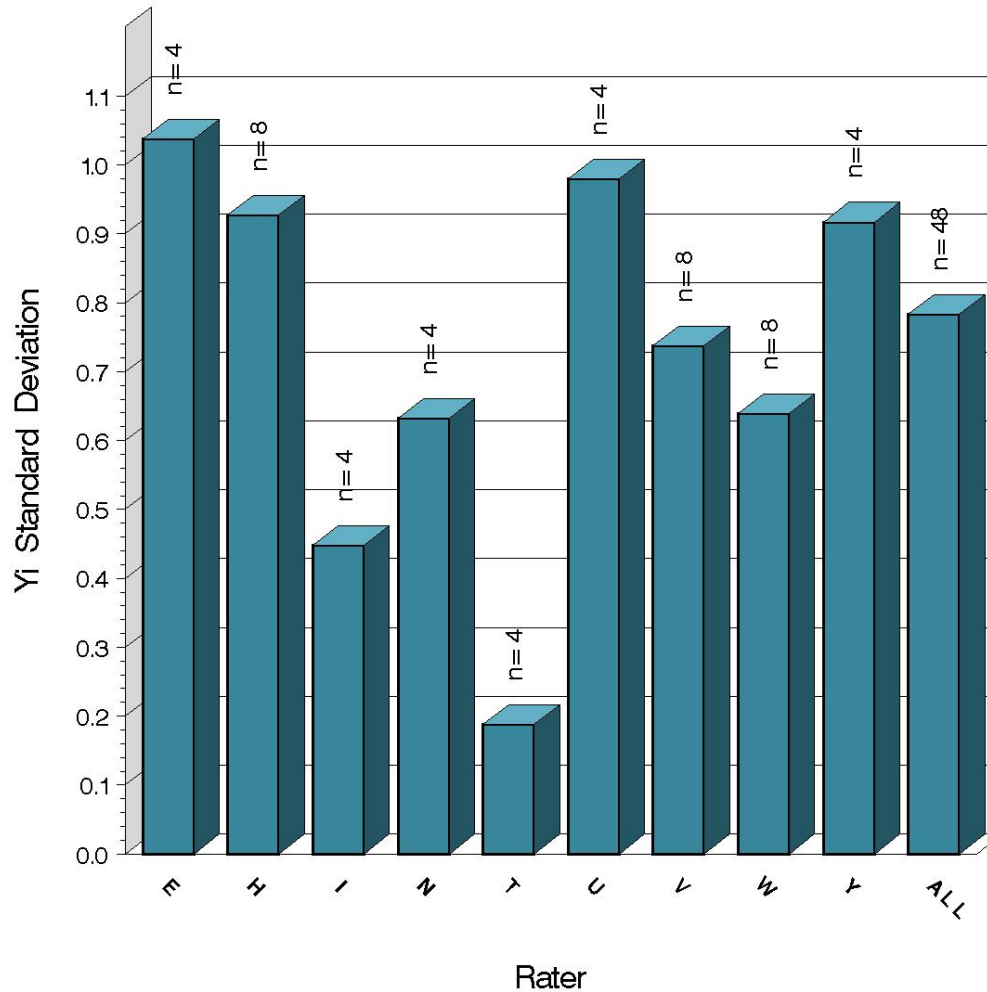
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# L-37 Rater Calibration

