

**Project Name:** Room by Room

**Address:**

### OUTDOOR DESIGN CONDITIONS

Weather station:

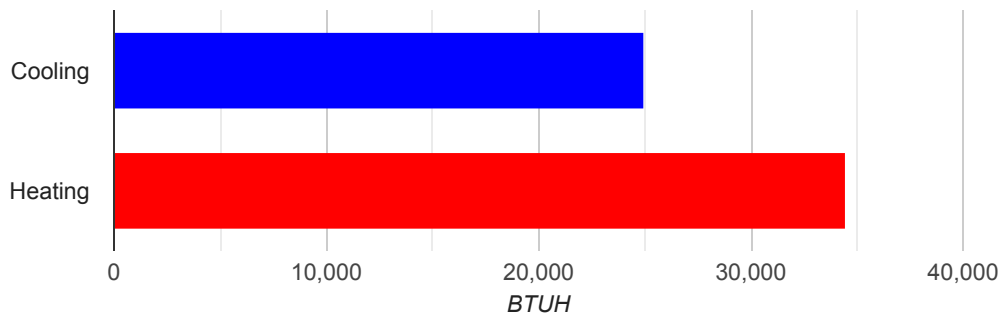
Summer Outdoor F:	<b>88</b>	Summer Indoor F:	<b>75</b>	Design Grains:	<b>30</b>	Daily Range:	<b>Medium</b>
Winter Outdoor F:	<b>8</b>	Winter Indoor F:	<b>70</b>	Cooling RH:	<b>50</b>	Elevation (Ft):	<b>67</b>

### LOAD CALCULATION TOTALS

HVAC System: Heat Pump

Heated square footage:	<b>1,974</b>	Heating BTUH:	<b>34,468</b>
Cooled square footage:	<b>1,974</b>	Cooling BTUH:	<b>24,960</b>
Heated volume (above grade CF):	<b>15,792</b>	CFM:	<b>1,098</b>
Cooled volume (above grade CF):	<b>15,792</b>	Sensible cooling:	<b>21,741</b>
Exposed wall area (SF):	<b>1,520</b>	Latent cooling:	<b>3,219</b>
		SHR:	<b>0.871</b>

**Load Calculation**



### Approved ACCA MJ8 Calculations

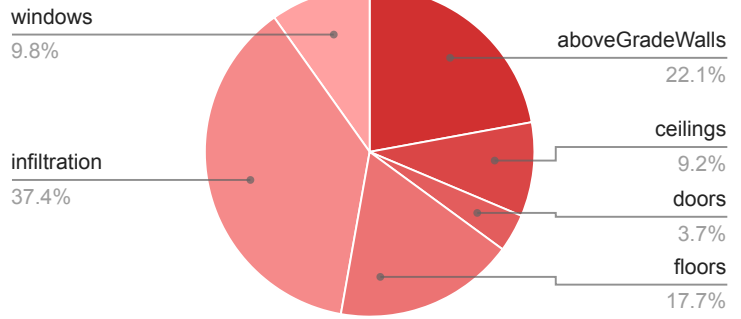
Calculations are based on the ACCA Manual J 8th Edition and are approved by ACCA. All computed calculations are estimates on building use, weather data, and inputted values such as R-Values, window types, duct loss, etc. Equipment selections should meet both the latent and sensible gain as well as building heat loss.



## HEATING AND COOLING LOADS

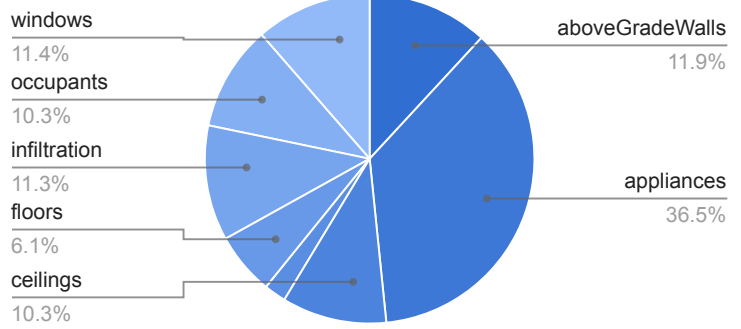
HEATING LOADS		
SECTION	AREA	HEAT LOSS
aboveGradeWalls	1,267.6	7,623
ceilings	1,974	3,182
doors	44	1,282
floors	1,974	6,110
infiltration	0	12,883
skylights	0	0
windows	208.4	3,388
Totals		34,468

### Heating Loads

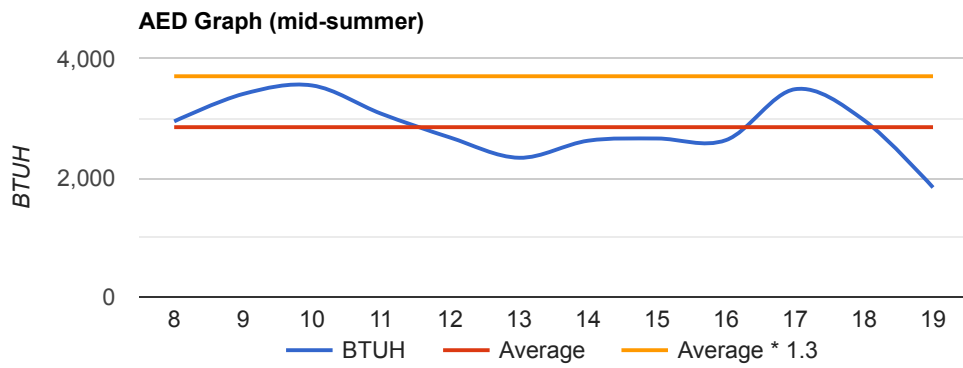


COOLING LOADS			
SECTION	AREA	SENSIBLE	LATENT
AEDExcursion	0	0	0
aboveGradeWalls	1,267.6	2,963	0
appliances	0	8,755	358
ceilings	1,974	2,566	0
doors	44	538	0
floors	1,974	1,527	0
infiltration	0	1,164	1,661
occupants	0	1,380	1,200
skylights	0	0	0
windows	208.4	2,847	0
Totals		21,741	3,219

