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

Building geometry

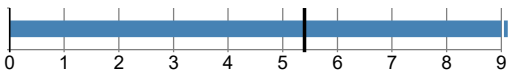
Enclosed volume:	**660,421.3** ft³
Net-volume:	**443,142** ft³
Total area envelope:	**52,691.2** ft²
Area/Volume Ratio:	**0.1** 1/ft
Floor area:	**55,289** ft²
Envelope area/iCFA:	**0.953**

PASSIVEHOUSE REQUIREMENTS

Certificate criteria: PHIUS+ 2018

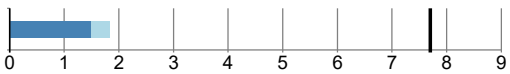
Heating demand

specific:	**12.61**	kBtu/ft²yr
target:	**5.4**	kBtu/ft²yr
total:	697,284.71	kBtu/yr



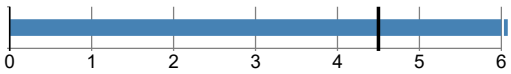
Cooling demand

sensible:	**1.49**	kBtu/ft²yr
latent:	**0.34**	kBtu/ft²yr
specific:	**1.83**	kBtu/ft²yr
target:	**7.7**	kBtu/ft²yr
total:	101,172.57	kBtu/yr



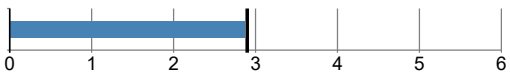
Heating load

specific:	**7.16**	Btu/hr ft²
target:	**4.5**	Btu/hr ft²
total:	396,002.37	Btu/hr



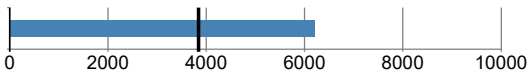
Cooling load

specific:	**2.87**	Btu/hr ft²
target:	**2.9**	Btu/hr ft²
total:	158,598.89	Btu/hr



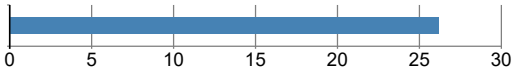
Source energy

total:	**763,480.87**	kWh/yr
specific:	**6,207**	kWh/Person yr
target:	**3,840**	kWh/Person yr
total:	**2,604,847.72**	kBtu/yr
specific:	47.12	kBtu/ft²yr



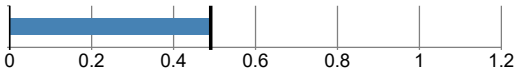
Site energy

total:	1,447,137.62	kBtu/yr
specific:	26.18	kBtu/ft²yr
total:	424,156.04	kWh/yr
specific:	7.67	kWh/ft²



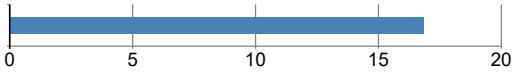
Air tightness

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	**16.8**	%



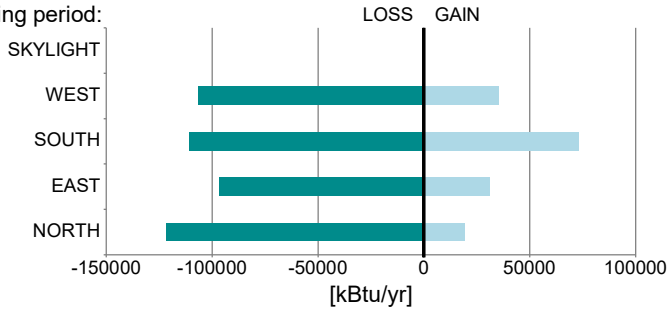
Frequency of overheating only applies if there is not a [properly sized] cooling system installed.

BUILDING ELEMENTS

Windows

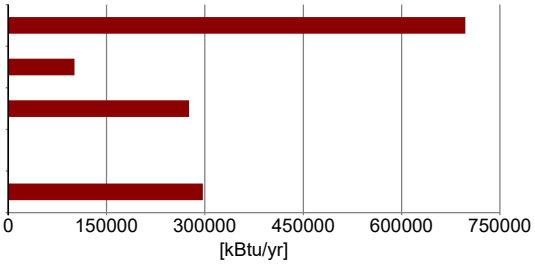
Average SHGC:	**0.38**	
Average solar reduction factor heating:	**0.46**	
Average solar reduction factor cooling:	**0.43**	
Average U-value:	**0.45**	Btu/hr ft² °F
Total glazing area:	**4,771.4**	ft²
Total window area:	**7,257.5**	ft²

Heat gain/loss heating period:



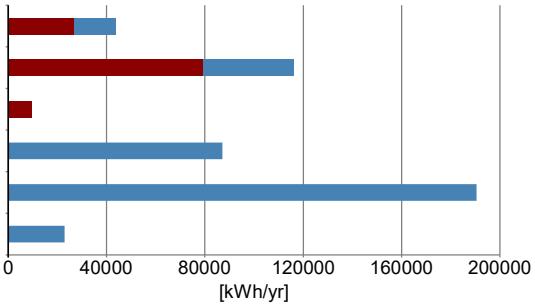
HVAC

Total heating demand:	**697,285**	kBtu/yr
Total cooling demand:	**101,173**	kBtu/yr
Total DHW energy demand:	**276,002**	kBtu/yr
Solar DHW contribution:	**0**	kBtu/yr
Auxiliary electricity:	**296,975**	kBtu/yr



Electricity

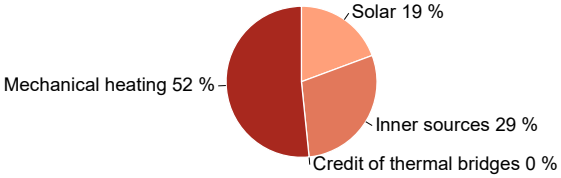
Direct heating / DHW:	**43,557**	kWh/yr
Heatpump heating:	**116,444**	kWh/yr
Cooling:	**9,599**	kWh/yr
HVAC auxiliary energy:	**87,043**	kWh/yr
Appliances:	**190,448**	kWh/yr
Renewable generation, coincident production and use	**22,935**	kWh/yr
Total electricity demand:	**424,156**	kWh/yr



HEAT FLOW - HEATING PERIOD

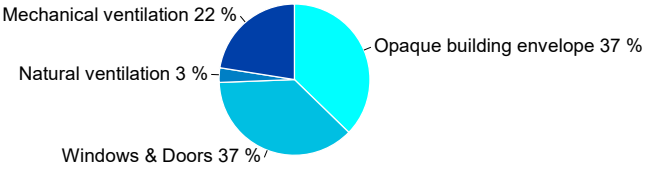
Heat gains

Solar:	**252,272**	kBtu/yr
Inner sources:	**380,660**	kBtu/yr
Credit of thermal bridges:	**0**	kBtu/yr
Mechanical heating:	**697,285**	kBtu/yr



Heat losses

Opaque building envelope:	**494,747**	kBtu/yr
Windows & Doors:	**493,516**	kBtu/yr
Natural ventilation:	**40,752**	kBtu/yr
Mechanical ventilation:	**298,449**	kBtu/yr

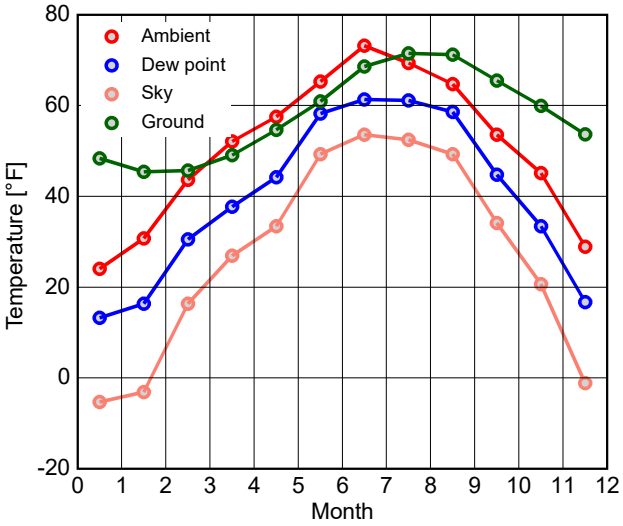


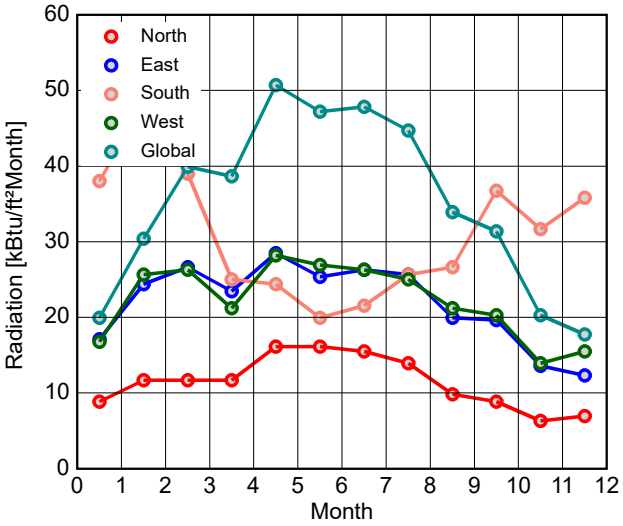
CLIMATE

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:	**131.4**	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]	30.8	9.2	52.9
Solar radiation Global	[Btu/hr ft²]	36.5	11.7	98.6

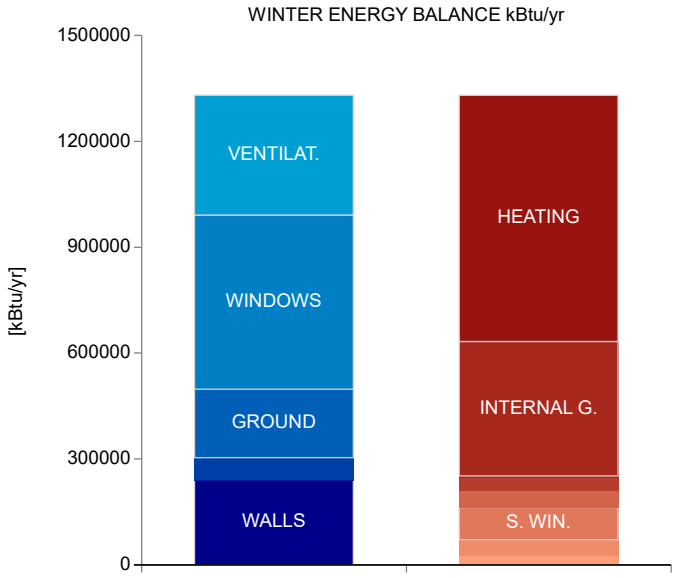
Relevant boundary conditions for heating load calculation: Heating load 1

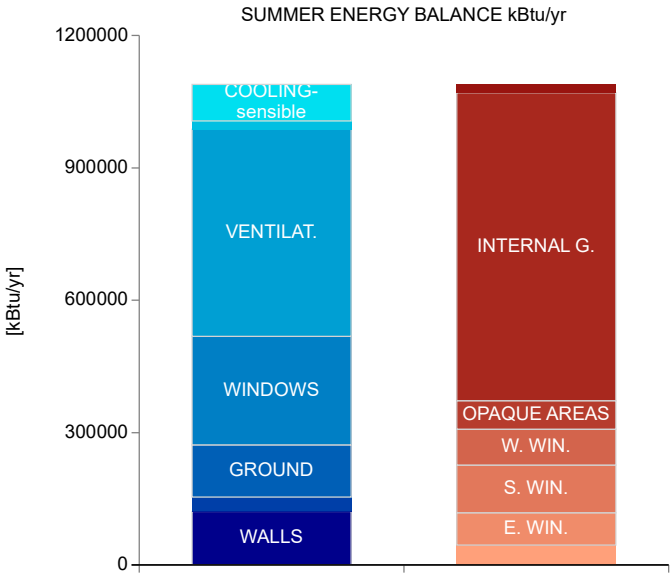
ANNUAL HEAT DEMAND

Transmission losses :	**991,016**	kBtu/yr
Ventilation losses:	**339,201**	kBtu/yr
Total heat losses:	**1,330,217**	kBtu/yr
Solar heat gains:	**260,517**	kBtu/yr
Internal heat gains:	**393,102**	kBtu/yr
Total heat gains:	**653,619**	kBtu/yr
Utilization factor:	**96.8**	%
Useful heat gains:	**632,932**	kBtu/yr
Annual heat demand:	**697,285**	kBtu/yr
Specific annual heat demand:	**12,612.9**	Btu/ft²yr

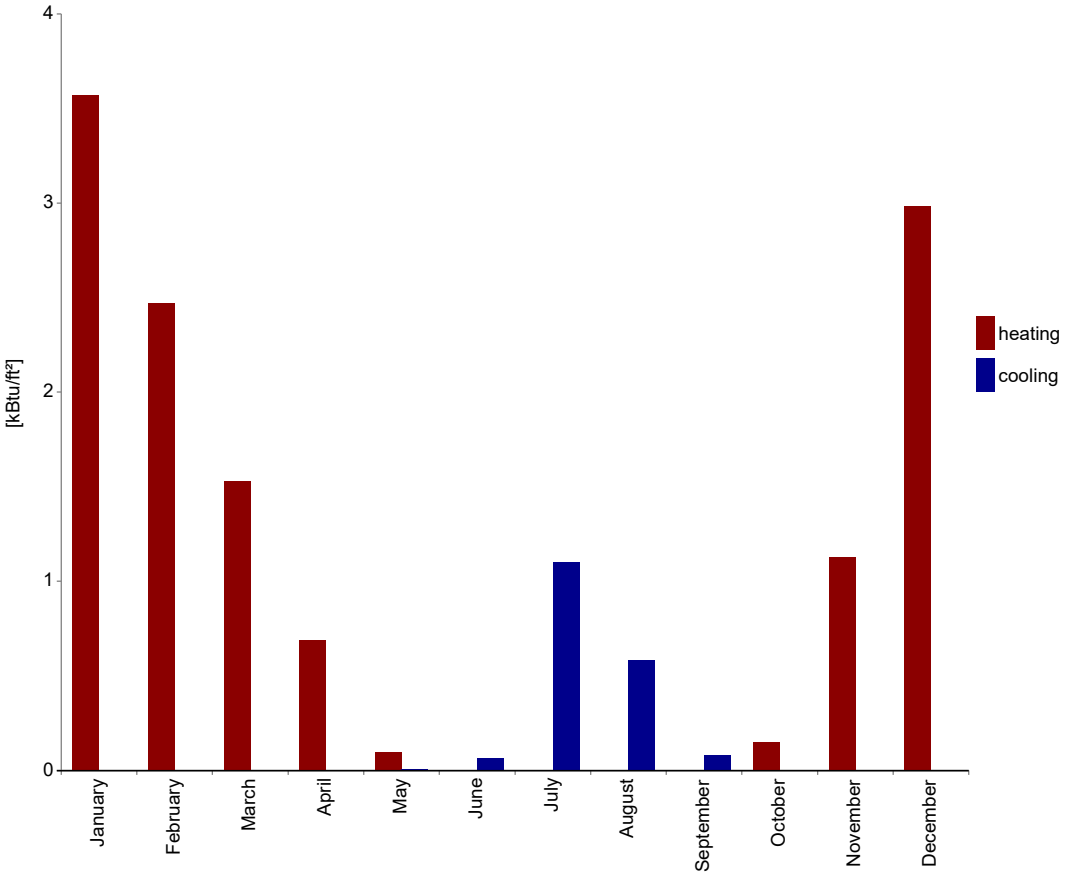
ANNUAL COOLING DEMAND

Solar heat gains:	**372,003**	kBtu/yr
Internal heat gains:	**697,834**	kBtu/yr
Total heat gains:	**1,069,837**	kBtu/yr
Transmission losses :	**1,593,621**	kBtu/yr
Ventilation losses:	**1,445,818**	kBtu/yr
Total heat losses:	**3,039,440**	kBtu/yr
Utilization factor:	**32.5**	%
Useful heat losses:	**987,548**	kBtu/yr
Cooling demand - sensible:	**82,289**	kBtu/yr
Cooling demand - latent:	**18,884**	kBtu/yr
Annual cooling demand:	**101,173**	kBtu/yr
Specific annual cooling demand:	**1.8**	kBtu/ft²yr





SPECIFIC HEAT/COOLING DEMAND MONTHLY



Month	Heating [kBtu/ft²]	Cooling [kBtu/ft²]
January	3.6	0
February	2.5	0
March	1.5	0
April	0.7	0
May	0.1	0
June	0	0.1
July	0	1.1
August	0	0.6
September	0	0.1
October	0.1	0
November	1.1	0
December	3	0

HEATING LOAD

	First climate		Second climate	
Transmission heat losses:	**331,706**	Btu/hr	**228,148**	Btu/hr
Ventilation heat losses:	**140,958.8**	Btu/hr	**88,027.6**	Btu/hr
Total heat loss:	**472,664.8**	Btu/hr	**316,175.7**	Btu/hr
Solar heat gain:	**48,620**	Btu/hr	**12,039.3**	Btu/hr
Internal heat gain:	**28,042.4**	Btu/hr	**28,042.4**	Btu/hr
Total heat gains heating:	**76,662.4**	Btu/hr	**40,081.7**	Btu/hr
Heating load:	**396,002.4**	Btu/hr	**276,094**	Btu/hr

Relevant heating load: **396,002.4** Btu/hr

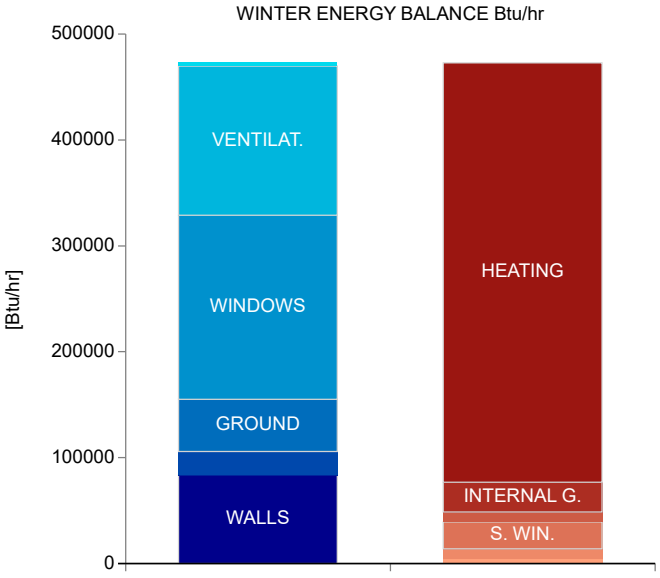
Specific heating load: **7.2** Btu/hr ft²

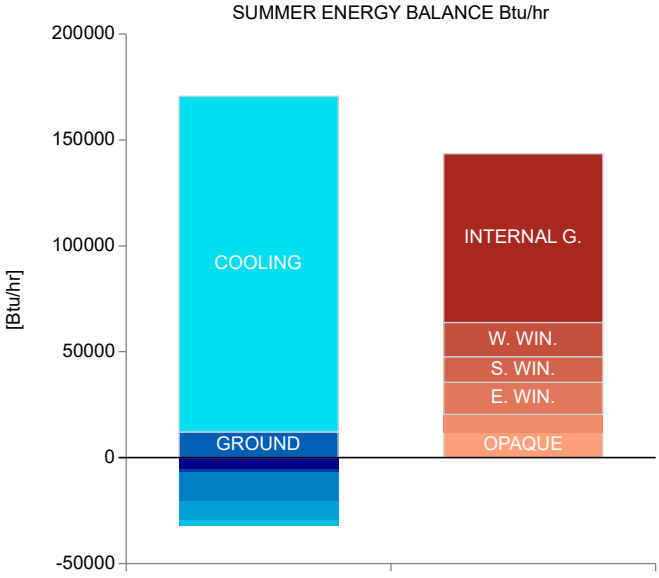
COOLING LOAD

Solar heat gain:	**63,775**	Btu/hr
Internal heat gain:	**79,669.2**	Btu/hr
Total heat gains cooling:	**143,444.1**	Btu/hr
Transmission heat losses:	**-6,104**	Btu/hr
Ventilation heat losses:	**-9,050.7**	Btu/hr
Total heat loss:	**-15,154.7**	Btu/hr
Cooling load - sensible:	**158,598.9**	Btu/hr
Cooling load - latent:	**0**	Btu/hr

