

# Residential System Sizing Calculation

## Summary

Brown

Project Title:  
260650 Brown Res

Lake City, FL

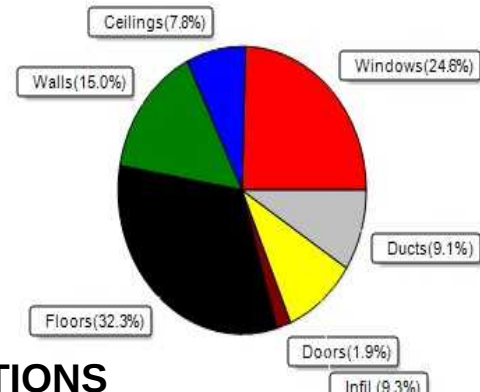
7/28/2026

|                                                                                                       |                   |                                       |                    |
|-------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------|--------------------|
| Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(100 ft.) Temp Range(M) |                   |                                       |                    |
| Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(51gr.)                    |                   |                                       |                    |
| Winter design temperature(TMY3 99%)                                                                   | 30 F              | Summer design temperature(TMY3 99%)   | 94 F               |
| Winter setpoint                                                                                       | 70 F              | Summer setpoint                       | 75 F               |
| Winter temperature difference                                                                         | 40 F              | Summer temperature difference         | 19 F               |
| <b>Total heating load calculation</b>                                                                 | <b>52586 Btuh</b> | <b>Total cooling load calculation</b> | <b>38587 Btuh</b>  |
| Submitted heating capacity                                                                            | % of calc Btuh    | Submitted cooling capacity            | % of calc Btuh     |
| Total (Electric Heat Pump)                                                                            | 108.4 57000       | Sensible (SHR = 0.75)                 | 129.3 42750        |
| Heat Pump + Auxiliary(0.0kW)                                                                          | 108.4 57000       | Latent                                | 257.6 14250        |
|                                                                                                       |                   | <b>Total (Electric Heat Pump)</b>     | <b>147.7 57000</b> |

## WINTER CALCULATIONS

Winter Heating Load (for 3123 sqft)

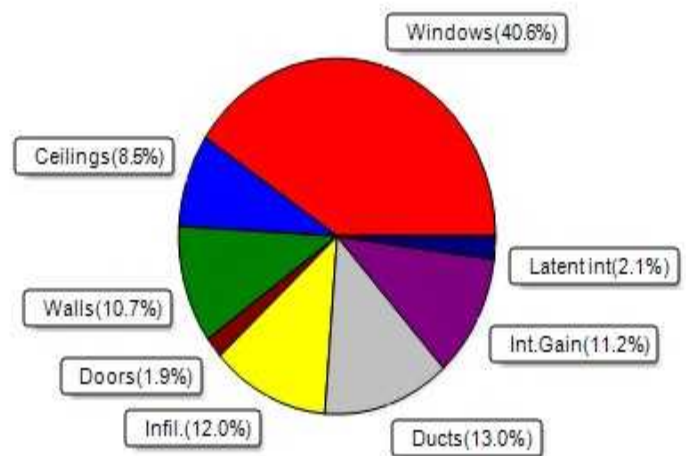
| Load component                  | Load      |              |             |
|---------------------------------|-----------|--------------|-------------|
| Window total                    | 1079 sqft | 12948        | Btuh        |
| Wall total                      | 2492 sqft | 7888         | Btuh        |
| Door total                      | 124 sqft  | 992          | Btuh        |
| Ceiling total                   | 3385 sqft | 4079         | Btuh        |
| Floor total                     | 3123 sqft | 16992        | Btuh        |
| Infiltration                    | 112 cfm   | 4894         | Btuh        |
| Duct loss                       |           | 4792         | Btuh        |
| <b>Subtotal</b>                 |           | <b>52586</b> | <b>Btuh</b> |
| Ventilation Ex:0 cfm; Sup:0 cfm |           | 0            | Btuh        |
| <b>TOTAL HEAT LOSS</b>          |           | <b>52586</b> | <b>Btuh</b> |