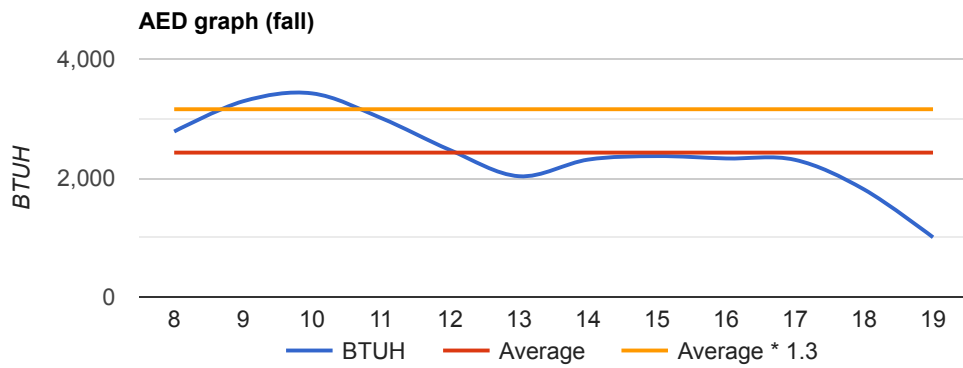
### Cooling Loads



## FENESTRATION LOADS



This graph represents hourly aggregate fenestration loads in mid-summer.



This graph represents hourly aggregate fenestration loads in October.

## COMPONENT LOADS

ABOVE GRADE WALLS						
<b>Dining Room</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	SE 74	Heating BTUH: Cooling BTUH:	445 173
<b>Guest BR Backyard</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	SE 119.9	Heating BTUH: Cooling BTUH:	721 280
<b>Guest BR Side</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	SW 87.9	Heating BTUH: Cooling BTUH:	529 205
<b>Doorway Hallway</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	NE 28	Heating BTUH: Cooling BTUH:	168 65
<b>Kitchen Driveway</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	NE 104.2	Heating BTUH: Cooling BTUH:	627 244
<b>Kitchen Backyard</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	SE 138	Heating BTUH: Cooling BTUH:	830 323
<b>Master BR Wall</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	NE 40.5	Heating BTUH: Cooling BTUH:	244 95
<b>Bathroom Backyard</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	SE 59	Heating BTUH: Cooling BTUH:	355 138
<b>Side BR</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	SW 120.5	Heating BTUH: Cooling BTUH:	725 282
<b>Street Bedroom</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	NW 97	Heating BTUH: Cooling BTUH:	583 227
<b>Den Outside</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	NW 79	Heating BTUH: Cooling BTUH:	475 185
<b>Office Side</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	SW 65.6	Heating BTUH: Cooling BTUH:	395 153
<b>Living Room Driveway</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	NE 108	Heating BTUH: Cooling BTUH:	650 252
<b>Living Room Street</b>						
Frame Wall, Wood framing, R-11 cavity insulation, Stucco or Siding.	Construction nr: U Value:	12B-0s w 0.097	Exposure: Area:	NW 146	Heating BTUH: Cooling BTUH:	878 341

## BELOW GRADE WALLS

There are no components for this section.

## WINDOWS

<b>slider</b> Window, NFRC rated, Clear glass.	Construction nr: Area: Exposure:	1G 30 SE	U Value: SHGC:	0.87 0.67	Heating BTUH: Cooling BTUH:	1,618 1,096
<b>Backyard</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 8.1 SE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	80 150
<b>side</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 8.1 SW	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	80 113
<b>Above laundry</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 7.8 NE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	77 66
<b>half bath</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 5.3 SE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	53 70
<b>Kitchen above sink</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 8 SE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	79 99
<b>Kitchen above table</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 16.7 SE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	166 208
<b>Front</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 7.5 NE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	74 37
<b>Backyard</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 5 SE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	50 43
<b>side</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 7.5 SW	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	74 77
<b>street</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 15 NW	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	149 97
<b>Street</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 25 NW	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	248 181
<b>Side</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 14.4 SW	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	143 201
<b>LR Driveway</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 20 NE	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	198 169
<b>Double Hung</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 15.3 NW	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	152 123
<b>Picture</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 14.7 NW	U Value: SHGC:	0.16 0.21	Heating BTUH: Cooling BTUH:	146 119

Window cooling BTUHs shown here are daily average values. See AED graphs for details of fenestration loads during the day.

## CEILINGS

<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	169	Heating BTUH: Cooling BTUH:	272 220
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	192	Heating BTUH: Cooling BTUH:	310 250

## CEILINGS

<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	127	Heating BTUH: Cooling BTUH:	205 165
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	336	Heating BTUH: Cooling BTUH:	542 437
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	36	Heating BTUH: Cooling BTUH:	58 47
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	56	Heating BTUH: Cooling BTUH:	90 73
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	224	Heating BTUH: Cooling BTUH:	361 291
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	247	Heating BTUH: Cooling BTUH:	398 321
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	100	Heating BTUH: Cooling BTUH:	161 130
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	135	Heating BTUH: Cooling BTUH:	218 176
<b>System generated ceiling.</b> Ceiling under attic or attic knee wall, Asphalt shingles, Dark, R-38.	Construction nr: U Value:	16B-38 ad 0.026	Area:	352	Heating BTUH: Cooling BTUH:	567 458

## SKYLIGHTS

There are no components for this section.

Skylight cooling BTUHs shown here are daily average values. See AED graphs for details of fenestration loads during the day.