## RIDGING

Precision as Measured by Yi STD

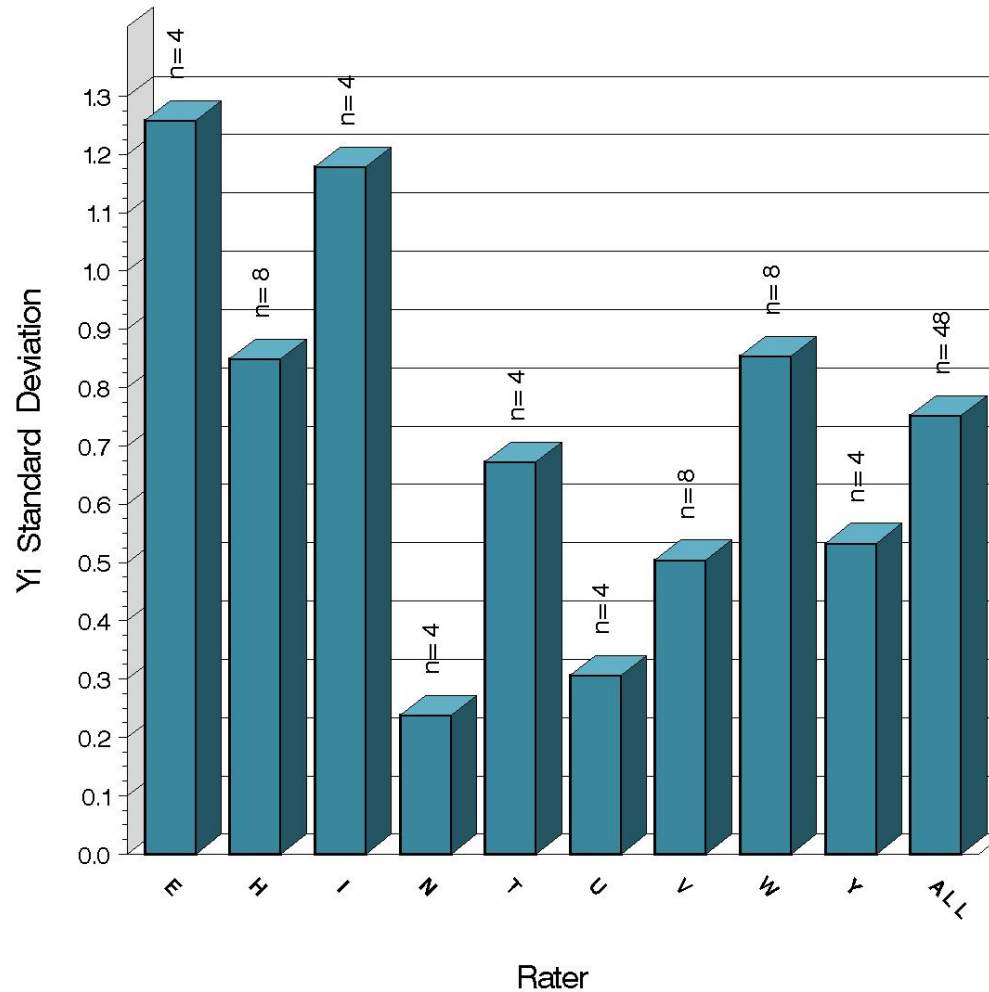


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# L-37 Rater Calibration

## RIPPLING

Precision as Measured by Yi STD

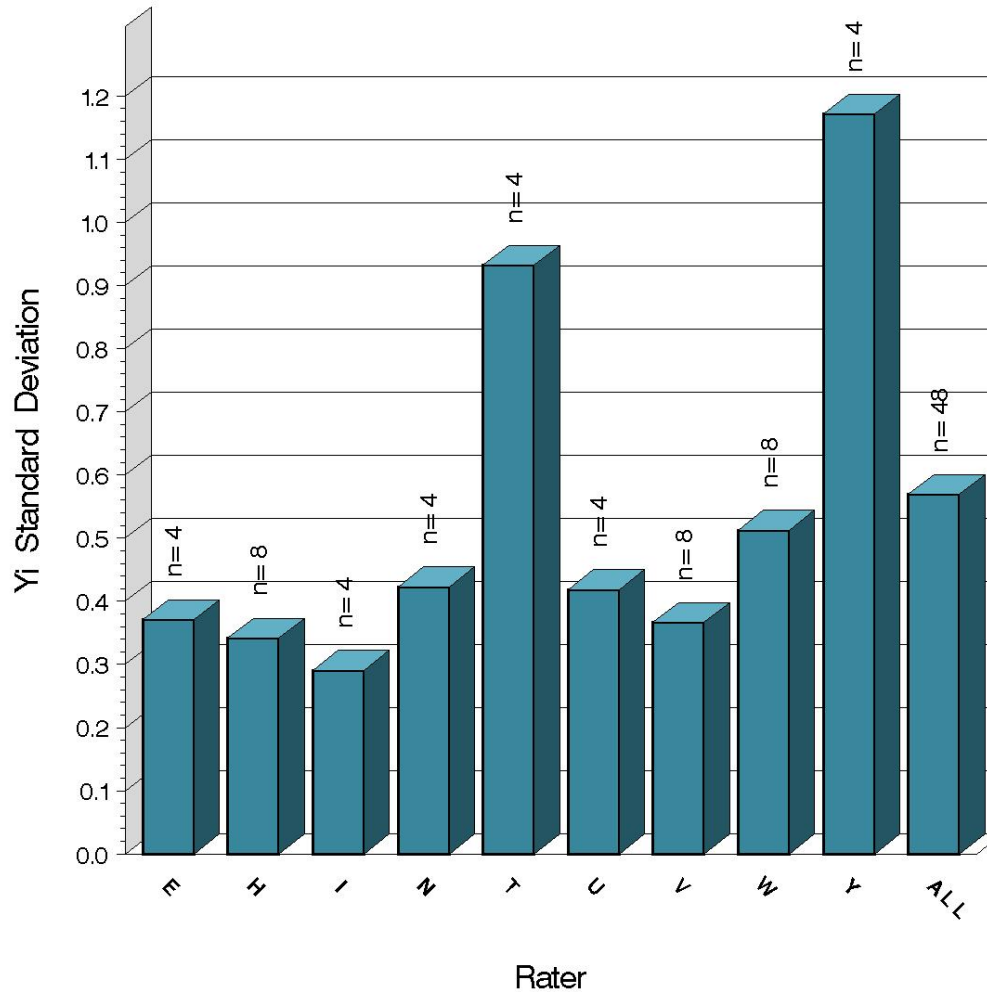


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# L-37 Rater Calibration

## SPITTING

Precision as Measured by Yi STD

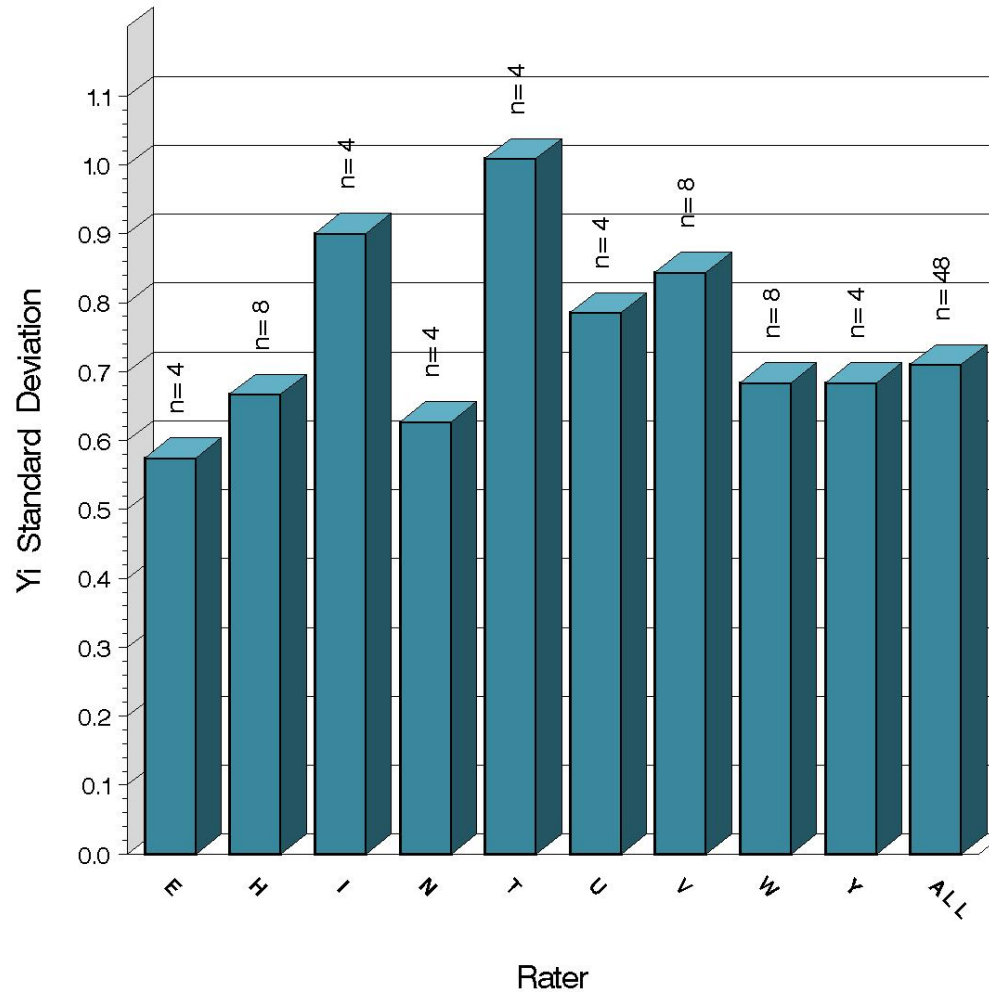


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# L-37 Rater Calibration

## WEAR

Precision as Measured by Yi STD



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# L-37 Rater Calibration

## SUMMARY OF SEVERITY & PRECISION

### Severity

Industry rater severity for WEAR, RIPP, and SPIT remained within limits throughout this report period. RIDG has been continuously slightly severe since 2007.

### Precision

Industry precision for all parameters remained within limits throughout the period.

