

# OpenStudio Results

## Model Summary

### Building Summary

| Information  | Value      | Units         |
|--|------------|---------------|
| Building Name  | Building 1 | building_name |
| Net Site Energy  | 12,382,179 | kBtu          |
| Total Building Area                                    | 120,556    | ft^2          |
| EUI (Based on Net Site Energy and Total Building Area) | 102.71     | kBtu/ft^2     |
| OpenStudio Standards Building Type                     |            |               |

### Weather Summary

|                     | Value                                      |
|---------------------|--|
| Weather File        | Kolkata West Bengal IND ISHRAE WMO#=428090 |
| Latitude            | 22.65                                      |
| Longitude           | 88.45                                      |
| Elevation           | 20 (ft)                                    |
| Time Zone           | 5.50                                       |
| North Axis Angle    | 0.00                                       |
| ASHRAE Climate Zone |  |

### Sizing Period Design Days

|  | Maximum Dry Bulb (F) | Daily Temperature Range (R) | Humidity Value | Humidity Type     | Wind Speed (mph) | Wind Direction |
|--|----------------------|-----------------------------|----------------|-------------------|------------------|----------------|
| KOLKATA ANN CLG .4% CONDNS DB=>MWB         | 98.96                | 16.38                       | 80.24          | Wetbulb [F]       | 6.04             | 180.0          |
| KOLKATA ANN CLG .4% CONDNS DP=>MDB         | 89.6                 | 16.38                       | 82.94          | Dewpoint [F]      | 6.04             | 180.0          |
| KOLKATA ANN CLG .4% CONDNS ENTH=>MDB       | 94.28                | 16.38                       | 42.05          | Enthalpy [Btu/lb] | 6.04             | 180.0          |
| KOLKATA ANN CLG .4% CONDNS WB=>MDB         | 93.56                | 16.38                       | 85.1           | Wetbulb [F]       | 6.04             | 180.0          |
| KOLKATA ANN HTG 99.6% CONDNS DB            | 52.88                | 0.0                         | 52.88          | Wetbulb [F]       | 0.67             | 0.0            |
| KOLKATA ANN HTG WIND 99.6% CONDNS WS=>MCDB | 73.76                | 0.0                         | 73.76          | Wetbulb [F]       | 10.96            | 0.0            |
| KOLKATA ANN HUM_N 99.6% CONDNS DP=>MCDB    | 73.04                | 0.0                         | 43.7           | Dewpoint [F]      | 0.67             | 0.0            |

### Unmet Hours Summary

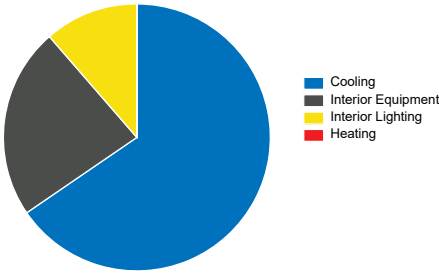
| Time Setpoint Not Met   | Time (hr) |
|-------------------------|-----------|
| During Heating          | 0.0       |
| During Cooling          | 0.0       |
| During Occupied Heating | 0.0       |
| During Occupied Cooling | 0.0       |

Unmet Hours Tolerance

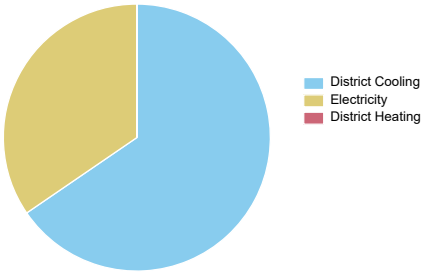
| Tolerance for Time Setpoint Not Met | Temperature (F) |
|-------------------------------------|-----------------|
| Heating                             | 0.36            |
| Cooling                             | 0.36            |

