FORM R405-2020

# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

| | | | |
|---|---|---|---|
| Project Name: | Hart Residence | Builder Name: | |
| Street: | 159 SW Governors Glen | Permit Office: | Columbia County |
| City, State, Zip: | Lake City, FL, 32024 | Permit Number: | |
| Owner: | Isaac & Marlene Hart | Jurisdiction: | |
| Design Location: | FL, Gainesville | County: | Columbia(Florida Climate Zone 2) |

| | |
|---|---|
| 1. New construction or existing | New (From Plans) |
| 2. Single family or multiple family | Detached |
| 3. Number of units, if multiple family | 1 |
| 4. Number of Bedrooms | 4 |
| 5. Is this a worst case? | No |
| 6. Conditioned floor area above grade (ft²) | 2701 |
| Conditioned floor area below grade (ft²) | 0 |

| 7. Windows(355.0 sqft.) | Description | Area |
|---|---|---|
| a. U-Factor: | Dbl, U=0.36 | 355.00 ft² |
| SHGC: | SHGC=0.25 | |
| b. U-Factor: | N/A | ft² |
| SHGC: | | |
| c. U-Factor: | N/A | ft² |
| SHGC: | | |
| Area Weighted Average Overhang Depth: | | 5.721 ft |
| Area Weighted Average SHGC: | | 0.250 |

| 8. Skylights | Description | Area |
|---|---|---|
| U-Factor:(AVG) | N/A | N/A ft² |
| SHGC(AVG): | N/A | |

| 9. Floor Types | Insulation | Area |
|---|---|---|
| a. Slab-On-Grade Edge Insulation | R= 0.0 | 2701.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |

| 10. Wall Types(2676.7 sqft.) | Insulation | Area |
|---|---|---|
| a. Frame - Wood, Exterior | R=13.0 | 2420.00 ft² |
| b. Frame - Wood, Adjacent | R=13.0 | 256.67 ft² |
| c. N/A | | |
| d. N/A | | |

| 11. Ceiling Types(2836.0 sqft.) | Insulation | Area |
|---|---|---|
| a. Flat ceiling under att (Vented) | R=38.0 | 2836.00 ft² |
| b. N/A | | |
| c. N/A | | |

| 12. Roof(Comp. Shingles, Vented) | Deck R=0.0 | 3246 ft² |
|---|---|---|

| 13. Ducts, location & insulation level | R | ft² |
|---|---|---|
| a. Sup: Attic, Ret: Attic, AH: 1st Floor | 6 | 675 |
| b. | | |
| c. | | |

| 14. Cooling Systems | kBtu/hr | Efficiency |
|---|---|---|
| a. Central Unit | 33.7 | SEER:15.50 |

| 15. Heating Systems | kBtu/hr | Efficiency |
|---|---|---|
| a. Electric Heat Pump | 42.0 | HSPF:8.80 |

| | |
|---|---|
| 16. Hot Water Systems | |
| a. Electric | Cap: 50 gallons |
| | EF: 0.920 |
| b. Conservation features | |
| | None |
| 17. Credits | CV, Pstat |

Glass/Floor Area: 0.131

Total Proposed Modified Loads: 63.00

Total Baseline Loads: 65.49

**PASS**

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: 6 / 6 / 2023

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

**- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.**

**- Default duct leakage does not require a Duct Leakage Test Report.**

**- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 7.00 ACH50 (R402.4.1.2).**

FORM R405-2020

# INPUT SUMMARY CHECKLIST REPORT

## PROJECT

| | | | | | |
|---|---|---|---|---|---|
| Title: | Hart Residence | | | Address type: | Street Address |
| Building Type: | User | Bedrooms: | 4 | Lot #: | --- |
| Owner: | Isaac & Marlene Hart | Conditioned Area: | 2701 | Block/SubDivision: | --- |
| Builder Home ID: | | Total Stories: | 1 | PlatBook: | --- |
| Builder Name: | | Worst Case: | No | Street: | 159 SW Governors Glen |
| Permit Office: | Columbia County | Rotate Angle: | 0 | County: | Columbia |
| Jurisdiction: | | Cross Ventilation: | Yes | City, State, Zip: | Lake City, |
| Family Type: | Detached | Whole House Fan: | No | | FL, 32024 |
| New/Existing: | New (From Plans) | Terrain: | Suburban | | |
| Year Construct: | 2023 | Shielding: | Suburban | | |
| Comment: | | | | | |

## 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, Gainesville | FL_GAINESVILLE_REGIONA | 32 | 92 | 70 | 75 | 1305.5 | 51 | Medium |

## BLOCKS

| √ | Number | Name | Area | Volume |
|---|---|---|---|---|
| ___ | 1 | Block1 | 2701 | 24309 cu ft |

