

# Project Summary

## Entire House

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

Notes: Alco Properties changes 3-14  
(U-Factor .29 Windows, Walls R-35 Base/Crawl R-15)  
Ceiling R60

## Design Information

Weather: Dayton IAP, OH, US

### Winter Design Conditions

Outside db 7 °F  
Inside db 70 °F  
Design TD 63 °F

### Summer Design Conditions

Outside db 89 °F  
Inside db 70 °F  
Design TD 19 °F  
Daily range M  
Relative humidity 50 %  
Moisture difference 45 gr/lb

### Heating Summary

Structure 20240 Btuh  
Ducts 0 Btuh  
Central vent (SER=50% 134 cfm) 4487 Btuh  
Energy recovery  
Humidification 0 Btuh  
Piping 0 Btuh  
Equipment load 24727 Btuh

### Sensible Cooling Equipment Load Sizing

Structure 11944 Btuh  
Ducts 0 Btuh  
Central vent (SER=50% 134 cfm) 1353 Btuh  
Energy recovery  
Blower 0 Btuh  
Use manufacturer's data n  
Rate/swing multiplier 0.94  
Equipment sensible load 12499 Btuh

### Infiltration

Method Simplified  
Construction quality Semi-tight  
Fireplaces 0

### Latent Cooling Equipment Load Sizing

Structure 1898 Btuh  
Ducts 0 Btuh  
Central vent (LER=50% 134 cfm) 1969 Btuh  
Energy recovery  
Equipment latent load 3867 Btuh  
Equipment total load 16367 Btuh  
Req. total capacity at 0.70 SHR 1.5 ton

	Heating	Cooling
Area (ft <sup>2</sup> )	3227	3227
Volume (ft <sup>3</sup> )	18376	18376
Air changes/hour	0.19	0.10
Equiv. AVF (cfm)	58	31

### Heating Equipment Summary

Make  
Trade  
Model  
AHRI ref  
Efficiency 95 AFUE  
Heating input 0 Btuh  
Heating output 0 Btuh  
Temperature rise 0 °F  
Actual air flow 751 cfm  
Air flow factor 0.037 cfm/Btuh  
Static pressure 0 in H2O  
Space thermostat

### Cooling Equipment Summary

Make  
Trade  
Cond  
Coil  
AHRI ref  
Efficiency 0 SEER  
Sensible cooling 0 Btuh  
Latent cooling 0 Btuh  
Total cooling 0 Btuh  
Actual air flow 751 cfm  
Air flow factor 0.063 cfm/Btuh  
Static pressure 0 in H2O  
Load sensible heat ratio 0.77

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



# Building Analysis

## Entire House

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

### Location:

Dayton IAP, OH, US  
Elevation: 1004 ft  
Latitude: 40 °N

### Outdoor:

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

### Heating

7  
-  
-  
15.0

### Cooling

89  
20 ( M )  
73  
7.5

### Indoor:

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

### Heating

70  
63  
50  
50.3

### Cooling

70  
19  
50  
44.7

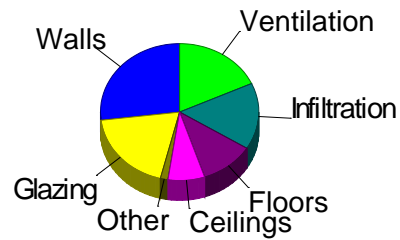
### Infiltration:

Method  
Construction quality  
Fireplaces

Simplified  
Semi-tight  
0

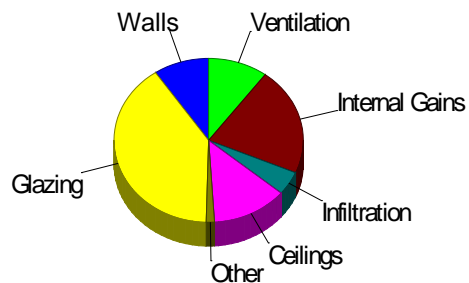
## Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.4	6649	26.9
Glazing	18.3	4743	19.2
Doors	18.3	384	1.6
Ceilings	1.1	1852	7.5
Floors	1.7	2724	11.0
Infiltration	2.1	3888	15.7
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		4487	18.1
Adjustments		0	0
<b>Total</b>		<b>24727</b>	<b>100.0</b>



## Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.6	1260	9.5
Glazing	20.5	5333	40.1
Doors	8.8	186	1.4
Ceilings	1.1	1718	12.9
Floors	0	0	0
Infiltration	0.3	617	4.6
Ducts		0	0
Ventilation		1353	10.2
Internal gains		2830	21.3
Blower		0	0
Adjustments		0	0
<b>Total</b>		<b>13297</b>	<b>100.0</b>



Latent Cooling Load = 3867 Btuh  
Overall U-value = 0.046 Btuh/ft²-°F

Data entries checked.

