BUILDING INFORMATION

Category:	**Residential**
Status:	**In planning**
Building type:	**New construction**
Year of construction:	**2021**
Units:	**60**
Number of occupants:	**123 (Design)**
Occupant density:	**449.5** ft²/Person

Boundary conditions

Climate: **WHITE PLAINS WESTCHESTER CO A NY**

Internal heat gains:	**1.2**	Btu/hr ft²
Interior temperature:	**68**	°F
Overheat temperature:	**77**	°F

Building geometry

Enclosed volume:	**660,421.3**	ft³
Net-volume:	**443,142**	ft³
Total area envelope:	**52,713.9**	ft²
Area/Volume Ratio:	**0.1**	1/ft
Floor area:	**55,289**	ft²
Envelope area/iCFA:	**0.953**	

PASSIVEHOUSE REQUIREMENTS

Certificate criteria: PHIUS+ 2018

Heating demand

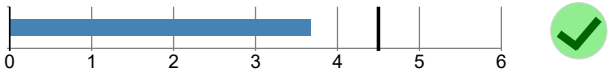
specific:	**3.75**	kBtu/ft²yr
target:	**5.4**	kBtu/ft²yr
total:	207,125.37	kBtu/yr

Cooling demand

sensible:	**2.92**	kBtu/ft²yr
latent:	**0.34**	kBtu/ft²yr
specific:	**3.25**	kBtu/ft²yr
target:	**7.7**	kBtu/ft²yr
total:	179,897.02	kBtu/yr

Heating load

specific:	**3.67**	Btu/hr ft²
target:	**4.5**	Btu/hr ft²
total:	203,053.37	Btu/hr

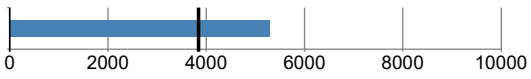


Cooling load

specific:	**2.84**	Btu/hr ft²
target:	**2.9**	Btu/hr ft²
total:	157,077.04	Btu/hr

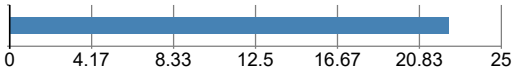
Source energy

total:	**650,997.33**	kWh/yr
specific:	**5,293**	kWh/Person yr
target:	**3,840**	kWh/Person yr
total:	**2,221,075.84**	kBtu/yr
specific:	40.18	kBtu/ft²yr



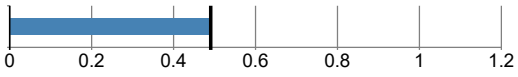
Site energy

total:	1,233,931.02	kBtu/yr
specific:	22.32	kBtu/ft²yr
total:	361,665.18	kWh/yr
specific:	6.54	kWh/ft²



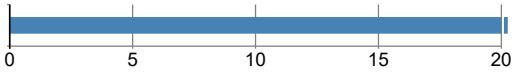
Air tightness

ACH50:	**0.49**	1/hr
CFM50 per envelope area:	**0.06**	cfm/ft²
target:	**0.49**	1/hr
target CFM50:	**0.06**	cfm/ft²



PASSIVEHOUSE RECOMMENDATIONS

Sensible recovery efficiency:	**68.5**	%
Frequency of overheating: Cooling system is required	**28.3**	%



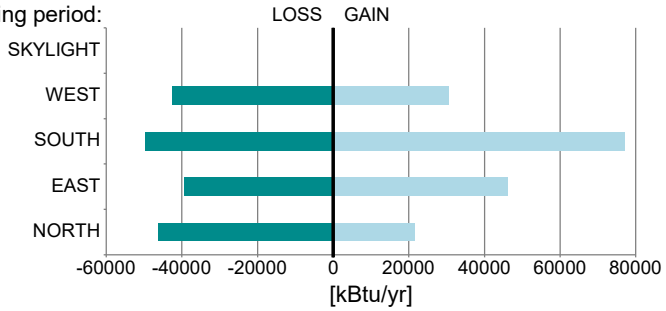
Frequency of overheating only applies if there is not a [properly sized] cooling system installed.

BUILDING ELEMENTS

Windows

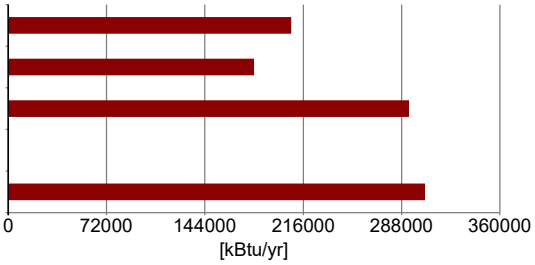
Average SHGC:	**0.34**	
Average solar reduction factor heating:	**0.56**	
Average solar reduction factor cooling:	**0.51**	
Average U-value:	**0.183**	Btu/hr ft² °F
Total glazing area:	**5,070.3**	ft²
Total window area:	**7,280.2**	ft²

Heat gain/loss heating period:



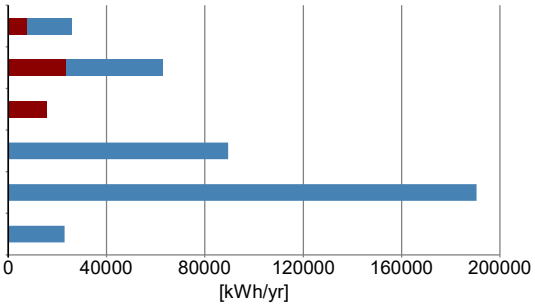
HVAC

Total heating demand:	**207,125**	kBtu/yr
Total cooling demand:	**179,897**	kBtu/yr
Total DHW energy demand:	**293,473**	kBtu/yr
Solar DHW contribution:	**0**	kBtu/yr
Auxiliary electricity:	**305,206**	kBtu/yr



Electricity

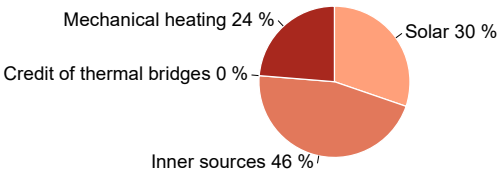
Direct heating / DHW:	**25,956**	kWh/yr
Heatpump heating:	**62,997**	kWh/yr
Cooling:	**15,744**	kWh/yr
HVAC auxiliary energy:	**89,456**	kWh/yr
Appliances:	**190,448**	kWh/yr
Renewable generation, coincident production and use	**22,935**	kWh/yr
Total electricity demand:	**361,665**	kWh/yr



HEAT FLOW - HEATING PERIOD

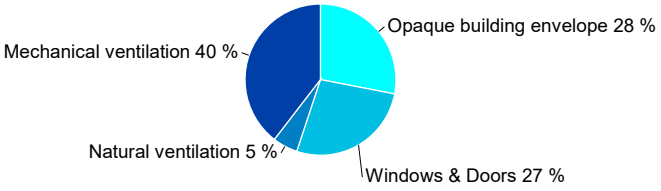
Heat gains

Solar:	**217,270**	kBtu/yr
Inner sources:	**330,510**	kBtu/yr
Credit of thermal bridges:	**0**	kBtu/yr
Mechanical heating:	**207,125**	kBtu/yr



Heat losses

Opaque building envelope:	**210,862**	kBtu/yr
Windows & Doors:	**203,594**	kBtu/yr
Natural ventilation:	**40,558**	kBtu/yr
Mechanical ventilation:	**297,128**	kBtu/yr

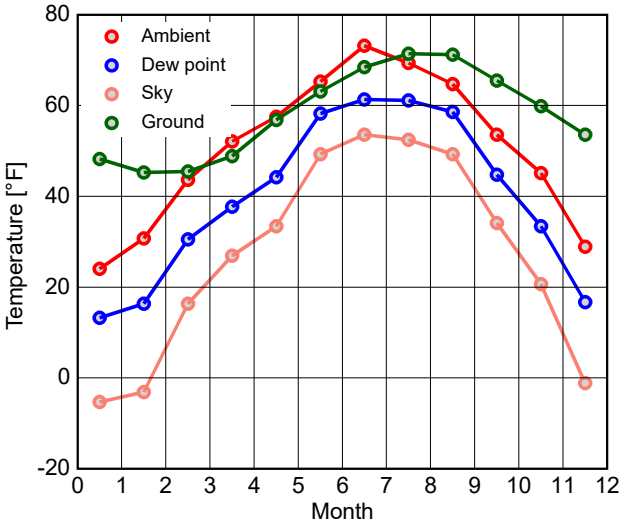


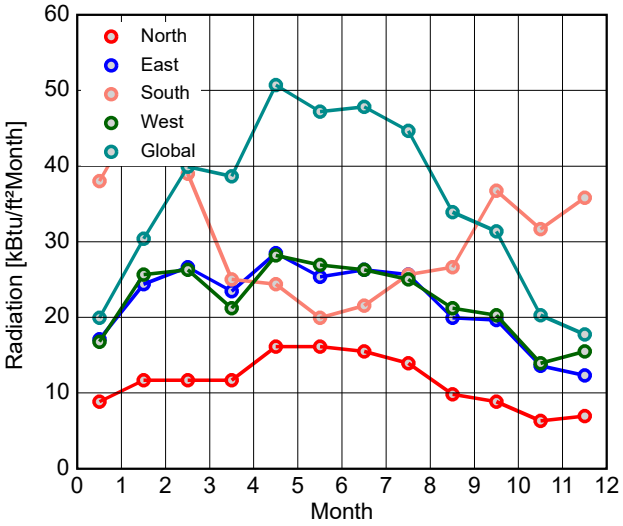
CLIMATE

Latitude:	**41.1**	°
Longitude:	**-73.7**	°
Elevation of weather station:	**400.3**	ft
Elevation of building site:	**105**	ft
Heat capacity air:	**0.018**	Btu/ft³F
Daily temperature swing summer:	**18.5**	°F
Average wind speed:	**13.1**	ft/s

Ground

Average ground surface temperature:	**53.5**	°F
Amplitude ground surface temperature:	**56.6**	°F
Ground thermal conductivity:	**1.2**	Btu/hr ft °F
Ground heat capacity:	**29.8**	Btu/ft³F
Depth below grade of groundwater:	**9.8**	ft
Flow rate groundwater:	**0.2**	ft/d





Calculation parameters

Length of heating period:	**243**	days/yr
Heating degree hours:	**133.6**	kFh/a
Phase shift months:	**1.3**	mths
Time constant heating demand:	**115.1**	hr
Time constant cooling demand:	**0**	hr
Time constant cooling demand with night ventilation:	**0**	hr

Climate for		Heating load 1	Heating load 2	Cooling
Temperature	[°F]	13.8	33.8	80.1
Solar radiation North	[Btu/hr ft²]	14.3	7	26
Solar radiation East	[Btu/hr ft²]	32.3	8.6	54.2
Solar radiation South	[Btu/hr ft²]	75.8	13.3	41.8
Solar radiation West	[Btu/hr ft²]	30.7	9.2	52.9
Solar radiation Global	[Btu/hr ft²]	36.5	11.7	98.6

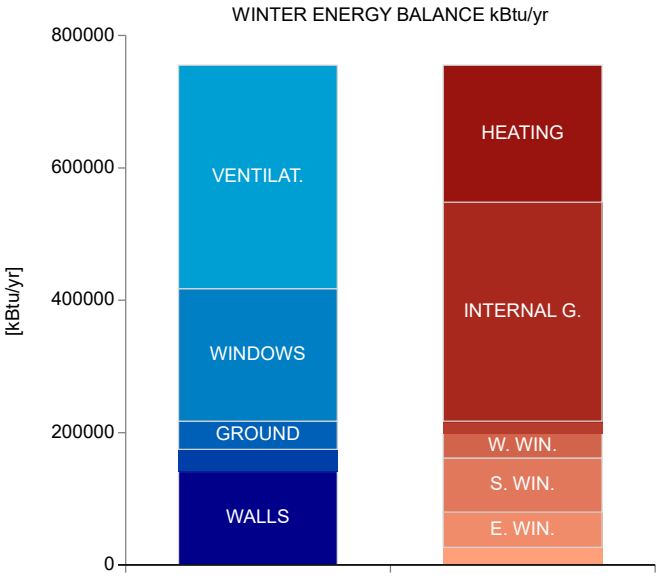
Relevant boundary conditions for heating load calculation: Heating load 1

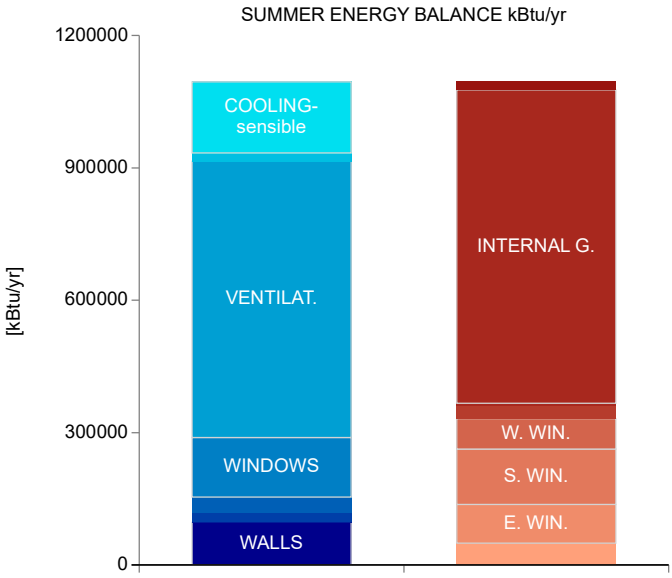
ANNUAL HEAT DEMAND

Transmission losses :	**417,218**	kBtu/yr
Ventilation losses:	**337,686**	kBtu/yr
Total heat losses:	**754,905**	kBtu/yr
Solar heat gains:	**264,420**	kBtu/yr
Internal heat gains:	**402,235**	kBtu/yr
Total heat gains:	**666,655**	kBtu/yr
Utilization factor:	**82.2**	%
Useful heat gains:	**547,779**	kBtu/yr
Annual heat demand:	**207,125**	kBtu/yr
Specific annual heat demand:	**3,746.6**	Btu/ft²yr

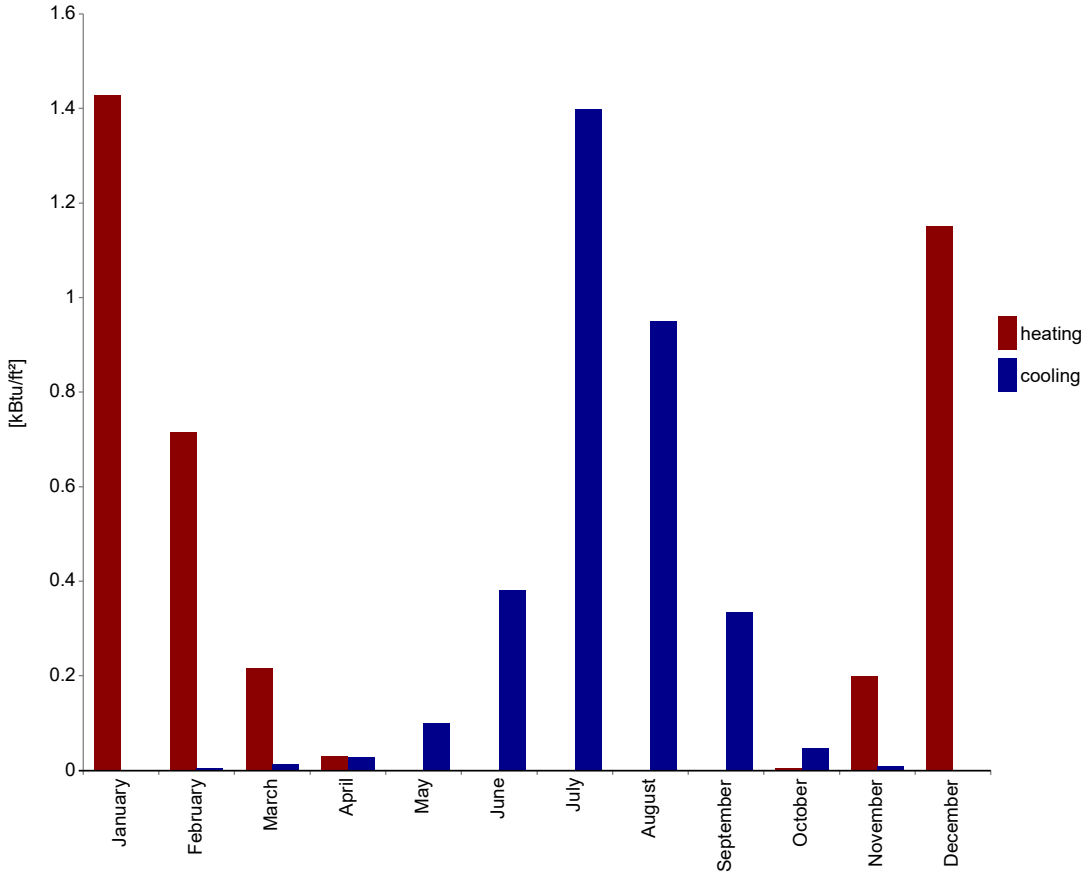
ANNUAL COOLING DEMAND

Solar heat gains:	**366,623**	kBtu/yr
Internal heat gains:	**709,705**	kBtu/yr
Total heat gains:	**1,076,328**	kBtu/yr
Transmission losses :	**666,057**	kBtu/yr
Ventilation losses:	**1,445,805**	kBtu/yr
Total heat losses:	**2,111,861**	kBtu/yr
Utilization factor:	**43.3**	%
Useful heat losses:	**915,115**	kBtu/yr
Cooling demand - sensible:	**161,213**	kBtu/yr
Cooling demand - latent:	**18,684**	kBtu/yr
Annual cooling demand:	**179,897**	kBtu/yr
Specific annual cooling demand:	**3.3**	kBtu/ft²yr





SPECIFIC HEAT/COOLING DEMAND MONTHLY



Month	Heating [kBtu/ft²]	Cooling [kBtu/ft²]
January	1.4	0
February	0.7	0
March	0.2	0
April	0	0
May	0	0.1
June	0	0.4
July	0	1.4
August	0	0.9
September	0	0.3
October	0	0
November	0.2	0
December	1.2	0

HEATING LOAD

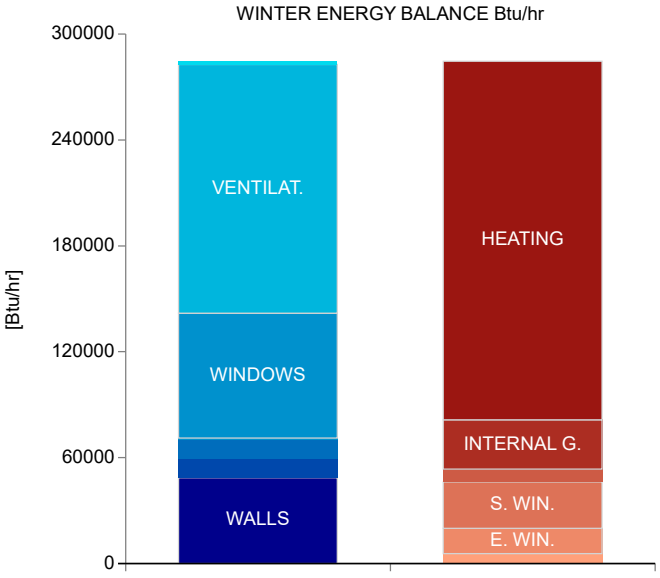
	First climate		Second climate	
Transmission heat losses:	**143,602.3**	Btu/hr	**95,910**	Btu/hr
Ventilation heat losses:	**140,946.7**	Btu/hr	**88,020.2**	Btu/hr
Total heat loss:	**284,549**	Btu/hr	**183,930.2**	Btu/hr
Solar heat gain:	**53,453.2**	Btu/hr	**13,303**	Btu/hr
Internal heat gain:	**28,042.4**	Btu/hr	**28,042.4**	Btu/hr
Total heat gains heating:	**81,495.7**	Btu/hr	**41,345.4**	Btu/hr
Heating load:	**203,053.4**	Btu/hr	**142,584.8**	Btu/hr

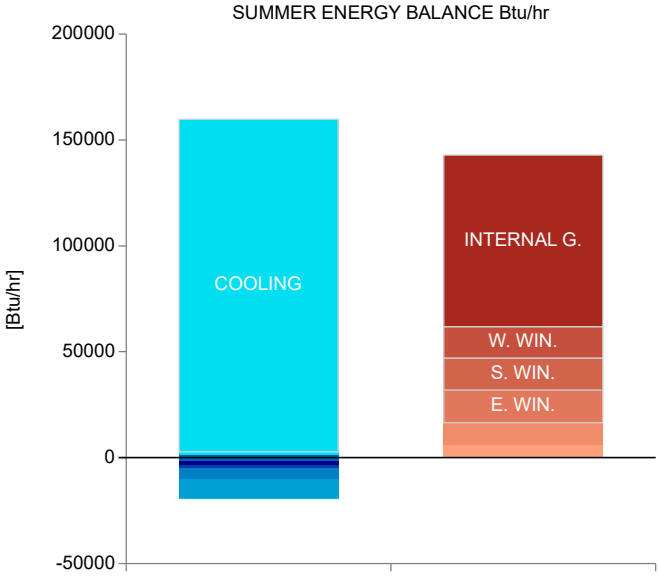
Relevant heating load:	**203,053.4**	Btu/hr
Specific heating load:	**3.7**	Btu/hr ft²

COOLING LOAD

Solar heat gain:	**61,804.8**	Btu/hr
Internal heat gain:	**81,024.5**	Btu/hr
Total heat gains cooling:	**142,829.3**	Btu/hr
Transmission heat losses:	**-5,197.7**	Btu/hr
Ventilation heat losses:	**-9,050.1**	Btu/hr
Total heat loss:	**-14,247.8**	Btu/hr
Cooling load - sensible:	**157,077**	Btu/hr
Cooling load - latent:	**0**	Btu/hr

Relevant cooling load:	**157,077**	Btu/hr
Specific maximum cooling load:	**2.8**	Btu/hr ft²





AREAS

Name	Area [ft²]	Average U-value [Btu/hr ft² °F]	Absorption coefficient	Emission coefficient	Reduction factor shading [%]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.1: Slab on grade: Horizontal (3879.61 ft², width 95.333 ft)	3879.6	0.062	0	0	0	21511.1	39743.7
VC.1: Slab on grade: Horizontal (2132.46 ft², width 93.417 ft)	2132.5	0.062	0	0	0	11823.8	21845.4
VC.2: Foundation wall: SE (A113°, 108.1 ft², width 8.75 ft)	108.1	0.117	0	0	0	1118.5	2066.6
VC.2: Foundation wall: SW (A203°, 246.57 ft², width 36.417 ft)	246.6	0.117	0	0	0	2551.4	4713.9
VC.2: Foundation wall: SW (A203°, 80.82 ft², width 8.917 ft)	80.8	0.117	0	0	0	836.3	1545
VC.2: Foundation wall: NW (A293°, 14.41 ft², width 1.167 ft)	14.4	0.117	0	0	0	149.1	275.5
VC.2: Foundation wall: SW (A203°, 140.01 ft², width 11.333 ft)	140	0.117	0	0	0	1448.8	2676.7
VC.2: Foundation wall: NW (A293°, 42.34 ft², width 7.583 ft)	42.3	0.117	0	0	0	438.1	809.4
VC.2: Foundation wall: NE (A23°, 113.06 ft², width 20.25 ft)	113.1	0.117	0	0	0	1169.9	2161.5
VC.2: Foundation wall: NW (A293°, 28.91 ft², width 14.417 ft)	28.9	0.117	0	0	0	299.2	552.7
VC.2: Foundation wall: SW (A203°, 1.67 ft², width 0.833 ft)	1.7	0.117	0	0	0	17.3	31.9
VC.2: Foundation wall: NW (A293°, 70.53 ft², width 35.167 ft)	70.5	0.117	0	0	0	729.8	1348.3
VC.2: Foundation wall: SW (A203°, 5.68 ft², width 2.833 ft)	5.7	0.117	0	0	0	58.8	108.6
VC.2: Foundation wall: NW (A293°, 20.89 ft², width 10.417 ft)	20.9	0.117	0	0	0	216.2	399.4
VC.2: Foundation wall: SE (A113°, 0.33 ft², width 0.167 ft)	0.3	0.117	0	0	0	3.5	6.4
VC.2: Foundation wall: SE (A113°, 1.67 ft², width 0.833 ft)	1.7	0.117	0	0	0	17.3	31.9
VC.2: Foundation wall: NE (A23°, 23.4 ft², width 11.667 ft)	23.4	0.117	0	0	0	242.1	447.3
VC.2: Foundation wall: NE (A23°, 45.46 ft², width 22.667 ft)	45.5	0.117	0	0	0	470.4	869
VC.2: Foundation wall: NE (A23°, 205.58 ft², width 61 ft)	205.6	0.117	0	0	0	2127.2	3930.2
VC.2: Foundation wall: SE (A113°, 178.76 ft², width 32.75 ft)	178.8	0.117	0	0	0	1849.7	3417.5
VC.3: Foundation wall (to crawl): SE (A113°, 189.68 ft², width 32.75 ft)	189.7	0.113	0	0	0	0	0
VC.3: Foundation wall (to crawl): NE (A23°, 52.26 ft², width 11.667 ft)	52.3	0.113	0	0	0	0	0
VC.3: Foundation wall (to crawl): SE (A113°, 64.95 ft², width 14.5 ft)	64.9	0.113	0	0	0	0	0
VC.3: Foundation wall (to crawl): NE (A23°, 78.76 ft², width 17.583 ft)	78.8	0.113	0	0	0	0	0
VC.3: Foundation wall (to crawl): SE (A113°, 43.67 ft², width 9.75 ft)	43.7	0.113	0	0	0	0	0
VC.3: Foundation wall (to crawl): SW (A203°, 69.05 ft², width 15.417 ft)	69.1	0.113	0	0	0	0	0
VC.4: Foundation wall (to MEP): SW (A203°, 117.95 ft², width 26.333 ft)	118	0.113	0	0	0	0	0
VC.4: Foundation wall (to MEP): SW (A203°, 282.29 ft², width 27.5 ft)	282.3	0.113	0	0	0	0	0
VC.4: Foundation wall (to MEP): SW (A203°, 107.2 ft², width 15.833 ft)	107.2	0.113	0	0	0	0	0
VC.4: Foundation wall (to MEP): SE (A113°, 126.39 ft², width 18.667 ft)	126.4	0.113	0	0	0	0	0
VC.4: Foundation wall (to MEP): NW (A293°, 106.75 ft², width 23.833 ft)	106.8	0.113	0	0	0	0	0
VC.5: Insulated floor (over MEP): Horizontal (449.39 ft², width 15.833 ft)	449.4	0.028	0	0	0	0	0
VC.5: Insulated floor (over MEP): Horizontal (1964.89 ft², width 56.667 ft)	1964.9	0.028	0	0	0	0	0
VC.6: Insulated floor (over crawl): Horizontal (4069.5 ft², width 59.833 ft)	4069.5	0.028	0	0	0	0	0
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)	38	0.043	0.4	0.9	100	248	384.8
VC.7: EW-2 (Short walls): NE (A23°, 167.29 ft², width 3.667 ft)	167.3	0.043	0.4	0.9	100	1091	1693.3
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)	38	0.043	0.4	0.9	100	248	384.8
VC.7: EW-2 (Short walls): SE (A113°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): NW (A293°, 91.25 ft², width 2 ft)	91.3	0.043	0.4	0.9	100	595.1	923.6
VC.7: EW-2 (Short walls): NW (A293°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): SW (A203°, 167.29 ft², width 3.667 ft)	167.3	0.043	0.4	0.9	100	1091	1693.3
VC.7: EW-2 (Short walls): SW (A203°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): SW (A203°, 50.1 ft², width 1 ft)	50.1	0.043	0.4	0.9	100	326.8	507.1
VC.7: EW-2 (Short walls): SE (A113°, 91.25 ft², width 2 ft)	91.3	0.043	0.4	0.9	100	595.1	923.6
VC.7: EW-2 (Short walls): NW (A293°, 50.1 ft², width 1 ft)	50.1	0.043	0.4	0.9	100	326.8	507.1
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): SE (A113°, 50.1 ft², width 1 ft)	50.1	0.043	0.4	0.9	100	326.8	507.1