## DOORS

<b>Default doors for wall id 6142241</b> Wood Door, Hollow Core.	Construction nr: U Value:	11 0.47	Area: Exposure:	20 NE	Heating BTUH: Cooling BTUH:	583 244
<b>side door</b> Wood Door, Hollow Core.	Construction nr: U Value:	11 0.47	Area: Exposure:	24 SE	Heating BTUH: Cooling BTUH:	699 293

## FLOORS

<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 169	Heating U Value: Cooling U Value:	0.073 0.073	Heating BTUH: Cooling BTUH: F Value:	523 131 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 192	Heating U Value: Cooling U Value:	0.073 0.073	Heating BTUH: Cooling BTUH: F Value:	594 149 N/A

## FLOORS

<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 127	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	393 98 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 336	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	1,040 260 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 36	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	111 28 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 56	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	173 43 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 224	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	693 173 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 247	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	765 191 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 100	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	310 77 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 135	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	418 104 N/A
<b>System generated floor.</b> Floor over enclosed unconditioned crawl space or basement, R-11 blanket.	Construction nr: Area:	19A-11p 352	Heating U Value:0.073 Cooling U Value:0.073	Heating BTUH: Cooling BTUH: F Value:	1,090 272 N/A

## VENTILATION

There are no components for this section.

## HOT WATER PIPING

There are no components for this section.

## DUCTS

There are no components for this section.

## INFILTRATION

Leakage Category:	Semi-Loose	NCFM Heating:	189	Heating BTUH:	12,883
		NCFM Cooling:	82	Sensible BTUH:	1,164
				Latent BTUH:	1,661

## BLOWER MOTOR

There are no components for this section.

## WINTER HUMIDIFICATION

There are no components for this section.

## OCCUPANTS

**OCCUPANTS**

Nr. Occupants:	2	Sensible BTUH:	460	Latent BTUH:	400
Nr. Occupants:	2	Sensible BTUH:	460	Latent BTUH:	400
Nr. Occupants:	2	Sensible BTUH:	460	Latent BTUH:	400

**APPLIANCES**

Range with hood and exhaust to outdoors	Quantity:	1	Sensible BTUH:	0	Latent BTUH:	0
Dishwasher	Quantity:	1	Sensible BTUH:	1,024	Latent BTUH:	358
Refrigerator or Freezer - 16CuFt	Quantity:	1	Sensible BTUH:	1,000	Latent BTUH:	0
Color television	Quantity:	1	Sensible BTUH:	683	Latent BTUH:	0
Computer and monitor	Quantity:	1	Sensible BTUH:	538	Latent BTUH:	0
Light Fixture - 100W	Quantity:	3	Sensible BTUH:	1,023	Latent BTUH:	0
Color television	Quantity:	1	Sensible BTUH:	683	Latent BTUH:	0
Computer and monitor	Quantity:	1	Sensible BTUH:	538	Latent BTUH:	0
Light Fixture - 100W	Quantity:	3	Sensible BTUH:	1,023	Latent BTUH:	0
Color television	Quantity:	1	Sensible BTUH:	683	Latent BTUH:	0
Computer and monitor	Quantity:	1	Sensible BTUH:	538	Latent BTUH:	0
Light Fixture - 100W	Quantity:	3	Sensible BTUH:	1,023	Latent BTUH:	0

**PLANTS**

There are no components for this section.

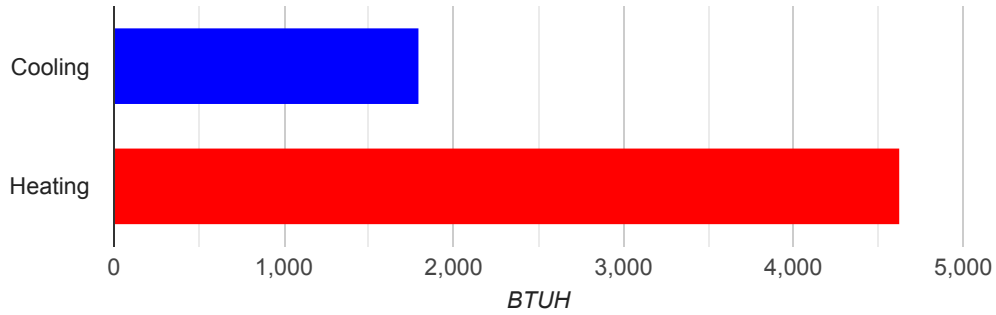


# ROOM DETAIL

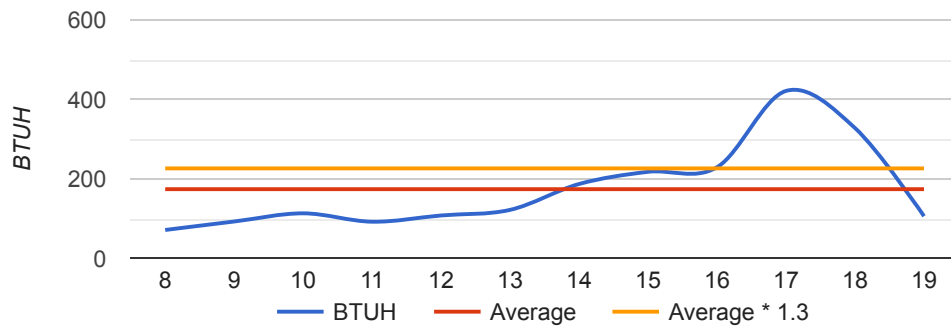
Room name: BR

Heated square footage:	224	Total Cooling BTUH:	1,788
Cooled square footage:	224	Total Heating BTUH:	4,620
Heated volume (above grade CF):	1,792	CFM:	77
Cooled volume (above grade CF):	1,792		
Exposed wall area (SF):	240		

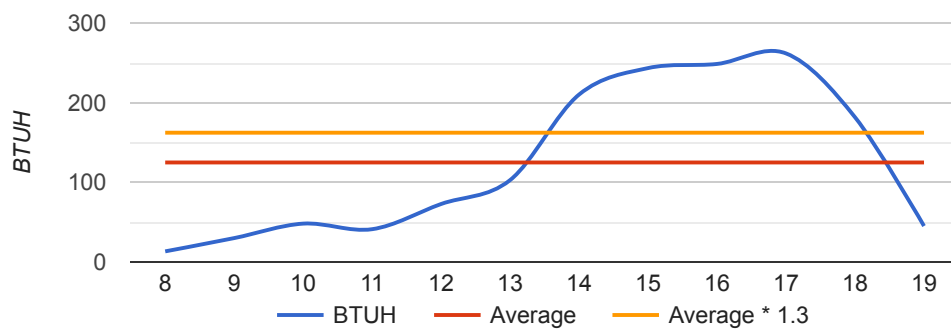
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)

