FLORIDA SOLAR ENERGY CENTER®
Creating Energy Independence

2010 Florida Energy Code Software Verification Test Report: EnergyGauge® USA version 3.0

FSEC-RR-382-12

February 23, 2012

Submitted to

Florida Building Commission
1940 North Monroe Street
Tallahassee, FL 32399

Submitted by

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A Research Institute of the University of Central Florida

2010 Florida Energy Code Software Verification Test Report: EnergyGauge® USA version 3.0

Florida Solar Energy Center
January 23, 2012

Introduction

This report contains results from a series of software verification tests required by the Florida Building Commission for Florida Energy Code compliance tools.[1] These tests consist of two suites of building load tests, referred to as HERS BESTEST[2] and Florida HERS BESTEST[3] developed by the National Renewable Energy Laboratory, a Standard Reference Design Auto-generation test suite developed by the State of Florida (Appendix C of Reference 1) and three test suites developed by RESNET to test Heating, Ventilating and Air Conditioning (HVAC) equipment algorithms,[4] Distribution System Efficiency (DSE) algorithms[5] and Domestic Hot Water (DHW) algorithms.[6]

Test Reports

In addition to the results reported here, this report is accompanied by a compact disk (CD) containing a functional copy of EnergyGauge® USA, version 3.0, the software tool that performed the tests. Also contained on the CD are all of the input, output and spreadsheet report, and procedures files used to conduct the tests. The segment of the CD containing these files is arranged as sub directories named in accordance with their contents as follows:

- BESTEST
- FL-BESTEST
- FL-AutoGen
- HVAC-tests
- DSE-tests
- DHW-tests

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[1] J.M. Juda Corporation, January 17, 2012, "Energy Simulation Tool Approval Technical Assistance Manual." 2010 Florida Building Code, Energy Conservation Document Number: TAM-2010-1.0, West Palm Beach, FL.

[2] Judkoff, R. and J. Neymark, November 1995. "Home Energy Rating System Building Energy Simulation Test (HERS BESTEST),", Volume 1 Tier 1 and Tier 2 Tests User's Manual, NREL/TP-472-7332a, Golden, CO. http://www.nrel.gov/docs/legosti/fy96/7332a.pdf

[3] Judkoff, R. and J. Neymark, August 1997. "Home Energy Rating System Building Energy Simulation Test for Florida (Florida-HERS BESTEST)," Volume 1 Tier 1 and Tier 2 Tests User's Manual, NREL/TP-550-23124a, golden, CO. http://www.nrel.gov/docs/legosti/fy97/23124a.pdf

[4] RESNET, March 2007, "Procedures for Verification of International Energy Conservation Code Performance Path Calculations Tools." RESNET Publication No. 07-003, Residential Energy Services Network, Oceanside, CA. http://www.resnet.us/programs/RESNET_Pub_07-003_errata.pdf

[5] *ibid*

[6] *ibid*

Each of the above directories contains a series of subdirectories, which include all of the specific information for the given series of verification tests, as follows:

- Input – contains the EnergyGauge input files for each test
- Output – contains PDF copies of the output files generated by EnergyGauge for each test
- Procedures – contains the written procedures for each test suite
- Results – contains the results completed spreadsheets provided by the Florida Building Commission for reporting results

Re-Running the Verification Tests

The test results reported here may be verified by others using EnergyGauge USA v.3.0 and the following instructions.

a) HERS BESTEST, Teir 1 Tests (including Florida-HERS BESTEST):

The BESTEST cases are named in the format 'LxxxAy' corresponding to the case numbers in the HERS BESTEST Document(s), where 'y' is the first character of the city for which the test is run ('C' for Colorado Springs, CO; 'L' for Las Vegas, NV and 'O' for Orlando, FL).

These cases are run by loading the case into the software and then selecting the following actions on the main menu bar:

- Calculate > BESTEST Loads

The building heating and/or cooling loads are reported at the top of the initial page of the report that appears at the conclusion of the simulation

b) Florida Standard Reference Design Auto-generation tests:

The Auto-generation cases are named in the format AutoGen_case...

These cases are run by loading the case into the software and then selecting the following actions on the main menu bar:

To run test cases 1-4, make the following selections from the main menu bar

- View > Florida Baseline (2010)

Then select

- Reports > Reference Home Characteristics

The Florida Standard Reference Design characteristics are displayed on this report.

To run test case 5, make the following selections from the main menu bar

- View > Florida Baseline (2010)

Then select

- Calculate > Florida Code Compliance 2010 > Performance Method

Then select

- Reports > Florida Code Summary 2010

The Total Proposed Modified Loads and the Total Baseline Loads used to calculate the e-Ratio are given on this report.

c) HVAC Tests:

The HVAC test cases are named in the format HVAC_TestCase-xx

These cases are run by loading the case into the software and then selecting the following actions on the main menu bar:

- Calculate > Annual Simulation

The heating and cooling energy use values for these tests are given on the report that appears on the screen at the conclusion of the annual simulation.

d) Distribution System Efficiency (DSE) Tests:

The Distribution System Efficiency test cases are named in the format DSE_HVAC-xx

These cases are run by loading the case into the software and then selecting the following actions on the main menu bar:

- Calculate > Annual Simulation

The heating and cooling energy use values for these tests are given on the report that appears on the screen at the conclusion of the annual simulation.

e) Hot Water System Performance tests:

The hot water performance test cases are named in the format DHW-xx-xx-x

These cases are run by loading the case into the software and then selecting the following actions on the main menu bar:

- Calculate > Annual Simulation

The hot water energy use values are given on the report that appears on the screen at the conclusion of the annual simulation.

Test Results

The results from all software verification tests required by the Florida Building Commission are provided in this section of the report. These results comprise PDF printouts of the completed results spreadsheets, including affiliated charts and graphs for each spreadsheet, as provided by the Florida Building Commission for this purpose. In addition, the PDF copies of each test result output file coming from EnergyGauge® USA v.3.0 are included in a set of appendices to this report.

The results spreadsheet reports are presented on the following pages in the following order:

- BESTEST
- FL-BESTEST
- FL-AutoGen
- HVAC-tests
- DSE-tests
- DHW-tests

The appendices containing the EnergyGauge output files follow these results spreadsheet reports.

HERS BESTEST results for: **Software Name:** EnergyGauge USA v3.0

User input data fields indicated by pale yellow
Test result fields indicated by pale green

Annual Heating Loads: Colorado Springs, CO

Heating	range max	range min	Result	pass/fail
L100AC	79.48	48.75	56.92	pass
L110AC	103.99	71.88	78.34	pass
L120AC	64.30	37.82	43.65	pass
L130AC	53.98	41.82	45.92	pass
L140AC	56.48	43.24	48.90	pass
L150AC	71.33	40.95	48.61	pass
L155AC	74.18	43.53	51.10	pass
L160AC	81.00	48.78	57.57	pass
L170AC	92.40	61.03	68.05	pass
L200AC	185.87	106.41	128.88	pass
L202AC	190.05	111.32	136.92	pass
L302XC	90.52	52.66	55.84	pass
L304XC	75.32	43.91	48.27	pass
L322XC	118.20	68.35	74.55	pass
L324XC	80.04	44.01	49.54	pass

Annual Heating Load deltas: Colorado Springs, CO

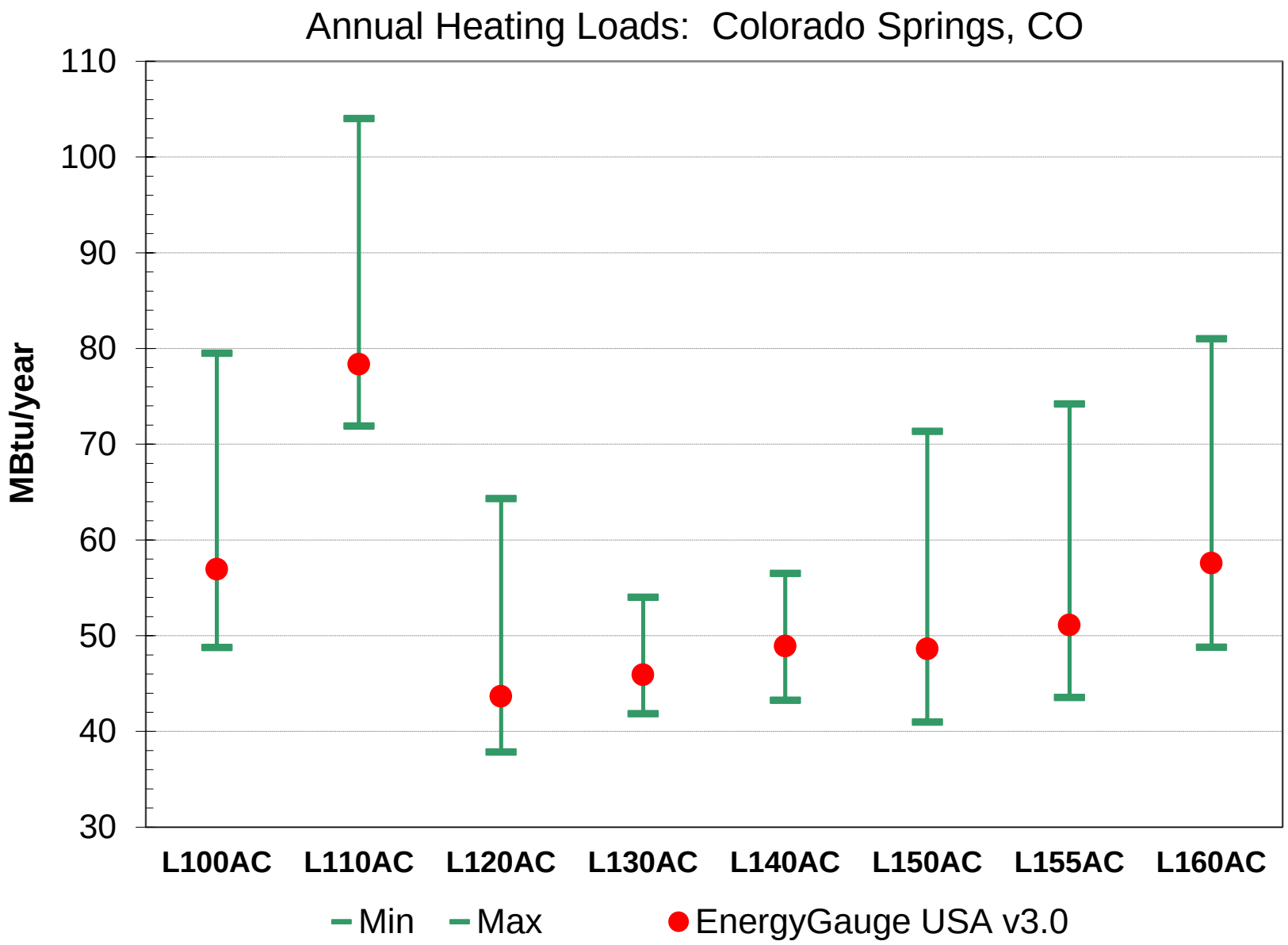
Heating	range max	range min	Result	pass/fail
L110AC-L100AC	28.12	19.37	21.42	pass
L120AC-L100AC	-7.67	-18.57	-13.27	pass
L130AC-L100AC	-5.97	-27.50	-11.00	pass
L140AC-L100AC	-4.56	-24.42	-8.02	pass
L150AC-L100AC	-3.02	-12.53	-8.31	pass
L155AC-L150AC	6.88	-1.54	2.49	pass
L160AC-L100AC	5.10	-3.72	0.65	pass
L170AC-L100AC	17.64	7.12	11.13	pass
L200AC-L100AC	107.66	56.39	71.96	pass
L202AC-L200AC	9.94	-0.51	8.04	pass
L302XC-L100AC	14.50	-3.30	-1.08	pass
L302XC-L304XC	17.75	5.66	7.57	pass
L322XC-L100AC	39.29	15.71	17.63	pass
L322XC-L324XC	38.27	20.21	25.01	pass

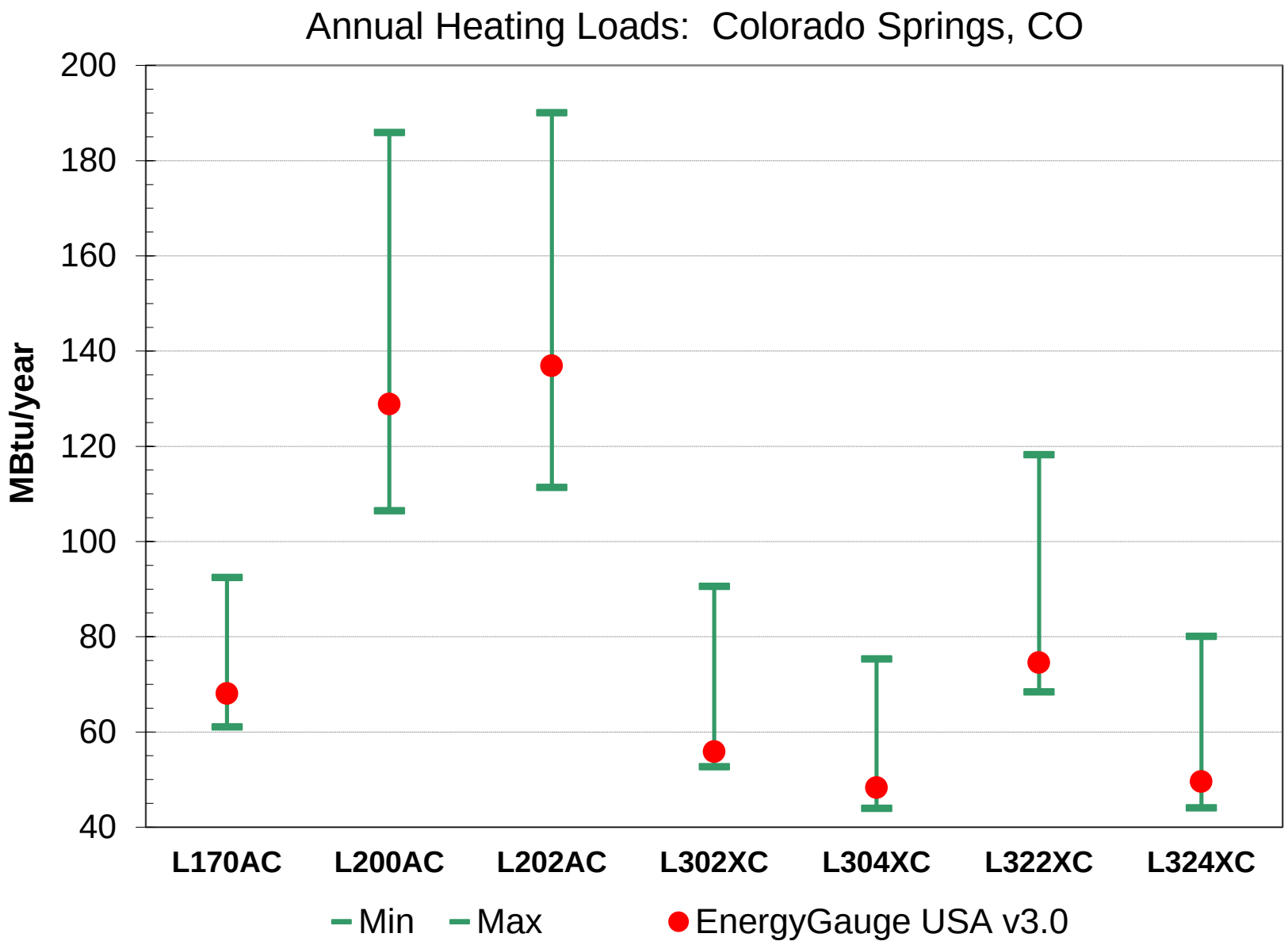
Annual Cooling Loads: Las Vegas, NV

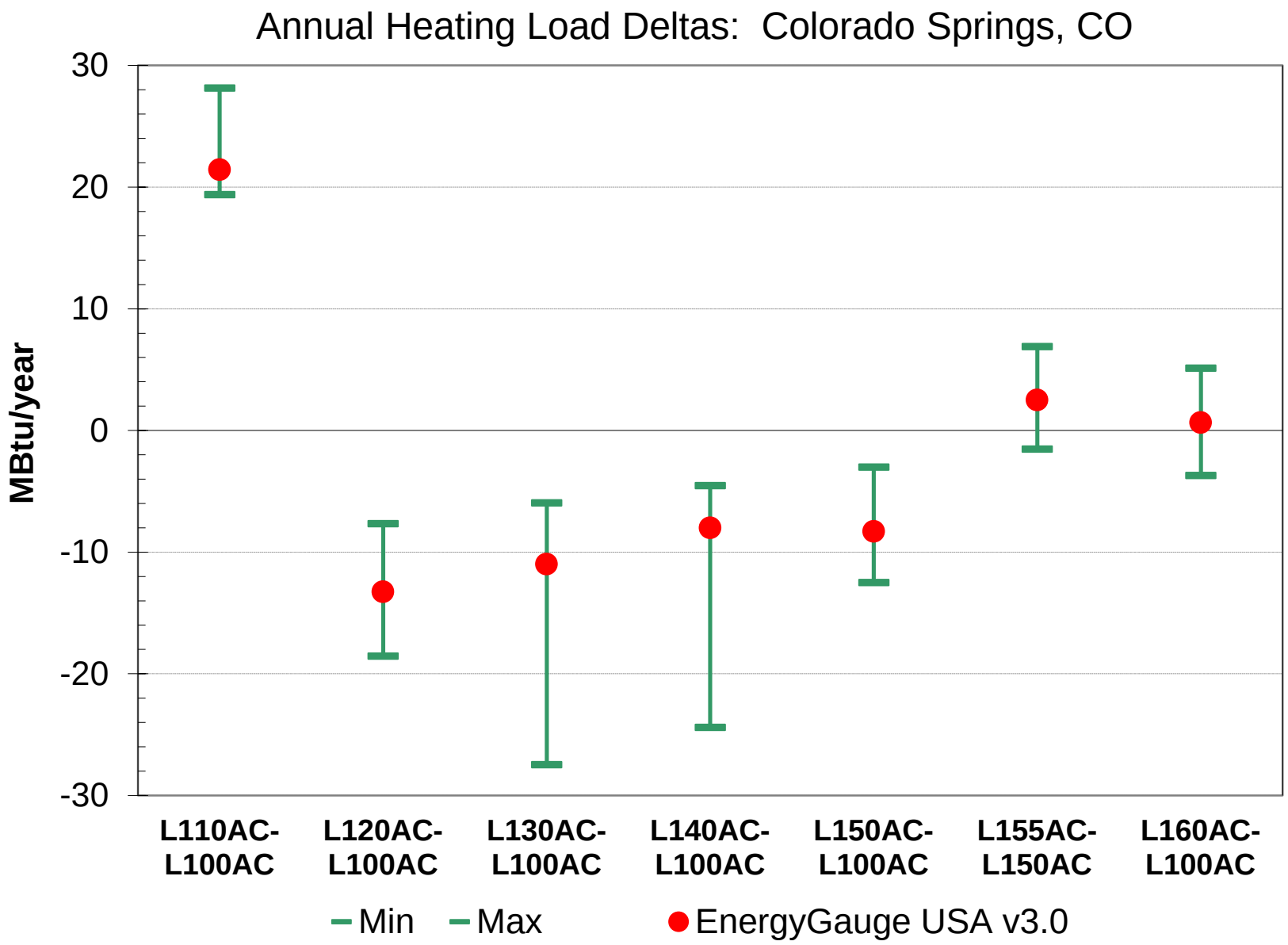
Cooling	range max	range min	Result	pass/fail
L100AL	64.88	50.66	53.61	pass
L110AL	68.50	53.70	55.81	pass
L120AL	60.14	47.34	47.91	pass
L130AL	45.26	32.95	36.99	pass
L140AL	30.54	19.52	24.28	pass
L150AL	82.33	62.41	68.15	pass
L155AL	63.06	50.08	54.05	pass
L160AL	72.99	58.61	62.64	pass
L170AL	53.31	41.83	43.29	pass
L200AL	83.43	60.25	66.27	pass
L202AL	75.96	52.32	54.22	pass

