

Florida Building Code, Seventh Edition (2020) - Energy Conservation

EnergyGauge Summit® Fla/Com-2020, Effective Date: Dec 31, 2020

C401.2.3: FBC Total Building Performance Compliance Option

Compliance applying the requirements of Sections C402.5, C403.2, C404, C405.2, C405.4, C405.5, C407 and C408. The building energy cost shall be equal to or less than 85 percent of the standard reference design building.

Check List

Applications for compliance with the Florida Building Code, Energy Conservation shall include:

- ☒ This Checklist
- ☒ The full compliance report generated by the software that contains the project summary, compliance summary, certifications and detailed component compliance reports.
- ☒ The compliance report must include the full input report generated by the software as contiguous part of the compliance report.
- ☒ Boxes appropriately checked in the Mandatory Section of the compliance report.

WARNING: INPUT REPORT NOT GENERATED.

To include input report in final submission, go to the Project Form, Settings Tab and check the box - "Append Input Report to Compliance Output Report"
Then rerun your calculation

PROJECT SUMMARY

Short Desc: BCC

Description: Brittany's Cupcakes

Owner: Brittany's Cupcakes

Address1: 224 N Marion Ave

City: Lake City

Address2:

State: FL

Zip: 32055

Type: Retail

Class: New Finished building

Jurisdiction: LAKE CITY, COLUMBIA COUNTY, FL (221200)

Conditioned Area: 1262 SF

Conditioned & UnConditioned Area: 1262 SF

No of Stories: 1

Area entered from Plans 1262 SF

Permit No:

Max Tonnage ~~4.7~~

If different, write in: 5

Compliance Summary			
Component	Design	Criteria	Result
Gross Energy Cost (in \$)	864.0	1,069.0	PASSED
LIGHTING CONTROLS			PASSES
EXTERNAL LIGHTING			No Entry
HVAC SYSTEM			PASSES
PLANT			No Entry
WATER HEATING SYSTEMS			PASSES
PIPING SYSTEMS			Not Checked
Met all required compliance from Check List?			☒ Yes/ ☐ No/NA
IMPORTANT MESSAGE Info 5009 -- -- -- An input report of this design building must be submitted along with this Compliance Report			

CERTIFICATIONS

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

Prepared By: *Misty Miller*

Building _____
Official: _____

Date: 5/10/2022

Date: _____

I certify that this building is in compliance with the FLorida Energy Efficiency Code

Owner Agent: _____

Date: _____

If Required by Florida law, I hereby certify (*) that the system design is in compliance with the Florida Energy Efficiency Code

Architect: Kyle McDonough

Reg No: 83601 Signature _____

Electrical Designer: Kyle McDonough

Reg No: 83601 Signature _____

Lighting Designer: Kyle McDonough

Reg No: 83601 Signature _____

Mechanical Designer: Kyle McDonough

Reg No: 83601 Signature _____

Plumbing Designer: Kyle McDonough

Reg No: 83601 Signature _____

(*) Signature is required where Florida Law requires design to be performed by registered design professionals per C103.1.1.1.2

Misty Miller
Digitally signed
by Misty Miller
Date: 2022.05.10
11:26:27 -04'00'

Misty Miller
Certified Energy Rater #1493

Project: BCC
 Title: Brittany's Cupcakes
 Type: Retail
 (WEA File: FL_JACKSONVILLE_INTL_ARPT.tm3)

Building End Uses

	1) Proposed	2) Baseline
Total	56.40	82.40
	\$864	\$1,258
ELECTRICITY(MBtu/kWh/\$)	56.40	82.40
	16522	24146
	\$864	\$1,258
AREA LIGHTS	11.30	23.30
	3322	6813
	\$174	\$355
MISC EQUIPMT	18.80	18.80
	5519	5519
	\$289	\$288
PUMPS & MISC	0.10	0.10
	16	18
	\$1	\$1
SPACE COOL	15.80	15.30
	4620	4495
	\$242	\$234
SPACE HEAT	0.80	2.60
	239	775
	\$12	\$40
VENT FANS	9.60	22.30
	2806	6526
	\$147	\$340

Credits Applied: None

Passing Criteria = 1069

Design (including any credits) = 864

Passing requires Proposed Building cost to be at most 85% of
 Baseline cost. This Proposed Building is at 68.7%

PASSES

External Lighting Compliance						
Description	Category	Tradable?	Allowance (W/Unit)	Area or Length or No. of Units (Sqft or ft)	ELPA (W)	CLP (W)
					None	

Acronym	Ashrae ID	Description	Area (sq.ft)	Design CP	Min CP	Compliance
Lobby	25,001	Sales Area	427	1	1	PASSES
Kitchen	7	Food Service - Kitchen	396	1	1	PASSES
Corridor	5	Corridor	275	1	1	PASSES
Office	17	Office - Enclosed	85	1	1	PASSES
Jan	1	Electrical Mechanical Equipment Room - General	27	1	1	PASSES
Restroom	17	Office - Enclosed	52	1	1	PASSES
				PASSES		

Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Compliance
Cooling System	Air Conditioners Air Cooled Split System < 65000 Btu/h Cooling Capacity	55900	14.00	13.00	8.00		PASSES
Heating System	Electric Furnace	34130	1.00	1.00			PASSES
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	1750	0.42	0.82			PASSES
							PASSES

Plant Compliance								
Description	Installed No	Size	Design Eff	Min Eff	Design IPLV	Min IPLV	Category	Compliance
								None

Project: BCC Title: Brittany's Cupcakes Type: Retail (WEA File: FL_JACKSONVILLE_INTL_ARPT.tm3)								
Water Heater Compliance								
Description	Type	Category	Design Eff	Min Eff	Design Loss	Max Loss	Compliance	
Water Heater 1	Electric Storage water heater	<= 12 [kW]	0.93	0.93			PASSES	
								PASSES

Project: BCC Title: Brittany's Cupcakes Type: Retail (WEA File: FL_JACKSONVILLE_INTL_ARPT.tm3)								
Piping System Compliance								
Category	Pipe Dia [inches]	Is Runout?	Operating Temp [F]	Ins Cond [Btu-in/hr .SF.F]	Ins Thick [in]	Req Ins Thick [in]	Compliance	
Domestic and Service Hot Water Systems	0.75	False	110.00	0.28	1.00	0.50	PASSES	
Domestic and Service Hot Water Systems	0.50	False	140.00	0.28	1.00	0.00	Not Checked	
								Not Checked

Mandatory Requirements (as applicable)

Requirements compiled by US Department of Energy and Pacific Northwest National Laboratory. Adopted for FBC with permission. Not all may be applicable

Topic	Section	Component	Description	Yes	N/A	Exempt
1. To be checked by Designer or Engineer						
Insulation	C303.2	Envelope	Below-grade wall insulation installed per manufacturer's instructions.	☐	☒	☐
Insulation	C303.2	Envelope	Slab edge insulation installed per manufacturer's instructions.	☐	☒	☐
Insulation	C303.2	Envelope	Above-grade wall insulation installed per manufacturer's instructions.	☒	☐	☐
Insulation	C402.3	Envelope	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance ≥ 0.55 and thermal emittance ≥ 0.75 or 3-year-aged solar reflectance index ≥ 64.0 .	☐	☒	☐
Fenestration	C402.4.4	Envelope	U-factor of opaque doors associated with the building thermal envelope meets requirements.	☒	☐	☐
HVAC	C403.2.7	Mechanical	Exhaust air energy recovery on systems meeting Table C403.2.7(1) and C403.2.7(2).	☐	☒	☐
HVAC	C403.2.4.8	Mechanical	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.2.4.8.1 and C403.2.4.8.2).	☐	☒	☐
SYSTEM_SPECIFIC	C403.3, C403.3.1, C403.3.2	Mechanical	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐	☒	☐
SYSTEM_SPECIFIC	C403.3.2	Mechanical	Economizer operation will not increase heating energy use during normal operation.	☐	☒	☐
SYSTEM_SPECIFIC	C403.3.3.3	Mechanical	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.3.3.3 for applicable device types and climate zones.	☐	☒	☐
SYSTEM_SPECIFIC	C403.3.3.4	Mechanical	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐	☒	☐
SYSTEM_SPECIFIC	C403.3.3.5	Mechanical	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.2.4.3 for details.	☐	☒	☐
SYSTEM_SPECIFIC	C403.3.4, C403.3.4.1, C403.3.4.2, C403.3.1	Mechanical	Water economizers provided where required, meet the requirements for design capacity, maximum pressure drop and integrated economizer control.	☐	☒	☐
SYSTEM_SPECIFIC	C403.4.2.1	Mechanical	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐	☒	☐
SYSTEM_SPECIFIC	C403.4.2.3.1	Mechanical	Hydronic heat pump systems connected to a common water loop meet heat rejection and heat addition requirements.	☐	☒	☐
SYSTEM_SPECIFIC	C403.4.3.2	Mechanical	Multiple-cell heat rejection equipment with variable speed fan drives are controlled to operate the maximum number of fans allowed and so that all fans operate at the same fan speed required for the instantaneous cooling duty. The minimum fan speed will be the minimum allowable speed of the fan drive system in accordance with the manufacturer's recommendations.	☐	☒	☐

SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Open-circuit cooling towers having water cooled chiller systems and multiple or variable speed condenser pumps, are designed so that tower cells can run in parallel with larger of flow criteria.	☐	☒	☐
SYSTEM_SPECIFIC	C403.4.4	Mechanical	Supply air systems serving multiple zones have VAV systems with controls configured to reduce the volume of air that is reheated, recooled or mixed in each zone. See section for details.	☐	☒	☐
SYSTEM_SPECIFIC	C403.4.4.1	Mechanical	Single-duct VAV systems use terminal devices configured to reduce the supply of primary supply air before reheating or recooling takes place.	☐	☒	☐
SYSTEM_SPECIFIC	C403.4.4.2	Mechanical	Systems that have 1 warm air duct and 1 cool air duct use terminal devices configured to reduce the flow from one duct to a minimum before mixing of air from the other duct takes place.	☐	☒	☐
SYSTEM_SPECIFIC	C403.4.4.3	Mechanical	Individual dual-duct or mixing heating and cooling systems with a single fan and with total capacities > 90,000 Btu/h not equipped with air economizers.	☐	☒	☐
SYSTEM_SPECIFIC	C404.2	Mechanical	Service water heating equipment meets efficiency requirements.	☒	☐	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)a	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 40.2 gpm/hp.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)b	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 20.0 gpm/hp.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)c	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 16.1 gpm/hp.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)d	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 7.0 gpm/hp.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)e	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 134 kBtu/h-hp w/ Ammonia test fluid.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)f	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 110 kBtu/h-hp w/ Ammonia test fluid.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)g	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 157 kBtu/h-hp w/ R-507A test fluid.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)h	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 135 kBtu/h-hp w/ R-507A test fluid.	☐	☒	☐
SYSTEM_SPECIFIC	Table_C403.3.2(8)i	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement ≥ 176 kBtu/h-hp.	☐	☒	☐
SYSTEM_SPECIFIC	C403.2.12.1	Mechanical	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	☒	☐	☐
SYSTEM_SPECIFIC	C403.2.12.2	Mechanical	HVAC fan motors not oversized beyond allowable limits.	☒	☐	☐
SYSTEM_SPECIFIC	C403.2.12.3	Mechanical	Fans have efficiency grade (FEG) ≥ 67 . The total efficiency of the fan at the design point of operation $\leq 15\%$ of maximum total efficiency of the fan.	☒	☐	☐
SYSTEM_SPECIFIC	C403.2.12.4	Mechanical	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☒	☐	☐
SYSTEM_SPECIFIC	C403.2.12.5	Mechanical	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐	☒	☐
2. To be checked by Plan Reviewer						
Plan Review	C103.2	Envelope	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐	☐	☐

Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐	☐	☐
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	☐	☐	☐
Plan Review	C103.2	Interior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐	☐	☐
Plan Review	C103.2	Exterior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐	☐	☐
Insulation	C402.2.5	Envelope	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or ≥ 10 inches of soil.	☐	☐	☐
Insulation	C402.2.4	Envelope	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐	☐	☐
Insulation	C402.2.6	Project	Radiant heating systems panels insulated to $\geq R-3.5$ on face opposite space being heated.	☐	☐	☐
HVAC	C402.2.6	Mechanical	Thermally ineffective panel surfaces of sensible heating panels have insulation $\geq R-3.5$.	☐	☐	☐
Insulation	C402.2.6	Envelope	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐	☐	☐
Air Leakage	C402.5.7	Envelope	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐	☐	☐
HVAC	C403.2.13	Mechanical	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐	☐	☐
HVAC	C403.2.4.2	Mechanical	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐	☐	☐
HVAC	C403.2.4.2	Mechanical	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐	☐	☐
HVAC	C403.2.4.2	Mechanical	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.4	Mechanical	Zone isolation devices and controls installed where applicable.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.4	Mechanical	Zone isolation devices and controls installed where applicable.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.7	Mechanical	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.5	Mechanical	Hot water boilers supplying heat via one- or two-pipe systems include outdoor setback control.	☐	☐	☐
HVAC	C403.2.6	Mechanical	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐	☐	☐

HVAC	C403.2.6.1	Mechanical	Demand control ventilation provided for spaces >500 ft ² and >25 people/1000 ft ² occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.12.5.1	Mechanical	Hydronic and multizone HVAC system controls are VAV fans driven by mechanical or electrical variable speed drive per Table C403.2.12.5.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.12.5.3	Mechanical	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2	Mechanical	The heating of fluids in hydronic systems that have been previously mechanically cooled, and the cooling of fluids that have been previously mechanically heated are limited in accordance with Sections C403.4.2.1-C403.4.2.3. Single boiler systems >500,000 Btu/h have multistaged or modulating burner.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2.3.2	Mechanical	Closed-circuit cooling tower within heat pump loop have either automatic bypass valve or lower leakage positive closure dampers. Open-circuit tower within heat pump loop have automatic valve to bypass all heat pump water flow around the tower. Open- or closed-circuit cooling towers used in conjunction with a separate heat exchanger have heat loss by shutting down the circulation pump on the cooling tower loop. Open- or closed circuit cooling towers have a separate heat exchanger to isolate the cooling tower from the heat pump loop, and heat loss is controlled by shutting down the circulation pump on the cooling tower loop.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2.4	Mechanical	Hydronic systems greater than 500,000 Btu/h designed for variable fluid flow. See section language for full details.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2.5	Mechanical	System turndown requirement met through multiple single-input boilers, one or more modulating boilers, or a combination of single-input and modulating boilers.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2.6	Mechanical	Boiler input between 1.0 MBtu/h and 5 MBtu/h has 3:1 turndown ratio, boiler input between 5.0 MBtu/h and 10 MBtu/h has 4:1 turndown ratio, boiler input > 10.0 MBtu/h has 5:1 turndown ratio. Chilled water plants with multiple chillers have capability to reduce flow automatically through the chiller plant when a chiller is shut down.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.3.1	Mechanical	Boiler plants with multiple boilers have the capability to reduce flow automatically through the boiler plant when a boiler is shut down.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.3.3	Mechanical	Fan systems with total system motor capacity >=5 hp associated with heat rejection equipment configured to automatically modulate the fan speed to control the leaving fluid temperature or condensing temp/pressure of heat rejection device.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.3.3	Mechanical	Centrifugal fan open-circuit cooling towers having combined rated capacity >= 1100 gpm meets minimum efficiency requirement: >=40.2 gpm/hp.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.4.5	Mechanical	Multiple zone HVAC systems have supply air temperature reset controls.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.4.6	Mechanical	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	☐	☐	☐

SYSTEM_SPECIFIC	C404.2.1	Mechanical	Gas-fired water-heating equipment installed in new buildings: where a singular piece of water-heating equipment $\geq 1,000$ kBtu/h serves the entire building, thermal efficiency ≥ 90 Et. Where multiple pieces of water-heating equipment serve the building with combined rating $\geq 1,000$ kBtu/h, the combined input-capacity-weighted-average thermal efficiency ≥ 90 Et. Exclude input rating of equipment in individual dwelling units and equipment ≤ 100 kBtu/h.	☐	☐	☐
SYSTEM_SPECIFIC	C404.2.1	Mechanical	Gas-fired water-heating equipment installed in new buildings: where a singular piece of water-heating equipment $\geq 1,000$ kBtu/h serves the entire building, thermal efficiency ≥ 90 Et. Where multiple pieces of water-heating equipment serve the building with combined rating $\geq 1,000$ kBtu/h, the combined input-capacity-weighted-average thermal efficiency ≥ 90 Et. Exclude input rating of equipment in individual dwelling units and equipment ≤ 100 kBtu/h.	☐	☐	☐
SYSTEM_SPECIFIC	C404.4	Mechanical	All piping insulated in accordance with section details and Table C403.2.10.	☐	☐	☐
SYSTEM_SPECIFIC	C404.5, C404.5.1, C404.5.2	Mechanical	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐	☐	☐
SYSTEM_SPECIFIC	C404.6.3	Mechanical	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to ≤ 5 minutes after end of heating cycle.	☐	☐	☐
SYSTEM_SPECIFIC	C404.7	Mechanical	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐	☐	☐
Wattage	C405.4.1	Exterior Lighting	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐	☐	☐
Plan Review	C405.5.2	Project	Group R-2 dwelling units have separate electrical meters.	☐	☐	☐
Plan Review	C406	Project	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐	☐	☐
SYSTEM_SPECIFIC	C408.2.2.2	Mechanical	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐	☐	☐
3. To be checked by Inspector						
Insulation	C303.1	Envelope	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is ≤ 3 in 12.	☐	☐	☐
Insulation	C303.1	Envelope	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐	☐	☐
Insulation	C402.2.2	Envelope	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for roof/ceiling assemblies. Continuous insulation board installed in 2 or more layers with edge joints offset between layers.	☐	☐	☐
Insulation	C402.2.2	Envelope	Skylight curbs are insulated to the level of roofs with insulation above deck or R-5.	☐	☐	☐
Fenestration	C303.1.3	Envelope	Fenestration products rated in accordance with NFRC.	☐	☐	☐
Insulation	C303.2, C402.2.5	Envelope	Floor insulation installed per manufacturer's instructions. Cavity or structural slab insulation installed in permanent contact with underside of decking or structural slabs.	☐	☐	☐

