CALCS-PLUS

Residence-123 South Sample St
HVAC Load Calculations

for

Jane Layne
234 Anywhere St.
Port Charlotte

Prepared By:

John Smith
Calcs-Plus
121 Triple Diamond Blvd., #16
North Venice, FL 34275
941-488-1700
May 09, 2025

Rhvac is an ACCA approved Manual J, D and S computer program.
Calculations are performed per ACCA Manual J 8th Edition, Version 2.50, and ACCA Manual D.

Project Report

General Project Information

Project Title:	Residence-123 South Sample St
Designed By:	John Smith
Project Date:	Friday, May 9, 2025
Project Comment:	1930 Sq Ft, 5/12 pitch, 548 sq ft garage, 123 South Sample St, Port Charlotte
Client Name:	Jane Layne
Client Address:	234 Anywhere St.
Client City:	Port Charlotte
Client Phone:	888-888-8*88
Client Comment:	
Company Name:	Calcs-Plus
Company Representative:	John Smith
Company Address:	121 Triple Diamond Blvd., #16
Company City:	Venice, FL 34275
Company Phone:	941-488-1700
Company Comment:	HARV Class 1 Residential Rater New Commercial & Public Buildings Rater NBI Certified Test & Balance

Design Data

Reference City:		Fort Myers AP, Florida
Building Orientation:		Front door faces South
Daily Temperature Range:		Medium
Latitude:	26	Degrees
Elevation:	15	ft.
Altitude Factor:	0.999	

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	47	44.1	n/a	n/a	70	n/a
Summer:	93	77	49%	45%	75	56

Check Figures

Total Building Supply CFM:	808	CFM Per Square ft.:	0.419
Square ft. of Room Area:	1,930	Square ft. Per Ton:	916
Volume (ft³):	16,629		

Building Loads

Total Heating Required Including Ventilation Air:	15,251 Btuh	15.251	MBH
Total Sensible Gain:	18,952 Btuh	82	%
Total Latent Gain:	4,093 Btuh	18	%
Total Cooling Required Including Ventilation Air:	23,045 Btuh	1.92	Tons (Based On Sensible + Latent)
		2.11	Tons (Based On 75% Sensible Capacity)

Notes

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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 according to the manufacturer's performance data at your design conditions.

Load Preview Report

Scope	Has AED	Net Ton	Rec Ton	ft²/Ton	Area	Sen Gain	Lat Gain	Net Gain	Sen Loss	Min Htg CFM	Min Clg CFM	Sys Htg CFM	Sys Clg CFM	Sys Act CFM	Duct Size
Building		1.92	2.11	916	1,930	18,952	4,093	23,045	15,251	195	808	195	808	808	
System 1	Yes	1.92	2.11	916	1,930	18,952	4,093	23,045	15,251	195	808	195	808	808	16
Ventilation						1,187	2,293	3,480	253			10	60	60	
Zone 1					1,930	17,765	1,800	19,565	14,998	195	808	195	808	808	16
1-Master Bedroom					261	3,163	0	3,163	2,458	32	144	32	144	144	1--7
2-Master Bath					132	389	0	389	450	6	18	6	18	18	1--4
3-Master WC					26	170	0	170	369	5	8	5	8	8	1--4
4-Master WIC					124	715	0	715	1,201	16	32	16	32	32	1--4
5-Laundry					81	826	200	1,026	771	10	38	10	38	38	1--4
6-Foyer					106	669	0	669	1,152	15	30	15	30	30	1--4
7-Great Room					352	4,269	600	4,869	1,924	25	194	25	194	194	1--8
8-Dining Room					142	1,495	0	1,495	1,684	22	68	22	68	68	1--5
9-Kitchen					239	1,702	1,000	2,702	927	12	77	12	77	77	1--5
10-Pantry					29	317	0	317	302	4	14	4	14	14	1--4
11-Bedroom 3					155	1,417	0	1,417	494	6	64	6	64	64	1--5
12-Bath 2					64	235	0	235	409	5	11	5	11	11	1--4
13-Bedroom 3 WIC					37	340	0	340	323	4	15	4	15	15	1--4
14-Bedroom 2					182	2,060	0	2,060	2,534	33	94	33	94	94	1--6

Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
DPLE3214OW: Glazing-Double Pane Low-E Operable Window, outdoor insect screen with 50% coverage, U-value 0.32, SHGC 0.14	42.6	314	0	689	689
DPLE5815SGD: Glazing-Double Pane Low-E Sliding Glass Door, outdoor insect screen with 50% coverage, U-value 0.58, SHGC 0.15	80	1,068	0	980	980
DPLE2815FG: Glazing-Double Pane Low-E Fixed Glass, U-value 0.28, SHGC 0.15	4	26	0	61	61
FD2920: Glazing-Double Pane Low-E French Door, outdoor insect screen with 100% coverage, light color drapes with medium weave with 50% coverage, U-value 0.29, SHGC 0.2	40	266	0	240	240
DPLE2914OW: Glazing-Double Pane Low-E Operable Window, U-value 0.29, SHGC 0.14	43.7	291	0	357	357
11D: Door-Wood - Solid Core, U-value 0.39	17.8	139	0	118	118
W13A-4.1F: Wall-Block, Custom, Wall, Block, R-4.1 Foil Insulation, Open or Filled Core, Interior Finish, U-value 0.143	1301.6	4,280	0	3,409	3,409
12C-0sw: Part-Frame, R-13 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs, U-value 0.091	142.1	259	0	220	220
18B1-21c: Roof/Ceiling-Roof Joists Between Roof Deck and Ceiling or Foam Encapsulated Roof Joists, Spray Foam Insulation, White or Light Color Asphalt Shingle, Any Wood Shake, Dark or Medium Color Tile, Slate or Concrete, Light or Unpainted Metal, Light or Silver Membrane, Light Tar and Gravel, R-21 closed cell 2 lb. spray foam, 3.5 inches in 2 x 4 joist cavity, 1 inch on joist, U-value 0.046	2120.8	2,243	0	3,414	3,414
22A-pm: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy dry or light wet soil, U-value 1.18	201	5,458	0	0	0
Subtotals for structure:		14,344	0	9,488	9,488
People:	4		800	920	1,720
Equipment:			1,000	6,300	7,300
Lighting:	310			1,057	1,057
Ductwork:		0	0	0	0
Infiltration: Winter CFM: 26, Summer CFM: 0		654	0	0	0
Ventilation: Winter CFM: 10, Summer CFM: 60		253	2,293	1,187	3,480
Total Building Load Totals:		15,251	4,093	18,952	23,045

Check Figures

Total Building Supply CFM:	808	CFM Per Square ft.:	0.419
Square ft. of Room Area:	1,930	Square ft. Per Ton:	916
Volume (ft³):	16,629		

Building Loads

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			2.11	Tons (Based On 75% Sensible Capacity)

