Program Version:**EnergyPlus, Version 9.5.0-Unknown, YMD=2021.05.12 11:09**

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Tabular Output Report in Format: **HTML**

Building: **US+SF+CZ5A+gasfurnace+slab+IECC_2006**

Environment: **ANNUAL ** Buffalo Niagara Intl AP NY USA TMY3 WMO#=725280**

Simulation Timestamp: **2021-05-12 11:10:00**

Report: **Annual Building Utility Performance Summary**

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For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Values gathered over 8760.00 hours

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	214684.80	60.21	90.31
Net Site Energy	214684.80	60.21	90.31
Total Source Energy	319343.12	89.56	134.34
Net Source Energy	319343.12	89.56	134.34

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	1.200
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil No 1	1.050
Fuel Oil No 2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	3565.64
Net Conditioned Building Area	2377.10
Unconditioned Building Area	1188.55

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Gasoline [kBtu]	Diesel [kBtu]	Coal [kBtu]	Fuel Oil No 1 [kBtu]	Fuel Oil No 2 [kBtu]	Propane [kBtu]	Other Fuel 1 [kBtu]	Other Fuel 2 [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	0.00	141512.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling	4618.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	5537.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	1312.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	24063.37	11013.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans	6054.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	20572.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26211.97
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	41586.55	173098.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26211.97

Note: Natural gas appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Gasoline [kBtu]	Diesel [kBtu]	Coal [kBtu]	Fuel Oil No 1 [kBtu]	Fuel Oil No 2 [kBtu]	Propane [kBtu]	Other Fuel 1 [kBtu]	Other Fuel 2 [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	0.00	141512.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling	General	4618.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	5537.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	Exterior-Lights	1176.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Garage-Lights	136.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	dishwasher	703.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	refrigerator	2283.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	clotheswasher	359.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	gas_dryer	259.30	5282.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	gas_range	0.00	4496.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	television	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	gas_mels	10247.12	1235.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	IECC_adj	10211.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	General	4772.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ventilation	1281.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Domestic Hot Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26211.97
	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Water Heater	0.00	20572.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Gasoline Intensity [kBtu/ft2]	Diesel Intensity [kBtu/ft2]	Coal Intensity [kBtu/ft2]	Fuel Oil No 1 Intensity [kBtu/ft2]	Fuel Oil No 2 Intensity [kBtu/ft2]	Propane Intensity [kBtu/ft2]	Other Fuel 1 Intensity [kBtu/ft2]	Other Fuel 2 Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	2.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	4.49	68.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.03
Other	10.12	4.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	17.49	72.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.03

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Gasoline Intensity [kBtu/ft2]	Diesel Intensity [kBtu/ft2]	Coal Intensity [kBtu/ft2]	Fuel Oil No 1 Intensity [kBtu/ft2]	Fuel Oil No 2 Intensity [kBtu/ft2]	Propane Intensity [kBtu/ft2]	Other Fuel 1 Intensity [kBtu/ft2]	Other Fuel 2 Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	2.99	45.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.35
Other	6.75	3.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	11.66	48.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.35

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	41586.555	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	41586.555	100.00
Total On-Site and Utility Electric Sources	41586.555	100.00
Total Electricity End Uses	41586.555	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	
Air to Air Heat Recovery for Cooling	0.00	
Air to Air Heat Recovery for Heating	0.00	
High-Temperature Geothermal*	0.00	
Solar Water Thermal	0.00	
Solar Air Thermal	0.00	
Total On-Site Thermal Sources	0.00	

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	0.00
Condensate Collection	0.00	0.00
Groundwater Well	0.00	0.00
Total On Site Water Sources	0.00	0.00
-	-	-
Initial Storage	0.00	0.00
Final Storage	0.00	0.00
Change in Storage	0.00	0.00
-	-	-
Water Supplied by Utility	26211.97	100.00
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	26211.97	100.00
Total Water End Uses	26211.97	100.00

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	0.36
Tolerance for Zone Cooling Setpoint Not Met Time	0.36

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	856.50
Time Setpoint Not Met During Occupied Cooling	91.33
Time Not Comfortable Based on Simple ASHRAE 55-2004	2207.17

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

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FANSPLIT

COILLOADS

WATER HEATER: LOADS

HEATING AND COOLING LOADS

Report: **Input Verification and Results Summary**

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For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

General

	Value
Program Version and Build	EnergyPlus, Version 9.5.0-Unknown, YMD=2021.05.12 11:09
RunPeriod	ANNUAL
Weather File	Buffalo Niagara Intl AP NY USA TMY3 WMO#=725280
Latitude [deg]	42.93
Longitude [deg]	-78.7
Elevation [ft]	705.42
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	8760.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2516.92	676.95	581.50	676.95	581.50
Above Ground Wall Area [ft2]	2516.92	676.95	581.50	676.95	581.50
Window Opening Area [ft2]	355.40	88.85	88.85	88.85	88.85
Gross Window-Wall Ratio [%]	14.12	13.12	15.28	13.12	15.28
Above Ground Window-Wall Ratio [%]	14.12	13.12	15.28	13.12	15.28

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2369.34	676.95	507.72	676.95	507.72
Above Ground Wall Area [ft2]	2369.34	676.95	507.72	676.95	507.72
Window Opening Area [ft2]	355.40	88.85	88.85	88.85	88.85
Gross Window-Wall Ratio [%]	15.00	13.12	17.50	13.12	17.50
Above Ground Window-Wall Ratio [%]	15.00	13.12	17.50	13.12	17.50

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	1252.01
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Above Ground Gross Wall Area [ft2]	Underground Gross Wall Area [ft2]	Window Glass Area [ft2]	Opening Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
LIVING_UNIT1	2377.10	Yes	Yes	17050.56	1.00	2369.34	0.00	355.40	355.40	0.7583	792.37	3.1791
ATTIC_UNIT1	1188.55	No	Yes	2937.46	1.00	147.58	0.00	0.00	0.00	0.0000		0.0000
Total	3565.64			19988.02		2516.92	0.00	355.40	355.40	0.5055	1188.55	2.1194
Conditioned Total	2377.10			17050.56		2369.34	0.00	355.40	355.40	0.7583	792.37	3.1791
Unconditioned Total	1188.55			2937.46		147.58	0.00	0.00	0.00	0.0000		0.0000
Not Part of Total	0.00			0.00		0.00	0.00	0.00	0.00			

Report: **Demand End Use Components Summary**

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For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Gasoline [kBtuh]	Diesel [kBtuh]	Coal [kBtuh]	Fuel Oil No 1 [kBtuh]	Fuel Oil No 2 [kBtuh]	Propane [kBtuh]	Other Fuel 1 [kBtuh]	Other Fuel 2 [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	19-JUL-19:10	12-FEB-17:00	-	-	-	-	-	-	-	-	-	-	01-JAN-08:09
Heating	0.00	49.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling	5.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	3.93	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	9.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	12.60	61.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Gasoline [kBtuh]	Diesel [kBtuh]	Coal [kBtuh]	Fuel Oil No 1 [kBtuh]	Fuel Oil No 2 [kBtuh]	Propane [kBtuh]	Other Fuel 1 [kBtuh]	Other Fuel 2 [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	0.00	49.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling	General	5.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	Exterior-Lights	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Garage-Lights	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	dishwasher	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	refrigerator	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	clotheswasher	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	gas_dryer	0.03	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	gas_range	0.00	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	television	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	gas_mels	1.67	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	IECC_adj	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	General	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ventilation	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Domestic Hot Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Water Heater	0.00	9.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Values gathered over 8760.00 hours

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Gasoline [kBtu]	Source Diesel [kBtu]	Source Coal [kBtu]	Source Fuel Oil No 1 [kBtu]	Source Fuel Oil No 2 [kBtu]	Source Propane [kBtu]	Source Other Fuel 1 [kBtu]	Source Other Fuel 2 [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	0.00	153399.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling	14625.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	17537.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	4157.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	76208.69	11939.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans	19175.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	22300.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	131704.62	187638.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Gasoline [kBtu/ft2]	Source Diesel [kBtu/ft2]	Source Coal [kBtu/ft2]	Source Fuel Oil No 1 [kBtu/ft2]	Source Fuel Oil No 2 [kBtu/ft2]	Source Propane [kBtu/ft2]	Source Other Fuel 1 [kBtu/ft2]	Source Other Fuel 2 [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	0.00	64.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling	6.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Interior Lighting	7.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	32.06	5.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans	8.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	9.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	55.41	78.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Gasoline [kBtu/ft2]	Source Diesel [kBtu/ft2]	Source Coal [kBtu/ft2]	Source Fuel Oil No 1 [kBtu/ft2]	Source Fuel Oil No 2 [kBtu/ft2]	Source Propane [kBtu/ft2]	Source Other Fuel 1 [kBtu/ft2]	Source Other Fuel 2 [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	0.00	43.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling	4.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	4.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	21.37	3.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans	5.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	6.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	36.94	52.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

ZoneHVAC:EnergyRecoveryVentilator

	User-Specified Supply Air Flow Rate [ft3/min]	User-Specified Exhaust Air Flow Rate [ft3/min]
ERV_UNIT1	59.99	59.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	User-Specified Maximum Flow Rate [ft3/min]	Design Size Maximum Flow Rate [ft3/min]
OASUPPLYFAN_UNIT1	59.99	
OAEXHAUSTFAN_UNIT1	59.99	
SUPPLY FAN_UNIT1		726.21

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

HeatExchanger:AirToAir:SensibleAndLatent

	User-Specified Nominal Supply Air Flow Rate [ft3/min]
OA_HEAT_RECOVERY_UNIT1	59.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

AirTerminal:SingleDuct:ConstantVolume:NoReheat

	Design Size Maximum Air Flow Rate [ft3/min]
ZONEDIRECTAIR_UNIT1	726.21

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

AirLoopHVAC

	Sum of Air Terminal Maximum Heating Flow Rates [ft3/min]	Sum of Air Terminal Minimum Heating Flow Rates [ft3/min]	Sum of Air Terminal Maximum Flow Rates [ft3/min]	Adjusted Heating Design Air Flow Rate [ft3/min]	Adjusted Cooling Design Air Flow Rate [ft3/min]	Adjusted Main Design Air Flow Rate [ft3/min]	User Heating Air Flow Ratio []	Calculated Heating Air Flow Ratio []	Design Supply Air Flow Rate [ft3/min]
CENTRAL SYSTEM_UNIT1	726.21	726.21	726.21	726.21	726.21	726.21	1.00	1.00	726.21

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Cooling:DX:SingleSpeed

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Gross Rated Total Cooling Capacity [ton]	Design Size Gross Rated Sensible Heat Ratio
DX COOLING COIL_UNIT1	726.21	1.86	0.796663

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

AirLoopHVAC:UnitaryHeatCool

	Supply Air Flow Rate [ft3/min]	Supply Air Flow Rate During Heating Operation [ft3/min]	Supply Air Flow Rate During Cooling Operation [ft3/min]	Nominal Heating Capacity [Btu/h]	Nominal Cooling Capacity [ton]	Fraction of Supply Air Flow That Goes Through the Controlling Zone
ACANDF_UNIT1	726.21	726.21	726.21	39171.85	1.86	1.00

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Fuel

	Design Size Nominal Capacity [Btu/h]
MAIN FUEL HEATING COIL_UNIT1	39171.85

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
DHW LOOP_UNIT1	1.05	2.09

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]
MAINS PRESSURE_UNIT1	1.05

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Maximum Heater Capacity [Btu/h]	Use Side Design Flow Rate [ft3/min]
WATER HEATER_UNIT1	38002.17	1.05

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Surface Shadowing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Surfaces (Walls, Roofs, etc) that may be Shadowed by Other Surfaces

	Possible Shadow Receivers
OVERHANG_SDR_1.UNIT1	WALL_SDR_1.UNIT1 |
Mir-OVERHANG_SDR_1.UNIT1	OVERHANG_SDR_2.UNIT1 | WALL_SDR_1.UNIT1 | WALL_SDR_2.UNIT1 | ROOF_RIGHT_UNIT1 |
OVERHANG_SDR_2.UNIT1	WALL_SDR_2.UNIT1 |
Mir-OVERHANG_SDR_2.UNIT1	WALL_SDR_2.UNIT1 | ROOF_RIGHT_UNIT1 |
WALL_SDR_1.UNIT1	OVERHANG_SDR_1.UNIT1 | OVERHANG_SDR_2.UNIT1 |
WALL_SDR_2.UNIT1	OVERHANG_SDR_2.UNIT1 |

Subsurfaces (Windows and Doors) that may be Shadowed by Surfaces

	Possible Shadow Receivers
WALL_LDF_1.UNIT1	WINDOW_LDF_1.UNIT1 |
WALL_SDR_1.UNIT1	WINDOW_SDR_1.UNIT1 |
WALL_LDB_1.UNIT1	DOOR_LDB_UNIT1 | WINDOW_LDB_1.UNIT1 |
WALL_SDL_1.UNIT1	WINDOW_SDL_1.UNIT1 |
WALL_LDF_2.UNIT1	WINDOW_LDF_2.UNIT1 |
WALL_SDR_2.UNIT1	WINDOW_SDR_2.UNIT1 |
WALL_LDB_2.UNIT1	WINDOW_LDB_2.UNIT1 |
WALL_SDL_2.UNIT1	WINDOW_SDL_2.UNIT1 |

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Initialization Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Version

	Version ID
1	9.5

Timesteps per Hour

	#TimeSteps	Minutes per TimeStep {minutes}
1	6	10

System Convergence Limits

	Minimum System TimeStep {minutes}	Max HVAC Iterations	Minimum Plant Iterations	Maximum Plant Iterations
1	1	20	2	8

Simulation Control

	Do Zone Sizing	Do System Sizing	Do Plant Sizing	Do Design Days	Do Weather Simulation	Do HVAC Sizing Simulation
1	Yes	Yes	No	Yes	Yes	No