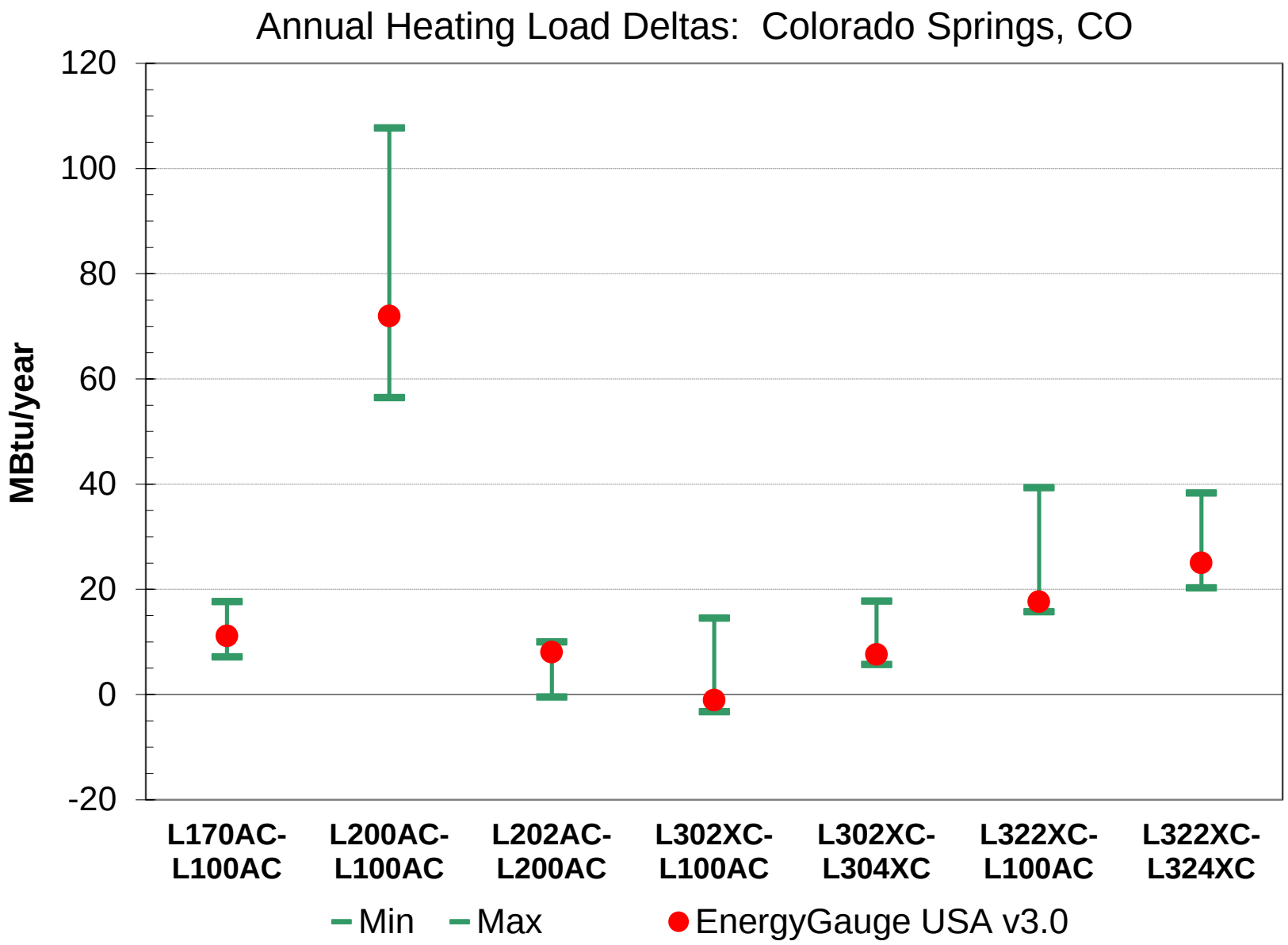
Annual Cooling Load deltas: Las Vegas, NV

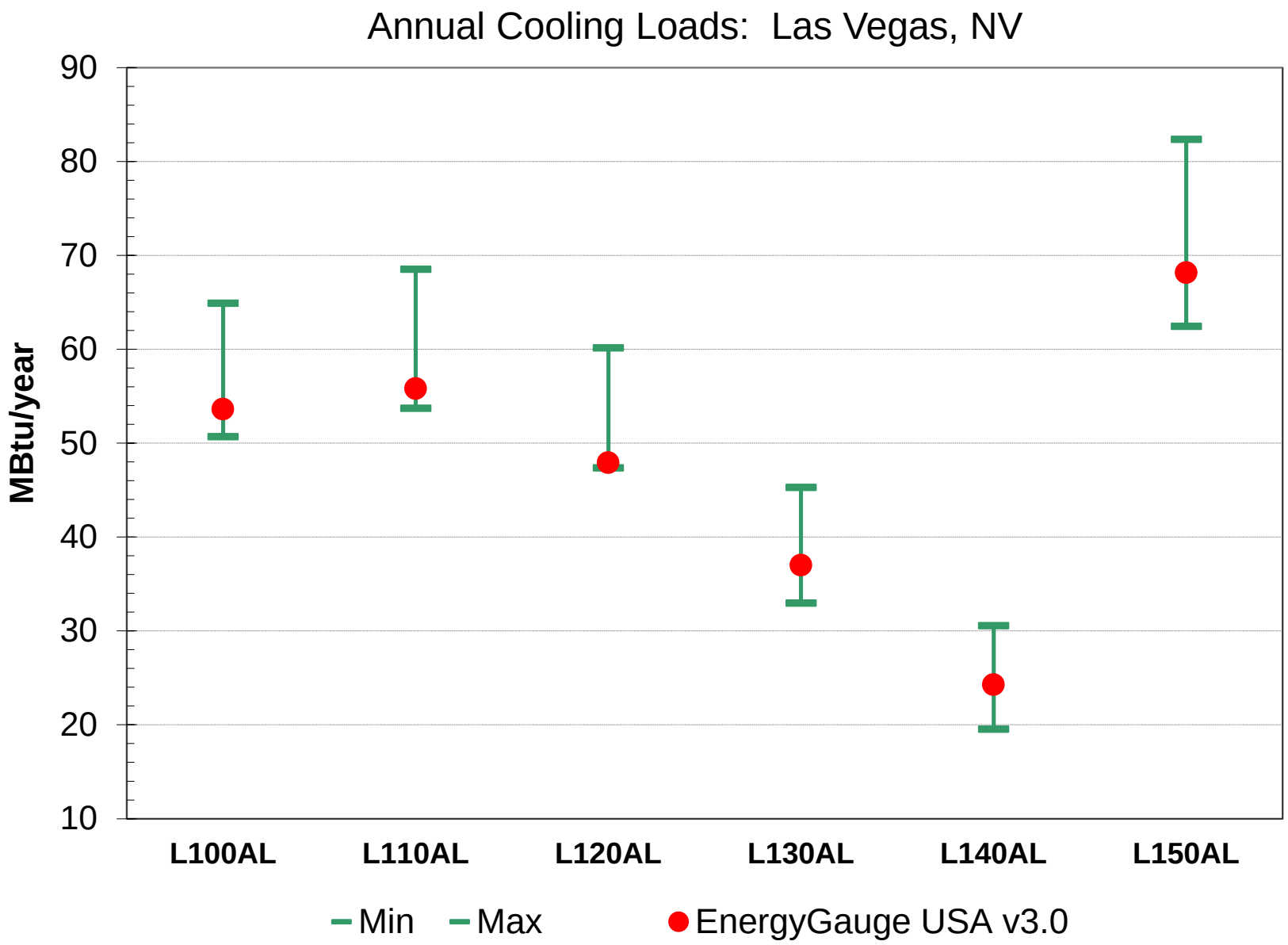
Cooling	range max	range min	Result	pass/fail
L110AL-L100AL	7.84	-0.98	2.20	pass
L120AL-L100AL	0.68	-8.67	-5.70	pass
L130AL-L100AL	-13.71	-24.40	-16.62	pass
L140AL-L100AL	-27.14	-38.68	-29.33	pass
L150AL-L100AL	20.55	8.72	14.54	pass
L155AL-L150AL	-9.64	-22.29	-14.10	pass
L160AL-L100AL	12.28	3.88	9.03	pass
L170AL-L100AL	-4.83	-15.74	-10.32	pass
L200AL-L100AL	21.39	6.63	12.66	pass
L200AL-L202AL	14.86	2.03	12.05	pass

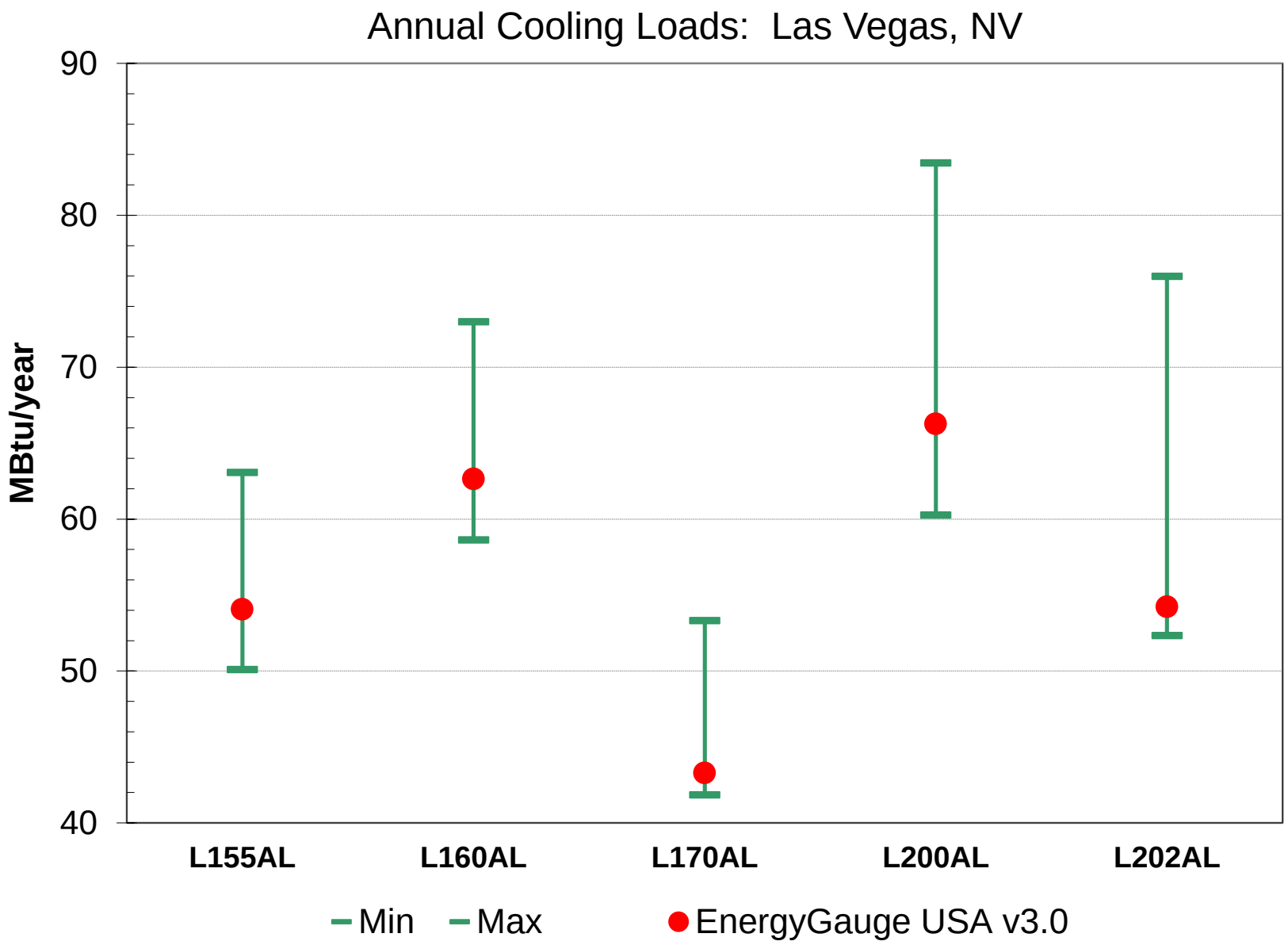

Annual Heating Loads: Colorado Springs, CO
MBtu/year
110
100
90
80
70
60
50
40
30
L100AC
L110AC
L120AC
L130AC
L140AC
L150AC
L155AC
L160AC
Min
Max
EnergyGauge USA v3.0

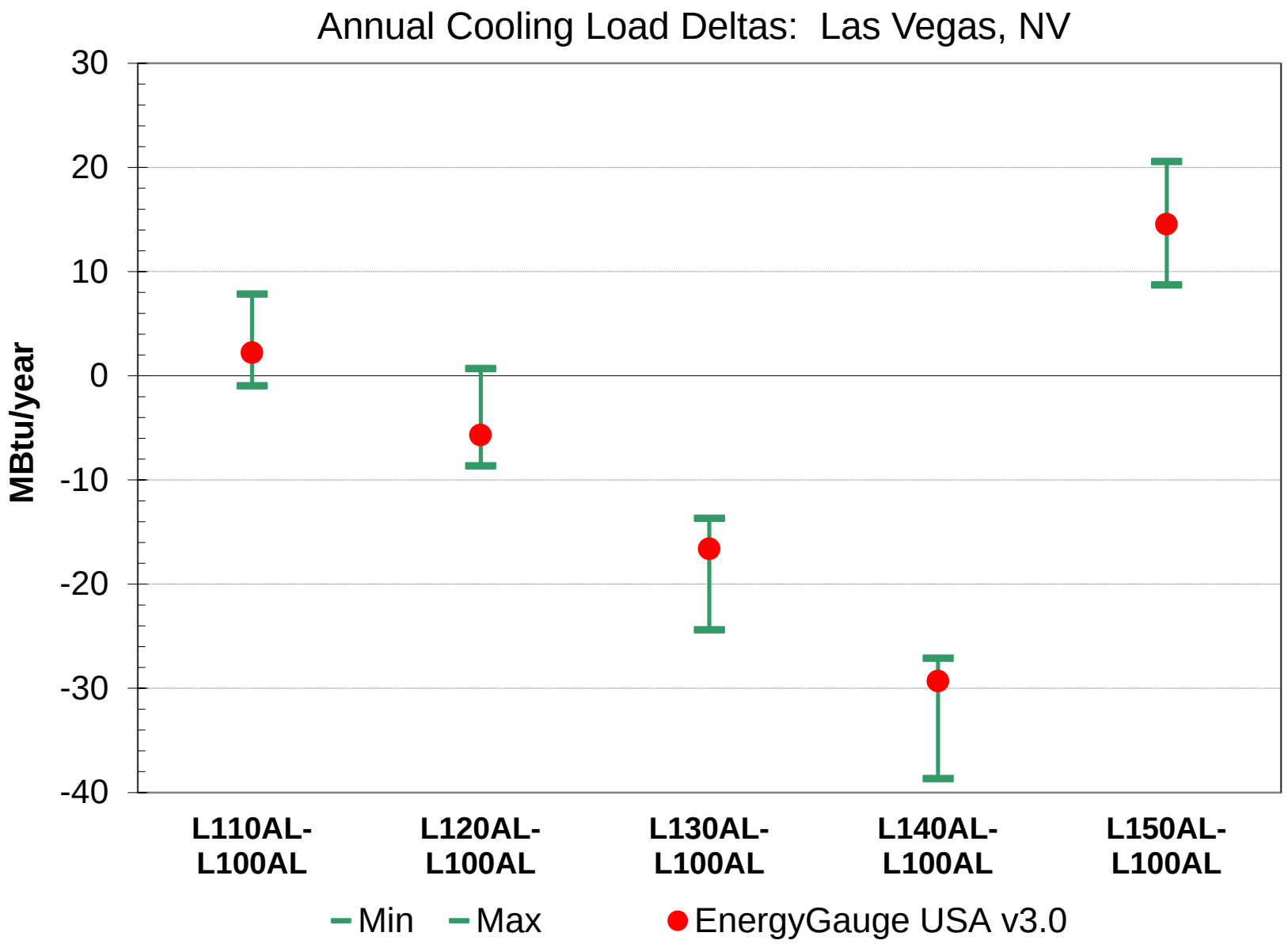

Annual Heating Loads: Colorado Springs, CO
MBtu/year
200
180
160
140
120
100
80
60
40
L170AC
L200AC
L202AC
L302XC
L304XC
L322XC
L324XC
Min
Max
EnergyGauge USA v3.0

