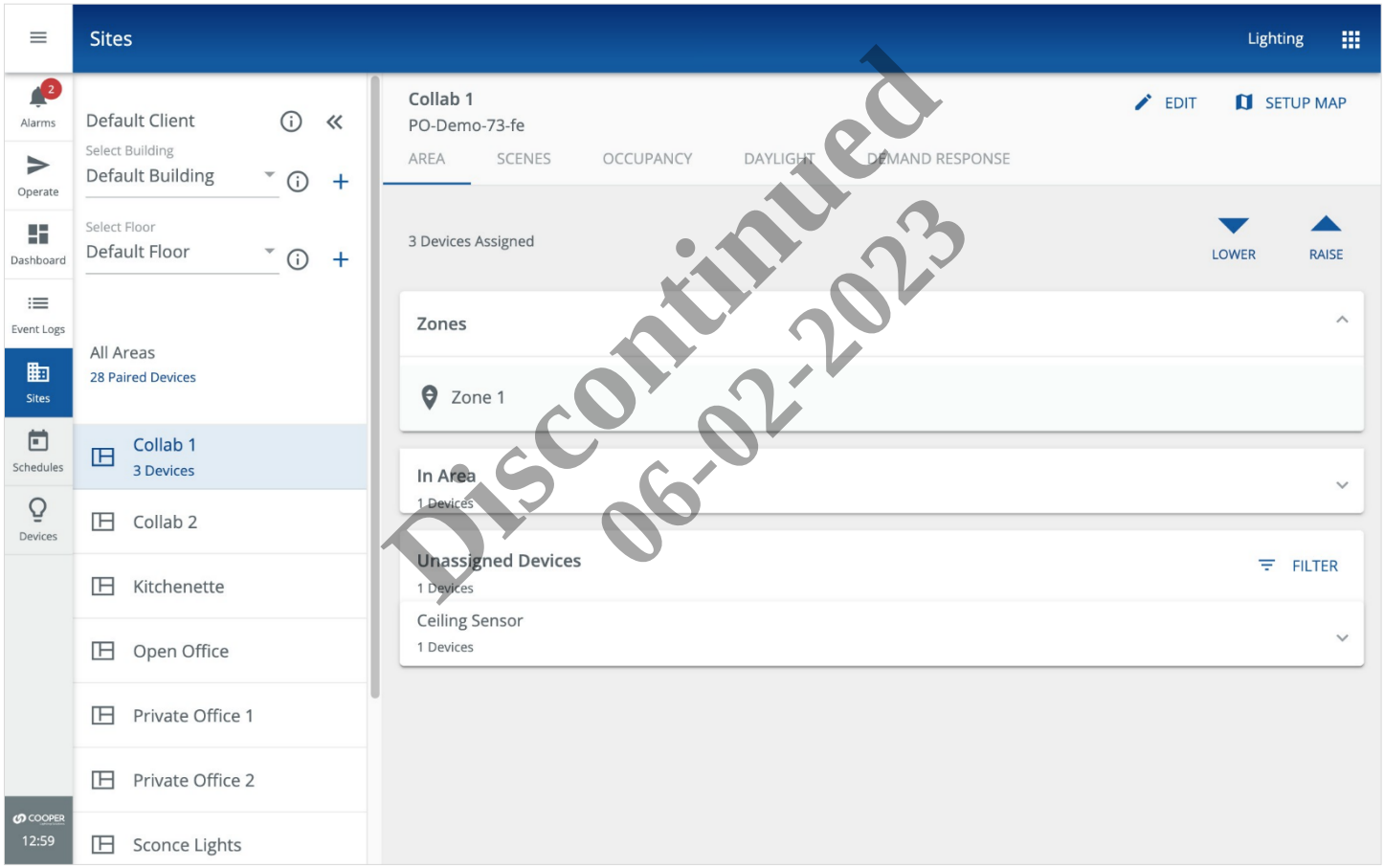
Lighting System Configuration Guide **Trellix**

This document is intended for installers, set-up technicians and IT professionals of Trellix products.

Important: Engage appropriate network security professionals to ensure all lighting control system hardware and servers are secure for access. Ensure IT professionals review the Trellix network architecture documentation referred to in this manual.

Network security is an important issue. Typically, the IT organization must approve configurations that expose networks to the Internet. Be sure to fully read and understand customer IT Compliance documentation.



COOPER Lighting Solutions

⚠ WARNING

Read all the instructions thoroughly before installing this product.

This manual provided information on the installation and operation of Trellix Lighting. For proper operation it is important to follow the instructions.

The purpose of this document is to provide sufficient instructions for installation and basic troubleshooting.

Contents

1 – About this Document

This document describes how to administer and configure the Trellix Smart Lighting IoT platform and associated applications.

Important

This document does not cover the initial Trellix Core installation and setup. Please refer to the Trellix Core Quick Start Guide if you are installing Trellix platform for the first time.

1.1 – Assumptions

The information and procedures in this document assume the following:

- Trellix Core has been installed and set up as described in the *Trellix Core Quick Start Guide*
- One or more WaveLinx Wireless Area Controllers and/or WaveLinx Wired EGs have been installed and configured on your site
- You are familiar with the *WaveLinx Mobile Application User Manual, WaveLinx Planning and Installation Guide,* and if applicable the *WaveLinx Wired Installation Guide*
- You are familiar with the *Trellix Lighting User Manual*
- You know the Trellix Core IP address and have a login account with System Administrator, Facility Manager, or IT Administrator permissions

1.2 – Using This Manual

If you are…	Then…
Commissioning a Trellix Lighting installation	See *Commissioning* to continue where the *Trellix Core Quick Start* left off.
Administering the features of a Trellix Lighting installation	See *System Administration* to configure system features such as backups, language plugins, and software upgrades.
Managing Trellix client information and software licenses	See *Software Licenses and Client Information* for product licensing details and procedures.
Administering users and roles on a Trellix installation	See *User and Role Administration* to create, edit, and delete custom user accounts and roles.
Configuring new or existing Sites in Trellix	See *Sites Configuration* to configure Buildings, including Floors, Areas, Zones, Scenes, Occupancy Groups, Demand Response and Devices settings.
Discovering and associating Controllers or importing Controller data	See *Device Discovery, Import, and Configuration* to locate and synchronize WaveLinx Wireless Area Controllers and WaveLinx Wired Ethernet Gateways with Trellix Lighting.
Configuring or editing Schedules, Events and Actions	See *Schedule Configuration* to create Schedules that will automate your LCS based on date and regular or astronomical time
Troubleshooting a Trellix system	See *Troubleshooting* to understand and resolve error messages, status messages, and other situations you may encounter.

1.3 – Key Terms

The terms listed below are used in this document.

- **Alarm** – An error notification that requires an action
- **Application Programming Interface (API)** – A set of clearly defined methods of communication between various software components
- **BACnet** – A communications protocol for Building Automation and Control (BAC) networks
- **Drawing Exchange Format (DXF)** – A CAD data file format developed by Autodesk
- **Ethernet Gateway (EG)** – An Ethernet Gateway is used to connect WaveLinx Wired to Trellix
- **Event** – A notification, such as a cleared alarm or system event, that does not require any action
- **EPICS File** – Electronic Protocol Implementation Conformance Statement that describes the BACnet device capabilities

- **Internet of Things (IoT)** – The extension of Internet connectivity into physical devices, enabling them to communicate and interact with over the Internet for remote monitoring and control
- **Lighting Control System (LCS)** – A computer-based control system installed in a building to control and monitor lighting equipment such as controllers, ballasts, drivers, keypads, and sensors (consists of hardware and software)
- **WaveLinx Low Voltage** – Distributed Low Voltage power (formerly nDLVP)
- **Trellix Core (TC)** – A gateway that aggregates Wireless Area Controller device data
- **Wireless Area Controller (WAC)** – An application that coordinates the WaveLinx Mobile App with various WaveLinx devices to provide lighting zone configuration, monitoring, and control (also referred to as "Controller" or "Area Controller")

1.4 – Related Documentation

Document	Description
Trellix Core Quick Start Guide	This guide covers the initial installation and setup of Trellix platform.
Trellix Lighting User Guide	This manual covers the monitoring and controlling of a Trellix Lighting system.
Trellix Lighting API Reference	This manual describes the Trellix Lighting developer API.
WaveLinx System Network/IT Planning Guide	This guide covers the planning, design, set up, and configuration of a WaveLinx System.
WaveLinx Mobile Application User Manual	This manual covers the use of the WaveLinx Mobile Application to configure the Wireless Area Controllers.
WaveLinx Wired Installation Quick Guide	This guide covers the basic steps for installing WaveLinx Wired.
WaveLinx Wired Installation Instructions	This document provides detailed instructions for installing and setting up WaveLinx Wired and EG2.
Cyber Infrastructure Security Tips	Tips and advice about common security issues for non-technical computer users.
Cooper CCOE Cybersecurity Recommendations	Recommendations to complement your existing cybersecurity programs so the product is deployed and maintained in a way that minimizes cybersecurity risks.

1.5 – What's New

Change	Description
Controller Configuration	The new Sites interface (formerly Buildings) now offers editing of WAC Area, Zone, Occupancy, Daylight, and Demand Response configuration.
Live data cards	When relevant Building and Device elements are selected, such as Areas, Sensors, or Wallstations, live data is prominently displayed in a separate card.

2 – Commissioning

This chapter contains the recommended stages to follow when commissioning a Trellix Lighting system, along with links to the relevant procedures.

2.1 – Before You Begin

This process assumes the *Trellix Core Quick Start Guide* tasks listed below are complete:

- Trellix Core IP address has been set to allow communication with the WaveLinx Controllers
- Trellix Core Time Zone has been set correctly
- All connected Controllers have been discovered and their data imported
- All Buildings and Floors have been created, and all Controllers have been associated with a Floor
- All default account passwords have been changed

2.2 – Stages in the Commissioning Process

Follow the process below to complete the system setup that was initiated with the *Trellix Quick Start Guide*.

Stage	Description	Reference
1	Set up the Trellix Core host server to synchronize time with an external NTP server.	*Setting Up the Trellix Core Date & Time*
2	Set up the Time Zone for each Building.	*Setting Building Date & Time*
3	Set the baseline energy per Floor (required by the Energy dashboard).	*Setting the Floor Baseline Energy Value*
4	Set the power data for Type 3 Devices (required by the Energy dashboard).	*Setting the Maximum Power for Type 3 Devices*
5	Set up one or more Schedules for Areas for use time-based actions (e.g., turning lights on and off).	*Setting Up Initial Schedules*
6	Set up one or more Floor Maps (optional).	*Setting Up Floor Maps (Optional)*
7	Set up BACnet (optional for customers wanting to share data with a Building Automation System).	*Setting Up BACnet*
8	Set up Published API (optional, for customers wanting to share lighting or location data with a third-party system).	*Setting Up the Published APIs (Optional)*
9	Set up OpenADR (optional for customers who want to integrate with a utility company system).	*Setting Up Open ADR*
10	Set up the Email Server as required for Alarm Notification.	*Setting Up the Email Server*
11	Set up additional User Accounts and Roles (optional).	*Setting Up Additional User Accounts and Roles (Optional)*
12	Synchronize data with WACs and confirm site operation.	*Synchronizing Data with WACs*
13	Confirm that time on each WAC is synched with Trellix Core.	*Confirming WACs are Using Trellix Core as NTP Server*
14	Back up the database for Trellix and Controllers.	*Backing Up the System*

2.3 – Setting Up the Trellix Core Date & Time

Trellix Lighting lets you set up the way date and time is handled on the lighting system.

IMPORTANT
NTP Synchronization must be set up and enabled to obtain reliable data. The best and recommended option is NTP Server synchronization with time provided by the Stratum 1-14 NTP servers. Trellix time can only be as reliable as the designated time source.

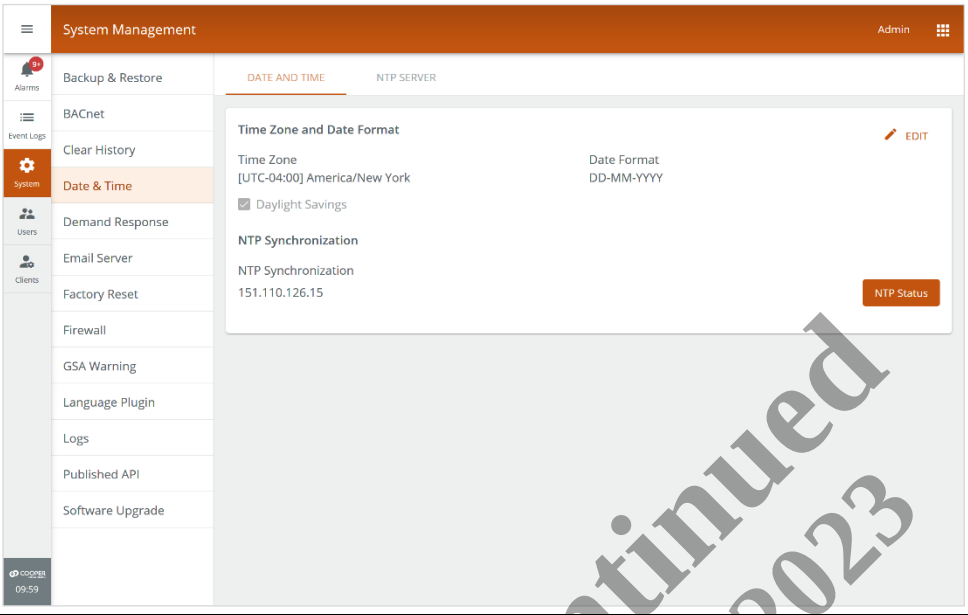
There are two levels of time synchronization:

- How Trellix Core keeps time (e.g., IM host server, external NTP server)
- How the WACs keep time (e.g., WAC host server, IM as NTP server)

NOTE
This following procedure applies to the date and time on Trellix Core/Trellix Lighting interface. There is a separate time zone configuration for each building in your Building hierarchy. This is required to manage multiple buildings located in in different time zones.

Step	Action
1	Click ⋮⋮⋮ to display the app menu, then click **Admin**, then click **System**, and then click **Date & Time**.

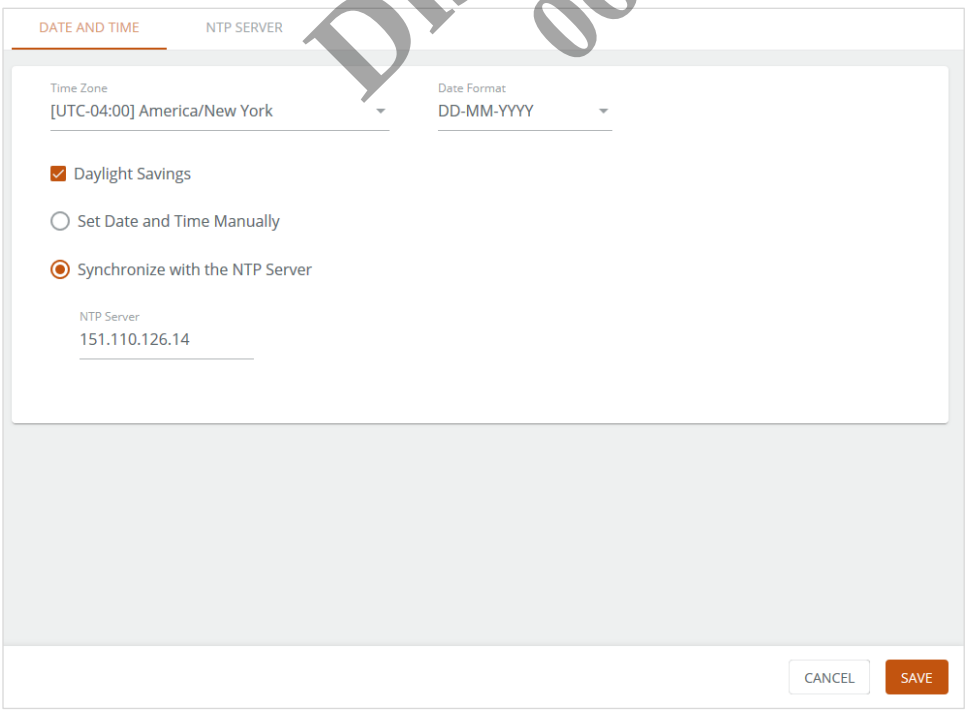
RESULT



2	Click **Edit**, then select a **Time Zone** from the list, and then select a **Date format**, the **Daylight Savings check box** if you want to enable this feature.

NOTE
The settings on this tab determine how Trellix Core keeps time.

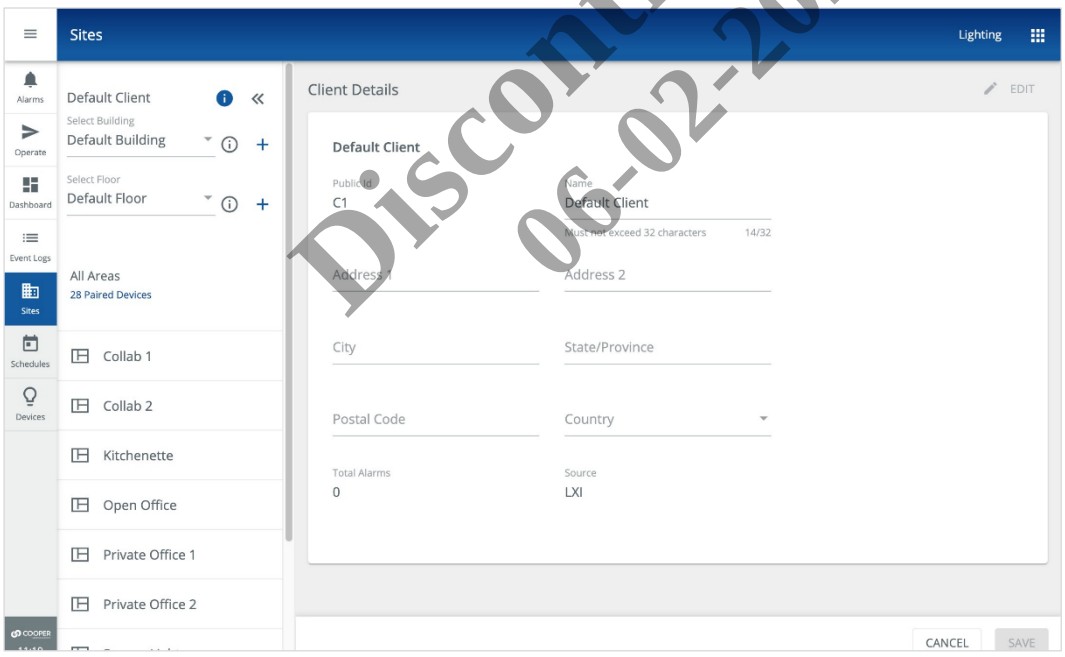
EXAMPLE



Step	Action
3	Select the **Date and Time** source that Trellix Lighting will use as a reference, as follows: • **Set Date and Time Manually** – Enter the current date and time using the selection lists • **Synchronize with the NTP Server** – Enter the IP address of an external NTP time server ***NOTE*** *If you change the **Set Date and Time Manually** or **Synchronize with the NTP Server** settings, the system will restart to apply your changes. A restart can take up to 15 minutes.* ***IMPORTANT*** *Each Building defined in the system will also have a clock, so you will have to set the Time and Time Zone for each building.*
4	To enable this Trellix Core host as the NTP Server for connected WACs, click the **NTP Server** tab, and then click **Enable**.
5	Click ⠿ to display the app menu, then click **Lighting**, then click **Devices**, and then click **Trellix Core**.
6	Click **Actions**, and then select **Sync Data with WAC.** ***NOTE*** *This will send the NTP server data to all connected WACs. Allow five minutes for the changes to be applied before confirming the settings as described in the next topic.*

2.4 – Setting Building Date & Time

Follow the steps below to configure the Building date and time.

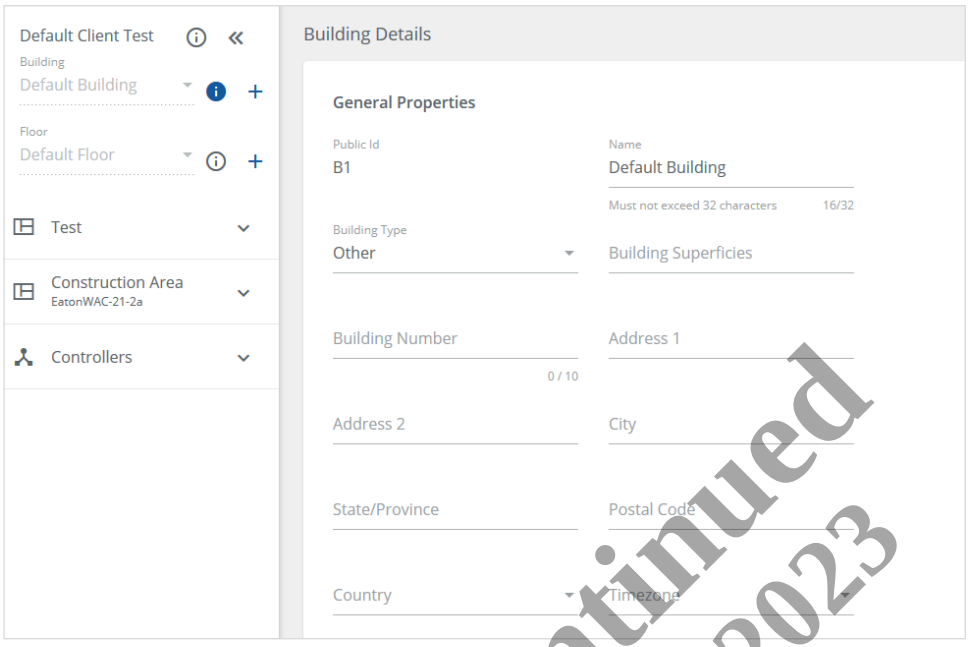
Step	Action
1	Click ⠿ to display the app menu, then click **Lighting**, and the click **Sites** in the main menu. ***EXAMPLE*** 

Step	Action
2	Select a **Building** in the Building navigation panel, and then click **Edit**.

NOTE

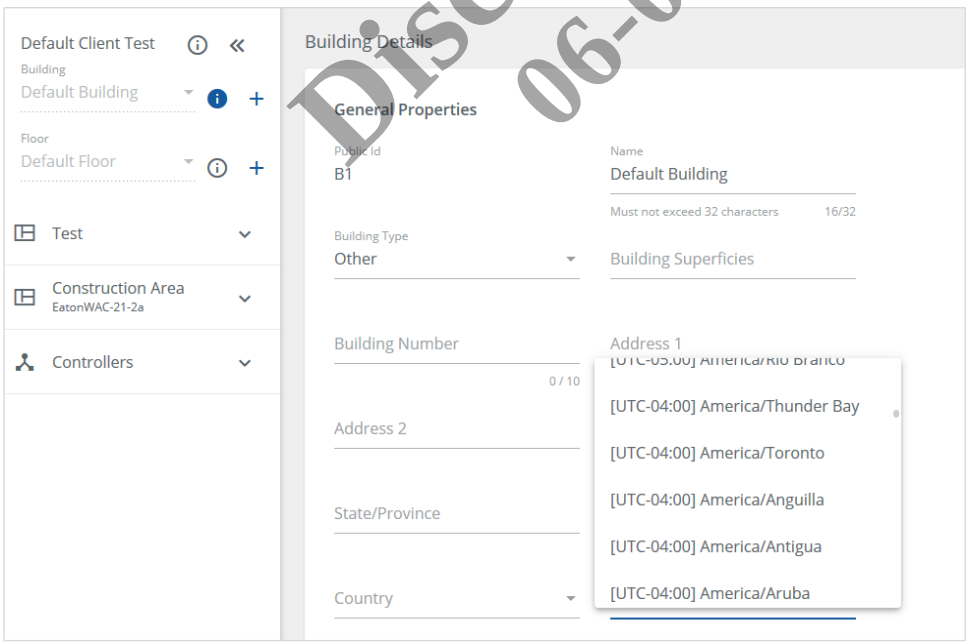
A ⓘ button indicates the selected component with details displayed. Clicking ⓘ beside a component will select it.

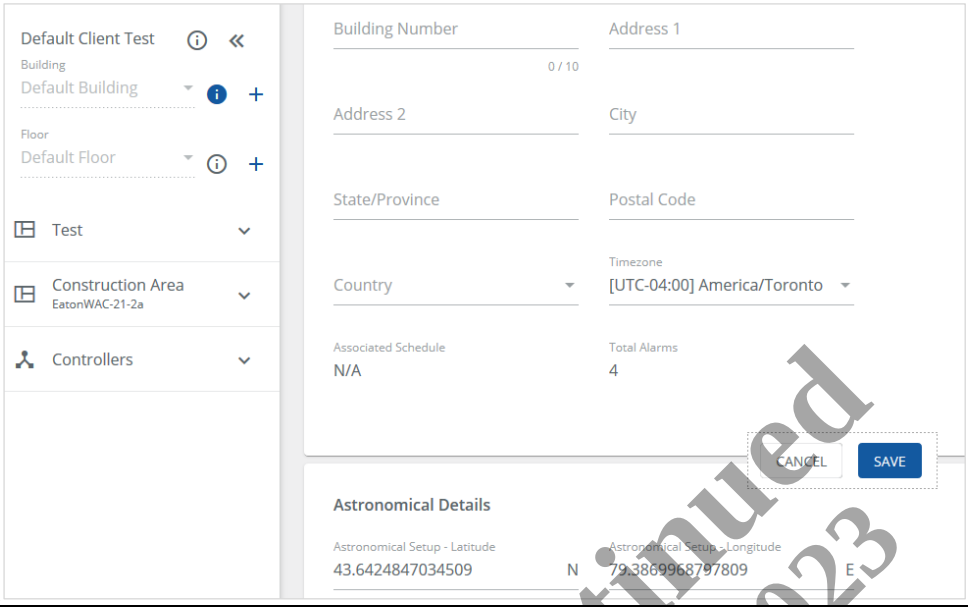
EXAMPLE



3	Click **Timezone**, and then select the desired zone.

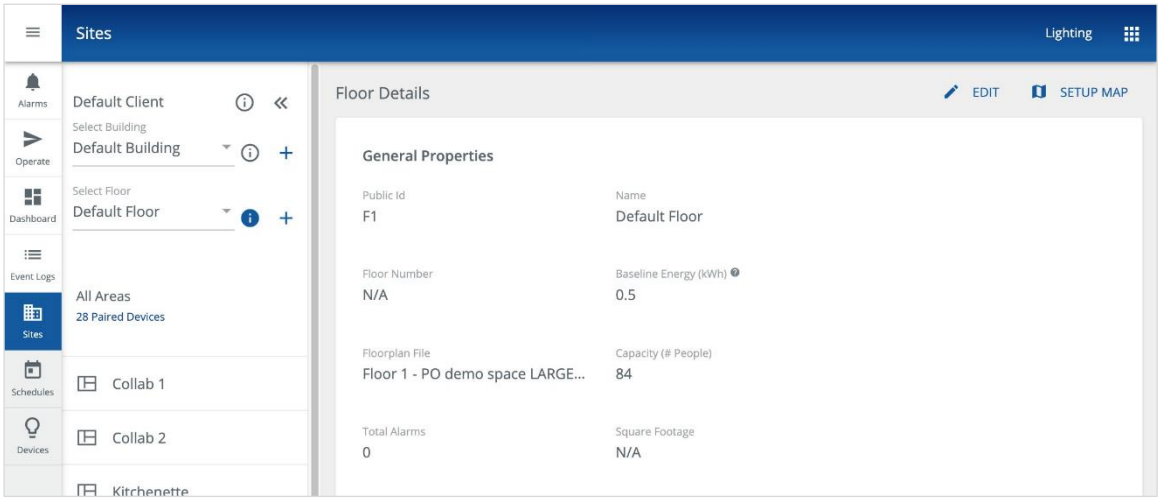
EXAMPLE

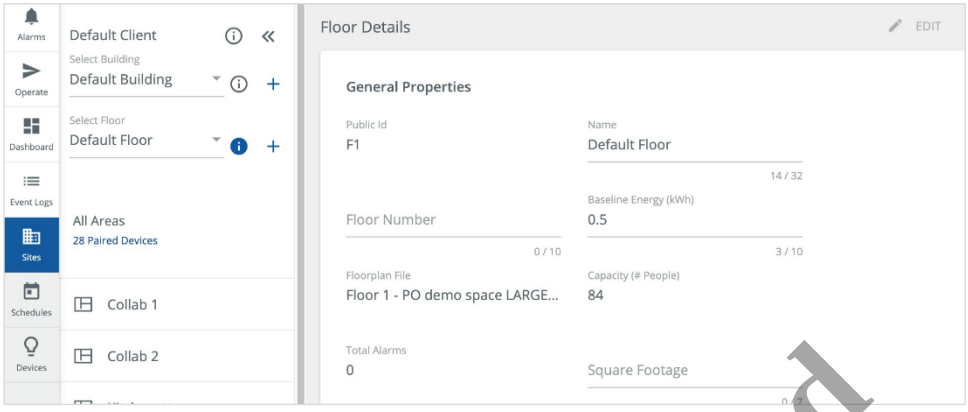


Step	Action
4	Enter the desired **Latitude** and **Longitude** values under **Astronomical Details**. ***NOTE*** *The Latitude and Longitude are used by the Schedules feature for actions that track the sunrise and sunset.* ***EXAMPLE*** 
5	Click **Save** (shown inset above).

2.5 – Setting the Floor Baseline Energy Value

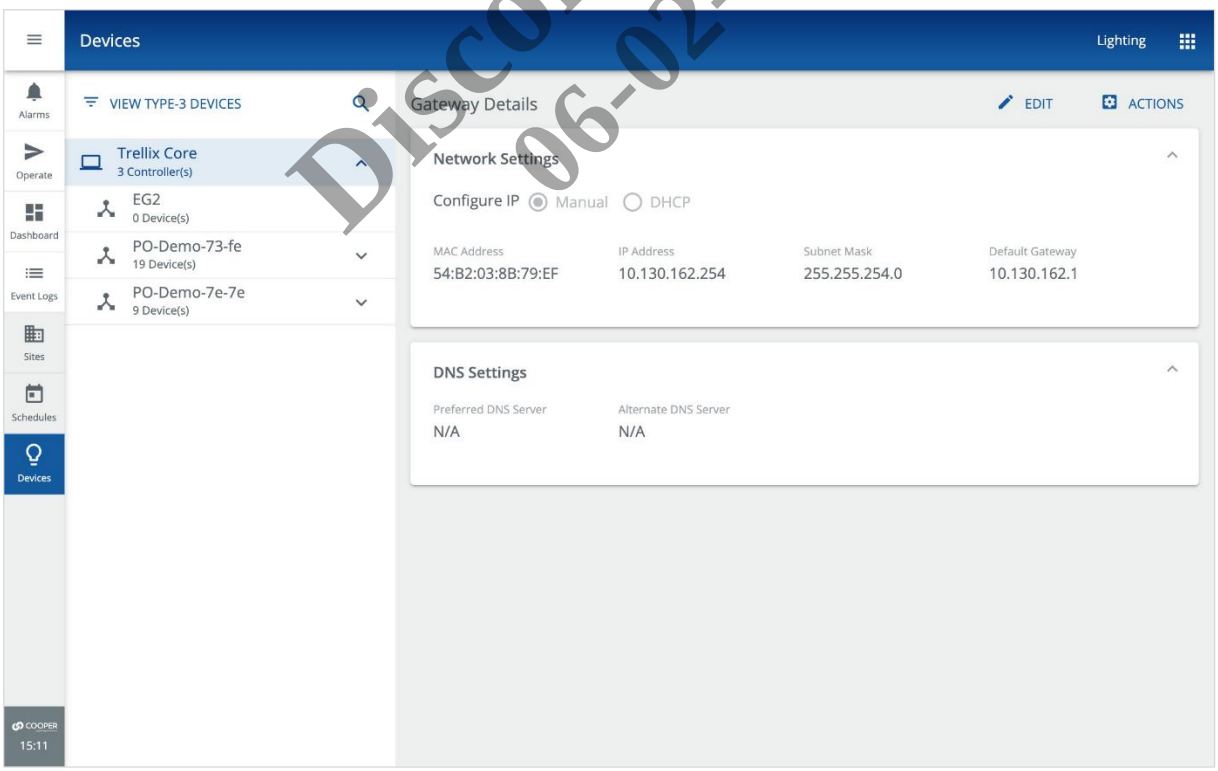
Follow the steps below to set the Baseline Energy value. Baseline Energy is the kWh consumption by all devices on the floor for one hour, assuming 24/7 operation and no controlled reductions.

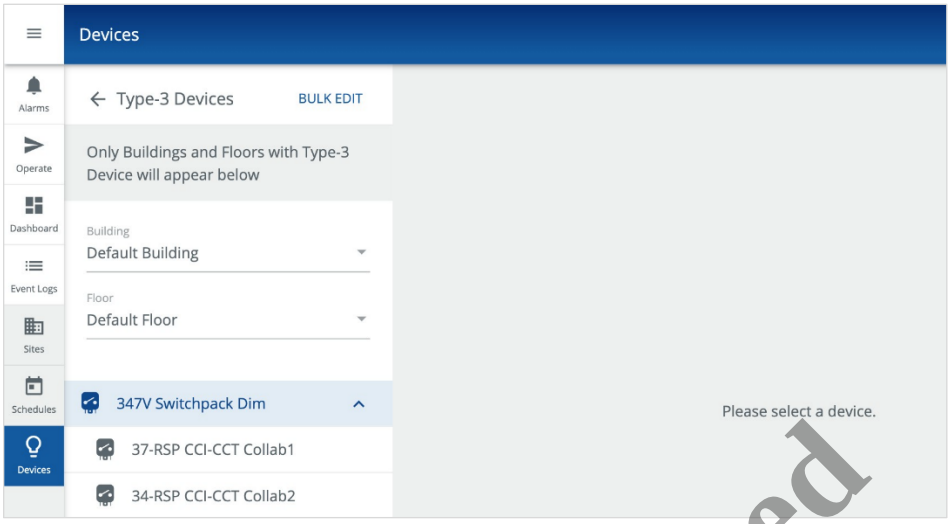
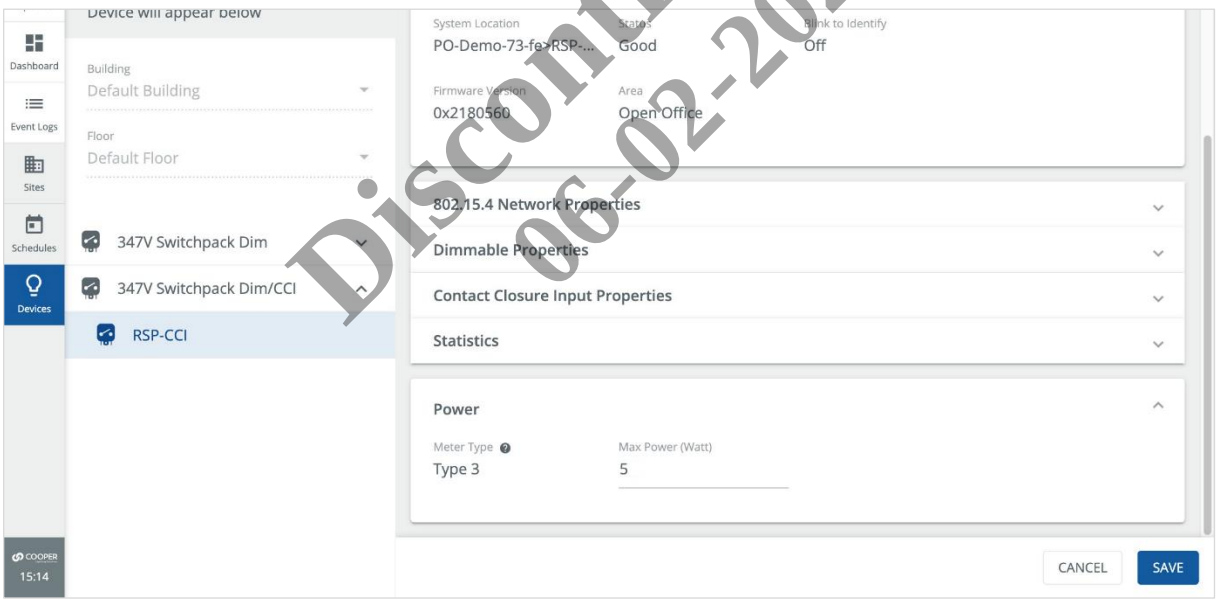
Step	Action
1	Click ⠿ to display the app menu, then click **Lighting**, and the click **Sites** in the main menu. ***EXAMPLE*** 

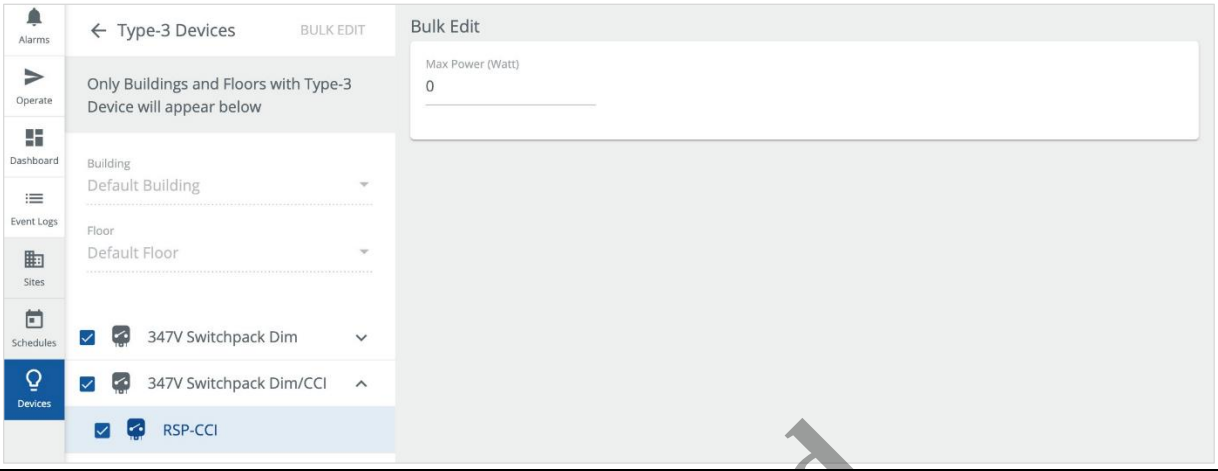
Step	Action
2	Select the **Floor**, and then click **Edit**. ***NOTE*** *A ⓘ button indicates the selected component with details displayed. Clicking ⓘ beside a component will select it.* ***EXAMPLE*** 
3	Click **Baseline Energy**, enter the desired value in kWh, and then click **Save** (shown inset above).

2.6 – Setting the Maximum Power for Type 3 Devices

Follow the steps below to set the Maximum Power value for Type 3 Devices.

Step	Action
1	Click ⠿ to display the app menu, then click **Lighting**, and the click **Devices** in the main menu. ***EXAMPLE*** 

Step	Action
2	Click **View Type 3 Devices**. ***EXAMPLE*** 
3	To set the power for one Device, select it from the list, then click **Edit**, and then expand the **Power** region. Go to Step 5. ***NOTE*** *You can limit the Devices displayed by selecting a Building and Floor.* ***EXAMPLE*** 

Step	Action
4	To set the power for multiple Devices, click **Bulk Edit**, and then select the checkboxes for all Devices you want to modify. ***EXAMPLE*** 
5	Enter the **Max Power (Watt)** value for the Device(s), and then click **Save**.

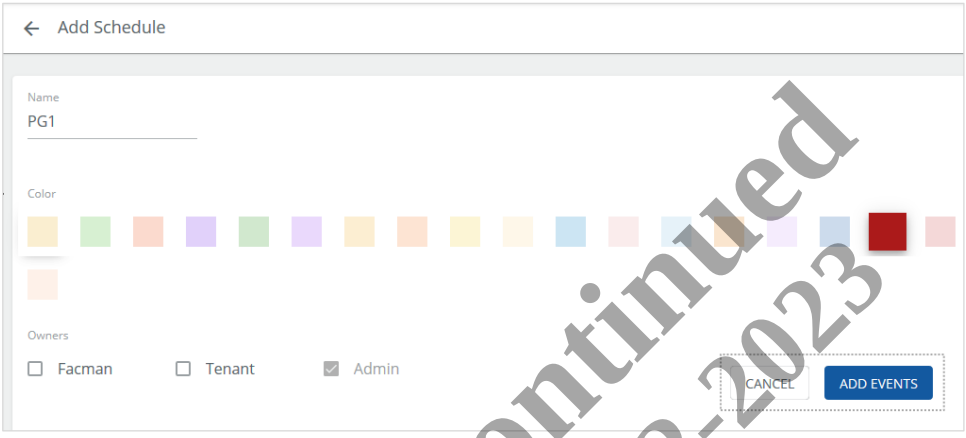
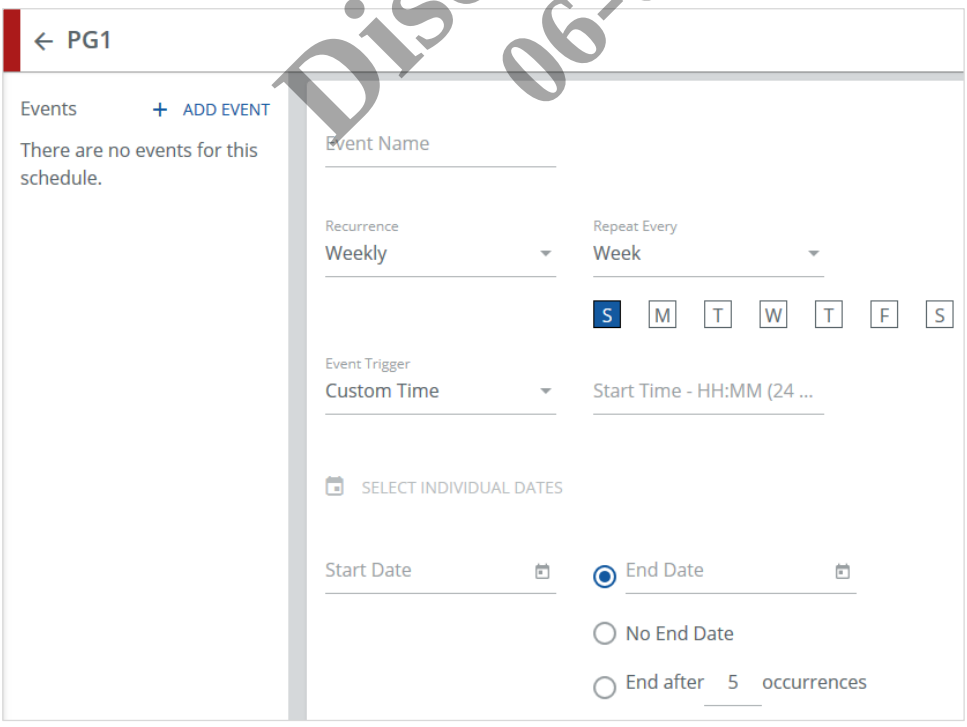
2.7 – Setting Up Initial Schedules

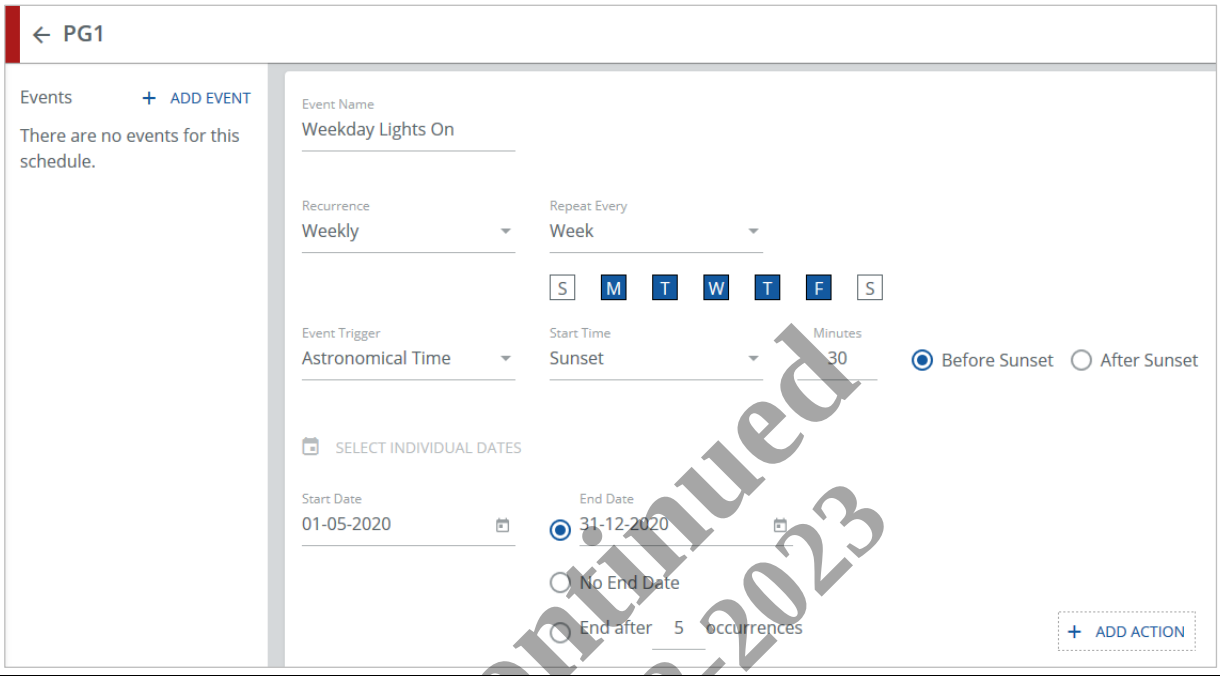
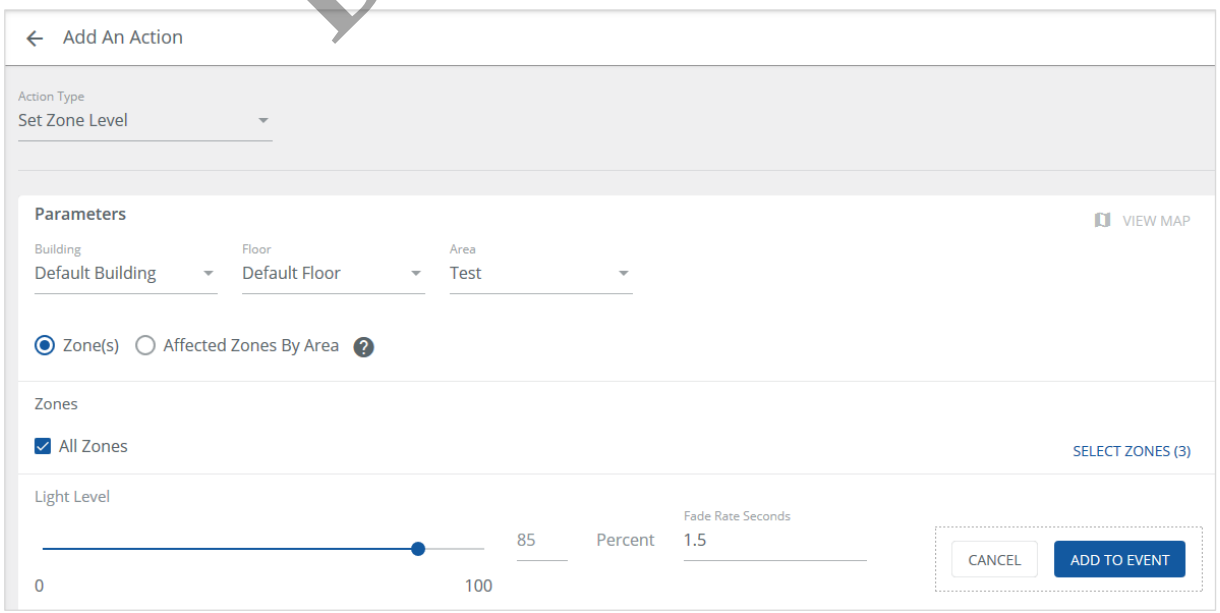
Schedules allow Trellix Lighting to manage time-based actions, such as turning lights on and off according to the sunrise and sunset.

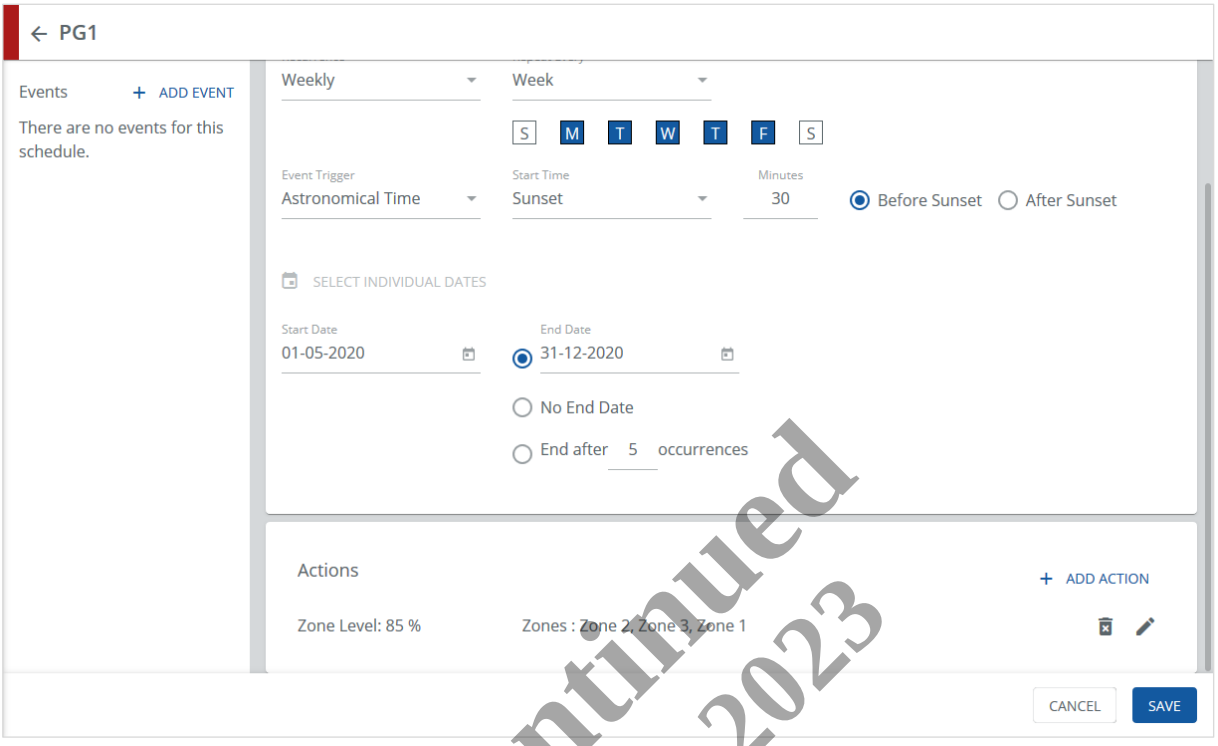
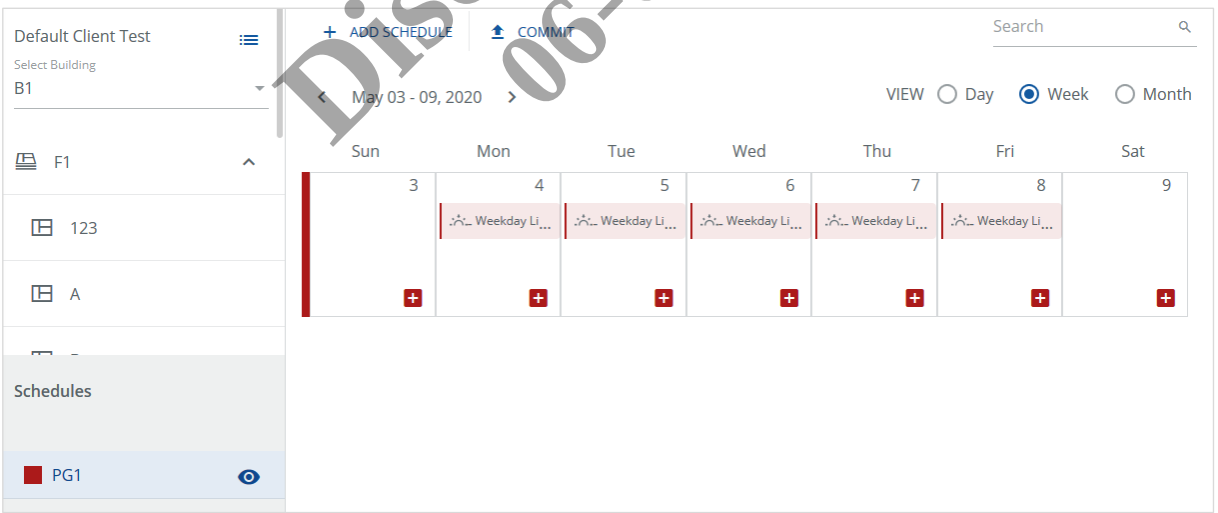
This section describes the creation of a schedule with a simple Event and Action. If you are unfamiliar with Schedules, or need help with other Events and Actions, see the *Schedule Configuration* chapter for more information.

2.7.1 – Procedure

Follow the steps below to create a Schedule.

Step	Action
1	Click **Schedules** in the main menu, and then click **Create a Schedule**. ***NOTE*** *If no schedules exist, the **Create Schedule** window will appear automatically when the Schedules page is loaded.* ***RESULT*** 
2	Enter a **Schedule Name**, then click a color to represent this Schedule in the calendar, and then click **Add Events**. ***EXAMPLE*** 

Step	Action
3	Enter an **Event Name**, then select **Astronomical Time** as the **Event Trigger**, with a **Start Time** of **Sunset**, and an offset **Before Sunset** of **30 Minutes.** Leave the **Recurrence** as **Weekly**, and then select Monday through Friday (**M**,**T**,**W**,**T**,**F**). Select or enter a **Start Date** and **End Date** in the future. ***EXAMPLE*** 
4	Click **Add Action**, and then select **Set Zone Level** as the **Action Type**.
5	Select the **Building**, **Floor**, and **Area** where this action will take place. Click **Zone**, then select **All Zone Types**, and then select **All Zones.** Set the **Light Level** to **85%**, and the **Fade Rate Seconds** to **1.5**. ***EXAMPLE*** 

Step	Action
6	Click **Add to Event** (shown inset above) to create the Event and return to the Schedule page. ***EXAMPLE*** 
7	Click **Save** to apply your Event changes, and then click ← (upper left) to return to the **Schedules** page with the new schedule showing. Click **Commit**, and then click **Confirm** to send your changes to the Area Controllers. ***EXAMPLE*** 

2.8 – Setting Up Floor Maps (Optional)

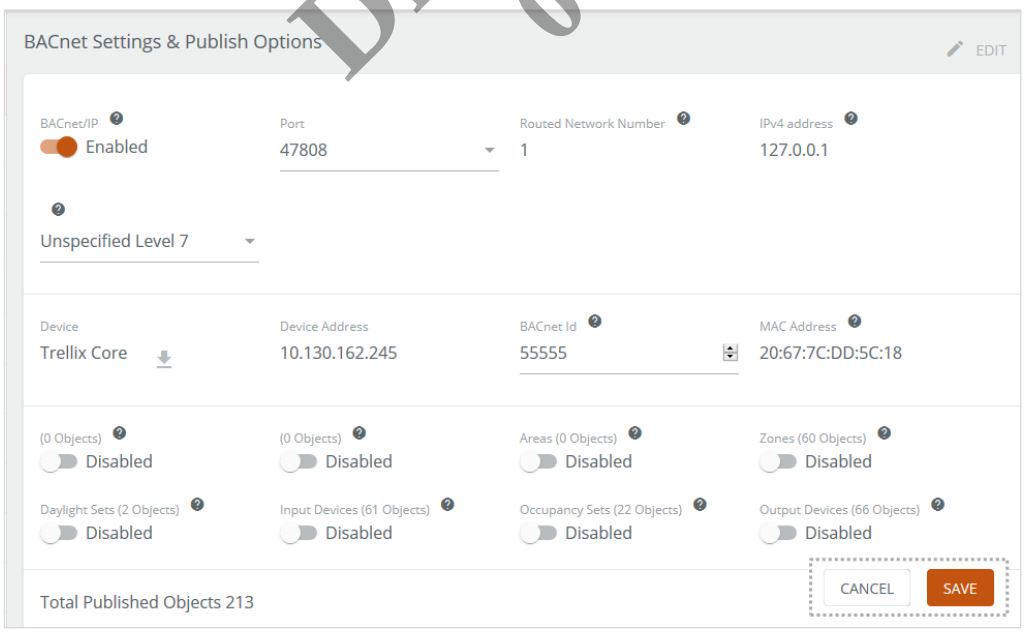
See *About Floor Maps*, and the procedures that follow it, if you want to create one or more Floor Maps.

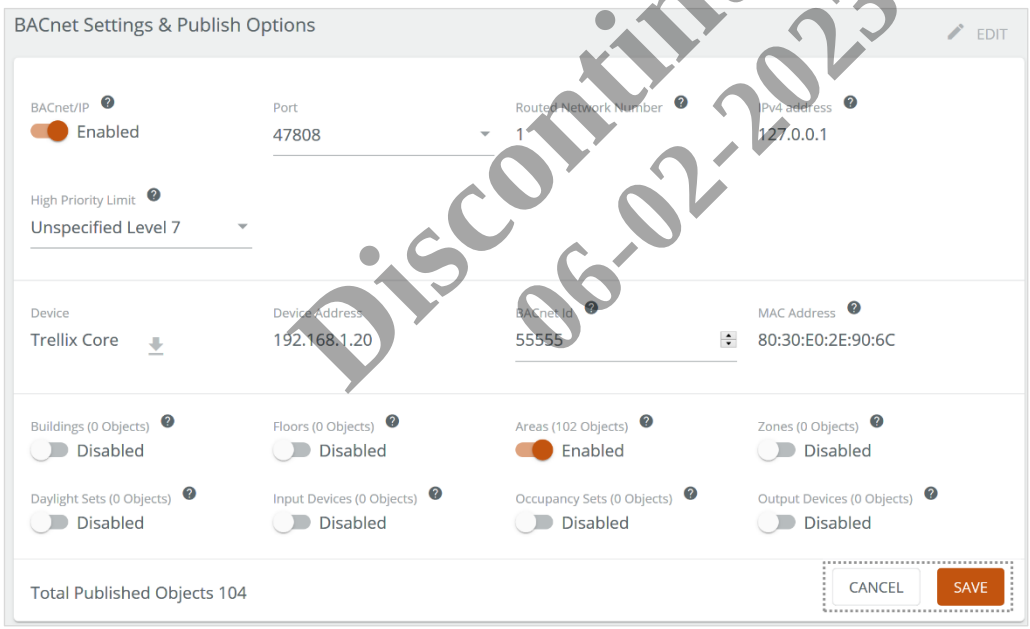
2.9 – Setting Up BACnet

NOTES

The current version of Trellix Lighting supports a combined total of 10,000 published Area, Zone, Input Device, and Output Device objects. The Total Published Objects field will display the number of objects currently enabled after you have saved your configuration.

When modifying the Building or Device hierarchy (e.g., adding or removing a Building or Floor), the BACnet object list needs to be re-synchronized. Any changes to the Building or Device hierarchy will cause BACnet to be disabled. See Synchronizing Changes to BACnet *for instructions.*

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **BACnet.** ***RESULT*** 
2	Click **Edit**, and then set the **BACnet/IP** toggle to **Enabled,** and then click **Save** (shown inset below). ***NOTE*** *Wait for 5 minutes after BACnet/IP is enabled. This allows time for the EPICS (Electronic Protocol Implementation Conformance Statement) file to be generated.* ***RESULT*** 

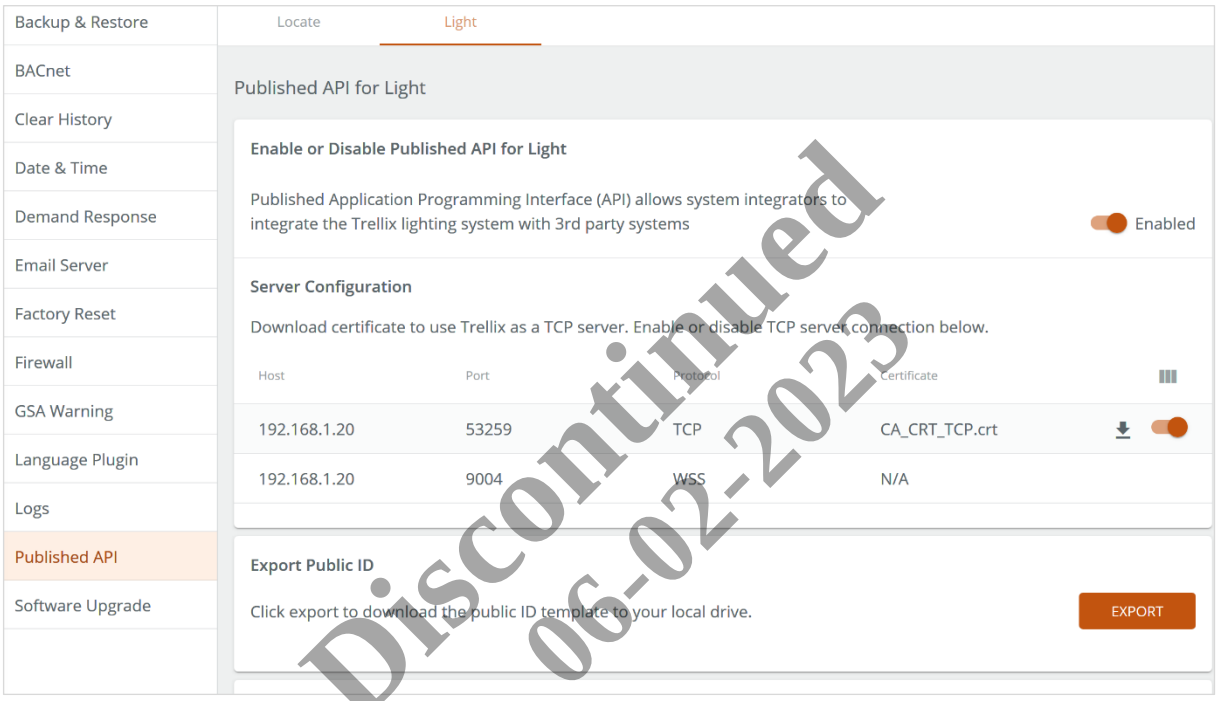
Step	Action
3	Enter the BACnet port number from the **Port** list, then enter a **Routed Network Number**. ***NOTE*** *The IPv4 address cannot be changed because it refers to the local BACnet publisher.*
4	To set the priority of BACnet commands, select the appropriate **High Priority Limit** value. ***NOTE*** *BACnet commands higher than the selected **High Priority Limit** value will be mapped to Trellix "normal priority/manual action". Those equal to or lower will be mapped to "high priority/override" on Trellix. For example, with **Unspecified Level 7** selected, a Level 6 command would be "high priority/override" and Level 8 would be "normal priority/manual action".*
5	Set the toggle for one or more of the following to **Enabled** to expose that type of BACnet data for the configured gateway: • Buildings • Floors • Areas • Zones • Daylight Sets • Input Devices • Occupancy Sets • Output Devices
6	Click **Save** (shown inset below) to apply your configuration, or click **Cancel** to discard it. ***EXAMPLE*** 
7	If you want to download the EPICS file after the configuration has been saved, click ⬇ in the **Device** region.