# Component Constructions

## Entire House

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

Construction descriptions	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	Btuh/ft²	Gain Btuh
<b>Walls</b>								
12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	n	274	0.048	27.0	3.02	828	0.74	202
	ne	21	0.048	27.0	3.02	62	0.74	15
	e	228	0.048	27.0	3.02	689	0.74	169
	s	351	0.048	27.0	3.02	1061	0.74	259
	w	219	0.048	27.0	3.02	661	0.74	162
	nw	21	0.048	27.0	3.02	62	0.74	15
	all	1113	0.048	27.0	3.02	3364	0.74	822
15B-15sfc-2: Bg wall, light dry soil, concrete wall, r-15 ins, 8" thk	n	114	0.045	15.0	3.39	386	0.54	61
	e	120	0.045	15.0	3.39	406	0.66	79
	s	114	0.045	15.0	3.39	386	0.54	61
	w	120	0.045	15.0	3.39	406	0.54	65
	all	468	0.045	15.0	3.39	1585	0.57	266
15B15-0wc-6: Bg wall, light dry soil, 2"x4" wood int frm, concrete wall, r-15 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	183	0.061	15.0	4.38	804	0.41	75
	s	200	0.061	15.0	4.48	896	0.48	96
	all	383	0.061	15.0	4.43	1700	0.45	171

## Partitions

(none)

## Windows

2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht	n	98	0.290	0	18.3	1795	11.5	1130
	ne	12	0.290	0	18.3	213	24.8	289
	e	28	0.290	0	18.3	512	34.8	973
	s	56	0.290	0	18.3	1023	18.3	1022
	w	37	0.290	0	18.3	682	34.8	1298
	nw	12	0.290	0	18.3	213	24.8	289
	all	243	0.290	0	18.3	4438	20.6	5000
Alco windows: 1 glazing, clr glz, mtl no brk frm mat, 1/8" thk; 6.67 ft head ht	n	17	0.290	0	18.3	304	20.0	333

## Doors

11P0: Door, mtl pur core type	s	21	0.290	10.5	18.3	384	8.84	186
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**Ceilings**

16A-56al: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh	363	0.018	56.0	1.13	411	1.33	483
	1270	0.018	56.0	1.13	1440	0.97	1234
all	1633	0.018	56.0	1.13	1852	1.05	1718

**Floors**

21A-20t: Bg floor, heavy dry or light damp soil, 1.5' depth	855	0.027	0	1.70	1454	0	0
21A-24t: Bg floor, heavy dry or light damp soil, 5' depth	750	0.025	0	1.58	1181	0	0
22A-tpm: Bg floor, heavy dry or light damp soil, on grade depth	1	1.180	0	74.3	89	0	0

# Component Constructions

## KITCHEN

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	HTM Btuh/ft²	Gain Btuh
<b>Walls</b>								
12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	n	26	0.048	27.0	3.02	79	0.74	19
	ne	21	0.048	27.0	3.02	62	0.74	15
	nw	21	0.048	27.0	3.02	62	0.74	15
	all	67	0.048	27.0	3.02	203	0.74	50
<b>Partitions</b> (none)								
<b>Windows</b>								
2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht	n	14	0.290	0	18.3	256	11.5	161
	ne	12	0.290	0	18.3	213	24.8	289
	nw	12	0.290	0	18.3	213	24.8	289
	all	37	0.290	0	18.3	682	19.8	738
<b>Doors</b> (none)								
<b>Ceilings</b>								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		185	0.018	56.0	1.13	210	0.97	180
<b>Floors</b>								
22A-tpm: Bg floor, heavy dry or light damp soil, on grade depth		1	1.180	0	74.3	89	0	0

# Component Constructions

## BEDROOM 2

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
<b>Outdoor:</b>		Moisture difference (gr/lb)		50.3	44.7
	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method	Simplified	
Daily range (°F)	-	20 ( M )	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	HTM Btuh/ft²	Gain Btuh	
<b>Walls</b>									
12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins									
	e	78	0.048	27.0	3.02	236	0.74	58	
	s	90	0.048	27.0	3.02	272	0.74	67	
	all	168	0.048	27.0	3.02	508	0.74	124	
<b>Partitions</b>									
(none)									
<b>Windows</b>									
2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht									
	e	14	0.290	0	18.3	256	34.8	487	
	s	14	0.290	0	18.3	256	18.3	256	
	all	28	0.290	0	18.3	512	26.5	742	
<b>Doors</b>									
(none)									
<b>Ceilings</b>									
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh									
		175	0.018	56.0	1.13	198	0.97	170	
<b>Floors</b>									
(none)									

# Component Constructions

## BEDROOM 1

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	Btuh/ft²	Gain Btuh
<b>Walls</b> 12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	s	82	0.048	27.0	3.02	248	0.74	61
<b>Partitions</b> (none)								
<b>Windows</b> 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht	s	14	0.290	0	18.3	256	18.3	256
<b>Doors</b> (none)								
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		162	0.018	56.0	1.13	184	0.97	157
<b>Floors</b> (none)								



wrightsoft

Right-Suite® Universal 2017 17.0.17 RSU12355

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# Component Constructions

## MASTER BDRM

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	Btuh/ft²	Gain Btuh
<b>Walls</b> 12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	n e all	68 134 202	0.048 0.048 0.048	27.0 27.0 27.0	3.02 3.02 3.02	206 405 611	0.74 0.74 0.74	50 99 149
<b>Partitions</b> (none)								
<b>Windows</b> 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht	n e all	40 14 54	0.290 0.290 0.290	0 0 0	18.3 18.3 18.3	731 256 987	11.5 34.8 17.5	460 487 946
<b>Doors</b> (none)								
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		212	0.018	56.0	1.13	240	0.97	206
<b>Floors</b> (none)								



