

Project Name: XXXXXXXXXX
 Address: XXXXXXXXXX Reading, MA
 Form Type: HVAC System
 HVAC System Name: Upstairs



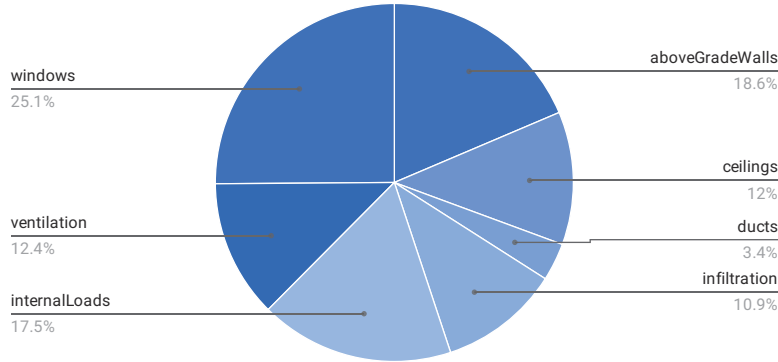
LAWRENCE MUNICIPAL AP, MA

Summer Outdoor F: **88** Summer Indoor F: **75** Design Grains: **31** Daily Range: **Medium**
 Winter Outdoor F: **9** Winter Indoor F: **70** Cooling RH: **50%** Elevation (Ft): **151**

LOAD CALCULATION TOTALS

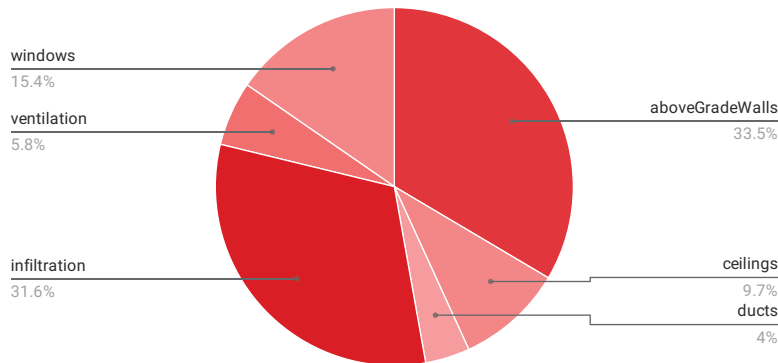
Heating BTU: **28681** Cooling BTU: **17013** SHR: **0.820** CFM: **634**

Cooling Loads



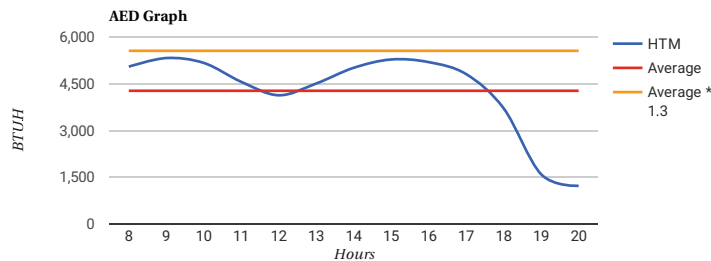
Name	Area	Sensible	Latent
AEDExcursion	0.00	0.00	0.00
aboveGradeWalls	2039.20	3165.67	0.00
belowGradeWalls	0.00	0.00	0.00
blowerMotor	0.00	0.00	0.00
ceilings	1566.50	2044.28	0.00
ducts	0.00	485.63	94.55
infiltration	0.00	747.89	1102.48
internalLoads	0.00	2182.60	800.00
skylights	0.00	0.00	0.00
ventilation	0.00	1067.51	1049.10
windows	180.80	4272.86	0.00
winterHumidification	0.00	0.00	0.00
Totals	-	13966.44	3046.13

Heating Loads



Name	Area	Heat Loss
AEDExcursion	0.00	0.00
aboveGradeWalls	2039.20	9611.11
belowGradeWalls	0.00	0.00
blowerMotor	0.00	0.00
ceilings	1566.50	2771.14
ducts	0.00	1153.61
infiltration	0.00	9064.54
internalLoads	0.00	0.00
skylights	0.00	0.00
ventilation	0.00	1669.70
windows	180.80	4411.52
winterHumidification	0.00	0.00
Totals	-	28681.62

AED Graph



Approved ACCA MJ8 Calculations

Calculations are based on the ACCA Manual J 8th Edition and are approved by ACCA. All computed calculations are estimates on building use, weather data, and inputted values such as R-Values, window types, duct loss, etc. Equipment selections should meet both the latent and sensible gain as well as building heat loss. See Cool Calc Manual S Report for equipment sizing verification.

