



Load Short Form
Entire House
Akins Heat & Air, Inc

Job:
Date: Apr 30, 2026
By:

3248 W Bryant Ave. Bell, FL 32619 Phone: 352-463-2380 Email: akinaheatandair@att.net

Project Information

For: BAKER RESIDENCE

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	31	97	Method	Average
Inside db (°F)	75	72	Construction quality	0
Design TD (°F)	44	25	Fireplaces	
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	19	66		

HEATING EQUIPMENT

Make Lennox
Trade LENNOX
Model ML14KP1-030-230A**
AHRI ref 215712355

Efficiency 8.1 HSPF2
Heating input
Heating output 27400 Btuh @ 47°F
Temperature rise 26 °F
Actual air flow 967 cfm
Air flow factor 0.042 cfm/Btuh
Static pressure 0 in H2O
Space thermostat
Capacity balance point = 28 °F

Backup:
Input = 7 kW, Output = 23200 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Lennox
Trade LENNOX
Model ML14KP1-030-230A**
Coil CBK47UHET-030-230-**
AHRI ref 215712355
Efficiency 13.0 EER2, 15.5 SEER2
Sensible cooling 20300 Btuh
Latent cooling 8700 Btuh
Total cooling 29000 Btuh
Actual air flow 967 cfm
Air flow factor 0.051 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0.85

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
master bedroom	168	3249	3126	135	158
WIC	66	707	370	29	19
master bath	70	1237	761	52	39
toilet	18	640	300	27	15
living room	600	7020	4470	293	226
kitchen	192	3495	3728	146	189
laundry	55	1822	1131	76	57
mud room	67	1135	694	47	35
pantry	40	0	0	0	0
bedroom	126	2349	3055	98	155
closet	18	0	0	0	0
bath	54	1546	1462	64	74
linen	12	0	0	0	0
A/C	10	0	0	0	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Manual S Compliance Report

Entire House

Akins Heat & Air, Inc

Job:
Date: Apr 30, 2026
By:

3248 W Bryant Ave, Bell, FL 32619 Phone: 352-463-2380 Email: akinaheatandair@att.net

Project Information

For: BAKER RESIDENCE

Cooling Equipment

Design Conditions

Outdoor design DB:	97.0°F	Sensible gain:	19095	Btuh	Entering coil DB:	72.0°F
Outdoor design WB:	79.4°F	Latent gain:	3358	Btuh	Entering coil WB:	60.1°F
Indoor design DB:	72.0°F	Total gain:	22453	Btuh		
Indoor RH:	50%	Estimated airflow:	967	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Lennox	Model:	ML14KP1-030-230A**+CBK47UHET-030-230-**	
Actual airflow:	967	cfm		
Sensible capacity:	20300	Btuh	106%	of load
Latent capacity:	8700	Btuh	259%	of load
Total capacity:	29000	Btuh	129%	of load
			SHR:	70%

Heating Equipment

Design Conditions

Outdoor design DB:	30.8°F	Heat loss:	23200	Btuh	Entering coil DB:	75.0°F
Indoor design DB:	75.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Lennox	Model:	ML14KP1-030-230A**+CBK47UHET-030-230-**	
Actual airflow:	967	cfm		
Output capacity:	27400	Btuh	118%	of load
Supplemental heat required:	0	Btuh		
			Capacity balance:	28 °F
			Economic balance:	-99 °F

Backup equipment type:	Elec strip			
Manufacturer:		Model:		
Actual airflow:	967	cfm		
Output capacity:	6.8	kW	100%	of load
			Temp. rise:	50 °F

Meets all requirements of ACCA Manual S.

Entire House	1496	23200	19095	967	967
Other equip loads		0	0		
Equip. @ 1.02 RSM			19477		
Latent cooling			3358		
TOTALS	1496	23200	22835	967	967

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Building Analysis Entire House Akina Heat & Air, Inc

Job:
Date: Apr 30, 2026
By:

3248 W Bryant Ave, Bell, FL 32619 Phone: 352-463-2380 Email: akinaheatandair@att.net

Project Information

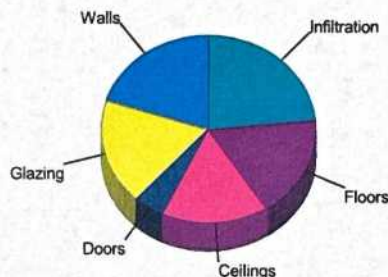
For: BAKER RESIDENCE

Design Conditions

Location:		Indoor:		Heating	Cooling
Cross City, FL, US		Indoor temperature (°F)		75	72
Elevation: 38 ft		Design TD (°F)		44	25
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		18.6	65.7
Outdoor:		Heating	Cooling		
Dry bulb (°F)	31	97			
Daily range (°F)	-	17 (M)			
Wet bulb (°F)	-	79			
Wind speed (mph)	15.0	7.5			
		Infiltration:		Simplified Average	
		Method		0	
		Construction quality			
		Fireplaces			

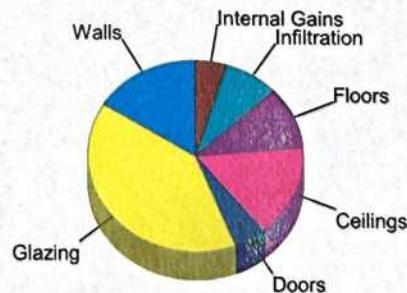
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.0	4656	20.1
Glazing	25.2	4233	18.2
Doors	17.2	1086	4.7
Ceilings	2.5	3744	16.1
Floors	2.7	4034	17.4
Infiltration	3.1	5448	23.5
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		23200	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.0	3065	16.1
Glazing	45.3	7602	39.8
Doors	14.9	939	4.9
Ceilings	2.0	3014	15.8
Floors	1.3	1980	10.4
Infiltration	0.9	1575	8.2
Ducts		0	0
Ventilation		0	0
Internal gains		920	4.8
Blower		0	0
Adjustments		0	0
Total		19095	100.0



Latent Cooling Load = 3358 Btuh

Overall U-value = 0.194 Btuh/ft²-°F, Window / Floor Area = 11.2 %

Data entries checked.



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Project Summary Entire House Akins Heat & Air, Inc

Job:
Date: Apr 30, 2026
By:

3248 W Bryant Ave, Bell, FL 32619 Phone: 352-463-2380 Email: akinsheatandair@afl.net

Project Information

For: BAKER RESIDENCE

Notes:

Design Information

Weather: Cross City, FL, US

Winter Design Conditions

Outside db 31 °F
Inside db 75 °F
Design TD 44 °F

Ventilation Method MJ8

Heating Summary

Structure 23200 Btuh
Ducts 0 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 23200 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft²)	1496	1496
Volume (ft³)	14960	14960
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	112	57

Heating Equipment Summary

Make Lennox
Trade LENNOX
Model ML14KP1-030-230A**
AHRI ref 215712355

Efficiency 8.1 HSPF2
Heating input 27400 Btuh @ 47°F
Heating output 26 °F
Temperature rise 967 cfm
Actual air flow 0.042 cfm/Btuh
Air flow factor 0 in H2O
Static pressure
Space thermostat
Capacity balance point = 28 °F

Backup:
Input = 7 kW, Output = 23200 Btuh, 100 AFUE

Summer Design Conditions

Outside db 97 °F
Inside db 72 °F
Design TD 25 °F
Daily range M
Relative humidity 50 %
Moisture difference 66 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 19095 Btuh
Ducts 0 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 1.02
Equipment sensible load 19477 Btuh

Latent Cooling Equipment Load Sizing

Structure 3358 Btuh
Ducts 0 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 3358 Btuh

Equipment Total Load (Sen+Lat) 22835 Btuh
Req. total capacity at 0.70 SHR 2.3 ton

Cooling Equipment Summary

Make Lennox
Trade LENNOX
Cond ML14KP1-030-230A**
Coil CBK47UHET-030-230-**
AHRI ref 215712355
Efficiency 13.0 EER2, 15.5 SEER2
Sensible cooling 20300 Btuh
Latent cooling 8700 Btuh
Total cooling 29000 Btuh
Actual air flow 967 cfm
Air flow factor 0.051 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0.85

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Project Information

For: BAKER RESIDENCE

Design Conditions

Location:

Cross City, FL, US
Elevation: 38 ft
Latitude: 30°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

