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$_{max}$)	27 N (6 lbf)
Air Infiltration	0.1 L/s/m^2 (<0.01 cfm/ft^2)
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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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 **Date Testing Completed**	06/24/19 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

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

Paragraph	Test			
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$_{17}$)	=	60 N	(13.49 lbf)
	Maintain Motion - Opening	=	27 N	(6 lbf)
	Maintain Motion - Closing	=	27 N	(6 lbf)
	Allowed (LC Rating$_{17}$)	=	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/m² (0.3 cfm/ft²)

Infiltration

Total Air Leakage	= 0.04 L/s (0.09 cfm)
Extraneous Air Leakage $_{Tare}$	= 0.04 L/s (0.09 cfm)
Net Air Leakage	= <0.01 L/s (<0.01 cfm)
Air Infiltration Rate	= 0.1 L/s/m² (<0.01 cfm/ft²)

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

3.4 L/ (min• m²) (5.0 gph/ft²)

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 $_{Positive}$	= 0.79 mm (0.031 inches)
Measured Deflection $_{Negative}$	= 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 $_{Positive}$	= 0.23 mm (0.009 inches)
Measured Permanent Set $_{Negative}$	= 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

Paragraph	Test
9.3.5	Forced Entry Resistance ASTM F588-14

Type B Window Assembly/ Grade 10: = Pass

Test	
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.

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

DIGITAL SIGNATURE

Jay Leader
Technician

DIGITAL SIGNATURE

Justin Bupp
Laboratory Manager

JL/ do
Attachments
Appendix A - Revision Summary
Appendix B - Drawings