Performance Precision Tradeoffs

	Use Coil Direct Simulation	Zone Radiant Exchange Algorithm	Override Mode	Number of Timestep In Hour	Force Euler Method	Minimum Number of Warmup Days	Force Suppress All Begin Environment Resets	Minimum System Timestep	MaxZoneTempDiff	MaxAllowedDelTemp
1	No	ScriptF	Normal	6	No	1	No	1.0	0.300	2.0000E-003

Output Reporting Tolerances

	Tolerance for Time Heating Setpoint Not Met	Tolerance for Zone Cooling Setpoint Not Met Time
1	0.200	0.200

Site:GroundTemperature:BuildingSurface

	Jan{F}	Feb{F}	Mar{F}	Apr{F}	May{F}	Jun{F}	Jul{F}	Aug{F}	Sep{F}	Oct{F}	Nov{F}	Dec{F}
1	64.40	64.40	64.40	64.40	64.40	64.40	64.40	64.40	64.40	64.40	64.40	64.40

Site:GroundTemperature:FCfactorMethod

	Jan{F}	Feb{F}	Mar{F}	Apr{F}	May{F}	Jun{F}	Jul{F}	Aug{F}	Sep{F}	Oct{F}	Nov{F}	Dec{F}
1	26.83	30.85	38.68	46.09	60.12	67.50	69.53	65.79	57.13	46.36	35.74	28.74

Site:GroundTemperature:Shallow

	Jan{F}	Feb{F}	Mar{F}	Apr{F}	May{F}	Jun{F}	Jul{F}	Aug{F}	Sep{F}	Oct{F}	Nov{F}	Dec{F}
1	55.40	55.40	55.40	55.40	55.40	55.40	55.40	55.40	55.40	55.40	55.40	55.40

Site:GroundTemperature:Deep

	Jan{F}	Feb{F}	Mar{F}	Apr{F}	May{F}	Jun{F}	Jul{F}	Aug{F}	Sep{F}	Oct{F}	Nov{F}	Dec{F}
1	60.80	60.80	60.80	60.80	60.80	60.80	60.80	60.80	60.80	60.80	60.80	60.80

Site:GroundReflectance

	Jan{dimensionless}	Feb{dimensionless}	Mar{dimensionless}	Apr{dimensionless}	May{dimensionless}	Jun{dimensionless}	Jul{dimensionless}	Aug{dimensionless}	Sep{dimensionless}	Oct{dimensionless}	Nov{dimensionless}	Dec{dimensionless}
1	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20

Site:GroundReflectance:SnowModifier

	Normal	Daylighting {dimensionless}
1	1.000	1.000

Site:GroundReflectance:Snow

	Jan{dimensionless}	Feb{dimensionless}	Mar{dimensionless}	Apr{dimensionless}	May{dimensionless}	Jun{dimensionless}	Jul{dimensionless}	Aug{dimensionless}	Sep{dimensionless}	Oct{dimensionless}	Nov{dimensionless}	Dec{dimensionless}
1	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20

Site:GroundReflectance:Snow:Daylighting

	Jan{dimensionless}	Feb{dimensionless}	Mar{dimensionless}	Apr{dimensionless}	May{dimensionless}	Jun{dimensionless}	Jul{dimensionless}	Aug{dimensionless}	Sep{dimensionless}	Oct{dimensionless}	Nov{dimensionless}	Dec{dimensionless}
1	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20

Environment:Weather Station

	Wind Sensor Height Above Ground {ft}	Wind Speed Profile Exponent {}	Wind Speed Profile Boundary Layer Thickness {ft}	Air Temperature Sensor Height Above Ground {ft}	Wind Speed Modifier Coefficient-Internal	Temperature Modifier Coefficient-Internal
1	32.810	0.140	885.870	4.921	1.586	9.750E-003

Site:Location

	Location Name	Latitude {N+/S- Deg}	Longitude {E+/W- Deg}	Time Zone Number {GMT+/-}	Elevation {ft}	Standard Pressure at Elevation {psi}	Standard RhoAir at Elevation
1	Buffalo Niagara Intl AP NY USA TMY3 WMO#=725280	42.93	-78.73	-5.00	705.42	14.	1.1739

Site Water Mains Temperature Information

	Calculation Method{}	Water Mains Temperature Schedule Name{}	Annual Average Outdoor Air Temperature{F}	Maximum Difference In Monthly Average Outdoor Air Temperatures{deltaF}	Fixed Default Water Mains Temperature{F}
1	Correlation	NA	48.15	47.16	NA

Building Information

	Building Name	North Axis {deg}	Terrain	Loads Convergence Tolerance Value	Temperature Convergence Tolerance Value	Solar Distribution	Maximum Number of Warmup Days	Minimum Number of Warmup Days
1	US+SF+CZ5A+gasfurnace+slab+IECC_2006	0.000	Suburbs	4.00000E-002	0.40000	FullExterior	25	6

Inside Convection Algorithm

	Algorithm {Simple TARP CeilingDiffuser AdaptiveConvectionAlgorithm}
1	TARP

Outside Convection Algorithm

	Algorithm {SimpleCombined TARP MoWitt DOE-2 AdaptiveConvectionAlgorithm}
1	DOE-2

Sky Radiance Distribution

	Value {Anisotropic}
1	Anisotropic

Zone Air Solution Algorithm

	Value {ThirdOrderBackwardDifference AnalyticalSolution EulerMethod}
1	ThirdOrderBackwardDifference

Zone Air Carbon Dioxide Balance Simulation

	Simulation {Yes/No}	Carbon Dioxide Concentration
1	No	N/A

Zone Air Generic Contaminant Balance Simulation

	Simulation {Yes/No}	Generic Contaminant Concentration
1	No	N/A

Zone Air Mass Flow Balance Simulation

	Enforce Mass Balance	Adjust Zone Mixing and Return {AdjustMixingOnly AdjustReturnOnly AdjustMixingThenReturn AdjustReturnThenMixing None}	Adjust Zone Infiltration {AddInfiltration AdjustInfiltration None}	Infiltration Zones {MixingSourceZonesOnly AllZones}
1	No	N/A	N/A	N/A

HVACSystemRootFindingAlgorithm

	Value {RegulaFalsi Bisection BisectionThenRegulaFalsi RegulaFalsiThenBisection}
1	RegulaFalsi

Environment:Site Atmospheric Variation

	Wind Speed Profile Exponent {}	Wind Speed Profile Boundary Layer Thickness {ft}	Air Temperature Gradient Coefficient {F/ft}
1	0.220	1213.970	0.003566

Material Details

	Material Name	ThermalResistance {m2-K/w}	Roughness	Thickness {ft}	Conductivity {w/m-K}	Density {lb/ft3}	Specific Heat {Btu/lbm-R}	Absorptance:Thermal	Absorptance:Solar	Absorptance:Visible
1	SHEATHING_CONSOL_LAYER	0.1351	Rough	0.0417	9.402E-002	42.764	0.280	0.9000	0.7000	0.7000
2	CEIL_CONSOL_LAYER	5.5153	Rough	1.1169	6.172E-002	2.618	0.185	0.9000	0.7000	0.7000
3	FLOOR_CONSOL_LAYER	1.9554E-005	Rough	0.0008	12.990	3.438	0.219	0.9000	0.7000	0.7000
4	BSMTWALL_CONSOL_LAYER	2.3423E-005	Rough	0.0008	10.844	7.541	0.248	0.9000	0.7000	0.7000
5	CRAWLWALL_CONSOL_LAYER	2.3423E-005	Rough	0.0008	10.844	7.541	0.248	0.9000	0.7000	0.7000
6	WALL_CONSOL_LAYER	2.2607	Rough	0.4584	6.179E-002	7.541	0.248	0.9000	0.7000	0.7000
7	VERY HIGH REFLECTIVITY SURFACE	2.1097E-006	Smooth	0.0016	237.000	168.680	0.216	0.9000	5.0000E-002	5.0000E-002
8	GYPSUMBOARD-5/16IN	5.0054E-002	Rough	0.0260	0.159	39.954	0.270	0.9000	0.4000	0.1000
9	COPPERPIPE	4.7506E-005	MediumRough	0.0625	401.000	140.026	0.200	0.9000	0.6500	0.6500
10	F08 METAL SURFACE	1.7668E-005	Smooth	0.0026	45.280	488.437	0.119	0.9000	0.7000	0.7000
11	CONCRETE_4IN	7.7356E-002	Rough	0.3330	1.312	140.014	0.111	0.9000	0.7000	0.7000
12	ASPHALT_SHINGLE	7.7448E-002	MediumRough	0.0208	8.186E-002	70.000	0.300	0.9000	0.7500	0.7000
13	WOOD_SHINGLE	0.1115	MediumSmooth	0.0417	0.114	26.600	0.390	0.9000	0.7000	0.7000
14	SLATE_SHINGLE	8.8061E-003	MediumSmooth	0.0417	1.442	100.000	0.300	0.9000	0.7000	0.7000
15	CEMENT_STUCCO	2.6422E-002	MediumSmooth	0.0625	0.721	116.464	0.210	0.9000	0.7000	0.7000
16	SYN_STUCCO	3.5237E-002	MediumSmooth	0.0100	8.650E-002	24.971	0.210	0.9000	0.7000	0.7000
17	DRYWALL_1/2IN	7.9331E-002	MediumSmooth	0.0417	0.160	50.000	0.260	0.9000	0.7000	0.7000
18	OSB_5/8IN	0.1365	MediumSmooth	0.0521	0.116	34.000	0.290	0.9000	0.7000	0.7000
19	OSB_7/16IN	9.5550E-002	MediumSmooth	0.0365	0.116	34.000	0.290	0.9000	0.7000	0.7000
20	BLOWN_R30	5.1614	MediumRough	0.6975	4.119E-002	0.600	0.200	0.9000	0.7000	0.7000
21	BLOWN_R30_TOP	2.8489	MediumRough	0.3849	4.119E-002	0.600	0.200	0.9000	0.7000	0.7000
22	PLYWOOD_3/4IN	0.1650	Rough	0.0625	0.115	34.003	0.161	0.9000	0.7000	0.7000
23	BATT_R19	7.3089	MediumRough	0.0833	3.475E-003	0.600	0.200	0.9000	0.7000	0.7000
24	LUMBER_2X4	0.7709	Rough	0.2920	0.115	32.003	0.183	0.9000	0.7000	0.7000
25	CARPET_N_PAD	0.4224	MediumSmooth	0.0833	6.013E-002	2.000	0.200	0.9000	0.7000	0.7000
26	BATT_R13	2.2936	MediumRough	0.2917	3.876E-002	0.600	0.200	0.9000	0.7000	0.7000
27	OSB_1/2IN	0.1092	MediumSmooth	0.0417	0.116	34.000	0.290	0.9000	0.7000	0.7000
28	SOIL_12IN	0.1761	Rough	1.0000	1.731	115.011	0.056	0.9000	0.7000	0.7000
29	DOOR_CONST	0.5031	Smooth	0.1189	7.201E-002	32.003	0.183	0.9000	0.7000	0.7000
30	GYP_BOARD_1/2IN	8.0130E-002	Rough	0.0417	0.159	39.954	0.270	0.9000	0.4000	0.1000
31	STD WOOD 6INCH	1.2500	MediumSmooth	0.4921	0.120	33.711	0.289	0.9000	0.7000	0.7000
32	PIPE INSULATION	0.3830	VeryRough	0.0417	3.317E-002	5.681	0.200	0.9000	0.5000	0.5000
33	MANF_WALL_AIRGAP	0.1200	Smooth	0.0000	0.000	0.000	0.000	0.9000	0.7000	0.7000
34	BLDG_PAPER_FELT	1.0567E-002	Smooth	0.0000	0.000	0.000	0.000	0.9000	0.7000	0.7000
35	R_HIGH	177.0000	MediumRough	0.0000	0.000	0.000	0.000	0.9000	0.7000	0.7000
36	CLEAR ACRYLIC PLASTIC	3.3333E-003	VerySmooth	0.0098	0.900	0.000	0.000	0.9000	0.0000	0.0000
37	DIFFUSING ACRYLIC PLASTIC	2.4444E-003	VerySmooth	0.0072	0.900	0.000	0.000	0.9000	0.0000	0.0000
38	INT_BLIND	0.0000	Rough	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000
39	GLASS	0.3300	VerySmooth	0.1230	0.114	0.000	0.000	0.8400	0.0000	0.0000

Material:Air

	Material Name	ThermalResistance {m2-K/w}
1	AIR_4_IN_VERT	0.1585
2	3/4IN_AIR_SPACE	8.5130E-002
3	3/4IN_REFLECTIVE_AIR_SPACE	0.2466
4	AIR_4_IN_VERT	0.1585

Surface Geometry

	Starting Corner	Vertex Input Direction	Coordinate System	Daylight Reference Point Coordinate System	Rectangular (Simple) Surface Coordinate System
1	LowerLeftCorner	Counterclockwise	RelativeCoordinateSystem	RelativeCoordinateSystem	RelativeToZoneOrigin

Other Side Coefficients

	Name	Combined convective/radiative film coefficient {Btu/h-ft2-F}	User selected Constant Temperature {F}	Coefficient modifying the constant temperature term	Coefficient modifying the external dry bulb temperature term	Coefficient modifying the ground temperature term	Coefficient modifying the wind speed term {s/m}	Coefficient modifying the zone air temperature term	Constant Temperature Schedule Name	Sinusoidal Variation	Period of Sinusoidal Variation	Previous Other Side Temperature Coefficient	Minimum Other Side Temperature {F}	Maximum Other Side Temperature {F}
1	SURFPROPOTHSDCOEFSLABAVERAGE	N/A	N/A	1.000	0.000	0.000	0.000	0.000	SCHEDULEOSCSLABAVERAGESURFACETEMP	NO	24.000	0.000	N/A	N/A
2	SURFPROPOTHSDCOEFSLABPERIMETER	N/A	N/A	1.000	0.000	0.000	0.000	0.000	SCHEDULEOSCSLABPERIMETERTEMP	NO	24.000	0.000	N/A	N/A
3	SURFPROPOTHSDCOEFSLABCORE	N/A	N/A	1.000	0.000	0.000	0.000	0.000	SCHEDULEOSCSLABCORETEMP	NO	24.000	0.000	N/A	N/A