2.10 – Setting Up the Trellix APIs (Optional)

Trellix data can be made available through two Published APIs, one for Lighting data a separate one for Locate data (if installed). This section explains how the Lighting API is enabled. If you want to enable the Locate API or are unfamiliar with the APIs, see *Configuring the Published APIs* for more details.

Procedure

Follow the steps below to configure the Published API for Lighting.

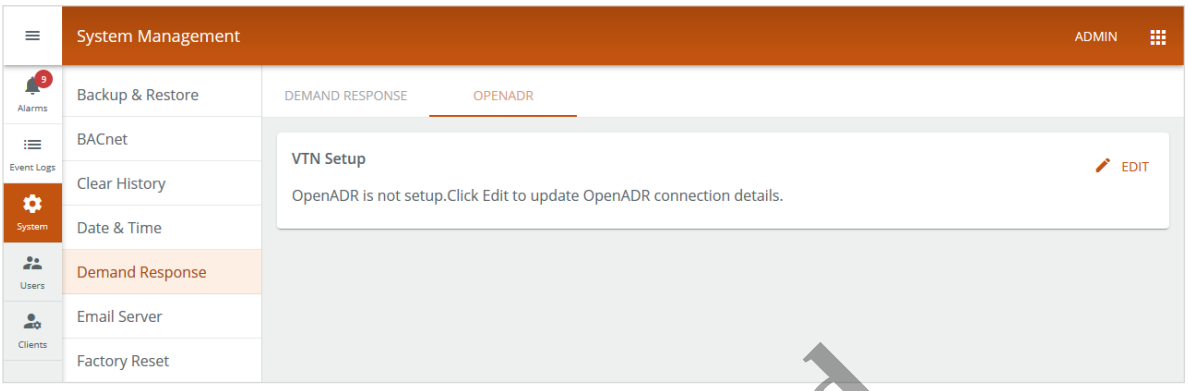
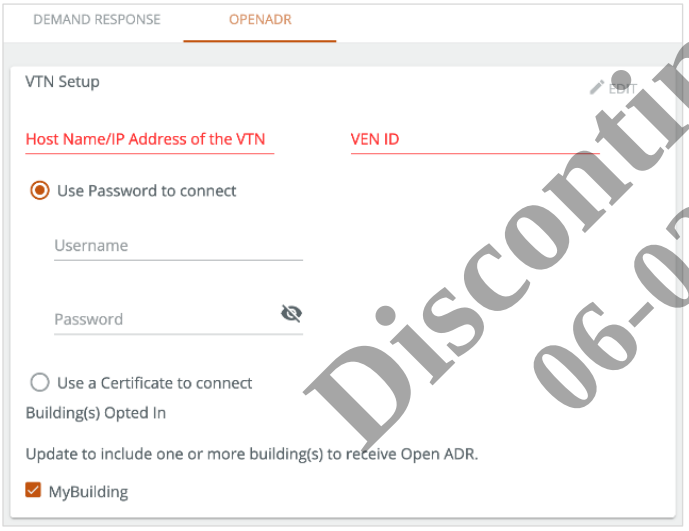
Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Published API**.
2	Set the **Enabled/Disabled** toggle to **Enabled**. ***RESULT***  ***OTHER TASKS*** • To download an XLSX file containing details about the devices exposed through the Published API, click **Export** • To import an XLSX file containing the Published API device details, click **Import**, and then click **Open**

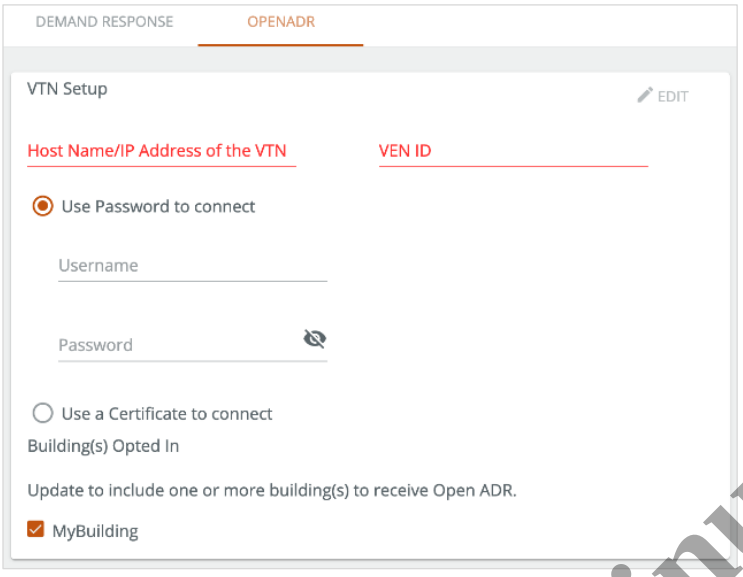
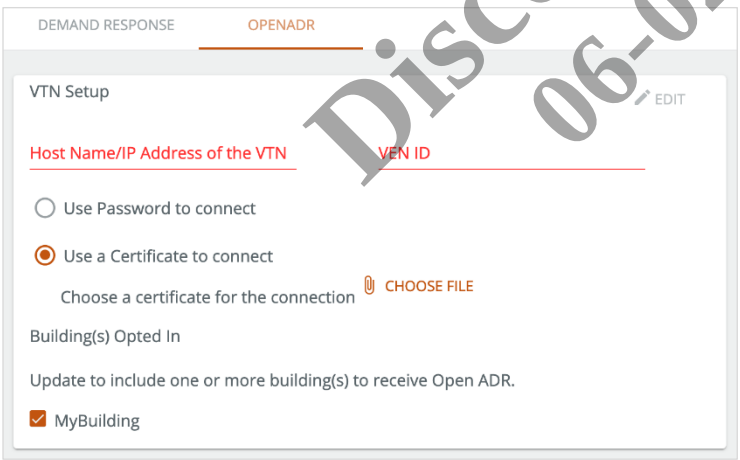
2.11 – Setting Up Open ADR

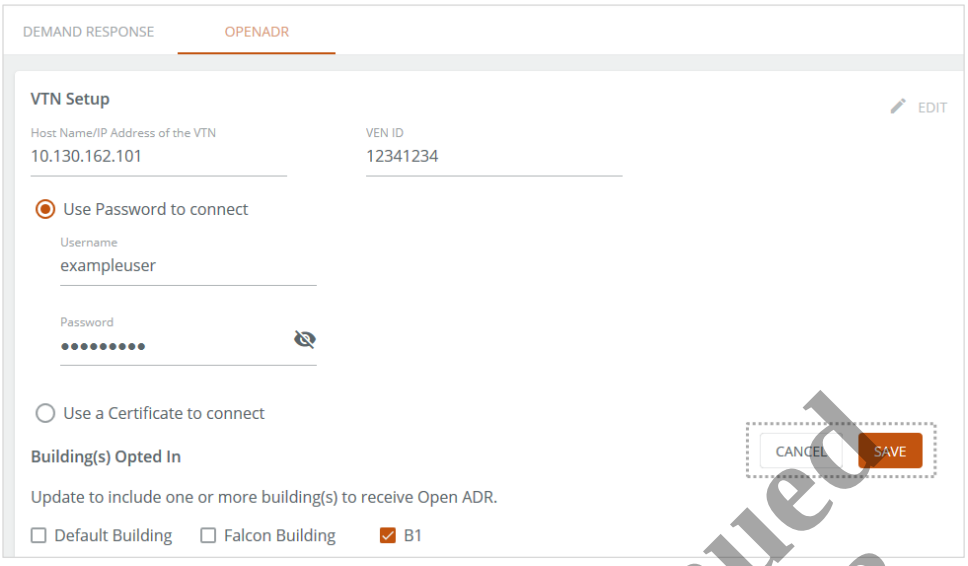
The OpenADR interface allows communication between WaveLinx and a utility company's Demand Response Automation Server (DRAS).

NOTE
The WaveLinx system should be registered with the utility company before performing this task. The utility company will provide either a certificate, or a username and password, to authenticate the connection.

Follow the steps below to configure and enable Open ADR.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Demand Response**, and then click **Open ADR.** ***RESULT*** 
2	Click **Edit**. ***RESULT*** 
3	Enter the **Host Name** or **IP Address** of the **VTN** (remote ADR organization), and then enter the **VEN ID** that was assigned to them.

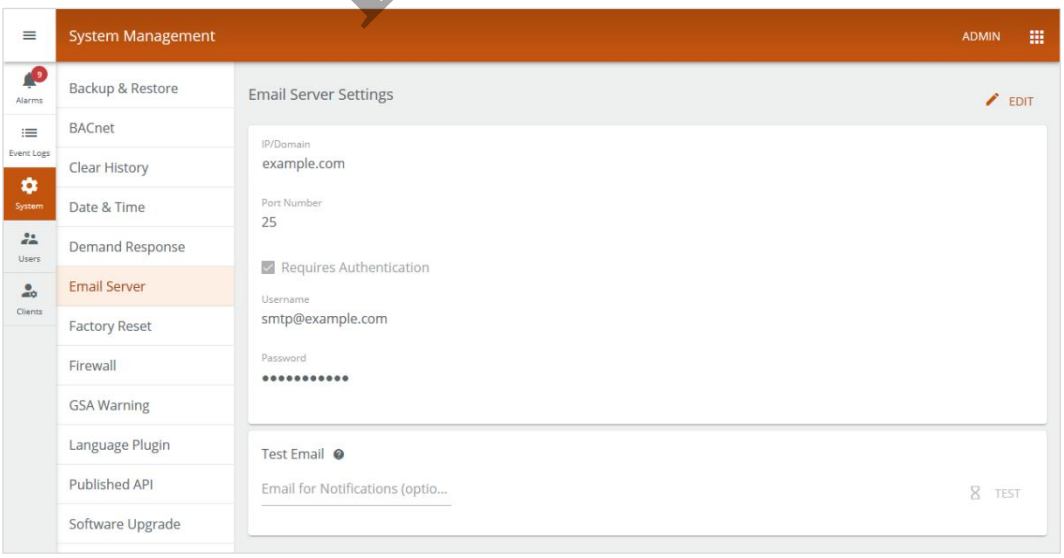
Step	Action
4	If the utility company DRAS server will use a password to authenticate, click **Use Password**, and then enter the **Username** and **Password** that were assigned to the ADR organization. Select the checkbox for each building that the ADR organization should respond to the Demand Response signal. ***EXAMPLE*** 
5	If the utility company DRAS server will use a certificate to authenticate, click **Use a Certificate**, and then click the **Choose File**, and then select the ZIP archive file that contains the necessary certificate files. ***NOTE*** *The certificate will be issued by the utility company.* ***EXAMPLE***  ***TIP*** *See the Troubleshooting section if you get an unexpected result.*

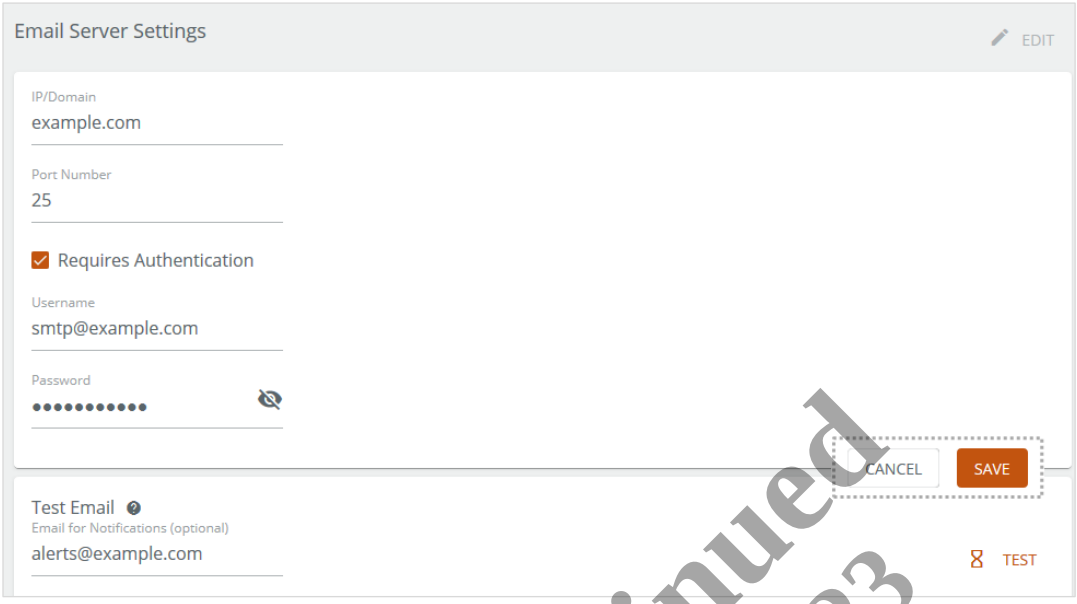
Step	Action
6	Select the checkbox for each **Buildings Opted In** that will participate in the Demand Response program, and then click **Save** (shown inset below). ***EXAMPLE*** 
7	Set the **OpenADR** status to **Enabled** to provide access to the ADR organization.

2.12 – Setting Up the Email Server

Trellix Lighting lets you connect your Trellix Lighting to an email server, allowing notifications to be emailed when alarms are generated.

NOTE
You will need the IP address and port number of an SMTP (Simple Mail Transfer Protocol) server to complete this procedure. Depending on your SMTP server, you may also need authentication account details.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Email Server**. ***RESULT*** 
2	Click **Edit**, then enter the **IP address** or **Domain** name of your SMTP server, and then enter a valid **Port Number** (e.g., 25 or 587).

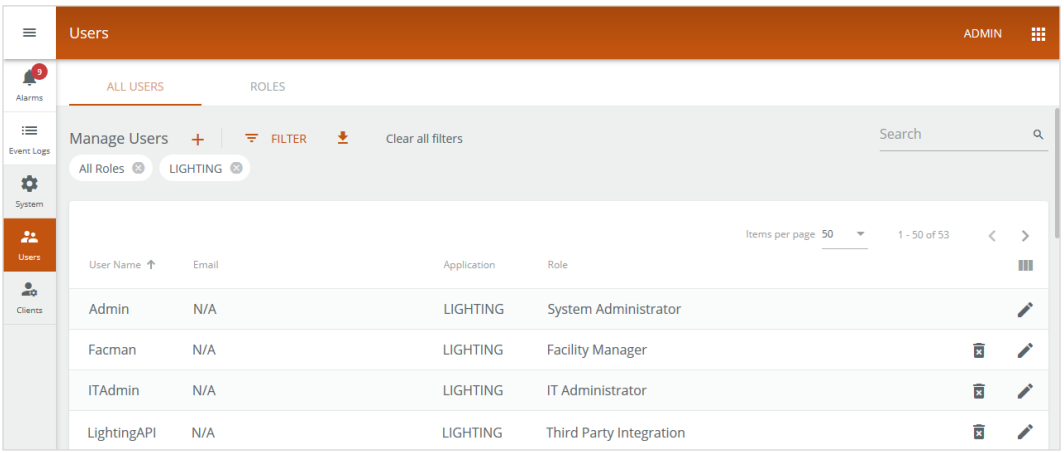
Step	Action
3	If your SMTP server requires authentication, select **Requires Authentication**, then enter the **Username** and **Password** credentials for the email account. ***EXAMPLE*** 
4	To test your configuration, enter a valid **Test Email**, and then click **Test**.
5	Click **Save** (shown inset above) to apply your changes.

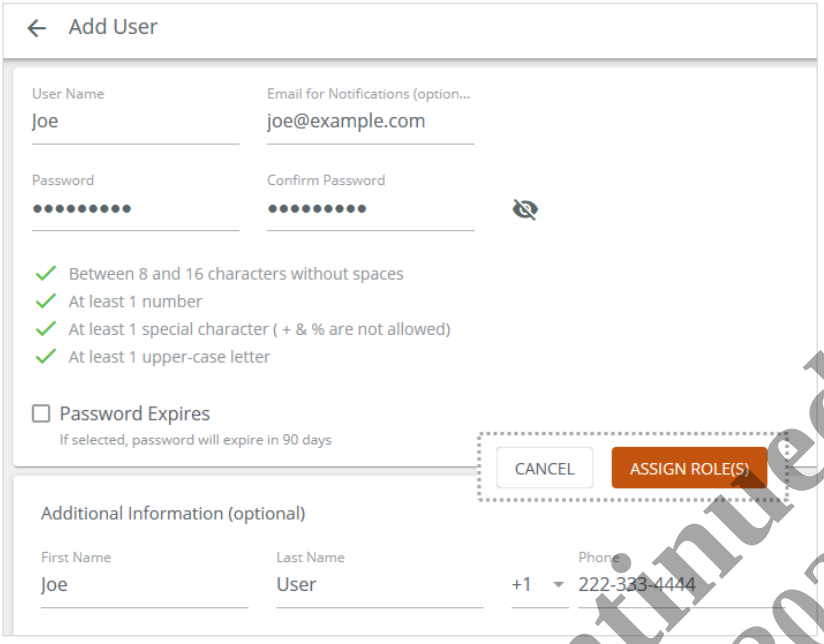
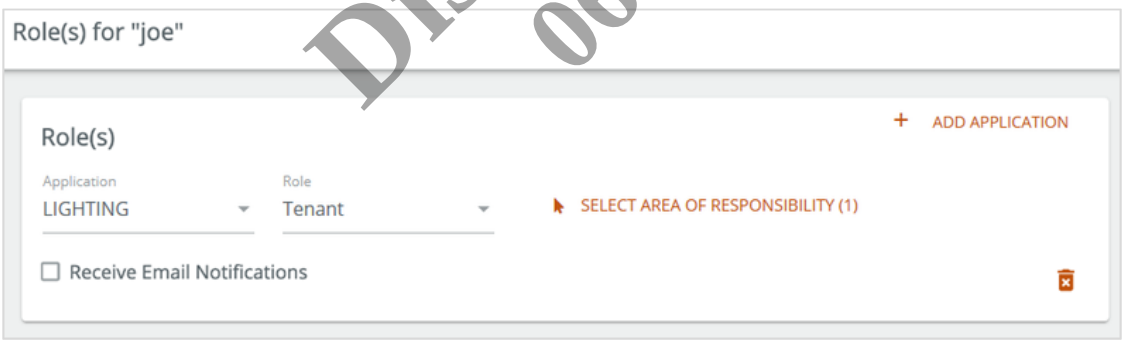
2.13 – Setting Up Additional User Accounts and Roles (Optional)

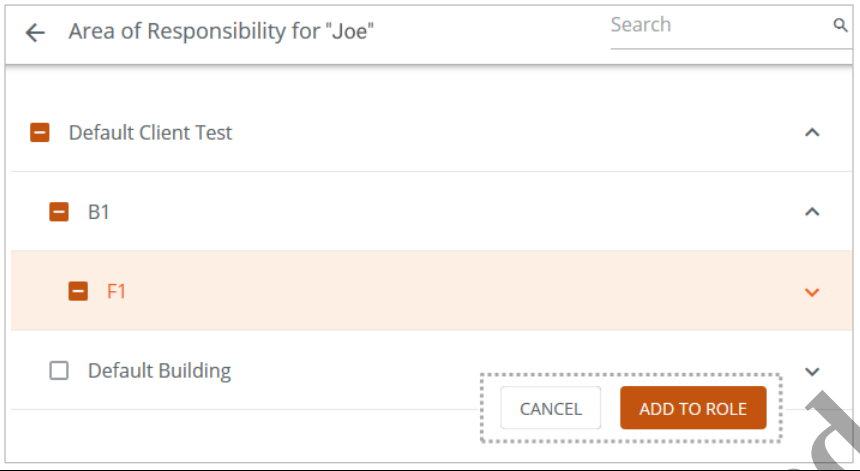
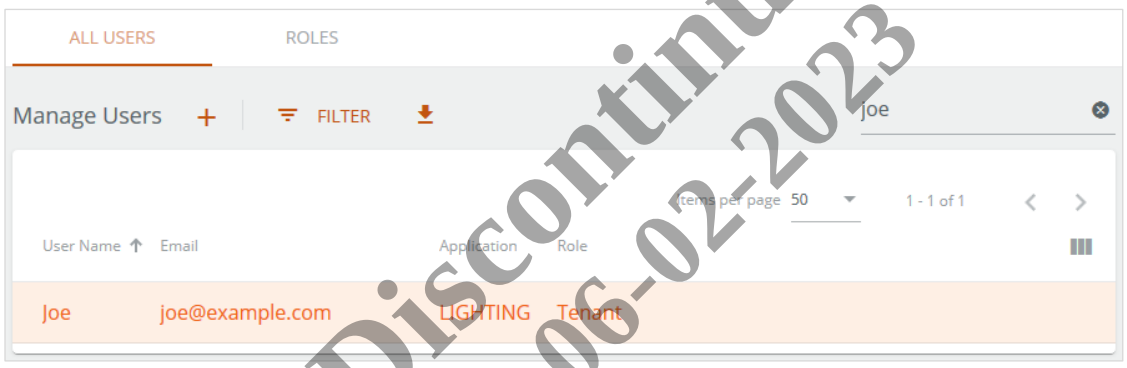
This topic describes the addition of user accounts and roles. If you are unfamiliar with Trellix accounts, roles, and permissions, or you need more information, see *User and Role Administration*.

2.13.1 – Adding User Accounts

Follow the steps below to create a new Trellix Lighting user account.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, and then click **Users**. ***EXAMPLE*** 

Step	Action
2	Click + beside Manage Users. Enter the new **User Name** and (optionally) the **Email for Notifications**, then enter and confirm a **Password**, and then select **Password Expires** if you want to limit password validity to 90 days. If desired, expand and fill out the **Additional Information** fields. ***EXAMPLE*** 
3	Click **Assign Roles** (shown inset above). Select a **Role**, then select the **Receive Email Notifications** check box if you want to send notifications to this user. ***NOTE*** *See Default Lighting Accounts, Roles, and Permissions for role permission details* ***EXAMPLE*** 

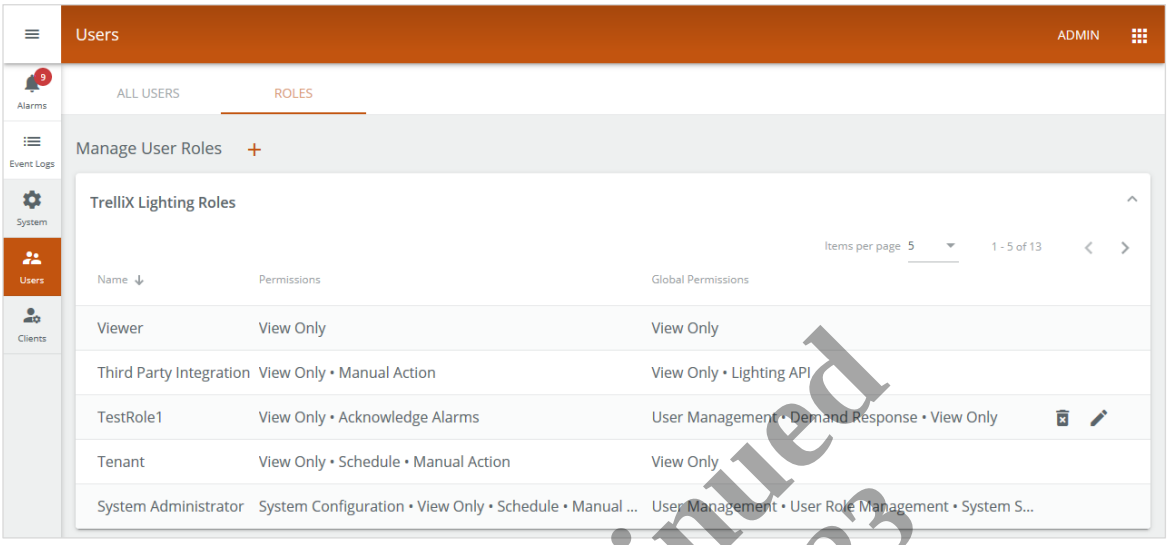
Step	Action
4	Click **Select Area of Responsibility**. Use the **Search** box or expand and collapse the building hierarchy to view and select one or more Areas this user can access. Click **Add to Role** (shown inset below) to continue. ***EXAMPLE*** 
5	Click **Create User** to add this user and return to the **Users** page. ***EXAMPLE*** 

2.13.2 – Adding Roles

Follow the steps below to create a new Trellix Lighting role.

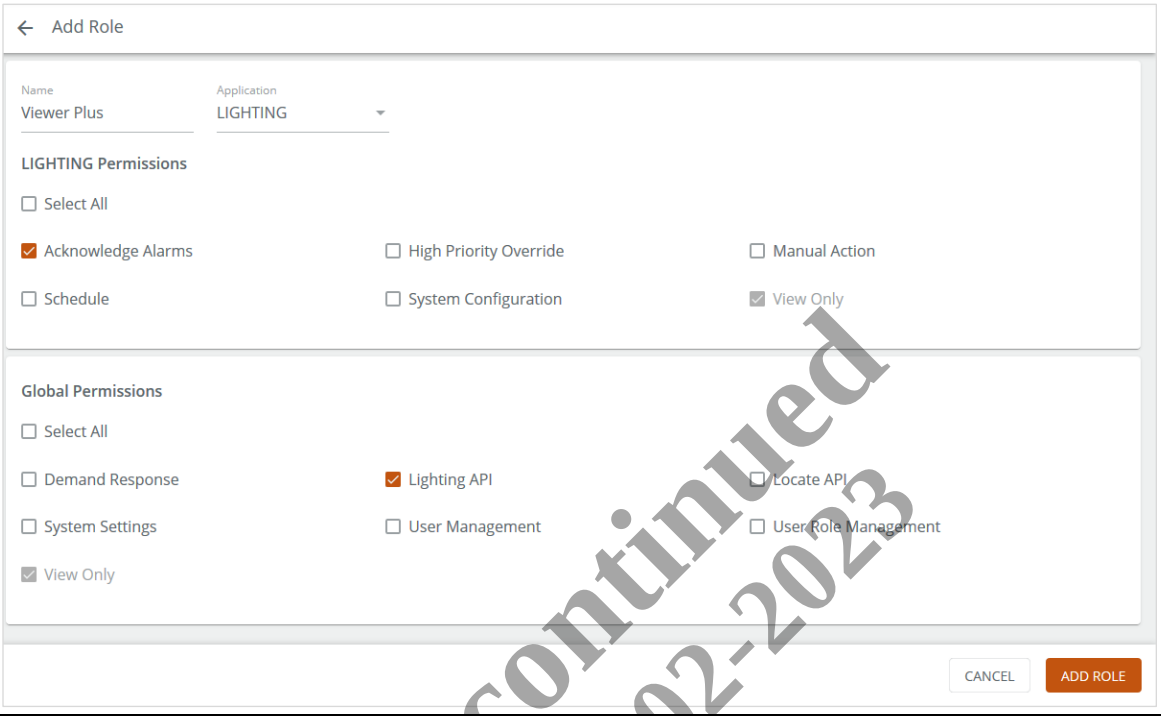
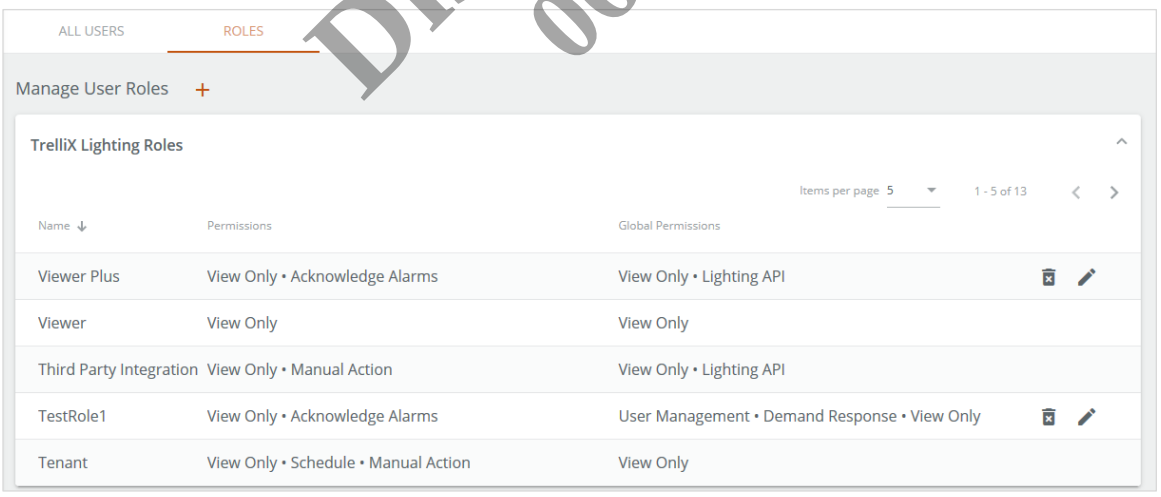
Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **Users**, and then click **Roles**.

EXAMPLE



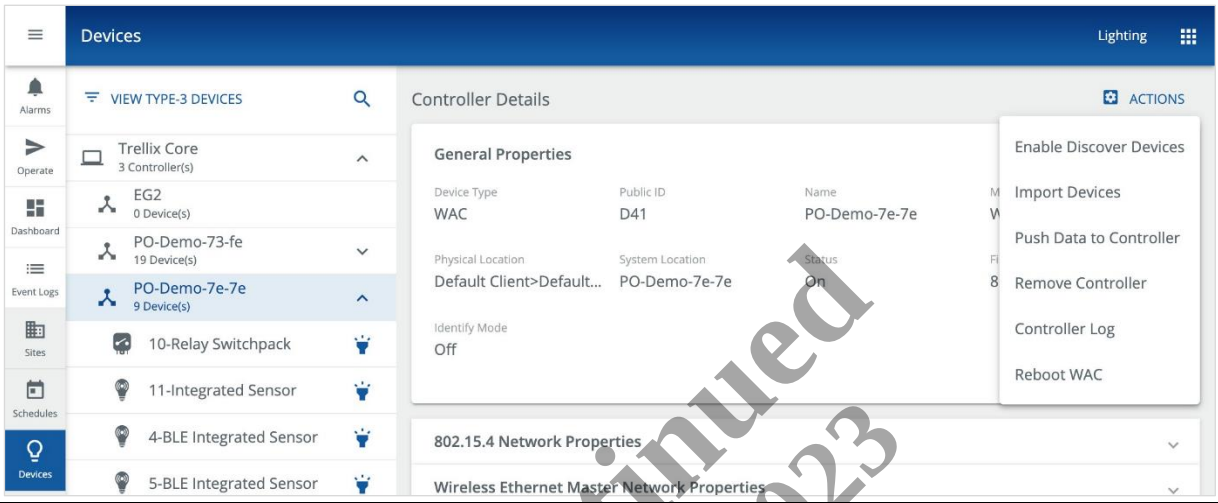
Other Tasks

- To sort the list of roles, click a column heading (e.g., **Name**)
- To reverse the sort order, click the same heading a second time

Step	Action
2	To add a role, click **+** beside **Manage User Roles**. Enter the new **Role Name**, then select each **Lighting Permission** and **Global Permission** this role should have. ***NOTE*** *See Default Lighting Accounts, Roles, and Permissions for role permission details* ***EXAMPLE*** 
3	Click **Add Role**. ***EXAMPLE*** 

2.14 – Synchronizing Data with a WAC

NOTE
You must be logged in with System Administrator permissions, such as the default Admin account, to perform this procedure. An account with Facility Manager permissions, such as the default Facman account, can use the ***Actions menu*** *but cannot edit Trellix Core configuration.*

Step	Action
1	Click **Devices** in the main menu, then select the target WAC, and then click the **Actions** menu. ***EXAMPLE*** 
2	Click **Push Data to Controller**. ***NOTE*** *See* Synchronizing Data with WACs *to push data to more than one WAC at a time.*

2.15 – Confirming WACs are Using Trellix Core as NTP Server

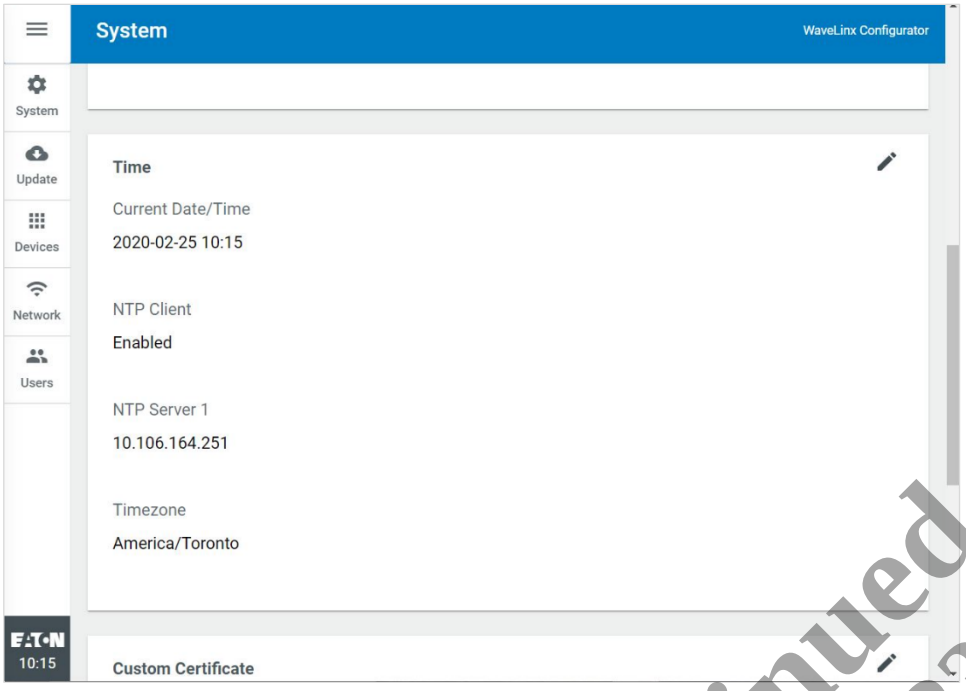
To ensure the connected WACs are properly configured with Trellix Core as their NTP Server, you must connect to each WAC directly using your Web browser.

NOTE
Refer to the WaveLinx User Manual *if you require more information about WAC configuration.*

On the WAC System screen (shown below), confirm the following:

- NTP Client is **Enabled**
- **NTP Server 1** setting should match the Trellix Core IP address
- **Timezone** setting matches the Trellix Core Time Zone

If any of the settings above are incorrect, click ✎ for Time, then apply the proper settings, and then click Update.



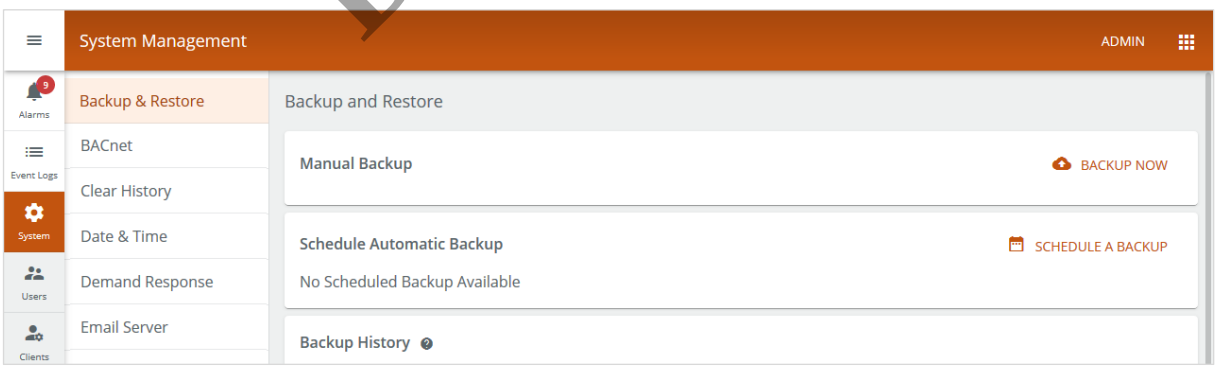
2.16 – Backing Up the System

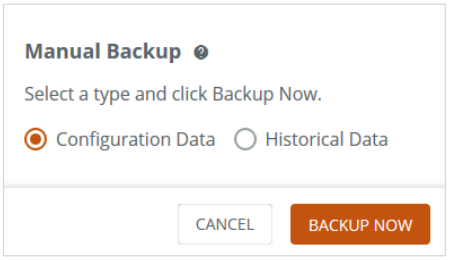
Follow the steps below to back up the Trellix system.

NOTE
You must be logged in under an account with System Settings permission, such as the default Admin account, to back up.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Backup/Restore**.

RESULT

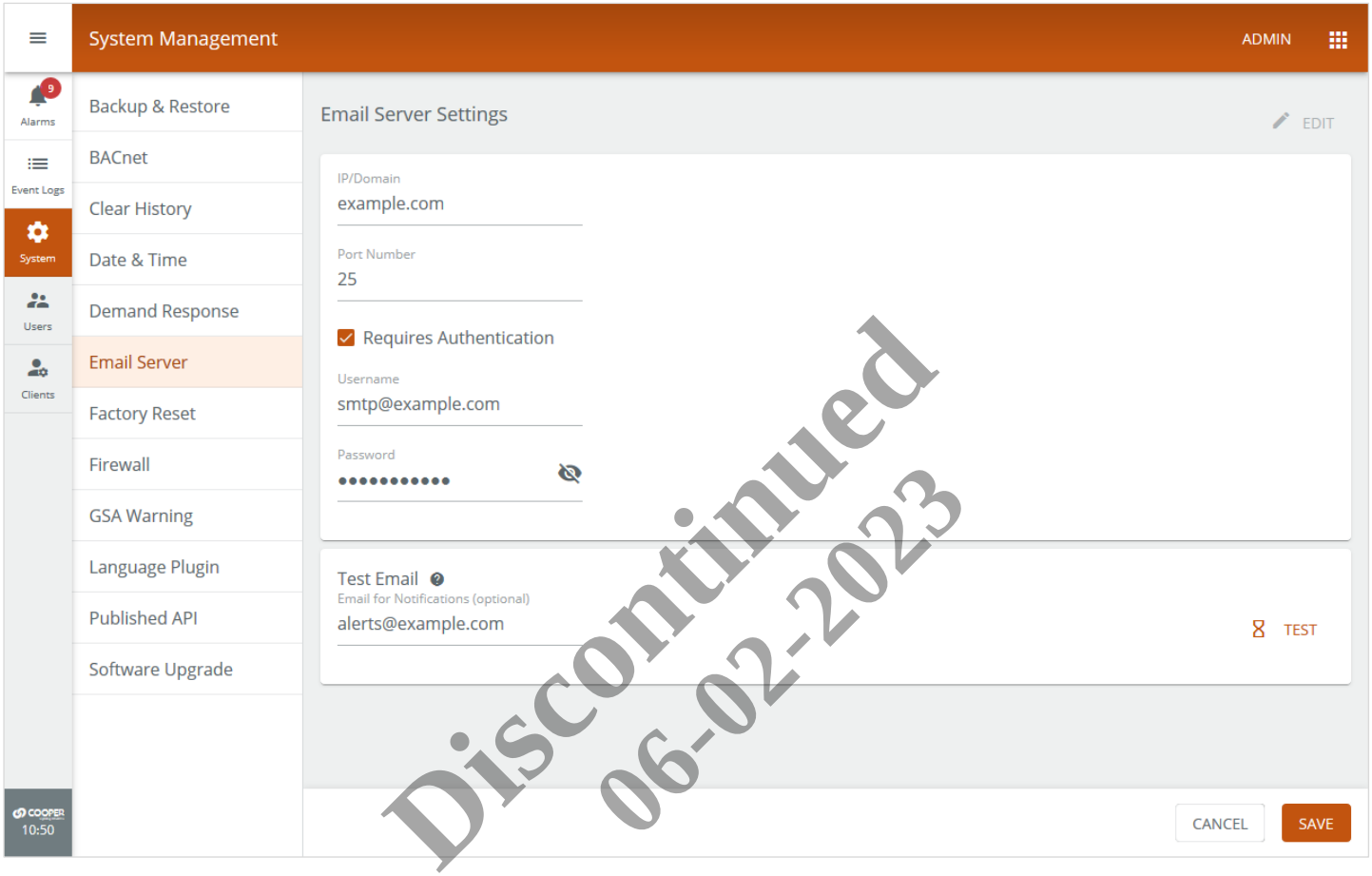


Step	Action
2	Click **Backup Now** and ensure that **Configuration Data** is selected. ***RESULT*** 
3	Click **Backup Now**. You will see a progress message at the bottom of the screen, followed by a backup complete message. ***NOTE*** *Only one backup can be in progress at any time. If a second request to back up is made, it will be rejected.*

3 – System Administration

Use this chapter to administer Trellix Lighting system functions. See the *Commissioning* chapter for administration procedures that are typically performed when a Trellix system is first set up, such as BACnet or Email Server configuration.

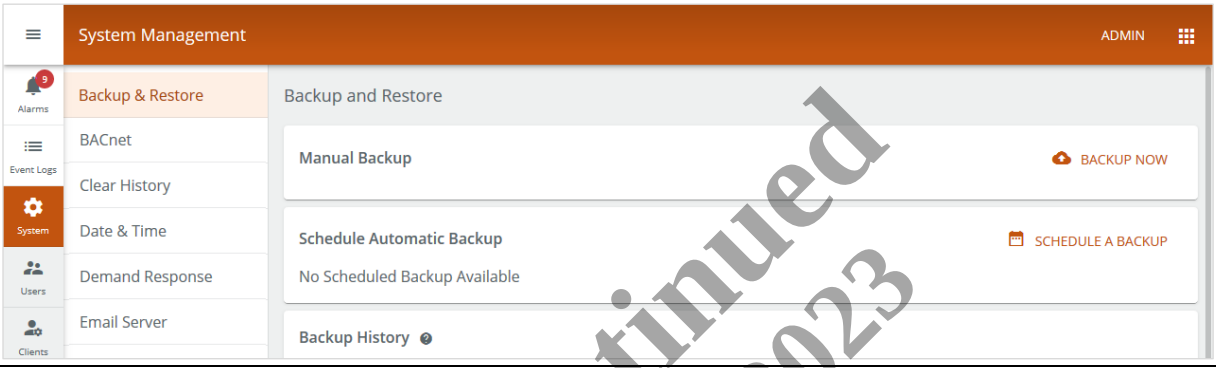
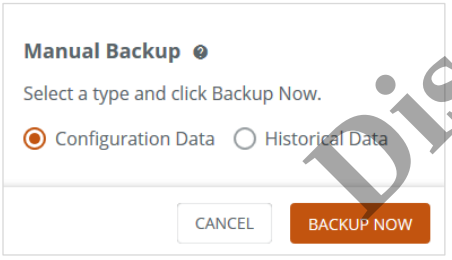
NOTES
The system administration features available will depend on the account privileges for the logged-in user.

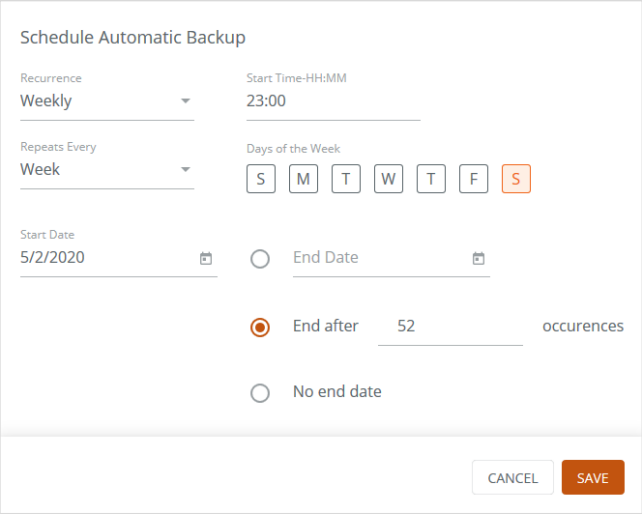


3.1 – Backing Up and Restoring

Follow the steps below to backup and restore a Trellix Lighting system. Trellix supports separate backups for configuration and historical data, allowing either one to be restored without affecting the other. Backups can be kept on Trellix Core as well as downloaded. Restore operations can be performed using backup files that reside on the Trellix Core or by uploading the files from another location.

NOTE
You must be logged in under an account with System Settings permission, such as the default Admin account, to perform these tasks.

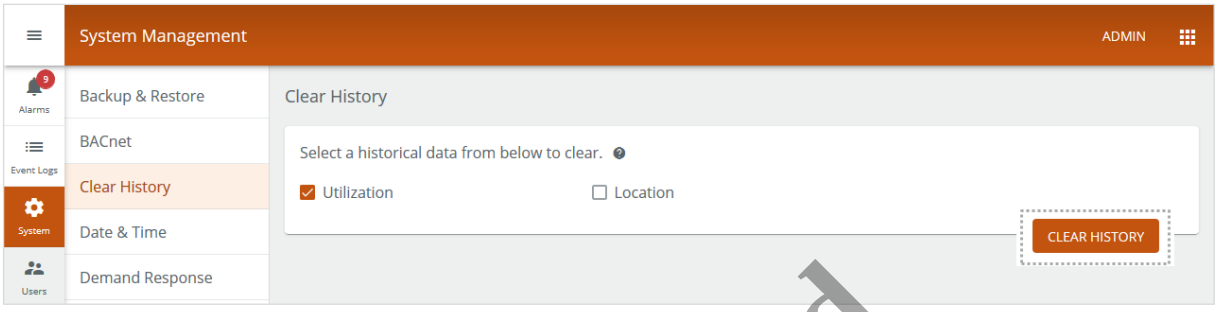
Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Backup/Restore**. ***NOTE*** The system will store and display the 5 most recent backups of each type. ***RESULT*** 
2	Click **Backup Now**, and then either **Configuration Data** or **Historical Data** as the type of data you want to back up. ***RESULT*** 
3	Click **Backup Now**. You will see a progress message at the bottom of the screen, followed by a backup complete message. ***NOTE*** *Only one backup can be in progress at any time. If a second request to back up is made, it will be rejected.*

Step	Action
4	To schedule an automatic backup, click **Schedule a Backup**, then select a **Recurrence** of **Weekly**, **Monthly**, or **Yearly**, and then enter a **Start Time**. ***NOTE*** *A scheduled backup creates both Configuration and Historical backup files.* ***EXAMPLE***  ***OTHER TASKS*** • For a **Weekly** backup, select one or more **Days of the Week** on which a backup will occur, then select a **Start Date** on which this schedule will become active**,** and then specify when the schedule should stop with **End Date**, or **End after N occurrences**, or **No end date**. Click **Save**. • For a **Monthly** backup, specify either the **Date** (1-31) or **Day** (**1st** to **Last**, **Monday** - **Sunday**), and then the (1-12) **Months** between backups. Finally, specify when the schedule should stop with **End Date**, or **End after N occurrences**, or **No end date**. Click **Save.** • For a **Yearly** backup, enter the **Repeats every** number of years, then specify either the **Date** (1-31 January through December) or **1st** to **Last**, **Monday** - **Sunday**) of **January** - **December**. Finally, specify when the schedule should stop with **End Date**, or **End after N occurrences**, or **No end date**. Click **Save.**
5	To restore from a backup that was saved on the server, click **Restore** in the Backup History region, and then click **Yes** to confirm. ***IMPORTANT*** *If you are restoring from a backup created on another Trellix network with different IP addresses, see Areas, Zones, And Devices Lost From Floor Plan before proceeding.* ***NOTES*** • *You will have to manually reimport all Controller data after restoring (See Importing a WAC or WaveLinx Wired (EG) Database or Importing Multiple Controllers for details)* • *The user passwords are reset to default after a restore, so you will have to be manually return them to their expected values (See Default Lighting Accounts, Roles, and Permissions for the default values)* ***OTHER TASKS*** • To delete an existing backup from the server, click 🗑 beside the backup date in the **Backup History** region • To download an existing backup from the server, click ⬇ beside the backup date in the **Backup History** region
6	To restore from a backup on your computer, click **Choose File**, then click **Choose File** again, then select the local backup file. Click **Upload** to send the file to the server, and then click **Restore** to complete the operation. ***OTHER TASKS*** *To delete the uploaded backup file before without restoring, click 🗑 beside the file*

3.2 – Clearing Utilization and Occupancy History

Follow the steps below to clear Utilization (Energy) or Location (Occupancy) historical data.

NOTE
Clearing Location data will wipe out the data used by the Replay Asset Movement feature on sites with Trellix Locate installed.

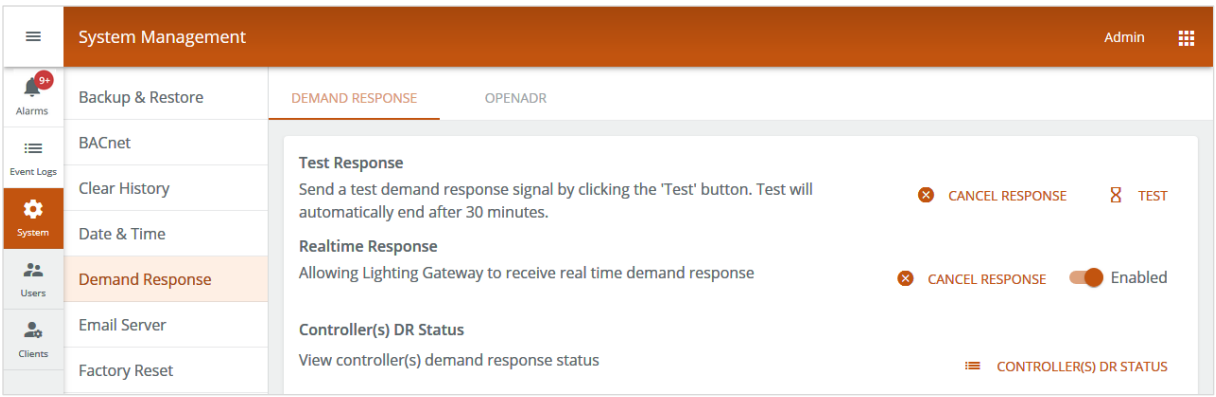
Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Clear History**. ***RESULT*** 
2	Select the check box for each type of data you want to clear (**Utilization**, **Location**, or both.)
3	Click **Clear History** (shown inset above).

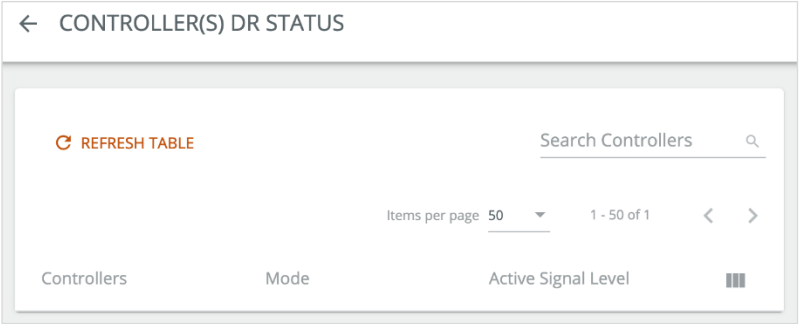
3.3 – Configuring Demand Response

Trellix Lighting lets you set up the interface used to participate in a Demand Response programs. The system can receive a Demand Response signal via BACnet/IP, Published API, and OpenADR. The Demand Response and OpenADR tabs are used to enable the Demand Response interface, send a test, and configure the OpenADR connection to a utility company's Demand Response Automatic Server (DRAS).

NOTE
See Setting Up Open ADR in the Commissioning chapter for details on enabling Open ADR.

Procedure
Follow the steps below to configure and test the Demand Response.

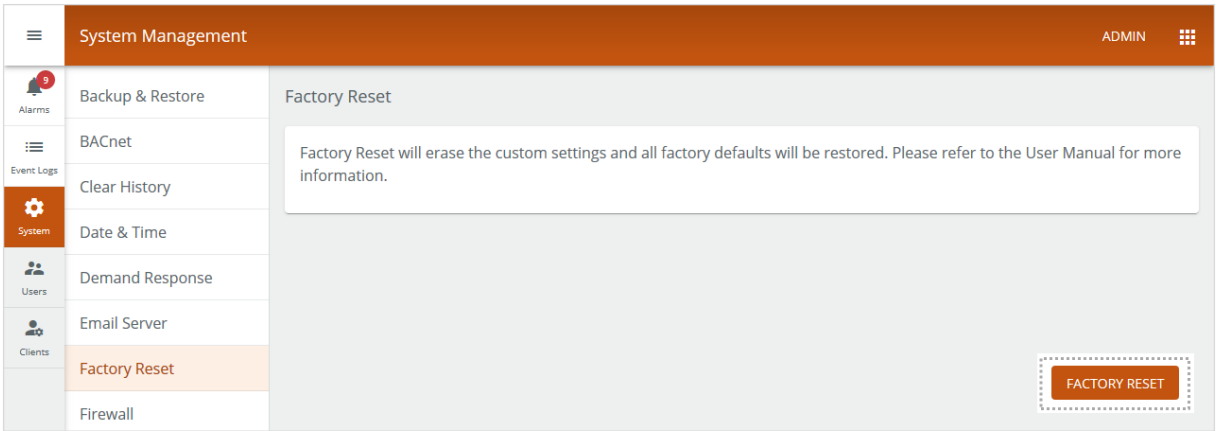
Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Demand Response**. ***RESULT*** 
2	To test that the Demand Response function is working, click **Test**. To terminate the test, click **Cancel Response**. ***NOTES*** • *A test takes 10 seconds to reach the Demand Response level, can have a maximum duration of 30 minutes, and returns to the previous level immediately when it ends* • *The test assumes the system has been configured with the WaveLinx mobile app and the test can be verified in the field* • *The **Cancel Response** button will cancel all active Demand Response commands, not just the test command*

Step	Action
3	To enable Trellix Lighting to receive an external demand response request, toggle the **Realtime Response** to **Enabled**. ***NOTE*** *A Realtime response takes 400 seconds to reach the Demand Response level, has no maximum duration, and returns to the previous level immediately when it ends*
4	To see the current Demand Response status of the connected WACs, click **Controllers DR Status**. ***EXAMPLE***  ***NOTES*** • *The Mode value will display Open ADR, Realtime, or Test if one of those is active, or N/A if none are active* • *The Signal Level will display 0 when there is no active request, and 1 when there is an active request* ***OTHER TASKS*** • *To find a specific device, type some or all of the WAC name in the search field, and then press Return* • *To update the status information, click **Refresh Table*** • *If there is more than one page of WACs listed, use the **<** and **>** links below the list to browse*
5	Click **Save** to apply your changes.

3.4 – Resetting to Factory Configuration

Trellix Lighting lets you reset Trellix Core/Trellix Lighting to the factory default settings.

NOTE
You must be logged in under an account with System Settings permission, such as the Admin account provided by default, to perform this task.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Factory Reset**. ***RESULT*** 
2	Click **Factory Reset,** and then click **Yes, Reset Now** to restore the original Trellix Lighting factory settings.

3.5 – Configuring the Firewall

Follow the steps below to configure the Trellix firewall. The default port settings are as follows:

- **PostgreSQL** – Disabled
- **SSH** – Disabled
- **Eureka** – Disabled
- **System Service** – Enabled

NOTES

- *You must be logged in with an account with System Settings permission, such as the Admin account provided by default*
- *The ports described in this procedure are typically used by a Cooper specialist to troubleshoot the system*

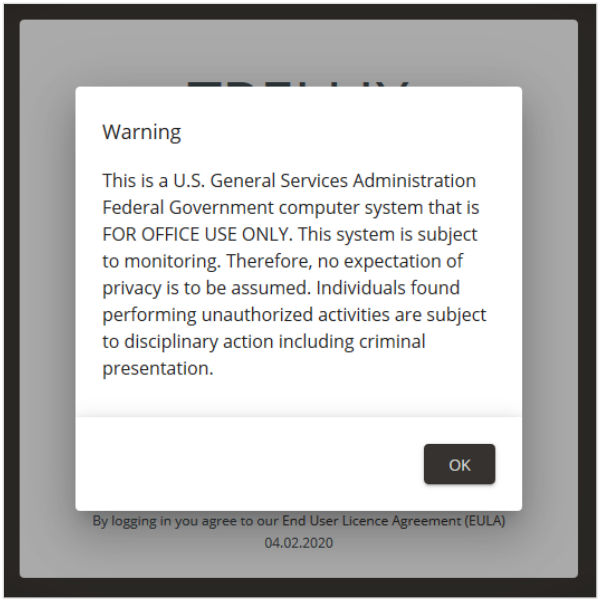
IMPORTANT
The PostgreSQL, SSH, and Eureka ports should only be enabled for troubleshooting and should after disabled as soon as the troubleshooting is complete.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click System, and then click **Firewall**. ***RESULT*** 
2	Click **Edit,** and set the **Status** of one or more of the following firewall ports to **Enable.** • SSH • PostreSQL Database • Eureka Server ***IMPORTANT*** *These ports should only be enabled for troubleshooting by Cooper Lighting Solutions. Do not enable any of these unless you clearly understand the consequences.*

3.6 – Setting the GSA Warning

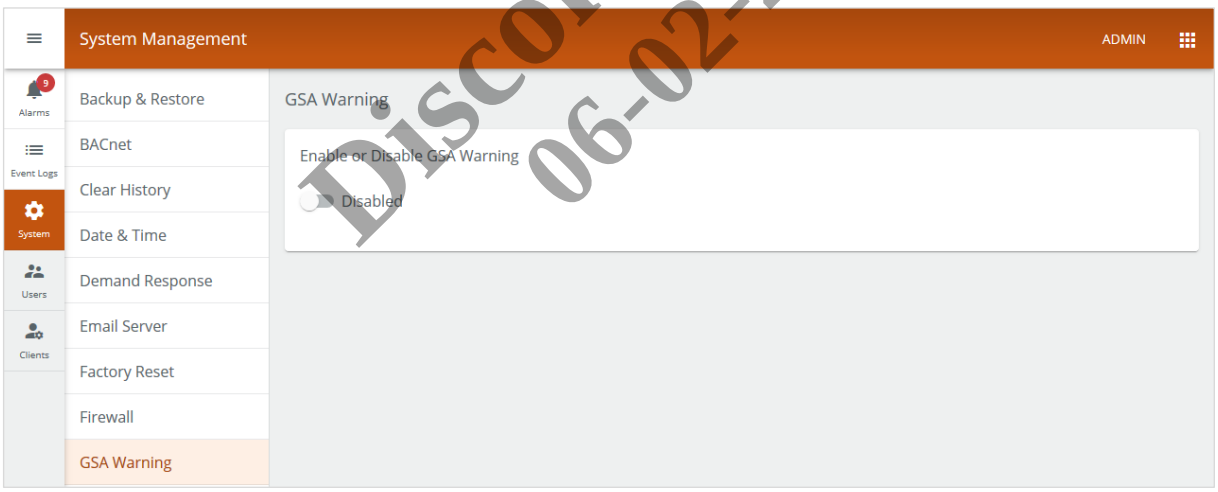
The GSA Warning is a standard U.S. General Services Administration computer system statement of use. When enabled, it will appear each time a user loads the Trellix Lighting login page.

EXAMPLE



Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click the **GSA Warning**.