Relevant cooling load: **158,598.9** Btu/hr

Specific maximum cooling load: **2.9** 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: Foundation wall: East (A90°, 108.1 ft², width 8.75 ft)	108.1	0.109	0	0	0	1041.9	1969.7
VC.1: Foundation wall: South (A180°, 246.57 ft², width 36.417 ft)	246.6	0.109	0	0	0	2376.6	4492.8
VC.1: Foundation wall: South (A180°, 80.82 ft², width 8.917 ft)	80.8	0.109	0	0	0	779	1472.6
VC.1: Foundation wall: West (A270°, 14.41 ft², width 1.167 ft)	14.4	0.109	0	0	0	138.9	262.6
VC.1: Foundation wall: South (A180°, 140.01 ft², width 11.333 ft)	140	0.109	0	0	0	1349.5	2551.2
VC.1: Foundation wall: South (A180°, 1.67 ft², width 0.833 ft)	1.7	0.109	0	0	0	16.1	30.5
VC.1: Foundation wall: West (A270°, 42.34 ft², width 7.583 ft)	42.3	0.109	0	0	0	408.1	771.5
VC.1: Foundation wall: North (A0°, 113.06 ft², width 20.25 ft)	113.1	0.109	0	0	0	1089.8	2060.1
VC.1: Foundation wall: West (A270°, 70.53 ft², width 35.167 ft)	70.5	0.109	0	0	0	679.8	1285.1
VC.1: Foundation wall: South (A180°, 5.68 ft², width 2.833 ft)	5.7	0.109	0	0	0	54.8	103.5
VC.1: Foundation wall: West (A270°, 20.89 ft², width 10.417 ft)	20.9	0.109	0	0	0	201.4	380.6
VC.1: Foundation wall: North (A0°, 23.4 ft², width 11.667 ft)	23.4	0.109	0	0	0	225.5	426.3
VC.1: Foundation wall: North (A0°, 45.46 ft², width 22.667 ft)	45.5	0.109	0	0	0	438.1	828.3
VC.1: Foundation wall: North (A0°, 205.58 ft², width 61 ft)	205.6	0.109	0	0	0	1981.5	3746
VC.1: Foundation wall: East (A90°, 178.76 ft², width 32.75 ft)	178.8	0.109	0	0	0	1723	3257.2
VC.1: Foundation wall: East (A90°, 0.33 ft², width 0.167 ft)	0.3	0.109	0	0	0	3.2	6.1
VC.1: Foundation wall: East (A90°, 1.67 ft², width 0.833 ft)	1.7	0.109	0	0	0	16.1	30.5
VC.1: Foundation wall: West (A270°, 28.91 ft², width 14.417 ft)	28.9	0.109	0	0	0	278.7	526.8
VC.3: Slab on grade: Horizontal (2132.46 ft², width 93.417 ft)	2132.5	0.355	0	0	0	66695.6	126086
VC.3: Slab on grade: Horizontal (3879.61 ft², width 95.333 ft)	3879.6	0.355	0	0	0	121340.3	229390
VC.4: EW-1 (Typical): South (A180°, 353.75 ft², width 12.417 ft)	353.8	0.06	0.4	0.9	100	3222.1	4934.8
VC.4: EW-1 (Typical): South (A180°, 859.87 ft², width 23.167 ft)	859.9	0.06	0.4	0.9	100	7832.1	11995.1
VC.4: EW-1 (Typical): South (A180°, 353.75 ft², width 12.417 ft)	353.8	0.06	0.4	0.9	100	3222.1	4934.8
VC.4: EW-1 (Typical): East (A90°, 391.77 ft², width 13.25 ft)	391.8	0.06	0.4	0.9	100	3568.4	5465.2
VC.4: EW-1 (Typical): South (A180°, 989.92 ft², width 27.083 ft)	989.9	0.06	0.4	0.9	100	9016.7	13809.2
VC.4: EW-1 (Typical): South (A180°, 151.31 ft², width 4.5 ft)	151.3	0.06	0.4	0.9	100	1378.2	2110.8
VC.4: EW-1 (Typical): West (A270°, 724.38 ft², width 22.167 ft)	724.4	0.06	0.4	0.9	100	6598	10105
VC.4: EW-1 (Typical): South (A180°, 989.92 ft², width 27.083 ft)	989.9	0.06	0.4	0.9	100	9016.7	13809.2
VC.4: EW-1 (Typical): West (A270°, 391.77 ft², width 13.25 ft)	391.8	0.06	0.4	0.9	100	3568.4	5465.2
VC.4: EW-1 (Typical): East (A90°, 757.13 ft², width 22.167 ft)	757.1	0.06	0.4	0.9	100	6896.4	10561.9
VC.4: EW-1 (Typical): West (A270°, 449.64 ft², width 13 ft)	449.6	0.06	0.4	0.9	100	4095.5	6272.4
VC.4: EW-1 (Typical): West (A270°, 449.64 ft², width 13 ft)	449.6	0.06	0.4	0.9	100	4095.5	6272.4
VC.4: EW-1 (Typical): West (A270°, 433.8 ft², width 10.833 ft)	433.8	0.06	0.4	0.9	100	3951.2	6051.4
VC.4: EW-1 (Typical): West (A270°, 261.42 ft², width 22.333 ft)	261.4	0.06	0.4	0.9	100	2381.1	3646.7
VC.4: EW-1 (Typical): East (A90°, 23.33 ft², width 3.333 ft)	23.3	0.06	0.4	0.9	100	212.5	325.5
VC.4: EW-1 (Typical): East (A90°, 460.21 ft², width 14.75 ft)	460.2	0.06	0.4	0.9	100	4191.8	6419.9
VC.4: EW-1 (Typical): East (A90°, 578.91 ft², width 15.833 ft)	578.9	0.06	0.4	0.9	100	5273	8075.7
VC.4: EW-1 (Typical): East (A90°, 425.99 ft², width 14 ft)	426	0.06	0.4	0.9	100	3880.1	5942.5
VC.4: EW-1 (Typical): East (A90°, 906.88 ft², width 26.167 ft)	906.9	0.06	0.4	0.9	100	8260.3	12650.8
VC.4: EW-1 (Typical): East (A90°, 504.91 ft², width 12.25 ft)	504.9	0.06	0.4	0.9	100	4598.9	7043.4
VC.4: EW-1 (Typical): West (A270°, 460.21 ft², width 14.75 ft)	460.2	0.06	0.4	0.9	100	4191.8	6419.9
VC.4: EW-1 (Typical): West (A270°, 414.04 ft², width 10.25 ft)	414	0.06	0.4	0.9	100	3771.3	5775.8
VC.4: EW-1 (Typical): South (A180°, 656.58 ft², width 27.792 ft)	656.6	0.06	0.4	0.9	100	5980.4	9159.2
VC.4: EW-1 (Typical): South (A180°, 906.12 ft², width 25.833 ft)	906.1	0.06	0.4	0.9	100	8253.4	12640.3
VC.4: EW-1 (Typical): North (A0°, 724.38 ft², width 22.167 ft)	724.4	0.06	0.4	0.9	100	6598	10105
VC.4: EW-1 (Typical): South (A180°, 205.68 ft², width 20.917 ft)	205.7	0.06	0.4	0.9	100	1873.4	2869.2
VC.4: EW-1 (Typical): East (A90°, 284.75 ft², width 22.333 ft)	284.8	0.06	0.4	0.9	100	2593.6	3972.2
VC.4: EW-1 (Typical): West (A270°, 125.38 ft², width 12.75 ft)	125.4	0.06	0.4	0.9	100	1142	1749
VC.4: EW-1 (Typical): North (A0°, 186.83 ft², width 19 ft)	186.8	0.06	0.4	0.9	100	1701.8	2606.3
VC.4: EW-1 (Typical): East (A90°, 102.04 ft², width 12.75 ft)	102	0.06	0.4	0.9	100	929.4	1423.5

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.4: EW-1 (Typical): North (A0°, 327.69 ft², width 20.917 ft)	327.7	0.06	0.4	0.9	100	2984.8	4571.3
VC.4: EW-1 (Typical): North (A0°, 180.26 ft², width 23.542 ft)	180.3	0.06	0.4	0.9	100	1641.9	2514.6
VC.4: EW-1 (Typical): East (A90°, 83.19 ft², width 10.833 ft)	83.2	0.06	0.4	0.9	100	757.8	1160.6
VC.4: EW-1 (Typical): South (A180°, 180.26 ft², width 23.542 ft)	180.3	0.06	0.4	0.9	100	1641.9	2514.6
VC.4: EW-1 (Typical): North (A0°, 404.01 ft², width 12 ft)	404	0.06	0.4	0.9	100	3679.9	5635.9
VC.4: EW-1 (Typical): North (A0°, 724.38 ft², width 22.167 ft)	724.4	0.06	0.4	0.9	100	6598	10105
VC.4: EW-1 (Typical): North (A0°, 889.77 ft², width 25.792 ft)	889.8	0.06	0.4	0.9	100	8104.4	12412.1
VC.4: EW-1 (Typical): North (A0°, 449.64 ft², width 13 ft)	449.6	0.06	0.4	0.9	100	4095.5	6272.4
VC.4: EW-1 (Typical): North (A0°, 424.92 ft², width 12.458 ft)	424.9	0.06	0.4	0.9	100	3870.4	5927.6
VC.4: EW-1 (Typical): North (A0°, 437.4 ft², width 14.25 ft)	437.4	0.06	0.4	0.9	100	3984	6101.6
VC.4: EW-1 (Typical): South (A180°, 461.51 ft², width 12.833 ft)	461.5	0.06	0.4	0.9	100	4203.7	6438
VC.4: EW-1 (Typical): East (A90°, 537.67 ft², width 14.333 ft)	537.7	0.06	0.4	0.9	100	4897.3	7500.4
VC.5: Roof (main): Horizontal (12005.32 ft², width 156.333 ft)	12005.3	0.031	0.4	0.9	100	56612.9	86704
VC.6: Bulkhead roof 2: West (A270°, 112.42 ft², width 10.833 ft)	112.4	0.031	0.4	0.9	100	530.2	811.9
VC.7: Overhang: Horizontal (65.42 ft², width 27.083 ft)	65.4	0.068	0.4	0.9	100	672.2	1029.5
VC.7: Overhang: Horizontal (65.42 ft², width 27.083 ft)	65.4	0.068	0.4	0.9	100	672.2	1029.5
VC.7: Overhang: Horizontal (26.17 ft², width 12.417 ft)	26.2	0.068	0.4	0.9	100	268.9	411.8
VC.7: Overhang: Horizontal (15.83 ft², width 1 ft)	15.8	0.068	0.4	0.9	100	162.7	249.2
VC.7: Overhang: Horizontal (25.04 ft², width 14.25 ft)	25	0.068	0.4	0.9	100	257.3	394.1
VC.7: Overhang: Horizontal (10.83 ft², width 13 ft)	10.8	0.068	0.4	0.9	100	111.3	170.5
VC.7: Overhang: Horizontal (29.96 ft², width 3.833 ft)	30	0.068	0.4	0.9	100	307.8	471.5
VC.7: Overhang: Horizontal (10 ft², width 12 ft)	10	0.068	0.4	0.9	100	102.8	157.4
VC.7: Overhang: Horizontal (21.49 ft², width 25.792 ft)	21.5	0.068	0.4	0.9	100	220.9	338.2
VC.7: Overhang: Horizontal (26.17 ft², width 12.417 ft)	26.2	0.068	0.4	0.9	100	268.9	411.8
VC.8: Foundation wall (to crawl): East (A90°, 189.68 ft², width 32.75 ft)	189.7	0.06	0	0	0	0	0
VC.8: Foundation wall (to crawl): North (A0°, 78.76 ft², width 17.583 ft)	78.8	0.06	0	0	0	0	0
VC.8: Foundation wall (to crawl): East (A90°, 43.67 ft², width 9.75 ft)	43.7	0.06	0	0	0	0	0
VC.8: Foundation wall (to crawl): East (A90°, 64.95 ft², width 14.5 ft)	64.9	0.06	0	0	0	0	0
VC.8: Foundation wall (to crawl): South (A180°, 69.05 ft², width 15.417 ft)	69.1	0.06	0	0	0	0	0
VC.8: Foundation wall (to crawl): North (A0°, 52.26 ft², width 11.667 ft)	52.3	0.06	0	0	0	0	0
VC.9: Bulkhead roof 3: South (A180°, 482.81 ft², width 20.917 ft)	482.8	0.031	0.4	0.9	100	2276.8	3486.9
VC.10: Foundation wall (to MEP): West (A270°, 106.75 ft², width 23.833 ft)	106.8	0.06	0	0	0	0	0
VC.10: Foundation wall (to MEP): South (A180°, 117.95 ft², width 26.333 ft)	118	0.06	0	0	0	0	0
VC.10: Foundation wall (to MEP): South (A180°, 282.29 ft², width 27.5 ft)	282.3	0.06	0	0	0	0	0
VC.10: Foundation wall (to MEP): South (A180°, 107.2 ft², width 15.833 ft)	107.2	0.06	0	0	0	0	0
VC.10: Foundation wall (to MEP): East (A90°, 126.39 ft², width 18.667 ft)	126.4	0.06	0	0	0	0	0
VC.11: Insulated floor (over MEP): Horizontal (1964.89 ft², width 56.667 ft)	1964.9	0.068	0	0	0	0	0
VC.11: Insulated floor (over MEP): Horizontal (449.39 ft², width 15.833 ft)	449.4	0.068	0	0	0	0	0
VC.12: Insulated floor (over crawl): Horizontal (4069.5 ft², width 59.833 ft)	4069.5	0.068	0	0	0	0	0
VC.14: Bulkhead roof 1: Horizontal (242.25 ft², width 19 ft)	242.3	0.031	0.4	0.9	100	1142.4	1749.6
VC.14: Bulkhead roof 1: Horizontal (58.68 ft², width 5.417 ft)	58.7	0.031	0.4	0.9	100	276.7	423.8
VC.14: Bulkhead roof 1: Horizontal (98.85 ft², width 9.125 ft)	98.9	0.031	0.4	0.9	100	466.2	713.9
VC.15: EW-2 (Short walls): East (A90°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): West (A270°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): West (A270°, 91.25 ft², width 2 ft)	91.3	0.06	0.4	0.9	100	831.2	1272.9
VC.15: EW-2 (Short walls): East (A90°, 91.25 ft², width 2 ft)	91.3	0.06	0.4	0.9	100	831.2	1272.9
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): South (A180°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5

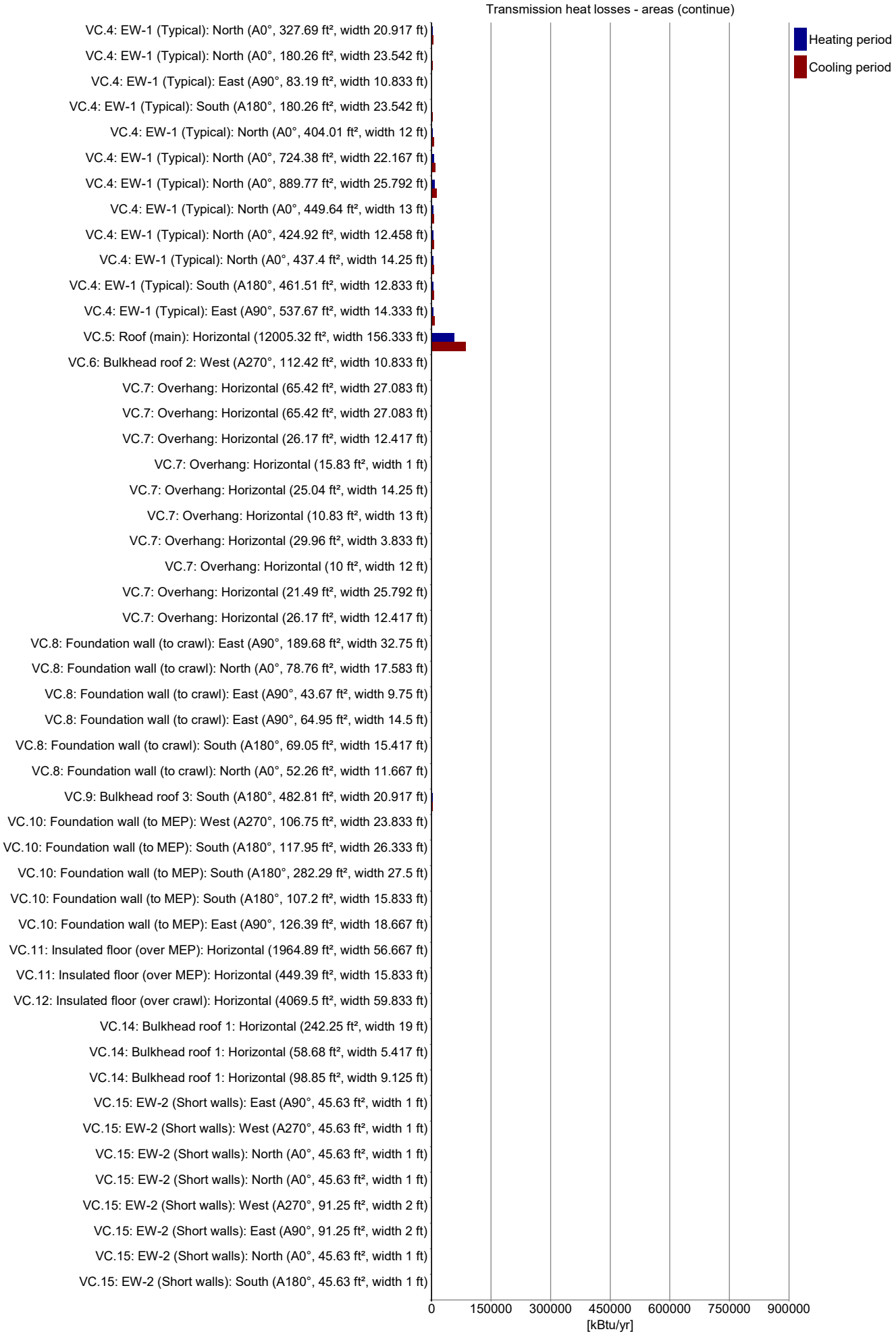
Transmission heat losses - areas (continue)

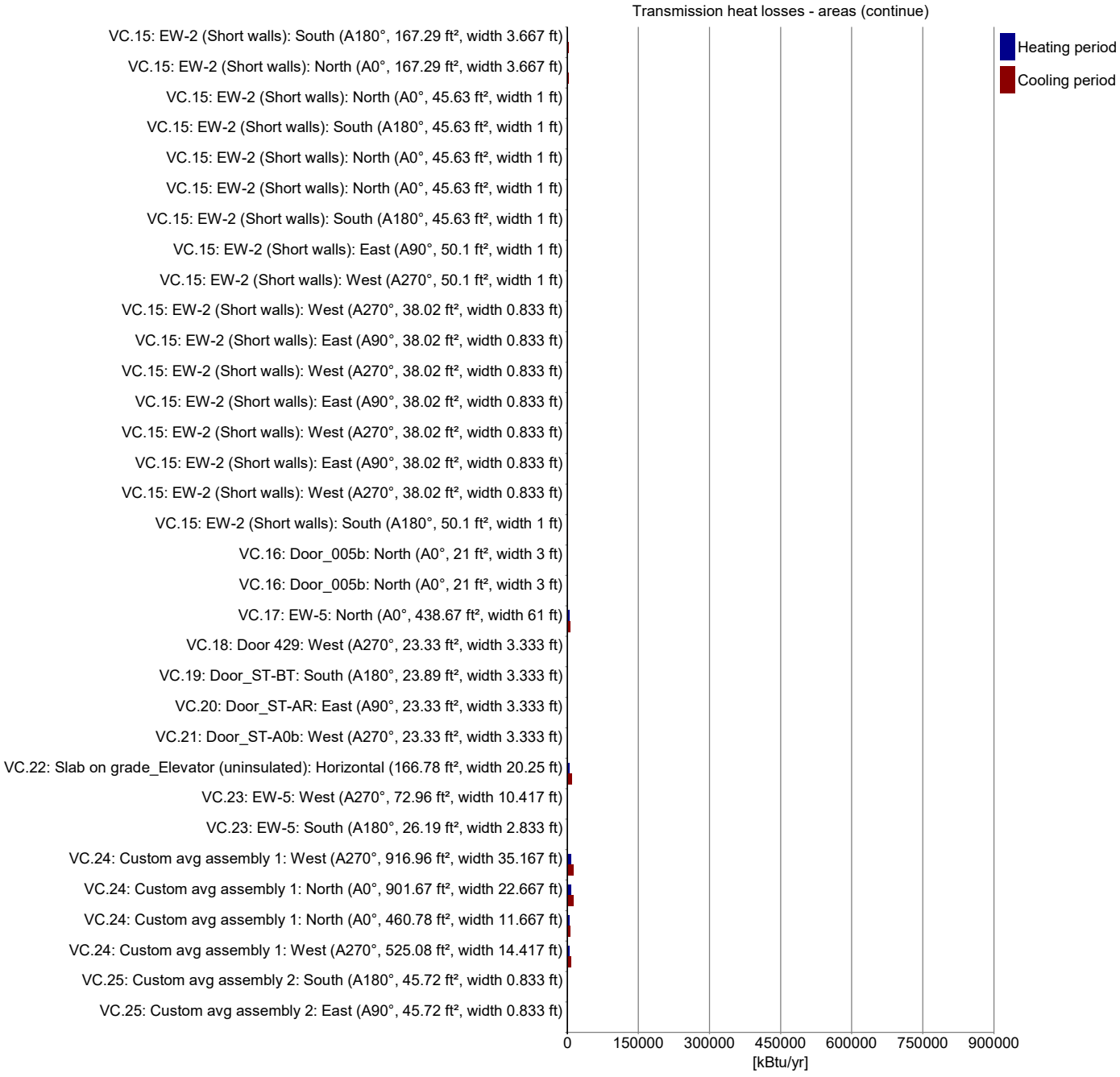
Name	Area [ft²]	Average U-value [Btu/hr ft² °F]	Absorption coefficient	Emission coefficient	Reduction factor shading [%]	Transmission losses heating [kBtu/yr]	Transmission losses cooling [kBtu/yr]
VC.15: EW-2 (Short walls): South (A180°, 167.29 ft², width 3.667 ft)	167.3	0.06	0.4	0.9	100	1523.8	2333.7
VC.15: EW-2 (Short walls): North (A0°, 167.29 ft², width 3.667 ft)	167.3	0.06	0.4	0.9	100	1523.8	2333.7
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): South (A180°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): South (A180°, 45.63 ft², width 1 ft)	45.6	0.06	0.4	0.9	100	415.6	636.5
VC.15: EW-2 (Short walls): East (A90°, 50.1 ft², width 1 ft)	50.1	0.06	0.4	0.9	100	456.4	698.9
VC.15: EW-2 (Short walls): West (A270°, 50.1 ft², width 1 ft)	50.1	0.06	0.4	0.9	100	456.4	698.9
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)	38	0.06	0.4	0.9	100	346.3	530.4
VC.15: EW-2 (Short walls): East (A90°, 38.02 ft², width 0.833 ft)	38	0.06	0.4	0.9	100	346.3	530.4
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)	38	0.06	0.4	0.9	100	346.3	530.4
VC.15: EW-2 (Short walls): East (A90°, 38.02 ft², width 0.833 ft)	38	0.06	0.4	0.9	100	346.3	530.4
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)	38	0.06	0.4	0.9	100	346.3	530.4
VC.15: EW-2 (Short walls): East (A90°, 38.02 ft², width 0.833 ft)	38	0.06	0.4	0.9	100	346.3	530.4
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)	38	0.06	0.4	0.9	100	346.3	530.4
VC.15: EW-2 (Short walls): South (A180°, 50.1 ft², width 1 ft)	50.1	0.06	0.4	0.9	100	456.4	698.9
VC.16: Door_005b: North (A0°, 21 ft², width 3 ft)	21	0.06	0.4	0.9	100	191.3	292.9
VC.16: Door_005b: North (A0°, 21 ft², width 3 ft)	21	0.06	0.4	0.9	100	191.3	292.9
VC.17: EW-5: North (A0°, 438.67 ft², width 61 ft)	438.7	0.06	0.4	0.9	100	3995.6	6119.4
VC.18: Door 429: West (A270°, 23.33 ft², width 3.333 ft)	23.3	0.06	0.4	0.9	100	212.5	325.5
VC.19: Door_ST-BT: South (A180°, 23.89 ft², width 3.333 ft)	23.9	0.06	0.4	0.9	100	217.6	333.2
VC.20: Door_ST-AR: East (A90°, 23.33 ft², width 3.333 ft)	23.3	0.06	0.4	0.9	100	212.5	325.5
VC.21: Door_ST-A0b: West (A270°, 23.33 ft², width 3.333 ft)	23.3	0.06	0.4	0.9	100	212.5	325.5
VC.22: Slab on grade_Elevator (uninsulated): Horizontal (166.78 ft², width 20.25 ft)	166.8	0.355	0	0	0	5216.4	9861.5
VC.23: EW-5: West (A270°, 72.96 ft², width 10.417 ft)	73	0.06	0.4	0.9	100	664.6	1017.8
VC.23: EW-5: South (A180°, 26.19 ft², width 2.833 ft)	26.2	0.06	0.4	0.9	100	238.6	365.4
VC.24: Custom avg assembly 1: West (A270°, 916.96 ft², width 35.167 ft)	917	0.06	0.4	0.9	100	8352.1	12791.5
VC.24: Custom avg assembly 1: North (A0°, 901.67 ft², width 22.667 ft)	901.7	0.06	0.4	0.9	100	8212.9	12578.2
VC.24: Custom avg assembly 1: North (A0°, 460.78 ft², width 11.667 ft)	460.8	0.06	0.4	0.9	100	4197	6427.9
VC.24: Custom avg assembly 1: West (A270°, 525.08 ft², width 14.417 ft)	525.1	0.06	0.4	0.9	100	4782.7	7324.8
VC.25: Custom avg assembly 2: South (A180°, 45.72 ft², width 0.833 ft)	45.7	0.06	0.4	0.9	100	416.5	637.9
VC.25: Custom avg assembly 2: East (A90°, 45.72 ft², width 0.833 ft)	45.7	0.06	0.4	0.9	100	416.5	637.9