Surface Heat Transfer Algorithm

	Value {CTF - ConductionTransferFunction EMPD - MoisturePenetrationDepthConductionTransferFunction CondFD - ConductionFiniteDifference HAMT - CombinedHeatAndMoistureFiniteElement} - Description	Inside Surface Max Temperature Limit{F}	Surface Convection Coefficient Lower Limit {Btu/h-ft2-F}	Surface Convection Coefficient Upper Limit {Btu/h-ft2-F}
1	CTF - ConductionTransferFunction	392.	0.02	176.1

Shading Summary

	Number of Fixed Detached Shades	Number of Building Detached Shades	Number of Attached Shades
1	0	0	4

Zone Summary

	Number of Zones	Number of Zone Surfaces	Number of SubSurfaces
1	2	26	9

Zone Information

	Zone Name	North Axis {deg}	Origin X-Coordinate {ft}	Origin Y-Coordinate {ft}	Origin Z-Coordinate {ft}	Centroid X-Coordinate {ft}	Centroid Y-Coordinate {ft}	Centroid Z-Coordinate {ft}	Type	Zone Multiplier	Zone List Multiplier	Minimum X {ft}	Maximum X {ft}	Minimum Y {ft}	Maximum Y {ft}	Minimum Z {ft}	Maximum Z {ft}	Ceiling Height {ft}	Volume {ft3}	Zone Inside Convection Algorithm {Simple-Detailed-CeilingDiffuser-TrombeWall}	Zone Outside Convection Algorithm {Simple-Detailed-Tarp-MoWitt-DOE-2-BLAST}	Floor Area {ft2}	Exterior Gross Wall Area {ft2}	Exterior Net Wall Area {ft2}	E W
1	LIVING_UNIT1	0.0	0.00	0.00	0.00	19.92	14.93	8.53	1	1	1	0.00	39.80	0.00	29.86	0.03	17.03	12.76	17050.65	TARP	DOE-2	2377.12	2369.37	1973.97	
2	ATTIC_UNIT1	0.0	0.00	0.00	0.00	19.92	14.93	18.34	1	1	1	0.00	39.80	0.00	29.86	17.03	21.98	2.46	2937.55	TARP	DOE-2	1188.56	147.59	147.59	

Zone Internal Gains Nominal

	Zone Name	Floor Area {ft2}	# Occupants	Area per Occupant {ft2/person}	Occupant per Area {person/ft2}	Interior Lighting {Btu/h-ft2}	Electric Load {Btu/h-ft2}	Gas Load {Btu/h-ft2}	Other Load {Btu/h-ft2}	Hot Water Eq {Btu/h-ft2}	Steam Equipment {Btu/h-ft2}	Sum Loads per Area {Btu/h-ft2}	Outdoor Controlled Baseboard Heat
1	LIVING_UNIT1	2377.12	3.0	792.366	0.001	0.758	1.747	1.432	0.000	0.000	0.000	3.938	No
2	ATTIC_UNIT1	1188.56	0.0	N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No

People Internal Gains Nominal

	Name	Schedule Name	Zone Name	Zone Floor Area {ft2}	# Zone Occupants	Number of People {}	People/Floor Area {person/ft2}	Floor Area per person {ft2/person}	Fraction Radiant	Fraction Convected	Sensible Fraction Calculation	Activity level	ASHRAE 55 Warnings	Carbon Dioxide Generation Rate	Nominal Minimum Number of People	Nominal Maximum Number of People
1	PEOPLE_UNIT1	OCCUPANCY	LIVING_UNIT1	2377.12	3.0	3.0	0.001	792.366	0.000	1.000	AutoCalculate	ACTIVITY_SCH	No	3.8200E-008	1	3

Lights Internal Gains Nominal

	Name	Schedule Name	Zone Name	Zone Floor Area {ft2}	# Zone Occupants	Lighting Level {Btu/h}	Lights/Floor Area {Btu/h-ft2}	Lights per person {W/person}	Fraction Return Air	Fraction Radiant	Fraction Short Wave	Fraction Convected	Fraction Replaceable	End-Use Category	Nominal Minimum Lighting Level {Btu/h}	Nominal Maximum Lighting Level {Btu/h}
1	LIVING HARDWIRED LIGHTING1	INTERIORLIGHTINGHE	LIVING_UNIT1	2377.12	3.0	1441.969	0.607	140.872	0.000	0.600	0.200	0.200	0.000	General	99.136	1441.969
2	LIVING PLUG-IN LIGHTING1	INTERIORLIGHTINGHE	LIVING_UNIT1	2377.12	3.0	360.491	0.152	35.218	0.000	0.600	0.200	0.200	0.000	General	24.785	360.491

ElectricEquipment Internal Gains Nominal

	Name	Schedule Name	Zone Name	Zone Floor Area {ft2}	# Zone Occupants	Equipment Level {Btu/h}	Equipment/Floor Area {Btu/h-ft2}	Equipment per person {W/person}	Fraction Latent	Fraction Radiant	Fraction Lost	Fraction Convected	End-Use SubCategory	Nominal Minimum Equipment Level {Btu/h}	Nominal Maximum Equipment Level {Btu/h}
1	DISHWASHER1	DISHWASHER	LIVING_UNIT1	2377.12	3.0	224.165	0.094	21.900	0.150	0.600	0.250	0.000	dishwasher	0.000	224.165
2	REFRIGERATOR1	REFRIGERATOR	LIVING_UNIT1	2377.12	3.0	310.690	0.131	30.353	0.000	1.000	0.000	0.000	refrigerator	227.232	310.690
3	CLOTHESWASHER1	CLOTHESWASHER	LIVING_UNIT1	2377.12	3.0	97.167	0.041	9.493	0.000	0.800	0.200	0.000	clotheswasher	0.000	97.167
4	GAS_DRYER1	CLOTHESDRYER	LIVING_UNIT1	2377.12	3.0	66.254	0.028	6.473	0.000	1.000	0.000	0.000	gas_dryer	0.000	66.254
5	GAS_RANGE1	COOKINGRANGE	LIVING_UNIT1	2377.12	3.0	0.000	0.000	0.000	0.000	1.000	0.000	0.000	gas_range	0.000	0.000
6	TELEVISION1	INTERIORLIGHTING	LIVING_UNIT1	2377.12	3.0	0.000	0.000	0.000	0.000	1.000	0.000	0.000	television	0.000	0.000
7	GAS_MELS1	MISCPLUGLOAD	LIVING_UNIT1	2377.12	3.0	1730.396	0.728	169.050	6.000E-002	0.690	0.250	0.000	gas_mels	894.654	1730.396
8	IECC_ADJ1	MISCPLUGLOAD	LIVING_UNIT1	2377.12	3.0	1724.425	0.726	168.467	6.244E-002	0.412	0.251	0.275	IECC_adj	891.566	1724.425

GasEquipment Internal Gains Nominal

	Name	Schedule Name	Zone Name	Zone Floor Area {ft2}	# Zone Occupants	Equipment Level {Btu/h}	Equipment/Floor Area {Btu/h-ft2}	Equipment per person {W/person}	Fraction Latent	Fraction Radiant	Fraction Lost	Fraction Convected	End-Use SubCategory	Nominal Minimum Equipment Level {Btu/h}	Nominal Maximum Equipment Level {Btu/h}
1	GAS_DRYER1	CLOTHESDRYER	LIVING_UNIT1	2377.12	3.0	1349.774	0.568	131.865	5.000E-002	0.100	0.850	0.000	gas_dryer	0.000	1349.774
2	GAS_RANGE1	COOKINGRANGE	LIVING_UNIT1	2377.12	3.0	1845.691	0.777	180.314	6.000E-002	0.690	0.250	0.000	gas_range	43.459	1845.691
3	GAS_MELS1	MISCPLUGLOAD	LIVING_UNIT1	2377.12	3.0	208.559	0.088	20.375	6.000E-002	0.690	0.250	0.000	gas_mels	107.829	208.559

Construction CTF

	Construction Name	Index	#Layers	#CTFs	Time Step {Hours}	ThermalConductance {Btu/h-ft2-F}	OuterThermalAbsorptance	InnerThermalAbsorptance	OuterSolarAbsorptance	InnerSolarAbsorptance	Roughness
1	EXTERIOR WALL	1	5	11	0.167	0.0676	0.900	0.900	0.700	0.700	MediumSmooth
2	INTERIORFURNISHINGS	2	1	9	0.167	0.1409	0.900	0.900	0.700	0.700	MediumSmooth
3	INTERIOR FLOOR	5	2	4	0.167	0.300	0.900	0.900	0.700	0.700	Rough
4	INTERIOR CEILING	6	2	9	0.167	0.0315	0.900	0.900	0.700	0.700	Rough
5	ATTIC FLOOR	7	2	9	0.167	0.0315	0.900	0.900	0.700	0.700	MediumSmooth
6	EXTERIOR ROOF	11	2	4	0.167	0.943	0.900	0.900	0.750	0.700	MediumRough
7	EXTERIOR DOOR	14	1	5	0.167	0.350	0.900	0.900	0.700	0.700	Smooth
8	GABLE_END	16	5	6	0.167	0.428	0.900	0.900	0.700	0.700	MediumSmooth

Material CTF Summary

	Material Name	Thickness {ft}	Conductivity {w/m-K}	Density {lb/ft3}	Specific Heat {Btu/lbm-R}	ThermalResistance {m2-K/w}
1	SYN_STUCCO	0.0098	0.086	24.971	0.210	0.3524E-01
2	SHEATHING_CONSOL_LAYER	0.0417	0.094	42.764	0.280	0.1351
3	OSB_7/16IN	0.0364	0.116	34.000	0.290	0.9555E-01
4	WALL_CONSOL_LAYER	0.4584	0.062	7.541	0.248	2.261
5	DRYWALL_1/2IN	0.0417	0.160	50.000	0.260	0.7933E-01
6	STD WOOD 6INCH	0.4921	0.120	33.711	0.289	1.250
7	PLYWOOD_3/4IN	0.0627	0.115	34.003	0.161	0.1650
8	CARPET_N_PAD	0.0833	0.060	2.000	0.200	0.4224
9	CEIL_CONSOL_LAYER	1.1169	0.062	2.618	0.185	5.515
10	DRYWALL_1/2IN	0.0417	0.160	50.000	0.260	0.7933E-01
11	DRYWALL_1/2IN	0.0417	0.160	50.000	0.260	0.7933E-01
12	CEIL_CONSOL_LAYER	1.1169	0.062	2.618	0.185	5.515

13	ASPHALT_SHINGLE	0.0207	0.082	70.000	0.300	0.7745E-01
14	OSB_1/2IN	0.0417	0.116	34.000	0.290	0.1092
15	DOOR_CONST	0.1188	0.072	32.003	0.183	0.5031
16	CEMENT_STUCCO	0.0627	0.721	116.464	0.210	0.2642E-01
17	BLDG_PAPER_FELT	0.0000	0.000	0.000	0.000	0.1057E-01
18	OSB_5/8IN	0.0522	0.116	34.000	0.290	0.1365
19	DRYWALL_1/2IN	0.0417	0.160	50.000	0.260	0.7933E-01

Material:Air

	Material Name	ThermalResistance {m2-K/w}
1	AIR_4_IN_VERT	0.1585
2	3/4IN_AIR_SPACE	8.5130E-002
3	3/4IN_REFLECTIVE_AIR_SPACE	0.2466
4	AIR_4_IN_VERT	0.1585