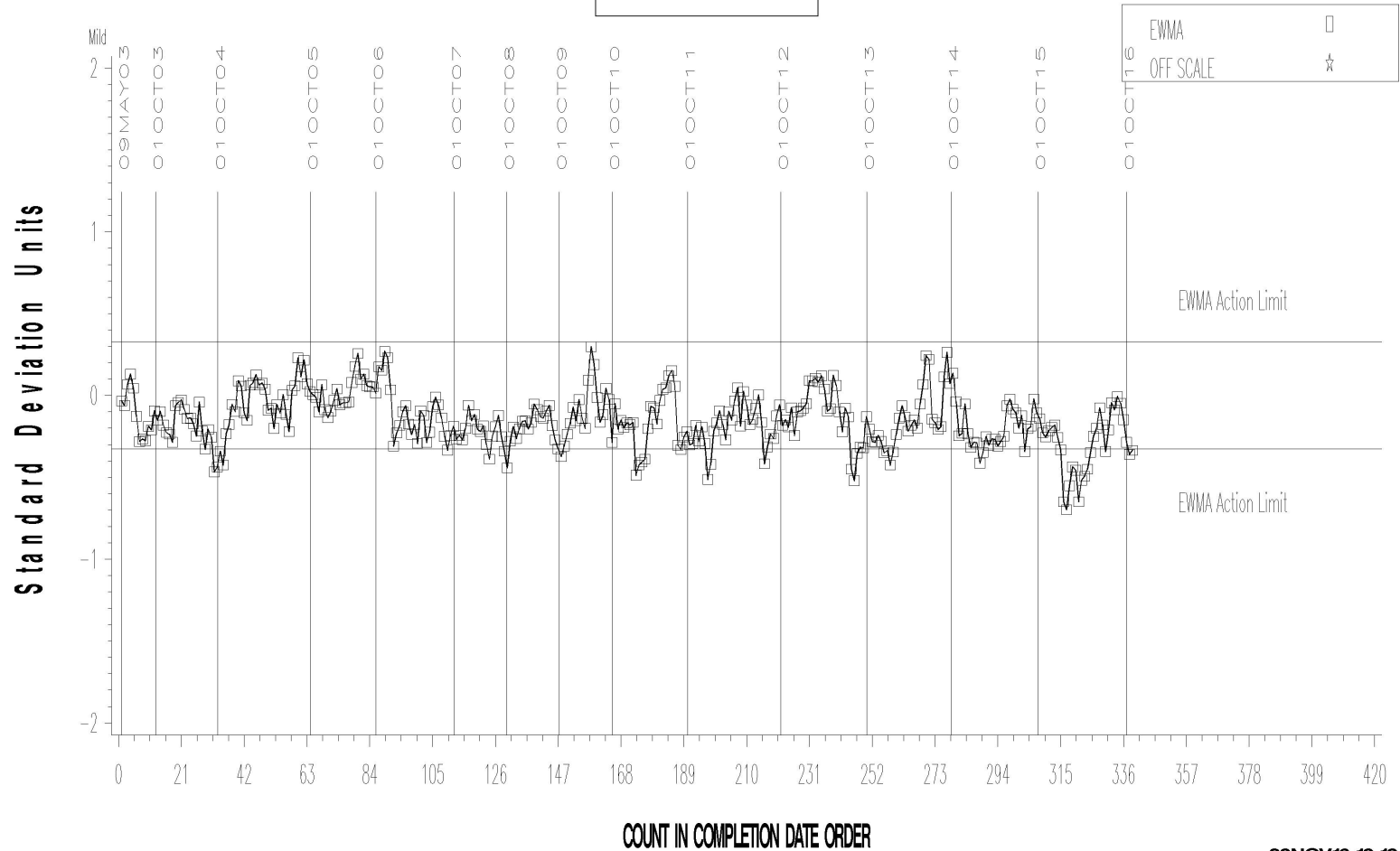
Industry rater control charts follow.

# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

## RIDGING

LTMS Severity Analysis



Severe

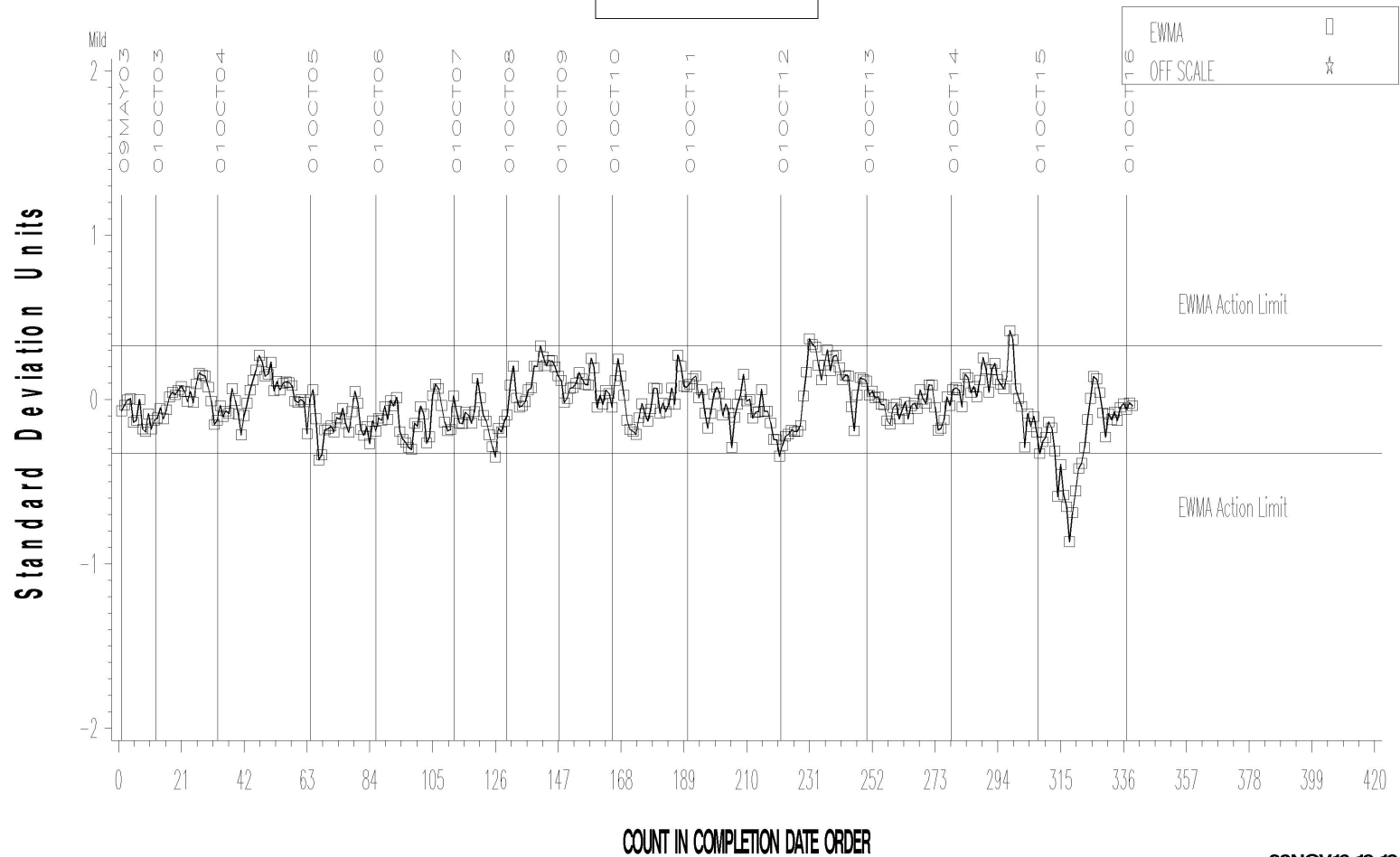
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