## SPACES

| √ | Number | Name | Area | Volume | Kitchen | Occupants | Bedrooms | Finished | Cooled | Heated |
|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | 1st Floor | 2701 | 24309 | Yes | 8 | 4 | Yes | Yes | Yes |

## FLOORS (Total Exposed Area = 2701 sq.ft.)

| √ | # | Floor Type | Space | Exposed Perim | Perimeter R-Value | Area | U-Factor | Joist R-Value | Tile | Wood | Carpet |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | Slab-On-Grade Edge Ins | 1st Floor | 272 | 0 | 2701 ft | 0.304 | --- | 0.00 | 0.00 | 1.00 |

## ROOF

| √ | # | Type | Materials | Roof Area | Gable Area | Roof Color | Rad Barr | Solar Absor. | SA Tested | Emitt | Emitt Tested | Deck Insul. | Pitch (deg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | Gable or shed | Composition shingles | 3246 ft² | 504 ft² | Medium | Y | 0.96 | No | 0.9 | No | 0 | 33.69 |

## ATTIC

| √ | # | Type | Ventilation | Vent Ratio (1 in) | Area | RBS | IRCC |
|---|---|---|---|---|---|---|---|
| ___ | 1 | Partial cathedral ceiling | Vented | 300 | 2701 ft² | Y | N |

## CEILING (Total Exposed Area = 2836 sq.ft.)

| √ | # | Ceiling Type | Space | R-Value | Ins. Type | Area | U-Factor | Framing Frac. | Truss Type |
|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | Flat ceiling under attic(Vented) | 1st Floor | 38.0 | Double Batt | 2836.0ft² | 0.024 | 0.11 | Wood |

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# INPUT SUMMARY CHECKLIST REPORT

## WALLS (Total Exposed Area = 2677 sq.ft.)

| ✓ # | Ornt | Adjacent To | Wall Type | Space | Cavity R-Value | Width Ft | Width In | Height Ft | Height In | Area sq.ft. | U-Factor | Sheath R-Value | Frm. Frac. | Solar Absor. | Below Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ 1 | S | Exterior | Frame - Wood | 1st Floor | 13.0 | 22.0 | 4 | 10.0 | 0 | 223.3 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 2 | W | Exterior | Frame - Wood | 1st Floor | 13.0 | 10.0 | 0 | 10.0 | 0 | 100.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 3 | S | Exterior | Frame - Wood | 1st Floor | 13.0 | 14.0 | 0 | 10.0 | 0 | 140.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 4 | E | Exterior | Frame - Wood | 1st Floor | 13.0 | 12.0 | 0 | 10.0 | 0 | 120.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 5 | S | Exterior | Frame - Wood | 1st Floor | 13.0 | 6.0 | 0 | 10.0 | 0 | 60.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 6 | E | Exterior | Frame - Wood | 1st Floor | 13.0 | 24.0 | 0 | 10.0 | 0 | 240.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 7 | N | Exterior | Frame - Wood | 1st Floor | 13.0 | 6.0 | 0 | 10.0 | 0 | 60.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 8 | E | Exterior | Frame - Wood | 1st Floor | 13.0 | 14.0 | 8 | 10.0 | 0 | 146.7 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 9 | N | Exterior | Frame - Wood | 1st Floor | 13.0 | 14.0 | 0 | 10.0 | 0 | 140.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 10 | W | Exterior | Frame - Wood | 1st Floor | 13.0 | 10.0 | 0 | 10.0 | 0 | 100.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 11 | N | Exterior | Frame - Wood | 1st Floor | 13.0 | 18.0 | 0 | 10.0 | 0 | 180.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 12 | E | Exterior | Frame - Wood | 1st Floor | 13.0 | 10.0 | 0 | 10.0 | 0 | 100.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 13 | N | Exterior | Frame - Wood | 1st Floor | 13.0 | 12.0 | 0 | 10.0 | 0 | 120.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 14 | E | Exterior | Frame - Wood | 1st Floor | 13.0 | 3.0 | 0 | 10.0 | 0 | 30.0 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 15 | N | Exterior | Frame - Wood | 1st Floor | 13.0 | 15.0 | 4 | 10.0 | 0 | 153.3 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 16 | W | Exterior | Frame - Wood | 1st Floor | 13.0 | 16.0 | 4 | 10.0 | 0 | 163.3 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 17 | N | Exterior | Frame - Wood | 1st Floor | 13.0 | 4.0 | 8 | 10.0 | 0 | 46.7 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 18 | W | Exterior | Frame - Wood | 1st Floor | 13.0 | 29.0 | 8 | 10.0 | 0 | 296.7 | 0.084 | | 0.23 | 0.75 | 0 % |
| ___ 19 | S | Garage | Frame - Wood | 1st Floor | 13.0 | 25.0 | 8 | 10.0 | 0 | 256.7 | 0.084 | | 0.23 | 0.75 | 0 % |