RESULT



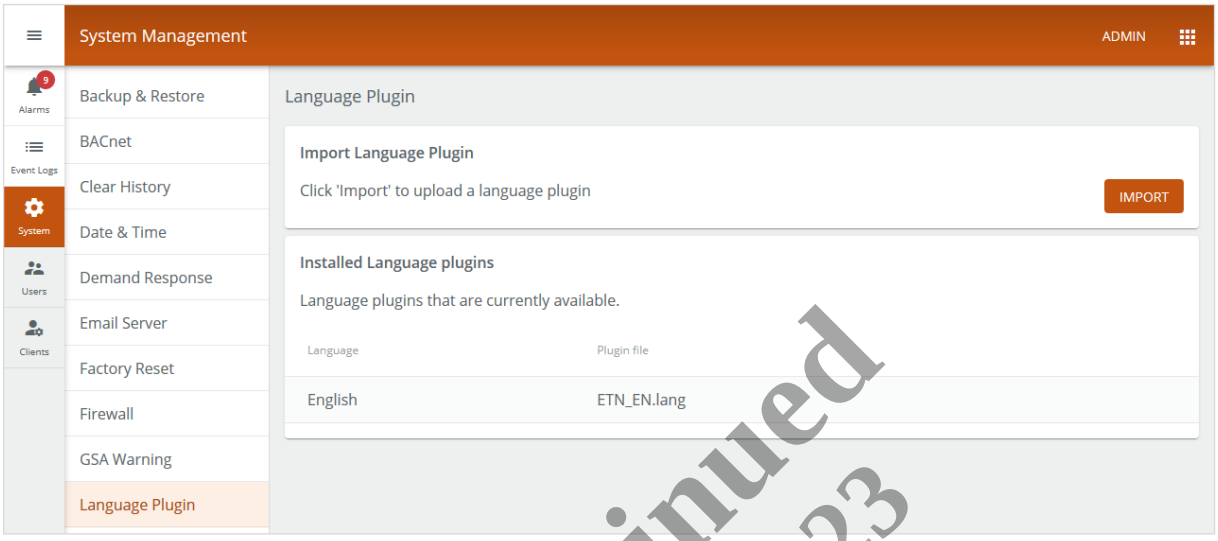
2	Set the **GSA Warning** to **Enabled** to display the message for each login.

3.7 – Configuring the Language Plugin

Trellix Lighting supports localization of the interface with language plugins provided by Cooper Lighting Solutions. English and French are available in 7.0, while Spanish and other languages will be added over time.

Step	Action
1	Click ⋮⋮⋮ to display the app menu, then click **Admin**, then click **System**, and then click **Language Plugin**.
2	Click **Import** to upload a valid Cooper language plugin.
3	To delete an unused plugin, click 🗑 beside the target language, and then confirm your action.

RESULT



3.8 – Downloading Audit Logs

Trellix Lighting maintains a downloadable audit log of the activities listed below for a minimum of 30 days.

User sessions

- Login and logout – who and when

Command actions

- Lighting level
- High priority override
- Scene
- Blink to identify

Schedule details

- Status – create, delete, enable, disable, change owner, change name
- Events – name, recurrence, repeat, event trigger, start and end time, start and end date
- Actions– type, enable, disable, parameters

Network settings

- IP address change (Setup Wizard)
- DHCP status

System changes

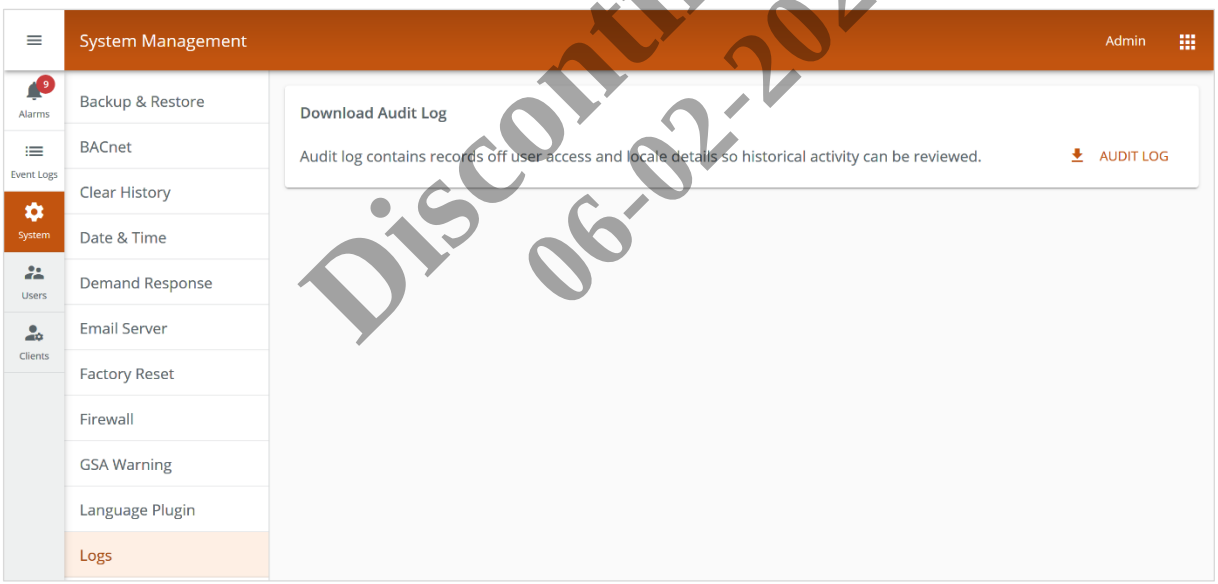
- Firmware updates – who, when, status (initiated/completed)
- Data sync – who, when, status (initiated/completed)
- Backup – who, when, status (initiated/completed)

Data synchronization details

- Import from WAC
- Sync to WAC

Procedure

Follow the steps below to download the log.

Step	Action
1	Click ⋮⋮⋮ to display the app menu, then click **Admin**, then click **System**, and then click **Language Plugin**. ***RESULT*** 
2	Click **Import** to upload a valid Cooper language plugin.
3	To delete an unused plugin, click 🗑 beside the target language, and then confirm your action.

3.9 – Configuring the Published APIs

This procedure enables third-party access to Trellix data through two Published APIs, one for Lighting data a separate one for Locate data (if installed). Each API is enabled and configured individually. The exported Lighting object data represent Devices, while the Locate object data represent Assets and Tags.

Custom Object IDs

You can replace the default object IDs with custom values by exporting the Lighting or Locate Excel template file from Trellix, modifying the Published ID data it contains, and then importing it back into Trellix.

This feature is useful when integrating Trellix Lighting with a third-party system, as follows:

1. The Trellix data, with default IDs, is exported to an Excel file.
2. The third-party system integrator modifies the exported file, replacing the default IDs with those used in the external system.
3. The modified file is imported into Trellix, making the Trellix data accessible using the external system IDs.

NOTES

- *Custom Device IDs are stored as part of the backup process*
- *When WAC devices are added, removed, or reassigned (e.g., moved to a different Zone), the custom IDs will have to be updated by exporting the Excel file, editing that file, and then re-importing its*

3.9.1 – Published API for Lighting Data

Lighting ID Template

The exported Published ID template for Lighting data (e.g., "Export_PublishedId_20200415082608.xlsx") contains the following values for each configured lighting object:

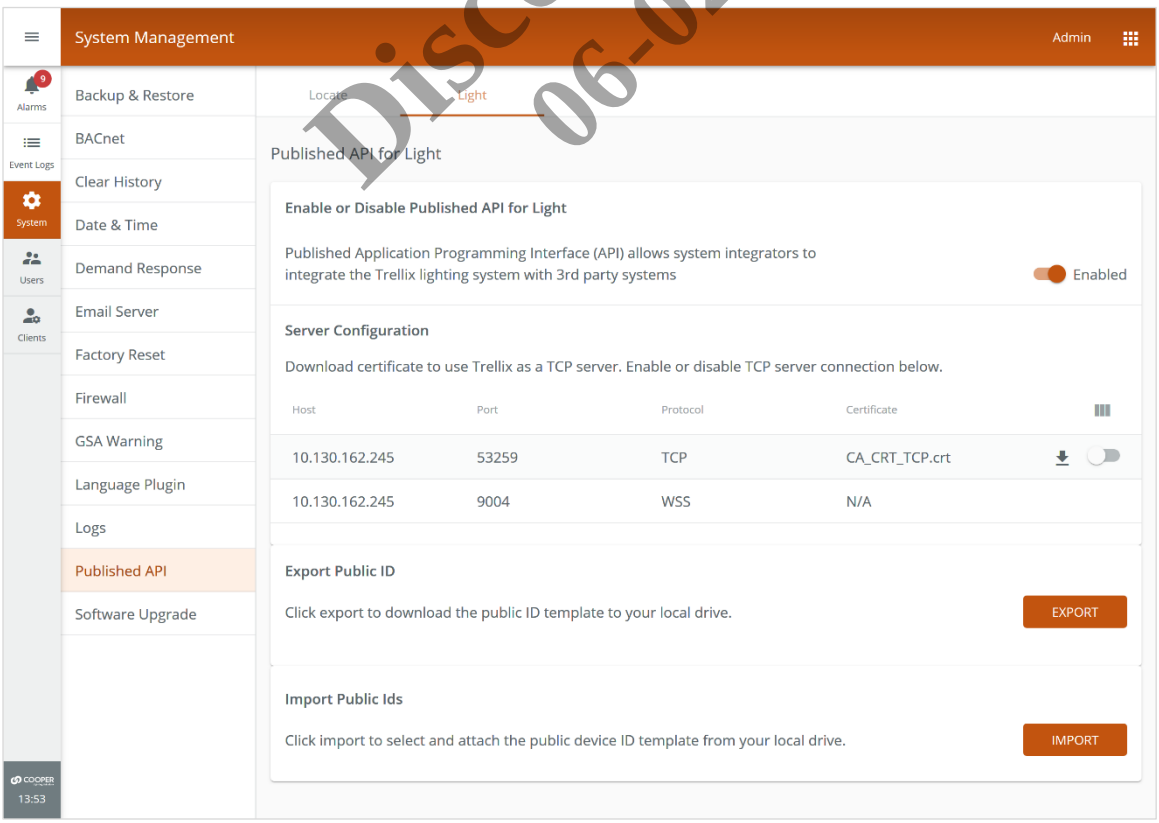
- **Object Type** – The type of object, such as "`Zone`" or "`Occupancy Set`"
- **Name** – The name of the object as displayed to users, such as "`Zone 3`" or "`Construction Area`"
- **Building Location** – The name of the Building where the object resides
- **Floor location** – The name of the Floor where the object resides
- **Area where it belongs** –The name of the Area where the object belongs
- **Identifier** – Unique identifier of the object, such as "`94bc6ed6-c40a-11e9-a1f3-001d054d2784`"
- **PublishedID** – The identifier assigned to the object, such as "`Z825`" or "`S209`"

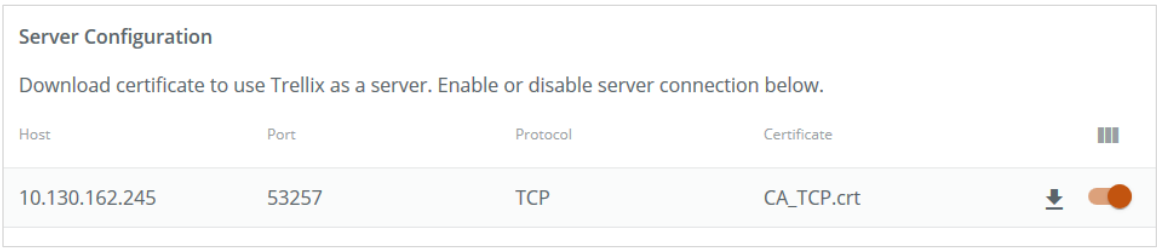
Procedure

Follow the steps below to configure the Published API for Lighting.

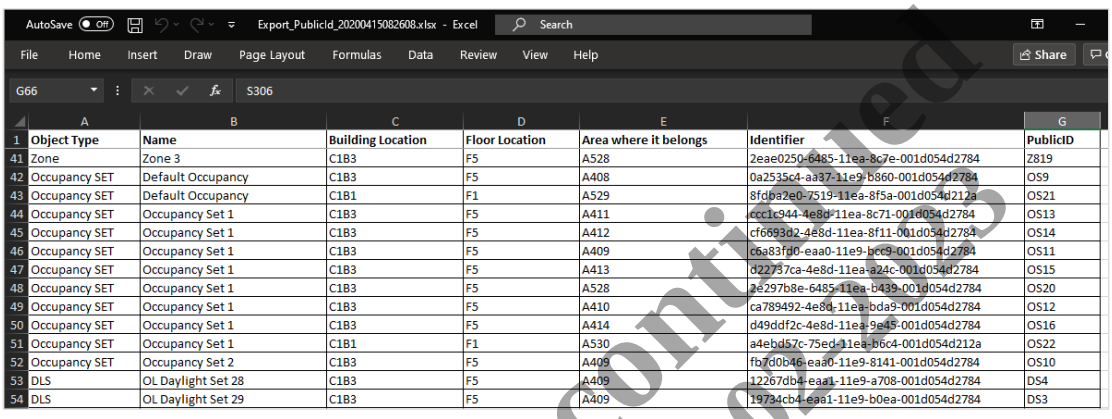
Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Published API**.
2	Set the **Enabled/Disabled** toggle to **Enabled**.

RESULT



Step	Action
3	If Trellix will be acting as a Server for your TCP Client, enable the toggle to the far right of the Host IP address under **Server Configuration** (shown orange and enabled below). ***EXAMPLE*** 
4	To download an XLSX file containing details about the devices exposed through the Published API, click **Export**. To import an XLSX file containing the Published API device details, click **Import**, and then click **Open**.

Lighting XLSX Example



	A	B	C	D	E	F	G
1	Object Type	Name	Building Location	Floor Location	Area where it belongs	Identifier	PublicID
41	Zone	Zone 3	C1B3	F5	A528	2eae0250-6485-11ea-8c7e-001d054d2784	Z819
42	Occupancy SET	Default Occupancy	C1B3	F5	A408	0a2535c4-aa37-11e9-b860-001d054d2784	OS9
43	Occupancy SET	Default Occupancy	C1B1	F1	A529	8fdba2e0-7519-11ea-8f5a-001d054d212a	OS21
44	Occupancy SET	Occupancy Set 1	C1B3	F5	A411	ccc1c944-4e8d-11ea-8c71-001d054d2784	OS13
45	Occupancy SET	Occupancy Set 1	C1B3	F5	A412	cf6693d2-4e8d-11ea-8f11-001d054d2784	OS14
46	Occupancy SET	Occupancy Set 1	C1B3	F5	A409	c6a83fd0-eaa0-11e9-bce9-001d054d2784	OS11
47	Occupancy SET	Occupancy Set 1	C1B3	F5	A413	d22737ca-4e8d-11ea-a24c-001d054d2784	OS15
48	Occupancy SET	Occupancy Set 1	C1B3	F5	A528	2e297b8e-6485-11ea-b439-001d054d2784	OS20
49	Occupancy SET	Occupancy Set 1	C1B3	F5	A410	ca789492-4e8d-11ea-bda9-001d054d2784	OS12
50	Occupancy SET	Occupancy Set 1	C1B3	F5	A414	d49ddf2c-4e8d-11ea-9e45-001d054d2784	OS16
51	Occupancy SET	Occupancy Set 1	C1B1	F1	A530	a4ebd57c-75ed-11ea-b6c4-001d054d212a	OS22
52	Occupancy SET	Occupancy Set 2	C1B3	F5	A409	fb7d0b46-eaa0-11e9-8141-001d054d2784	OS10
53	DLS	OL Daylight Set 28	C1B3	F5	A409	12267db4-eaa1-11e9-a708-001d054d2784	DS4
54	DLS	OL Daylight Set 29	C1B3	F5	A409	19734cb4-eaa1-11e9-b0ea-001d054d2784	DS3

3.9.2 – Published API for Locate Data

When the Locate API is enabled, Trellix data can be made available to remote programs. This can be accomplished in three ways:

- Trellix acts as a server, sending real-time Locate data to specified TCP clients
- Trellix acts as a server, sending real-time Locate data to specified POST URLs
- Trellix acts as a client application, sending real-time Locate data to a remote TCP server

Locate ID Template

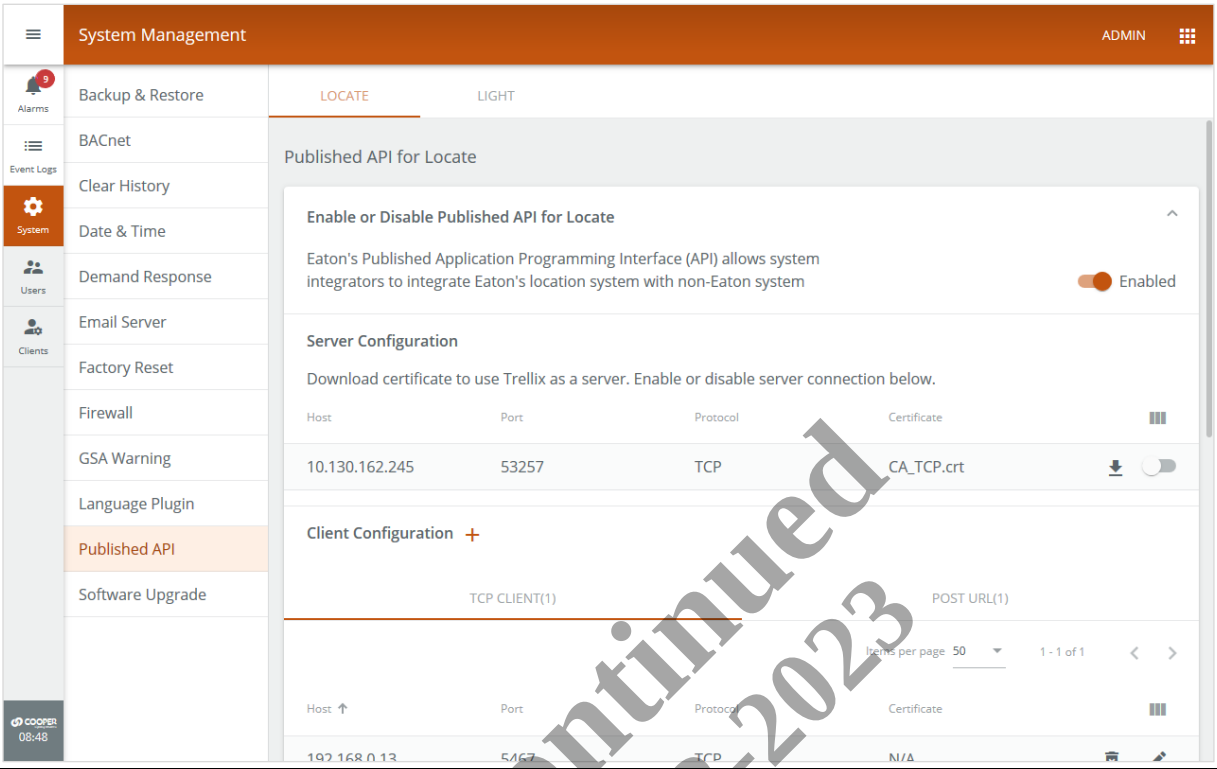
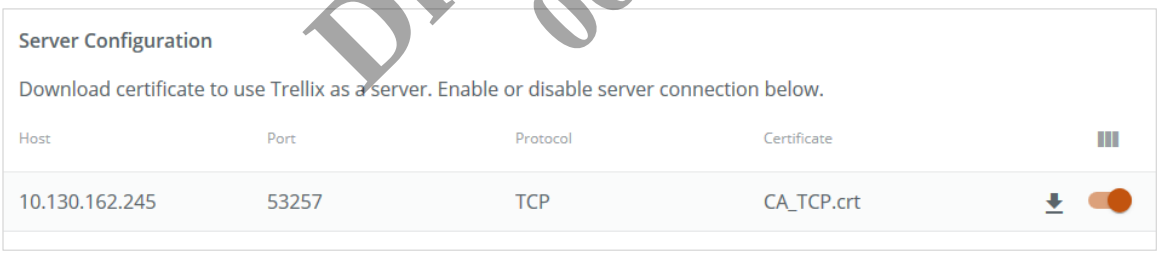
The exported Published ID template for Locate data (e.g., "Export_PublishedId_RTLS_20200415091734.xlsx") contains the following values for each configured device:

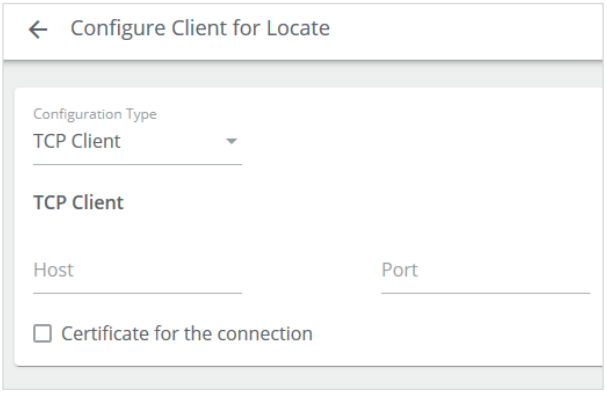
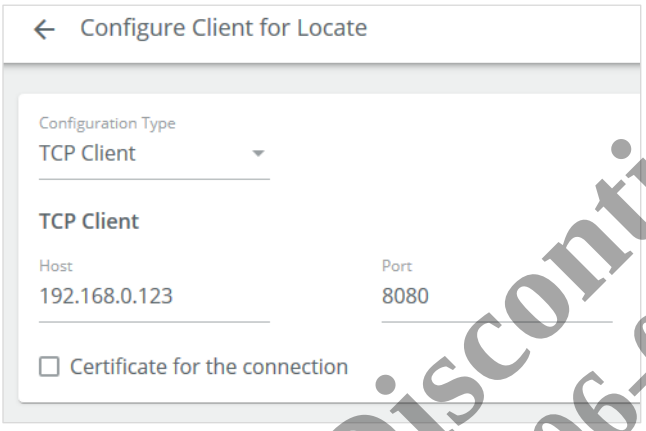
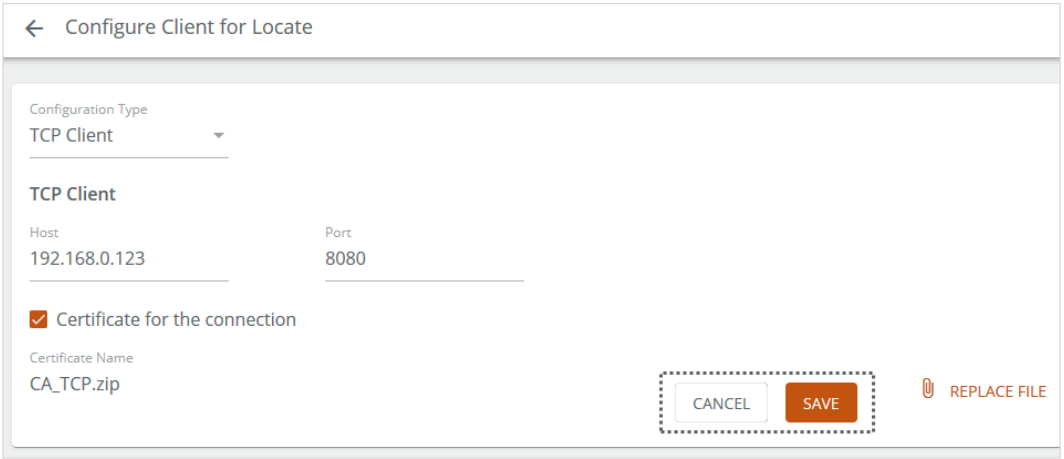
- **UUID** – The unique ID for the object, such as "`6c52b439-b163-4c31-a6e9-d5c49eb29b74`"
- **Object Type** – The type of item, such as "`Asset`" or "`Tag`"
- **Name** – The name of the item as displayed to users, such as "`tag_A14D87`"
- **Identifier** – The identifier assigned to the item, such as "`assetID_543878`"

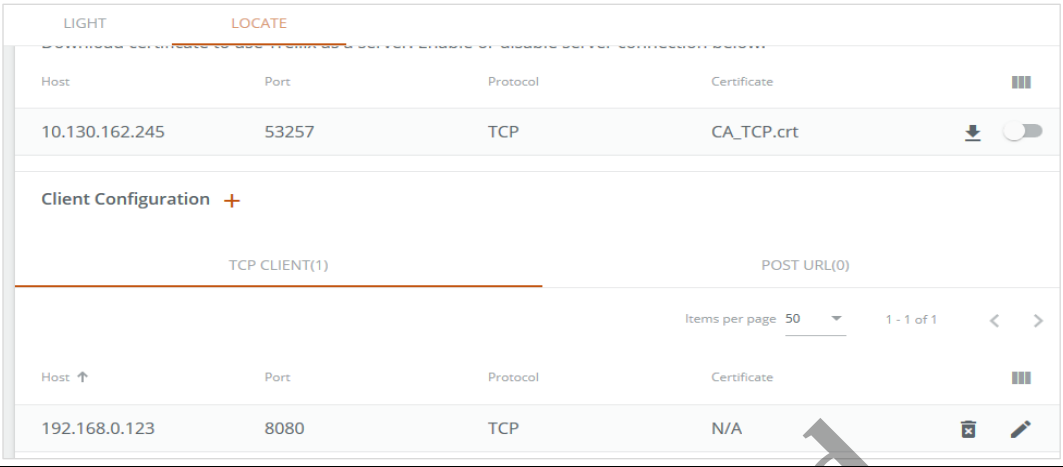
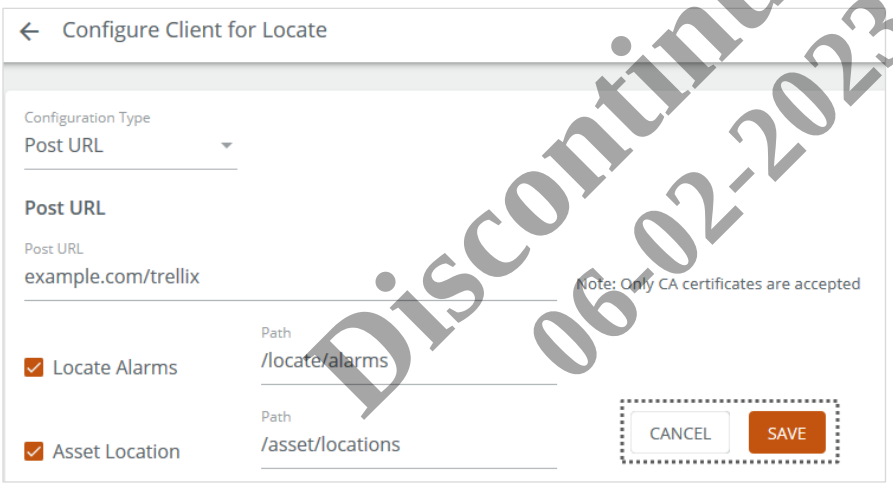
Procedure

Follow the steps below to configure the Published API for Locate.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **System**, and then click **Published API**.

Step	Action
2	Click **Locate**, and then set the **Enabled/Disabled** toggle to **Enabled**. ***EXAMPLE*** 
3	To download an XLSX file containing the Published ID details, click **Export**, and then confirm the operation.
4	If Trellix will be acting as a Server for your TCP Client or POST URL client, enable the toggle to the far right of the Host IP address under **Server Configuration** (shown orange and enabled below). ***EXAMPLE*** 
5	If you will be setting up a secure Client connection, click ⬇ to download the Trellix certificate. ***NOTE*** *Secure communication using the Trellix certificate is not required but is highly recommended if the client application is outside the building firewall.*

Step	Action
6	To add a client application, click **Client Configuration +**. ***EXAMPLE*** 
7	To add a TCP Client, select that from the **Configuration Type**, and then enter the **Host** IP address and **Port** number. ***EXAMPLE*** 
8	If the TCP Client will be using a secure connection, click **Attach File**, then locate and upload the Trellix certificate file (downloaded in Step 5). ***EXAMPLE*** 

Step	Action
9	Click **Save** (show inset above) to complete the TCP Client configuration. ***EXAMPLE*** 
10	To add a POST URL client, click **Client Configuration +**, and then select as **Configuration Type** of **POST URL**.
11	Enter the **Post URL**, then select one or both **Path** check boxes, then enter the corresponding **Path** values. ***NOTE*** 
12	Click **Save** to complete the client configuration.

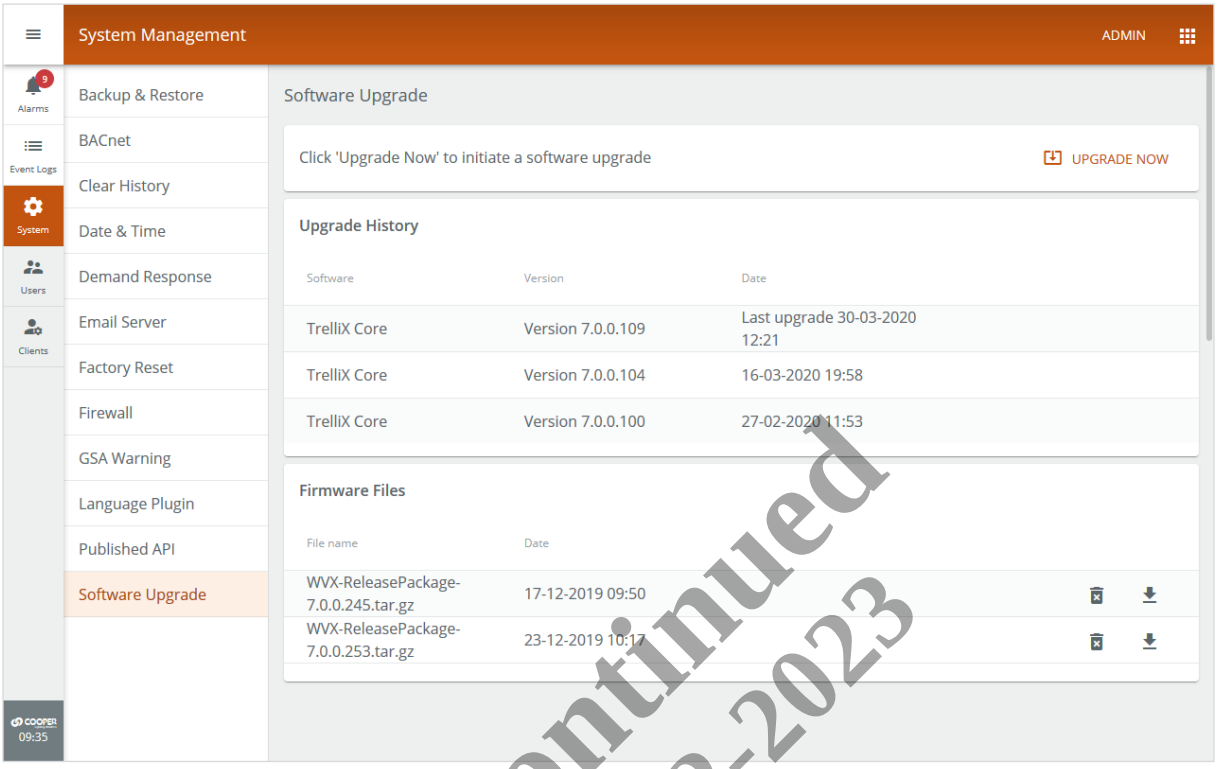
3.10 – Upgrading the Software

The Trellix Core and WAC system software can be upgraded as new releases are provided by Cooper Lighting Solutions.

NOTE
You must be logged in under an account with System Settings permission, such as the Admin account provided by default.

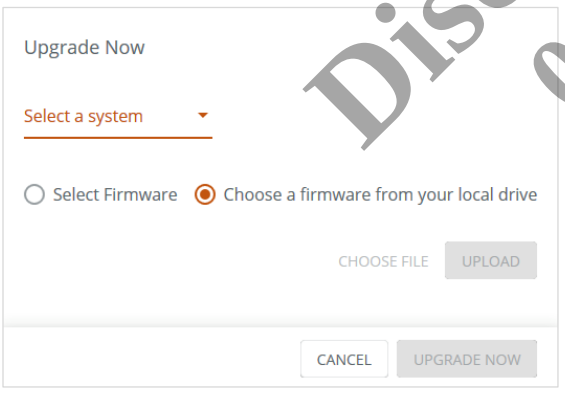
Step	Action
1	Click ⋮⋮⋮ to display the app menu, then click **Admin**, then click **System**, and then click **Software Upgrade**.

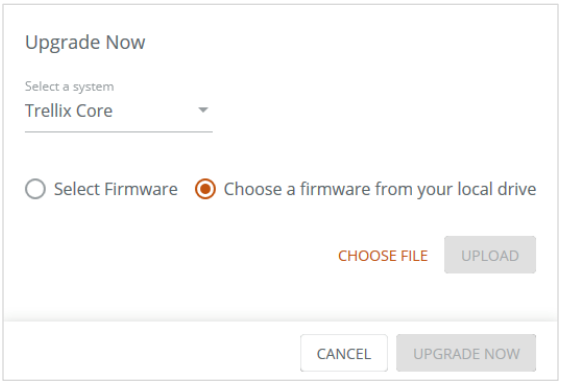
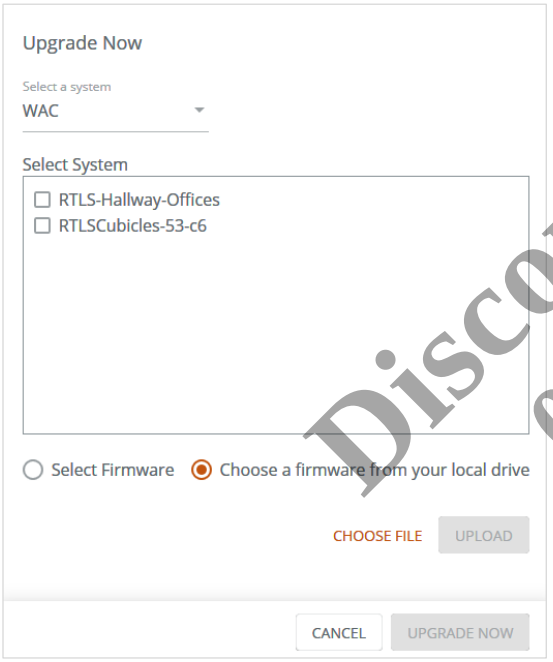
RESULT



2	Click **Upgrade Now**, then choose the target system to upgrade in the **Select** list.

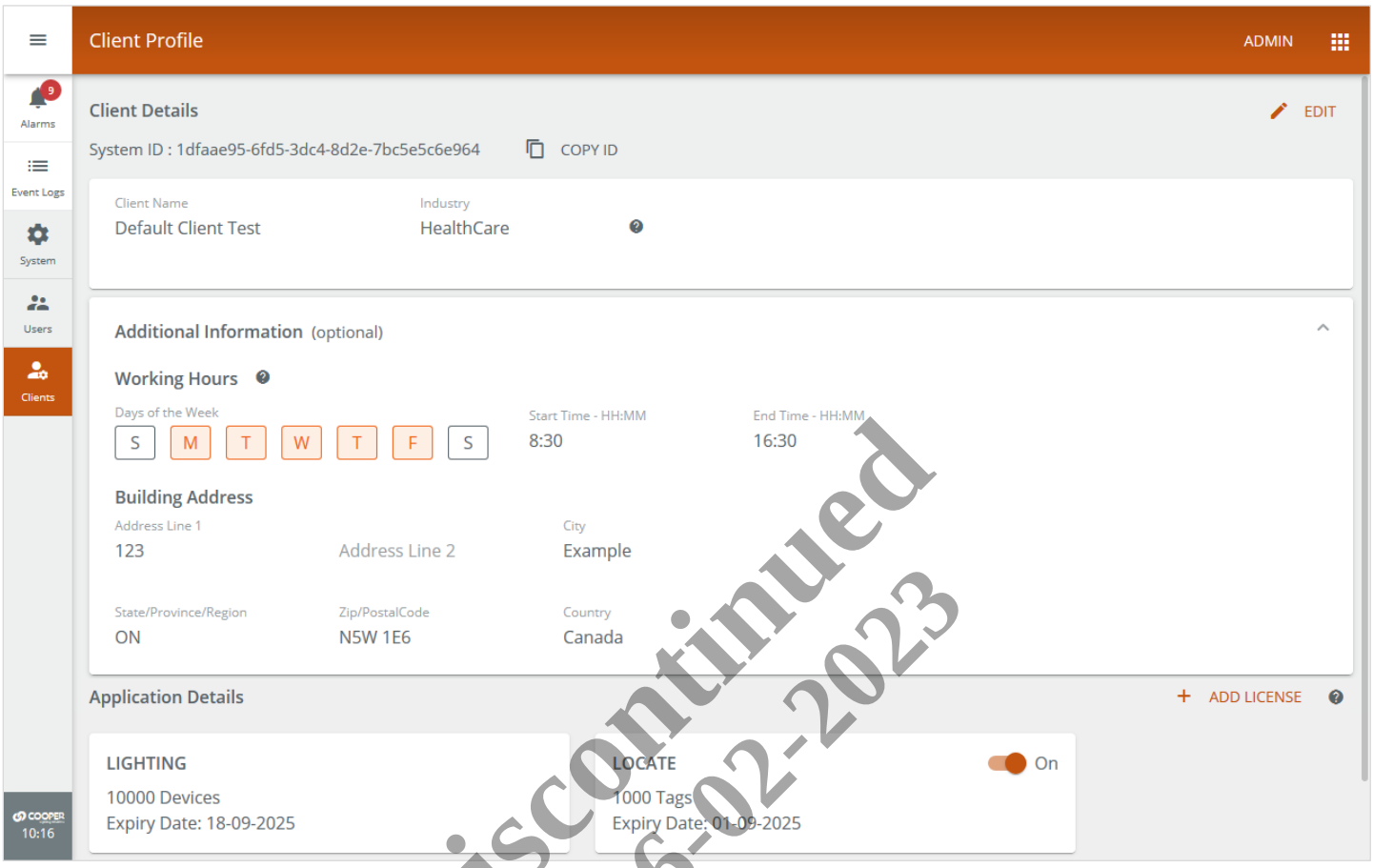
RESULT



Step	Action
3	To update Trellix Core, select it from the **Select a system** list, and then go to Step 5. ***TRELLIX CORE EXAMPLE*** 
4	To update one or more WACs, select them from the **Select a system** list. ***WAC EXAMPLE*** 
5	To upgrade using a file that is already on Trellix Core, click **Select Firmware**, then select the target file from the **Choose firmware file** list, and then click **Upgrade Now**.
6	To upgrade using a file from your local computer, click **Choose Firmware File from Local Drive**, then select the target file, then click **Upload**, and then click **Upgrade Now**. ***NOTE*** *The upgrade file must have a "`.tar.gz`" file extension to be accepted.*
7	Click **Upgrade Now,** and then click **Yes** for confirm the upgrade operation. ***NOTES*** • *Everyone who is using Trellix Lighting at this time will be disconnected so the upgrade can be applied* • *Upgrade operations are logged as an event* • *See the Trellix Lighting User Manual for details on alarm and event display*

4 – Software Licenses and Client Information

This chapter describes how to manage the Trellix product licenses and configure Trellix Client information.



4.1 – About Licenses

Trellix has two licensed products, Trellix Lighting and Trellix Locate. Licenses for each product are obtained by sending your System ID to Cooper Lighting Solutions with the number of Lighting devices or Locate tags you want to manage. Cooper generates the corresponding JSON license file and sends it to you as a file that you can upload (add) to your Trellix system.

Trellix Lighting comes with a default license, while Trellix Locate is disabled and has no default license. During the Discovery phase of the Trellix Core setup, the number of Lighting devices is determined and compared against the license. For example, the default license might be 300 devices and 250 are discovered.

Grace Period

If the number of connected devices exceeds the license limit, a 30-day grace period is triggered. Unless the license is upgraded, a warning message will be displayed at each login, starting 5 days before the end of the grace period. If the grace period expires, Trellix will only permit login by an administrator, and the only available functions will be upgrading a license or removing a Controller. All other features will not unavailable.

4.2 – Updating a Trellix Lighting License

Follow the steps below to use update the Trellix Lighting license.

NOTE
You must be logged in under an account with System Configuration permission, such as the Admin account provided by default.

Step	Action
1	Click ⠿, and then click **Clients**.
2	Click **Copy ID** beside **System ID**.

Step	Action
3	Submit your Trellix Lighting license request to Cooper Lighting Solutions, including the System ID and the number of Tags required. Cooper will provide a JSON (.json) license file that is specific to your System ID.
4	When the license file arrives, click **+ Add License**. Locate and select the JSON license file, and then click **Open** to upload it.
5	When the file has uploaded, the new license settings are applied to your system.

4.3 – Editing the Client Information

Follow the steps below to edit the Trellix client information.

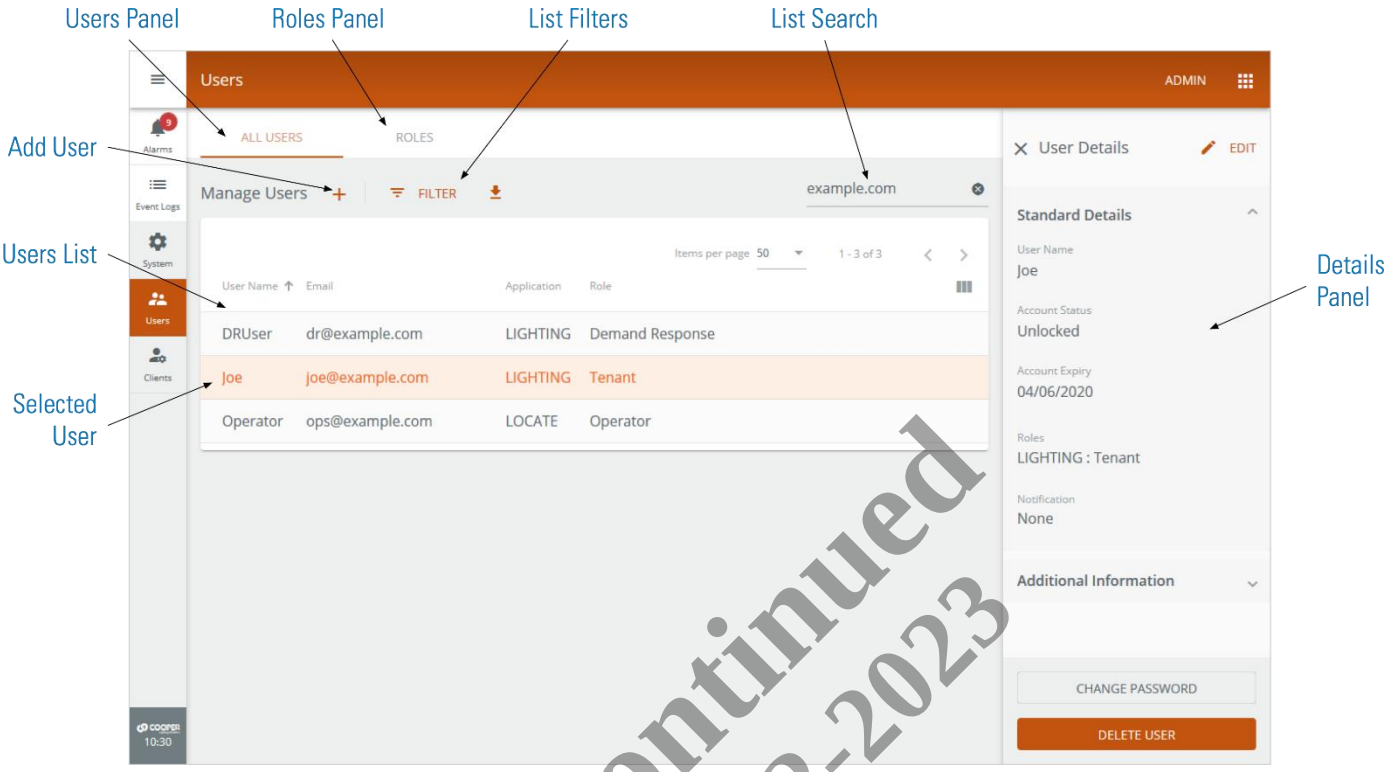
NOTE
You must be logged in under an account with System Configuration permission, such as the Admin account provided by default.

IMPORTANT
*Changing the **Industry** value will cause existing Trellix Locate configuration data to be lost.*

Step	Action
1	Click ⠿, and then click **Clients**, and the click **Edit**. ***EXAMPLE*** 
2	Edit the **Client Name**, and then select the **Industry**. ***NOTE*** *The Industry setting is used to provided default Categories (Asset Types, Asset Icons, and Departments) for a Trellix Locate system.*
3	Select the **Days of the Week** that have working hours, and then specify the **Start Time** and **End Time** for those days.
4	Enter the **Building Address** details, and then click **Save**.

5 – User and Role Administration

This chapter describes how to view, edit, add, and remove Trellix Lighting Users and Roles for effective and secure access to the system.



5.1 – Default Lighting Accounts, Roles, and Permissions

Trellix Lighting provides a standard set of user accounts, roles, and permissions. Each role has a specific set of permissions, and each user account is assigned to one role. New user accounts, and new roles with custom permissions, can be created when logged into the Trellix Admin app under the System Administrator role. The Facility Manager role allows the creation new user accounts and the assignment of existing roles.

NOTE
Refer to the Trellix Locate User Manual for information about Locate accounts, roles, and permissions.

The default user accounts, roles, and permissions provided with Trellix Lighting are described below.

Username	Password	Role Assigned	Permissions
`Viewer`	`BXLinx!1`	Viewer	The Viewer user has view-only access to the following: • **Lighting app**: Alarms, Operate, Event Log, and Dashboard features • **Admin app**: Alarms, Event Logs
`Tenant`	`BXLinx!2`	Tenant	The Tenant user has view and operate access to the Alarms, Operate, Event Log, and Dashboard features.
`Facman`	`BXLinx!3`	Facility Manager	The Facility Manager user has view, operate, and administer access to all features except the following: Manage Roles; Backup/Restore, Factory Reset; Firewall; GSA Warning; Language Plugin; and Software Upgrade.
`ITAdmin`	`BXLinx!4`	IT Administrator	The IT/Network Administrator has view, operate, and administer access to the following: • **Lighting app**: Alarm, Operate, Event Log • **Admin app**: System – Backup/Restore; BACnet, Email Server; Factory Reset; Firewall; GSA Warning; Language Plugin; Published API; and Software Upgrade
`Admin`	`BXLinx!5`	System Administrator	The Trellix Lighting Administrator has full access to all features.

Username	Password	Role Assigned	Permissions
DRUser	BXLinx!6	Demand Response	The Demand Response User has access to the Demand Response and OpenADR interfaces.
Public	BXLinx!7	Third Party Integration	The Third-Party Integration User has access to the Published API.

5.2 – Admin Password Change Requirements

There are two situations when the Admin user will have to provide a new password:

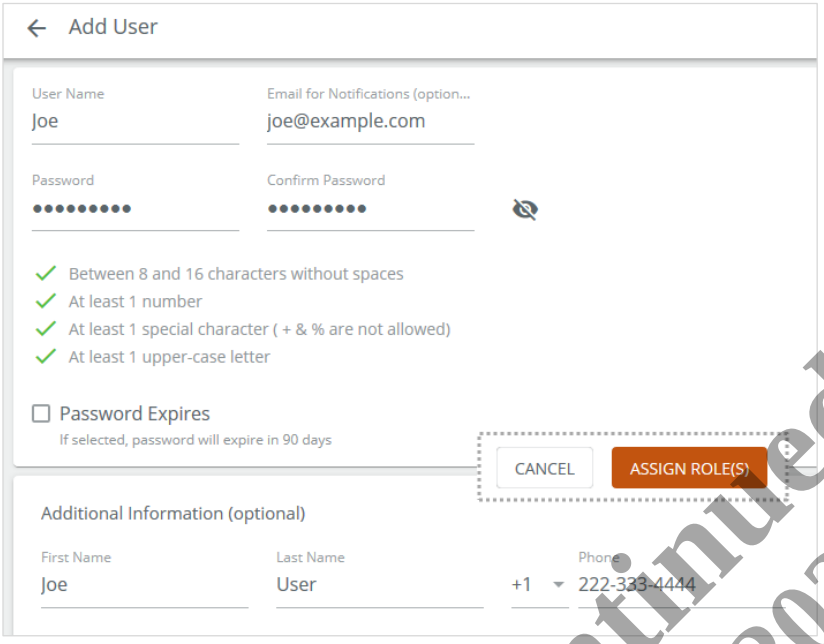
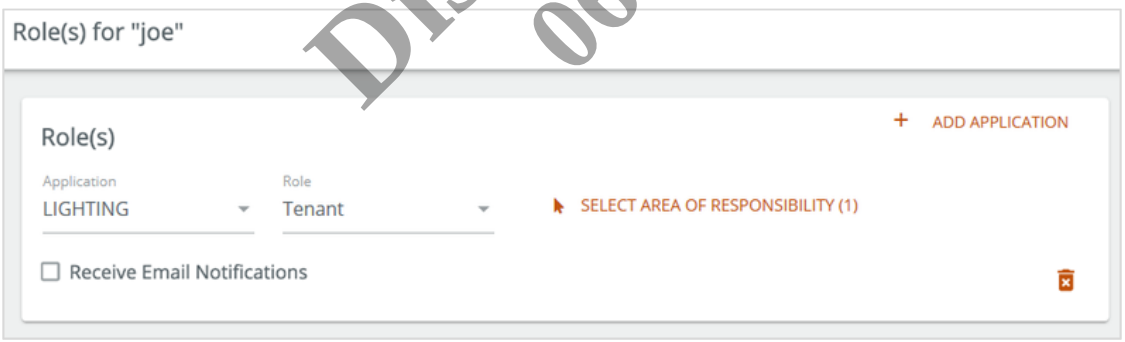
- When the Admin password is the default value when a Trellix update is applied
- When the database is restored

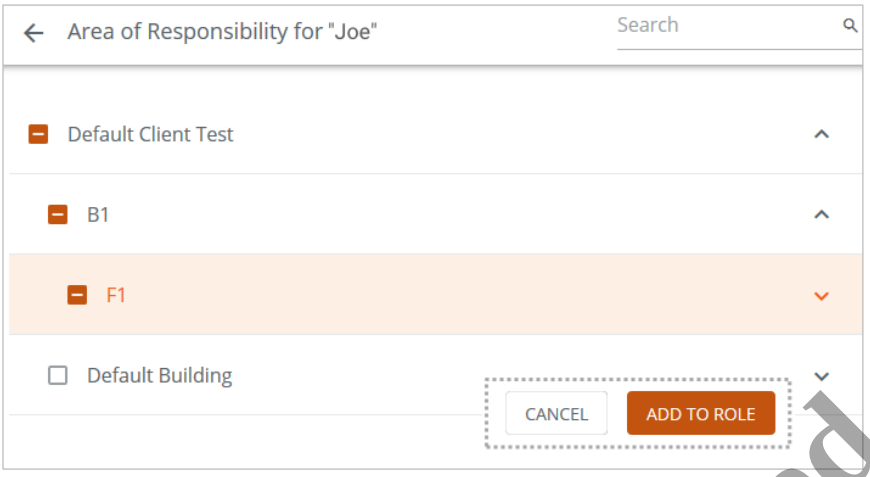
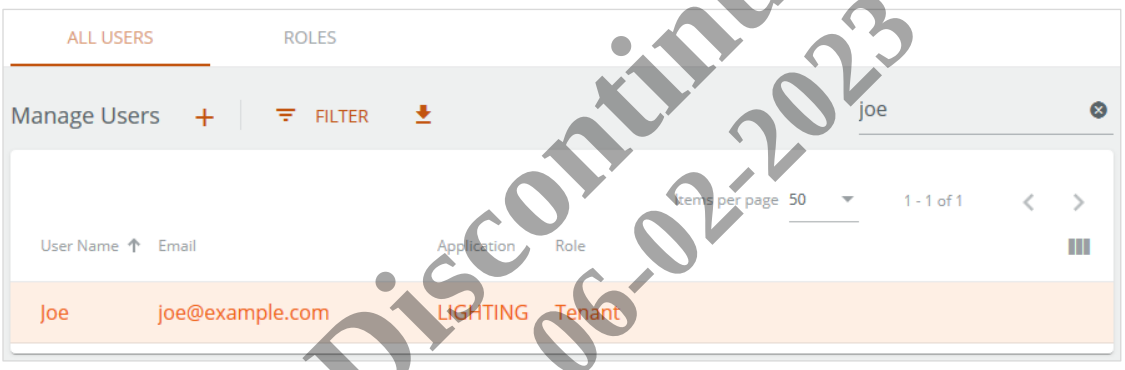
5.3 – Adding and Removing User Accounts

Follow the steps below to create or remove Trellix Lighting user accounts.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, and then click **Users**.

EXAMPLE

Step	Action
2	Click + beside Manage Users. Enter the new **User Name** and (optionally) the **Email for Notifications**, then enter and confirm a **Password**, and then select **Password Expires** if you want to limit password validity to 90 days. If desired, expand and fill out the **Additional Information** fields. ***EXAMPLE*** 
3	Click **Assign Roles** (shown inset above). Select a **Role**, then select the **Receive Email Notifications** check box if you want to send notifications to this user. ***NOTE*** *See* Default Lighting Accounts, Roles, and Permissions *for role permission details* ***EXAMPLE*** 

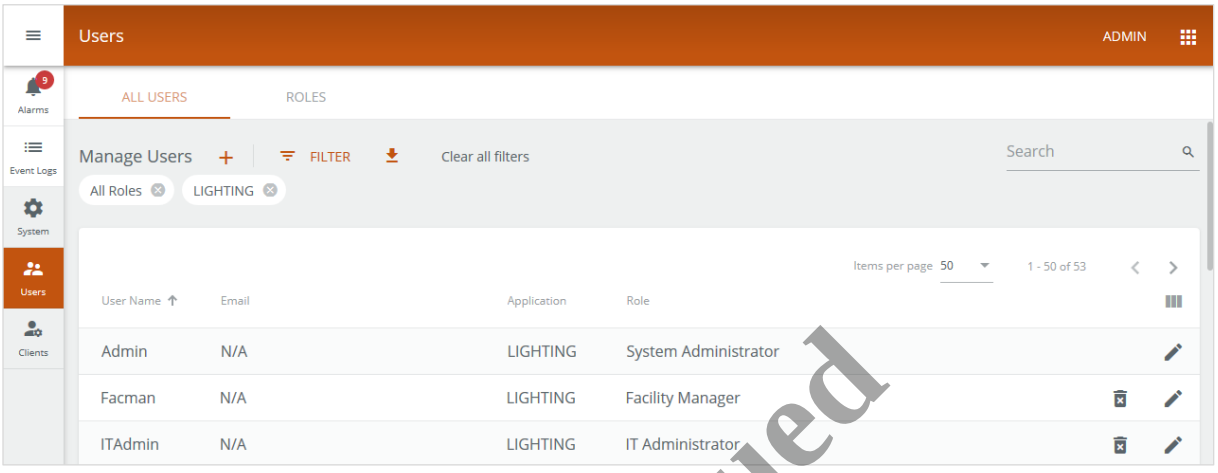
Step	Action
4	Click **Select Area of Responsibility**. Use the **Search** box or expand and collapse the building hierarchy to view and select Areas this user can access. Click **Add to Role** (shown inset below) to continue. ***EXAMPLE*** 
5	Click **Create User** to add this user and return to the **Users** page. ***EXAMPLE*** 
6	To remove a user that you created, click 🗑 beside that user, or select the user to reveal the Role Details sidebar, and then click **Delete**. ***NOTE*** *The built-in user accounts provided with Trellix Lighting cannot be deleted.*

5.4 – Viewing and Editing User Accounts

Follow the steps below to view and edit the existing Trellix Lighting user accounts.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, and then click **Users**.

EXAMPLE

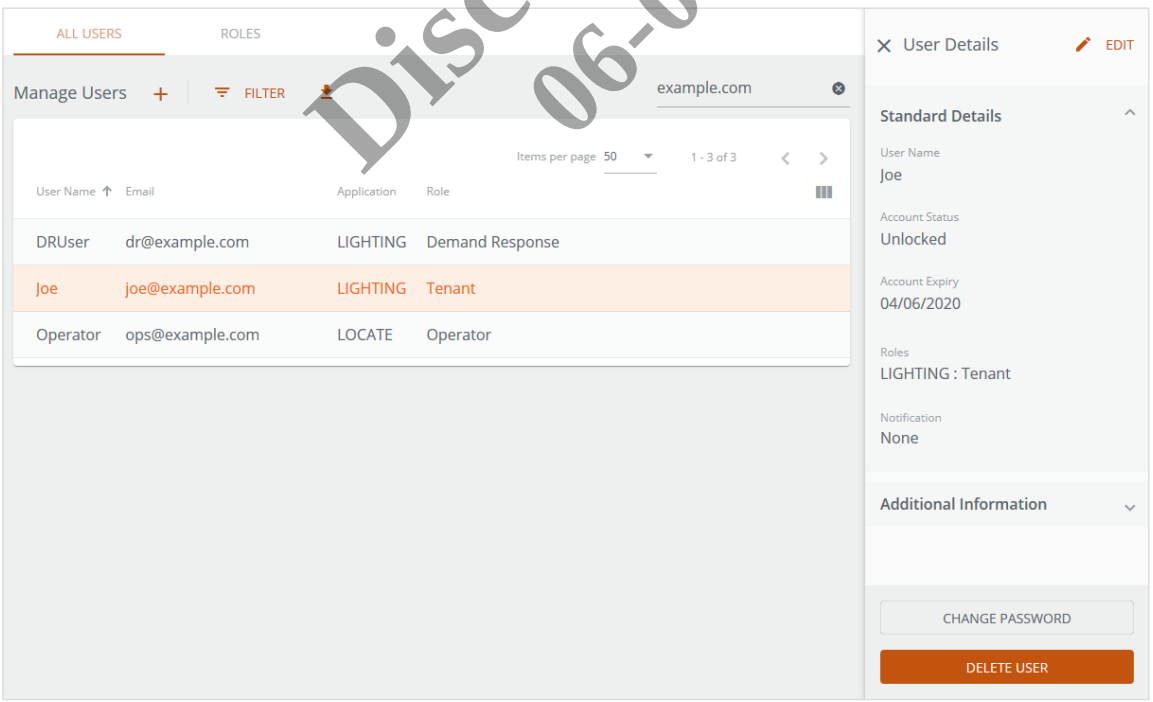


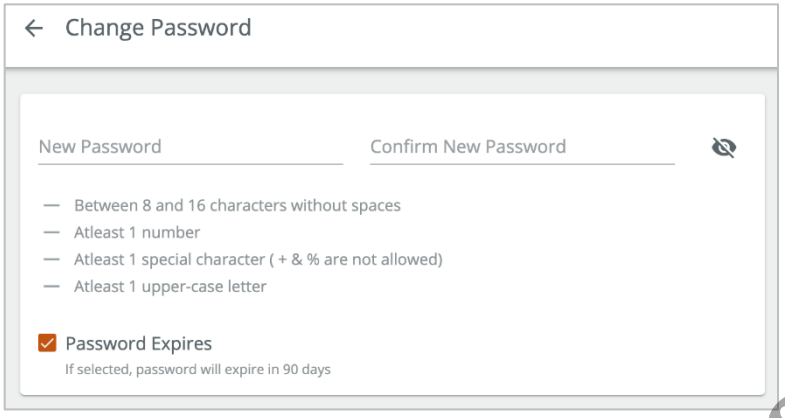
Other Tasks

- To search the list of users, enter the name of user in the **Search** box, and then press Enter or click 🔍
- To filter the list, click **Filter,** choose the type of filter (e.g., Role), and then click **Apply**
- To sort the list of users, click a column heading (e.g., **User Name**)
- To reverse the sort order, click the same heading a second time

2	Click a user row to display the **User Details** sidebar.

EXAMPLE



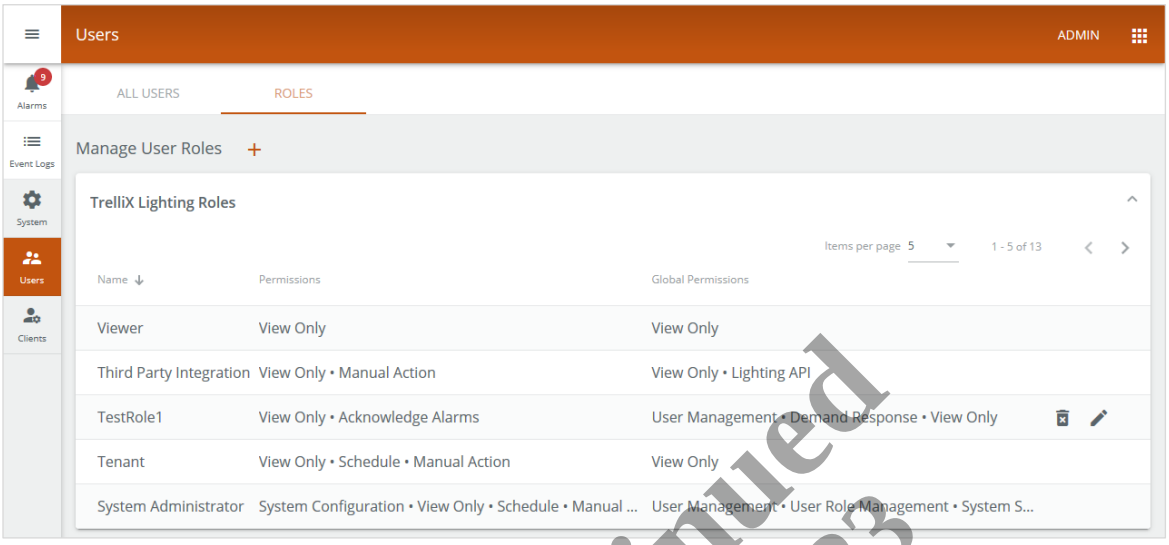
Step	Action
3	To change the account password, click **Change Password** in the User Details panel, and then enter and confirm the new **Password** value. Edit the **Password Expires** setting as desired. ***TIP*** *The New Password rules update as you type to save time when creating passwords.* ***EXAMPLE*** 
4	To modify the account details, click **Edit** in the User Details panel. Edit the **User Name** and **Email for Notifications** settings. ***EXAMPLE***  **Other Tasks** • Click **Change Password** to modify the password • Add another **Application** (e.g., Trellix Locate) to this account • Edit the **Application** and **Role** settings • Click **Select Area of Responsibility** to view or modify the Areas this user can access • Edit the **Receive Email Notifications** selection • Edit the **First Name**, **Last Name**, and **Phone** settings under Additional Information
5	Click **Update** (shown inset above) to apply the user configuration changes.