CTF

	Time	Outside	Cross	Inside	Flux (except final one)
1	11	-0.34101926E-11	-0.22660516E-14	-0.36581558E-11	0.16728159E-15
2	10	0.15746244E-06	0.26117201E-13	0.37441303E-06	-0.26565902E-11
3	9	-0.13979360E-03	0.28489944E-10	-0.22155512E-03	0.11859456E-06
4	8	0.70301011E-02	0.18070797E-07	0.11303620E-01	-0.67587366E-04
5	7	-0.13302090	0.17034159E-05	-0.22730680	0.23466961E-02
6	6	1.2909310	0.37978735E-04	2.3248636	-0.33737981E-01
7	5	-7.2229067	0.25362208E-03	-13.350394	0.25636671
8	4	24.415372	0.55187385E-03	44.930686	-1.1177284
9	3	-50.177464	0.37819951E-03	-89.626047	2.8539798
10	2	60.756437	0.67524003E-04	103.62079	-4.1716530
11	1	-39.537176	0.17896284E-05	-63.895203	3.2071249
12	0	10.602231	0.51349130E-09	16.212826	
13	9	-0.27580628E-02	0.97439125E-12	-0.27580628E-02	0.28516790E-03
14	8	0.73590997E-01	0.21837543E-08	0.73590997E-01	-0.77836043E-02
15	7	-0.82599318	0.23162835E-06	-0.82599318	0.89703933E-01
16	6	5.1113916	0.48671053E-05	5.1113916	-0.57224845
17	5	-19.214933	0.30163627E-04	-19.214933	2.2266322
18	4	45.557404	0.63181060E-04	45.557404	-5.4853312
19	3	-68.275533	0.44785456E-04	-68.275533	8.5710568
20	2	62.555368	0.93952058E-05	62.555368	-8.2111738
21	1	-31.904423	0.39200004E-06	-31.904423	4.3886678
22	0	6.9260389	0.77047546E-09	6.9260389	
23	4	0.50405178E-13	0.16668152E-13	0.29402090E-13	-0.58636069E-16
24	3	-0.78967347E-05	0.18486376E-05	-0.51544008E-05	0.20741056E-12
25	2	0.37655193	0.34407043E-01	0.80677627E-01	-0.16328896E-04
26	1	-8.0349315	0.81344511	-1.1624309	0.21506451
27	0	8.9946927	0.48845120	2.4180636	
28	9	0.31317273E-16	0.43976111E-16	-0.51010803E-08	-0.79244996E-17
29	8	0.10314517E-07	0.17751770E-12	0.26862918E-02	-0.67482234E-08
30	7	-0.13705644E-02	0.40028327E-08	-0.11654797	0.89668923E-03
31	6	0.30576439E-01	0.98448813E-06	1.6263884	-0.20536660E-01
32	5	-0.27510174	0.27659598E-04	-10.843738	0.19078174
33	4	1.2857204	0.17633394E-03	39.525931	-0.92707659
34	3	-3.3542361	0.30839568E-03	-82.632562	2.5346738
35	2	4.8749143	0.14245064E-03	98.418306	-3.8916659
36	1	-3.6611134	0.12632440E-04	-61.889078	3.1091867
37	0	1.1012792	0.58266065E-07	15.909284	
38	9	-0.51010803E-08	0.43976111E-16	0.31317273E-16	-0.79244996E-17
39	8	0.26862918E-02	0.17751770E-12	0.10314517E-07	-0.67482234E-08
40	7	-0.11654797	0.40028327E-08	-0.13705644E-02	0.89668923E-03
41	6	1.6263884	0.98448813E-06	0.30576439E-01	-0.20536660E-01
42	5	-10.843738	0.27659598E-04	-0.27510174	0.19078174
43	4	39.525931	0.17633394E-03	1.2857204	-0.92707659
44	3	-82.632562	0.30839568E-03	-3.3542361	2.5346738
45	2	98.418306	0.14245064E-03	4.8749143	-3.8916659
46	1	-61.889078	0.12632440E-04	-3.6611134	3.1091867
47	0	15.909284	0.58266065E-07	1.1012792	
48	4	0.75441920E-10	0.23883683E-10	0.47514224E-10	-0.69373194E-20
49	3	-0.33730907E-03	0.89366797E-04	-0.22574866E-03	0.77828620E-10
50	2	0.58624422	0.18542418	0.49024360	-0.17301269E-03
51	1	-11.299243	2.8799011	-8.6239668	0.15905732
52	0	15.219762	1.4410112	12.640375	
53	5	-0.24423608E-08	0.10315694E-08	-0.24423608E-08	0.46347327E-11
54	4	0.46481418E-04	0.19988510E-04	0.46481418E-04	-0.22728163E-06
55	3	-0.31887091E-01	0.95525843E-02	-0.31887091E-01	0.49135354E-03
56	2	1.3495466	0.25081638	1.3495466	-0.51058024E-01
57	1	-7.0688408	0.57876498	-7.0688408	0.58136590
58	0	6.6836766	0.93387740E-01	6.6836766	
59	6	0.97988530E-11	0.43917118E-12	0.24496810E-11	-0.34892153E-15
60	5	-0.75005310E-05	0.16499726E-06	-0.28271466E-05	0.19166609E-11
61	4	0.32354224E-01	0.66949565E-03	0.10283773E-01	-0.11111676E-05
62	3	-1.8201547	0.67148336E-01	-0.62076152	0.38788549E-02
63	2	21.173821	0.53241617	7.5279938	-0.97325542E-01
64	1	-64.420211	0.46601667	-21.697519	0.64629334
65	0	46.121323	0.20873329E-01	15.867130	

WindowConstruction

	Construction Name	Index	#Layers	Roughness	Conductance {Btu/h-ft2-F}	SHGC	Solar Transmittance at Normal Incidence	Visible Transmittance at Normal Incidence

1	EXTERIOR WINDOW	12	1	VerySmooth	0.350	0.335	0.248	0.883
2	INTERIOR WINDOW	13	1	VerySmooth	0.350	0.335	0.248	0.883
3	WINDOW_W_BLINDS	18	2	VerySmooth	0.350	0.309	4.634E-002	0.133
4	TDD DOME	22	1	VerySmooth	1.071	0.929	0.920	0.920
5	TDD DIFFUSER	23	1	VerySmooth	1.077	0.906	0.900	0.900

WindowMaterial:Glazing

	Material Name	Optical Data Type	Spectral Data Set Name	Thickness {ft}	Solar Transmittance	Front Solar Reflectance	Back Solar Reflectance	Visible Transmittance	Front Visible Reflectance	Back Visible Reflectance	Infrared Transmittance	Front Thermal Emissivity	Back Thermal Emissivity	Conductivity {W/m-K}	Dirt Factor	Solar Diffusing
1	GLASS	SpectralAverage		0.12304	0.24698	0.54587	0.54587	0.88000	0.11900	0.11900	0.00000	0.84000	0.84000	0.11365	1.00000	No
2	GLASS	SpectralAverage		0.12304	0.24698	0.54587	0.54587	0.88000	0.11900	0.11900	0.00000	0.84000	0.84000	0.11365	1.00000	No
3	GLASS	SpectralAverage		0.12304	0.24698	0.54587	0.54587	0.88000	0.11900	0.11900	0.00000	0.84000	0.84000	0.11365	1.00000	No
4	CLEAR ACRYLIC PLASTIC	SpectralAverage		0.00984	0.92000	5.00000E-002	5.00000E-002	0.92000	5.00000E-002	5.00000E-002	0.00000	0.90000	0.90000	0.90000	1.00000	No
5	DIFFUSING ACRYLIC PLASTIC	SpectralAverage		0.00722	0.90000	8.00000E-002	8.00000E-002	0.90000	8.00000E-002	8.00000E-002	0.00000	0.90000	0.90000	0.90000	1.00000	No

WindowMaterial:Blind

	Material Name	Slat Width {ft}	Slat Separation {ft}	Slat Thickness {ft}	Slat Angle {deg}	Slat Beam Solar Transmittance	Slat Beam Solar Front Reflectance	Blind To Glass Distance {ft}
1	INT_BLIND	0.0820	0.0615	0.0033	45.000	0.000	0.500	0.164

Shadowing/Sun Position Calculations Annual Simulations

	Shading Calculation Method	Shading Calculation Update Frequency Method	Shading Calculation Update Frequency {days}	Maximum Figures in Shadow Overlap Calculations {}	Polygon Clipping Algorithm	Pixel Counting Resolution	Sky Diffuse Modeling Algorithm	Output External Shading Calculation Results	Disable Self-Shading Within Shading Zone Groups	Disable Self-Shading From Shading Zone Groups to Other Zones
1	PolygonClipping	Periodic	20	15000.	SutherlandHodgman	512	SimpleSkyDiffuseModeling	No	No	No

Water Heater Information

	Type	Name	Volume {ft3}	Maximum Capacity {Btu/h}	Standard Rated Recovery Efficiency	Standard Rated Energy Factor
1	WaterHeater:Mixed	WATER HEATER_UNIT1	5.3474	38002.2	0.819	0.5518

ZoneVentilation Airflow Stats Nominal

	Name	Schedule Name	Zone Name	Zone Floor Area {ft2}	# Zone Occupants	Design Volume Flow Rate {ft3/min}	Volume Flow Rate/Floor Area {ft3/min-ft2}	Volume Flow Rate/person Area {ft3/min-person}	ACH - Air Changes per Hour	Fan Type {Exhaust;Intake;Natural}	Fan Pressure Rise {psi}	Fan Efficiency {}	Equation A - Constant Term Coefficient {}	Equation B - Temperature Term Coefficient {1/C}	Equation C - Velocity Term Coefficient {s/m}	Equation D - Velocity Squared Term Coefficient {s2/m2}	Minimum Indoor Temperature{F}/Schedule	Maximum I Temperature{F}/Sch
1	VENTILATION_UNIT1	ALWAYS_AVAIL	LIVING_UNIT1	2377.12	3.0	0.000	0.000	0.000	0.000	Exhaust	0.000	0.6	1.000	0.000	0.000	0.000	-148.0	2

AirFlow Model

	Simple
1	Simple

RoomAir Model

	Zone Name	Mixing/Mundt/UCSDDV/UCSDCV/UCSDUFI/UCSDUFE/User Defined
1	LIVING_UNIT1	Mixing/Well-Stirred
2	ATTIC_UNIT1	Mixing/Well-Stirred

AirflowNetwork Model:Control

	No Multizone or Distribution/Multizone with Distribution/Multizone without Distribution/Multizone with Distribution only during Fan Operation
1	MultizoneWithDistribution

AirflowNetwork Model:Equivalent Rectangle Surface

	Name	Equivalent Height {ft}	Equivalent Width {ft} AirflowNetwork Model:Equivalent Rectangle
1	ROOF_RIGHT_UNIT1	4.95	14.93
2	ROOF_LEFT_UNIT1	4.95	14.93

AirflowNetwork Model:Wind Direction

	Wind Direction #1 to n (degree)
1	0.0

AirflowNetwork Model:Wind Pressure Coefficients

	Name	Wind Pressure Coefficients #1 to n (dimensionless)
1	!WPCTABLE1	0.60
2	!WPCTABLE2	-0.36
3	!WPCTABLE3	-0.51
4	!WPCTABLE4	-0.36
5	!WPCTABLE5	-0.73

Zone Volume Capacitance Multiplier

	Sensible Heat Capacity Multiplier	Moisture Capacity Multiplier	Carbon Dioxide Capacity Multiplier	Generic Contaminant Capacity Multiplier
1	1.000	1.000	1.000	1.000

Load Timesteps in Zone Design Calculation Averaging Window

	Value
1	6

Heating Sizing Factor Information

	Sizing Factor ID	Value
1	Global	1.0000

Cooling Sizing Factor Information

	Sizing Factor ID	Value
1	Global	1.0000

Zone Sizing Information

	Zone Name	Load Type	Calc Des Load {Btu/h}	User Des Load {Btu/h}	Calc Des Air Flow Rate {ft3/min}	User Des Air Flow Rate {ft3/min}	Design Day Name	Date/Time of Peak	Temperature at Peak {F}	Humidity Ratio at Peak {lbWater/lbDryAir}	Floor Area {ft2}	# Occupants	Calc Outdoor Air Flow Rate {ft3/min}	Calc DOAS Heat Addition Rate {Btu/h}
1	LIVING_UNIT1	Cooling	16640.40176	16640.40176	726.20754	726.20754	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	7/21 17:50:00	82.80140	0.01336	2377.09544	3.00000	59.99321	0.00000
2	LIVING_UNIT1	Heating	35297.02744	35297.02744	658.81348	658.81348	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	1/21 14:20:00	2.66000	0.00092	2377.09544	3.00000	59.99321	0.00000

System Sizing Information

	System Name	Load Type	Peak Load Kind	User Design Capacity	Calc Des Air Flow Rate [ft3/min]	User Des Air Flow Rate [ft3/min]	Design Day Name	Date/Time of Peak
1	CENTRAL SYSTEM_UNIT1	Cooling	Sensible	4950.86	726.20754	726.20754	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	7/21 05:00:00
2	CENTRAL SYSTEM_UNIT1	Heating	Sensible	11480.61	658.81348	658.81348	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	1/21 14:20:00

Component Sizing Information

	Component Type	Component Name	Input Field Description	Value
1	ZoneHVAC:EnergyRecoveryVentilator	ERV_UNIT1	User-Specified Supply Air Flow Rate [ft3/min]	59.99321
2	ZoneHVAC:EnergyRecoveryVentilator	ERV_UNIT1	User-Specified Exhaust Air Flow Rate [ft3/min]	59.99321
3	Fan:OnOff	OASUPPLYFAN_UNIT1	User-Specified Maximum Flow Rate [ft3/min]	59.99321
4	Fan:OnOff	OAEXHAUSTFAN_UNIT1	User-Specified Maximum Flow Rate [ft3/min]	59.99321
5	HeatExchanger:AirToAir:SensibleAndLatent	OA_HEAT_RECOVERY_UNIT1	User-Specified Nominal Supply Air Flow Rate [ft3/min]	59.99321
6	AirTerminal:SingleDuct:ConstantVolume:NoReheat	ZONEDIRECTAIR_UNIT1	Design Size Maximum Air Flow Rate [ft3/min]	726.20754
7	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Sum of Air Terminal Maximum Heating Flow Rates [ft3/min]	726.20754
8	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Sum of Air Terminal Minimum Heating Flow Rates [ft3/min]	726.20754
9	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Sum of Air Terminal Maximum Flow Rates [ft3/min]	726.20754
10	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Adjusted Heating Design Air Flow Rate [ft3/min]	726.20754
11	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Adjusted Cooling Design Air Flow Rate [ft3/min]	726.20754
12	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Adjusted Main Design Air Flow Rate [ft3/min]	726.20754
13	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	User Heating Air Flow Ratio []	1.00000
14	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Calculated Heating Air Flow Ratio []	1.00000
15	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	Design Supply Air Flow Rate [ft3/min]	726.20754
16	Coil:Cooling:DX:SingleSpeed	DX COOLING COIL_UNIT1	Design Size Rated Air Flow Rate [ft3/min]	726.20754
17	Coil:Cooling:DX:SingleSpeed	DX COOLING COIL_UNIT1	Design Size Gross Rated Total Cooling Capacity [ton]	1.85555
18	Coil:Cooling:DX:SingleSpeed	DX COOLING COIL_UNIT1	Design Size Gross Rated Sensible Heat Ratio	0.79666
19	AirLoopHVAC:UnitaryHeatCool	ACANDF_UNIT1	Supply Air Flow Rate [ft3/min]	726.20754
20	AirLoopHVAC:UnitaryHeatCool	ACANDF_UNIT1	Supply Air Flow Rate During Heating Operation [ft3/min]	726.20754
21	AirLoopHVAC:UnitaryHeatCool	ACANDF_UNIT1	Supply Air Flow Rate During Cooling Operation [ft3/min]	726.20754
22	AirLoopHVAC:UnitaryHeatCool	ACANDF_UNIT1	Nominal Heating Capacity [Btu/h]	39171.85231
23	AirLoopHVAC:UnitaryHeatCool	ACANDF_UNIT1	Nominal Cooling Capacity [ton]	1.85555
24	AirLoopHVAC:UnitaryHeatCool	ACANDF_UNIT1	Fraction of Supply Air Flow That Goes Through the Controlling Zone	1.00000
25	Fan:OnOff	SUPPLY FAN_UNIT1	Design Size Maximum Flow Rate [ft3/min]	726.20754
26	Coil:Heating:Fuel	MAIN FUEL HEATING COIL_UNIT1	Design Size Nominal Capacity [Btu/h]	39171.85231
27	PlantLoop	DHW LOOP_UNIT1	Maximum Loop Flow Rate [ft3/min]	1.04620
28	PlantLoop	DHW LOOP_UNIT1	Plant Loop Volume [ft3]	2.09294
29	Pump:VariableSpeed	MAINS PRESSURE_UNIT1	Design Flow Rate [ft3/min]	1.04620
30	WaterHeater:Mixed	WATER HEATER_UNIT1	Maximum Heater Capacity [Btu/h]	38002.17360
31	WaterHeater:Mixed	WATER HEATER_UNIT1	Use Side Design Flow Rate [ft3/min]	1.04620