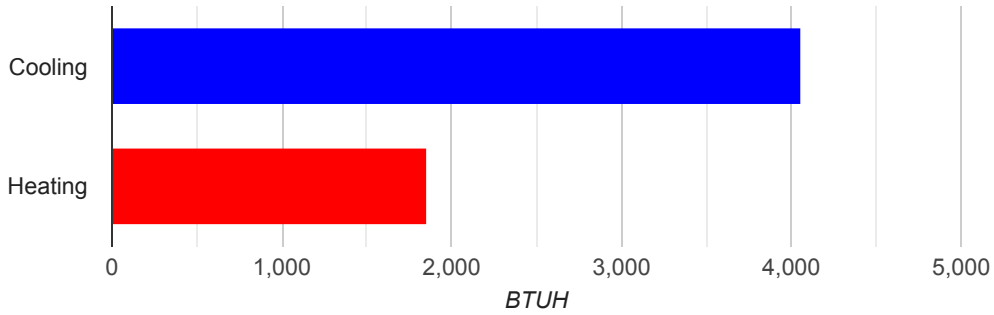


# ROOM DETAIL

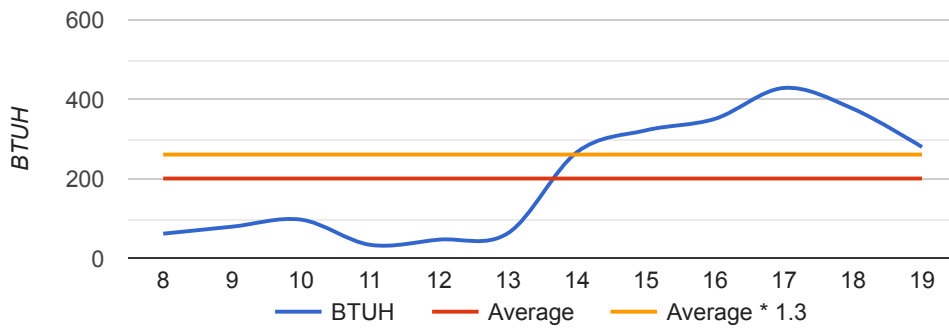
Room name: Office

Heated square footage:	135	Total Cooling BTUH:	4,054
Cooled square footage:	135	Total Heating BTUH:	1,851
Heated volume (above grade CF):	1,080	CFM:	180
Cooled volume (above grade CF):	1,080		
Exposed wall area (SF):	80		

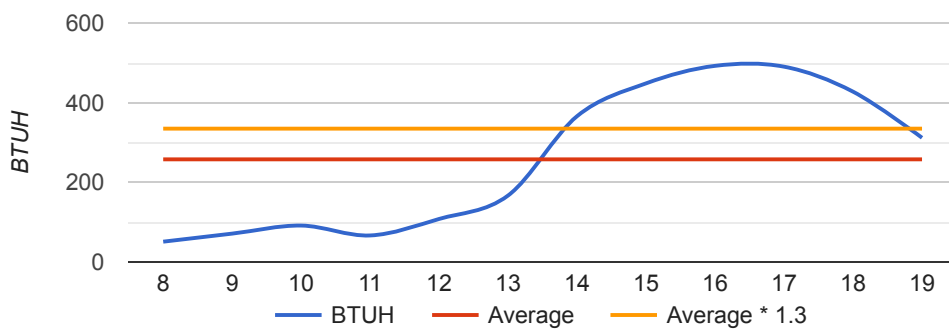
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)

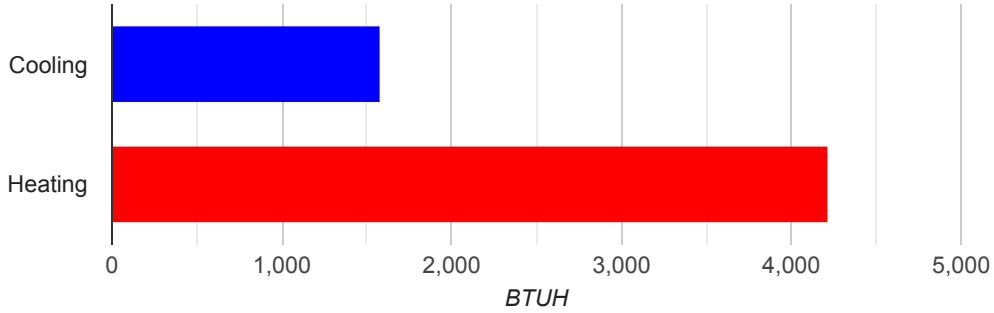


# ROOM DETAIL

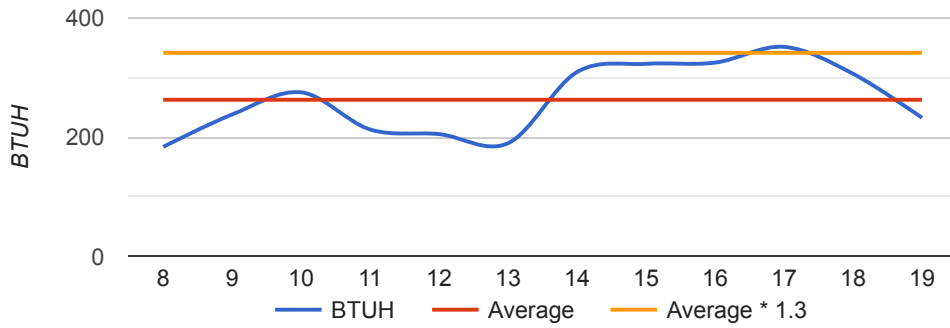
Room name: Guest Room

Heated square footage:	192	Total Cooling BTUH:	1,573
Cooled square footage:	192	Total Heating BTUH:	4,213
Heated volume (above grade CF):	1,536	CFM:	60
Cooled volume (above grade CF):	1,536		
Exposed wall area (SF):	224		

