

United States Department of Commerce  
National Institute of Standards and Technology



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## Certificate of Accreditation to ISO/IEC 17025:2017

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NVLAP LAB CODE: 105001-0

**Rice Lake Weighing Systems**  
Rice Lake, WI

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

### **Calibration Laboratories**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

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2023-02-24 through 2024-03-31

*Effective Dates*



A handwritten signature in blue ink, reading "Dana S. Laman".

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*For the National Voluntary Laboratory Accreditation Program*

**CALIBRATION LABORATORIES**

**NVLAP LAB CODE 105001-0**

**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

<b>Rice Lake Weighing Systems</b> 230 West Coleman Street Rice Lake, WI 54868 Mr. Dan Demers Phone: 715-234-9171 x6113 Fax: 715-234-6967 E-mail: <a href="mailto:ddemers@ricelake.com">ddemers@ricelake.com</a> URL: <a href="http://www.ricelake.com">http://www.ricelake.com</a>	<b>Fields of Calibration</b> Mechanical  This laboratory is compliant to ANSI/NCSL Z540-1-1994; Part 1. (NVLAP Code: 20/A01)
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**CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) <sup>Notes 1,2</sup>**

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty <sup>Note 3</sup>	Remarks
<b>MECHANICAL</b>			
<b>MASS DETERMINATION (20/M08)</b>			
Metric	50 kg	12 mg	Echelon I
	30 kg	6.6 mg	
	20 kg	5.0 mg	
	10 kg	1.5 mg	
	5 kg	0.78 mg	
	3 kg	0.53 mg	
	2 kg	0.27 mg	
	1 kg	52 µg	
	500 g	31 µg	
	300 g	23 µg	
	200 g	20 µg	
	100 g	14 µg	
	50 g	8.4 µg	
	30 g	5.8 µg	
	20 g	5.8 µg	
	10 g	5.8 µg	
	5 g	3.3 µg	
	3 g	1.9 µg	
	2 g	1.5 µg	
	1 g	1.3 µg	
	500 mg	0.95 µg	
	300 mg	0.81 µg	
	200 mg	0.77 µg	
	100 mg	0.89 µg	

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**CALIBRATION AND MEASUREMENT CAPABILITIES (CMC)** <sup>Notes 1,2</sup>

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty <sup>Note 3</sup>	Remarks
Avoirdupois	50 mg	0.77 µg	Echelon I
	30 mg	0.59 µg	
	20 mg	0.59 µg	
	10 mg	0.59 µg	
	5 mg	0.69 µg	
	3 mg	0.61 µg	
	2 mg	0.61 µg	
	1 mg	0.71 µg	
	0.5 mg	0.71 µg	
	50 lb	26 µlb (12 mg)	
	30 lb	15 µlb (6.9 mg)	
	25 lb	11 µlb (5.0 mg)	
	20 lb	3.7 µlb (1.7 mg)	
	10 lb	1.9 µlb (0.88 mg)	
	5 lb	0.097 µlb (0.44 mg)	
	3 lb	0.71 µlb (0.32 mg)	
	2 lb	0.17 µlb (77 µg)	
	1 lb	0.082 µlb (37 µg)	
	0.5 lb	0.057 µlb (26 µg)	
	0.3 lb	0.049 µlb (22 µg)	
	0.2 lb	0.044 µlb (20 µg)	
	0.1 lb	0.053 µlb (24 µg)	
	0.05 lb	0.026 µlb (12 µg)	
	0.03 lb	0.018 µlb (8.0 µg)	
	0.02 lb	0.013 µlb (5.9 µg)	
	0.01 lb	0.011 µlb (4.9 µg)	
	0.005 lb	0.0055 µlb (2.5 µg)	
	0.003 lb	0.0033 µlb (1.5 µg)	
	0.002 lb	0.0024 µlb (1.0 µg)	
	0.001 lb	0.0013 µlb (0.61 µg)	
	4 oz	0.71 µoz (20 µg)	
	2 oz	0.56 µoz (16 µg)	
	1 oz	0.56 µoz (16 µg)	
	1/2 oz	0.31 µoz (8.7 µg)	
	1/4 oz	0.17 µoz (4.7 µg)	
	1/8 oz	0.12 µoz (3.3 µg)	
	1/16 oz	0.12 µoz (3.5 µg)	

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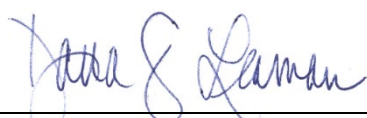
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**NVLAP LAB CODE 105001-0**