5.5 – Adding and Removing Roles

Follow the steps below to create or remove Trellix Lighting roles.

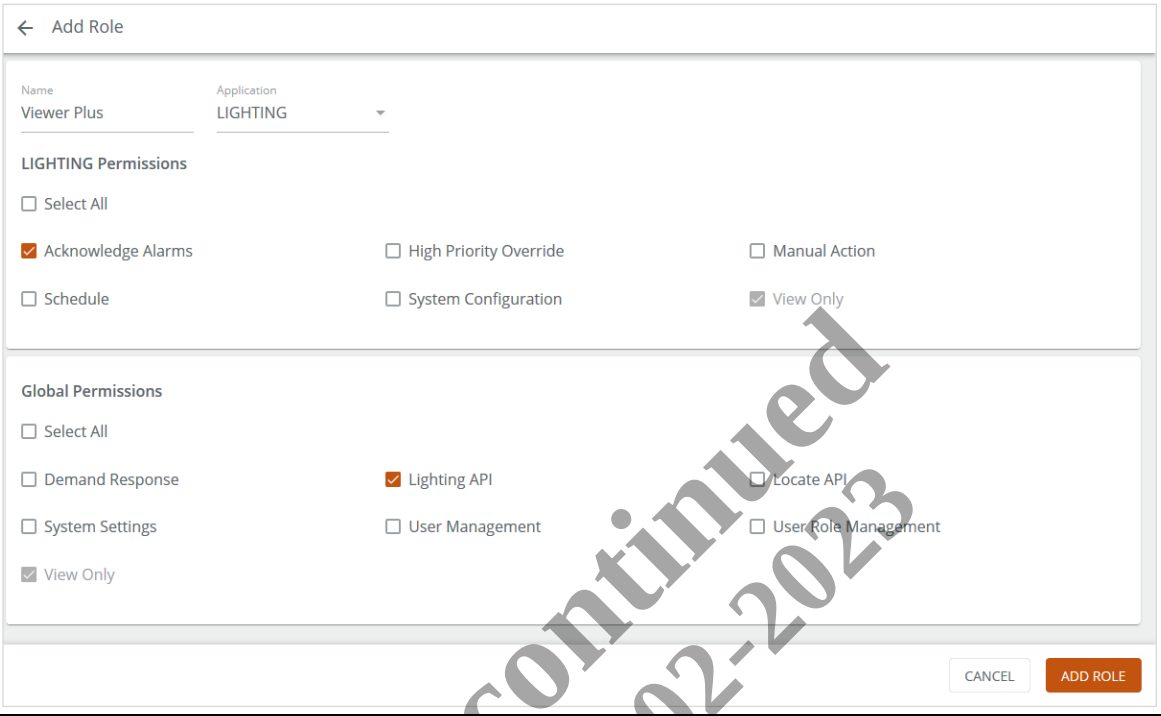
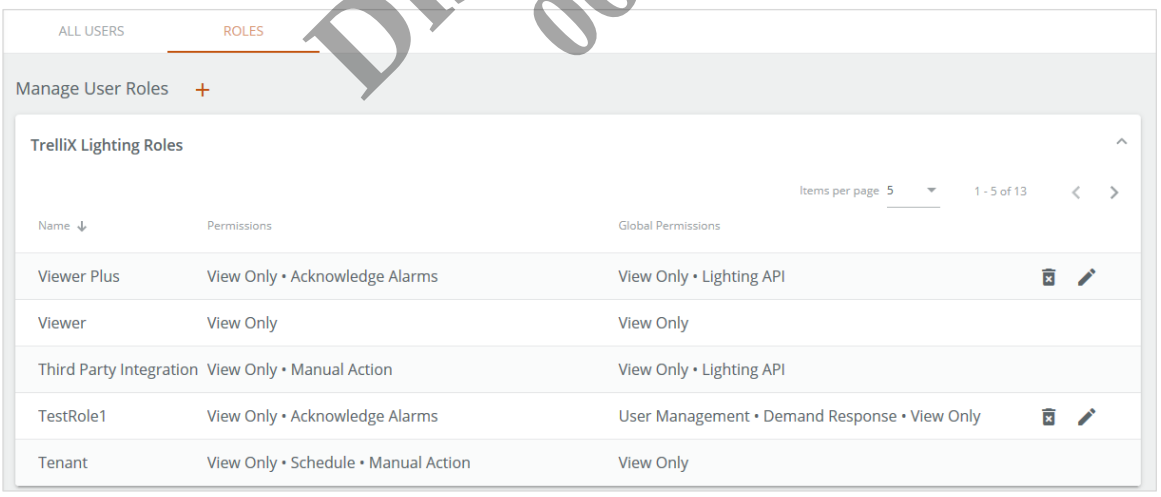
Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **Users**, and then click **Roles**.

EXAMPLE



Other Tasks

- To sort the list of roles, click a column heading (e.g., **Name**)
- To reverse the sort order, click the same heading a second time

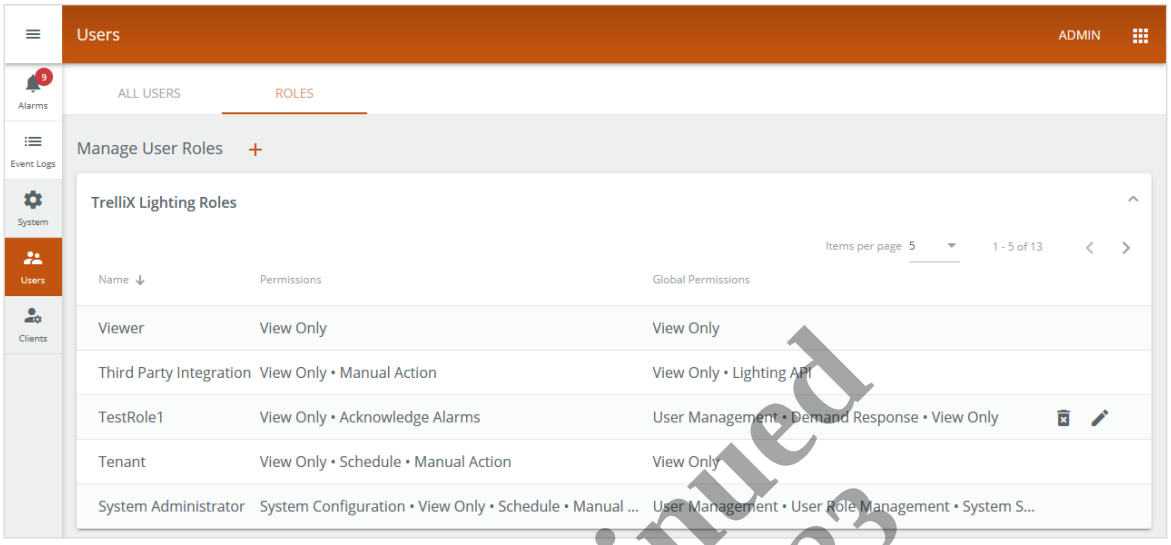
Step	Action
2	To add a role, click + beside **Manage User Roles**. Enter the new **Role Name**, then select each **Lighting Permission** and **Global Permission** this role should have. ***NOTE*** *See Default Lighting Accounts, Roles, and Permissions for role permission details* ***EXAMPLE*** 
3	Click **Add Role**. ***EXAMPLE*** 
4	To remove a role, click 🗑 beside that role in the list. ***TIP*** *If a role is selected and the Role Details sidebar is open, click the **Delete** button that appears there.* ***NOTE*** *The built-in user roles provided with Trellix Lighting cannot be deleted.*

5.6 – Viewing and Editing Roles

Follow the steps below to view the existing Trellix Lighting roles and permissions.

Step	Action
1	Click ⠿ to display the app menu, then click **Admin**, then click **Users**, and then click **Roles**.

EXAMPLE

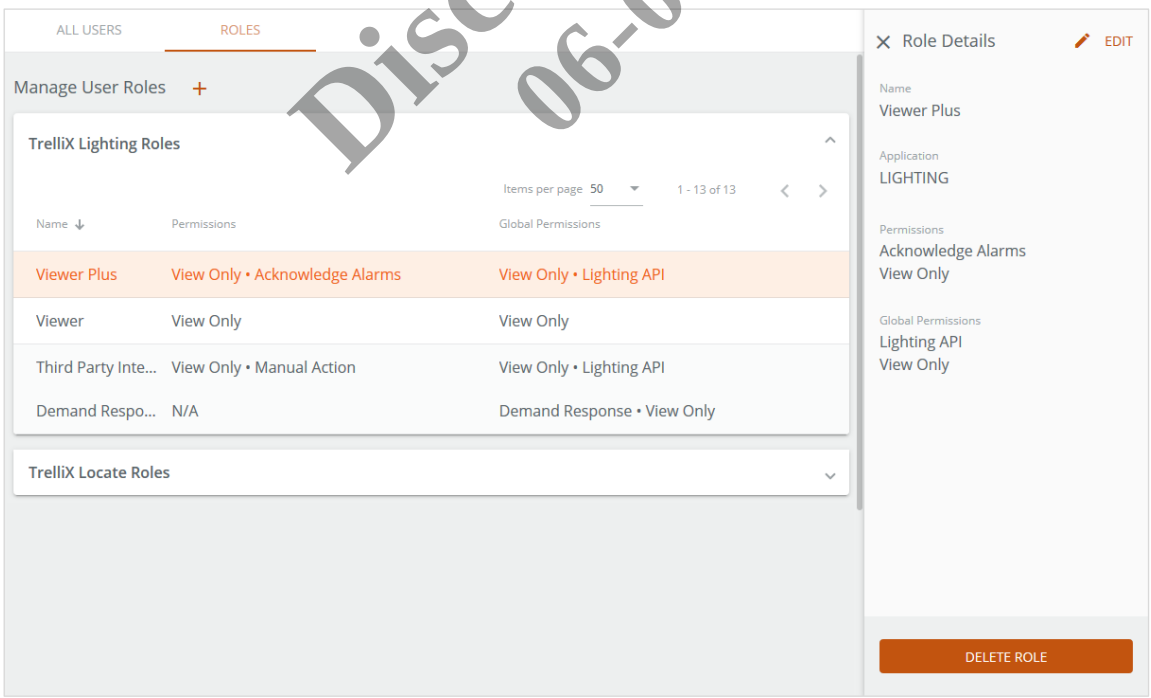


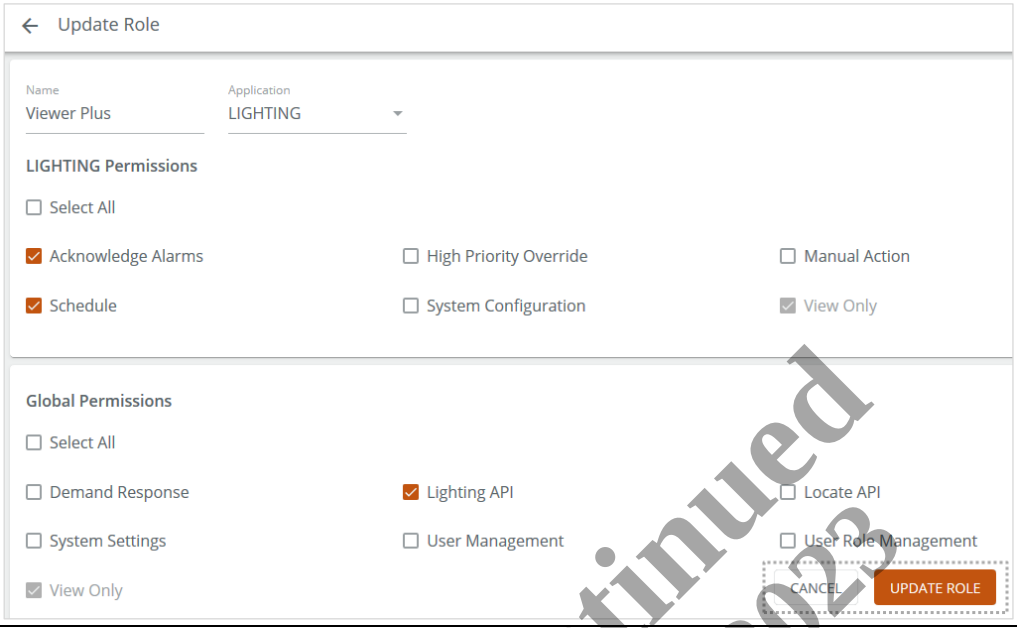
Other Tasks

- To sort the list of roles, click a column heading (e.g., **Name**)
- To reverse the sort order, click the same heading a second time

2	Click a role to display the **Role Details** sidebar.

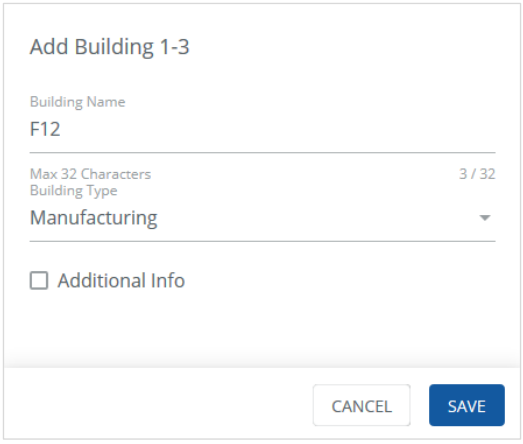
EXAMPLE

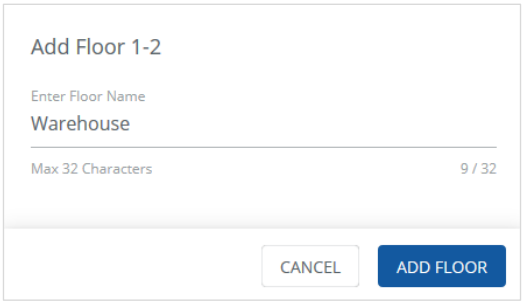
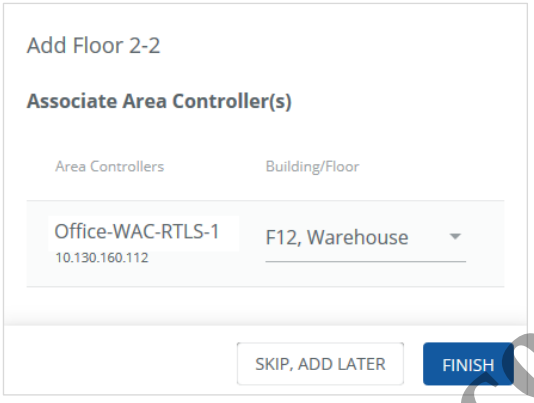


Step	Action
3	To edit the role, click **Edit** in the Details panel. ***NOTE*** *See Default Lighting Accounts, Roles, and Permissions for role permission details* ***EXAMPLE*** 
4	Edit the **Name**. Select **Lighting** as the **Application**, and then edit **Lighting Permissions** and **Global Permissions**, and then click **Update Role** (shown inset above).

5.7 – Adding a Building

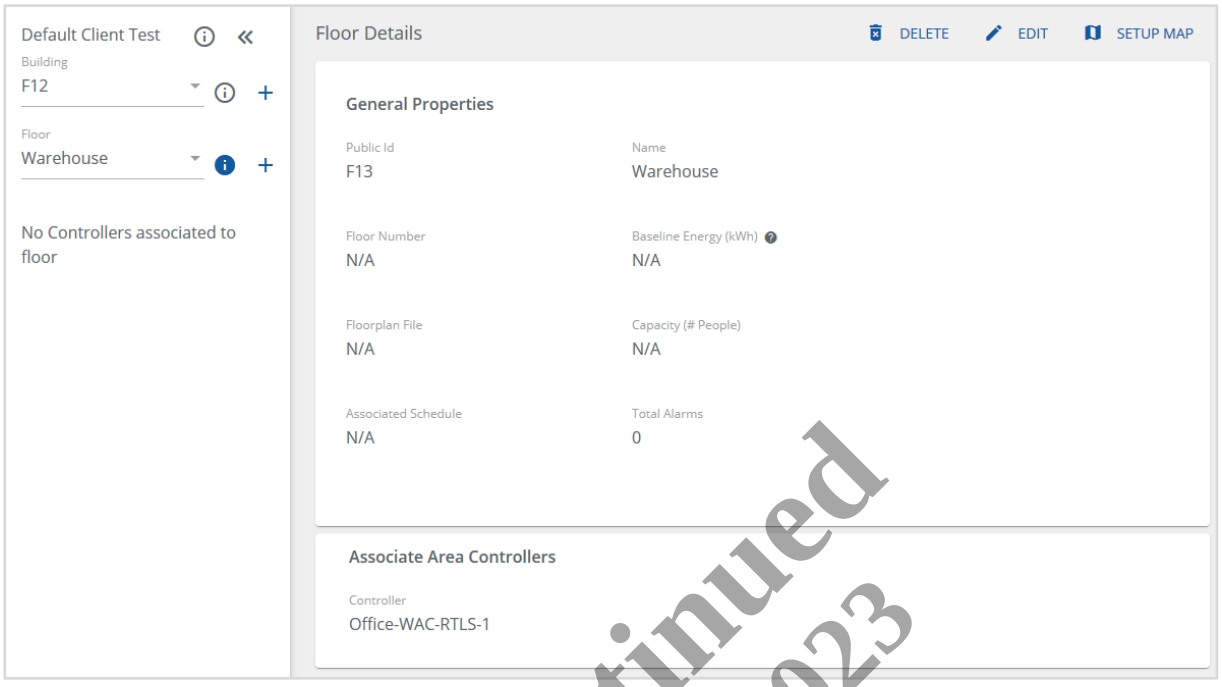
Follow the steps below to add a new building.

Step	Action
1	Click **Sites** in the main menu, then click ⓘ beside the Client name (e.g., Cooper Lighting Solutions), and then click **Add Building**. Enter a **Building Name**, then select the **Building Type**. ***EXAMPLE***  **Other Tasks** To add more information about this building, select **Additional Info** check box, and then fill out one or more of the fields provided.

Step	Action
2	Click **Save**. The Create Floor process will be started automatically for this new building. Enter the **Floor Name**. ***EXAMPLE*** 
3	Click **Add Floor**, then select an **Area Controller**, and then choose a **Building/Floor** to associate that floor with the Area Controller. ***EXAMPLE***  **Other Tasks** Click **Skip, Add Later** if you are not ready to associate an Area Controller yet.

Step	Action
4	Click **Finish**.

EXAMPLE

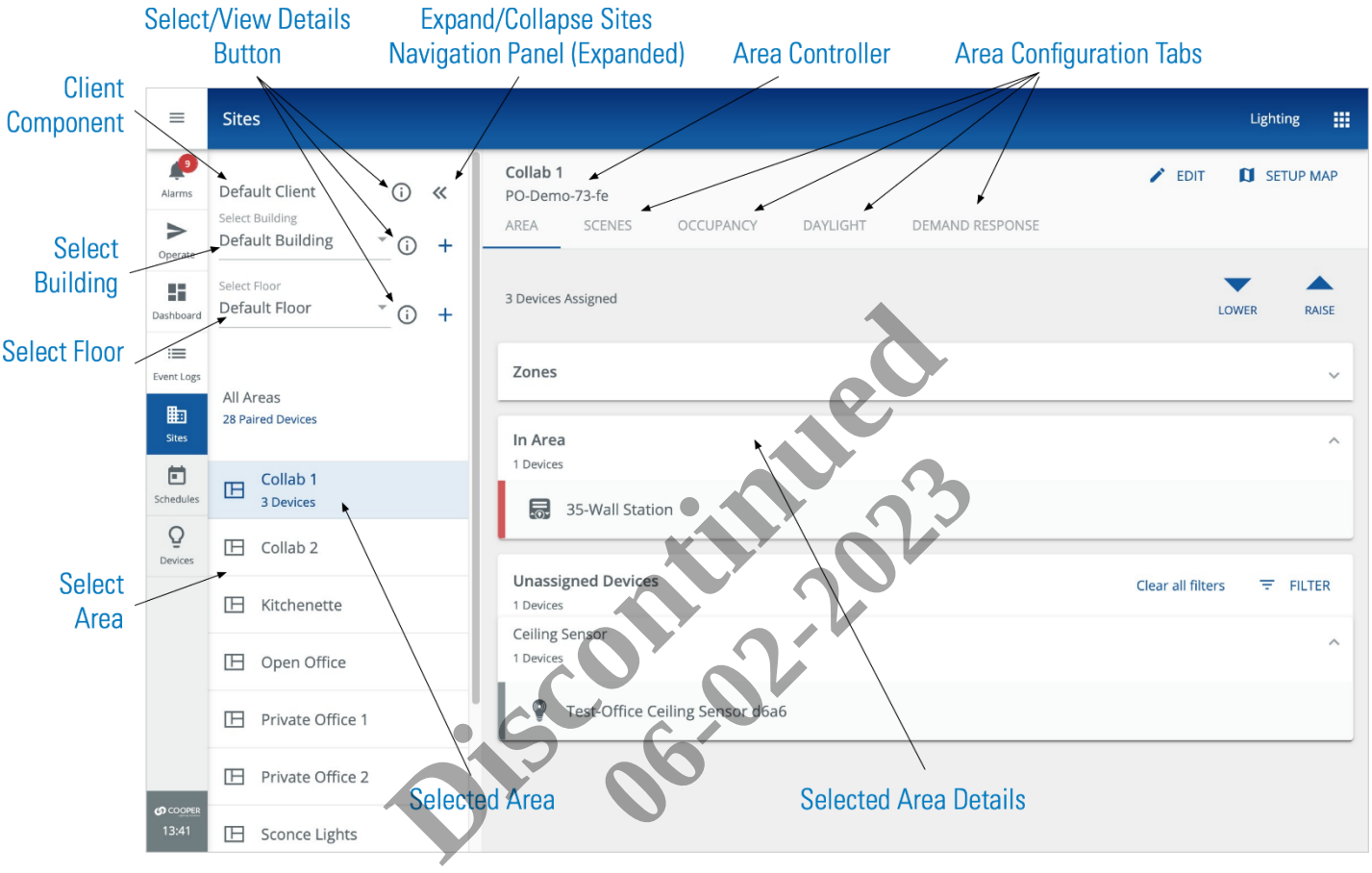


6 – Sites Configuration

This chapter describes how to configure Trellix Lighting Buildings, including Floors, Areas, Zones, Scenes, Occupancy Groups, Demand Response and Devices settings.

6.1 – Sites Page

The default Sites page is shown below.



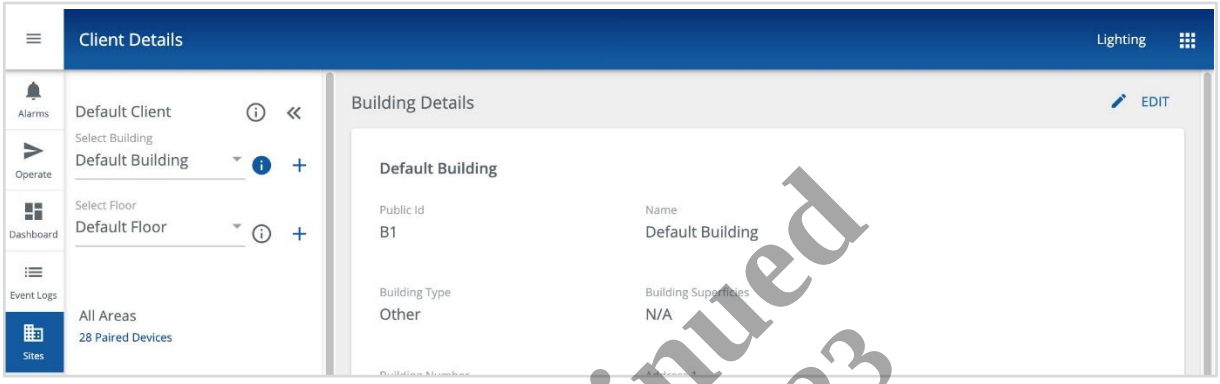
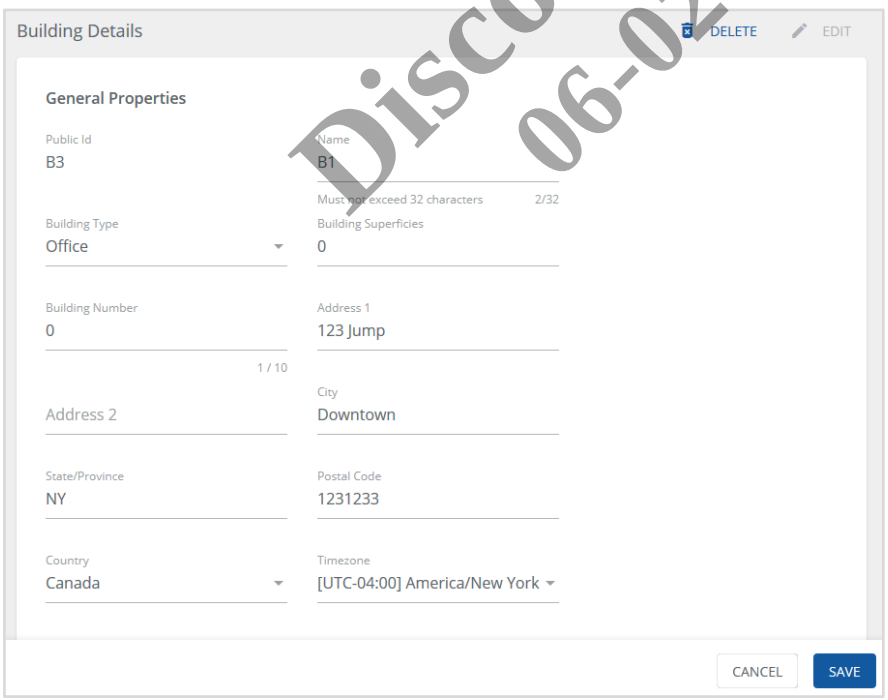
NOTE
The ability to configure Controller data from Trellix is a new feature, and it assumes you are familiar with WaveLinx Wireless or WaveLinx Wired configuration. If not, please refer to the WaveLinx Mobile Application User Manual or WaveLinx Wired Installation Instructions if you need more detail.

NOTE
Any change to the Site or Device hierarchy will cause BACnet to be disabled.

6.2 – Buildings and Floors

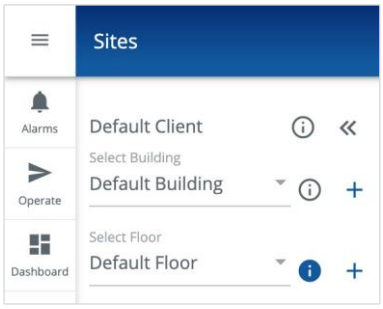
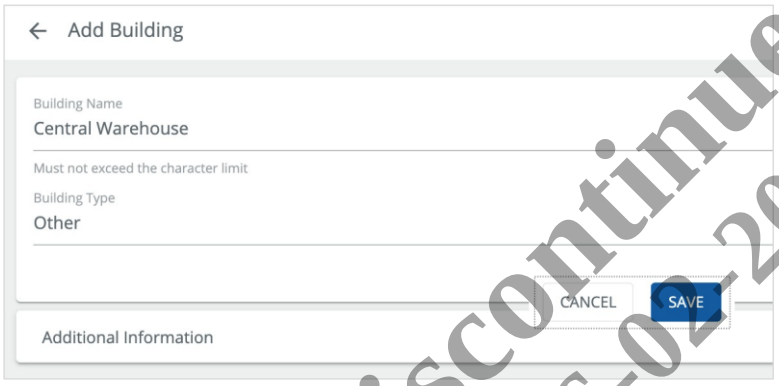
6.2.1 – Viewing and Editing a Building

Follow the steps below to view a Building and edit its details.

Step	Action
1	Click **Sites** in the main menu, and then select a **Building** in the Building navigation panel to view the **Building Details** on the right. ***NOTE*** *A ⓘ button indicates the selected Client, Building or Floor with details displayed. Clicking ⓘ will select that one.* ***EXAMPLE*** 
2	Click **Edit** to change the details of the selected building, and then edit one or more of the fields with grey bottom borders. ***IMPORTANT*** *Ensure the **Timezone** is configured.* ***EXAMPLE*** 
3	Click **Save**.

6.2.2 – Adding a Building

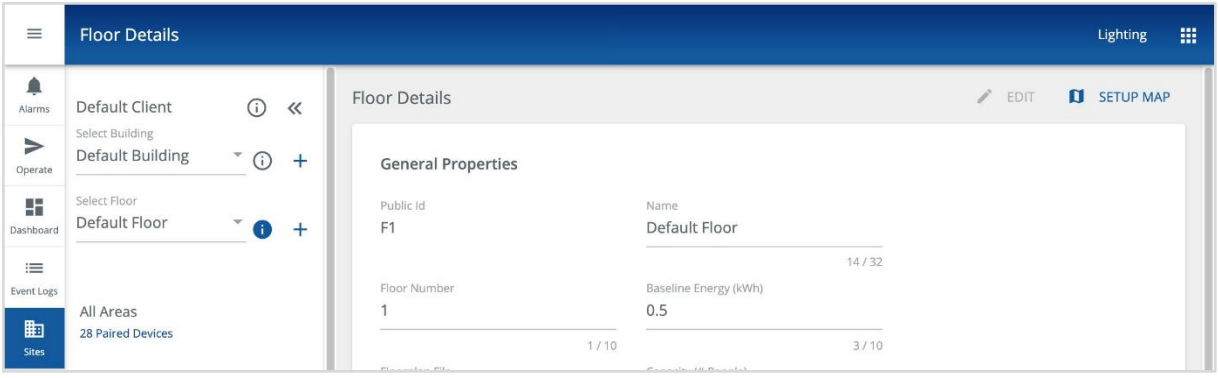
Follow the steps below to add a new Building.

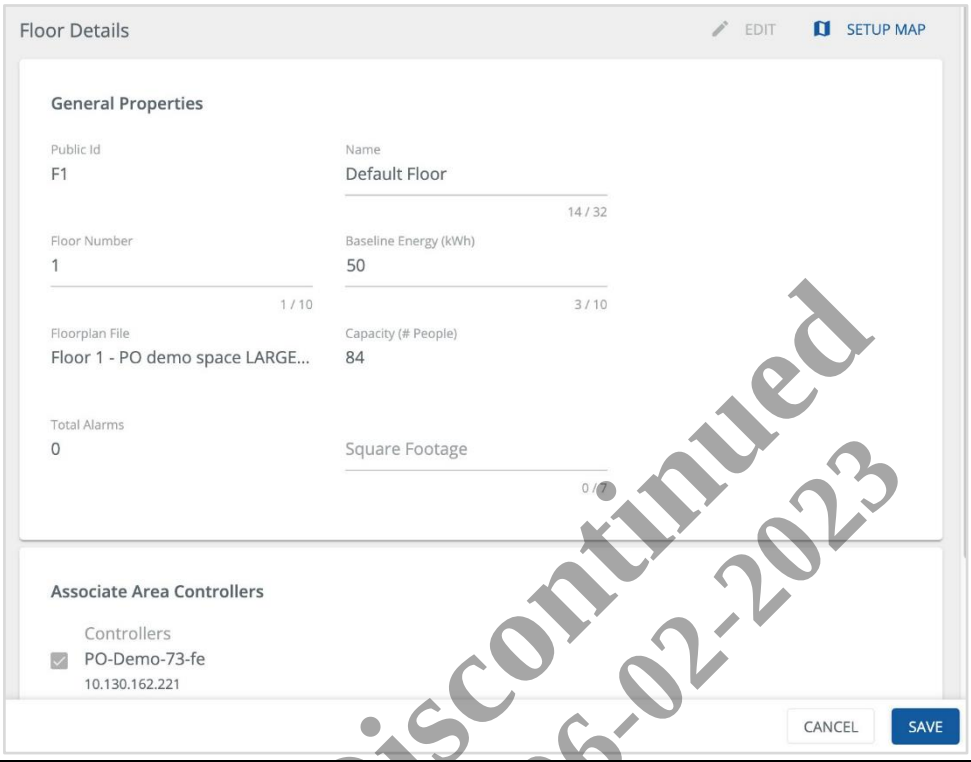
Step	Action
1	Click **Sites** in the main menu. ***EXAMPLE*** 
2	Click **+** beside the Select Building field (shown above), then enter the Building Name, and then choose a Building Type. ***EXAMPLE*** 

Step	Action
3	Click **Additional Information**, then enter the details you want to store with this Building, and then click **Save**. ***IMPORTANT*** *Ensure the **Timezone** is configured.* ***EXAMPLE*** 

6.2.3 – Viewing and Editing a Floor

Follow the steps below to view a Floor and edit its details.

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor** to view the **Floor Details** on the right. ***EXAMPLE*** 

Step	Action
2	Click **Edit** to change the details of the selected Floor, and then edit one or more of the fields with grey bottom borders. ***NOTES*** • *Fields without a bottom border cannot be modified.* • *The Baseline Energy value is the kWh consumption by all devices on the floor for one hour, assuming 24/7 operation and no controlled reductions*. ***EXAMPLE*** 
3	Click **Save**.

6.2.4 – Adding a Floor

This topic describes the requirements for adding a new floor and the specific steps to take.

New Floors, Wireless Area Controllers, and Ethernet Gateways

A Controller must be associated with a Floor, which typically happens during the Setup Wizard that is triggered on the first Trellix Core login. In construction projects with multiple phases, new Wireless Area Controllers, Ethernet Gateways, and Floors may be commissioned after the initial Trellix Core configuration. In these situations, the system administrator will need to create new Floors, and then associate a Wireless Area Controller or WaveLinx Wired EG with each one.

WaveLinx

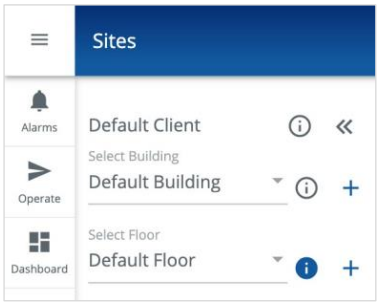
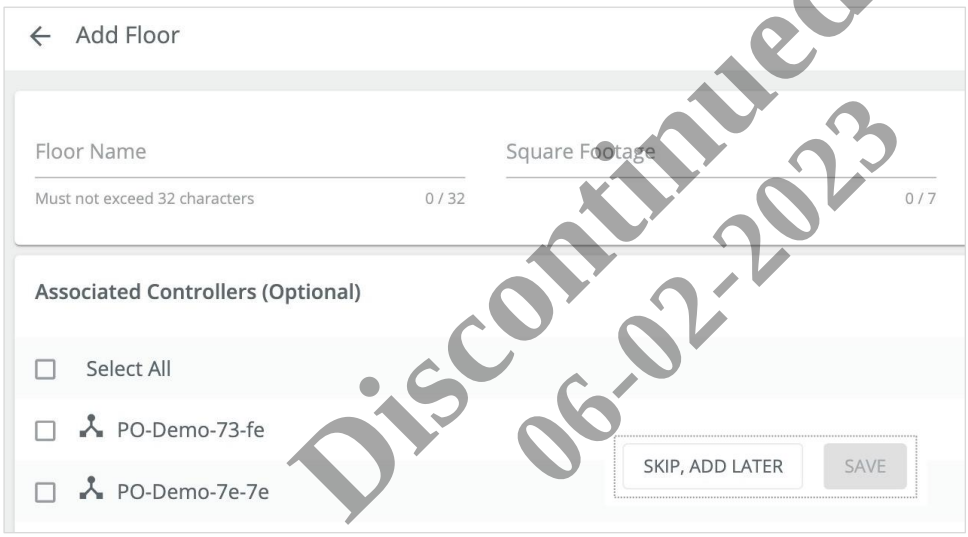
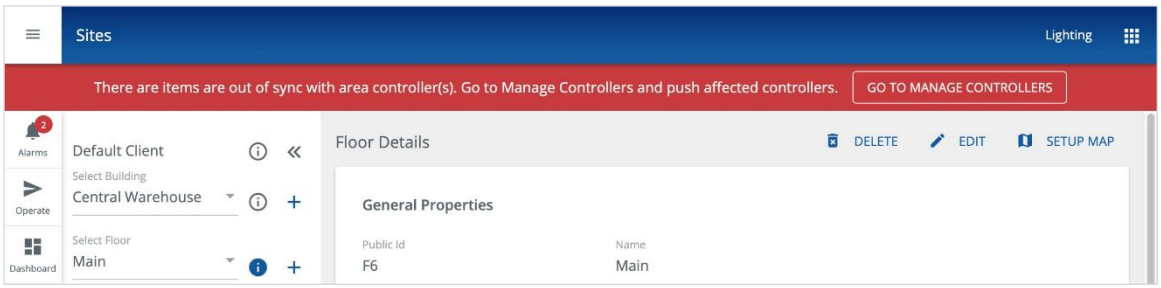
A WaveLinx Wireless Area Controller must be associated with a Floor, which typically happens during the Setup Wizard that is triggered on the first Trellix Core login.

WaveLinx Wired

The devices in WaveLinx Wired are organized into Areas and Zones, but do not have the concept of a Floor. When adding a new EG, the Areas can be mapped to Floors either in bulk or one at a time.

Procedure

Follow the steps below to add a new Floor to an existing Building.

Step	Action
1	Click **Sites** in the main menu, then choose a Building in the Select Building list. ***EXAMPLE*** 
2	Click **+** beside the Select Floor field (shown above), then enter a Floor Name and the Square Footage. ***EXAMPLE*** 
3	Do you want to associate a Controller with this Floor? • If yes, select the checkbox beside one or more of the listed Controllers, and then click **Save**. • If no, click **Skip, Add Later**.
4	If you associated a Controller, you will be prompted to synchronize your changes as described in *Synchronizing Data with WACs*. ***EXAMPLE*** 

6.3 – Areas and Zones

This topic describes the viewing and editing options for Areas and Zones.

6.3.1 – Viewing and Editing Area Settings

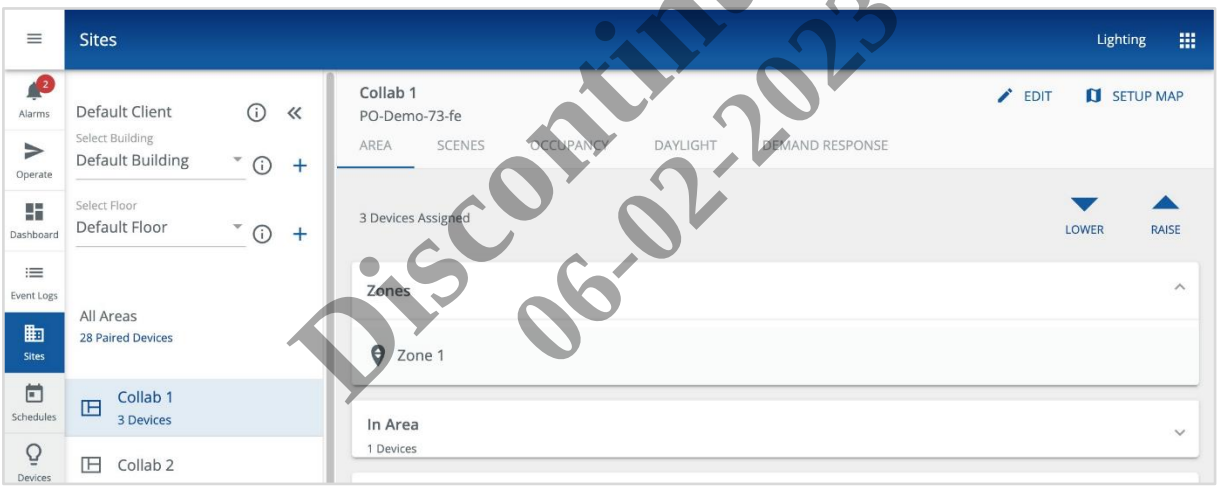
Quick Reference

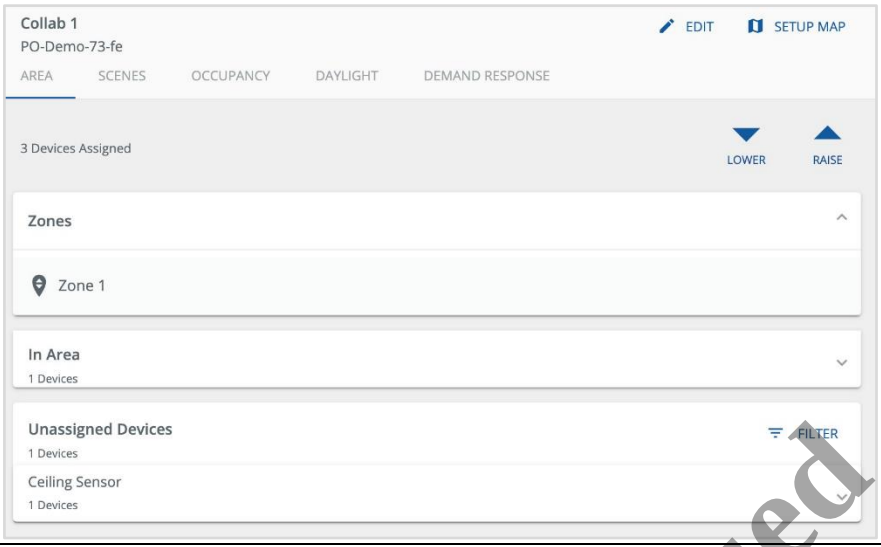
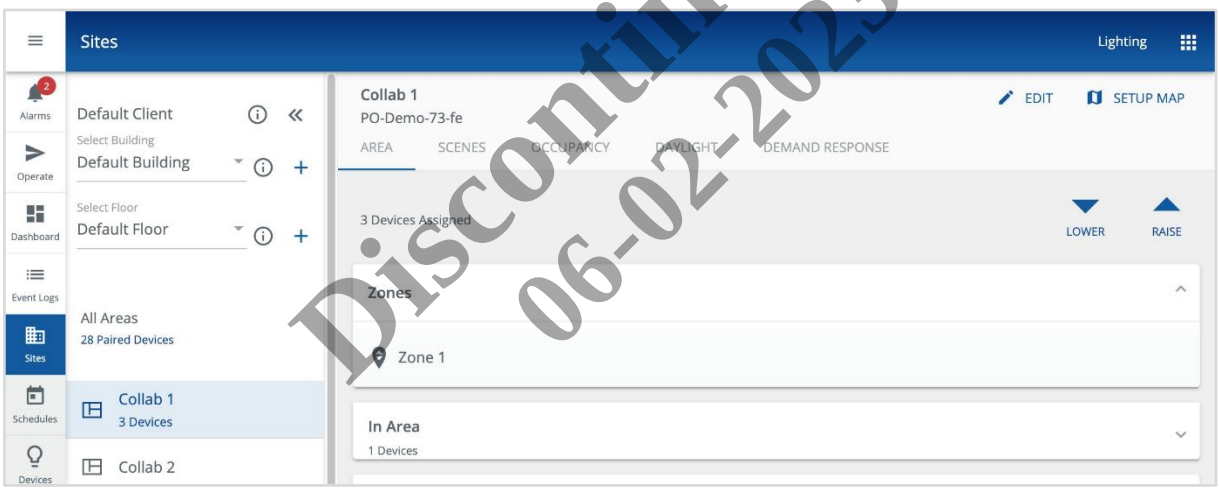
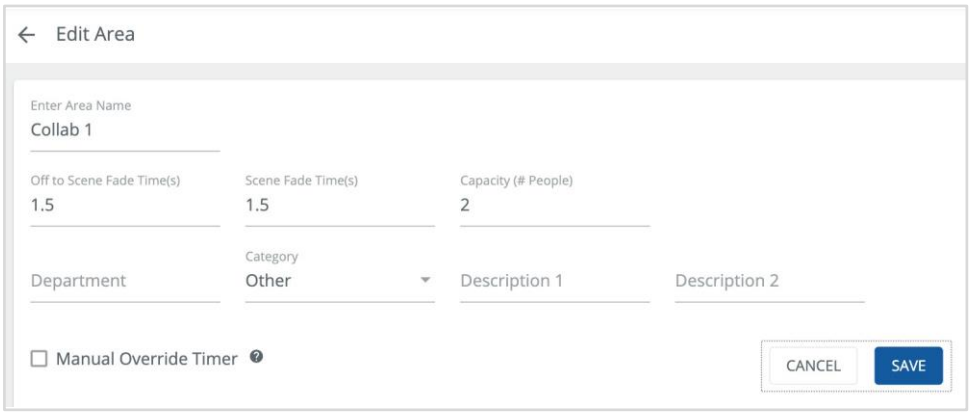
- **Fade time** – Time to transition from one light level to another
- **Off to scene fade time** – Time to transition from OFF to the selected scene or level
- **Scene fade time** – Time to transition from already ON to the selected scene or level
- **Manual Override Timer** – Used for automated shutoff when occupancy sensors are not available

NOTE
See "Modifying Areas, Zones, and Devices" in the WaveLinx User and Programming Manual *for more details. Be aware that in this release, Areas and Zones can only be created, moved, and deleted using the WaveLinx Mobile App, and not in Trellix Lighting.*

Procedure

Follow the steps below to view and edit details that apply to the whole Area, such as the Zones assigned or the Scene Fade Time.

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area to view the **Area Details** on the right. ***NOTE*** *The **N Devices Assigned** value is total number of Devices, assigned to a Zone or not, in the selected Area.* ***EXAMPLE*** 
2	To change the lighting level in the selected Area, click **Lower** or **Raise**.

Step	Action
3	To see the Zones assigned to the selected Area, click **Zones**. ***EXAMPLE*** 
4	To see a list of the Devices in the selected Area that are not assigned to a Zone, click **In Area**. ***EXAMPLE*** 
5	To modify the details of the selected Area, click **Edit**, and then edit one or more of the Name, Off to Scene Fade Time, Scene Fade Time, Capacity, Department, Category, Description and Manual Override Timer fields. ***EXAMPLE*** 

Step	Action
6	Click **Save** to apply your changes, and then click ← to return to the Area page.

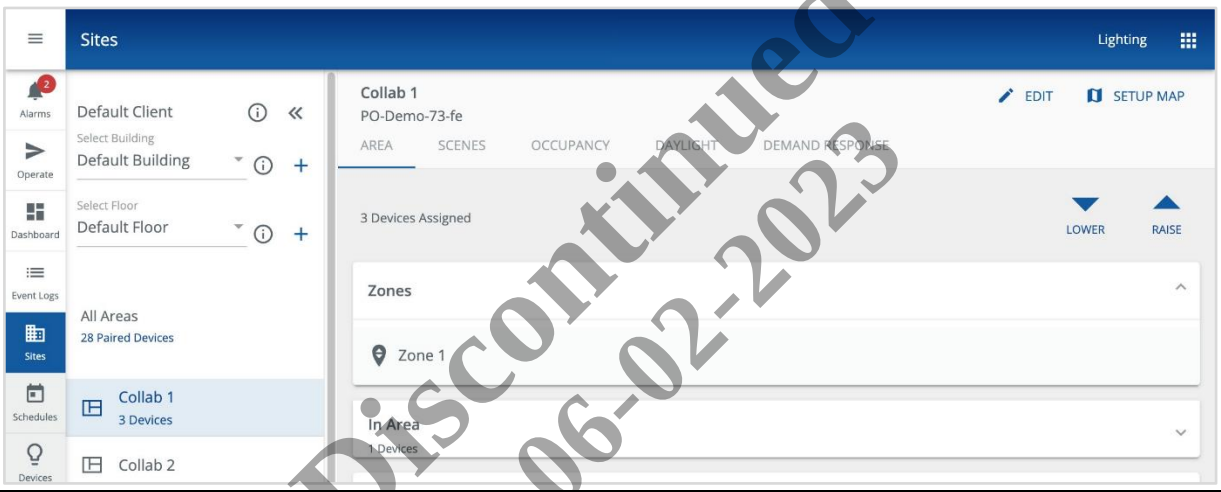
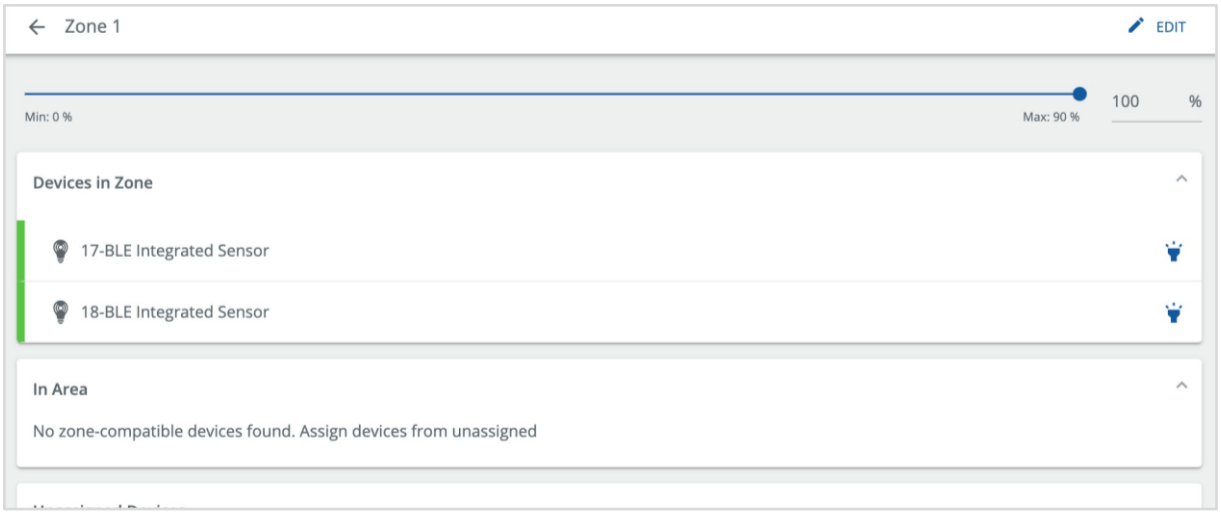
6.3.2 – Viewing and Editing Zone Settings

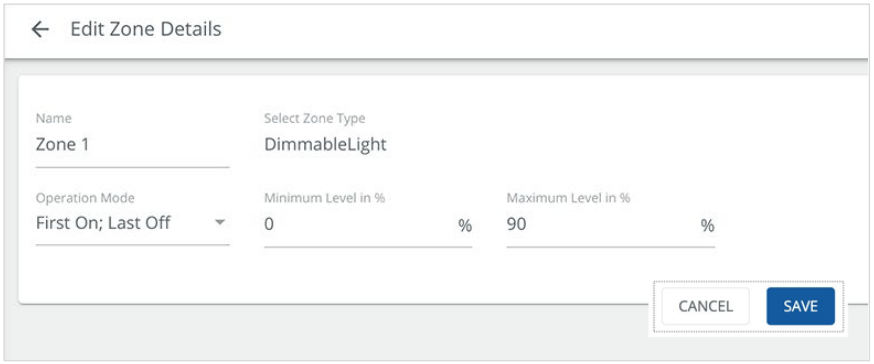
Quick Reference

- **Operation Mode** – Used for Zone types other than White Tuning to adjust switching behavior of a load in response to dimming
- **Minimum Level** – The lowest permitted light level in response to a dimming command
- **Maximum Level** – The highest permitted light level in response to a dimming command

NOTE
See "Modifying Areas, Zones, and Devices" in the WaveLinx User and Programming Manual *for more details. Be aware that in this release, Areas and Zones cannot be created, moved, and deleted in Trellix Lighting. These task can be performed with the WaveLinx Mobile App.*

Procedure

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area to view the **Area Details** on the right. ***EXAMPLE*** 
2	Click a Zone to access its settings. ***EXAMPLE*** 

Step	Action
3	Click **Edit**, and then modify the Zone Name, Operation Mode, Minimum Light Level, and Maximum Light Level. ***EXAMPLE*** 
4	Click **Save**, and then click ← to return to the Area page.

6.4 – Scenes

This topic describes the viewing and editing of Scenes.

6.4.1 – Viewing and Editing Scenes

Each WaveLinx WAC supports sixteen Scenes per Area, labeled Scene0 through Scene15. A Scene can be configured with the desired light levels, ON/OFF responses, and white tuning levels, and can be employed by Schedules, occupancy sensors, wallstations, and contact closure inputs.

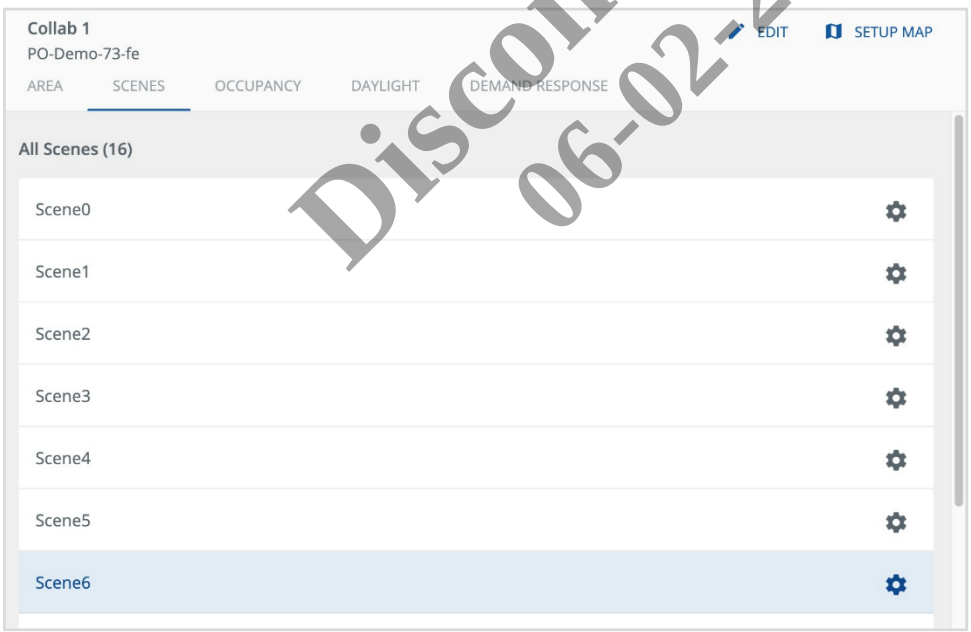
Quick Reference

- **Fade time** – Time to transition from one light level to another
- **Off to scene fade time** – Time to transition from OFF to the selected scene or level
- **Scene fade time** – Time to transition from already ON to the selected scene or level
- **Manual Override Timer** – Used for automated shutoff when occupancy sensors are not available

NOTE
See "Modifying Scene Settings and Responses" in the WaveLinx User and Programming Manual *for more details and configuration options.*

6.4.2 – Procedure

Follow the steps below to view and edit the Scene configurations in an Area.

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area, and then click **Scenes**. ***EXAMPLE*** 
2	To apply the Scene settings to the Devices it controls in the selected Area, click the Scene name (e.g., **Scene6**). ***EXAMPLE*** 

Step	Action
3	To modify the settings of a Scene, click ✿ in that row, and the edit the Name, Preview, and Visibility values. ***EXAMPLE*** 
4	Enable each Zone this Scene will affect, and set the target light level it will apply to each one (percentage for dimmable Zones, ON/OFF for non-dimmable and receptacle zones). If applicable, adjust the color temperature for tunable white Zones. ***EXAMPLE*** 
5	Click **Save** (shown inset above) to apply your changes, and then click ← to return to the Scenes page.

6.5 – Occupancy Sets

This topic describes the viewing and editing options for Occupancy Sets.

6.5.1 – Viewing and Editing Occupancy Sets

An Occupancy Set defines the response for a group of Integrated Sensors and Ceiling Sensors that are connected to Dimming Switchpacks.

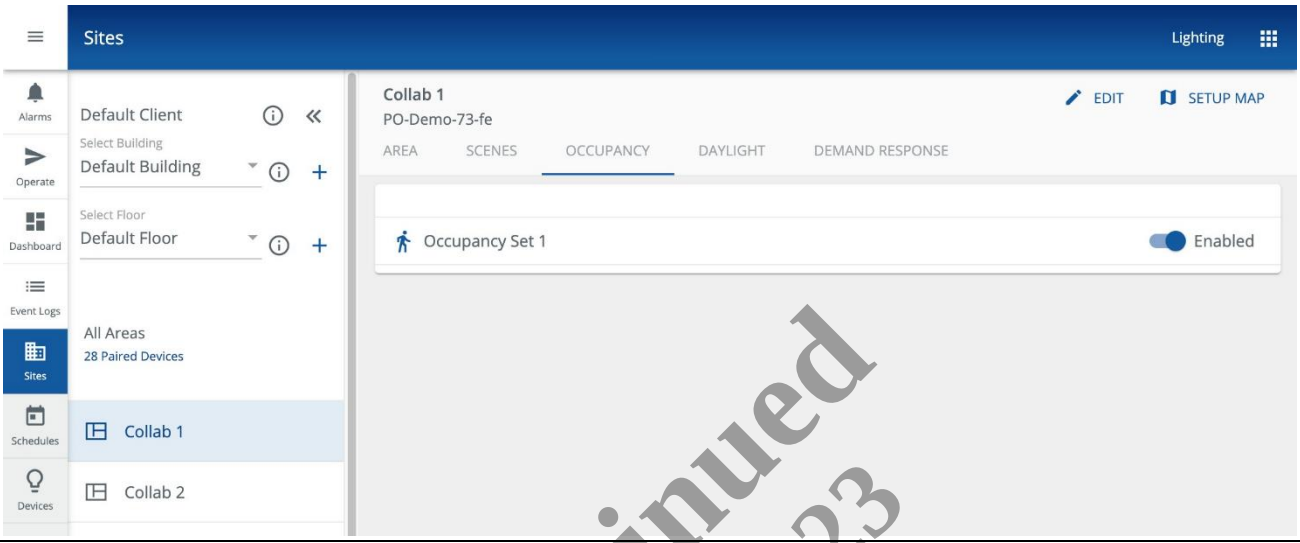
Quick Reference

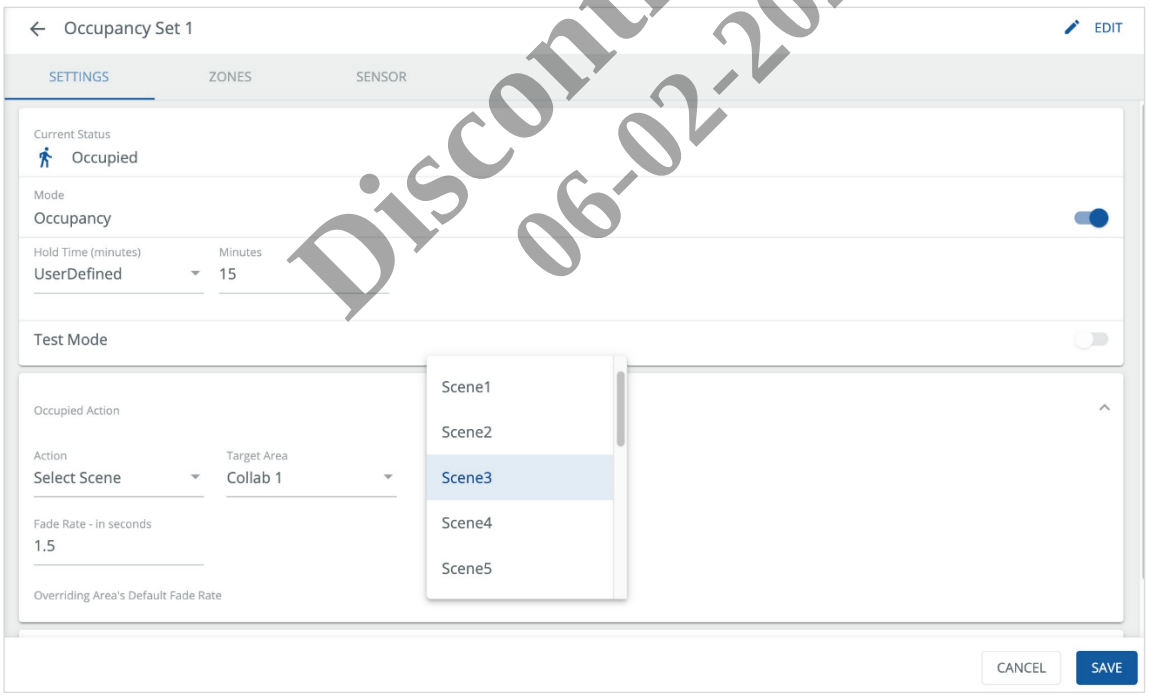
- **Occupancy Mode** – Configured actions are triggered when occupancy is detected, then transition back to unoccupied state when motion is no longer detected
- **Vacancy Mode** – No actions are triggered when occupancy is detected (must be done manually by occupants), but automatically transition back to unoccupied state when motion is no longer detected
- **Hold time** – Time to wait after last motion is detected before transitioning to the unoccupied state
- **Test mode** – Puts all Integrated and Tilemount Sensors into test mode for 10 minutes during which they operate with a 10-second hold time
- **Occupied Action** – Scene level, Zone level, or last lighting level action to apply (hidden when Vacancy Mode selected)
- **Unoccupied Action** – Scene or Zone level to apply

NOTE
See "Adjusting Occupancy Set Settings" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Procedure

Follow the steps below to view and edit the Occupancy Set configurations in an Area.