Transmission heat losses - areas (continue)

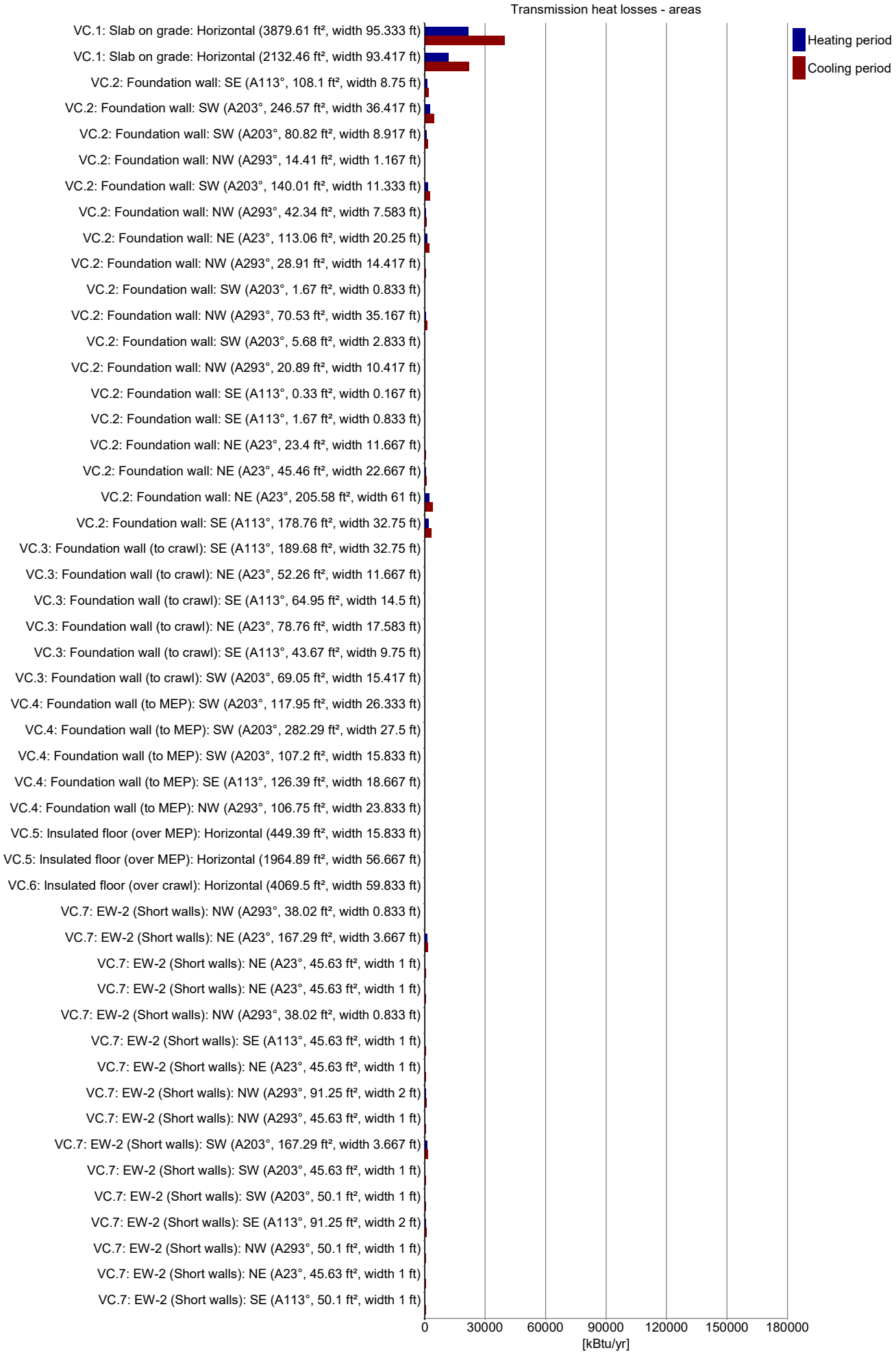
Name	Area [ft²]	Average U-value [Btu/hr ft² °F]	Absorption coefficient	Emission coefficient	Reduction factor shading [%]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): SE (A113°, 38.02 ft², width 0.833 ft)	38	0.043	0.4	0.9	100	248	384.8
VC.7: EW-2 (Short walls): SE (A113°, 38.02 ft², width 0.833 ft)	38	0.043	0.4	0.9	100	248	384.8
VC.7: EW-2 (Short walls): SE (A113°, 38.02 ft², width 0.833 ft)	38	0.043	0.4	0.9	100	248	384.8
VC.7: EW-2 (Short walls): SW (A203°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): SW (A203°, 45.63 ft², width 1 ft)	45.6	0.043	0.4	0.9	100	297.6	461.8
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)	38	0.043	0.4	0.9	100	248	384.8
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)	38	0.043	0.4	0.9	100	248	384.8
VC.8: EW-1 (Typical): SE (A113°, 391.77 ft², width 13.25 ft)	391.8	0.031	0.4	0.9	100	1845	2863.3
VC.8: EW-1 (Typical): SW (A203°, 989.92 ft², width 27.083 ft)	989.9	0.031	0.4	0.9	100	4661.8	7235
VC.8: EW-1 (Typical): SW (A203°, 151.31 ft², width 4.5 ft)	151.3	0.031	0.4	0.9	100	712.6	1105.9
VC.8: EW-1 (Typical): SW (A203°, 989.92 ft², width 27.083 ft)	989.9	0.031	0.4	0.9	100	4661.8	7235
VC.8: EW-1 (Typical): NW (A293°, 391.77 ft², width 13.25 ft)	391.8	0.031	0.4	0.9	100	1845	2863.3
VC.8: EW-1 (Typical): NW (A293°, 449.64 ft², width 13 ft)	449.6	0.031	0.4	0.9	100	2117.5	3286.3
VC.8: EW-1 (Typical): NW (A293°, 449.64 ft², width 13 ft)	449.6	0.031	0.4	0.9	100	2117.5	3286.3
VC.8: EW-1 (Typical): NW (A293°, 433.8 ft², width 10.833 ft)	433.8	0.031	0.4	0.9	100	2042.9	3170.5
VC.8: EW-1 (Typical): NW (A293°, 724.38 ft², width 22.167 ft)	724.4	0.031	0.4	0.9	100	3411.3	5294.3
VC.8: EW-1 (Typical): SE (A113°, 757.13 ft², width 22.167 ft)	757.1	0.031	0.4	0.9	100	3565.5	5533.7
VC.8: EW-1 (Typical): NE (A23°, 180.26 ft², width 23.542 ft)	180.3	0.031	0.4	0.9	100	848.9	1317.4
VC.8: EW-1 (Typical): SE (A113°, 83.19 ft², width 10.833 ft)	83.2	0.031	0.4	0.9	100	391.8	608
VC.8: EW-1 (Typical): SW (A203°, 180.26 ft², width 23.542 ft)	180.3	0.031	0.4	0.9	100	848.9	1317.4
VC.8: EW-1 (Typical): NE (A23°, 404.01 ft², width 12 ft)	404	0.031	0.4	0.9	100	1902.6	2952.8
VC.8: EW-1 (Typical): NE (A23°, 724.38 ft², width 22.167 ft)	724.4	0.031	0.4	0.9	100	3411.3	5294.3
VC.8: EW-1 (Typical): NE (A23°, 889.77 ft², width 25.792 ft)	889.8	0.031	0.4	0.9	100	4190.1	6503
VC.8: EW-1 (Typical): NE (A23°, 449.64 ft², width 13 ft)	449.6	0.031	0.4	0.9	100	2117.5	3286.3
VC.8: EW-1 (Typical): NE (A23°, 424.92 ft², width 12.458 ft)	424.9	0.031	0.4	0.9	100	2001.1	3105.6
VC.8: EW-1 (Typical): NE (A23°, 437.4 ft², width 14.25 ft)	437.4	0.031	0.4	0.9	100	2059.8	3196.8
VC.8: EW-1 (Typical): SE (A113°, 460.21 ft², width 14.75 ft)	460.2	0.031	0.4	0.9	100	2167.2	3363.5
VC.8: EW-1 (Typical): SE (A113°, 578.91 ft², width 15.833 ft)	578.9	0.031	0.4	0.9	100	2726.2	4231.1
VC.8: EW-1 (Typical): SE (A113°, 425.99 ft², width 14 ft)	426	0.031	0.4	0.9	100	2006.1	3113.4
VC.8: EW-1 (Typical): SE (A113°, 906.88 ft², width 26.167 ft)	906.9	0.031	0.4	0.9	100	4270.7	6628.1
VC.8: EW-1 (Typical): SE (A113°, 504.91 ft², width 12.25 ft)	504.9	0.031	0.4	0.9	100	2377.7	3690.2
VC.8: EW-1 (Typical): SW (A203°, 353.75 ft², width 12.417 ft)	353.8	0.031	0.4	0.9	100	1665.9	2585.5
VC.8: EW-1 (Typical): SW (A203°, 859.87 ft², width 23.167 ft)	859.9	0.031	0.4	0.9	100	4049.4	6284.5
VC.8: EW-1 (Typical): SW (A203°, 353.75 ft², width 12.417 ft)	353.8	0.031	0.4	0.9	100	1665.9	2585.5
VC.8: EW-1 (Typical): NW (A293°, 460.21 ft², width 14.75 ft)	460.2	0.031	0.4	0.9	100	2167.2	3363.5
VC.8: EW-1 (Typical): NW (A293°, 414.04 ft², width 10.25 ft)	414	0.031	0.4	0.9	100	1949.8	3026.1
VC.8: EW-1 (Typical): SW (A203°, 656.58 ft², width 27.792 ft)	656.6	0.031	0.4	0.9	100	3092	4798.7
VC.8: EW-1 (Typical): SW (A203°, 906.12 ft², width 25.833 ft)	906.1	0.031	0.4	0.9	100	4267.2	6622.6
VC.8: EW-1 (Typical): NE (A23°, 724.38 ft², width 22.167 ft)	724.4	0.031	0.4	0.9	100	3411.3	5294.3
VC.8: EW-1 (Typical): SW (A203°, 205.68 ft², width 20.917 ft)	205.7	0.031	0.4	0.9	100	968.6	1503.3
VC.8: EW-1 (Typical): SE (A113°, 284.75 ft², width 22.333 ft)	284.8	0.031	0.4	0.9	100	1341	2081.2
VC.8: EW-1 (Typical): NW (A293°, 125.38 ft², width 12.75 ft)	125.4	0.031	0.4	0.9	100	590.4	916.3
VC.8: EW-1 (Typical): NE (A23°, 186.83 ft², width 19 ft)	186.8	0.031	0.4	0.9	100	879.8	1365.5
VC.8: EW-1 (Typical): SE (A113°, 102.04 ft², width 12.75 ft)	102	0.031	0.4	0.9	100	480.5	745.8
VC.8: EW-1 (Typical): NE (A23°, 327.69 ft², width 20.917 ft)	327.7	0.031	0.4	0.9	100	1543.2	2395
VC.8: EW-1 (Typical): SW (A203°, 461.51 ft², width 12.833 ft)	461.5	0.031	0.4	0.9	100	2173.4	3373.1
VC.8: EW-1 (Typical): SE (A113°, 537.67 ft², width 14.333 ft)	537.7	0.031	0.4	0.9	100	2532	3929.7
VC.8: EW-1 (Typical): NW (A293°, 261.42 ft², width 22.333 ft)	261.4	0.031	0.4	0.9	100	1231.1	1910.6

Transmission heat losses - areas (continue)

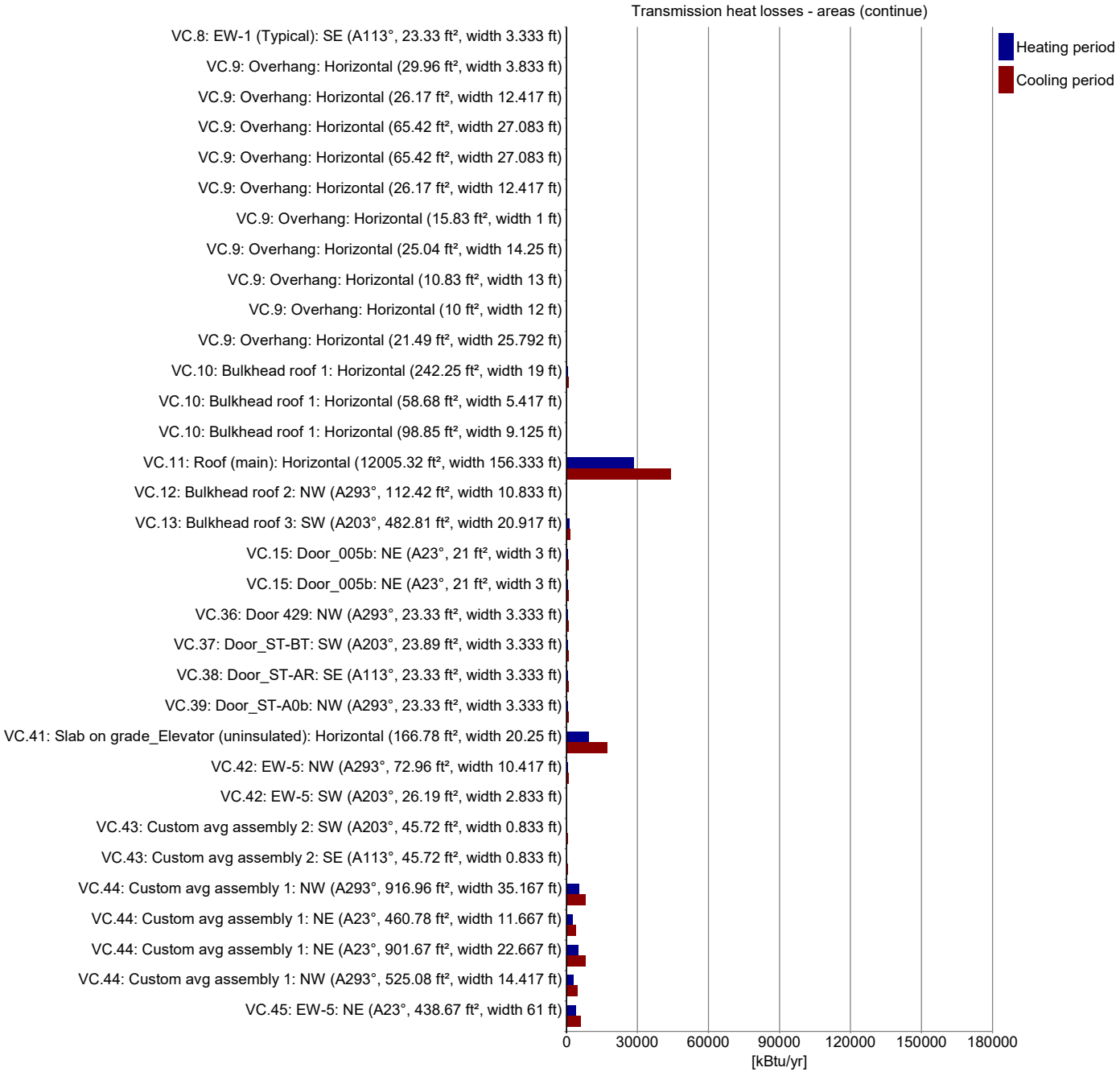
Name	Area [ft²]	Average U-value [Btu/hr ft² °F]	Absorption coefficient	Emission coefficient	Reduction factor shading [%]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.8: EW-1 (Typical): SE (A113°, 23.33 ft², width 3.333 ft)	23.3	0.031	0.4	0.9	100	109.9	170.5
VC.9: Overhang: Horizontal (29.96 ft², width 3.833 ft)	30	0.018	0.4	0.9	100	79.5	123.4
VC.9: Overhang: Horizontal (26.17 ft², width 12.417 ft)	26.2	0.018	0.4	0.9	100	69.5	107.8
VC.9: Overhang: Horizontal (65.42 ft², width 27.083 ft)	65.4	0.018	0.4	0.9	100	173.6	269.5
VC.9: Overhang: Horizontal (65.42 ft², width 27.083 ft)	65.4	0.018	0.4	0.9	100	173.6	269.5
VC.9: Overhang: Horizontal (26.17 ft², width 12.417 ft)	26.2	0.018	0.4	0.9	100	69.5	107.8
VC.9: Overhang: Horizontal (15.83 ft², width 1 ft)	15.8	0.018	0.4	0.9	100	42	65.2
VC.9: Overhang: Horizontal (25.04 ft², width 14.25 ft)	25	0.018	0.4	0.9	100	66.5	103.2
VC.9: Overhang: Horizontal (10.83 ft², width 13 ft)	10.8	0.018	0.4	0.9	100	28.8	44.6
VC.9: Overhang: Horizontal (10 ft², width 12 ft)	10	0.018	0.4	0.9	100	26.5	41.2
VC.9: Overhang: Horizontal (21.49 ft², width 25.792 ft)	21.5	0.018	0.4	0.9	100	57.1	88.5
VC.10: Bulkhead roof 1: Horizontal (242.25 ft², width 19 ft)	242.3	0.015	0.4	0.9	100	553.4	858.8
VC.10: Bulkhead roof 1: Horizontal (58.68 ft², width 5.417 ft)	58.7	0.015	0.4	0.9	100	134	208
VC.10: Bulkhead roof 1: Horizontal (98.85 ft², width 9.125 ft)	98.9	0.015	0.4	0.9	100	225.8	350.5
VC.11: Roof (main): Horizontal (12005.32 ft², width 156.333 ft)	12005.3	0.016	0.4	0.9	100	28340.6	43984.2
VC.12: Bulkhead roof 2: NW (A293°, 112.42 ft², width 10.833 ft)	112.4	0.015	0.4	0.9	100	256.8	398.6
VC.13: Bulkhead roof 3: SW (A203°, 482.81 ft², width 20.917 ft)	482.8	0.015	0.4	0.9	100	1102.9	1711.7
VC.15: Door_005b: NE (A23°, 21 ft², width 3 ft)	21	0.168	0.4	0.9	100	529.6	822
VC.15: Door_005b: NE (A23°, 21 ft², width 3 ft)	21	0.168	0.4	0.9	100	529.6	822
VC.36: Door 429: NW (A293°, 23.33 ft², width 3.333 ft)	23.3	0.168	0.4	0.9	100	588.5	913.3
VC.37: Door_ST-BT: SW (A203°, 23.89 ft², width 3.333 ft)	23.9	0.168	0.4	0.9	100	602.5	935
VC.38: Door_ST-AR: SE (A113°, 23.33 ft², width 3.333 ft)	23.3	0.168	0.4	0.9	100	588.5	913.3
VC.39: Door_ST-A0b: NW (A293°, 23.33 ft², width 3.333 ft)	23.3	0.168	0.4	0.9	100	588.5	913.3
VC.41: Slab on grade_Elevator (uninsulated): Horizontal (166.78 ft², width 20.25 ft)	166.8	0.627	0	0	0	9283.9	17152.8
VC.42: EW-5: NW (A293°, 72.96 ft², width 10.417 ft)	73	0.059	0.4	0.9	100	650.7	1009.8
VC.42: EW-5: SW (A203°, 26.19 ft², width 2.833 ft)	26.2	0.059	0.4	0.9	100	233.6	362.5
VC.43: Custom avg assembly 2: SW (A203°, 45.72 ft², width 0.833 ft)	45.7	0.047	0.4	0.9	100	323.4	501.9
VC.43: Custom avg assembly 2: SE (A113°, 45.72 ft², width 0.833 ft)	45.7	0.047	0.4	0.9	100	323.4	501.9
VC.44: Custom avg assembly 1: NW (A293°, 916.96 ft², width 35.167 ft)	917	0.038	0.4	0.9	100	5190.9	8056.2
VC.44: Custom avg assembly 1: NE (A23°, 460.78 ft², width 11.667 ft)	460.8	0.038	0.4	0.9	100	2608.5	4048.3
VC.44: Custom avg assembly 1: NE (A23°, 901.67 ft², width 22.667 ft)	901.7	0.038	0.4	0.9	100	5104.3	7921.9
VC.44: Custom avg assembly 1: NW (A293°, 525.08 ft², width 14.417 ft)	525.1	0.038	0.4	0.9	100	2972.5	4613.3
VC.45: EW-5: NE (A23°, 438.67 ft², width 61 ft)	438.7	0.059	0.4	0.9	100	3911.8	6071.1

Degree hours [kFh/a]

	Heating	Cooling
Ambient heating	83.6	129.7
Ground heating	49.3	91.2


Transmission heat losses - areas
Heating period
Cooling period
VC.1: Slab on grade: Horizontal (3879.61 ft², width 95.333 ft)
VC.1: Slab on grade: Horizontal (2132.46 ft², width 93.417 ft)
VC.2: Foundation wall: SE (A113°, 108.1 ft², width 8.75 ft)
VC.2: Foundation wall: SW (A203°, 246.57 ft², width 36.417 ft)
VC.2: Foundation wall: SW (A203°, 80.82 ft², width 8.917 ft)
VC.2: Foundation wall: NW (A293°, 14.41 ft², width 1.167 ft)
VC.2: Foundation wall: SW (A203°, 140.01 ft², width 11.333 ft)
VC.2: Foundation wall: NW (A293°, 42.34 ft², width 7.583 ft)
VC.2: Foundation wall: NE (A23°, 113.06 ft², width 20.25 ft)
VC.2: Foundation wall: NW (A293°, 28.91 ft², width 14.417 ft)
VC.2: Foundation wall: SW (A203°, 1.67 ft², width 0.833 ft)
VC.2: Foundation wall: NW (A293°, 70.53 ft², width 35.167 ft)
VC.2: Foundation wall: SW (A203°, 5.68 ft², width 2.833 ft)
VC.2: Foundation wall: NW (A293°, 20.89 ft², width 10.417 ft)
VC.2: Foundation wall: SE (A113°, 0.33 ft², width 0.167 ft)
VC.2: Foundation wall: SE (A113°, 1.67 ft², width 0.833 ft)
VC.2: Foundation wall: NE (A23°, 23.4 ft², width 11.667 ft)
VC.2: Foundation wall: NE (A23°, 45.46 ft², width 22.667 ft)
VC.2: Foundation wall: NE (A23°, 205.58 ft², width 61 ft)
VC.2: Foundation wall: SE (A113°, 178.76 ft², width 32.75 ft)
VC.3: Foundation wall (to crawl): SE (A113°, 189.68 ft², width 32.75 ft)
VC.3: Foundation wall (to crawl): NE (A23°, 52.26 ft², width 11.667 ft)
VC.3: Foundation wall (to crawl): SE (A113°, 64.95 ft², width 14.5 ft)
VC.3: Foundation wall (to crawl): NE (A23°, 78.76 ft², width 17.583 ft)
VC.3: Foundation wall (to crawl): SE (A113°, 43.67 ft², width 9.75 ft)
VC.3: Foundation wall (to crawl): SW (A203°, 69.05 ft², width 15.417 ft)
VC.4: Foundation wall (to MEP): SW (A203°, 117.95 ft², width 26.333 ft)
VC.4: Foundation wall (to MEP): SW (A203°, 282.29 ft², width 27.5 ft)
VC.4: Foundation wall (to MEP): SW (A203°, 107.2 ft², width 15.833 ft)
VC.4: Foundation wall (to MEP): SE (A113°, 126.39 ft², width 18.667 ft)
VC.4: Foundation wall (to MEP): NW (A293°, 106.75 ft², width 23.833 ft)
VC.5: Insulated floor (over MEP): Horizontal (449.39 ft², width 15.833 ft)
VC.5: Insulated floor (over MEP): Horizontal (1964.89 ft², width 56.667 ft)
VC.6: Insulated floor (over crawl): Horizontal (4069.5 ft², width 59.833 ft)
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)
VC.7: EW-2 (Short walls): NE (A23°, 167.29 ft², width 3.667 ft)
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)
VC.7: EW-2 (Short walls): SE (A113°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): NW (A293°, 91.25 ft², width 2 ft)
VC.7: EW-2 (Short walls): NW (A293°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): SW (A203°, 167.29 ft², width 3.667 ft)
VC.7: EW-2 (Short walls): SW (A203°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): SW (A203°, 50.1 ft², width 1 ft)
VC.7: EW-2 (Short walls): SE (A113°, 91.25 ft², width 2 ft)
VC.7: EW-2 (Short walls): NW (A293°, 50.1 ft², width 1 ft)
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): SE (A113°, 50.1 ft², width 1 ft)
0
30000
60000
90000
120000
150000
180000
[kBtu/yr]

