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**Project Name:** SRDA Studio

**Address:** 4417 Northwest American Lane, Lake City, FL

### OUTDOOR DESIGN CONDITIONS

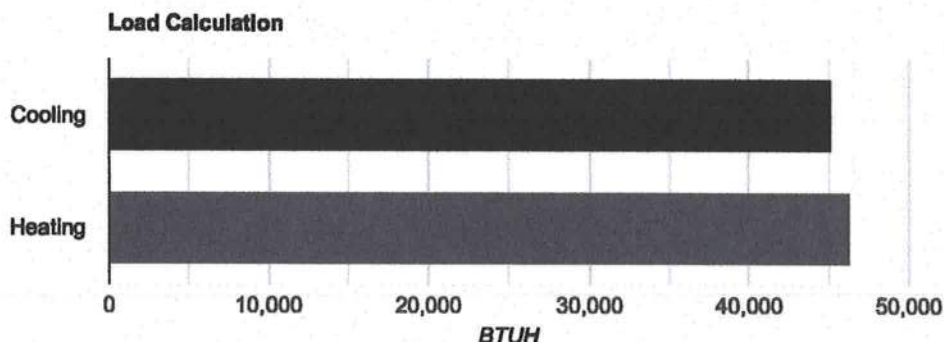
Weather station: Gainesville Regional AP

Summer Outdoor F:	92	Summer Indoor F:	70	Design Grains:	47	Daily Range:	Medium
Winter Outdoor F:	33	Winter Indoor F:	68	Cooling RH:	50	Elevation (Ft):	164

### LOAD CALCULATION TOTALS

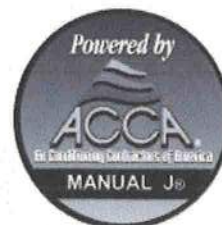
HVAC System: Mini Split

Heated square footage:	3,048	Heating BTUH:	46,266
Cooled square footage:	3,048	Cooling BTUH:	45,060
Heated volume (above grade CF):	30,480	CFM:	1,456
Cooled volume (above grade CF):	30,480	Sensible cooling:	35,237
Exposed wall area (SF):	2,400	Latent cooling:	9,823
		SHR:	0.782



### 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.

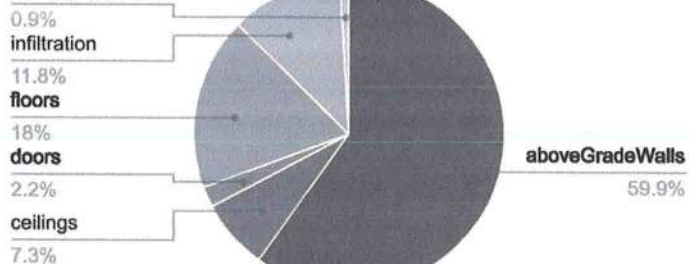


*Hal M. Marantz*

## HEATING AND COOLING LOADS

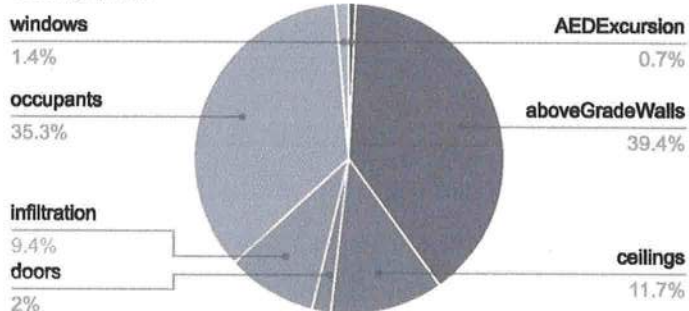
HEATING LOADS		
SECTION	AREA	HEAT LOSS
aboveGradeWalls	2,322	27,713
ceilings	3,565.3	3,369
doors	48	1,008
floors	3,048	8,308
infiltration	0	5,449
skylights	0	0
windows	30	420
Totals		46,266