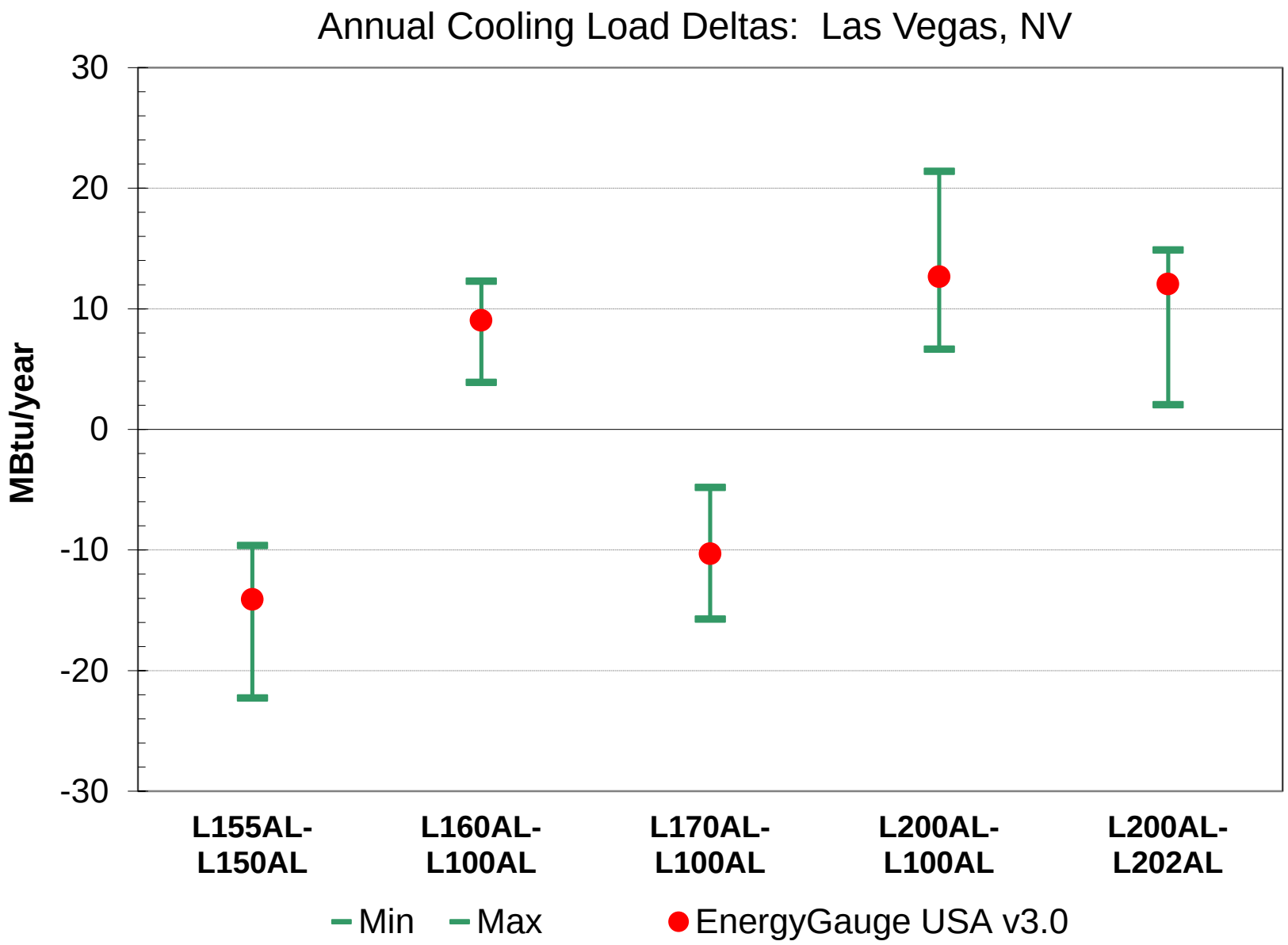

Annual Heating Load Deltas: Colorado Springs, CO
MBtu/year
30
20
10
0
-10
-20
-30
L110AC-L100AC
L120AC-L100AC
L130AC-L100AC
L140AC-L100AC
L150AC-L100AC
L155AC-L150AC
L160AC-L100AC
Min
Max
EnergyGauge USA v3.0


Annual Heating Load Deltas: Colorado Springs, CO
MBtu/year
120
100
80
60
40
20
0
-20
L170AC-L100AC
L200AC-L100AC
L202AC-L200AC
L302XC-L100AC
L302XC-L304XC
L322XC-L100AC
L322XC-L324XC
Min
Max
EnergyGauge USA v3.0


Annual Cooling Loads: Las Vegas, NV
MBtu/year
90
80
70
60
50
40
30
20
10
L100AL
L110AL
L120AL
L130AL
L140AL
L150AL
Min
Max
EnergyGauge USA v3.0


Annual Cooling Loads: Las Vegas, NV
MBtu/year
90
80
70
60
50
40
L155AL
L160AL
L170AL
L200AL
L202AL
Min
Max
EnergyGauge USA v3.0


Annual Cooling Load Deltas: Las Vegas, NV
MBtu/year
30
20
10
0
-10
-20
-30
-40
L110AL-L100AL
L120AL-L100AL
L130AL-L100AL
L140AL-L100AL
L150AL-L100AL
Min
Max
EnergyGauge USA v3.0


Annual Cooling Load Deltas: Las Vegas, NV
MBtu/year
30
20
10
0
-10
-20
-30
L155AL-L150AL
L160AL-L100AL
L170AL-L100AL
L200AL-L100AL
L200AL-L202AL
Min
Max
EnergyGauge USA v3.0

Florida HERS BESTEST results for: **Software Name:** EnergyGauge USA v.3.0

User input data fields indicated by pale yellow
Test result fields indicated by pale green

Annual Heating Loads: Orlando

Heating	range max	range min	Result	pass/fail
L100AO	10.56	1.54	5.64	pass
L110AO	14.71	5.54	8.95	pass
L120AO	8.57	-0.44	3.96	pass
L130AO	7.86	-0.48	3.98	pass
L140AO	8.34	-0.05	3.73	pass
L150AO	9.55	0.37	5.37	pass
L155AO	9.95	0.78	5.47	pass
L160AO	10.71	1.74	5.95	pass
L170AO	14.37	4.78	9.25	pass
L200AO	25.55	13.41	16.96	pass
L202AO	26.24	13.87	18.03	pass
L302XO	12.09	-0.04	3.49	pass
L304XO	10.36	-0.97	3.12	pass
L322XO	14.82	-0.25	2.75	pass
L324XO	10.15	-1.87	2.10	pass

Annual Heating Load deltas: Orlando

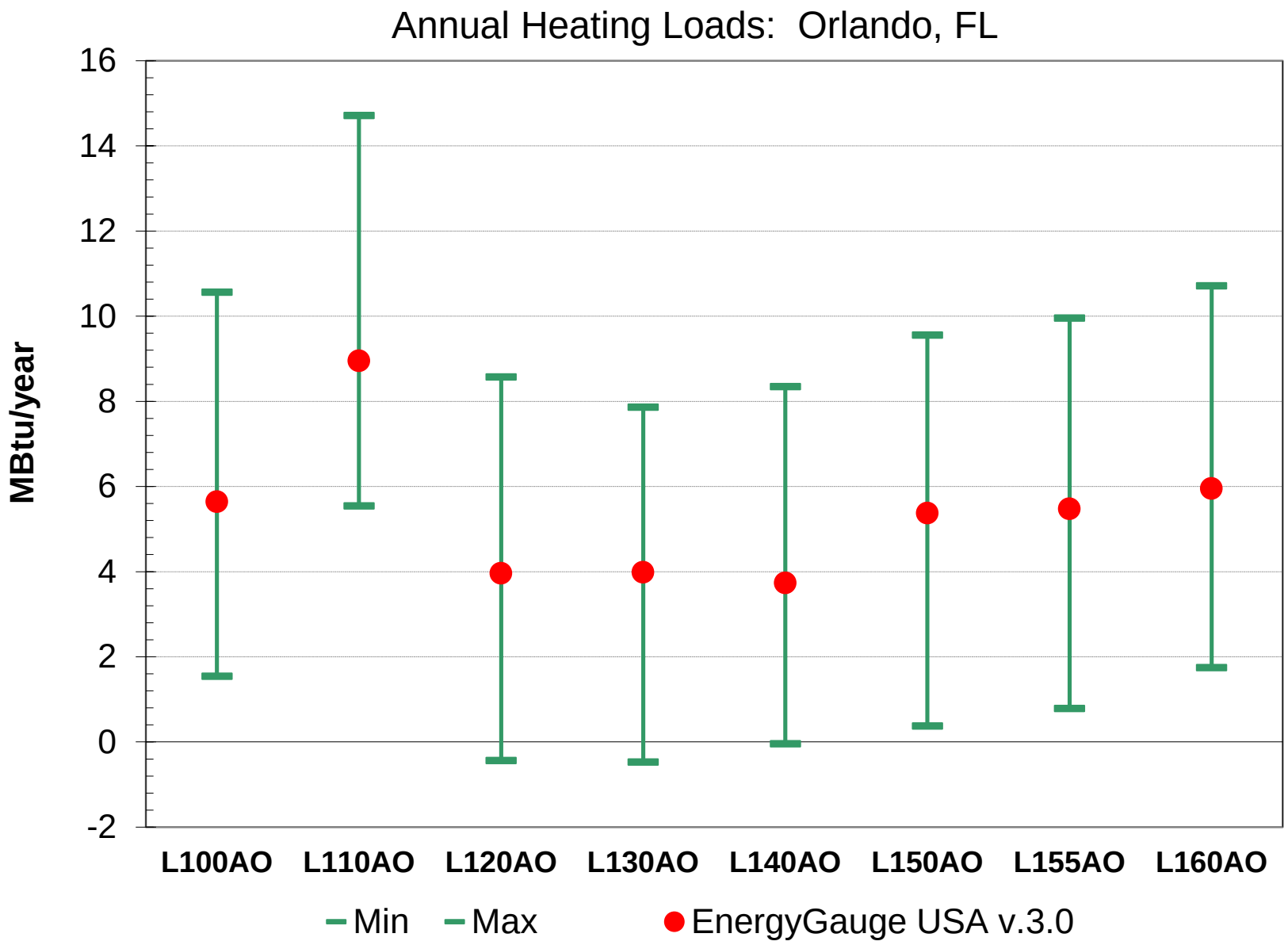
Heating	range max	range min	Result	pass/fail
L110AO-L100AO	8.15	-0.05	3.31	pass
L120AO-L100AO	2.39	-5.99	-1.68	pass
L130AO-L100AO	2.15	-6.70	-1.66	pass
L140AO-L100AO	2.52	-6.22	-1.91	pass
L150AO-L100AO	3.20	-5.17	-0.27	pass
L155AO-L100AO	4.41	-3.69	0.10	pass
L160AO-L100AO	4.28	-3.85	0.31	pass
L170AO-L100AO	8.11	-0.81	3.61	pass
L200AO-L100AO	18.99	7.81	11.32	pass
L202AO-L200AO	4.82	-3.53	1.07	pass
L302XO-L100AO	5.60	-6.60	-2.15	pass
L302XO-L304XO	5.73	-3.18	0.37	pass
L322XO-L100AO	8.26	-6.12	-2.89	pass
L322XO-L324XO	8.67	-2.65	0.65	pass

