

# **A New Norris House Energy Data Report**

NNH | HERS Index Report

REM/Rate v 12.97 - Norris apprvd RM 08.01.2011.blg

File Building View Extras Libraries Reports Tools Help

Rating Organization Information:

Rating Organization Name: On Earth Energy Group llc  
 Address: 12500 Martel Rd.  
 City: Lenoir City  
 State: TN Zip: 37772  
 Phone Number: 865.986.7594  
 Website: nigrater.com  
 Rater's Name: Bruce Glanville  
 Email: bg@bruceglanville.com  
 Rater ID (RIN): 1998-103-BER-51 Provider ID (AIN): 1998-103

Energy Rating Information:

Rating Date: 6.3.2011  
 Rating Type: Confirmed Rating  
 Reason For Rating: New Home  
 Rating Number: 20101p  
 RESNET Registry ID:

Analysis

Updated: 03:48:12 PM

Design Loads (kBtu/hr)

Heating	9.5
Cooling	8.8

Annual Loads (MMBtu/yr)

Heating	9.1
Cooling	11.8
Water Heating	3.3

Annual Consumption (MMBtu/yr)

Heating	4.0
Cooling	2.9
Water Heating	3.4
Lights and App...	14.0
Photovoltaics	-0.0
Total	24.3

Annual Energy Costs (\$/yr)

Heating	85
Cooling	60
Water Heating	71
Lights and App...	295
Photovoltaics	-0
Service Charge	89
Total	599

Errors/Warnings

WARNINGS

- Total Duct Leakage is set to 0. If this not correct, please go to the Duct Summary Screen and enter Total Duct Leakage. Certain energy codes require total duct leakage testing.

Energy Area Compliance

Detailed Knoxville, TN 01/20/12

REM/Rate v 12.97 - Norris apprvd RM 08.01.2011.blg

File Building View Extras Libraries Reports Tools Help

Site Information:

Climate Location: Knoxville, TN

Utility:

Electricity: Clinton Utility Brd\*\*\*\*\*

Gas: None

Propane: None

Oil: None

Kerosene: None

Wood: None

Analysis

Updated: 03:48:12 PM

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Heating	9.5
Cooling	8.8

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NNH | HERS Index Report

The screenshot displays the REM/Rate v 12.97 software interface. The main window title is "Norris apprvd RM 08.01.2011.blg". The menu bar includes File, Building, View, Extras, Libraries, Reports, Tools, and Help. The toolbar contains various icons for file operations and analysis.

**Site Information:**

- Climate Location: Knoxville, TN
- Utility:
  - Electricity: Clinton Utility Brd\*\*\*\*\*
  - Gas: None
  - Propane: None
  - Oil: None
  - Kerosene: None
  - Wood: None

**Analysis:** Updated: 03:48:12 PM

Total Area (sq ft)	
Conditioned S...	768
Shell Area	3075
Foundation W...	560.0
Slab Floors	0
Frame Floors	768
Rim and Band ...	112.0
Above-Grade ...	1564.5
Windows	206.0
Doors	45.0
Ceilings	838
Skylights	17.3
Ducts	245.8

  

Ratios	
Window-To-Wall	0.132
Window-To-Fl...	0.268

  

Window Area By Orientatio...	
North	70.0
Northeast	0.0
East	30.0
Southeast	0.0
South	60.0
Southwest	0.0
West	46.0
Northwest	0.0

**Errors/Warnings:**

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Navigation tabs: Energy, Area, Compliance

Status bar: Detailed | Knoxville, TN | 01/20/12

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- Site Information:**
  - Climate Location: Knoxville, TN
  - Utility:
    - Electricity: Clinton Utility Brd\*\*\*\*\*
    - Gas: None
    - Propane: None
    - Oil: None
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    - Wood: None
- Analysis:**
  - Updated: 03:48:12 PM
  - Programs:**
    - V2.0 ENERGY... Passes
    - V2.5 ENERGY... Passes
    - V3.0 ENERGY... Fails
    - Tax Credit Passes
    - HERS Index 49
    - NY HERS Score N/A
  - Code:**
    - IECC 2012 En... Fails
    - IECC 2009 En... Passes
    - IECC 2006 En... Passes
    - IECC 2004 En... Passes
    - IECC 2003 En... Passes
    - IECC 2001 En... Passes
    - IECC 2000 En... Passes
    - IECC 1998 En... Passes
    - ECCCNYS-2010 Passes
    - ECC of Southe... Passes
    - MEC 1995 En... Passes
    - MEC 1993 En... Passes
    - MEC 1992 En... Passes
    - ASHRAE 90.2 ... Passes
- Errors/Warnings:**
  - WARNINGS**
  - Total Duct Leakage is set to 0. If this not correct, please go to the Duct Summary Screen and enter Total Duct Leakage. Certain energy codes require total duct leakage testing.