**CALIBRATION AND MEASUREMENT CAPABILITIES (CMC)** <sup>Notes 1,2</sup>

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty <sup>Note 3</sup>	Remarks
Metric	1/32 oz	0.067 $\mu$ oz (1.9 $\mu$ g)	Echelon II
	50 kg	12 mg	
	30 kg	11 mg	
	20 kg	10 mg	
	10 kg	1.4 mg	
	5 kg	0.83 mg	
	3 kg	0.55 mg	
	2 kg	0.29 mg	
	1 kg	80 $\mu$ g	
	500 g	46 $\mu$ g	
	300 g	34 $\mu$ g	
	200 g	28 $\mu$ g	
	100 g	28 $\mu$ g	
	50 g	14 $\mu$ g	
	30 g	9.6 $\mu$ g	
	20 g	7.3 $\mu$ g	
	10 g	6.4 $\mu$ g	
	5 g	3.3 $\mu$ g	
	3 g	2.1 $\mu$ g	
	2 g	1.5 $\mu$ g	
	1 g	1.3 $\mu$ g	
	500 mg	0.95 $\mu$ g	
	300 mg	0.81 $\mu$ g	
	200 mg	0.83 $\mu$ g	
	100 mg	0.87 $\mu$ g	
	50 mg	0.81 $\mu$ g	
	30 mg	0.77 $\mu$ g	
	20 mg	0.73 $\mu$ g	
	10 mg	0.87 $\mu$ g	
	5 mg	0.71 $\mu$ g	
	3 mg	0.61 $\mu$ g	
	2 mg	0.61 $\mu$ g	
	1 mg	0.89 $\mu$ g	
	0.5 mg	0.89 $\mu$ g	
Avoirdupois	50 lb	33 $\mu$ lb (15 mg)	Echelon II
	30 lb	19 $\mu$ lb (8.7 mg)	

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**CALIBRATION AND MEASUREMENT CAPABILITIES (CMC)** Notes 1,2

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty <small>Note 3</small>	Remarks
Metric	25 lb	19 µlb (8.8 mg)	Echelon III
	20 lb	4.0 µlb (1.8 mg)	
	10 lb	1.9 µlb (0.87 mg)	
	5 lb	1.0 µlb (0.46 mg)	
	3 lb	0.73 µlb (0.33 mg)	
	2 lb	0.29 µlb (0.13 mg)	
	1 lb	0.17 µlb (75 µg)	
	0.5 lb	0.094 µlb (43 µg)	
	0.3 lb	0.071 µlb (32 µg)	
	0.2 lb	0.060 µlb (27 µg)	
	0.1 lb	0.062 µlb (28 µg)	
	0.05 lb	0.031 µlb (14 µg)	
	0.03 lb	0.020 µlb (9.1 µg)	
	0.02 lb	0.015 µlb (6.7 µg)	
	0.01 lb	0.012 µlb (5.4 µg)	
	0.005 lb	0.0060 µlb (27 µg)	
	0.003 lb	0.0035 µlb (1.6 µg)	
	0.002 lb	0.0024 µlb (1.1 µg)	
	0.001 lb	0.0014 µlb (0.65 µg)	
	4 oz	1.2 µoz	
	2 oz	0.71 µoz	
	1 oz	0.49 µoz	
	1/2 oz	0.39 µoz	
	1/4 oz	0.23 µoz	
	1/8 oz	0.14 µoz	
	1/16 oz	0.13 µoz	
	1/32 oz	0.063 µoz	
	1000 kg	13 g	
	500 kg	6.3 g	
	250 kg	2.6 g	
	200 kg	2.1 g	
	100 kg	1.2 g	
	50 kg	200 mg	
	30 kg	120 mg	
	20 kg	81 mg	
	10 kg	40 mg	
	5 kg	20 mg	

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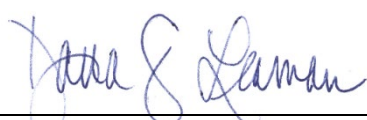
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**CALIBRATION AND MEASUREMENT CAPABILITIES (CMC)** Notes 1,2

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty <small>Note 3</small>	Remarks
Avoirdupois	3 kg	12 mg	
	2 kg	8.0 mg	
	1 kg	4.1 mg	
	500 g	2.1 mg	
	300 g	1.2 mg	
	200 g	0.85 mg	
	100 g	0.49 mg	
	50 g	0.20 mg	
	30 g	0.18 mg	
	20 g	0.14 mg	
	10 g	0.10 mg	
	5 g	72 µg	
	3 g	60 µg	
	2 g	52 µg	
	1 g	40 µg	
	500 mg	32 µg	
	300 mg	28 µg	
	200 mg	24 µg	
	100 mg	20 µg	
	50 mg	17 µg	
	30 mg	15 µg	
	20 mg	14 µg	
	10 mg	12 µg	
	5 mg	11 µg	
	3 mg	10 µg	
	2 mg	10 µg	
	1 mg	10 µg	
	0.5 mg	10 µg	
	3000 lb	0.042 lb	
	2500 lb	0.026 lb	
	2000 lb	0.026 lb	
	1000 lb	0.013 lb	
	500 lb	5.1 mlb	
	250 lb	2.9 mlb	
	200 lb	2.4 mlb	
	100 lb	0.46 mlb	
	50 lb	0.20 mlb	