Notes

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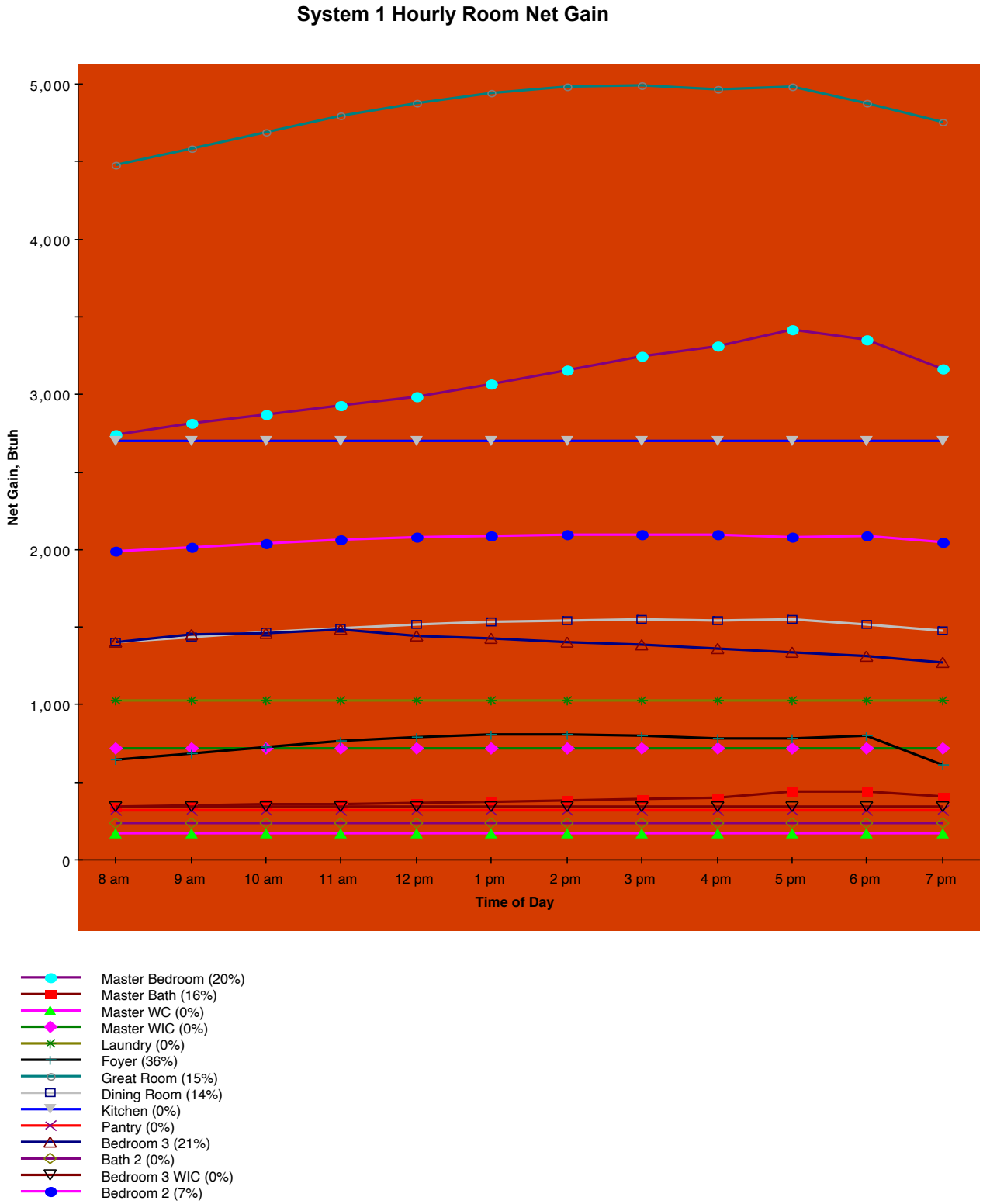
Total Building Summary Loads (cont'd)

Notes

Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.

System 1 - Hourly Room Net Gain



Note: Glass gain as a percent of net gain is shown in parenthesis. Although floor, roof, wall and door gains also vary throughout the day, for this graph and in Manual J glass gains are the only ones that fluctuate.

System 1 Room Load Summary

No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
1	Master Bedroom	261	2,458	32	1-7	538	3,163	0	144	144
2	Master Bath	132	450	6	1-4	203	389	0	18	18
3	Master WC	26	369	5	1-4	89	170	0	8	8
4	Master WIC	124	1,201	16	1-4	372	715	0	32	32
5	Laundry	81	771	10	1-4	430	826	200	38	38
6	Foyer	106	1,152	15	1-4	349	669	0	30	30
7	Great Room	352	1,924	25	1-8	556	4,269	600	194	194
8	Dining Room	142	1,684	22	1-5	499	1,495	0	68	68
9	Kitchen	239	927	12	1-5	568	1,702	1,000	77	77
10	Pantry	29	302	4	1-4	165	317	0	14	14
11	Bedroom 3	155	494	6	1-5	473	1,417	0	64	64
12	Bath 2	64	409	5	1-4	122	235	0	11	11
13	Bedroom 3 WIC	37	323	4	1-4	177	340	0	15	15
14	Bedroom 2	182	2,534	33	1-6	477	2,060	0	94	94
	Ventilation		253				1,187	2,293		
	System 1 total	1,930	15,251	195			18,952	4,093	808	808

System 1 Main Trunk Size:	16	in.
Velocity:	579	ft./min
Loss per 100 ft.:	0.175	in.wg

Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Net Required:	1.92	82% / 18%	18,952	4,093	23,045
Recommended:	2.11	75% / 25%	18,952	6,317	25,270