Degree hours [kFh/a]

	Heating	Cooling
Ambient heating	84	128.6
Ground heating	49	92.5


Transmission heat losses - areas
Heating period
Cooling period
VC.1: Foundation wall: East (A90°, 108.1 ft², width 8.75 ft)
VC.1: Foundation wall: South (A180°, 246.57 ft², width 36.417 ft)
VC.1: Foundation wall: South (A180°, 80.82 ft², width 8.917 ft)
VC.1: Foundation wall: West (A270°, 14.41 ft², width 1.167 ft)
VC.1: Foundation wall: South (A180°, 140.01 ft², width 11.333 ft)
VC.1: Foundation wall: South (A180°, 1.67 ft², width 0.833 ft)
VC.1: Foundation wall: West (A270°, 42.34 ft², width 7.583 ft)
VC.1: Foundation wall: North (A0°, 113.06 ft², width 20.25 ft)
VC.1: Foundation wall: West (A270°, 70.53 ft², width 35.167 ft)
VC.1: Foundation wall: South (A180°, 5.68 ft², width 2.833 ft)
VC.1: Foundation wall: West (A270°, 20.89 ft², width 10.417 ft)
VC.1: Foundation wall: North (A0°, 23.4 ft², width 11.667 ft)
VC.1: Foundation wall: North (A0°, 45.46 ft², width 22.667 ft)
VC.1: Foundation wall: North (A0°, 205.58 ft², width 61 ft)
VC.1: Foundation wall: East (A90°, 178.76 ft², width 32.75 ft)
VC.1: Foundation wall: East (A90°, 0.33 ft², width 0.167 ft)
VC.1: Foundation wall: East (A90°, 1.67 ft², width 0.833 ft)
VC.1: Foundation wall: West (A270°, 28.91 ft², width 14.417 ft)
VC.3: Slab on grade: Horizontal (2132.46 ft², width 93.417 ft)
VC.3: Slab on grade: Horizontal (3879.61 ft², width 95.333 ft)
VC.4: EW-1 (Typical): South (A180°, 353.75 ft², width 12.417 ft)
VC.4: EW-1 (Typical): South (A180°, 859.87 ft², width 23.167 ft)
VC.4: EW-1 (Typical): South (A180°, 353.75 ft², width 12.417 ft)
VC.4: EW-1 (Typical): East (A90°, 391.77 ft², width 13.25 ft)
VC.4: EW-1 (Typical): South (A180°, 989.92 ft², width 27.083 ft)
VC.4: EW-1 (Typical): South (A180°, 151.31 ft², width 4.5 ft)
VC.4: EW-1 (Typical): West (A270°, 724.38 ft², width 22.167 ft)
VC.4: EW-1 (Typical): South (A180°, 989.92 ft², width 27.083 ft)
VC.4: EW-1 (Typical): West (A270°, 391.77 ft², width 13.25 ft)
VC.4: EW-1 (Typical): East (A90°, 757.13 ft², width 22.167 ft)
VC.4: EW-1 (Typical): West (A270°, 449.64 ft², width 13 ft)
VC.4: EW-1 (Typical): West (A270°, 449.64 ft², width 13 ft)
VC.4: EW-1 (Typical): West (A270°, 433.8 ft², width 10.833 ft)
VC.4: EW-1 (Typical): West (A270°, 261.42 ft², width 22.333 ft)
VC.4: EW-1 (Typical): East (A90°, 23.33 ft², width 3.333 ft)
VC.4: EW-1 (Typical): East (A90°, 460.21 ft², width 14.75 ft)
VC.4: EW-1 (Typical): East (A90°, 578.91 ft², width 15.833 ft)
VC.4: EW-1 (Typical): East (A90°, 425.99 ft², width 14 ft)
VC.4: EW-1 (Typical): East (A90°, 906.88 ft², width 26.167 ft)
VC.4: EW-1 (Typical): East (A90°, 504.91 ft², width 12.25 ft)
VC.4: EW-1 (Typical): West (A270°, 460.21 ft², width 14.75 ft)
VC.4: EW-1 (Typical): West (A270°, 414.04 ft², width 10.25 ft)
VC.4: EW-1 (Typical): South (A180°, 656.58 ft², width 27.792 ft)
VC.4: EW-1 (Typical): South (A180°, 906.12 ft², width 25.833 ft)
VC.4: EW-1 (Typical): North (A0°, 724.38 ft², width 22.167 ft)
VC.4: EW-1 (Typical): South (A180°, 205.68 ft², width 20.917 ft)
VC.4: EW-1 (Typical): East (A90°, 284.75 ft², width 22.333 ft)
VC.4: EW-1 (Typical): West (A270°, 125.38 ft², width 12.75 ft)
VC.4: EW-1 (Typical): North (A0°, 186.83 ft², width 19 ft)
VC.4: EW-1 (Typical): East (A90°, 102.04 ft², width 12.75 ft)
0
150000
300000
450000
600000
750000
900000
[kBtu/yr]

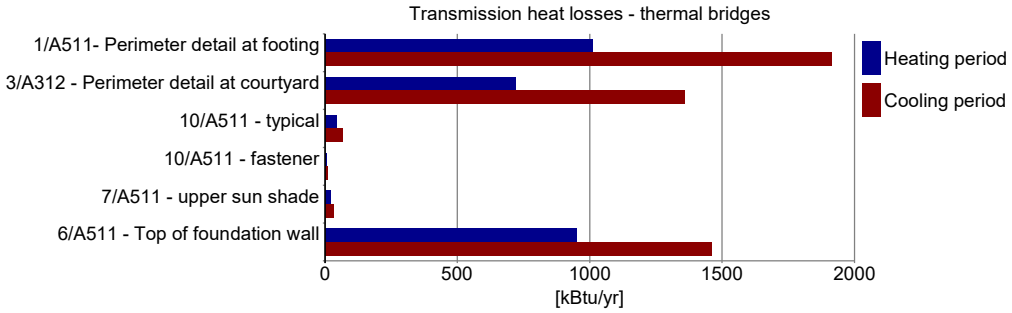

Transmission heat losses - areas (continue)
Heating period
Cooling period
VC.4: EW-1 (Typical): North (A0°, 327.69 ft², width 20.917 ft)
VC.4: EW-1 (Typical): North (A0°, 180.26 ft², width 23.542 ft)
VC.4: EW-1 (Typical): East (A90°, 83.19 ft², width 10.833 ft)
VC.4: EW-1 (Typical): South (A180°, 180.26 ft², width 23.542 ft)
VC.4: EW-1 (Typical): North (A0°, 404.01 ft², width 12 ft)
VC.4: EW-1 (Typical): North (A0°, 724.38 ft², width 22.167 ft)
VC.4: EW-1 (Typical): North (A0°, 889.77 ft², width 25.792 ft)
VC.4: EW-1 (Typical): North (A0°, 449.64 ft², width 13 ft)
VC.4: EW-1 (Typical): North (A0°, 424.92 ft², width 12.458 ft)
VC.4: EW-1 (Typical): North (A0°, 437.4 ft², width 14.25 ft)
VC.4: EW-1 (Typical): South (A180°, 461.51 ft², width 12.833 ft)
VC.4: EW-1 (Typical): East (A90°, 537.67 ft², width 14.333 ft)
VC.5: Roof (main): Horizontal (12005.32 ft², width 156.333 ft)
VC.6: Bulkhead roof 2: West (A270°, 112.42 ft², width 10.833 ft)
VC.7: Overhang: Horizontal (65.42 ft², width 27.083 ft)
VC.7: Overhang: Horizontal (65.42 ft², width 27.083 ft)
VC.7: Overhang: Horizontal (26.17 ft², width 12.417 ft)
VC.7: Overhang: Horizontal (15.83 ft², width 1 ft)
VC.7: Overhang: Horizontal (25.04 ft², width 14.25 ft)
VC.7: Overhang: Horizontal (10.83 ft², width 13 ft)
VC.7: Overhang: Horizontal (29.96 ft², width 3.833 ft)
VC.7: Overhang: Horizontal (10 ft², width 12 ft)
VC.7: Overhang: Horizontal (21.49 ft², width 25.792 ft)
VC.7: Overhang: Horizontal (26.17 ft², width 12.417 ft)
VC.8: Foundation wall (to crawl): East (A90°, 189.68 ft², width 32.75 ft)
VC.8: Foundation wall (to crawl): North (A0°, 78.76 ft², width 17.583 ft)
VC.8: Foundation wall (to crawl): East (A90°, 43.67 ft², width 9.75 ft)
VC.8: Foundation wall (to crawl): East (A90°, 64.95 ft², width 14.5 ft)
VC.8: Foundation wall (to crawl): South (A180°, 69.05 ft², width 15.417 ft)
VC.8: Foundation wall (to crawl): North (A0°, 52.26 ft², width 11.667 ft)
VC.9: Bulkhead roof 3: South (A180°, 482.81 ft², width 20.917 ft)
VC.10: Foundation wall (to MEP): West (A270°, 106.75 ft², width 23.833 ft)
VC.10: Foundation wall (to MEP): South (A180°, 117.95 ft², width 26.333 ft)
VC.10: Foundation wall (to MEP): South (A180°, 282.29 ft², width 27.5 ft)
VC.10: Foundation wall (to MEP): South (A180°, 107.2 ft², width 15.833 ft)
VC.10: Foundation wall (to MEP): East (A90°, 126.39 ft², width 18.667 ft)
VC.11: Insulated floor (over MEP): Horizontal (1964.89 ft², width 56.667 ft)
VC.11: Insulated floor (over MEP): Horizontal (449.39 ft², width 15.833 ft)
VC.12: Insulated floor (over crawl): Horizontal (4069.5 ft², width 59.833 ft)
VC.14: Bulkhead roof 1: Horizontal (242.25 ft², width 19 ft)
VC.14: Bulkhead roof 1: Horizontal (58.68 ft², width 5.417 ft)
VC.14: Bulkhead roof 1: Horizontal (98.85 ft², width 9.125 ft)
VC.15: EW-2 (Short walls): East (A90°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): West (A270°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): West (A270°, 91.25 ft², width 2 ft)
VC.15: EW-2 (Short walls): East (A90°, 91.25 ft², width 2 ft)
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): South (A180°, 45.63 ft², width 1 ft)
0
150000
300000
450000
600000
750000
900000
[kBtu/yr]


Transmission heat losses - areas (continue)
Heating period
Cooling period
VC.15: EW-2 (Short walls): South (A180°, 167.29 ft², width 3.667 ft)
VC.15: EW-2 (Short walls): North (A0°, 167.29 ft², width 3.667 ft)
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): South (A180°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): North (A0°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): South (A180°, 45.63 ft², width 1 ft)
VC.15: EW-2 (Short walls): East (A90°, 50.1 ft², width 1 ft)
VC.15: EW-2 (Short walls): West (A270°, 50.1 ft², width 1 ft)
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)
VC.15: EW-2 (Short walls): East (A90°, 38.02 ft², width 0.833 ft)
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)
VC.15: EW-2 (Short walls): East (A90°, 38.02 ft², width 0.833 ft)
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)
VC.15: EW-2 (Short walls): East (A90°, 38.02 ft², width 0.833 ft)
VC.15: EW-2 (Short walls): West (A270°, 38.02 ft², width 0.833 ft)
VC.15: EW-2 (Short walls): South (A180°, 50.1 ft², width 1 ft)
VC.16: Door_005b: North (A0°, 21 ft², width 3 ft)
VC.16: Door_005b: North (A0°, 21 ft², width 3 ft)
VC.17: EW-5: North (A0°, 438.67 ft², width 61 ft)
VC.18: Door 429: West (A270°, 23.33 ft², width 3.333 ft)
VC.19: Door_ST-BT: South (A180°, 23.89 ft², width 3.333 ft)
VC.20: Door_ST-AR: East (A90°, 23.33 ft², width 3.333 ft)
VC.21: Door_ST-A0b: West (A270°, 23.33 ft², width 3.333 ft)
VC.22: Slab on grade_Elevator (uninsulated): Horizontal (166.78 ft², width 20.25 ft)
VC.23: EW-5: West (A270°, 72.96 ft², width 10.417 ft)
VC.23: EW-5: South (A180°, 26.19 ft², width 2.833 ft)
VC.24: Custom avg assembly 1: West (A270°, 916.96 ft², width 35.167 ft)
VC.24: Custom avg assembly 1: North (A0°, 901.67 ft², width 22.667 ft)
VC.24: Custom avg assembly 1: North (A0°, 460.78 ft², width 11.667 ft)
VC.24: Custom avg assembly 1: West (A270°, 525.08 ft², width 14.417 ft)
VC.25: Custom avg assembly 2: South (A180°, 45.72 ft², width 0.833 ft)
VC.25: Custom avg assembly 2: East (A90°, 45.72 ft², width 0.833 ft)
0
150000
300000
450000
600000
750000
900000
[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	1011.6	1912.4
3/A312 - Perimeter detail at courtyard	77	0.106	719.2	1359.5
10/A511 - typical	47.5	0.006	43.1	66
10/A511 - fastener	1	0.037	5.6	8.6
7/A511 - upper sun shade	16	0.009	21.8	33.3
6/A511 - Top of foundation wall	100	0.063	952	1458



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.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1

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.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1

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.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9

Transmission heat losses - windows (continue)

Name	Quan-tity	Incli-nation [°]	U-value total [Btu/hr ft^2 °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.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft^2, width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9

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.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9

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.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5

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.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.27: B_large: West (A270°, 35.26 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.5	1,253.7	2,397.5	3,671.8
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.27: B_large: North (A0°, 35.26 ft², width 5.937 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.5	3,671.8
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.28: B_Side_top (top floor shading): North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.28: B_Side_top (top floor shading): North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	79.7	59.3	589.6	288.7	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1

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.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	284.2	377.3	911.5	1,396.1
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	76.7	68.4	143.8	193.7	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	71.6	74.5	276	378.2	911.5	1,396.1
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9

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.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1

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.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	340.1	415.5	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	90.4	79	169.6	223.8	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9

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.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	70.4	87.9	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9

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.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	87.1	64.8	143.6	70.4	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	81.8	77.7	72.5	87.7	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)	1	90	0.45	0.4	84.4	75.2	35.3	47.6	308.1	471.9
VC.33: D: West (A270°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	352.9	417.7	918	1,406
VC.33: D: West (A270°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	352.9	417.7	918	1,406
VC.33: D: West (A270°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	352.9	417.7	918	1,406
VC.33: D: West (A270°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	352.9	417.7	918	1,406
VC.33: D: East (A90°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	342.7	418.7	918	1,406
VC.33: D: South (A180°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	91.9	77.2	684.9	378.4	918	1,406
VC.33: D: South (A180°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	91.9	77.2	684.9	378.4	918	1,406
VC.33: D: South (A180°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	91.9	77.2	684.9	378.4	918	1,406
VC.33: D: South (A180°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	91.9	77.2	684.9	378.4	918	1,406
VC.33: D: East (A90°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	342.7	418.7	918	1,406
VC.33: D: East (A90°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	342.7	418.7	918	1,406
VC.33: D: East (A90°, 13.5 ft², width 3 ft)	1	90	0.45	0.4	88.2	81.9	342.7	418.7	918	1,406
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	88.2	81.9	350.2	414.6	911.5	1,396.1
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)	1	90	0.45	0.4	91.9	77.1	679.8	375.6	911.5	1,396.1
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)	1	90	0.45	0.4	88	73	329.4	180	561	859.2
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)	1	90	0.45	0.4	84.6	65.2	96.9	49.2	228.6	350
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)	1	90	0.45	0.4	84.6	65.2	96.9	49.2	228.6	350
VC.36: Storefront_Side_top: East (A90°, 5.81 ft², width 3.167 ft)	1	90	0.45	0.4	83.9	79.3	106.9	132.9	394.8	604.6
VC.36: Storefront_Side_top: East (A90°, 5.81 ft², width 3.167 ft)	1	90	0.45	0.4	83.9	79.3	106.9	132.9	394.8	604.6
VC.36: Storefront_Side_top: East (A90°, 5.35 ft², width 2.917 ft)	1	90	0.45	0.4	83.3	79.1	95.5	119.3	363.6	556.9
VC.36: Storefront_Side_top: West (A270°, 4.43 ft², width 2.417 ft)	1	90	0.45	0.4	81.5	78.5	75	92.1	301.3	461.4
VC.36: Storefront_Side_top: East (A90°, 5.35 ft², width 2.917 ft)	1	90	0.45	0.4	83.3	79.1	95.5	119.3	363.6	556.9

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.36: Storefront_Side_top: South (A180°, 5.04 ft², width 2.75 ft)	1	90	0.45	0.4	87.8	68.4	179	91.8	342.8	525.1
VC.36: Storefront_Side_top: South (A180°, 5.04 ft², width 2.75 ft)	1	90	0.45	0.4	87.8	68.4	179	91.8	342.8	525.1
VC.36: Storefront_Side_top: West (A270°, 4.43 ft², width 2.417 ft)	1	90	0.45	0.4	81.5	78.5	75	92.1	301.3	461.4
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)	1	90	0.45	0.4	84.6	65.2	96.9	49.2	228.6	350
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)	1	90	0.45	0.4	84.6	65.2	96.9	49.2	228.6	350
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)	1	90	0.45	0.4	88.8	73.9	497.8	273	800	1,225.1
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)	1	90	0.45	0.4	88.8	73.9	497.8	273	800	1,225.1
VC.37: Storefront_Side_bottom: West (A270°, 15.51 ft², width 2.417 ft)	1	90	0.45	0.4	87.1	81.5	392.3	468	1,054.5	1,615
VC.37: Storefront_Side_bottom: East (A90°, 20.32 ft², width 3.167 ft)	1	90	0.45	0.4	89.7	82.4	559.2	675.7	1,381.7	2,116.2
VC.37: Storefront_Side_bottom: West (A270°, 15.51 ft², width 2.417 ft)	1	90	0.45	0.4	87.1	81.5	392.3	468	1,054.5	1,615
VC.37: Storefront_Side_bottom: East (A90°, 18.72 ft², width 2.917 ft)	1	90	0.45	0.4	89	82.1	499.6	606.8	1,272.7	1,949.1
VC.37: Storefront_Side_bottom: East (A90°, 18.72 ft², width 2.917 ft)	1	90	0.45	0.4	89	82.1	499.6	606.8	1,272.7	1,949.1
VC.37: Storefront_Side_bottom: South (A180°, 17.65 ft², width 2.75 ft)	1	90	0.45	0.4	92.2	77.5	919.2	509.1	1,199.9	1,837.7
VC.37: Storefront_Side_bottom: South (A180°, 17.65 ft², width 2.75 ft)	1	90	0.45	0.4	92.2	77.5	919.2	509.1	1,199.9	1,837.7
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)	1	90	0.45	0.4	88.8	73.9	497.8	273	800	1,225.1
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)	1	90	0.45	0.4	88.8	73.9	497.8	273	800	1,225.1
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)	1	90	0.45	0.4	88.6	69.1	212.8	109.4	389.6	596.7
VC.38: Storefront_Center_top: East (A90°, 5.5 ft², width 3 ft)	1	90	0.45	0.4	83.5	79.1	99.3	123.9	374	572.8
VC.38: Storefront_Center_top: West (A270°, 5.81 ft², width 3.167 ft)	1	90	0.45	0.4	83.9	79.3	110.1	132.6	394.8	604.6
VC.38: Storefront_Center_top: South (A180°, 5.81 ft², width 3.167 ft)	1	90	0.45	0.4	88.6	69.2	216.6	111.3	394.8	604.6
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)	1	90	0.45	0.4	88.6	69.1	212.8	109.4	389.6	596.7
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)	1	90	0.45	0.4	88.6	69.1	212.8	109.4	389.6	596.7
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)	1	90	0.45	0.4	88.6	69.1	212.8	109.4	389.6	596.7
VC.39: Storefront_Center_bottom: East (A90°, 19.25 ft², width 3 ft)	1	90	0.45	0.4	89.2	82.2	519.4	629.7	1,309	2,004.8
VC.40: Door S-01: East (A90°, 22.69 ft², width 3.167 ft)	1	90	0.45	0.4	89.9	97	633.7	899	1,543.2	2,363.5
VC.41: Door_S-02: South (A180°, 22.69 ft², width 3.167 ft)	1	90	0.45	0.4	93.2	92.5	1,259.5	823	1,543.2	2,363.5
VC.42: Door_S-03: South (A180°, 22.4 ft², width 3.125 ft)	1	90	0.45	0.4	93.1	92.4	1,237.7	808.6	1,522.9	2,332.4
VC.42: Door_S-03: South (A180°, 22.4 ft², width 3.125 ft)	1	90	0.45	0.4	93.1	92.4	1,237.7	808.6	1,522.9	2,332.4
VC.43: Door_S-04: South (A180°, 22.4 ft², width 3.125 ft)	1	90	0.45	0.4	93.1	92.4	1,237.7	808.6	1,522.9	2,332.4
VC.43: Door_S-04: South (A180°, 22.4 ft², width 3.125 ft)	1	90	0.45	0.4	93.1	92.4	1,237.7	808.6	1,522.9	2,332.4
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.44: B_large (top floor shading): North (A0°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.44: B_large (top floor shading): North (A0°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	85.5	75.9	500.6	671	2,397.3	3,671.5
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	82.7	79.4	1,023.4	1,253.6	2,397.3	3,671.5
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.937 ft)	1	90	0.45	0.4	82.7	79.4	993.8	1,256.4	2,397.3	3,671.5
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)	1	90	0.45	0.4	87.9	70.1	2,026.2	1,065.3	2,397.3	3,671.5