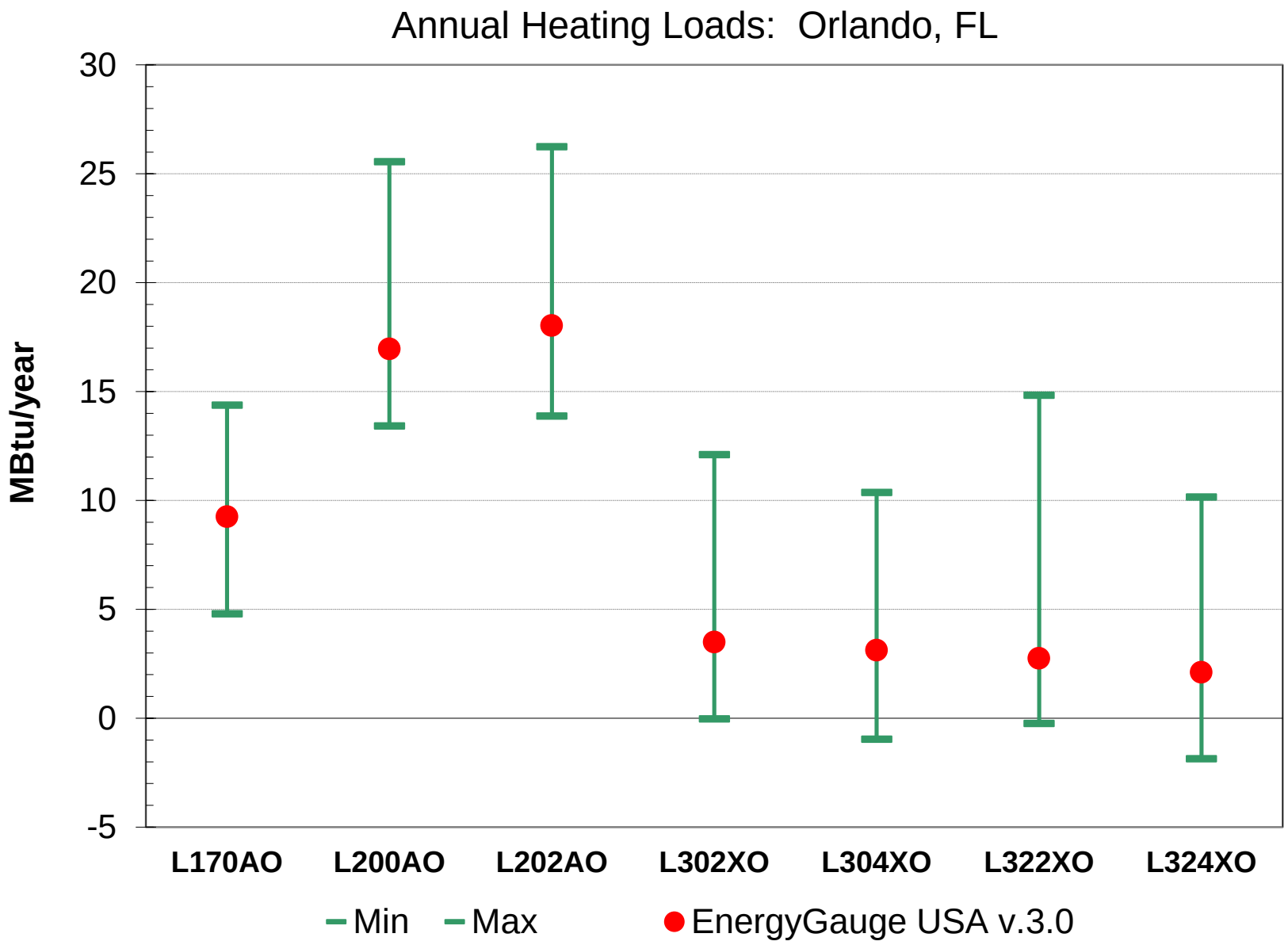
Annual Cooling Loads: Orlando

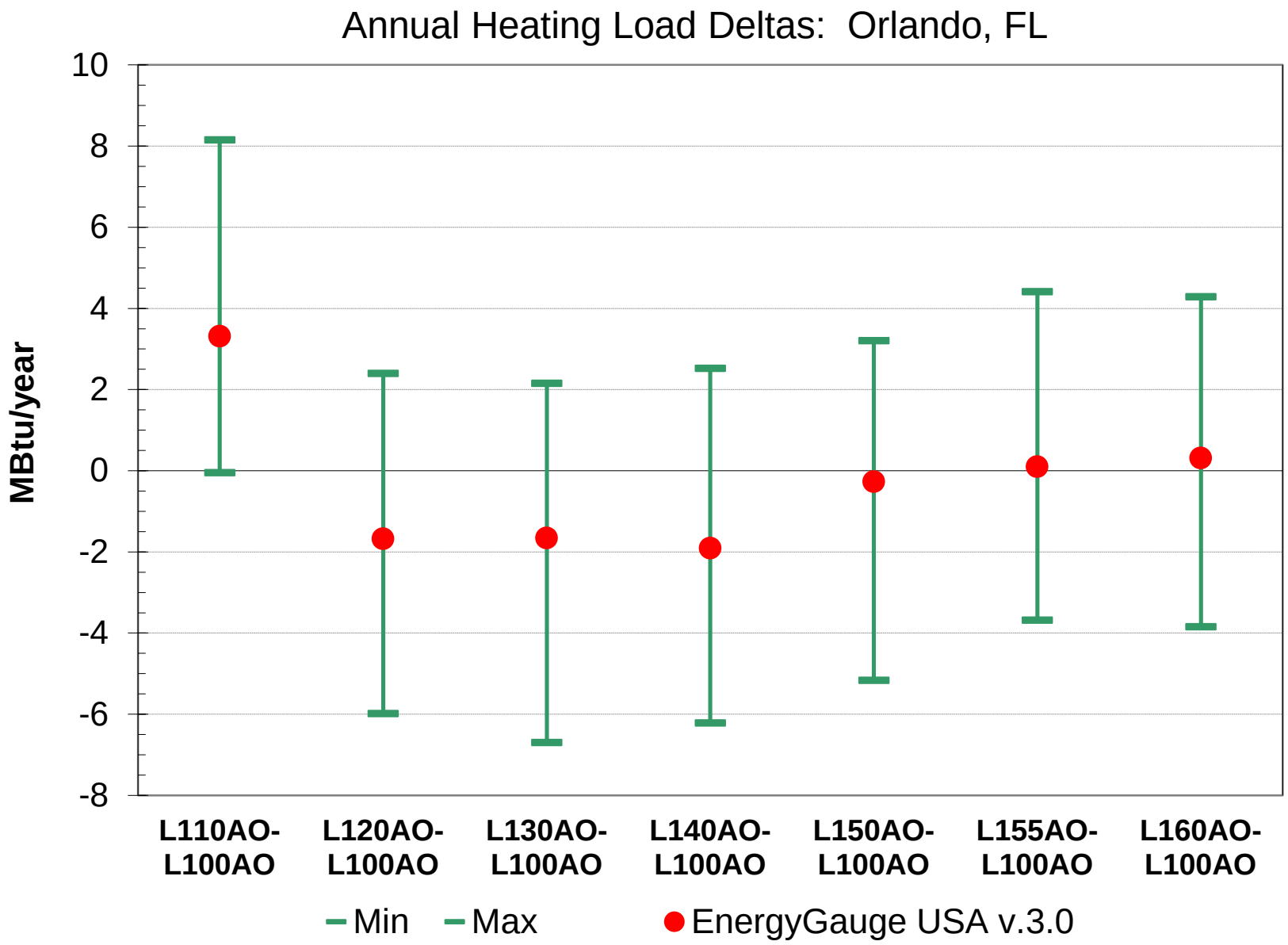
Cooling	range max	range min	Result	pass/fail
L100AO	55.15	39.34	45.14	pass
L110AO	55.65	39.61	45.51	pass
L120AO	51.57	38.11	40.89	pass
L130AO	38.46	25.10	30.53	pass
L140AO	24.75	12.55	18.41	pass
L150AO	65.62	46.54	54.57	pass
L155AO	53.20	39.53	45.11	pass
L160AO	58.90	42.65	49.11	pass
L170AO	40.63	28.95	33.11	pass
L200AO	63.08	40.81	49.26	pass
L202AO	53.11	36.51	38.59	pass

Annual Cooling Load deltas: Orlando

Cooling	range max	range min	Result	pass/fail
L110AO-L100AO	4.49	-3.73	0.37	pass
L120AO-L100AO	2.77	-6.89	-4.25	pass
L130AO-L100AO	-10.24	-20.76	-14.61	pass
L140AO-L100AO	-22.79	-34.56	-26.73	pass
L150AO-L100AO	13.53	3.61	9.43	pass
L155AO-L150AO	-3.42	-16.21	-9.46	pass
L160AO-L100AO	7.68	-0.69	3.97	pass
L170AO-L100AO	-6.39	-17.76	-12.03	pass
L200AO-L100AO	10.77	-1.59	4.12	pass
L202AO-L200AO	13.49	1.06	10.67	pass


Annual Heating Loads: Orlando, FL
MBtu/year
16
14
12
10
8
6
4
2
0
-2
L100AO
L110AO
L120AO
L130AO
L140AO
L150AO
L155AO
L160AO
Min
Max
EnergyGauge USA v.3.0


Annual Heating Loads: Orlando, FL
MBtu/year
30
25
20
15
10
5
0
-5
L170AO
L200AO
L202AO
L302XO
L304XO
L322XO
L324XO
Min
Max
EnergyGauge USA v.3.0


Annual Heating Load Deltas: Orlando, FL
MBtu/year
10
8
6
4
2
0
-2
-4
-6
-8
L110AO-L100AO
L120AO-L100AO
L130AO-L100AO
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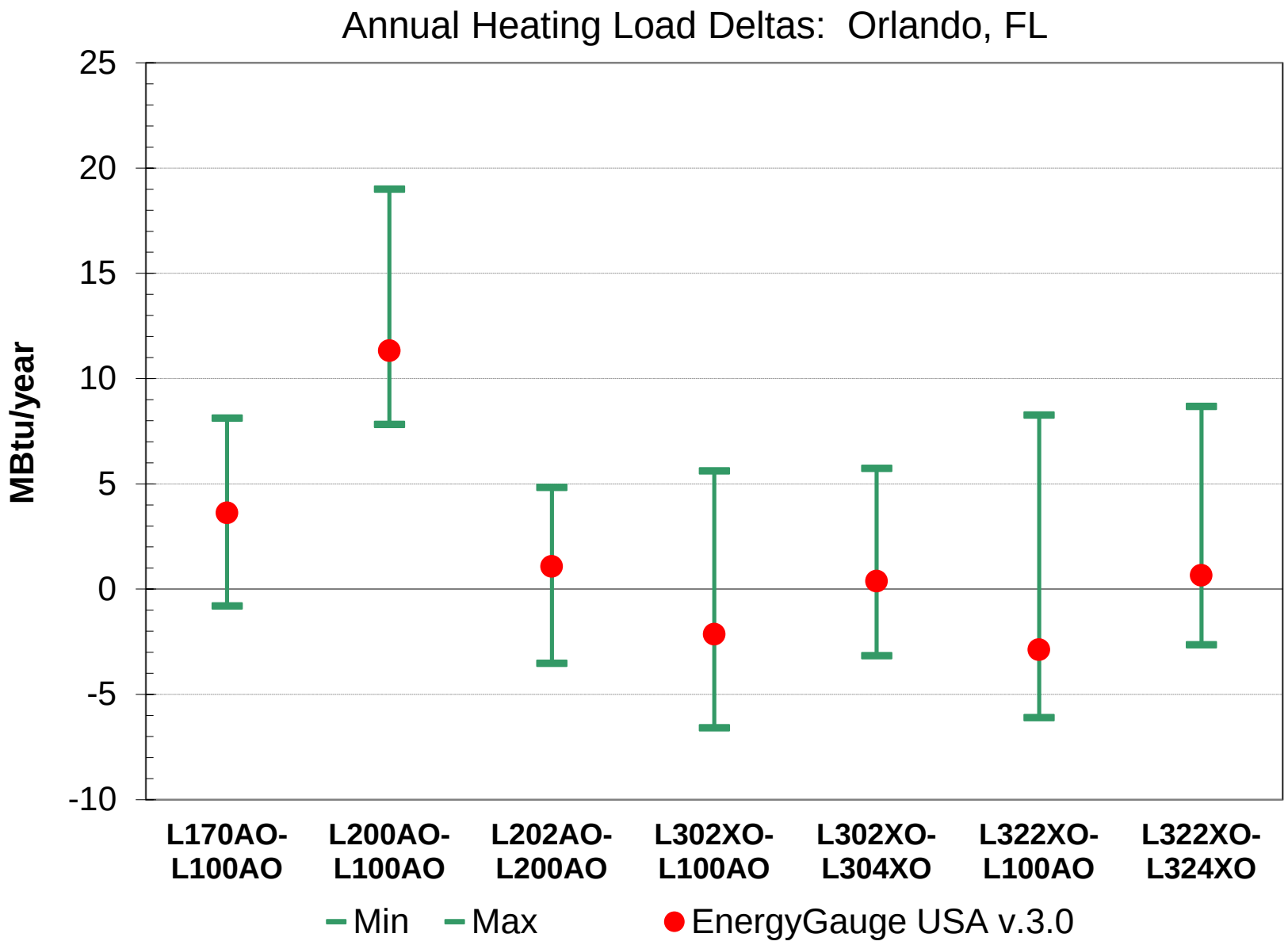
L160AO-L100AO
Min
Max
EnergyGauge USA v.3.0


Annual Heating Load Deltas: Orlando, FL
MBtu/year
25
20
15
10
5
0
-5
-10
L170AO-L100AO
L200AO-L100AO
L202AO-L200AO
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L302XO-L304XO
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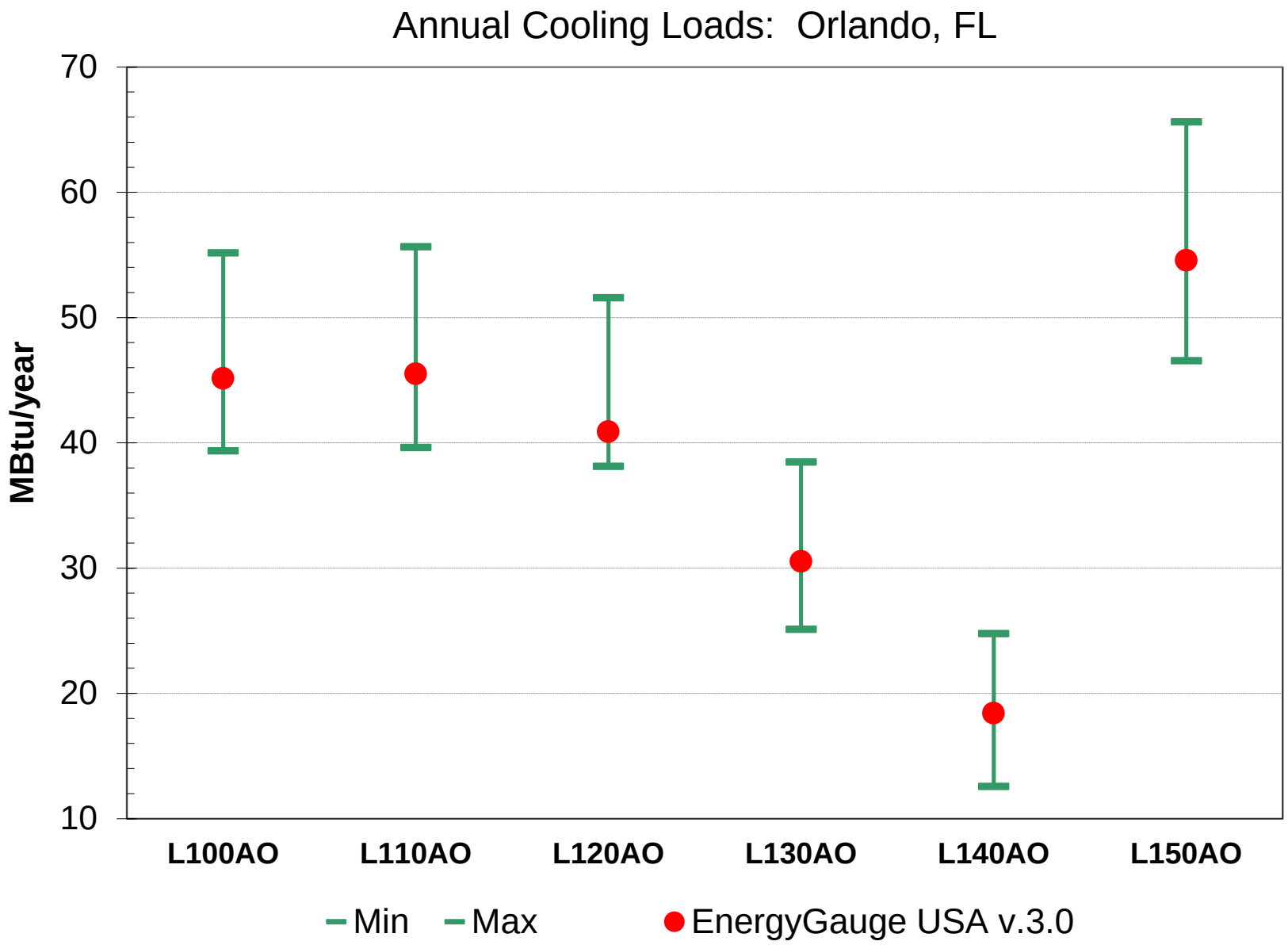
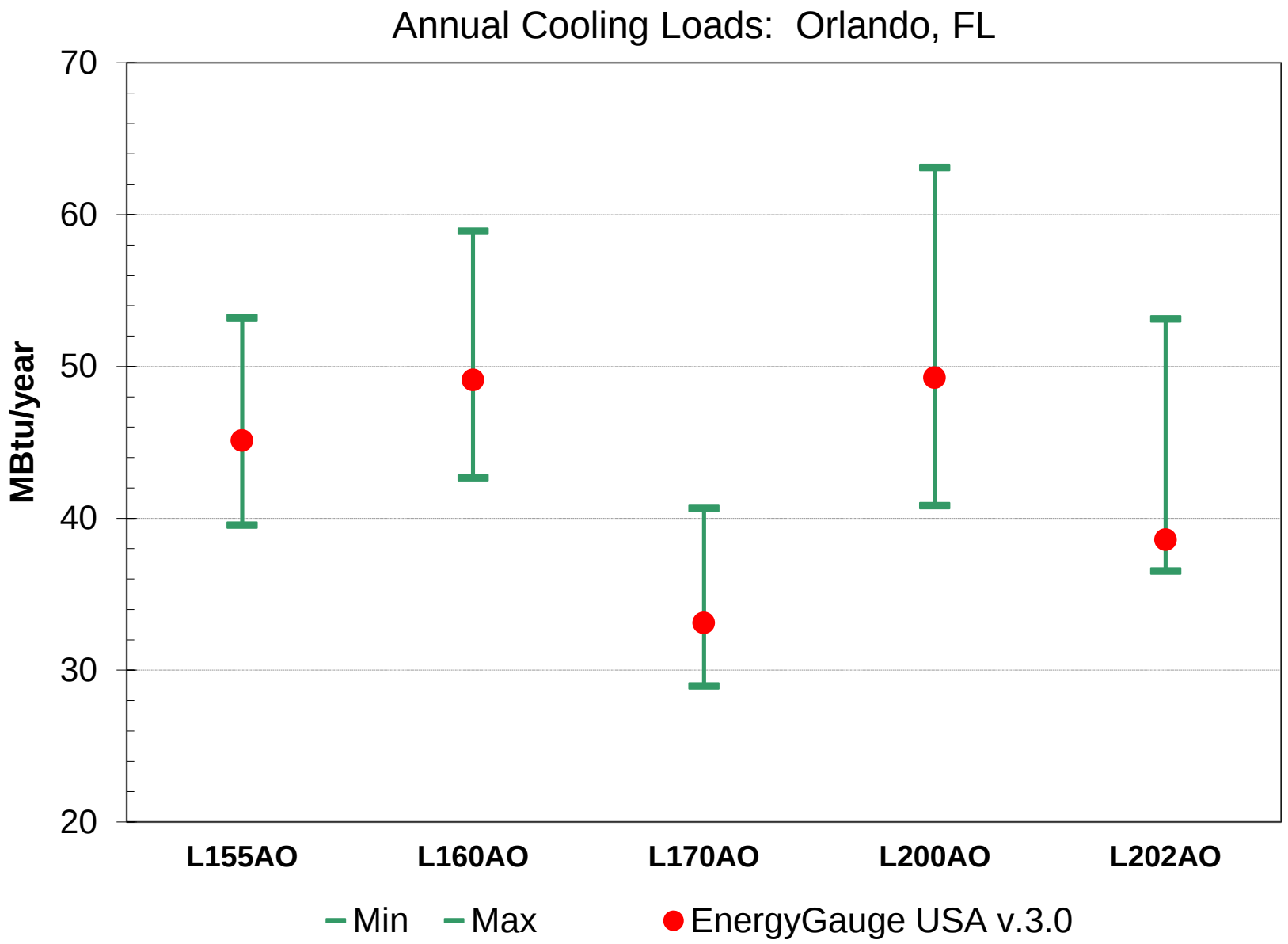
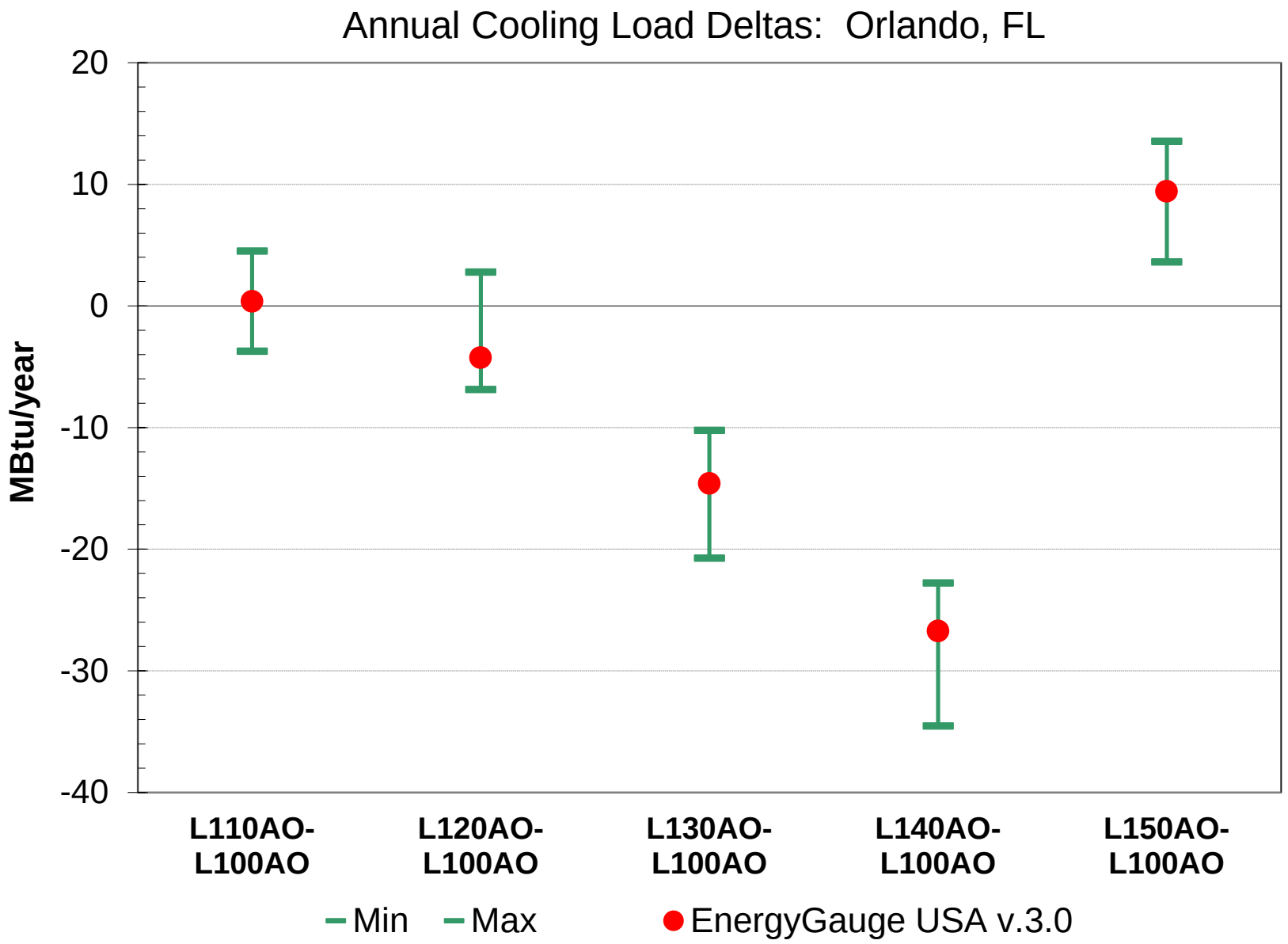
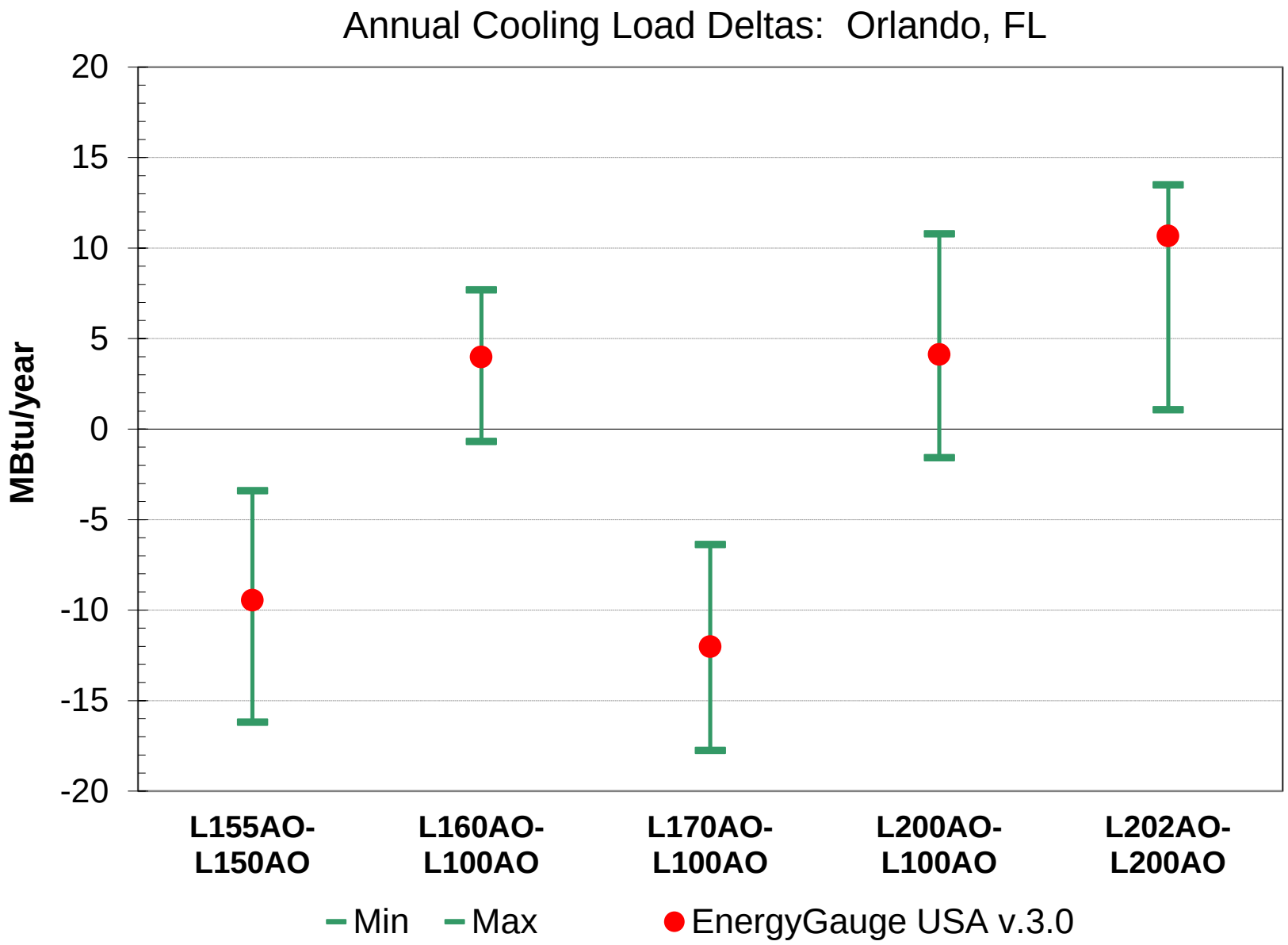
L322XO-L324XO
Min
Max
EnergyGauge USA v.3.0


