



# NATIONAL CERTIFIED TESTING LABORATORIES

FIVE LEIGH DRIVE • YORK, PENNSYLVANIA 17406 • TELEPHONE (717) 846-1200  
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**AAMA/WDMA/CSA 101/I.S.2/A440-17**

## TEST REPORT SUMMARY

**Rendered to:**

**Climate Guard Manufacturing  
2500 North Pulaski  
Chicago, IL 60639**

**PRODUCT TYPE: Project Out at Bottom (Awning)**

**SERIES/ MODEL: "1199"**

Title	Summary of Results
Primary Product Designator AAMA/WDMA/CSA 101/I.S.2/A440-17	Class LC-PG60: Size tested 1219 x 813 mm (~48 x 32 in) - Type AP
Design Pressure	±2880 Pa (±60.15 psf)
Operating Force (in motion <sub>max</sub> )	27 N (6 lbf)
Air Infiltration	0.1 L/s/m <sup>2</sup> (<0.01 cfm/ft <sup>2</sup> )
Water Penetration Resistance Test Pressure	580 Pa (12.11 psf)
Uniform Load Structural Test Pressure	±4320 Pa (±90.23 psf)
Forced Entry Resistance	ASTM F588-07 - Grade 10 Pass

Test Completed: 06/24/19

Reference must be made to Report No. NCTL-110-22252-1 dated 07/09/19 for complete test specimen description and data.

**For National Certified Testing Laboratories**

DIGITAL SIGNATURE

Jay Leader  
Technician



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**AAMA/WDMA/CSA 101/I.S.2/A440-17**  
**STRUCTURAL PERFORMANCE TEST REPORT**

**NCTL-110-22252-1**

REPORT TO:  
CLIMATE GUARD MANUFACTURING  
2500 NORTH PULASKI  
CHICAGO, IL 60639

REPORT DATE: 07/09/19

**PRODUCT TYPE: PROJECT OUT AT BOTTOM (AWNING)**

**SERIES/ MODEL: "1199"**



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## STRUCTURAL PERFORMANCE TEST REPORT

**Report Number** NCTL-110-22252-1

**Report Date** 07/09/19

**Report To** Climate Guard Manufacturing  
2500 North Pulaski  
Chicago, IL 60639

**Date Testing Started** 06/24/19  
**Date Testing Completed** 06/24/19

**Specification** AAMA/WDMA/CSA 101/I.S.2/A440-2017  
NAFS - North American Fenestration Standard/Specification for windows, doors, and skylights

**Performance Results** Class LC-PG60: Size tested 1219 x 813 mm (~48 x 32 in) - Type AP

### Description of Specimen Tested

Note: All dimensions are in the order (Width x Height x Thickness) unless otherwise noted.

**Model/ Series** "1199"

**Configuration** Project-Out-At-Bottom (Awning)

**Frame Size** Overall  
1219 mm x 813 mm (48" x 32")

**Vent Size** 1178 mm x 772 mm (46.375" x 30.375")

**Viewing Area** 1032 mm x 625 mm (40.625" x 24.625")

**Frame & Vent Type** Extruded aluminum with poured urethane thermal breaks

**Joint Construction** Frame  
(2) Screw butt-type  
Vent  
Mitered with staked-in-place metal corner keys

**Glazing Components**  
Overall 22.10 mm (0.870") nominal  
Glass Thickness (2) Lites of 3 mm (0.116") nominal annealed glass  
Spacer Type/Size 16.21 mm (0.638") Coated U-shaped steel spacer (Type CU-D)  
Glazing System Interior glazed with a butyl back-bedding and a snap-in aluminum glazing bead with bulb-vinyl

**Weatherstrip**  
Type (2) Strips EPDM bulb  
Location Vent perimeter

**Operating Hardware**

<b>Locks</b>	
Type	Metal lock/ lock handle
Location	178 mm (7") From the bottom of the jambs
<b>Keeper</b>	
Type	Metal
Location	Stiles at the lock location
<b>Roto-Operator</b>	
Type	(2)-Bar
Location	Midspan of the sill
<b>Hinge Hardware</b>	
Type	(4)-Bar
Location	Stiles/ jambs

**Auxiliary** No auxiliary items employed

**Reinforcement** No reinforcement employed

**Weep Description** No apparent weeps employed

**Interior/ Exterior Surface Finish** White painted aluminum

**Sealant**

Location	Interior glazing perimeter and vent corners
Material	Silicone
Location	Screw heads and frame corners
Material	Small joint sealant

**Insect Screen (Interior Applied)**

Size	1092 mm (43") wide by 699 mm (27.5")
Corner Construction	Mitered with plastic corner keys
Material	Fiberglass mesh with hollow spline, (2) retainer springs

**Installation Method** The window was installed in a 51 mm x 254 mm (2" x 10") spruce-pine-fir lumber test buck and was sandwiched between 12.7 mm (0.5") x 12.7 mm (0.5") wood blind stops. The stops were fastened with staples located on approximately 152 mm (6") centers. The exterior perimeter was sealed with silicone sealant.

***Test Results - AAMA/WDMA/CSA 101/I.S.2/A440-2017***

<u>Paragraph</u>	<u>Test</u>			
9.3.1	Operating Force and Force to Latch - Method B (Force Gauge) ASTM E2068-00(08)			
	Initiate Motion	=	27 N	(6 lbf)
	Allowed (LC Rating <sub>17</sub> )	=	60 N	(13.49 lbf)
	Maintain Motion - Opening	=	27 N	(6 lbf)
	Maintain Motion - Closing	=	27 N	(6 lbf)
	Allowed (LC Rating <sub>17</sub> )	=	30 N	(6.74 lbf)
	Latches	=	<27 N	(<6 lbf)
	Allowed	=	100 N	(22.5 lbf)

**NOTE:** The results above represent the maximum force among all sash tested.

Paragraph      Test  
9.3.2              Air Leakage Resistance  
ASTM E283-04(12)

The tested specimen meets or exceeds the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440-2017 for air infiltration at 75 Pa (1.57 psf).