## DOORS (Total Exposed Area = 48 sq.ft.)

| ✓ # | Ornt | Adjacent To | Door Type | Space | Storms | U-Value | Width Ft | Width In | Height Ft | Height In | Area |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ 1 | S | Exterior | Insulated | 1st Floor | None | 0.46 | 3.00 | 0 | 8.00 | 0 | 24.0ft² |
| ___ 2 | S | Garage | Insulated | 1st Floor | None | 0.46 | 3.00 | 0 | 8.00 | 0 | 24.0ft² |

## WINDOWS (Total Exposed Area = 355 sq.ft.)

| ✓ # | Ornt | Wall ID | Frame | Panes | NFRC | U-Factor | SHGC | Imp | Storm | Total Area (ft²) | Same Units | Width (ft) | Height (ft) | --Overhang-- Depth (ft) | Sep. (ft) | Interior Shade | Screen |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ 1 | S | 1 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 18.0 | 1 | 3.00 | 6.00 | 8.5 | 1.0 | None | None |
| ___ 2 | S | 3 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 33.0 | 2 | 3.00 | 5.50 | 1.0 | 0.5 | None | None |
| ___ 3 | E | 6 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 4.0 | 1 | 2.00 | 2.00 | 1.5 | 1.0 | None | None |
| ___ 4 | E | 6 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 4.0 | 1 | 4.00 | 1.00 | 1.5 | 1.0 | None | None |
| ___ 5 | N | 9 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 18.0 | 1 | 3.00 | 6.00 | 1.0 | 2.0 | None | None |
| ___ 6 | N | 11 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 72.0 | 4 | 3.00 | 6.00 | 16.5 | 1.0 | None | None |
| ___ 7 | E | 12 | TIM | Low-E Double | Y | 0.36 | 0.25 | N | N | 48.0 | 2 | 3.00 | 8.00 | 8.5 | 1.0 | None | None |
| ___ 8 | N | 13 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 54.0 | 3 | 3.00 | 6.00 | 1.5 | 1.0 | None | None |
| ___ 9 | N | 15 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 36.0 | 2 | 3.00 | 6.00 | 1.0 | 2.0 | None | None |
| ___ 10 | W | 16 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 20.0 | 2 | 2.00 | 5.00 | 1.5 | 1.0 | None | None |
| ___ 11 | W | 18 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 12.0 | 4 | 2.00 | 1.50 | 1.5 | 1.0 | None | None |
| ___ 12 | W | 18 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 20.0 | 1 | 4.00 | 5.00 | 1.5 | 1.0 | None | None |
| ___ 13 | W | 18 | Vinyl | Low-E Double | Y | 0.36 | 0.25 | N | N | 16.0 | 1 | 4.00 | 4.00 | 1.5 | 1.0 | None | None |

## INFILTRATION

| ✓ # | Scope | Method | SLA | CFM50 | ELA | EqLA | ACH | ACH50 | Space(s) | Infiltration Test Volume |
|---|---|---|---|---|---|---|---|---|---|---|
| ___ 1 | Wholehouse | Proposed ACH(50) | 0.00040 | 2836 | 155.59 | 292.11 | 0.1438 | 7.0 | All | 24309 cu ft |

FORM R405-2020

# INPUT SUMMARY CHECKLIST REPORT

## GARAGE

| ✓ | # | Floor Area | Roof Area | Exposed Wall Perimeter | Avg. Wall Height | Exposed Wall Insulation |
|---|---|---|---|---|---|---|
| ___ | 1 | 796 ft² | 796 ft² | 91 ft | 10 ft | 1 |

## MASS

| ✓ | # | Mass Type | Area | Thickness | Furniture Fraction | Space |
|---|---|---|---|---|---|---|
| ___ | 1 | Default(8 lbs/sq.ft.) | 0 ft² | 0 ft | 0.30 | 1st Floor |

## HEATING SYSTEM

| ✓ | # | System Type | Subtype/Speed | AHRI # | Efficiency | Capacity kBtu/hr | ----Geothermal HeatPump---- Entry | Power | Volt | Current | Ducts | Block |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | Electric Heat Pump | None/Single | | HSPF: 8.80 | 42.0 | | 0.00 | 0.00 | 0.00 | sys#1 | 1 |

## COOLING SYSTEM

| ✓ | # | System Type | Subtype/Speed | AHRI # | Efficiency | Capacity kBtu/hr | Air Flow cfm | SHR | Duct | Block |
|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | Central Unit | None/Single | | SEER:15.5 | 33.7 | 1020 | 0.70 | sys#1 | 1 |