Annual Overview

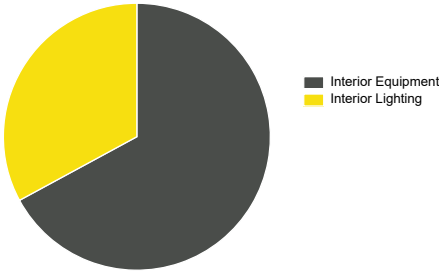
End Use - view table



Energy Use - view table



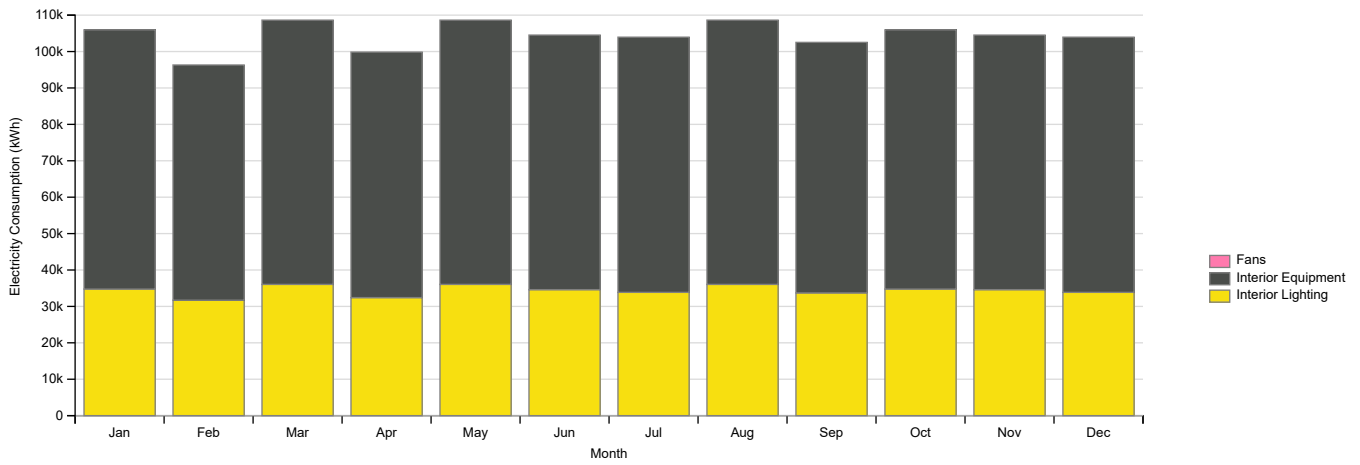
EUI - Electricity - view table



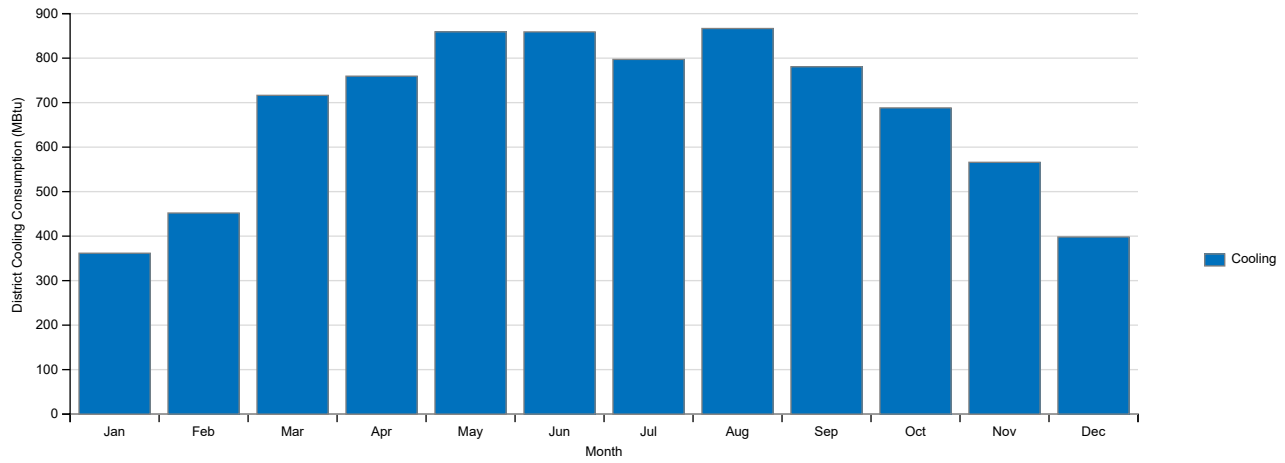
EUI - Gas - view table

Monthly Overview

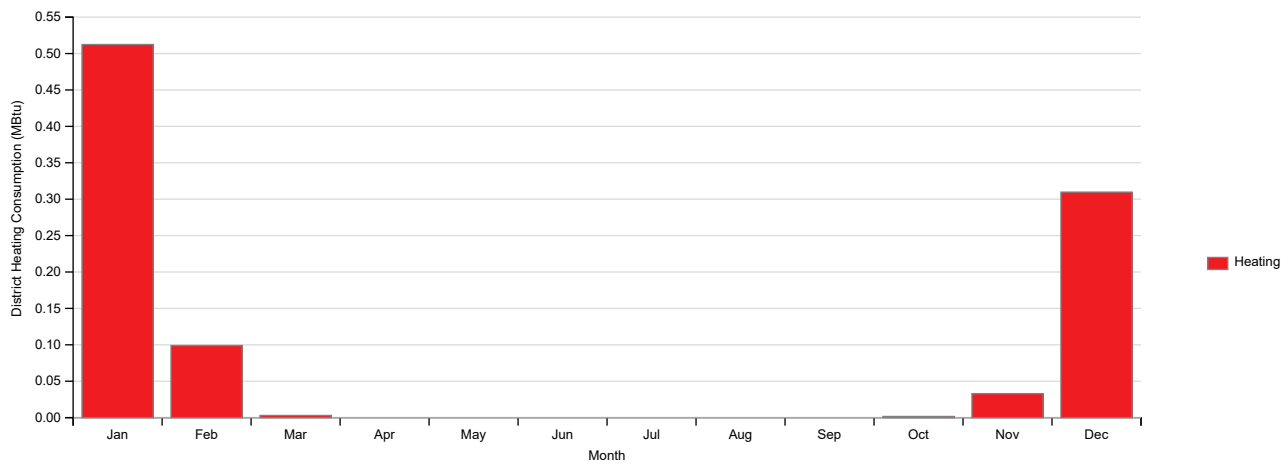
Electricity Consumption (kWh) - view table



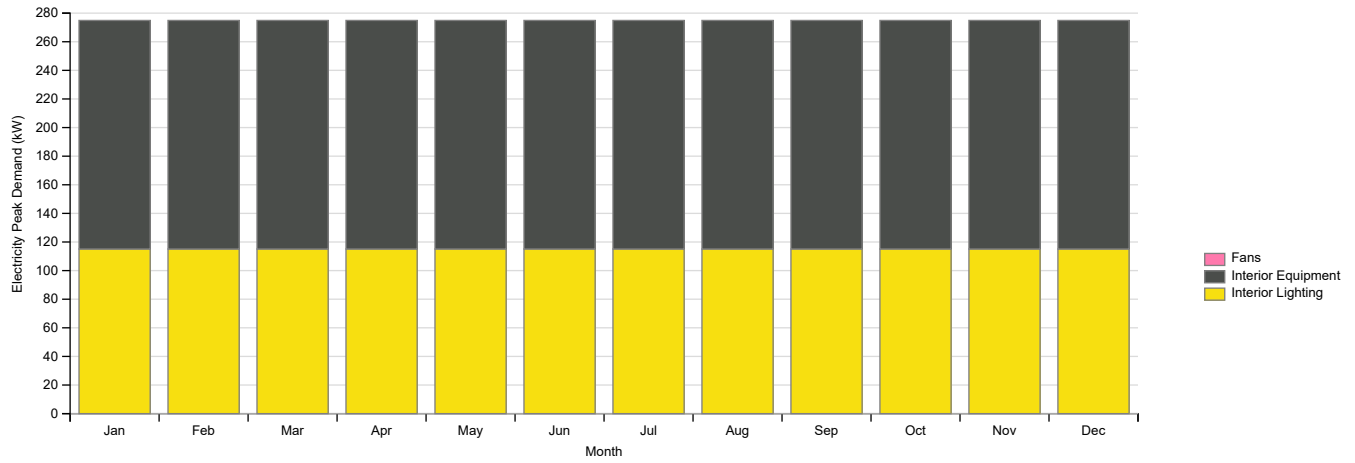
District Cooling Consumption (MBtu) - view table



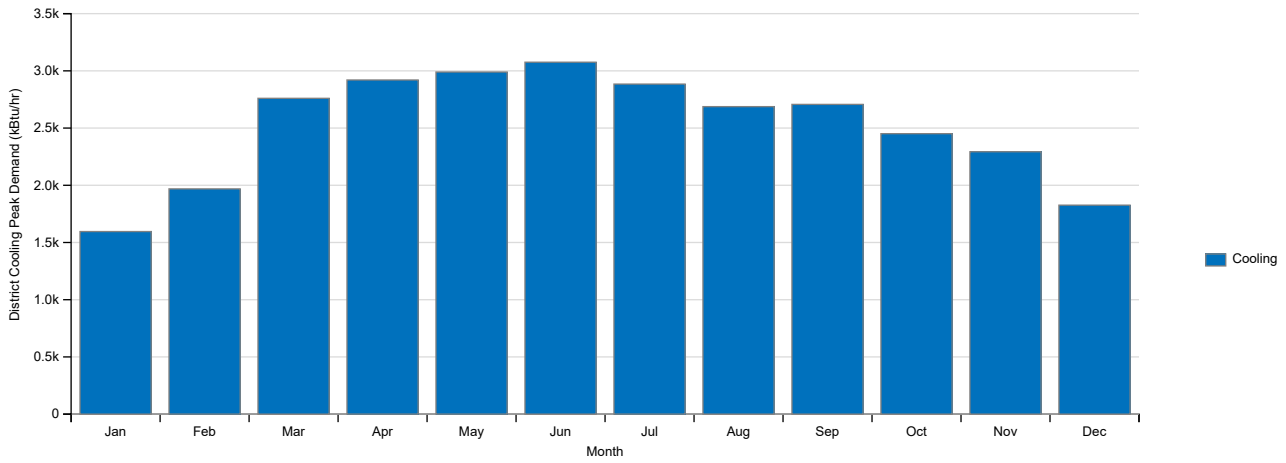
District Heating Consumption (MBtu) - view table