# Component Constructions

## MASTER BATH

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	HTM Btuh/ft²	Gain Btuh
<b>Walls</b> 12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	n	108	0.048	27.0	3.02	326	0.74	80
<b>Partitions</b> (none)								
<b>Windows</b> 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht	n	4	0.290	0	18.3	78	11.5	49
<b>Doors</b> (none)								
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		103	0.018	56.0	1.13	117	0.97	100
<b>Floors</b> (none)								

# Component Constructions

BATH

Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
<b>Outdoor:</b>		Moisture difference (gr/lb)		50.3	44.7
	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method	Simplified	
Daily range (°F)	-	20 ( M )	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

## Construction descriptions

	Or	Area	U-value	Insul R	Htg HTM	Loss Clg	HTM	Gain
		ft²	Btuh/ft²·°F	ft²·°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b> (none)								
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b> (none)								
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		41	0.018	56.0	1.13	47	0.97	40
<b>Floors</b> (none)								



**Component Constructions**  
**LAUNDRY**  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

**Project Information**

For: Mcintire  
 460 West Krepps Rd, Xenia, OH 45385

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		50.3	44.7
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method		
Daily range (°F)	-	20 ( M )	Construction quality		
Wet bulb (°F)	-	73	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Semi-tight		
			0		

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss Clg HTM	Gain
		ft²	Btuh/ft²·°F	ft²·°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²
<b>Walls</b> (none)							
<b>Partitions</b> (none)							
<b>Windows</b> (none)							
<b>Doors</b> (none)							
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		52	0.018	56.0	1.13	59	0.97
<b>Floors</b> (none)							51



# Component Constructions

HALL

Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft <sup>2</sup>	U-value Btuh/ft <sup>2</sup> °F	Insul R ft <sup>2</sup> °F/Btuh	Htg HTM Btuh/ft <sup>2</sup>	Loss Clg Btuh	HTM Btuh/ft <sup>2</sup>	Gain Btuh
<b>Walls</b> (none)								
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b> (none)								
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		91	0.018	56.0	1.13	103	0.97	88
<b>Floors</b> (none)								



# Component Constructions

## LIVING ROOM

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N		<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5		
		<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	Btuh/ft²	Gain Btuh	
<b>Walls</b>									
12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	e	16	0.048	27.0	3.02	48	0.74	12	
	s	179	0.048	27.0	3.02	541	0.74	132	
	w	144	0.048	27.0	3.02	435	0.74	106	
	all	339	0.048	27.0	3.02	1025	0.74	251	
<b>Partitions</b> (none)									
<b>Windows</b>									
2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht	s	28	0.290	0	18.3	512	18.3	511	
<b>Doors</b>									
11P0: Door, mtl pur core type	s	21	0.290	10.5	18.3	384	8.84	186	
<b>Ceilings</b>									
16A-56al: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		363	0.018	56.0	1.13	411	1.33	483	
		54	0.018	56.0	1.13	61	0.97	52	
	all	416	0.018	56.0	1.13	472	1.29	535	
<b>Floors</b> (none)									

**Component Constructions**  
**STEPS**  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

**Project Information**

For: Mcintire  
 460 West Krepps Rd, Xenia, OH 45385

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
<b>Outdoor:</b>		Moisture difference (gr/lb)		50.3	44.7
	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method	Simplified	
Daily range (°F)	-	20 ( M )	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss Clg	HTM	Gain
		ft²	Btuh/ft²·°F	ft²·°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b> (none)								
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b> (none)								
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		34	0.018	56.0	1.13	39	0.97	33
<b>Floors</b> (none)								



**Component Constructions**  
**PANTRY**  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

**Project Information**

For: Mcintire  
 460 West Krepps Rd, Xenia, OH 45385

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
<b>Outdoor:</b>		Moisture difference (gr/lb)		50.3	44.7
	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method	Simplified	
Daily range (°F)	-	20 ( M )	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	HTM Btuh/ft²	Gain Btuh
<b>Walls</b> 12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	n	32	0.048	27.0	3.02	97	0.74	24
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b> (none)								
<b>Ceilings</b> 16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		22	0.018	56.0	1.13	25	0.97	21
<b>Floors</b> (none)								



# Component Constructions

DINING

Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg Btuh	HTM Btuh/ft²	Gain Btuh	
<b>Walls</b>									
12F-6sw: Frm wall, vnl ext, 5/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, r-12 ext bd ins, 2"x6" wood frm, 16" o.c. stud, r-2 int bd ins	n	40	0.048	27.0	3.02	121	0.74	30	
	w	75	0.048	27.0	3.02	226	0.74	55	
	all	115	0.048	27.0	3.02	347	0.74	85	
<b>Partitions</b> (none)									
<b>Windows</b>									
2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; 2 glazing, clr low-e outr, argon gas, insulated fiberglass frm mat, clr innr, 1/2" gap, 1/4" thk; NFRC rated (SHGC=0.31); 6.67 ft head ht	n	40	0.290	0	18.3	731	11.5	460	
	w	37	0.290	0	18.3	682	34.8	1298	
	all	77	0.290	0	18.3	1413	22.7	1757	
<b>Doors</b> (none)									
<b>Ceilings</b>									
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		140	0.018	56.0	1.13	159	0.97	136	
<b>Floors</b> (none)									