## HOT WATER SYSTEM

| ✓ | # | System Type | Subtype | Location | EF(UEF) | Cap | Use | SetPnt | Fixture Flow | Pipe Ins. | Pipe length |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | Electric | None | 1st Floor | 0.92 (0.92) | 50.00 gal | 40 gal | 120 deg | Standard | None | 12 |

| | | Recirculation System | Recirc Control Type | Loop length | Branch length | Pump power | DWHR | Facilities Connected | Equal Flow | DWHR Eff | Other Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | No | | NA | NA | NA | No | NA | NA | NA | None |

## DUCTS

| ✓ | Duct # | ---------Supply--------- Location | R-Value | Area | ---------Return--------- Location | R-Value | Area | Leakage Type | Air Handler | CFM 25 TOT | CFM 25 OUT | QN | RLF | HVAC # Heat | Cool |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ | 1 | Attic | 6.0 | 675 ft² | Attic | 6.0 | 135 ft² | Default Leakage | 1st Floor | (Default) | (Default) | | | 1 | 1 |

## TEMPERATURES

Programable Thermostat: Y  Ceiling Fans: N

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

| ✓ | Thermostat Schedule: HERS 2006 Reference 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 | 80 | 80 | 80 | 80 |
| | | PM | 80 | 80 | 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 |

# INPUT SUMMARY CHECKLIST REPORT

## TEMPERATURES(Continued)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ___ Heating (WD) | AM | 66 | 66 | 66 | 66 | 66 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| | PM | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 66 | 66 |
| ___ Heating (WEH) | AM | 66 | 66 | 66 | 66 | 66 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| | PM | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 66 | 66 |

FORM R405-2020

# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

## ESTIMATED ENERGY PERFORMANCE INDEX* = 96

The lower the EnergyPerformance Index, the more efficient the home.

159 SW Governors Glen,Lake City,FL,32024

| | | |
|---|---|---|
| 1. New construction or existing | | New (From Plans) |
| 2. Single family or multiple family | | Detached |
| 3. Number of units, if multiple family | | 1 |
| 4. Number of Bedrooms | | 4 |
| 5. Is this a worst case? | | No |
| 6. Conditioned floor area above grade (ft²) | | 2701 |
| Conditioned floor area below grade (ft²) | | 0 |

| 7. Windows** | Description | Area |
|---|---|---|
| a. U-Factor: | Dbl, U=0.36 | 355.00 ft² |
| SHGC: | SHGC=0.25 | |
| b. U-Factor: | N/A | ft² |
| SHGC: | | |
| c. U-Factor: | N/A | ft² |
| SHGC: | | |
| Area Weighted Average Overhang Depth: | | 5.721 ft |
| Area Weighted Average SHGC: | | 0.250 |

| 8. Skylights | Description | Area |
|---|---|---|
| U-Factor:(AVG) | N/A | N/A ft² |
| SHGC(AVG): | N/A | |

| 9. Floor Types | Insulation | Area |
|---|---|---|
| a. Slab-On-Grade Edge Insulation | R= 0.0 | 2701.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |

| 10. Wall Types(2676.7 sqft.) | Insulation | Area |
|---|---|---|
| a. Frame - Wood, Exterior | R=13.0 | 2420.00 ft² |
| b. Frame - Wood, Adjacent | R=13.0 | 256.67 ft² |
| c. N/A | | |
| d. N/A | | |

| 11. Ceiling Types(2836.0 sqft.) | Insulation | Area |
|---|---|---|
| a. Flat ceiling under att (Vented) | R=38.0 | 2836.00 ft² |
| b. N/A | | |
| c. N/A | | |

| | | |
|---|---|---|
| 12. Roof(Comp. Shingles, Vented) | Deck R=0.0 | 3246 ft² |

| 13. Ducts, location & insulation level | R | ft² |
|---|---|---|
| a. Sup: Attic, Ret: Attic, AH: 1st Floor | 6 | 675 |
| b. | | |
| c. | | |

| 14. Cooling Systems | kBtu/hr | Efficiency |
|---|---|---|
| a. Central Unit | 33.7 | SEER:15.50 |

| 15. Heating Systems | kBtu/hr | Efficiency |
|---|---|---|
| a. Electric Heat Pump | 42.0 | HSPF:8.80 |

| | |
|---|---|
| 16. Hot Water Systems | |
| a. Electric | Cap: 50 gallons |
| | EF: 0.920 |
| b. Conservation features | |
| | None |
| 17. Credits | CV, Pstat |

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.