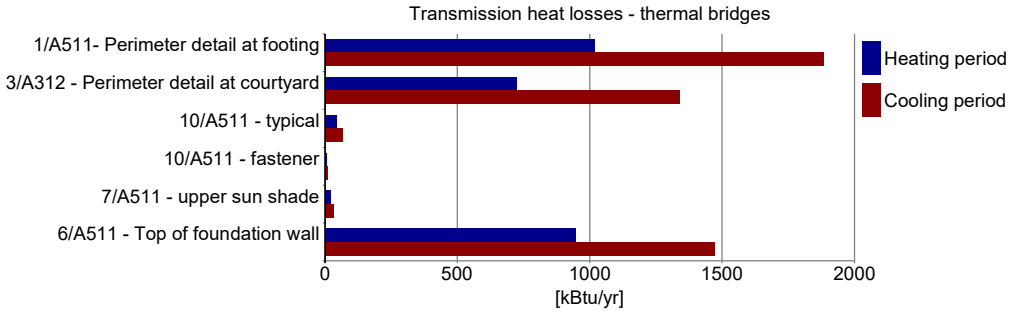

Transmission heat losses - areas (continue)
Heating period
Cooling period
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): NE (A23°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): SE (A113°, 38.02 ft², width 0.833 ft)
VC.7: EW-2 (Short walls): SE (A113°, 38.02 ft², width 0.833 ft)
VC.7: EW-2 (Short walls): SE (A113°, 38.02 ft², width 0.833 ft)
VC.7: EW-2 (Short walls): SW (A203°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): SW (A203°, 45.63 ft², width 1 ft)
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)
VC.7: EW-2 (Short walls): NW (A293°, 38.02 ft², width 0.833 ft)
VC.8: EW-1 (Typical): SE (A113°, 391.77 ft², width 13.25 ft)
VC.8: EW-1 (Typical): SW (A203°, 989.92 ft², width 27.083 ft)
VC.8: EW-1 (Typical): SW (A203°, 151.31 ft², width 4.5 ft)
VC.8: EW-1 (Typical): SW (A203°, 989.92 ft², width 27.083 ft)
VC.8: EW-1 (Typical): NW (A293°, 391.77 ft², width 13.25 ft)
VC.8: EW-1 (Typical): NW (A293°, 449.64 ft², width 13 ft)
VC.8: EW-1 (Typical): NW (A293°, 449.64 ft², width 13 ft)
VC.8: EW-1 (Typical): NW (A293°, 433.8 ft², width 10.833 ft)
VC.8: EW-1 (Typical): NW (A293°, 724.38 ft², width 22.167 ft)
VC.8: EW-1 (Typical): SE (A113°, 757.13 ft², width 22.167 ft)
VC.8: EW-1 (Typical): NE (A23°, 180.26 ft², width 23.542 ft)
VC.8: EW-1 (Typical): SE (A113°, 83.19 ft², width 10.833 ft)
VC.8: EW-1 (Typical): SW (A203°, 180.26 ft², width 23.542 ft)
VC.8: EW-1 (Typical): NE (A23°, 404.01 ft², width 12 ft)
VC.8: EW-1 (Typical): NE (A23°, 724.38 ft², width 22.167 ft)
VC.8: EW-1 (Typical): NE (A23°, 889.77 ft², width 25.792 ft)
VC.8: EW-1 (Typical): NE (A23°, 449.64 ft², width 13 ft)
VC.8: EW-1 (Typical): NE (A23°, 424.92 ft², width 12.458 ft)
VC.8: EW-1 (Typical): NE (A23°, 437.4 ft², width 14.25 ft)
VC.8: EW-1 (Typical): SE (A113°, 460.21 ft², width 14.75 ft)
VC.8: EW-1 (Typical): SE (A113°, 578.91 ft², width 15.833 ft)
VC.8: EW-1 (Typical): SE (A113°, 425.99 ft², width 14 ft)
VC.8: EW-1 (Typical): SE (A113°, 906.88 ft², width 26.167 ft)
VC.8: EW-1 (Typical): SE (A113°, 504.91 ft², width 12.25 ft)
VC.8: EW-1 (Typical): SW (A203°, 353.75 ft², width 12.417 ft)
VC.8: EW-1 (Typical): SW (A203°, 859.87 ft², width 23.167 ft)
VC.8: EW-1 (Typical): SW (A203°, 353.75 ft², width 12.417 ft)
VC.8: EW-1 (Typical): NW (A293°, 460.21 ft², width 14.75 ft)
VC.8: EW-1 (Typical): NW (A293°, 414.04 ft², width 10.25 ft)
VC.8: EW-1 (Typical): SW (A203°, 656.58 ft², width 27.792 ft)
VC.8: EW-1 (Typical): SW (A203°, 906.12 ft², width 25.833 ft)
VC.8: EW-1 (Typical): NE (A23°, 724.38 ft², width 22.167 ft)
VC.8: EW-1 (Typical): SW (A203°, 205.68 ft², width 20.917 ft)
VC.8: EW-1 (Typical): SE (A113°, 284.75 ft², width 22.333 ft)
VC.8: EW-1 (Typical): NW (A293°, 125.38 ft², width 12.75 ft)
VC.8: EW-1 (Typical): NE (A23°, 186.83 ft², width 19 ft)
VC.8: EW-1 (Typical): SE (A113°, 102.04 ft², width 12.75 ft)
VC.8: EW-1 (Typical): NE (A23°, 327.69 ft², width 20.917 ft)
VC.8: EW-1 (Typical): SW (A203°, 461.51 ft², width 12.833 ft)
VC.8: EW-1 (Typical): SE (A113°, 537.67 ft², width 14.333 ft)
VC.8: EW-1 (Typical): NW (A293°, 261.42 ft², width 22.333 ft)
0
30000
60000
90000
120000
150000
180000
[kBtu/yr]


Transmission heat losses - areas (continue)
Heating period
Cooling period
VC.8: EW-1 (Typical): SE (A113°, 23.33 ft², width 3.333 ft)
VC.9: Overhang: Horizontal (29.96 ft², width 3.833 ft)
VC.9: Overhang: Horizontal (26.17 ft², width 12.417 ft)
VC.9: Overhang: Horizontal (65.42 ft², width 27.083 ft)
VC.9: Overhang: Horizontal (65.42 ft², width 27.083 ft)
VC.9: Overhang: Horizontal (26.17 ft², width 12.417 ft)
VC.9: Overhang: Horizontal (15.83 ft², width 1 ft)
VC.9: Overhang: Horizontal (25.04 ft², width 14.25 ft)
VC.9: Overhang: Horizontal (10.83 ft², width 13 ft)
VC.9: Overhang: Horizontal (10 ft², width 12 ft)
VC.9: Overhang: Horizontal (21.49 ft², width 25.792 ft)
VC.10: Bulkhead roof 1: Horizontal (242.25 ft², width 19 ft)
VC.10: Bulkhead roof 1: Horizontal (58.68 ft², width 5.417 ft)
VC.10: Bulkhead roof 1: Horizontal (98.85 ft², width 9.125 ft)
VC.11: Roof (main): Horizontal (12005.32 ft², width 156.333 ft)
VC.12: Bulkhead roof 2: NW (A293°, 112.42 ft², width 10.833 ft)
VC.13: Bulkhead roof 3: SW (A203°, 482.81 ft², width 20.917 ft)
VC.15: Door_005b: NE (A23°, 21 ft², width 3 ft)
VC.15: Door_005b: NE (A23°, 21 ft², width 3 ft)
VC.36: Door 429: NW (A293°, 23.33 ft², width 3.333 ft)
VC.37: Door_ST-BT: SW (A203°, 23.89 ft², width 3.333 ft)
VC.38: Door_ST-AR: SE (A113°, 23.33 ft², width 3.333 ft)
VC.39: Door_ST-A0b: NW (A293°, 23.33 ft², width 3.333 ft)
VC.41: Slab on grade_Elevator (uninsulated): Horizontal (166.78 ft², width 20.25 ft)
VC.42: EW-5: NW (A293°, 72.96 ft², width 10.417 ft)
VC.42: EW-5: SW (A203°, 26.19 ft², width 2.833 ft)
VC.43: Custom avg assembly 2: SW (A203°, 45.72 ft², width 0.833 ft)
VC.43: Custom avg assembly 2: SE (A113°, 45.72 ft², width 0.833 ft)
VC.44: Custom avg assembly 1: NW (A293°, 916.96 ft², width 35.167 ft)
VC.44: Custom avg assembly 1: NE (A23°, 460.78 ft², width 11.667 ft)
VC.44: Custom avg assembly 1: NE (A23°, 901.67 ft², width 22.667 ft)
VC.44: Custom avg assembly 1: NW (A293°, 525.08 ft², width 14.417 ft)
VC.45: EW-5: NE (A23°, 438.67 ft², width 61 ft)
0
30000
60000
90000
120000
150000
180000
[kBtu/yr]

THERMAL BRIDGES

Transmission heat losses - thermal bridges

Name	Length [ft]	Psi-value [Btu/hr ft °F]	Transmission losses [kBtu/yr]	Transmission losses cooling [kBtu/yr]
1/A511- Perimeter detail at footing	89	0.129	1019.7	1884
3/A312 - Perimeter detail at courtyard	77	0.106	724.9	1339.3
10/A511 - typical	47.5	0.006	42.9	66.5
10/A511 - fastener	1	0.037	5.6	8.6
7/A511 - upper sun shade	16	0.009	21.7	33.6
6/A511 - Top of foundation wall	100	0.063	947.8	1471



WINDOWS

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	355.6	534.7	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	727.9	889.4	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	557.5	747.9	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.169	0.3	100	85	236.9	356.1	340.2	527.9
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	89.7	120.4	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	117.2	143.2	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214

Transmission heat losses - windows (continue)

Name	Quantity	Inclination [°]	U-value total [Btu/hr ft² °F]	SHGC (perpendicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	57.2	86.1	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.202	0.3	100	85	38.1	57.3	137.9	214
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8

Transmission heat losses - windows (continue)

Name	Quantity	Inclination [°]	U-value total [Btu/hr ft² °F]	SHGC (perpendicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: NE (A23°, 35.26 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.4	1,064.8	795.7	1,234.8
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.18: B_large: NW (A293°, 35.26 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	1,063.3	1,599	795.7	1,234.8
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.19: B_Side_top (top floor shading): NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.19: B_Side_top (top floor shading): NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	236.9	356.1	330.2	512.4

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	355.6	534.7	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	557.5	747.9	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.164	0.3	100	85	727.9	889.4	330.2	512.4
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft² °F]	SHGC (perpen-dicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	38.1	57.3	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	57.2	86.1	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8

Transmission heat losses - windows (continue)

Name	Quantity	Inclination [°]	U-value total [Btu/hr ft² °F]	SHGC (perpendicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	117.2	143.2	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)	1	90	0.197	0.3	100	85	89.7	120.4	134.5	208.8
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	358.2	633.8	349.3	542.2
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	733.4	1,054.2	349.3	542.2
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	733.4	1,054.2	349.3	542.2
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	733.4	1,054.2	349.3	542.2
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	733.4	1,054.2	349.3	542.2
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	358.2	633.8	349.3	542.2
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	358.2	633.8	349.3	542.2
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	358.2	633.8	349.3	542.2
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	561.7	886.5	349.3	542.2
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	561.7	886.5	349.3	542.2
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	561.7	886.5	349.3	542.2
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)	1	90	0.172	0.3	100	100	561.7	886.5	349.3	542.2
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	355.6	534.7	347	538.5
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	355.6	534.7	347	538.5
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	355.6	534.7	347	538.5
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	355.6	534.7	347	538.5
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	727.9	889.4	347	538.5
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	727.9	889.4	347	538.5
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	727.9	889.4	347	538.5
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)	1	90	0.172	0.3	100	85	727.9	889.4	347	538.5
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)	1	90	0.191	0.3	100	85	389.3	475.7	236.7	367.4
VC.27: Storefront_Side_top: SE (A113°, 5.35 ft², width 2.917 ft)	1	90	0.378	0.4	100	100	258.3	407.7	304	471.8
VC.27: Storefront_Side_top: SE (A113°, 5.81 ft², width 3.167 ft)	1	90	0.373	0.4	100	100	283.3	447.1	325.9	505.9
VC.27: Storefront_Side_top: SE (A113°, 5.81 ft², width 3.167 ft)	1	90	0.373	0.4	100	100	283.3	447.1	325.9	505.9
VC.27: Storefront_Side_top: SE (A113°, 5.35 ft², width 2.917 ft)	1	90	0.378	0.4	100	100	258.3	407.7	304	471.8
VC.27: Storefront_Side_top: SW (A203°, 5.04 ft², width 2.75 ft)	1	90	0.381	0.4	100	100	315.5	453.5	289.3	449
VC.27: Storefront_Side_top: SW (A203°, 5.04 ft², width 2.75 ft)	1	90	0.381	0.4	100	100	315.5	453.5	289.3	449
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)	1	90	0.413	0.4	100	100	195.8	281.5	208.7	324

Transmission heat losses - windows (continue)

Name	Quantity	Inclination [°]	U-value total [Btu/hr ft² °F]	SHGC (perpendicular)	Reduction factor shading [%]	Reduction factor shading summer [%]	Solar gain heating [kBtu/yr]	Solar gain cooling [kBtu/yr]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)	1	90	0.413	0.4	100	100	195.8	281.5	208.7	324
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)	1	90	0.413	0.4	100	100	195.8	281.5	208.7	324
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)	1	90	0.413	0.4	100	100	195.8	281.5	208.7	324
VC.27: Storefront_Side_top: NW (A293°, 4.43 ft², width 2.417 ft)	1	90	0.39	0.4	100	100	132.9	235.1	260	403.5
VC.27: Storefront_Side_top: NW (A293°, 4.43 ft², width 2.417 ft)	1	90	0.39	0.4	100	100	132.9	235.1	260	403.5
VC.28: Storefront_Side_bottom: NW (A293°, 15.51 ft², width 2.417 ft)	1	90	0.327	0.4	100	100	538.8	953.3	763.3	1,184.7
VC.28: Storefront_Side_bottom: NW (A293°, 15.51 ft², width 2.417 ft)	1	90	0.327	0.4	100	100	538.8	953.3	763.3	1,184.7
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)	1	90	0.356	0.4	100	100	794.2	1,141.6	630.3	978.2
VC.28: Storefront_Side_bottom: SE (A113°, 18.72 ft², width 2.917 ft)	1	90	0.312	0.4	100	100	1,047.5	1,653.3	877.4	1,361.6
VC.28: Storefront_Side_bottom: SE (A113°, 18.72 ft², width 2.917 ft)	1	90	0.312	0.4	100	100	1,047.5	1,653.3	877.4	1,361.6
VC.28: Storefront_Side_bottom: SE (A113°, 20.32 ft², width 3.167 ft)	1	90	0.306	0.4	100	100	1,148.9	1,813.3	934.4	1,450.1
VC.28: Storefront_Side_bottom: SW (A203°, 17.65 ft², width 2.75 ft)	1	90	0.316	0.4	100	100	1,279.5	1,839.2	839.3	1,302.6
VC.28: Storefront_Side_bottom: SW (A203°, 17.65 ft², width 2.75 ft)	1	90	0.316	0.4	100	100	1,279.5	1,839.2	839.3	1,302.6
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)	1	90	0.356	0.4	100	100	794.2	1,141.6	630.3	978.2
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)	1	90	0.356	0.4	100	100	794.2	1,141.6	630.3	978.2
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)	1	90	0.356	0.4	100	100	794.2	1,141.6	630.3	978.2
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)	1	90	0.369	0.4	100	100	364.4	523.9	318.1	493.8
VC.29: Storefront_Center_top: SE (A113°, 5.5 ft², width 3 ft)	1	90	0.371	0.4	100	100	266.6	420.8	307.2	476.7
VC.29: Storefront_Center_top: SW (A203°, 5.81 ft², width 3.167 ft)	1	90	0.368	0.4	100	100	369.9	531.7	321.8	499.4
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)	1	90	0.369	0.4	100	100	364.4	523.9	318.1	493.8
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)	1	90	0.369	0.4	100	100	364.4	523.9	318.1	493.8
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)	1	90	0.369	0.4	100	100	364.4	523.9	318.1	493.8
VC.29: Storefront_Center_top: NW (A293°, 5.81 ft², width 3.167 ft)	1	90	0.368	0.4	100	100	180.7	319.7	321.8	499.4
VC.30: Storefront_Center_bottom: SE (A113°, 19.25 ft², width 3 ft)	1	90	0.297	0.4	47.7	35.3	551	692.4	860.6	1,335.7
VC.31: Door S-01: SE (A113°, 22.69 ft², width 3.167 ft)	1	90	0.514	0.4	53	46.5	605.6	905.5	1,756	2,725.3
VC.32: Door_S-02: SW (A203°, 22.69 ft², width 3.167 ft)	1	90	0.51	0.4	48.2	42.7	710.2	979.9	1,739.8	2,700.2
VC.33: Door_S-03: SW (A203°, 22.4 ft², width 3.125 ft)	1	90	0.524	0.4	100	100	1,391.8	2,000.6	1,764.2	2,738.1
VC.33: Door_S-03: SW (A203°, 22.4 ft², width 3.125 ft)	1	90	0.524	0.4	100	100	1,391.8	2,000.6	1,764.2	2,738.1
VC.34: Door_S-04: SW (A203°, 22.4 ft², width 3.125 ft)	1	90	0.512	0.4	100	100	1,391.8	2,000.6	1,724.8	2,676.9
VC.34: Door_S-04: SW (A203°, 22.4 ft², width 3.125 ft)	1	90	0.512	0.4	100	100	1,391.8	2,000.6	1,724.8	2,676.9
VC.35: Door_S-05: NW (A293°, 22.69 ft², width 3.167 ft)	1	90	0.51	0.4	56.5	56	390.8	690.3	1,739.8	2,700.2
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	2,176.5	2,659.4	795.6	1,234.8
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	1,666.9	2,236.4	795.6	1,234.8
VC.40: B_large (top floor shading): NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.40: B_large (top floor shading): NE (A23°, 35.25 ft², width 5.938 ft)	1	90	0.15	0.3	100	85	708.3	1,064.7	795.6	1,234.8
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.937 ft)	1	90	0.15	0.3	100	85	1,063.2	1,598.9	795.6	1,234.8


Transmission heat losses - windows
Heating period
Cooling period
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
Heating period
Cooling period
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
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VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
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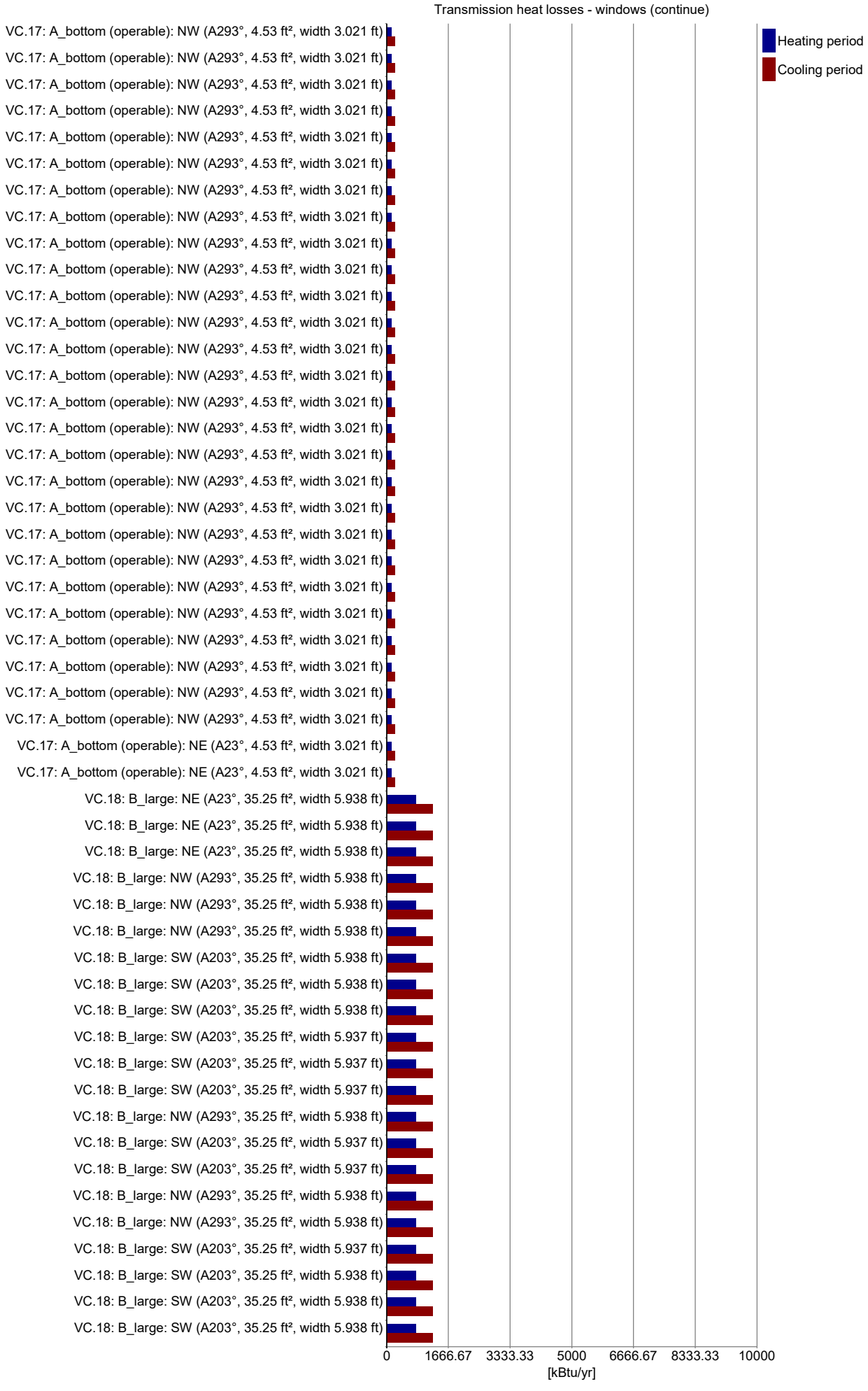
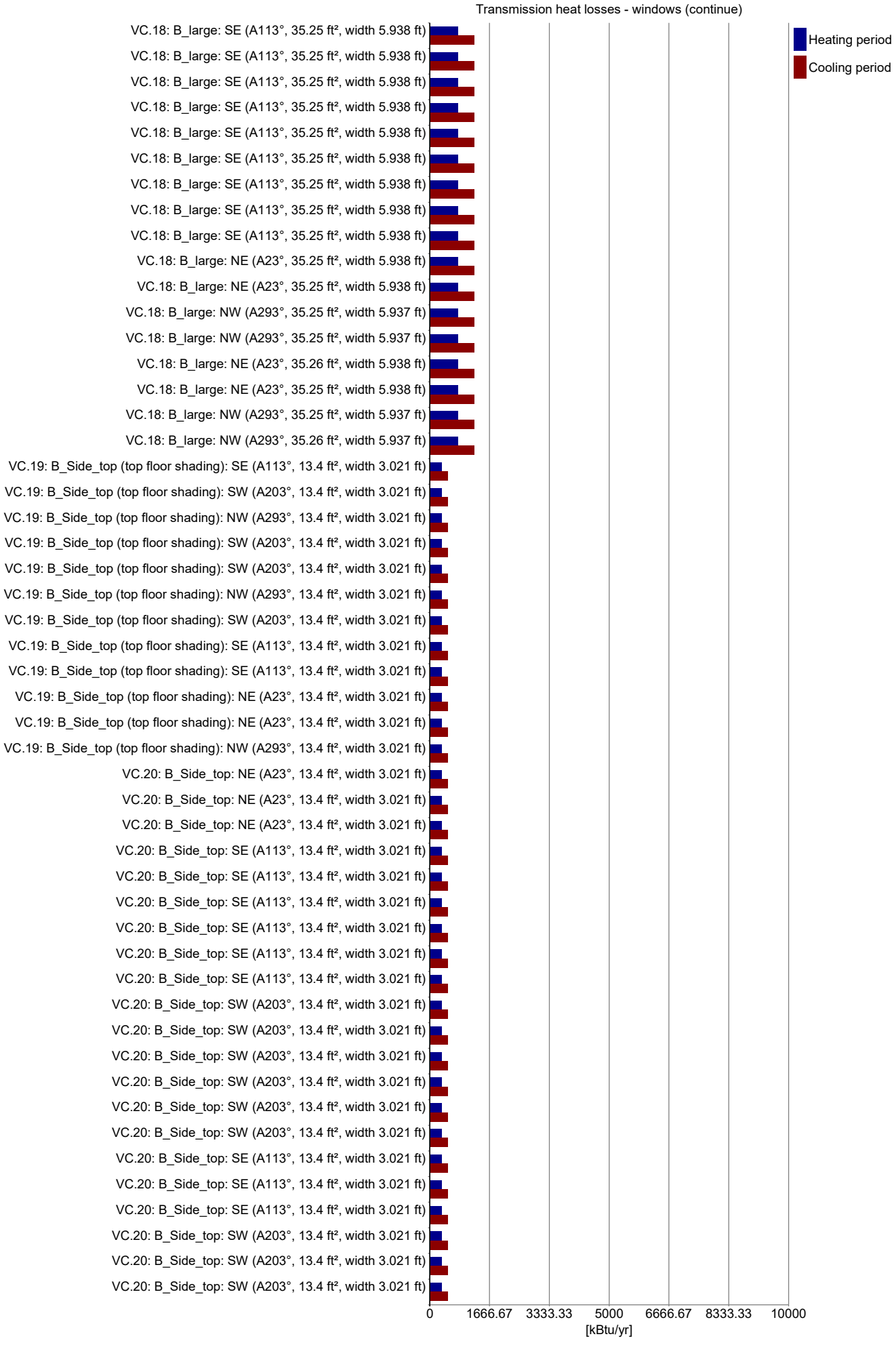
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)
VC.18: B_large: NE (A23°, 35.26 ft², width 5.938 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)
VC.18: B_large: NW (A293°, 35.26 ft², width 5.937 ft)
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NE (A23°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NE (A23°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

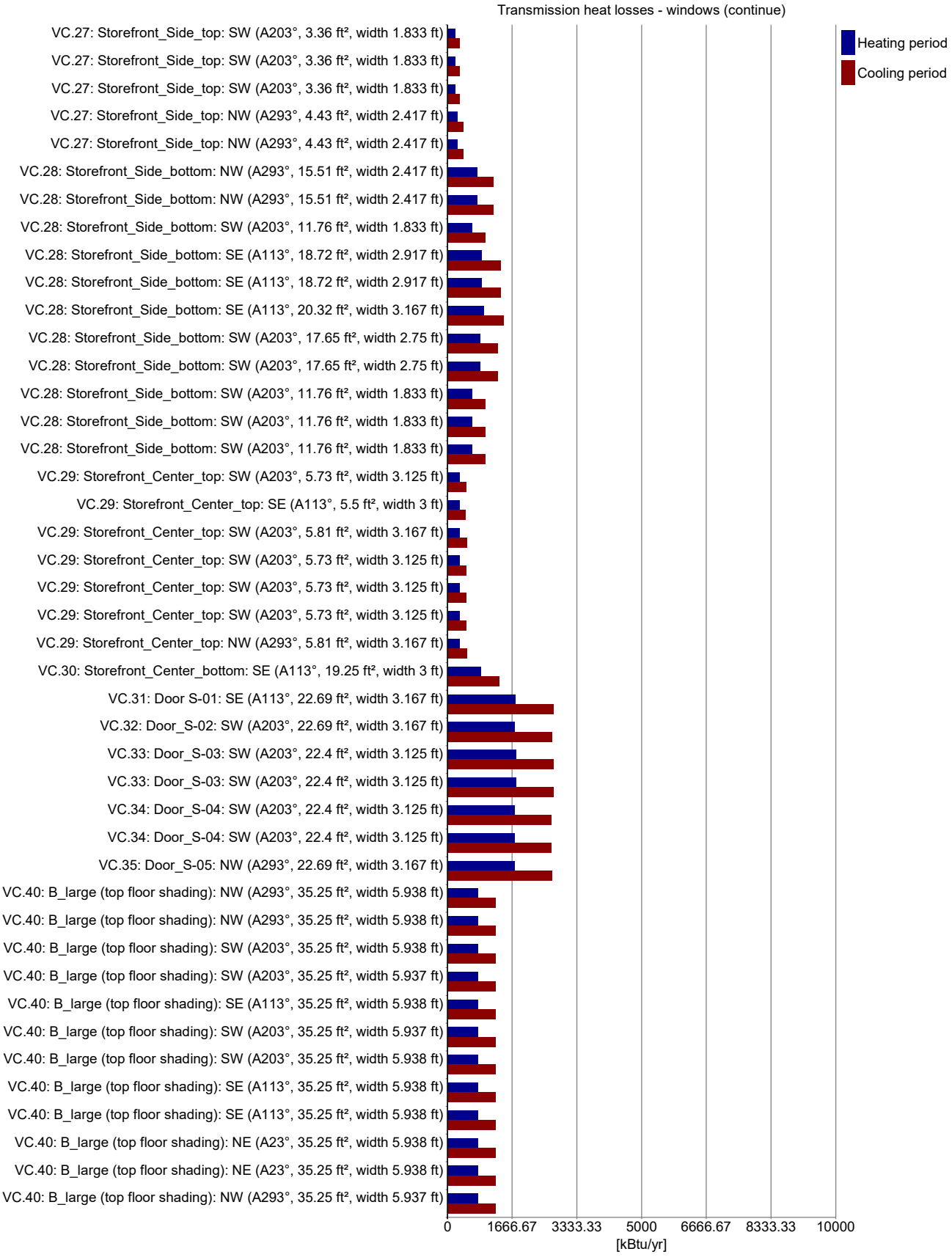

Transmission heat losses - windows (continue)