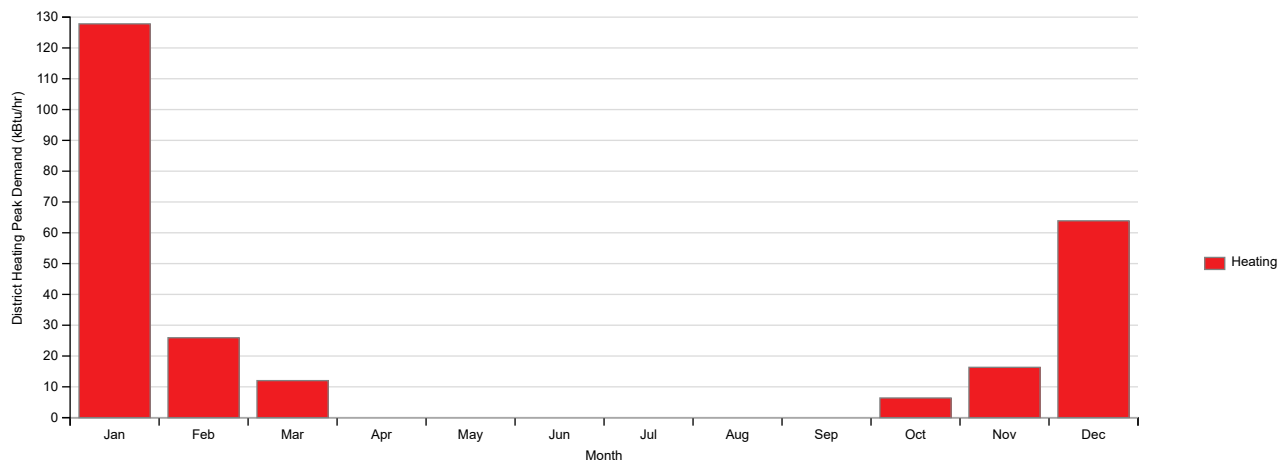
Electricity Peak Demand (kW) - view table



District Cooling Peak Demand (kBtu/hr) - view table



District Heating Peak Demand (kBtu/hr) - view table



# Utility Bills/Rates

No Data to Show for Utility Bills/Rates

## Envelope

### Base Surface Constructions

| Construction                                 | Net Area (ft^2) | Surface Count | R Value (ft^2*h*Btu) |
|--|-----------------|---------------|----------------------|
| ASHRAE 189.1-2009 ExtRoof IEAD ClimateZone 1 | 30,139          | 3             | 19.96                |
| ASHRAE 189.1-2009 ExtWall Mass ClimateZone 3 | 18,729          | 28            | 8.77                 |

### Sub Surface Constructions

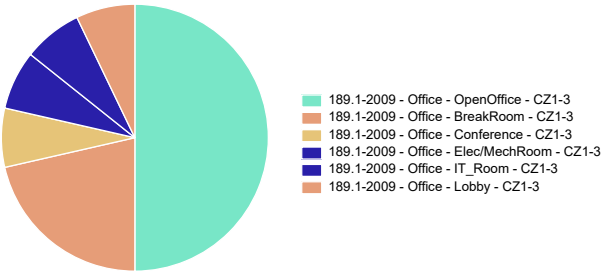
| Construction                              | Area (ft^2) | Surface Count | U-Factor (Btu/ft^2*h*R) |
|---|-------------|---------------|-------------------------|
| ASHRAE 189.1-2009 ExtWindow ClimateZone 1 | 9,688       | 24            |                         |

### WWR & Skylight Ratio

| Description                           | Total (%) | North (%) | East (%) | South (%) | West (%) |
|---------------------------------------|-----------|-----------|----------|-----------|----------|
| Gross Window-Wall Ratio               | 34.09     | 50.0      | 50.0     | 0.0       | 50.0     |
| Gross Window-Wall Ratio (Conditioned) | 34.09     | 50.0      | 50.0     | 0.0       | 50.0     |
| Skylight-Roof Ratio                   | 0.0       |           |          |           |          |

## Space Type Breakdown

### Space Type Breakdown - view table



## Space Type Summary

### 189.1-2009 - Office - BreakRoom - CZ1-3 (4 spaces and 4 thermal zones)

| Definition   | Value   | Unit                   | Inst. Multiplier |
|--|---------|------------------------|------------------|
| 189.1-2009 - Office - BreakRoom - CZ1-3 People Definition                    | 0.0500  | people/ft^2            | 1.0              |
| 189.1-2009 - Office - BreakRoom - CZ1-3 Electric Equipment Definition        | 4.4600  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - BreakRoom - CZ1-3 Lights Definition                    | 1.0800  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - BreakRoom - CZ1-3 Infiltration                         | 0.0595  | cfm/ext surf area ft^2 |                  |
| 189.1-2009 - Office - BreakRoom - CZ1-3 Ventilation (outdoor air method Sum) | 15.0000 | cfm/person             |                  |

189.1-2009 - Office - Conference - CZ1-3  
(1 spaces and 1 thermal zones)

| Definition  | Value   | Unit                   | Inst. Multiplier |
|---|---------|------------------------|------------------|
| 189.1-2009 - Office - Conference - CZ1-3 People Definition                    | 0.0500  | people/ft^2            | 1.0              |
| 189.1-2009 - Office - Conference - CZ1-3 Electric Equipment Definition        | 0.3700  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - Conference - CZ1-3 Lights Definition                    | 1.1700  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - Conference - CZ1-3 Infiltration                         | 0.0595  | cfm/ext surf area ft^2 |                  |
| 189.1-2009 - Office - Conference - CZ1-3 Ventilation (outdoor air method Sum) | 20.0000 | cfm/person             |                  |

189.1-2009 - Office - Elec/MechRoom - CZ1-3  
(1 spaces and 1 thermal zones)

| Definition   | Value   | Unit                   | Inst. Multiplier |
|--|---------|------------------------|------------------|
| 189.1-2009 - Office - Elec/MechRoom - CZ1-3 Electric Equipment Definition        | 0.2700  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - Elec/MechRoom - CZ1-3 Lights Definition                    | 1.3500  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - Elec/MechRoom - CZ1-3 Infiltration                         | 0.0595  | cfm/ext surf area ft^2 |                  |
| 189.1-2009 - Office - Elec/MechRoom - CZ1-3 Ventilation (outdoor air method Sum) | 20.0000 | cfm/person             |                  |

189.1-2009 - Office - IT\_Room - CZ1-3  
(1 spaces and 1 thermal zones)

| Definition   | Value  | Unit                   | Inst. Multiplier |
|--|--------|------------------------|------------------|
| 189.1-2009 - Office - IT_Room - CZ1-3 People Definition                    | 0.0050 | people/ft^2            | 1.0              |
| 189.1-2009 - Office - IT_Room - CZ1-3 Electric Equipment Definition        | 1.5600 | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - IT_Room - CZ1-3 Lights Definition                    | 0.9900 | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - IT_Room - CZ1-3 Infiltration                         | 0.0595 | cfm/ext surf area ft^2 |                  |
| 189.1-2009 - Office - IT_Room - CZ1-3 Ventilation (outdoor air method Sum) | 0.0500 | cfm/floor area ft^2    |                  |