**Heating Loads**  
windows



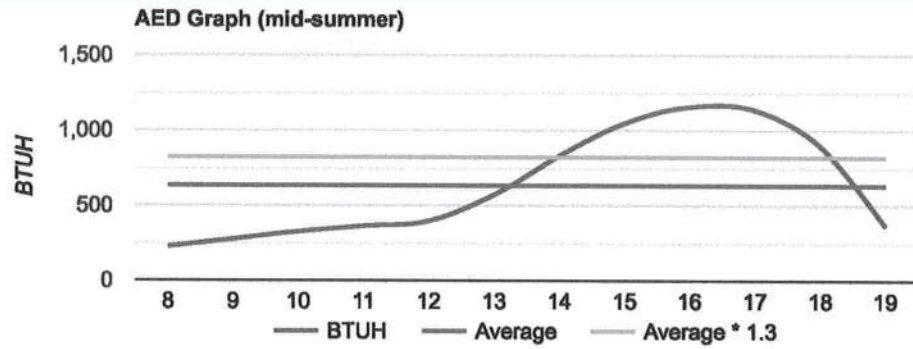
COOLING LOADS			
SECTION	AREA	SENSIBLE	LATENT
AEDExcursion	0	335	0
aboveGradeWalls	2,322	17,736	0
ceilings	3,565.3	5,294	0
doors	48	893	0
floors	3,048	0	0
infiltration	0	1,835	2,423
occupants	0	8,510	7,400
skylights	0	0	0
windows	30	633	0
Totals		35,237	9,823

**Cooling Loads**  
windows

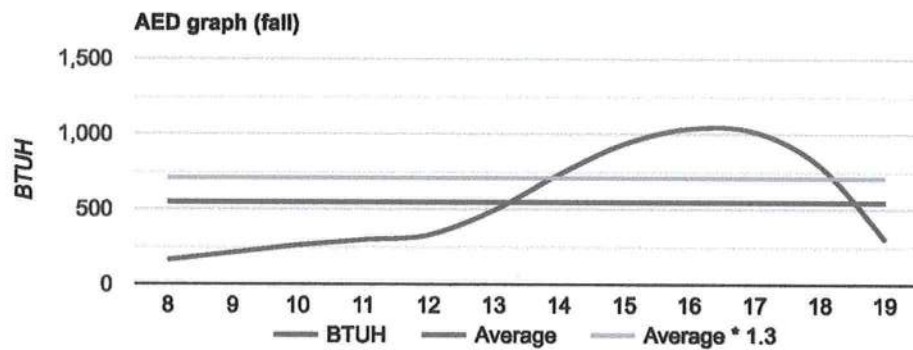


## FENESTRATION LOADS

**Warning (0):** This application has glass areas that produced large cooling loads for part of the day. Zoning may be required to overcome solar load spikes for one or more rooms. Consider a zoned system, or provide zone control (individual, motorized, thermostatically controlled dampers) for problem rooms. Single speed equipment may not be suitable for the application.



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>System generated wall - W</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	W 94	Heating BTUH: Cooling BTUH:	1,122 718
<b>System generated wall - E</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	E 420	Heating BTUH: Cooling BTUH:	5,013 3,208
<b>System generated wall - S</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	S 240	Heating BTUH: Cooling BTUH:	2,864 1,833
<b>System generated wall - N</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	N 200	Heating BTUH: Cooling BTUH:	2,387 1,528
<b>System generated wall - E</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	E 380	Heating BTUH: Cooling BTUH:	4,535 2,903
<b>System generated wall - N</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	N 200	Heating BTUH: Cooling BTUH:	2,387 1,528
<b>System generated wall - W</b> Poured Concrete, Metal	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	W 276	Heating BTUH: Cooling BTUH:	3,294 2,108
<b>System generated wall - W</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	W 100	Heating BTUH: Cooling BTUH:	1,194 764
<b>System generated wall - S</b> Poured Concrete, Metal	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	S 160	Heating BTUH: Cooling BTUH:	1,910 1,222
<b>System generated wall - W</b> Poured Concrete, Metal.	Construction nr: U Value:	14F-0 0.341	Exposure: Area:	W 252	Heating BTUH: Cooling BTUH:	3,008 1,925

### BELOW GRADE WALLS

There are no components for this section.