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)
VC.24: D: SW (A203°, 13.5 ft², width 3 ft)
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)
VC.24: D: NW (A293°, 13.5 ft², width 3 ft)
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)
VC.24: D: SE (A113°, 13.5 ft², width 3 ft)
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)
VC.25: E: NW (A293°, 13.4 ft², width 3.021 ft)
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)
VC.25: E: SW (A203°, 13.4 ft², width 3.021 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.26: F: SW (A203°, 8.25 ft², width 1.833 ft)
VC.27: Storefront_Side_top: SE (A113°, 5.35 ft², width 2.917 ft)
VC.27: Storefront_Side_top: SE (A113°, 5.81 ft², width 3.167 ft)
VC.27: Storefront_Side_top: SE (A113°, 5.81 ft², width 3.167 ft)
VC.27: Storefront_Side_top: SE (A113°, 5.35 ft², width 2.917 ft)
VC.27: Storefront_Side_top: SW (A203°, 5.04 ft², width 2.75 ft)
VC.27: Storefront_Side_top: SW (A203°, 5.04 ft², width 2.75 ft)
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)
VC.27: Storefront_Side_top: NW (A293°, 4.43 ft², width 2.417 ft)
VC.27: Storefront_Side_top: NW (A293°, 4.43 ft², width 2.417 ft)
VC.28: Storefront_Side_bottom: NW (A293°, 15.51 ft², width 2.417 ft)
VC.28: Storefront_Side_bottom: NW (A293°, 15.51 ft², width 2.417 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.28: Storefront_Side_bottom: SE (A113°, 18.72 ft², width 2.917 ft)
VC.28: Storefront_Side_bottom: SE (A113°, 18.72 ft², width 2.917 ft)
VC.28: Storefront_Side_bottom: SE (A113°, 20.32 ft², width 3.167 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 17.65 ft², width 2.75 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 17.65 ft², width 2.75 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: SE (A113°, 5.5 ft², width 3 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.81 ft², width 3.167 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: NW (A293°, 5.81 ft², width 3.167 ft)
VC.30: Storefront_Center_bottom: SE (A113°, 19.25 ft², width 3 ft)
VC.31: Door S-01: SE (A113°, 22.69 ft², width 3.167 ft)
VC.32: Door_S-02: SW (A203°, 22.69 ft², width 3.167 ft)
VC.33: Door_S-03: SW (A203°, 22.4 ft², width 3.125 ft)
VC.33: Door_S-03: SW (A203°, 22.4 ft², width 3.125 ft)
VC.34: Door_S-04: SW (A203°, 22.4 ft², width 3.125 ft)
VC.34: Door_S-04: SW (A203°, 22.4 ft², width 3.125 ft)
VC.35: Door_S-05: NW (A293°, 22.69 ft², width 3.167 ft)
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.937 ft)
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.937 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NE (A23°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NE (A23°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.937 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

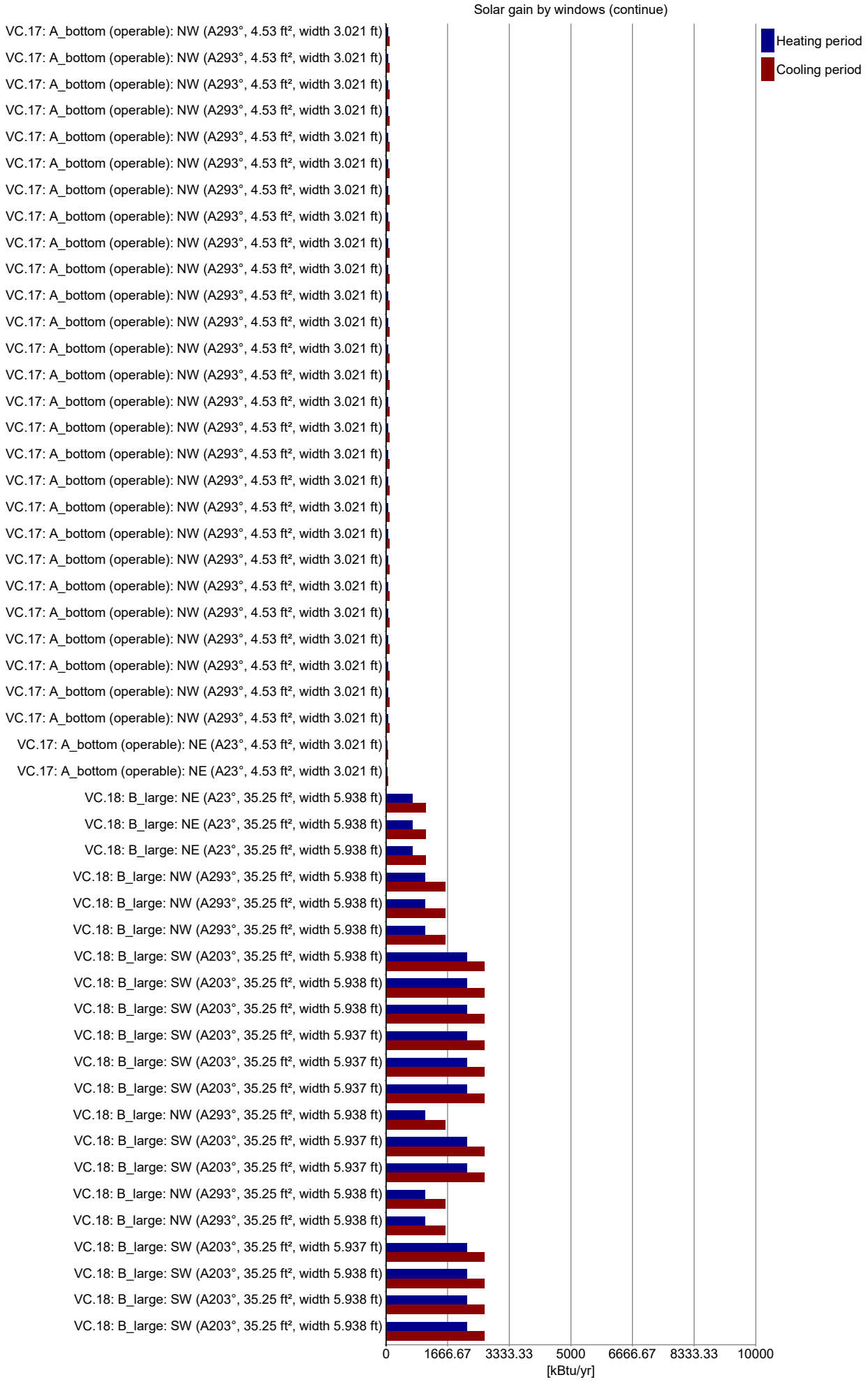

Solar gain by windows
Heating period
Cooling period
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

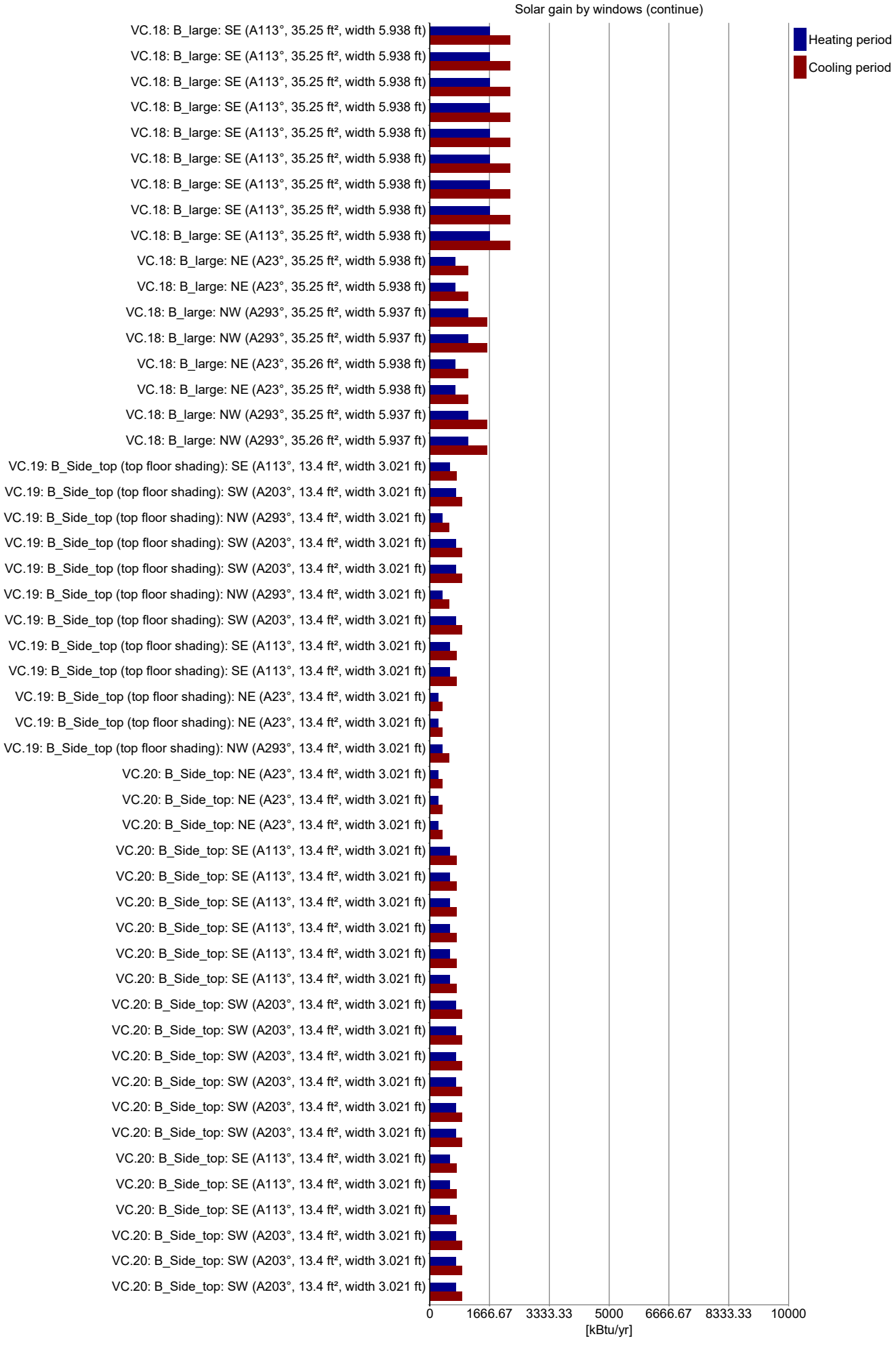

Solar gain by windows (continue)
Heating period
Cooling period
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

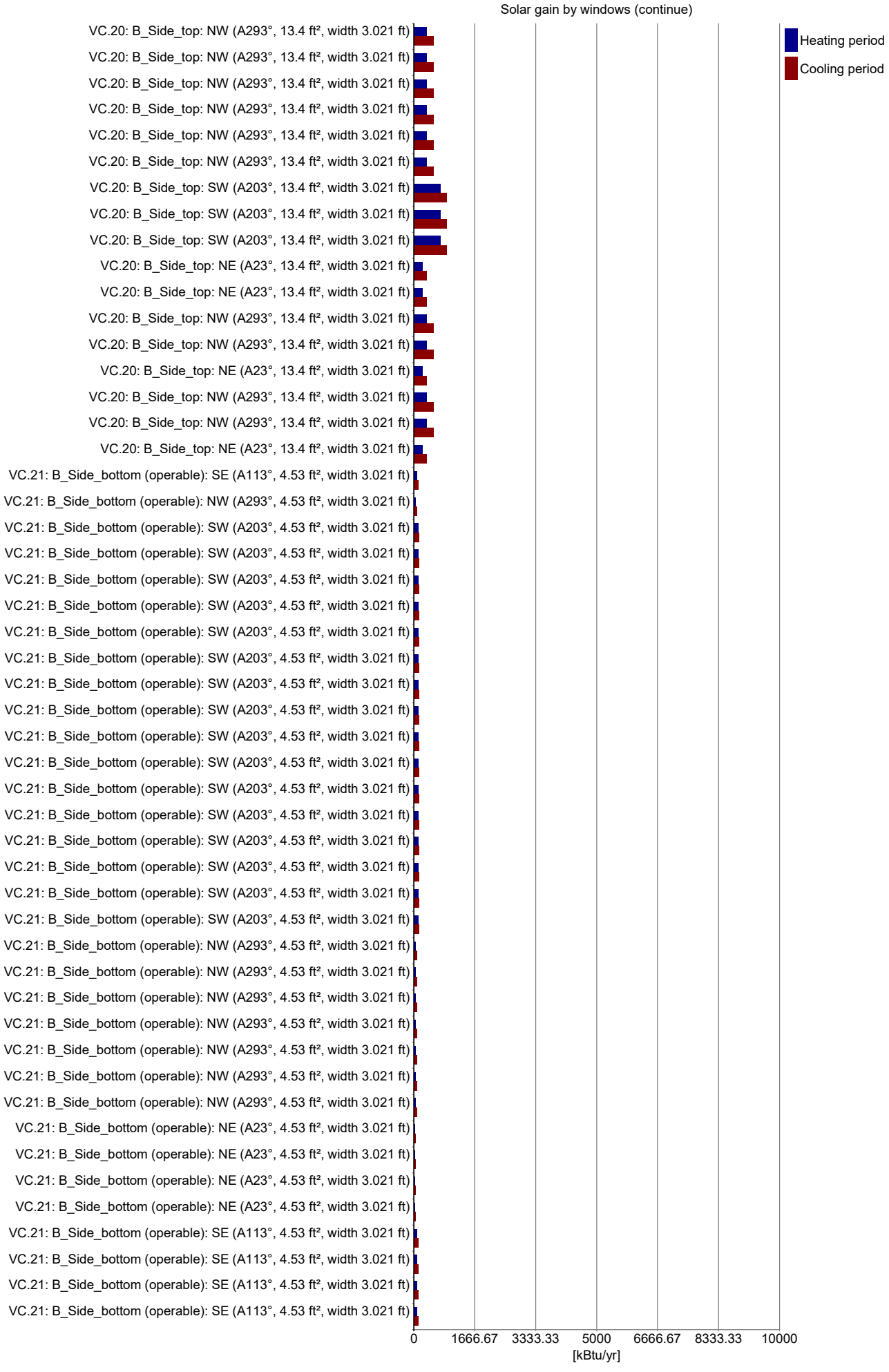

Solar gain by windows (continue)
Heating period
Cooling period
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.16: A_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

Solar gain by windows (continue)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Solar gain by windows (continue)
Heating period
Cooling period
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Solar gain by windows (continue)
Heating period
Cooling period
VC.17: A_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.17: A_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SW (A203°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SW (A203°, 35.25 ft², width 5.937 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

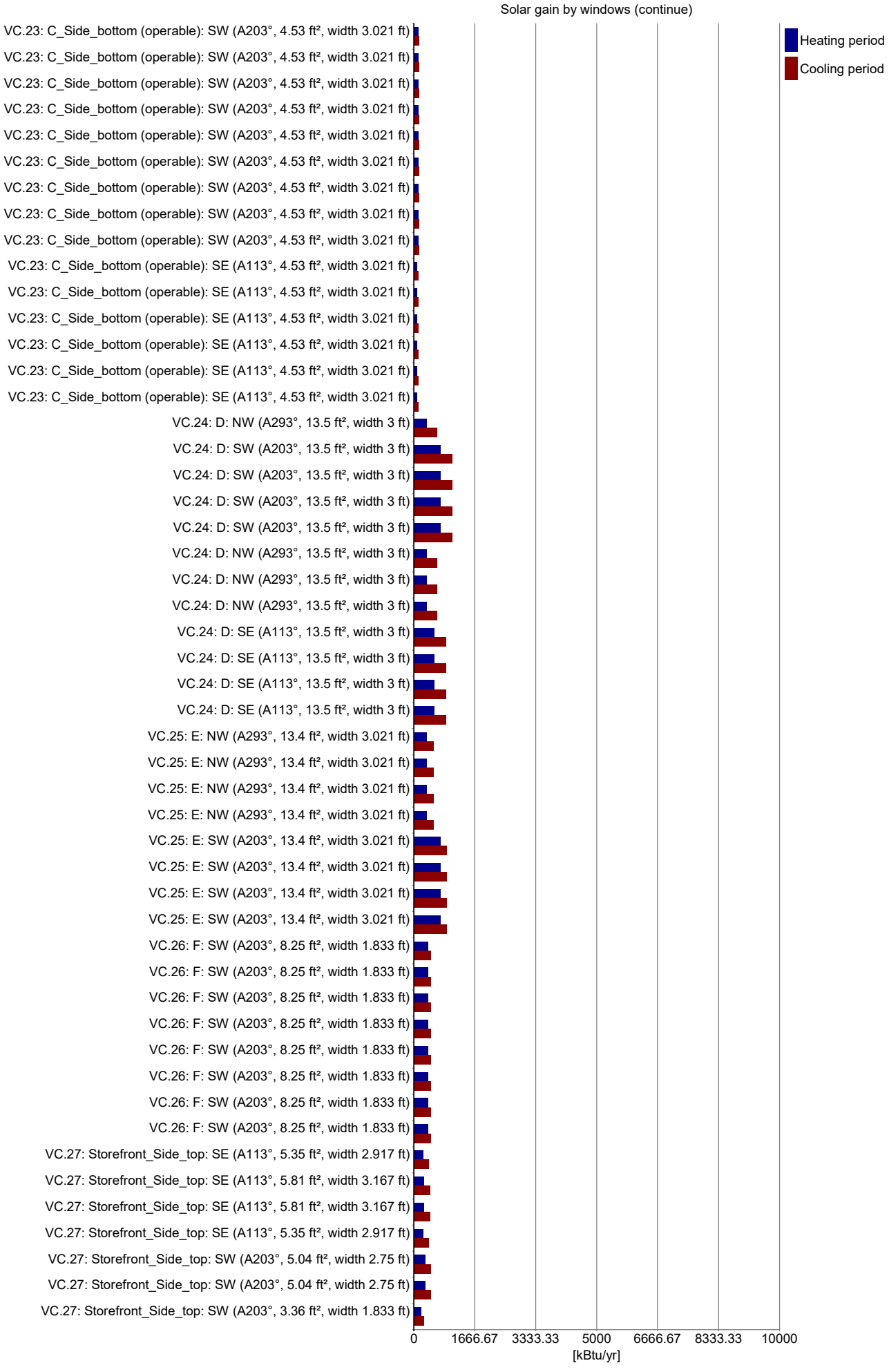

Solar gain by windows (continue)
Heating period
Cooling period
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: SE (A113°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)
VC.18: B_large: NE (A23°, 35.26 ft², width 5.938 ft)
VC.18: B_large: NE (A23°, 35.25 ft², width 5.938 ft)
VC.18: B_large: NW (A293°, 35.25 ft², width 5.937 ft)
VC.18: B_large: NW (A293°, 35.26 ft², width 5.937 ft)
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SW (A203°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): SE (A113°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NE (A23°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NE (A23°, 13.4 ft², width 3.021 ft)
VC.19: B_Side_top (top floor shading): NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SE (A113°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Solar gain by windows (continue)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: SW (A203°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NW (A293°, 13.4 ft², width 3.021 ft)
VC.20: B_Side_top: NE (A23°, 13.4 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

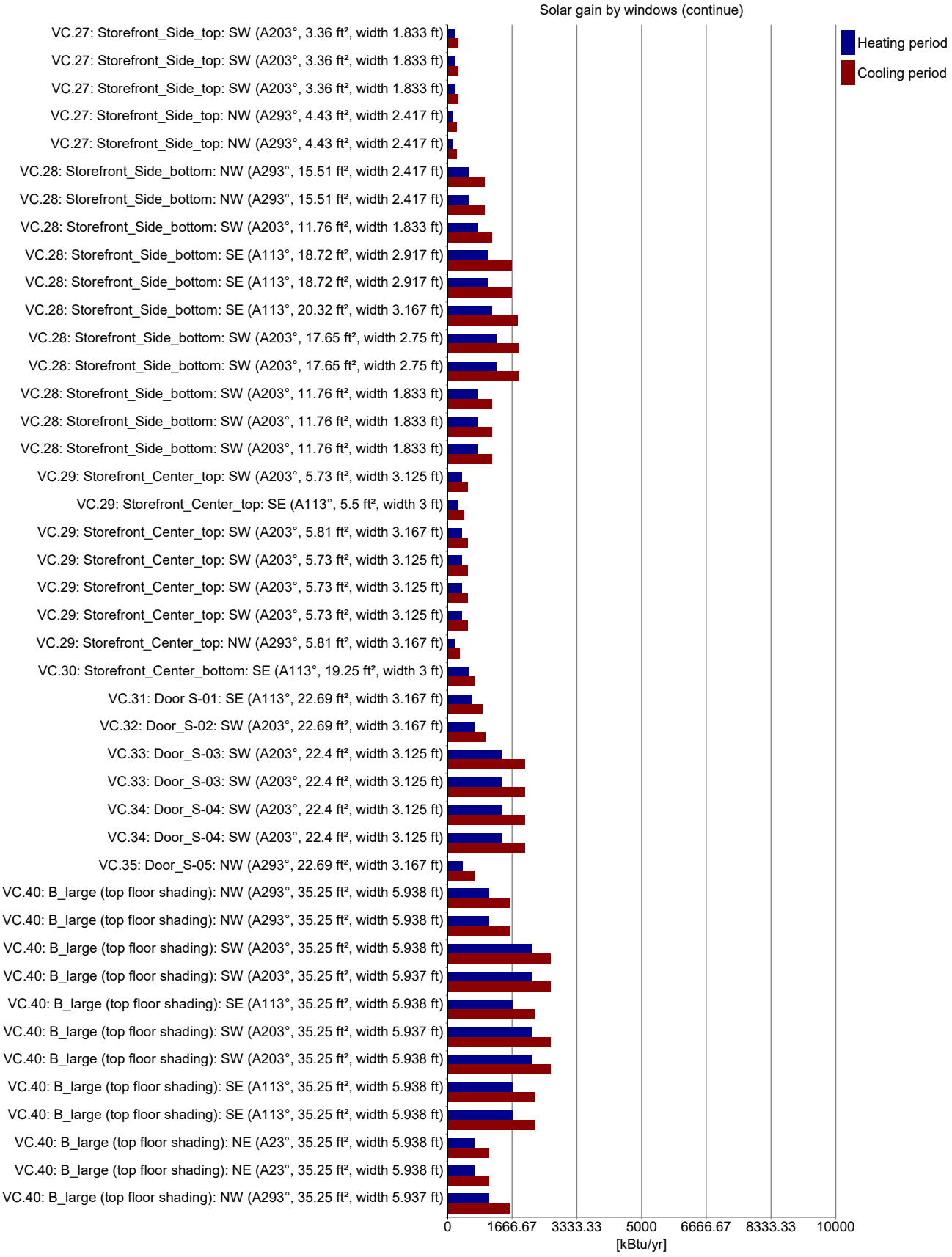

Solar gain by windows (continue)
Heating period
Cooling period
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.21: B_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NE (A23°, 13.4 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Solar gain by windows (continue)
Heating period
Cooling period
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : NW (A293°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SE (A113°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.22: C_Side_top : SW (A203°, 13.4 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SE (A113°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]


Solar gain by windows (continue)
VC.23: C_Side_bottom (operable): NE (A23°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): NW (A293°, 4.53 ft², width 3.021 ft)
VC.23: C_Side_bottom (operable): SW (A203°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]



Solar gain by windows (continue)


Solar gain by windows (continue)
Heating period
Cooling period
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)
VC.27: Storefront_Side_top: SW (A203°, 3.36 ft², width 1.833 ft)
VC.27: Storefront_Side_top: NW (A293°, 4.43 ft², width 2.417 ft)
VC.27: Storefront_Side_top: NW (A293°, 4.43 ft², width 2.417 ft)
VC.28: Storefront_Side_bottom: NW (A293°, 15.51 ft², width 2.417 ft)
VC.28: Storefront_Side_bottom: NW (A293°, 15.51 ft², width 2.417 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.28: Storefront_Side_bottom: SE (A113°, 18.72 ft², width 2.917 ft)
VC.28: Storefront_Side_bottom: SE (A113°, 18.72 ft², width 2.917 ft)
VC.28: Storefront_Side_bottom: SE (A113°, 20.32 ft², width 3.167 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 17.65 ft², width 2.75 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 17.65 ft², width 2.75 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.28: Storefront_Side_bottom: SW (A203°, 11.76 ft², width 1.833 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: SE (A113°, 5.5 ft², width 3 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.81 ft², width 3.167 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: SW (A203°, 5.73 ft², width 3.125 ft)
VC.29: Storefront_Center_top: NW (A293°, 5.81 ft², width 3.167 ft)
VC.30: Storefront_Center_bottom: SE (A113°, 19.25 ft², width 3 ft)
VC.31: Door S-01: SE (A113°, 22.69 ft², width 3.167 ft)
VC.32: Door_S-02: SW (A203°, 22.69 ft², width 3.167 ft)
VC.33: Door_S-03: SW (A203°, 22.4 ft², width 3.125 ft)
VC.33: Door_S-03: SW (A203°, 22.4 ft², width 3.125 ft)
VC.34: Door_S-04: SW (A203°, 22.4 ft², width 3.125 ft)
VC.34: Door_S-04: SW (A203°, 22.4 ft², width 3.125 ft)
VC.35: Door_S-05: NW (A293°, 22.69 ft², width 3.167 ft)
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.937 ft)
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.937 ft)
VC.40: B_large (top floor shading): SW (A203°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): SE (A113°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NE (A23°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NE (A23°, 35.25 ft², width 5.938 ft)
VC.40: B_large (top floor shading): NW (A293°, 35.25 ft², width 5.937 ft)
0
1666.67
3333.33
5000
6666.67
8333.33
10000
[kBtu/yr]