189.1-2009 - Office - Lobby - CZ1-3  
(1 spaces and 1 thermal zones)

| Definition   | Value   | Unit                   | Inst. Multiplier |
|--|---------|------------------------|------------------|
| 189.1-2009 - Office - Lobby - CZ1-3 People Definition                    | 0.0100  | people/ft^2            | 1.0              |
| 189.1-2009 - Office - Lobby - CZ1-3 Electric Equipment Definition        | 0.0700  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - Lobby - CZ1-3 Lights Definition                    | 1.1700  | W/ft^2                 | 1.0              |
| 189.1-2009 - Office - Lobby - CZ1-3 Infiltration                         | 0.0595  | cfm/ext surf area ft^2 |                  |
| 189.1-2009 - Office - Lobby - CZ1-3 Ventilation (outdoor air method Sum) | 15.0000 | cfm/person             |                  |

189.1-2009 - Office - OpenOffice - CZ1-3  
(4 spaces and 4 thermal zones)

| Definition   | Value  | Unit        | Inst. Multiplier |
|--|--------|-------------|------------------|
| 189.1-2009 - Office - OpenOffice - CZ1-3 People Definition             | 0.0052 | people/ft^2 | 1.0              |
| 189.1-2009 - Office - OpenOffice - CZ1-3 Electric Equipment Definition | 0.7100 | W/ft^2      | 1.0              |
| 189.1-2009 - Office - OpenOffice - CZ1-3 Lights Definition             | 0.9900 | W/ft^2      | 1.0              |

|   |         |                        |  |
|---|---------|------------------------|--|
| 189.1-2009 - Office - OpenOffice - CZ1-3 Infiltration                         | 0.0595  | cfm/ext surf area ft^2 |  |
| 189.1-2009 - Office - OpenOffice - CZ1-3 Ventilation (outdoor air method Sum) | 20.0000 | cfm/person             |  |

## Interior Lighting Summary

### Interior Lighting Summary

|   | Zone            | Lighting Power Density (W/ft^2) | Total Power (W) | Schedule Name     | Scheduled Hours/Week (hr) | Actual Load Hours/Week (hr) | Return Air Fraction | Consumption (kWh) |
|---|-----------------|---------------------------------|-----------------|-------------------|---------------------------|-----------------------------|---------------------|-------------------|
| THERMAL ZONE 5 189.1-2009 - OFFICE - BREAKROOM - CZ1-3 LIGHTS     | THERMAL ZONE 5  | 1.08                            | 6975.01         | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 22494.45          |
| THERMAL ZONE 6 189.1-2009 - OFFICE - BREAKROOM - CZ1-3 LIGHTS     | THERMAL ZONE 6  | 1.08                            | 6975.01         | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 22494.45          |
| THERMAL ZONE 7 189.1-2009 - OFFICE - BREAKROOM - CZ1-3 LIGHTS     | THERMAL ZONE 7  | 1.08                            | 6975.01         | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 22494.45          |
| THERMAL ZONE 8 189.1-2009 - OFFICE - BREAKROOM - CZ1-3 LIGHTS     | THERMAL ZONE 8  | 1.08                            | 6975.01         | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 22494.45          |
| THERMAL ZONE 11 189.1-2009 - OFFICE - CONFERENCE - CZ1-3 LIGHTS   | THERMAL ZONE 11 | 1.17                            | 10075.02        | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 32494.45          |
| THERMAL ZONE 9 189.1-2009 - OFFICE - ELEC/MECHROOM - CZ1-3 LIGHTS | THERMAL ZONE 9  | 1.35                            | 11625.02        | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 37491.67          |
| THERMAL ZONE 10 189.1-2009 - OFFICE - IT_ROOM - CZ1-3 LIGHTS      | THERMAL ZONE 10 | 0.99                            | 8525.02         | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 27494.45          |
| THERMAL ZONE 12 189.1-2009 - OFFICE - LOBBY - CZ1-3 LIGHTS        | THERMAL ZONE 12 | 1.17                            | 10075.02        | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 32494.45          |
| THERMAL ZONE 1 189.1-2009 - OFFICE - OPENOFFICE - CZ1-3 LIGHTS    | THERMAL ZONE 1  | 0.99                            | 14918.78        | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 48116.67          |
| THERMAL ZONE 2 189.1-2009 - OFFICE - OPENOFFICE - CZ1-3 LIGHTS    | THERMAL ZONE 2  | 0.99                            | 14918.78        | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 48116.67          |
| THERMAL ZONE 3 189.1-2009 - OFFICE - OPENOFFICE - CZ1-3 LIGHTS    | THERMAL ZONE 3  | 0.99                            | 14918.78        | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 48116.67          |
| THERMAL ZONE 4 189.1-2009 - OFFICE - OPENOFFICE - CZ1-3 LIGHTS    | THERMAL ZONE 4  | 0.99                            | 14918.78        | OFFICE BLDG LIGHT | 61.85                     | 61.85                       | 0.0000              | 48116.67          |

## Plug Loads Summary

### Electric Plug Load Consumption

|  | Electricity Annual Value (kWh) |
|--|--------------------------------|
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 5  | 136433.33                      |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 6  | 136433.33                      |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 7  | 136433.33                      |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 8  | 136433.33                      |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 11 | 15091.67                       |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 9  | 11013.89                       |

|  |          |
|--|----------|
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 10 | 63627.78 |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 12 | 2855.56  |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 1  | 50677.78 |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 2  | 50677.78 |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 3  | 50677.78 |
| InteriorEquipment:Electricity:Zone:THERMAL ZONE 4  | 50677.78 |

Exterior Lighting

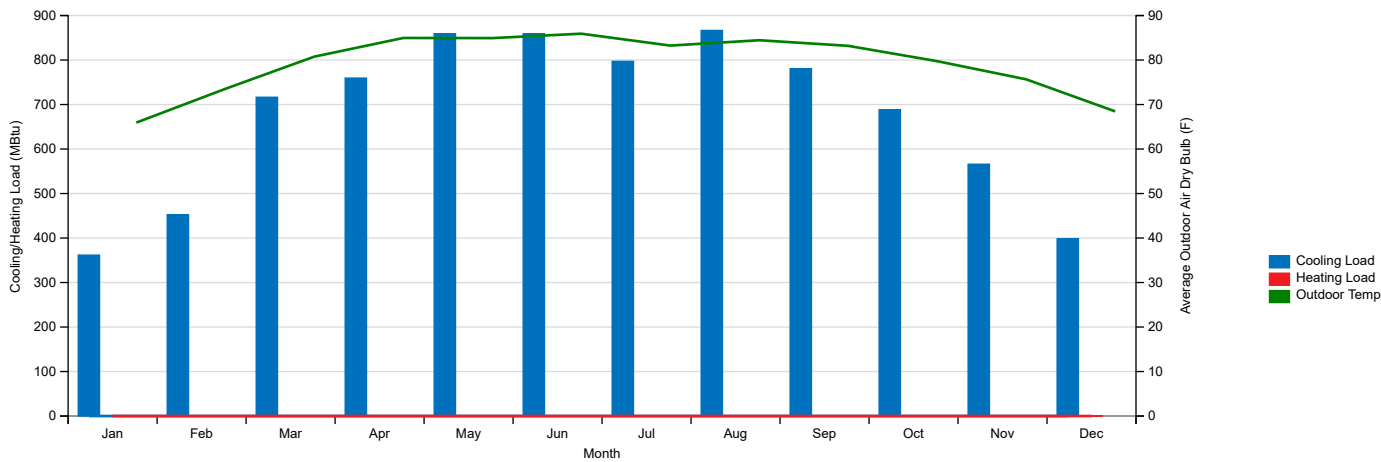
No Data to Show for Exterior Lighting

Water Use Equipment

No Data to Show for Water Use Equipment

HVAC Load Profiles

Monthly Load Profiles - view table



Zone Conditions

Temperature (Table values represent hours spent in each temperature range)