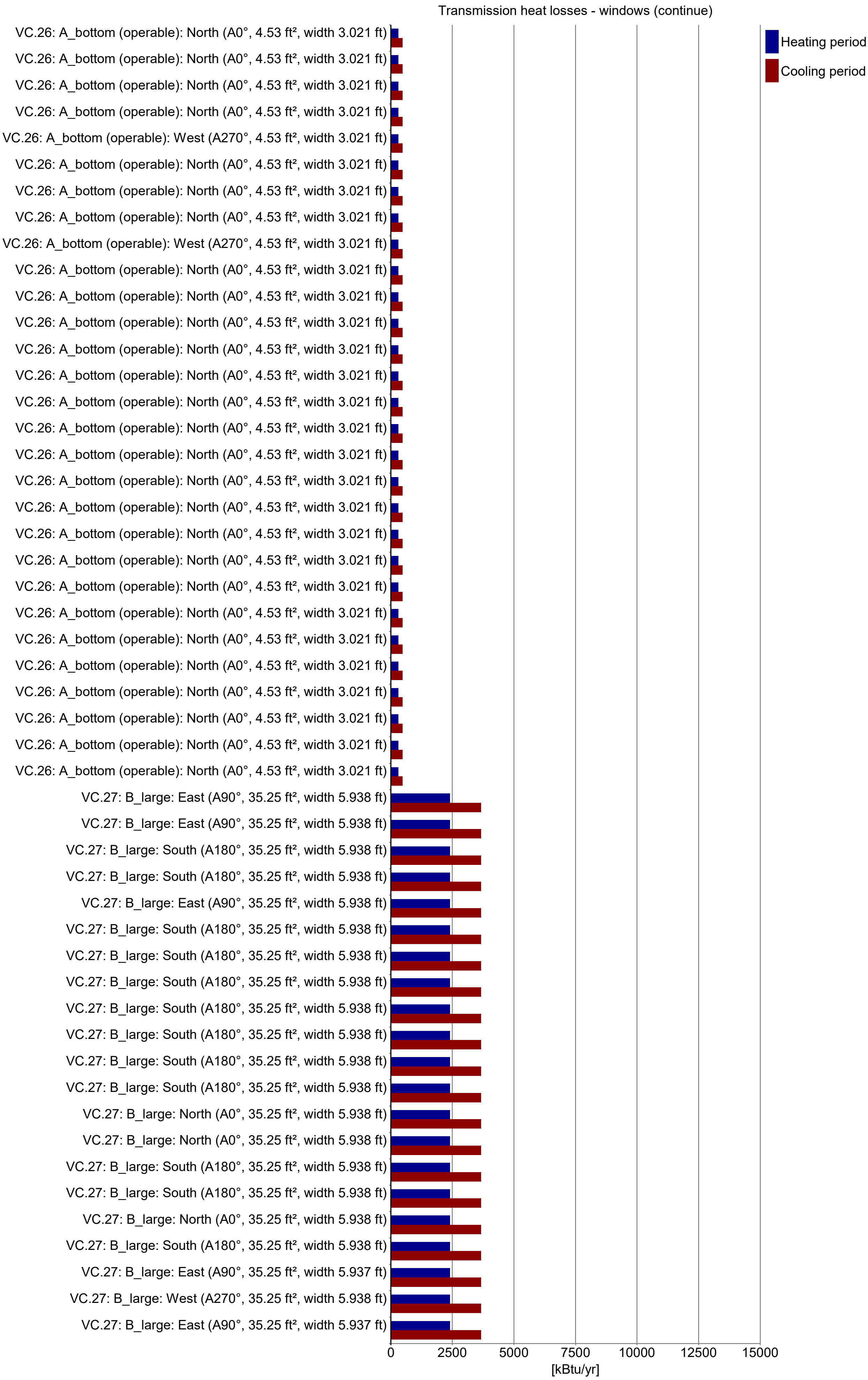

Transmission heat losses - windows
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
Heating period
Cooling period
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]

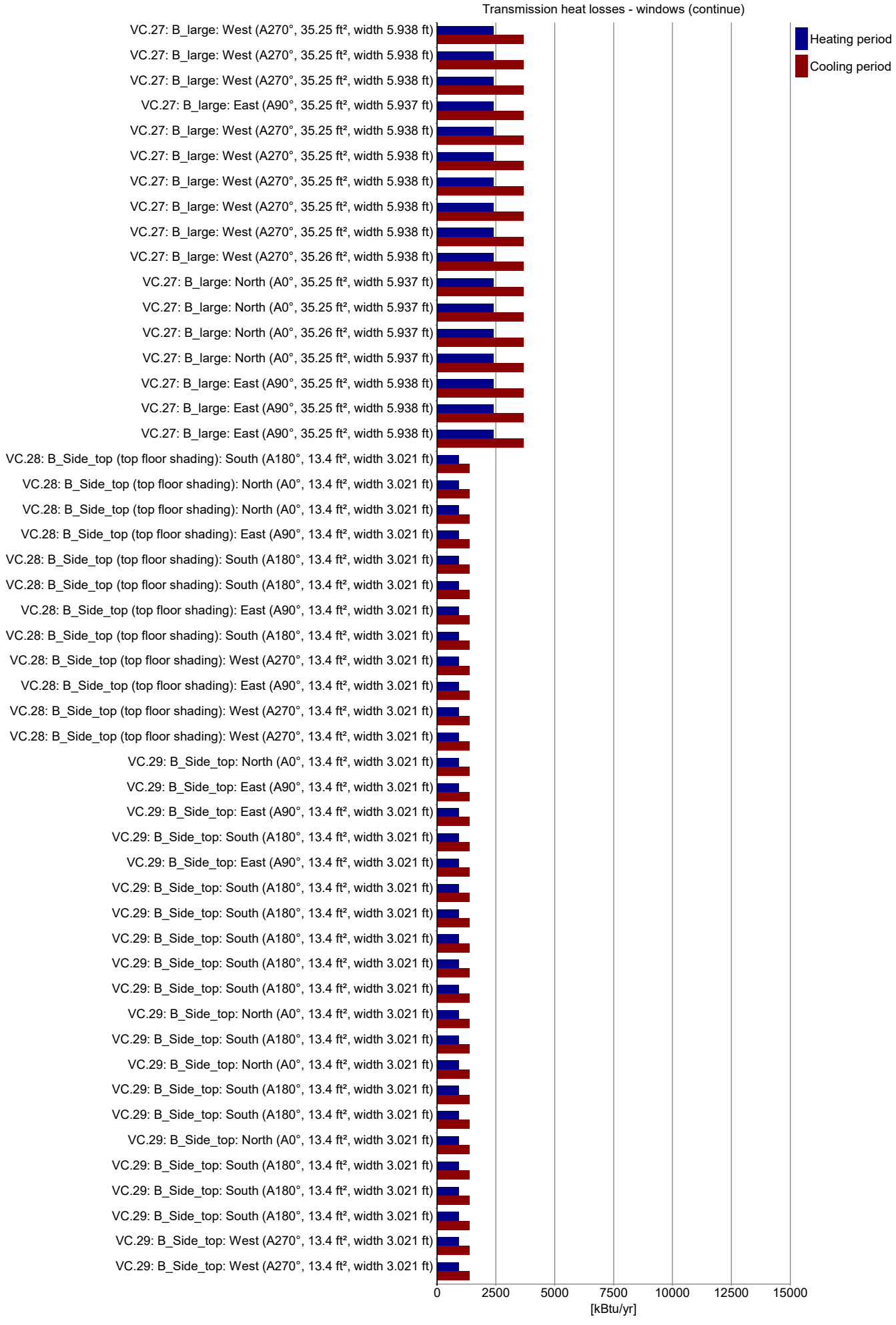

Transmission heat losses - windows (continue)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
Heating period
Cooling period
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]

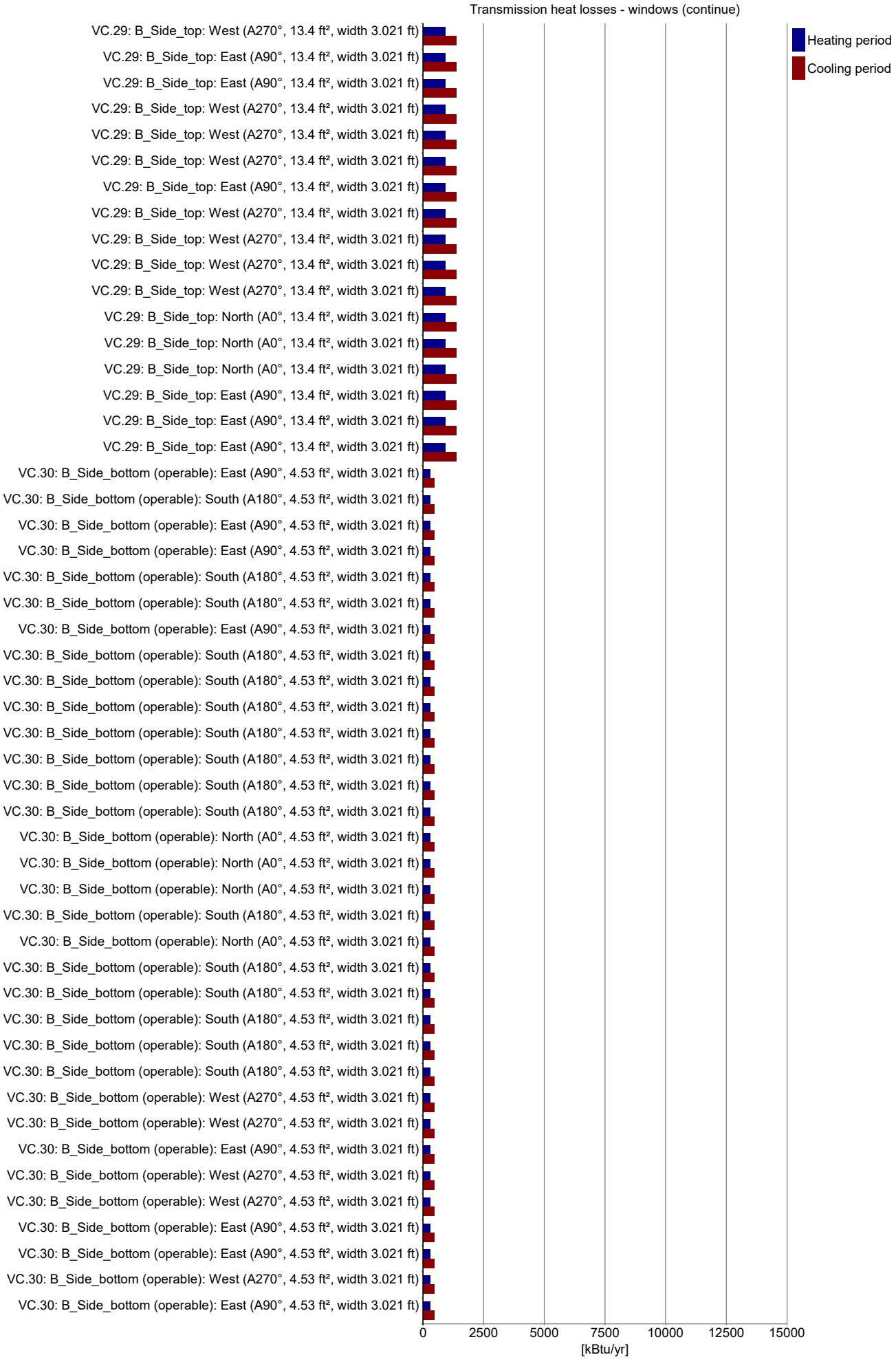

Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.26 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)
VC.27: B_large: North (A0°, 35.26 ft², width 5.937 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): North (A0°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): North (A0°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]

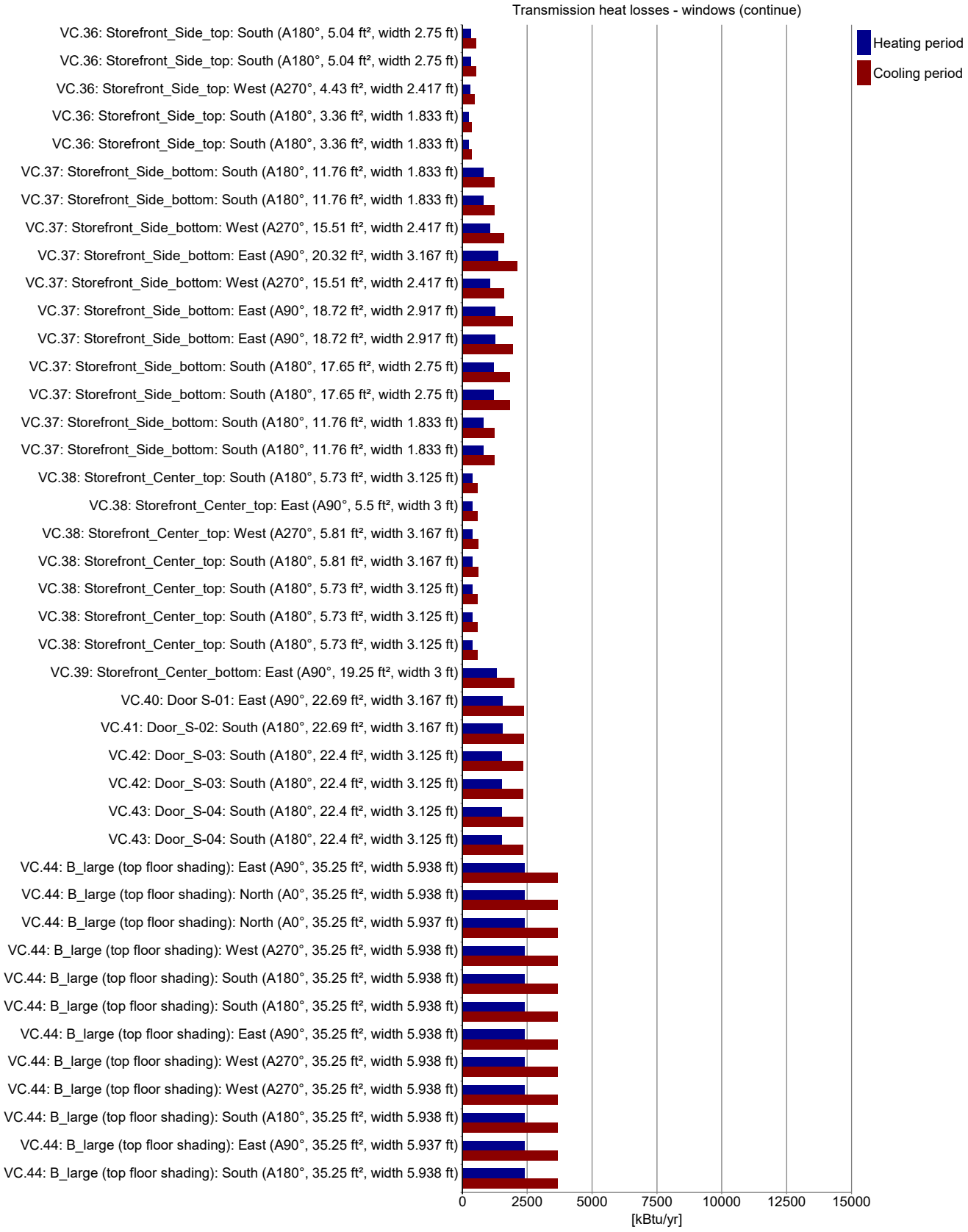

Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.36: Storefront_Side_top: East (A90°, 5.81 ft², width 3.167 ft)
VC.36: Storefront_Side_top: East (A90°, 5.81 ft², width 3.167 ft)
VC.36: Storefront_Side_top: East (A90°, 5.35 ft², width 2.917 ft)
VC.36: Storefront_Side_top: West (A270°, 4.43 ft², width 2.417 ft)
VC.36: Storefront_Side_top: East (A90°, 5.35 ft², width 2.917 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]


Transmission heat losses - windows (continue)
Heating period
Cooling period
VC.36: Storefront_Side_top: South (A180°, 5.04 ft², width 2.75 ft)
VC.36: Storefront_Side_top: South (A180°, 5.04 ft², width 2.75 ft)
VC.36: Storefront_Side_top: West (A270°, 4.43 ft², width 2.417 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: West (A270°, 15.51 ft², width 2.417 ft)
VC.37: Storefront_Side_bottom: East (A90°, 20.32 ft², width 3.167 ft)
VC.37: Storefront_Side_bottom: West (A270°, 15.51 ft², width 2.417 ft)
VC.37: Storefront_Side_bottom: East (A90°, 18.72 ft², width 2.917 ft)
VC.37: Storefront_Side_bottom: East (A90°, 18.72 ft², width 2.917 ft)
VC.37: Storefront_Side_bottom: South (A180°, 17.65 ft², width 2.75 ft)
VC.37: Storefront_Side_bottom: South (A180°, 17.65 ft², width 2.75 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.38: Storefront_Center_top: East (A90°, 5.5 ft², width 3 ft)
VC.38: Storefront_Center_top: West (A270°, 5.81 ft², width 3.167 ft)
VC.38: Storefront_Center_top: South (A180°, 5.81 ft², width 3.167 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.39: Storefront_Center_bottom: East (A90°, 19.25 ft², width 3 ft)
VC.40: Door S-01: East (A90°, 22.69 ft², width 3.167 ft)
VC.41: Door_S-02: South (A180°, 22.69 ft², width 3.167 ft)
VC.42: Door_S-03: South (A180°, 22.4 ft², width 3.125 ft)
VC.42: Door_S-03: South (A180°, 22.4 ft², width 3.125 ft)
VC.43: Door_S-04: South (A180°, 22.4 ft², width 3.125 ft)
VC.43: Door_S-04: South (A180°, 22.4 ft², width 3.125 ft)
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): North (A0°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): North (A0°, 35.25 ft², width 5.937 ft)
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.937 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
0
2500
5000
7500
10000
12500
15000
[kBtu/yr]

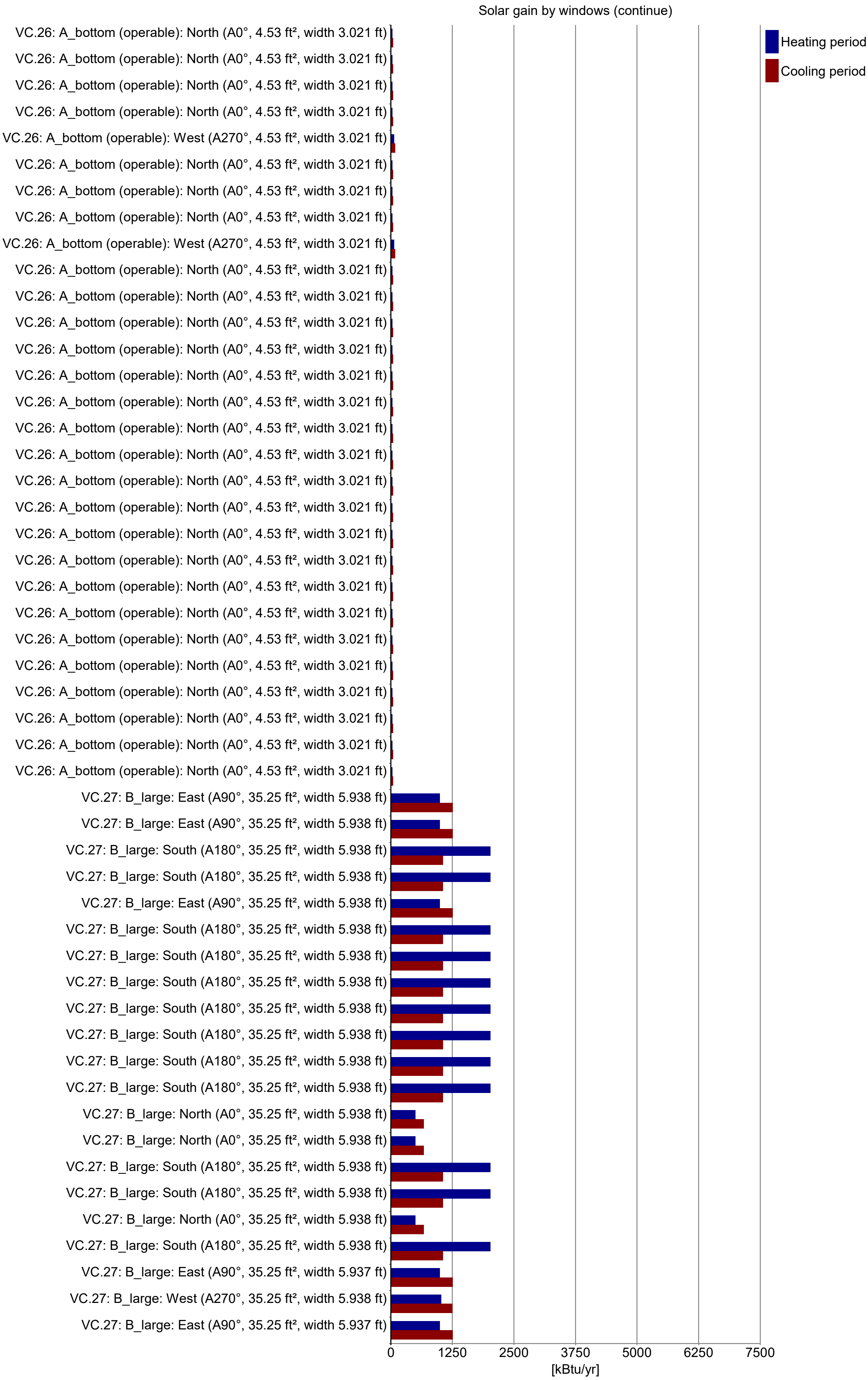

Solar gain by windows
Heating period
Cooling period
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]