DX Cooling Coil Standard Rating Information

	Component Type	Component Name	Standard Rating (Net) Cooling Capacity {ton}	Standard Rated Net COP {Btuh/Btuh}	EER {Btu/W-h}	SEER User {Btu/W-h}	SEER Standard {Btu/W-h}	IEER {Btu/W-h}
1	Coil:Cooling:DX:SingleSpeed	DX COOLING COIL_UNIT1	1.8	3.28	11.19	11.86	11.40	11.55

Environment

	Environment Name	Environment Type	Start Date	End Date	Start DayOfWeek	Duration {#days}	Source:Start DayOfWeek	Use Daylight Saving	Use Holidays	Apply Weekend Holiday Rule	Use Rain Values	Use Snow Values	Sky Temperature Model
1	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	SizingPeriod:DesignDay	01/21	01/21	WinterDesignDay	1	N/A	N/A	N/A	N/A	N/A	N/A	Clark and Allen
2	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	SizingPeriod:DesignDay	07/21	07/21	SummerDesignDay	1	N/A	N/A	N/A	N/A	N/A	N/A	Clark and Allen
3	ANNUAL	WeatherFileRunPeriod	01/01/2017	12/31/2017	Sunday	365	Use RunPeriod Specified Day	Yes	Yes	No	Yes	Yes	Clark and Allen

Environment:Daylight Saving

	Daylight Saving Indicator	Source	Start Date	End Date
1	No	SizingPeriod:DesignDay		
2	No	SizingPeriod:DesignDay		
3	No			

Environment:WarmupDays

	NumberofWarmupDays
1	6
2	6
3	6

Environment:Design Day Data

	Max Dry-Bulb Temp {F}	Temp Range {dC}	Temp Range Ind Type	Hum Ind Type	Hum Ind Value at Max Temp	Hum Ind Units	Pressure {psi}	Wind Direction {deg CW from N}	Wind Speed {ft/min}	Clearness	Rain	Snow
1	2.66	0.00	DefaultMultipliers	Wetbulb	-16.30	{C}	14.	270	1004.0	0.00	No	No
2	86.54	9.30	DefaultMultipliers	Wetbulb	21.80	{C}	14.	240	1122.1	0.00	No	No

Environment:Design Day Misc

	DayOfYear	ASHRAE A Coeff	ASHRAE B Coeff	ASHRAE C Coeff	Solar Constant-Annual Variation	Eq of Time {minutes}	Solar Declination Angle {deg}	Solar Model
1	21	1229.0	0.1415	5.7310E-002	1.0	-11.15	-20.	ASHRAEClearSky
2	202	1084.4	0.2082	0.1365	1.0	-6.23	20.6	ASHRAETau

Tabular Report

	Style	Unit Conversion
1	Commaandhtml	commaandhtml

Warmup Convergence Information

	Zone Name	Environment Type/Name	Average Warmup Temperature Difference {deltaF}	Std Dev Warmup Temperature Difference {deltaF}	Max Temperature Pass/Fail Convergence	Min Temperature Pass/Fail Convergence	Average Warmup Load Difference {Btu/h}	Std Dev Warmup Load Difference {Btu/h}	Heating Load Pass/Fail Convergence	Cooling Load Pass/Fail Convergence
1	LIVING_UNIT1	SizingPeriod: BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	0.032909109	0.030344359	Pass	Pass	0.001254640	0.002029625	Pass	Pass
2	ATTIC_UNIT1	SizingPeriod: BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	0.003606829	0.003188328	Pass	Pass	0.000000000	0.000000000	Pass	Pass
3	LIVING_UNIT1	SizingPeriod: BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	0.044991604	0.081051322	Pass	Pass	5.796896741	0.467043E+02	Pass	Pass
4	ATTIC_UNIT1	SizingPeriod: BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	0.295244027	0.197895767	Pass	Pass	0.000000000	0.000000000	Pass	Pass
5	LIVING_UNIT1	RunPeriod: ANNUAL	0.000608014	0.001076560	Pass	Pass	0.031250159	0.027637686	Pass	Pass
6	ATTIC_UNIT1	RunPeriod: ANNUAL	0.484331559	0.398685847	Pass	Pass	0.000000000	0.000000000	Pass	Pass

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Report: **Annual Heat Emissions Summary** Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Heat Emission by Components

	Envelope Convection	Zone Exfiltration	Zone Exhaust Air	HVAC Relief Air	HVAC Reject Heat	Total
Heat Emissions [kBtu]	384299.51	175100.82	0.00	0.00	53968.21	613369.81

Report: **Climatic Data Summary** Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	2.66	0.00	2.66	Wetbulb [F]	1003.99	270.00
BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	86.54	16.74	71.24	Wetbulb [F]	1122.10	240.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary** Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction
WALL_LDF_1.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	338.48	294.05	180.00	90.00	S
WALL_SDR_1.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	253.86	209.43	90.00	90.00	E
WALL_LDB_1.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	338.48	254.03	0.00	90.00	N
WALL_SDL_1.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	253.86	209.43	270.00	90.00	W
WALL_LDF_2.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	338.48	294.05	180.00	90.00	S
WALL_SDR_2.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	253.86	209.43	90.00	90.00	E
WALL_LDB_2.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	338.48	294.05	0.00	90.00	N
WALL_SDL_2.UNIT1	EXTERIOR WALL	0.30	0.064	0.068	253.86	209.43	270.00	90.00	W
ROOF_RIGHT_UNIT1	GABLE_END	0.30	0.314	0.428	73.79	73.79	90.00	90.00	E
ROOF_LEFT_UNIT1	GABLE_END	0.30	0.314	0.428	73.79	73.79	270.00	90.00	W
ROOF_FRONT_UNIT1	EXTERIOR ROOF	0.25	0.543	0.943	626.00	626.00	180.00	18.32	
ROOF_BACK_UNIT1	EXTERIOR ROOF	0.25	0.543	0.943	626.00	626.00	0.00	18.32	

Opaque Interior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction
INTER ZONE FLOOR 1	INTERIOR FLOOR	0.30	0.193	0.300	1188.55	1188.55	90.00	180.00	
FLOOR_UNIT1	INTERIOR FLOOR	0.30	0.212	0.300	1188.55	1188.55	90.00	180.00	
CEILING_UNIT1	INTERIOR CEILING	0.30	0.030	0.031	1188.55	1188.55	180.00	0.00	
iz-CEILING_UNIT1	ATTIC FLOOR	0.30	0.030	0.031	1188.55	1188.55	0.00	180.00	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control	Parent Surface	Azimuth [deg]	Tilt [deg]	Cardinal Direction
WINDOW_LDF_1.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_LDF_1.UNIT1	180.00	90.00	S
WINDOW_SDR_1.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_SDR_1.UNIT1	90.00	90.00	E
WINDOW_LDB_1.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_LDB_1.UNIT1	0.00	90.00	N
WINDOW_SDL_1.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_SDL_1.UNIT1	270.00	90.00	W
WINDOW_LDF_2.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_LDF_2.UNIT1	180.00	90.00	S

WINDOW_SDR_2.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_SDR_2.UNIT1	90.00	90.00	E
WINDOW_LDB_2.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_LDB_2.UNIT1	0.00	90.00	N
WINDOW_SDL_2.UNIT1	EXTERIOR WINDOW	44.43	0.00	0.00	44.43	44.43	0.350	0.335	0.883			Yes	WALL_SDL_2.UNIT1	270.00	90.00	W
Total or Average						355.40	0.350	0.335	0.883							
North Total or Average						88.85	0.350	0.335	0.883							
Non-North Total or Average						266.55	0.350	0.335	0.883							

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
DOOR_LDB_UNIT1	EXTERIOR DOOR	0.270	0.350	40.02	WALL_LDB_1.UNIT1

Interior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
None					

Report: **Shading Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Sunlit Fraction

	March 21 9am	March 21 noon	March 21 3pm	June 21 9am	June 21 noon	June 21 3pm	December 21 9am	December 21 noon	December 21 3pm
WINDOW_LDF_1.UNIT1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
WINDOW_SDR_1.UNIT1	1.00	0.97	0.00	0.99	0.94	0.00	1.00	0.97	0.00
WINDOW_LDB_1.UNIT1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WINDOW_SDL_1.UNIT1	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
WINDOW_LDF_2.UNIT1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
WINDOW_SDR_2.UNIT1	1.00	0.97	0.00	0.99	0.94	0.00	1.00	0.97	0.00
WINDOW_LDB_2.UNIT1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WINDOW_SDL_2.UNIT1	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00

Window Control

	Name	Type	Shaded Construction	Control	Glare Control
WINDOW_LDF_1.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No
WINDOW_SDR_1.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No
WINDOW_LDB_1.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No
WINDOW_SDL_1.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No
WINDOW_LDF_2.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No
WINDOW_SDR_2.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No
WINDOW_LDB_2.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No
WINDOW_SDL_2.UNIT1	SHADES-LIVING_UNIT1	Interior Blind	WINDOW_W_BLINDS	OnIfScheduleAllows	No

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Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
LIVING HARDWIRED LIGHTING1	LIVING_UNIT1	0.6066	2377.10	1441.97	General	INTERIORLIGHTINGHE	58.88	168.00	58.88	0.0000	Y	1297.43
LIVING PLUG-IN LIGHTING1	LIVING_UNIT1	0.1517	2377.10	360.49	General	INTERIORLIGHTINGHE	58.88	168.00	58.88	0.0000	Y	324.36
Interior Lighting Total		0.3791	4754.19	1802.46								1621.79

Daylighting

	Zone	Control Name	Daylighting Method	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None							

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
EXTERIOR-LIGHTS_UNIT1	78.66	Schedule	EXTERIORLIGHTING	84.00	84.00	84.00	344.52
GARAGE-LIGHTS_UNIT1	13.03	Schedule	INTERIORLIGHTINGHE	58.88	168.00	58.88	40.00
Exterior Lighting Total	91.69						384.52

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [W/W]	IPLV in IP Units [Btu/W-h]
None					

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [Btu/h-F]	Nominal Coil Surface Area [ft2]
DX COOLING COIL_UNIT1	Coil:Cooling:DX:SingleSpeed		22266.61	17738.97	4527.63	0.80	3.97		

Nominal values are gross at rated conditions, i.e., the supply air fan heat and electric power NOT accounted for.

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER User [Btu/W-h]	SEER Standard [Btu/W-h]	IEER [Btu/W-h]
DX COOLING COIL_UNIT1		1.8	3.28	11.19	11.86	11.40	11.55

ANSI/AHRI ratings account for supply air fan heat and electric power. SEER User is calculated using user-input PLF curve and cooling coefficient of degradation whereas SEER Standard is calculated using AHRI Std 210/240-2008 default PLF curve and cooling coefficient of degradation.