**Component Constructions**  
**OFFICE**  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

**Project Information**

For: Mcintire  
 460 West Krepps Rd, Xenia, OH 45385

**Design Conditions**

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	Btuh/ft²	Gain Btuh
<b>Walls</b> 15B15-0wc-6: Bg wall, light dry soil, 2"x4" wood int frm, concrete wall, r-15 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	56	0.061	15.0	4.32	241	0.36	20
<b>Partitions</b> (none)								
<b>Windows</b> Alco windows: 1 glazing, clr glz, mtl no brk frm mat, 1/8" thk; 6.67 ft head ht	n	8	0.290	0	18.3	152	20.0	167
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b> 21A-24t: Bg floor, heavy dry or light damp soil, 5' depth		100	0.025	0	1.58	158	0	0



**Component Constructions**  
**UTILITY**  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

**Project Information**

For: Mcintire  
 460 West Krepps Rd, Xenia, OH 45385

**Design Conditions**

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss Clg	HTM	Gain
		ft²	Btuh/ft²·°F	ft²·°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b> (none)								
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b> 21A-24t: Bg floor, heavy dry or light damp soil, 5' depth		96	0.025	0	1.58	151	0	0



# Component Constructions

## FIN BASEMENT

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b> Dayton IAP, OH, US Elevation: 1004 ft Latitude: 40 °N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 63 50 50.3	<b>Cooling</b> 70 19 50 44.7
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 7 - - 15.0	<b>Cooling</b> 89 20 ( M ) 73 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

## Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Clg HTM Btuh	Btuh/ft²	Gain Btuh
<b>Walls</b> 15B15-0wc-6: Bg wall, light dry soil, 2"x4" wood int frm, concrete wall, r-15 cav ins, 8" thk, 1/2" gypsum board int fnsh	n s all	128 200 328	0.061 0.061 0.061	15.0 15.0 15.0	4.41 4.48 4.45	563 896 1459	0.43 0.48 0.46	55 96 151
<b>Partitions</b> (none)								
<b>Windows</b> Alco windows: 1 glazing, clr glz, mtl no brk frm mat, 1/8" thk; 6.67 ft head ht	n	8	0.290	0	18.3	152	20.0	167
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b> 21A-24t: Bg floor, heavy dry or light damp soil, 5' depth		518	0.025	0	1.58	816	0	0

# Component Constructions

UP

Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
<b>Outdoor:</b>		Moisture difference (gr/lb)		50.3	44.7
	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method	Simplified	
Daily range (°F)	-	20 ( M )	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

## Construction descriptions

	Or	Area	U-value	Insul R	Htg HTM	Loss Clg HTM	Gain
		ft²	Btuh/ft²·°F	ft²·°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²
<b>Walls</b> (none)							
<b>Partitions</b> (none)							
<b>Windows</b> (none)							
<b>Doors</b> (none)							
<b>Ceilings</b> (none)							
<b>Floors</b> 21A-24t: Bg floor, heavy dry or light damp soil, 5' depth		36	0.025	0	1.58	57	0

# Component Constructions

CRAWL 2

Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		50.3	44.7
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method	Simplified	
Daily range (°F)	-	20 ( M )	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

## Construction descriptions

	Or	Area	U-value	Insul R	Htg HTM	Loss Clg	HTM	Gain
		ft²	Btuh/ft²·°F	ft²·°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b>								
15B-15sfc-2: Bg wall, light dry soil, concrete wall, r-15 ins, 8" thk								
	n	58	0.045	15.0	3.39	196	0.54	31
	e	120	0.045	15.0	3.39	406	0.66	79
	s	58	0.045	15.0	3.39	196	0.54	31
	all	236	0.045	15.0	3.39	799	0.60	141
<b>Partitions</b>								
(none)								
<b>Windows</b>								
(none)								
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
(none)								
<b>Floors</b>								
21A-20t: Bg floor, heavy dry or light damp soil, 1.5' depth								
		435	0.027	0	1.70	740	0	0



# Component Constructions

CRAWL 1

Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		50.3	44.7
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89	Method	Simplified	
Daily range (°F)	-	20 ( M )	Construction quality	Semi-tight	
Wet bulb (°F)	-	73	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

## Construction descriptions

	Or	Area	U-value	Insul R	Htg HTM	Loss Clg	HTM	Gain
		ft²	Btuh/ft²·°F	ft²·°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b>								
15B-15sfc-2: Bg wall, light dry soil, concrete wall, r-15 ins, 8" thk								
	n	56	0.045	15.0	3.39	190	0.54	30
	s	56	0.045	15.0	3.39	190	0.54	30
	w	120	0.045	15.0	3.39	406	0.54	65
	all	232	0.045	15.0	3.39	786	0.54	125
<b>Partitions</b>								
(none)								
<b>Windows</b>								
(none)								
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
(none)								
<b>Floors</b>								
21A-20t: Bg floor, heavy dry or light damp soil, 1.5' depth								
		420	0.027	0	1.70	714	0	0