At the bottom of the window, there is a navigation bar with "Energy", "Area", and "Compliance" tabs, and a status bar showing "Detailed", "Knoxville, TN", and "01/20/12".

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The screenshot displays the REM/Rate v 12.97 software interface. The main window is titled "Norris apprvd RM 08.01.2011.blg". The interface is divided into several sections:

- General Building Information:**
  - Area of Conditioned Space (sq ft): 768
  - Volume of Conditioned Space (cu ft): 9990
  - Year Built: 2011
  - Housing Type: Single-family detached
  - Level Type [Apartments Only]: None
  - Number of Units: 1
  - Floors on or Above Grade: 1
  - Number of Bedrooms: 2
  - Foundation Type: Enclosed crawl space
  - Enclosed Crawl Space Type: Unvented
  - Thermal Boundary Location: Foundation Wall
- Analysis:**
  - Updated: 03:48:12 PM
  - Programs:**
    - V2.0 ENERGY... Passes
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The bottom status bar shows "Detailed", "Knoxville, TN", and "01/20/12". Navigation tabs for "Energy", "Area", and "Compliance" are visible at the bottom right.

REM/Rate v 12.97 - Norris apprvd RM 08.01.2011.blg

File Building View Extras Libraries Reports Tools Help

Foundation Wall Properties Summary

#	Name	Type	Length	Height	Depth	Hgt AG
1	Crawl	UT/NN	112.0	5.0	2.0	3.0

New Delete Copy

Foundation Wall Properties

Name: Crawl

Type: UT/NN R=24.10

Length (ft): 112.0 Height Above Grade (ft): 3.0

Height (ft): 5.0 Depth Below Grade (ft): 2.0

Location: Between enclosed crawl space and ambient/ground

Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
Tax Credit	Passes
HERS Index	49
NY HERS Score	N/A

Code

IECC 2012 En...	Fail
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Passes
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

Errors/Warnings

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Energy Area Compliance

Detailed Knoxville, TN 01/20/12

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**Foundation Wall Properties Summary**

#	Name	Type	Length	Height	Depth	Hgt.AG
1	Crawl	UT/NN	112.0	5.0	2.0	3.0

Buttons: New, Delete, Copy

**Foundation Wall Properties**

Name:

Type:  R=24 . 10

Length (ft):  Height Above Grade (ft):

Height (ft):  Depth Below Grade (ft):

Location:

**Analysis** (Updated: 03:48:12 PM)

**Programs**

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
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Tax Credit	Passes
HERS Index	49
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IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
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ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

**Errors/Warnings**

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Navigation: Energy, Area, Compliance

Footer: Detailed Knoxville, TN 01/20/12



REM/Rate v 12.97 - Norris apprvd RM 08.01.2011.blg

File Building View Extras Libraries Reports Tools Help

Frame Floor Properties Summary

#	Name	Type	Area
1	1st	Uninsulated	768

New Delete Copy

Frame Floor Properties

Name: 1st Area (sq ft): 768

Type: Uninsulated U=0.299

Location: Between conditioned space and enclosed crawl space

Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	FAILS
Tax Credit	Passes
HERS Index	49
NY HERS Score	N/A

Code

IECC 2012 En...	FAILS
IECC 2009 En...	Passes
IECC 2006 En...	Passes
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IECC 2003 En...	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Passes
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

Errors/Warnings

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File Building View Extras Libraries Reports Tools Help