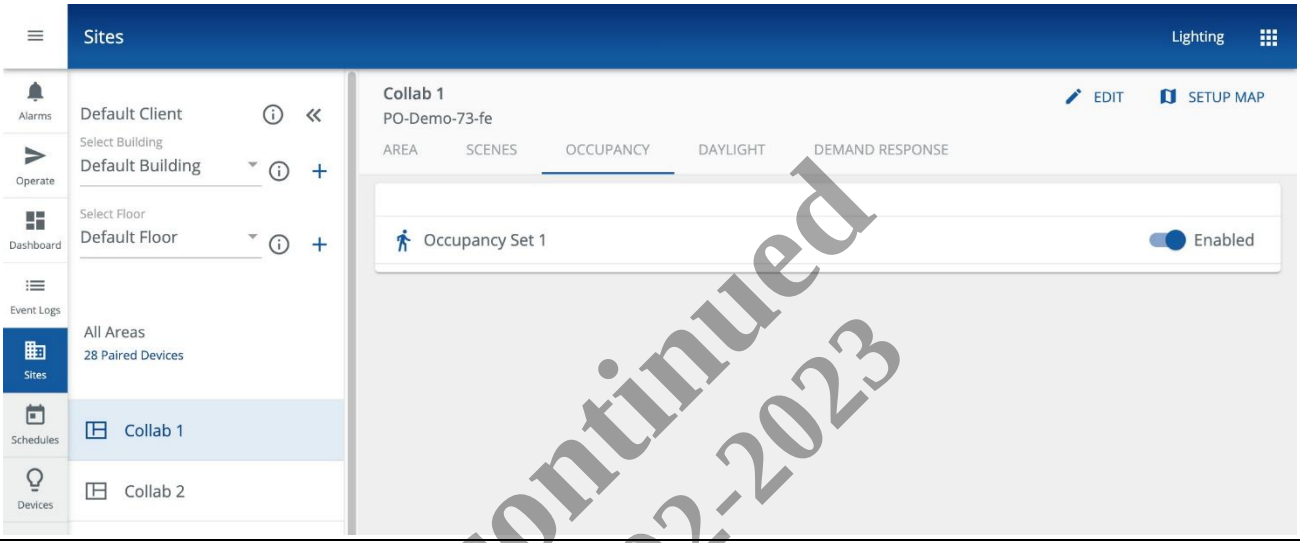
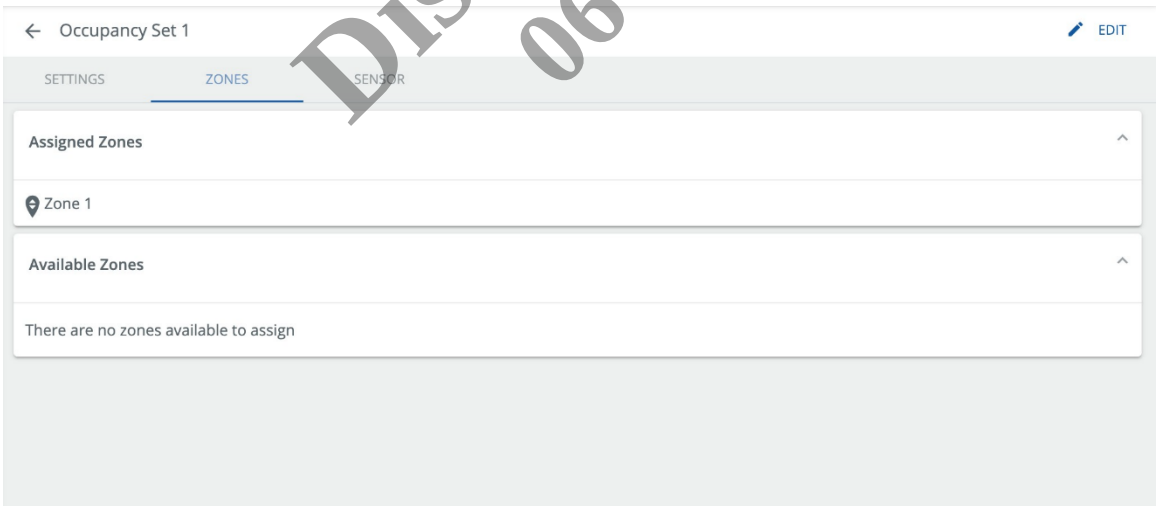
Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area, and then click **Occupancy**. ***EXAMPLE*** 
2	Toggle the **Enabled/Disabled** button to change the state of the Occupancy Set.
3	To edit the Occupancy Set name, click ✎ **Edit**, then edit the Name, and then click **Save** to apply your changes. ***EXAMPLE*** 

Step	Action
4	To modify the Occupancy Set configuration, click its name in the list. ***EXAMPLE*** 
5	Click ✎ on the Settings tab (shown above), then edit the Mode, Hold Time, Test Mode, Occupied Action, and Unoccupied Action values. ***EXAMPLE*** 
6	Click **Save**, and then click ← to return to the Occupancy page.

6.5.2 – Viewing the Zones Controlled by an Occupancy Set

Follow the steps below to view the Zones controlled by an Occupancy Set.

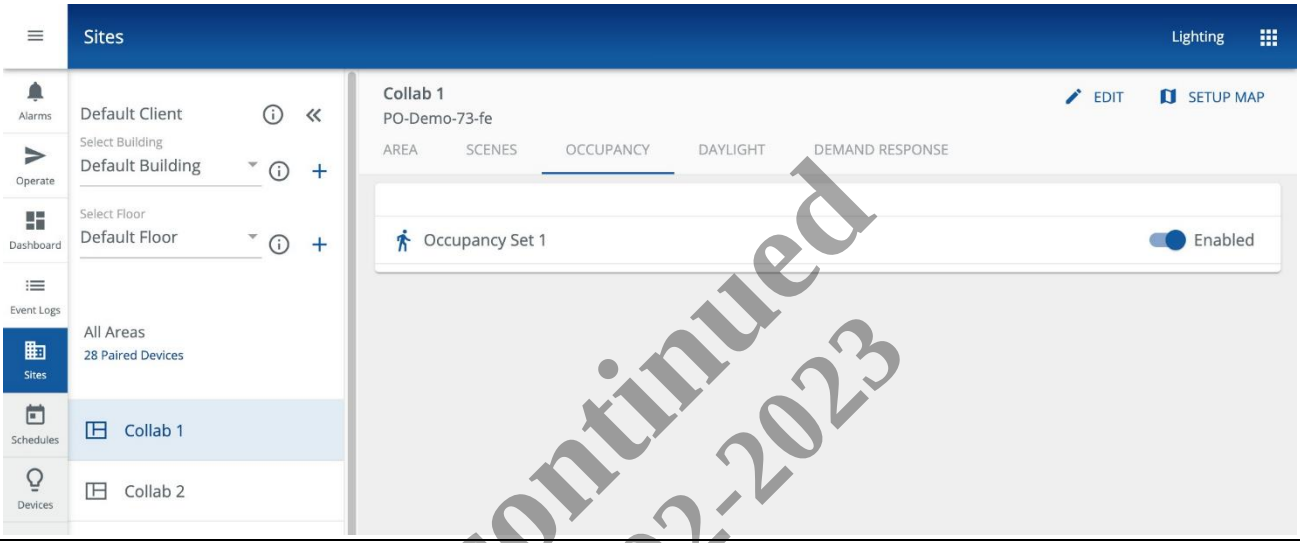
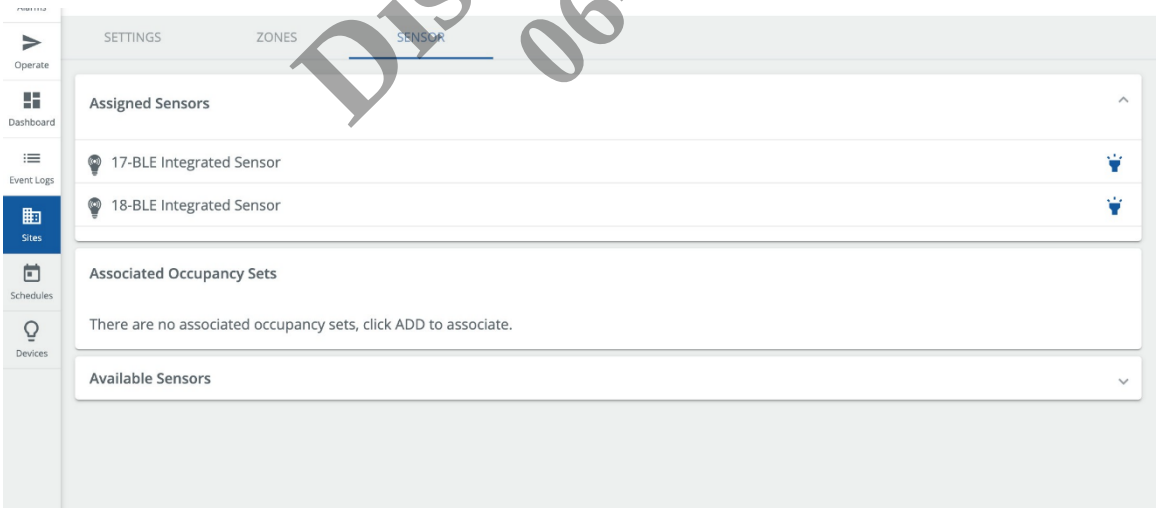
NOTE
See "Adjusting Occupancy Set Controlled Zones" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area, and then click **Occupancy**. ***EXAMPLE*** 
2	Click an Occupancy Set, and then click **Zones**. ***EXAMPLE*** 
3	To return to the Occupancy Set page, click ←.

6.5.3 – Viewing the Sensors Controlled by an Occupancy Set

Follow the steps below to view the Sensors controlled by an Occupancy Set.

NOTE
See "Adjusting Occupancy Set Assigned Sensors" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area, and then click **Occupancy**. ***EXAMPLE*** 
2	Click an Occupancy Set, and then click **Sensor**. ***EXAMPLE*** 
3	To return to the Occupancy Set page, click ←.

6.6 – Daylight Sets

This topic describes the viewing and editing options for Daylight Sets assigned to an Area.

Quick Reference

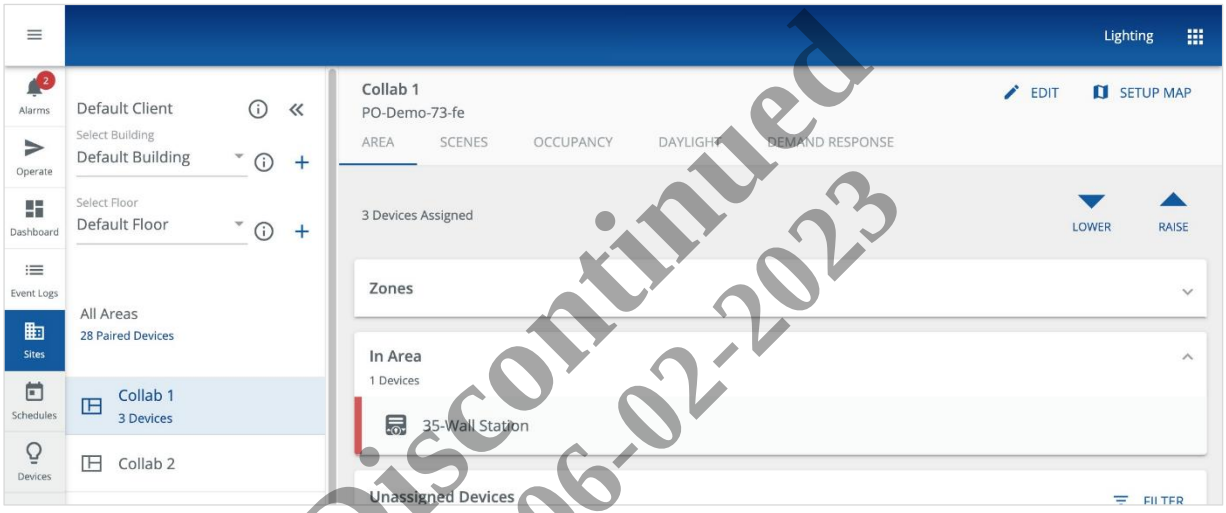
- **Closed Loop** – The Sensor controls only its connected light fixture based on light level detected, which includes the light emitted by the fixture. Sensor types used in Closed Loop daylighting include Ambient, Industrial, and Outdoor Integrated, Low-Voltage Fixture Integrated, and Tilemount.
- **Open Loop** – A WaveLinx Ceiling Sensor is carefully positioned to detect daylight while minimizing the electric light it detects. The Ceiling Sensor works in combination with a WaveLinx Outdoor Lighting Control Module to control multiple Zones and manage the light level with varying daylight contribution.

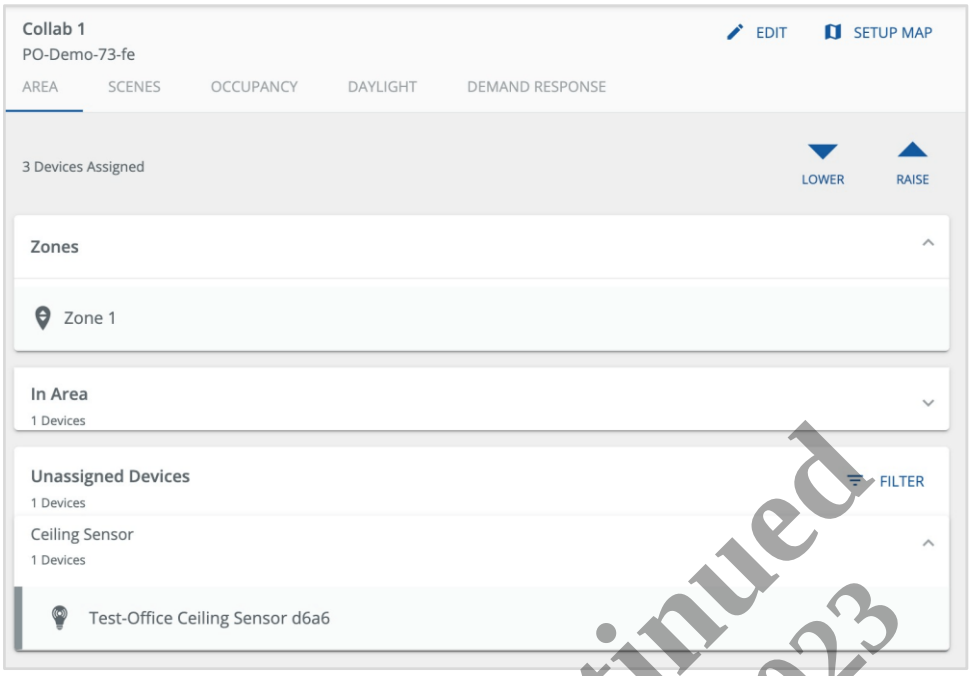
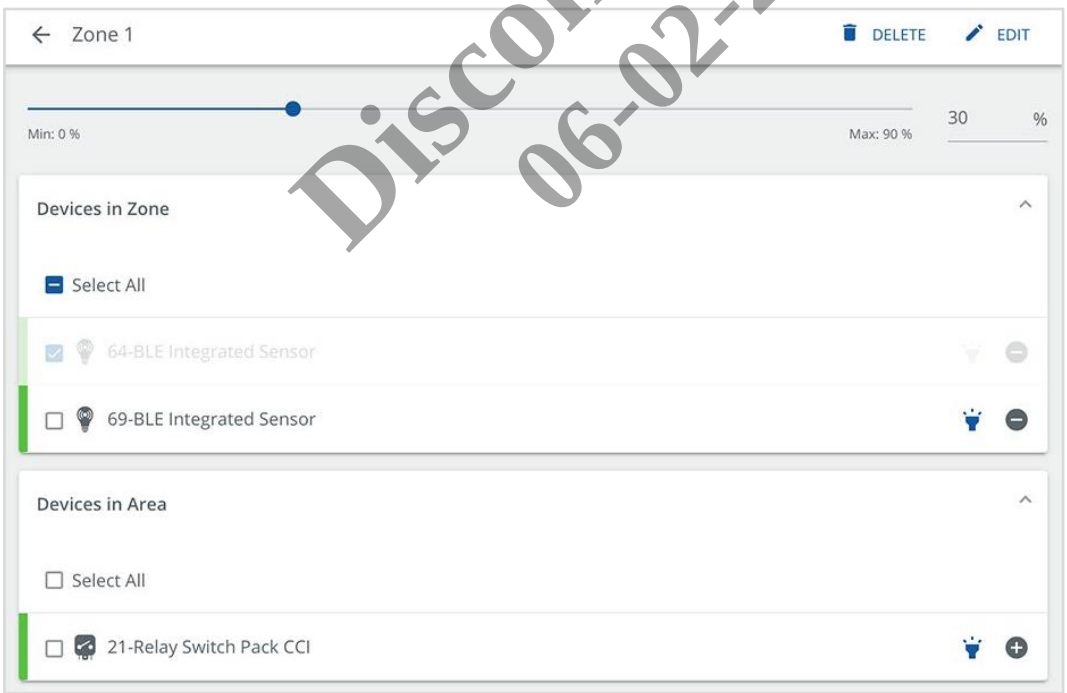
6.6.1 – Identifying the Daylight Set for a Specific Device

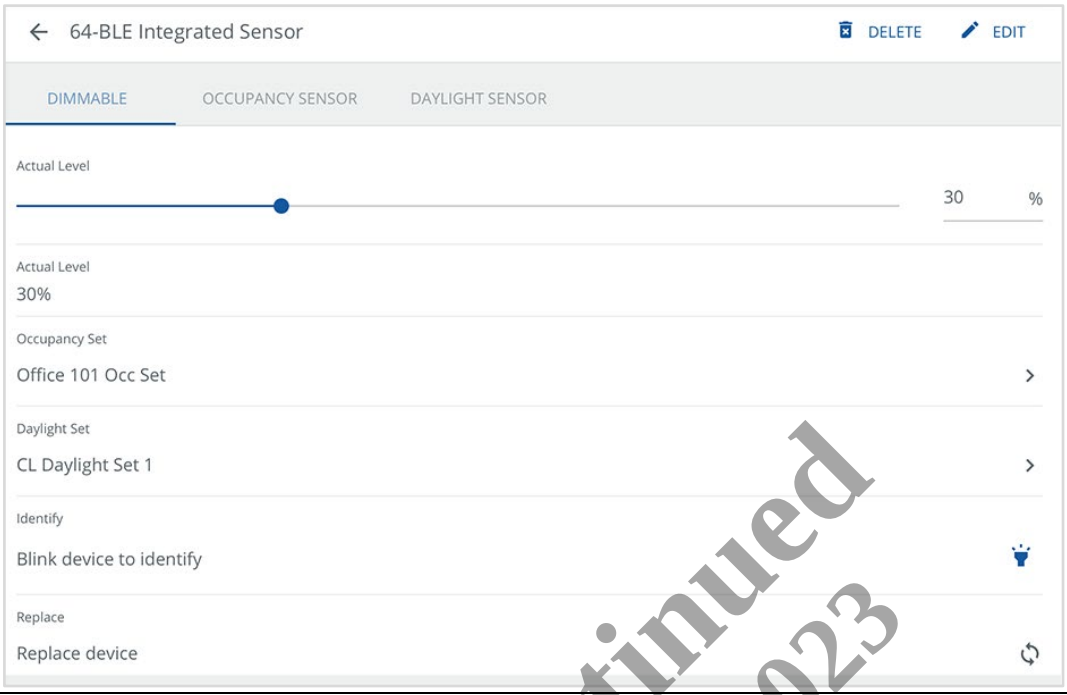
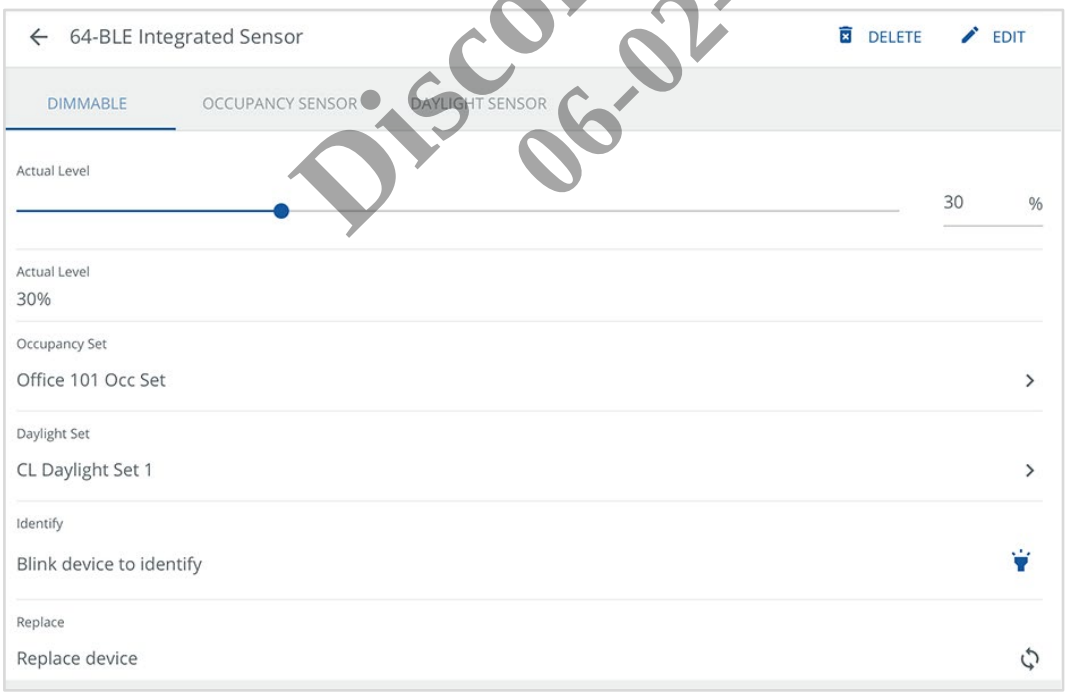
Follow the steps below to identify the Daylight Set that is controlling a specific device.

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**.

EXAMPLE



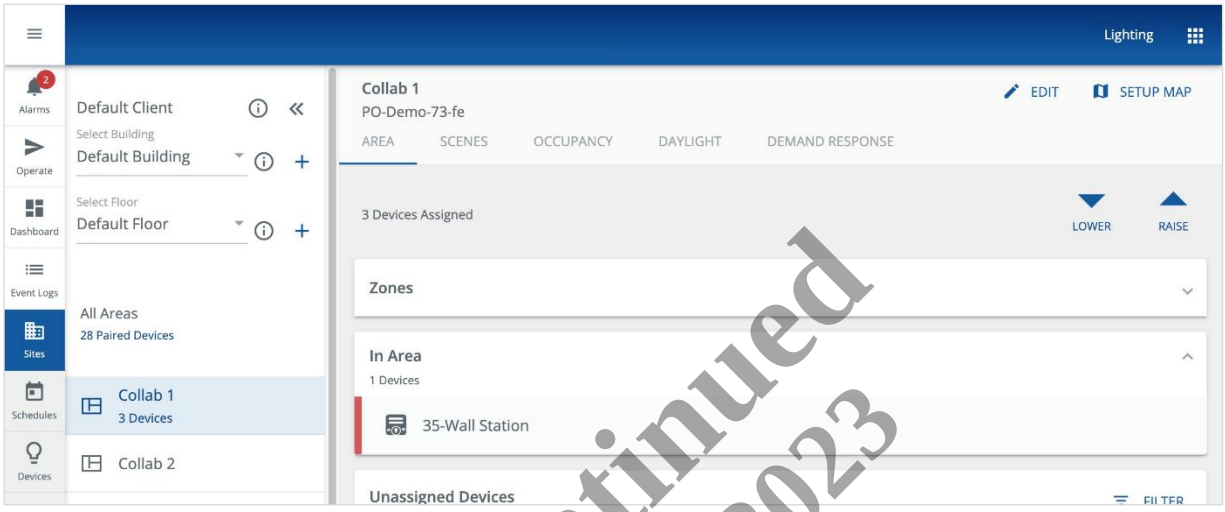
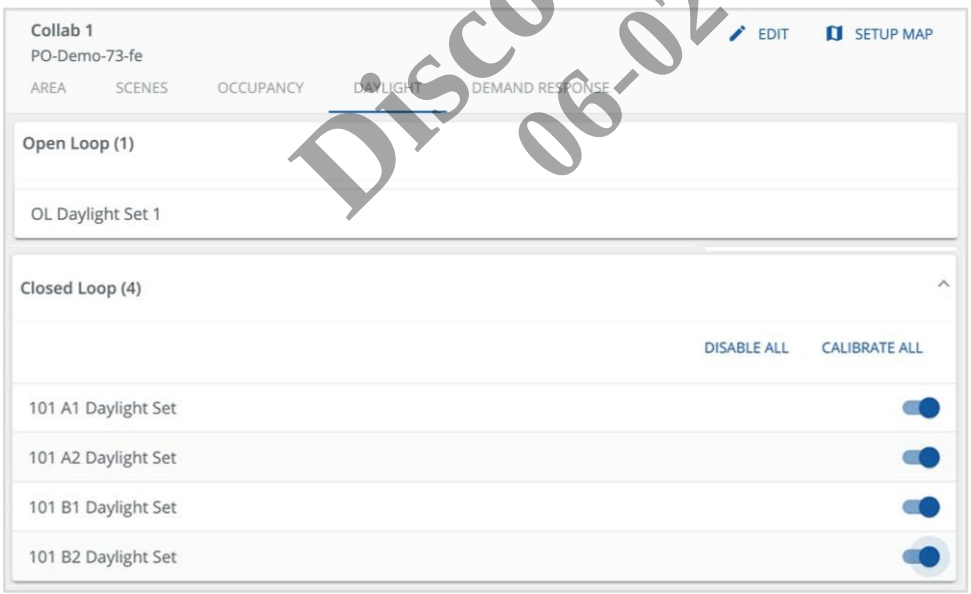
Step	Action
2	Select an Area, and then expand the Zones section to view the Zones. ***EXAMPLE*** 
3	Click the Zone where the Device is located, and then identify using the appropriate method (e.g., blink a light fixture). ***EXAMPLE*** 

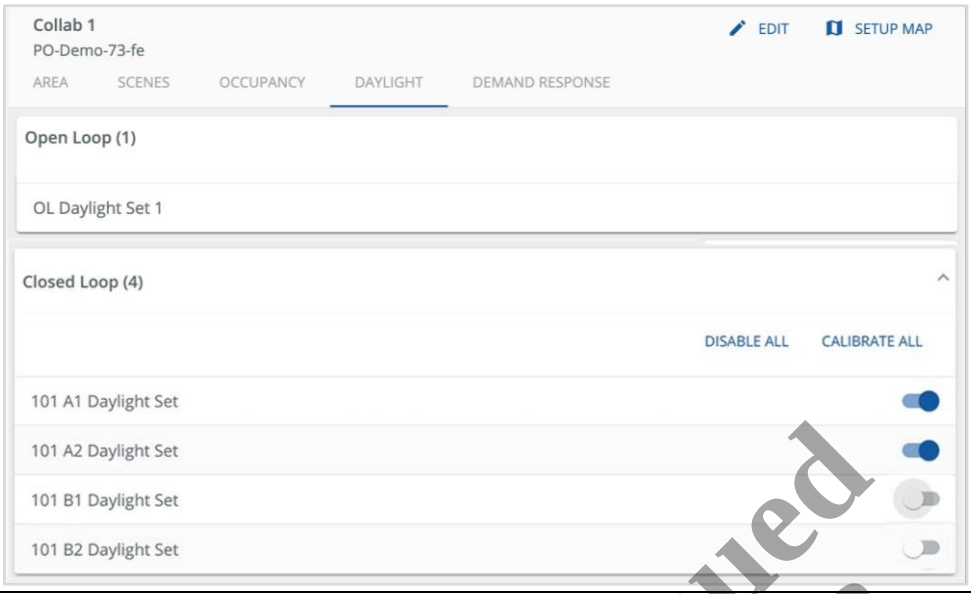
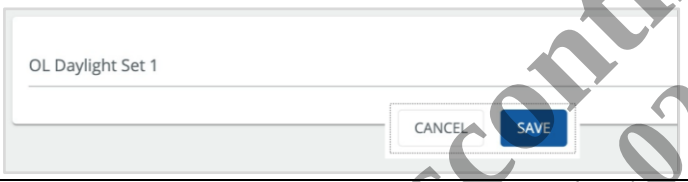
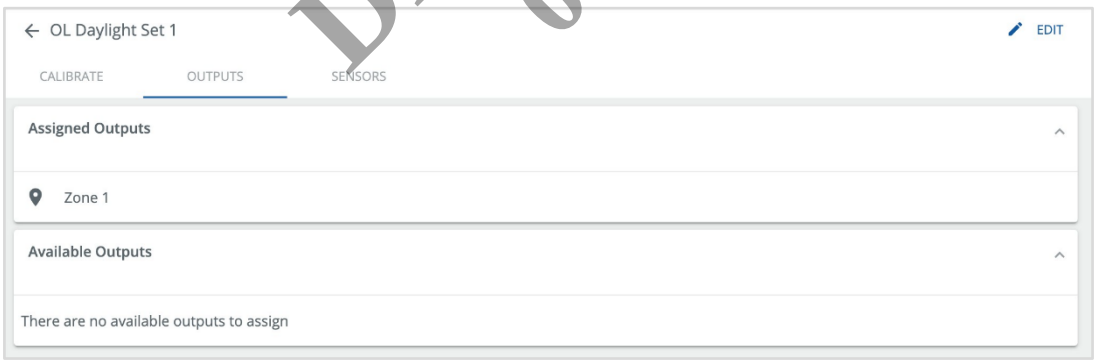
Step	Action
4	Click the Device name to display its configuration page and confirm the **Daylight Set** value. ***EXAMPLE*** 
5	To rename the Daylight Set, click **>** on the Daylight Set row. ***EXAMPLE*** 

6.6.2 – Viewing and Editing a Closed Loop Daylight Set

Follow the steps below to view and edit a closed loop Daylight Set.

NOTE
See "Modifying Closed Loop Daylighting Control" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. ***EXAMPLE*** 
2	Select an Area, and then click **Daylight** to view the available open loop and closed loop daylight sets. ***EXAMPLE*** 

Step	Action
3	Toggle the on/off button for a closed loop Daylight Set to enable or disable it. ***EXAMPLE*** 
4	Click **Edit** to rename the Daylight Set, and then click **Save**. ***EXAMPLE*** 
5	Click **Outputs** to view the available and assigned output Zones for this Daylight Set. ***EXAMPLE*** 

Step	Action
6	Click **Sensors** to view the available and assigned Sensors for this Daylight set.

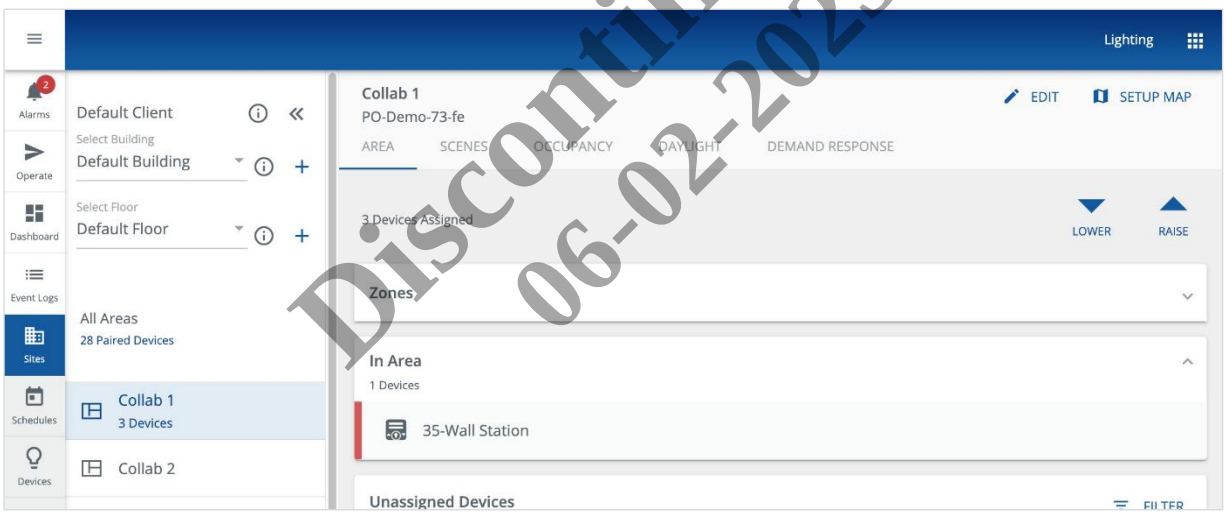
EXAMPLE

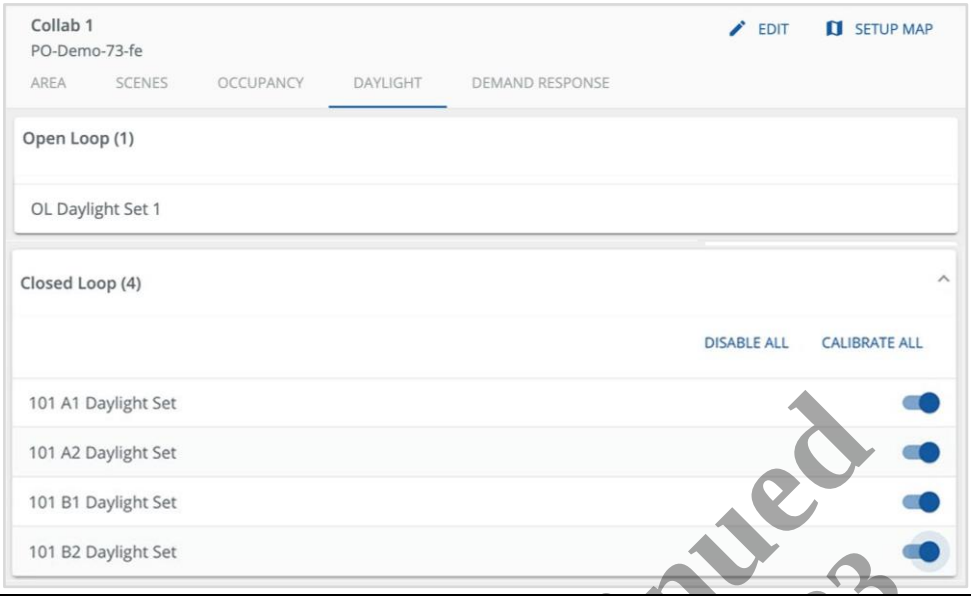
6.6.3 – Viewing and Editing Open Loop Daylight Sets

NOTE
See "Configuring Open Loop Daylighting Control" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**.

EXAMPLE



Step	Action
2	Select the Area to be controlled an open loop Daylight Set, and then click **Daylight** to view the available open loop and closed loop Daylight Sets. ***EXAMPLE*** 
3	Click an open loop Daylight Set, and then click **Outputs** to view the assigned Zones. ***EXAMPLE*** 

6.6.4 – Calibrating Open and Closed Loop Daylight Sets

To calibrate open or closed loop Daylight Sets, please refer to the following procedures in the *WaveLinx Programming and User Manual*:

- Calibrating all Closed Loop Daylight Sensors in an Area
- Calibrating a Single Daylight Sensor
- Calibrating the Open Loop Daylight Sensor

6.7 – Demand Response

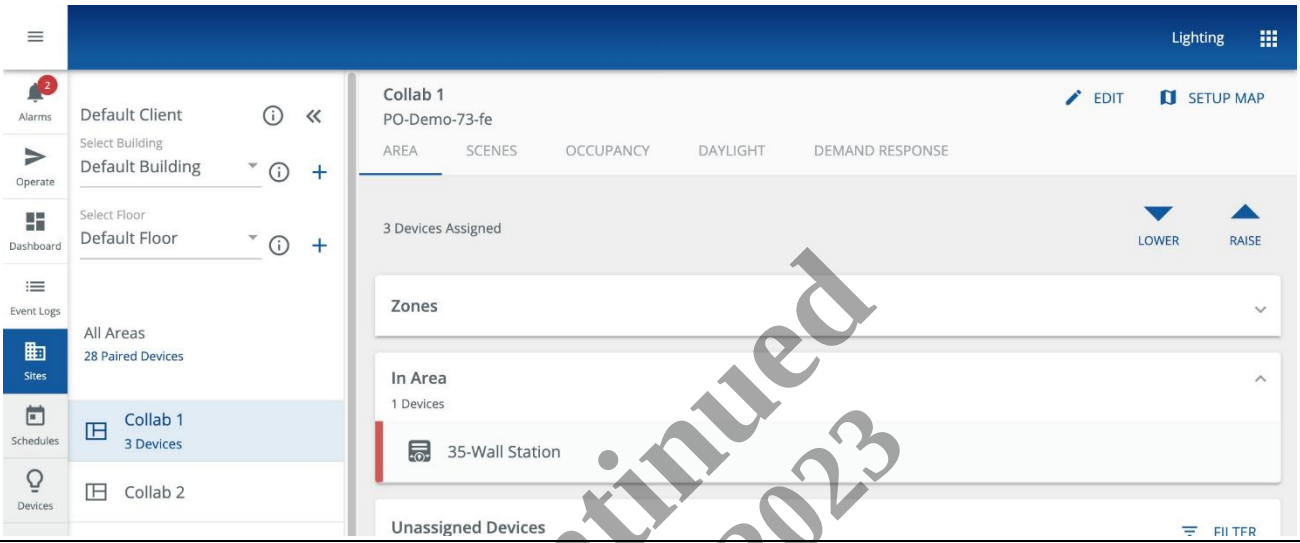
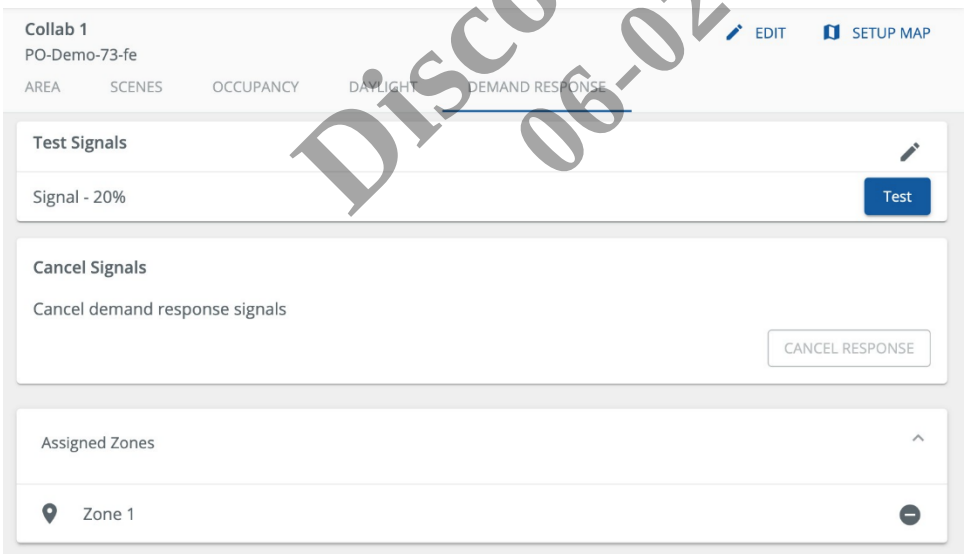
This topic describes the viewing and editing options for Demand Response feature.

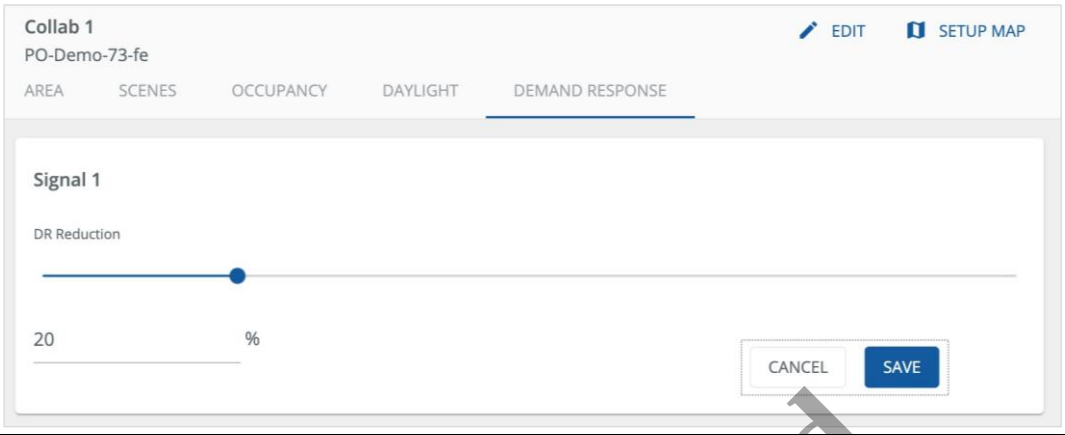
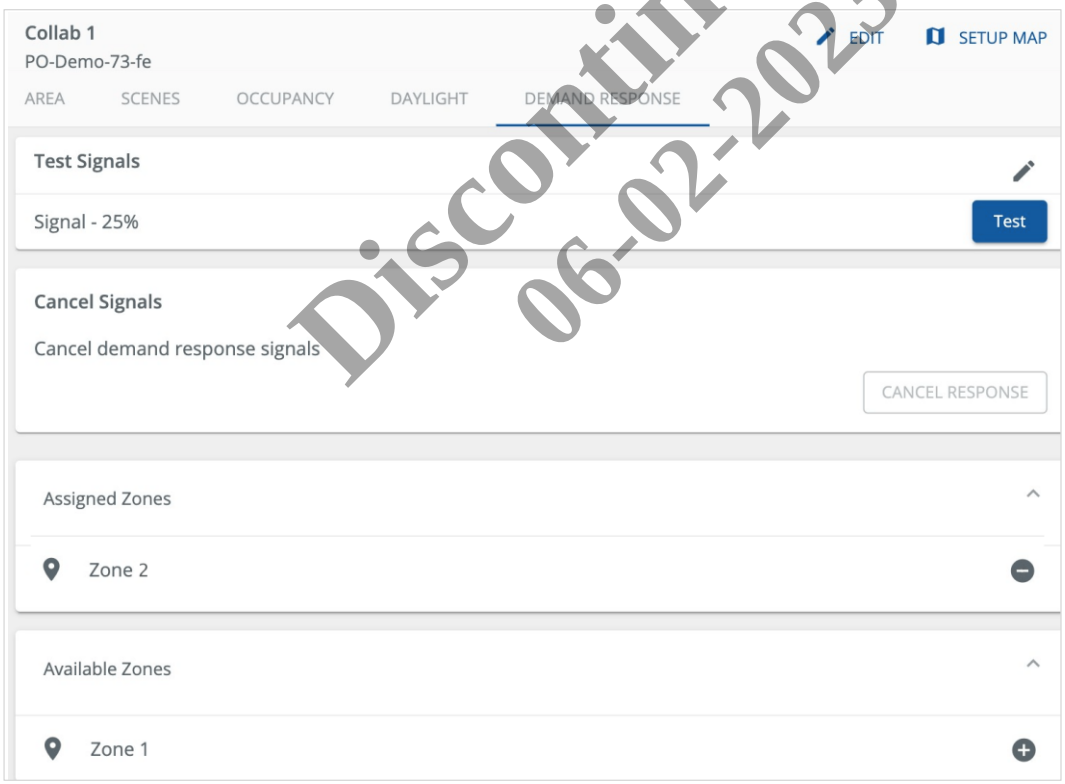
About Demand Response

By default, a Demand Response request will reduce the light level of dimmable loads by 20%. Subsequent commands from other controls are limited to this reduced range until the Demand Response request is cleared. The Demand Response feature does not affect switched loads, receptacles, or tunable white zones/devices.

6.7.1 – Viewing and Editing the Demand Response Configuration

NOTE
See "Modifying and Testing Demand Response Behavior" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area. ***EXAMPLE*** 
2	Click **Demand Response** to view the configuration. ***EXAMPLE*** 

Step	Action
3	Click ✎, and then adjust the slider to enter a number value to modify the percentage by the load is reduced when a Demand Response request is received. ***EXAMPLE*** 
4	Click **Save** (shown inset above) to apply the new setting.
5	To modify the Zones that are controlled by a Demand Response request, use ⊖ to remove an Assigned Zone and ⊕ to add an Available Zone. ***EXAMPLE*** 
6	To test the Demand Response behavior, click **Test** to apply the configured reduction. The test will last for 30 minutes or can be cancelled by clicking **Cancel Response**.

6.8 – White Tuning

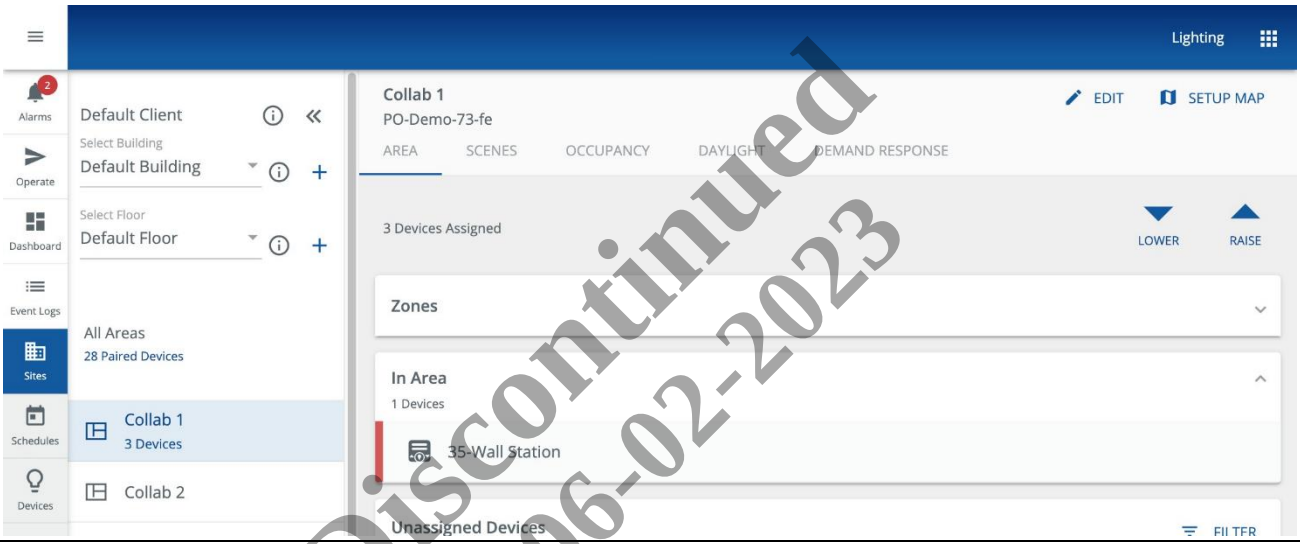
This topic describes the viewing and editing options for White Tuning feature.

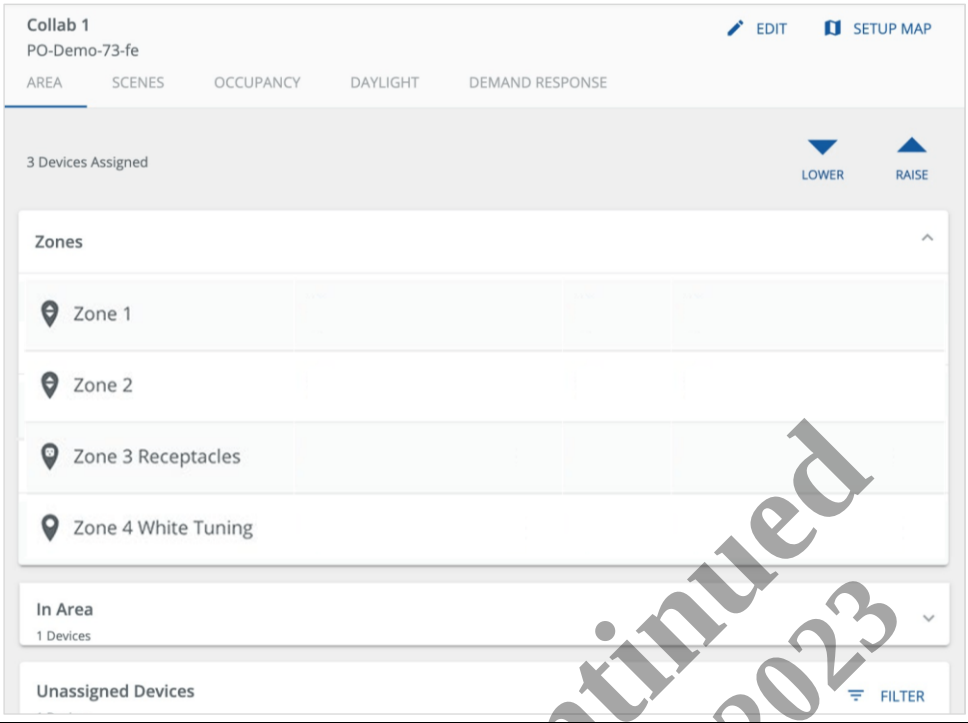
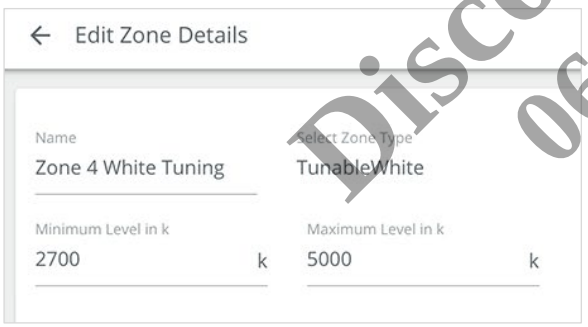
About White Tuning

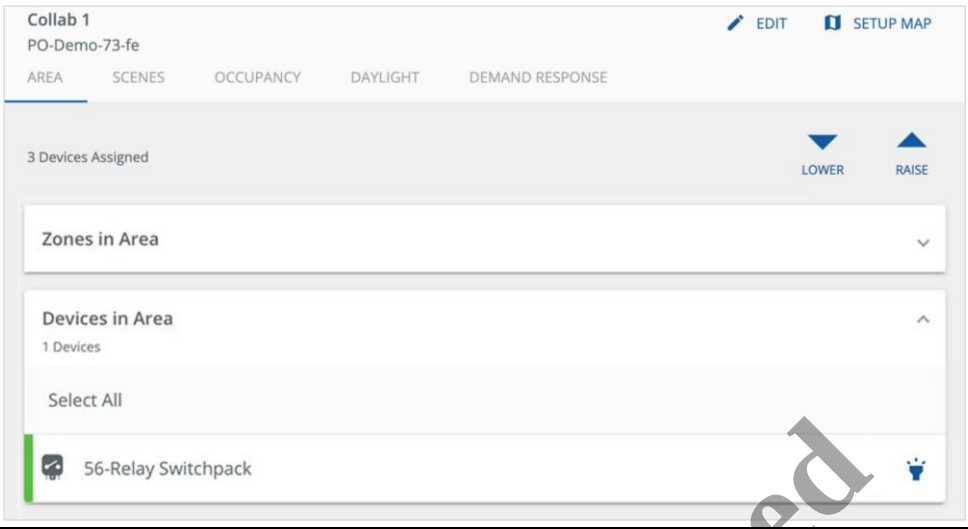
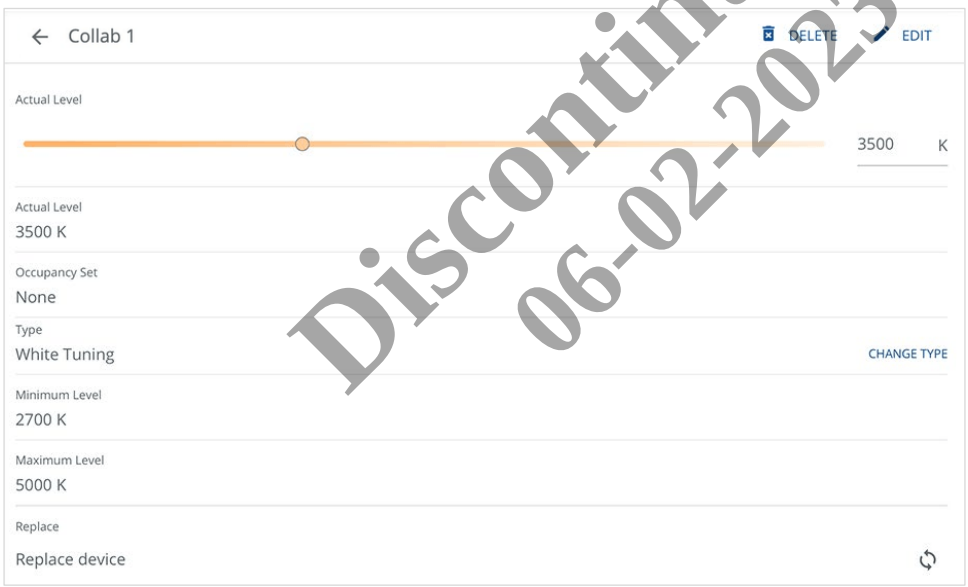
A WaveLinx WAC can control the color temperature of the emitted light in fixtures that feature VividTune. This is accomplished by using a separate WaveLinx Universal Voltage Dimming Switchpack.

6.8.1 – Viewing and Editing the White Tuning Configuration

NOTE
See "Practical Implementation of White Tuning Control" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area. ***EXAMPLE*** 

Step	Action
2	Expand the Zones section to locate a White Tuning Zone. ***EXAMPLE*** 
3	Click the Zone name to view its White Tuning configuration. ***EXAMPLE*** 

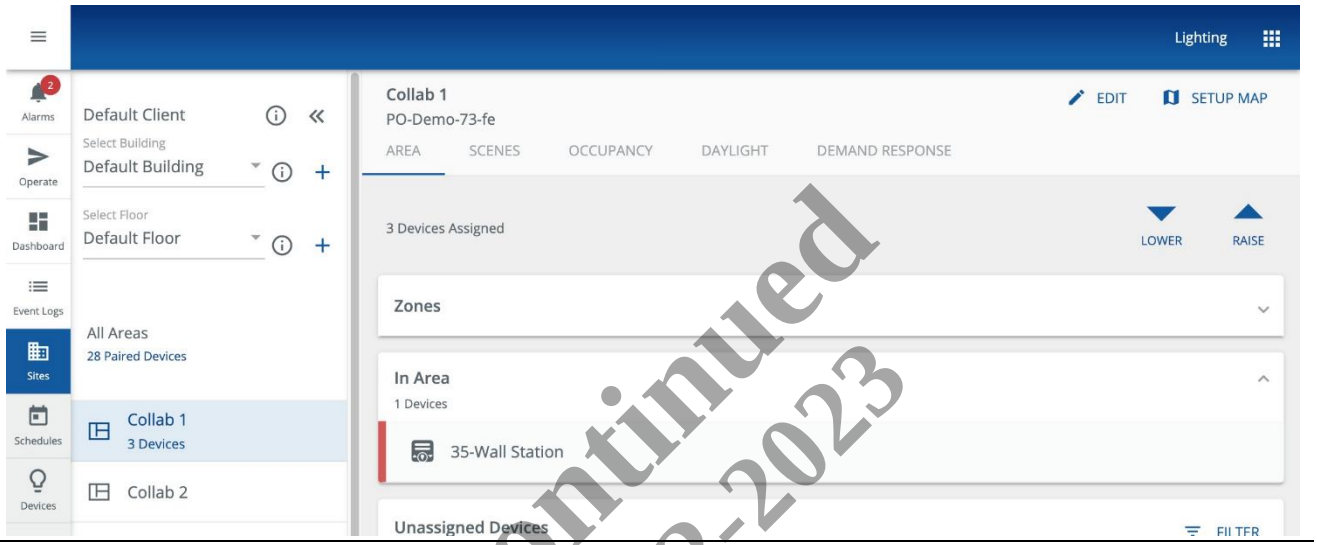
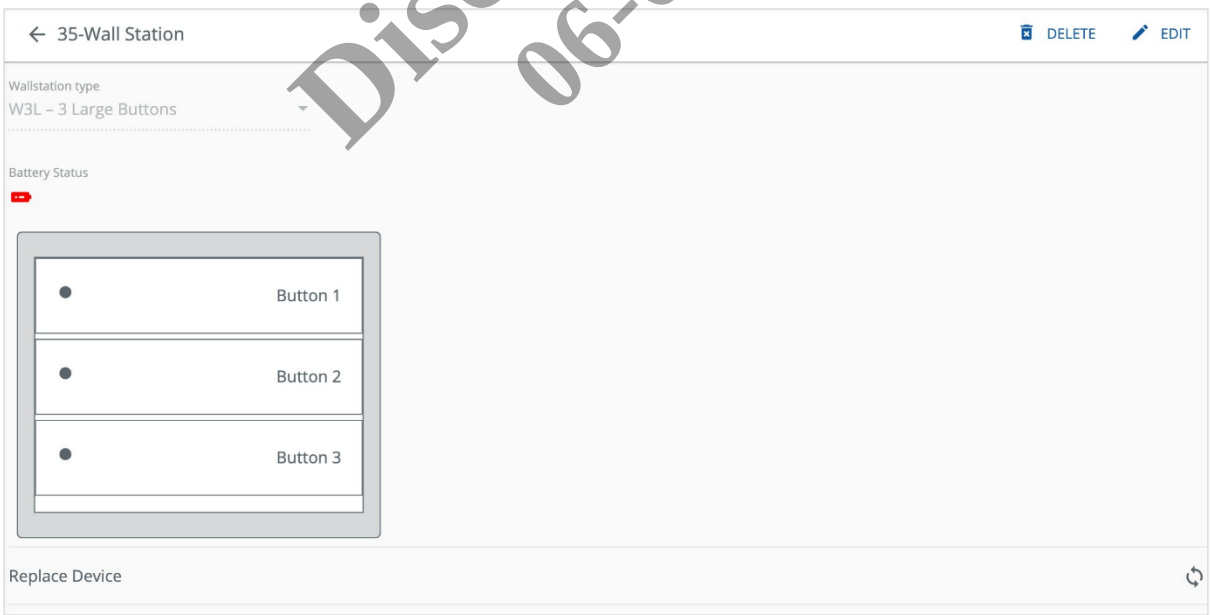
Step	Action
4	Click ← to return to the Area page, and the expand the Devices in Area section. ***EXAMPLE*** 
5	Click the Switchpack to see its White Tuning configuration. ***EXAMPLE*** 
6	Click ← to return to the Area page.

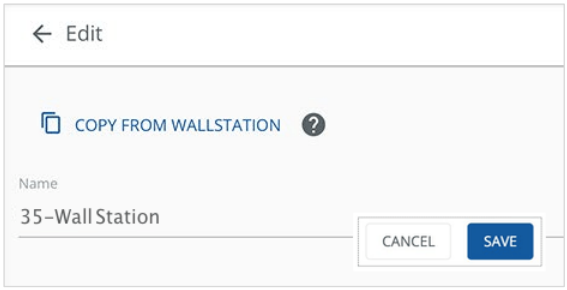
6.9 – Wallstations

This topic describes the viewing and editing options for Wallstations assigned to an Area.

6.9.1 – Viewing and Editing Wallstations

NOTE
See "Modifying Wallstation Button Response" in the WaveLinx User and Programming Manual *for more details and configuration options.*

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Select an Area, and then expand the In Area section. ***EXAMPLE*** 
2	Click a Wallstation to view the Wallstation Type, Battery Status (if applicable), and Faceplate (Button) layout. ***EXAMPLE***  ***NOTE*** *Refer to "Replacing and Syncing WaveLinx Devices" in the* WaveLinx Programming and User Manual *for details on using the Replace Device feature.*

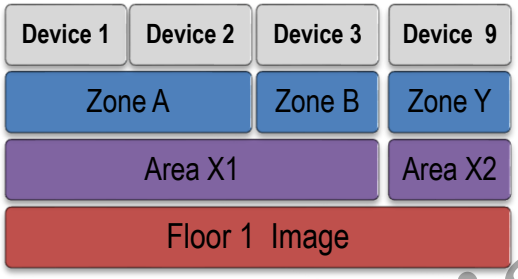
Step	Action
3	To rename the Wallstation, click **Edit**, then modify the Name, and then click **Save**. ***EXAMPLE*** 

6.10 – Floor Maps

6.10.1 – Overview

Trellix Lighting lets you map the relationship between your building floor plan and the configured Areas, Zones, and Devices. This is accomplished by uploading a floor plan image to Trellix Lighting, and then using the mapping tools to place individual Devices and draw the Area and Zone boundaries.

The diagram below illustrates how these layers work.