COMPONENT LOADS

Above Grade Walls

Construction Nr.	Exposure	Area	Heating HTM	Cooling HTM	Heating BTU	Sensible BTU	Latent BTU
12C-0s w	W	82.60	5.55	1.96	458.51	161.61	0.00
12C-0s w	S	106.00	5.55	1.96	588.41	207.39	0.00
12C-0s w	W	146.00	5.55	1.96	810.45	285.65	0.00
12C-0s w	N	30.00	5.55	1.96	166.53	58.70	0.00
12C-0s w	N	50.00	5.55	1.96	277.55	97.82	0.00
12C-0s w	E	112.00	5.55	1.96	621.71	219.13	0.00
12C-0s w	S	148.00	5.55	1.96	821.55	289.56	0.00
12C-0s w	W	92.60	5.55	1.96	514.02	181.17	0.00
12C-0s w	N	200.00	5.55	2.73	1110.20	546.00	0.00
12C-0s w	E	92.00	5.55	1.96	510.69	180.00	0.00
12C-0s w	E	62.00	5.55	1.96	344.16	121.30	0.00
12C-0s w	N	70.00	5.55	1.96	388.57	136.95	0.00
12C-0s w	W	70.00	5.55	1.96	388.57	136.95	0.00
12E-4s w	N	300.00	3.35	0.70	1006.50	209.55	0.00
12E-4s w	S	286.00	3.35	0.70	959.53	199.77	0.00
12E-4s w	W	192.00	3.35	0.70	644.16	134.11	0.00

Below Grade Walls

(none)

Blower Motor

(none)

Ceilings

Construction Nr.	Area	Heating HTM	Cooling HTM	Heating BTU	Sensible BTU	Latent BTU
18A-38 ad	1566.50	1.77	1.31	2771.14	2044.28	0.00

Ducts

EHLF	ESGF	ELG	Heating BTU	Sensible BTU	Latent BTU
0.04	0.04	94.55	0.00	0.00	0.00

Infiltration

NCFM Heating	NCFM Cooling	Heating BTU	Sensible BTU	Latent BTU
135.72	52.54	9064.54	747.89	1102.48

Internal Loads

Heating BTU	Sensible BTU	Latent BTU
0.00	0.00	0.00
0.00	0.00	0.00
0.00	230.00	200.00
0.00	460.80	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	230.00	200.00
0.00	460.80	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	460.00	400.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	341.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Ventilation

VCFM	Heating BTU	Sensible BTU	Latent BTU
50.00	1669.70	1067.51	1049.10

Windows

Construction Nr.	Exposure	Area	Heating HTM	Heating BTU	Sensible BTU Avg.	Sensible BTU Peak	Latent BTU
1G	W	7.40	24.40	180.56	190.21	406.95	0.00

Construction Nr.	Exposure	Area	Heating HTM	Heating BTU	Sensible BTU Avg.	Sensible BTU Peak	Latent BTU
1G	S	14.00	24.40	341.60	304.57	543.09	0.00
1G	W	14.00	24.40	341.60	359.86	769.90	0.00
1G	E	28.00	24.40	683.20	675.39	1450.82	0.00
1G	S	12.00	24.40	292.80	293.69	523.69	0.00
1G	W	7.40	24.40	180.56	190.21	406.95	0.00
1G	E	28.00	24.40	683.20	619.39	1394.82	0.00
1G	E	28.00	24.40	683.20	619.39	1394.82	0.00
1G	S	14.00	24.40	341.60	300.45	543.09	0.00
1G	W	28.00	24.40	683.20	719.72	1539.81	0.00

Winter Humidification

(none)

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ROOM LOADS

Room Name	Heating	Sensible	Latent	Cooling	CFM
Bath 2	1089.47	559.88	49.12	609.00	28.00
David Room	3487.46	2206.98	352.82	2559.80	111.00
Hall	314.59	72.53	16.37	88.91	3.00
James Room	4457.78	2867.21	391.02	3258.24	144.00
Master Bath	1194.33	584.06	54.58	638.64	29.00
Master Bedroom	2969.39	2511.80	465.49	2977.29	114.00
Office	1495.08	1748.25	49.12	1797.37	88.00
Walk In Closet	1468.07	338.49	76.41	414.90	15.00
Attic	10535.75	4538.04	447.54	4985.58	229.00