# AED Assessment

## Entire House

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

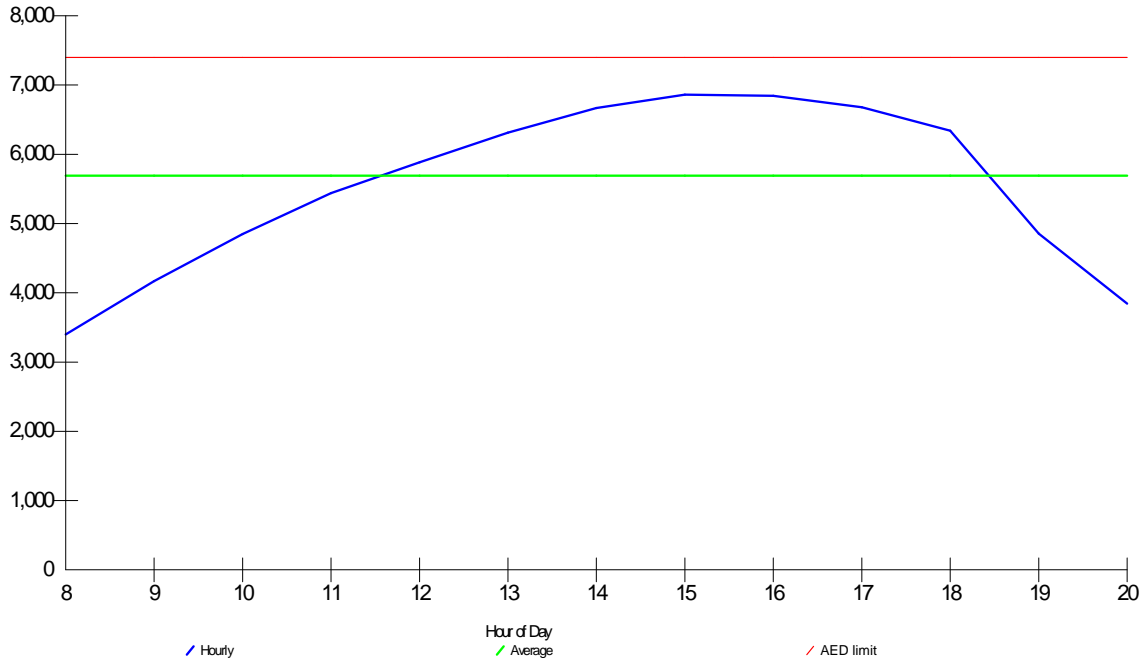
For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b>		<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)	70	70
Elevation: 1004 ft		Design TD (°F)	63	19
Latitude: 40 °N		Relative humidity (%)	50	50
		Moisture difference (gr/lb)	50.3	44.7
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>		
Dry bulb (°F)	7	89		
Daily range (°F)	-	20 ( M )		
Wet bulb (°F)	-	73		
Wind speed (mph)	15.0	7.5		
		<b>Infiltration:</b>		

## Test for Adequate Exposure Diversity

### Hourly Glazing Load



**Maximum hourly glazing load exceeds average by 20.6%.**

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

**AED excursion: 0 Btuh**

**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1 Room name				Entire House				KITCHEN						
2 Exposed wall				7.0 ft				13.0 ft						
3 Room height				335.0 ft				8.0 ft						
4 Room dimensions				3227.0 ft²				1.0 x 185.0 ft						
5 Room area				3227.0 ft²				185.0 ft²						
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	372	274	828	202	40	26	79	19
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	98	0	1795	1130	14	0	256	161
	W	15B-15sfc-2	0.059	n	3.39	0.54	114	114	386	61	0	0	0	0
	W	15B15-0wc-6	0.088	n	4.38	0.41	200	183	804	75	0	0	0	0
11	G	Alco windows	0.290	n	18.27	19.99	17	0	304	333	0	0	0	0
	W	12F-6sw	0.048	ne	3.02	0.74	32	21	62	15	32	21	62	15
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	12	0	213	289	12	0	213	289
	W	12F-6sw	0.048	e	3.02	0.74	256	228	689	169	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	28	0	512	973	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	120	120	406	79	0	0	0	0
	W	12F-6sw	0.048	s	3.02	0.74	428	351	1061	259	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	56	0	1023	1022	0	0	0	0
	D	11P0	0.290	s	18.27	8.84	21	21	384	186	0	0	0	0
	W	15B-15sfc-2	0.059	s	3.39	0.54	114	114	386	61	0	0	0	0
	W	15B15-0wc-6	0.088	s	4.48	0.48	200	200	896	96	0	0	0	0
	W	12F-6sw	0.048	w	3.02	0.74	256	219	661	162	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	37	0	682	1298	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	120	120	406	65	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	32	21	62	15	32	21	62	15
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	12	0	213	289	12	0	213	289
	C	16A-56al	0.018	-	1.13	1.33	363	363	411	483	0	0	0	0
	C	16B-56ad	0.018	-	1.13	0.97	1270	1270	1440	1234	185	185	210	180
	F	21A-20t	0.027	-	1.70	0.00	855	855	1454	0	0	0	0	0
	F	21A-24t	0.025	-	1.58	0.00	750	750	1181	0	0	0	0	0
	F	22A-tpm	1.180	-	74.34	0.00	17	1	89	0	17	1	89	0
6	c) AED excursion									0				-124
	Envelope loss/gain								16351	8496			1184	844
12	a) Infiltration								3888	617			223	35
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230	5				1150	0				0
			Appliances/other						1680					1200
	Subtotal (lines 6 to 13)								20240	11944			1407	2079
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			16	13
14	Subtotal								20240	11944			1423	2092
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								20240	11944			1423	2092
	Air required (cfm)								751	751			53	131