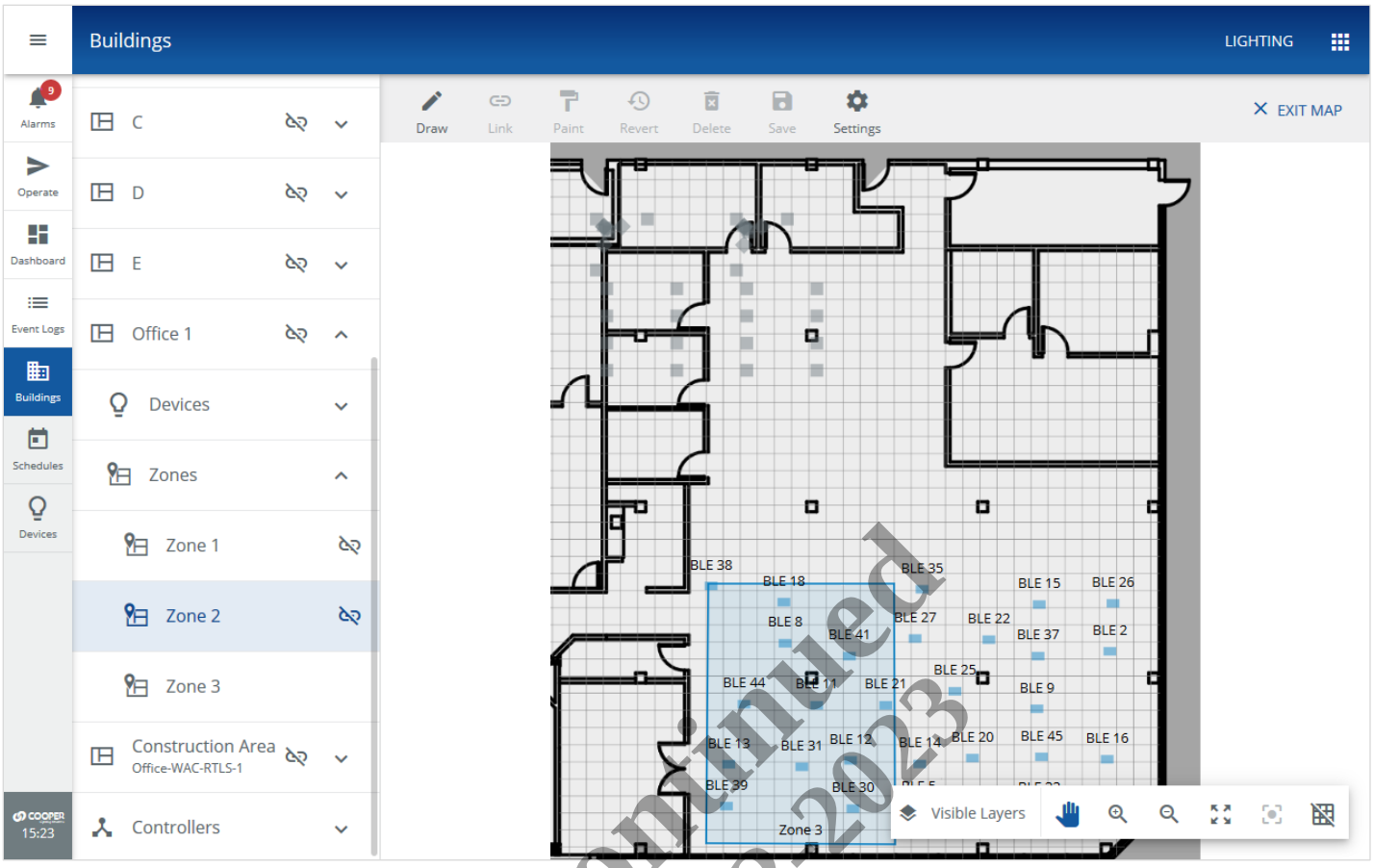
DXF File Support

Trellix supports the use of a DXF (Drawing Exchange Format) file in combination with an SVG, JPG, or PNG file. For accurate fixture and sensor location data, DXF files are required to implement Trellix Locate, our real-time location sensing application for tracking people and assets.

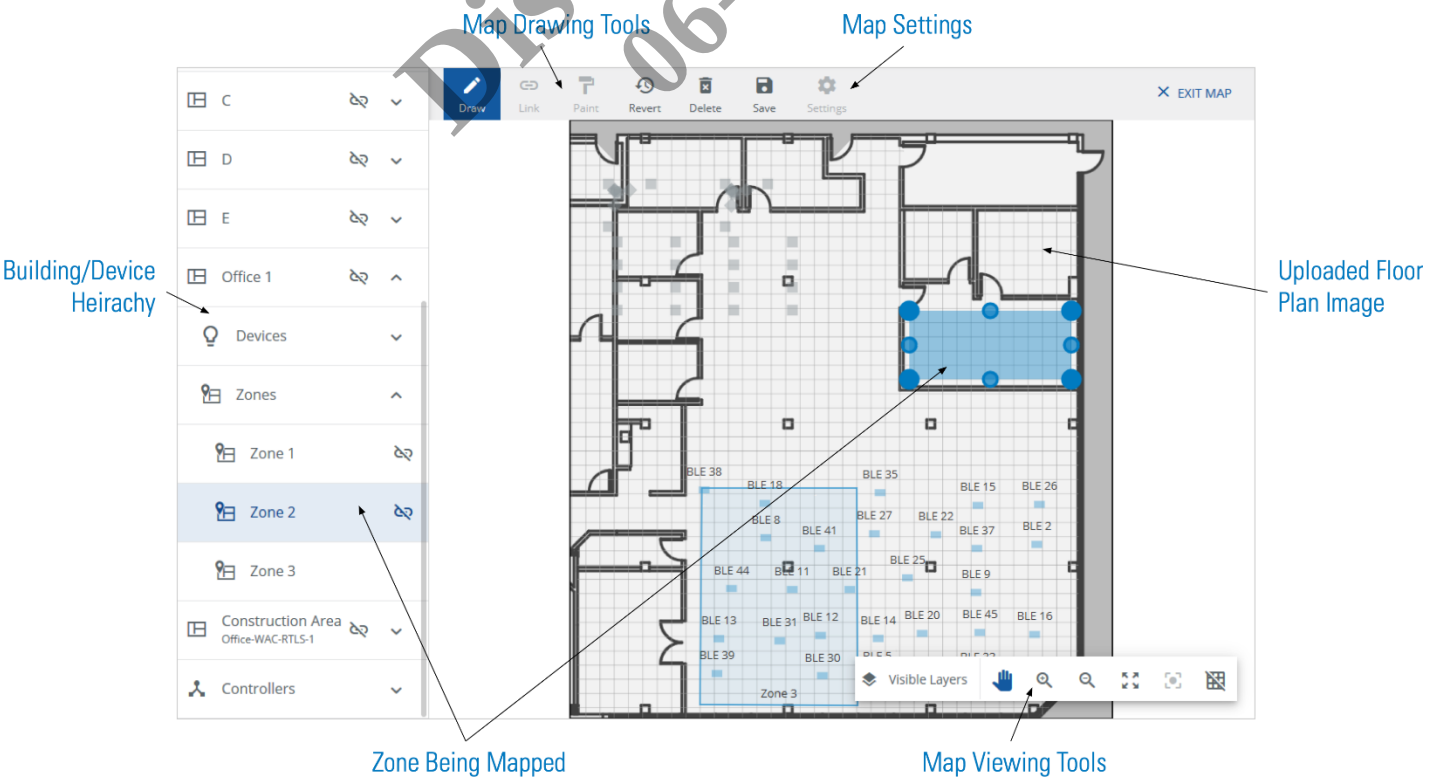
Cooper recommends the use of DXF files even if Trellix Locate is not currently installed on your site, as they are required should you decide to add Locate functionality later.

Floor Map Edit Mode Example

The image below shows the configured Areas, Zones, and Devices that have been mapped onto an uploaded floor plan image. The mapping process creates an interactive connection between the floor plan and the lighting system. As a result, clicking **Zone 3** on the map selects it in the Building navigation panel on the left. Selecting an Area in the Building navigation panel will highlight it on the map. This interactive connection is true for all Areas, Zones, and Devices that have been linked to the map.

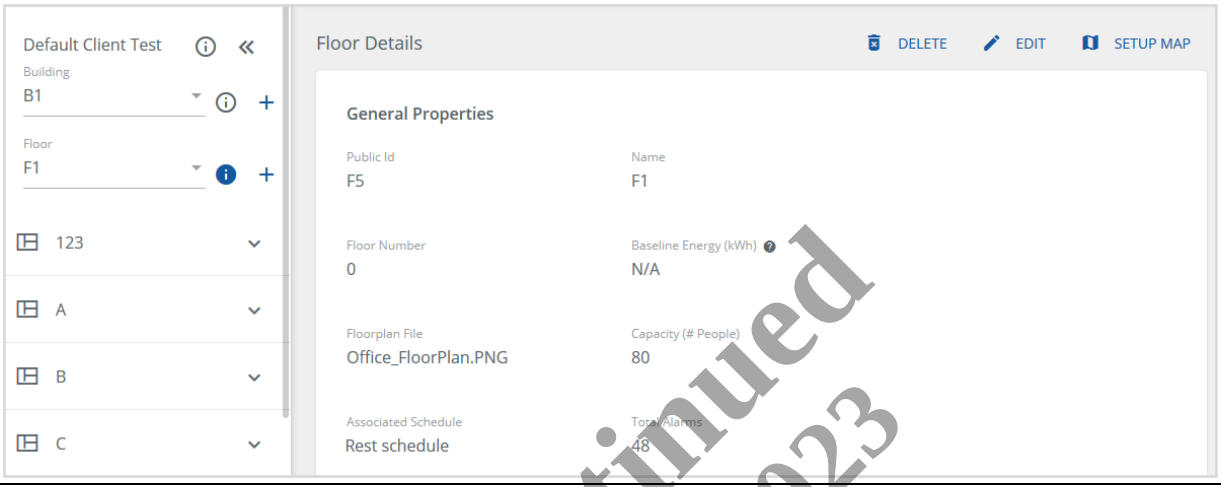
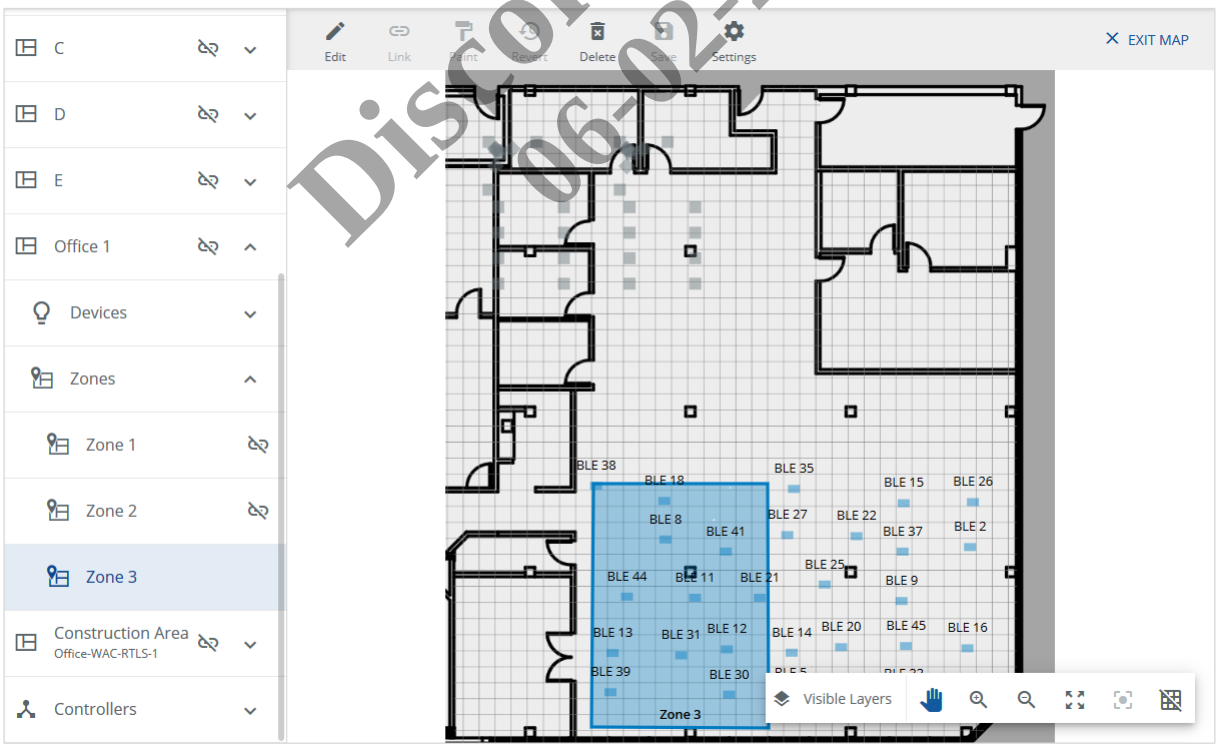


Example of the main mapping interface elements is shown below.



6.10.2 – Viewing a Floor Map in Edit Mode

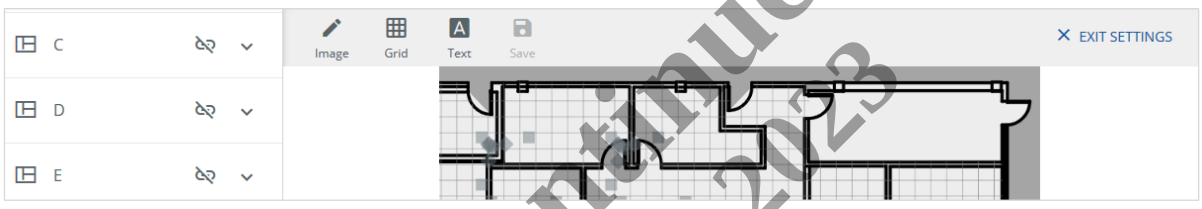
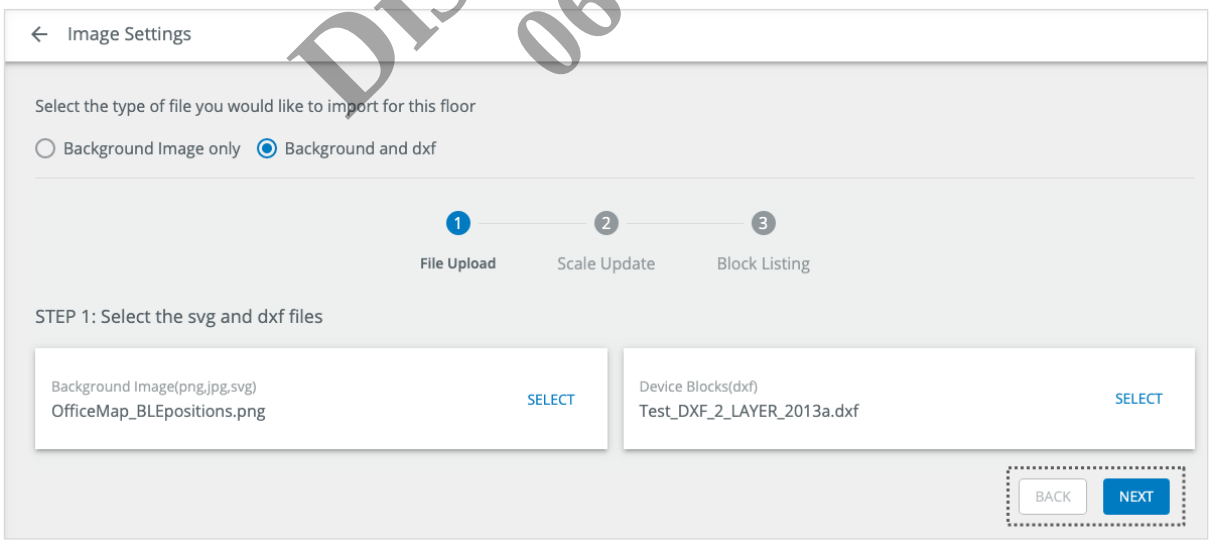
Follow the steps below to view a floor map in edit mode.

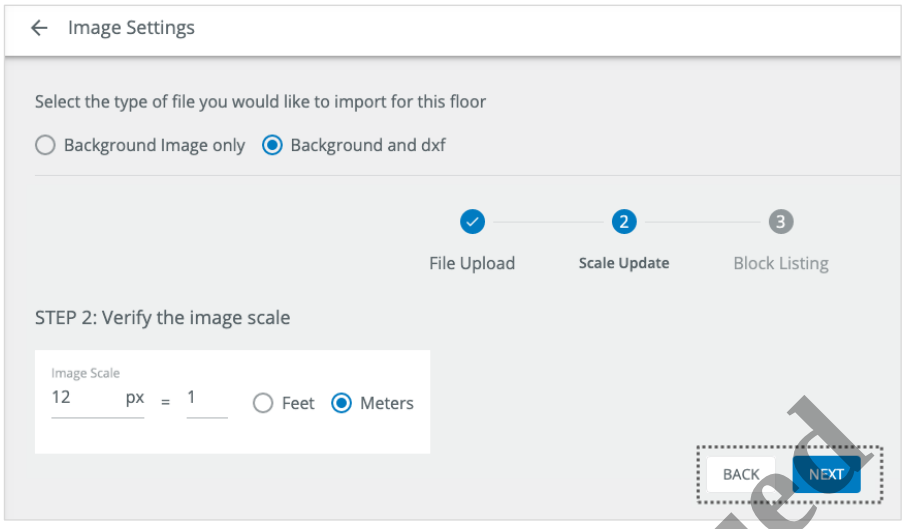
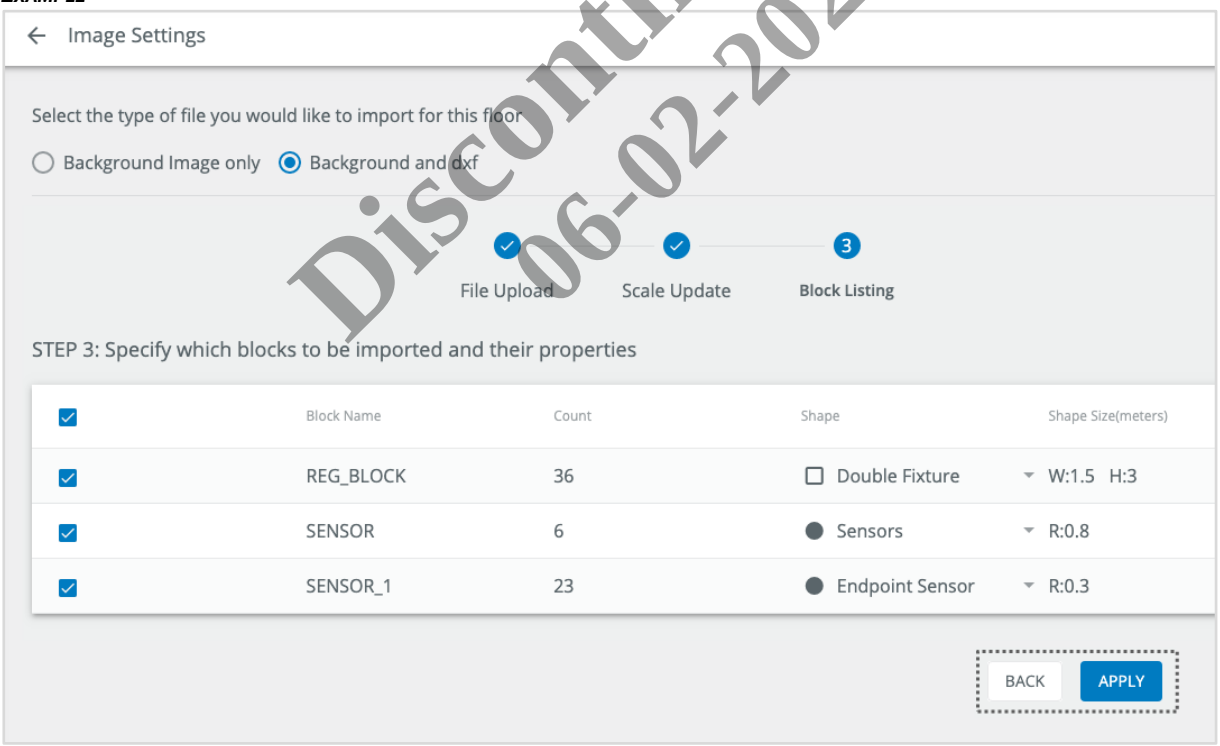
Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. ***NOTE*** *A ⓘ button indicates the selected component with details displayed. Clicking ⓘ beside a component will make it active (selected).* ***EXAMPLE*** 
2	Click **Setup Map**. ***EXAMPLE*** 

Step	Action
3	The view of the floor plan can be adjusted as follows: • To enable of disable the types of information displayed, click **Visible Layers**, and then select the check boxes as desired to show **Areas**, **Zones**, **Devices**, and **Labels** • To **zoom in**, click , or double-click the background image, or use your computers scroll-to-zoom feature with the cursor over the map • To **zoom out**, click , or hold down the Shift key while double-clicking the image, or use your computers scroll-to-zoom feature with the cursor over the map • To fit the image to the window, click • To **center** the floor map in a new location, click , and then click and drag the background image

6.10.3 – Configuring the Floor Map Image Settings

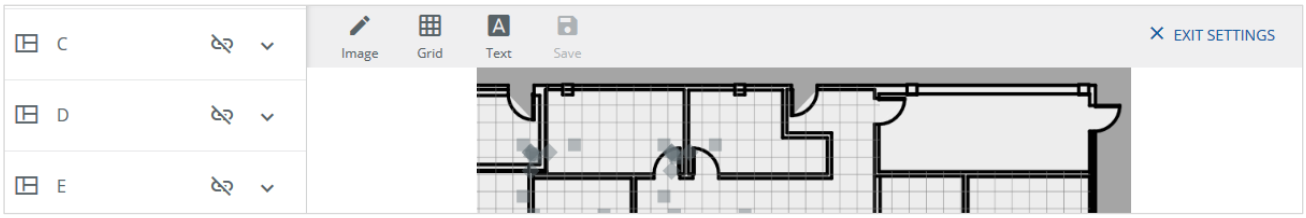
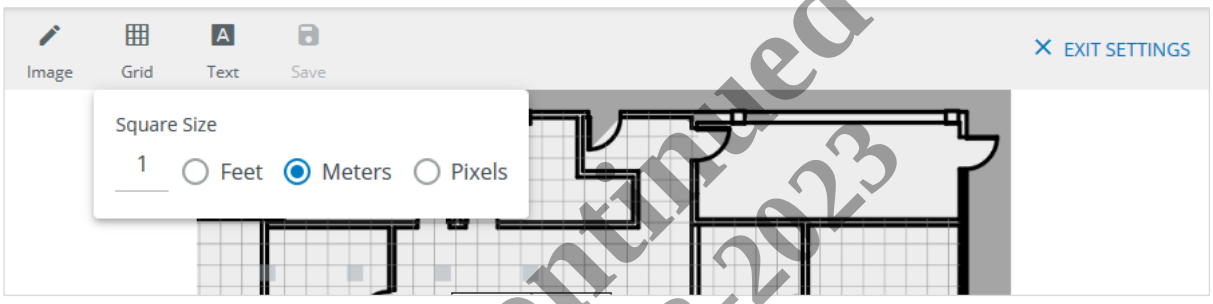
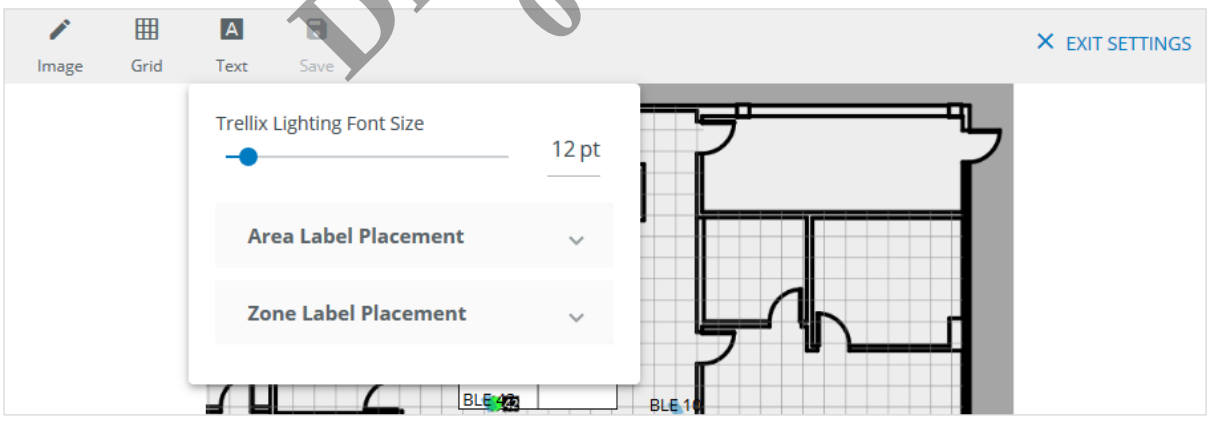
Follow the steps below to upload a single JPG, PNG, or SVG image for the floor, and optionally combine that with a second DXF image file, as the Floor Map image.

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**.
2	Click **Setup Map**, and then click to open the map settings for **Image**, **Grid**, and **Text**. ***EXAMPLE*** 
3	Click **Image**, and then select a single **Background image only** for the Floor Map, or else select a combination of a **Background and DXF** (Device Blocks) file. Select and upload a background image. If enabled, select, and update the corresponding DXF file. ***EXAMPLE***  ***NOTES*** • *Cooper recommends the SVG (Scalable Vector Graphic) format for best Background Image display quality, however JPEG or PNG image formats can also be used.* • *Maximum file size is 1 Mb.*

Step	Action
4	Click **Next** (shown inset above). Enter the **Image Scale** pixel quantity, and then select the unit of measurement (**Feet** or **Meters**). ***EXAMPLE*** 
5	Click **Next** (shown inset above). Select the checkbox for each **Block Name** you want to import, and then click **Apply** (shown inset below). ***EXAMPLE***  ***OTHER TASKS*** • To change the shape used for a Block Name, click the **Shape** value. (e.g., **Sensors**) • To create a custom shape, click the Shape value, and then click **+**

6.10.4 – Configuring the Floor Map Grid and Text Settings

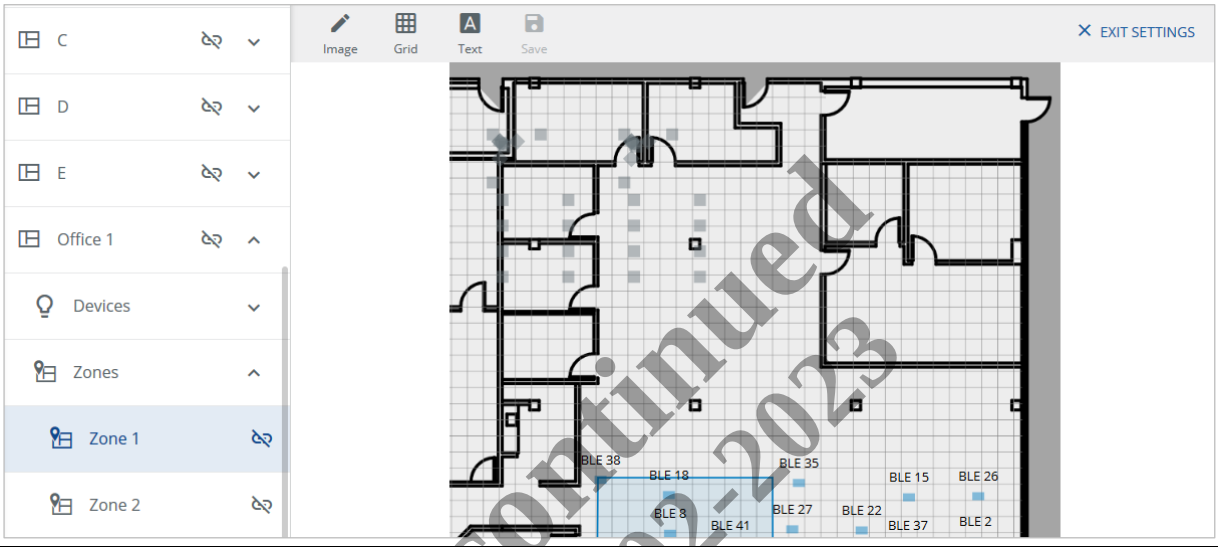
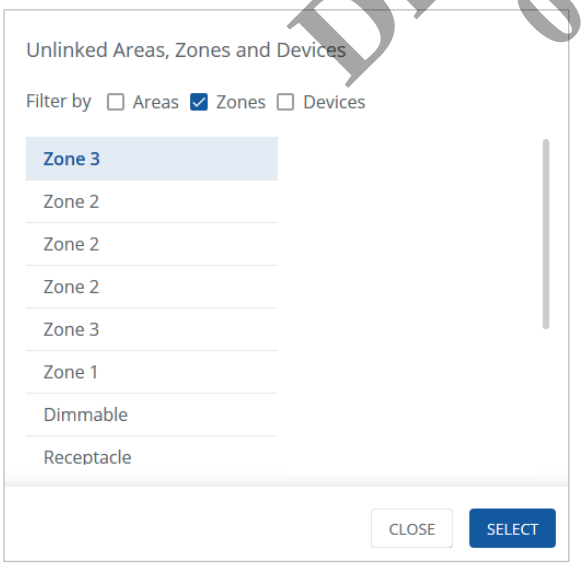
Follow the steps below to specify the default unit of measurement for the Floor Map, and the font size and positioning of Area and Zone labels.

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**.
2	Click **Setup Map**, and then click ⚙ to open the map settings for **Image**, **Grid**, and **Text**. ***EXAMPLE*** 
3	To set the measurement units, click **Grid**. ***RESULT*** 
4	Enter the **Square Size** (i.e., the number of units per square on the grid), and then select **Feet**, **Meters**, or **Pixels**. For example, if you enter "2" and select **Feet**, each square will be 2 feet by 2 feet in size.
5	To set the font size and placement of Area and Zone labels, click **Text**. ***RESULT*** 
6	Drag the **Font Size** slider or enter the number of points (**pt**), and then expand the Area and Zone regions to reveal and select the desired **Vertical** and **Horizontal** positions.
7	Click **Save**.

6.10.5 – Viewing and Selecting Unlinked Areas, Zones, and Devices

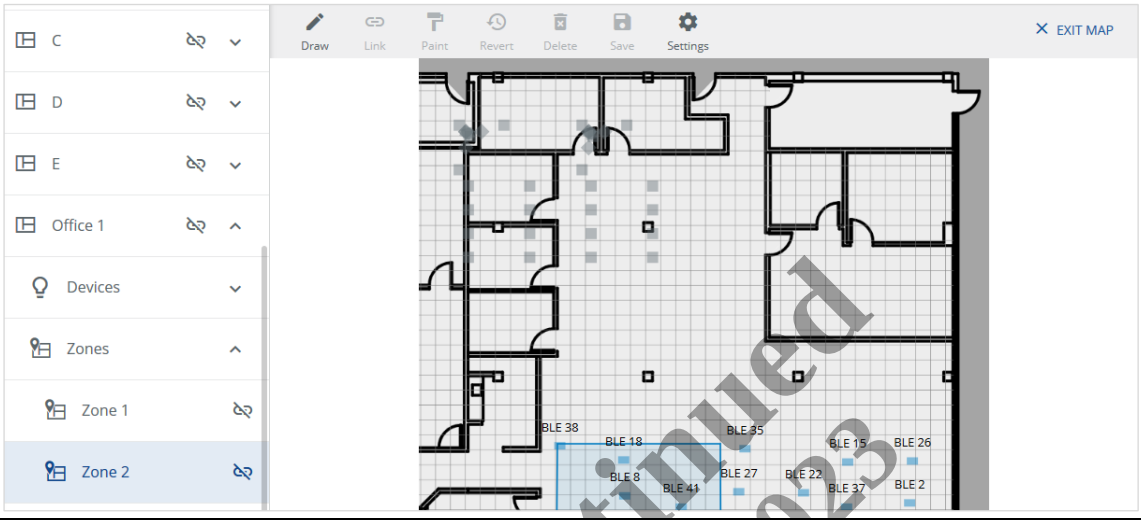
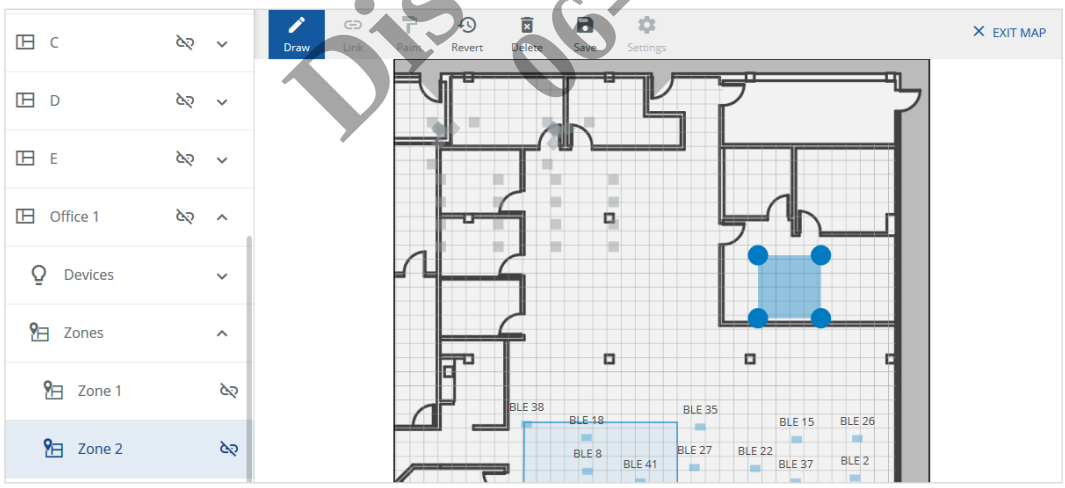
The Trellix Lighting mapping interface provides two ways to view all the lighting system components that have not yet been linked (i.e., added to the floorplan).

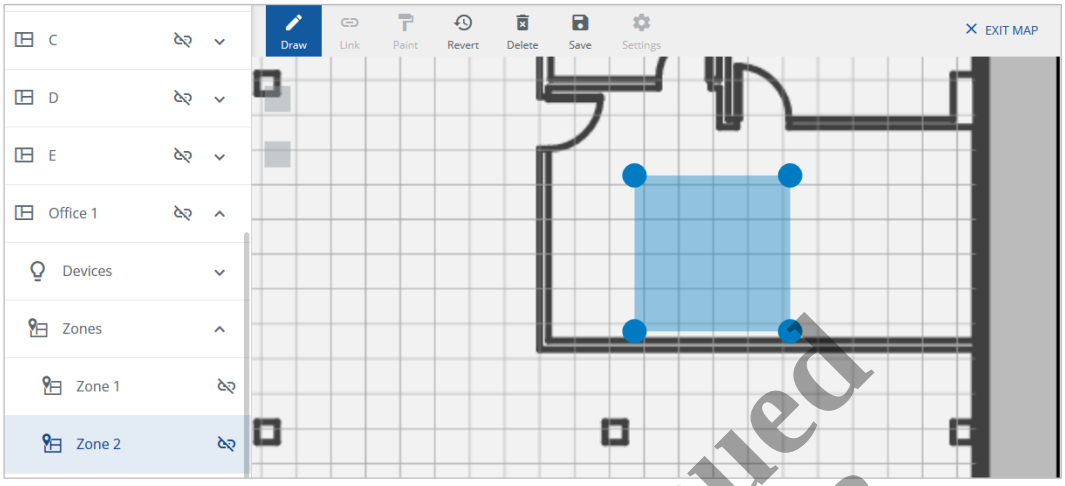
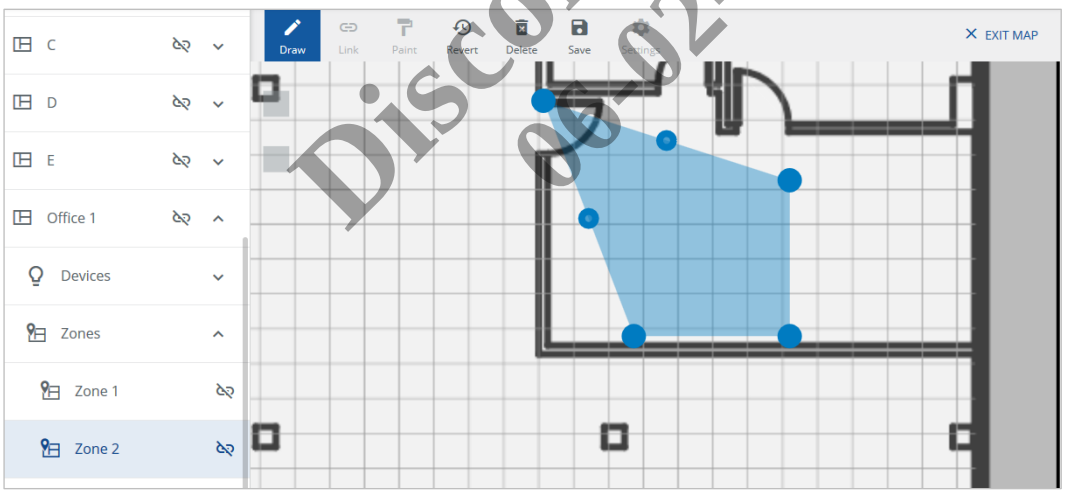
Follow the steps below to view unlinked components using the Building navigation panel or the View All Unlinked feature.

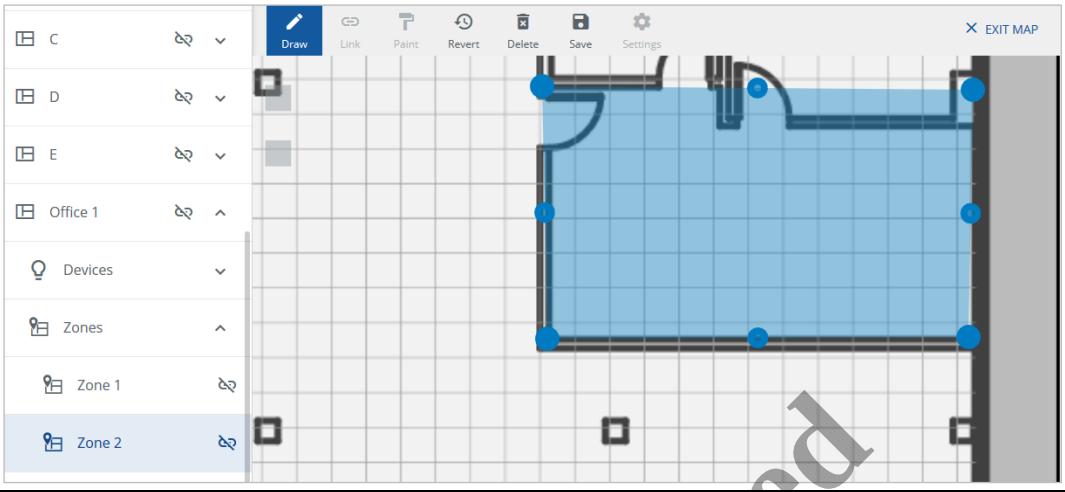
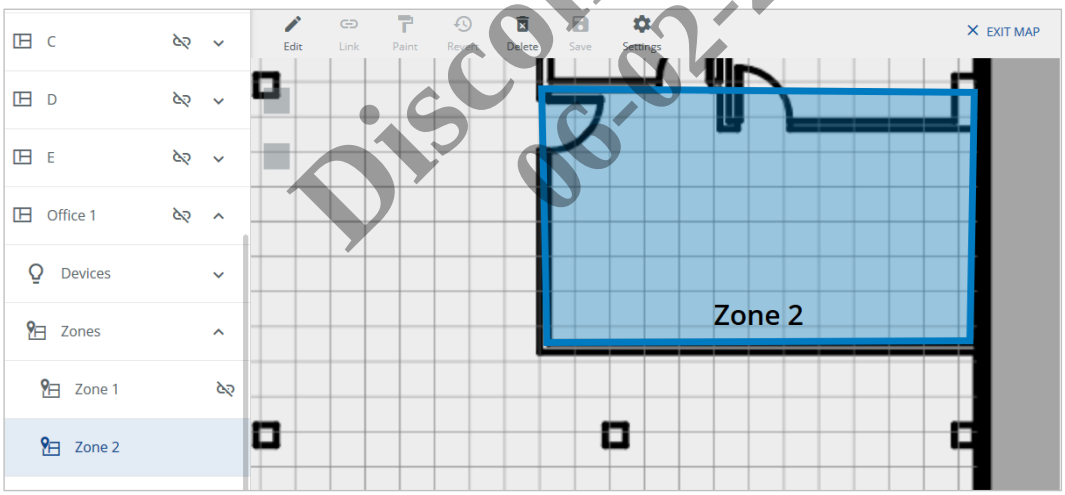
Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Click **Setup Map**.
2	To find the unlinked component in the Building navigation panel, locate to the Area, Zone, or Device you want to map. The beside the component name indicates it has not been mapped. ***EXAMPLE*** 
3	To see unlinked components, click **View All Unlinked** below the selected Floor. Deselect **Areas**, **Zones**, or **Devices** as needed to limit the displayed components. ***EXAMPLE*** 
4	To choose a component for mapping, click it in the list, and then click **Select**.

6.10.6 – Linking Areas and Zones to a Floor Map

Follow the steps below to link, unlink, or edit an Area or Zone on a floor map.

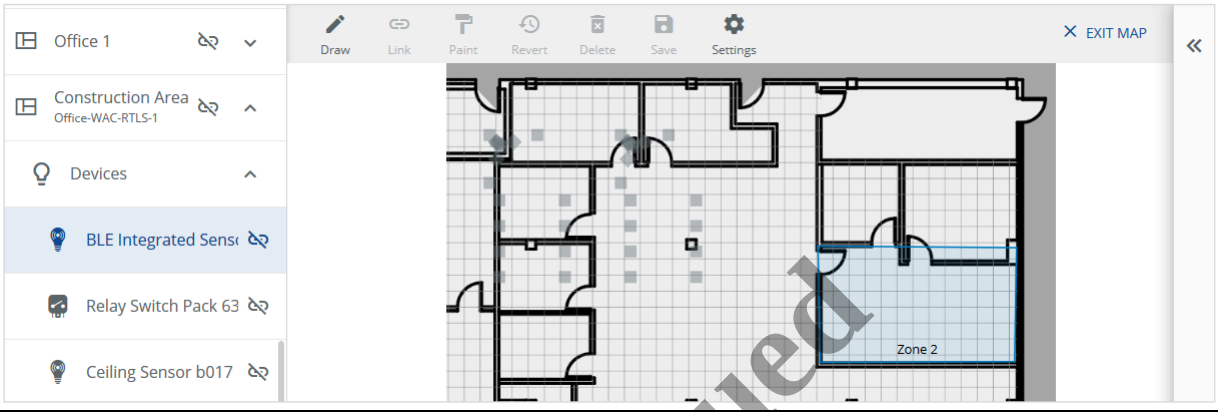
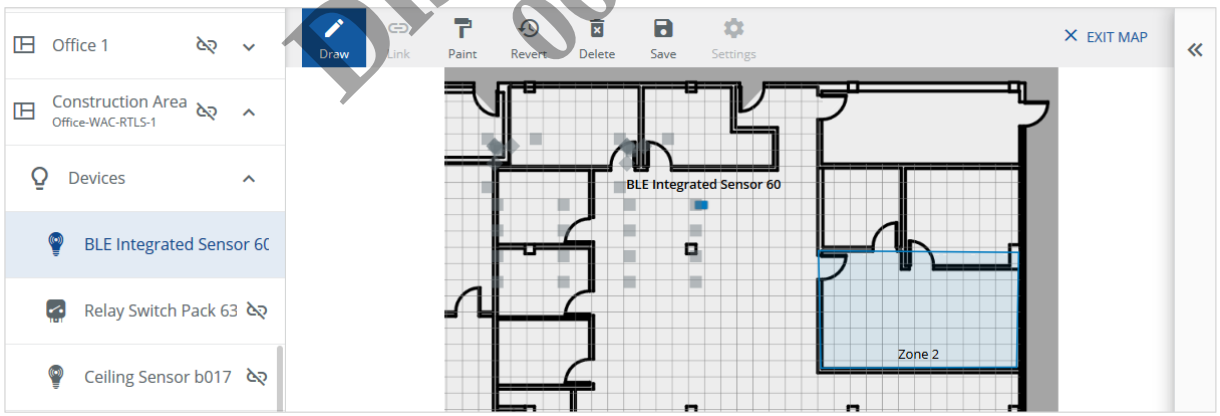
Step	Action
1	Choose the Area or Zone you want to map (See *Viewing and Selecting Unlinked Areas, Zones, and Devices* for details.) ***NOTE*** *The floor plan image is scaled to fit the viewing window when you begin mapping.* ***EXAMPLE*** 
2	With an unlinked component selected (**Zone 2**, in this example), and the **Draw** button in the Drawing Tools bar active, click the approximate location of this component on the map to create a new mapping shape. ***NOTE*** *The **Revert**, **Delete**, and **Save** buttons in Drawing Tools become enabled.* ***EXAMPLE***  ***DRAWING TASKS*** • Click **Revert** to undo all the changes since the last save or from when the current editing session began • Click **Delete** to remove the selected shape • Click **Save** to apply the changes since the last save or from when the current editing session began • Click **View** to show or hide mapped Areas, Zones, Devices, or Labels on the map • Click **Draw** to continue working with shapes

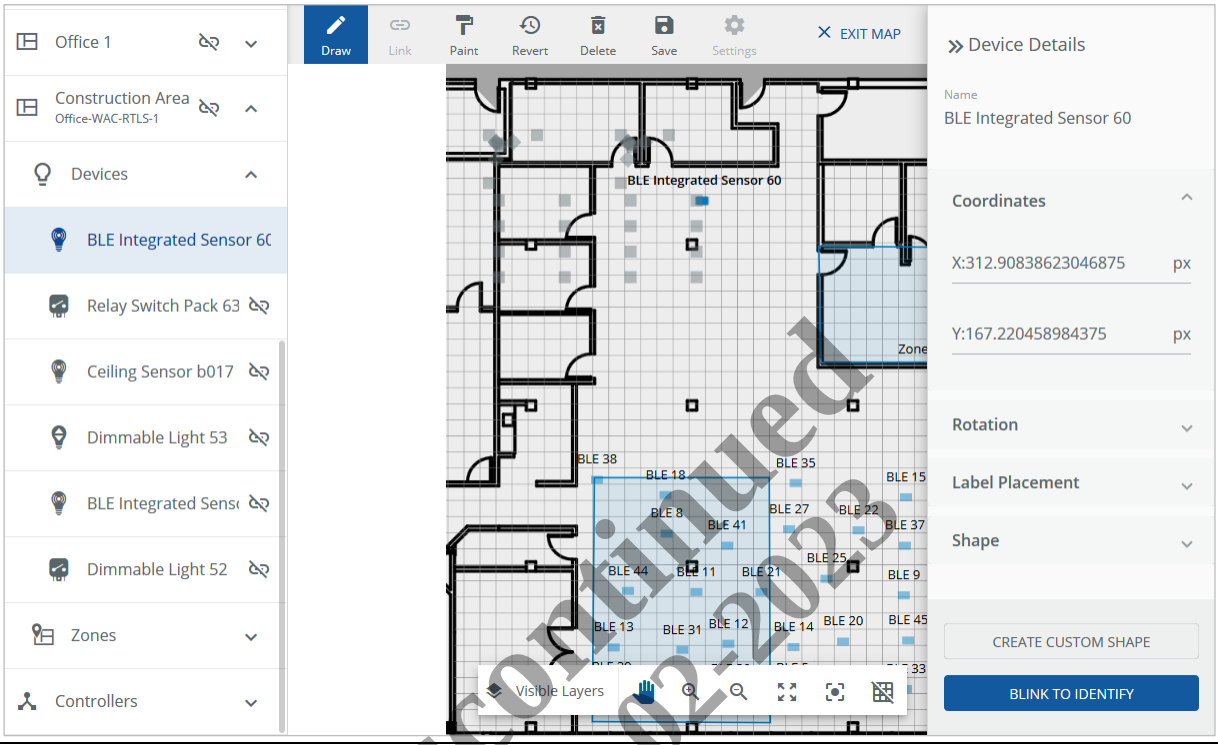
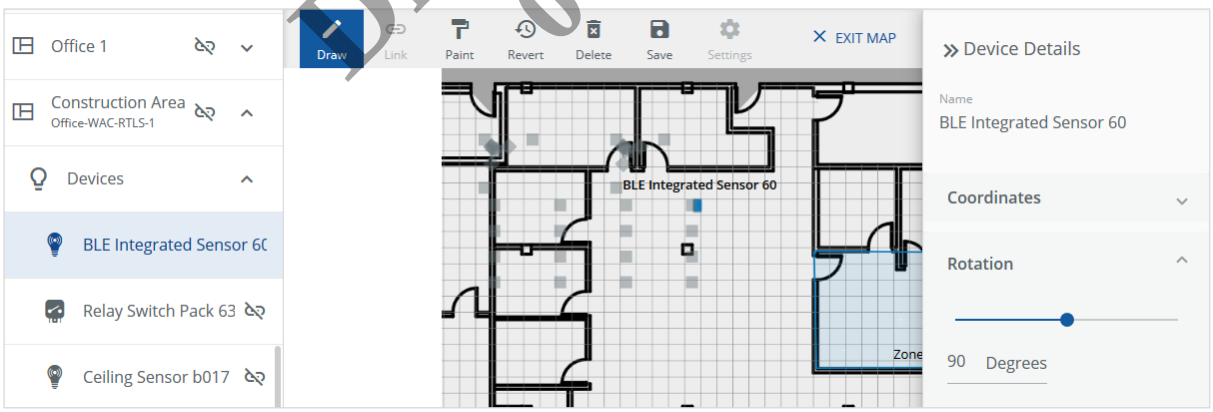
Step	Action
3	Click in the Viewing Tools to zoom in, and with active, click and drag the background image (not the mapping shape) until you can see the location you want to map clearly. ***NOTE*** *The circular "handles" for resizing the shape are visible at the corners of the rectangular shape.* ***EXAMPLE*** 
4	Click the top left handle and drag it to the upper left corner of the location you want to map. ***NOTE*** *New, smaller handles will appear between the original ones after dragging. These can be used to change the shape for locations that are not rectangular. Each time you drag a handle, a new one appears along that axis.* ***EXAMPLE*** 

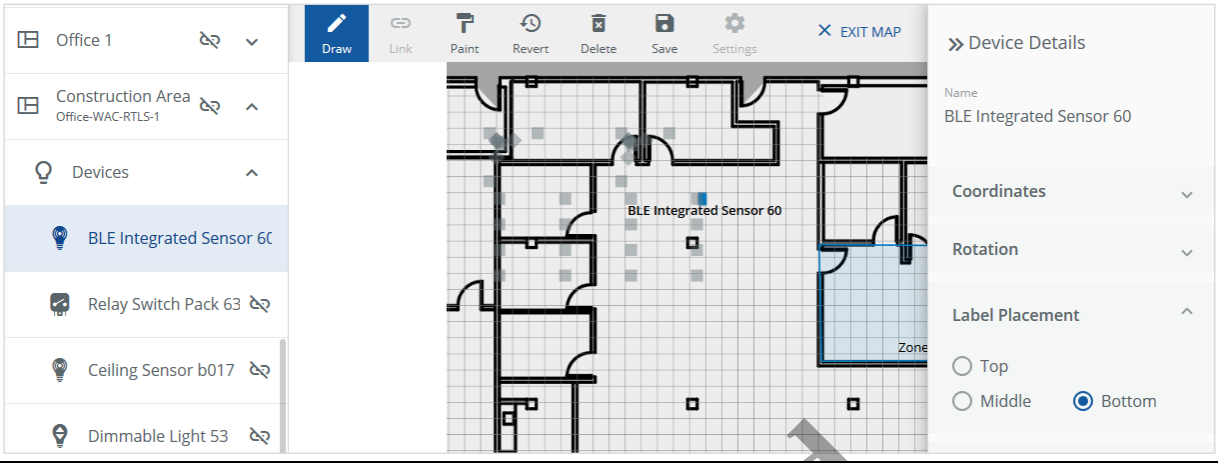
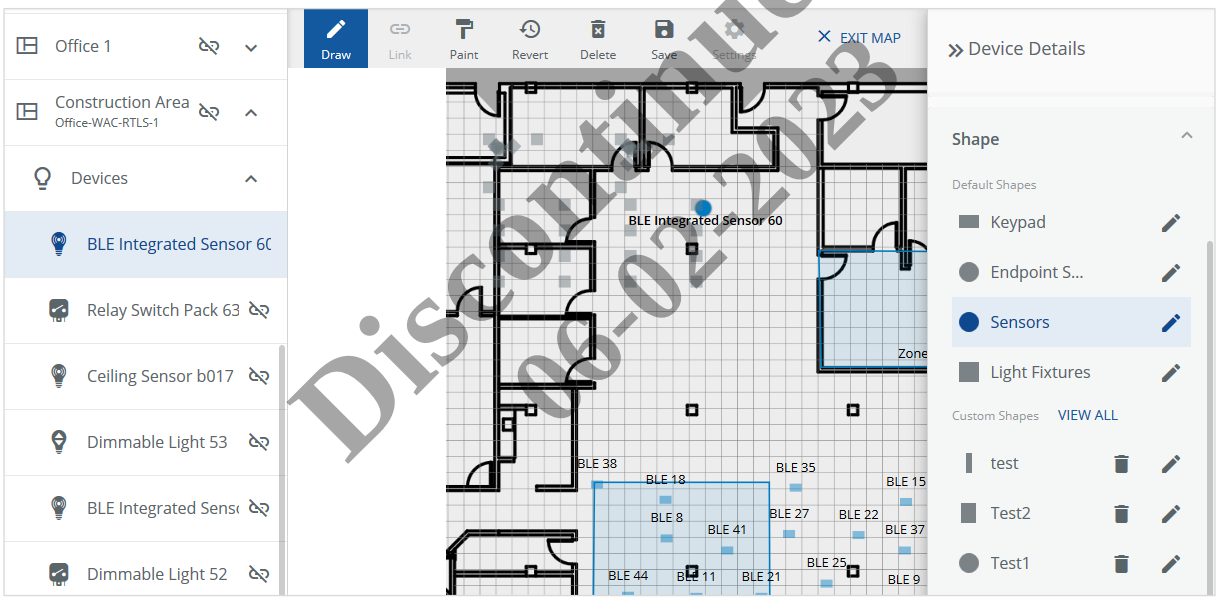
Step	Action
5	Repeat the click-and-drag operation for each of the remaining three corners until you have a rectangle that matches the dimensions of the location you want to map. ***EXAMPLE*** 
6	Click **Save** to apply your changes. ***NOTES*** • *The 🔗 no longer appears beside the component (**Zone 2**, in this example) because it is now linked* • *The **Revert** and **Save** buttons are disabled* • *The **Delete** button is active because the Zone 2 component is selected, and the shape can be removed* ***EXAMPLE*** 
7	Click **Exit Map** to end this session, or select another component to add to the map. ***NOTE*** *You will be warned if there are unsaved changes when you click **Exit Map**.*

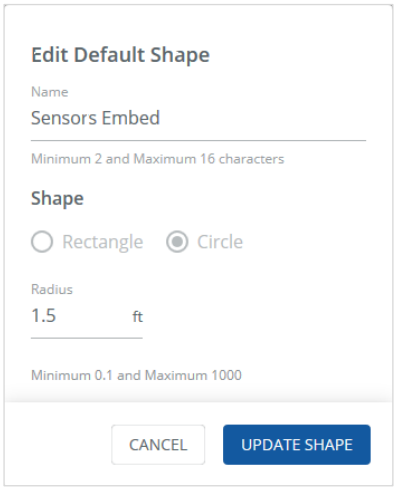
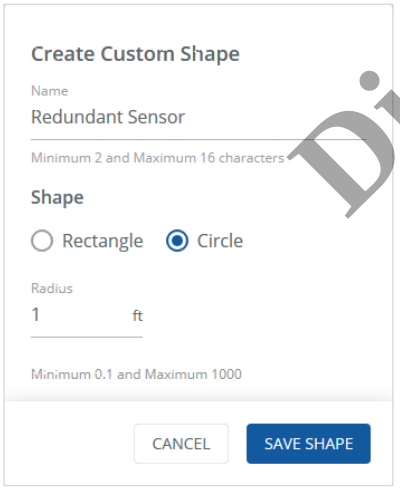
6.10.7 – Linking Devices to a Floor Map

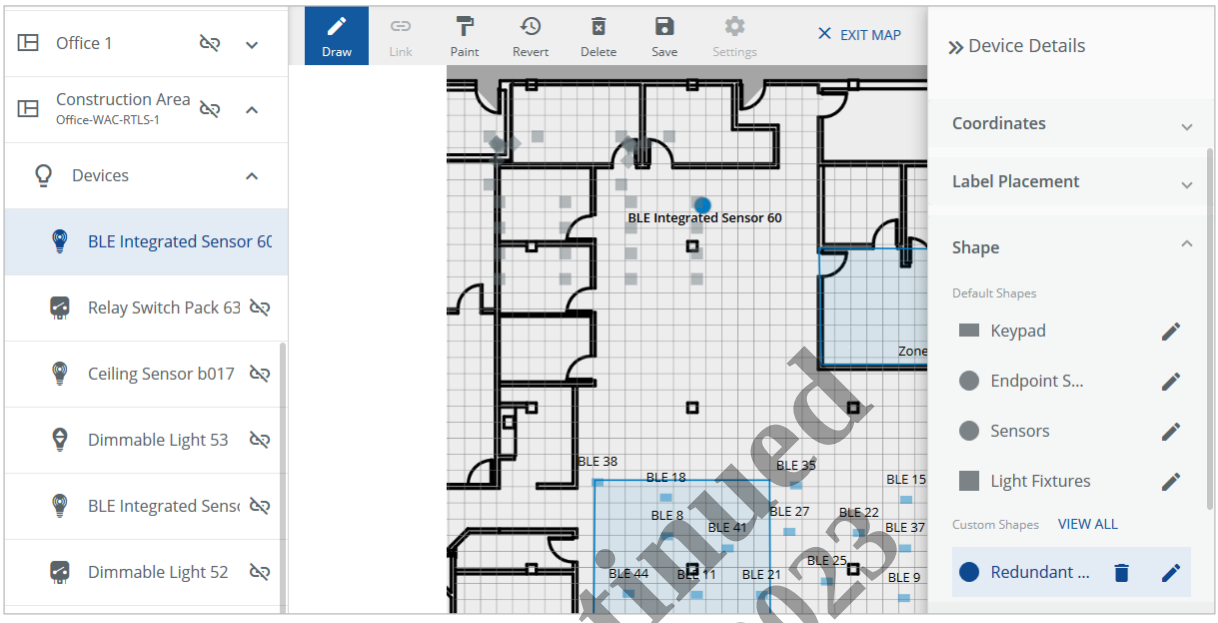
Follow the steps below to link, unlink, and edit Devices on a floor map.

Step	Action
1	Choose the Device you want to map (See *Viewing and Selecting Unlinked Areas, Zones, and Devices* for details.) ***NOTE*** *The floor plan image is scaled to fit the viewing window when you begin mapping.* ***EXAMPLE*** 
2	Click 🔍 in the Viewing Tools to zoom in, and with ✋ active, click and drag the background image (not the mapping shape) until you can see the location where the device will be placed.
3	With an unlinked component selected (**BLE Integrated Sensor 60**, in this example), and the **Draw** button in the Drawing Tools bar active, click the location of this component on the map to add it. ***NOTES*** • *The **Draw** button label will change to **Edit** when the selected devices is already linked* • *If the **Draw** button is not active, select a different component, and then reselect the one you want* • *The **Revert**, **Delete**, **Save**, and **View** buttons in the Drawing Tools bar become enabled* ***EXAMPLE***  ***DRAWING TASKS*** • Click **Revert** to undo all the changes since the last save or from when the current editing session began • Click **Delete** to remove the selected shape • Click **Save** to apply the changes since the last save or from when the current editing session began • Click **View** to show or hide mapped Areas, Zones, Devices, or Labels on the map • Click **Draw** to continue working with shapes

Step	Action
4	Click the Device shape on the map a second time to open the Device Details panel on the right. ***NOTE*** *The default shape that corresponds to the device you added (**Sensors** in the example below) is highlighted in the Device Details panel.* ***EXAMPLE*** 
5	Click **Rotation** to expand that section, then drag the slider or enter the value to 90 **Degrees**. ***EXAMPLE*** 

Step	Action
6	Click **Label Placement** to expand that section, and then click **Bottom**. ***EXAMPLE*** 
7	Click **Shape** to expand that section, and then select the desired Device shape. ***EXAMPLE*** 

Step	Action
8	To edit the Device shape, click ✎ beside the shape in the Device Details panel. Edit the **Name**, and then enter the dimensions for the selected shape (**Radius** in the example below). Click **Update Shape** to apply your changes. ***NOTE*** *Editing a default shape will affects all mapped Devices, including those added before and after this one.* ***EXAMPLE*** 
9	To add a new custom shape, click **Create Shape**, then edit the **Name**, then click **Rectangle** or **Circle** as the **Shape**, and then enter the dimensions for the selected shape (**Radius** in the example below). Click **Save Shape** to add the new shape. ***NOTE*** *A custom shape can be applied to one or more devices without changing the default shape used by other devices.* ***EXAMPLE*** 

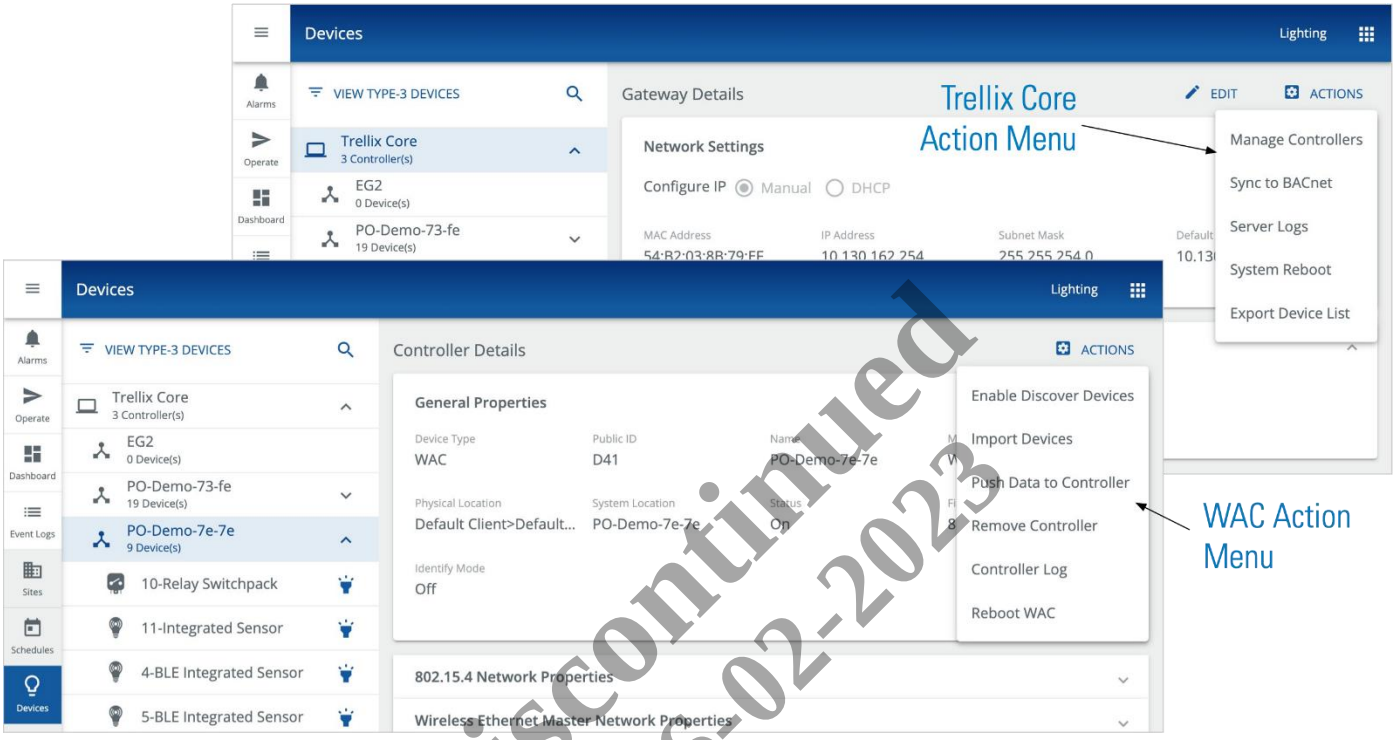
Step	Action
10	To apply a custom shape, select a Device, and then click the shape in the **Custom Shapes** list. ***NOTE*** *The available shapes depend on the device type (e.g., sensors are limited to circular shapes).* ***EXAMPLE*** 
11	When you have finished adding Devices to the map, click **Save** to apply your changes. ***NOTES*** • *The* 🔗 *no longer appears beside the component (**BLE Integrated Sensor 60**, in this example) because it is now linked* • *The **Revert** and **Save** buttons are disabled* • *The **Delete** button is active because the **BLE Integrated Sensor 60** component is selected and can be removed from the floor map*
12	Click **Exit Map** (top right, not shown above) to end this session. ***NOTE*** *You will be warned if there are unsaved changes when you click **Exit Map**.*

7 – Device Discovery, Import, and Configuration

This chapter contains information and procedures for locating and synchronizing WaveLinx Wireless Area Controllers and WaveLinx Wired data with Trellix Lighting.

