



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: Fixed Lite

SERIES/ MODEL: "1199"

Title	Summary of Results
Primary Product Designator AAMA/WDMA/CSA 101/I.S.2/A440-17	Class LC-PG50: Size tested 1422 x 1422 mm (~56 x 56 in) - Type FW
Design Pressure	±2400 Pa (±50.13 psf)
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	±3600 Pa (±75.19 psf)
Forced Entry Resistance	ASTM F588-07 - Grade 10 Pass

Test Completed: 06/20/19

Reference must be made to Report No. NCTL-110-22253-1 dated 07/05/19 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-110-22253-1

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

REPORT DATE: 07/05/19

PRODUCT TYPE: FIXED LITE

SERIES/ MODEL: "1199"



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STRUCTURAL PERFORMANCE TEST REPORT

Report Number NCTL-110-22253-1

Report Date 07/05/19

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

Date Testing Started 06/19/19
Date Testing Completed 06/20/19

Specification AAMA/WDMA/CSA 101/I.S.2/A440-2008 & 2017
NAFS - North American Fenestration Standard/Specification for
windows, doors, and skylights

Performance Results Class LC-PG50: Size tested 1422 x 1422 mm (~56 x 56 in) - Type FW

Description of Specimen Tested

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

Model/ Series "1199"

Configuration Fixed Lite

Frame Size Overall
1422 mm x 1422 mm (56" x 56")

Viewing Area 1330 mm x 1330 mm (52.375" x 52.375")

Frame Type Extruded aluminum with poured urethane thermal breaks

Joint Construction Frame
(2) Screw butt-type

Glazing Components

Overall	22.23 mm (0.875") nominal
Glass Thickness	(2) Lites of 3 mm (0.118") nominal annealed glass
Spacer Type/Size	16.23 mm (0.639") Coated U-shaped steel spacer (Type CU-D)
Glazing System	Interior glazed with a butyl back-bedding and a snap-in extruded aluminum glazing bead with bulb-vinyl

Weatherstrip No weatherseals employed

Operating Hardware No operating hardware employed

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
Material	Silicone
Location	Screw heads and frame corners
Material	Small joint sealant

Insect Screen No screen employed

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>
9.3.2	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 ² (0.3 cfm/ft ²)
	<u>Infiltration</u>
	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/m ² (<0.01 cfm/ft ²)

<u>Paragraph</u>	<u>Test</u>
9.3.3	Water Penetration Resistance ASTM E547-00(16)
	<u>3.4 L / (min • m²) (5.0 gph/ft²)</u>
	No Leakage after 4 cycles of 5 minutes at 580 Pa (12.11 psf)
	NOTE: Tested without insect screen

<u>Paragraph</u>	<u>Test</u>
9.3.4.2	Uniform Load Deflection at Design Pressure ASTM E330-14
	No damage after positive 2400 Pa (50.13 psf) held for 10 seconds
	No damage after negative 2400 Pa (50.13 psf) held for 10 seconds
	Measured Deflection _{Positive} = 0.20 mm (0.008 inches)
	Measured Deflection _{Negative} = 0.13 mm (0.005 inches)

Paragraph Test
 9.3.4.3 Uniform Load Structural Test
 ASTM E330-14

No damage after positive 3600 Pa (75.19 psf) held for 10 seconds
 No damage after negative 3600 Pa (75.19 psf) held for 10 seconds

Measured Permanent Set ^{Positive} = 0.08 mm (0.003 inches)
 Measured Permanent Set ^{Negative} = 0.10 mm (0.004 inches)
 Maximum Allowed (0.4%) = 5.61 mm (0.221 inches)

NOTE: Deflection and Permanent Set measurements taken on the jamb over a 1403 mm (55.25") span.

Paragraph Test
 9.3.5 Forced Entry Resistance
 ASTM F588-14

Type D Window Assembly/ Grade 10: = Pass

Test
 Disassembly = No Entry
 Sash Manipulation = 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 LaboratoriesA 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