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
DX COOLING COIL_UNIT1	Coil:Cooling:DX:SingleSpeed								

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
MAIN FUEL HEATING COIL_UNIT1	Coil:Heating:Fuel		39171.85	0.80

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electricity Rate [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	Fan Energy Index	End Use Subcategory	Design Day Name for Fan Sizing Peak	Date/Time for Fan Sizing Peak
OASUPPLYFAN_UNIT1	Fan:OnOff	0.60	0.07	59.99	21.43	0.36	0.00	10.06	Ventilation		
OAEXHAUSTFAN_UNIT1	Fan:OnOff	0.60	0.07	59.99	21.43	0.36	0.00	10.06	Ventilation		
SUPPLY FAN_UNIT1	Fan:OnOff	0.38	0.06	726.21	363.68	0.50	1.00	1.39	General	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	1/21 14:20:00

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electricity Rate [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]	End Use Subcategory
MAINS PRESSURE_UNIT1	Pump:VariableSpeed	Intermittent	0.00	7.827838	0.00	0.00	1.00	General

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
WATER HEATER_UNIT1	WaterHeater:Mixed	5.35	38002.17	0.80	0.82	0.55

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Zone Sensible Cooling

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbDryAir]	Outdoor Temperature at Peak Load [F]	Outdoor Humidity Ratio at Peak Load [lbWater/lbDryAir]	Minimum Outdoor Air Flow Rate [ft3/min]	Heat Gain Rate from DOAS [Btu/h]
LIVING_UNIT1	16640.40	16640.40	7.00	726.211	726.211	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	7/21 17:50:00	75.00	74.99	0.00900	82.80	0.01336	59.993	0.00

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbDryAir]	Outdoor Temperature at Peak Load [F]	Outdoor Humidity Ratio at Peak Load [lbWater/lbDryAir]	Minimum Outdoor Air Flow Rate [ft3/min]	Heat Gain Rate from DOAS [Btu/h]
LIVING_UNIT1	35297.03	35297.03	14.85	658.817	658.817	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	1/21 14:20:00	72.00	71.98	0.00597	2.66	0.00092	59.993	0.00

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]	Adjusted cooling [ft3/min]	Adjusted heating [ft3/min]	Adjusted main [ft3/min]	Calculated Heating Air Flow Ratio []	User Heating Air Flow Ratio []
CENTRAL SYSTEM_UNIT1	726.21	726.21	658.82	658.82	726.2112	726.2112	726.2112	1.0000	1.0000

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Coil Sizing Summary

	Coil Type	HVAC Type	HVAC Name	Coil Final Gross Total Capacity [Btu/h]	Coil Final Gross Sensible Capacity [Btu/h]	Coil Final Reference Air Volume Flow Rate [ft3/min]	Coil Final Reference Plant Fluid Volume Flow Rate [ft3/min]	Coil U-value Times Area Value [Btu/h-F]	Design Day Name at Sensible Ideal Loads Peak	Date/Time at Sensible Ideal Loads Peak	Design Day Name at Air Flow Ideal Loads Peak	Date/Time at Air Flow Ideal Loads Peak	Coil Total Capacity at Ideal Loads Peak [Btu/h]	Coil Sensible Capacity at Ideal Loads Peak [Btu/h]	C V Flo a Load [ft
DX COOLING COIL_UNIT1	Coil:Cooling:DX:SingleSpeed	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	22266.606	17738.974	726.211203	-999.	-999.00	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	7/21 17:40:00	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN CLG .4% CONDNS DB=>MWB	7/21 17:50:00	22025.73	17911.98	726.2
MAIN FUEL HEATING COIL_UNIT1	Coil:Heating:Fuel	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	39171.852	39171.852	-999.	-999.	-999.00	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	1/21 14:20:00	BUFFALO.NIAGARA.INTL.AP_NY_USA ANN HTG 99.6% CONDNS DB	1/21 14:20:00	39171.85	39171.85	726.2

Report: **Coil Sizing Details**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Coils

	Coil Type	Coil Location	HVAC Type	HVAC Name	Zone Name(s)	System Sizing Method Concurrence	System Sizing Method Capacity	System Sizing Method Air Flow	Autosized Coil Capacity?	Autosized Coil Airflow?	Autosized Coil Water Flow?	OA Pretreated prior to coil inlet?	Coil Final Gross Total Capacity [Btu/h]	Coil Final Gross Sensible Capacity [Btu/h]	Coil Final Reference Air Volume Flow Rate [ft3/min]	Coil Final Reference Plant Fluid Volume Flow Rate [ft3/min]	Coil U-value Times Area Value [Btu/h-F]	Terminal Unit Reheat Coil Multiplier	I (Increa from T Flow/(
DX COOLING COIL_UNIT1	Coil:Cooling:DX:SingleSpeed	AirLoop	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	LIVING_UNIT1	Non-Coincident	CoolingDesignCapacity	N/A	Yes	Yes	unknown	No	22266.606	17738.974	726.211203	-999.	-999.00	-999.0000	
MAIN FUEL HEATING COIL_UNIT1	Coil:Heating:Fuel	AirLoop	AirLoopHVAC	CENTRAL SYSTEM_UNIT1	LIVING_UNIT1	Non-Coincident	HeatingDesignCapacity	N/A	Yes	No	unknown	No	39171.852	39171.852	-999.	-999.	-999.00	-999.0000	

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Outdoor Air Per Zone [ft3/min]	Outdoor Air ACH [ACH]	Outdoor Air Method	Outdoor Air Schedule Name	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule Name
None										

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
LIVING_UNIT1	3508.83	6842.67	2207.17
ATTIC_UNIT1	0.00	0.00	0.00
Facility	3508.83	6842.67	2207.17

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
LIVING_UNIT1	856.50	91.33	856.50	91.33
ATTIC_UNIT1	0.00	0.00	0.00	0.00
Facility	856.50	91.33	856.50	91.33

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
LIVING_UNIT1	2.07	3.00	17050.56	0.214	0.000	0.762	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
LIVING_UNIT1	2.07	3.00	17050.56	0.202	0.000	0.000	0.000

Values shown for a single zone without multipliers

Report: **Outdoor Air Details**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Mechanical Ventilation Parameters by Zone

	AirLoop Name	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Zone Area [ft2]	Design Zone Outdoor Airflow - Voz [ft3/min]	Minimum Dynamic Target Ventilation - Voz-dyn-min [ft3/min]
LIVING_UNIT1	CENTRAL SYSTEM_UNIT1	2.07	3.00	17050.56	2377.10	0.0000	0.000
Total Facility		2.07	3.00	17050.56	2377.10	0.0000	0.000

Total Outdoor Air by Zone

	Mechanical Ventilation [ft3]	Natural Ventilation [ft3]	Total Ventilation [ft3]	Infiltration [ft3]	Total Ventilation and Infiltration [ft3]	Dynamic Target Ventilation - Voz-dyn [ft3]	Time Below Voz-dyn [hr]	Time At Voz-dyn [hr]	Time Above Voz-dyn [hr]	Time Above Zero When Unoccupied [hr]
LIVING_UNIT1	31713442.25	0.00	31713442.25	0.00	0.144571E+09	31713442.25	0.00	8808.00	0.00	0.00
Total Facility	31713442.25	0.00	31713442.25	0.00	31713442.25	31713442.25	0.00	8808.00	0.00	0.00

Average Outdoor Air During Occupancy by Zone - Flow Rates

	Mechanical Ventilation [ft3/min]	Natural Ventilation [ft3/min]	Total Ventilation [ft3/min]	Infiltration [ft3/min]	Total Ventilation and Infiltration [ft3/min]	Dynamic Target Ventilation - Voz-dyn [ft3/min]	Time Below Voz-dyn [hr]	Time At Voz-dyn [hr]	Time Above Voz-dyn [hr]
LIVING_UNIT1	59.9933	0.0000	59.9933	213.4954	273.4887	59.9933	0.00	8808.00	0.00
Total Facility	59.9933	0.0000	59.9933	213.4954	273.4887	59.9933	0.00	8808.00	0.00

Total Outdoor Air by AirLoop

	Mechanical Ventilation [ft3]	Natural Ventilation [ft3/min]	Total Ventilation [ft3/min]	Sum Zone Dynamic Target Ventilation - Voz-sum-dyn [ft3]	Time Below Voz-sum-dyn [hr]	Time At Voz-sum-dyn [hr]	Time Above Voz-sum-dyn [hr]	Time Above Zero When Unoccupied [hr]
CENTRAL SYSTEM_UNIT1	0.00	0.00	0.00	31713442.25	8808.00	0.00	0.00	0.00

Average Outdoor Air During Occupancy by AirLoop

	Mechanical Ventilation [ft3/min]	Natural Ventilation [ft3/min]	Total Ventilation [ft3/min]	Sum Zone Dynamic Target Ventilation - Voz-sum-dyn [ft3/min]	Time Below Voz-sum-dyn [hr]	Time At Voz-sum-dyn [hr]	Time Above Voz-sum-dyn [hr]
CENTRAL SYSTEM_UNIT1	0.0000	0.0000	0.0000	59.9933	8808.00	0.00	0.00

Outdoor Air Controller Limiting Factors by AirLoop

	No Limiting Factor [hr]	Limits and Scheduled Limits [hr]	Economizer [hr]	Exhaust Flow [hr]	Mixed Air Flow [hr]	High Humidity [hr]	Demand Controlled Ventilation [hr]	Night Ventilation [hr]	Demand Limiting [hr]	Energy Management System [hr]
CENTRAL SYSTEM_UNIT1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Outdoor Air for Limiting Factors During Occupancy

	No Limiting Factor [ft3/min]	Limits and Scheduled Limits [ft3/min]	Economizer [ft3/min]	Exhaust Flow [ft3/min]	Mixed Air Flow [ft3/min]	High Humidity [ft3/min]	Demand Controlled Ventilation [ft3/min]	Night Ventilation [ft3/min]	Demand Limiting [ft3/min]	Energy Management System [ft3/min]
CENTRAL SYSTEM_UNIT1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Report: **Object Count Summary**

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For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Surfaces by Class

	Total	Outdoors
Wall	10	10
Floor	3	0
Roof	3	2
Internal Mass	1	0
Building Detached Shading	0	0
Fixed Detached Shading	0	0
Window	8	8
Door	1	1
Glass Door	0	0
Shading	4	4
Overhang	2	2
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	1
Conditioned Zones	1
Unconditioned Zones	1
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	440
Defaulted Fields	330
Fields with Defaults	1722
Autosized Fields	18
Autosizable Fields	32
Autocalculated Fields	18
Autocalculatable Fields	38

Report: **Energy Meters**

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For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
Electricity:Building	8669.37	659.16	02-JAN-03:10	1708.84	01-JAN-20:10
Electricity:Zone:LIVING_UNIT1	8669.37	659.16	02-JAN-03:10	1708.84	01-JAN-20:10
InteriorLights:Electricity	1621.79	36.32	01-JAN-00:10	528.27	01-JAN-19:10
InteriorLights:Electricity:Zone:LIVING_UNIT1	1621.79	36.32	01-JAN-00:10	528.27	01-JAN-19:10
General:InteriorLights:Electricity	1621.79	36.32	01-JAN-00:10	528.27	01-JAN-19:10
InteriorEquipment:Electricity	7047.58	602.34	02-JAN-04:10	1180.57	01-JAN-20:10
InteriorEquipment:Electricity:Zone:LIVING_UNIT1	7047.58	602.34	02-JAN-04:10	1180.57	01-JAN-20:10
dishwasher:InteriorEquipment:Electricity	205.90	1.89	02-JAN-03:10	65.70	01-JAN-19:10
refrigerator:InteriorEquipment:Electricity	668.67	66.60	01-JAN-04:10	91.06	01-JAN-18:10
clotheswasher:InteriorEquipment:Electricity	105.15	1.01	02-JAN-02:10	28.48	01-JAN-09:10
gas_dryer:InteriorEquipment:Electricity	75.94	0.39	02-JAN-03:10	19.42	01-JAN-11:10
gas_range:InteriorEquipment:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
television:InteriorEquipment:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
gas_mels:InteriorEquipment:Electricity	3001.13	262.21	01-JAN-09:10	507.15	01-JAN-20:10
IECC_adj:InteriorEquipment:Electricity	2990.78	261.30	01-JAN-09:10	505.40	01-JAN-20:10
Fans:Electricity	1773.27	42.86	03-APR-13:00	406.54	04-JAN-00:30
Fans:Electricity:Zone:LIVING_UNIT1	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10

Ventilation (simple):Fans:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
Electricity:HVAC	3125.81	42.86	03-APR-13:00	2001.90	15-JUL-15:00
General:Fans:Electricity	1397.84	0.00	12-MAR-12:40	363.68	04-JAN-00:30
Ventilation:Fans:Electricity	375.43	42.86	05-JAN-22:40	42.86	01-JAN-00:10
ElectricityPurchased:Facility	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
ElectricityPurchased:Plant	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
Cogeneration:ElectricityPurchased	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
General:Cogeneration:ElectricityPurchased	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
ElectricitySurplusSold:Facility	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
ElectricitySurplusSold:Plant	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
General:Cogeneration:ElectricitySurplusSold	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
ElectricityNet:Facility	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
ElectricityNet:Plant	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
Cogeneration:ElectricityNet	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
General:Cogeneration:ElectricityNet	12179.69	771.40	16-MAR-12:40	3691.01	19-JUL-19:10
HeatRecovery:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
General:HeatRecovery:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
ExteriorLights:Electricity	384.52	1.68	01-JAN-09:10	91.69	01-JAN-19:10
Exterior-Lights:ExteriorLights:Electricity	344.52	0.00	01-JAN-06:10	78.66	01-JAN-00:10
Garage-Lights:ExteriorLights:Electricity	40.00	0.90	01-JAN-00:10	13.03	01-JAN-19:10
Heating:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
General:Heating:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
Cooling:Electricity	1352.54	0.00	01-JAN-00:10	1595.36	15-JUL-15:00
General:Cooling:Electricity	1352.54	0.00	01-JAN-00:10	1595.36	15-JUL-15:00
Electricity:Plant	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
Pumps:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
General:Pumps:Electricity	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10

Annual and Peak Values - Natural Gas

	Natural Gas Annual Value [therm]	Natural Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Natural Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
NaturalGas:Facility	1730.98	184.05	16-MAR-03:10	61469.24	12-FEB-18:00
NaturalGas:Building	110.14	184.05	02-JAN-03:10	2927.62	01-JAN-17:10
NaturalGas:Zone:LIVING_UNIT1	110.14	184.05	02-JAN-03:10	2927.62	01-JAN-17:10
InteriorEquipment:NaturalGas	110.14	184.05	02-JAN-03:10	2927.62	01-JAN-17:10
InteriorEquipment:NaturalGas:Zone:LIVING_UNIT1	110.14	184.05	02-JAN-03:10	2927.62	01-JAN-17:10
gas_dryer:InteriorEquipment:NaturalGas	52.83	26.91	02-JAN-03:10	1349.77	01-JAN-11:10
gas_range:InteriorEquipment:NaturalGas	44.96	43.46	01-JAN-02:10	1845.69	01-JAN-17:10
gas_mels:InteriorEquipment:NaturalGas	12.35	107.83	01-JAN-09:10	208.56	01-JAN-20:10
NaturalGas:HVAC	1415.12	0.00	12-MAR-12:40	48964.82	06-JAN-07:30
Heating:NaturalGas	1415.12	0.00	12-MAR-12:40	48964.82	06-JAN-07:30
General:Heating:NaturalGas	1415.12	0.00	12-MAR-12:40	48964.82	06-JAN-07:30
NaturalGas:Plant	205.72	0.00	01-JAN-00:10	9857.38	07-FEB-08:20
WaterSystems:NaturalGas	205.72	0.00	01-JAN-00:10	9857.38	07-FEB-08:20
Water Heater:WaterSystems:NaturalGas	205.72	0.00	01-JAN-00:10	9857.38	07-FEB-08:20