Above-Grade Wall Properties Summary

#	Name	Type	Gross Area
1	N	R-22, R-10 Cont.3*	320.0
2	S	R-22, R-10 Cont.3*	320.0
3	E	R-22, R-10 Cont.3*	400.0
4	W	R-22, R-10 Cont.3*	400.0
5	West Dormer	R-22, R-10 Cont.3*	22.5

New Delete Copy

Above-Grade Wall Properties

Name: N

Type: R-22, R-10 Cont.3\* U=0.034

Gross Area (sq ft): 320.0 Exterior Color: Medium

Location: Between conditioned space and ambient

Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fail
Tax Credit	Passes
HERS Index	49
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Code

IECC 2012 En...	Fail
IECC 2009 En...	Passes
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IECC 2004 En...	Passes
IECC 2003 En...	Passes
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ECCCNYS-2010	Passes
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

Errors/Warnings

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File Building View Extras Libraries Reports Tools Help

Rim and Band Joist Properties Summary

#	Name	Area	Contin Ins	Framed Ins	Thickness	Spacing
1	1st	112.0	6.0	22.2	6.0	24.0

New Delete Copy

Rim and Band Joist Properties

Name: 1st Joist Cavity Ins (R-value): 22.2

Area (sq ft): 112.0 Joist Cavity Ins Thickness (in): 6.0

Continuous Ins (R-value): 6.0 Insulation Grade: I

Joist Spacing (in. o.c.): 24.0

Location: Between enclosed crawl and ambient

Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
Tax Credit	Passes
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IECC 2012 En...	Fails
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IECC 2004 En...	Passes
IECC 2003 En...	Passes
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MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

Errors/Warnings

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File Building View Extras Libraries Reports Tools Help

Window and Glass Door Properties Summary

#	Name	Type	Area	Orient	Wall#
1	N French	UT/NN	45.0	North	AGW1
2	N Shaded	UT/NN	10.0	North	AGW1
3	S	UT/NN	21.0	South	AGW2
4	S-Shaded	UT/NN	39.0	South	AGW2
5	E	UT/NN	24.4	East	AGW3

New Delete Copy

Window Properties

Name: N French Type: UT/NN

Area (sq ft): 45.0 U-Value: 0.230

Orientation: North SHGC: 0.270

Overhang: Depth (ft): 4.5 Interior Shading Adjacent Shading

To Top Of Window (ft): 0.0 Winter: 0.85 Winter: None

To Bottom Of Window (ft): 8.0 Summer: 0.70 Summer: None

Wall Assignment: Wall # Wall Name Wall Area

AGW 1 N 320.0

Errors/Warnings

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Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
Tax Credit	Passes
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IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Passes
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

Energy Area Compliance

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File Building View Extras Libraries Reports Tools Help

Door Properties Summary

#	Name	Type	Area	Wall #
1	W	UT/NN	23.0	AGW4
2	E	UT/NN	22.0	AGW3

New Delete Copy

Door Properties

Name:  Opaque Area (sq ft):

Type:  RVal Opaque = 7.00

Wall #	Wall Name	Wall Area
AGW 4	W	400.0

Errors/Warnings

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Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
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MEC 1995 En...	Passes
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ASHRAE 90.2 ...	Passes

Energy Area Compliance

Detailed Knoxville, TN 01/20/12

NNH | HERS Index Report

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File Building View Extras Libraries Reports Tools Help

**Ceiling Properties Summary**

#	Name	Type	Area	Style	Radiant
1	Main	UT/NN	838	Vaulted	Yes

New Delete Copy

**Ceiling Properties**

Name: Main

Type: UT/NN U=0.024

Gross Area (sq ft): 838

**Roof Properties**

Exterior Color: Reflective Clay or Concrete Roofing Tiles: No

Radiant Barrier: Yes Sub-Tile Ventilation Present: No

**Analysis**

Updated: 03:48:12 PM

**Programs**

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	FAILS
Tax Credit	Passes
HERS Index	49
NY HERS Score	N/A

**Code**

IECC 2012 En...	FAILS
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IECC 2001 En...	Passes
IECC 2000 En...	Passes
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ECCCNYS-2010	Passes
ECC of Southe...	Passes
MEC 1995 En...	Passes
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ASHRAE 90.2 ...	Passes

**Errors/Warnings**

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Ready Detailed Knoxville, TN 01/20/12