Summary building envelope

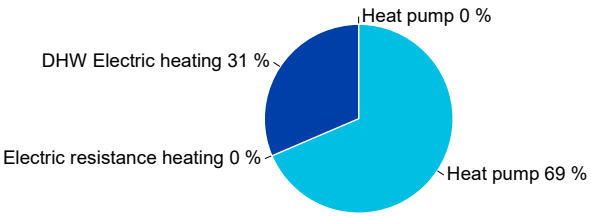
	Total area / length		Average U-value / Psi value		Transmission losses	
Exterior wall ambient:	**24,790.5**	ft²	**0.033**	Btu/hr ft² °F	**123,886.1**	kBtu/yr
Exterior wall ground:	**1,328.2**	ft²	**0.117**	Btu/hr ft² °F	**13,743.4**	kBtu/yr
Basement:	**6,178.9**	ft²	**0.078**	Btu/hr ft² °F	**42,618.8**	kBtu/yr
Roof:	**13,000.3**	ft²	**0.016**	Btu/hr ft² °F	**30,613.5**	kBtu/yr
Windows:	**7,280.2**	ft²	**0.183**	Btu/hr ft² °F	**200,167**	kBtu/yr
Doors:	**135.9**	ft²	**0.168**	Btu/hr ft² °F	**3,427.1**	kBtu/yr
Thermal bridge ambient:	**164.5**	ft	**0.041**	Btu/hr ft °F	**1,017.9**	kBtu/yr
Thermal bridge perimeter:	**166**	ft	**0.118**	Btu/hr ft °F	**1,744.6**	kBtu/yr
Thermal bridge floor slab:	**0**	ft	**0**	Btu/hr ft °F	**0**	kBtu/yr

Shading

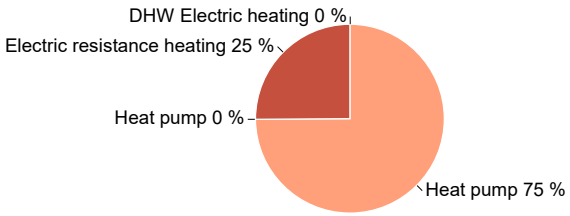
	Heating		Cooling	
Reduction factor North:	**100**	%	**85**	%
Reduction factor East:	**98.4**	%	**85.1**	%
Reduction factor South:	**99.3**	%	**87**	%
Reduction factor West:	**99.3**	%	**85.5**	%
Reduction factor Horizontal:	**100**	%	**100**	%

System	DHW			Heating			Total		
	Covered DHW demand [%]	Estimated solar fraction [%]	Final energy demand [kBtu/yr]	Covered heating demand [%]	Estimated solar fraction [%]	Final energy demand [kBtu/yr]	Performance ratio	CO2 equivalent emissions [lb/yr]	Source energy demand [kBtu/yr]
Heat pump, Heat pump	0	0	0	87	0	80,464.5	0	35,356,371.1	144,836.1
Heat pump, Heat pump	79	0	134,469.6	0	0	0	0.6	59,086,369.8	242,045.2
Electric resistance heating	0	0	0	13	0	26,926.3	0	11,831,505	48,467.3
DHW Electric heating, WH-2_AO Smith DVE-80-12_80 gal	21	0	61,629.4	0	0	0	1	27,080,178.2	110,933
Σ	100	0	196,099	100	0	107,390.8		133,354,424.2	546,281.6

DHW - final energy



Heating - final energy



COOLING UNITS

	sensible	latent
Air cooling:	**0** kBtu/ft²yr	**0** kBtu/ft²yr
Recirculation cooling:	**2.9** kBtu/ft²yr	**0** kBtu/ft²yr
Additional dehumidification:		**0.3** kBtu/ft²yr
Panel cooling:	**0** kBtu/ft²yr	
Sum:	**2.9** kBtu/ft²yr	**0.3** kBtu/ft²yr

VENTILATION

Energy transportable by supply air

Heating energy

transportable: **2.47** W/ft²
load: **1.08** W/ft²

Cooling energy

transportable: **1.36** W/ft²
load: **0.83** W/ft²

Infiltration pressure test ACH50:	**0.49**	1/hr
Total extract air demand:	**5,745**	cfm
Supply air per person:	**18**	cfm
Occupancy:	**123**	
Average air flow rate:	**5,903.71**	cfm
Average air change rate:	**0.8**	1/hr
Effective ACH ambient:	**0.29**	1/hr
Effective ACH ground:	**0**	1/hr
Energetically effective air exchange:	**0.29**	1/hr
Infiltration air change rate:	**0.03**	1/hr
Infiltration air change rate (heating load):	**0.09**	1/hr
Type of ventilation system:	**Balanced PH ventilation**	
Wind screening coefficient (e):	**0.07**	
Wind exposure factor:	**15**	
Wind shield factor:	**0.05**	
Ventilation heat losses:	**299,865.51**	kBtu/yr

Devices

Name	Sensible recovery efficiency [-]	Electric efficiency [W/cfm]	Heat recovery efficiency SHX [-]	Effective recovery efficiency [-]
ERU-1	0.7	0.08	0	0.7
ERU-2	0.7	0.08	0	0.7
Altogether	0.7	0.08	0	0.7

Ducts

Name	Length (total) [ft]	Clear cross-section [ft²]	U-value [Btu/hr ft² °F]	Assigned ventilation units
ERU-1 SA 20x20	24.6	2.7778	5.16	ERU-1
ERU-1 EA 24x20	47.3	3.3333	5.58	ERU-1
ERU-2 SA 20x20	9.3	2.7778	2.5	ERU-2
ERU-2 EA 22x20	47.3	3.0556	5.37	ERU-2
Σ	128.5			

*length * quantity ** thermal conductivity / thickness

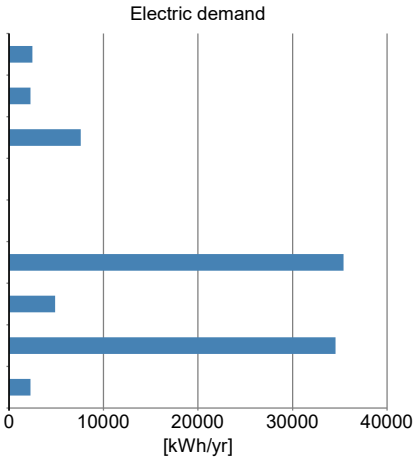
SUMMER VENTILATION

ACH night ventilation:	**0**	1/hr
ACH natural summer:	**0**	1/hr
Mechanical ventilation summer:	**0.8**	1/hr
Mechanical ventilation summer with HR:	**no**	

Preferred minimum indoor temperature for night ventilation:	68	°F
Overheating temperature:	77	°F

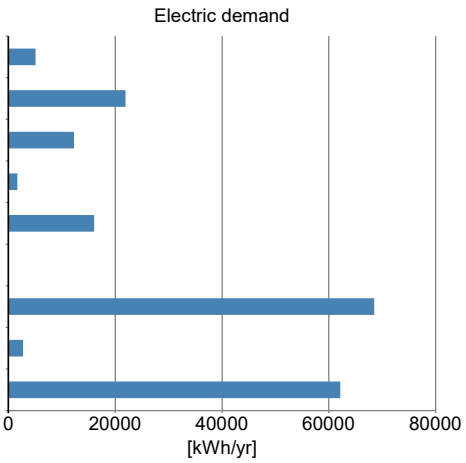
ELECTRICITY DEMAND - AUXILIARY ELECTRICITY

Type	Quantity	Indoor	Norm demand	Electric demand [kWh/yr]	Source energy [kBtu/yr]
DHW circulating pump	1	yes	298 W	2475.9	15204.9
DHW storage load pump	1	yes	396.8 W	2275.4	13974
Other	1	no	7,601 W	7601	46679.6
Other	1	no	3,408 W	0	0
Other	1	no	5,689 W	0	0
Ventilation winter	1	no	1.4 W/cfm	35403.8	217423.8
Ventilation Defrost	1	no	27,123.7 W	4869.3	29903.4
Ventilation summer	1	no	1.4 W/cfm	34553.5	212201.8
DHW storage load pump	1	yes	397.1 W	2277	13983.7
Σ				89456	549371.3



ELECTRICITY DEMAND RESIDENTIAL BUILDING

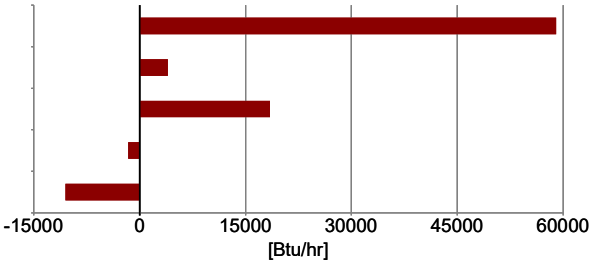
Type	Quantity	Indoor	Norm demand	Electric demand [kWh/yr]	Non-electric demand [kWh/yr]	Source energy [kBtu/yr]
Kitchen dishwasher	1	yes	1.3	5095.5	0	31292.6
Kitchen fridge/freeze combo	1	yes	1	21900	0	134493.3
Kitchen cooking	1	yes	0.2	12300	0	75537.4
Laundry - washer	1	yes	0.3	1682.5	0	10332.5
Laundry - dryer	1	yes	3.9	16051.7	0	98577.3
Energy consumed by evaporation	1	yes	3.1	0	1749	10741.1
User defined lighting	1	yes	68,494	68494	0	420638.7
User defined lighting	1	no	2,757	2757	0	16931.4
User defined MELs	1	yes	62,167	62167	0	381783
Σ	9			190447.6	1749	1180327.4



INTERNAL HEAT GAINS

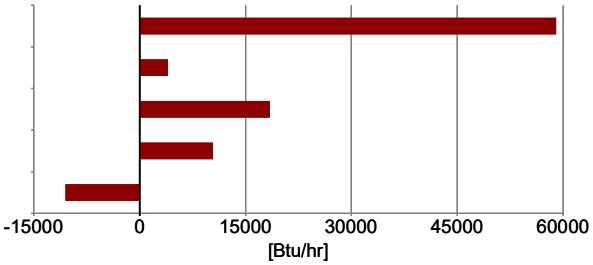
Heating season

Electricity total:	**59,016.8**	Btu/hr
Auxiliary electricity:	**3,992**	Btu/hr
People:	**18,466.5**	Btu/hr
Cold water:	**-1,635**	Btu/hr
Evaporation:	**-10,492.3**	Btu/hr
Σ:	**68,977.1**	Btu/hr
Specific internal heat gains:	**1.2**	Btu/hr ft²



Cooling season

Electricity total:	**59,016.8**	Btu/hr
Auxiliary electricity:	**3,992**	Btu/hr
People:	**18,466.5**	Btu/hr
Cold and hot water:	**10,412.4**	Btu/hr
Evaporation:	**-10,492.3**	Btu/hr
Σ:	**68,977.1**	Btu/hr
Specific internal heat gains:	**1.2**	Btu/hr ft²



DHW AND DISTRIBUTION

DHW consumption per person per day:	**6.6**	gal/Person/day
Average cold water temperature supply:	**50**	°F
Useful heat DHW:	**225,821**	kBtu/yr
Specific useful heat DHW:	**4,084.8**	Btu/ft²yr
Total heat losses of the DHW system:	**67,652.5**	kBtu/yr
Specific losses of the DHW system:	**1,223.7**	Btu/ft²yr
Performance ratio DHW distribution system and storage:	**1.3**	
Utilization ratio DHW distribution system and storage:	**0.8**	
Total heat demand of DHW system:	**293,473.5**	kBtu/yr
Total specific heat demand of DHW system:	**5,308.5**	Btu/ft²yr
Total heat losses of the hydronic heating distribution:	**0**	kBtu/yr
Specific losses of the hydronic heating distribution:	**0**	Btu/ft²yr
Performance ratio of heat distribution:	**100**	%

Region	Length [ft]	Annual heat loss [kBtu/yr]
Hydronic heating distribution pipes		
Σ	0	0
DHW circulation pipes		
In conditioned space	0	0
Σ	0	0
Individual pipes		
In conditioned space	4000	0
Σ	4000	0
Water storage		
Device 6 (Water storage: DHW): WH-1_Bradford White Electric Brute VR-300-15_300 gal		2709.2
Device 7 (Water storage: DHW): WH-2_AO Smith		2951.8
Σ		5661

Property/Site

Building name: **La Mora Senior Living**

Property information

Owner's name: **Municipal Housing Authority of Yonkers**
Property address: **23 Mulberry Street**
City: **Yonkers, NY**
Zip: **10701**

Site information

Climate Location: **WHITE PLAINS WESTCHESTER CO A NY**

Building

Building Information

Area of Conditioned Space: **55,289** ft²
Volume of conditioned space: **443,142** ft³
Number of bedrooms: **63**
Foundation Type: **Slab on grade**
Winter setpoint temperature: **68** °F
Summer setpoint temperature: **77** °F

Below grade walls

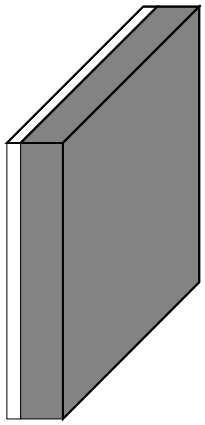
Name	Area [ft²]	Assembly
Foundation wall	1,328.2	LaMora_Foundation Wall_12in conc_2in EPS

Assembly (Id.9): LaMora_Foundation Wall_12in conc_2in EPS

Homogenous layers

Thermal resistance: 7.845 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 8 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polystyrene, expanded (2)	1.25	0.36	0.0231	2	
2	Concrete (2)	131.35	0.19	0.7933	6	

Slab floor

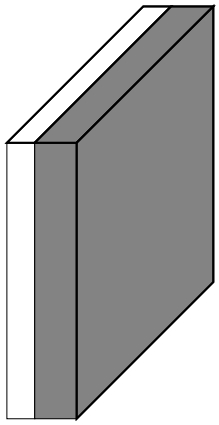
Name	Area [ft²]	Assembly
Slab on grade	6,012.1	LaMora_Slab_4in EPS_6" conc
Slab on grade_Elevator (uninsulated)	166.8	LaMora_Slab_Uninsulated_6" conc
Total	**6,178.9**	

Assembly (Id.2): LaMora_Slab_4in EPS_6" conc

Homogenous layers

Thermal resistance: 15.053 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 10 in



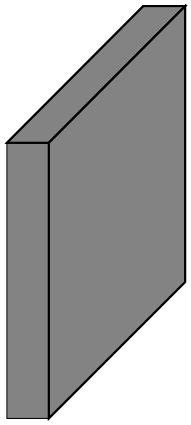
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polystyrene, expanded	1.25	0.36	0.0231	4	
2	Concrete	131.35	0.19	0.7933	6	

Assembly (Id.3): LaMora_Slab_Uninsulated_6" conc

Homogenous layers

Thermal resistance: 0.63 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 6 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Concrete	131.35	0.19	0.7933	6	

Slab on grade

Floor slab area:	**2,298**	ft²
U-Value of basement slab:	**0.1**	Btu/hr ft² °F
Floor slab perimeter (P):	**349**	ft
Total R-value of perimeter insulation:	**14**	hr ft² °F/Btu

Above-grade walls & Rim/band joists

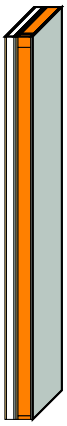
Name	Orientation	Area [ft²]	Short wave radiation absorption	Assembly
EW-2 (Short walls)	SE (21 %), SW (25 %), NE (31 %), NW (24 %)	1,435.4	0.4	LaMora_EW-2_R9 Zip-R_Gypsum_2x4 w/ fiberglass batt_Gypsum
EW-1 (Typical)	SE (26 %), SW (31 %), NE (24 %), NW (19 %)	19,625	0.4	LaMora_EW-1_R9 Zip-R_Gypsum_2x6 w/ fiberglass batt_Gypsum
Overhang	Horizontal (100 %)	296.3	0.4	LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD
Bulkhead roof 1	Horizontal (100 %)	399.8	0.4	LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
Roof (main)	Horizontal (100 %)	12,005.3	0.4	LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss
Bulkhead roof 2	Horizontal (100 %)	112.4	0.4	LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
Bulkhead roof 3	Horizontal (100 %)	482.8	0.4	LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
EW-5	SW (26 %), NW (74 %)	99.2	0.4	LaMora_EW-5_.5in OSB_4in EPS_CMU
Custom avg assembly 2	SE (50 %), SW (50 %)	91.4	0.4	Custom assembly 2 - EW-1 + EW-5
Custom avg assembly 1	NE (49 %), NW (51 %)	2,804.5	0.4	Custom assembly 1 - EW-1 + EW-5
EW-5	NE (100 %)	438.7	0.4	LaMora_EW-5_.5in OSB_4in EPS_CMU
	Total	**37,790.8**		

Assembly (Id.4): LaMora_EW-2_R9 Zip-R_Gypsum_2x4 w/ fiberglass batt_Gypsum

Inhomogenous layers

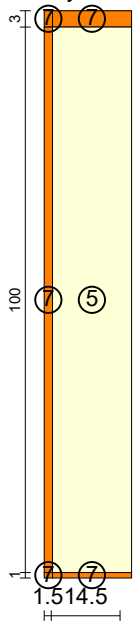
Thermal resistance: 22.088 / 24.2 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

Thickness: 7.625 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
2	Zip R EPS	1.25	0.36	0.0231	2	
3	Gypsum Board (USA)	53.06	0.21	0.0942	0.625	
4	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
5	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	3.5	
6	Gypsum Board (USA)	53.06	0.21	0.0942	0.5	
	Exchange materials					
7	Softwood	24.97	0.33	0.052	---	

Exchange material(s), Assembly (Id.4): LaMora_EW-2_R9 Zip-R_Gypsum_2x4 w/ fiberglass batt_Gypsum
Layer: 5

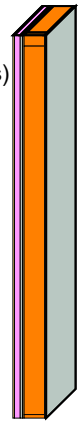


Assembly (Id.13): LaMora_EW-1_R9 Zip-R_Gypsum_2x6 w/ fiberglass batt_Gypsum

Inhomogenous layers

Thermal resistance: 30.96 / 34.353 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

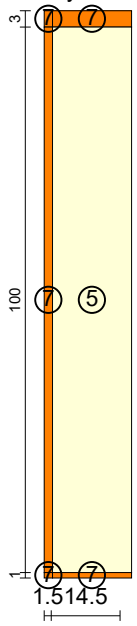
Thickness: 9.125 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
2	Polyisocyanurate Board	2.03	0.35	0.0139	1.5	
3	Gypsum Board (USA)	53.06	0.21	0.0942	0.625	
4	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
5	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	5.5	
6	Gypsum Board (USA)	53.06	0.21	0.0942	0.5	
Exchange materials						
7	Softwood	24.97	0.33	0.052	---	

Exchange material(s), Assembly (Id.13): LaMora_EW-1_R9 Zip-R_Gypsum_2x6 w/ fiberglass batt_Gypsum

Layer: 5

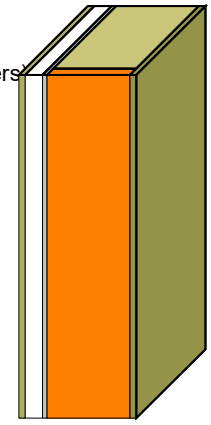


Assembly (Id.6): LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD

Inhomogenous layers

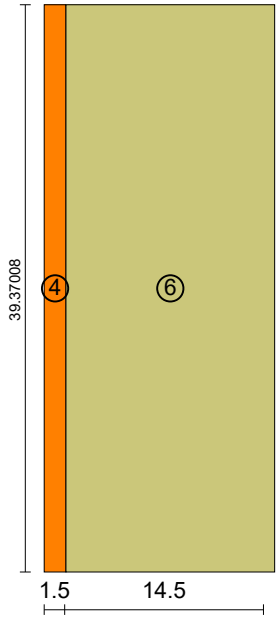
Thermal resistance: 55.394 / 25.329 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

Thickness: 13.5 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Oriented Strand Board (2)	40.58	0.45	0.0532	0.75	
2	Zip R EPS	1.25	0.36	0.0231	2	
3	Gypsum Board (USA) (2)	53.06	0.21	0.0942	0.5	
4	Softwood (2)	24.97	0.33	0.052	9.5	
5	Plywood (USA)	29.34	0.45	0.0485	0.75	
Exchange materials						
6	Sprayed Polyurethane Foam; closed cell	2.43	0.35	0.0144	---	

Exchange material(s), Assembly (Id.6): LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD
Layer: 4

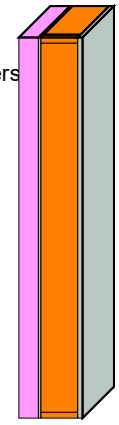


Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt

Inhomogenous layers

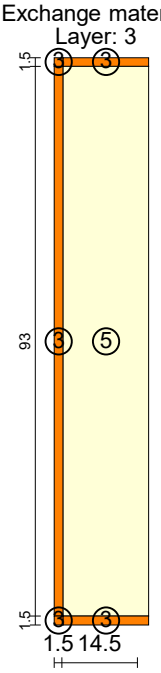
Thermal resistance: 65.055 / 46.458 hr ft² °F/Btu (EN ISO 6946 / homogenous layers

Thickness: 16.125 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polyisocyanurate Board	2.03	0.35	0.0139	5	
2	Gypsum Board (USA) (2)	53.06	0.21	0.0942	0.625	
3	Softwood	24.97	0.33	0.052	9.25	
4	Gypsum Board (USA) (2)	53.06	0.21	0.0942	1.25	
Exchange materials						
5	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	---	

Exchange material(s), Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt

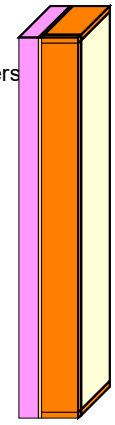


Assembly (Id.5): LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss

Inhomogenous layers

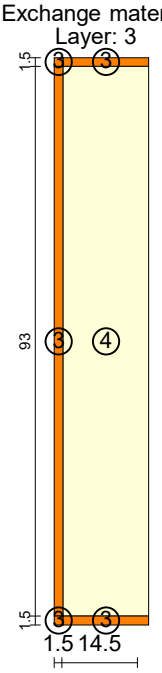
Thermal resistance: 62.924 / 44.355 hr ft² °F/Btu (EN ISO 6946 / homogenous layers

Thickness: 15 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polyisocyanurate Board	2.03	0.35	0.0146	5	
2	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.75	
3	Softwood	24.97	0.33	0.052	9.25	
Exchange materials						
4	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	---	

Exchange material(s), Assembly (Id.5): LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss

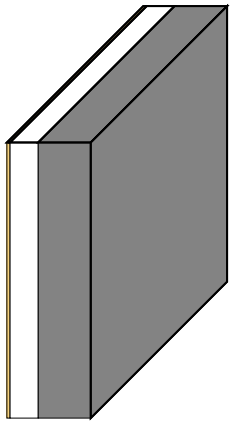


Assembly (Id.11): LaMora_EW-5_.5in OSB_4in EPS_CMU

Homogenous layers

Thermal resistance: 15.905 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 12 in



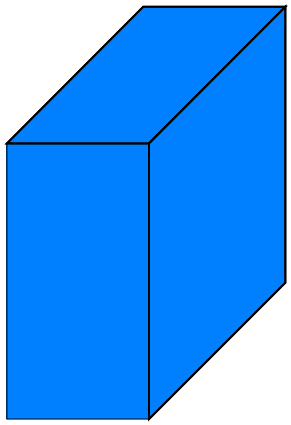
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
2	Polystyrene, expanded	1.25	0.36	0.0231	4	
3	Concrete	131.35	0.19	0.7933	7.5	

Assembly (Id.12): Custom assembly 2 - EW-1 + EW-5

Homogenous layers

Thermal resistance: 20.308 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 20.3 in



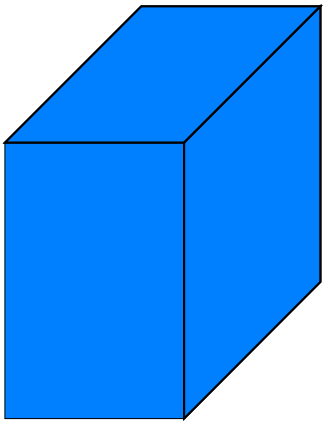
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Generic_R1/in	104.25	0.2	0.0833	20.3	

Assembly (Id.10): Custom assembly 1 - EW-1 + EW-5

Homogenous layers

Thermal resistance: 25.61 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 25.6 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Generic_R1/in	104.25	0.2	0.0833	25.6	

Adiabatic walls

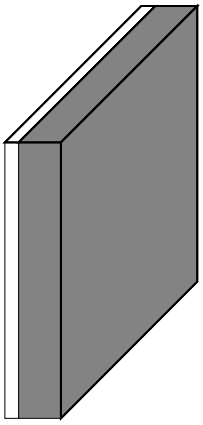
Name	Area [ft²]	Assembly
Foundation wall (to crawl)	498.4	LaMora_Foundation Wall_12in conc_2in EPS
Foundation wall (to MEP)	740.6	LaMora_Foundation Wall_12in conc_2in EPS
Insulated floor (over MEP)	2,414.3	LaMora_Insulated floor_14in insulated joists_plywood_flooring
Insulated floor (over crawl)	4,069.5	LaMora_Insulated floor_14in insulated joists_plywood_flooring
Total	**7,722.7**	

Assembly (Id.9): LaMora_Foundation Wall_12in conc_2in EPS

Homogenous layers

Thermal resistance: 7.845 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 8 in



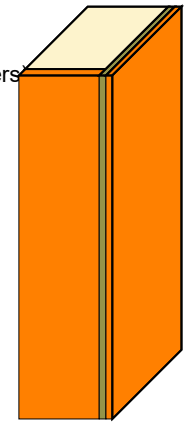
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polystyrene, expanded (2)	1.25	0.36	0.0231	2	
2	Concrete (2)	131.35	0.19	0.7933	6	

Assembly (Id.8): LaMora_Insulated floor_14in insulated joists_plywood_flooring

Inhomogenous layers

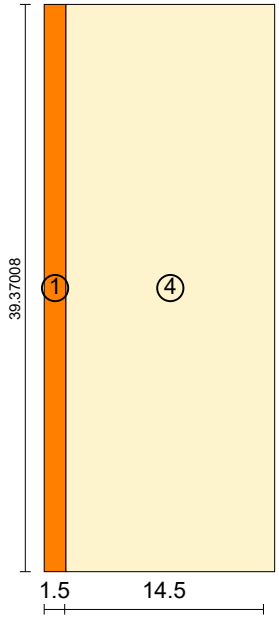
Thermal resistance: 34.707 / 16.943 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