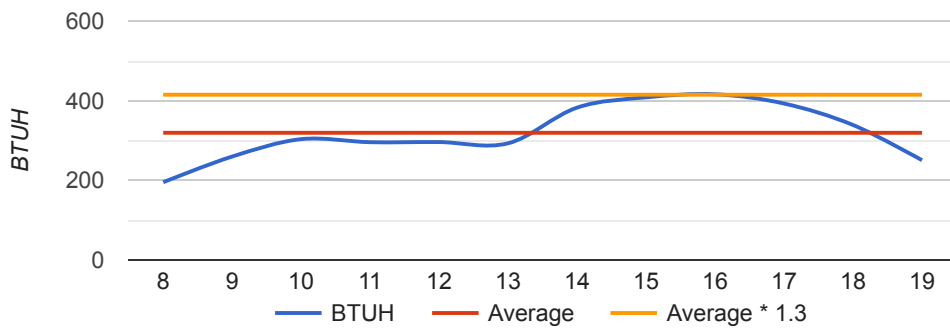
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)

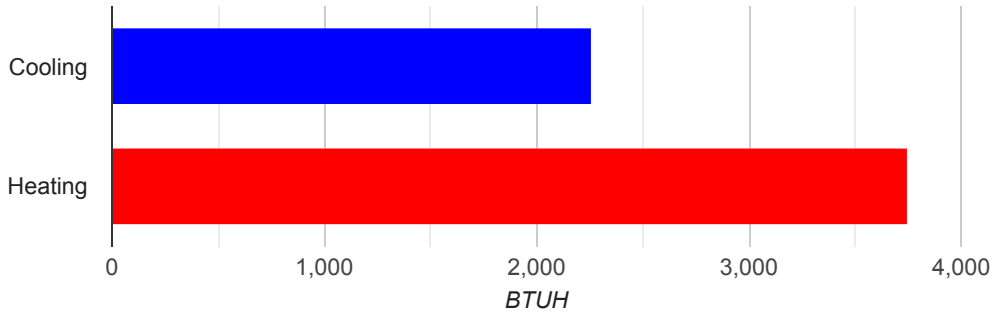


# ROOM DETAIL

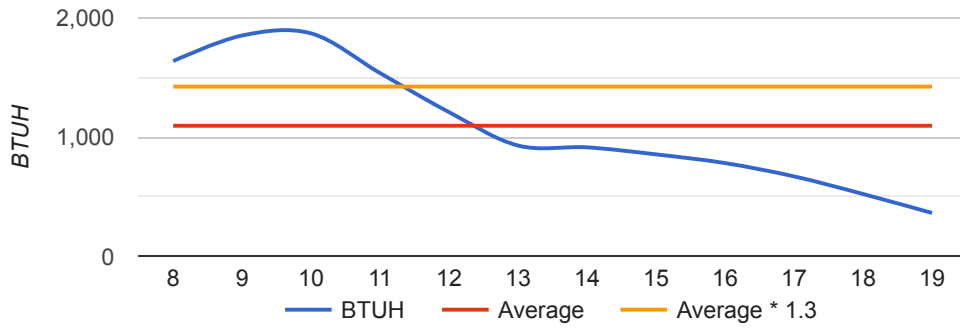
Room name: dining room

Heated square footage:	169	Total Cooling BTUH:	2,258
Cooled square footage:	169	Total Heating BTUH:	3,740
Heated volume (above grade CF):	1,352	CFM:	108
Cooled volume (above grade CF):	1,352		
Exposed wall area (SF):	104		

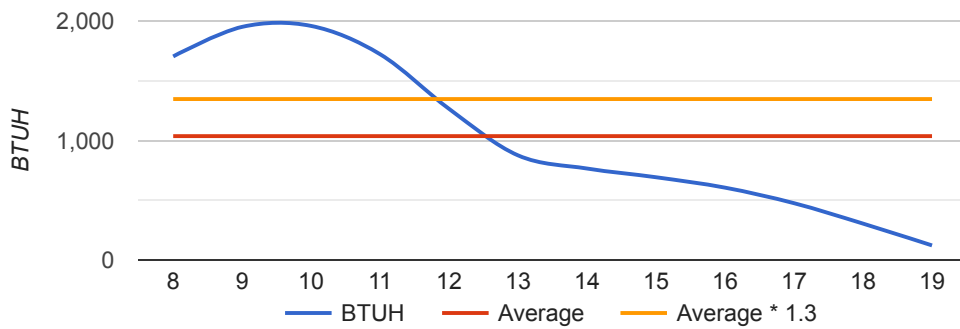
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)