Annual Cooling Loads: Orlando, FL
MBtu/year
70
60
50
40
30
20
10
L100AO
L110AO
L120AO
L130AO
L140AO
L150AO
Min
Max
EnergyGauge USA v.3.0


Annual Cooling Loads: Orlando, FL
70
60
50
40
30
20
MBtu/year
L155AO
L160AO
L170AO
L200AO
L202AO
Min
Max
EnergyGauge USA v.3.0


Annual Cooling Load Deltas: Orlando, FL
MBtu/year
20
10
0
-10
-20
-30
-40
L110AO-L100AO
L120AO-L100AO
L130AO-L100AO
L140AO-L100AO
L150AO-L100AO
Min
Max
EnergyGauge USA v.3.0


Annual Cooling Load Deltas: Orlando, FL
MBtu/year
20
15
10
5
0
-5
-10
-15
-20
L155AO-L150AO
L160AO-L100AO
L170AO-L100AO
L200AO-L100AO
L202AO-L200AO
Min
Max
EnergyGauge USA v.3.0

Florida Auto Generation Test Results: **Software Name:** EnergyGauge USA v.3.0

User input data fields indicated by pale yellow

Reference Home Building Component	Test 1	Results	Test 2	Results	Test 3	Results	Test 4	Results
Above-grade walls (U_o)	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082
Above-grade wall solar absorptance (α)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Above-grade wall infrared emittance (ε)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Basement walls (U_o)	n/a	n/a	n/a	n/a	n/a	n/a	0.36	0.36
Above-grade floors (U_o)	0.064	0.064	0.064	0.064	n/a	n/a	n/a	n/a
Slab insulation R-Value	n/a	n/a	n/a	n/a	0	0	0	0
Ceilings (U_o)	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Roof solar absorptance (α)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Roof infrared emittance (ε)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Attic vent area* (ft^2)	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13
Crawlspace vent area* (ft^2)	n/a	n/a	10.26	10.26	n/a	n/a	n/a	n/a
Exposed masonry floor area * (ft^2)	n/a	n/a	n/a	n/a	307.8	307.8	307.8	307.8
Carpet & pad R-Value	n/a	n/a	n/a	n/a	2.0	2.0	2.0	2.0
Door Area (ft^2)	40	40	40	40	40	40	40	40
Door U-Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
North window area* (ft^2)	69.26	69.26	69.26	69.26	69.26	69.26	102.63	102.63
South window area* (ft^2)	69.26	69.26	69.26	69.26	69.26	69.26	102.63	102.63
East window area* (ft^2)	69.26	69.26	69.26	69.26	69.26	69.26	102.63	102.63
West window area* (ft^2)	69.26	69.26	69.26	69.26	69.26	69.26	102.63	102.63
Window U-Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Window $SHGC_o$ (heating)	0.340	0.340	0.340	0.340	0.340	0.340	0.340	0.340
Window $SHGC_o$ (cooling)	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280
SLA_o* (ft^2/ft^2)	0.00036	0.00036	0.00036	0.00036	0.00036	0.00036	0.00036	0.00036
Internal gains* (Btu/day)	71,167	71,167	71,167	71,167	62,605	62,605	103,014	103,014
Labeled heating system rating	AFUE = 78%	78%	HSPF = 7.7	7.7	HSPF = 7.7	7.7	AFUE = 78%	78%
Labeled cooling system rating	SEER = 13	13	SEER = 13	13	SEER = 13	13	SEER = 13	13
Air Distribution System Efficiency	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Thermostat Type	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual
Heating thermostat settings	68 F (all hours)	68 F	68 F (all hours)	68 F	68 F (all hours)	68 F	68 F (all hours)	68 F
Cooling thermostat settings	78 F (all hours)	78 F	78 F (all hours)	78 F	78 F (all hours)	78 F	78 F (all hours)	78 F
e-Ratio	1.00	1.000	1.00	1.000	1.00	1.000	1.00	1.000

RESNET HVAC Test Suite Results: **Software Name:** EnergyGauge USA v3.0

User input data fields indicated by pale yellow
Test result fields indicated by pale green

Results

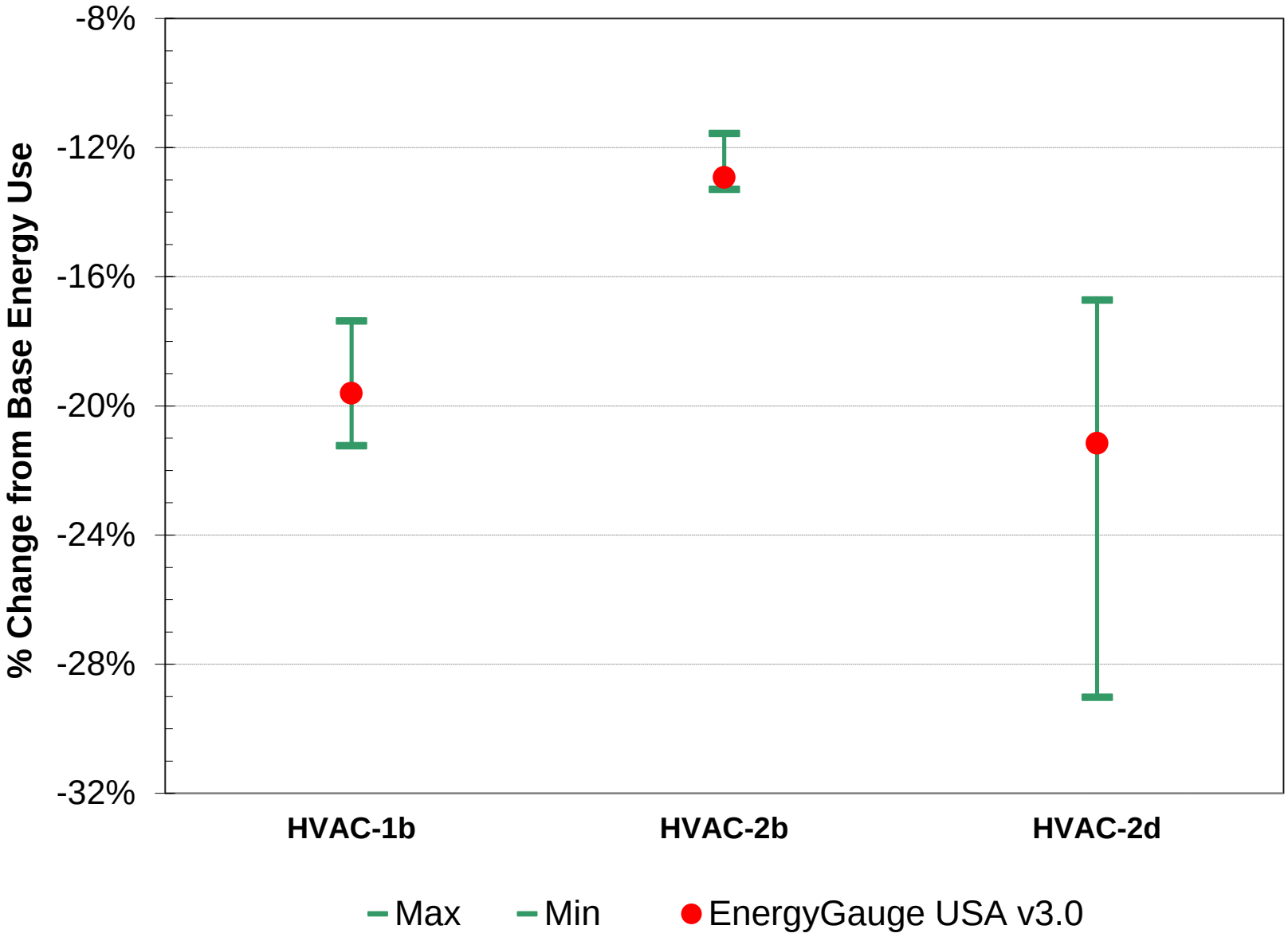
Cooling tests:

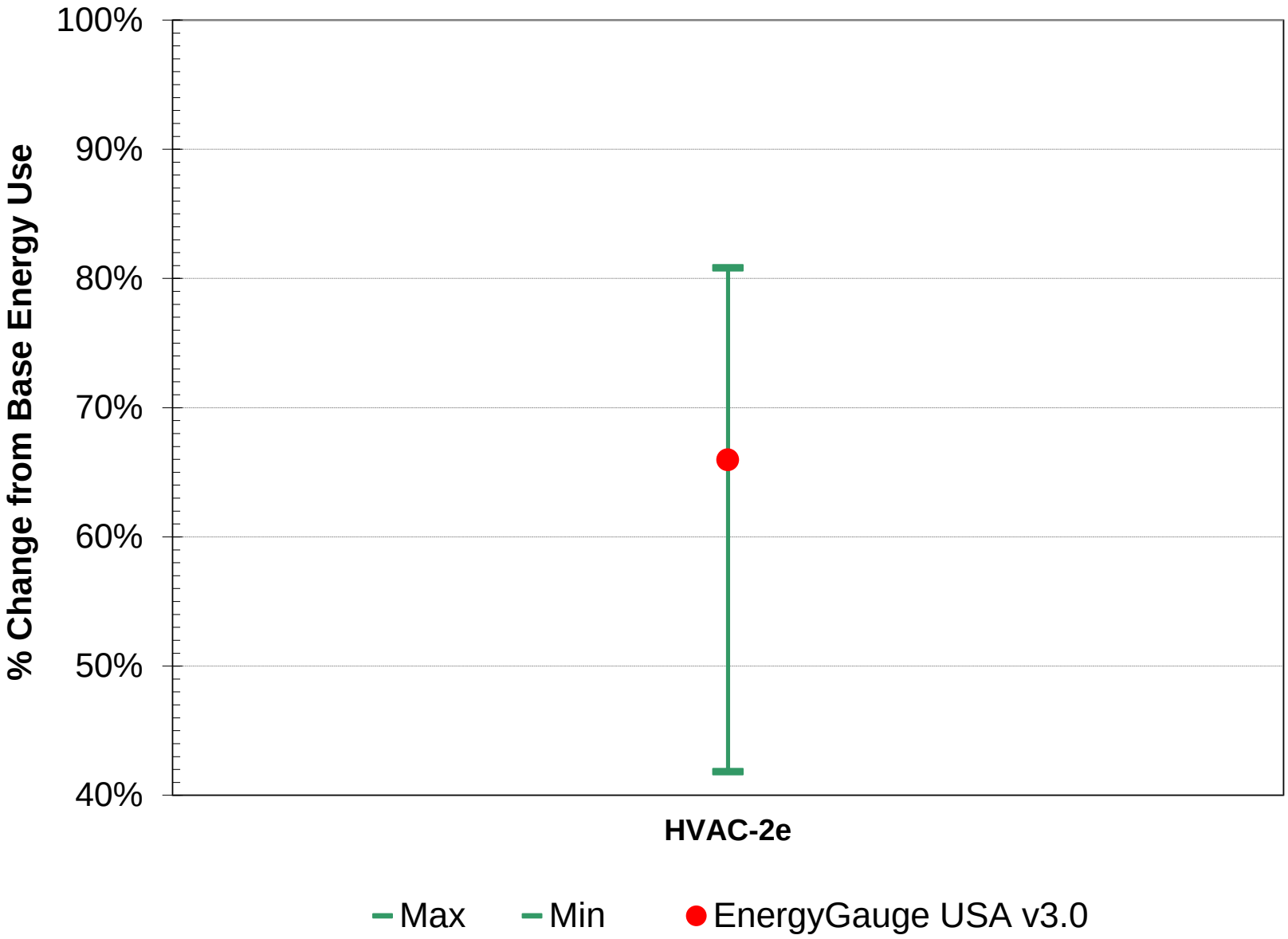
Case	Cool	Cool Fan	Cool Tot	% change	Criteria min	Criteria max	
HVAC-1a	5813	1034	6847	---			
HVAC-1b	4470	1034	5504	-19.61%	-21.24%	-17.38%	pass