Builder Signature: _____ Date: _____

Address of New Home: 159 SW Governors Glen City/FL Zip: Lake City,FL,32024

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

# Envelope Leakage Test Report (Blower Door Test)
## Residential Prescriptive, Performance or ERI Method Compliance
## 2020 Florida Building Code, Energy Conservation, 7th Edition

| Jurisdiction: | Permit #: |
|---|---|

**Job Information**

Builder: Community: Lot: NA

Address: 159 SW Governors Glen

City: Lake City State: FL Zip: 32024

**Air Leakage Test Results** *Passing results must meet either the Performance, Prescriptive, or ERI Method*

○ **PRESCRIPTIVE METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 Pascals) in Climate Zones 1 and 2.

● **PERFORMANCE or ERI METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on Form R405-2020 (Performance) or R406-2020 (ERI), section labeled as infiltration, sub-section ACH50.

*ACH(50) specified on Form R405-2020-Energy Calc (Performance) or R406-2020 (ERI):* 7.000

_____ x 60 ÷ 24309 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

☐ When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.

Method for calculating building volume:

○ Retrieved from architectural plans

● Code software calculated

○ Field measured and calculated

**R402.4.1.2 Testing.** Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), *Florida Statues*, or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official.* Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope.*

During testing:
1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

Testing Company

Company Name: _____ Phone: _____

I hereby verify that the above Air Leakage results are in accordance with the 2020 7th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____

# Residential System Sizing Calculation

## Summary

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence

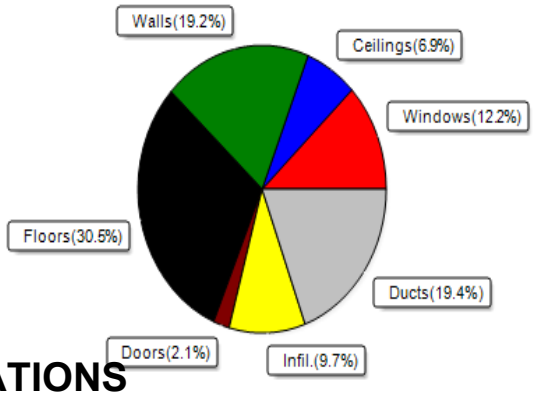
6/6/2023

| Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)<br>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 |
| **Total heating load calculation** | **42025** | **Btuh** | **Total cooling load calculation** | **33655** | **Btuh** |
| Submitted heating capacity | % of calc | Btuh | Submitted cooling capacity | % of calc | Btuh |
| Total (Electric Heat Pump) | 100.0 | 42025 | Sensible (SHR = 0.70) | 85.3 | 23559 |
| Heat Pump + Auxiliary(0.0kW) | 100.0 | 42025 | Latent | 167.6 | 10097 |
| | | | Total (Electric Heat Pump) | 100.0 | 33655 |

## WINTER CALCULATIONS

Winter Heating Load (for 2701 sqft)

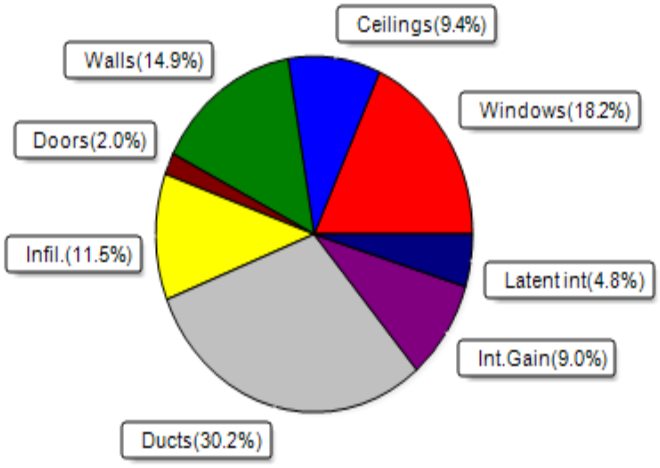
| Load component | | | Load | |
|---|---|---|---|---|
| Window total | 355 | sqft | 5112 | Btuh |
| Wall total | 2274 | sqft | 8072 | Btuh |
| Door total | 48 | sqft | 883 | Btuh |
| Ceiling total | 2836 | sqft | 2879 | Btuh |
| Floor total | 2701 | sqft | 12838 | Btuh |
| Infiltration | 93 | cfm | 4081 | Btuh |
| Duct loss | | | 8159 | Btuh |
| **Subtotal** | | | **42025** | **Btuh** |
| Ventilation | Ex:0 cfm; Sup:0 cfm | | 0 | Btuh |
| **TOTAL HEAT LOSS** | | | **42025** | **Btuh** |