### WINDOWS

<b>Default small windows for wall Id 4790313</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 6 W	U Value: SHGC:	0.4 0.25	Heating BTUH: Cooling BTUH:	84 127
<b>Default small windows for wall Id 4790352</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 12 W	U Value: SHGC:	0.4 0.25	Heating BTUH: Cooling BTUH:	168 253
<b>Default medium windows for wall Id 4790352</b> Window, NFRC rated, Low-e glass.	Construction nr: Area: Exposure:	4C 12 W	U Value: SHGC:	0.4 0.25	Heating BTUH: Cooling BTUH:	168 253

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 on exposed beams, Metal, Light, R-33 to R-35.	Construction nr: U Value:	17B-34 ml 0.027	Area:	113.3	Heating BTUH: Cooling BTUH:	107 168
<b>System generated ceiling.</b> Ceiling on exposed beams, Metal, Light, R-33 to R-35.	Construction nr: U Value:	17B-34 ml 0.027	Area:	1,141.6	Heating BTUH: Cooling BTUH:	1,079 1,695



CEILINGS					
<b>System generated ceiling.</b>					
Ceiling on exposed beams, Metal, Light, R-33 to R-35.	Construction nr: U Value:	17B-34 ml 0.027	Area:	838.1	Heating BTUH: 792 Cooling BTUH: 1,245
<b>System generated ceiling.</b>					
Ceiling on exposed beams, Metal, Light, R-33 to R-35.	Construction nr: U Value:	17B-34 ml 0.027	Area:	679.5	Heating BTUH: 642 Cooling BTUH: 1,009
<b>System generated ceiling.</b>					
Ceiling on exposed beams, Metal, Light, R-33 to R-35.	Construction nr: U Value:	17B-34 ml 0.027	Area:	113.3	Heating BTUH: 107 Cooling BTUH: 168
<b>System generated ceiling.</b>					
Ceiling on exposed beams, Metal, Light, R-33 to R-35.	Construction nr: U Value:	17B-34 ml 0.027	Area:	679.5	Heating BTUH: 642 Cooling BTUH: 1,009

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 4790299</b>					
Metal Door, Fiberglass Core.	Construction nr: U Value:	11 0.6	Area: Exposure:	24 W	Heating BTUH: 504 Cooling BTUH: 446
<b>Default doors for wall Id 4790352</b>					
Metal Door, Fiberglass Core.	Construction nr: U Value:	11 0.6	Area: Exposure:	24 W	Heating BTUH: 504 Cooling BTUH: 446

FLOORS					
<b>System generated floor.</b>					
Concrete slab on grade floor.	Construction nr: Area:	22A-pl 100	Heating U Value:0 Cooling U Value:0	Heating BTUH: 346 Cooling BTUH: 0 F Value: 0.989	
<b>System generated floor.</b>					
Concrete slab on grade floor.	Construction nr: Area:	22A-pl 1,008	Heating U Value:0 Cooling U Value:0	Heating BTUH: 2,285 Cooling BTUH: 0 F Value: 0.989	
<b>System generated floor.</b>					
Concrete slab on grade floor.	Construction nr: Area:	22A-pl 760	Heating U Value:0 Cooling U Value:0	Heating BTUH: 2,008 Cooling BTUH: 0 F Value: 0.989	
<b>System generated floor.</b>					
Concrete slab on grade floor.	Construction nr: Area:	22A-pl 600	Heating U Value:0 Cooling U Value:0	Heating BTUH: 1,731 Cooling BTUH: 0 F Value: 0.989	
<b>System generated floor.</b>					
Concrete slab on grade floor.	Construction nr: Area:	22A-pl 100	Heating U Value:0 Cooling U Value:0	Heating BTUH: 346 Cooling BTUH: 0 F Value: 0.989	
<b>System generated floor.</b>					
Concrete slab on grade floor.	Construction nr: Area:	22A-pl 480	Heating U Value:0 Cooling U Value:0	Heating BTUH: 1,592 Cooling BTUH: 0 F Value: 0.989	

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:	Average	NCFM Heating:	142	Heating BTUH:	5,449
		NCFM Cooling:	76	Sensible BTUH:	1,835
				Latent BTUH:	2,423

### BLOWER MOTOR

There are no components for this section.

### WINTER HUMIDIFICATION

There are no components for this section.