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



**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1		Room name		BEDROOM 2						BEDROOM 1					
2		Exposed wall		24.5 ft						12.0 ft					
3		Room height		8.0 ft						8.0 ft					
4		Room dimensions		1.0 x 175.0 ft						1.0 x 162.0 ft					
5		Room area		175.0 ft²						162.0 ft²					
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12F-6sw	0.048	n	3.02	0.74	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	0	0	0	0	0	0	0	0	
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	0	0	0	0	
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	0	0	0	0	
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	0	0	0	0	
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0	
	W	12F-6sw	0.048	e	3.02	0.74	92	78	236	58	0	0	0	0	
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	14	0	256	487	0	0	0	0	
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	0	0	0	0	
	W	12F-6sw	0.048	s	3.02	0.74	104	90	272	67	96	82	248	61	
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	14	0	256	256	14	0	256	256	
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	0	0	0	0	
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	0	0	0	0	
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	0	0	0	0	
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0	0	0	0	0	
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0	
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0	
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	0	0	0	0	
	C	16B-56ad	0.018	-	1.13	0.97	175	175	198	170	162	162	184	157	
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	0	0	0	0	
	F	21A-24t	0.025	-	1.58	0.00	0	0	0	0	0	0	0	0	
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion													6	
	Envelope loss/gain								1218	953			687	480	
12	a) Infiltration								419	67			205	33	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @		230		1		230		1		230		
			Appliances/other						150				150		
	Subtotal (lines 6 to 13)								1637	1399			893	892	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								13	10			34	28	
14	Subtotal								1650	1410			927	920	
15	Duct loads								-0%	0%			0	0	
	Total room load								1650	1410			927	920	
	Air required (cfm)								61	89			34	58	

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

**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1 Room name				MASTER BDRM 32.0 ft				MASTER BATH 14.0 ft						
2 Exposed wall				8.0 ft heat/cool				8.0 ft heat/cool						
3 Room height				1.0 x 211.5 ft				1.0 x 102.8 ft						
4 Room dimensions				211.5 ft²				102.8 ft²						
5 Room area														
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	108	68	206	50	112	108	326	80
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	40	0	731	460	4	0	78	49
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	0	0	0	0
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	e	3.02	0.74	148	134	405	99	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	14	0	256	487	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.13	0.97	212	212	240	206	103	103	117	100
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.58	0.00	0	0	0	0	0	0	0	0
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-114				-15
	Envelope loss/gain								1837	1187			520	213
12	a) Infiltration								547	87			239	38
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			2			460	0			0
			Appliances/other							180				0
	Subtotal (lines 6 to 13)								2385	1914			759	251
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								7	6			6	4
14	Subtotal								2391	1919			765	256
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								2391	1919			765	256
	Air required (cfm)								89	121			28	16

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

**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1 Room name		BATH						LAUNDRY						
2 Exposed wall		0 ft						0 ft						
3 Room height		8.0 ft						8.0 ft						
4 Room dimensions		7.5 x 5.5 ft						6.5 x 8.0 ft						
5 Room area		41.3 ft²						52.0 ft²						
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	0	0	0	0
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	e	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.13	0.97	41	41	47	40	52	52	59	51
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.58	0.00	0	0	0	0	0	0	0	0
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-2				-3
	Envelope loss/gain								47	38			59	48
12	a) Infiltration								0	0			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @		230		0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								47	38			59	48
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								25	20			13	10
14	Subtotal								71	58			72	58
15	Duct loads								-0%	0%			0	0
	Total room load								71	58			72	58
	Air required (cfm)								3	4			3	4

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

**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1 Room name				HALL 0 ft				LIVING ROOM 44.5 ft						
2 Exposed wall				8.0 ft 1.0 x 91.0 ft heat/cool				8.9 ft 1.0 x 405.5 ft heat/cool						
3 Room height				91.0 ft²				405.5 ft²						
4 Room dimensions														
5 Room area														
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	0	0	0	0
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	e	3.02	0.74	0	0	0	0	16	16	48	12
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0	228	179	541	132
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0	28	0	512	511
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	21	21	384	186
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0	144	144	435	106
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	363	363	411	483
	C	16B-56ad	0.018	-	1.13	0.97	91	91	103	88	54	54	61	52
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.58	0.00	0	0	0	0	0	0	0	0
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													21
	Envelope loss/gain								103	83			2392	1503
12	a) Infiltration								0	0			829	132
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @		230		0				0	0		0
			Appliances/other								0	0		0
	Subtotal (lines 6 to 13)								103	83			3222	1635
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-103	-83			22	18
14	Subtotal								0	0			3244	1653
15	Duct loads								-0%	0%			0	0
	Total room load								0	0			3244	1653
	Air required (cfm)								0	0			120	104

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

# Right-J® Worksheet

## Entire House

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

1 Room name				STEPS 0 ft				PANTRY 4.0 ft						
2 Exposed wall				8.0 ft 4.0 x 8.5 ft heat/cool				8.0 ft 4.0 x 5.5 ft heat/cool						
3 Room height				34.0 ft²				22.0 ft²						
4 Room dimensions														
5 Room area														
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	0	0	0	0	32	32	97	24
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	0	0	0	0
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	e	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.13	0.97	34	34	39	33	22	22	25	21
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.58	0.00	0	0	0	0	0	0	0	0
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													
	Envelope loss/gain								39	31			122	42
12	a) Infiltration								0	0			68	11
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0				0			0
			Appliances/other								0			0
	Subtotal (lines 6 to 13)								39	31			190	53
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-39	-31			7	6
14	Subtotal								0	0			197	59
15	Duct loads								-0%	0%			0	0
	Total room load								0	0			197	59
	Air required (cfm)								0	0			7	4