7.1 – Actions Menu

The **Actions** menu appears on the right side of the Devices page when Trellix Core, a WAC, or an EG is selected. This menu provides a range of commands, depending on the context and your account permissions.



Action Menu Commands

The list of commands is described briefly below.

Trellix Core

- **Manage Controllers** – Search the entire network for WACs or WaveLinx Wired EGs
- **Sync to BACnet** – Repeat the synchronization of WAC or EG data to BACnet
- **Server Logs** – Download the Trellix Core server logs (Admin access only)
- **System Reboot** – Restart Trellix Core (Admin access only)
- **Export Device List** – Export a list of Devices to an Excel file (Admin or Facility Manager access only)

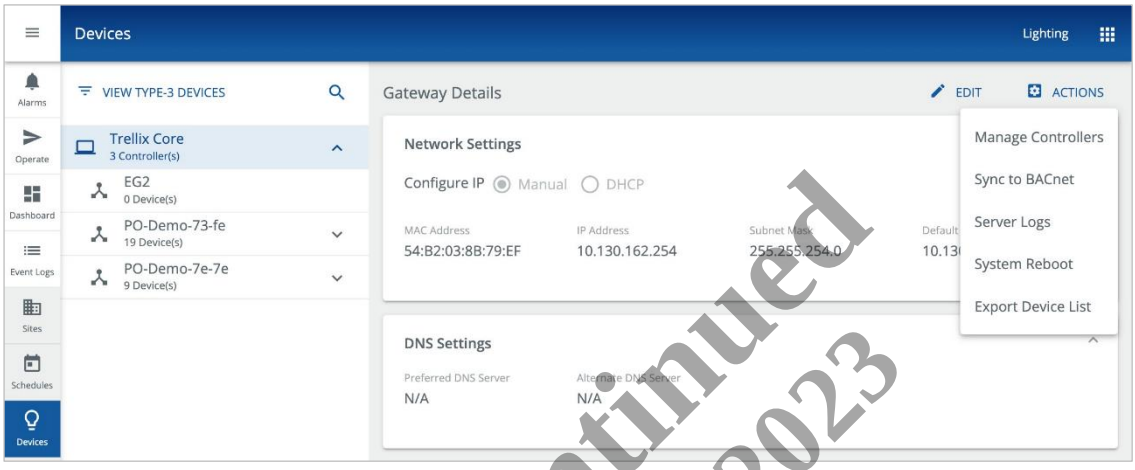
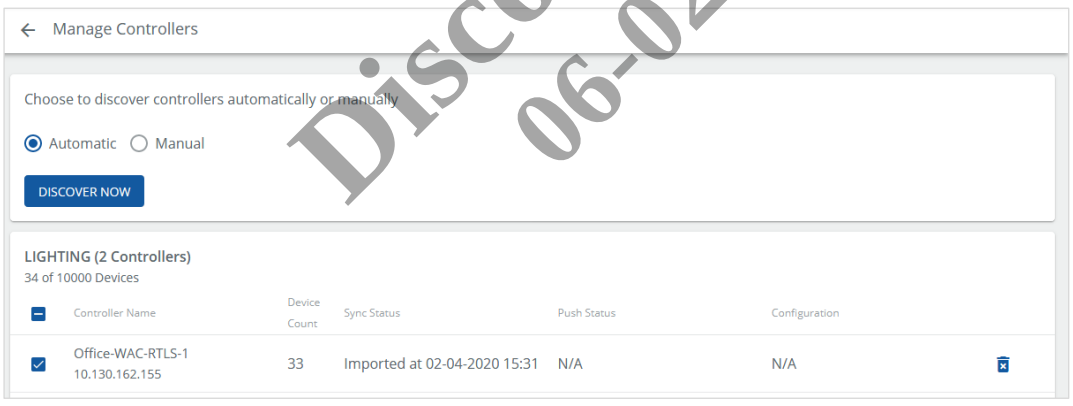
WAC or EG

- **Enable Discover Devices** – Turn on WAC pairing mode to discover Devices ready to be paired
- **Import Devices** – Synchronize the selected WAC or EG data to Trellix Core
- **Remove Controller** – Remove selected WAC or EG from Trellix Core
- **Sync data with WAC** – Send Trellix Core data to the selected WAC or EG
- **Controller Log** – Download WAC logs (Admin access only)

7.2 – Discovering WACs Automatically

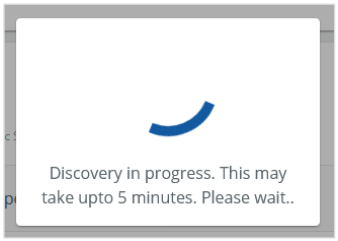
When Trellix Lighting is installed, the Setup Wizard will automatically scan and import the configured LCS devices from the WaveLinx LMS, as well as all configured Areas, Zones, Occupancy Sets, and Daylight Sets.

IMPORTANT
You must manually synchronize the Trellix Lighting database each time a WAC or WaveLinx Wired EG configuration is modified (or after restoring from a backup). Configuration examples include the following: adding or removing Devices; adding new Areas; moving Devices from one Zone or Area to another.

Step	Action
1	Click **Devices** in the main menu, then select Trellix Core. Click the **Actions** menu. ***EXAMPLE*** 
2	Click **Manage Controllers** in the **Actions** menu. ***EXAMPLE*** 

Step	Action
3	Click **Discover Now** (shown above).

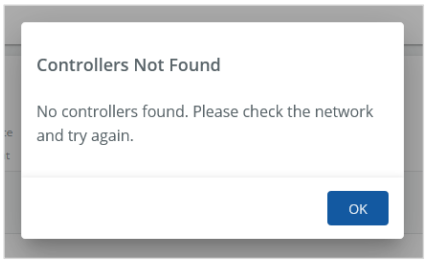
EXAMPLE



IMPORTANT

It will typically take from 5 to 20 minutes to complete the discovery, depending on the size of the database. Please remain on this page until a notification message appears. If you close the browser window or navigate to another Trellix Lighting section, you will not know if the Discover operation succeeded.

EXAMPLE SYNC MESSAGE



TIP

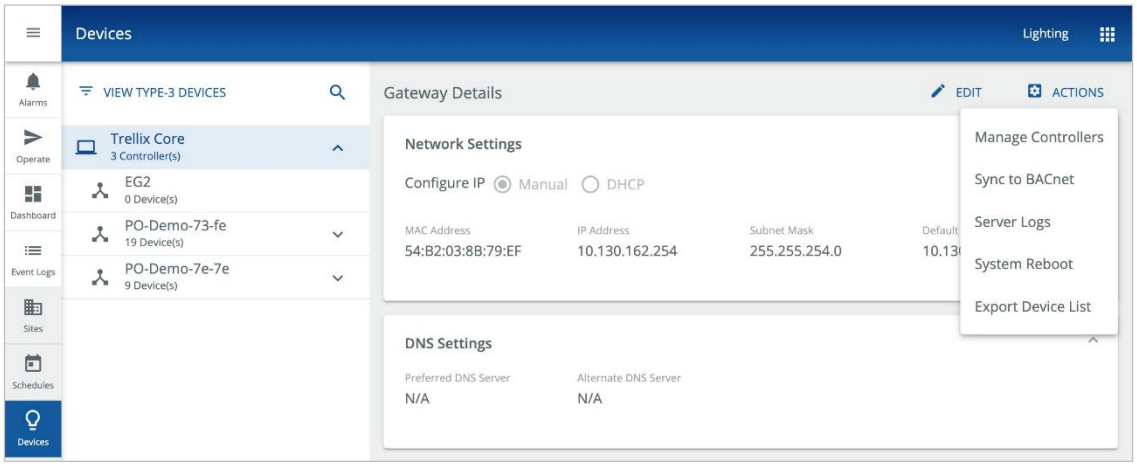
See the Troubleshooting section if you get an unexpected result.

7.3 – Discovering WACs or WaveLinx Wired EGs Manually

To discover an WaveLinx Wired EG, or when you want to discover a specific WAC instead of searching the whole network, you can use the Manual method outlined in the steps below.

Step	Action
1	Click **Devices** in the main menu, then select **Trellix Core**.

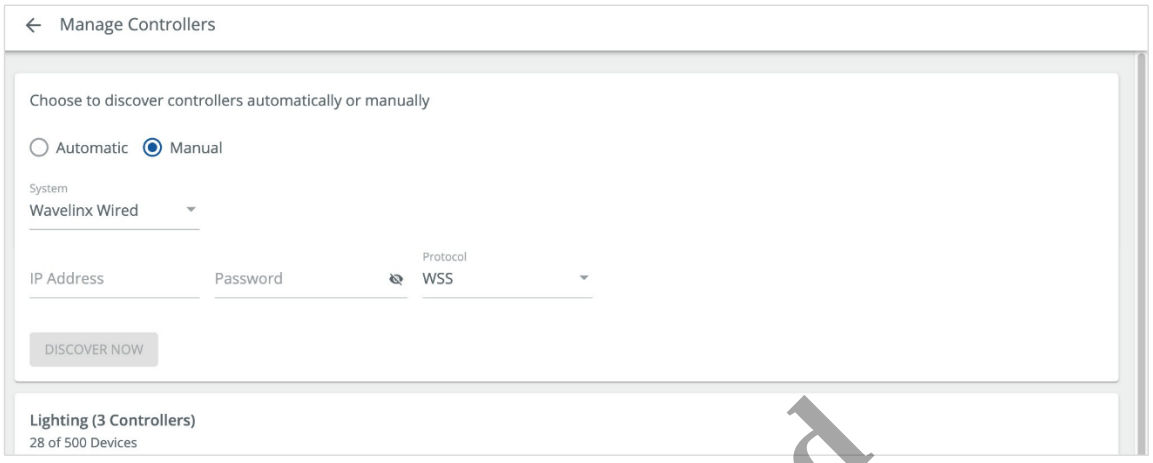
EXAMPLE



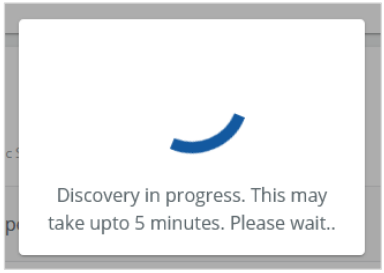
2 Click Actions, and then click **Manage Controllers**. Select the **System** type, and then:

- If you chose **WaveLinx Wired**, enter the **IP Address** and **Password** of the EG, and leave the **Protocol** at its default value
- If you chose **WaveLinx**, enter the **IP Address** of the WAC, and leave the **Port** and **Protocol** at their default values

EXAMPLE



3 Click **Discover Now** and wait for the search to complete.



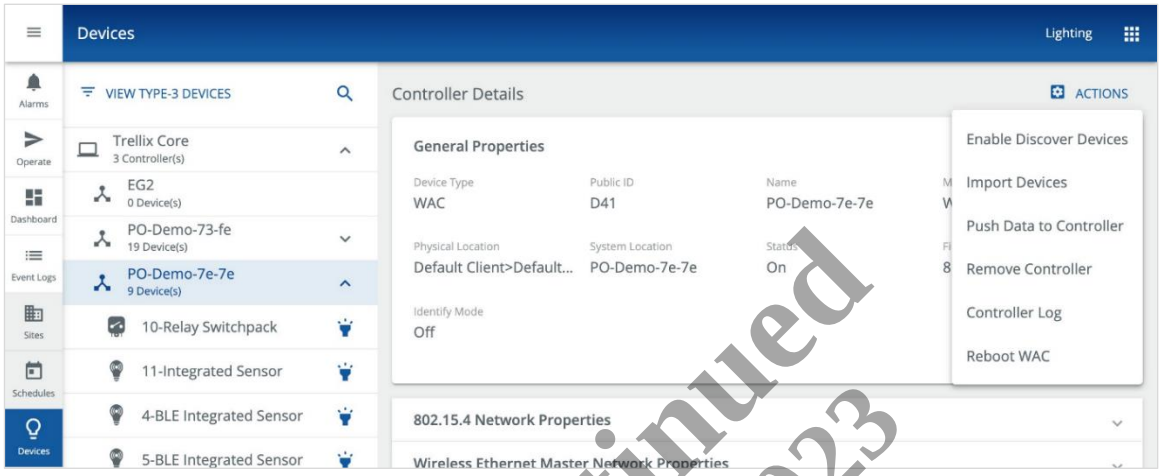
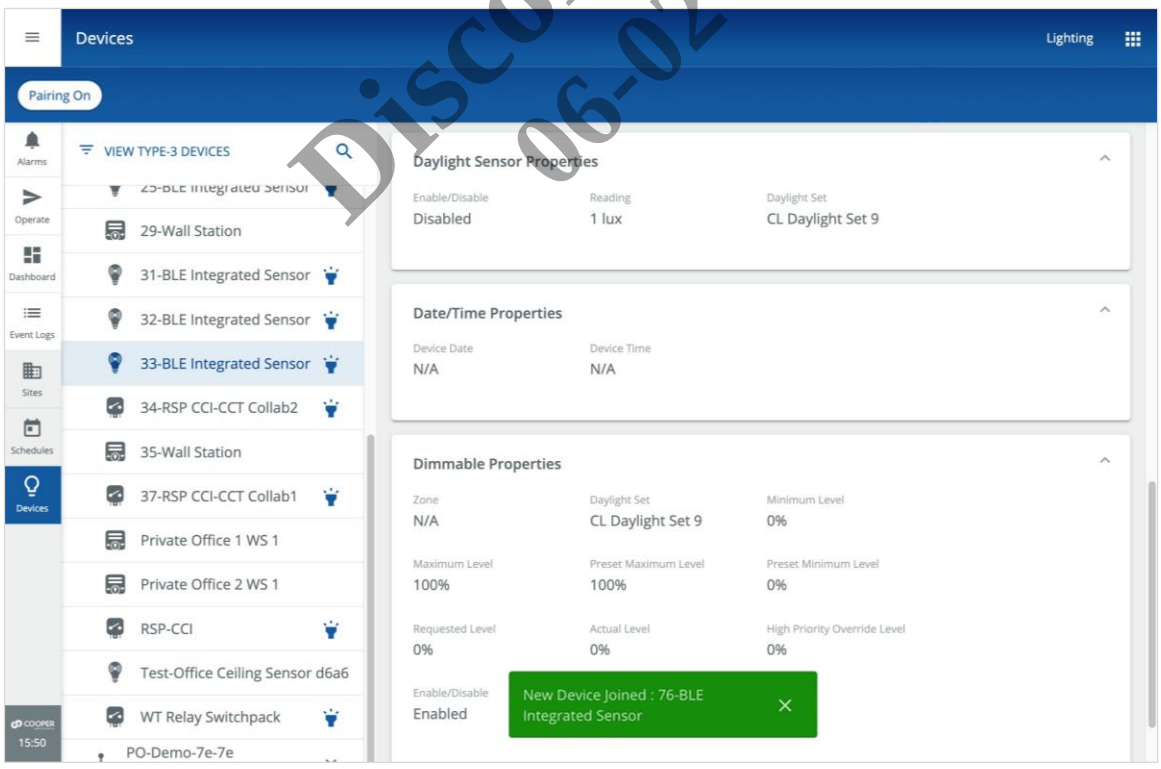
TIP

See the "*Troubleshooting*" section if you get an unexpected result.

7.4 – Pairing Devices with a WAC

When one or more WaveLinx Wireless Devices have been placed in pairing mode, they can be discovered by putting the WAC into pairing mode.

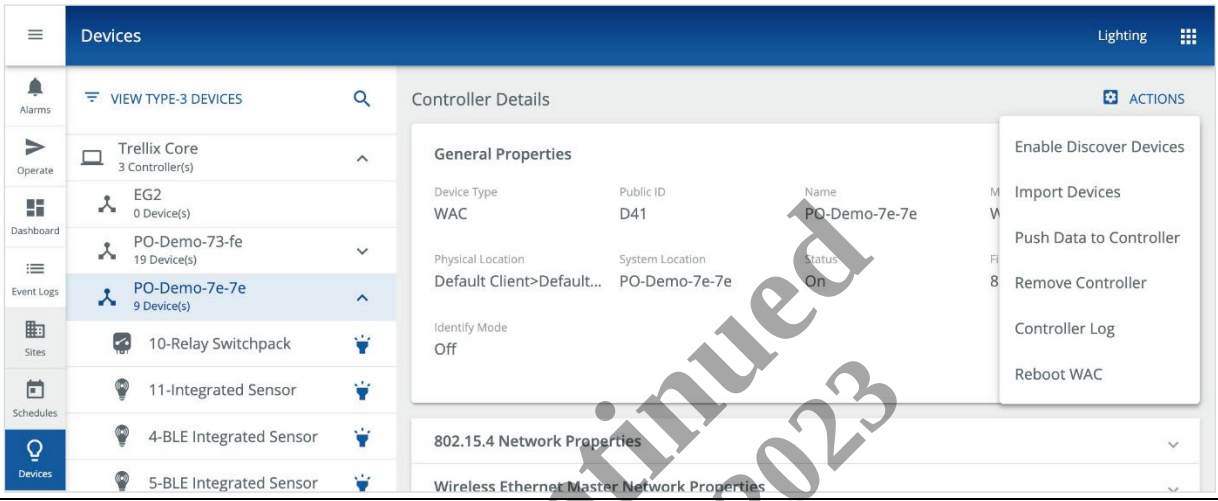
NOTE
Refer to "Setting Up a New WaveLinx System" in the WaveLinx Programming and User Manual *for more details and configuration options.*

Step	Action
1	Click **Devices** in the main menu, then expand **Trellix Core**, and the select a WAC. ***EXAMPLE*** 
2	Click **Actions**, then select **Enable Discover Devices** (shown above). Wait for a few minutes as Devices pair and messages are displayed. ***EXAMPLE*** 

7.5 – Importing a WAC or WaveLinx Wired (EG) Database

You will need to import a WAC or WaveLinx Wired (EG) database when devices connected to the Controller are added or removed. You can do that using the Controller's **Import Devices** command.

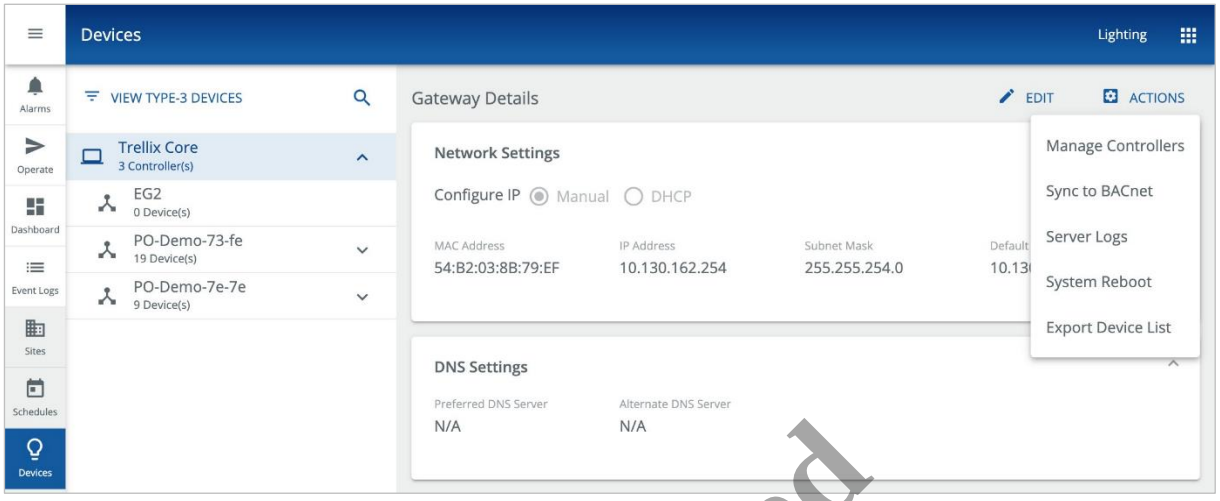
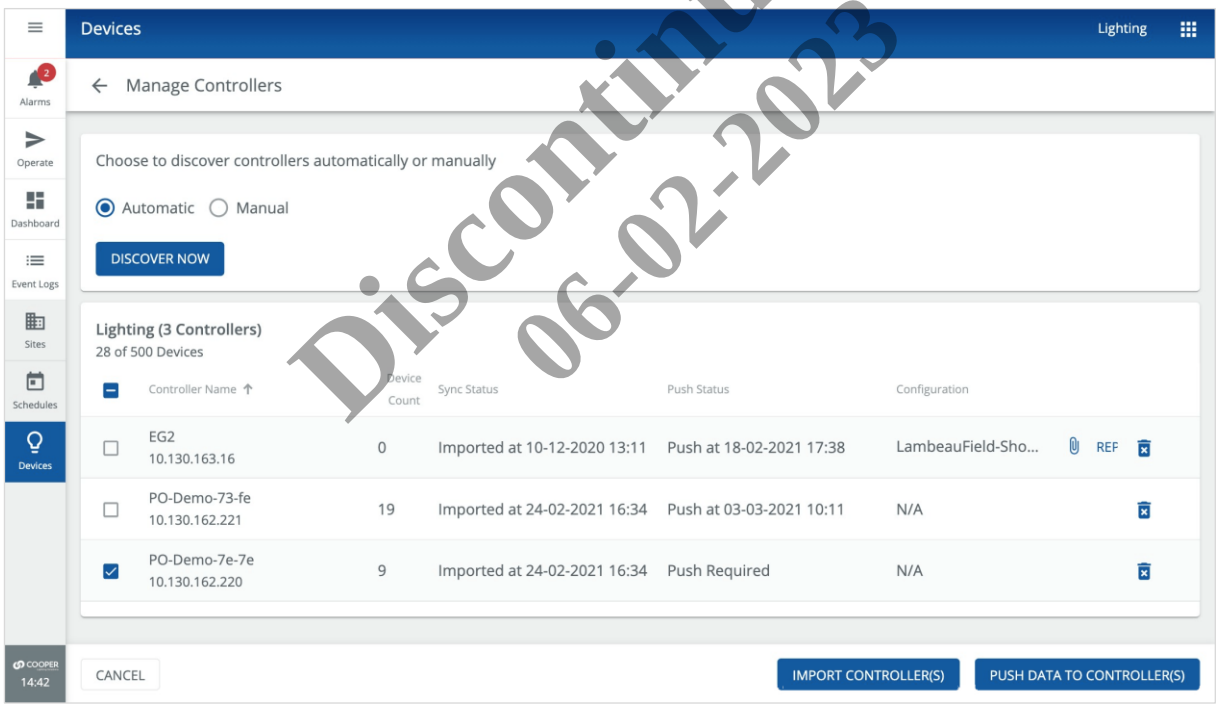
NOTE
For WaveLinx Wired, it is also necessary to upload a new data file to Trellix before importing. See Importing a WaveLinx Wired Database *for details.*

Step	Action
1	Click **Devices** in the main menu, then expand **Trellix Core**, and the select a controller. ***EXAMPLE*** 
2	Select **Import Devices** from the **Actions** menu to import all device data. ***TIP*** *See the* Troubleshooting *section if you get an unexpected result.*

7.6 – Importing Multiple Controllers

This procedure allows you to import up to 10 Controllers with a single command. The Controller Actions menu can be used to import a single Controller.

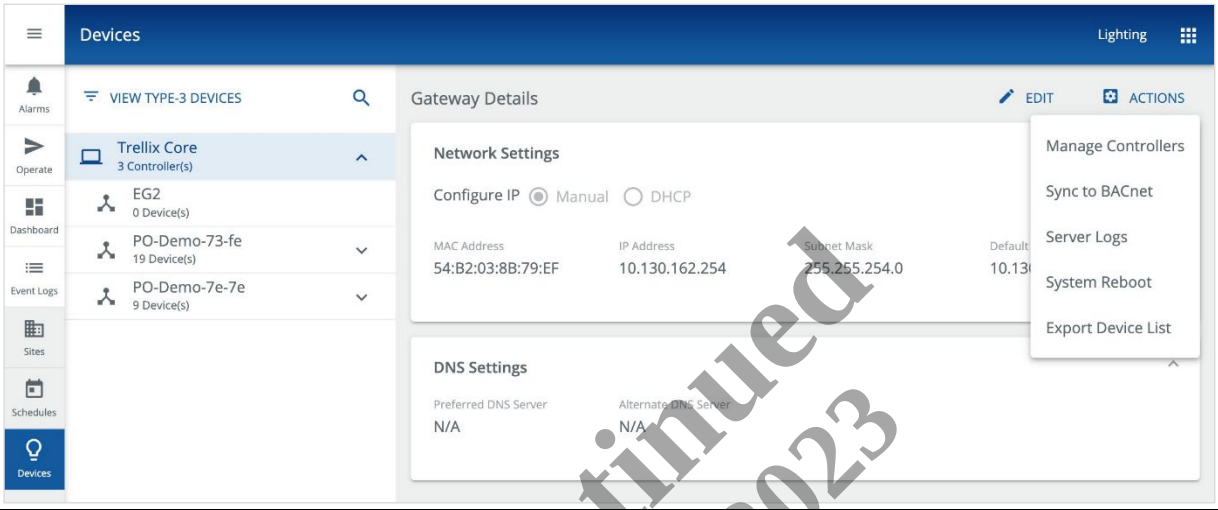
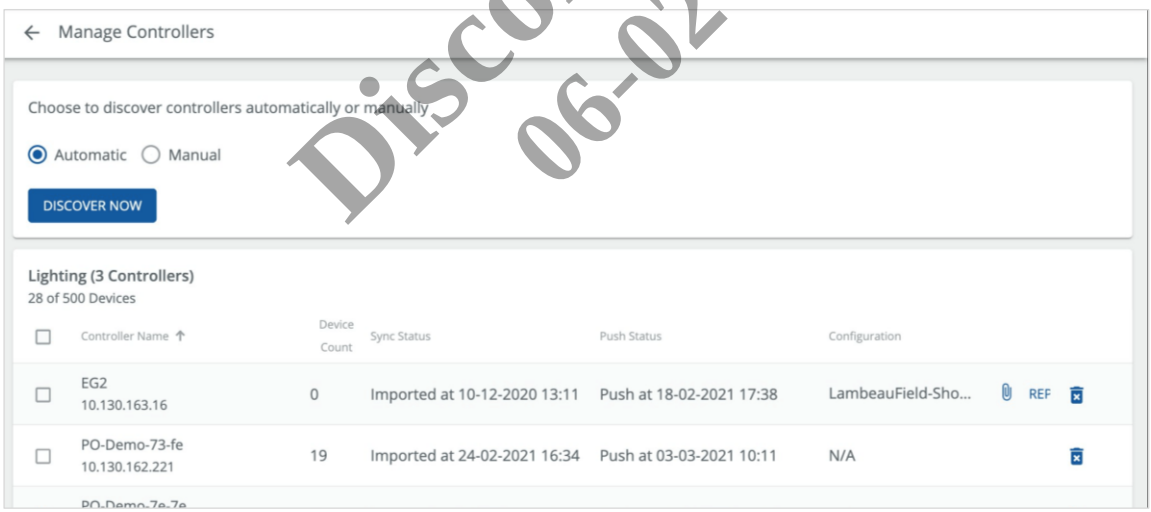
NOTE
You must be logged in with System Administrator permissions, such as the default Admin account, to perform this procedure. An account with Facility Manager permissions, such as the default Facman account, can use the ***Actions*** *menu but cannot edit Trellix Core configuration.*

Step	Action
1	Click **Devices** in the main menu, then select **Trellix Core**. Click the **Actions** menu. ***EXAMPLE*** 
2	Click **Manage Controllers**. ***EXAMPLE*** 
3	Select one or more Controllers, and then click **Import Controllers**. ***TIPS*** • *The Devices count (e.g., "28 of 500 Devices") will appear in red if the license limit is exceeded (e.g., "650 of 500 Devices")* • *See* Discovering WACs Automatically *or* Discovering WACs or WaveLinx Wired EGs Manually *if the Controllers you want are not shown*

7.7 – Importing a WaveLinx Wired Database

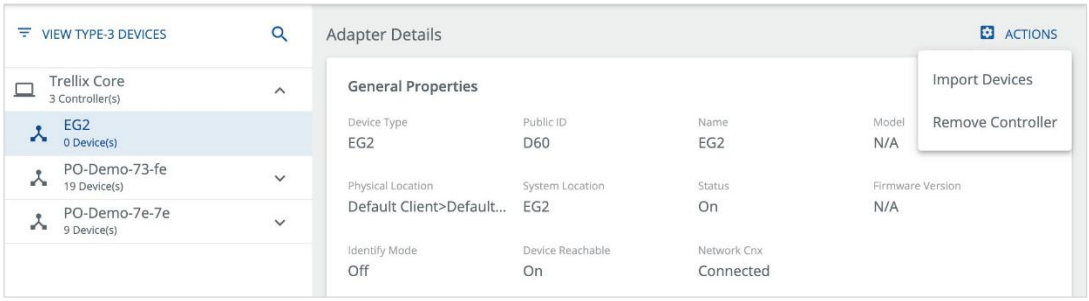
You will need to import an WaveLinx Wired database when devices connected to it are added or removed.

NOTE
Because WaveLinx Wired data is transferred to Trellix with a text file, you must first export the new data to file as described in the WaveLinx Wired Installation Instructions *document before carrying out the steps below.*

Step	Action
1	Click **Devices** in the main menu, then select **Trellix Core**, and then click **Actions**. ***EXAMPLE*** 
2	Click **Manage Controllers**. ***EXAMPLE*** 
3	Click 📎, and then attach the text file that contains the latest EG data.
4	Click **Save** to upload the data file.
5	When the upload completes, click ← to return to the Devices page.

Step	Action
6	Select the target EG, then click **Actions**, and then select **Import Devices**.

EXAMPLE



TIP

See the "*Troubleshooting*" section if you get an unexpected result.

7.8 – Pushing Data to One or More WACs

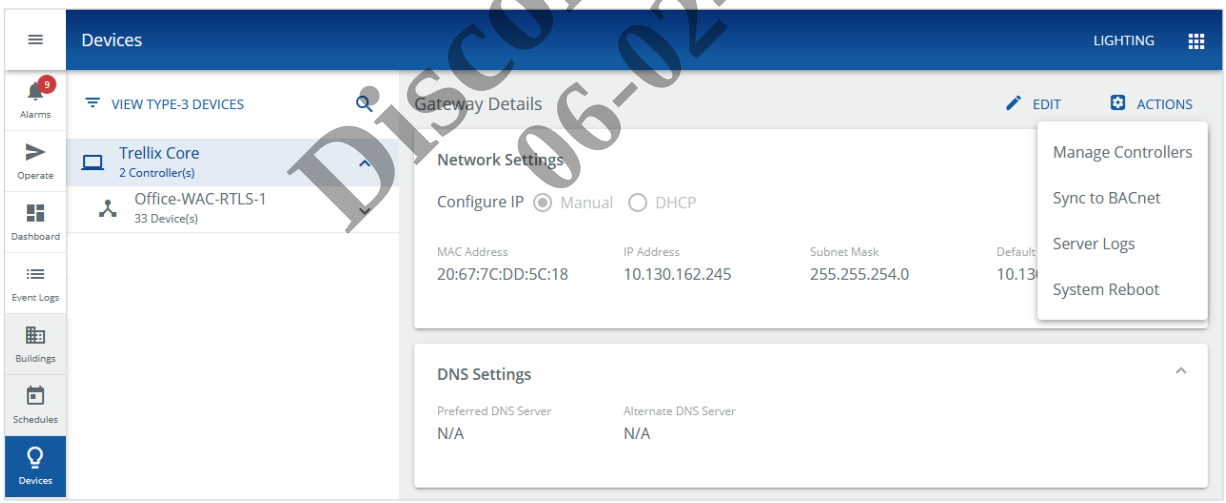
This procedure allows you to push data to one or multiple WACs. The Controller Actions menu can be used to push data to a single WAC.

NOTE

*You must be logged in with System Administrator permissions, such as the default Admin account, to perform this procedure. An account with Facility Manager permissions, such as the default Facman account, can use the **Actions** menu but cannot edit Trellix Core configuration.*

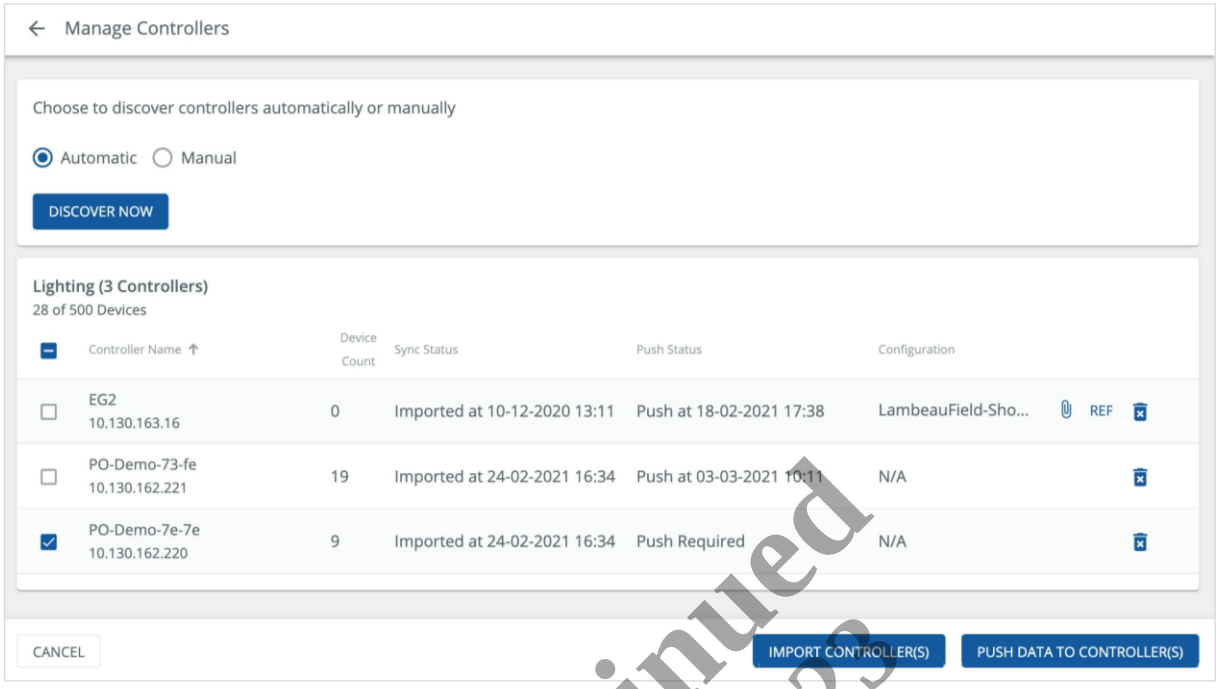
Step	Action
1	Click **Devices** in the main menu, then select **Trellix Core**.

EXAMPLE



2	Click **Actions**, and then click **Manage Controllers**. Select one or more WACs.

EXAMPLE



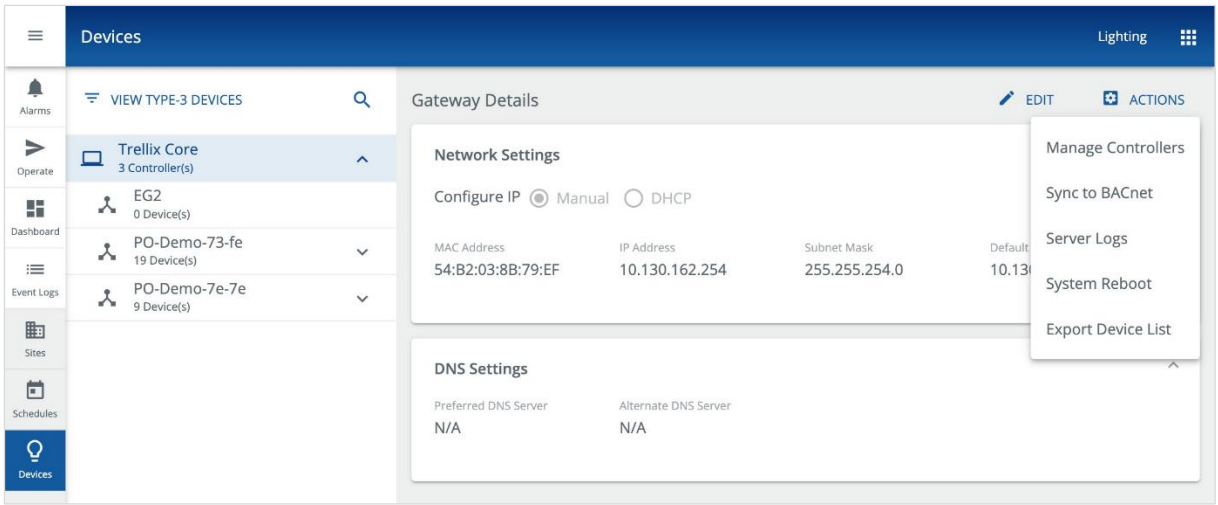
3	Select one or more Controllers, and then click **Push Data to Controllers**.

7.9 – Synchronizing Changes to BACnet

NOTE
*You must be logged in with System Administrator permissions, such as the default Admin account, to perform this procedure. An account with Facility Manager permissions, such as the default Facman account, can use the **Actions menu** but cannot edit Trellix Core configuration.*

Step	Action
1	Click **Devices** in the main menu, then select **Trellix Core**.

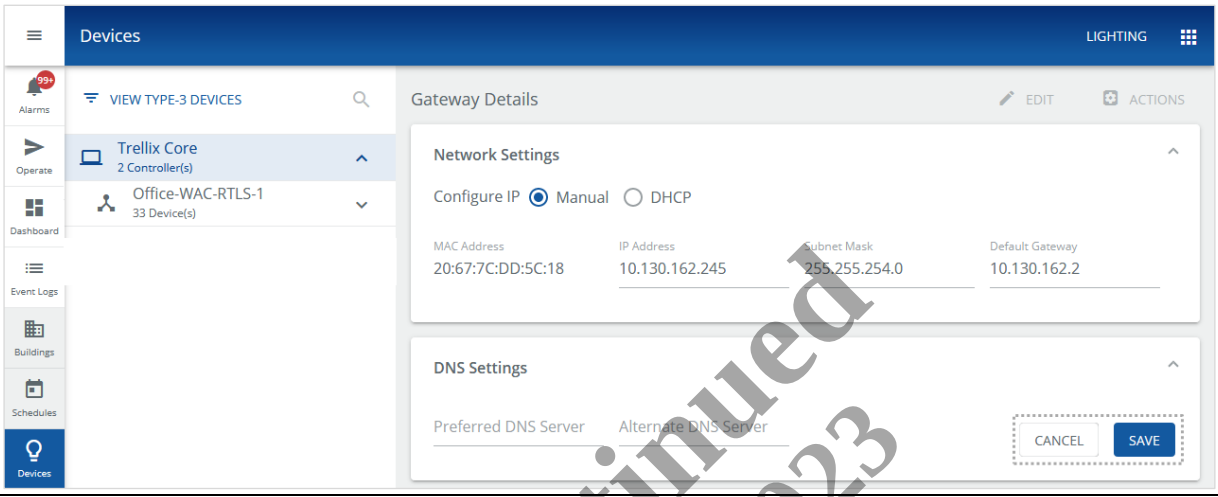
EXAMPLE



2	Click **Actions**, and then click **Sync to BACnet**.

7.10 – Editing Trellix Core Configuration

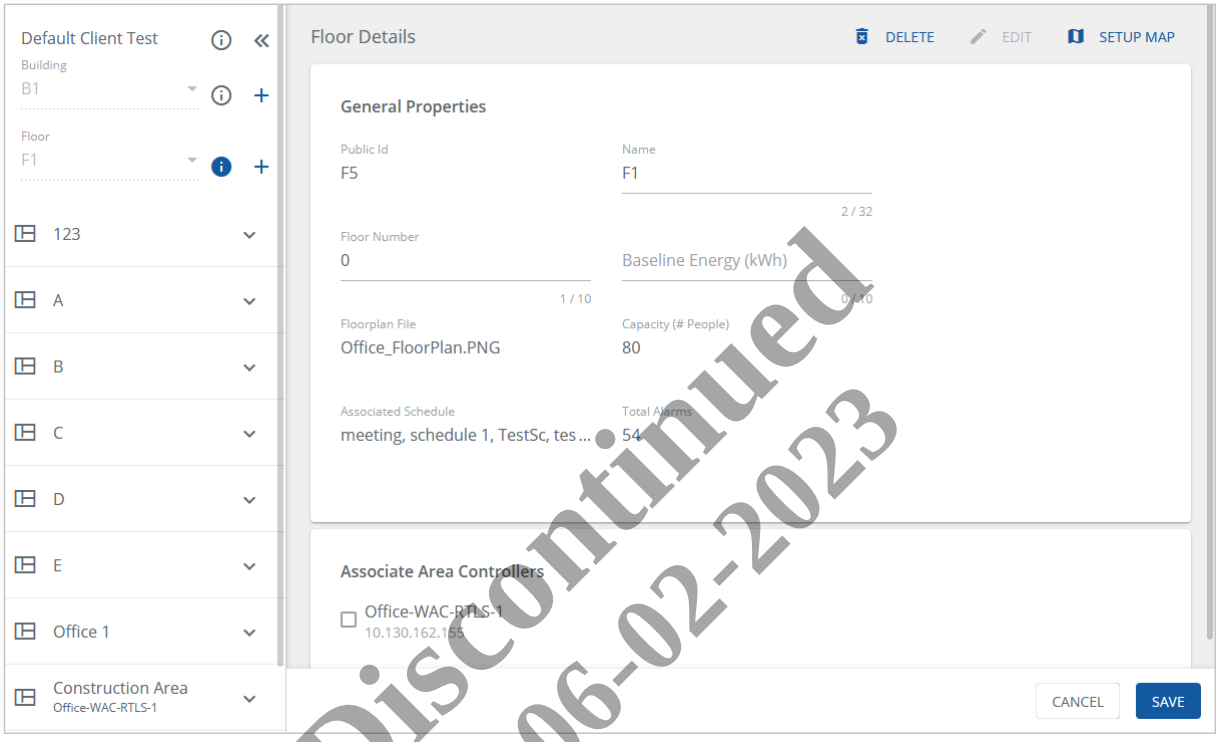
NOTE
*You must be logged in with System Administrator permissions, such as the default Admin account, to perform this procedure. An account with Facility Manager permissions, such as the default Facman account, can use the **Actions menu** but cannot edit Trellix Core configuration.*

Step	Action
1	Click **Devices** in the main menu, then select Trellix Core, and then click **Edit**. ***RESULT*** 
2	To use a manual IP address, click **Manual**, then enter the desired **IP Address**, **Subnet Mask**, and **Default Gateway** values.
3	To use a network-provided address, click **DHCP**.
4	Optionally, enter the **Preferred** and **Alternate DNS Server** values. ***NOTE*** *A configured DNS Server enables users to use a hostname (e.g., trellix.example.com) or the IP address to access Trellix Lighting.*
5	Click **Save**. ***TIP*** *See the Troubleshooting section if you get an unexpected result.*

7.11 – Associating a WAC with a Building and Floor

To make devices available to Areas, Zones, Occupancy Sets, and Dimming Sets, the WAC that is connected to those devices must be associated with a specific Building and Floor.

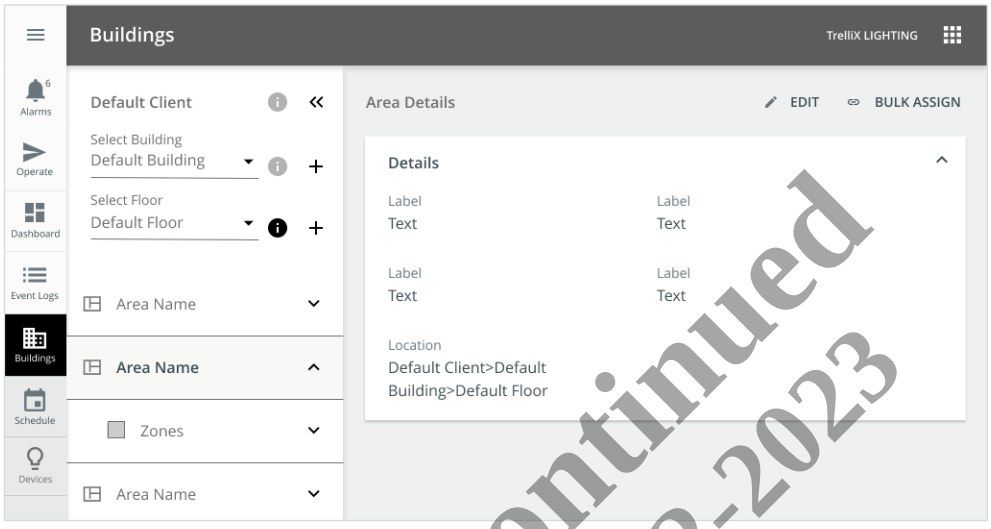
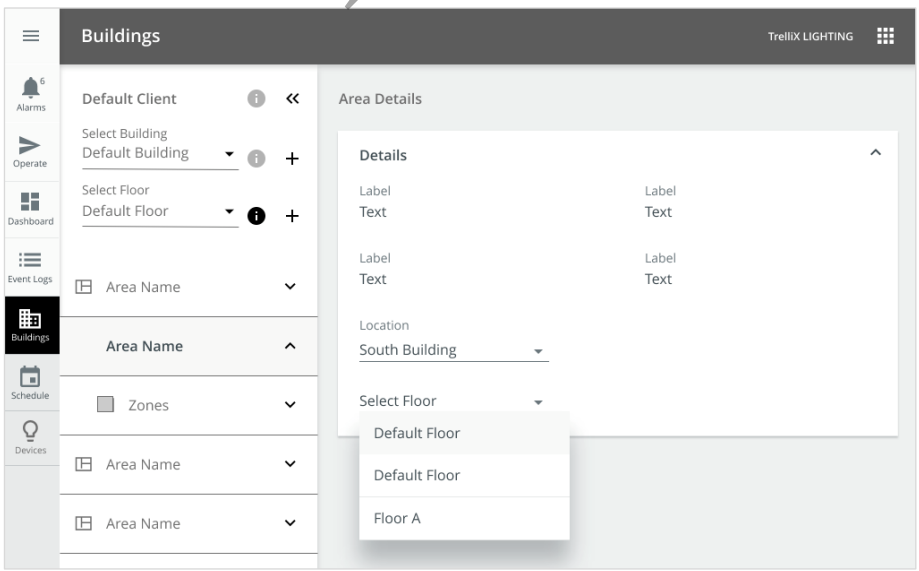
Follow the steps below to associate a WAC with a floor.

Step	Action
1	Click **Sites** in the main menu, then use the Building navigation panel to select the desired Building and Floor, and then click **Edit** (top right of page, not shown below). ***EXAMPLE*** 
2	Select a WAC from the **Associate Area Controllers** listed, and then click **Save**. ***TIP*** *See the* Troubleshooting *section if you get an unexpected result.*

7.12 – Associating WaveLinx Wired Areas with a Building and Floor

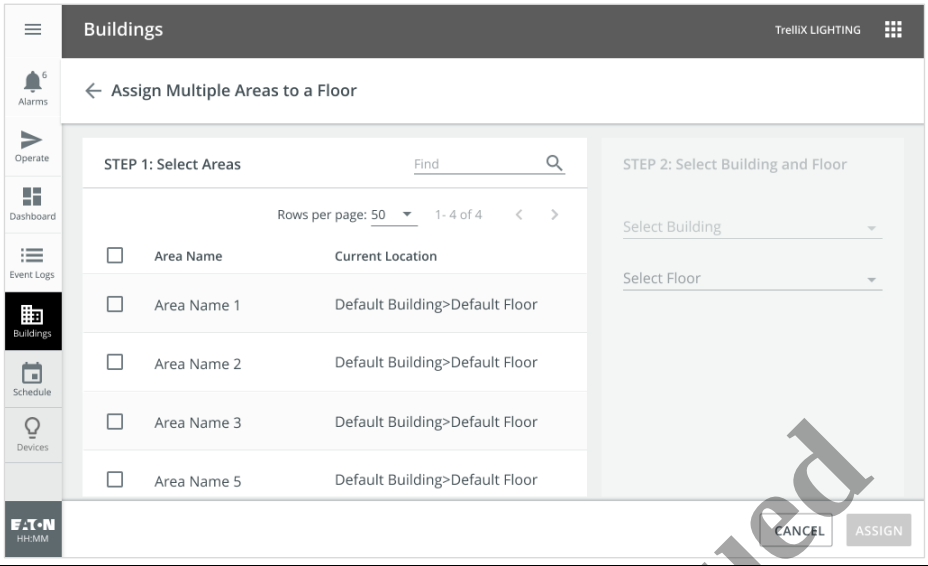
Because WaveLinx Wired does have the concept of Floors, its Areas are assigned to the default Building and Floor when the EG data is imported. You can associate WaveLinx Wired Areas with other Trellix Buildings or Floors by following the steps below.

NOTE
The default Building and Floor refer to those provided with Trellix, which may have been renamed during or after installation. If you are unsure, check to see if the Building or Floor can be deleted. If so, it was added and is not the default. The default Building or Floor cannot be deleted.

Step	Action
1	Click **Sites** in the main menu, then select the Default Building, and then select the Default Floor. ***EXAMPLE*** 
2	Do you want to associate a one Area or multiple Areas? • For one Area, go to Step 3. • For multiple Areas, go to Step 4.
3	Select the Area you wish to associate, then click **Edit**. Select the desired Building and Floor, and then click **Save**. Stop here if you are only associating a single Area. ***EXAMPLE*** 

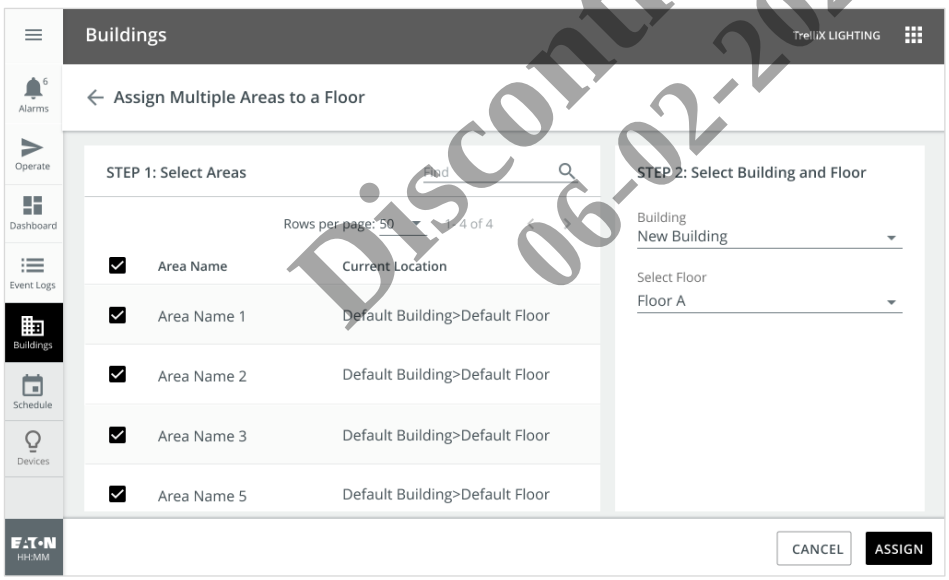
Step	Action
4	Click **Bulk Assign**.

EXAMPLE



Step	Action
5	Select the Areas you wish to associate, then select the Building and Floor they will be associate with, and then click Assign.

EXAMPLE



TIP

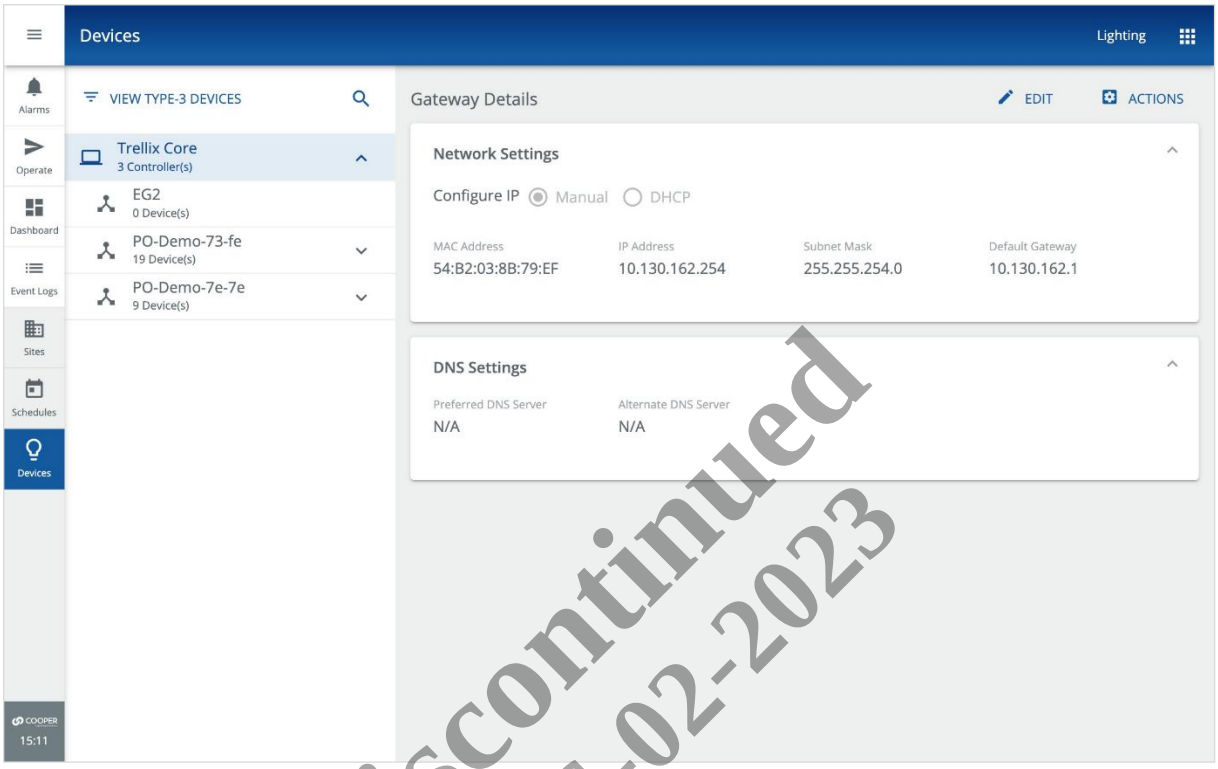
See the "*Troubleshooting*" section if you get an unexpected result.

7.13 – Editing the Maximum Power for Type 3 Devices

Follow the steps below to view Type 3 Devices and edit the Maximum Power value.

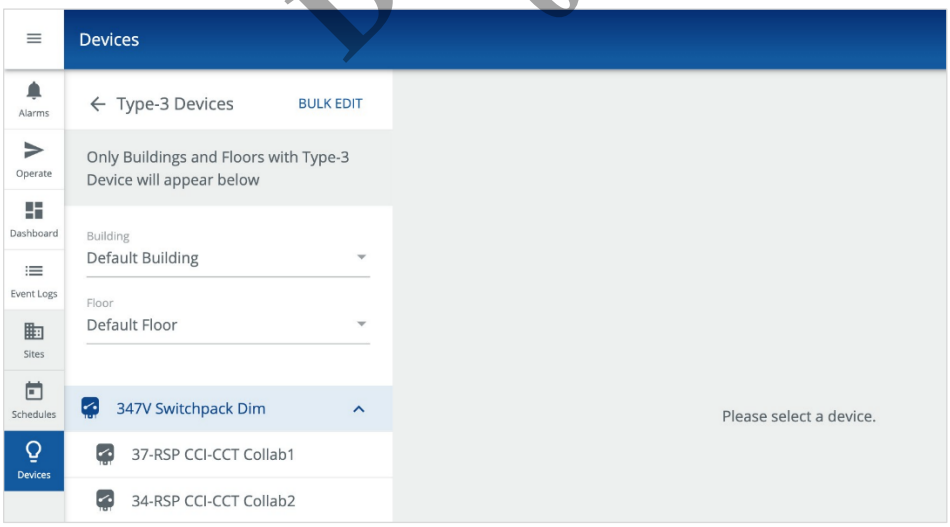
Step	Action
1	Click ⠿ to display the app menu, then click **Lighting**, and the click **Devices** in the main menu.