## RIPPLING

LTMS Severity Analysis

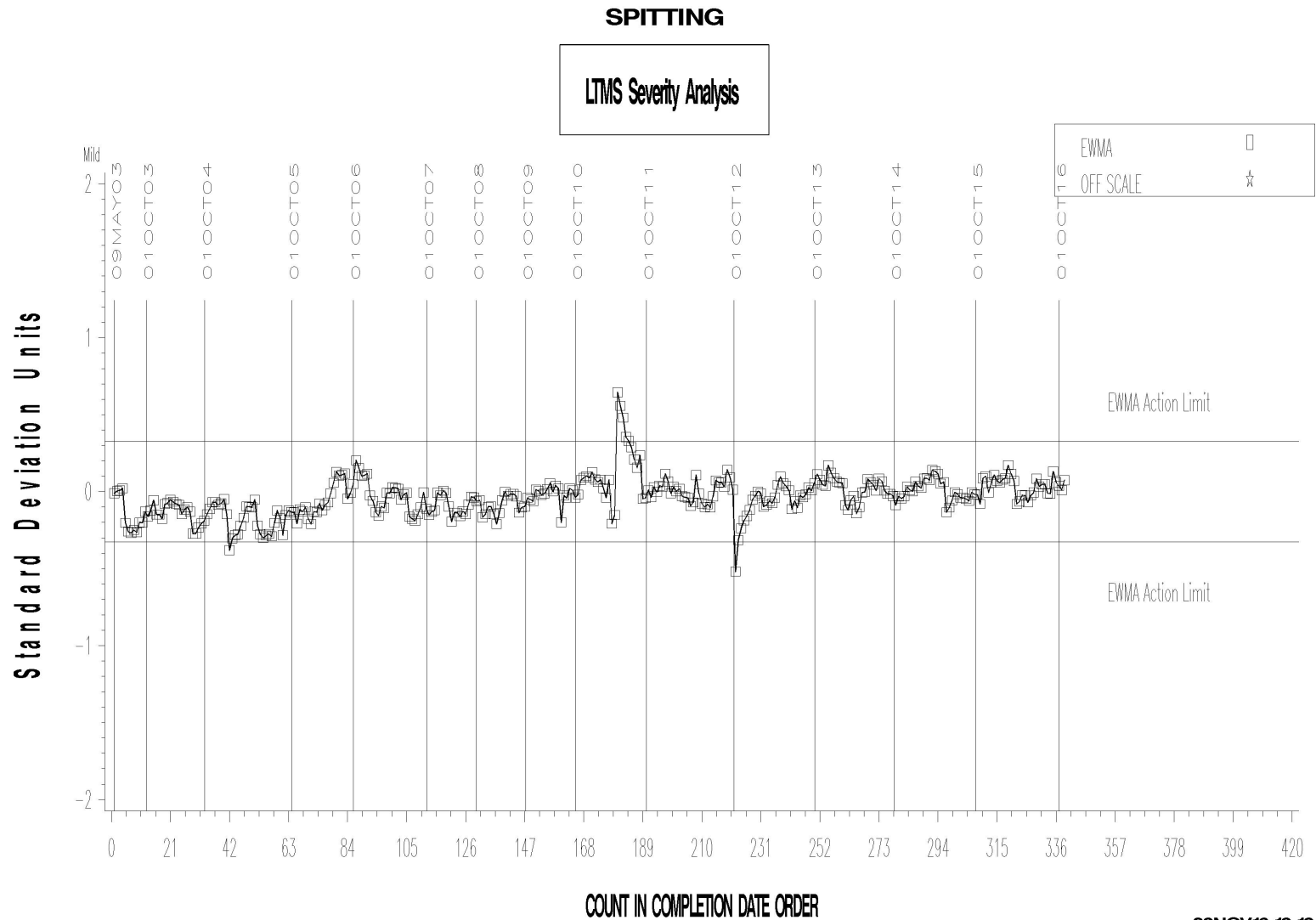


Severe

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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA



Severe

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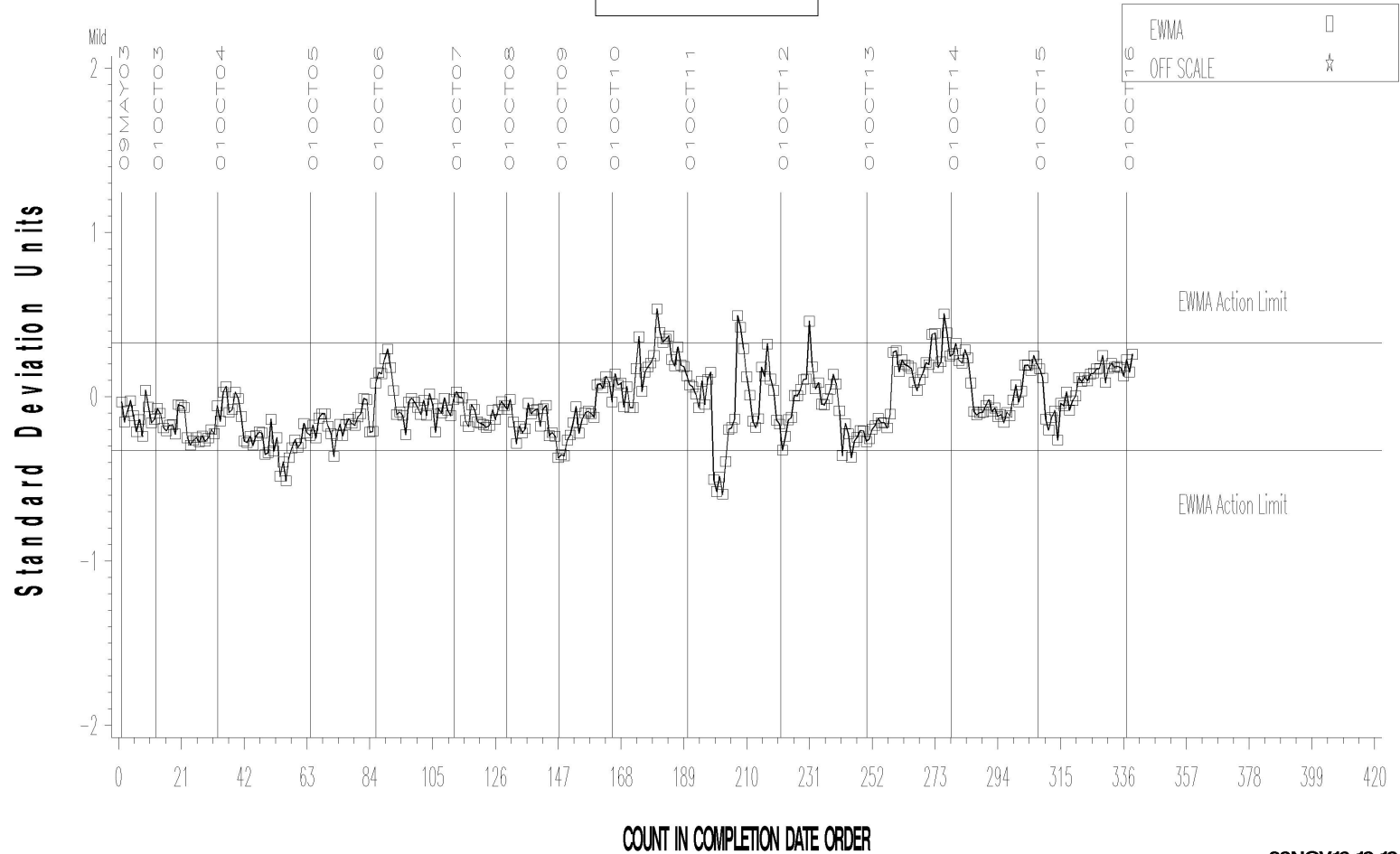


# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

WEAR

LTMS Severity Analysis



Severe

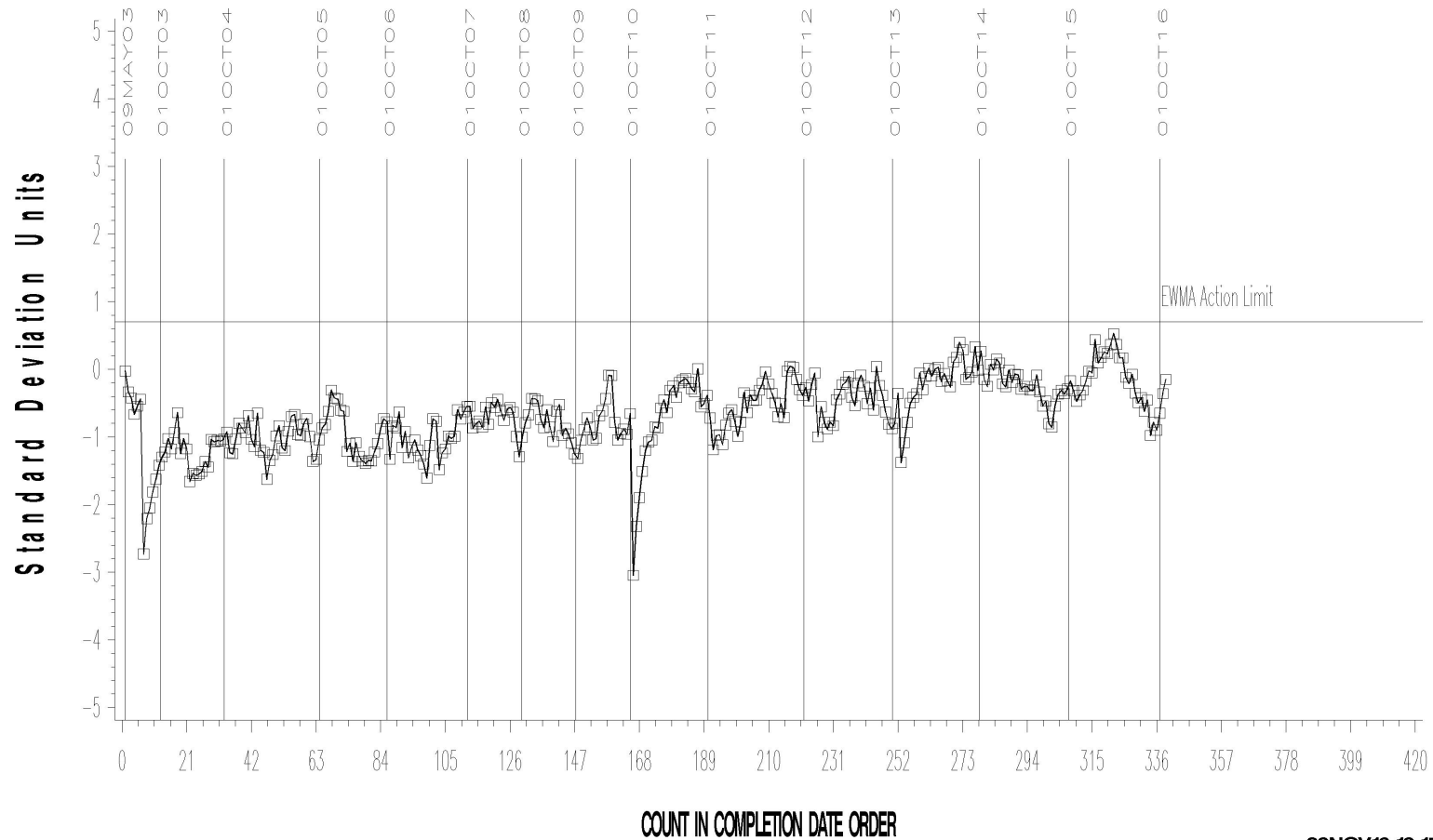
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING

LTMS Precision Analysis



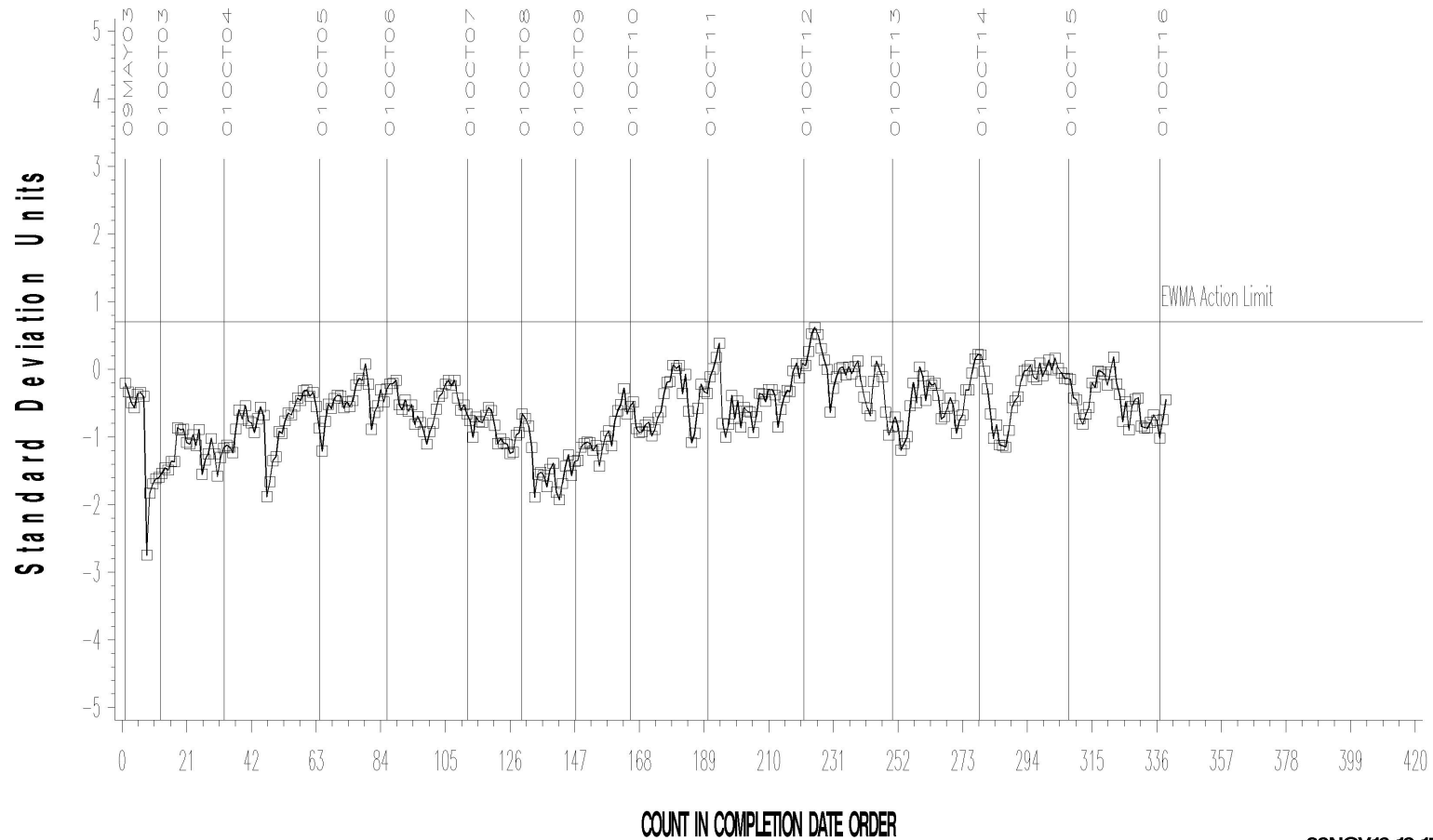
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIPPLING

LTMS Precision Analysis



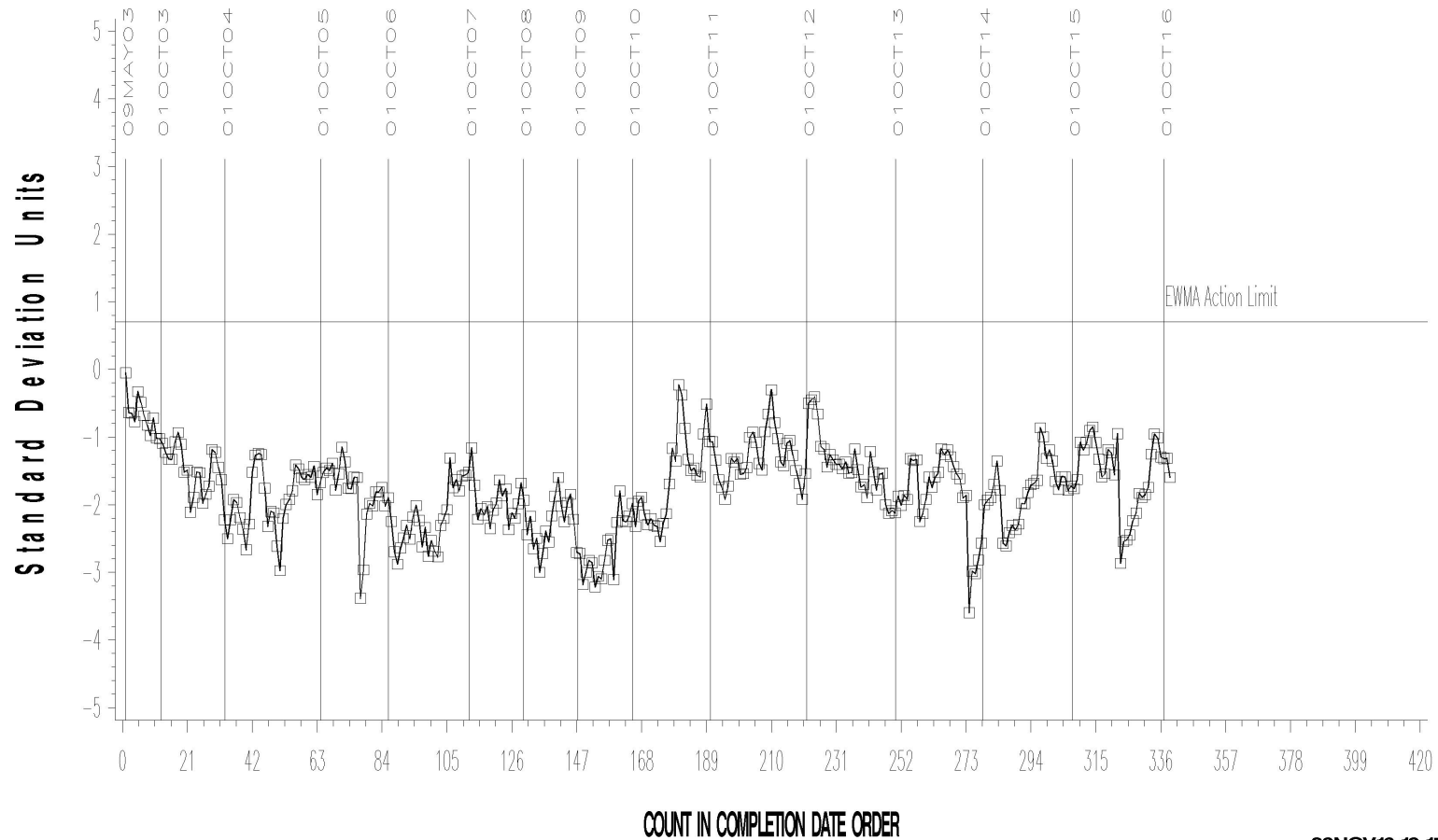
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L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

SPITTING

LTMS Precision Analysis



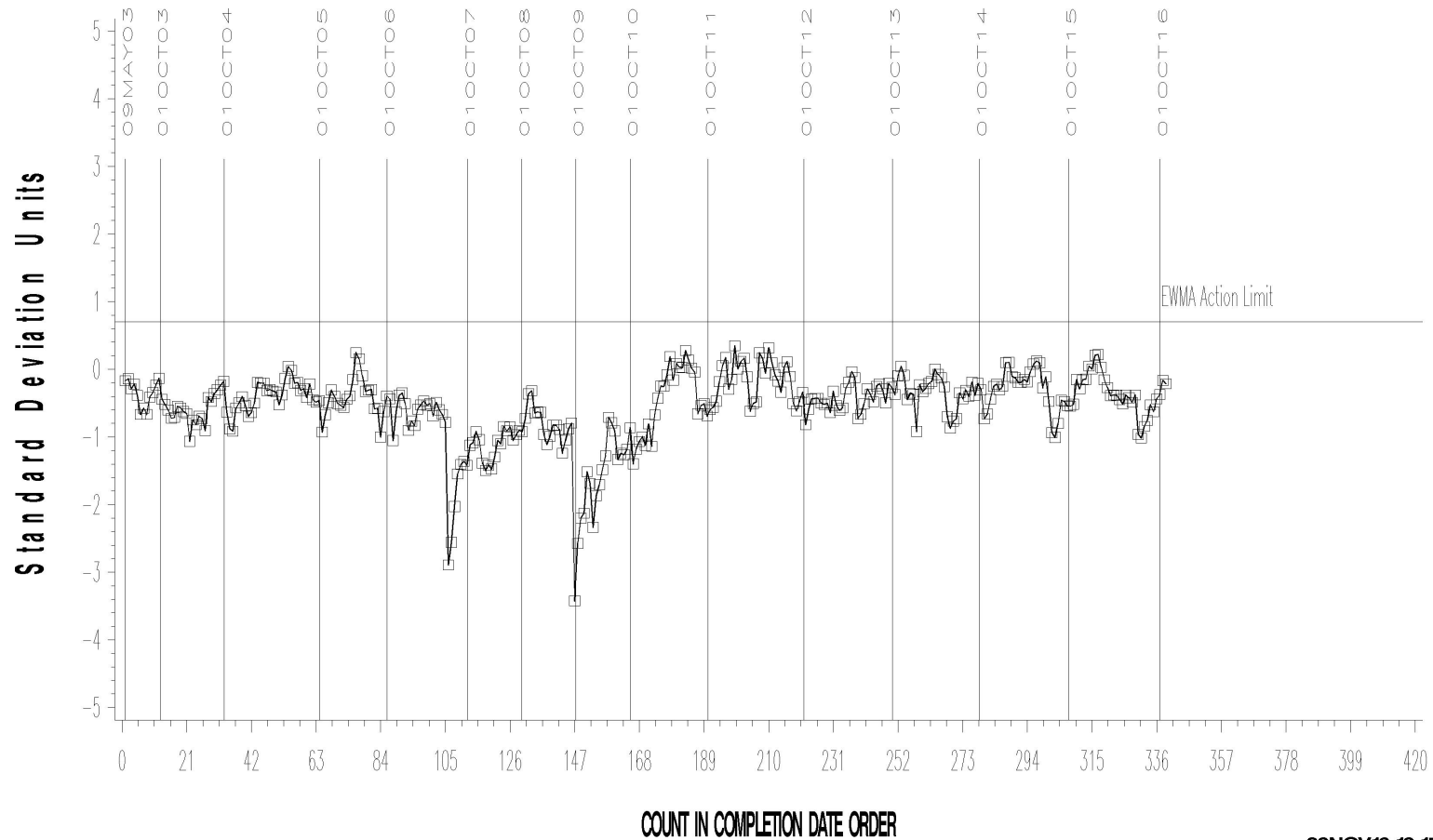
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

