

Room Load Summary Reports

System #1 Room Load Summary

No	Room Name	Area SF	Htg Sens Btuh	Htg Nom CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Clg Nom CFM	Zone Adj Fact	Clg Adj CFM	Air Sys CFM
---Zone 1---												
1	Master Closet	43	894	44	1-3	733	652	0	36	1.00	30	36
2	Master Bedroom	166	3,662	178	1-9	539	4,312	755	238	1.00	196	238
3	Master Bath	30	738	36	1-4	613	969	0	53	1.00	44	53
4	Laundry Room	24	415	20	1-3	570	507	0	28	1.00	23	28
5	Pantry	30	85	4	1-3	480	427	0	24	1.00	19	24
6	Living Room/ Kitchen	527	8,988	437	3-7	499	7,256	2,989	400	1.18	390	400
7	Bath	70	478	23	1-3	653	581	0	32	1.00	26	32
8	Bedroom #2	166	3,180	155	1-6	524	1,865	262	103	1.20	101	103
9	Bedroom #3	144	2,108	103	1-5	629	1,553	262	86	1.00	71	86
System 1 Totals		1200	20,548	1,000			18,122	4,268	1,000		901	1,000
Main Trunk Size: 16x12 in.												

System #1 Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Net Required:	1.866	81%/19%	18,122	4,268	22,390
Recommended:	1.961	77%/23%	18,122	5,413	23,535

System #1 Summary Loads

Component Description	Area Quan	Sen. Loss	Lat. Gain	Sen. Gain	Total Gain
3C Window Double Pane Clear Glass Metal Frame	94	3,066	0	4,345	4,345
10D Door Wood Solid Core	42	870	0	514	514
12G Wall R-13 + 3/4" ExtPoly Board(R-3.8)	926	2,707	0	1,601	1,601
16G Ceiling R-30 Insulation	1,200	1,785	0	1,861	1,861
22A Slab on Grade No Edge Insulation	110	4,010	0	0	0
Subtotals for structure:	2,372	12,438	0	8,321	8,321
Active People:	3	0	690	900	1,590
Inactive People:	0	0	0	0	0
Appliances:	0	0	1,200	1,200	2,400
Lighting:	0	0		4,433	
Ductwork:	0	978	0	1,648	1,648
Infiltration: Winter CFM: 144.1, Summer CFM: 64.0	136	7,132	2,378	1,620	3,998
Ventilation: Winter CFM: 0.0, Summer CFM: 0.0	0	0	0	0	0
Sensible Gain Total:				18,122	
Temperature Swing Multiplier:				X1.00	
System Load Totals:		20,548	4,268	18,122	22,390

Check Figures

Supply CFM:	1,000	CFM per square foot:	0.833
Square feet of room area:	1,200	Square feet per ton:	611.853

System Loads

Total heating required with outside air:	20,548 Btuh	20.548 MBH
Total sensible gain:	18,122 Btuh	81 %
Total latent gain:	4,268 Btuh	19 %
Total cooling required with outside air:	22,390 Btuh	1.866 Tons (based on sensible + latent)
		1.961 Tons (based on 77% sensible capacity)

Notes

Calculations are based on 7th edition of ACCA Manual J.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads.

Total Building Summary Loads

Component Description	Area Quan	Sen. Loss	Lat. Gain	Sen. Gain	Total Gain
3C Window Double Pane Clear Glass Metal Frame	94	3,066	0	4,345	4,345
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Appliances:	0	0	1,200	1,200	2,400
Lighting:	0	0		4,433	
Ductwork:	0	978	0	1,648	1,648
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Ventilation: Winter CFM: 0.0, Summer CFM: 0.0	0	0	0	0	0
Sensible Gain Total:				18,122	
Temperature Swing Multiplier:				X1.00	
Building Load Totals:		20,548	4,268	18,122	22,390

Check Figures

Total Building Supply CFM:	1000	CFM per square foot:	0.833
Square feet of room area:	1,200	Square feet per ton:	611.853

Building Loads

Total heating required with outside air:	20,548 Btuh	20.548 MBH
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Miscellaneous Project Data

Project File Name: EVANSTON, DAVIS AVE

System Input Data

—System 1—	Outdoor Dry Bulb	Outdoor Wet Bulb	Indoor Rel.Hum.	Indoor Dry Bulb	Grains Difference
Winter:	27	N/A	N/A	72	N/A
Summer:	98	79	50%	75	55

External Overhangs

No.	Projection	Offset	No.	Projection	Offset
1	3	1	6	0	0
2	5	0	7	0	0
3	4	0.5	8	0	0
4	0	0	9	0	0
5	0	0	10	0	0

Duct Sizing Inputs

	Runouts		Main Trunk
Duct Material:	Flexible Duct		Galvanized Steel
Roughness Factor:	0.010000		0.000300
Pressure Drop:	0.1000 In.wg/100 Ft.		0.1000 In.wg/100 Ft.
Minimum Velocity:	450.0 Ft./Minute		650.0 Ft./Minute
Maximum Velocity:	750.0 Ft./Minute		900.0 Ft./Minute
Minimum Height:	0 Inches		0 Inches
Maximum Height:	0 Inches		0 Inches

Outside Air Data

	Winter		Summer
Infiltration:	0.900 AC/Hr		0.400 AC/Hr
Volume of Conditioned Space:	X 9605 Cu.Ft.		X 9605 Cu.Ft.
	8,645 Cu.Ft./Hr		3,842 Cu.Ft./Hr
	X 0.0167		X 0.0167
Total Building Infiltration:	144.075 CFM		64.03333 CFM
Total Building Ventilation:	0 CFM		0 CFM
—System 1—			
Infiltration & Ventilation Sensible Gain Multiplier:	25.30 = (1.10 X 23.00 Summer Temp. Difference)		
Infiltration & Ventilation Latent Gain Multiplier:	37.14 = (0.68 X 54.62 Grains Difference)		
Infiltration & Ventilation Sensible Loss Multiplier:	49.50 = (1.10 X 45.00 Winter Temp. Difference)		

Project Summary

Project:	EVANSTON CONSTRUCTION	Company:	DAVID HALL'S INC.
Client:	EVANSTON CONSTRUCTION	Representative:	DAVID HALL
Address:	295 NW COMMONS LOOP SUITE 115	Address:	PO BOX 244
City:	LAKE CITY FL 32025	City:	LAKE CITY FL 32025
Phone:		Phone:	386-755-9792
Fax:		Fax:	386-755-9100
		Comment:	

Design Data

Project Name:	EVANSTON CONSTRUCTION
Reference City:	Jacksonville, Florida
Daily Temperature Range:	Medium
Latitude:	30 Degrees
Elevation:	26 Feet
Elevation Sensible Adj. Factor:	1.000
Elevation Total Adj. Factor:	1.000

	Outdoor Dry Bulb	Outdoor Wet Bulb	Indoor Rel. Hum.	Indoor Dry Bulb	Grains Difference
Winter:	27	N/A	N/A	72	N/A
Summer:	98	79	50%	75	55

Check Figures

Total Building Supply CFM:	1000	CFM per square foot:	0.833
Square feet of room area:	1,200	Square feet per ton:	611.853

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EVANSTON CONSTRUCTION HVAC LOAD ANALYSIS

for

**EVANSTON CONSTRUCTION
295 NW COMMONS LOOP SUITE 115
LAKE CITY FL 32025**

Prepared By:

**DAVID HALL
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LAKE CITY FL 32025
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2/15/2023**