| Zone            | Unmet Htg (hr) | Unmet Htg - Occ (hr) | < 56 (F) | 56- 61 (F) | 61- 66 (F) | 66- 68 (F) | 68- 70 (F) | 70- 72 (F) | 72- 74 (F) | 74- 76 (F) | 76- 78 (F) | 78- 83 (F) | >= 88 (F) | Unmet Clg (hr) | Unmet Clg - Occ (hr) | Mean Temp (F) |
|-----------------|----------------|----------------------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|----------------|----------------------|---------------|
| THERMAL ZONE 1  | 0              | 0                    | 0        | 0          | 0          | 0          | 236        | 1812       | 2507       | 4205       | 0          | 0          | 0         | 0              | 0                    | 73.5 (F)      |
| THERMAL ZONE 10 | 0              | 0                    | 0        | 0          | 0          | 0          | 4          | 30         | 189        | 5111       | 508        | 2918       | 0         | 0              | 0                    | 76.8 (F)      |
| THERMAL ZONE 11 | 0              | 0                    | 0        | 0          | 0          | 0          | 17         | 45         | 243        | 5141       | 544        | 2770       | 0         | 0              | 0                    | 76.7 (F)      |
| THERMAL ZONE 12 | 0              | 0                    | 0        | 0          | 8          | 22         | 114        | 242        | 369        | 5035       | 498        | 2472       | 0         | 0              | 0                    | 76.3 (F)      |
| THERMAL ZONE 2  | 0              | 0                    | 0        | 0          | 0          | 0          | 0          | 0          | 15         | 5073       | 1003       | 2669       | 0         | 0              | 0                    | 76.6 (F)      |
| THERMAL ZONE 3  | 0              | 0                    | 0        | 0          | 0          | 0          | 0          | 0          | 0          | 4822       | 609        | 3329       | 0         | 0              | 0                    | 77.1 (F)      |
| THERMAL ZONE 4  | 0              | 0                    | 0        | 0          | 0          | 0          | 0          | 24         | 157        | 5056       | 447        | 3076       | 0         | 0              | 0                    | 76.9 (F)      |
| THERMAL ZONE 5  | 0              | 0                    | 0        | 0          | 0          | 0          | 0          | 0          | 0          | 4847       | 492        | 3421       | 0         | 0              | 0                    | 77.1 (F)      |



|                |   |   |   |   |   |     |     |      |      |      |   |      |   |   |   |          |
|----------------|---|---|---|---|---|-----|-----|------|------|------|---|------|---|---|---|----------|
| THERMAL ZONE 6 | 0 | 0 | 0 | 0 | 0 | 0   | 0   | 0    | 0    | 4784 | 0 | 3976 | 0 | 0 | 0 | 77.4 (F) |
| THERMAL ZONE 7 | 0 | 0 | 0 | 0 | 0 | 0   | 0   | 0    | 0    | 4784 | 0 | 3976 | 0 | 0 | 0 | 77.4 (F) |
| THERMAL ZONE 8 | 0 | 0 | 0 | 0 | 0 | 0   | 0   | 0    | 0    | 4784 | 0 | 3976 | 0 | 0 | 0 | 77.4 (F) |
| THERMAL ZONE 9 | 0 | 0 | 0 | 0 | 9 | 308 | 874 | 2411 | 1352 | 3805 | 1 | 0    | 0 | 0 | 0 | 72.8 (F) |

Humidity (Table values represent hours spent in each Humidity range)

| Zone            | < 30 (%) | 30-35 (%) | 35-40 (%) | 40-45 (%) | 45-50 (%) | 50-55 (%) | 55-60 (%) | 60-65 (%) | 65-70 (%) | 70-75 (%) | >= 80 (%) | Mean Relative Humidity (%) |
|-----------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------------------|
| THERMAL ZONE 1  | 0        | 0         | 0         | 28        | 295       | 381       | 420       | 810       | 1132      | 1273      | 759       | 77.9 (%)                   |
| THERMAL ZONE 10 | 0        | 0         | 6         | 716       | 2408      | 1217      | 1009      | 863       | 840       | 882       | 531       | 58.0 (%)                   |
| THERMAL ZONE 11 | 0        | 0         | 3         | 86        | 320       | 649       | 1077      | 1321      | 1294      | 1744      | 1624      | 67.4 (%)                   |
| THERMAL ZONE 12 | 0        | 0         | 1         | 87        | 894       | 863       | 1094      | 2546      | 895       | 658       | 519       | 64.6 (%)                   |
| THERMAL ZONE 2  | 0        | 0         | 6         | 487       | 1667      | 967       | 1179      | 2345      | 1051      | 462       | 223       | 59.2 (%)                   |
| THERMAL ZONE 3  | 0        | 0         | 36        | 1047      | 2097      | 1392      | 1758      | 2239      | 190       | 1         | 0         | 53.9 (%)                   |
| THERMAL ZONE 4  | 0        | 3         | 8         | 340       | 1484      | 918       | 1163      | 2386      | 861       | 773       | 625       | 60.3 (%)                   |
| THERMAL ZONE 5  | 0        | 3         | 30        | 188       | 1100      | 1033      | 1459      | 1933      | 2097      | 583       | 223       | 60.6 (%)                   |
| THERMAL ZONE 6  | 0        | 24        | 2516      | 1015      | 1258      | 963       | 497       | 1364      | 1049      | 74        | 0         | 50.1 (%)                   |
| THERMAL ZONE 7  | 0        | 25        | 2935      | 681       | 1391      | 879       | 489       | 1417      | 912       | 31        | 0         | 49.5 (%)                   |
| THERMAL ZONE 8  | 3        | 19        | 346       | 1001      | 1511      | 1409      | 1766      | 1619      | 1063      | 23        | 0         | 54.5 (%)                   |
| THERMAL ZONE 9  | 0        | 0         | 5         | 2241      | 905       | 667       | 819       | 686       | 639       | 553       | 502       | 62.4 (%)                   |