### OCCUPANTS

Nr. Occupants:	1	Sensible BTUH:	230	Latent BTUH:	200
Nr. Occupants:	10	Sensible BTUH:	2,300	Latent BTUH:	2,000
Nr. Occupants:	10	Sensible BTUH:	2,300	Latent BTUH:	2,000
Nr. Occupants:	8	Sensible BTUH:	1,840	Latent BTUH:	1,600
Nr. Occupants:	8	Sensible BTUH:	1,840	Latent BTUH:	1,600

### APPLIANCES

There are no components for this section.

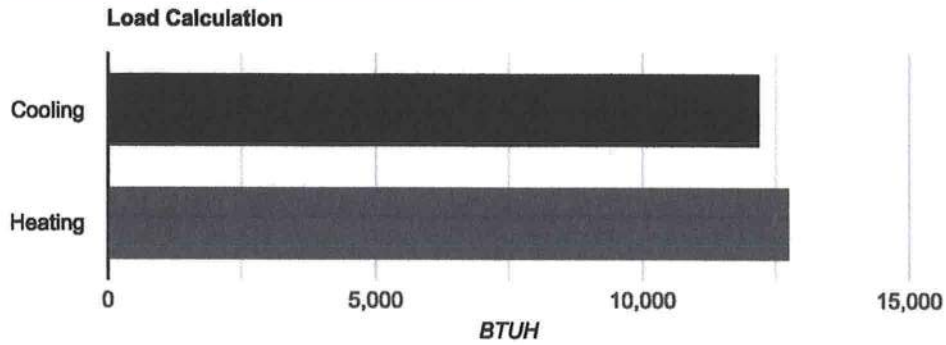
### PLANTS

There are no components for this section.

ROOM DETAIL

Room name: Rm 1

Heated square footage:	1,008	Total Cooling BTUH:	12,208
Cooled square footage:	1,008	Total Heating BTUH:	12,739
Heated volume (above grade CF):	10,080	CFM:	394
Cooled volume (above grade CF):	10,080		
Exposed wall area (SF):	660		



## ROOM DETAIL

Room name: Rm2

Heated square footage:

760

Cooled square footage:

760

Heated volume (above grade CF):

7,600

Cooled volume (above grade CF):

7,600

Exposed wall area (SF):

580

Total Cooling BTUH:

11,004

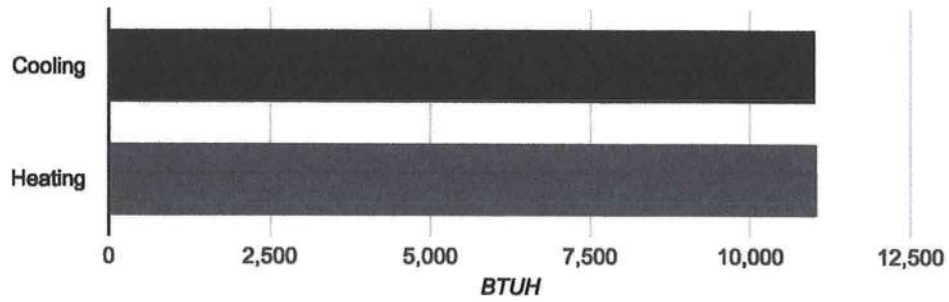
Total Heating BTUH:

11,039

CFM:

347

### Load Calculation





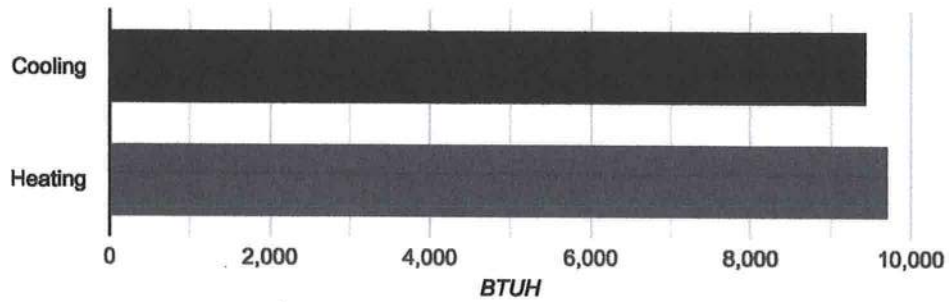
## ROOM DETAIL

Room name: Rm 3

Heated square footage: 600  
Cooled square footage: 600  
Heated volume (above grade CF): 6,000  
Cooled volume (above grade CF): 6,000  
Exposed wall area (SF): 500