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File Building View Extras Libraries Reports Tools Help

Skylight Properties Summary

#	Name	Type	Area	Orient	Ceiling#
1	East	UT/NN Skylight	17.3	East	Roof1

New Delete Copy

Skylight Properties

Name:  Area (sq ft):

Type:  Winter Shading Factor:

U-Value:  Summer Shading Factor:

SHGC:  Orientation:

Pitch (?/12):

Ceiling #	Ceiling Name	Ceiling Area
Roof1	Main	838.0

Ceiling Assignment:

Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	FAILS
Tax Credit	Passes
HERS Index	49
NY HERS Score	N/A

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MEC 1993 En...	Passes
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Mechanical Equipment Properties Summary

#	Type	Htg Eff	Clg Eff	Dhw Eff
1	UT/NN Multi-split	10.0 HSPF	16.0 SEER	
2	Rheem HP80RH			0.98 EF

New Delete Copy

Mechanical Equipment Properties

Library Type: Air-Source Heat Pump Number of Units: 1

Equipment: UT/NN Multi-split

Location: Conditioned area

Performance Adj. (%): 100.0 Load Served (%): Heating 100.0 Cooling 100.0 DHW 0.0

System-Wide Properties

	Heating	Cooling	DHW
Setpoint Temperature (F):	68.0	78.0	
Programmable Thermostat:	<input type="checkbox"/>	<input type="checkbox"/>	
Capacity Weight % of Load Served:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Total Load Served (must total 100%):	100	100	100

Errors/Warnings

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ECC of Southe...	Passes
MEC 1995 En...	Passes
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MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

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Detailed Knoxville, TN 01/20/12

NNH | HERS Index Report

The screenshot displays the REM/Rate v 12.97 software interface for a project named 'Norris aprvrd RM 08.01.2011.blg'. The interface is divided into several sections:

- Duct System Selector:** A table with one entry:
 

#	Name
1	None
- Duct Leakage:**
  - Use Default Leakage: N/A
  - Use Measured Leakage: CFM @ 25 Pascals
  - Leakage to Outside:
    - Total: 0.00 CFM @ 25 Pascals
    - Supply: 0.00
    - Return: 0.00
  - Total Duct Leakage: 0.00 CFM @ 25 Pascals
  - Duct Test Conditions: Postconstruction Test
- Duct Surface Area (sqft):**
  - Supply: 207.4
  - Return: 38.4
- Ducts:**

Location	Supply		Return	
	% Area	R-Value	% Area	R-Value
1 Conditioned space	100	0.0	100	0.0
2 None	0	0.0	0	0.0
- Analysis:**
  - Updated: 03:48:12 PM
  - Programs:**
    - V2.0 ENERGY... Passes
    - V2.5 ENERGY... Passes
    - V3.0 ENERGY... Fails
    - Tax Credit Passes
    - HERS Index 49
    - NY HERS Score N/A
  - Code:**
    - IECC 2012 En... Fails
    - IECC 2009 En... Passes
    - IECC 2006 En... Passes
    - IECC 2004 En... Passes
    - IECC 2003 En... Passes
    - IECC 2001 En... Passes
    - IECC 2000 En... Passes
    - IECC 1998 En... Passes
    - ECCCNYS-2010 Passes
    - ECC of Southe... Passes
    - MEC 1995 En... Passes
    - MEC 1993 En... Passes
    - MEC 1992 En... Passes
    - ASHRAE 90.2... Passes
- Errors/Warnings:**
  - WARNINGS
  - Total Duct Leakage is set to 0. If this not correct, please go to the Duct Summary Screen and enter Total Duct Leakage. Certain energy codes require total duct leakage testing.

At the bottom of the window, the status bar shows 'Detailed', 'Knoxville, TN', and '01/20/12'.

