



## NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Weighing/Load Receiving Element  
Single Animal Livestock Scale  
Model: ZXXYYSL Series\*  
 $n_{\max}$ : 5000  $e_{\min}$ : 0.5 lb  
Capacity: 2500 to 5000 lb  
Section Capacity: 5000 lb  
Platform: Up to 40 sq ft (See Below)  
Accuracy Class: III

**Submitted By:**

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**Standard Features and Options**

\*In the model number ZXXYYSL where:

- Z designates the capacity in thousands of pounds (example: 2.5 = 2500 lb; 5 = 5000 lb),
- XX is the platform width from 18 to 75 inches, and
- YY is the platform length from 36 to 120 inches.

**Platform Area:** Maximum 5760 square inches (40 square feet)

**Platform Material:** Steel with Optional Rubberized Non-skid Mat

**Options:** Cattle Guard Enclosure

**Load Cells Used:** Cardinal Model TB-2.5K

NTEP Certificate of Conformance Number 98-018 or NTEP Certified equivalent

**Installations must satisfy the relationships of  $v_{\min} \leq d/\sqrt{N}$ , where N = number of load cells and d = the scale division**

**Indicator:** An NTEP certified and compatible indicating element with multiple range or multi-interval feature is required to display weights from 0 to 2500 lb with a division value of 0.5 lb and from 2501 to 5000 lb with a division value of 1 lb. A single-range indicating element must be set to either 2500 lb x 0.5 lb or 5000 lb x 1 lb only.

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Jerry Buendel  
Chairman, NCWM, Inc.

Ronald Hayes  
Committee Chair, National Type Evaluation Program Committee  
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**Cardinal Scale Manufacturing Company**  
Weighing/Load Receiving Element / ZXXYYSL

**Application:** General purpose load-receiving element forms a complete instrument when connected to a compatible and certified indicating element. Designed primarily for single animal livestock weighing applications but may also be used for weighing multiple animals.

**Identification:** The self-destructive identification label is located on the side of the weighbridge.

**Sealing:** Category 1 lead-wire seal threaded through cover retaining screw on load cell junction box.

**Test Conditions:** This certificate supersedes NTEP Certificate of Conformance 13-083 and was issued to add a lower capacity model. A model 2.51836SLS weighing/load receiving element was submitted for this evaluation. The weighing element was interfaced with a Cardinal Scale model 225 indicating element (NTEP Certificate Number 01-011). The emphasis of the evaluation was on device design, marking and performance of the weighing/load receiving element. Shift tests using 625 lb of known test weights were performed. Two increasing/decreasing load tests using 2500 lb of known test weights was also conducted. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 13-083:** The model 56096SLS load-receiving element was submitted for this evaluation. A Cardinal Model 210 weight indicator (NTEP Certificate Number 01-011) was used as the indicating element. The emphasis of the evaluation was on device design, marking and performance of the load-receiving element. The scale was initially tested using 5000 lb of known test weights. Increasing/decreasing load tests were performed on the corners using 1250 lb of known test weights. An increasing/decreasing distributed load test of 5000 lb of known test weights was also conducted. Security seals were applied to the scale, indicator and junction box. The scale was used for approximately 30 days to meet the criteria for the permanence test of a livestock scale. The scale was then tested in the same manner as the original test.

**Evaluated By:** C. Harris (Ohio) 13-083; D. Flocken (NCWM) 13-083A1

**Type Evaluation Criteria Used:** *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2016 Edition. *NCWM Publication 14 Weighing Devices*, 2016 Edition.

**Conclusion:** The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

**Information Reviewed By:** J. Truex (NCWM) 13-083, 13-083A1

**Examples of Device:**



Figure No. 1 Model 55096SLS Livestock Scale



Figure No. 2 Security Seal on Load Cell Junction Box