## SUMMER CALCULATIONS

Summer Cooling Load (for 3123 sqft)

| Load component                        | Load      |              |             |
|---------------------------------------|-----------|--------------|-------------|
| Window total                          | 1079 sqft | 15683        | Btuh        |
| Wall total                            | 2492 sqft | 4135         | Btuh        |
| Door total                            | 124 sqft  | 744          | Btuh        |
| Ceiling total                         | 3385 sqft | 3263         | Btuh        |
| Floor total                           |           | 0            | Btuh        |
| Infiltration                          | 84 cfm    | 1743         | Btuh        |
| Internal gain                         |           | 4320         | Btuh        |
| Duct gain                             |           | 3167         | Btuh        |
| Sens.Ventilation Ex:0 cfm; Sup:0 cfm  |           | 0            | Btuh        |
| Blower Load                           |           | 0            | Btuh        |
| <b>Total sensible gain</b>            |           | <b>33056</b> | <b>Btuh</b> |
| Latent gain(ducts)                    |           | 1838         | Btuh        |
| Latent gain(infiltration)             |           | 2893         | Btuh        |
| Latent gain(ventilation)              |           | 0            | Btuh        |
| Latent gain(internal/occupants/other) |           | 800          | Btuh        |
| <b>Total latent gain</b>              |           | <b>5531</b>  | <b>Btuh</b> |
| <b>TOTAL HEAT GAIN</b>                |           | <b>38587</b> | <b>Btuh</b> |



8th Edition

EnergyGauge® System Sizing  
PREPARED BY: **Evan Beamsley**  
DATE: **2026-07-28**

# System Sizing Calculations - Winter

## Residential Load - Whole House Component Details

Brown

Lake City, FL

Project Title:  
260650 Brown Res  
Building Type: User

7/28/2026

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)  
Winter Setpoint: 70 °F (Required Manual J default)

| Component Loads for Whole House |              |       |      |             |              |   |      |            |
|---------------------------------|--------------|-------|------|-------------|--------------|---|------|------------|
| Window                          | Panes/Type   | Frame | U    | Orientation | Area(sqft)   | X | HTM= | Load       |
| 1                               | 2, NFRC 0.22 | Vinyl | 0.30 | N           | 36.0         |   | 12.0 | 432 Btuh   |
| 2                               | 2, NFRC 0.22 | Vinyl | 0.30 | N           | 96.0         |   | 12.0 | 1152 Btuh  |
| 3                               | 2, NFRC 0.22 | Vinyl | 0.30 | E           | 25.0         |   | 12.0 | 300 Btuh   |
| 4                               | 2, NFRC 0.22 | Vinyl | 0.30 | N           | 48.0         |   | 12.0 | 576 Btuh   |
| 5                               | 2, NFRC 0.22 | Vinyl | 0.30 | N           | 224.0        |   | 12.0 | 2688 Btuh  |
| 6                               | 2, NFRC 0.22 | Vinyl | 0.30 | N           | 16.0         |   | 12.0 | 192 Btuh   |
| 7                               | 2, NFRC 0.22 | Vinyl | 0.30 | N           | 32.0         |   | 12.0 | 384 Btuh   |
| 8                               | 2, NFRC 0.22 | Vinyl | 0.30 | N           | 16.0         |   | 12.0 | 192 Btuh   |
| 9                               | 2, NFRC 0.22 | Vinyl | 0.30 | E           | 24.0         |   | 12.0 | 288 Btuh   |
| 10                              | 2, NFRC 0.22 | Vinyl | 0.30 | E           | 96.0         |   | 12.0 | 1152 Btuh  |
| 11                              | 2, NFRC 0.22 | Vinyl | 0.30 | E           | 25.0         |   | 12.0 | 300 Btuh   |
| 12                              | 2, NFRC 0.22 | Vinyl | 0.30 | S           | 96.0         |   | 12.0 | 1152 Btuh  |
| 13                              | 2, NFRC 0.22 | Vinyl | 0.30 | S           | 8.0          |   | 12.0 | 96 Btuh    |
| 14                              | 2, NFRC 0.22 | Vinyl | 0.30 | W           | 25.0         |   | 12.0 | 300 Btuh   |
| 15                              | 2, NFRC 0.22 | Vinyl | 0.30 | S           | 96.0         |   | 12.0 | 1152 Btuh  |
| 16                              | 2, NFRC 0.22 | Vinyl | 0.30 | E           | 20.0         |   | 12.0 | 240 Btuh   |
| 17                              | 2, NFRC 0.22 | Vinyl | 0.30 | E           | 10.0         |   | 12.0 | 120 Btuh   |
| 18                              | 2, NFRC 0.22 | Vinyl | 0.30 | S           | 37.3         |   | 12.0 | 448 Btuh   |
| 19                              | 2, NFRC 0.22 | Vinyl | 0.30 | S           | 24.0         |   | 12.0 | 288 Btuh   |
| 20                              | 2, NFRC 0.22 | Vinyl | 0.30 | S           | 34.7         |   | 12.0 | 416 Btuh   |
| 21                              | 2, NFRC 0.22 | Vinyl | 0.30 | W           | 20.0         |   | 12.0 | 240 Btuh   |
| 22                              | 2, NFRC 0.22 | Vinyl | 0.30 | W           | 10.0         |   | 12.0 | 120 Btuh   |
| 23                              | 2, NFRC 0.22 | Vinyl | 0.30 | S           | 20.0         |   | 12.0 | 240 Btuh   |
| 24                              | 2, NFRC 0.22 | Vinyl | 0.30 | W           | 24.0         |   | 12.0 | 288 Btuh   |
| 25                              | 2, NFRC 0.22 | Vinyl | 0.30 | W           | 16.0         |   | 12.0 | 192 Btuh   |
| Window Total                    |              |       |      |             | 1079.0(sqft) |   |      | 12948 Btuh |