Insulation	C303.2.1	Envelope	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐	☐	☐
Insulation	C303.2.1	Envelope	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	☐	☐	☐
Insulation	C402.1.3	Envelope	Non-swinging opaque doors have R-4.75 insulation.	☐	☐	☐
Insulation	C104	Envelope	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐	☐	☐
Insulation	C104	Envelope	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐	☐	☐
Insulation	C104	Envelope	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	☐	☐	☐
Air Leakage	C402.5	Envelope	Building envelope contains a continuous air barrier that has been tested and deemed to limit air leakage ≤ 0.40 cfm/ft ² .	☐	☐	☐
Air Leakage	C402.5.1	Envelope	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	☐	☐	☐
Air Leakage	C402.5.1.1	Envelope	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐	☐	☐
Air Leakage	C402.5.1.2.1	Envelope	The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability ≤ 0.004 dfm/ft ² . Air barrier penetrations are sealed in an approved manner.	☐	☐	☐
Air Leakage	C402.5.1.2.2	Envelope	The building envelope contains a continuous air barrier that is sealed in an approved manner and average assembly air leakage ≤ 0.04 cfm/ft ² . Air barrier penetrations are sealed in an approved manner.	☐	☐	☐
Air Leakage	C402.5.2, C402.5.4	Envelope	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐	☐	☐
Air Leakage	C402.5.5, C403.2.4.3	Envelope	Stair and elevator shaft vents have motorized dampers that automatically close. Refer to section C403.2.4.3 for operational details.	☐	☐	☐
Air Leakage	C402.5.6	Envelope	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐	☐	☐
Air Leakage	C402.5.6	Envelope	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐	☐	☐
Air Leakage	C402.5.8	Envelope	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐	☐	☐
HVAC	C403.2.1	Mechanical	HVAC systems and equipment design loads calculated in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.10	Mechanical	HVAC piping insulation insulated in accordance with Table C403.2.10. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation.	☐	☐	☐
HVAC	C403.2.3	Mechanical	HVAC equipment efficiency verified.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.3	Mechanical	PTAC and PTHP with sleeves 16 in. by 42 in. labeled for replacement only as per Footnote b to Table C403.2.3(3).	☐	☐	☐

SYSTEM_SPECIFIC	C403.2.3	Mechanical	Centrifugal fan open-circuit cooling towers having combined rated capacity ≥ 1100 gpm meets minimum efficiency requirement: ≥ 38.2 gpm/hp.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.1	Mechanical	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.1.1	Mechanical	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	☐	☐	☐
HVAC	C403.2.4.1.2	Mechanical	Thermostatic controls have a 5 °F deadband.	☐	☐	☐
HVAC	C403.2.4.1.2	Mechanical	Thermostatic controls have a 5 °F deadband.	☐	☐	☐
HVAC	C403.2.4.1.3	Mechanical	Temperature controls have setpoint overlap restrictions.	☐	☐	☐
HVAC	C403.2.4.2.1, C403.2.4.2.2	Mechanical	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.2.3	Mechanical	Systems include optimum start controls.	☐	☐	☐
HVAC	C403.2.4.5, C403.2.4.6	Mechanical	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. future connection to controls.	☐	☐	☐
HVAC	C403.2.6.2	Mechanical	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐	☐	☐
Air Leakage	C403.2.4.3	Mechanical	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed. Reference section language for operational details.	☐	☐	☐
HVAC	C403.2.9.1, C403.2.9.2	Mechanical	HVAC ducts and plenums insulated in accordance with C403.2.9.1 and constructed in accordance with C403.2.9.2, verification may need to occur during Foundation Inspection.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.12.5.2	Mechanical	VAV fans have static pressure sensors located so controller setpoint ≤ 1.2 w.c..	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2.2	Mechanical	Two-pipe hydronic systems using a common distribution system have controls to allow a deadband ≥ 15 °F, allow operation in one mode for at least 4 hrs before changeover, and have reset controls to limit heating and cooling supply temperature to ≤ 30 °F.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2.3.3	Mechanical	Two-position automatic valve interlocked to shut off water flow when hydronic heat pump with pumping system > 10 hp is off.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.4.7	Mechanical	Parallel-flow fan-powered VAV air terminals have automatic controls configured to 1) turn off the terminal fan except when space heating is required or where required for ventilation, 2) turn on the terminal fan as the first stage of heating before the heating coil is activated, and 3) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or, reverse the terminal damper logic and provide heating from the central air handler by primary air.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.12.5.3	Mechanical	Systems with DDC of individual zones reporting to the central control panel configured to reset the static pressure setpoint based on zone requiring the most pressure. The DDC is capable of monitoring zone damper positions or have an alternative method of indicating the need for static pressure. See section for details.	☐	☐	☐

SYSTEM_SPECIFIC	C403.2.12.5.2	Mechanical	Static pressure sensors used to control VAV fans located such that the controller setpoint is ≤ 1.2 inches w.c.. Where this results in one or more sensors being located downstream of major duct splits, not less than one sensor located on each major branch.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.5	Mechanical	Condenser heat recovery system that can heat water to 85 °F or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.6	Mechanical	Hot gas bypass limited to: ≤ 240 kBtu/h – 50% > 240 kBtu/h – 25%	☐	☐	☐
SYSTEM_SPECIFIC	C404.3	Mechanical	Heat traps installed on supply and discharge piping of non-circulating systems.	☐	☐	☐
SYSTEM_SPECIFIC	C404.6.1	Mechanical	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	☐	☐	☐
SYSTEM_SPECIFIC	C404.6.1, C404.6.2	Mechanical	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐	☐	☐
SYSTEM_SPECIFIC	C404.9.1	Mechanical	Pool heaters are equipped with on/off switch and no continuously burning pilot light.	☐	☐	☐
SYSTEM_SPECIFIC	C404.9.2	Mechanical	Time switches are installed on all pool heaters and pumps.	☐	☐	☐
SYSTEM_SPECIFIC	C404.9.3	Mechanical	Vapor retardant pool covers are provided for heated pools and permanently installed spas.	☐	☐	☐
Controls	C405.2.1, C405.2.1.1	Interior Lighting	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces ≤ 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐	☐	☐
Controls	C405.2.1.2	Interior Lighting	Occupancy sensors control function in warehouses: In warehouses, the lighting in aiseways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	☐	☐	☐
Controls	C405.2.1.3	Interior Lighting	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces ≥ 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas ≤ 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by $\geq 80\%$ of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	☐	☐	☐
Controls	C405.2.2, C405.2.2.1, C405.2.2.2	Interior Lighting	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	☐	☐	☐