Heating tests:

Case	Heat	Heat Fan	Heat Tot	% change			
HVAC-2a	799	623	82.03	---			
HVAC-2b	693	623	71.43	-12.92%	-13.30%	-11.57%	pass

Case	Heat	Heat Fan	Heat Tot	% change			
HVAC-2c	9517	1343	10860	---			
HVAC-2d	7535	1027	8562	-21.16%	-29.03%	-16.73%	pass
HVAC-2e	17088	935	18023	65.96%	41.81%	80.81%	pass


-8%
-12%
-16%
-20%
-24%
-28%
-32%
% Change from Base Energy Use
HVAC-1b
HVAC-2b
HVAC-2d
Max
Min
EnergyGauge USA v3.0


100%
90%
80%
70%
60%
50%
40%
% Change from Base Energy Use
HVAC-2e
Max
Min
EnergyGauge USA v3.0

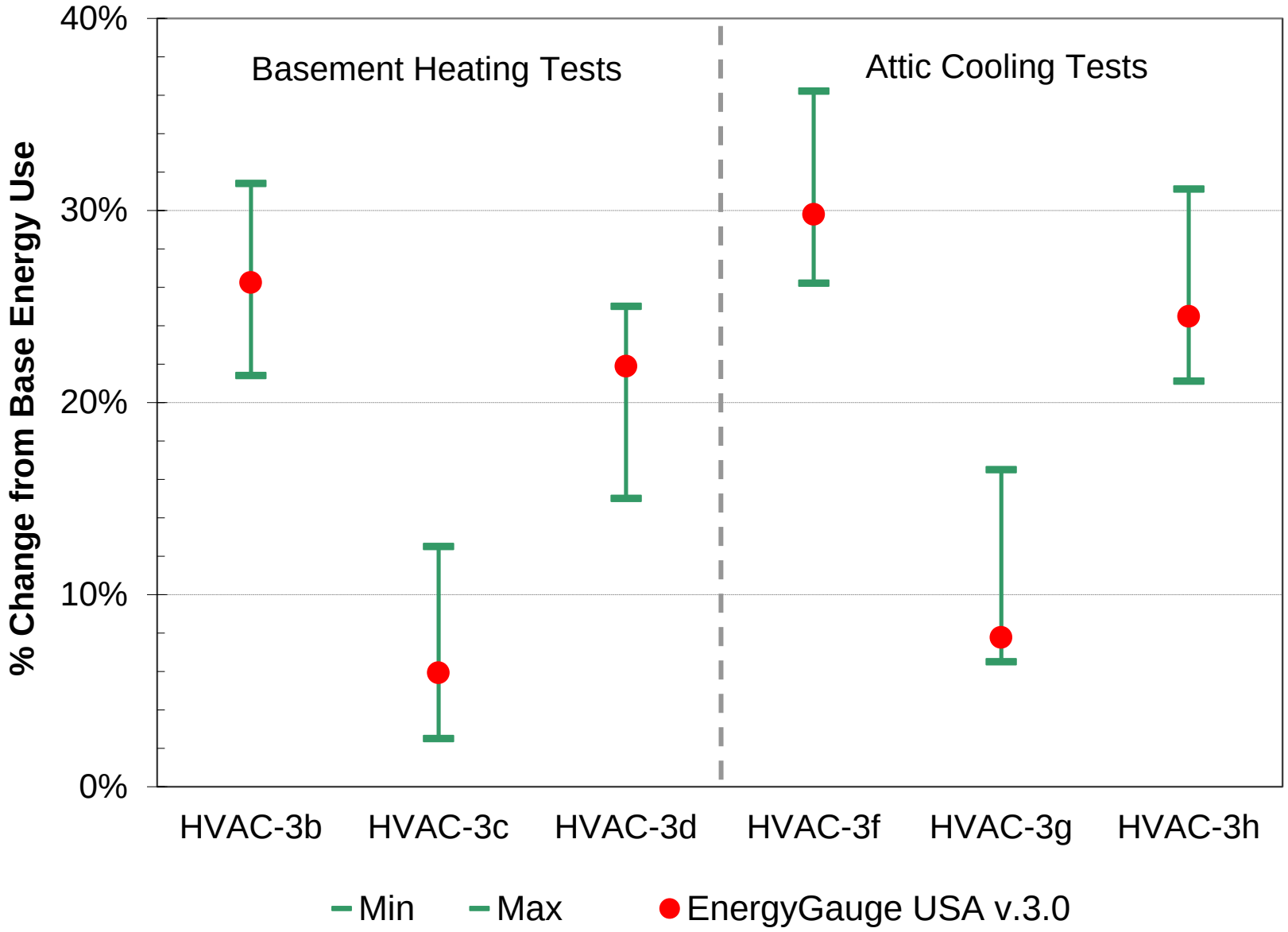
DSE Test Suite Results **Software Name:** EnergyGauge USA v.3.0

User input data fields indicated by pale yellow
Test result fields indicated by pale green

Results:

Base Cases	Heat/cool	Fan	Total	% change				
HVAC-3a	687	538	70.54	---	base for cases 3b - 3d			
HVAC-3e	5878	1046	6924	---	base for cases 3f - 3h			

					Criteria:			
Test Cases	Heat/cool	Fan	Total	% change	max	avg	min	Pass/Fail
HVAC-3b	873	512	89.05	26.2%	31.4%	26.4%	21.4%	pass
HVAC-3c	729	531	74.71	5.9%	12.5%	7.5%	2.5%	pass
HVAC-3d	840	579	85.98	21.9%	25.0%	20.0%	15.0%	pass
HVAC-3f	7626	1361	8987	29.8%	36.2%	31.2%	26.2%	pass
HVAC-3g	6335	1127	7462	7.8%	16.5%	11.5%	6.5%	pass
HVAC-3h	7326	1293	8619	24.5%	31.1%	26.1%	21.1%	pass


40%
30%
20%
10%
0%
% Change from Base Energy Use
Basement Heating Tests
Attic Cooling Tests
HVAC-3b
HVAC-3c
HVAC-3d
HVAC-3f
HVAC-3g
HVAC-3h
Min
Max
EnergyGauge USA v.3.0

DHW Test Results:

Software Name:	EnergyGauge v.3.0

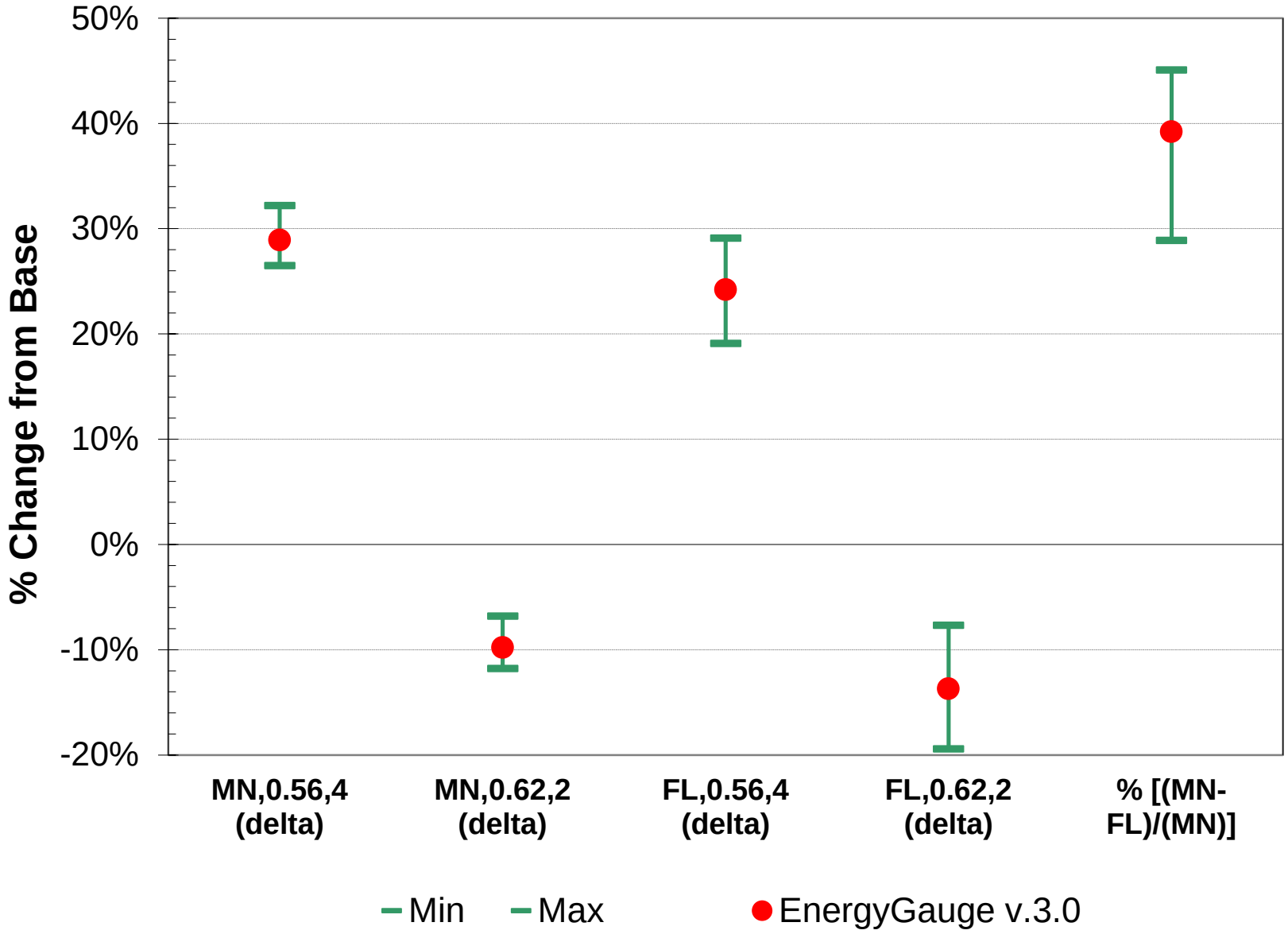
User input data fields indicated by pale yellow
Test result fields indicated by pale green

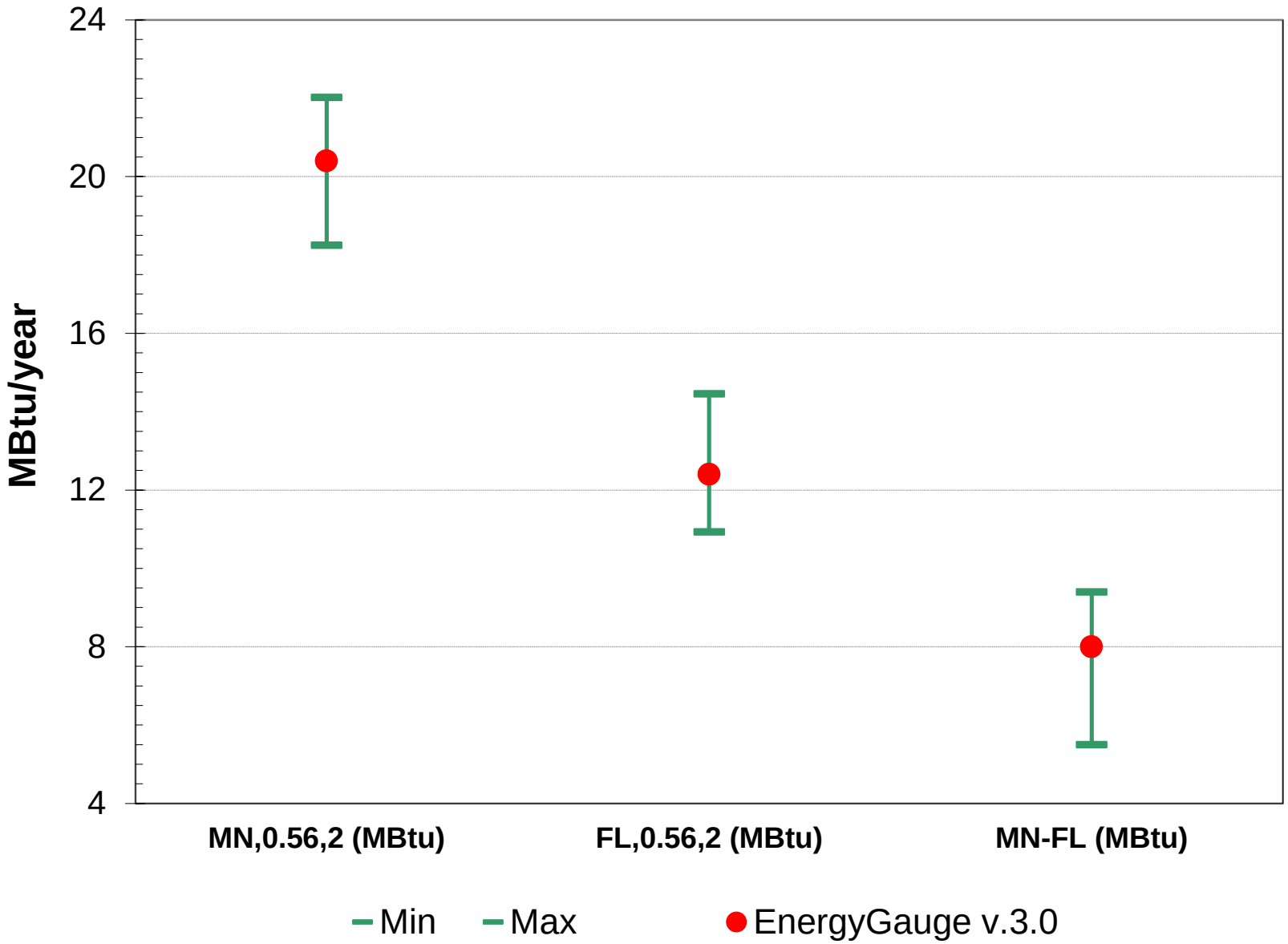
Raw Results:

Minnesota	**Energy Use (therms)**	**Florida**	**Energy Use (therms)**
DHW-MN-56-2	204	DHW-FL-56-2	124
DHW-MN-56-4	263	DHW-FL-56-4	154
DHW-MN-62-2	184	DHW-FL-62-2	107

Test Cases:	**% Change**	**Average**	**Range Min**	**Range Max**	**Pass/Fail**
MN,0.56,4 (delta)	28.9%	29.3%	26.5%	32.2%	pass
MN,0.62,2 (delta)	-9.8%	-9.3%	-11.8%	-6.8%	pass
FL,0.56,4 (delta)	24.2%	24.1%	19.1%	29.1%	pass
FL,0.62,2 (delta)	-13.7%	-13.6%	-19.5%	-7.7%	pass
% [(MN-FL)/(MN)]	39.2%	37.0%	28.9%	45.1%	pass

	MBtu	**Average**	**Range Min**	**Range Max**	**Pass/Fail**
MN,0.56,2 (MBtu)	20.4	20.1	18.2	22.0	pass
FL,0.56,2 (MBtu)	12.4	12.7	10.9	14.4	pass
MN-FL (MBtu)	8	7.4	5.5	9.4	pass


50%
40%
30%
20%
10%
0%
-10%
-20%
% Change from Base
MN,0.56,4 (delta)
MN,0.62,2 (delta)
FL,0.56,4 (delta)
FL,0.62,2 (delta)
% [(MN-FL)/(MN)]
Min
Max
EnergyGauge v.3.0


24
20
16
12
8
4
MBtu/year
MN,0.56,2 (MBtu)
FL,0.56,2 (MBtu)
MN-FL (MBtu)
Min
Max
EnergyGauge v.3.0

Appendix A-1

HERS BESTEST Colorado Springs Heating Load Reports

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -56.92 Mbtu

PROJECT

Title:	L100AC (base case)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST basecase home				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	112 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.8 kBtu/hr	750 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -78.34 Mbtu

PROJECT

Title:	L110AC (high inflitration)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST high infiltration case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.001530	6178.8	339.20	637.93	1.5	30.111	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	150 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	27.7 kBtu/hr	831 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr			Peak Value: 308 Watts										
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr			Peak Value: 1518 Watts										
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -43.65 Mbtu

PROJECT

Title:	L120AC (improved insulation)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST improved insulation case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	1.389
Fuel Oil	Gallon	EnergyGauge Default	0	2.5
Propane	Gallon	EnergyGauge Default	0	2.27

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	54.3	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	18	57		8		456 ft²	7.2	0.22	0.6	0
2	S	Exterior	Frame - Wood	Main	18	57		8		456 ft²	7.2	0.22	0.6	0
3	E	Exterior	Frame - Wood	Main	18	27		8		216 ft²	7.2	0.22	0.6	0
4	W	Exterior	Frame - Wood	Main	18	27		8		216 ft²	7.2	0.22	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	100 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	22.4 kBtu/hr	672 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -45.92 Mbtu

PROJECT

Title:	L130AC (low-e windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST low-e windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	Wood	Low-E Double	Yes	0.3	0.34	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	Wood	Low-E Double	Yes	0.3	0.34	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	Wood	Low-E Double	Yes	0.3	0.34	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	Wood	Low-E Double	Yes	0.3	0.34	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	85 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	54 kBtu/hr	828 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -48.90 Mbtu

PROJECT

Title:	L140AC (zero windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST zero windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	Vinyl	Low-E Double	Yes	0.09	0.01	N	0.01 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	77 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	8.6 kBtu/hr	258 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -48.61 Mbtu

PROJECT

Title:	L150AC (all south glass)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST all south glass case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	270 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	112 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	31.5 kBtu/hr	945 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -51.10 Mbtu

PROJECT

Title:	L155AC (south glass with OH)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST south glass w/ overhang case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	270 ft²	2 ft 6 in	1 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	112 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	25.2 kBtu/hr	756 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -57.57 Mbtu