Total Cooling BTUH: 9,418  
Total Heating BTUH: 9,693  
CFM: 302

Load Calculation

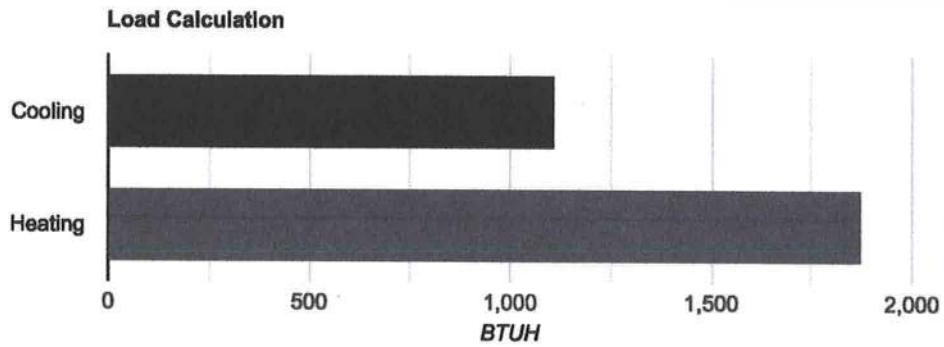


## ROOM DETAIL

Room name: storage

Heated square footage: 100  
Cooled square footage: 100  
Heated volume (above grade CF): 1,000  
Cooled volume (above grade CF): 1,000  
Exposed wall area (SF): 100

Total Cooling BTUH: 1,109  
Total Heating BTUH: 1,874  
CFM: 50



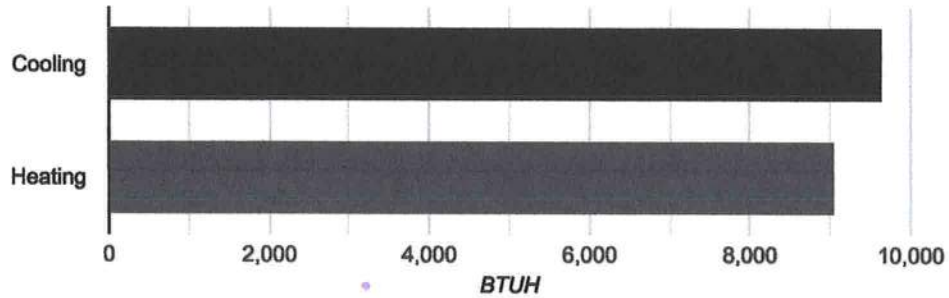
## ROOM DETAIL

Room name: Lobby

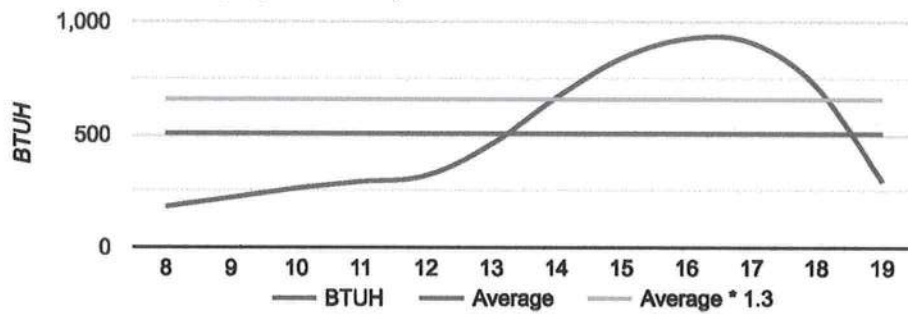
Heated square footage: 480  
Cooled square footage: 480  
Heated volume (above grade CF): 4,800  
Cooled volume (above grade CF): 4,800  
Exposed wall area (SF): 460

Total Cooling BTUH: 9,633  
Total Heating BTUH: 9,036  
CFM: 312

Load Calculation



AED Graph (mid-summer)



AED graph (fall)