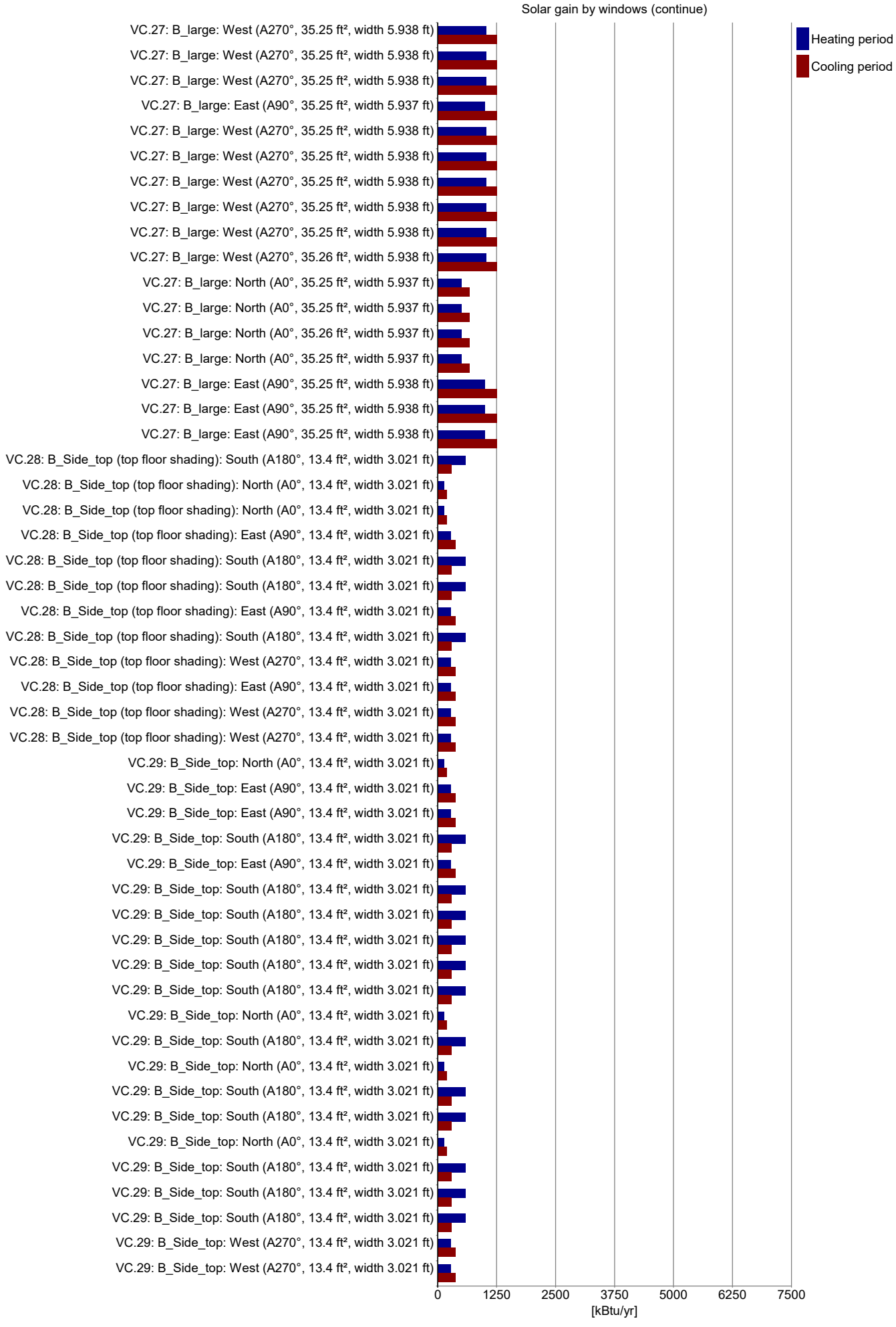

Solar gain by windows (continue)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]
Heating period
Cooling period

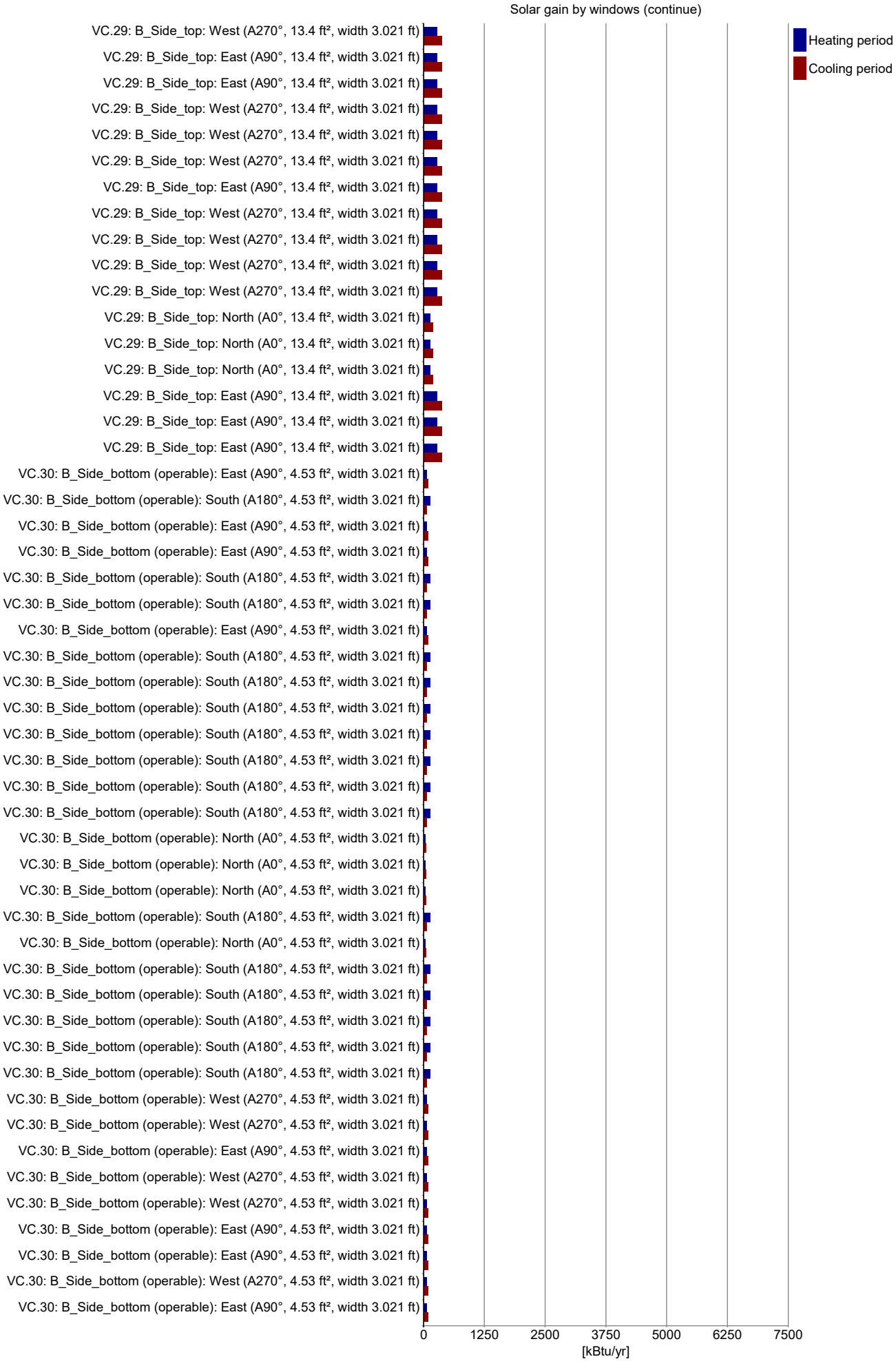

Solar gain by windows (continue)
Heating period
Cooling period
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.2: A_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]

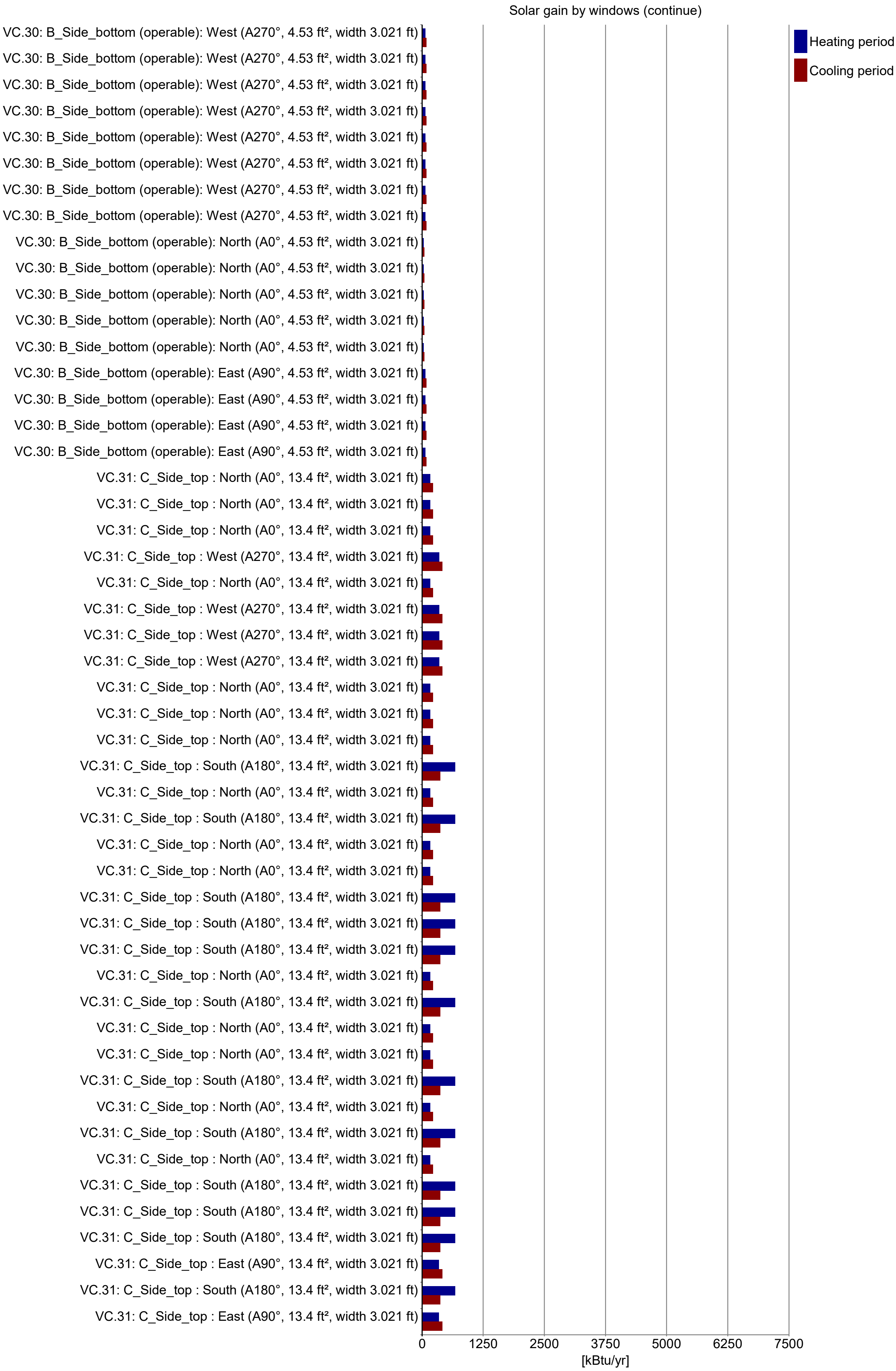

Solar gain by windows (continue)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]
Heating period
Cooling period


Solar gain by windows (continue)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]


Solar gain by windows (continue)
Heating period
Cooling period
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.26: A_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.938 ft)
VC.27: B_large: South (A180°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]

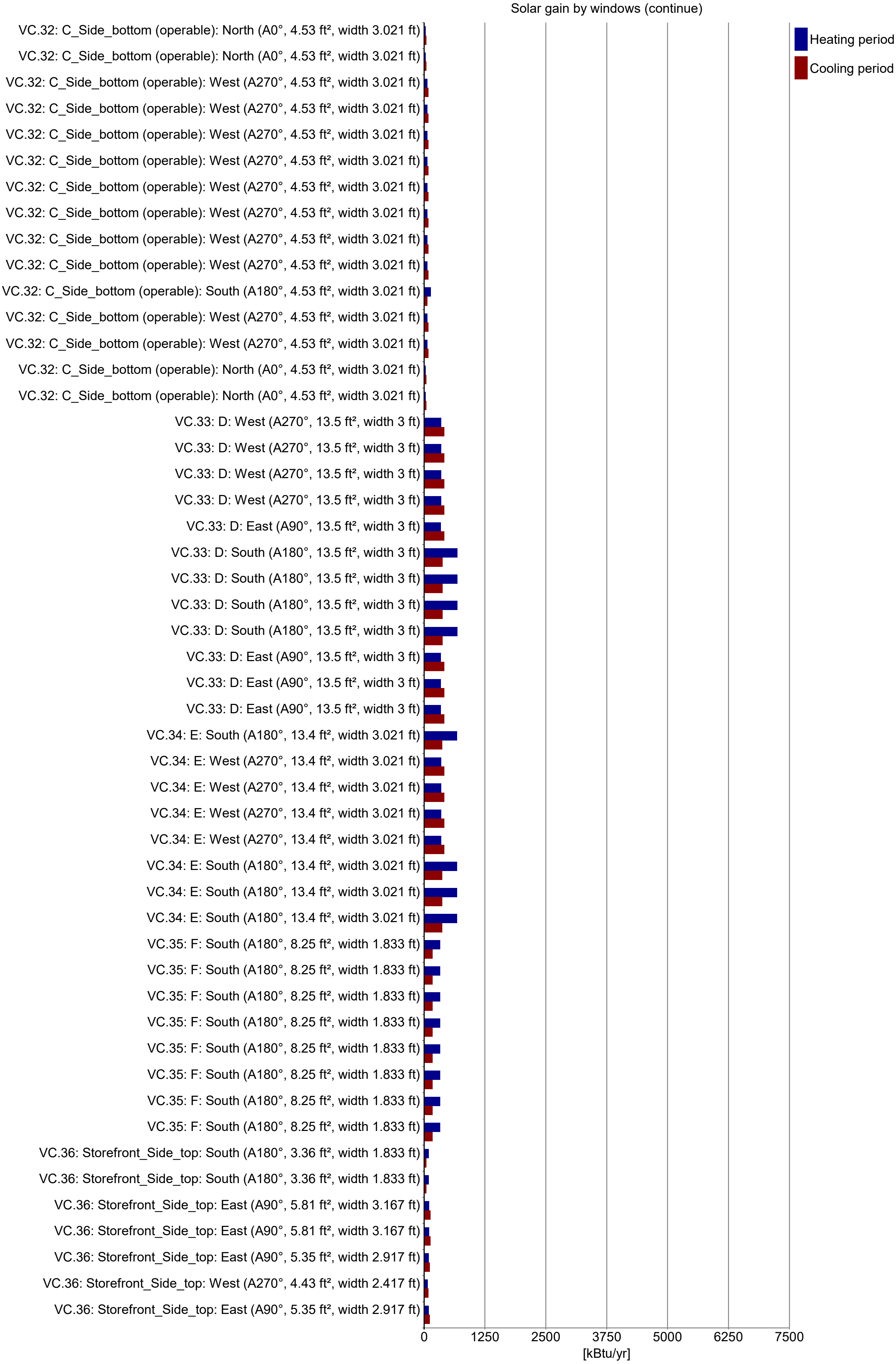

Solar gain by windows (continue)
Heating period
Cooling period
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.937 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.25 ft², width 5.938 ft)
VC.27: B_large: West (A270°, 35.26 ft², width 5.938 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)
VC.27: B_large: North (A0°, 35.26 ft², width 5.937 ft)
VC.27: B_large: North (A0°, 35.25 ft², width 5.937 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.27: B_large: East (A90°, 35.25 ft², width 5.938 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): North (A0°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): North (A0°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): South (A180°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): East (A90°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)
VC.28: B_Side_top (top floor shading): West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: South (A180°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]

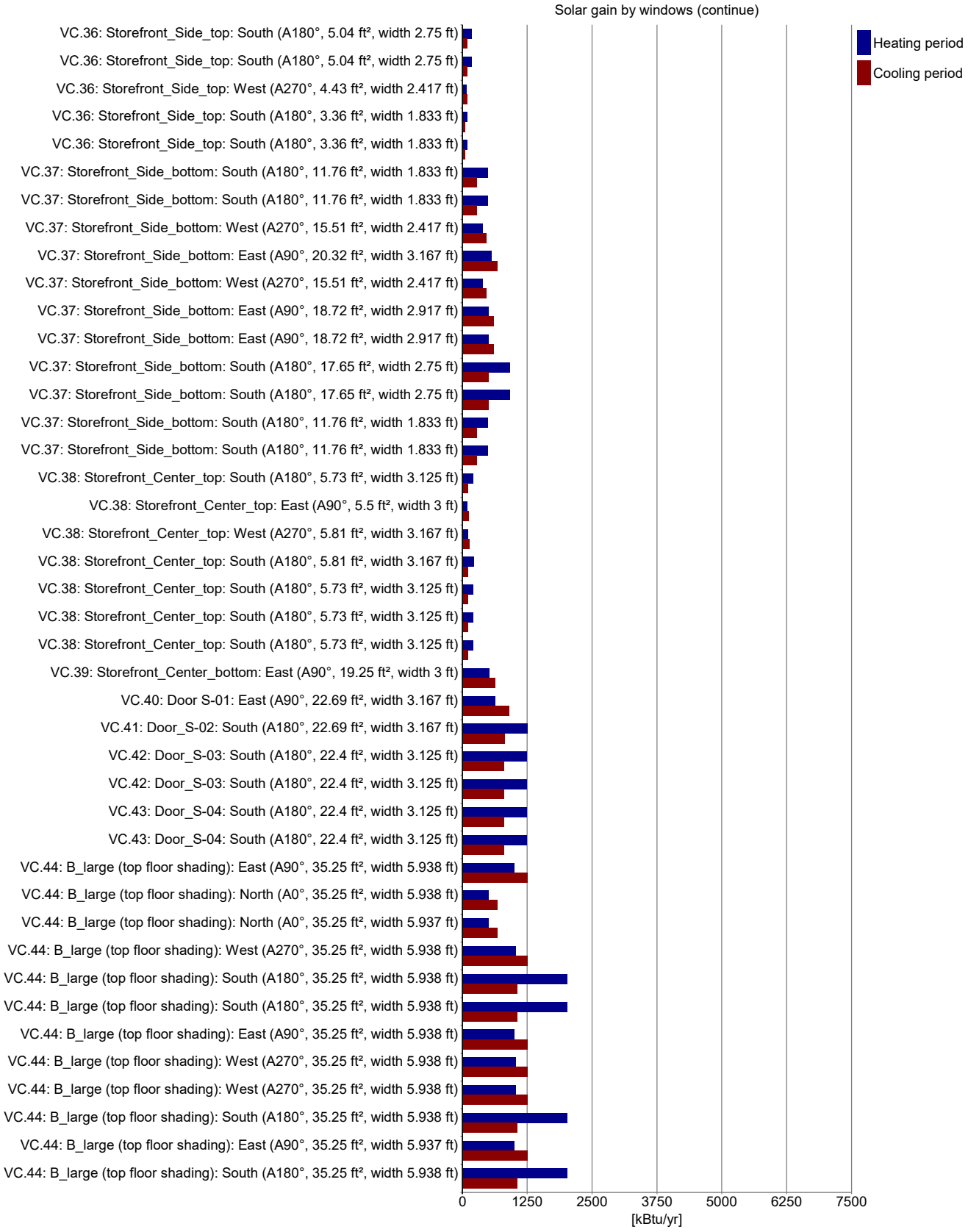

Solar gain by windows (continue)
Heating period
Cooling period
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: West (A270°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: North (A0°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.29: B_Side_top: East (A90°, 13.4 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]


Solar gain by windows (continue)
Heating period
Cooling period
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.30: B_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : South (A180°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]


Solar gain by windows (continue)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : East (A90°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : North (A0°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.31: C_Side_top : West (A270°, 13.4 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]


Solar gain by windows (continue)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): East (A90°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
Heating period
Cooling period
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]


Solar gain by windows (continue)
Heating period
Cooling period
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): South (A180°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): West (A270°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.32: C_Side_bottom (operable): North (A0°, 4.53 ft², width 3.021 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: West (A270°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: South (A180°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.33: D: East (A90°, 13.5 ft², width 3 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: West (A270°, 13.4 ft², width 3.021 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.34: E: South (A180°, 13.4 ft², width 3.021 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.35: F: South (A180°, 8.25 ft², width 1.833 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.36: Storefront_Side_top: East (A90°, 5.81 ft², width 3.167 ft)
VC.36: Storefront_Side_top: East (A90°, 5.81 ft², width 3.167 ft)
VC.36: Storefront_Side_top: East (A90°, 5.35 ft², width 2.917 ft)
VC.36: Storefront_Side_top: West (A270°, 4.43 ft², width 2.417 ft)
VC.36: Storefront_Side_top: East (A90°, 5.35 ft², width 2.917 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]