31
-
-
15.0

Cooling

97
17 (M)
79
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

75
44
30
18.6

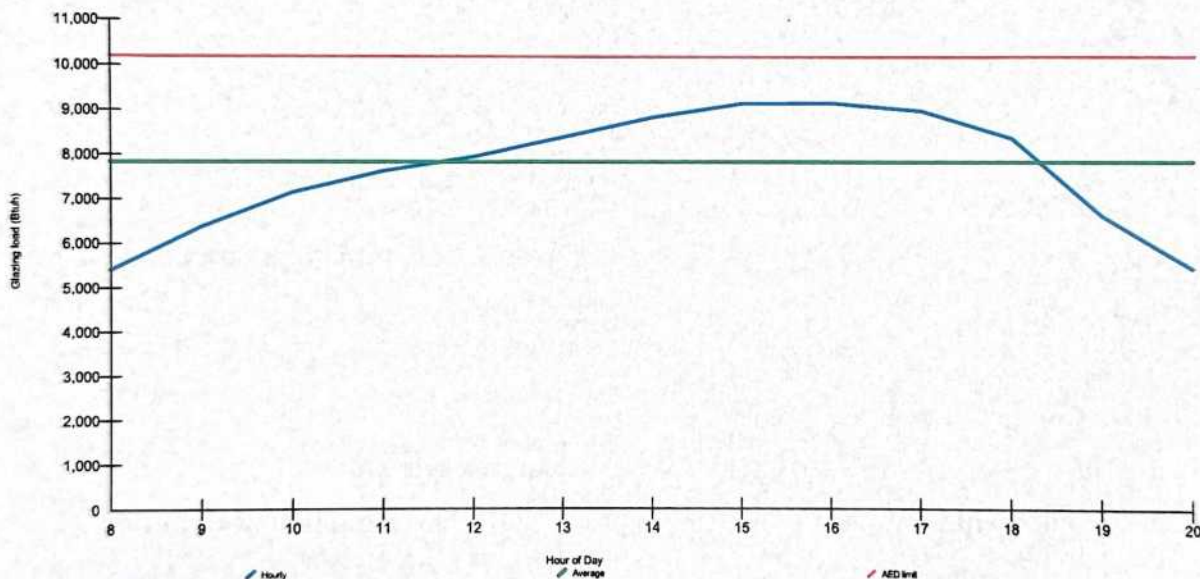
Cooling

72
25
50
65.7

Infiltration:

Test for Adequate Exposure Diversity

Hourly Glazing Load



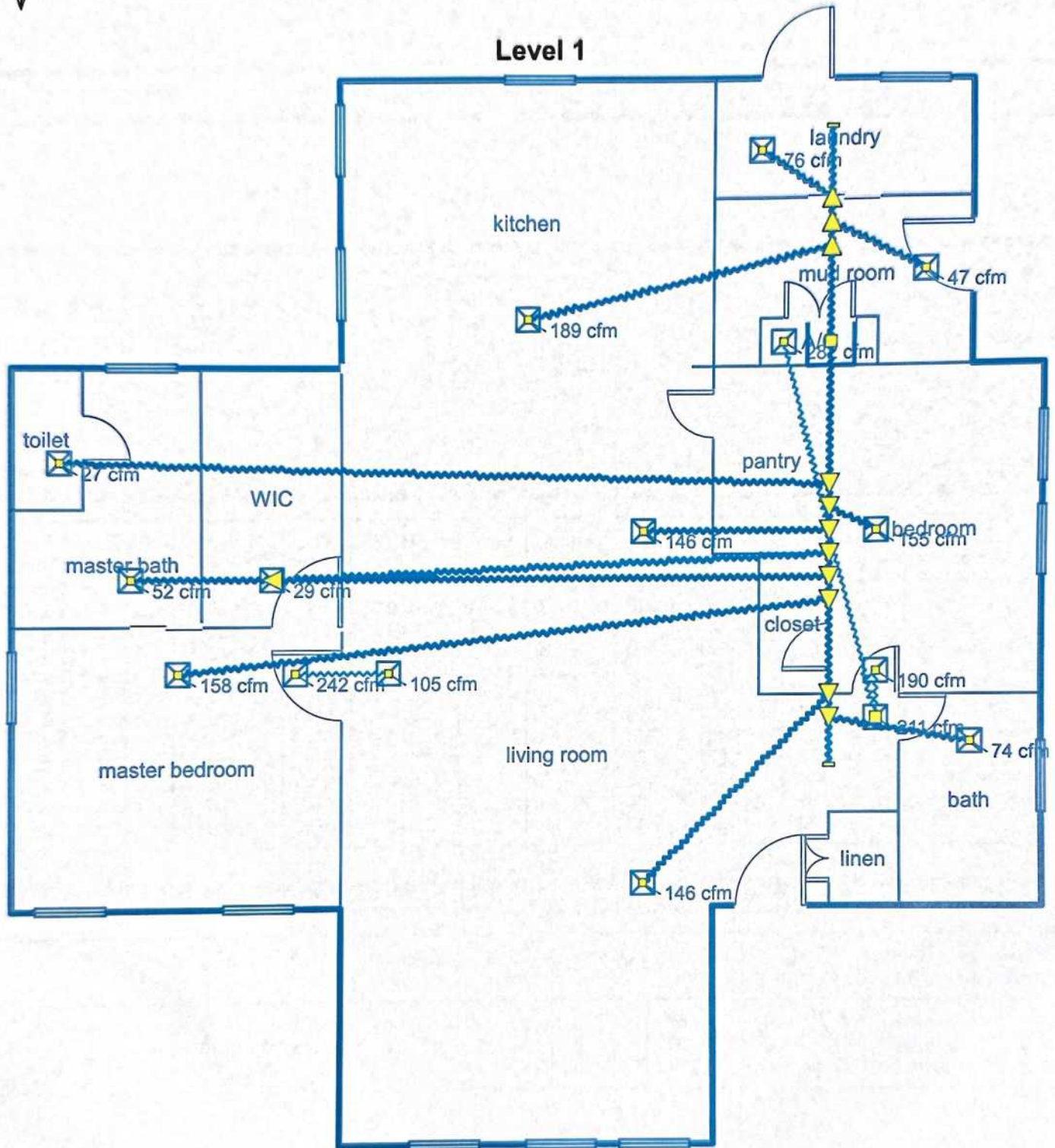
Maximum hourly glazing load exceeds average by 16.8%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 0 Btuh