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

Brown

Lake City, FL

Project Title:  
260650 Brown Res  
Building Type: User

7/28/2026

| <b>Walls</b> | Type                    | Ornt. | Ueff.       | R-Value<br>(Cav/Sh) | Area X     | HTM= | Load      |
|--------------|-------------------------|-------|-------------|---------------------|------------|------|-----------|
| 1            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 44         | 3.09 | 135 Btuh  |
| 2            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 44         | 3.09 | 135 Btuh  |
| 3            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 167        | 3.09 | 517 Btuh  |
| 4            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 123        | 3.09 | 380 Btuh  |
| 5            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 53         | 3.09 | 163 Btuh  |
| 6            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 26         | 3.09 | 81 Btuh   |
| 7            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 142        | 3.09 | 440 Btuh  |
| 8            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 134        | 3.09 | 416 Btuh  |
| 9            | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 95         | 3.09 | 293 Btuh  |
| 10           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 136        | 3.09 | 419 Btuh  |
| 11           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 45         | 3.09 | 140 Btuh  |
| 12           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 47         | 3.09 | 145 Btuh  |
| 13           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 45         | 3.09 | 140 Btuh  |
| 14           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 77         | 3.09 | 239 Btuh  |
| 15           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 24         | 3.09 | 73 Btuh   |
| 16           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 150        | 3.09 | 463 Btuh  |
| 17           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 192        | 3.09 | 593 Btuh  |
| 18           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 150        | 3.09 | 463 Btuh  |
| 19           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 45         | 3.09 | 140 Btuh  |
| 20           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 9          | 3.09 | 28 Btuh   |
| 21           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 54         | 3.09 | 167 Btuh  |
| 22           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 1          | 3.09 | 3 Btuh    |
| 23           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 111        | 3.09 | 343 Btuh  |
| 24           | Frame - Wood            | - Adj | (0.089)     | 13.0/0.0            | 95         | 3.55 | 338 Btuh  |
| 25           | Frame - Wood            | - Adj | (0.089)     | 13.0/0.0            | 48         | 3.55 | 169 Btuh  |
| 26           | Frame - Wood            | - Adj | (0.089)     | 13.0/0.0            | 27         | 3.55 | 96 Btuh   |
| 27           | Frame - Wood            | - Adj | (0.089)     | 13.0/0.0            | 232        | 3.55 | 823 Btuh  |
| 28           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 61         | 3.09 | 187 Btuh  |
| 29           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 53         | 3.09 | 165 Btuh  |
| 30           | Frame - Wood            | - Ext | (0.077)     | 19.0/0.0            | 63         | 3.09 | 194 Btuh  |
|              | Wall Total              |       |             |                     | 2492(sqft) |      | 7888 Btuh |
| <b>Doors</b> | Type                    |       | Storm Ueff. |                     | Area X     | HTM= | Load      |
| 1            | Insulated - Exterior, n |       | (0.200)     |                     | 32         | 8.0  | 256 Btuh  |
| 2            | Insulated - Exterior, n |       | (0.200)     |                     | 8          | 8.0  | 64 Btuh   |
| 3            | Insulated - Exterior, n |       | (0.200)     |                     | 8          | 8.0  | 64 Btuh   |
| 4            | Insulated - Garage, n   |       | (0.200)     |                     | 24         | 8.0  | 192 Btuh  |
| 5            | Insulated - Garage, n   |       | (0.200)     |                     | 40         | 8.0  | 320 Btuh  |
| 6            | Insulated - Exterior, n |       | (0.200)     |                     | 12         | 8.0  | 96 Btuh   |
|              | Door Total              |       |             |                     | 124(sqft)  |      | 992Btuh   |