Thickness: 10.75 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Softwood	24.97	0.33	0.052	9.25	
2	Plywood (USA)	29.34	0.45	0.0485	0.75	
3	Hardwood	40.58	0.33	0.0751	0.75	
	Exchange materials					
4	Mineral wool_Comfortbatt	3.75	0.2	0.0208	---	

Exchange material(s), Assembly (Id.8): LaMora_Insulated floor_14in insulated joists_plywood_flooring
Layer: 1



Windows and Glass Doors

Name	Orientation	Area [ft²]	Window type
A_top	SE (21 %), SW (14 %), NE (39 %), NW (26 %)	1,890.1	Wythe_76 MD_Triple pane_SHGC .34_Fixed
A_bottom (operable)	SE (22 %), SW (14 %), NE (38 %), NW (26 %)	625.3	Wythe_76 MD_Triple pane_SHGC .34_Awning
B_large	SE (24 %), SW (32 %), NE (18 %), NW (26 %)	1,339.7	Wythe_76 MD_Triple pane_SHGC .34_Fixed
B_Side_top (top floor shading)	SE (25 %), SW (33 %), NE (17 %), NW (25 %)	160.9	Wythe_76 MD_Triple pane_SHGC .34_Fixed
B_Side_top	SE (24 %), SW (32 %), NE (18 %), NW (26 %)	509.4	Wythe_76 MD_Triple pane_SHGC .34_Fixed
B_Side_bottom (operable)	SE (24 %), SW (32 %), NE (18 %), NW (26 %)	226.6	Wythe_76 MD_Triple pane_SHGC .34_Awning
C_Side_top	SE (19 %), SW (16 %), NE (43 %), NW (22 %)	992	Wythe_76 MD_Triple pane_SHGC .34_Fixed
C_Side_bottom (operable)	SE (19 %), SW (16 %), NE (43 %), NW (22 %)	335.3	Wythe_76 MD_Triple pane_SHGC .34_Awning
D	SE (33 %), SW (33 %), NW (33 %)	162	Wythe_76 MD_Triple pane_SHGC .34_Fixed
E	SW (50 %), NW (50 %)	107.2	Wythe_76 MD_Triple pane_SHGC .34_Fixed
F	SW (100 %)	66	Wythe_76 MD_Triple pane_SHGC .34_Fixed
Storefront_Side_top	SE (41 %), SW (43 %), NW (16 %)	54.7	LaMora_YKK_YES 45 XT
Storefront_Side_bottom	SE (34 %), SW (48 %), NW (18 %)	171.1	LaMora_YKK_YES 45 XT
Storefront_Center_top	SE (14 %), SW (72 %), NW (15 %)	40	LaMora_YKK_YES 45 XT
Storefront_Center_bottom	SE (100 %)	19.3	LaMora_YKK_YES 45 XT
Door S-01	SE (100 %)	22.7	LaMora_YKK_YES 35 XT_medium entrance
Door_S-02	SW (100 %)	22.7	LaMora_YKK_YES 35 XT_medium entrance
Door_S-03	SW (100 %)	44.8	LaMora_YKK_YES 35 XT_medium entrance
Door_S-04	SW (100 %)	44.8	LaMora_YKK_YES 35 XT_medium entrance
Door_S-05	NW (100 %)	22.7	LaMora_YKK_YES 35 XT_medium entrance
B_large (top floor shading)	SE (25 %), SW (33 %), NE (17 %), NW (25 %)	423	Wythe_76 MD_Triple pane_SHGC .34_Fixed
	Total	**7,280.2**	

Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.163
Frame factor		0.7805
Glass U-value	[Btu/hr ft² °F]	0.12
SHGC/Solar energy transmittance (perpendicular)		0.34

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.08	3.08	3.08	3.08
Frame U-value	[Btu/hr ft² °F]	0.17	0.17	0.17	0.17
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

Window type (Id 3): Wythe_76 MD_Triple pane_SHGC .34_Awning

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.1671
Frame factor		0.6734
Glass U-value	[Btu/hr ft² °F]	0.12
SHGC/Solar energy transmittance (perpendicular)		0.34

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	4.74	4.74	4.74	4.74
Frame U-value	[Btu/hr ft² °F]	0.17	0.17	0.17	0.17
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

Window type (Id 9): LaMora_YKK_YES 45 XT

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.3013
Frame factor		0.8544
Glass U-value	[Btu/hr ft² °F]	0.2
SHGC/Solar energy transmittance (perpendicular)		0.4

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	2	2	2	2
Frame U-value	[Btu/hr ft² °F]	0.67	0.67	0.67	0.67
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

Window type (Id 11): LaMora_YKK_YES 35 XT_medium entrance

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.5357
Frame factor		0.7013
Glass U-value	[Btu/hr ft² °F]	0.2
SHGC/Solar energy transmittance (perpendicular)		0.4

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.5	3.5	3.5	7
Frame U-value	[Btu/hr ft² °F]	1.22	1.22	1.22	1.22
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

Doors

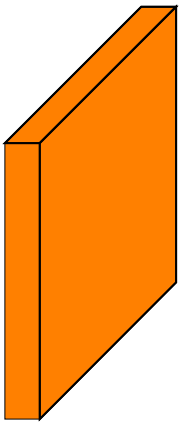
Name	Orientation	Area [ft²]	Short wave radiation absorption	Assembly
Door_005b	NE (100 %)	42	0.4	FS102_Door_R5
Door 429	NW (100 %)	23.3	0.4	FS102_Door_R5
Door_ST-BT	SW (100 %)	23.9	0.4	FS102_Door_R5
Door_ST-AR	SE (100 %)	23.3	0.4	FS102_Door_R5
Door_ST-A0b	NW (100 %)	23.3	0.4	FS102_Door_R5
	Total	**135.9**		

Assembly (Id.1): FS102_Door_R5

Homogenous layers

Thermal resistance: 5 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 5 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	R1/in	1.87	0.36	0.0833	5	

Ceilings

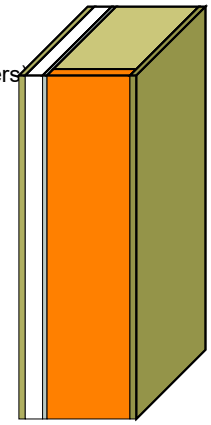
Name	Area [ft²]	Short wave radiation absorption	Assembly
Overhang	296.3	0.4	LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD
Bulkhead roof 1	399.8	0.4	LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
Roof (main)	12,005.3	0.4	LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss
Bulkhead roof 2	112.4	0.4	LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
Bulkhead roof 3	482.8	0.4	LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
Total	**13,296.7**		

Assembly (Id.6): LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD

Inhomogenous layers

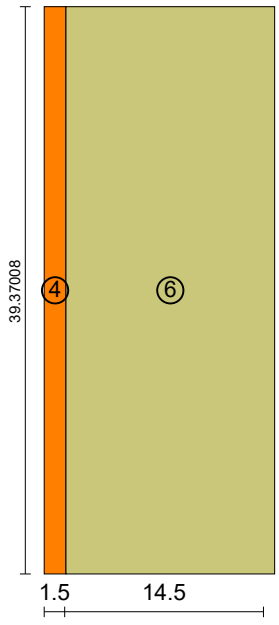
Thermal resistance: 55.394 / 25.329 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

Thickness: 13.5 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Oriented Strand Board (2)	40.58	0.45	0.0532	0.75	
2	Zip R EPS	1.25	0.36	0.0231	2	
3	Gypsum Board (USA) (2)	53.06	0.21	0.0942	0.5	
4	Softwood (2)	24.97	0.33	0.052	9.5	
5	Plywood (USA)	29.34	0.45	0.0485	0.75	
	Exchange materials					
6	Sprayed Polyurethane Foam; closed cell	2.43	0.35	0.0144	---	

Exchange material(s), Assembly (Id.6): LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD
Layer: 4

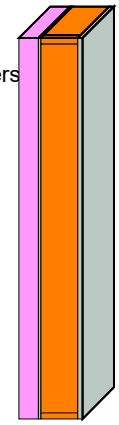


Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt

Inhomogenous layers

Thermal resistance: 65.055 / 46.458 hr ft² °F/Btu (EN ISO 6946 / homogenous layers

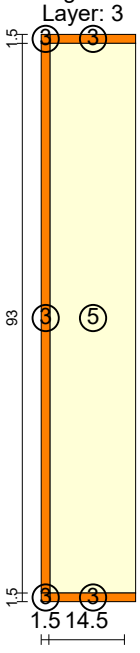
Thickness: 16.125 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polyisocyanurate Board	2.03	0.35	0.0139	5	
2	Gypsum Board (USA) (2)	53.06	0.21	0.0942	0.625	
3	Softwood	24.97	0.33	0.052	9.25	
4	Gypsum Board (USA) (2)	53.06	0.21	0.0942	1.25	
Exchange materials						
5	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	---	

Exchange material(s), Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt

Layer: 3

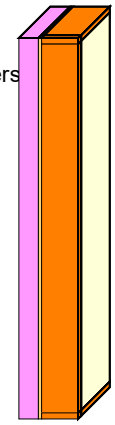


Assembly (Id.5): LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss

Inhomogenous layers

Thermal resistance: 62.924 / 44.355 hr ft² °F/Btu (EN ISO 6946 / homogenous layers

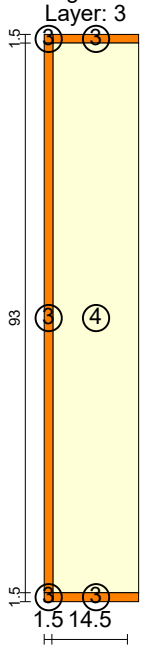
Thickness: 15 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polyisocyanurate Board	2.03	0.35	0.0146	5	
2	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.75	
3	Softwood	24.97	0.33	0.052	9.25	
Exchange materials						
4	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	---	

Exchange material(s), Assembly (Id.5): LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss

Layer: 3



Space heating

Type	Performance ratio of heat generator [-]	Fuel type
Heat pump	0.45	Electricity
Electric resistance heating	1	Electricity

Space cooling

Type	Distribution	Capacity [kBtu/hr]	COP
Heat pump	| Recirculation air| Dehumidification	546.01	4.65 | 1.2
Heat pump	| Recirculation air| Dehumidification	529.95	4.65 | 1.2
Heat pump	| Recirculation air| Dehumidification	529.95	4.65 | 1.2
Total		**1,605.9**	

Water heating

Type	Performance ratio of heat generator [-]	Fuel type
Heat pump	0.58	Electricity
DHW Electric heating	1	Electricity

Water storage

Nr	Capacity [gal]
6	300
8	80
Total	**380**

Infiltration/Ventilation

ACH @ 50 Pascal **0.5** 1/hr

CFM @ 50 Pascal **3,160.6** cfm

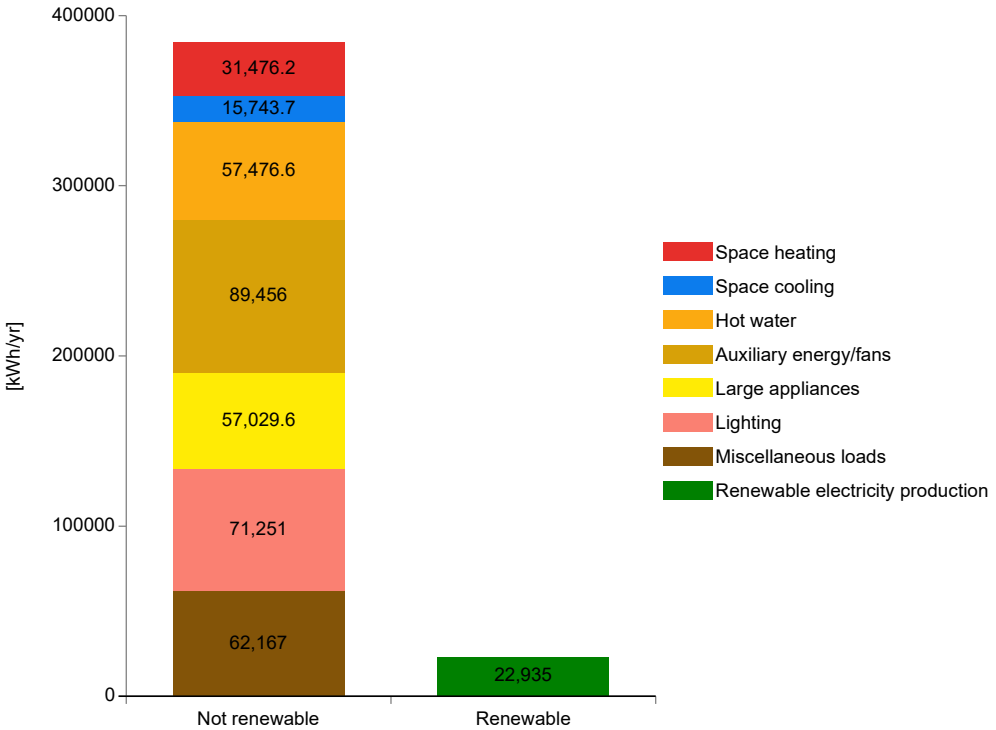
Nr	Sensible recovery efficiency [-]	Rate [cfm]	Electric efficiency [W/cfm]	Fan [W]	Defrost	Temperature below which defrost must be used [°F]	Subsoil heat exchanger efficiency [-]
1	0.42	1,703.93	0.05	2,385.51	yes	13.54	0
5	0.42	1,677.45	0.05	2,314.88	yes	13.54	0
Total	**0.41**	**3,381.38**		**4,700.38**			

Lights and appliances

Type	Energy use [kWh/yr]	In conditioned space
Kitchen dishwasher	5,095.48	yes
Kitchen fridge/freeze combo	21,900	yes
Kitchen cooking	12,300	yes
Laundry - washer	1,682.47	yes
Laundry - dryer	16,051.68	yes
Energy consumed by evaporation	0 (1,749)	yes
User defined lighting	68,494	yes
User defined lighting	2,757	no
User defined MELs	62,167	yes
DHW circulating pump	2,475.87	yes
DHW storage load pump	2,275.44	yes
Other	7,601	no
Other	0	no
Other	0	no
Ventilation winter	35,403.84	no
Ventilation Defrost	4,869.28	no
Ventilation summer	34,553.52	no
DHW storage load pump	2,277.02	yes
Total	**279,903.6**	

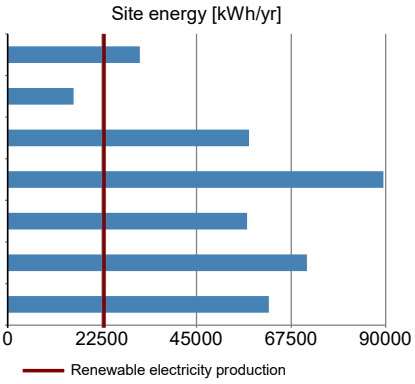
Project name:	**Phius R5 (Phius 2021 CORE) (Phius to review)**
Climate:	**WHITE PLAINS WESTCHESTER CO A NY**
Type:	**Residential**
Interior conditioned floor area:	**55,289** ft²
Number of units:	**60**
Occupants:	**123**
Site energy use:	**1,233,931** kBtu/yr
Specific site energy use:	**22.3** kBtu/ft²yr
Site energy use:	**361,665.2** kWh/yr
Specific site energy use:	**6.5** kWh/ft²yr
Site energy use per person:	**2,940.4** kWh/Person yr
Net site energy use (with 100% renewables):	**1,233,931** kBtu/yr
Specific net site energy use (with 100% renewables):	**22.3** kBtu/ft²yr
Net site energy use (with 100% renewables):	**361,665.2** kWh/yr
Specific net site energy use (with 100% renewables):	**6.5** kWh/ft²yr
Net site energy use per person (with 100% renewables):	**2,940.4** kWh/Person yr

OVERVIEW



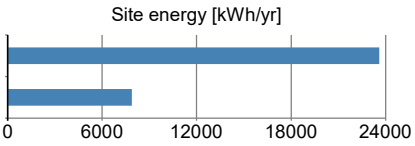
TOTAL USE BY TYPE

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Space heating	31,476.2	0.6	107,390.8	1.9
Space cooling	15,743.7	0.3	53,714.5	1
Hot water	57,476.6	1	196,099	3.5
Auxiliary energy/fans	89,456	1.6	305,206.3	5.5
Large appliances	57,029.6	1	194,574	3.5
Lighting	71,251	1.3	243,094.5	4.4
Miscellaneous loads	62,167	1.1	212,101.7	3.8
Renewable electricity production	-22,935	-0.4	-78,249.7	-1.4
Total	**361,665.2**	**6.5**	**1,233,931**	**22.3**



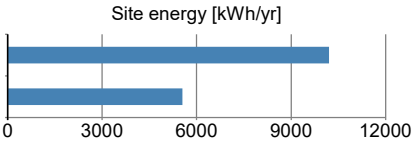
SPACE HEATING

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Heat pump	23,584.1	0.4	80,464.5	1.5
Electric resistance heating	7,892.1	0.1	26,926.3	0.5
Total	**31,476.2**	**0.6**	**107,390.8**	**1.9**



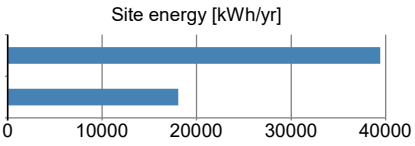
SPACE COOLING

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Recirculation Cooling	10,198.9	0.2	34,796.6	0.6
Dehumidification	5,544.9	0.1	18,918	0.3
Total	**15,743.7**	**0.3**	**53,714.5**	**1**



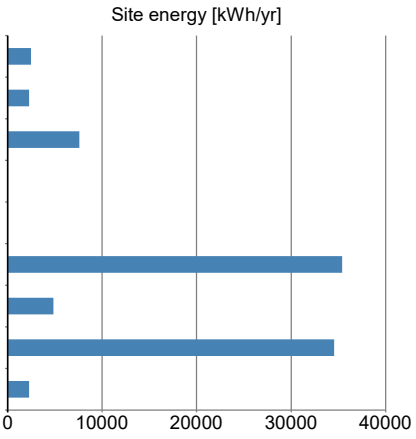
DHW

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Heat pump	39,413	0.7	134,469.6	2.4
DHW Electric heating	18,063.6	0.3	61,629.4	1.1
Total	**57,476.6**	**1**	**196,099**	**3.5**



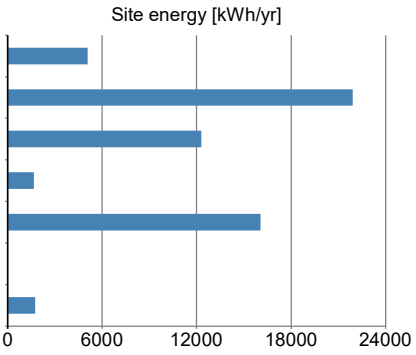
AUXILIARY ENERGY/FANS

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
DHW circulating pump	2,475.9	0	8,447.2	0.2
DHW storage load pump	2,275.4	0	7,763.4	0.1
Other	7,601	0.1	25,933.1	0.5
Other	0	0	0	0
Other	0	0	0	0
Ventilation winter	35,403.8	0.6	120,791	2.2
Ventilation Defrost	4,869.3	0.1	16,613	0.3
Ventilation summer	34,553.5	0.6	117,889.9	2.1
DHW storage load pump	2,277	0	7,768.7	0.1
Total	**89,456**	**1.6**	**305,206.3**	**5.5**



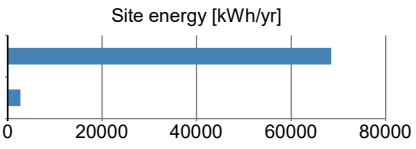
LARGE APPLIANCES

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Kitchen dishwasher	5,095.5	0.1	17,384.8	0.3
Kitchen fridge/freeze combo	21,900	0.4	74,718.5	1.4
Kitchen cooking	12,300	0.2	41,965.2	0.8
Laundry - washer	1,682.5	0	5,740.3	0.1
Laundry - dryer	16,051.7	0.3	54,765.2	1
Energy consumed by evaporation	0	0	0	0
	(1,749)	(0)	(5,967.3)	(0.1)
Total	**57,029.6**	**1**	**194,574**	**3.5**



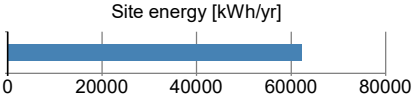
LIGHTING

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
User defined lighting	68,494	1.2	233,688.2	4.2
User defined lighting	2,757	0	9,406.3	0.2
Total	**71,251**	**1.3**	**243,094.5**	**4.4**



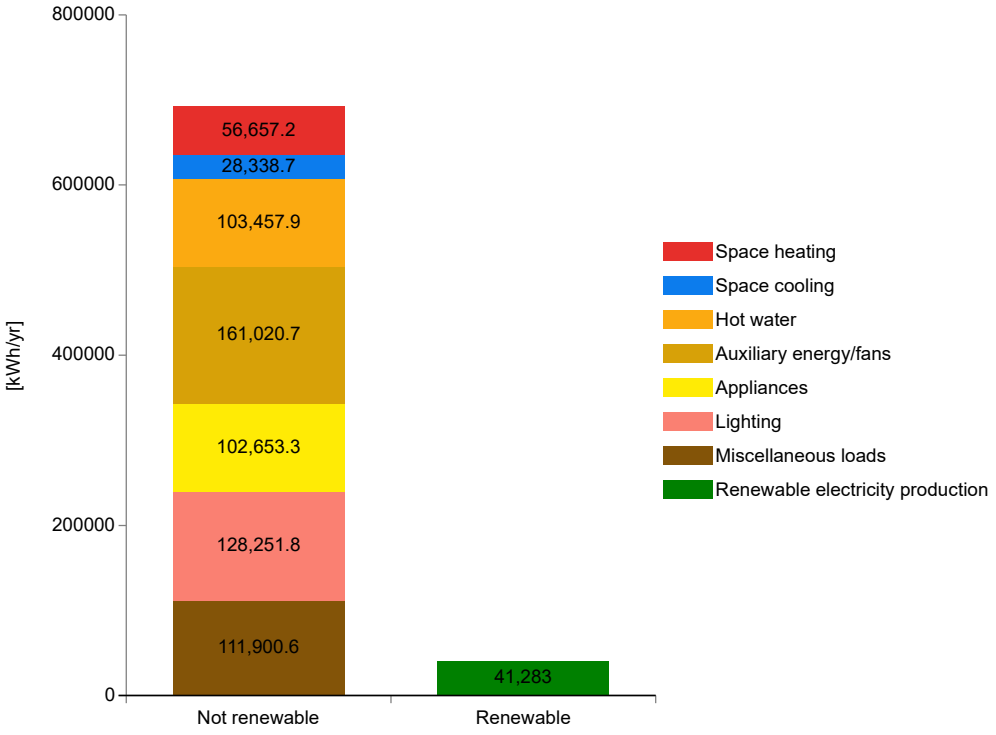
MISC LOADS

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
User defined MELs	62,167	1.1	212,101.7	3.8
Total	**62,167**	**1.1**	**212,101.7**	**3.8**



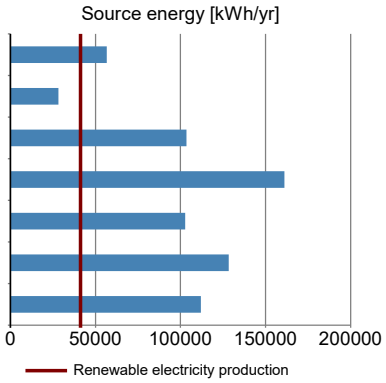
Project name:	**Phius R5 (Phius 2021 CORE) (Phius to review)**	
Climate:	**WHITE PLAINS WESTCHESTER CO A NY**	
Type:	**Residential**	
Interior conditioned floor area:	**55,289**	ft²
Number of units:	**60**	
Occupants:	**123**	
Source energy use:	**2,221,075.8**	kBtu/yr
Specific source energy use:	**40.2**	kBtu/ft²yr
Source energy use:	**650,997.3**	kWh/yr
Source energy use per person:	**5,293**	kWh/Person yr
Net source energy use (with 100% renewables):	**2,221,075.8**	kBtu/yr
Specific net source energy use (with 100% renewables):	**40.2**	kBtu/ft²yr
Net source energy use (with 100% renewables):	**650,997.3**	kWh/yr
Specific source energy use per person (with 100% renewables):	**5,292.7**	kWh/Person yr
PHIUS+ Source Zero:	**NO**	

OVERVIEW



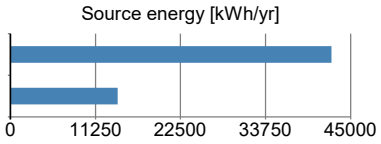
TOTAL USE BY TYPE

Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]
Space heating	56,657.2	1	193,303.4	3.5
Space cooling	28,338.7	0.5	96,686.2	1.7
Hot water	103,457.9	1.9	352,978.2	6.4
Auxiliary energy/fans	161,020.7	2.9	549,371.3	9.9
Appliances	102,653.3	1.9	350,233.2	6.3
Lighting	128,251.8	2.3	437,570.1	7.9
Miscellaneous loads	111,900.6	2	381,783	6.9
Renewable electricity production	-41,283	-0.7	-140,849.5	-2.5
Total	**650,997.3**	**11.8**	**2,221,075.8**	**40.2**



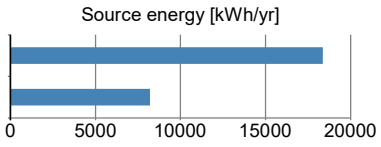
SPACE HEATING

Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
Heat pump	42,451.5	0.8	144,836.1	2.6	1.8	Electricity
Electric resistance heating	14,205.8	0.3	48,467.3	0.9	1.8	Electricity
Total	**56,657.2**	**1**	**193,303.4**	**3.5**		



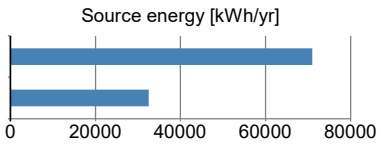
SPACE COOLING

Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
Recirculation Cooling	18,358	0.3	62,633.8	1.1	1.8	Electricity
Dehumidification	8,214.2	0.1	28,025.4	0.5	1.8	Electricity
Total	**26,572.2**	**0.5**	**90,659.2**	**1.6**		