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
Water:Plant	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
WaterSystems:Water	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
Domestic Hot Water:WaterSystems:Water	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
MainsWater:Facility	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
MainsWater:Plant	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
WaterSystems:MainsWater	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
Domestic Hot Water:WaterSystems:MainsWater	3504.54	0.00	13-JUL-02:50	0.01	01-JAN-08:30
Water Heater:WaterSystems:Water	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	01-JAN-00:10	0.000	01-JAN-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	01-JAN-00:10	0.000	01-JAN-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
EnergyTransfer:Facility	235716.95	370.66	02-JUL-04:00	69436.37	02-DEC-09:50
EnergyTransfer:Building	89611.69	1.84	18-JUN-22:20	27898.27	25-DEC-03:30
EnergyTransfer:Zone:LIVING_UNIT1	89611.69	1.84	18-JUN-22:20	27898.27	25-DEC-03:30
Heating:EnergyTransfer	77816.38	0.00	12-MAR-12:40	27898.27	25-DEC-03:30
Heating:EnergyTransfer:Zone:LIVING_UNIT1	77816.38	0.00	12-MAR-12:40	27898.27	25-DEC-03:30

General:Heating:EnergyTransfer	77816.38	0.00	12-MAR-12:40	27898.27	25-DEC-03:30
Cooling:EnergyTransfer	11795.31	0.00	01-JAN-00:10	16176.96	17-AUG-17:20
Cooling:EnergyTransfer:Zone:LIVING_UNIT1	11795.31	0.00	01-JAN-00:10	16176.96	17-AUG-17:20
General:Cooling:EnergyTransfer	11795.31	0.00	01-JAN-00:10	16176.96	17-AUG-17:20
EnergyTransfer:Zone:ATTIC_UNIT1	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
Heating:EnergyTransfer:Zone:ATTIC_UNIT1	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
Cooling:EnergyTransfer:Zone:ATTIC_UNIT1	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
EnergyTransfer:HVAC	134257.43	0.00	12-MAR-12:40	39171.85	11-DEC-19:50
HeatRecoveryForHeating:EnergyTransfer	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
HeatRecoveryForCooling:EnergyTransfer	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10
HeatingCoils:EnergyTransfer	113209.79	0.00	12-MAR-12:40	39171.85	11-DEC-19:50
CoolingCoils:EnergyTransfer	21047.64	0.00	01-JAN-00:10	25444.31	15-JUL-16:50
EnergyTransfer:Plant	11847.83	102.81	15-AUG-02:10	3057.99	12-FEB-08:10
WaterSystems:EnergyTransfer	11847.83	102.81	15-AUG-02:10	3057.99	12-FEB-08:10
Domestic Hot Water:WaterSystems:EnergyTransfer	11847.83	102.81	15-AUG-02:10	3057.99	12-FEB-08:10
PlantLoopHeatingDemand:Facility	11847.83	102.81	15-AUG-02:10	3057.99	12-FEB-08:10
PlantLoopHeatingDemand:Plant	11847.83	102.81	15-AUG-02:10	3057.99	12-FEB-08:10
WaterSystems:PlantLoopHeatingDemand	11847.83	102.81	15-AUG-02:10	3057.99	12-FEB-08:10
General:WaterSystems:PlantLoopHeatingDemand	11847.83	102.81	15-AUG-02:10	3057.99	12-FEB-08:10
Water Heater:WaterSystems:PlantLoopHeatingDemand	0.00	0.00	01-JAN-00:10	0.00	01-JAN-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	Window Heat Removal [kBtu]	Interzone Air Transfer Heat Removal [kBtu]	Infiltration Heat Removal [kBtu]	Opaque Surface Conduction and Other Heat Removal [kBtu]
LIVING_UNIT1	194.225	-1087.34	78739.656	-1080.30	0.000	0.000	4710.121	5537.465	21815.363	16498.426	2.490	414.402	0.000	0.000	-15609.42	-0.01	-55955.37	-30318.30
ATTIC_UNIT1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26481.767	491.037	87777.421	0.000	0.000	-351.39	-114398.83	0.000
Total Facility	194.225	-1087.34	78739.656	-1080.30	0.000	0.000	4710.121	5537.465	21815.363	16498.426	26484.257	905.439	87777.421	0.000	-15609.42	-351.40	-170354.21	-30318.30

Peak Cooling Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]	Equipment Sensible Heat Removal [Btu/h]	Window Heat Removal [Btu/h]	Interzone Air Transfer Heat Removal [Btu/h]	Infiltration Heat Removal [Btu/h]	Opaque Surface Conduction and Other Heat Removal [Btu/h]
LIVING_UNIT1	17-AUG-17:15	0.00	0.03	0.00	-1.4	0.00	0.00	388.10	1208.21	3952.60	7420.16	0.00	697.32	2539.20	0.00	0.00	0.00	0.00	0.00
ATTIC_UNIT1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	17-AUG-17:15	0.00	0.03	0.00	-1.4	0.00	0.00	388.10	1208.21	3952.60	7420.16	0.00	697.32	8281.09	0.00	0.00	-449.5	-5292.4	0.00

Peak Heating Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]	Equipment Sensible Heat Removal [Btu/h]	Window Heat Removal [Btu/h]	Interzone Air Transfer Heat Removal [Btu/h]	Infiltration Heat Removal [Btu/h]	Opaque Surface Conduction and Other Heat Removal [Btu/h]
LIVING_UNIT1	02-DEC-06:50	-1929.8	0.00	27702.99	0.00	0.00	0.00	792.38	867.43	2235.98	0.00	0.00	0.00	0.00	0.00	-3493.1	0.00	-23084.6	-3091.3
ATTIC_UNIT1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	02-DEC-06:50	-1929.8	0.00	27702.99	0.00	0.00	0.00	792.38	867.43	2235.98	0.00	7485.88	0.00	13416.84	0.00	-3493.1	0.00	-47078.6	0.00

Report: **Standard 62.1 Summary**

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For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

System Ventilation Requirements for Cooling

	Sum of Zone Primary Air Flow - Vpz-sum [ft3/min]	System Population - Ps	Sum of Zone Population - Pz-sum	Occupant Diversity - D	Uncorrected Outdoor Air Intake Airflow - Vou [ft3/min]	System Primary Airflow - Vps [ft3/min]	Average Outdoor Air Fraction - Xs	System Ventilation Efficiency - Ev	Outdoor Air Intake Flow - Vot [ft3/min]	Percent Outdoor Air - %OA	Environment Name of Peak System Population - Ps	Date and Time of Last Peak System Population - Ps
CENTRAL SYSTEM_UNIT1	726.2112	0.0000	3.0000	1.0000	0.0000	726.2112	0.0000	1.0000	0.0000	0.0000		

System Ventilation Requirements for Heating

	Sum of Zone Primary Air Flow - Vpz-sum [ft3/min]	System Population - Ps	Sum of Zone Population - Pz-sum	Occupant Diversity - D	Uncorrected Outdoor Air Intake Airflow - Vou [ft3/min]	System Primary Airflow - Vps [ft3/min]	Average Outdoor Air Fraction - Xs	System Ventilation Efficiency - Ev	Outdoor Air Intake Flow Vot [ft3/min]	Percent Outdoor Air - %OA	Environment Name of Peak System Population - Ps	Date and Time of Last Peak System Population - Ps
CENTRAL SYSTEM_UNIT1	726.2112	0.0000	3.0000	1.0000	0.0000	726.2112	0.0000	1.0000	0.0000	0.0000		

Zone Ventilation Parameters

	AirLoop Name	People Outdoor Air Rate - Rp [ft3/min-person]	Zone Population - Pz	Area Outdoor Air Rate - Ra [ft3/min-ft2]	Zone Floor Area - Az [ft2]	Breathing Zone Outdoor Airflow - Vbz [ft3/min]	Cooling Zone Air Distribution Effectiveness - Ez-clg	Cooling Zone Outdoor Airflow - Voz-clg [ft3/min]	Heating Zone Air Distribution Effectiveness - Ez-htg	Heating Zone Outdoor Airflow - Voz-htg [ft3/min]
LIVING_UNIT1	CENTRAL SYSTEM_UNIT1	0.000000	3.0000	0.000000	2377.10	0.0000	1.0000	0.0000	1.000	0.0000

System Ventilation Parameters

	People Outdoor Air Rate - Rp [ft3/min-person]	Sum of Zone Population - Pz-sum	Area Outdoor Air Rate - Ra [ft3/min-ft2]	Sum of Zone Floor Area - Az-sum [ft2]	Breathing Zone Outdoor Airflow - Vbz [ft3/min]	Cooling Zone Outdoor Airflow - Voz-clg [ft3/min]	Heating Zone Outdoor Airflow - Voz-htg [ft3/min]
CENTRAL SYSTEM_UNIT1	0.000000	3.00	0.000000	2377.0955	0.0000	0.0000	0.0000

Zone Ventilation Calculations for Cooling Design

	AirLoop Name	Box Type	Zone Primary Airflow - Vpz [ft3/min]	Zone Discharge Airflow - Vdz [ft3/min]	Minimum Zone Primary Airflow - Vpz-min [ft3/min]	Zone Outdoor Airflow Cooling - Voz-clg [ft3/min]	Primary Outdoor Air Fraction - Zpz	Primary Air Fraction - Ep	Secondary Recirculation Fraction- Er	Supply Air Fraction- Fa	Mixed Air Fraction - Fb	Outdoor Air Fraction - Fc	Zone Ventilation Efficiency - Evz
LIVING_UNIT1	CENTRAL SYSTEM_UNIT1	AIRTERMINAL:SINGLEDUCT:CONSTANTVOLUME:NOREHEAT	726.2112	726.2112	726.2112	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000

System Ventilation Calculations for Cooling Design

	Sum of Zone Primary Airflow - Vpz-sum [ft3/min]	System Primary Airflow - Vps [ft3/min]	Sum of Zone Discharge Airflow - Vdz-sum [ft3/min]	Sum of Min Zone Primary Airflow - Vpz-min [ft3/min]	Zone Outdoor Airflow Cooling - Voz-clg [ft3/min]	Zone Ventilation Efficiency - Evz-min
CENTRAL SYSTEM_UNIT1	726.2112	726.2112	726.2112	726.2112	0.0000	1.0000

Zone Ventilation Calculations for Heating Design

	AirLoop Name	Box Type	Zone Primary Airflow - Vpz [ft3/min]	Zone Discharge Airflow - Vdz [ft3/min]	Minimum Zone Primary Airflow - Vpz-min [ft3/min]	Zone Outdoor Airflow Heating - Voz-htg [ft3/min]	Primary Outdoor Air Fraction - Zpz	Primary Air Fraction - Ep	Secondary Recirculation Fraction- Er	Supply Air Fraction- Fa	Mixed Air Fraction - Fb	Outdoor Air Fraction - Fc	Zone Ventilation Efficiency - Evz
LIVING_UNIT1	CENTRAL SYSTEM_UNIT1	AIRTERMINAL:SINGLEDUCT:CONSTANTVOLUME:NOREHEAT	726.2112	726.2112	726.2112	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000

System Ventilation Calculations for Heating Design

	Sum of Zone Primary Airflow - Vpz-sum [ft3/min]	System Primary Airflow - Vps [ft3/min]	Sum of Zone Discharge Airflow - Vdz-sum [ft3/min]	Sum of Min Zone Primary Airflow - Vpz-min [ft3/min]	Zone Outdoor Airflow Heating - Voz-htg [ft3/min]	Zone Ventilation Efficiency - Evz-min
CENTRAL SYSTEM_UNIT1	726.2112	726.2112	726.2112	726.2112	0.0000	1.0000

Report: **LEED Summary**

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For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Sec1.1A-General Information

	Data
Weather File	ANNUAL ** Buffalo Niagara Intl AP NY USA TMY3 WMO#=725280
Total gross floor area [ft2]	3565.64
Principal Heating Source	Natural Gas

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
LIVING_UNIT1	2377.10	2377.10	0.00	168.00
ATTIC_UNIT1	1188.55	0.00	1188.55	0.00
Totals	3565.64	2377.10	1188.55	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	856.50
Number of hours cooling loads not met	91.33
Number of hours not met	947.83

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand
None				

EAp2-4/5. Performance Rating Method Compliance

	Electricity Energy Use [kWh]	Electricity Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Gasoline Use [therm]	Gasoline Demand [Btu/h]	Diesel Use [kBtu]	Diesel Demand [Btu/h]	Coal Use [kBtu]	Coal Demand [Btu/h]	Fuel Oil No 1 Use [kBtu]	Fuel Oil No 1 Demand [Btu/h]	Fuel Oil No 2 Use [kBtu]	Fuel Oil No 2 Demand [Btu/h]	Propane Use [kBtu]	Propane Demand [Btu/h]	Other Fuel 1 Use [kBtu]	Other Fuel 1 Demand [Btu/h]	Other Fuel 2 Use [kBtu]	Other Fuel 2 Demand [Btu/h]	District Cooling Use [ton-hrs]	District Cooling Demand [ton]	District Heating Use [kBtu]	District Heating Demand [Btu/h]
Heating -- General	0.00	0.00	1415.12	48964.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooling -- General	1352.54	1595.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting -- General	1621.79	528.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting -- Exterior-Lights	344.52	78.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting -- Garage-Lights	40.00	13.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment -- dishwasher	205.90	65.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment -- refrigerator	668.67	91.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment -- clotheswasher	105.15	28.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment -- gas_dryer	75.94	19.42	52.83	1349.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment -- gas_range	0.00	0.00	44.96	1845.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment -- television	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment -- gas_mels	3001.13	507.15	12.35	208.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment --	2990.78	505.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

IECC_adj																								
Exterior Equipment -- Not Subdivided	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans -- Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans -- General	1397.84	363.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fans -- Ventilation	375.43	42.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pumps -- General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Rejection -- Not Subdivided	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humidification -- Not Subdivided	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery -- General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems -- Domestic Hot Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems -- General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems -- Water Heater	0.00	0.00	205.72	9857.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration -- Not Subdivided	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generators -- General	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	24063.37	41586.55
Natural Gas	11013.86	173098.25
Additional	0.00	0.00
Total	35077.23	214684.80

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	
Natural Gas	0.00	
Additional	0.00	
Total	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting (All)	0.45
Space Heating	0.00
Space Cooling	0.38
Fans (All)	0.50
Service Water Heating	0.00
Receptacle Equipment	1.98
Miscellaneous (All)	3.42
Subtotal	3.42

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kWh/ft2]
Space Heating	11.62
Service Water Heating	1.69
Miscellaneous (All)	14.22
Subtotal	14.22

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Subtotal	0.00
Miscellaneous	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting (All)	2.58
Space Heating	65.92
Space Cooling	2.15
Fans (All)	2.82
Service Water Heating	9.58
Receptacle Equipment	16.34
Miscellaneous	0.61

Schedules-Equivalent Full Load Hours (Schedule Type=Fraction)

	Equivalent Full Load Hours of Operation Per Year [hr]	Hours > 1% [hr]
OCCUPANCY	6031.	8760.
INTERIORLIGHTING	2852.	8760.