Controls	C405.2.2.2	Interior Lighting	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern ≥ 50 percent.	☐	☐	☐
Controls	C405.2.3, C405.2.3.1, C405.2.3.2	Interior Lighting	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐	☐	☐
Controls	C405.2.4	Interior Lighting	Separate lighting control devices for specific uses installed per approved lighting plans.	☐	☐	☐
Wattage	C405.2.4	Interior Lighting	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐	☐	☐
Controls	C405.2.6	Exterior Lighting	Exterior lighting systems shall be provided with controls that comply with Sections C405.2.6.1 through C405.2.6.4. Decorative lighting systems shall comply with Sections C405.2.6.1, C405.2.6.2, and C405.2.6.4.	☐	☐	☐
Wattage	C405.3.1	Interior Lighting	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐	☐	☐
Mandatory Additional Eff	C406.4	Project	Enhanced digital lighting controls efficiency package: Interior lighting has following enhanced lighting controls in accordance with Section C405.2.2: Luminaires capable of continuous dimming and being addressed individually, ≤ 8 luminaires controlled in combination in a daylight zone, digital control system for fixtures, "Sequence of Operations" documentation, and functional testing per Section C408.	☐	☐	☐
Mandatory Additional Eff	C406.6	Project	Dedicate outdoor air system efficiency package: Buildings with hydronic and/or multiple-zone HVAC systems are equipped with an independent ventilation system designed to provide ≥ 100 -percent outdoor air to each individual occupied space, as specified by the IMC. The ventilation system is capable of total energy recovery and includes HVAC system controls that manage temperature resets ≥ 25 percent of delta design supply-air / room-air temp. Reference section C406.6 for qualifying systems/equipment.	☐	☐	☐
Mandatory Additional Eff	C406.7, C406.7.1	Project	Enhanced Service Water Heat System efficiency package. One of the following SWH system enhancements must satisfy 60 percent of buildings annual hot water requirements, or 100 percent if the building requirements otherwise complies with heat recovery per Section C403.9.5: Waste heat recovery (from SWH, process equipment, OR on-site renewable water-heating.	☐	☐	☐
HVAC	C408.2.2.1	Mechanical	Air outlets and zone terminal devices have means for air balancing.	☐	☐	☐
Testing	C408.2.3.2	Mechanical	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐	☐	☐

HVAC	C403.2.14, C403.2.14.1, C403.2.14.2	Mechanical	Commercial refrigerators, freezers, refrigerator-freezers and refrigeration equipment, defined in U.S. 10 CFR part 431.62, shall have an energy use in kWh/day not greater than the values of Table C403.2.14.1(1) when tested and rated in accordance with AHRI Standard 1200. Walk-in cooler and walk-in freezer refrigeration systems, except for walk-in process cooling refrigeration systems as defined in U.S. 10 CFR 431.302, shall meet the requirements of Tables C403.2.14.2(1), C403.2.14.2(2) and C403.2.14.2(3).	☐	☐	☐
4. To be checked by Inspector at Project Completion and Prior to Issuance of Certificate of Occupancy						
Post Construction	C408.1.1, C408.2.5.2	Interior Lighting	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐	☐	☐
Post Construction	C408.1.1, C408.2.5.3	Mechanical	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐	☐	☐
Fenestration	C402.4.2.2	Envelope	Skylights in office, storage, automotive service, manufacturing, non-refrigerated warehouse, retail store, and distribution/sorting area have a measured haze value > 90 percent unless designed to exclude direct sunlight.	☐	☐	☐
Post Construction	C408.1.1	Project	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐	☐	☐
Post Construction	C408.2.1	Mechanical	Commissioning plan developed by registered design professional or approved agency.	☐	☐	☐
Post Construction	C408.2.3.1	Mechanical	HVAC equipment has been tested to ensure proper operation.	☐	☐	☐
Post Construction	C408.2.3.3	Mechanical	Economizers have been tested to ensure proper operation.	☐	☐	☐
Post Construction	C408.2.4	Mechanical	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐	☐	☐
Post Construction	C408.2.5.1	Mechanical	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐	☐	☐
Post Construction	C408.2.5.3	Mechanical	An air and/or hydronic system balancing report is provided for HVAC systems.	☐	☐	☐
Post Construction	C408.2.5.4	Mechanical	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐	☐	☐
Post Construction	C408.3	Interior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐	☐	☐
Post Construction	C405.6	Project	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐	☐	☐
Post Construction	C405.7	Project	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐	☐	☐
Post Construction	C405.8.2, C405.8.2.1	Project	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐	☐	☐
Post Construction	C405.5.3	Project	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐	☐	☐

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EnergyGauge Summit® v7.00
INPUT DATA REPORT

Project Information

Project Name: BCC

Project Title: Brittany's Cupcakes

Address: 224 N Marion Ave

State: FL

Zip: 32055

Owner: Brittany's Cupcakes

Orientation: 0 Deg Clockwise. Walls & Windows will
be rotated accordingly

Building Type: Retail

Building Classification: New Finished building

No.of Stories: 1

GrossArea: 1262 SF

Zones

No	Acronym	Description	Type	Area [sf]	Multiplier	Total Area [sf]	
1	AHU-1	5 Ton Split System	CONDITIONED	1262.0	1	1262.0	☐

Spaces

No	Acronym	Description	Type	Depth [ft]	Width [ft]	Height [ft]	Multi plier	Total Area [sf]	Total Volume [cf]
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In Zone: AHU-1										
1	Lobby	Lobby	Sales Area	1.00	427.00	10.00	1	427.0	4270.0	☐
2	Kitchen	Kitchen	Food Service - Kitchen	1.00	396.00	10.00	1	396.0	3960.0	☐
3	Corridor	Corridor	Corridor	1.00	275.00	10.00	1	275.0	2750.0	☐
4	Office	Office	Office - Enclosed	1.00	85.00	10.00	1	85.0	850.0	☐
5	Jan	Jan	Electrical Mechanical Equipment Room - General	1.00	27.00	10.00	1	27.0	270.0	☐
6	Restroom	Restroom	Office - Enclosed	1.00	52.00	10.00	1	52.0	520.0	☐

Lighting										
No		Type	Category	No. of Luminaires	Watts per Luminaire	Power [W]	Control Type	No.of Ctrl pts		
In Zone: AHU-1										
In Space: Lobby										
	1	LED	General Lighting	4	40	160	Occupancy sensor without Daylighting	1		☐
	2	LED	Exit Sign	1	5	5	Security (continuous)	0		☐
In Space: Kitchen										
	1	LED	General Lighting	4	40	160	Occupancy sensor without Daylighting	1		☐
	2	LED	Exit Sign	1	5	5	Security (continuous)	0		☐
In Space: Corridor										
	1	LED	General Lighting	4	40	160	Occupancy sensor without Daylighting	1		☐
	2	LED	Exit Sign	1	5	5	Security (continuous)	0		☐
In Space: Office										
	1	LED	General Lighting	1	40	40	Occupancy sensor without Daylighting	1		☐
In Space: Jan										
	1	LED	General Lighting	1	40	40	Occupancy sensor without Daylighting	1		☐
In Space: Restroom										
	1	LED	General Lighting	1	40	40	Occupancy sensor without Daylighting	1		☐

Walls (Walls will be rotated clockwise by building rotation value)

No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Orientation	Conductance [Btu/hr. sf. F]	Heat Capacity [Btu/sf.F]	Dens. [lb/cf]	R-Value [h.s.f.F/Btu]	
In Zone:		AHU-1										
1	East	0.5 Ply/35/8" Mtl std@24"oc/R11/0.5" Gyp	16.75	10.00	1	167.5	East	0.0798	0.539	7.98	12.5	☐
2	West	Metal siding/2x4@24"+R1 1Batt/5/8"Gyp	15.67	10.00	1	156.7	West	0.0920	1.072	19.38	10.9	☐

Windows (Windows will be rotated clockwise by building rotation value)

No	Description	Orientation	Shaded	U [Btu/hr sf F]	SHGC	Vis.Tra	W [ft]	H (Effec) [ft]	Multi plier	Total Area [sf]	
In Zone:		AHU-1									
In Wall: East											
1	Pr0Zo1Wa1Wi1	East	Yes	1.2500	0.82	0.76	3.00	6.67	1	20.0	☐
2	Pr0Zo1Wa1Wi1	East	Yes	1.2500	0.82	0.76	5.00	6.00	1	30.0	☐
In Wall: West											
1	Pr0Zo1Wa1Wi1	West	Yes	1.2500	0.82	0.76	3.00	6.67	1	20.0	☐
2	Pr0Zo1Wa1Wi1	West	Yes	1.2500	0.82	0.76	5.00	6.00	1	30.0	☐

Doors

No	Description	Type	Shaded?	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Cond. [Btu/hr. sf. F]	Dens. [lb/cf]	Heat Cap. [Btu/sf. F]	R-Value [h.s.f.F/Btu]	
In Zone:												
In Wall:												
												☐

Roofs											
No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Tilt [deg]	Cond. [Btu/hr. Sf. F]	Heat Cap [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]
In Zone: AHU-1											
1	Pr0Zo1Rf1	Shngl/1/2"WD Deck/WD Truss/6"Batt/Gyp Brd	1262.00	1.00	1	1262.0	0.00	0.0471	1.40	10.89	21.2

Skylights											
No	Description	Type	U [Btu/hr sf F]	SHGC	Vis.Trans	W [ft]	H (Effec) [ft]	Multiplier	Area [Sf]	Total Area [Sf]	
In Zone:											
In Roof:											

Floors											
No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Cond. [Btu/hr. sf. F]	Heat Cap. [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]	
In Zone: AHU-1											
1	Pr0Zo1Fl1	1 ft. soil, concrete floor, carpet and rubber pad	1262.00	1.00	1	1262.0	0.2681	34.00	113.33	3.73	