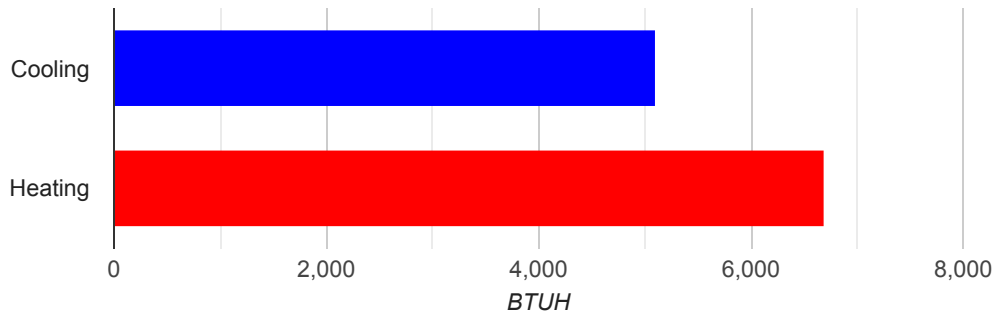


## ROOM DETAIL

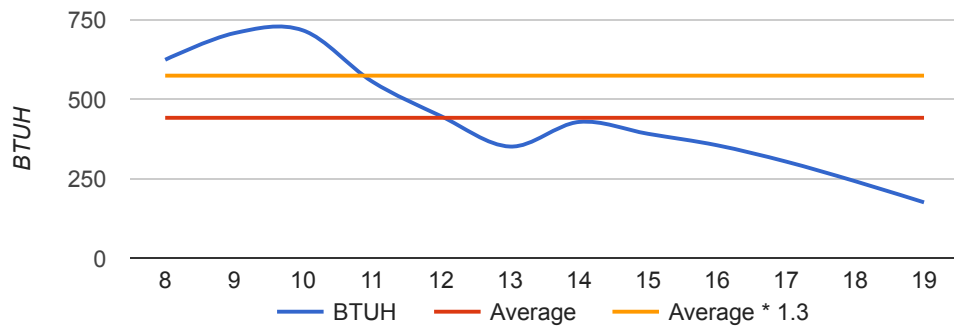
Room name: Kitchen

Heated square footage:	336	Total Cooling BTUH:	5,088
Cooled square footage:	336	Total Heating BTUH:	6,689
Heated volume (above grade CF):	2,688	CFM:	222
Cooled volume (above grade CF):	2,688		
Exposed wall area (SF):	304		

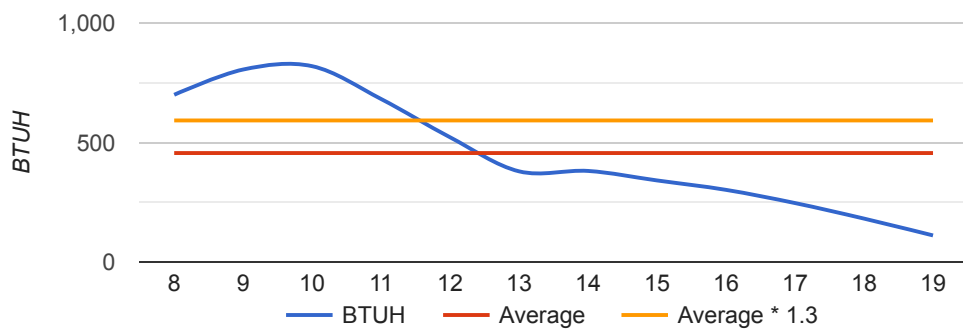
### Load Calculation



### AED Graph (mid-summer)



### AED graph (fall)

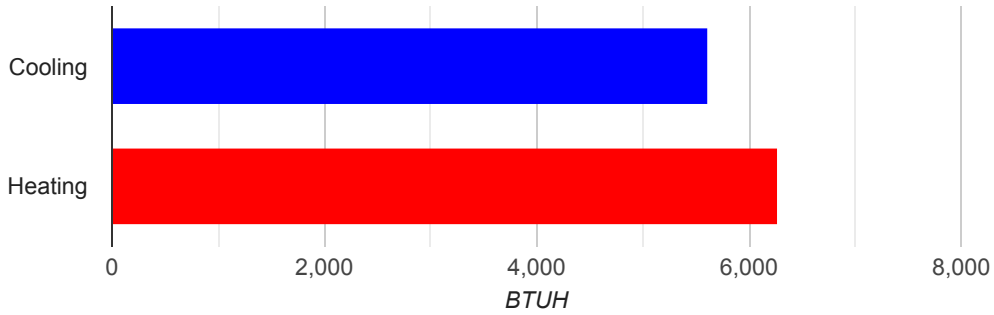


# ROOM DETAIL

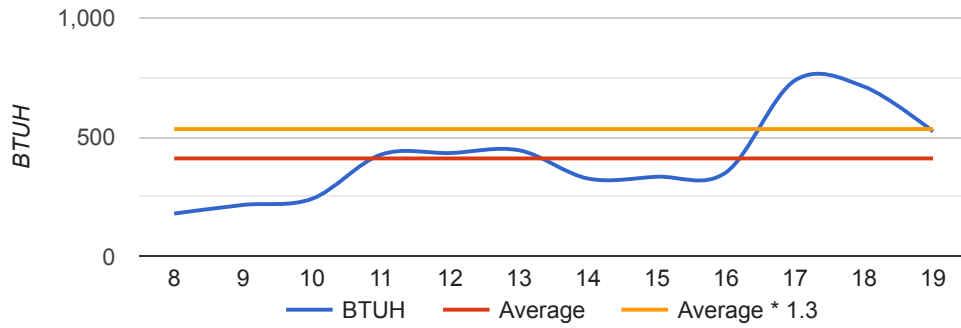
Room name: Living Room

Heated square footage:	352	Total Cooling BTUH:	5,607
Cooled square footage:	352	Total Heating BTUH:	6,257
Heated volume (above grade CF):	2,816	CFM:	246
Cooled volume (above grade CF):	2,816		
Exposed wall area (SF):	304		

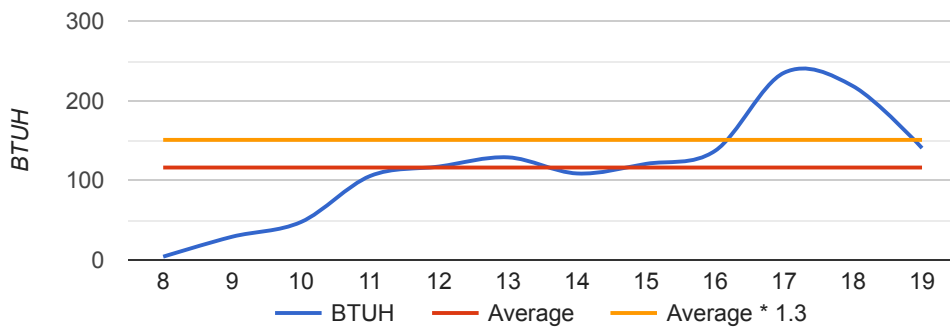
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)