## SUMMER CALCULATIONS

Summer Cooling Load (for 2701 sqft)

| Load component | | | Load | |
|---|---|---|---|---|
| Window total | 355 | sqft | 6134 | Btuh |
| Wall total | 2274 | sqft | 5012 | Btuh |
| Door total | 48 | sqft | 662 | Btuh |
| Ceiling total | 2836 | sqft | 3167 | Btuh |
| Floor total | | | 0 | Btuh |
| Infiltration | 70 | cfm | 1454 | Btuh |
| Internal gain | | | 3040 | Btuh |
| Duct gain | | | 8163 | Btuh |
| Sens.Ventilation | Ex:0 cfm; Sup:0 cfm | | 0 | Btuh |
| Blower Load | | | 0 | Btuh |
| **Total sensible gain** | | | **27633** | **Btuh** |
| Latent gain(ducts) | | | 2010 | Btuh |
| Latent gain(infiltration) | | | 2413 | Btuh |
| Latent gain(ventilation) | | | 0 | Btuh |
| Latent gain(internal/occupants/other) | | | 1600 | Btuh |
| **Total latent gain** | | | **6023** | **Btuh** |
| **TOTAL HEAT GAIN** | | | **33655** | **Btuh** |

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EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 6 / 6 / 2023

# System Sizing Calculations - Winter

## Residential Load - Whole House Component Details

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence
Building Type: User

6/6/2023

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 0.25 | Vinyl | 0.36 | S | 18.0 | 14.4 | 259 Btuh |
| 2 | 2, NFRC 0.25 | Vinyl | 0.36 | S | 33.0 | 14.4 | 475 Btuh |
| 3 | 2, NFRC 0.25 | Vinyl | 0.36 | E | 4.0 | 14.4 | 58 Btuh |
| 4 | 2, NFRC 0.25 | Vinyl | 0.36 | E | 4.0 | 14.4 | 58 Btuh |
| 5 | 2, NFRC 0.25 | Vinyl | 0.36 | N | 18.0 | 14.4 | 259 Btuh |
| 6 | 2, NFRC 0.25 | Vinyl | 0.36 | N | 72.0 | 14.4 | 1037 Btuh |
| 7 | 2, NFRC 0.25 | TIM | 0.36 | E | 48.0 | 14.4 | 691 Btuh |
| 8 | 2, NFRC 0.25 | Vinyl | 0.36 | N | 54.0 | 14.4 | 778 Btuh |
| 9 | 2, NFRC 0.25 | Vinyl | 0.36 | N | 36.0 | 14.4 | 518 Btuh |
| 10 | 2, NFRC 0.25 | Vinyl | 0.36 | W | 20.0 | 14.4 | 288 Btuh |
| 11 | 2, NFRC 0.25 | Vinyl | 0.36 | W | 12.0 | 14.4 | 173 Btuh |
| 12 | 2, NFRC 0.25 | Vinyl | 0.36 | W | 20.0 | 14.4 | 288 Btuh |
| 13 | 2, NFRC 0.25 | Vinyl | 0.36 | W | 16.0 | 14.4 | 230 Btuh |
| | Window Total | | | | 355.0(sqft) | | 5112 Btuh |

| **Walls** | Type | Ornt. | Ueff. | R-Value (Cav/Sh) | Area X | HTM= | Load |
|---|---|---|---|---|---|---|---|
| 1 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 181 | 3.55 | 644 Btuh |
| 2 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 100 | 3.55 | 355 Btuh |
| 3 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 107 | 3.55 | 380 Btuh |
| 4 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 120 | 3.55 | 426 Btuh |
| 5 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 60 | 3.55 | 213 Btuh |
| 6 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 232 | 3.55 | 824 Btuh |
| 7 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 60 | 3.55 | 213 Btuh |
| 8 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 147 | 3.55 | 521 Btuh |
| 9 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 122 | 3.55 | 433 Btuh |
| 10 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 100 | 3.55 | 355 Btuh |
| 11 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 108 | 3.55 | 383 Btuh |
| 12 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 52 | 3.55 | 185 Btuh |
| 13 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 66 | 3.55 | 234 Btuh |
| 14 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 30 | 3.55 | 107 Btuh |
| 15 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 117 | 3.55 | 417 Btuh |
| 16 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 143 | 3.55 | 509 Btuh |
| 17 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 47 | 3.55 | 166 Btuh |
| 18 | Frame - Wood | - Ext | (0.089) | 13.0/0.0 | 249 | 3.55 | 883 Btuh |
| 19 | Frame - Wood | - Adj | (0.089) | 13.0/0.0 | 233 | 3.55 | 826 Btuh |
| | Wall Total | | | | 2274(sqft) | | 8072 Btuh |

| **Doors** | Type | Storm | Ueff. | Area X | HTM= | Load |
|---|---|---|---|---|---|---|
| 1 | Insulated - Exterior, | n | (0.460) | 24 | 18.4 | 442 Btuh |
| 2 | Insulated - Garage, | n | (0.460) | 24 | 18.4 | 442 Btuh |
| | Door Total | | | 48(sqft) | | 883Btuh |