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

**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1	Room name				DINING 24.0 ft				OFFICE 8.0 ft					
2	Exposed wall				8.0 ft				8.0 ft					
3	Room height				10.0 x 14.0 ft				8.0 x 12.5 ft					
4	Room dimensions				140.0 ft²				100.0 ft²					
5	Room area				heat/cool				heat/cool					
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	80	40	121	30	0	0	0	0
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	40	0	731	460	0	0	0	0
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	64	56	241	20
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	8	0	152	167
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	e	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	w	3.02	0.74	112	75	226	55	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	37	0	682	1298	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.13	0.97	140	140	159	136	0	0	0	0
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.58	0.00	0	0	0	0	100	100	158	0
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									390				-24
	Envelope loss/gain								1918	2368			550	163
12	a) Infiltration								410	65			51	8
	b) Room ventilation								0	0			0	0
13	Internal gains:				Occupants @	230	0			0	1			230
					Appliances/other					0				0
	Subtotal (lines 6 to 13)								2329	2434			602	401
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			20	0
14	Subtotal								2329	2434			621	401
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								2329	2434			621	401
	Air required (cfm)								86	153			23	25

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

**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1 Room name				UTILITY 0 ft				FIN BASEMENT 42.0 ft						
2 Exposed wall				8.0 ft heat/cool				8.0 ft heat/cool						
3 Room height				12.0 x 8.0 ft				1.0 x 518.0 ft						
4 Room dimensions				96.0 ft²				518.0 ft²						
5 Room area														
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	136	128	563	55
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	8	0	152	167
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	e	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	200	200	896	96
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.13	0.97	0	0	0	0	0	0	0	0
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.58	0.00	96	96	151	0	518	518	816	0
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				-20
	Envelope loss/gain								151	0			2427	297
12	a) Infiltration								0	0			269	43
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								151	0			2697	340
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								9	0			28	0
14	Subtotal								160	0			2725	340
15	Duct loads								0	0			0	0
	Total room load								160	0			2725	340
	Air required (cfm)								6	0			101	21

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

**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1	Room name				UP 0 ft				CRAWL 2 59.0 ft					
2	Exposed wall				8.0 ft				4.0 ft					
3	Room height				heat/cool				heat/cool					
4	Room dimensions				4.0 x 9.0 ft				14.5 x 30.0 ft					
5	Room area				36.0 ft²				435.0 ft²					
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	n	3.39	0.54	0	0	0	0	58	58	196	31
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0	0	0	0	0
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	e	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0	120	120	406	79
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	18.27	8.84	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	s	3.39	0.54	0	0	0	0	58	58	196	31
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0	0	0	0	0
	W	15B-15sfc-2	0.059	w	3.39	0.54	0	0	0	0	0	0	0	0
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0	0	0	0	0
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.13	0.97	0	0	0	0	0	0	0	0
	F	21A-20t	0.027	-	1.70	0.00	0	0	0	0	435	435	740	0
	F	21A-24t	0.025	-	1.58	0.00	36	36	57	0	0	0	0	0
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				-11
	Envelope loss/gain									57	0			1539 130
12	a) Infiltration									0	0			315 50
	b) Room ventilation									0	0			0 0
13	Internal gains: Occupants @ 230						0			0	0			0 0
	Appliances/other									0				0 0
	Subtotal (lines 6 to 13)									57	0			1854 180
	Less external load									0	0			0 0
	Less transfer									0	0			0 0
	Redistribution									-57	0			0 0
14	Subtotal									0	0			1854 180
15	Duct loads						-0%	0%		0	0	-0%	0%	0 0
	Total room load									0	0			1854 180
	Air required (cfm)									0	0			69 11