Solar gain by windows (continue)
Heating period
Cooling period
VC.36: Storefront_Side_top: South (A180°, 5.04 ft², width 2.75 ft)
VC.36: Storefront_Side_top: South (A180°, 5.04 ft², width 2.75 ft)
VC.36: Storefront_Side_top: West (A270°, 4.43 ft², width 2.417 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.36: Storefront_Side_top: South (A180°, 3.36 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: West (A270°, 15.51 ft², width 2.417 ft)
VC.37: Storefront_Side_bottom: East (A90°, 20.32 ft², width 3.167 ft)
VC.37: Storefront_Side_bottom: West (A270°, 15.51 ft², width 2.417 ft)
VC.37: Storefront_Side_bottom: East (A90°, 18.72 ft², width 2.917 ft)
VC.37: Storefront_Side_bottom: East (A90°, 18.72 ft², width 2.917 ft)
VC.37: Storefront_Side_bottom: South (A180°, 17.65 ft², width 2.75 ft)
VC.37: Storefront_Side_bottom: South (A180°, 17.65 ft², width 2.75 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.37: Storefront_Side_bottom: South (A180°, 11.76 ft², width 1.833 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.38: Storefront_Center_top: East (A90°, 5.5 ft², width 3 ft)
VC.38: Storefront_Center_top: West (A270°, 5.81 ft², width 3.167 ft)
VC.38: Storefront_Center_top: South (A180°, 5.81 ft², width 3.167 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.38: Storefront_Center_top: South (A180°, 5.73 ft², width 3.125 ft)
VC.39: Storefront_Center_bottom: East (A90°, 19.25 ft², width 3 ft)
VC.40: Door S-01: East (A90°, 22.69 ft², width 3.167 ft)
VC.41: Door_S-02: South (A180°, 22.69 ft², width 3.167 ft)
VC.42: Door_S-03: South (A180°, 22.4 ft², width 3.125 ft)
VC.42: Door_S-03: South (A180°, 22.4 ft², width 3.125 ft)
VC.43: Door_S-04: South (A180°, 22.4 ft², width 3.125 ft)
VC.43: Door_S-04: South (A180°, 22.4 ft², width 3.125 ft)
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): North (A0°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): North (A0°, 35.25 ft², width 5.937 ft)
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): West (A270°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
VC.44: B_large (top floor shading): East (A90°, 35.25 ft², width 5.937 ft)
VC.44: B_large (top floor shading): South (A180°, 35.25 ft², width 5.938 ft)
0
1250
2500
3750
5000
6250
7500
[kBtu/yr]

Summary building envelope

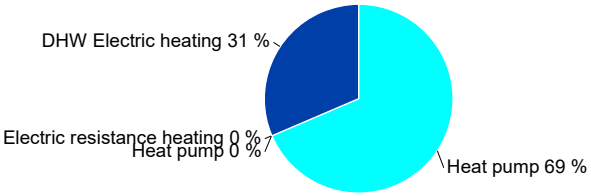
	Total area / length	Average U-value / Psi value	Transmission losses
Exterior wall ambient:	**24,926.4** ft²	**0.06** Btu/hr ft² °F	**227,387.7** kBtu/yr
Exterior wall ground:	**1,328.2** ft²	**0.109** Btu/hr ft² °F	**12,801.8** kBtu/yr
Basement:	**6,178.9** ft²	**0.355** Btu/hr ft² °F	**193,252.4** kBtu/yr
Roof:	**13,000.3** ft²	**0.031** Btu/hr ft² °F	**61,305.1** kBtu/yr
Windows:	**7,257.5** ft²	**0.45** Btu/hr ft² °F	**493,515.6** kBtu/yr
Doors:	**0** ft²	**0** Btu/hr ft² °F	**0** kBtu/yr
Thermal bridge ambient:	**164.5** ft	**0.041** Btu/hr ft °F	**1,022.4** kBtu/yr
Thermal bridge perimeter:	**166** ft	**0.118** Btu/hr ft °F	**1,730.8** kBtu/yr
Thermal bridge floor slab:	**0** ft	**0** Btu/hr ft °F	**0** kBtu/yr

Shading

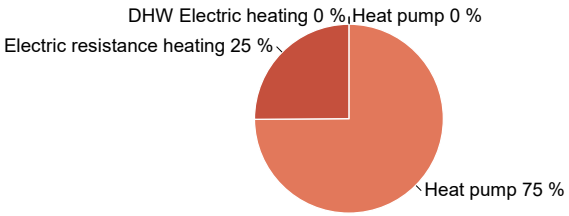
	Heating	Cooling
Reduction factor North:	**87.7** %	**77.2** %
Reduction factor East:	**84.2** %	**80.1** %
Reduction factor South:	**88.5** %	**72.2** %
Reduction factor West:	**84.1** %	**79.9** %
Reduction factor Horizontal:	**100** %	**100** %

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, unnamed_annual_heat_pump	79	0	126,464.3	0	0	0	0.6	55,574,329.3	227,635.8
Heat pump, unnamed_annual_heat_pump	0	0	0	87	0	270,820.5	0	119,011,175.5	487,476.9
Electric resistance heating	0	0	0	13	0	90,647	0	39,834,531.1	163,164.6
DHW Electric heating, WH-2_AO Smith DVE-80-12_80 gal	21	0	57,960.5	0	0	0	1	25,470,556.9	104,328.9
Σ	100	0	184,424.8	100	0	361,467.5		239,890,592.8	982,606.2

DHW - final energy



Heating - final energy



COOLING UNITS

	sensible	latent
Air cooling:	**0** kBtu/ft²yr	**0** kBtu/ft²yr
Recirculation cooling:	**1.5** kBtu/ft²yr	**1.2** kBtu/ft²yr
Additional dehumidification:		**0** kBtu/ft²yr
Panel cooling:	**0** kBtu/ft²yr	
Sum:	**1.5** kBtu/ft²yr	**1.2** kBtu/ft²yr

VENTILATION

Energy transportable by supply air

Heating energy

transportable: **2.47** W/ft²
load: **2.1** W/ft²

Cooling energy

transportable: **1.36** W/ft²
load: **0.84** 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:	**299,876.35**	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	WH-1_Bradford White Electric Brute VR-300-15_300 gal
ERU-1 EA 24x20	47.3	3.3333	5.58	WH-1_Bradford White Electric Brute VR-300-15_300 gal
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

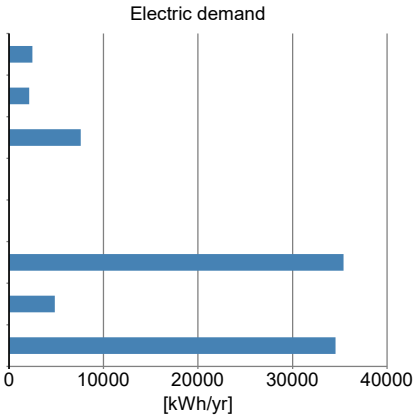
SUMMER VENTILATION

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

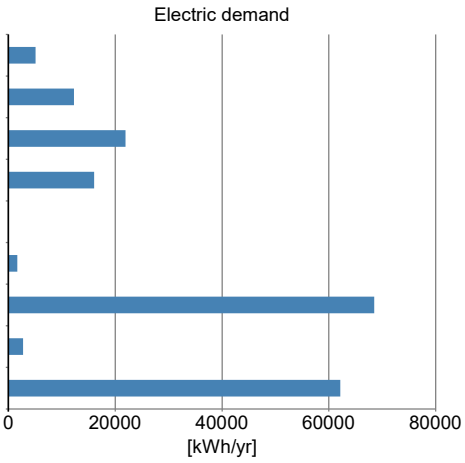
ELECTRICITY DEMAND - AUXILIARY ELECTRICITY

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	2140	13142.1
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	35403.7	217423
Ventilation Defrost	1	no	27,123.5 W	4869.2	29902.8
Ventilation summer	1	no	1.4 W/cfm	34553.7	212202.7
Σ				87043.4	534555.1



ELECTRICITY DEMAND RESIDENTIAL BUILDING

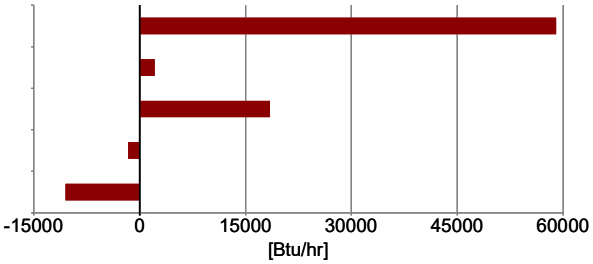
Type	Quantity	Indoor	Norm demand	Electric demand [kWh/yr]	Non-electric demand [kWh/yr]	Source energy [kBtu/yr]
Kitchen dishwasher	1	yes	1.3	5095.5	0	31292.6
Kitchen cooking	1	yes	0.2	12300	0	75537.4
Kitchen fridge/freeze combo	1	yes	1	21900	0	134493.3
Laundry - dryer	1	yes	3.9	16051.7	0	98577.3
Energy consumed by evaporation	1	yes	3.1	0	3018.6	18538.1
Laundry - washer	1	yes	0.3	1682.5	0	10332.5
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	3018.6	1188124.4



INTERNAL HEAT GAINS

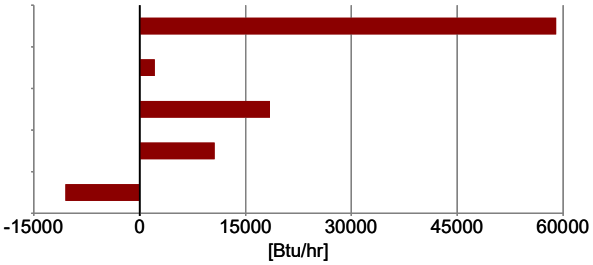
Heating season

Electricity total:	**59,016.8**	Btu/hr
Auxiliary electricity:	**2,135.1**	Btu/hr
People:	**18,466.5**	Btu/hr
Cold water:	**-1,635**	Btu/hr
Evaporation:	**-10,492.3**	Btu/hr
Σ:	**67,411**	Btu/hr
Specific internal heat gains:	**1.2**	Btu/hr ft²



Cooling season

Electricity total:	**59,016.8**	Btu/hr
Auxiliary electricity:	**2,135.1**	Btu/hr
People:	**18,466.5**	Btu/hr
Cold and hot water:	**10,623.2**	Btu/hr
Evaporation:	**-10,492.3**	Btu/hr
Σ:	**67,411**	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:	**53.5**	°F
Useful heat DHW:	**236,545.5**	kBtu/yr
Specific useful heat DHW:	**4,278.8**	Btu/ft²yr
Total heat losses of the DHW system:	**39,456.9**	kBtu/yr
Specific losses of the DHW system:	**713.7**	Btu/ft²yr
Performance ratio DHW distribution system and storage:	**1.2**	
Utilization ratio DHW distribution system and storage:	**0.9**	
Total heat demand of DHW system:	**276,002.4**	kBtu/yr
Total specific heat demand of DHW system:	**4,992.5**	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	1238.7	13908.6
Σ	1238.7	13908.6
Water storage		
Device 7 (Water storage: DHW): WH-1_Bradford White Electric Brute VR-300-15_300 gal		1839.2
Device 8 (Water storage): WH-2_AO Smith		1839.2
Σ		3678.4

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: **User defined**

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

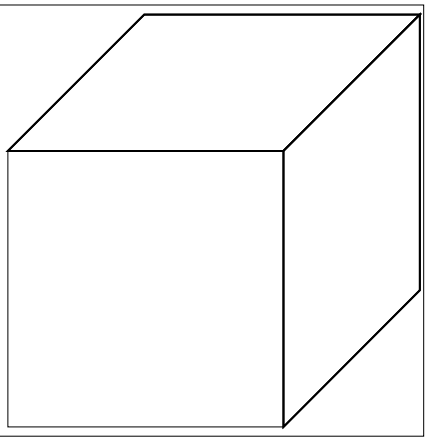
Name	Area [ft²]	Assembly
Foundation wall	1,328.2	BASELINE: GROUND WALL

Assembly (Id.78): BASELINE: GROUND WALL

Homogenous layers

Thermal resistance: 8.403 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.3904	39.37	

Slab floor

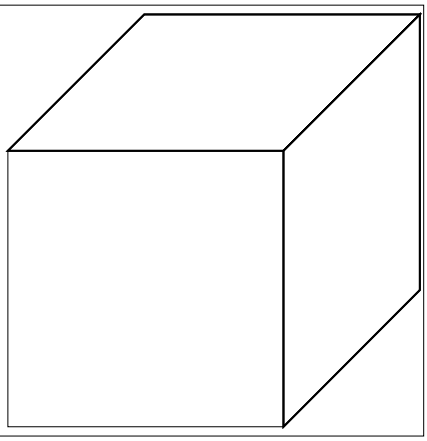
Name	Area [ft²]	Assembly
Slab on grade	6,012.1	BASELINE: GROUND FLOOR
Slab on grade_Elevator (uninsulated)	166.8	BASELINE: GROUND FLOOR
Total	**6,178.9**	

Assembly (Id.80): BASELINE: GROUND FLOOR

Homogenous layers

Thermal resistance: 1.852 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			1.7717	39.37	

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

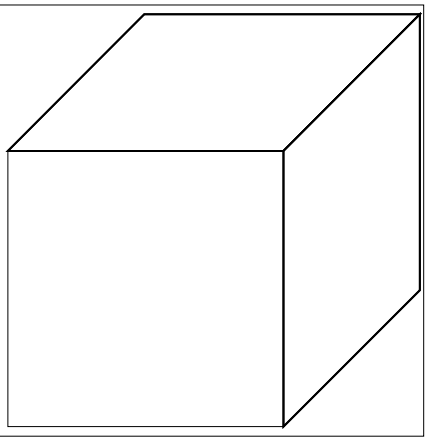
Name	Orientation	Area [ft²]	Short wave radiation absorption	Assembly
EW-1 (Typical)	S (31 %), E (26 %), W (19 %), N (24 %)	19,625	0.4	BASELINE: EXPOSED WALL
Roof (main)	Horizontal (100 %)	12,005.3	0.4	BASELINE: ROOF
Bulkhead roof 2	Horizontal (100 %)	112.4	0.4	BASELINE: ROOF
Overhang	Horizontal (100 %)	296.3	0.4	BASELINE: EXPOSED FLOOR
Bulkhead roof 3	Horizontal (100 %)	482.8	0.4	BASELINE: ROOF
Bulkhead roof 1	Horizontal (100 %)	399.8	0.4	BASELINE: ROOF
EW-2 (Short walls)	S (25 %), E (21 %), W (24 %), N (31 %)	1,435.4	0.4	BASELINE: EXPOSED WALL
Door_005b	N (100 %)	42	0.4	BASELINE: EXPOSED WALL
EW-5	N (100 %)	438.7	0.4	BASELINE: EXPOSED WALL
Door 429	W (100 %)	23.3	0.4	BASELINE: EXPOSED WALL
Door_ST-BT	S (100 %)	23.9	0.4	BASELINE: EXPOSED WALL
Door_ST-AR	E (100 %)	23.3	0.4	BASELINE: EXPOSED WALL
Door_ST-A0b	W (100 %)	23.3	0.4	BASELINE: EXPOSED WALL
EW-5	S (26 %), W (74 %)	99.2	0.4	BASELINE: EXPOSED WALL
Custom avg assembly 1	W (51 %), N (49 %)	2,804.5	0.4	BASELINE: EXPOSED WALL
Custom avg assembly 2	S (50 %), E (50 %)	91.4	0.4	BASELINE: EXPOSED WALL
	Total	**37,926.7**		

Assembly (Id.77): BASELINE: EXPOSED WALL

Homogenous layers

Thermal resistance: 15.625 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



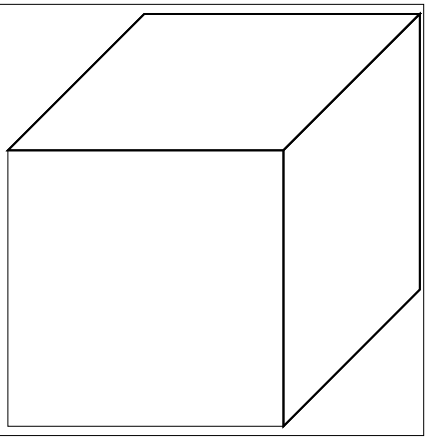
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.21	39.37	

Assembly (Id.76): BASELINE: ROOF

Homogenous layers

Thermal resistance: 31.25 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



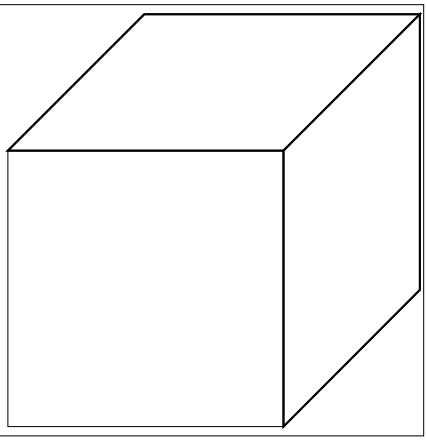
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.105	39.37	

Assembly (Id.79): BASELINE: EXPOSED FLOOR

Homogenous layers

Thermal resistance: 13.514 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.2428	39.37	

Adiabatic walls

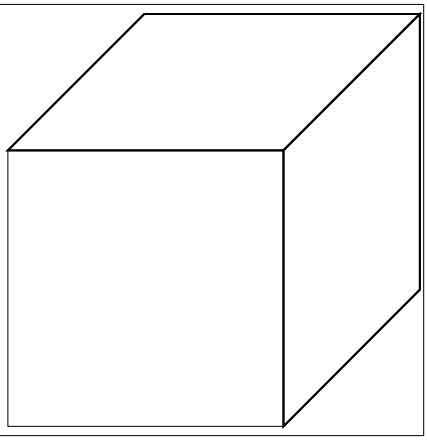
Name	Area [ft²]	Assembly
Foundation wall (to crawl)	498.4	BASELINE: EXPOSED WALL
Foundation wall (to MEP)	740.6	BASELINE: EXPOSED WALL
Insulated floor (over MEP)	2,414.3	BASELINE: EXPOSED FLOOR
Insulated floor (over crawl)	4,069.5	BASELINE: EXPOSED FLOOR
Total	**7,722.7**	

Assembly (Id.77): BASELINE: EXPOSED WALL

Homogenous layers

Thermal resistance: 15.625 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



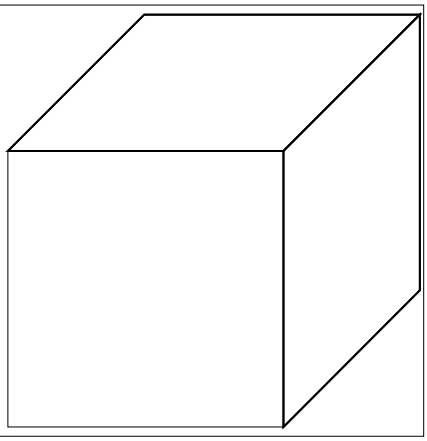
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.21	39.37	

Assembly (Id.79): BASELINE: EXPOSED FLOOR

Homogenous layers

Thermal resistance: 13.514 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.2428	39.37	

Windows and Glass Doors

Name	Orientation	Area [ft²]	Window type
A_top	S (14 %), E (21 %), W (26 %), N (39 %)	1,890.1	BASELINE: WINDOW 002
A_bottom (operable)	S (14 %), E (22 %), W (26 %), N (38 %)	625.3	BASELINE: WINDOW 001
B_large	S (32 %), E (24 %), W (26 %), N (18 %)	1,339.7	BASELINE: WINDOW 002
B_Side_top (top floor shading)	S (33 %), E (25 %), W (25 %), N (17 %)	160.9	BASELINE: WINDOW 002
B_Side_top	S (32 %), E (24 %), W (26 %), N (18 %)	509.4	BASELINE: WINDOW 002
B_Side_bottom (operable)	S (32 %), E (24 %), W (26 %), N (18 %)	226.6	BASELINE: WINDOW 001
C_Side_top	S (16 %), E (19 %), W (22 %), N (43 %)	992	BASELINE: WINDOW 002
C_Side_bottom (operable)	S (16 %), E (19 %), W (22 %), N (43 %)	335.3	BASELINE: WINDOW 001
D	S (33 %), E (33 %), W (33 %)	162	BASELINE: WINDOW 002
E	S (50 %), W (50 %)	107.2	BASELINE: WINDOW 002
F	S (100 %)	66	BASELINE: WINDOW 002
Storefront_Side_top	S (43 %), E (41 %), W (16 %)	54.7	BASELINE: WINDOW 004
Storefront_Side_bottom	S (48 %), E (34 %), W (18 %)	171.1	BASELINE: WINDOW 004
Storefront_Center_top	S (72 %), E (14 %), W (15 %)	40	BASELINE: WINDOW 004
Storefront_Center_bottom	E (100 %)	19.3	BASELINE: WINDOW 004
Door S-01	E (100 %)	22.7	BASELINE: WINDOW 003
Door_S-02	S (100 %)	22.7	BASELINE: WINDOW 003
Door_S-03	S (100 %)	44.8	BASELINE: WINDOW 003
Door_S-04	S (100 %)	44.8	BASELINE: WINDOW 003
B_large (top floor shading)	S (33 %), E (25 %), W (25 %), N (17 %)	423	BASELINE: WINDOW 002
	Total	**7,257.5**	