## Zone Overview

Zone Summary

|                 | Area (ft^2) | Conditioned (Y/N) | Part of Total Floor Area (Y/N) | Volume (ft^3) | Multiplier | Gross Wall Area (ft^2) | Window Glass Area (ft^2) | Lighting (W/ft^2) | People (ft^2/person) | Plug and Process (W/ft^2) |
|-----------------|-------------|-------------------|--------------------------------|---------------|------------|------------------------|--------------------------|-------------------|----------------------|---------------------------|
| THERMAL ZONE 1  | 15069.47    | Yes               | Yes                            | 148321.6      | 1.00       | 3552.09                | 645.83                   | 0.99              | 190.52               | 0.71                      |
| THERMAL ZONE 10 | 8611.13     | Yes               | Yes                            | 84755.2       | 1.00       | 1937.5                 | 968.75                   | 0.99              | 199.99               | 1.56                      |
| THERMAL ZONE 11 | 8611.13     | Yes               | Yes                            | 84755.2       | 1.00       | 1937.5                 | 968.75                   | 1.17              | 20.02                | 0.37                      |
| THERMAL ZONE 12 | 8611.13     | Yes               | Yes                            | 84755.2       | 1.00       | 1937.5                 | 968.75                   | 1.17              | 100.0                | 0.07                      |
| THERMAL ZONE 2  | 15069.47    | Yes               | Yes                            | 148321.6      | 1.00       | 3552.09                | 645.83                   | 0.99              | 190.52               | 0.71                      |
| THERMAL ZONE 3  | 15069.47    | Yes               | Yes                            | 148321.6      | 1.00       | 3552.09                | 645.83                   | 0.99              | 190.52               | 0.71                      |

|                     |          |     |     |           |      |          |         |      |        |      |
|---------------------|----------|-----|-----|-----------|------|----------|---------|------|--------|------|
| THERMAL ZONE 4      | 15069.47 | Yes | Yes | 148321.6  | 1.00 | 3552.09  | 645.83  | 0.99 | 190.52 | 0.71 |
| THERMAL ZONE 5      | 6458.35  | Yes | Yes | 63566.4   | 1.00 | 1614.59  | 807.29  | 1.08 | 20.02  | 4.46 |
| THERMAL ZONE 6      | 6458.35  | Yes | Yes | 63566.4   | 1.00 | 1614.59  | 807.29  | 1.08 | 20.02  | 4.46 |
| THERMAL ZONE 7      | 6458.35  | Yes | Yes | 63566.4   | 1.00 | 1614.59  | 807.29  | 1.08 | 20.02  | 4.46 |
| THERMAL ZONE 8      | 6458.35  | Yes | Yes | 63566.4   | 1.00 | 1614.59  | 807.29  | 1.08 | 20.02  | 4.46 |
| THERMAL ZONE 9      | 8611.13  | Yes | Yes | 84755.2   | 1.00 | 1937.5   | 968.75  | 1.35 | 0.0    | 0.27 |
| Total               | 120555.8 |     |     | 1186572.8 |      | 28416.72 | 9687.52 | 1.06 | 55.65  | 1.47 |
| Conditioned Total   | 120555.8 |     |     | 1186572.8 |      | 28416.72 | 9687.52 | 1.06 | 55.65  | 1.47 |
| Unconditioned Total | 0.0      |     |     | 0.0       |      | 0.0      | 0.0     | 0.0  | 0.0    | 0.0  |
| Not Part of Total   | 0.0      |     |     | 0.0       |      | 0.0      | 0.0     | 0.0  | 0.0    | 0.0  |

#### Zone Sensible Cooling and Heating Sensible Sizing

|                 | Heating/Cooling | Calculated Design Load | Design Load With Sizing Factor | Calculated Design Air Flow (ft <sup>3</sup> /min) | Design Air Flow With Sizing Factor (ft <sup>3</sup> /min) | Date/Time Of Peak | Outdoor Temperature at Peak Load (F) | Outdoor Humidity Ratio at Peak Load (lbWater/lbAir) |
|-----------------|-----------------|------------------------|--------------------------------|---|---|-------------------|--------------------------------------|---|
| THERMAL ZONE 1  | Cooling         | 9.71 (ton)             | 11.17 (ton)                    | 5896.84   | 6782.53   | 5/21 15:15:00     | 98.71                                | 0.02  |
| THERMAL ZONE 1  | Heating         | 35.68 (kBtu/h)         | 44.6 (kBtu/h)                  | 949.26  | 1582.8  | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 10 | Cooling         | 9.74 (ton)             | 11.21 (ton)                    | 5915.91   | 6801.6  | 5/21 15:00:00     | 98.96                                | 0.02  |
| THERMAL ZONE 10 | Heating         | 26.25 (kBtu/h)         | 32.81 (kBtu/h)                 | 699.23  | 872.98  | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 11 | Cooling         | 31.08 (ton)            | 35.74 (ton)                    | 18949.14  | 21792.68  | 5/21 15:00:00     | 98.96                                | 0.02  |
| THERMAL ZONE 11 | Heating         | 18.3 (kBtu/h)          | 22.87 (kBtu/h)                 | 487.34  | 8611.13   | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 12 | Cooling         | 10.86 (ton)            | 12.49 (ton)                    | 6600.31   | 7589.83   | 5/21 15:45:00     | 98.22                                | 0.02  |
| THERMAL ZONE 12 | Heating         | 36.11 (kBtu/h)         | 45.13 (kBtu/h)                 | 961.97  | 1292.52   | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 2  | Cooling         | 13.56 (ton)            | 15.6 (ton)                     | 8236.09   | 9471.39   | 5/21 15:15:00     | 98.71                                | 0.02  |
| THERMAL ZONE 2  | Heating         | 21.72 (kBtu/h)         | 27.15 (kBtu/h)                 | 578.45  | 1582.8  | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 3  | Cooling         | 14.62 (ton)            | 16.82 (ton)                    | 8880.23   | 10213.0   | 5/21 15:15:00     | 98.71                                | 0.02  |
| THERMAL ZONE 3  | Heating         | 21.79 (kBtu/h)         | 27.23 (kBtu/h)                 | 580.57  | 1582.8  | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 4  | Cooling         | 16.63 (ton)            | 19.12 (ton)                    | 10096.46  | 11611.46  | 5/21 16:15:00     | 97.65                                | 0.02  |
| THERMAL ZONE 4  | Heating         | 53.05 (kBtu/h)         | 66.31 (kBtu/h)                 | 1413.29   | 1765.03   | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 5  | Cooling         | 24.9 (ton)             | 28.64 (ton)                    | 15190.25  | 17468.05  | 5/21 15:00:00     | 98.96                                | 0.02  |
| THERMAL ZONE 5  | Heating         | 19.66 (kBtu/h)         | 24.58 (kBtu/h)                 | 523.36  | 4843.76   | 1/21 19:00:00     | 52.88                                | 0.01  |
| THERMAL ZONE 6  | Cooling         | 27.39 (ton)            | 31.5 (ton)                     | 16698.89  | 19203.41  | 5/21 15:15:00     | 98.71                                | 0.02  |

|                |         |                |                |          |          |               |       |      |
|----------------|---------|----------------|----------------|----------|----------|---------------|-------|------|
| THERMAL ZONE 6 | Heating | 14.75 (kBtu/h) | 18.44 (kBtu/h) | 391.99   | 4843.76  | 1/21 19:00:00 | 52.88 | 0.01 |
| THERMAL ZONE 7 | Cooling | 27.92 (ton)    | 32.1 (ton)     | 17018.84 | 19569.98 | 5/21 15:15:00 | 98.71 | 0.02 |
| THERMAL ZONE 7 | Heating | 14.91 (kBtu/h) | 18.64 (kBtu/h) | 396.23   | 4843.76  | 1/21 19:00:00 | 52.88 | 0.01 |
| THERMAL ZONE 8 | Cooling | 28.76 (ton)    | 33.08 (ton)    | 17533.73 | 20163.26 | 5/21 15:30:00 | 98.47 | 0.02 |
| THERMAL ZONE 8 | Heating | 28.29 (kBtu/h) | 35.36 (kBtu/h) | 754.32   | 4843.76  | 1/21 19:00:00 | 52.88 | 0.01 |
| THERMAL ZONE 9 | Cooling | 3.54 (ton)     | 4.07 (ton)     | 1989.63  | 2288.39  | 5/21 07:00:00 | 84.06 | 0.02 |
| THERMAL ZONE 9 | Heating | 24.83 (kBtu/h) | 31.04 (kBtu/h) | 661.09   | 826.36   | 1/21 19:00:00 | 52.88 | 0.01 |