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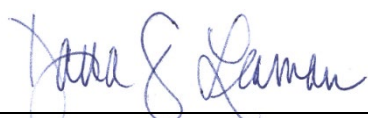
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**CALIBRATION AND MEASUREMENT CAPABILITIES (CMC)** <sup>Notes 1,2</sup>

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty <sup>Note 3</sup>	Remarks
	30 lb	0.12 mlb	
	25 lb	0.10 mlb	
	20 lb	79 µlb	
	10 lb	40 µlb	
	5 lb	20 µlb	
	3 lb	12 µlb	
	2 lb	8.2 µlb	
	1 lb	4.0 µlb	
	0.5 lb	2.0 µlb	
	0.3 lb	1.2 µlb	
	0.2 lb	0.79 µlb	
	0.1 lb	0.49 µlb	
	0.05 lb	0.35 µlb	
	0.03 lb	0.26 µlb	
	0.02 lb	0.20 µlb	
	0.01 lb	0.15 µlb	
	0.005 lb	0.12 µlb	
	0.003 lb	0.097 µlb	
	0.002 lb	0.084 µlb	
	0.001 lb	0.066 µlb	
	4 oz	17 µoz	
	2 oz	9.2 µoz	
	1 oz	6.0 µoz	
	1/2 oz	4.2 µoz	
	1/4 oz	3.1 µoz	
	1/8 oz	2.2 µoz	
	1/16 oz	1.7 µoz	
	1/32 oz	1.3 µoz	
END			

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Notes
<p><b>Note 1:</b> A Calibration and Measurement Capability (CMC) is a description of the best result of a calibration or measurement (result with the smallest uncertainty of measurement) that is available to the laboratory's customers under normal conditions, when performing more or less routine calibrations of nearly ideal measurement standards or instruments. The CMC is described in the laboratory's scope of accreditation by: the measurement parameter/device being calibrated, the measurement range, the uncertainty associated with that range (see note 3), and remarks on additional parameters, if applicable.</p> <p><b>Note 2:</b> Calibration and Measurement Capabilities are traceable to the national measurement standards of the U.S. or to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.</p> <p><b>Note 3:</b> The uncertainty associated with a measurement in a CMC is an expanded uncertainty with a level of confidence of approximately 95 %, typically using a coverage factor of <math>k = 2</math>. However, laboratories may report a coverage factor different than <math>k = 2</math> to achieve the 95 % level of confidence. Units for the measurand and its uncertainty are to match. Exceptions to this occur when marketplace practice employs mixed units, such as when the artifact to be measured is labeled in non-SI units and the uncertainty is given in SI units (Example: 5 lb weight with uncertainty given in mg).</p> <p><b>Note 3a:</b> The uncertainty of a specific calibration by the laboratory may be greater than the uncertainty in the CMC due to the condition and behavior of the customer's device and specific circumstances of the calibration. The uncertainties quoted do not include possible effects on the calibrated device of transportation, long term stability, or intended use.</p> <p><b>Note 3b:</b> As the CMC represents the best measurement results achievable under normal conditions, the accredited calibration laboratory shall not report smaller uncertainty of measurement than that given in a CMC for calibrations or measurements covered by that CMC.</p> <p><b>Note 3c:</b> As described in Note 1, CMCs cover calibrations and measurements that are available to the laboratory's customers under <i>normal conditions</i>. However, the laboratory may have the capability to offer special tests, employing special conditions, which yield calibration or measurement results with lower uncertainties. Such special tests are not covered by the CMCs and are outside the laboratory's scope of accreditation. In this case, NVLAP requirements for the labeling, on calibration reports, of results outside the laboratory's scope of accreditation apply. These requirements are set out in Annex A.5 of NIST Handbook 150, Procedures and General Requirements.</p> <p><b>Note 4:</b> Uncertainties associated with field service calibration may be greater as they incorporate on-site environmental contributions, transportation effects, or other factors that affect the measurements. (This note applies only if marked in the body of the scope.)</p> <p><b>Note 5:</b> Values listed with percent (%) are percent of reading or generated value unless otherwise noted.</p> <p><b>Note 6:</b> NVLAP accreditation is the formal recognition of specific calibration capabilities. Neither NVLAP nor NIST guarantee the accuracy of individual calibrations made by accredited laboratories.</p>

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