Window type (Id 49): BASELINE: WINDOW 002

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

Window type (Id 48): BASELINE: WINDOW 001

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

Window type (Id 51): BASELINE: WINDOW 004

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

Window type (Id 50): BASELINE: WINDOW 003

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

Ceilings

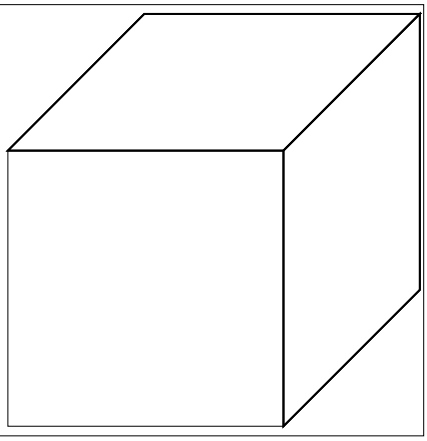
Name	Area [ft²]	Short wave radiation absorption	Assembly
Roof (main)	12,005.3	0.4	BASELINE: ROOF
Bulkhead roof 2	112.4	0.4	BASELINE: ROOF
Overhang	296.3	0.4	BASELINE: EXPOSED FLOOR
Bulkhead roof 3	482.8	0.4	BASELINE: ROOF
Bulkhead roof 1	399.8	0.4	BASELINE: ROOF
Total	**13,296.7**		

Assembly (Id.76): BASELINE: ROOF

Homogenous layers

Thermal resistance: 31.25 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



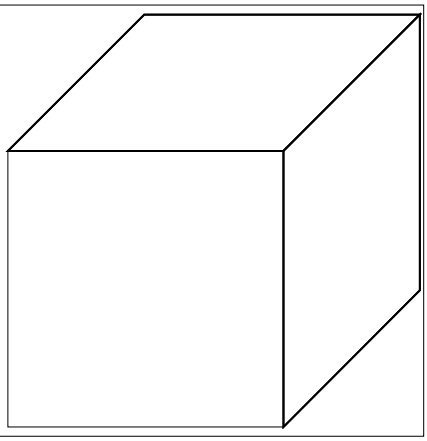
Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.105	39.37	

Assembly (Id.79): BASELINE: EXPOSED FLOOR

Homogenous layers

Thermal resistance: 13.514 hr ft² °F/Btu (without Rsi, Rse)

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.2428	39.37	

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	460.76	4.542
Heat pump	| Recirculation air	447.21	4.542
Heat pump	| Recirculation air	447.21	4.542
Total		**1,355.18**	

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]
1	300
2	80
Total	**380**

Infiltration/Ventilation

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

CFM @ 50 Pascal **3,161.5** cfm

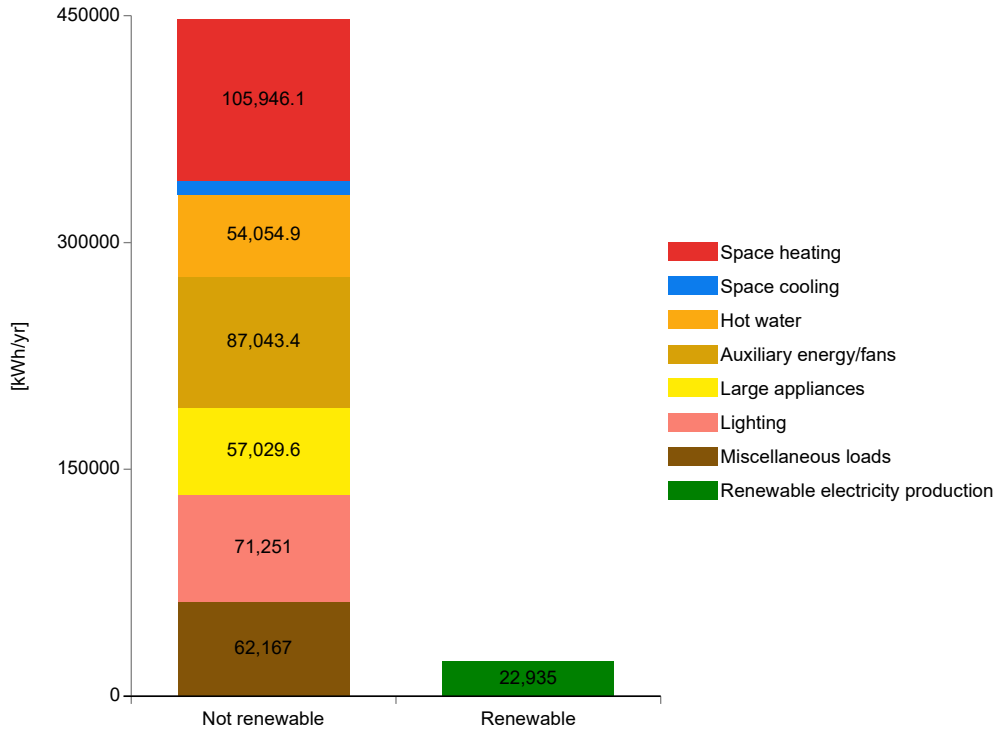
Nr	Sensible recovery efficiency [-]	Rate [cfm]	Electric efficiency [W/cfm]	Fan [W]	Defrost	Temperature below which defrost must be used [°F]	Subsoil heat exchanger efficiency [-]
1	0.42	1,703.93	0.05	2,385.51	yes	13.54	0
5	0.42	1,677.45	0.05	2,314.88	yes	13.54	0
Total	**0.41**	**3,381.38**		**4,700.38**			

Lights and appliances

Type	Energy use [kWh/yr]	In conditioned space
Kitchen dishwasher	5,095.48	yes
Kitchen cooking	12,300	yes
Kitchen fridge/freeze combo	21,900	yes
Laundry - dryer	16,051.68	yes
Energy consumed by evaporation	0 (3,018.6)	yes
Laundry - washer	1,682.47	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	2,139.98	yes
Other	7,601	no
Other	0	no
Other	0	no
Ventilation winter	35,403.71	no
Ventilation Defrost	4,869.17	no
Ventilation summer	34,553.67	no
Total	**277,491.03**	

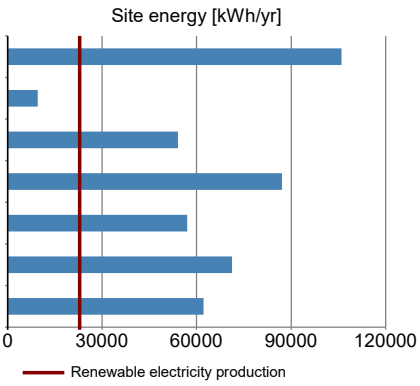
Project name:	**Phius R5 (Phius 2021 CORE) (Phius to review)**
Climate:	**User defined**
Type:	**Residential**
Interior conditioned floor area:	**55,289** ft²
Number of units:	**60**
Occupants:	**123**
Site energy use:	**1,447,137.6** kBtu/yr
Specific site energy use:	**26.2** kBtu/ft²yr
Site energy use:	**424,156** kWh/yr
Specific site energy use:	**7.7** kWh/ft²yr
Site energy use per person:	**3,448.4** kWh/Person yr
Net site energy use (with 100% renewables):	**1,447,137.6** kBtu/yr
Specific net site energy use (with 100% renewables):	**26.2** kBtu/ft²yr
Net site energy use (with 100% renewables):	**424,156** kWh/yr
Specific net site energy use (with 100% renewables):	**7.7** kWh/ft²yr
Net site energy use per person (with 100% renewables):	**3,448.4** kWh/Person yr

OVERVIEW



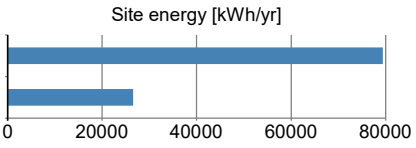
TOTAL USE BY TYPE

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Space heating	105,946.1	1.9	361,467.5	6.5
Space cooling	9,599	0.2	32,749.8	0.6
Hot water	54,054.9	1	184,424.8	3.3
Auxiliary energy/fans	87,043.4	1.6	296,975.1	5.4
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	**424,156**	**7.7**	**1,447,137.6**	**26.2**



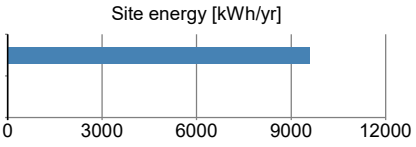
SPACE HEATING

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Heat pump	79,377.5	1.4	270,820.5	4.9
Electric resistance heating	26,568.6	0.5	90,647	1.6
Total	**105,946.1**	**1.9**	**361,467.5**	**6.5**



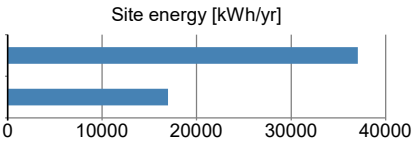
SPACE COOLING

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Recirculation Cooling	9,599	0.2	32,749.8	0.6
Dehumidification	0	0	0	0
Total	**9,599**	**0.2**	**32,749.8**	**0.6**



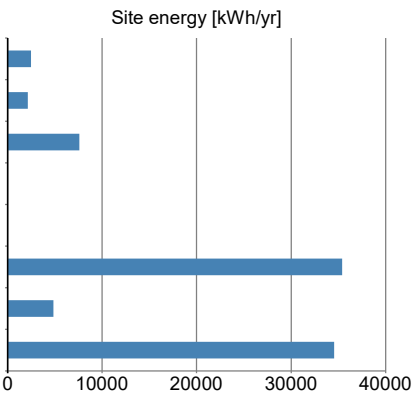
DHW

Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
Heat pump	37,066.7	0.7	126,464.3	2.3
DHW Electric heating	16,988.2	0.3	57,960.5	1
Total	**54,054.9**	**1**	**184,424.8**	**3.3**



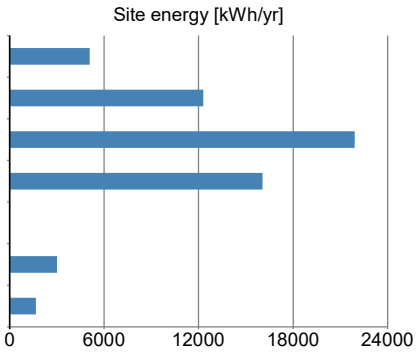
AUXILIARY ENERGY/FANS

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	2,140	0	7,301.2	0.1
Other	7,601	0.1	25,933.1	0.5
Other	0	0	0	0
Other	0	0	0	0
Ventilation winter	35,403.7	0.6	120,790.6	2.2
Ventilation Defrost	4,869.2	0.1	16,612.6	0.3
Ventilation summer	34,553.7	0.6	117,890.4	2.1
Total	**87,043.4**	**1.6**	**296,975.1**	**5.4**



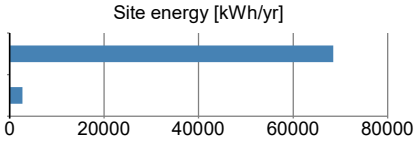
LARGE APPLIANCES

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 cooking	12,300	0.2	41,965.2	0.8
Kitchen fridge/freeze combo	21,900	0.4	74,718.5	1.4
Laundry - dryer	16,051.7	0.3	54,765.2	1
Energy consumed by evaporation	0	0	0	0
	(3,018.6)	(0.1)	(10,298.9)	(0.2)
Laundry - washer	1,682.5	0	5,740.3	0.1
Total	**57,029.6**	**1**	**194,574**	**3.5**



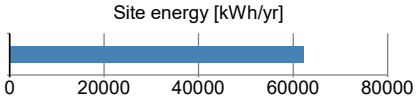
LIGHTING

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

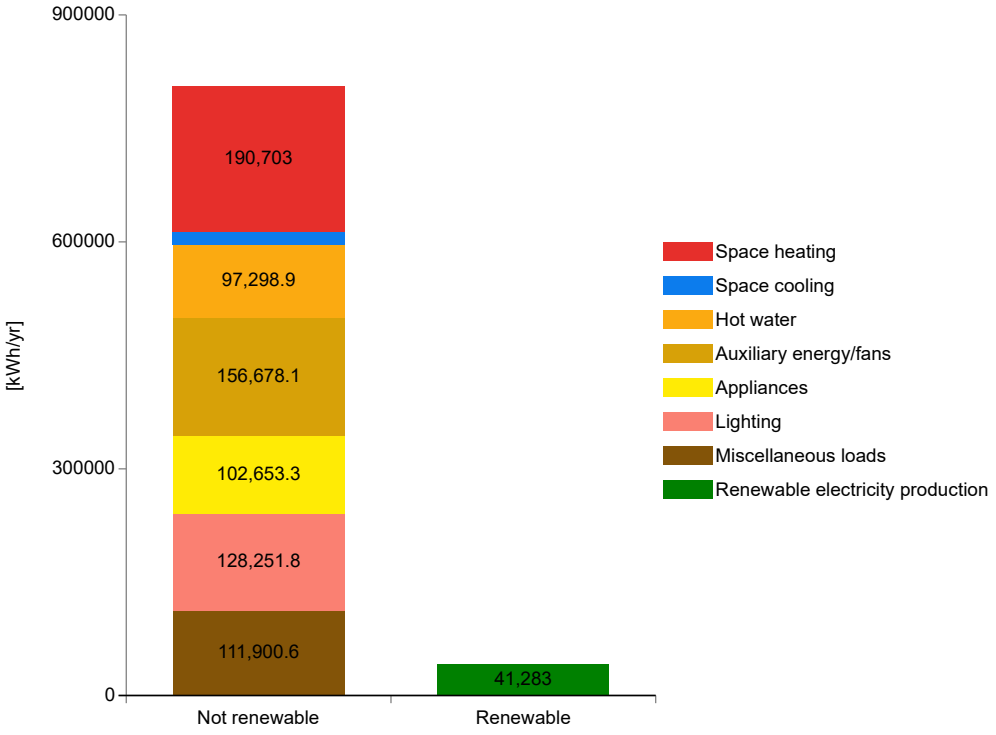
Type	Site Energy [kWh/yr]	Specific site energy [kWh/ft² yr]	Site Energy [kBtu/yr]	Specific Site Energy [kBtu/ft² yr]
User defined MELs	62,167	1.1	212,101.7	3.8
Total	**62,167**	**1.1**	**212,101.7**	**3.8**



Project name:	**Phius R5 (Phius 2021 CORE) (Phius to review)**	
Climate:	**User defined**	
Type:	**Residential**	
Interior conditioned floor area:	**55,289**	ft²
Number of units:	**60**	
Occupants:	**123**	
Source energy use:	**2,604,847.7**	kBtu/yr
Specific source energy use:	**47.1**	kBtu/ft²yr
Source energy use:	**763,480.9**	kWh/yr
Source energy use per person:	**6,207**	kWh/Person yr
Net source energy use (with 100% renewables):	**2,604,847.7**	kBtu/yr
Specific net source energy use (with 100% renewables):	**47.1**	kBtu/ft²yr
Net source energy use (with 100% renewables):	**763,480.9**	kWh/yr
Specific source energy use per person (with 100% renewables):	**6,207.2**	kWh/Person yr

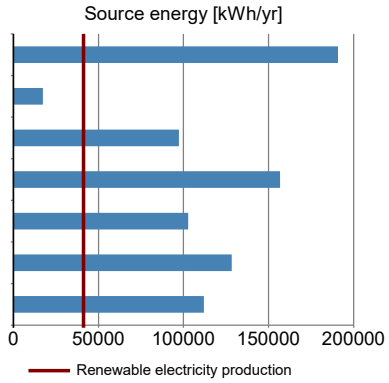
PHIUS+ Source Zero: **NO**

OVERVIEW



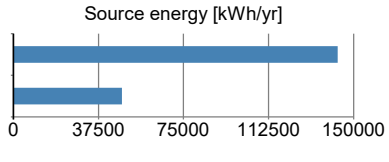
TOTAL USE BY TYPE

Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]
Space heating	190,703	3.4	650,641.5	11.8
Space cooling	17,278.1	0.3	58,949.6	1.1
Hot water	97,298.9	1.8	331,964.7	6
Auxiliary energy/fans	156,678.1	2.8	534,555.1	9.7
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	**763,480.9**	**13.8**	**2,604,847.7**	**47.1**



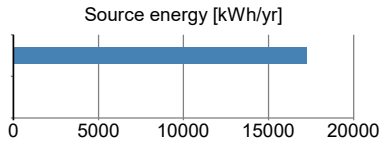
SPACE HEATING

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	142,879.5	2.6	487,476.9	8.8	1.8	Electricity
Electric resistance heating	47,823.6	0.9	163,164.6	3	1.8	Electricity
Total	**190,703**	**3.4**	**650,641.5**	**11.8**		



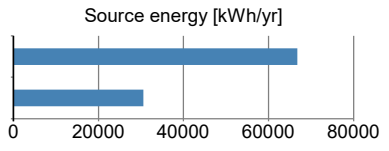
SPACE COOLING

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	17,278.1	0.3	58,949.6	1.1	1.8	Electricity
Dehumidification	0	0	0	0	1.8	Electricity
Total	**17,278.1**	**0.3**	**58,949.6**	**1.1**		



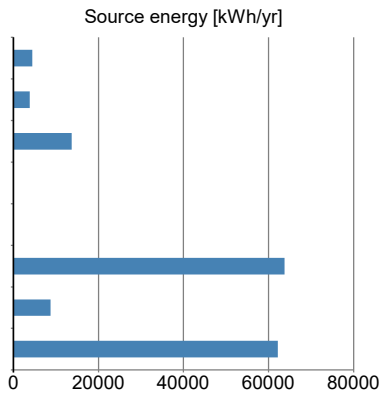
DHW

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	66,720	1.2	227,635.8	4.1	1.8	Electricity
DHW Electric heating	30,578.8	0.6	104,328.9	1.9	1.8	Electricity
Total	**97,298.9**	**1.8**	**331,964.7**	**6**		



AUXILIARY ENERGY/FANS

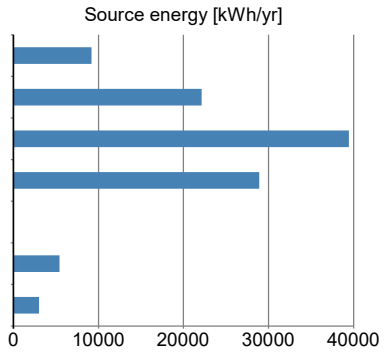
Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
DHW circulating pump	4,456.6	0.1	15,204.9	0.3	1.8	Electricity
DHW storage load pump	3,852	0.1	13,142.1	0.2	1.8	Electricity
Other	13,681.8	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	63,726.7	1.2	217,423	3.9	1.8	Electricity
Ventilation Defrost	8,764.5	0.2	29,902.8	0.5	1.8	Electricity
Ventilation summer	62,196.6	1.1	212,202.7	3.8	1.8	Electricity
Total	**156,678.1**	**2.8**	**534,555.1**	**9.7**		



LARGE APPLIANCES

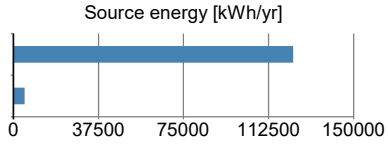
Type	Source energy [kWh/yr]	Specific source energy [kWh/ft² yr]	Source energy [kBtu/yr]	Specific source energy [kBtu/ft² yr]	Source energy factor [kWh/kWh]	Source
Kitchen dishwasher	9,171.9	0.2	31,292.6	0.6	1.8	Electricity
Kitchen cooking	22,140	0.4	75,537.4	1.4	1.8	Electricity
Kitchen fridge/freeze combo	39,420	0.7	134,493.3	2.4	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
	(5,433.51)	(0.1)	(18,538.09)	(0.34)	1.8	HVAC System *)
Laundry - washer	3,028.5	0.1	10,332.5	0.2	1.8	Electricity
Total	**102,653.3**	**1.9**	**350,233.2**	**6.3**		

*) Energy demand covered with HVAC System



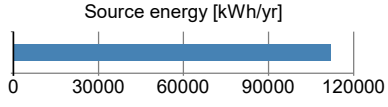
LIGHTING

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**		



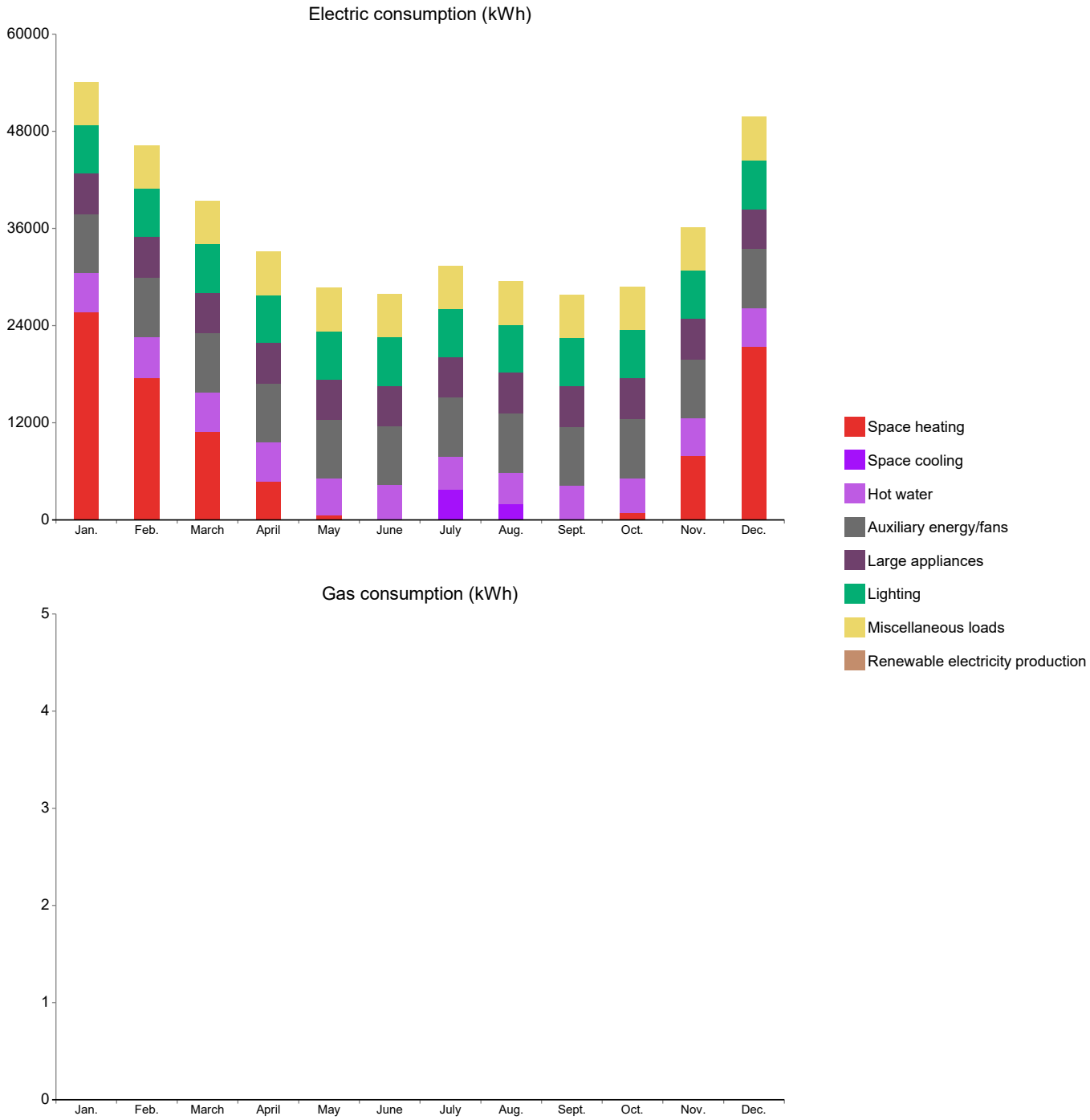
SITE ENERGY MONTHLY REPORT

ELECTRICITY USE [kWh]