Systems									
AHU-1		5 Ton Split System			Constant Volume Air Cooled Split System < 65000 Btu/hr			No. Of Units 1	
Component	Category				Capacity	Efficiency	IPLV		
1	Cooling System				55900.00	14.00	8.00		

2	Heating System	34130.00	1.00	☐
3	Air Handling System -Supply	1750.00	0.42	☐

Plant					
Equipment	Category	Size	Inst.No	Eff.	IPLV
☐					

Water Heaters					
W-Heater Description	Capacity Cap.Unit	I/P Rt.	Efficiency	Loss	
1 Electric Storage water heater (1 units)	20 [Gal]	5 [kW]	0.9300 [Ef]	Btu/h	☐

Ext-Lighting						
Description	Category	No. of Luminaires	Watts per Luminaire	Area/Len/No. of units [sf/ft/No]	Control Type	Wattage [W]
☐						

Piping							
No	Type	Operating Temperature [F]	Insulation Conductivity [Btu-in/h.sf.F]	Nomonal pipe Diameter [in]	Insulation Thickness [in]	Is Runout?	
1	Domestic and Service Hot Water Systems	110.00	0.28	0.75	1.00	No	☐
2	Domestic and Service Hot Water Systems	140.00	0.28	0.50	1.00	No	☐

Fenestration Used

Name	Glass Type	No. of Panes	Glass Conductance [Btu/h.sf.F]	SHGC	VLT	
ASHULSglClrAll Frm	User Defined	1	1.2500	0.8200	0.7600	☐

Materials Used

Mat No	Acronym	Description	Only R-Value Used	RValue [h.sf.F/Btu]	Thickness [ft]	Conductivity [Btu/h.ft.F]	Density [lb/cf]	SpecificHeat [Btu/lb.F]	
187	Matl187	GYP OR PLAS BOARD,1/2IN	No	0.4533	0.0417	0.0920	50.00	0.2000	☐
178	Matl178	CARPET W/RUBBER PAD	Yes	1.2300					☐
265	Matl265	Soil, 1 ft	No	2.0000	1.0000	0.5000	100.00	0.2000	☐
48	Matl48	6 in. Heavyweight concrete	No	0.5000	0.5000	1.0000	140.00	0.2000	☐
211	Matl211	POLYSTYRENE,EXP.,1/2IN	No	2.0850	0.0417	0.0200	1.80	0.2900	☐
12	Matl12	3 in. Insulation	No	10.0000	0.2500	0.0250	2.00	0.2000	☐
23	Matl23	6 in. Insulation	No	20.0000	0.5000	0.0250	5.70	0.2000	☐
4	Matl4	Steel siding	No	0.0002	0.0050	26.0000	480.00	0.1000	☐
271	Matl271	2x4@24" oc + R11 Batt	No	10.4179	0.2917	0.0280	7.11	0.2000	☐
81	Matl81	ASPHALT-ROOFING, ROLL	Yes	0.1500					☐
244	Matl244	PLYWOOD, 1/2IN	No	0.6318	0.0417	0.0660	34.00	0.2900	☐

Constructs Used

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1015	0.5 Ply/35/8" Mtl std@24"oc/R11/0.5" Gyp	No	No	0.08	0.54	7.98	12.5	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	211	POLYSTYRENE,EXP.,1/2IN,	0.0417	0.000	☐
2	12	3 in. Insulation	0.2500	0.000	☐
3	187	GYP OR PLAS BOARD,1/2IN	0.0417	0.000	☐

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1039	Shngl/1/2"WD Deck/WD Truss/6"Batt/Gyp Brd	No	No	0.05	1.40	10.89	21.2	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	81	ASPHALT-ROOFING, ROLL		0.000	☐
2	244	PLYWOOD, 1/2IN	0.0417	0.000	☐
3	23	6 in. Insulation	0.5000	0.000	☐
4	187	GYP OR PLAS BOARD,1/2IN	0.0417	0.000	☐

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1055	Metal siding/2x4@24"+R11Batt/5/8"Gyp	No	No	0.09	1.07	19.38	10.9	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	4	Steel siding	0.0050	0.000	☐
2	271	2x4@24" oc + R11 Batt	0.2917	0.000	☐
3	187	GYP OR PLAS BOARD,1/2IN	0.0417	0.000	☐

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]																				
1057	1 ft. soil, concrete floor, carpet and rubber pad	No	No	0.27	34.00	113.33	3.7	☐																			
	<table border="1"> <thead> <tr> <th>Layer</th> <th>Material No.</th> <th>Material</th> <th>Thickness [ft]</th> <th>Framing Factor</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>265</td> <td>Soil, 1 ft</td> <td>1.0000</td> <td>0.000</td> <td>☐</td> </tr> <tr> <td>2</td> <td>48</td> <td>6 in. Heavyweight concrete</td> <td>0.5000</td> <td>0.000</td> <td>☐</td> </tr> <tr> <td>3</td> <td>178</td> <td>CARPET W/RUBBER PAD</td> <td></td> <td>0.000</td> <td>☐</td> </tr> </tbody> </table>	Layer	Material No.	Material	Thickness [ft]	Framing Factor		1	265	Soil, 1 ft	1.0000	0.000	☐	2	48	6 in. Heavyweight concrete	0.5000	0.000	☐	3	178	CARPET W/RUBBER PAD		0.000	☐		
Layer	Material No.	Material	Thickness [ft]	Framing Factor																							
1	265	Soil, 1 ft	1.0000	0.000	☐																						
2	48	6 in. Heavyweight concrete	0.5000	0.000	☐																						
3	178	CARPET W/RUBBER PAD		0.000	☐																						

Britannys Cupcakes

Location	224 N Marion Ave Lake City FL 32055
Building owner	Britannys Cupcakes
Program user	Ron Miller
Company	Go Green Engineering
Comments	
By	Go Green Engineering LLC
Dataset name	C:\Projects\Green Engineering Solutions\2022\Brittany's Cupcakes\Britanys Cupcakes.TRC
Calculation time	11:14 AM on 05/10/2022
TRACE® 700 version	6.3.5
Location	Gainesville, Florida
Latitude	29.0 deg
Longitude	82.0 deg
Time Zone	5
Elevation	155 ft
Barometric pressure	29.7 in. Hg
Air density	0.0756 lb/cu ft
Air specific heat	0.2444 Btu/lb·°F
Density-specific heat product	1.1087 Btu/h·cfm·°F
Latent heat factor	4,880.3 Btu·min/h·cu ft
Enthalpy factor	4.5356 lb·min/hr·cu ft
Summer design dry bulb	96.2 °F
Summer design wet bulb	77.2 °F
Winter design dry bulb	31.0 °F
Summer clearness number	0.95
Winter clearness number	0.95
Summer ground reflectance	0.20
Winter ground reflectance	0.20
Carbon Dioxide Level	400 ppm
Design simulation period	January - December
Cooling load methodology	TETD-TA1
Heating load methodology	UATD



System Checksums

By Go Green Engineering LLC

AHU-1

Changeover-Bypass

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK				TEMPERATURES		
Peaked at Time: Mo/Hr: 8 / 17					Mo/Hr: 6 / 17			Mo/Hr: Heating Design						
Outside Air: OADB/WB/HR: 94 / 77 / 111					OADB: 92			OADB: 31						
Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)		Space Sensible Btu/h	Percent Of Total (%)		Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)		Cooling	Heating	
Envelope Loads								Envelope Loads						
Skylite Solar	0	0	0	0	0	0		0	0	0.00		SADB	55.0	74.5
Skylite Cond	0	0	0	0	0	0		0	0	0.00		Ra Plenum	88.5	58.1
Roof Cond	0	20,143	20,143	34	0	0		0	-7,302	45.78		Return	88.5	63.5
Glass Solar	0	0	0	0	0	0		0	0	0.00		Ret/OA	89.3	58.5
Glass/Door Cond	0	0	0	0	0	0		0	0	0.00		Fn MtrTD	0.0	0.0
Wall Cond	0	0	0	0	0	0		0	0	0.00		Fn BldTD	0.0	0.0
Partition/Door	0	0	0	0	0	0		0	0	0.00		Fn Frict	0.0	0.0
Floor	0	0	0	0	0.00	0		0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0		0	0	0.00				
Sub Total ==>	0	20,143	20,143	34	0	0		0	-7,302	45.78				
Internal Loads								Internal Loads						
Lights	6,892	1,723	8,614	14	6,892	24		0	0	0.00				
People	5,500	0	5,500	9	2,750	9		0	0	0.00				
Misc	13,911	0	13,911	23	13,911	48		0	0	0.00				
Sub Total ==>	26,303	1,723	28,026	47	23,553	81		0	0	0.00				
Ceiling Load								Ceiling Load						
Ventilation Load	5,385	-5,385	0	0	5,452	19		-4,760	0	0.00				
Adj Air Trans Heat	0	0	11,299	19	0	0		0	-8,648	54.22				
Dehumid. Ov Sizing	0	0	0	0	0	0		0	0	0.00				
Ov/Undr Sizing	0	0	0	0	0	0		0	0	0.00				
Exhaust Heat	0	0	0	0	0	0		0	0	0.00				
Sup. Fan Heat	0	0	0	0	0	0		0	0	0.00				
Ret. Fan Heat	0	0	0	0	0	0		0	0	0.00				
Duct Heat Pkup	0	0	0	0	0	0		0	0	0.00				
Underflr Sup Ht Pkup	0	0	0	0	0	0		0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0		0	0	0.00				
Grand Total ==>	31,688	16,480	59,467	100.00	29,005	100.00		-4,760	-15,949	100.00				