Maximum Allowable                      = 1.5 L/s/m<sup>2</sup> (0.3 cfm/ft<sup>2</sup>)

Infiltration

Total Air Leakage                      = 0.04 L/s (0.09 cfm)  
Extraneous Air Leakage <sub>Tare</sub>           = 0.04 L/s (0.09 cfm)  
Net Air Leakage                          = <0.01 L/s (<0.01 cfm)  
Air Infiltration Rate                      = 0.1 L/s/m<sup>2</sup> (<0.01 cfm/ft<sup>2</sup>)

Paragraph      Test  
9.3.3              Water Penetration Resistance  
ASTM E547-00(16)

3.4 L / (min • m<sup>2</sup>) (5.0 gph/ft<sup>2</sup>)

No Leakage after 4 cycles of 5 minutes at 580 Pa (12.11 psf)

**NOTE:** Tested without interior insect screen

Paragraph      Test  
9.3.4.2            Uniform Load Deflection at Design Pressure  
ASTM E330-14

No damage after positive              2880 Pa (60.15 psf) held for 10 seconds  
No damage after negative              2880 Pa (60.15 psf) held for 10 seconds  
Measured Deflection <sub>Positive</sub>           = 0.79 mm (0.031 inches)  
Measured Deflection <sub>Negative</sub>        = 0.25 mm (0.010 inches)

Paragraph      Test  
9.3.4.3            Uniform Load Structural Test  
ASTM E330-14

No damage after positive              4320 Pa (90.23 psf) held for 10 seconds  
No damage after negative              4320 Pa (90.23 psf) held for 10 seconds  
Measured Permanent Set <sub>Positive</sub>      = 0.23 mm (0.009 inches)  
Measured Permanent Set <sub>Negative</sub>      = 0.08 mm (0.003 inches)  
Maximum Allowed (0.4%)              = 4.72 mm (0.186 inches)

**NOTE:** Deflection and Permanent Set measurements taken on the top rail over an 1178 mm (46.375") span.

Paragraph      Test  
9.3.6.5.5        Awning/ Hopper/ Projected Hardware Load Test

Load applied 70 N (15.74 lbf) at 60 seconds  
Outer Corner Deflection                = 8.89 mm (0.35")  
Maximum Allowable Deflection        = Report Only

<u>Paragraph</u>	<u>Test</u>	
9.3.5	Forced Entry Resistance ASTM F588-14	
	<u>Type B Window Assembly/ Grade 10:</u>	= Pass
	<u>Test</u>	
	Disassembly	= No Entry
	Lock Manipulation	= No Entry
	Sash Manipulation	= No Entry
	Test B1	= No Entry
	Test B2	= No Entry
	Test B3	= No Entry
	Hardware Manipulation Test	= No Entry
	Sash Manipulation Test	= No Entry

- NOTE:** 1. T1 = 5 minutes, L1 = 150 lbf (667 N), L2 = 75 lbf (333 N), L3 = 25 lbf (111 N)  
2. Loads were held for 60 seconds.

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This test report was prepared by National Certified Testing Laboratory (NCTL), for the exclusive use of the above named client and it does not constitute certification of this product. The results are for the particular specimen tested and do not imply the quality of similar or identical products manufactured or installed from specifications identical to the tested product. The test specimen was supplied to NCTL by the above named client. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen are to be drawn from the ASTM E330 test. Forced entry resistance test equipment used is in compliance with Section 7 of the ASTM F588 test method. Foam tape is mounted to the perimeter of the test buck prior to clamping to the test wall. It is the assertion of this laboratory that any film employed during testing does not affect measurement values. NCTL is a testing lab and assumes that all information provided by the client is accurate and does not guarantee or warranty any product tested or installed. The results in this report are actual tested values and are applicable to the specimen tested only, using the components and construction methods described herein.

Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. Component drawings were reviewed for product verification. The bill of materials contains details with any deviations noted. Ambient conditions during the referenced testing are available upon request. A copy of this report along with representative sections of the test specimen will be retained per applicable requirements by NCTL. This report does not constitute certification or approval of the product, which may only be granted by a certification program validator or recognized approval entity. All tests were conducted in full compliance with the referenced specifications and/or test methods. Tests were performed in the order set forth by the applicable standard or specification. This report is the joint property of NCTL and the client to whom it is issued. Permission to reproduce this report by anyone other than NCTL and the client must be granted in writing by both of the above parties. This report may not be reproduced, except its entirety, without the written consent of NCTL.

**For National Certified Testing Laboratories**A handwritten signature in black ink that reads "Jay Leader". The signature is written over a circular logo containing the letters "NCTL". Below the signature, the words "DIGITAL SIGNATURE" are printed in a small, black, sans-serif font.

DIGITAL SIGNATURE

Jay Leader  
Technician

A handwritten signature in black ink that reads "Justin Bupp". The signature is written over a circular logo containing the letters "NCTL". Below the signature, the words "DIGITAL SIGNATURE" are printed in a small, black, sans-serif font.

DIGITAL SIGNATURE

Justin Bupp  
Laboratory Manager

JL/ do

Attachments

- Appendix A - Revision Summary
- Appendix B - Drawings