WEAR

LTMS Precision Analysis



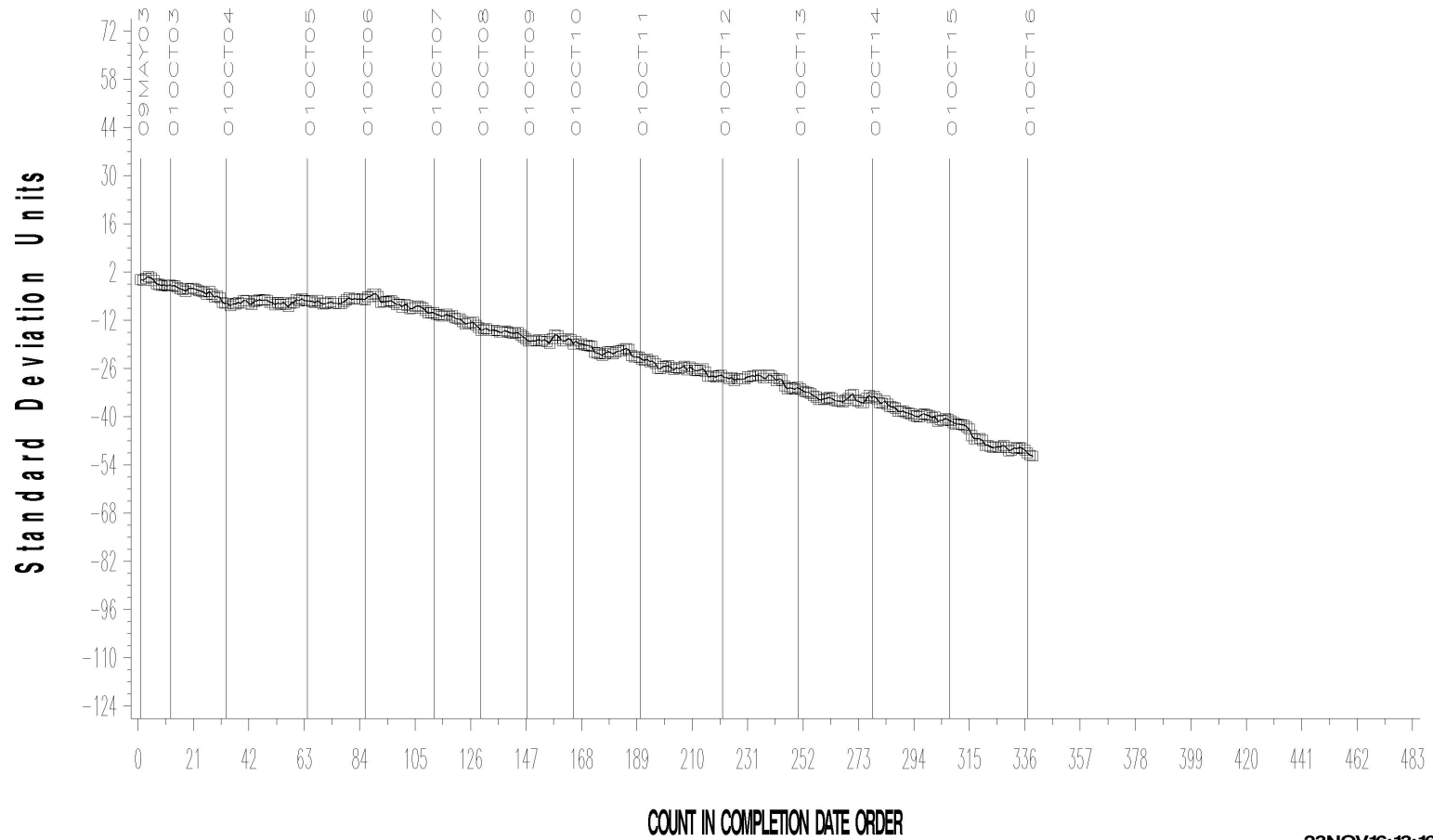
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING

CUSUM Severity Analysis



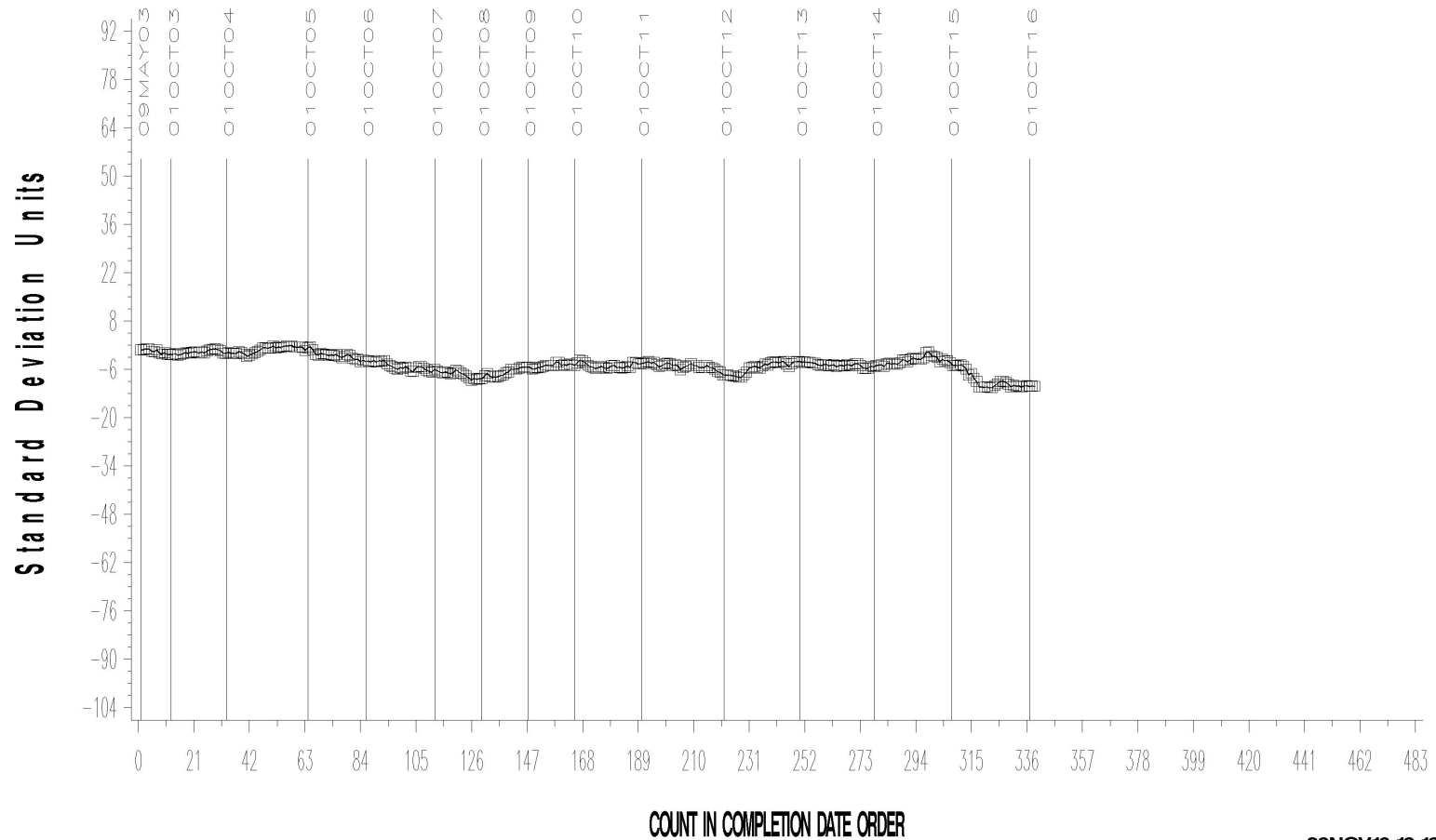
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIPPLING

CUSUM Severity Analysis



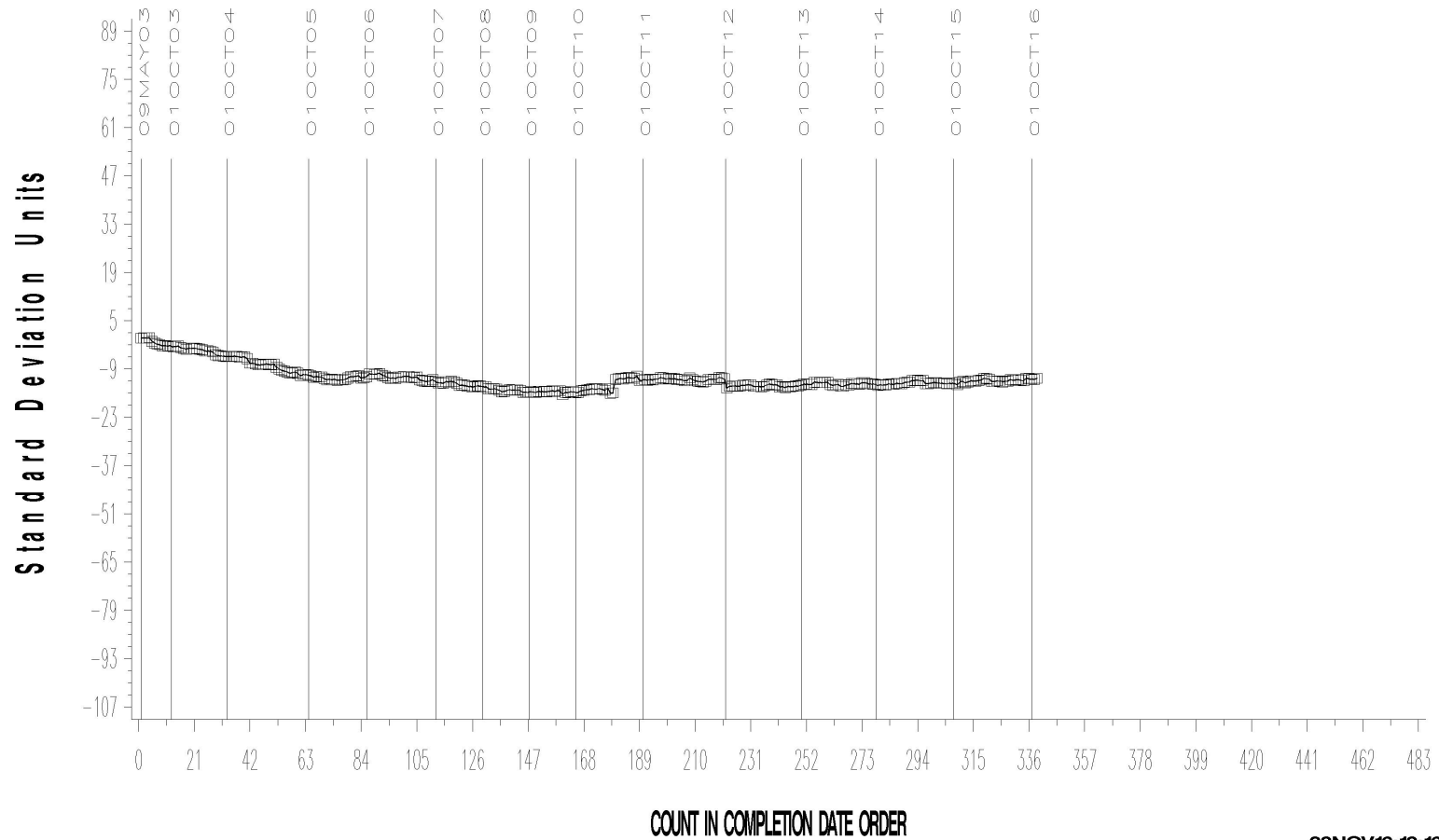
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# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

SPITTING

CUSUM Severity Analysis



23NOV16:13:16

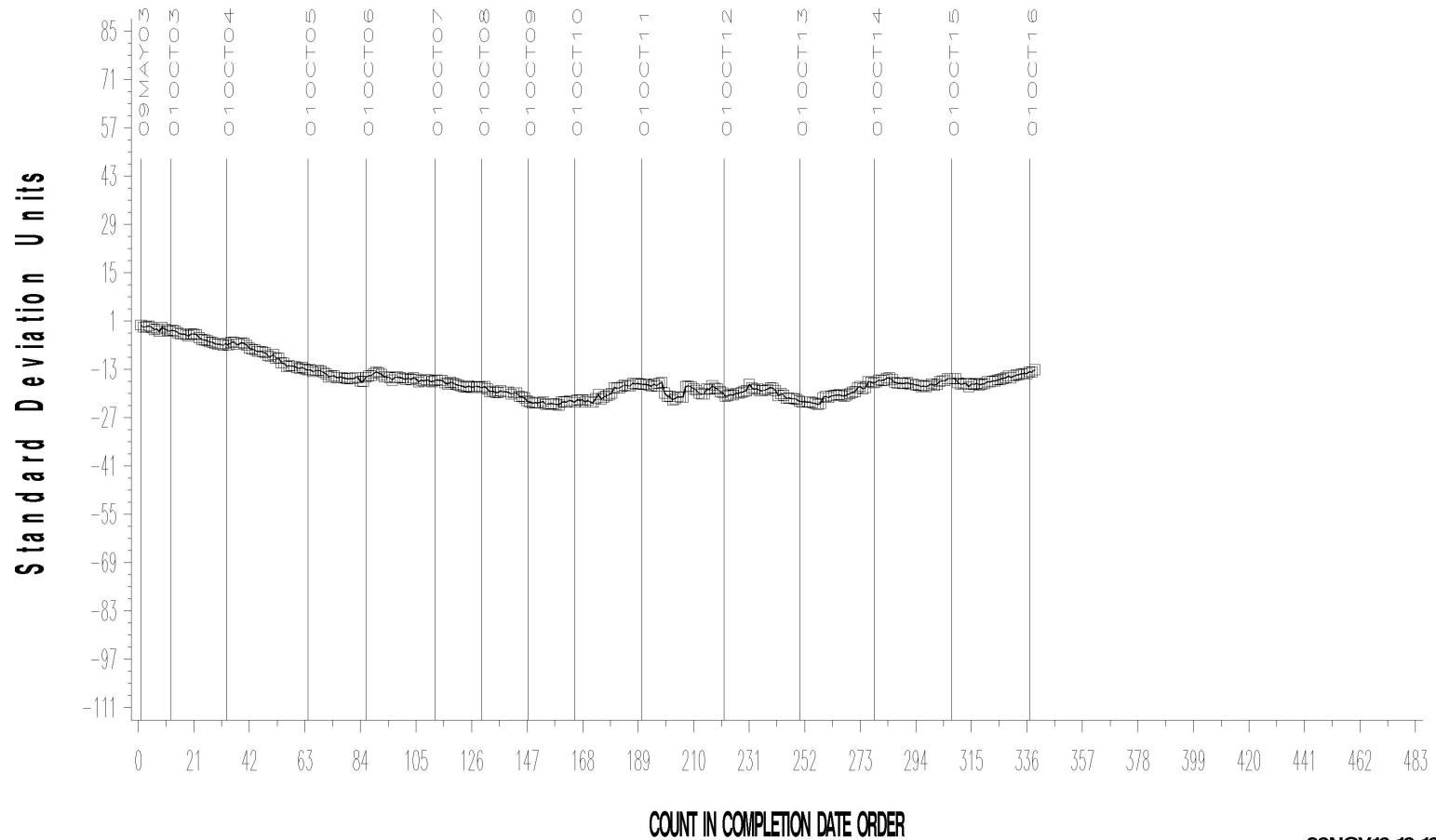


# L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

WEAR

CUSUM Severity Analysis



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