AIRFLOWS

	Cooling	Heating
Diffuser	1,308	945
Terminal	1,308	945
Main Fan	1,308	1,308
Sec Fan	0	0
Nom Vent	200	200
AHU Vent	200	200
Infil	0	0
MinStop/Rh	393	393
Return	1,108	1,108
Exhaust	0	0
Rm Exh	200	200
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	15.3	15.3
cfm/ft²	1.04	1.04
cfm/ton	263.97	
ft²/ton	254.66	
Btu/hr-ft²	47.12	-18.42
No. People	11	

COOLING COIL SELECTION

	Total Capacity ton	MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F	gr/lb	Leave DB/WB/HR °F °F	gr/lb
Main Clg	5.0	59.5	49.7	1,305	89.3	67.9	68.4	55.0 53.1 57.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0 0.0 0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0 0.0 0.0
Total	5.0	59.5						

AREAS

	Gross Total	Glass ft² (%)
Floor	1,262	
Part	0	
Int Door	1	
ExFlr	0	
Roof	1,262	0 0
Wall	0	0 0
Ext Door	0	0 0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-23.2	1,308	58.5	74.5
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-23.2			

By Go Green Engineering LLC

Corridor

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time: Mo/Hr: 8 / 17 Outside Air: OADB/WB/HR: 94 / 77 / 111					Mo/Hr: 6 / 17 OADB: 92					Mo/Hr: Heating Design OADB: 31					Cooling Heating		
Space		Plenum		Net		Percent		Space		Percent		Space Peak		Coil Peak		Percent	
Sens. + Lat.		Sens. + Lat		Total		Of Total		Sensible		Of Total		Space Sens		Tot Sens		Of Total	
Btu/h		Btu/h		Btu/h		(%)		Btu/h		(%)		Btu/h		Btu/h		(%)	
Envelope Loads					Envelope Loads					Envelope Loads							
Skylite Solar		0		0		0		0		0		Skylite Solar		0		0.00	
Skylite Cond		0		0		0		0		0		Skylite Cond		0		0.00	
Roof Cond		0		4,389		4,389		54		0		Roof Cond		0		-1,591 243.73	
Glass Solar		0		0		0		0		0		Glass Solar		0		0.00	
Glass/Door Cond		0		0		0		0		0		Glass/Door Cond		0		0.00	
Wall Cond		0		0		0		0		0		Wall Cond		0		0.00	
Partition/Door		0		0		0		0		0		Partition/Door		0		0.00	
Floor		0		0		0		0.00		0		Floor		0		0.00	
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		Adjacent Floor		0.00		0.00	
Infiltration		0		0		0		0		0		Infiltration		0		0.00	
Sub Total ==>		0		4,389		4,389		54		0		Sub Total ==>		0		-1,591 243.73	
Internal Loads					Internal Loads					Internal Loads							
Lights		1,502		375		1,877		23		1,502		33		Lights		0 0.00	
People		0		0		0		0		0		0		People		0 0.00	
Misc		1,877		0		1,877		23		1,877		41		Misc		0 0.00	
Sub Total ==>		3,379		375		3,754		46		3,379		74		Sub Total ==>		0 0.00	
Ceiling Load		1,173		-1,173		0		0		1,188		26		Ceiling Load		-1,037 0.00	
Ventilation Load		0		0		0		0		0		0		Ventilation Load		0 0.00	
Adj Air Trans Heat		0		0		0		0		0		0		Adj Air Trans Heat		0 0	
Dehumid. Ov Sizing						0		0						Ov/Undr Sizing		0 0.00	
Ov/Undr Sizing		0				0		0		2		0		Exhaust Heat		0 0.00	
Exhaust Heat				0		0		0						OA Preheat Diff.		0 0.00	
Sup. Fan Heat						0		0						RA Preheat Diff.		0 0.00	
Ret. Fan Heat				0		0		0						Additional Reheat		0 0.00	
Duct Heat Pkup				0		0		0						System Plenum Heat		938 143.73	
Underflr Sup Ht Pkup						0		0						Underflr Sup Ht Pkup		0 0.00	
Supply Air Leakage				0		0		0						Supply Air Leakage		0 0.00	
Grand Total ==>		4,552		3,591		8,144		100.00		4,569		100.00		Grand Total ==>		-1,037 -653 100.00	

COOLING COIL SELECTION					AREAS					HEATING COIL SELECTION											
Total Capacity		Sens Cap.		Coil Airflow		Enter DB/WB/HR		Leave DB/WB/HR		Gross Total		Glass		Capacity		Coil Airflow		Ent		Lvq	
ton MBh		MBh		cfm		°F °F gr/lb		°F °F gr/lb		°F °F gr/lb		ft² (%)		MBh		cfm		°F		°F	
Main Clg		0.7 8.1		206		88.5 66.1 60.6		55.0 53.0 57.1		Floor		275		Main Htg		-0.7		206		71.7 74.5	
Aux Clg		0.0 0.0		0		0.0 0.0 0.0		0.0 0.0 0.0		Part		0		Aux Htg		0.0		0		0.0 0.0	
Opt Vent		0.0 0.0		0		0.0 0.0 0.0		0.0 0.0 0.0		Int Door		1		Preheat		0.0		0		0.0 0.0	
										ExFlr		0									
Total		0.7 8.1								Roof		275		Humidif		0.0		0		0.0 0.0	
										Wall		0		Opt Vent		0.0		0		0.0 0.0	
										Ext Door		0		Total		-0.7					

Room Checksums

By Go Green Engineering LLC

Jan

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK				TEMPERATURES		
Peaked at Time: Mo/Hr: 8 / 17					Mo/Hr: 6 / 17			Mo/Hr: Heating Design						
Outside Air: OADB/WB/HR: 94 / 77 / 111					OADB: 92			OADB: 31						
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total		Space Sensible	Percent Of Total		Space Peak	Coil Peak	Percent			Cooling	Heating
Btu/h	Btu/h	Btu/h	(%)		Btu/h	(%)		Space Sens	Tot Sens	Of Total				
Envelope Loads					Envelope Loads			Envelope Loads						
Skylite Solar	0	0	0	0	0	0	0	0	0	0.00	0	SADB	55.0	74.5
Skylite Cond	0	0	0	0	0	0	0	0	0	0.00	0	Ra Plenum	88.5	58.1
Roof Cond	0	431	431	54	0	0	0	0	-156	243.87	0	Return	88.5	71.7
Glass Solar	0	0	0	0	0	0	0	0	0	0.00	0	Ret/OA	88.5	71.7
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0.00	0	Fn MtrTD	0.0	0.0
Wall Cond	0	0	0	0	0	0	0	0	0	0.00	0	Fn BldTD	0.0	0.0
Partition/Door	0	0	0	0	0	0	0	0	0	0.00	0	Fn Frict	0.0	0.0
Floor	0	0	0	0	0.00	0	0	0	0	0.00	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0	0	0.00	0			
Sub Total ==>	0	431	431	54	0	0	0	0	-156	243.87	0			
Internal Loads					Internal Loads			Internal Loads						
Lights	147	37	184	23	147	33	147	0	0	0.00	0			
People	0	0	0	0	0	0	0	0	0	0.00	0			
Misc	184	0	184	23	184	41	184	0	0	0.00	0			
Sub Total ==>	332	37	369	46	332	74	332	0	0	0.00	0			
Ceiling Load					Ceiling Load			Ceiling Load						
Ventilation Load	0	0	0	0	0	0	0	-102	0	0.00	0			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0.00	0			
Dehumid. Ov Sizing			0	0				0	0	0.00	0			
Ov/Undr Sizing	0		0	0	0	0	0	0	0	0.00	0			
Exhaust Heat		0	0	0				0	0	0.00	0			
Sup. Fan Heat			0	0				0	0	0.00	0			
Ret. Fan Heat		0	0	0				0	0	0.00	0			
Duct Heat Pkup		0	0	0				92	143.87	0.00	0			
Underflr Sup Ht Pkup			0	0				0	0	0.00	0			
Supply Air Leakage		0	0	0				0	0	0.00	0			
Grand Total ==>	447	353	800	100.00	449	100.00	449	-102	-64	100.00	-64			