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



**Right-J® Worksheet**  
*Entire House*  
**Yates Heating**

**Job:**  
**Date:** Mar 05, 2020  
**By:**

OH 45385

1		Room name			CRAWL 1									
2		Exposed wall			58.0 ft									
3		Room height			4.0 ft				heat/cool					
4		Room dimensions			14.0 x 30.0 ft									
5		Room area			420.0 ft <sup>2</sup>									
	Ty	Construction number	U-value (Btuh/ft <sup>2</sup> -°F)	Or	HTM (Btuh/ft <sup>2</sup> )		Area (ft <sup>2</sup> ) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-6sw	0.048	n	3.02	0.74	0	0	0	0				
	G	2 glazing, clr low-e	0.290	n	18.27	11.50	0	0	0	0				
	W	15B-15sfc-2	0.059	n	3.39	0.54	56	56	190	30				
	W	15B15-0wc-6	0.088	n	4.38	0.41	0	0	0	0				
11	G	Alco windows	0.290	n	18.27	19.99	0	0	0	0				
	W	12F-6sw	0.048	ne	3.02	0.74	0	0	0	0				
	G	2 glazing, clr low-e	0.290	ne	18.27	24.75	0	0	0	0				
	W	12F-6sw	0.048	e	3.02	0.74	0	0	0	0				
	G	2 glazing, clr low-e	0.290	e	18.27	34.76	0	0	0	0				
	W	15B-15sfc-2	0.059	e	3.39	0.66	0	0	0	0				
	W	12F-6sw	0.048	s	3.02	0.74	0	0	0	0				
	G	2 glazing, clr low-e	0.290	s	18.27	18.25	0	0	0	0				
	D	11P0	0.290	s	18.27	8.84	0	0	0	0				
	W	15B-15sfc-2	0.059	s	3.39	0.54	56	56	190	30				
	W	15B15-0wc-6	0.088	s	4.48	0.48	0	0	0	0				
	W	12F-6sw	0.048	w	3.02	0.74	0	0	0	0				
	G	2 glazing, clr low-e	0.290	w	18.27	34.76	0	0	0	0				
	W	15B-15sfc-2	0.059	w	3.39	0.54	120	120	406	65				
	W	12F-6sw	0.048	nw	3.02	0.74	0	0	0	0				
	G	2 glazing, clr low-e	0.290	nw	18.27	24.75	0	0	0	0				
	C	16A-56al	0.018	-	1.13	1.33	0	0	0	0				
	C	16B-56ad	0.018	-	1.13	0.97	0	0	0	0				
	F	21A-20t	0.027	-	1.70	0.00	420	420	714	0				
	F	21A-24t	0.025	-	1.58	0.00	0	0	0	0				
	F	22A-tpm	1.180	-	74.34	0.00	0	0	0	0				
6	c) AED excursion									-10				
	Envelope loss/gain								1500	115				
12	a) Infiltration								310	49				
	b) Room ventilation								0	0				
13	Internal gains:			Occupants @	230		0			0				
				Appliances/other						0				
	Subtotal (lines 6 to 13)								1810	164				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								0	0				
14	Subtotal								1810	164				
15	Duct loads						-0%	0%	0	0				
	Total room load								1810	164				
	Air required (cfm)								67	10				

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

# Loads for Multiple Orientations

## Entire House

### Yates Heating

Job:  
Date: Mar 05, 2020  
By:

OH 45385

## Project Information

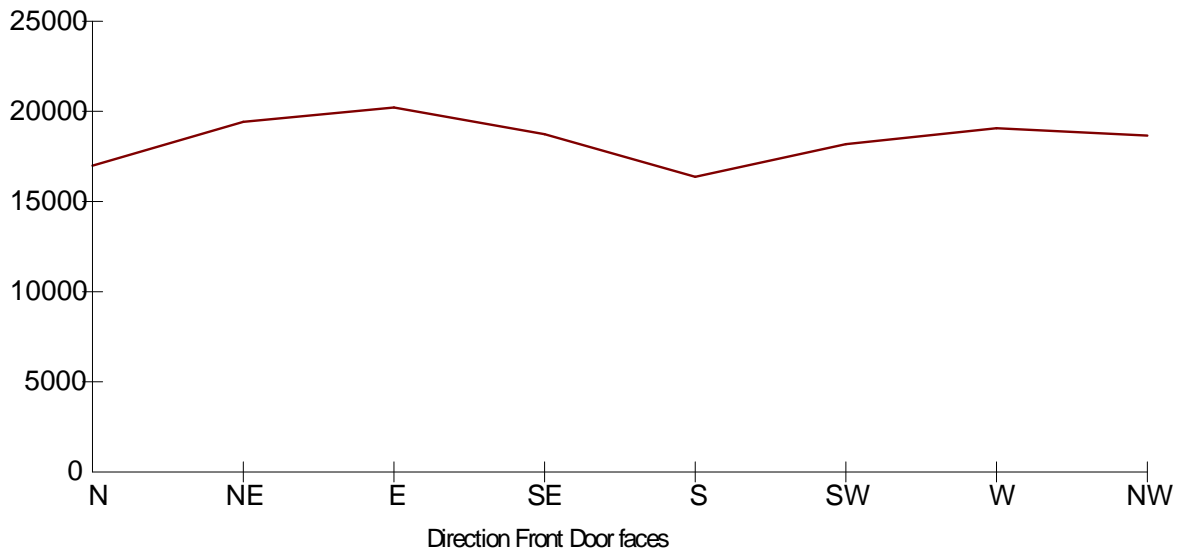
For: Mcintire  
460 West Krepps Rd, Xenia, OH 45385

## Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Dayton IAP, OH, US		Indoor temperature (°F)		70	70
Elevation: 1004 ft		Design TD (°F)		63	19
Latitude: 40 °N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		50.3	44.7
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	7	89			
Daily range (°F)	-	20 ( M )			
Wet bulb (°F)	-	73			
Wind speed (mph)	15.0	7.5			

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	13124	15549	16351	14865	12499	14315	15197	14793
Latent Load (Btuh)	3867	3867	3867	3867	3867	3867	3867	3867
Total Load (Btuh)	16992	19416	20218	18733	16367	18183	19065	18661
Heating AVF (cfm)	792	955	1008	909	751	872	931	904
Cooling AVF (cfm)	792	955	1008	909	751	872	931	904

### Building Orientation Cooling Load



Current Orientation: Front Door faces South  
Highest Cooling Load: Front Door faces East

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