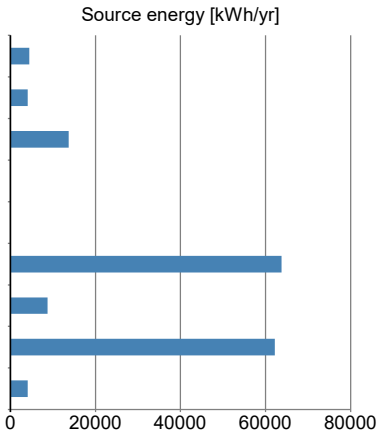
DHW

Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
Heat pump	70,943.4	1.3	242,045.2	4.4	1.8	Electricity
DHW Electric heating	32,514.5	0.6	110,933	2	1.8	Electricity
Total	**103,457.9**	**1.9**	**352,978.2**	**6.4**		



AUXILIARY ENERGY/FANS

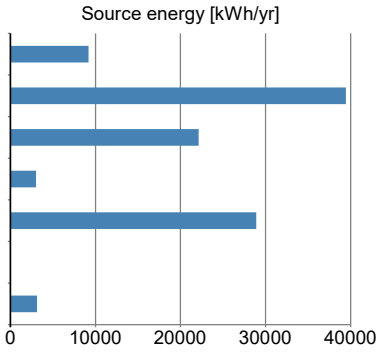
Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
DHW circulating pump	4,456.6	0.1	15,204.9	0.3	1.8	Electricity
DHW storage load pump	4,095.8	0.1	13,974	0.3	1.8	Electricity
Other	13,681.8	0.2	46,679.6	0.8	1.8	Electricity
Other	0	0	0	0	1.8	Electricity
Other	0	0	0	0	1.8	Electricity
Ventilation winter	63,726.9	1.2	217,423.8	3.9	1.8	Electricity
Ventilation Defrost	8,764.7	0.2	29,903.4	0.5	1.8	Electricity
Ventilation summer	62,196.3	1.1	212,201.8	3.8	1.8	Electricity
DHW storage load pump	4,098.6	0.1	13,983.7	0.3	1.8	Electricity
Total	**161,020.7**	**2.9**	**549,371.3**	**9.9**		



LARGE APPLIANCES

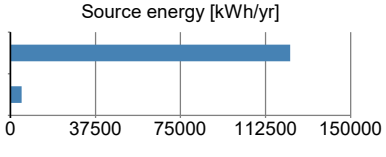
Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
Kitchen dishwasher	9,171.9	0.2	31,292.6	0.6	1.8	Electricity
Kitchen fridge/freeze combo	39,420	0.7	134,493.3	2.4	1.8	Electricity
Kitchen cooking	22,140	0.4	75,537.4	1.4	1.8	Electricity
Laundry - washer	3,028.5	0.1	10,332.5	0.2	1.8	Electricity
Laundry - dryer	28,893	0.5	98,577.3	1.8	1.8	Electricity
Energy consumed by evaporation	0	0	0	0	1.8	Electricity
	(3,148.23)	(0.06)	(10,741.14)	(0.19)	1.8	HVAC System *)
Total	**102,653.3**	**1.9**	**350,233.2**	**6.3**		

*) Energy demand covered with HVAC System



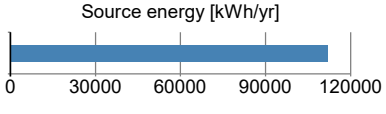
LIGHTING

Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
User defined lighting	123,289.2	2.2	420,638.7	7.6	1.8	Electricity
User defined lighting	4,962.6	0.1	16,931.4	0.3	1.8	Electricity
Total	**128,251.8**	**2.3**	**437,570.1**	**7.9**		



MISC LOADS

Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
User defined MELs	111,900.6	2	381,783	6.9	1.8	Electricity
Total	**111,900.6**	**2**	**381,783**	**6.9**		



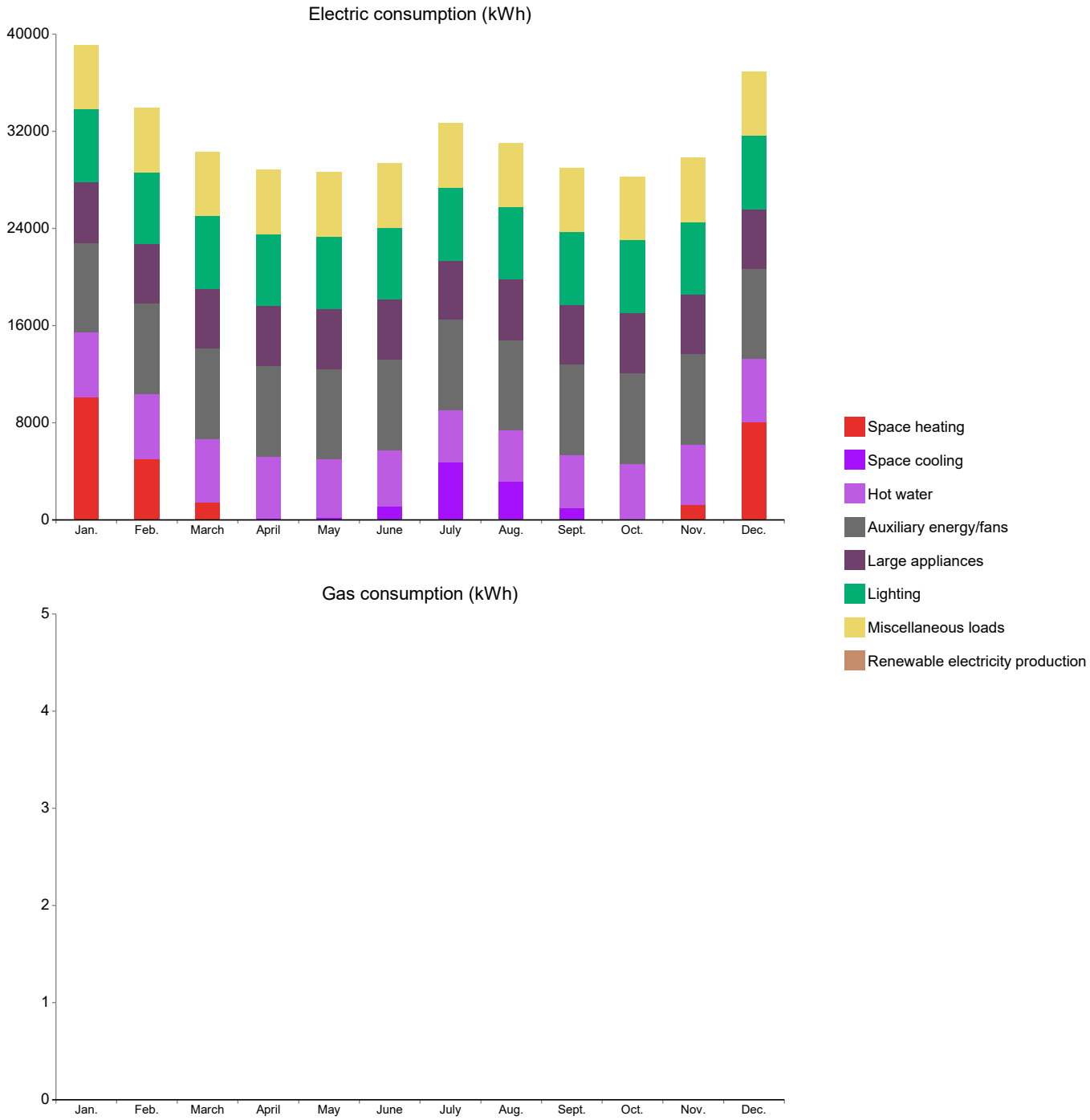
SITE ENERGY MONTHLY REPORT

ELECTRICITY USE [kWh]

Type	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Space heating	10,336.62	5,185.03	1,565.48	218.8	6.23	0	0	0	0	36.15	1,437.18	8,322.72
Space cooling	3.88	14.32	45.5	99.61	345.98	1,326.8	4,872.04	3,308.25	1,167.52	163.57	29.07	4.95
Hot water	5,225.8	5,267.8	5,211.06	5,048.69	4,811.42	4,532.96	4,313.24	4,231.87	4,337.9	4,570.48	4,848.63	5,076.76
Auxiliary energy/fans	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66	7,454.66
Large appliances	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22	4,898.22
Lighting	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58	5,937.58
Miscellaneous loads	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58	5,180.58
Renewable electricity production	0	0	0	0	0	0	0	0	0	0	0	0

GAS USE [kWh]

Type	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Space heating	0	0	0	0	0	0	0	0	0	0	0	0
Space cooling	0	0	0	0	0	0	0	0	0	0	0	0
Hot water	0	0	0	0	0	0	0	0	0	0	0	0
Auxiliary energy/fans	0	0	0	0	0	0	0	0	0	0	0	0
Large appliances	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous loads	0	0	0	0	0	0	0	0	0	0	0	0
Renewable electricity production	0	0	0	0	0	0	0	0	0	0	0	0


Electric consumption (kWh)
40000
32000
24000
16000
8000
0
Jan.
Feb.
March
April
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.
Space heating
Space cooling
Hot water
Auxiliary energy/fans
Large appliances
Lighting
Miscellaneous loads
Renewable electricity production
Gas consumption (kWh)
5
4
3
2
1
0
Jan.
Feb.
March
April
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.

Project data

Client	
Surname & Name	Municipal Housing Authority of Yonkers
Locality	Yonkers, NY
Postal code	10710
Street	1511 Central Park Ave
Tel.	914-793-8400
e-mail	
Building	
Name/Type	La Mora Senior Living
Locality	Yonkers, NY
Postal code	10701
Street	23 Mulberry Street
Country	US
Owner	
Surname & Name	Municipal Housing Authority of Yonkers
Locality	Yonkers, NY
Postal code	10710
Street	1511 Central Park Ave
Responsible	
Surname & Name	John Loercher, Northeast Projects LLC (CPHC 2093)
Locality	Old Chatham, NY
Postal code	12136
Street	76 Albany Turnpike
Tel.	518-227-0732
License Nr.	2093
e-mail	John@ne-projects.com
Date	7.1.2021

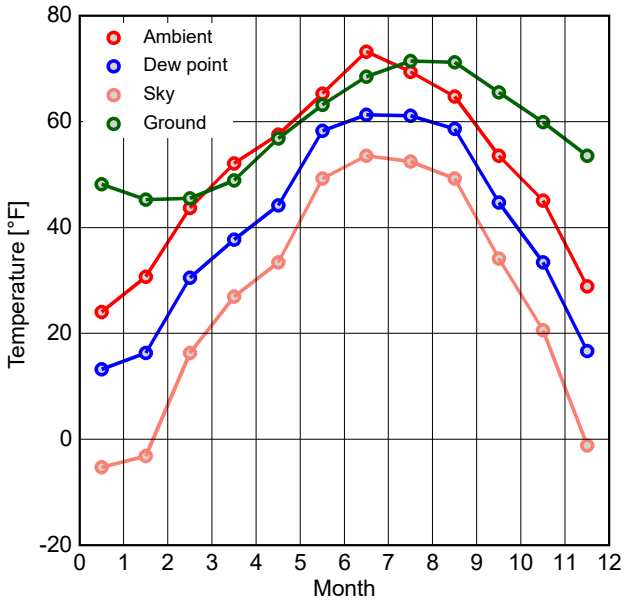
Climate

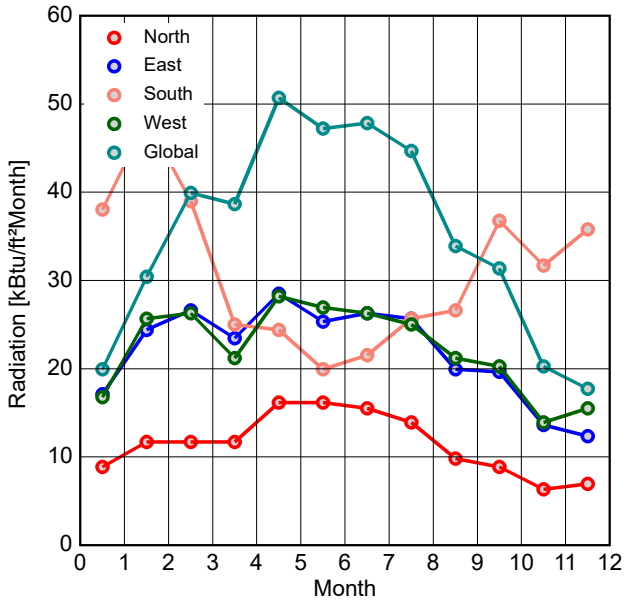
Case 1: Climate

Location: WHITE PLAINS WESTCHESTER CO A NY		
Latitude	[°]	41.1
Longitude	[°]	-73.7
Altitude weather station	[ft]	400.3
Altitude building	[ft]	105
Daily temperature swing summer	[°F]	18.5
Average wind speed	[ft/s]	13.1234
Additional data		
Ground thermal conductivity	[Btu/hr ft °F]	1.1556
Ground heat capacity	[Btu/lb°F]	0.2388
Ground density	[lb/ft³]	124.8559
Depth below grade of groundwater	[ft]	9.8425
Flow rate of groundwater	[ft/d]	0.164

Climate Data

Setting	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Heating W. 1	Heating W. 2	Cooling W. 1	Cooling W. 2
Temperature [°F]																
Ambient	24.1	30.7	43.7	52.2	57.6	65.3	73.2	69.4	64.8	53.6	45.1	28.9	13.8	33.8	80.1	
Dew point	13.3	16.3	30.6	37.8	44.2	58.3	61.3	61.2	58.6	44.8	33.4	16.7				
Sky	-5.3	-3.1	16.3	27	33.4	49.3	53.6	52.5	49.3	34.2	20.7	-1.1				
Ground	48.2	45.3	45.5	48.9	56.8	63.2	68.5	71.5	71.2	65.5	59.9	53.6				
Solar radiation [kBtu/ft²Month]													Solar radiation [Btu/hr ft²]			
North	8.9	11.7	11.7	11.7	16.2	16.2	15.5	13.9	9.8	8.9	6.3	7	14.3	7	26	
East	17.1	24.4	26.6	23.5	28.5	25.4	26.3	25.7	20	19.7	13.6	12.4	32.3	8.6	54.2	
South	38	48.2	39	25	24.4	20	21.6	25.7	26.6	36.8	31.7	35.8	75.8	13.3	41.8	
West	16.8	25.7	26.3	21.2	28.2	26.9	26.3	25	21.2	20.3	13.9	15.5	30.7	9.2	52.9	
Global	20	30.4	39.9	38.7	50.7	47.2	47.9	44.7	33.9	31.4	20.3	17.8	36.5	11.7	98.6	





Passive house data

General data

Building category		Residential
Occupancy type		Residential
Building status		In planning
Type		New construction
Indoor temperature	[°F]	68
Internal gains setting		Calculated
Internal heat gains	[Btu/hr ft²]	1.248
Occupancy setting method		Design
Number of occupants		123
Number of units		60
Number of floors		5
Visualized volume	[ft³]	660421.3
Gross volume	[ft³]	660421.3
Net volume	[ft³]	443142
Floor area	[ft²]	55289

Additional data

Preferred minimum indoor temperature for night ventilation	[°F]	68
Overheating temperature threshold	[°F]	77
Fresh air per person	[cfm]	18
Hot water tap-openings per person per day		3
Hot water tap-opening utilization days per year	[days/yr]	365
Air-tightness metric		Envelope airtightness at 50 Pa
Envelope airtightness at 50 Pa	[cfm/ft²]	.06
Non combustible materials		No
Type of ventilation system		Balanced PH ventilation
Max. humidity ratio (if dehumidification)	[lbw/lba]	0.012
Building wind exposure		Several sides exposed - moderate screening
Wind screening coefficient (e)		0.07
Wind exposure factor (f)		15
Wind shield factor		0.05
DHW consumption (60°) per person per day	[gal/Person/day]	6.6
Average cold water temperature of the supply	[°F]	50
Mechanical room temperature	[°F]	40

Foundation interface: Slab on grade

Type		Slab on grade
Floor slab area	[ft²]	2298
U-Value of basement slab	[Btu/hr ft² °F]	0.08
Floor slab perimeter (P)	[ft]	349
Position of the perimeter insulation		Not defined
Perimeter insulation width/depth	[ft]	4
Thickness of perimeter insulation	[in]	4
Conductivity perimeter insulation	[Btu/hr ft °F]	0.02381
Phase shift months	[months]	
Harmonic fraction	[Btu/hr F]	

Ventilation utilization pattern

Name	Operating days per week	Weeks per year	Additional data
Residential	7	52	24 h/d (100%)

Zones / Components

Case 1/Zone 1

Case 1/Zone 1: General data

Name		Simulated Zone
Type		Simulated zone
PH case		Passive house: Residential
Geometry		
Gross volume	[ft³]	660421.32
Net volume	[ft³]	443142
Floor area	[ft²]	55289
Clearance height	[ft]	8.2
Other data		
Specific heat capacity	[Btu/ft²F]	11
Humidity capacity	[lb/(lbw/lbda) ft²]	143.3713

Inner load / occupancy

Occupant quantity		123
Humidity sources	[lb/(ft²hr)]	0.00041

Device	Quantity	In conditioned space	Norm demand	Additional info
Kitchen dishwasher		Yes	269 kWh/Year	
Kitchen fridge/freeze combo	60	Yes	1 kWh/Day	
Kitchen cooking		Yes	.20 kWh/Use	
Laundry - washer		Yes	120 kWh/Year	
Laundry - dryer		Yes	kWh/CEF - Combined Ener	
User defined - lighting	1	Yes	68494 kWh/Use	
User defined - lighting	1	No	2757 kWh/Use	
User defined - Misc electric loads	1	Yes	62167 kWh/Use	

Ventilation / Rooms

Name	Room type	Quantity	Utilization pattern	Design volume flow rate [cfm]		Average volume flow rate [cfm]		Average air change rate [1/hr]
				Supply Air	Exhaust Air	Supply Air	Exhaust Air	
ERU1 (M701 schedule)	User defined	1	Pattern 1: Residential	2895	2810	0	0	
ERU2 (M701 schedule)	User defined	1	Pattern 1: Residential	2850	2635	0	0	
			Total	5745	5445	0	0	

ACH via natural ventilation (day)	[1/hr]	
Average mechanical ventilation air change rate	[1/hr]	
ACH via natural ventilation (night)	[1/hr]	

Case 1/Zone 1: Visualized components

Zone 1/Component 1: General data

Name		Slab on grade
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Ground
Assembly		Assembly (Id.2): LaMora_Slab_4in EPS_6" conc
U	[Btu/hr ft² °F]	0.0624
Geometry		
Area	[ft²]	6012.1
Inclination	[°]	180
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0 / 0.9653

Zone 1/Component 2: General data

Name		Foundation wall
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Ground
Assembly		Assembly (Id.9): LaMora_Foundation Wall_12in conc_2in EPS
U	[Btu/hr ft² °F]	0.1165
Geometry		
Area	[ft²]	1328.2
Inclination	[°]	90
Orientation		South-East (22 %), South-West (36 %), North-East (29 %), North-West (13 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0 / 0.7382

Zone 1/Component 3: General data

Name		Foundation wall (to crawl)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Space with the same inner conditions
Assembly		Assembly (Id.9): LaMora_Foundation Wall_12in conc_2in EPS
U	[Btu/hr ft² °F]	0.1135
Geometry		
Area	[ft²]	498.4
Inclination	[°]	90
Orientation		South-East (60 %), South-West (14 %), North-East (26 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382

Zone 1/Component 4: General data

Name		Foundation wall (to MEP)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Space with the same inner conditions
Assembly		Assembly (Id.9): LaMora_Foundation Wall_12in conc_2in EPS
U	[Btu/hr ft² °F]	0.1135
Geometry		
Area	[ft²]	740.6
Inclination	[°]	90
Orientation		South-East (17 %), South-West (69 %), North-West (14 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382

Zone 1/Component 5: General data

Name		Insulated floor (over MEP)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Space with the same inner conditions
Assembly		Assembly (Id.8): LaMora_Insulated floor_14in insulated joists_plywood_flooring
U	[Btu/hr ft² °F]	0.0278
Geometry		
Area	[ft²]	2414.3
Inclination	[°]	180
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.9653

Zone 1/Component 6: General data

Name		Insulated floor (over crawl)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Space with the same inner conditions
Assembly		Assembly (Id.8): LaMora_Insulated floor_14in insulated joists_plywood_flooring
U	[Btu/hr ft² °F]	0.0278
Geometry		
Area	[ft²]	4069.5
Inclination	[°]	180
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.9653

Zone 1/Component 7: General data

Name		EW-2 (Short walls)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.4): LaMora_EW-2_R9 Zip-R_Gypsum_2x4 w/ fiberglass batt_Gypsum
U	[Btu/hr ft² °F]	0.0433
Geometry		
Area	[ft²]	1435.4
Inclination	[°]	90
Orientation		South-East (21 %), South-West (25 %), North-East (31 %), North-West (24 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 8: General data

Name		EW-1 (Typical)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.13): LaMora_EW-1_R9 Zip-R_Gypsum_2x6 w/ fiberglass batt_Gypsum
U	[Btu/hr ft² °F]	0.0313
Geometry		
Area	[ft²]	19625
Inclination	[°]	90
Orientation		South-East (26 %), South-West (31 %), North-East (24 %), North-West (19 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 9: General data

Name		Overhang
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.6): LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD
U	[Btu/hr ft² °F]	0.0176
Geometry		
Area	[ft²]	296.3
Inclination	[°]	180
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.9653
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 10: General data

Name		Bulkhead roof 1
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
U	[Btu/hr ft² °F]	0.0152
Geometry		
Area	[ft²]	399.8
Inclination	[°]	0
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.5678
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 11: General data

Name		Roof (main)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.5): LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss
U	[Btu/hr ft² °F]	0.0157
Geometry		
Area	[ft²]	12005.3
Inclination	[°]	0
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.5678
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 12: General data

Name		Bulkhead roof 2
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
U	[Btu/hr ft² °F]	0.0152
Geometry		
Area	[ft²]	112.4
Inclination	[°]	29.9
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.5678
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 13: General data

Name		Bulkhead roof 3
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt
U	[Btu/hr ft² °F]	0.0152
Geometry		
Area	[ft²]	482.8
Inclination	[°]	14.6
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.5678
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 14: General data

Name		Bulkhead opening
Type		Opening
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		
U	[Btu/hr ft² °F]	
Geometry		
Area	[ft²]	467.1
Inclination	[°]	180
Orientation		Horizontal (100 %)

Zone 1/Component 15: General data

Name		Door_005b
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.1): FS102_Door_R5
U	[Btu/hr ft² °F]	0.1676
Geometry		
Area	[ft²]	42
Inclination	[°]	90
Orientation		North-East (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 16: General data

Name		A_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.16
Geometry		
Area	[ft²]	1890.1
Inclination	[°]	90
Orientation		South-East (21 %), South-West (14 %), North-East (39 %), North-West (26 %)

Zone 1/Component 17: General data

Name		A_bottom (operable)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 3): Wythe_76 MD_Triple pane_SHGC .34_Awning
Uw -mounted	[Btu/hr ft² °F]	0.164
Geometry		
Area	[ft²]	625.3
Inclination	[°]	90
Orientation		South-East (22 %), South-West (14 %), North-East (38 %), North-West (26 %)

Zone 1/Component 18: General data

Name		B_large
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.1593
Geometry		
Area	[ft²]	1339.7
Inclination	[°]	90
Orientation		South-East (24 %), South-West (32 %), North-East (18 %), North-West (26 %)

Zone 1/Component 19: General data

Name		B_Side_top (top floor shading)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.1562
Geometry		
Area	[ft²]	160.9
Inclination	[°]	90
Orientation		South-East (25 %), South-West (33 %), North-East (17 %), North-West (25 %)

Zone 1/Component 20: General data

Name		B_Side_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.1562
Geometry		
Area	[ft²]	509.4
Inclination	[°]	90
Orientation		South-East (24 %), South-West (32 %), North-East (18 %), North-West (26 %)

Zone 1/Component 21: General data

Name		B_Side_bottom (operable)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 3): Wythe_76 MD_Triple pane_SHGC .34_Awning
Uw -mounted	[Btu/hr ft² °F]	0.1603
Geometry		
Area	[ft²]	226.6
Inclination	[°]	90
Orientation		South-East (24 %), South-West (32 %), North-East (18 %), North-West (26 %)

Zone 1/Component 22: General data

Name		C_Side_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.1562
Geometry		
Area	[ft²]	992
Inclination	[°]	90
Orientation		South-East (19 %), South-West (16 %), North-East (43 %), North-West (22 %)

Zone 1/Component 23: General data

Name		C_Side_bottom (operable)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 3): Wythe_76 MD_Triple pane_SHGC .34_Awning
Uw -mounted	[Btu/hr ft² °F]	0.1603
Geometry		
Area	[ft²]	335.3
Inclination	[°]	90
Orientation		South-East (19 %), South-West (16 %), North-East (43 %), North-West (22 %)

Zone 1/Component 24: General data

Name		D
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.163
Geometry		
Area	[ft²]	162
Inclination	[°]	90
Orientation		South-East (33 %), South-West (33 %), North-West (33 %)

Zone 1/Component 25: General data

Name		E
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.163
Geometry		
Area	[ft²]	107.2
Inclination	[°]	90
Orientation		South-West (50 %), North-West (50 %)

Zone 1/Component 26: General data

Name		F
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.163
Geometry		
Area	[ft²]	66
Inclination	[°]	90
Orientation		South-West (100 %)

Zone 1/Component 27: General data

Name		Storefront_Side_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 9): LaMora_YKK_YES 45 XT
Uw -mounted	[Btu/hr ft² °F]	0.2945
Geometry		
Area	[ft²]	54.7
Inclination	[°]	90
Orientation		South-East (41 %), South-West (43 %), North-West (16 %)

Zone 1/Component 28: General data

Name		Storefront_Side_bottom
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 9): LaMora_YKK_YES 45 XT
Uw -mounted	[Btu/hr ft² °F]	0.3013
Geometry		
Area	[ft²]	171.1
Inclination	[°]	90
Orientation		South-East (34 %), South-West (48 %), North-West (18 %)

Zone 1/Component 29: General data

Name		Storefront_Center_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 9): LaMora_YKK_YES 45 XT
Uw -mounted	[Btu/hr ft² °F]	0.2908
Geometry		
Area	[ft²]	40
Inclination	[°]	90
Orientation		South-East (14 %), South-West (72 %), North-West (15 %)

Zone 1/Component 30: General data

Name		Storefront_Center_bottom
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 9): LaMora_YKK_YES 45 XT
Uw -mounted	[Btu/hr ft² °F]	0.2908
Geometry		
Area	[ft²]	19.3
Inclination	[°]	90
Orientation		South-East (100 %)

Zone 1/Component 31: General data

Name		Door S-01
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 11): LaMora_YKK_YES 35 XT_medium entrance
Uw -mounted	[Btu/hr ft² °F]	0.5289
Geometry		
Area	[ft²]	22.7
Inclination	[°]	90
Orientation		South-East (100 %)

Zone 1/Component 32: General data

Name		Door_S-02
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 11): LaMora_YKK_YES 35 XT_medium entrance
Uw -mounted	[Btu/hr ft² °F]	0.5252
Geometry		
Area	[ft²]	22.7
Inclination	[°]	90
Orientation		South-West (100 %)