AIRFLOWS		
	Cooling	Heating
Diffuser	20	20
Terminal	20	20
Main Fan	20	20
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	6	6
Return	20	20
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.75	0.75
cfm/ton	303.64	
ft²/ton	405.22	
Btu/hr-ft²	29.61	-2.37
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION					
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total		Glass			Capacity	Coil Airflow	Ent	Lvg
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb			ft²	(%)		MBh	cfm	°F	°F
Main Clg	0.1	0.8	0.8	20	88.5	66.1	60.6	55.0	53.0	57.1	Floor	27			Main Htg	-0.1	20	71.7	74.5
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0			Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	1			Preheat	0.0	0	0.0	0.0
											ExFlr	0							
Total	0.1	0.8									Roof	27	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-0.1			

By Go Green Engineering LLC

Kitchen

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES				
Peaked at Time: Mo/Hr: 8 / 16					Mo/Hr: 6 / 17					Mo/Hr: Heating Design					Cooling			Heating	
Outside Air: OADB/WB/HR: 96 / 77 / 113					OADB: 92					OADB: 31					SADB			55.0	74.5
Space Plenum Net Percent					Space Percent					Space Peak Coil Peak Percent					Ra Plenum			88.1	58.1
Sens. + Lat. Sens. + Lat Total Of Total					Sensible Of Total					Space Sens Tot Sens Of Total					Return			88.1	71.7
Btu/h Btu/h Btu/h (%)					Btu/h (%)					Btu/h Btu/h (%)					Ret/OA			89.4	64.8
Envelope Loads					Envelope Loads					Envelope Loads					Fn MtrTD			0.0	0.0
Skylite Solar 0 0 0 0					Skylite Solar 0 0 0					Skylite Solar 0 0 0.00					Fn BldTD			0.0	0.0
Skylite Cond 0 0 0 0					Skylite Cond 0 0 0					Skylite Cond 0 0 0.00					Fn Frict			0.0	0.0
Roof Cond 0 6,112 6,112 24					Roof Cond 0 0 0					Roof Cond 0 -2,291 35.88									
Glass Solar 0 0 0 0					Glass Solar 0 0 0					Glass Solar 0 0 0.00									
Glass/Door Cond 0 0 0 0					Glass/Door Cond 0 0 0					Glass/Door Cond 0 0 0.00									
Wall Cond 0 0 0 0					Wall Cond 0 0 0					Wall Cond 0 0 0.00									
Partition/Door 0 0 0 0					Partition/Door 0 0 0					Partition/Door 0 0 0.00									
Floor 0 0 0 0					Floor 0.00 0 0					Floor 0 0 0.00									
Adjacent Floor 0.00 0.00 0.00 0.00					Adjacent Floor 0.00 0.00 0					Adjacent Floor 0.00 0.00 0.00									
Infiltration 0 0 0 0					Infiltration 0 0 0					Infiltration 0 0 0.00									
Sub Total ==> 0 6,112 6,112 24					Sub Total ==> 0 0 0					Sub Total ==> 0 -2,291 35.88									
Internal Loads					Internal Loads					Internal Loads									
Lights 2,162 541 2,703 11					Lights 2,162 16 0					Lights 0 0 0.00									
People 2,500 0 2,500 10					People 1,250 10 0					People 0 0 0.00									
Misc 8,000 0 8,000 32					Misc 8,000 61 0					Misc 0 0 0.00									
Sub Total ==> 12,662 541 13,203 52					Sub Total ==> 11,412 87 0					Sub Total ==> 0 0 0.00									
Ceiling Load 1,645 -1,645 0 0					Ceiling Load 1,711 13 0					Ceiling Load -1,494 0 0.00									
Ventilation Load 0 0 5,962 24					Ventilation Load 0 0 0					Ventilation Load 0 -4,324 67.71									
Adj Air Trans Heat 0 0 0 0					Adj Air Trans Heat 0 0 0					Adj Air Trans Heat 0 0 0									
Dehumid. Ov Sizing 0 0 0 0					Dehumid. Ov Sizing 0 0 0					Ov/Undr Sizing 0 0 0.00									
Ov/Undr Sizing 0 0 0 0					Ov/Undr Sizing 3 0 0					Exhaust Heat 0 0 0.00									
Exhaust Heat 0 0 0 0					Exhaust Heat 0 0 0					OA Preheat Diff. 0 0 0.00									
Sup. Fan Heat 0 0 0 0					Sup. Fan Heat 0 0 0					RA Preheat Diff. 0 0 0.00									
Ret. Fan Heat 0 0 0 0					Ret. Fan Heat 0 0 0					Additional Reheat 0 0 0.00									
Duct Heat Pkup 0 0 0 0					Duct Heat Pkup 0 0 0					System Plenum Heat 229 -3.58									
Underflr Sup Ht Pkup 0 0 0 0					Underflr Sup Ht Pkup 0 0 0					Underflr Sup Ht Pkup 0 0 0.00									
Supply Air Leakage 0 0 0 0					Supply Air Leakage 0 0 0					Supply Air Leakage 0 0 0.00									
Grand Total ==> 14,308 5,008 25,278 100.00					Grand Total ==> 13,126 100.00					Grand Total ==> -1,494 -6,386 100.00									

COOLING COIL SELECTION					AREAS					HEATING COIL SELECTION				
Total Capacity Sens Cap. Coil Airflow Enter DB/WB/HR Leave DB/WB/HR					Gross Total Glass					CapacityCoil Airflow Ent Lvg				
ton MBh MBh cfm °F °F gr/lb °F °F gr/lb					ft² (%)					MBh cfm °F °F				
Main Clg 2.1 25.3 20.4 592 89.4 68.1 69.5 55.0 54.5 63.0					Floor 396					Main Htg -6.4 592 64.8 74.5				
Aux Clg 0.0 0.0 0.0 0 0.0 0.0 0.0 0.0 0.0 0.0					Part 0					Aux Htg 0.0 0 0.0 0.0				
Opt Vent 0.0 0.0 0.0 0 0.0 0.0 0.0 0.0 0.0 0.0					Int Door 1					Preheat 0.0 0 0.0 0.0				
Total 2.1 25.3					ExFlr 0					Humidif 0.0 0 0.0 0.0				
					Roof 396					Opt Vent 0.0 0 0.0 0.0				
					Wall 0					Total -6.4				
					Ext Door 0									

Room Checksums

By Go Green Engineering LLC

Lobby

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK				TEMPERATURES		
Peaked at Time: Mo/Hr: 8 / 17					Mo/Hr: 6 / 17			Mo/Hr: Heating Design						
Outside Air: OADB/WB/HR: 94 / 77 / 111					OADB: 92			OADB: 31						
Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)		Space Sensible Btu/h	Percent Of Total (%)		Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)		SADB	Cooling	Heating
Envelope Loads								Envelope Loads						
Skylite Solar	0	0	0	0	0	0		0	0	0.00		88.5	55.0	74.5
Skylite Cond	0	0	0	0	0	0		0	0	0.00		88.5	58.1	
Roof Cond	0	6,815	6,815	33	0	0		0	-2,471	43.32		90.0	71.7	
Glass Solar	0	0	0	0	0	0		0	0	0.00		0.0	0.0	
Glass/Door Cond	0	0	0	0	0	0		0	0	0.00		0.0	0.0	
Wall Cond	0	0	0	0	0	0		0	0	0.00		0.0	0.0	
Partition/Door	0	0	0	0	0	0		0	0	0.00		0.0	0.0	
Floor	0	0	0	0	0.00	0		0	0	0.00		0.0	0.0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0		0	0	0.00				
Sub Total ==>	0	6,815	6,815	33	0	0		0	-2,471	43.32				
Internal Loads								Internal Loads						
Lights	2,332	583	2,915	14	2,332	28		0	0	0.00				
People	2,500	0	2,500	12	1,250	15		0	0	0.00				
Misc	2,915	0	2,915	14	2,915	35		0	0	0.00				
Sub Total ==>	7,746	583	8,329	40	6,496	78		0	0	0.00				
Ceiling Load	1,822	-1,822	0	0	1,845	22		-1,611	0	0.00				
Ventilation Load	0	0	5,649	27	0	0		0	-4,324	75.82				
Adj Air Trans Heat	0		0	0	0	0		0	0	0				
Dehumid. Ov Sizing			0	0				0	0	0.00				
Ov/Undr Sizing	0		0	0	3	0		0	0	0.00				
Exhaust Heat		0	0	0				0	0	0.00				
Sup. Fan Heat			0	0				0	0	0.00				
Ret. Fan Heat		0	0	0				0	0	0.00				
Duct Heat Pkup		0	0	0				0	0	0.00				
Underflr Sup Ht Pkup			0	0				0	0	0.00				
Supply Air Leakage		0	0	0				0	0	0.00				
Grand Total ==>	9,568	5,576	20,794	100.00	8,344	100.00		-1,611	-5,703	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	376	320
Terminal	376	320
Main Fan	376	376
Sec Fan	0	0
Nom Vent	100	100
AHU Vent	100	100
Infil	0	0
MinStop/Rh	113	113
Return	276	276
Exhaust	0	0
Rm Exh	100	100
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	26.6	26.6
cfm/ft²	0.88	0.88
cfm/ton	217.17	
ft²/ton	246.42	
Btu/hr-ft²	48.70	-13.36
No. People	5.0	11.7/1000 ft²