## Zone Equipment Detail

No Data to Show for Zone Equipment Detail

## Air Loops Detail

No Data to Show for Air Loops Detail

## Plant Loops Detail

No Data to Show for Plant Loops Detail

## Outdoor Air

Average and Minimum Outdoor Air During Occupied Hours

|                 | Average Number of Occupants | Nominal Number of Occupants | Zone Volume (ft^3) | Avg. Mechanical Ventilation (ach) | Min. Mechanical Ventilation (ach) | Avg. Infiltration (ach) | Min. Infiltration (ach) | Avg. Simple Ventilation (ach) | Min. Simple Ventilation (ach) |
|-----------------|-----------------------------|-----------------------------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| THERMAL ZONE 1  | 44.18                       | 79.11                       | 148322             | 0.0                               | 0.0                               | 0.027                   | 0.001                   | 0.315                         | 0.001                         |
| THERMAL ZONE 10 | 16.57                       | 43.06                       | 84755              | 0.0                               | 0.0                               | 0.026                   | 0.001                   | 0.302                         | 0.008                         |
| THERMAL ZONE 11 | 165.68                      | 430.56                      | 84755              | 0.0                               | 0.0                               | 0.026                   | 0.001                   | 1.777                         | 0.008                         |
| THERMAL ZONE 12 | 33.14                       | 86.11                       | 84755              | 0.0                               | 0.0                               | 0.143                   | 0.003                   | 0.267                         | 0.001                         |
| THERMAL ZONE 2  | 44.18                       | 79.11                       | 148322             | 0.0                               | 0.0                               | 0.028                   | 0.001                   | 0.315                         | 0.001                         |
| THERMAL ZONE 3  | 44.18                       | 79.11                       | 148322             | 0.0                               | 0.0                               | 0.028                   | 0.001                   | 0.315                         | 0.001                         |
| THERMAL ZONE 4  | 44.18                       | 79.11                       | 148322             | 0.0                               | 0.0                               | 0.145                   | 0.003                   | 0.315                         | 0.001                         |
| THERMAL ZONE 5  | 124.26                      | 322.92                      | 63566              | 0.0                               | 0.0                               | 0.029                   | 0.001                   | 1.333                         | 0.006                         |
| THERMAL ZONE 6  | 124.26                      | 322.92                      | 63566              | 0.0                               | 0.0                               | 0.029                   | 0.001                   | 1.334                         | 0.006                         |
| THERMAL ZONE 7  | 124.26                      | 322.92                      | 63566              | 0.0                               | 0.0                               | 0.029                   | 0.001                   | 1.334                         | 0.006                         |
| THERMAL ZONE 8  | 124.26                      | 322.92                      | 63566              | 0.0                               | 0.0                               | 0.146                   | 0.003                   | 1.334                         | 0.006                         |

## Cash Flow

No Data to Show for Cash Flow

# Site and Source Summary

## Site and Source Energy

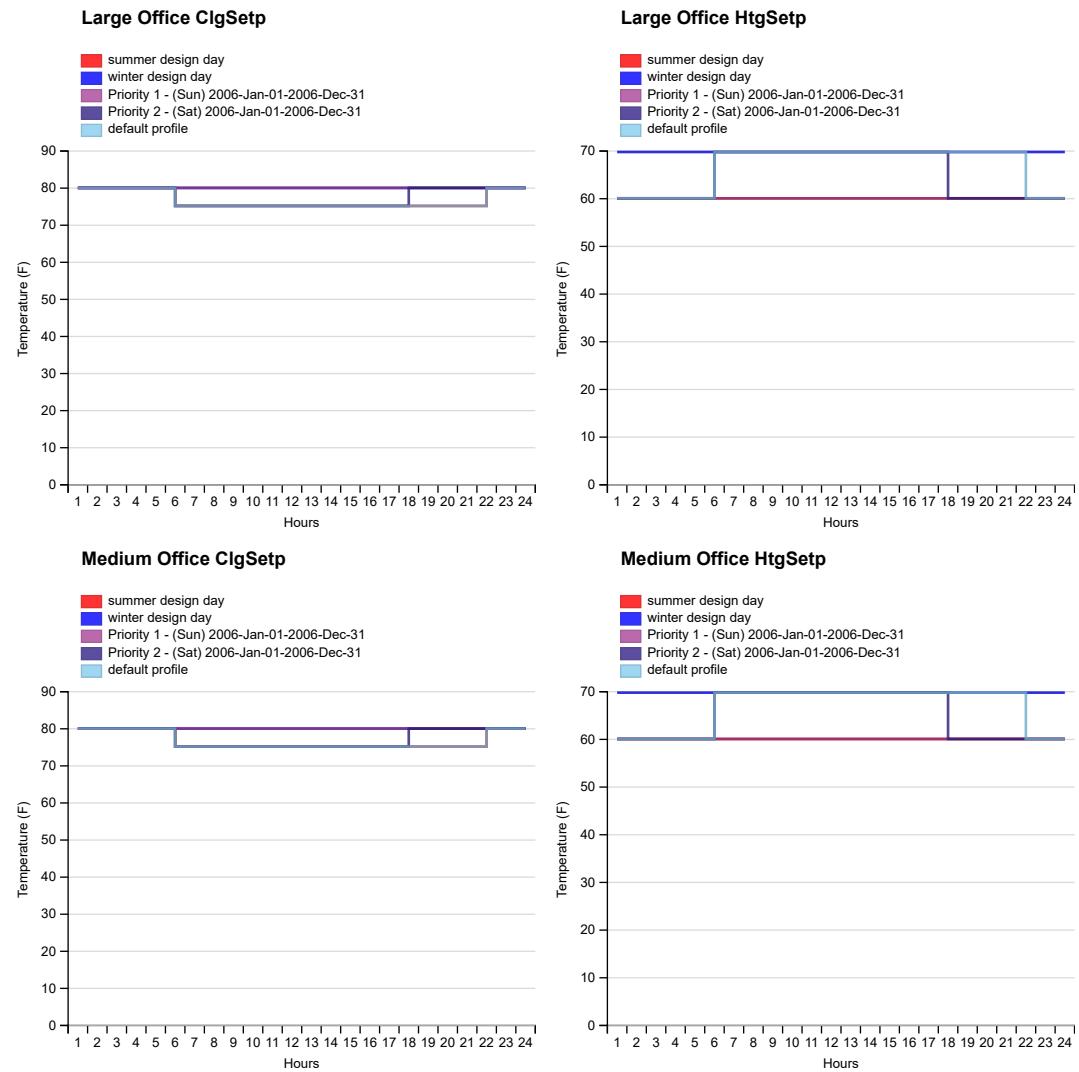
|                     | Total Energy (kBtu) | Energy Per Total Building Area (kBtu/ft^2) | Energy Per Conditioned Building Area (kBtu/ft^2) |
|---------------------|---------------------|--|--|
| Total Site Energy   | 12382178.3          | 102.7                                      | 102.7  |
| Net Site Energy     | 12382178.3          | 102.7                                      | 102.7  |
| Total Source Energy | 22104052.3          | 183.4                                      | 183.4  |
| Net Source Energy   | 22104052.3          | 183.4                                      | 183.4  |