Level 1



Job #:
Performed for:
BAKER RESIDENCE

Akins Heat & Air, Inc

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Scale: 1 : 75

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Duct System Summary

Entire House

Akins Heat & Air, Inc

Job:
Date: Apr 30, 2026
By:

3248 W Bryant Ave. Bell, FL 32619 Phone: 352-463-2380 Email: akinsheatandair@att.net

Project Information

For: BAKER RESIDENCE

	Heating	Cooling
External static pressure	0 in H2O	0 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0 in H2O	0 in H2O
Supply / return available pressure	0.000 / 0.000 in H2O	0.000 / 0.000 in H2O
Lowest friction rate	0 in/100ft	0 in/100ft
Actual air flow	967 cfm	967 cfm
Total effective length (TEL)		277 ft

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
WIC	h 370	29	19	0	0	0x0	VIFx	0	0	
bath	c 1462	64	74	0	0	0x0	VIFx	22.1	255.0	st1
bedroom	c 3055	98	155	0	0	0x0	VIFx	9.2	135.0	st1
kitchen	c 3728	146	189	0	0	0x0	VIFx	17.3	115.0	st2
laundry	h 1131	76	57	0	0	0x0	VIFx	9.6	155.0	st2
living room	h 2235	146	113	0	0	0x0	VIFx	16.0	155.0	st1
living room-A	h 2234	146	113	0	0	0x0	VIFx	26.3	235.0	st1
master bath	h 761	52	39	0	0	0x0	VIFx	40.0	215.0	st3
master bedroom	c 3126	135	158	0	0	0x0	VIFx	39.2	215.0	st1
mud room	h 694	47	35	0	0	0x0	VIFx	9.5	135.0	st2
toilet	h 300	27	15	0	0	0x0	VIFx	39.0	115.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	669	667	0	0	0	0 x 0	VinIFlx	
st3	Peak AVF	52	39	0	0	0	0 x 0	VinIFlx	st1
st2	Peak AVF	269	281	0	0	0	0 x 0	VinIFlx	



Return Branch Detail Table

Name	Grille Size (in)	Htg (dm)	Clg (dm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb4	0x0	211	187	0	0	0	0	0x0		VFx	
rb5	0x0	145	190	0	0	0	0	0x0		VFx	
rb2	0x0	105	76	0	0	0	0	0x0		VFx	
rb3	0x0	224	242	0	0	0	0	0x0		VFx	
rb1	0x0	282	271	0	0	0	0	0x0		VFx	