



Receipt Date: February 16, 2017
Cal. Date: March 14, 2017
Report Date: March 14, 2017

Report No.: 337273
Set Serial No.: None
Barcode: 018774

Calibration Certificate

RETAIL DATA SYSTEMS
6566 EDENVALE BLVD
EDEN PRAIRIE, MN 55346
Contact: RANDY SHOUTZ
Phone: 952-934-4001
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 07

Item(s) Submitted: 30 lb Weight Set w/ Ounces
Manufacturer: Rice Lake
Weight Type: I & II
Equipment ID: None
Condition: Good
Temperature: 19.0 °C
Pressure: 748.4 mmHg
Relative Humidity: 50.7 %

Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
10 lb		122	122	F	F	2.01	12
10 lb		131	131	F	F	2.01	12
5 lb		22.4	22.4	F	F	2.01	6.0
1 lb		19.7	19.7	F	F	2.01	1.6
1 lb		20.6	20.6	F	F	2.01	1.6
1 lb		20.6	20.6	F	F	2.01	1.6
1 lb		24.8	24.8	F	F	2.01	1.6
1 lb		13.5	13.5	F	F	2.01	1.6
4 oz		6.84	6.84	F	F	2.00	0.22
4 oz		5.16	5.16	F	F	2.00	0.22
4 oz		9.74	9.74	F	F	2.00	0.22
1 oz		2.36	2.36	F	F	2.00	0.11
1 oz		2.73	2.73	F	F	2.00	0.11
1 oz		2.17	2.17	F	F	2.00	0.11
1/2 oz		1.566	1.566	F	F	2.00	0.092
1/2 oz		0.891	0.891	F	F	2.00	0.092
1/4 oz		0.097	0.097	F	F	2.00	0.056
1/4 oz		0.576	0.576	F	F	2.00	0.056

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (k) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Mark Nicollet

Mark Nicollet
Quality Manager

Reviewed by:

Pete Whebbe

Pete J. Whebbe
trogologist

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WM-16-733
Calibration Report

Filed: 4/21/2017

Pages: 3



Receipt Date: March 21, 2017
Cal. Date: March 27, 2017
Report Date: March 28, 2017

Report No.: 337455
Set Serial No.: None
Barcode: 200424

Calibration Certificate

RETAIL DATA SYSTEMS
6566 EDENVALE BLVD
EDEN PRAIRIE, MN 55346
Contact: RANDY SHOUTZ
Phone: 952-934-4001
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 07

Item(s) Submitted: 30 lb Kit w/ Decimals
Manufacturer: Rice Lake
Weight Type: I & II
Equipment ID: None
Condition: Good
Temperature: 18.7 °C
Pressure: 735.6 mmHg
Relative Humidity: 53.0 %

Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
10 lb		45	45	F	F	2.01	12
10 lb		125	125	F	F	2.01	12
5 lb		68.4	68.4	F	F	2.01	6.0
2 lb		27.7	27.7	F	F	2.02	3.1
2 lb		35.1	35.1	F	F	2.02	3.1
1 lb		17.3	17.3	F	F	2.01	1.6
0.5 lb		0.1	0.1	F	F	2.01	1.3
0.2 lb		11.77	11.77	F	F	2.02	0.22
0.2 lb		8.93	8.93	F	F	2.02	0.22
0.1 lb		3.95	3.95	F	F	2.02	0.14
0.05 lb		3.19	3.19	F	F	2.02	0.11
0.02 lb		0.720	0.720	F	F	2.02	0.066
0.02 lb		0.610	0.610	F	F	2.02	0.066
0.01 lb		0.780	0.780	F	F	2.02	0.052
0.005 lb		0.456	0.456	F	F	2.02	0.073
0.002 lb		0.634	0.634	F	F	2.02	0.047
0.002 lb		0.069	0.069	F	F	2.02	0.047
0.001 lb		0.375	0.375	F	F	2.02	0.041

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Mark Nicollet

Mark Nicollet
Quality Manager

Reviewed by:

Erik Alfvén

Erik Alfvén
Metrologist

United States Department of Commerce

National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Minnesota

This laboratory has demonstrated evidence of an unbroken chain of metrological traceability of its standards to the international system of units (SI), documented measurement uncertainties, uses documented measurement procedures, successfully completed training and proficiency tests, documented calibration intervals, submitted a quality management system, and demonstrated suitable measurement assurance for the Scope listed on this certificate.

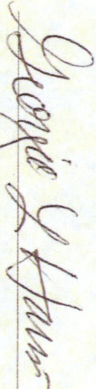
The Office of Weights and Measures Program assesses laboratories to NIST Handbook 143 - Program Handbook for State Weights and Measures Laboratories and ISO/IEC 17025:2005.

Scope

Mass Echelon I 10 kg to 1 mg	Mass Echelon III 50 kg to 1 mg 5000 lb to 0.001 lb 4 oz to 0.03125 oz	Volume Gravimetric, I 20 L to 10 ml 100 gal to 0.25 qt
Mass Echelon II 50 kg to 1 mg 1000 lb to 0.001 lb 4 oz to 0.03125 oz	Weight Carts 10 000 lb to 2000 lb	Volume Transfer, II 1500 gal to 5 gal 100 gal to 25 gal LPG
	Wheel Load Weighers 20 000 lb to 2000 lb	
	Railroad Test Cars 110 000 lb to 80 000 lb	



2017


Georgia L. Harris, Acting Chief
NIST Office of Weights and Measures

Effective Dates: 2017-01-01 to 2017-12-31

Amended: 2016-12-31

Scope modified for 2017.