REM/Rate v 12.97 - Norris apprvd RM 08.01.2011.blg

File Building View Extras Libraries Reports Tools Help

Whole House Infiltration

Measurement Type: Blower door test

Heating Season Infiltration Value: 292

Cooling Season Infiltration Value: 292

Shelter Class: 4

2009 IECC Verification: Tested

Mechanical Ventilation System for IAQ

Type: Balanced

Sensible Recovery Efficiency (%): 80.0

Total Recovery Efficiency (%): 42.0

Rate (cfm): 60

Hours/Day: 12.0

Fan watts: 40.0

Ventilation Strategy for Cooling

Cooling Season Ventilation: Natural Ventilation

Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
Tax Credit	Passes
HERS Index	49
NY HERS Score	N/A

Code

IECC 2012 En...	Fails
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Passes
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

Errors/Warnings

WARNINGS

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Energy Area Compliance

Detailed Knoxville, TN 01/20/12

NNH | HERS Index Report

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File Building View Extras Libraries Reports Tools Help

**Rating Audit**

Refrigerator  
 Total Consumption: 450 kWh/yr Location: Conditioned

Dishwasher  
 Energy Factor: 0.46 or kWh/yr: 0 Place Setting Capacity: 12

Range/Oven  
 Fuel: Electric Induction Range Convection Oven

Clothes Dryer  
 Fuel: Electric Efficiency Factor: 3.01 Moisture Sensing  
 Location: Conditioned Washer MEF: 0.817

Clothes Washer  
 Location: Conditioned Label Energy Rating: 704 kWh/yr Capacity Cu.Ft.: 2.874  
 Electric Rate: 0.0803 Gas Rate: 0.58 Annual Gas Cost: 32.00

Lighting  
 CFL (%): 0.0 Interior Fixtures Exterior Fixtures(%): 0.0  
 Pin-Based FL (%): 100.0 Garage Fixtures(%): 0.0

Ceiling Fan(s)  
 CFM / Watt: 140.0 (at Med. speed)

**Analysis**  
 Updated: 03:48:12 PM

**Programs**

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
Tax Credit	Passes
HERS Index	49
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**Code**

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MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

**Errors/Warnings**

WARNINGS

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Energy Area Compliance

Detailed Knoxville, TN 01/20/12

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File Building View Extras Libraries Reports Tools Help

Marking any given checkbox certifies that the home complies with all mandatory requirements referenced by that checkbox. Needed for showing compliance on various reports.

**IECC - Mandatory Requirements**

2004 IECC       2009 IECC       2010 NY IECC

2006 IECC       2012 IECC

**ENERGY STAR Version 2**

Thermal Bypass Checklist       ENERGY STAR Products

**ENERGY STAR Version 2.5 and 3.0**

**Checklists Fully Enforced for 3.0**

Thermal Enclosure

HVAC System Quality Installation Contractor

HVAC System Quality Installation Rater

Water Management System Builder

Indoor airPlus Verification

**ENERGY STAR Product Count**

# Refrigerators    1

# Ceiling Fans    2

# Exhaust Fans    2

# Dishwashers    0

**Conditioned Basement Exclusion**

Basement Qualifies for SAF exclusion?

Basement Conditioned Floor Area: 0

**Version 3.0 Envelope Alternative**

Building envelope meets the insulation requirements of the 2009 IECC - Table 402.1.1

**Analysis**

Updated: 03:48:12 PM

**Programs**

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	FAILS
Tax Credit	Passes
HERS Index	49
NY HERS Score	N/A

**Code**

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MEC 1993 En...	Passes
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**Errors/Warnings**

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Energy Area Compliance

Detailed Knoxville, TN 01/20/12

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File Building View Extras Libraries Reports Tools Help

Drywall Thickness (in.):

Interior Mass Properties Summary

#	Name	Type	Area	Thickness

New Delete Copy

Interior Mass Properties

Name:  Area (sq ft):

Type:  Mass Thickness (in):

Location:

Analysis

Updated: 03:48:12 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	FAILS
Tax Credit	Passes
HERS Index	49
NY HERS Score	N/A

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Errors/Warnings

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Energy Area Compliance

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File Building View Extras Libraries Reports Tools Help

Active Solar System

System Type: DHW heating only

Collector Loop Type: Liquid, indirect

Collector Type: Double glazing, flat black

Collector Orientation: South

Collector Area (sq ft): 32.0

Collector Tilt (degrees): 2.0

Storage Volume (cu ft or gal): 80.0

Analysis

Updated: 03:48:12 PM

**Programs**

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V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
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Energy Area Compliance

Detailed Knoxville, TN 01/20/12