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

Brown  
Lake City, FL

Project Title:  
260650 Brown Res  
Building Type: User

7/28/2026

| Ceilings     | Type/Color/Surface                                            | Ueff.          | R-Value      | Area X           | HTM=  | Load       |
|--------------|---------------------------------------------------------------|----------------|--------------|------------------|-------|------------|
| 1            | Flat ceil/D/Shing                                             | (0.241)        | 0.0/22.0     | 3093             | 1.2   | 3727 Btuh  |
| 2            | Sloped ce/D/Shing                                             | (0.241)        | 0.0/22.0     | 35               | 1.2   | 42 Btuh    |
| 3            | Knee wall/D/Shing                                             | (0.241)        | 0.0/22.0     | 257              | 1.2   | 310 Btuh   |
|              | Ceiling Total                                                 |                |              | 3385(sqft)       |       | 4079Btuh   |
| Floors       | Type                                                          | Ueff.          | R-Value      | Size X           | HTM=  | Load       |
| 1            | Slab On Grade                                                 | (1.180)        | 0.0          | 360.0 ft(perim.) | 47.2  | 16992 Btuh |
|              | Floor Total                                                   |                |              | 3123 sqft        |       | 16992 Btuh |
|              | Envelope Subtotal:                                            |                |              |                  |       | 42899 Btuh |
| Infiltration | Type                                                          | Wholehouse ACH | Volume(cuft) | Wall Ratio       | CFM=  |            |
|              | Natural                                                       | 0.21           | 32167        | 1.00             | 111.6 | 4894 Btuh  |
| Duct load    | Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.100) |                |              |                  |       | 4792 Btuh  |
| All Zones    | Sensible Subtotal All Zones                                   |                |              |                  |       | 52586 Btuh |

### WHOLE HOUSE TOTALS

| Totals for Heating | Subtotal Sensible Heat Loss                       | 52586 Btuh |
|--------------------|---------------------------------------------------|------------|
|                    | Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) | 0 Btuh     |
|                    | Total Heat Loss                                   | 52586 Btuh |

### EQUIPMENT

|                       |   |            |
|-----------------------|---|------------|
| 1. Electric Heat Pump | # | 57000 Btuh |
|-----------------------|---|------------|

Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)  
or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)  
U - (Window U-Factor)  
HTM - (ManualJ Heat Transfer Multiplier)



Version 8

# System Sizing Calculations - Summer

## Residential Load - Whole House Component Details

Brown

Project Title:  
260650 Brown Res

Lake City, FL

7/28/2026

Reference City: Gainesville, FL (Defaults)  
Humidity difference: 51gr.

Temperature Difference: 19.0F(TMY3 99%)  
Summer Setpoint: 75 °F (Required Manual J default)