PROJECT

Title:	L160AC (east-west windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST east-west windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	28		8		224 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	28		8		224 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	135 ft²	0 ft 0 in	0 ft 0 in	None	None
2	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	135 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	112 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	31.4 kBtu/hr	942 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -68.05 Mbtu

PROJECT

Title:	L170AC (no internal gains)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST no internal gains case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	112 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.8 kBtu/hr	744 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-no_gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 0	PM	0.216	0.183	0.187	0.187	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Miscellaneous	AM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
% Released: 0	PM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -128.88 Mbtu

PROJECT

Title:	L200AC (inefficient)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST inefficient case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	0	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	9.1	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.001530	6178.8	339.20	637.93	1.5	30.111	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	217 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	32.1 kBtu/hr	963 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -136.92 Mbtu

PROJECT

Title:	L202AC (low alpha)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST low alpha case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	0	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.2	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	9.1	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.2	0
2	S	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.2	0
3	E	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.2	0
4	W	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.2	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.001530	6178.8	339.20	637.93	1.5	30.111	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	214 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	32.1 kBtu/hr	963 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N

Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -55.84 Mbtu

PROJECT

Title:	L302AC (slab case)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST slab case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
1	Slab-On-Grade Edge Insulation	Main	168 ft	0	1539 ft²	----	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	116 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.4 kBtu/hr	732 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -48.27 Mbtu

PROJECT

Title:	L304AC (slab with insul)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST insulated slab case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
1	Slab-On-Grade Edge Insulation	Main	168 ft	5.4	1539 ft²	----	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000683	2759.8	151.51	284.94	0.6700	13.449	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	106 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.4 kBtu/hr	732 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -74.55 Mbtu

PROJECT

Title:	L322AC (basement)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	3078 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST basement case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
1	Floor Over Other Space	Main			1539 ft²	0	1	0	0
2	Slab-Below-Grade	BSMT-2	----	----	1539 ft²	----	1	0	0

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
5	N	Exterior	Frame - Wood	BSMT-2	1.87	57			9	42.75 ft²		0	0.6	0
6	S	Exterior	Frame - Wood	BSMT-2	1.87	57			9	42.75 ft²		0	0.6	0
7	E	Exterior	Frame - Wood	BSMT-2	1.87	27			9	20.25 ft²		0	0.6	0
8	W	Exterior	Frame - Wood	BSMT-2	1.87	27			9	20.25 ft²		0	0.6	0
9	N	Exterior	Concrete - 6 inch	BSMT-2	0	57	0	7.25	0	413.25 ft²	0	0	0.75	90.80413
10	S	Exterior	Concrete - 6 inch	BSMT-2	0	57	0	7.25	0	413.25 ft²	0	0	0.75	90.80413
11	E	Exterior	Concrete - 6 inch	BSMT-2	0	27	0	7.25	0	195.75 ft²	0	0	0.75	90.80413
12	W	Exterior	Concrete - 6 inch	BSMT-2	0	27	0	7.25	0	195.75 ft²	0	0	0.75	90.80413

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

Building Loads Summary Report

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000346	2801.0	153.77	289.19	0.3400	7.1608	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main
No Added Mass	0 ft²	0 ft	0	BSMT-2

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	25 kBtu/hr	750 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	3078	23469.75	23469.75

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes
2	BSMT-2	1539	11157.75	No	0	0	No	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 0.00 Mbtu Heating: -49.54 Mbtu

PROJECT

Title:	L324AC (basement-insulated)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	3078 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Colorado Springs ,
Family Type:	Single-family	Whole House Fan:			CO ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST insulated basement case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
CO, COLORADO_SPRING	CO_COLORADO_SPRINGSTMY1	7	88	70	75	6114.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
1	Floor Over Other Space	Main			1539 ft²	0	1	0	0
2	Slab-Below-Grade	BSMT-2	----	----	1539 ft²	----	1	0	0

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
5	N	Exterior	Frame - Wood	BSMT-2	12.87	57			9	42.75 ft²		0.1	0.6	0
6	S	Exterior	Frame - Wood	BSMT-2	12.87	57			9	42.75 ft²		0.1	0.6	0
7	E	Exterior	Frame - Wood	BSMT-2	12.87	27			9	20.25 ft²		0.1	0.6	0
8	W	Exterior	Frame - Wood	BSMT-2	12.87	27			9	20.25 ft²		0.1	0.6	0
9	N	Exterior	Concrete - 6 inch	BSMT-2	11	57	0	7.25	0	413.25 ft²	0	0	0.75	90.80413
10	S	Exterior	Concrete - 6 inch	BSMT-2	11	57	0	7.25	0	413.25 ft²	0	0	0.75	90.80413
11	E	Exterior	Concrete - 6 inch	BSMT-2	11	27	0	7.25	0	195.75 ft²	0	0	0.75	90.80413
12	W	Exterior	Concrete - 6 inch	BSMT-2	11	27	0	7.25	0	195.75 ft²	0	0	0.75	90.80413

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

Building Loads Summary Report

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000346	2801.0	153.77	289.19	0.3400	7.1608	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main
No Added Mass	0 ft²	0 ft	0	BSMT-2

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	130 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.8 kBtu/hr	744 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	3078	23469.75	23469.75

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes
2	BSMT-2	1539	11157.75	No	0	0	Yes	Yes	Yes

Appendix A-2

HERS BESTEST Las Vegas Cooling Load Reports

Building Loads Summary Report

Loads

Cooling: 53.61 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L100AL (base case)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST basecase home				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	1.389
Fuel Oil	Gallon	EnergyGauge Default	0	2.5
Propane	Gallon	EnergyGauge Default	0	2.27

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	33.2 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	76 kBtu/hr	1149 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N

Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	1	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 55.81 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L110AL (high inflitration)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST high infiltration case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.001666	6728.0	369.36	694.63	1.5	32.787	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	90 kBtu/hr	2700 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr			Peak Value: 308 Watts										
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr			Peak Value: 1518 Watts										
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr			Peak Value: 0 Watts										

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 47.91 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L120AL (improved insulation)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST improved insulation case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	54.3	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	18	57		8		456 ft²	7.2	0.22	0.6	0
2	S	Exterior	Frame - Wood	Main	18	57		8		456 ft²	7.2	0.22	0.6	0
3	E	Exterior	Frame - Wood	Main	18	27		8		216 ft²	7.2	0.22	0.6	0
4	W	Exterior	Frame - Wood	Main	18	27		8		216 ft²	7.2	0.22	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	30.4 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	70 kBtu/hr	1026 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 36.99 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L130AL (low-e windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST low-e windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	Wood	Low-E Double	Yes	0.3	0.34	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	Wood	Low-E Double	Yes	0.3	0.34	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	Wood	Low-E Double	Yes	0.3	0.34	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	Wood	Low-E Double	Yes	0.3	0.34	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	50 kBtu/hr	777 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 24.28 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L140AL (zero windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST zero windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	Vinyl	Low-E Double	Yes	0.09	0.01	N	0.01 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0.1	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	54 kBtu/hr	1620 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 68.15 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L150AL (all south glass)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST all south glass case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	270 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	100 kBtu/hr	1470 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 54.05 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L155AL (south glass with OH)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST south glass w/ overhang case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	270 ft²	2 ft 6 in	1 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	84 kBtu/hr	1260 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[ ] Jan	[ ] Feb	[ ] Mar	[ ] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[ ] Oct	[ ] Nov	[ ] Dec
Venting	[ ] Jan	[ ] Feb	[ ] Mar	[ ] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[ ] Oct	[ ] Nov	[ ] Dec

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 62.64 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L160AL (east-west windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST east-west windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	28		8		224 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	28		8		224 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	135 ft²	0 ft 0 in	0 ft 0 in	None	None
2	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	135 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	90 kBtu/hr	1365 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr		Peak Value: 308 Watts											
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr		Peak Value: 1518 Watts											
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 43.29 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L170AL (no internal gains)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST no internal gains case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000744	3005.1	164.98	310.27	0.6700	14.645	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	76 kBtu/hr	1149 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-no_gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 0	PM	0.216	0.183	0.187	0.187	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Miscellaneous	AM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
% Released: 0	PM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 66.27 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L200AL (inefficient)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST inefficient case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	0	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	9.1	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.001666	6728.0	369.36	694.63	1.5	32.787	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	66.4 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	106 kBtu/hr	1746 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 54.22 Mbtu Heating: 0.00 Mbtu

PROJECT

Title:	L202AL (low alpha)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Las Vegas ,
Family Type:	Single-family	Whole House Fan:			NV ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST low-alpha case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
NV, LAS_VEGASTMY1	NV_LAS_VEGASTMY1	32	105	70	75	2300.5	0	High

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	0	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.2	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	9.1	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.2	0
2	S	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.2	0
3	E	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.2	0
4	W	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.2	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.001666	6728.0	369.36	694.63	1.5	32.787	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	66.4 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	116 kBtu/hr	1746 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Venting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Appendix B

Florida HERS BESTEST Orlando Heating and Cooling Load Reports

Building Loads Summary Report

Loads

Cooling: 45.14 Mbtu Heating: -5.64 Mbtu

PROJECT

Title:	L100AO (base case)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST basecase home				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	112 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.8 kBtu/hr	750 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N

Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	1	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 45.51 Mbtu Heating: -8.95 Mbtu

PROJECT

Title:	L110AO (high inflitration)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST high infiltration case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.002054	8294.8	455.37	856.40	1.5	40.423	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	150 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	27.7 kBtu/hr	831 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	1	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 40.89 Mbtu Heating: -3.96 Mbtu

PROJECT

Title:	L120AO (improved insulation)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST improved insulation case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	54.3	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	18	57		8		456 ft²	7.2	0.22	0.6	0
2	S	Exterior	Frame - Wood	Main	18	57		8		456 ft²	7.2	0.22	0.6	0
3	E	Exterior	Frame - Wood	Main	18	27		8		216 ft²	7.2	0.22	0.6	0
4	W	Exterior	Frame - Wood	Main	18	27		8		216 ft²	7.2	0.22	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	30.4 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	70 kBtu/hr	1026 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 30.53 Mbtu Heating: -3.98 Mbtu

PROJECT

Title:	L130AO (low-e windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST low-e windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	Wood	Low-E Double	Yes	0.3	0.34	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	Wood	Low-E Double	Yes	0.3	0.34	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	Wood	Low-E Double	Yes	0.3	0.34	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	Wood	Low-E Double	Yes	0.3	0.34	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	50 kBtu/hr	777 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 18.41 Mbtu Heating: -3.73 Mbtu

PROJECT

Title:	L140AO (zero windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST zero windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	Vinyl	Low-E Double	Yes	0.09	0.01	N	0.01 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0.1	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	54 kBtu/hr	1620 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 54.57 Mbtu Heating: -5.37 Mbtu

PROJECT

Title:	L150AO (all south glass)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST all south glass case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	270 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	100 kBtu/hr	1470 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	Supply			Return				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 45.11 Mbtu Heating: -5.47 Mbtu

PROJECT

Title:	L155AO (south glass with OH)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST south glass w/ overhang case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	270 ft²	2 ft 6 in	1 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	84 kBtu/hr	1260 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 49.11 Mbtu Heating: -5.95 Mbtu

PROJECT

Title:	L160AO (east-west windows)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST east-west windows case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	28		8		224 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	28		8		224 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	135 ft²	0 ft 0 in	0 ft 0 in	None	None
2	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	135 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	90 kBtu/hr	1365 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 33.11 Mbtu Heating: -9.25 Mbtu

PROJECT

Title:	L170AO (no internal gains)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST no internal gains case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	10.4	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	76 kBtu/hr	1149 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-no_gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 0	PM	0.216	0.183	0.187	0.187	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Miscellaneous	AM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
% Released: 0	PM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr					Peak Value: 0 Watts								

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 49.26 Mbtu Heating: -16.96 Mbtu

PROJECT

Title:	L200AO (inefficient)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST inefficient case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	0	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	11	1539 ft²	0.1	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.002054	8294.8	455.37	856.40	1.5	40.423	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	61 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	61 kBtu/hr	1830 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 38.59 Mbtu Heating: -18.03 Mbtu

PROJECT

Title:	L202AO (low alpha)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST low-alpha case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space		R-Value	Area		Tile	Wood	Carpet
1	Raised Floor	Main	----	----	1539 ft²	0	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.2	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	11	1539 ft²	0.1	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.2	0
2	S	Exterior	Frame - Wood	Main	1.01	57		8		456 ft²		0.25	0.2	0
3	E	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.2	0
4	W	Exterior	Frame - Wood	Main	1.01	27		8		216 ft²		0.25	0.2	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.002054	8294.8	455.37	856.40	1.5	40.423	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	61 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	61 kBtu/hr	1830 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-cooling

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 39.07 Mbtu Heating: -3.49 Mbtu

PROJECT

Title:	L302AO (slab case)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST slab case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
1	Slab-On-Grade Edge Insulation	Main	168 ft	0	1539 ft²	----	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	116 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.4 kBtu/hr	732 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 40.16 Mbtu Heating: -3.12 Mbtu

PROJECT

Title:	L304AO (slab with insul)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	1539 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST insulated slab case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
1	Slab-On-Grade Edge Insulation	Main	168 ft	5.4	1539 ft²	----	0	0	1

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000917	3705.0	203.40	382.52	0.6700	18.055	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main

Building Loads Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	106 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.4 kBtu/hr	732 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT	--------- Supply ---------			---------- Return ---------				Air		Percent			HVAC #	
#	Location	R-Value	Area	Location	Area	Number	Leakage Type	Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	1539	12312	12312

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 41.14 Mbtu Heating: -2.75 Mbtu

PROJECT

Title:	L322AO (basement)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	3078 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST basement case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

		Shade Trees				Adjacent Buildings		
Ornt	Type	Height	Width	Distance	Exist	Height	Width	Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
1	Floor Over Other Space	Main			1539 ft²	0	1	0	0
2	Slab-Below-Grade	BSMT-2	----	----	1539 ft²	----	1	0	0

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
5	N	Exterior	Frame - Wood	Main	1.87	57			9	42.75 ft²		0	0.6	0
6	S	Exterior	Frame - Wood	Main	1.87	57			9	42.75 ft²		0	0.6	0
7	E	Exterior	Frame - Wood	Main	1.87	27			9	20.25 ft²		0	0.6	0
8	W	Exterior	Frame - Wood	Main	1.87	27			9	20.25 ft²		0	0.6	0
9	N	Exterior	Concrete - 6 inch	BSMT-2	0	42	0	7.25	0	304.5 ft²		0	0.75	90.80413
10	S	Exterior	Concrete - 6 inch	BSMT-2	0	42	0	7.25	0	304.5 ft²		0	0.75	90.80413
11	E	Exterior	Concrete - 6 inch	BSMT-2	0	42	0	7.25	0	304.5 ft²		0	0.75	90.80413
12	W	Exterior	Concrete - 6 inch	BSMT-2	0	42	0	7.25	0	304.5 ft²		0	0.75	90.80413

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

Building Loads Summary Report

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000458	3705.0	203.40	382.52	0.3350	9.4718	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main
No Added Mass	0 ft²	0 ft	0	BSMT-2

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	140 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	25 kBtu/hr	750 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	3078	23469.75	23469.75

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes
2	BSMT-2	1539	11157.75	No	0	0	No	Yes	Yes

Building Loads Summary Report

Loads

Cooling: 41.64 Mbtu Heating: -2.10 Mbtu

PROJECT

Title:	L324AO (basement-insulated)	Bedrooms:	0	Address Type:	
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	3078 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	James Q. Hammer	Worst Case:	No	Street:	111 Anywhere Lane
Permit Office:		Rotate Angle:	0	County:	
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Orlando ,
Family Type:	Single-family	Whole House Fan:			FL ,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		Shielding:	Suburban		
Comment:	HERS BESTEST insulated basement case				

CLIMATE

Design Location	Tmy Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
FL, OrlandoTMY1	FL_ORLANDOTMY1	41	91	70	75	293	44	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	EnergyGauge Default	0	0.1154
Natural Gas	Therm	EnergyGauge Default	0	0.682
Fuel Oil	Gallon	EnergyGauge Default	0	1.1
Propane	Gallon	EnergyGauge Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
1	Floor Over Other Space	Main			1539 ft²	0	1	0	0
2	Slab-Below-Grade	BSMT-2	----	----	1539 ft²	----	1	0	0

Building Loads Summary Report

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	1622 ft²	256 ft²	Medium	0.6	No	0.9	No	0	18.4

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	150	1539 ft²	N	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	16.7	1539 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
2	S	Exterior	Frame - Wood	Main	11	57		8		456 ft²		0.25	0.6	0
3	E	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
4	W	Exterior	Frame - Wood	Main	11	27		8		216 ft²		0.25	0.6	0
5	N	Exterior	Frame - Wood	Main	11	57			9	42.75 ft²		0.1	0.6	0
6	S	Exterior	Frame - Wood	Main	11	57			9	42.75 ft²		0.1	0.6	0
7	E	Exterior	Frame - Wood	Main	11	27			9	20.25 ft²		0.1	0.6	0
8	W	Exterior	Frame - Wood	Main	11	27			9	20.25 ft²		0.1	0.6	0
9	N	Exterior	Concrete - 6 inch	BSMT-2	10.3	42	0	7.25	0	304.5 ft²		0	0.75	90.80413
10	S	Exterior	Concrete - 6 inch	BSMT-2	10.3	42	0	7.25	0	304.5 ft²		0	0.75	90.80413
11	E	Exterior	Concrete - 6 inch	BSMT-2	10.3	42	0	7.25	0	304.5 ft²		0	0.75	90.80413
12	W	Exterior	Concrete - 6 inch	BSMT-2	10.3	42	0	7.25	0	304.5 ft²		0	0.75	90.80413