## 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                          |

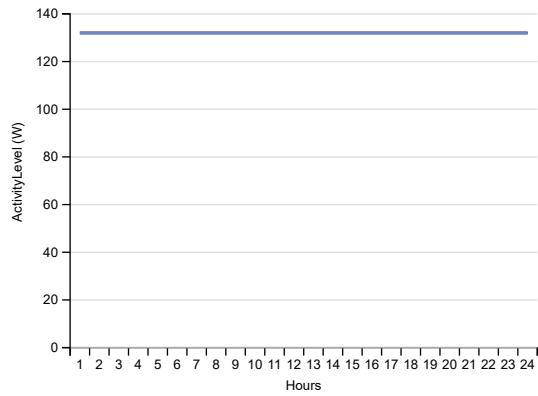
# Schedule Overview

## Schedule Overview - view table



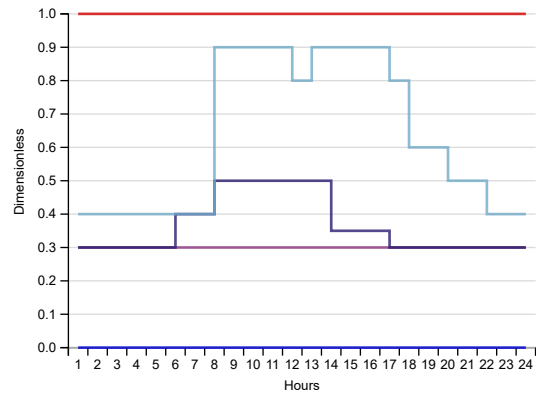
### Office Activity

- summer design day
- winter design day
- default profile



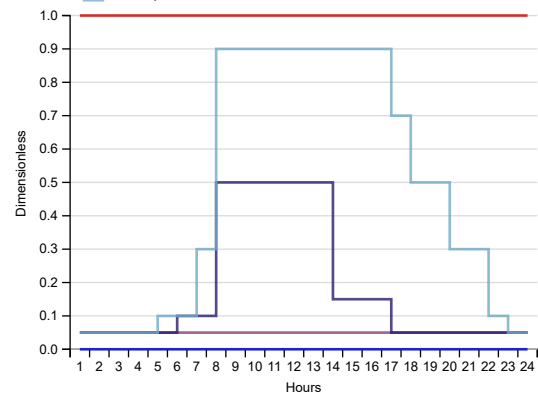
### Office Bldg Equip

- summer design day
- winter design day
- Priority 1 - (Sun) 2006-Jan-01-2006-Dec-31
- Priority 2 - (Sat) 2006-Jan-01-2006-Dec-31
- default profile



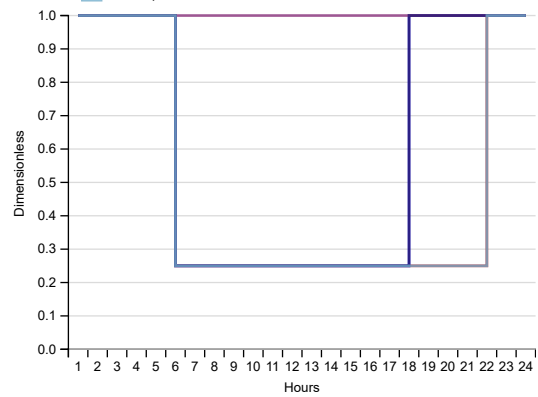
### Office Bldg Light

- summer design day
- winter design day
- Priority 1 - (Sun) 2006-Jan-01-2006-Dec-31
- Priority 2 - (Sat) 2006-Jan-01-2006-Dec-31
- default profile

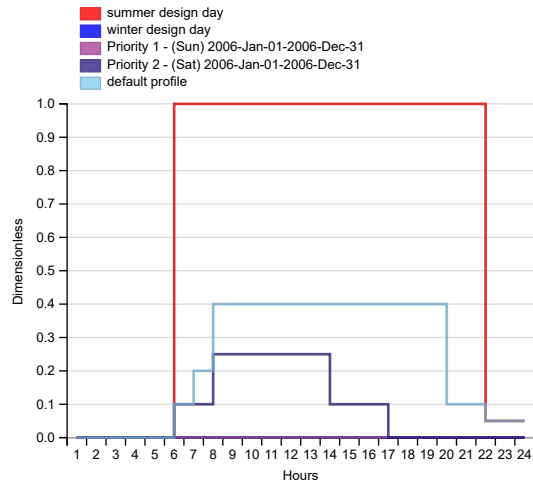


### Office Infil Quarter On

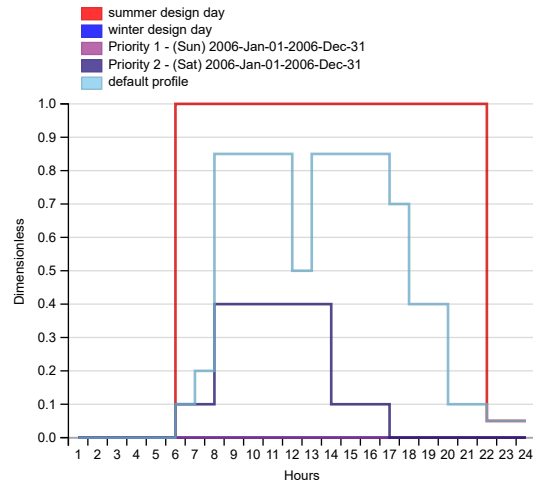
- summer design day
- winter design day
- Priority 1 - (Sun) 2006-Jan-01-2006-Dec-31
- Priority 2 - (Sat) 2006-Jan-01-2006-Dec-31
- default profile



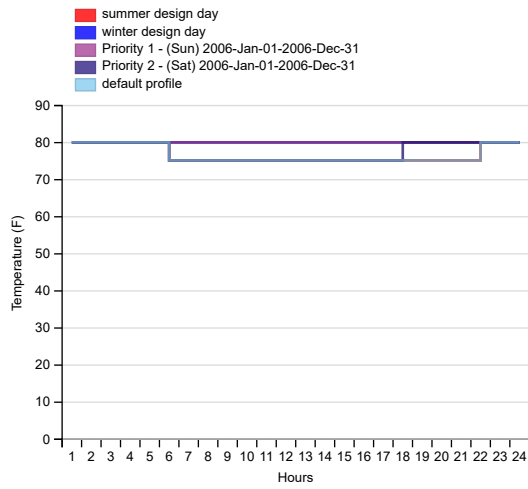
Office Misc Occ



Office Work Occ



Small Office ClgSetp



Small Office HtgSetp