### Component Loads for Whole House

| Window       | Type*  |            |    |      |    |      | Overhang |       | Window Area(sqft) |        |          | HTM    |          | Load       |      |  |
|--------------|--------|------------|----|------|----|------|----------|-------|-------------------|--------|----------|--------|----------|------------|------|--|
|              | Panes  | SHGC       | U  | InSh | IS | Ornt | Len      | Hgt   | Gross             | Shaded | Unshaded | Shaded | Unshaded |            |      |  |
| 1            | 2 NFRC | 0.22, 0.30 | No | No   | N  |      | 1.3ft    | 1.0ft | 36.0              | 0.0    | 36.0     | 10     | 10       | 372        | Btuh |  |
| 2            | 2 NFRC | 0.22, 0.30 | No | No   | N  |      | 1.3ft    | 1.0ft | 96.0              | 0.0    | 96.0     | 10     | 10       | 991        | Btuh |  |
| 3            | 2 NFRC | 0.22, 0.30 | No | No   | E  |      | 1.3ft    | 1.0ft | 25.0              | 0.5    | 24.5     | 10     | 27       | 664        | Btuh |  |
| 4            | 2 NFRC | 0.22, 0.30 | No | No   | N  |      | 1.3ft    | 1.0ft | 48.0              | 0.0    | 48.0     | 10     | 10       | 496        | Btuh |  |
| 5            | 2 NFRC | 0.22, 0.30 | No | No   | N  |      | 20.0f    | 1.0ft | 224.0             | 0.0    | 224.0    | 10     | 10       | 2313       | Btuh |  |
| 6            | 2 NFRC | 0.22, 0.30 | No | No   | N  |      | 11.7f    | 1.0ft | 16.0              | 0.0    | 16.0     | 10     | 10       | 165        | Btuh |  |
| 7            | 2 NFRC | 0.22, 0.30 | No | No   | N  |      | 11.7f    | 1.0ft | 32.0              | 0.0    | 32.0     | 10     | 10       | 330        | Btuh |  |
| 8            | 2 NFRC | 0.22, 0.30 | No | No   | N  |      | 1.3ft    | 4.0ft | 16.0              | 0.0    | 16.0     | 10     | 10       | 165        | Btuh |  |
| 9            | 2 NFRC | 0.22, 0.30 | No | No   | E  |      | 1.3ft    | 1.0ft | 24.0              | 0.3    | 23.7     | 10     | 27       | 641        | Btuh |  |
| 10           | 2 NFRC | 0.22, 0.30 | No | No   | E  |      | 1.3ft    | 8.0ft | 96.0              | 0.0    | 96.0     | 10     | 27       | 2583       | Btuh |  |
| 11           | 2 NFRC | 0.22, 0.30 | No | No   | E  |      | 1.3ft    | 1.0ft | 25.0              | 0.5    | 24.5     | 10     | 27       | 664        | Btuh |  |
| 12           | 2 NFRC | 0.22, 0.30 | No | No   | S  |      | 1.3ft    | 1.0ft | 96.0              | 78.9   | 17.1     | 10     | 12       | 1021       | Btuh |  |
| 13           | 2 NFRC | 0.22, 0.30 | No | No   | S  |      | 1.3ft    | 1.0ft | 8.0               | 8.0    | 0.0      | 10     | 12       | 83         | Btuh |  |
| 14           | 2 NFRC | 0.22, 0.30 | No | No   | W  |      | 1.3ft    | 1.0ft | 25.0              | 0.5    | 24.5     | 10     | 27       | 664        | Btuh |  |
| 15           | 2 NFRC | 0.22, 0.30 | No | No   | S  |      | 1.3ft    | 1.0ft | 96.0              | 78.9   | 17.1     | 10     | 12       | 1021       | Btuh |  |
| 16           | 2 NFRC | 0.22, 0.30 | No | No   | E  |      | 4.0ft    | 2.8ft | 20.0              | 1.4    | 18.6     | 10     | 27       | 515        | Btuh |  |
| 17           | 2 NFRC | 0.22, 0.30 | No | No   | E  |      | 4.0ft    | 0.0ft | 10.0              | 10.0   | 0.0      | 10     | 27       | 103        | Btuh |  |
| 18           | 2 NFRC | 0.22, 0.30 | No | No   | S  |      | 6.0ft    | 6.0ft | 37.3              | 37.3   | 0.0      | 10     | 12       | 386        | Btuh |  |
| 19           | 2 NFRC | 0.22, 0.30 | No | No   | S  |      | 5.0ft    | 7.5ft | 24.0              | 24.0   | 0.0      | 10     | 12       | 248        | Btuh |  |
| 20           | 2 NFRC | 0.22, 0.30 | No | No   | S  |      | 5.0ft    | 2.0ft | 34.7              | 34.7   | 0.0      | 10     | 12       | 358        | Btuh |  |
| 21           | 2 NFRC | 0.22, 0.30 | No | No   | W  |      | 4.0ft    | 2.8ft | 20.0              | 1.4    | 18.6     | 10     | 27       | 515        | Btuh |  |
| 22           | 2 NFRC | 0.22, 0.30 | No | No   | W  |      | 4.0ft    | 0.0ft | 10.0              | 10.0   | 0.0      | 10     | 27       | 103        | Btuh |  |
| 23           | 2 NFRC | 0.22, 0.30 | No | No   | S  |      | 1.3ft    | 1.0ft | 20.0              | 20.0   | 0.0      | 10     | 12       | 207        | Btuh |  |
| 24           | 2 NFRC | 0.22, 0.30 | No | No   | W  |      | 1.3ft    | 5.0ft | 24.0              | 0.0    | 24.0     | 10     | 27       | 646        | Btuh |  |
| 25           | 2 NFRC | 0.22, 0.30 | No | No   | W  |      | 1.3ft    | 5.0ft | 16.0              | 0.0    | 16.0     | 10     | 27       | 431        | Btuh |  |
| Window Total |        |            |    |      |    |      |          |       | 1079 (sqft)       |        |          |        |          | 15683 Btuh |      |  |