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence
Building Type: User

6/6/2023

| | | | | | | |
|---|---|---|---|---|---|---|
| **Ceilings** | Type/Color/Surface | Ueff. | R-Value | Area X | HTM= | Load |
| 1 | Flat ceil/M/Shing | (0.025) | 38.0/0.0 | 2836 | 1.0 | 2879 Btuh |
| | Ceiling Total | | | 2836(sqft) | | 2879Btuh |
| **Floors** | Type | Ueff. | R-Value | Size X | HTM= | Load |
| 1 | Slab On Grade | (1.180) | 0.0 | 272.0 ft(perim.) | 47.2 | 12838 Btuh |
| | Floor Total | | | 2701 sqft | | 12838 Btuh |
| | | | | Envelope Subtotal: | | 29785 Btuh |
| **Infiltration** | Type | Wholehouse ACH | Volume(cuft) | Wall Ratio | CFM= | |
| | Natural | 0.23 | 24309 | 1.00 | 93.2 | 4081 Btuh |
| **Duct load** | Average sealed, R6.0, Supply(Att), Return(Att) | | | (DLM of 0.241) | | 8159 Btuh |
| **All Zones** | | | **Sensible Subtotal All Zones** | | | **42025 Btuh** |

## WHOLE HOUSE TOTALS

| | | | |
|---|---|---|---|
| **Totals for Heating** | Subtotal Sensible Heat Loss | | 42025 Btuh |
| | Ventilation Sens. Heat Loss | (Ex:0 cfm; Sup:0 cfm) | 0 Btuh |
| | Total Heat Loss | | 42025 Btuh |

## EQUIPMENT

| | | |
|---|---|---|
| 1. Electric Heat Pump | # | 42025 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)

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Version 8

# System Sizing Calculations - Summer

## Residential Load - Whole House Component Details

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence

6/6/2023

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* Panes | SHGC | U | InSh | IS | Ornt | Overhang Len | Hgt | Window Area(sqft) Gross | Shaded | Unshaded | HTM Shaded | Unshaded | Load |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 NFRC | 0.25, 0.36 | | No | No | S | 8.5ft. | 1.0ft. | 18.0 | 18.0 | 0.0 | 12 | 14 | 218 Btuh |
| 2 | 2 NFRC | 0.25, 0.36 | | No | No | S | 1.0ft. | 0.5ft. | 33.0 | 31.1 | 1.9 | 12 | 14 | 403 Btuh |
| 3 | 2 NFRC | 0.25, 0.36 | | No | No | E | 1.5ft. | 1.0ft. | 4.0 | 0.5 | 3.5 | 12 | 31 | 115 Btuh |
| 4 | 2 NFRC | 0.25, 0.36 | | No | No | E | 1.5ft. | 1.0ft. | 4.0 | 1.0 | 3.0 | 12 | 31 | 105 Btuh |
| 5 | 2 NFRC | 0.25, 0.36 | | No | No | N | 1.0ft. | 2.0ft. | 18.0 | 0.0 | 18.0 | 12 | 12 | 218 Btuh |
| 6 | 2 NFRC | 0.25, 0.36 | | No | No | N | 16.5f | 1.0ft. | 72.0 | 0.0 | 72.0 | 12 | 12 | 871 Btuh |
| 7 | 2 NFRC | 0.25, 0.36 | | No | No | E | 8.5ft. | 1.0ft. | 48.0 | 36.3 | 11.7 | 12 | 31 | 801 Btuh |
| 8 | 2 NFRC | 0.25, 0.36 | | No | No | N | 1.5ft. | 1.0ft. | 54.0 | 0.0 | 54.0 | 12 | 12 | 653 Btuh |
| 9 | 2 NFRC | 0.25, 0.36 | | No | No | N | 1.0ft. | 2.0ft. | 36.0 | 0.0 | 36.0 | 12 | 12 | 436 Btuh |
| 10 | 2 NFRC | 0.25, 0.36 | | No | No | W | 1.5ft. | 1.0ft. | 20.0 | 1.0 | 19.0 | 12 | 31 | 600 Btuh |
| 11 | 2 NFRC | 0.25, 0.36 | | No | No | W | 1.5ft. | 1.0ft. | 12.0 | 2.0 | 10.0 | 12 | 31 | 334 Btuh |
| 12 | 2 NFRC | 0.25, 0.36 | | No | No | W | 1.5ft. | 1.0ft. | 20.0 | 1.0 | 19.0 | 12 | 31 | 600 Btuh |
| 13 | 2 NFRC | 0.25, 0.36 | | No | No | W | 1.5ft. | 1.0ft. | 16.0 | 1.0 | 15.0 | 12 | 31 | 477 Btuh |
| | Excursion | | | | | | | | | | | | | 303 Btuh |
| | Window Total | | | | | | | | 355 (sqft) | | | | | 6134 Btuh |