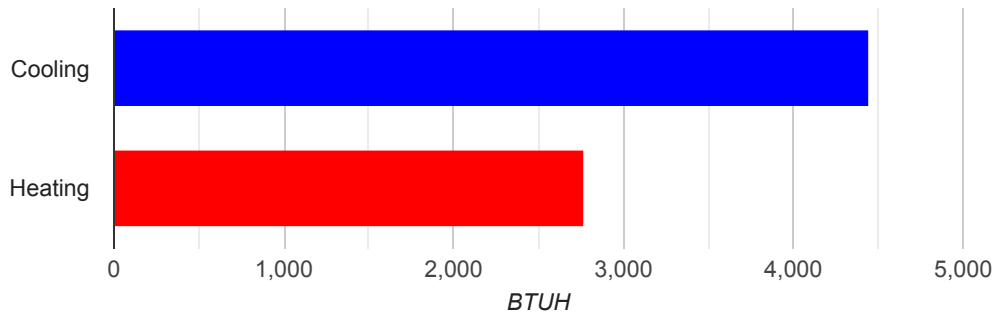
# ROOM DETAIL

Room name: den

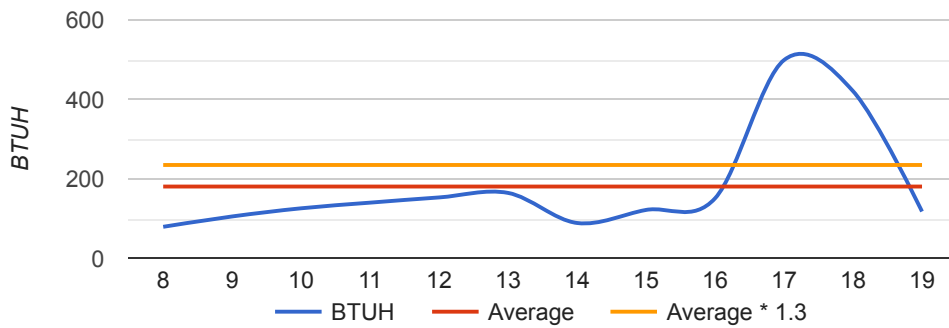
Heated square footage: 247  
Cooled square footage: 247  
Heated volume (above grade CF): 1,976  
Cooled volume (above grade CF): 1,976  
Exposed wall area (SF): 104

Total Cooling BTUH: 4,439  
Total Heating BTUH: 2,767  
CFM: 198

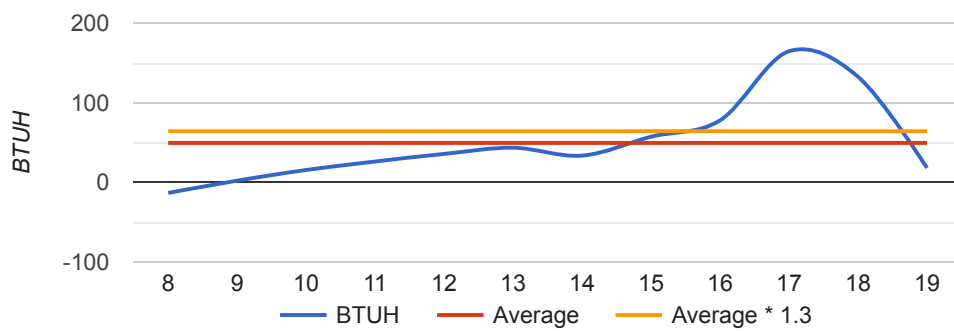
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)



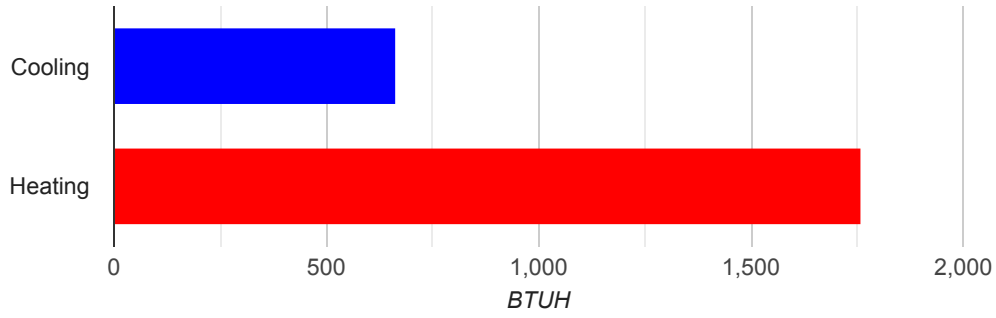
## ROOM DETAIL

Room name: hallway

Heated square footage: 127  
Cooled square footage: 127  
Heated volume (above grade CF): 1,016  
Cooled volume (above grade CF): 1,016  
Exposed wall area (SF): 48