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Brown

Project Title: Climate:FL\_GAINESVILLE\_REGIONAL\_A  
260650 Brown Res

Lake City, FL

7/28/2026

| Walls    | Type                           | U-Value | R-Value    | Area(sqft)          | HTM  | Load       |
|----------|--------------------------------|---------|------------|---------------------|------|------------|
|          |                                |         | Cav/Sheath |                     |      |            |
| 1        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 43.7                | 1.7  | 72 Btuh    |
| 2        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 43.7                | 1.7  | 72 Btuh    |
| 3        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 167.1               | 1.7  | 276 Btuh   |
| 4        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 122.9               | 1.7  | 203 Btuh   |
| 5        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 52.8                | 1.7  | 87 Btuh    |
| 6        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 26.3                | 1.7  | 44 Btuh    |
| 7        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 142.3               | 1.7  | 235 Btuh   |
| 8        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 134.4               | 1.7  | 222 Btuh   |
| 9        | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 94.9                | 1.7  | 157 Btuh   |
| 10       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 135.7               | 1.7  | 224 Btuh   |
| 11       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 45.4                | 1.7  | 75 Btuh    |
| 12       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 46.8                | 1.7  | 77 Btuh    |
| 13       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 45.4                | 1.7  | 75 Btuh    |
| 14       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 77.3                | 1.7  | 128 Btuh   |
| 15       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 23.5                | 1.7  | 39 Btuh    |
| 16       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 149.8               | 1.7  | 248 Btuh   |
| 17       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 191.8               | 1.7  | 317 Btuh   |
| 18       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 149.8               | 1.7  | 248 Btuh   |
| 19       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 45.2                | 1.7  | 75 Btuh    |
| 20       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 9.0                 | 1.7  | 15 Btuh    |
| 21       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 54.0                | 1.7  | 89 Btuh    |
| 22       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 1.0                 | 1.7  | 2 Btuh     |
| 23       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 111.1               | 1.7  | 184 Btuh   |
| 24       | Frame - Wood - Adj             | 0.09    | 13.0/0.0   | 95.3                | 1.7  | 161 Btuh   |
| 25       | Frame - Wood - Adj             | 0.09    | 13.0/0.0   | 47.6                | 1.7  | 80 Btuh    |
| 26       | Frame - Wood - Adj             | 0.09    | 13.0/0.0   | 27.0                | 1.7  | 46 Btuh    |
| 27       | Frame - Wood - Adj             | 0.09    | 13.0/0.0   | 231.9               | 1.7  | 391 Btuh   |
| 28       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 60.5                | 1.7  | 100 Btuh   |
| 29       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 53.3                | 1.7  | 88 Btuh    |
| 30       | Frame - Wood - Ext             | 0.08    | 19.0/0.0   | 62.8                | 1.7  | 104 Btuh   |
|          | Wall Total                     |         |            | 2492 (sqft)         |      | 4135 Btuh  |
| Doors    | Type                           |         |            | Area (sqft)         | HTM  | Load       |
| 1        | Insulated - Exterior           |         |            | 32.0                | 6.0  | 192 Btuh   |
| 2        | Insulated - Exterior           |         |            | 8.0                 | 6.0  | 48 Btuh    |
| 3        | Insulated - Exterior           |         |            | 8.0                 | 6.0  | 48 Btuh    |
| 4        | Insulated - Garage             |         |            | 24.0                | 6.0  | 144 Btuh   |
| 5        | Insulated - Garage             |         |            | 40.0                | 6.0  | 240 Btuh   |
| 6        | Insulated - Exterior           |         |            | 12.0                | 6.0  | 72 Btuh    |
|          | Door Total                     |         |            | 124 (sqft)          |      | 744 Btuh   |
| Ceilings | Type/Color/Surface             | U-Value | R-Value    | Area(sqft)          | HTM  | Load       |
| 1        | Unvented Attic/DarkShingle     | 0.241   | 0.0/22.0   | 3093.0              | 0.96 | 2982 Btuh  |
| 2        | Unvented Attic/DarkShingle     | 0.241   | 0.0/22.0   | 35.0                | 0.96 | 34 Btuh    |
| 3        | Knee wall to attic/DarkShingle | 0.241   | 0.0/22.0   | 257.0               | 0.96 | 248 Btuh   |
|          | Ceiling Total                  |         |            | 3385 (sqft)         |      | 3263 Btuh  |
| Floors   | Type                           |         | R-Value    | Size                | HTM  | Load       |
| 1        | Slab On Grade                  |         | 0.0        | 3123 (ft-perimeter) | 0.0  | 0 Btuh     |
|          | Floor Total                    |         |            | 3123.0 (sqft)       |      | 0 Btuh     |
|          | Envelope Subtotal:             |         |            |                     |      | 23825 Btuh |