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Insulated	Main	None	0.46	3		6	8	20 ft²
2	S	Insulated	Main	None	0.46	3		6	8	20 ft²

Building Loads Summary Report

WINDOWS

#	Wall Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
2	S	2	TIM	Single (Clear)	Yes	1.09	0.7	N	90 ft²	0 ft 0 in	0 ft 0 in	None	None
3	E	3	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None
4	W	4	TIM	Single (Clear)	Yes	1.09	0.7	N	45 ft²	0 ft 0 in	0 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Proposed ACH	0.000458	3705.0	203.40	382.52	0.3350	9.4718	All

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0	Main
No Added Mass	0 ft²	0 ft	0	BSMT-2

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Electric Strip Heat	None	COP: 1	130 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	Central Unit	None	SEER: 10	24.8 kBtu/hr	744 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
					gal	gal	deg	

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Return Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Main	6	384.75 ft²	Main	77 ft²		Prop. Air Leakage	Main	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Heating	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Venting	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Thermostat Schedule: BESTEST-heating

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Loads Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: BESTEST-gains

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.5	0.5	0.5	0.5	0.5
% Released: 0	PM	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.75
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Clothes Washer	AM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 0	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Lighting	AM	0.144	0.144	0.144	0.144	0.144	0.243	0.304	0.607	0.356	0.216	0.216	0.29
% Released: 100	PM	0.216	0.183	0.186	0.186	0.274	0.295	0.317	0.499	0.499	0.523	0.523	0.469
Annual Use: 800 kWh/Yr				Peak Value: 308 Watts									
Miscellaneous	AM	0.238	0.238	0.238	0.238	0.238	0.398	0.5	1	0.583	0.357	0.357	0.476
% Released: 100	PM	0.357	0.297	0.31	0.31	0.453	0.488	0.524	0.821	0.821	0.857	0.857	0.774
Annual Use: 6500 kWh/Yr				Peak Value: 1518 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 0	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 0	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr				Peak Value: 0 Watts									

MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
None	0	0	0	0W	0%	1 - Electric Strip Heat	1 - Central Unit

BLOCKS

Number	Name	Area	Volume	
1	Block1	3078	23469.75	23469.75

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	1539	12312	Yes	0	0	Yes	Yes	Yes
2	BSMT-2	1539	11157.75	No	0	0	Yes	Yes	Yes

Appendix C

Florida Standard Reference Design Auto-Generation Reports

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3a
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:26:34

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	687 Thrm	$1168
Heating Fan/Pump	538 kWh	$62
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1230
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7838 kWh	$904
Total (Therms)	687 Therms	$1168
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2072

Emissions	(Calculated as Total - PV Produced)
SO2	20.99 Lbs
NOX	29.78 Lbs
CO2	11.79 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3b
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:29:19

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	873 Thrm	$1484
Heating Fan/Pump	512 kWh	$59
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1543
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7812 kWh	$901
Total (Therms)	873 Therms	$1484
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2385

Emissions	(Calculated as Total - PV Produced)
SO2	20.92 Lbs
NOX	31.40 Lbs
CO2	12.85 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3c
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:30:47

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	729 Thrm	$1239
Heating Fan/Pump	531 kWh	$61
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1300
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7831 kWh	$903
Total (Therms)	729 Therms	$1239
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2142

Emissions	(Calculated as Total - PV Produced)
SO2	20.97 Lbs
NOX	30.15 Lbs
CO2	12.03 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3d
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:32:14

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	840 Thrm	$1428
Heating Fan/Pump	579 kWh	$67
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1495
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7879 kWh	$909
Total (Therms)	840 Therms	$1428
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2337

Emissions (Calculated as Total - PV Produced)	
SO2	21.10 Lbs
NOX	31.30 Lbs
CO2	12.72 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3e
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:33:00

End-Use	Energy Consumption	Annual Cost
Cooling Electric	5878 kWh	$678
Cooling Fan	1046 kWh	$121
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**6924 kWh**	**$799**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	14224 kWh	$1641
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1641

Emissions	(Calculated as Total - PV Produced)
SO2	41.42 Lbs
NOX	35.75 Lbs
CO2	11.19 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3f
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:33:50

End-Use	Energy Consumption	Annual Cost
Cooling Electric	7626 kWh	$880
Cooling Fan	1361 kWh	$157
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**8987 kWh**	**$1037**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	16287 kWh	$1879
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$1879

Emissions	(Calculated as Total - PV Produced)
SO2	47.43 Lbs
NOX	40.93 Lbs
CO2	12.81 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3g
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:34:50

End-Use	Energy Consumption	Annual Cost
Cooling Electric	6335 kWh	$731
Cooling Fan	1127 kWh	$130
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**7462 kWh**	**$861**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	14762 kWh	$1703
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1703

Emissions	(Calculated as Total - PV Produced)
SO2	42.99 Lbs
NOX	37.10 Lbs
CO2	11.61 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3h
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:36:04

End-Use	Energy Consumption	Annual Cost
Cooling Electric	7326 kWh	$845
Cooling Fan	1293 kWh	$149
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**8619 kWh**	**$994**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	15919 kWh	$1836
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1836

Emissions	(Calculated as Total - PV Produced)
SO2	46.35 Lbs
NOX	40.01 Lbs
CO2	12.52 Tons

Appendix D

RESNET HVAC Test Reports

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
HVAC_TestCase-1a
Building Type: User
RESNET HVAC test suite

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/22/2012 11:51:00

End-Use	Energy Consumption	Annual Cost
Cooling Electric	5813 kWh	$671
Cooling Fan	1034 kWh	$119
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**6847 kWh**	**$790**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	14147 kWh	$1632
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1632

Emissions	(Calculated as Total - PV Produced)
SO2	41.19 Lbs
NOX	35.55 Lbs
CO2	11.13 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
HVAC_TestCase-1b
Building Type: User
RESNET HVAC test suite

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/22/2012 11:51:39

End-Use	Energy Consumption	Annual Cost
Cooling Electric	4470 kWh	$516
Cooling Fan	1034 kWh	$119
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**5504 kWh**	**$635**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	12804 kWh	$1477
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$1477

Emissions	(Calculated as Total - PV Produced)
SO2	37.28 Lbs
NOX	32.18 Lbs
CO2	10.07 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
HVAC_TestCase-2a
Building Type: User
HERS BESTEST basecase home

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/22/2012 11:52:12

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	799 Thrm	$1358
Heating Fan/Pump	623 kWh	$72
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1430
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7923 kWh	$914
Total (Therms)	799 Therms	$1358
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2272

Emissions	(Calculated as Total - PV Produced)
SO2	21.22 Lbs
NOX	31.06 Lbs
CO2	12.53 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
HVAC_TestCase-2b
Building Type: User
HERS BESTEST basecase home

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/22/2012 11:53:09

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	693 Thrm	$1178
Heating Fan/Pump	623 kWh	$72
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1250
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7923 kWh	$914
Total (Therms)	693 Therms	$1178
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2092

Emissions (Calculated as Total - PV Produced)	
SO2	21.22 Lbs
NOX	30.09 Lbs
CO2	11.91 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
HVAC_TestCase-2c
Building Type: User
HERS BESTEST basecase home

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/22/2012 11:53:38

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating Electric	9517 kWh	$1098
Heating Fan/Pump	1343 kWh	$155
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1253
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	18160 kWh	$2095
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2095

Emissions	(Calculated as Total - PV Produced)
SO2	48.64 Lbs
NOX	54.52 Lbs
CO2	18.03 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
HVAC_TestCase-2d
Building Type: User
HERS BESTEST basecase home

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/22/2012 11:54:25

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating Electric	7535 kWh	$870
Heating Fan/Pump	1027 kWh	$119
Mechanical Vent Fan	0 kWh	$0
Total Heating		$989
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	15862 kWh	$1831
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$1831

Emissions	(Calculated as Total - PV Produced)
SO2	42.49 Lbs
NOX	47.62 Lbs
CO2	15.75 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
HVAC_TestCase-2e
Building Type: User
HERS BESTEST basecase home

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/22/2012 11:55:00

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating Electric	17088 kWh	$1972
Heating Fan/Pump	935 kWh	$108
Mechanical Vent Fan	0 kWh	$0
Total Heating		$2080
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	25323 kWh	$2922
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2922

Emissions	(Calculated as Total - PV Produced)
SO2	67.83 Lbs
NOX	76.02 Lbs
CO2	25.15 Tons

Appendix E

RESNET DSE Test Reports

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3a
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:26:34

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	687 Thrm	$1168
Heating Fan/Pump	538 kWh	$62
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1230
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7838 kWh	$904
Total (Therms)	687 Therms	$1168
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2072

Emissions	(Calculated as Total - PV Produced)
SO2	20.99 Lbs
NOX	29.78 Lbs
CO2	11.79 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3b
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:29:19

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	873 Thrm	$1484
Heating Fan/Pump	512 kWh	$59
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1543
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7812 kWh	$901
Total (Therms)	873 Therms	$1484
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2385

Emissions	(Calculated as Total - PV Produced)
SO2	20.92 Lbs
NOX	31.40 Lbs
CO2	12.85 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3c
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:30:47

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	729 Thrm	$1239
Heating Fan/Pump	531 kWh	$61
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1300
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7831 kWh	$903
Total (Therms)	729 Therms	$1239
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$2142

Emissions	(Calculated as Total - PV Produced)
SO2	20.97 Lbs
NOX	30.15 Lbs
CO2	12.03 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Colorado Springs, CO

Project Title:
DSE_HVAC-3d
Building Type: User
HERS BESTEST basement case

TMY_City:CO_COLORADOSPRINGS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:32:14

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**0 kWh**	**$0**
Heating		
Therms	840 Thrm	$1428
Heating Fan/Pump	579 kWh	$67
Mechanical Vent Fan	0 kWh	$0
Total Heating		$1495
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	7879 kWh	$909
Total (Therms)	840 Therms	$1428
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$2337

Emissions (Calculated as Total - PV Produced)	
SO2	21.10 Lbs
NOX	31.30 Lbs
CO2	12.72 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3e
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:33:00

End-Use	Energy Consumption	Annual Cost
Cooling Electric	5878 kWh	$678
Cooling Fan	1046 kWh	$121
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**6924 kWh**	**$799**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	14224 kWh	$1641
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1641

Emissions	(Calculated as Total - PV Produced)
SO2	41.42 Lbs
NOX	35.75 Lbs
CO2	11.19 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3f
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:33:50

End-Use	Energy Consumption	Annual Cost
Cooling Electric	7626 kWh	$880
Cooling Fan	1361 kWh	$157
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**8987 kWh**	**$1037**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	16287 kWh	$1879
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1879

Emissions	(Calculated as Total - PV Produced)
SO2	47.43 Lbs
NOX	40.93 Lbs
CO2	12.81 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3g
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:34:50

End-Use	Energy Consumption	Annual Cost
Cooling Electric	6335 kWh	$731
Cooling Fan	1127 kWh	$130
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**7462 kWh**	**$861**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	14762 kWh	$1703
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1703

Emissions	(Calculated as Total - PV Produced)
SO2	42.99 Lbs
NOX	37.10 Lbs
CO2	11.61 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Las Vegas, NV

Project Title:
DSE_HVAC-3h
Building Type: User
HERS BESTEST basecase home

TMY_City:NV_LASVEGAS
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 15:36:04

End-Use	Energy Consumption	Annual Cost
Cooling Electric	7326 kWh	$845
Cooling Fan	1293 kWh	$149
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**8619 kWh**	**$994**
Heating		
Heating Fan/Pump	0 kWh	$0
Mechanical Vent Fan	0 kWh	$0
Total Heating		$0
Hot Water	0 kWh	$0
Hot Water Pump	0 kWh	$0
Total Hot Water		$0
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	15919 kWh	$1836
Total (Therms)	0 Therms	$0
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$1836

Emissions	(Calculated as Total - PV Produced)
SO2	46.35 Lbs
NOX	40.01 Lbs
CO2	12.52 Tons

Appendix F

RESNET DHW Test Reports

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Duluth, MN

Project Title:
DHW-MN-56-2
Building Type: User
HERS BESTEST basecase home

TMY_City:MN_DULUTH
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 14:51:17

End-Use	Energy Consumption	Annual Cost
Cooling Electric	470 kWh	$54
Cooling Fan	86 kWh	$10
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**556 kWh**	**$64**
Heating Electric	31516 kWh	$3637
Heating Fan/Pump	1723 kWh	$199
Mechanical Vent Fan	0 kWh	$0
Total Heating		$3836
Hot Water	204 Therms	$347
Hot Water Pump	0 kWh	$0
Total Hot Water		$347
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	41095 kWh	$4742
Total (Therms)	204 Therms	$347
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$5089

Emissions	(Calculated as Total - PV Produced)
SO2	171.08 Lbs
NOX	144.35 Lbs
CO2	33.82 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Duluth, MN

Project Title:
DHW-MN-56-4
Building Type: User
HERS BESTEST basecase home

TMY_City:MN_DULUTH
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 14:53:24

End-Use	Energy Consumption	Annual Cost
Cooling Electric	493 kWh	$57
Cooling Fan	90 kWh	$10
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**583 kWh**	**$67**
Heating Electric	30854 kWh	$3561
Heating Fan/Pump	1688 kWh	$195
Mechanical Vent Fan	0 kWh	$0
Total Heating		$3756
Hot Water	263 Therms	$445
Hot Water Pump	0 kWh	$0
Total Hot Water		$445
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	40425 kWh	$4665
Total (Therms)	262 Therms	$445
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$5110

Emissions	(Calculated as Total - PV Produced)
SO2	168.29 Lbs
NOX	142.76 Lbs
CO2	33.63 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Duluth, MN

Project Title:
DHW-MN-62-2
Building Type: User
HERS BESTEST basecase home

TMY_City:MN_DULUTH
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 14:54:24

End-Use	Energy Consumption	Annual Cost
Cooling Electric	470 kWh	$54
Cooling Fan	86 kWh	$10
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**556 kWh**	**$64**
Heating Electric	31516 kWh	$3637
Heating Fan/Pump	1723 kWh	$199
Mechanical Vent Fan	0 kWh	$0
Total Heating		$3836
Hot Water	184 Therms	$313
Hot Water Pump	0 kWh	$0
Total Hot Water		$313
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	41095 kWh	$4742
Total (Therms)	184 Therms	$313
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$5055

Emissions	(Calculated as Total - PV Produced)
SO2	171.08 Lbs
NOX	144.10 Lbs
CO2	33.70 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Miami, FL

Project Title:
DHW-FL-56-2
Building Type: User
HERS BESTEST basecase home

TMY_City:FL_MIAMI
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 14:29:49

End-Use	Energy Consumption	Annual Cost
Cooling Electric	6545 kWh	$755
Cooling Fan	1136 kWh	$131
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**7681 kWh**	**$886**
Heating Electric	409 kWh	$47
Heating Fan/Pump	22 kWh	$3
Mechanical Vent Fan	0 kWh	$0
Total Heating		$50
Hot Water	124 Therms	$211
Hot Water Pump	0 kWh	$0
Total Hot Water		$211
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	15412 kWh	$1778
Total (Therms)	124 Therms	$211
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$1989

Emissions	(Calculated as Total - PV Produced)
SO2	61.21 Lbs
NOX	37.47 Lbs
CO2	11.11 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Miami, FL

Project Title:
DHW-FL-56-4
Building Type: User
HERS BESTEST basecase home

TMY_City:FL_MIAMI
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 14:38:04

End-Use	Energy Consumption	Annual Cost
Cooling Electric	6799 kWh	$785
Cooling Fan	1180 kWh	$136
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**7979 kWh**	**$921**
Heating Electric	369 kWh	$43
Heating Fan/Pump	20 kWh	$2
Mechanical Vent Fan	0 kWh	$0
Total Heating		$45
Hot Water	154 Therms	$262
Hot Water Pump	0 kWh	$0
Total Hot Water		$262
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	15668 kWh	$1808
Total (Therms)	154 Therms	$262
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh)	0 kWh	$0
Assumes net metering		
Total Cost		$2070

Emissions	(Calculated as Total - PV Produced)
SO2	62.22 Lbs
NOX	38.44 Lbs
CO2	11.46 Tons

Annual Energy Summary

Wholehouse Summary

FSEC
111 Anywhere Lane
Miami, FL

Project Title:
DHW-FL-62-2
Building Type: User
HERS BESTEST basecase home

TMY_City:FL_MIAMI
Elec Util: EnergyGauge Default
Gas Util: Florida 2012
Run Date: 02/21/2012 14:50:02

End-Use	Energy Consumption	Annual Cost
Cooling Electric	6545 kWh	$755
Cooling Fan	1136 kWh	$131
Mechanical Vent Fan	0 kWh	$0
Total Cooling	**7681 kWh**	**$886**
Heating Electric	409 kWh	$47
Heating Fan/Pump	22 kWh	$3
Mechanical Vent Fan	0 kWh	$0
Total Heating		$50
Hot Water	107 Therms	$180
Hot Water Pump	0 kWh	$0
Total Hot Water		$180
Ceiling Fans	0 kWh	$0
Clothes Washer	0 kWh	$0
Dishwasher	0 kWh	$0
Dryer	0 kWh	$0
Lighting	800 kWh	$92
Miscellaneous	6500 kWh	$750
Pool Pump	0 kWh	$0
Range	0 kWh	$0
Refrigerator	0 kWh	$0
Total (kWh)	15412 kWh	$1778
Total (Therms)	106 Therms	$180
Total (Oil Gallons)	0 Gallons	$0
Total (Propane Gallons)	0 Gallons	$0
PV Produced (kWh) Assumes net metering	0 kWh	$0
Total Cost		$1958

Emissions	(Calculated as Total - PV Produced)
SO2	61.21 Lbs
NOX	37.26 Lbs
CO2	11.01 Tons