Total Cooling BTUH: 662  
Total Heating BTUH: 1,756  
CFM: 30

### Load Calculation



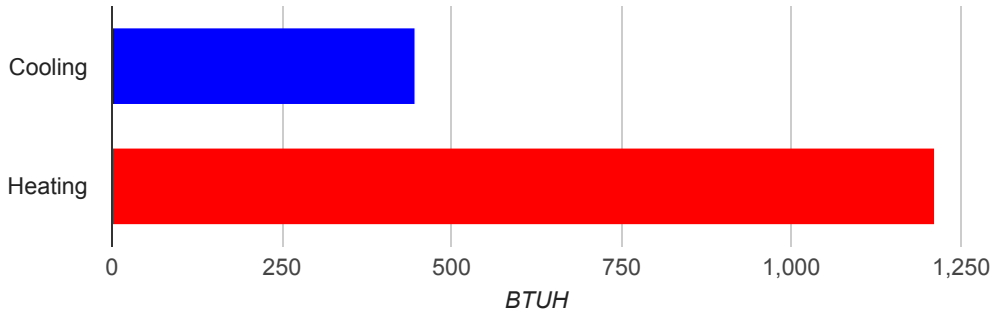


# ROOM DETAIL

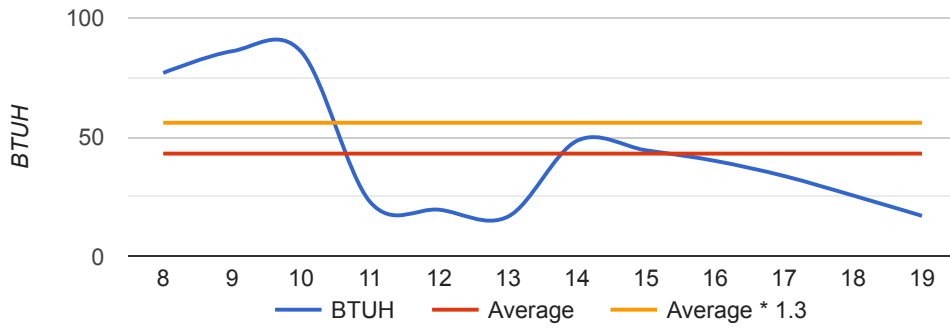
Room name: bathroom

Heated square footage:	56	Total Cooling BTUH:	446
Cooled square footage:	56	Total Heating BTUH:	1,210
Heated volume (above grade CF):	448	CFM:	17
Cooled volume (above grade CF):	448		
Exposed wall area (SF):	64		

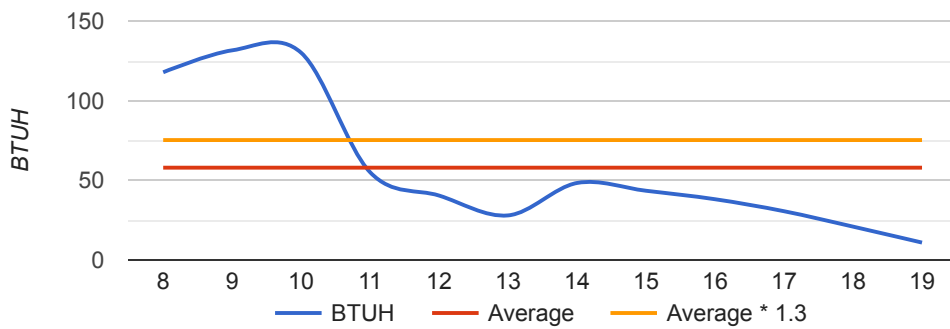
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)

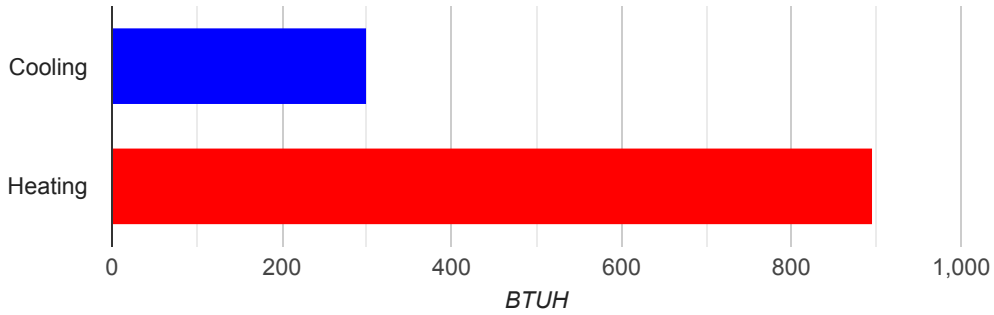


# ROOM DETAIL

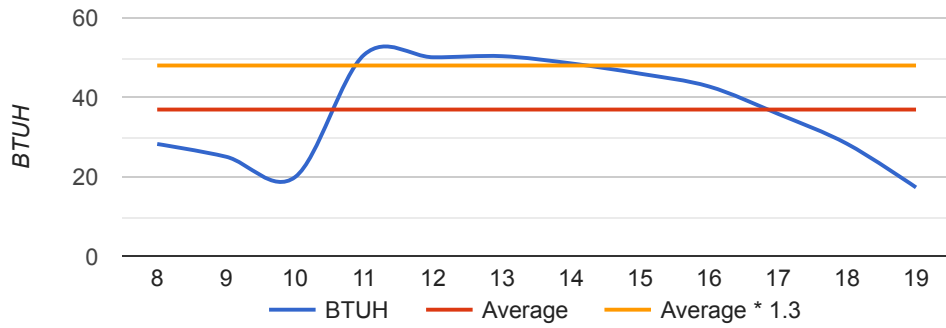
Room name: Master BR

Heated square footage:	36	Total Cooling BTUH:	298
Cooled square footage:	36	Total Heating BTUH:	894
Heated volume (above grade CF):	288	CFM:	11
Cooled volume (above grade CF):	288		
Exposed wall area (SF):	48		

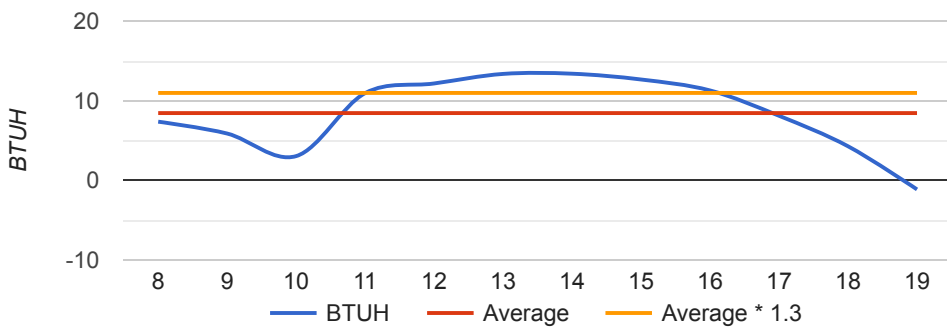
## Load Calculation



## AED Graph (mid-summer)



## AED graph (fall)



## ROOM DETAIL

Room name: Misc

Heated square footage:	100	Total Cooling BTUH:	207
Cooled square footage:	100	Total Heating BTUH:	471
Heated volume (above grade CF):	800	CFM:	10
Cooled volume (above grade CF):	800		
Exposed wall area (SF):	0		

### Load Calculation