| Walls | Type | U-Value | R-Value Cav/Sheath | Area(sqft) | HTM | Load |
|---|---|---|---|---|---|---|
| 1 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 181.3 | 2.3 | 410 Btuh |
| 2 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 100.0 | 2.3 | 226 Btuh |
| 3 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 107.0 | 2.3 | 242 Btuh |
| 4 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 120.0 | 2.3 | 272 Btuh |
| 5 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 60.0 | 2.3 | 136 Btuh |
| 6 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 232.0 | 2.3 | 525 Btuh |
| 7 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 60.0 | 2.3 | 136 Btuh |
| 8 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 146.7 | 2.3 | 332 Btuh |
| 9 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 122.0 | 2.3 | 276 Btuh |
| 10 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 100.0 | 2.3 | 226 Btuh |
| 11 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 108.0 | 2.3 | 244 Btuh |
| 12 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 52.0 | 2.3 | 118 Btuh |
| 13 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 66.0 | 2.3 | 149 Btuh |
| 14 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 30.0 | 2.3 | 68 Btuh |
| 15 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 117.3 | 2.3 | 266 Btuh |
| 16 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 143.3 | 2.3 | 324 Btuh |
| 17 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 46.7 | 2.3 | 106 Btuh |
| 18 | Frame - Wood - Ext | 0.09 | 13.0/0.0 | 248.7 | 2.3 | 563 Btuh |
| 19 | Frame - Wood - Adj | 0.09 | 13.0/0.0 | 232.7 | 1.7 | 392 Btuh |
| | Wall Total | | | 2274 (sqft) | | 5012 Btuh |

| Doors | Type | Area (sqft) | HTM | Load |
|---|---|---|---|---|
| 1 | Insulated - Exterior | 24.0 | 13.8 | 331 Btuh |
| 2 | Insulated - Garage | 24.0 | 13.8 | 331 Btuh |
| | Door Total | 48 (sqft) | | 662 Btuh |

| Ceilings | Type/Color/Surface | U-Value | R-Value | Area(sqft) | HTM | Load |
|---|---|---|---|---|---|---|
| 1 | Vented Attic/Med/Shingle/RB | 0.025 | 38.0/0.0 | 2836.0 | 1.12 | 3167 Btuh |
| | Ceiling Total | | | 2836 (sqft) | | 3167 Btuh |

| Floors | Type | R-Value | Size | HTM | Load |
|---|---|---|---|---|---|
| 1 | Slab On Grade | 0.0 | 2701 (ft-perimeter) | 0.0 | 0 Btuh |
| | Floor Total | | 2701.0 (sqft) | | 0 Btuh |

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title: Hart Residence

Climate:FL_GAINESVILLE_REGIONAL_A

6/6/2023

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Envelope Subtotal: | | | 14975 Btuh |
| **Infiltration** | Type | Average ACH | Volume(cuft) | | Wall Ratio | CFM= | Load | |
| | Natural | 0.17 | 24309 | | 1 | 69.9 | 1454 | Btuh |
| **Internal gain** | | Occupants | Btuh/occupant | | | Appliance | Load | |
| | | 8 | X | 230 | + | 1200 | 3040 | Btuh |
| | | | | | Sensible Envelope Load: | | 19469 | Btuh |
| **Duct load** | Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic) | | | | (DGM of 0.419) | | 8163 | Btuh |
| | | | | | **Sensible Load All Zones** | | **27633** | **Btuh** |

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title: Hart Residence

Climate:FL_GAINESVILLE_REGIONAL_A

6/6/2023

### WHOLE HOUSE TOTALS

| | | |
|---|---|---|
| **Whole House Totals for Cooling** | **Sensible Envelope Load All Zones** | **19469 Btuh** |
| | Sensible Duct Load | 8163 Btuh |
| | **Total Sensible Zone Loads** | **27633 Btuh** |
| | Sensible ventilation (Ex:0 cfm; Sup:0 cfm) | 0 Btuh |
| | Blower | 0 Btuh |
| | **Total sensible gain** | **27633 Btuh** |
| | Latent infiltration gain (for 51 gr. humidity difference) | 2413 Btuh |
| | Latent ventilation gain | 0 Btuh |
| | Latent duct gain | 2010 Btuh |
| | Latent occupant gain (8.0 people @ 200 Btuh per person) | 1600 Btuh |
| | Latent other gain | 0 Btuh |
| | **Latent total gain** | **6023 Btuh** |
| | **TOTAL GAIN** | **33655 Btuh** |

### EQUIPMENT

| | | |
|---|---|---|
| 1. Central Unit | # | 33655 Btuh |

*Key: Window types (Panes - 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)

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