Zone 1/Component 33: General data

Name		Door_S-03
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 11): LaMora_YKK_YES 35 XT_medium entrance
Uw -mounted	[Btu/hr ft² °F]	0.5357
Geometry		
Area	[ft²]	44.8
Inclination	[°]	90
Orientation		South-West (100 %)

Zone 1/Component 34: General data

Name		Door_S-04
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 11): LaMora_YKK_YES 35 XT_medium entrance
Uw -mounted	[Btu/hr ft² °F]	0.5252
Geometry		
Area	[ft²]	44.8
Inclination	[°]	90
Orientation		South-West (100 %)

Zone 1/Component 35: General data

Name		Door_S-05
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 11): LaMora_YKK_YES 35 XT_medium entrance
Uw -mounted	[Btu/hr ft² °F]	0.5252
Geometry		
Area	[ft²]	22.7
Inclination	[°]	90
Orientation		North-West (100 %)

Zone 1/Component 36: General data

Name		Door 429
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.1): FS102_Door_R5
U	[Btu/hr ft² °F]	0.1676
Geometry		
Area	[ft²]	23.3
Inclination	[°]	90
Orientation		North-West (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 37: General data

Name		Door_ST-BT
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.1): FS102_Door_R5
U	[Btu/hr ft² °F]	0.1676
Geometry		
Area	[ft²]	23.9
Inclination	[°]	90
Orientation		South-West (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 38: General data

Name		Door_ST-AR
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.1): FS102_Door_R5
U	[Btu/hr ft² °F]	0.1676
Geometry		
Area	[ft²]	23.3
Inclination	[°]	90
Orientation		South-East (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 39: General data

Name		Door_ST-A0b
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.1): FS102_Door_R5
U	[Btu/hr ft² °F]	0.1676
Geometry		
Area	[ft²]	23.3
Inclination	[°]	90
Orientation		North-West (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 40: General data

Name		B_large (top floor shading)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed
Uw -mounted	[Btu/hr ft² °F]	0.1593
Geometry		
Area	[ft²]	423
Inclination	[°]	90
Orientation		South-East (25 %), South-West (33 %), North-East (17 %), North-West (25 %)

Zone 1/Component 41: General data

Name		Slab on grade_Elevator (uninsulated)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Ground
Assembly		Assembly (Id.3): LaMora_Slab_Uninsulated_6" conc
U	[Btu/hr ft² °F]	0.6267
Geometry		
Area	[ft²]	166.8
Inclination	[°]	180
Orientation		Horizontal (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0 / 0.9653

Zone 1/Component 42: General data

Name		EW-5
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.11): LaMora_EW-5_.5in OSB_4in EPS_CMU
U	[Btu/hr ft² °F]	0.0593
Geometry		
Area	[ft²]	99.2
Inclination	[°]	90
Orientation		South-West (26 %), North-West (74 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 43: General data

Name		Custom avg assembly 2
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.12): Custom assembly 2 - EW-1 + EW-5
U	[Btu/hr ft² °F]	0.047
Geometry		
Area	[ft²]	91.4
Inclination	[°]	90
Orientation		South-East (50 %), South-West (50 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 44: General data

Name		Custom avg assembly 1
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.10): Custom assembly 1 - EW-1 + EW-5
U	[Btu/hr ft² °F]	0.0376
Geometry		
Area	[ft²]	2804.5
Inclination	[°]	90
Orientation		North-East (49 %), North-West (51 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Zone 1/Component 45: General data

Name		EW-5
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.11): LaMora_EW-5_.5in OSB_4in EPS_CMU
U	[Btu/hr ft² °F]	0.0593
Geometry		
Area	[ft²]	438.7
Inclination	[°]	90
Orientation		North-East (100 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382
Absorption / Emission (User defined)	[-]	0.4 / 0.9

Case 1/Zone 1: Thermal bridges

Linear thermal bridges

Nr	Name	Linear thermal transmittance [Btu/hr ft °F]	Length [ft]	Attachment
1	1/A511- Perimeter detail at footing	.129	89	
2	3/A312 - Perimeter detail at courtyard	.106	77	
3	10/A511 - typical	.006	47.5	
4	10/A511 - fastener	.037	1	
5	7/A511 - upper sun shade	.009	16	
6	6/A511 - Top of foundation wall	.063	100	

Assemblies/window types

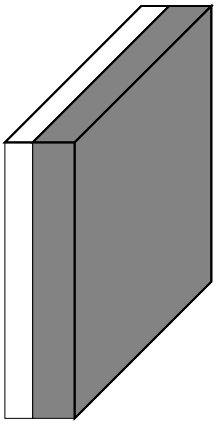
Assembly (Id.2): LaMora_Slab_4in EPS_6" conc

Homogenous layers

Thermal resistance: 15.053 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.062 Btu/hr ft² °F

Thickness: 10 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polystyrene, expanded	1.25	0.36	0.0231	4	
2	Concrete	131.35	0.19	0.7933	6	

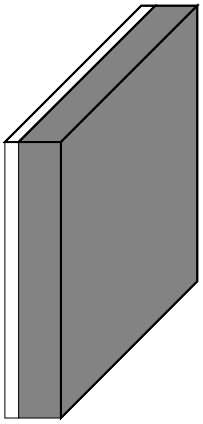
Assembly (Id.9): LaMora_Foundation Wall_12in conc_2in EPS

Homogenous layers

Thermal resistance: 7.845 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.117 Btu/hr ft² °F

Thickness: 8 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polystyrene, expanded (2)	1.25	0.36	0.0231	2	
2	Concrete (2)	131.35	0.19	0.7933	6	

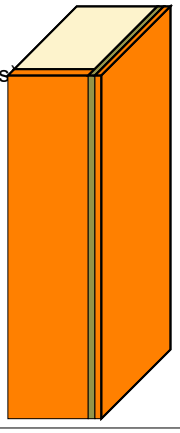
Assembly (Id.8): LaMora_Insulated floor_14in insulated joists_plywood_flooring

Inhomogenous layers

Thermal resistance: 34.707 / 16.943 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

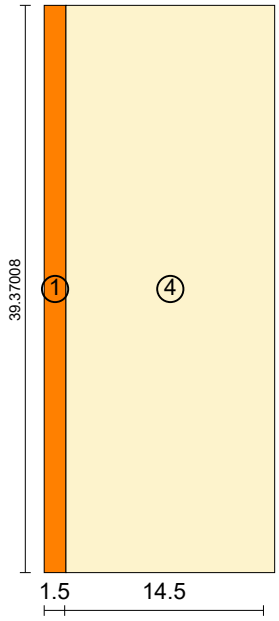
Heat transfer coefficient (U-value): 0.028 Btu/hr ft² °F

Thickness: 10.75 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Softwood	24.97	0.33	0.052	9.25	
2	Plywood (USA)	29.34	0.45	0.0485	0.75	
3	Hardwood	40.58	0.33	0.0751	0.75	
	Exchange materials					
4	Mineral wool_Comfortbatt	3.75	0.2	0.0208	---	

Exchange material(s), Assembly (Id.8): LaMora_Insulated floor_14in insulated joists_plywood_flooring
Layer: 1



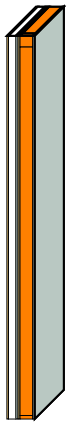
Assembly (Id.4): LaMora_EW-2_R9 Zip-R_Gypsum_2x4 w/ fiberglass batt_Gypsum

Inhomogenous layers

Thermal resistance: 22.088 / 24.2 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

Heat transfer coefficient (U-value): 0.043 Btu/hr ft² °F

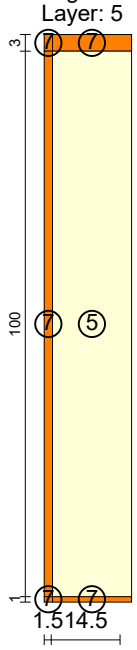
Thickness: 7.625 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
2	Zip R EPS	1.25	0.36	0.0231	2	
3	Gypsum Board (USA)	53.06	0.21	0.0942	0.625	
4	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
5	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	3.5	
6	Gypsum Board (USA)	53.06	0.21	0.0942	0.5	

Exchange materials						
7	Softwood	24.97	0.33	0.052	---	

Exchange material(s), Assembly (Id.4): LaMora_EW-2_R9 Zip-R_Gypsum_2x4 w/ fiberglass batt_Gypsum
Layer: 5



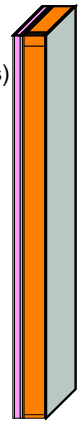
Assembly (Id.13): LaMora_EW-1_R9 Zip-R_Gypsum_2x6 w/ fiberglass batt_Gypsum

Inhomogenous layers

Thermal resistance: 30.96 / 34.353 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

Heat transfer coefficient (U-value): 0.031 Btu/hr ft² °F

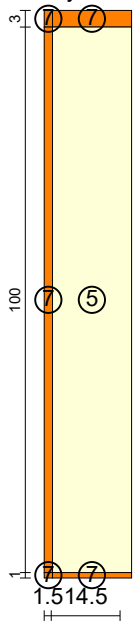
Thickness: 9.125 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
2	Polyisocyanurate Board	2.03	0.35	0.0139	1.5	
3	Gypsum Board (USA)	53.06	0.21	0.0942	0.625	
4	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
5	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	5.5	
6	Gypsum Board (USA)	53.06	0.21	0.0942	0.5	
Exchange materials						
7	Softwood	24.97	0.33	0.052	---	

Exchange material(s), Assembly (Id.13): LaMora_EW-1_R9 Zip-R_Gypsum_2x6 w/ fiberglass batt_Gypsum

Layer: 5



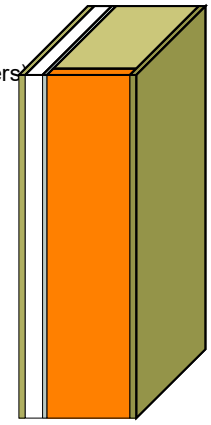
Assembly (Id.6): LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD

Inhomogenous layers

Thermal resistance: 55.394 / 25.329 hr ft² °F/Btu (EN ISO 6946 / homogenous layers)

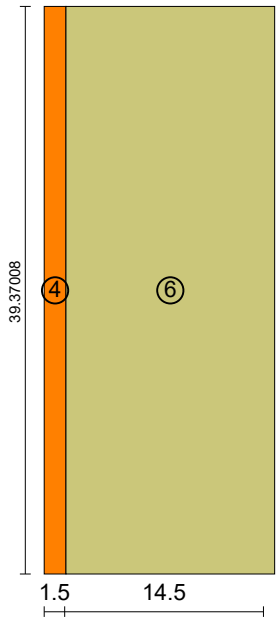
Heat transfer coefficient (U-value): 0.018 Btu/hr ft² °F

Thickness: 13.5 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Oriented Strand Board (2)	40.58	0.45	0.0532	0.75	
2	Zip R EPS	1.25	0.36	0.0231	2	
3	Gypsum Board (USA) (2)	53.06	0.21	0.0942	0.5	
4	Softwood (2)	24.97	0.33	0.052	9.5	
5	Plywood (USA)	29.34	0.45	0.0485	0.75	
Exchange materials						
6	Sprayed Polyurethane Foam; closed cell	2.43	0.35	0.0144	---	

Exchange material(s), Assembly (Id.6): LaMora_Cantilever floor_R9 ZIP_1/2in GWB_9.5in CCSPF_3/4" PWD
Layer: 4



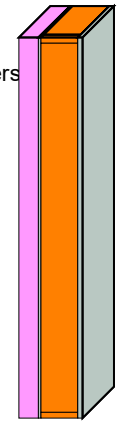
Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt

Inhomogenous layers

Thermal resistance: 65.055 / 46.458 hr ft² °F/Btu (EN ISO 6946 / homogenous layers

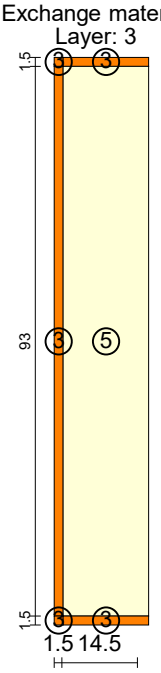
Heat transfer coefficient (U-value): 0.015 Btu/hr ft² °F

Thickness: 16.125 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polyisocyanurate Board	2.03	0.35	0.0139	5	
2	Gypsum Board (USA) (2)	53.06	0.21	0.0942	0.625	
3	Softwood	24.97	0.33	0.052	9.25	
4	Gypsum Board (USA) (2)	53.06	0.21	0.0942	1.25	
Exchange materials						
5	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	---	

Exchange material(s), Assembly (Id.15): LaMora_Roof 2_5in avg polyiso_Sheathing_9.25in framing w /fiberglass batt



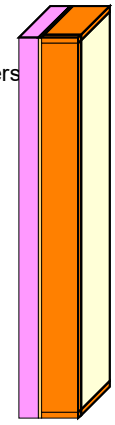
Assembly (Id.5): LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss

Inhomogenous layers

Thermal resistance: 62.924 / 44.355 hr ft² °F/Btu (EN ISO 6946 / homogenous layers

Heat transfer coefficient (U-value): 0.016 Btu/hr ft² °F

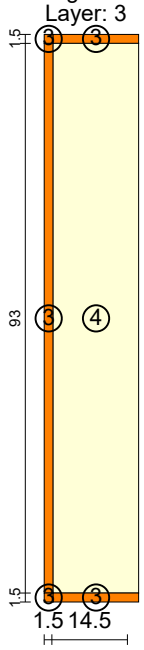
Thickness: 15 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Polyisocyanurate Board	2.03	0.35	0.0146	5	
2	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.75	
3	Softwood	24.97	0.33	0.052	9.25	
Exchange materials						
4	Fiberglass_True comfort (R4.18/in)	1.87	0.2	0.0199	---	

Exchange material(s), Assembly (Id.5): LaMora_Roof_ModBit_5in avg polyiso_Sheathing_fiberglass batt (9.25") in 11.25" truss

Layer: 3



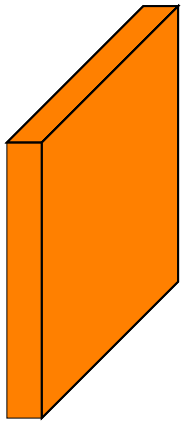
Assembly (Id.1): FS102_Door_R5

Homogenous layers

Thermal resistance: 5 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.168 Btu/hr ft² °F

Thickness: 5 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	R1/in	1.87	0.36	0.0833	5	

Window type (Id 2): Wythe_76 MD_Triple pane_SHGC .34_Fixed

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.163
Frame factor		0.7805
Glass U-value	[Btu/hr ft² °F]	0.12
SHGC/Solar energy transmittance (perpendicular)		0.34

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.08	3.08	3.08	3.08
Frame U-value	[Btu/hr ft² °F]	0.17	0.17	0.17	0.17
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

Window type (Id 3): Wythe_76 MD_Triple pane_SHGC .34_Awning

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.1671
Frame factor		0.6734
Glass U-value	[Btu/hr ft² °F]	0.12
SHGC/Solar energy transmittance (perpendicular)		0.34

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	4.74	4.74	4.74	4.74
Frame U-value	[Btu/hr ft² °F]	0.17	0.17	0.17	0.17
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

Window type (Id 9): LaMora_YKK_YES 45 XT

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.3013
Frame factor		0.8544
Glass U-value	[Btu/hr ft² °F]	0.2
SHGC/Solar energy transmittance (perpendicular)		0.4

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	2	2	2	2
Frame U-value	[Btu/hr ft² °F]	0.67	0.67	0.67	0.67
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

Window type (Id 11): LaMora_YKK_YES 35 XT_medium entrance

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.5357
Frame factor		0.7013
Glass U-value	[Btu/hr ft² °F]	0.2
SHGC/Solar energy transmittance (perpendicular)		0.4

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.5	3.5	3.5	7
Frame U-value	[Btu/hr ft² °F]	1.22	1.22	1.22	1.22
Glazing-to-frame psi-value	[Btu/hr ft °F]	0.023	0.023	0.023	0.023
Frame-to-Wall psi-value	[Btu/hr ft °F]	0.015	0.015	0.015	0.015

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	0

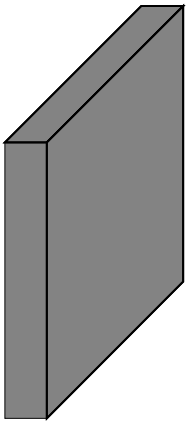
Assembly (Id.3): LaMora_Slab_Uninsulated_6" conc

Homogenous layers

Thermal resistance: 0.63 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.627 Btu/hr ft² °F

Thickness: 6 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Concrete	131.35	0.19	0.7933	6	

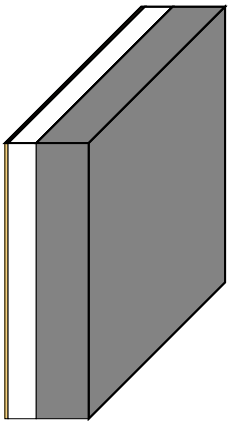
Assembly (Id.11): LaMora_EW-5_.5in OSB_4in EPS_CMU

Homogenous layers

Thermal resistance: 15.905 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.059 Btu/hr ft² °F

Thickness: 12 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	OSB 3 (oriented strand board)	37.14	0.33	0.0606	0.5	
2	Polystyrene, expanded	1.25	0.36	0.0231	4	
3	Concrete	131.35	0.19	0.7933	7.5	

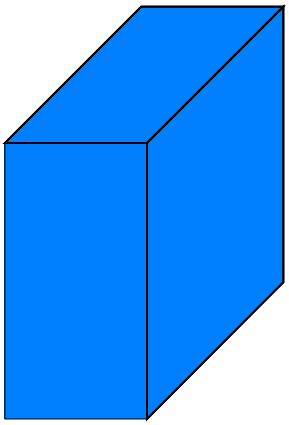
Assembly (Id.12): Custom assembly 2 - EW-1 + EW-5

Homogenous layers

Thermal resistance: 20.308 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.047 Btu/hr ft² °F

Thickness: 20.3 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Generic_R1/in	104.25	0.2	0.0833	20.3	

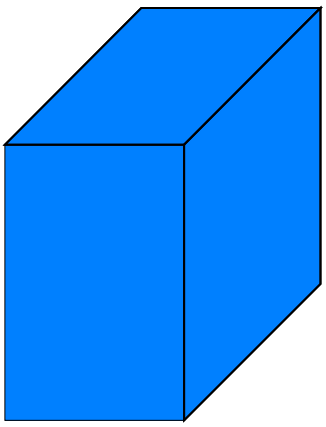
Assembly (Id.10): Custom assembly 1 - EW-1 + EW-5

Homogenous layers

Thermal resistance: 25.61 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.038 Btu/hr ft² °F

Thickness: 25.6 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Generic_R1/in	104.25	0.2	0.0833	25.6	

HVAC

System 1 (User defined): System, Device

Mechanical ventilation: ERU-1

Sensible recovery efficiency	[-]	.717
Humidity recovery efficiency	[-]	.689
Electric efficiency	[W/cfm]	1.4
Equipped with frost protection		Yes
Subsoil heat exchanger efficiency	[-]	0
Quantity		1
HRV/ERV in conditioned space		No
No summer bypass feature (summer ventilation with HRV/ERV)		Yes
Defrost active		Yes
Temperature below which defrost must be used	[°F]	23
Rooms ventilated by this unit		Z:1, R:1, User defined: ERU1 (M701 schedule)

Mechanical ventilation: ERU-2

Sensible recovery efficiency	[-]	.718
Humidity recovery efficiency	[-]	.692
Electric efficiency	[W/cfm]	1.38
Equipped with frost protection		Yes
Subsoil heat exchanger efficiency	[-]	0
Quantity		1
HRV/ERV in conditioned space		No
No summer bypass feature (summer ventilation with HRV/ERV)		Yes
Defrost active		Yes
Temperature below which defrost must be used	[°F]	23
Rooms ventilated by this unit		Z:1, R:2, User defined: ERU2 (M701 schedule)

Heat pump, Heat pump - rated monthly COP: Multiple heat pump calculator

Rated COP 1	[-]	2.24
Ambient Temperature 1	[°F]	17
Rated COP 2	[-]	2.24
Ambient Temperature 2	[°F]	47
Coverage		Heating .87, Cooling .34

Electric resistance space heat / DHW: EWH-1 - EWH-4, EUH-1 - EUH-5

Coverage	Heating .13

Electric resistance space heat / DHW: WH-2_AO Smith DVE-80-12_80 gal

Coverage	DHW .21

Water storage: WH-1_Bradford White Electric Brute VR-300-15_300 gal

Storage capacity	[gal]	300
Specific total thermal storage losses	[Btu/hr F]	6.7
Specific storage losses standby part only	[Btu/hr F]	
Typical storage water temperature	[°F]	140
Within thermal envelope		Yes
Quantity		3
Coverage		DHW 1

Water storage: WH-2_AO Smith

Storage capacity	[gal]	80
Specific total thermal storage losses	[Btu/hr F]	7.3
Specific storage losses standby part only	[Btu/hr F]	
Typical storage water temperature	[°F]	140
Within thermal envelope		Yes
Quantity		1
Coverage		DHW

Heat pump, Heat pump: HPWH-1

Annual heating coefficient of performance (COP)	[-]	1.7
Total system performance ratio of heat generator	[-]	.58
Coverage		DHW .79

Photovoltaic / renewable energy: Phius CORE 2021: 28,935 kWh/yr x 1 = 28,935 kWh/yr

Photovoltaic / renewable energy	[kWh/yr]	22935
Utilization factor	[-]	1

System 1 (User defined): System, Distribution

Heating distibution

Setting		In conditioned space	Outside conditioned space 1	Outside conditioned space 2
Design flow temperature	[°F]			
Length of distribution pipes	[ft]			
Heat loss coefficient per ft pipe	[Btu/hr ft °F]			
Temperature of the room the pipes pass through	[°F]			
Design system heating load	[kBtu/hr]			
Flow temperature controlled		No	No	No

DHW distibution

Setting		In conditioned space	Outside conditioned space 1	Outside conditioned space 2
Circulation pipes				
Design flow temperature	[°F]	140		
Length of circulation pipes	[ft]			
Heat loss coefficient per ft pipe	[Btu/hr ft °F]			
Temperature of the room the pipes pass through	[°F]			
Daily running hours of the circulation	[hr]			
Individual pipes				
Length of individual pipes	[ft]	4000		
Exterior pipe diameter	[in]			
Storage				
Average heat released from storage*	[Btu/hr]			

Cooling distribution

Cooling via ventilation air		No
Cooling via air recirculation		Yes
Dehumidification		Yes
Panel cooling		No
Additional data		
Recirculation air cooling is single-speed		No
Minimum temperature of cooling coil (for recirculation air)	[°F]	45
Recirculation air flow rate	[cfm]	13383.3

Ventilation distribution

Duct 1: ERU-1 SA 20x20

Duct type		Supply / outdoor air duct
Duct shape		Rectangular
Quantity	[-]	1
Duct length	[ft]	24.6
Duct width/height	[in]	20
Ductshape height	[in]	20
Insulation thickness	[in]	2
Thermal conductivity	[Btu/hr ft °F]	0.02381
Is reflective		No
Assigned ventilation units		ERU-1

Duct 2: ERU-1 EA 24x20

Duct type		Extract / Exhaust air duct
Duct shape		Rectangular
Quantity	[-]	1
Duct length	[ft]	47.3
Duct width/height	[in]	24
Ductshape height	[in]	20
Insulation thickness	[in]	2
Thermal conductivity	[Btu/hr ft °F]	0.02381
Is reflective		No
Assigned ventilation units		ERU-1

Duct 3: ERU-2 SA 20x20

Duct type		Supply / outdoor air duct
Duct shape		Rectangular
Quantity	[-]	1
Duct length	[ft]	9.3
Duct width/height	[in]	20
Ductshape height	[in]	20
Insulation thickness	[in]	3
Thermal conductivity	[Btu/hr ft °F]	0.02381
Is reflective		No
Assigned ventilation units		ERU-2

Duct 4: ERU-2 EA 22x20

Duct type		Extract / Exhaust air duct
Duct shape		Rectangular
Quantity	[-]	1
Duct length	[ft]	47.3
Duct width/height	[in]	22
Ductshape height	[in]	20
Insulation thickness	[in]	2
Thermal conductivity	[Btu/hr ft °F]	0.02381
Is reflective		No
Assigned ventilation units		ERU-2

Supportive device / auxiliary energy

Name	Type	Quantity	In conditioned space	Energy norm demand [Btu/hr]	Additional info
DHW Circulating pump	DHW circulating pump	1	Yes	298	
	DHW storage load pump	1	Yes	396.8	
basement & crawlspace conditioning	Other	1	No	7601	Period of operation 1 khr/yr
basement lighting	Other	1	No	3408	Period of operation 0 khr/yr
crawlspace lighting	Other	1	No	5689	Period of operation 0 khr/yr

System 2 (User defined): Cooling overflow, Device

Heat pump, Heat pump

Coverage	Cooling .33

System 2 (User defined): Cooling overflow, Distribution

Cooling distribution

Cooling via ventilation air		No
Cooling via air recirculation		Yes
Dehumidification		Yes
Panel cooling		No
Additional data		
Recirculation air cooling is single-speed		No
Minimum temperature of cooling coil (for recirculation air)	[°F]	45
Recirculation air flow rate	[cfm]	13383.3

Supportive device / auxiliary energy

Use default values	Yes
Device in conditioned space	Yes

System 3 (User defined): Cooling overflow 2, Device

Heat pump, Heat pump

Coverage	Cooling .33

System 3 (User defined): Cooling overflow 2, Distribution

Cooling distribution

Cooling via ventilation air		No
Cooling via air recirculation		Yes
Dehumidification		Yes
Panel cooling		No
Additional data		
Recirculation air cooling is single-speed		No
Minimum temperature of cooling coil (for recirculation air)	[°F]	45
Recirculation air flow rate	[cfm]	13383.3

Supportive device / auxiliary energy

Use default values	Yes
Device in conditioned space	Yes

Results

Main results

Specific space heating demand	[kBtu/ft²yr]	3.7
Specific sensible cooling energy demand	[kBtu/ft²yr]	2.9
Specific dehumidification energy demand	[kBtu/ft²yr]	0
Specific heating load	[Btu/hr ft²]	3.7
Specific cooling load	[Btu/hr ft²]	2.8
Specific source energy demand	[kBtu/ft²yr]	40.2
Pressurization test result	[ACH50]	0.491
Average U-value exterior wall ambient	[Btu/hr ft² °F]	0.033
Average U-value exterior wall ground	[Btu/hr ft² °F]	0.117
Average U-value roof ceiling ambient	[Btu/hr ft² °F]	0.016
Average U-value floor slab basement ceiling	[Btu/hr ft² °F]	0.078
Average ΔU thermal bridges	[Btu/hr ft² °F]	0
Average U-value window total	[Btu/hr ft² °F]	0.183
Effective heat recovery efficiency	[%]	68.5