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Brown

Project Title: Climate:FL\_GAINESVILLE\_REGIONAL\_A  
260650 Brown Res

Lake City, FL

7/28/2026

|                      |                                                                       |                     |                        |                 |              |                   |
|----------------------|-----------------------------------------------------------------------|---------------------|------------------------|-----------------|--------------|-------------------|
| <b>Infiltration</b>  | Type<br>Natural                                                       | Average ACH<br>0.16 | Volume(cuft)<br>32167  | Wall Ratio<br>1 | CFM=<br>83.7 | Load<br>1743 Btuh |
| <b>Internal gain</b> |                                                                       | Occupants<br>4      | Btuh/occupant<br>X 230 | Appliance<br>+  | 3400         | Load<br>4320 Btuh |
|                      | Sensible Envelope Load:                                               |                     |                        |                 |              | 29889 Btuh        |
| <b>Duct load</b>     | Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.106) |                     |                        |                 |              | 3167 Btuh         |
|                      | <b>Sensible Load All Zones</b>                                        |                     |                        |                 |              | <b>33056 Btuh</b> |

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Brown

Project Title:  
260650 Brown Res

Climate:FL\_GAINESVILLE\_REGIONAL\_A

Lake City, FL

7/28/2026

### WHOLE HOUSE TOTALS

|                                   |                                                           |                   |
|-----------------------------------|-----------------------------------------------------------|-------------------|
| Whole House<br>Totals for Cooling | <b>Sensible Envelope Load All Zones</b>                   | <b>29889 Btuh</b> |
|                                   | Sensible Duct Load                                        | 3167 Btuh         |
|                                   | <b>Total Sensible Zone Loads</b>                          | <b>33056 Btuh</b> |
|                                   | Sensible ventilation (Ex:0 cfm; Sup:0 cfm)                | 0 Btuh            |
|                                   | Blower                                                    | 0 Btuh            |
|                                   | <b>Total sensible gain</b>                                | <b>33056 Btuh</b> |
|                                   | Latent infiltration gain (for 51 gr. humidity difference) | 2893 Btuh         |
|                                   | Latent ventilation gain                                   | 0 Btuh            |
|                                   | Latent duct gain                                          | 1838 Btuh         |
|                                   | Latent occupant gain (4.0 people @ 200 Btuh per person)   | 800 Btuh          |
|                                   | Latent other gain                                         | 0 Btuh            |
|                                   | <b>Latent total gain</b>                                  | <b>5531 Btuh</b>  |
|                                   | <b>TOTAL GAIN</b>                                         | <b>38587 Btuh</b> |

### EQUIPMENT

|                 |   |            |
|-----------------|---|------------|
| 1. Central Unit | # | 57000 Btuh |
|-----------------|---|------------|

\*Key: Window types (Panels - Number and type of panes of glass)

(SHGC - Shading coefficient of glass as SHGC numerical value)

(U - Window U-Factor)

(InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))

- For Blinds: Assume medium color, half closed

For Draperies: Assume medium weave, half closed

For Roller shades: Assume translucent, half closed

(IS - Insect screen: none(N), Full(F) or Half(½))

(Ornt - compass orientation)



Version 8