INTERIORLIGHTINGHE	3070.	8760.
INTERIORLIGHTINGHE_OS	2910.	8760.
INTERIORLIGHTINGHE_VS	2149.	8760.
EXTERIORLIGHTING	4380.	4380.
REFRIGERATOR	7343.	8760.
MISCPLUGLOAD	5918.	8760.
COOKINGRANGE	2434.	8760.
DHW_SCH	365.	8760.
DISHWASHER	3134.	8760.
CLOTHESWASHER	3692.	8760.
CLOTHESDRYER	3911.	8760.
SINKS	4680.	8760.
SHOWERS	2956.	8760.
BATHS	2896.	8760.
DHWDIST	4662.	8760.
SHADING_2012IECC	0.	0.
SINKSENSSCHEDULE	6025.	8760.
SINKLATSCHEDULE	2735.	8760.
SHOWERSENSSCHEDULE	4492.	8760.
SHOWERLATSCHEDULE	4268.	8760.
BATHSENSSCHEDULE	8760.	8760.
BATHLATSCHEDULE	0.	0.

Schedules-SetPoints (Schedule Type=Temperature)

	First Object Used	Month Assumed	11am First Wednesday [F]	Days with Same 11am Value	11pm First Wednesday [F]	Days with Same 11pm Value
HEATING_SCH	THERMOSTAT_LIVING DUAL SP CONTROL	January	72.00	365	72.00	365
COOLING_SCH	THERMOSTAT_LIVING DUAL SP CONTROL	July	75.00	365	75.00	365

Report: **Annual Thermal Resilience Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Heat Index Hours

	Safe (≤ 26.7°C) [hr]	Caution (> 26.7, ≤ 32.2°C) [hr]	Extreme Caution (> 32.2, ≤ 39.4°C) [hr]	Danger (> 39.4, ≤ 51.7°C) [hr]	Extreme Danger (> 51.7°C) [hr]
LIVING_UNIT1	8760.00	0.00	0.00	0.00	0.00
ATTIC_UNIT1	8335.67	385.17	39.17	0.00	0.00
Min	8335.67	0.00	0.00	0.00	0.00
Max	8760.00	385.17	39.17	0.00	0.00
Average	8547.83	192.58	19.58	0.00	0.00
Sum	17095.67	385.17	39.17	0.00	0.00

Heat Index OccupantHours

	Safe (≤ 26.7°C) [hr]	Caution (> 26.7, ≤ 32.2°C) [hr]	Extreme Caution (> 32.2, ≤ 39.4°C) [hr]	Danger (> 39.4, ≤ 51.7°C) [hr]	Extreme Danger (> 51.7°C) [hr]
LIVING_UNIT1	14600.00	0.00	0.00	0.00	0.00
ATTIC_UNIT1	0.00	0.00	0.00	0.00	0.00
Min	0.00	0.00	0.00	0.00	0.00
Max	14600.00	0.00	0.00	0.00	0.00
Average	7300.00	0.00	0.00	0.00	0.00
Sum	14600.00	0.00	0.00	0.00	0.00

Humidex Hours

	Little to no Discomfort (≤ 29) [hr]	Some Discomfort (> 29, ≤ 40) [hr]	Great Discomfort; Avoid Exertion (> 40, ≤ 45) [hr]	Dangerous (> 45, ≤ 50) [hr]	Heat Stroke Quite Possible (> 50) [hr]
LIVING_UNIT1	8406.50	353.50	0.00	0.00	0.00
ATTIC_UNIT1	8036.33	722.17	1.50	0.00	0.00
Min	8036.33	353.50	0.00	0.00	0.00
Max	8406.50	722.17	1.50	0.00	0.00
Average	8221.42	537.83	0.75	0.00	0.00
Sum	16442.83	1075.67	1.50	0.00	0.00

Humidex OccupantHours

	Little to no Discomfort (≤ 29) [hr]	Some Discomfort (> 29, ≤ 40) [hr]	Great Discomfort; Avoid Exertion (> 40, ≤ 45) [hr]	Dangerous (> 45, ≤ 50) [hr]	Heat Stroke Quite Possible (> 50) [hr]
LIVING_UNIT1	13860.17	739.83	0.00	0.00	0.00
ATTIC_UNIT1	0.00	0.00	0.00	0.00	0.00
Min	0.00	0.00	0.00	0.00	0.00
Max	13860.17	739.83	0.00	0.00	0.00
Average	6930.08	369.92	0.00	0.00	0.00
Sum	13860.17	739.83	0.00	0.00	0.00

Heating SET Hours

	SET ≤ 12.2°C Hours (F)	SET ≤ 12.2°C OccupantHours (F)	Longest SET ≤ 12.2°C Duration [hr]	Start Time of the Longest SET ≤ 12.2°C Duration
None				

Cooling SET Hours

	SET > 30°C Hours (F)	SET > 30°C OccupantHours (F)	Longest SET > 30°C Duration [hr]	Start Time of the Longest SET > 30°C Duration
None				

Report: **Annual CO2 Resilience Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

CO2 Level Hours

	Safe (<= 1000 ppm) [hr]	Caution (> 1000, <= 5000 ppm) [hr]	Hazard (> 5000 ppm) [hr]
None			

CO2 Level OccupantHours

	Safe (<= 1000 ppm) [hr]	Caution (> 1000, <= 5000 ppm) [hr]	Hazard (> 5000 ppm) [hr]
None			

Report: **Annual Visual Resilience Summary** Table of Contents

For: **Entire Facility**

Timestamp: **2021-05-12 11:10:00**

Illuminance Level Hours

	A Bit Dark (<= 100 lux) [hr]	Dim (> 100, <= 300 lux) [hr]	Adequate (> 300, <= 500 lux) [hr]	Bright (>500 lux) [hr]
None				

Illuminance Level OccupantHours

	A Bit Dark (<= 100 lux) [hr]	Dim (> 100, <= 300 lux) [hr]	Adequate (> 300, <= 500 lux) [hr]	Bright (>500 lux) [hr]
None				

Report: **FANSPLIT** Table of Contents

For: **CENTRAL SYSTEM_UNIT1**

Timestamp: **2021-05-12 11:10:00**

Custom Monthly Report

	AIR SYSTEM COOLING COIL TOTAL COOLING ENERGY {HOURS NON-ZERO} [HOURS]	AIR SYSTEM FAN ELECTRICITY ENERGY {FOR HOURS SHOWN} [kWh]	AIR SYSTEM HEATING COIL TOTAL HEATING ENERGY {HOURS NON-ZERO} [HOURS]	AIR SYSTEM FAN ELECTRICITY ENERGY {FOR HOURS SHOWN} [kWh]	AIR SYSTEM FAN ELECTRICITY ENERGY [kWh]
January	0.000	0.000	744.000	216.446	216.446
February	0.000	0.000	672.000	202.730	202.730
March	24.083	3.156	698.935	140.653	143.810
April	46.333	2.330	582.960	76.651	78.980
May	168.037	15.649	370.380	22.845	38.493
June	435.292	68.490	124.796	6.024	74.514
July	608.464	118.318	24.325	0.620	118.938
August	527.222	93.551	50.468	1.314	94.865
September	343.153	42.017	197.870	9.637	51.654
October	61.583	3.997	578.081	56.425	60.422
November	0.667	0.004	686.551	104.147	104.151
December	0.000	0.000	744.000	212.838	212.838
Annual Sum or Average	2214.834	347.511	5474.366	1050.330	1397.841
Minimum of Months	0.000	0.000	24.325	0.620	38.493
Maximum of Months	608.464	118.318	744.000	216.446	216.446

Report: **COILLOADS** Table of Contents

For: **MAIN FUEL HEATING COIL_UNIT1**

Timestamp: **2021-05-12 11:10:00**

Custom Monthly Report

	HEATING COIL HEATING RATE [Btu/h]	HEATING COIL AIR HEATING RATE []	COOLING COIL TOTAL COOLING RATE []
January	31334.79	0.00	0.00
February	32493.70	0.00	0.00
March	20362.32	0.00	0.00
April	11466.60	0.00	0.00
May	3307.20	0.00	0.00
June	901.17	0.00	0.00
July	89.81	0.00	0.00
August	190.20	0.00	0.00
September	1441.66	0.00	0.00
October	8168.55	0.00	0.00
November	15579.93	0.00	0.00
December	30812.51	0.00	0.00
Annual Sum or Average	12914.33	0.00	0.00
Minimum of Months	89.81	0.00	0.00
Maximum of Months	32493.70	0.00	0.00

Report: **COILLOADS** Table of Contents

For: **DX COOLING COIL_UNIT1**

Timestamp: **2021-05-12 11:10:00**

Custom Monthly Report

	HEATING COIL HEATING RATE []	HEATING COIL AIR HEATING RATE []	COOLING COIL TOTAL COOLING RATE [ton]
January	0.00	0.00	0.00
February	0.00	0.00	0.00
March	0.00	0.00	0.02
April	0.00	0.00	0.01
May	0.00	0.00	0.10
June	0.00	0.00	0.48
July	0.00	0.00	0.82

August	0.00	0.00	0.63
September	0.00	0.00	0.29
October	0.00	0.00	0.02
November	0.00	0.00	0.00
December	0.00	0.00	0.00
Annual Sum or Average	0.00	0.00	0.20
Minimum of Months	0.00	0.00	0.00
Maximum of Months	0.00	0.00	0.82

Report: **WATER HEATER: LOADS**

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For: **WATER HEATER_UNIT1**

Timestamp: **2021-05-12 11:10:00**

Custom Monthly Report

	WATER HEATER TOTAL DEMAND RATE []	WATER HEATER TOTAL DEMAND ENERGY []	WATER HEATER HEATING RATE [Btu/h]	WATER HEATER HEATING ENERGY [kBtu]
January	0.00	0.00	2118.78	1577.49
February	0.00	0.00	2171.99	1460.61
March	0.00	0.00	2106.21	1568.13
April	0.00	0.00	2016.43	1452.86
May	0.00	0.00	1874.41	1395.55
June	0.00	0.00	1730.81	1247.07
July	0.00	0.00	1632.54	1215.47
August	0.00	0.00	1593.40	1186.33
September	0.00	0.00	1638.49	1180.55
October	0.00	0.00	1748.52	1301.82
November	0.00	0.00	1879.69	1354.34
December	0.00	0.00	2038.20	1517.49
Annual Sum or Average	0.00	0.00	1877.40	16457.73
Minimum of Months	0.00	0.00	1593.40	1180.55
Maximum of Months	0.00	0.00	2171.99	1577.49

Report: **HEATING AND COOLING LOADS**

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For: **LIVING_UNIT1**

Timestamp: **2021-05-12 11:10:00**

Custom Monthly Report

	ZONE AIR SYSTEM SENSIBLE COOLING ENERGY [ton-hrs]	ZONE AIR SYSTEM SENSIBLE HEATING ENERGY [kBtu]
January	0.00	14961.15
February	0.00	13925.15
March	9.06	10502.38
April	14.69	6339.91
May	59.82	2097.87
June	191.51	543.98
July	303.17	100.05
August	257.53	141.28
September	125.24	901.33
October	19.21	4904.56
November	2.06	8498.97
December	0.00	14899.76
Annual Sum or Average	982.29	77816.38
Minimum of Months	0.00	100.05
Maximum of Months	303.17	14961.15

Report: **HEATING AND COOLING LOADS**

Table of Contents

For: **ATTIC_UNIT1**

Timestamp: **2021-05-12 11:10:00**

Custom Monthly Report

	ZONE AIR SYSTEM SENSIBLE COOLING ENERGY [ton-hrs]	ZONE AIR SYSTEM SENSIBLE HEATING ENERGY [kBtu]
January	0.00	0.00
February	0.00	0.00
March	0.00	0.00
April	0.00	0.00
May	0.00	0.00
June	0.00	0.00
July	0.00	0.00
August	0.00	0.00
September	0.00	0.00
October	0.00	0.00
November	0.00	0.00
December	0.00	0.00
Annual Sum or Average	0.00	0.00
Minimum of Months	0.00	0.00
Maximum of Months	0.00	0.00