Type	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Space heating	25,806.77	17,875.07	11,066.05	4,975.96	711.93	0.03	0	0	0	1,066.71	8,162.93	21,573.02
Space cooling	0.03	0.2	0.89	2.75	18.41	222.32	3,933.17	2,086.33	282.84	8.39	0.63	0.05
Hot water	4,914.7	4,954.2	4,900.84	4,748.13	4,524.98	4,263.1	4,056.46	3,979.93	4,079.66	4,298.39	4,559.98	4,774.53
Auxiliary energy/fans	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62	7,253.62
Large appliances	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02	5,004.02
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)
60000
48000
36000
24000
12000
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	
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.	John@ne-projects.com
e-mail	2093
Date	1.1.0001

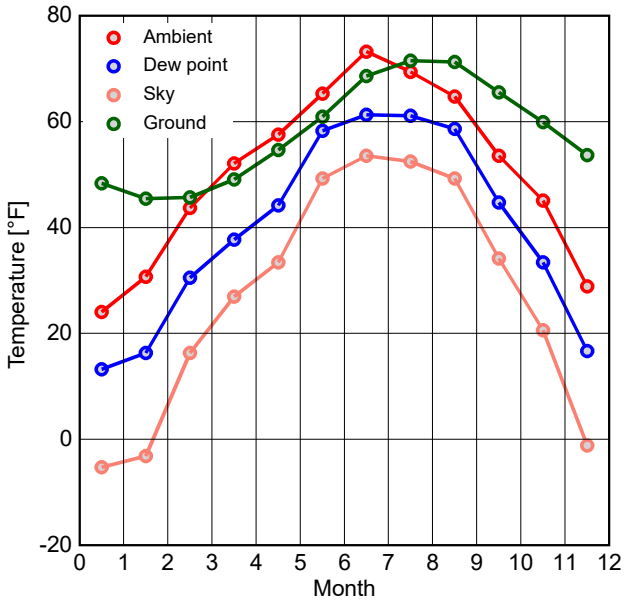
Climate

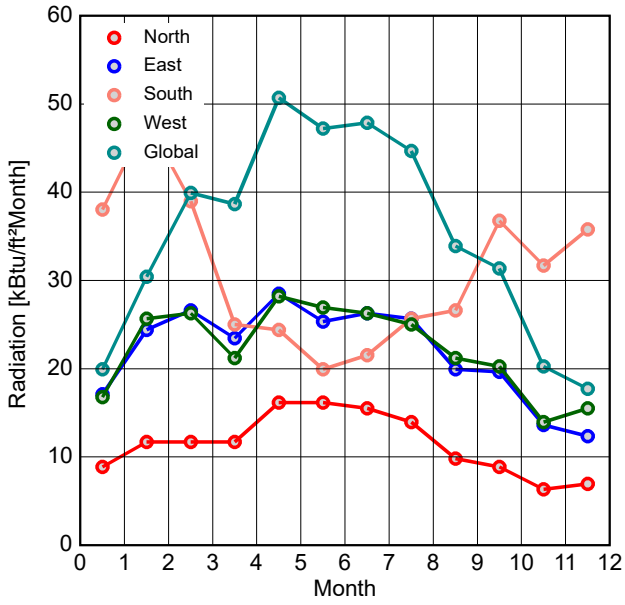
Case 1: Climate

Location: User defined		
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	48.4	45.5	45.7	49.1	54.7	60.9	68.6	71.5	71.3	65.5	60	53.7				
Solar radiation [kBtu/ft²Month]													Solar radiation [Btu/hr ft²]			
North	8.9	11.7	11.7	11.7	16.2	16.2	15.5	14	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	14	15.5	30.8	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	17.7	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]	1.219
Occupancy setting method		Design
Number of occupants		123
Number of units		60
Number of floors		5
Visualized volume	[ft³]	659960.3
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]	0.06
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]	
Average cold water temperature of the supply	[°F]	
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]	0.0238
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		
Geometry		
Gross volume	[ft³]	660421.3293
Net volume	[ft³]	443142.0063
Floor area	[ft²]	55289
Clearance height	[ft]	8.2
Other data		
Specific heat capacity	[Btu/ft²F]	23.2442
Humidity capacity	[lb/(lbw/lbda) ft²]	143.3713

Inner load / occupancy

Occupant quantity		123
Humidity sources	[lb/(ft²hr)]	4.096E-4

Device	Quantity	In conditioned space	Norm demand	Additional info
Kitchen dishwasher		Yes	269 kWh/Year	
Kitchen cooking		Yes	0.2 kWh/Use	
Kitchen fridge/freeze combo	60	Yes	1 kWh/Day	
Laundry - dryer		Yes	0 kWh/CEF - Combined Ener	
Laundry - washer		Yes	120 kWh/Year	
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	2895.0022	2809.9998	0	0	
ERU2 (M701 schedule)	User defined	1	Pattern 1: Residential	2849.9995	2634.998	0	0	
			Total	5745	5445	0	0	

ACH via natural ventilation (day)	[1/hr]	0
Average mechanical ventilation air change rate	[1/hr]	
ACH via natural ventilation (night)	[1/hr]	0

Case 1/Zone 1: Visualized components

Zone 1/Component 1: General data

Name		Foundation wall
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Ground
Assembly		Assembly (Id.78): BASELINE: GROUND WALL
U	[Btu/hr ft² °F]	0.1094
Geometry		
Area	[ft²]	1328.2
Inclination	[°]	90
Orientation		South (36 %), East (22 %), West (13 %), North (29 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0 / 0.7382

Zone 1/Component 2: General data

Name		A_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	1890.1
Inclination	[°]	90
Orientation		South (14 %), East (21 %), West (26 %), North (39 %)

Zone 1/Component 3: General data

Name		Slab on grade
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Ground
Assembly		Assembly (Id.80): BASELINE: GROUND FLOOR
U	[Btu/hr ft² °F]	0.355
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 4: General data

Name		EW-1 (Typical)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	19625
Inclination	[°]	90
Orientation		South (31 %), East (26 %), West (19 %), North (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 5: General data

Name		Roof (main)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.76): BASELINE: ROOF
U	[Btu/hr ft² °F]	0.0312
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 6: General data

Name		Bulkhead roof 2
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.76): BASELINE: ROOF
U	[Btu/hr ft² °F]	0.0312
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 7: General data

Name		Overhang
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.79): BASELINE: EXPOSED FLOOR
U	[Btu/hr ft² °F]	0.068
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 8: 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.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	498.4
Inclination	[°]	90
Orientation		South (14 %), East (60 %), North (26 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382

Zone 1/Component 9: General data

Name		Bulkhead roof 3
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.76): BASELINE: ROOF
U	[Btu/hr ft² °F]	0.0312
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 10: 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.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	740.6
Inclination	[°]	90
Orientation		South (69 %), East (17 %), West (14 %)
Surface		
Rse / Rsi (According to component type)	[hr ft² °F/Btu]	0.2271 / 0.7382

Zone 1/Component 11: 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.79): BASELINE: EXPOSED FLOOR
U	[Btu/hr ft² °F]	0.068
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 12: 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.79): BASELINE: EXPOSED FLOOR
U	[Btu/hr ft² °F]	0.068
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 13: 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 14: General data

Name		Bulkhead roof 1
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.76): BASELINE: ROOF
U	[Btu/hr ft² °F]	0.0312
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 15: General data

Name		EW-2 (Short walls)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	1435.4
Inclination	[°]	90
Orientation		South (25 %), East (21 %), West (24 %), North (31 %)
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		Door_005b
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	42
Inclination	[°]	90
Orientation		North (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 17: General data

Name		EW-5
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	438.7
Inclination	[°]	90
Orientation		North (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 18: General data

Name		Door 429
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	23.3
Inclination	[°]	90
Orientation		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 19: General data

Name		Door_ST-BT
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	23.9
Inclination	[°]	90
Orientation		South (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 20: General data

Name		Door_ST-AR
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	23.3
Inclination	[°]	90
Orientation		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 21: General data

Name		Door_ST-A0b
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	23.3
Inclination	[°]	90
Orientation		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 22: General data

Name		Slab on grade_Elevator (uninsulated)
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Ground
Assembly		Assembly (Id.80): BASELINE: GROUND FLOOR
U	[Btu/hr ft² °F]	0.355
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 23: General data

Name		EW-5
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	99.2
Inclination	[°]	90
Orientation		South (26 %), 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 24: General data

Name		Custom avg assembly 1
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	2804.5
Inclination	[°]	90
Orientation		West (51 %), North (49 %)
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 25: General data

Name		Custom avg assembly 2
Type		Opaque
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Assembly		Assembly (Id.77): BASELINE: EXPOSED WALL
U	[Btu/hr ft² °F]	0.0603
Geometry		
Area	[ft²]	91.4
Inclination	[°]	90
Orientation		South (50 %), East (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 26: General data

Name		A_bottom (operable)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 48): BASELINE: WINDOW 001
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	625.3
Inclination	[°]	90
Orientation		South (14 %), East (22 %), West (26 %), North (38 %)

Zone 1/Component 27: General data

Name		B_large
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	1339.7
Inclination	[°]	90
Orientation		South (32 %), East (24 %), West (26 %), North (18 %)

Zone 1/Component 28: 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 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	160.9
Inclination	[°]	90
Orientation		South (33 %), East (25 %), West (25 %), North (17 %)

Zone 1/Component 29: General data

Name		B_Side_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	509.4
Inclination	[°]	90
Orientation		South (32 %), East (24 %), West (26 %), North (18 %)

Zone 1/Component 30: General data

Name		B_Side_bottom (operable)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 48): BASELINE: WINDOW 001
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	226.6
Inclination	[°]	90
Orientation		South (32 %), East (24 %), West (26 %), North (18 %)

Zone 1/Component 31: General data

Name		C_Side_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	992
Inclination	[°]	90
Orientation		South (16 %), East (19 %), West (22 %), North (43 %)

Zone 1/Component 32: General data

Name		C_Side_bottom (operable)
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 48): BASELINE: WINDOW 001
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	335.3
Inclination	[°]	90
Orientation		South (16 %), East (19 %), West (22 %), North (43 %)

Zone 1/Component 33: General data

Name		D
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	162
Inclination	[°]	90
Orientation		South (33 %), East (33 %), West (33 %)

Zone 1/Component 34: General data

Name		E
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	107.2
Inclination	[°]	90
Orientation		South (50 %), West (50 %)

Zone 1/Component 35: General data

Name		F
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	66
Inclination	[°]	90
Orientation		South (100 %)

Zone 1/Component 36: General data

Name		Storefront_Side_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 51): BASELINE: WINDOW 004
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	54.7
Inclination	[°]	90
Orientation		South (43 %), East (41 %), West (16 %)

Zone 1/Component 37: General data

Name		Storefront_Side_bottom
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 51): BASELINE: WINDOW 004
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	171.1
Inclination	[°]	90
Orientation		South (48 %), East (34 %), West (18 %)

Zone 1/Component 38: General data

Name		Storefront_Center_top
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 51): BASELINE: WINDOW 004
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	40
Inclination	[°]	90
Orientation		South (72 %), East (14 %), West (15 %)

Zone 1/Component 39: General data

Name		Storefront_Center_bottom
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 51): BASELINE: WINDOW 004
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	19.3
Inclination	[°]	90
Orientation		East (100 %)

Zone 1/Component 40: General data

Name		Door S-01
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 50): BASELINE: WINDOW 003
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	22.7
Inclination	[°]	90
Orientation		East (100 %)

Zone 1/Component 41: General data

Name		Door_S-02
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 50): BASELINE: WINDOW 003
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	22.7
Inclination	[°]	90
Orientation		South (100 %)

Zone 1/Component 42: General data

Name		Door_S-03
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 50): BASELINE: WINDOW 003
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	44.8
Inclination	[°]	90
Orientation		South (100 %)

Zone 1/Component 43: General data

Name		Door_S-04
Type		Transparent
Inner side		Zone 1: Simulated Zone
Outer side		Outer air
Window type		Window type (Id 50): BASELINE: WINDOW 003
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	44.8
Inclination	[°]	90
Orientation		South (100 %)

Zone 1/Component 44: 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 49): BASELINE: WINDOW 002
Uw -mounted	[Btu/hr ft² °F]	0.45
Geometry		
Area	[ft²]	423
Inclination	[°]	90
Orientation		South (33 %), East (25 %), West (25 %), North (17 %)

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	0.129	89	
2	3/A312 - Perimeter detail at courtyard	0.106	77	
3	10/A511 - typical	0.006	47.5	
4	10/A511 - fastener	0.037	1	
5	7/A511 - upper sun shade	0.009	16	
6	6/A511 - Top of foundation wall	0.063	100	

Assemblies/window types

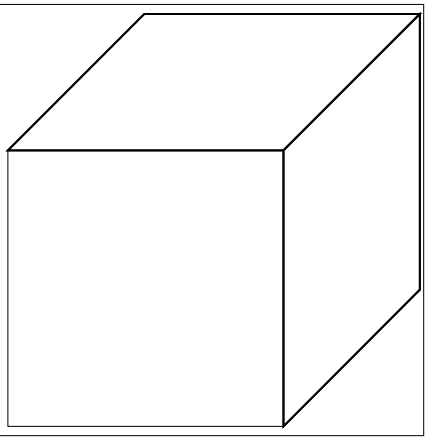
Assembly (Id.78): BASELINE: GROUND WALL

Homogenous layers

Thermal resistance: 8.403 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.109 Btu/hr ft² °F

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.3904	39.37	

Window type (Id 49): BASELINE: WINDOW 002

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

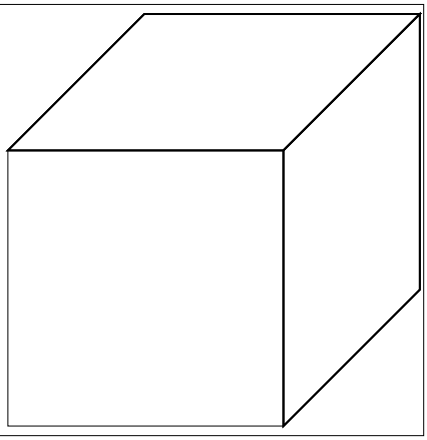
Assembly (Id.80): BASELINE: GROUND FLOOR

Homogenous layers

Thermal resistance: 1.852 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.355 Btu/hr ft² °F

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			1.7717	39.37	

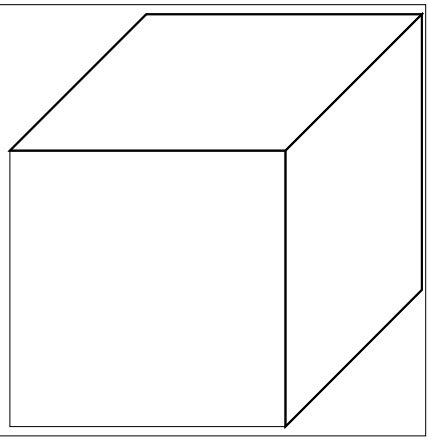
Assembly (Id.77): BASELINE: EXPOSED WALL

Homogenous layers

Thermal resistance: 15.625 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.06 Btu/hr ft² °F

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.21	39.37	

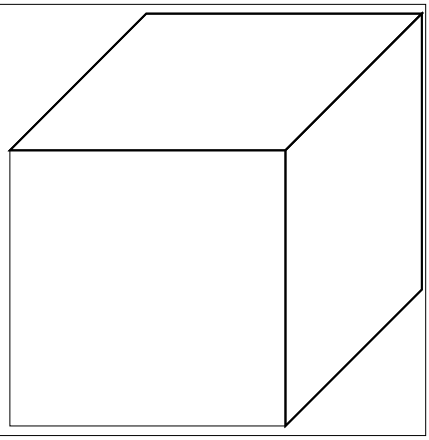
Assembly (Id.76): BASELINE: ROOF

Homogenous layers

Thermal resistance: 31.25 hr ft² °F/Btu (without Rsi, Rse)

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

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.105	39.37	

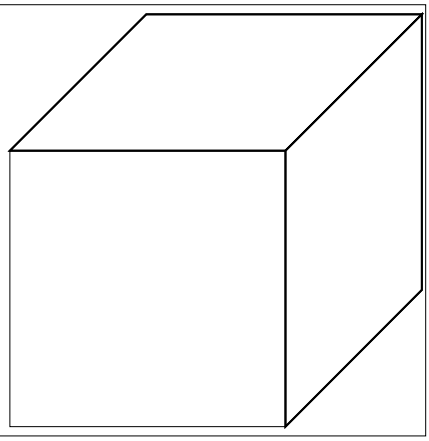
Assembly (Id.79): BASELINE: EXPOSED FLOOR

Homogenous layers

Thermal resistance: 13.514 hr ft² °F/Btu (without Rsi, Rse)

Heat transfer coefficient (U-value): 0.068 Btu/hr ft² °F

Thickness: 39.37 in



Nr.	Material/Layer (from outside to inside)	ρ [lb/ft³]	c [Btu/lb°F]	λ [Btu/hr ft °F]	Thickness [in]	Color
1	Material			0.2428	39.37	

Window type (Id 48): BASELINE: WINDOW 001

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

Window type (Id 51): BASELINE: WINDOW 004

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

Window type (Id 50): BASELINE: WINDOW 003

Basic data

Uw -mounted	[Btu/hr ft² °F]	0.45
Frame factor		0.75
Glass U-value	[Btu/hr ft² °F]	0.45
SHGC/Solar energy transmittance (perpendicular)		0.38

Frame data

Setting		Left	Right	Top	Bottom
Frame width	[in]	3.937	3.937	3.937	3.937
Frame U-value	[Btu/hr ft² °F]	0.45	0.45	0.45	0.45
Glazing-to-frame psi-value	[Btu/hr ft °F]	0	0	0	0
Frame-to-Wall psi-value	[Btu/hr ft °F]	0	0	0	0

Solar radiation angle dependent data

Angle [°]	Total solar trans.
0	

HVAC

System 1 (User defined): System, Device

Mechanical ventilation: ERU-1

Sensible recovery efficiency	[-]	0.717
Humidity recovery efficiency	[-]	0
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)		No
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	[-]	0.718
Humidity recovery efficiency	[-]	0
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)		No
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)

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

Coverage	Heating 0.13

Heat pump, Heat pump: HPWH-1

Annual heating coefficient of performance (COP)	[-]	1.7
Total system performance ratio of heat generator	[-]	0.58
Coverage		DHW 0.79

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 0.87, Cooling 0.34

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

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

Storage capacity	[gal]	300.0009
Specific total thermal storage losses	[Btu/hr F]	7.5818
Specific storage losses standby part only	[Btu/hr F]	7.5818
Typical storage water temperature	[°F]	140
Within thermal envelope		Yes
Quantity		3
Coverage		DHW

Water storage: WH-2_AO Smith

Storage capacity	[gal]	80.0002
Specific total thermal storage losses	[Btu/hr F]	7.5818
Specific storage losses standby part only	[Btu/hr F]	7.5818
Typical storage water temperature	[°F]	140
Within thermal envelope		Yes
Quantity		1

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

Coverage	DHW 0.21

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]	0		
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]	24		
Individual pipes				
Length of individual pipes	[ft]	1238.6575		
Exterior pipe diameter	[in]	0.7061		
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]	49.3
Recirculation air flow rate	[cfm]	6721.0789

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]	0.0238
Is reflective		No
Assigned ventilation units		WH-1_Bradford White Electric Brute VR-300-15_300 gal

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]	0.0238
Is reflective		No
Assigned ventilation units		WH-1_Bradford White Electric Brute VR-300-15_300 gal

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]	0.0238
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]	0.0238
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: unnamed_annual_heat_pump

Coverage	Cooling 0.33

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

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

Heat pump, Heat pump: unnamed_annual_heat_pump

Coverage	Cooling 0.33

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

Results

Main results

Specific space heating demand	[kBtu/ft²yr]	12.6
Specific sensible cooling energy demand	[kBtu/ft²yr]	1.5
Specific dehumidification energy demand	[kBtu/ft²yr]	0
Specific heating load	[Btu/hr ft²]	7.2
Specific cooling load	[Btu/hr ft²]	2.9
Specific source energy demand	[kBtu/ft²yr]	47.1
Pressurization test result	[ACH50]	0.491
Average U-value exterior wall ambient	[Btu/hr ft² °F]	0.06
Average U-value exterior wall ground	[Btu/hr ft² °F]	0.109
Average U-value roof ceiling ambient	[Btu/hr ft² °F]	0.031
Average U-value floor slab basement ceiling	[Btu/hr ft² °F]	0.355
Average ΔU thermal bridges	[Btu/hr ft² °F]	0
Average U-value window total	[Btu/hr ft² °F]	0.45
Effective heat recovery efficiency	[%]	68.5