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity ton	MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F		Leave DB/WB/HR °F °F		gr/lb	Gross Total	Glass ft² (%)			Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Clg	1.7	20.8	16.0	376	90.0	69.1	74.1	55.0	51.3	427			Main Htg	-5.7	376	60.9	74.5
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0			Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	1			Preheat	0.0	0	0.0	0.0
										ExFlr	0						
Total	1.7	20.8								Roof	427	0 0	Humidif	0.0	0	0.0	0.0
										Wall	0	0 0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0 0	Total	-5.7			

Room Checksums

By Go Green Engineering LLC

Office

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK				TEMPERATURES		
Peaked at Time: Mo/Hr: 8 / 17					Mo/Hr: 6 / 17			Mo/Hr: Heating Design				Cooling Heating		
Outside Air: OADB/WB/HR: 94 / 77 / 111					OADB: 92			OADB: 31				SADB	55.0	74.5
Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)		Space Sensible Btu/h	Percent Of Total (%)		Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)		Ra Plenum	88.5	58.1
Envelope Loads								Envelope Loads				Return	88.5	71.7
Skylite Solar	0	0	0	0	0	0	0	0	0	0.00	0	Fn MtrTD	0.0	0.0
Skylite Cond	0	0	0	0	0	0	0	0	0	0.00	0	Fn BldTD	0.0	0.0
Roof Cond	0	1,357	1,357	45	0	0	0	0	-492	207.10	207.10	Fn Frict	0.0	0.0
Glass Solar	0	0	0	0	0	0	0	0	0	0.00	0	AIRFLOWS		
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0.00	0	Cooling Heating		
Wall Cond	0	0	0	0	0	0	0	0	0	0.00	0	Diffuser	75	64
Partition/Door	0	0	0	0	0	0	0	0	0	0.00	0	Terminal	75	64
Floor	0	0	0	0	0.00	0	0	0	0	0.00	0	Main Fan	75	75
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Sec Fan	0	0
Infiltration	0	0	0	0	0	0	0	0	0	0.00	0	Nom Vent	0	0
Sub Total ==>	0	1,357	1,357	45	0	0	0	0	-492	207.10	207.10	AHU Vent	0	0
Internal Loads								Internal Loads				Infil	0	0
Lights	464	116	580	19	464	28	28	0	0	0.00	0.00	MinStop/Rh	22	22
People	500	0	500	17	250	15	15	0	0	0.00	0.00	Return	75	75
Misc	580	0	580	19	580	35	35	0	0	0.00	0.00	Exhaust	0	0
Sub Total ==>	1,544	116	1,660	55	1,294	78	78	0	0	0.00	0.00	Rm Exh	0	0
Ceiling Load								Ceiling Load				Auxiliary	0	0
Ventilation Load	363	-363	0	0	367	22	22	-321	0	0.00	0.00	Leakage Dwn	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0.00	0	Leakage Ups	0	0
Dehumid. Ov Sizing			0	0				0	0	0.00	0.00	ENGINEERING CKS		
Ov/Undr Sizing	0		0	0	1	0	0					Cooling Heating		
Exhaust Heat		0	0	0								% OA	0.0	0.0
Sup. Fan Heat			0	0								cfm/ft²	0.88	0.88
Ret. Fan Heat		0	0	0								cfm/ton	298.16	
Duct Heat Pkup		0	0	0								ft²/ton	338.07	
Underflr Sup Ht Pkup			0	0								Btu/hr-ft²	35.50	-2.79
Supply Air Leakage		0	0	0								No. People	1.0	11.8/1000 ft²
Grand Total ==>	1,907	1,110	3,017	100.00	1,662	100.00	100.00	-321	-237	100.00	100.00			

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
	Total Capacity ton	MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F		Leave DB/WB/HR °F °F			Gross Total	Glass ft²	(%)		Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
Main Clg	0.3	3.0	2.8	75	88.5	66.1	60.6	55.0	52.7	85			Main Htg	-0.2	75	71.7	74.5	
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0			Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	1			Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
Total	0.3	3.0								Roof	85	0	Humidif	0.0	0	0.0	0.0	
										Wall	0	0	Opt Vent	0.0	0	0.0	0.0	
										Ext Door	0	0	Total	-0.2				

Room Checksums

By Go Green Engineering LLC

Restroom

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK				TEMPERATURES		
Peaked at Time: Mo/Hr: 8 / 17					Mo/Hr: 6 / 17			Mo/Hr: Heating Design						
Outside Air: OADB/WB/HR: 94 / 77 / 111					OADB: 92			OADB: 31						
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total		Space Sensible	Percent Of Total		Space Peak	Coil Peak	Percent		Cooling	Heating	
Btu/h	Btu/h	Btu/h	(%)		Btu/h	(%)		Space Sens	Tot Sens	Of Total				
Btu/h	Btu/h	Btu/h	(%)		Btu/h	(%)		Btu/h	Btu/h	(%)				
Envelope Loads								Envelope Loads						
Skylite Solar	0	0	0	0	0	0	0	0	0	0.00	0	55.0	74.5	SADB
Skylite Cond	0	0	0	0	0	0	0	0	0	0.00	0	88.5	58.1	Ra Plenum
Roof Cond	0	830	830	54	0	0	0	0	-301	243.79	0	88.5	71.7	Return
Glass Solar	0	0	0	0	0	0	0	0	0	0.00	0	0.0	0.0	Ret/OA
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0.00	0	0.0	0.0	Fn MtrTD
Wall Cond	0	0	0	0	0	0	0	0	0	0.00	0	0.0	0.0	Fn BldTD
Partition/Door	0	0	0	0	0	0	0	0	0	0.00	0	0.0	0.0	Fn Frict
Floor	0	0	0	0	0.00	0	0	0	0	0.00	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0	0	0.00	0			
Sub Total ==>	0	830	830	54	0	0	0	0	-301	243.79	0			
Internal Loads								Internal Loads						
Lights	284	71	355	23	284	33	0	0	0	0.00	0			
People	0	0	0	0	0	0	0	0	0	0.00	0			
Misc	355	0	355	23	355	41	0	0	0	0.00	0			
Sub Total ==>	639	71	710	46	639	74	0	0	0	0.00	0			
Ceiling Load	222	-222	0	0	225	26	Ceiling Load	-196	0	0.00	0			
Ventilation Load	0	0	0	0	0	0	Ventilation Load	0	0	0.00	0			
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0	0			
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0	0	0.00	0			
Ov/Undr Sizing	0		0	0	0	0	Exhaust Heat	0	0	0.00	0			
Exhaust Heat		0	0	0			OA Preheat Diff.	0	0	0.00	0			
Sup. Fan Heat			0	0			RA Preheat Diff.	0	0	0.00	0			
Ret. Fan Heat		0	0	0			Additional Reheat	0	0	0.00	0			
Duct Heat Pkup		0	0	0			System Plenum Heat	177	143.79		0			
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup	0	0	0.00	0			
Supply Air Leakage		0	0	0			Supply Air Leakage	0	0	0.00	0			
Grand Total ==>	861	679	1,540	100.00	864	100.00	Grand Total ==>	-196	-123	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	39	39
Terminal	39	39
Main Fan	39	39
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	12	12
Return	39	39
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.75	0.75
cfm/ton	303.64	
ft²/ton	405.22	
Btu/hr-ft²	29.61	-2.37
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION					
	Total Capacity ton	Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F gr/lb			Leave DB/WB/HR °F °F gr/lb			Gross Total		Glass ft² (%)		Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
Main Clg	0.1	1.5	1.5	39	88.5	66.1	60.6	55.0	53.0	57.1	Floor	52			Main Htg	-0.1	39	71.7	74.5
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0			Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	1			Preheat	0.0	0	0.0	0.0
											ExFlr	0							
Total	0.1	1.5									Roof	52	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-0.1			