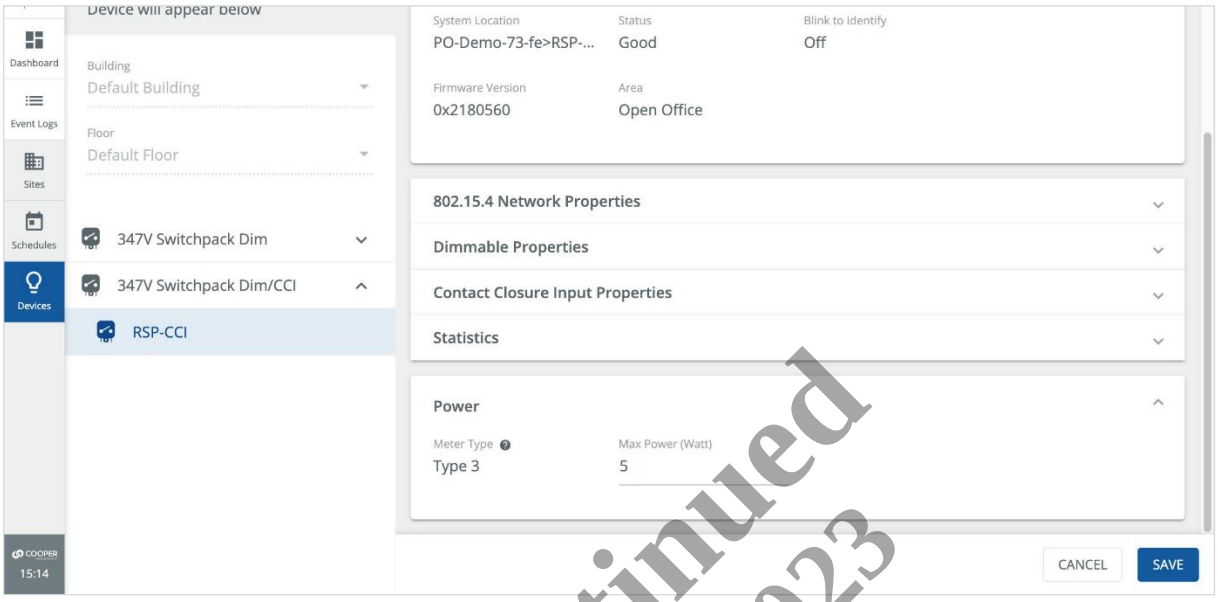
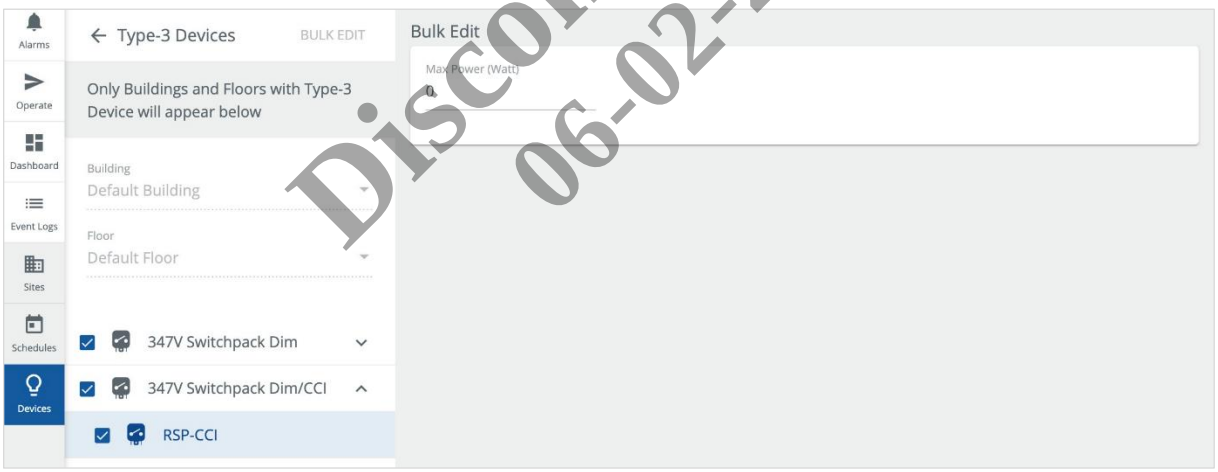
EXAMPLE



2	Click **View Type 3 Devices**.

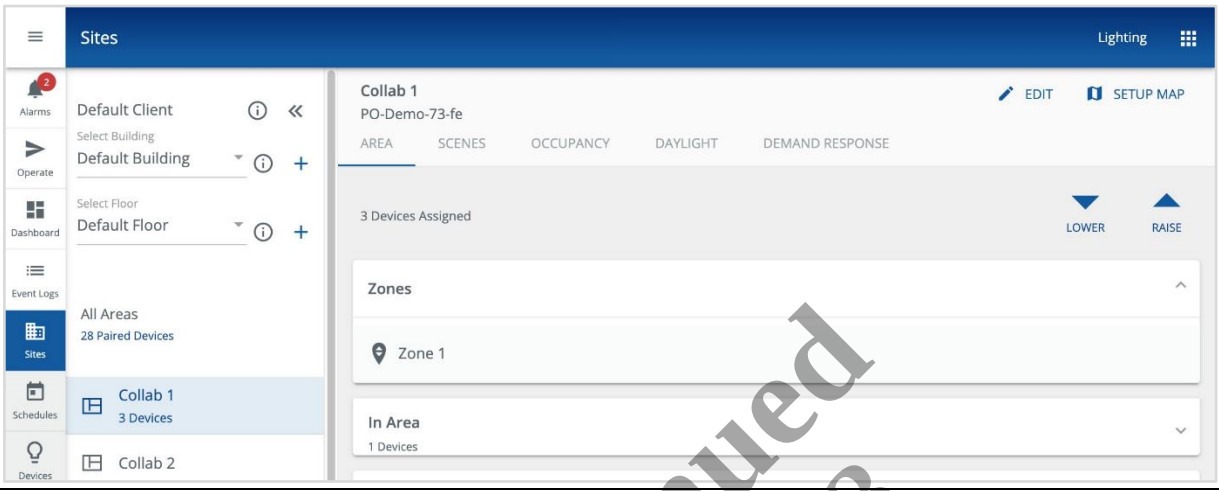
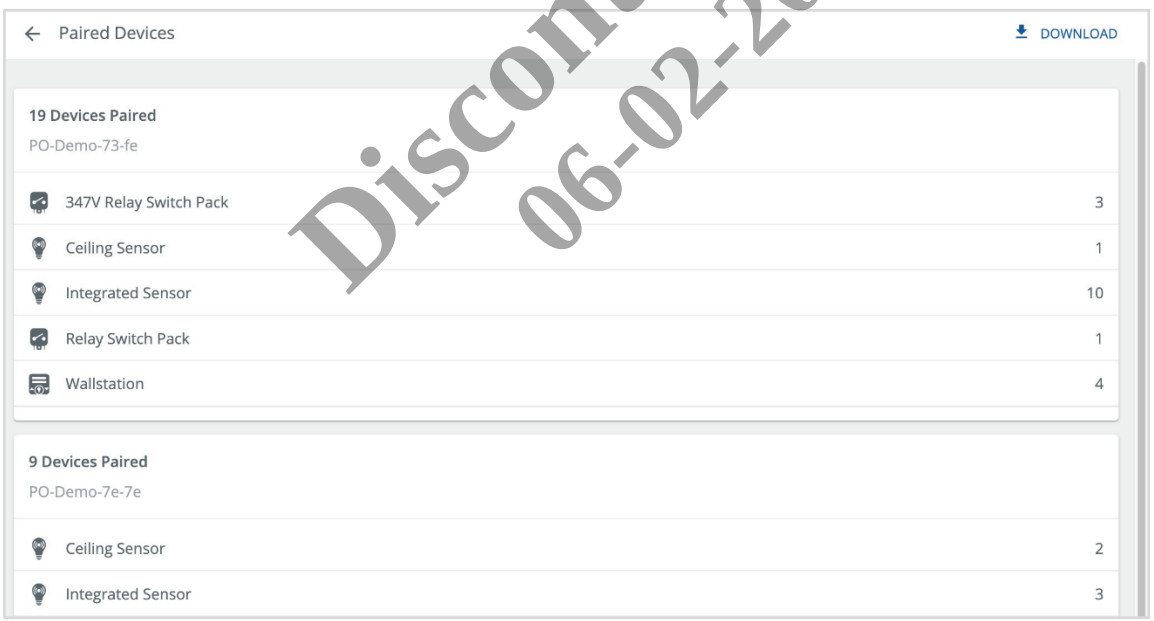
EXAMPLE

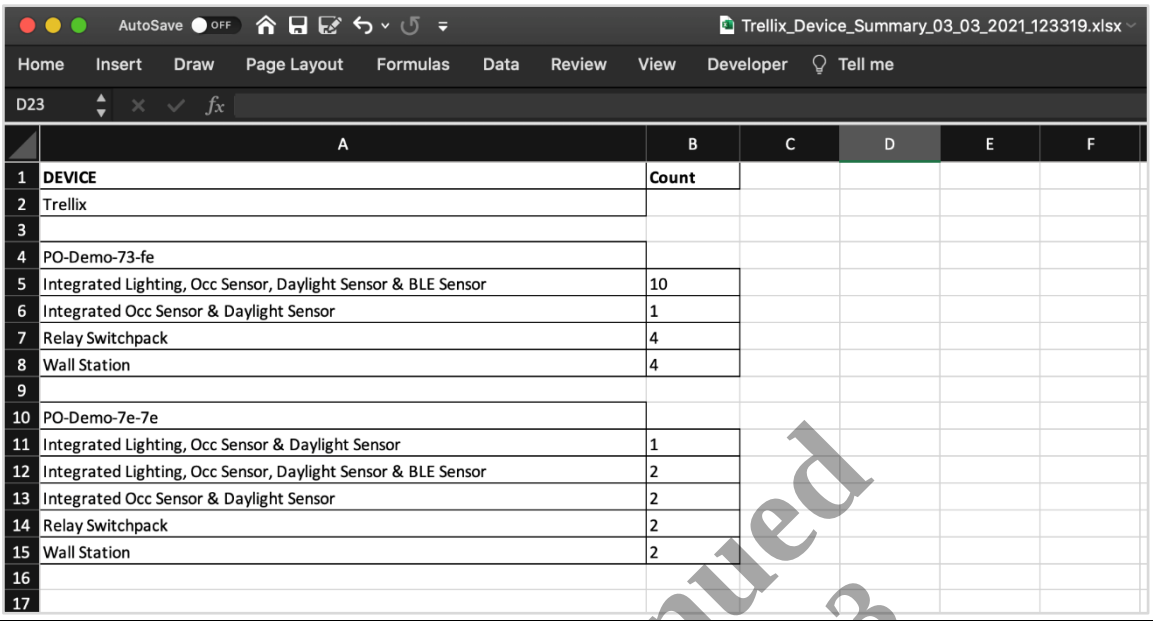


Step	Action
3	To set the power for one Device, select it from the list, then click **Edit**, and then expand the **Power** region. Go to Step 5. ***NOTE*** *You can limit the Devices displayed by selecting a Building and Floor.* ***EXAMPLE*** 
4	To set the power for multiple Devices, click **Bulk Edit**, and then select the checkbox for all Devices you want to modify. ***EXAMPLE*** 
5	Enter the **Max Power (Watt)** value for the Device(s), and then click **Save**.

7.14 – Viewing and Exporting the Paired Devices List

Follow the steps below to view and export the list of Devices associated with all Areas.

Step	Action
1	Click **Sites** in the main menu, then select a **Building** in the Building navigation panel, and then select a **Floor**. Note the number of paired devices (e.g., **28 Paired Devices**) below All Areas in the Building navigation panel. ***EXAMPLE*** 
2	Click **N Paired Devices** (e.g., **28 Paired Devices**) to display a list of the Devices, by WAC and type, associated with all Areas. ***EXAMPLE*** 

Step	Action
3	Click **Download** to export a list of the paired Devices in XLSX format. ***EXAMPLE*** 
4	Click ← **Paired Devices** to return to the Sites page.

	A	B	C	D	E	F
1	**DEVICE**	**Count**				
2	Trellix					
3						
4	PO-Demo-73-fe					
5	Integrated Lighting, Occ Sensor, Daylight Sensor & BLE Sensor	10				
6	Integrated Occ Sensor & Daylight Sensor	1				
7	Relay Switchpack	4				
8	Wall Station	4				
9						
10	PO-Demo-7e-7e					
11	Integrated Lighting, Occ Sensor & Daylight Sensor	1				
12	Integrated Lighting, Occ Sensor, Daylight Sensor & BLE Sensor	2				
13	Integrated Occ Sensor & Daylight Sensor	2				
14	Relay Switchpack	2				
15	Wall Station	2				
16						
17						

8 – Schedule Configuration

Use this chapter to learn the basic concepts of Trellix Lighting Schedules, and find out how to create Schedules that will automate your LCS based on date and regular or astronomical time. The main Schedule interface is shown below.

IMPORTANT

The Time Zone must be configured for each building so that Schedules will work properly. See Buildings and Floors Viewing and Editing a Building *for details.*

8.1 – Schedules, Events, and Actions

Trellix Lighting lets you create schedules using these three levels of organization:

- **Schedule** – Names a collection of one or more events
- **Event** – Specifies the dates, times, and frequency at which one or more actions will occur
- **Actions** – Performs a designated action on a selected Building, Floor, Area, and Zone

IMPORTANT
WaveLinx Wired does not support the use of End Dates in a Schedule.

When a Schedule is enabled, and the date and time conditions of an Event are met, the Event is triggered and the Actions it contains are executed.

EXAMPLE
The diagram below shows two Schedules, PG (Parking Garage) with two Events, and ATR (Atrium) with one Event.

Schedule	Event	Action
PG	**Lights On**: Every Weekday at 15 minutes before sunset	All Zones – Lights to 85%
	Lights Off: Every Weekday at 15 minutes after sunrise	All Zones – Lights to 0%
ATR	**Maintenance Special**: Sun, Jan 27, 2019, 9 AM to 5 PM	Area 1 Wallstations Enabled

Referring to the diagram above, the PG schedule controls the lights in the parking garage as follows:

- When the **PG** Schedule is enabled, and
- It is a Weekday (Monday to Friday), and
- The local sunset will occur 15 minutes from the current time, then
- The **Lights On** Event is triggered, and
- The Action that sets **All Zones – Lights to 85%** is executed

The ATR Schedule manages wallstations in the atrium, as follows:

- When the **ATR** Schedule is enabled, and
- It is Sunday, January 27, 2019 at 9 AM, then
- The **Maintenance Special** Event is triggered, and
- The Action that sets **Area 1 Wallstations Enabled** is executed

The power of Trellix Lighting scheduling is that by configuring the right mix of Schedules, Events, and Actions, you can create sophisticated lighting system control strategies that save time and energy by minimizing repetitive manual procedures.

Schedule and Event Names

It is worth considering how to choose consistent and meaningful names for your Schedules and Events. The **Schedules** page has a location browser on the left that lets you filter the calendar by **Client**, **Building**, and **Floor**. That means that your Schedule names do not necessarily have to include that information. If there are multiple floors, however, including a floor identifier can make it easier to scan all the Schedules in a selected Building. Depending on your application, you might name your Schedules by season (e.g., “Winter”, “Summer”, “All”), by use (“Holiday”, “Maintenance”), or by general equipment type (e.g., “Lighting”, “Receptacles”).

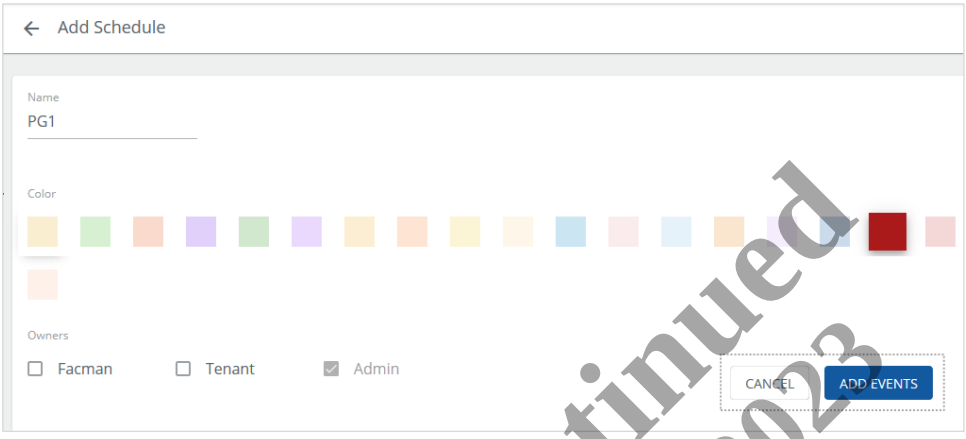
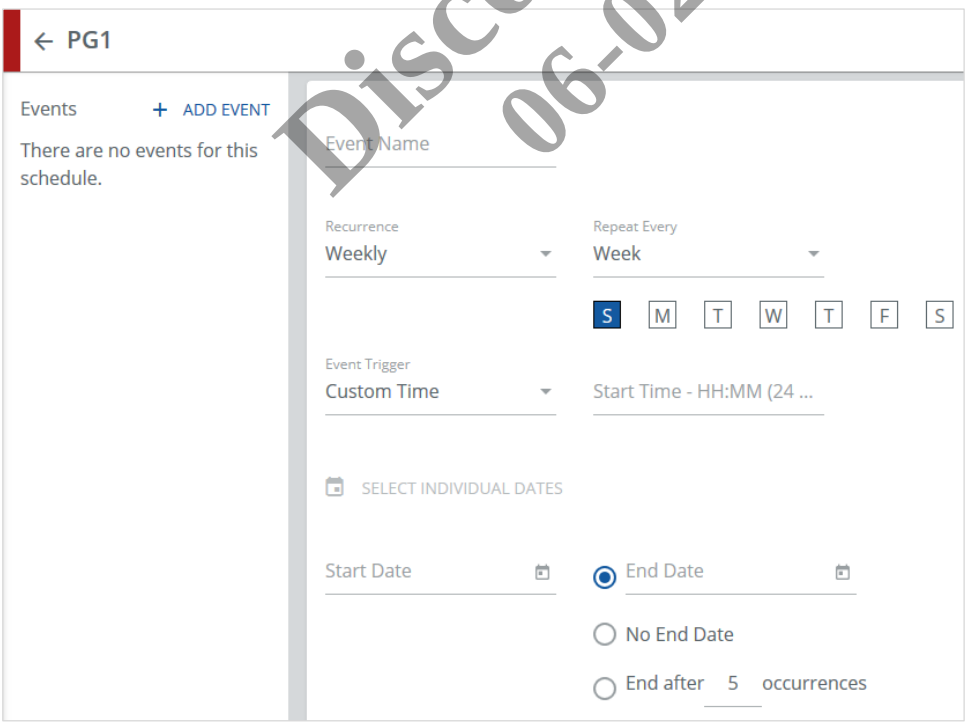
An Event is a collection of one or more actions, and so it makes sense to describe the result of those actions. Examples might include “Parking Garage Lights On”, “Parking Garage Lights Off”, or “Occupancy Fade Off”.

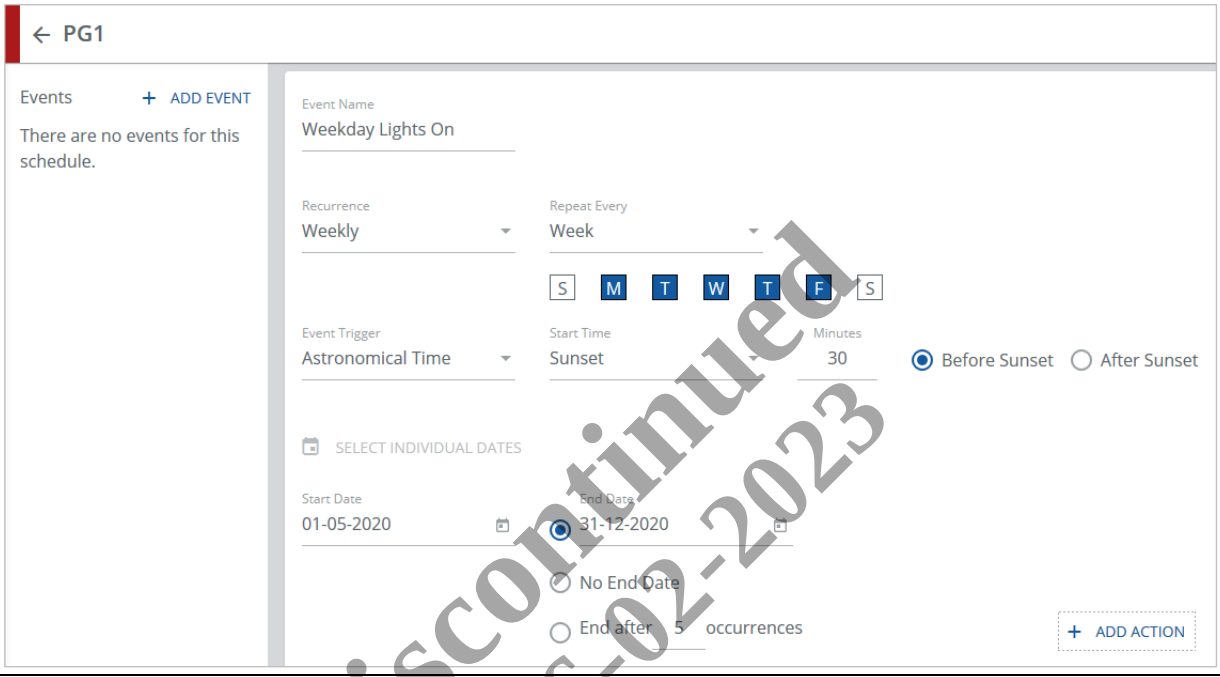
NOTE
You cannot name Actions.

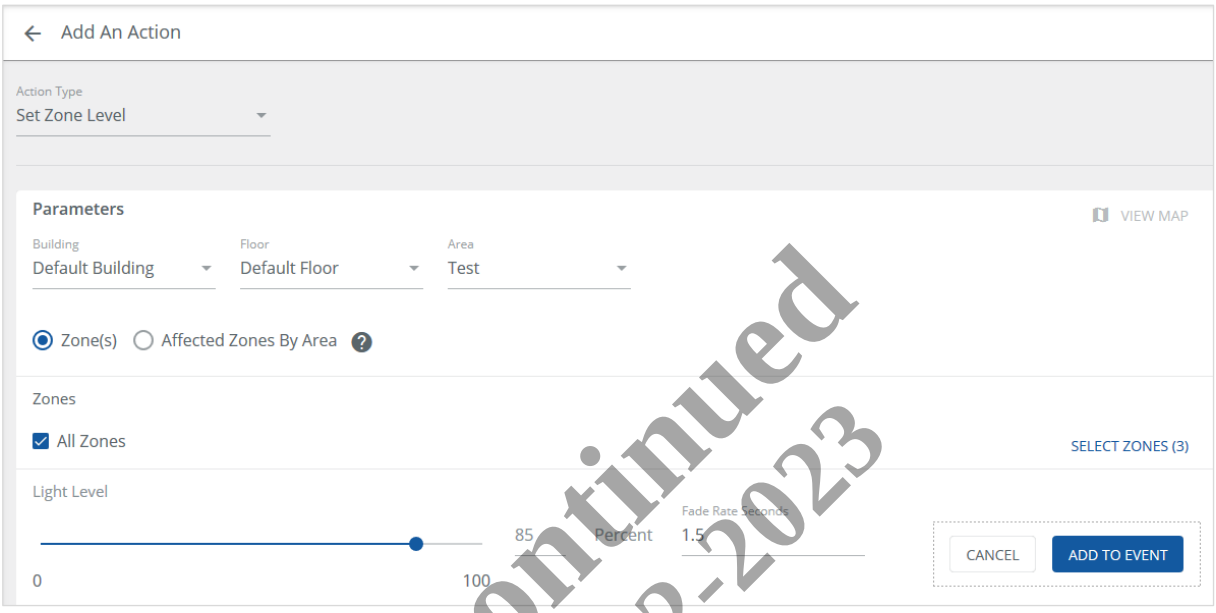
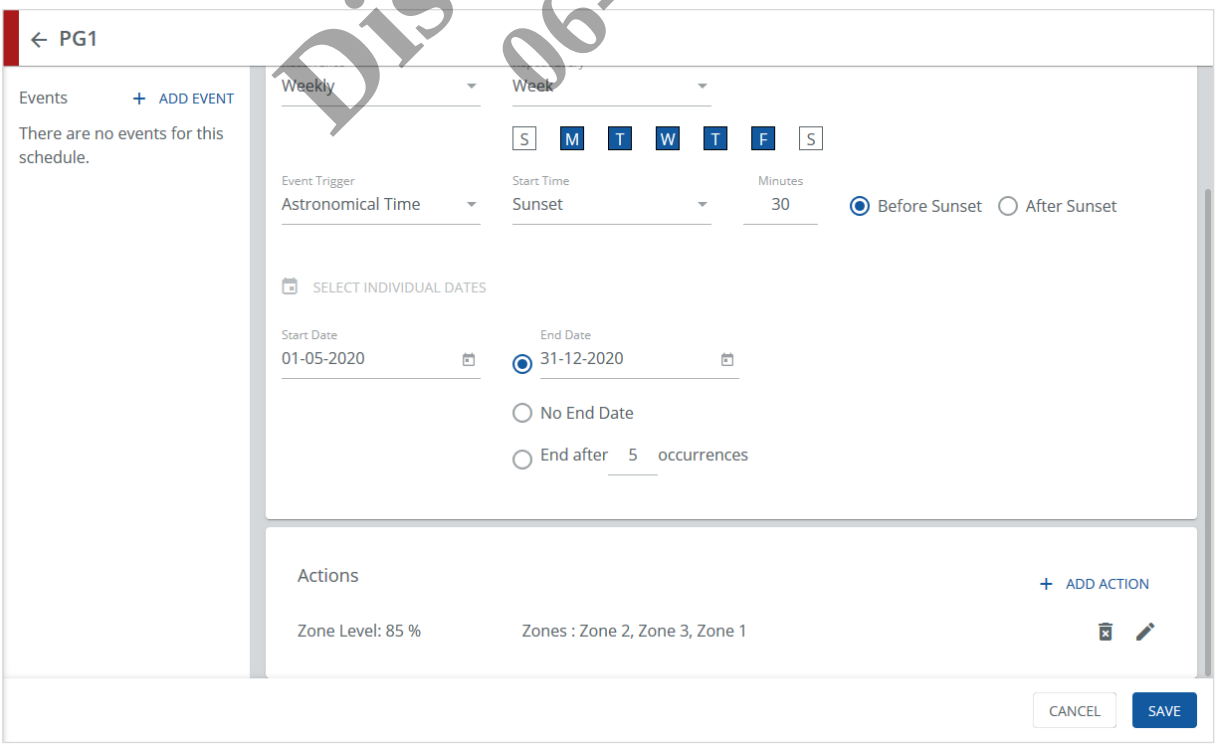
8.2 – Creating a New Schedule

Follow the steps below to create a Schedule.

NOTE
We will use a simple Event and Action for this procedure. Other configuration options for Events and Actions are explained in more detail in the topics that follow.

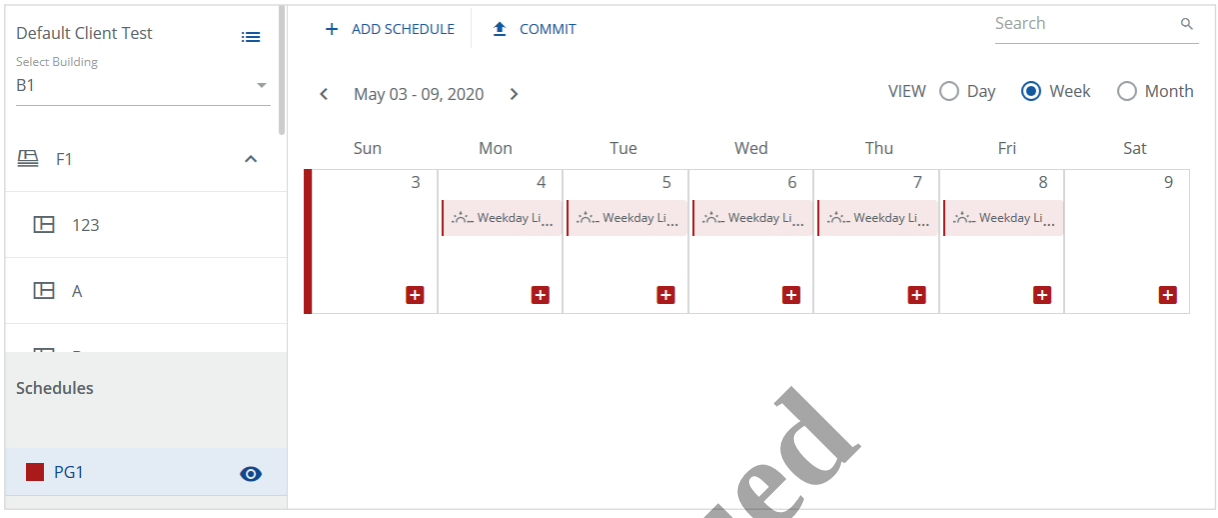
Step	Action
1	Click **Schedules** in the main menu, and then click **Create a Schedule**. ***NOTE*** *If no schedules exist, the **Create Schedule** window will appear automatically when the Schedules page is loaded.* ***RESULT*** 
2	Enter a **Schedule Name**, then (optionally) select the check box for one or more Owners for this Schedule, and then (optionally) click a color to represent this Schedule in the calendar, and then click **Add Events** (shown inset above). ***EXAMPLE*** 

Step	Action
3	Enter an **Event Name**, then select **Astronomical Time** as the **Event Trigger**, with a **Start Time** of **Sunset**, and an offset **Before Sunset** of **30 Minutes.** Leave the **Recurrence** as **Weekly**, and then select Monday through Friday (**M**,**T**,**W**,**T**,**F**). Select or enter a **Start Date** and **End Date** in the future. ***NOTE*** *Other Event configuration options, such as **Selecting Individual Dates**, using **Custom Time** as an **Event Trigger**, and different types of **Recurrence**, covered in more detail later in this section.* ***EXAMPLE*** 
4	Click **Add Action** (shown inset above), and then select **Set Zone Level** as the **Action Type**.

Step	Action
5	Select the **Building**, **Floor**, and **Area** where this action will take place. Click **Zone**, then select **All Zone Types**, and then select **All Zones.** Set the **Light Level** to **85%**, and the **Fade Rate Seconds** to **1.5**. ***NOTE*** *Other Action types and configuration options, such as an **Action Type** of **Select Scene** or **Select Occupancy**, **Action**, and limiting the scope with **Select Zone Types** or **Select Zones**, are covered later in this section.* ***EXAMPLE*** 
6	Click **Add to Event** (shown inset above) to create the Event and return to the Schedule page. ***EXAMPLE*** 

Step	Action
7	Click **Save** to apply your Event changes, and then click ← (upper left) to return to the **Schedules** page with the new schedule showing. Click **Commit**, and then click **Confirm** to send your changes to the Area Controllers.

EXAMPLE

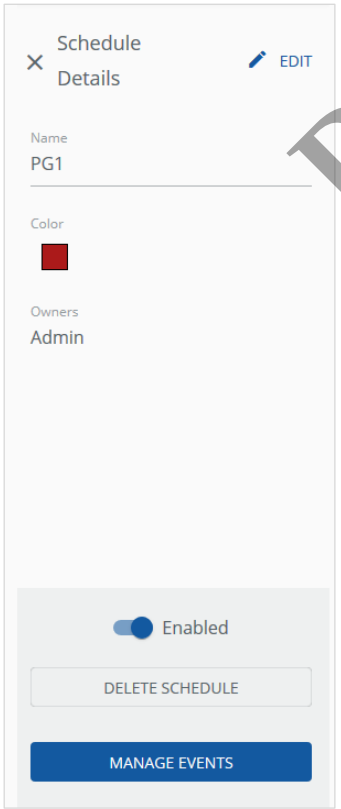


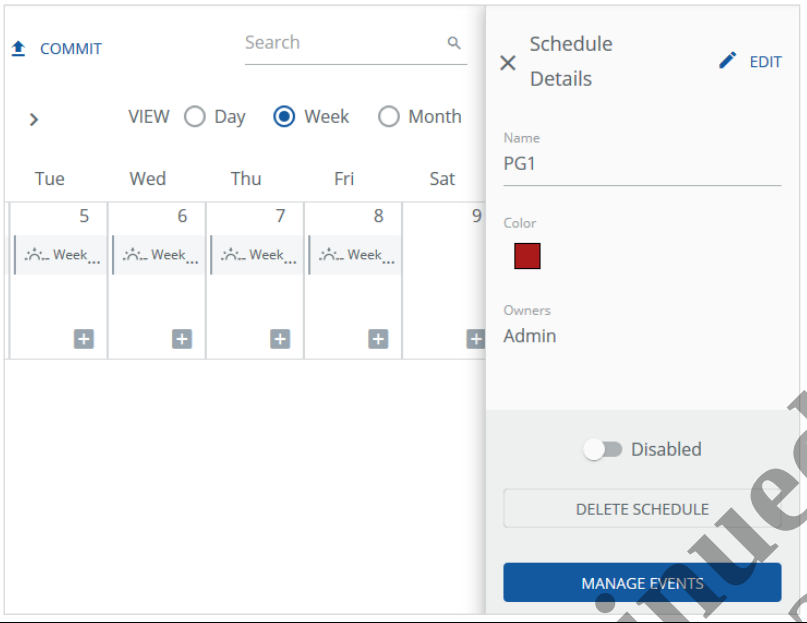
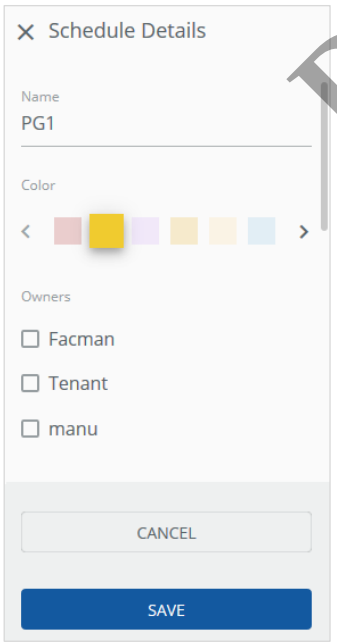
8.3 – Enabling, Disabling, Configuring, and Deleting Schedules

Follow the steps below to set the status, color coding, or ownership of the schedule, or to delete it.

Step	Action
1	Click **Schedules** in the main menu, then click a Schedule in the **Schedules** list, and look at the Schedule Details panel.

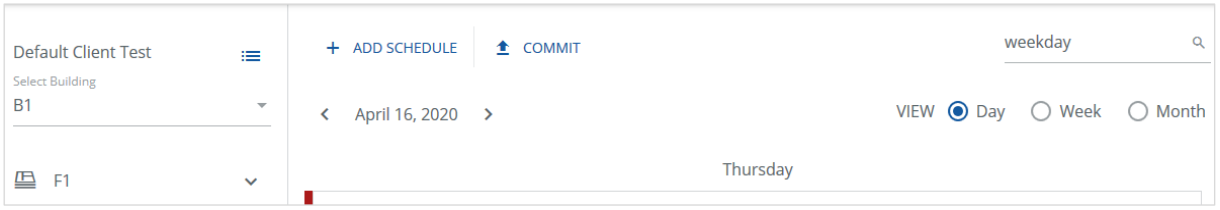
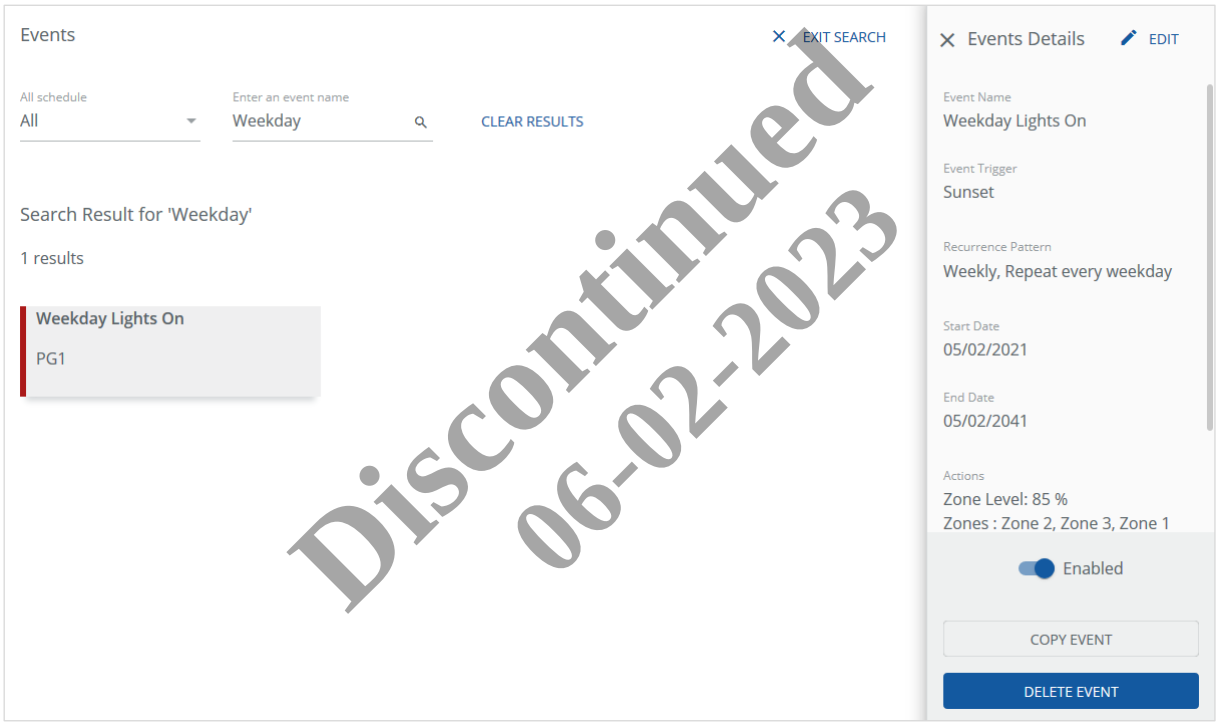
EXAMPLE



Step	Action
2	To change the status of the Schedule, click the **Enabled/Disabled** toggle (shown grey and Disabled below). A disabled Schedule will appear greyed out in the **Schedules** list and calendar view. ***EXAMPLE*** 
3	To change the Schedule color or the Owners, click **Edit**. Select the desired color, and then select one or more owners, and then click **Save**. ***NOTE*** *By default, a Schedule is owned by the account that created it. For example, if the Admin user adds a Schedule, then it will be owned by Admin.* ***EXAMPLE*** 
4	To delete the Schedule, click **Delete Schedule**, and then confirm the operation.

8.4 – Searching for Scheduled Events

Follow the steps below to search for an existing Event.

Step	Action
1	On the Schedules page, enter all of part of the Event name ("`weekday`" in the example below) in the **Search Events** field. ***EXAMPLE*** 
2	Press Enter or click 🔍 to run the Search. ***EXAMPLE***  ***SEARCH RESULT TASKS*** • Click **All** (upper left) to select a Schedule and limit the search results • Click the desired Event to display the Event Details panel • Scroll down to view more details, including Actions in the selected Event • Click **Clear Results** to return to the Schedules page

8.5 – Editing, Enabling, Adding, Deleting, and Copying Scheduled Events

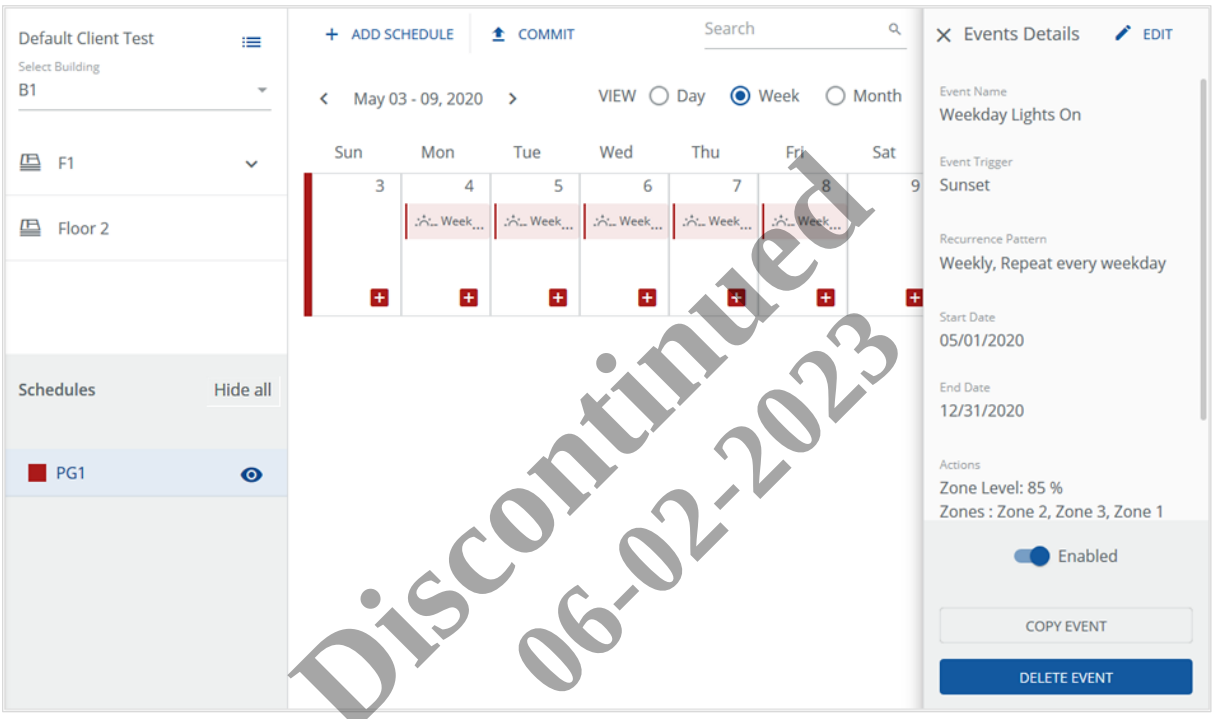
Follow the steps below to edit, enable, add, delete, or copy Events in an existing schedule.

NOTE
This is a general procedure. Specific Event and Action configuration details for each are covered later in this section.

Step	Action
1	Display the target Event Details panel by clicking the Event label in the Calendar of the Schedules page (shown below) or in the Search Results list (see *Searching for Scheduled Events* for details on searching).

NOTE
You can add a new Event by clicking + in the Calendar view

EXAMPLE

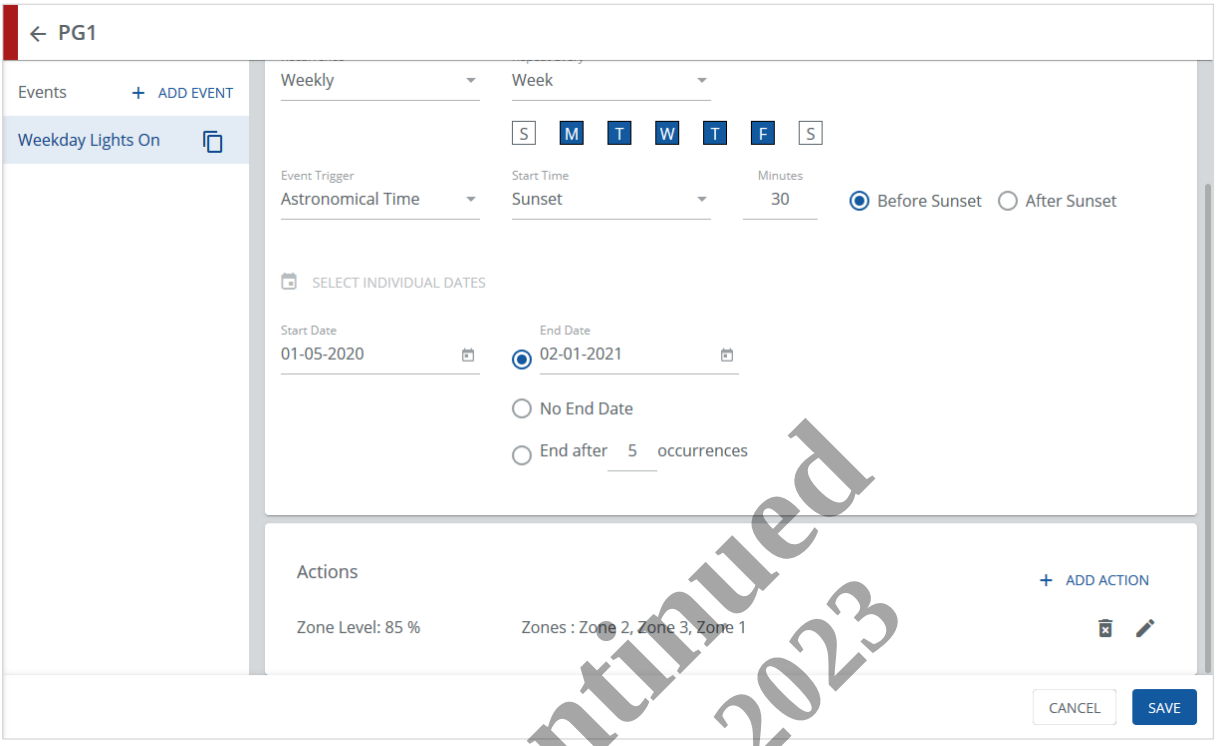


Enable and Delete Tasks

- Click the **Enabled/Disabled** toggle to change the Event status
- Click **Delete Event**, and then confirm your action to remove the Event

Step	Action
2	If you want to modify an Event, click **Edit** (upper right in the Event Details panel).

EXAMPLE

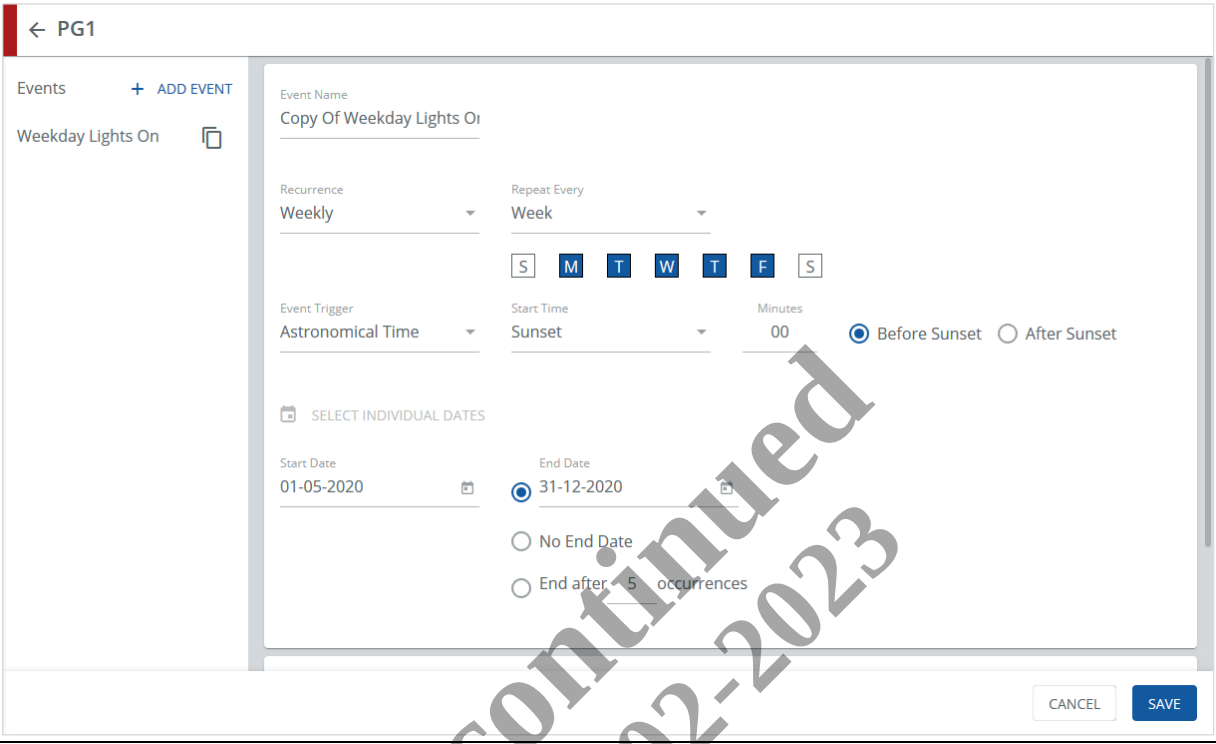
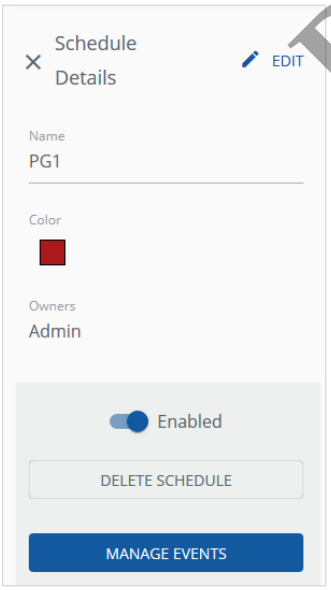


EDITING TASKS

- To edit the Event, modify the settings in the upper panel, and then click **Save**
- To create a new Event, click **Add Event**
- To edit an Action, click ✎ beside it in the Actions list in the lower panel
- To remove an Action, click 🗑
- To create a new Action, click **Add Action**

NOTE

*When you create or edit Actions, click **Save** when you return to the Events page to apply your changes.*

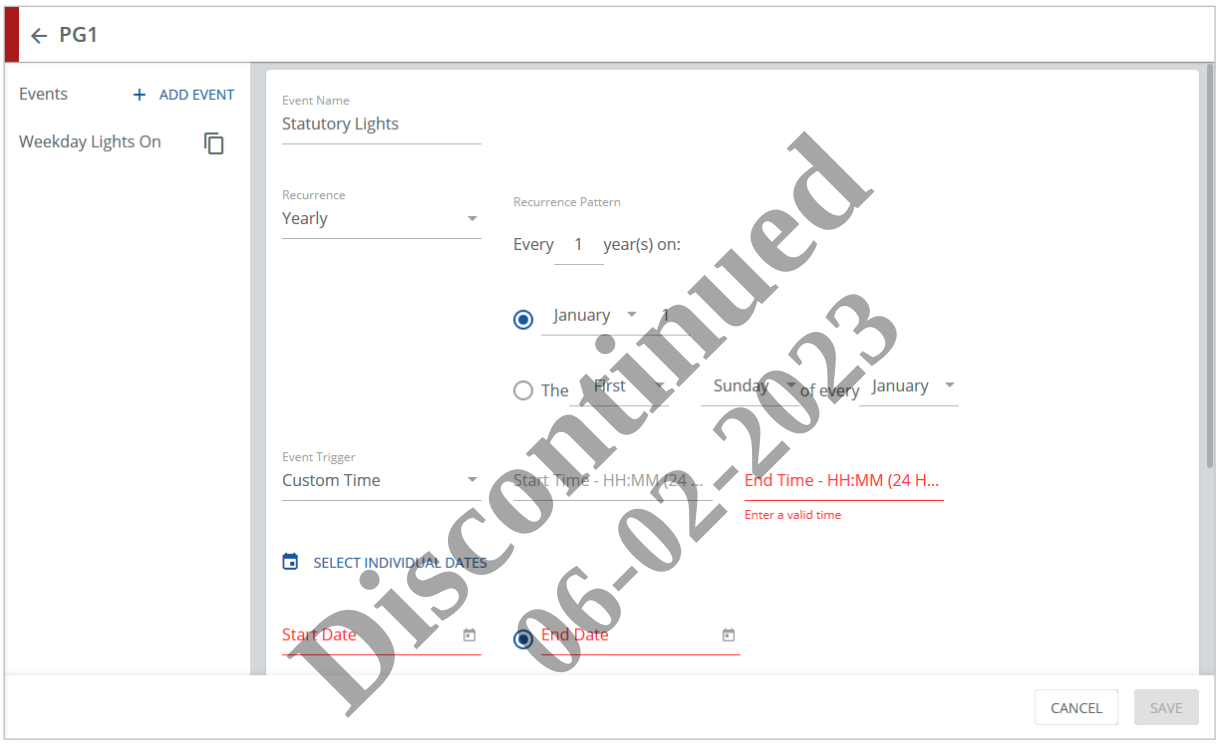
Step	Action
3	If you want to duplicate an Event, click **Copy** (bottom of the Event Details panel), and then edit and save the new Event. ***NOTE*** *The copied Event will be added to the same Schedule as the original, with the name beginning "Copy of…".* ***EXAMPLE*** 
4	If you want to work with all Events and Actions in a single Schedule, click **Manage Events** in the Schedule Details panel. ***EXAMPLE*** 
5	After saving any Event changes or additions, click **Commit**, and then click **Confirm** to send your changes to the Area Controllers.

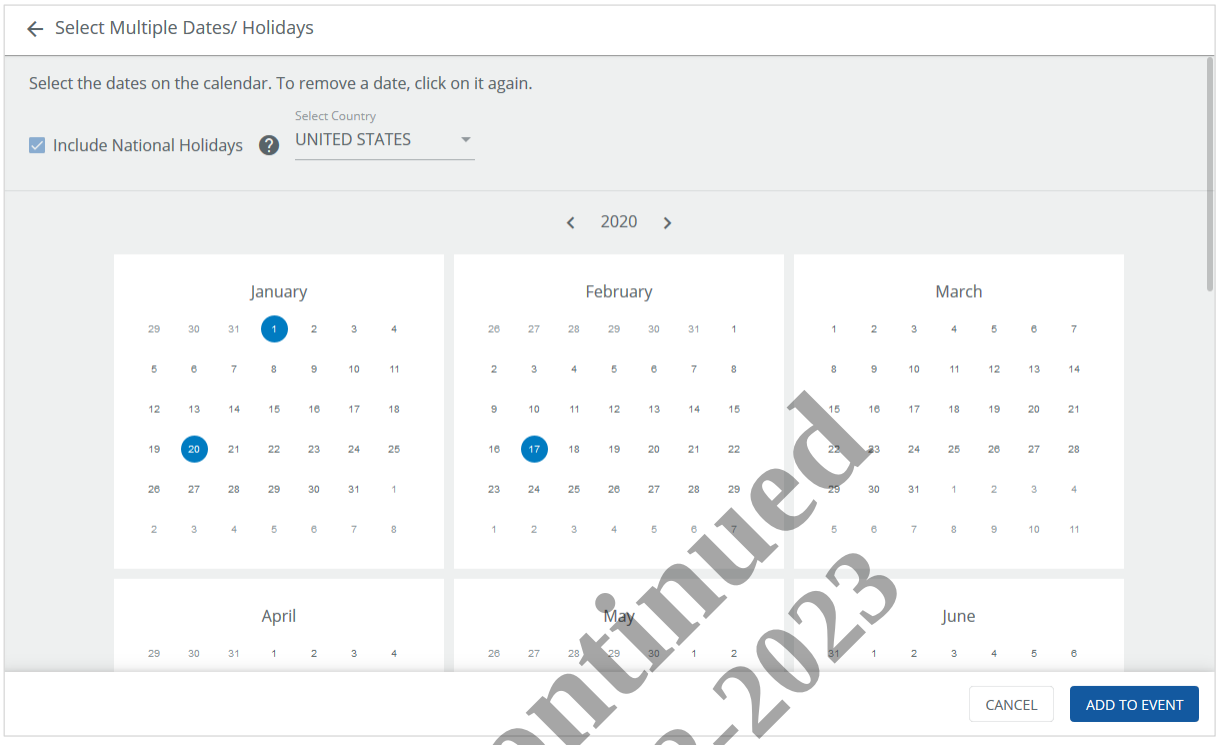
8.6 – Event Editing: Choosing Active Dates

Follow the steps below to choose specific dates on which this event will be active.

NOTES

- *You must commit your changes to apply them to the Area Controllers*
- *WaveLinx Wired does not support the use of End Dates in a Schedule*

Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events. ***NOTE*** *The Select Individual Dates option, shown below, is only available with Recurrence:Once or Yearly selected.* ***EXAMPLE*** 
2	On the Event form, click **Select Individual Dates**.

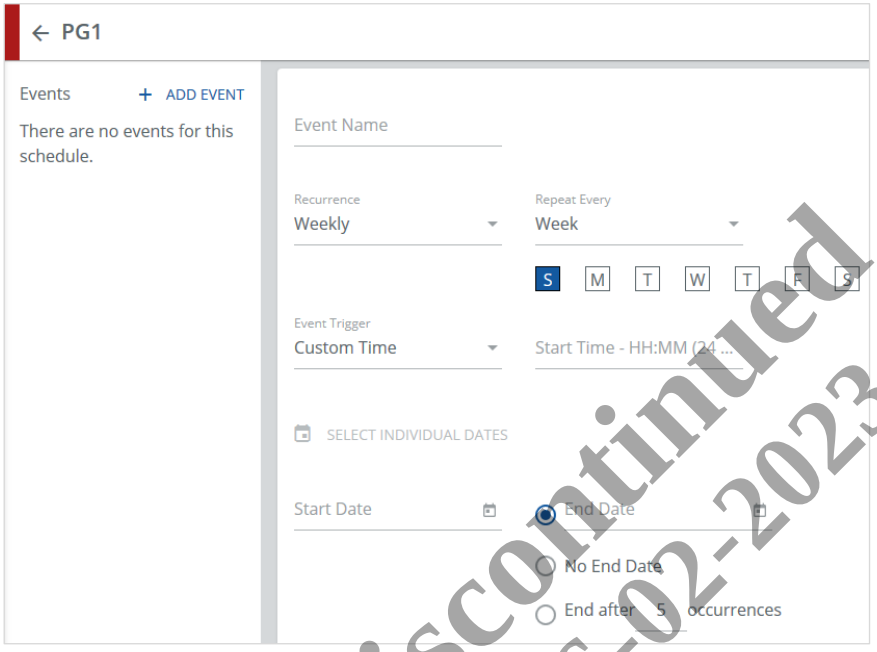
Step	Action
3	To add local statutory holidays to your selected dates, click **Include National Holidays** and then select the **Country** that applies to this Event. Click other dates to add them. Click any selected date a second time to remove it. ***EXAMPLE***  **Other Individual Date Tasks** • Scroll to see more dates in the current year • Use the **<** and **>** links at the top to display a different year
4	Click **Add to Event** when you have selected all the desired dates, and then click **Save** to apply your changes.

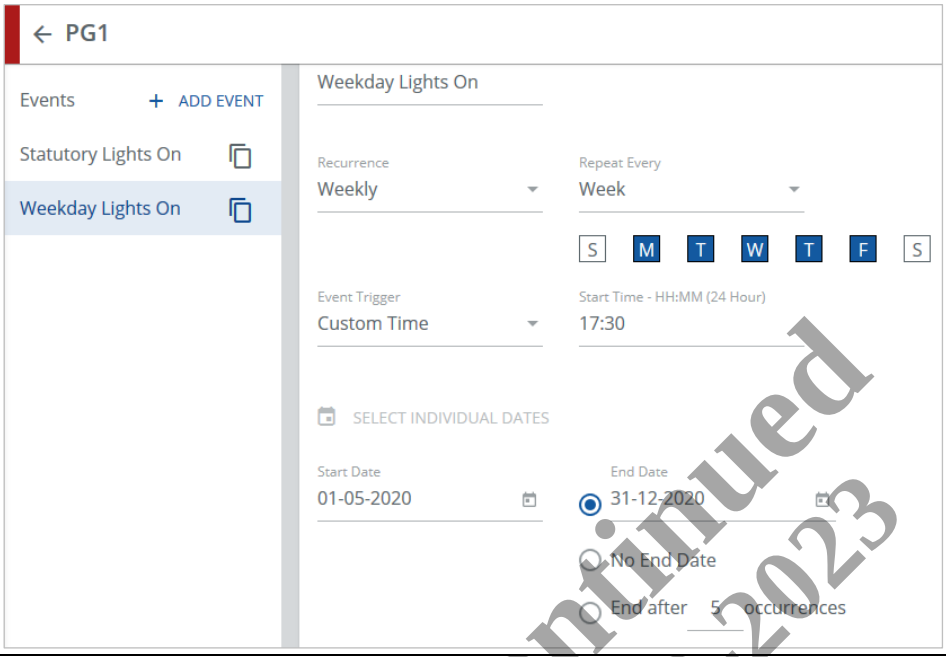
8.7 – Event Editing: Choosing the Active Time Range

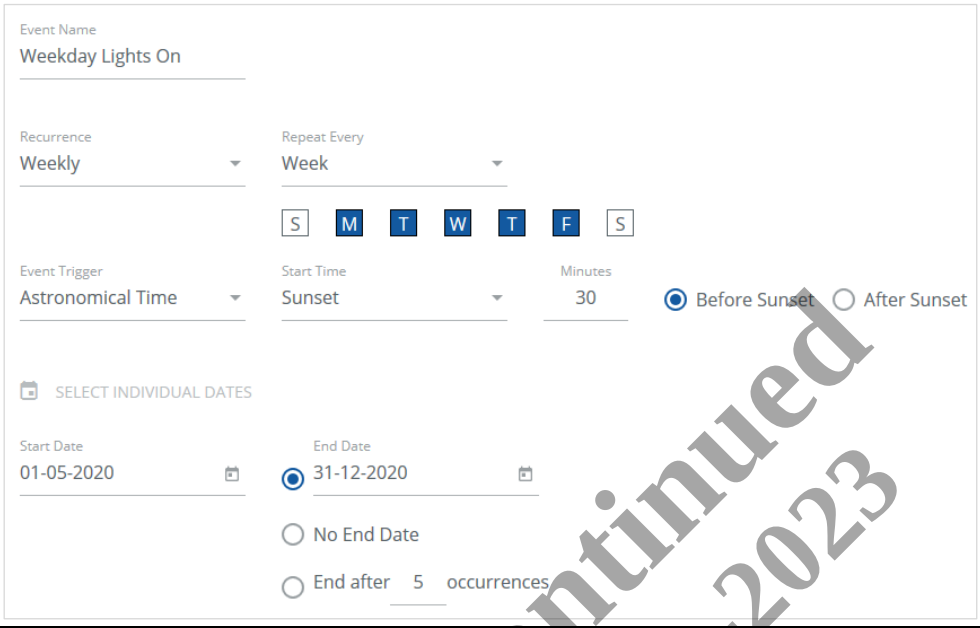
Follow the steps below to set a standard or astronomical time range during which this event will be active.

NOTES

- *You must commit your changes to apply them to the Area Controllers*
- *WaveLinx Wired does not support the use of End Dates in a Schedule*

Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events. ***EXAMPLE*** 

Step	Action
2	Select **Custom Time** as the **Event Trigger** on the Event form if you want to specify a standard clock time. Enter the **Start Time** in the HH:MM format (e.g., 09:30, 17:00). ***NOTE*** *If Recurrence:Once is chosen, you will also need to provide an End Time as described later in Step 5.* ***RESULT*** 
3	Select **Astronomical Time** as the **Event Trigger** on the Event form if you want your event to be active relative to the rising and setting of the sun. ***NOTE*** *A common application for astronomical time is outdoor parking, where the lights should be turned on at sunset and turned off at sunrise.*

Step	Action
4	To activate your event relative to when the sun comes up, select **Sunrise** as the **Start Time**, then enter the number of **Minutes** away from the sunrise, and then select **Before Sunrise** or **After Sunrise**. To activate your event relative to sunset, choose **Sunset** as the **Start Time** instead. **Note** *If Recurrence:Once is chosen, you will also need to provide an End Time as described later in Step 5.* ***EXAMPLE*** 
5	If the Recurrence is set to Once, meaning the Event will not repeat, you must specify when it will end. To end the Event relative to when the sun comes up, select **Sunrise** as the **End Time**, then enter the number of **Minutes** away from the sunrise, and then select **Before Sunrise** or **After Sunrise**. To end your event relative to sunset, choose **Sunset** as the **Start Time** instead. ***NOTE*** *The **Start Time** and **End Time** cannot be the same time and must be in chronological order. For example, you cannot activate an event **After Sunrise** and then make it inactive **Before Sunrise**.*
6	Click **Save** to apply your changes.

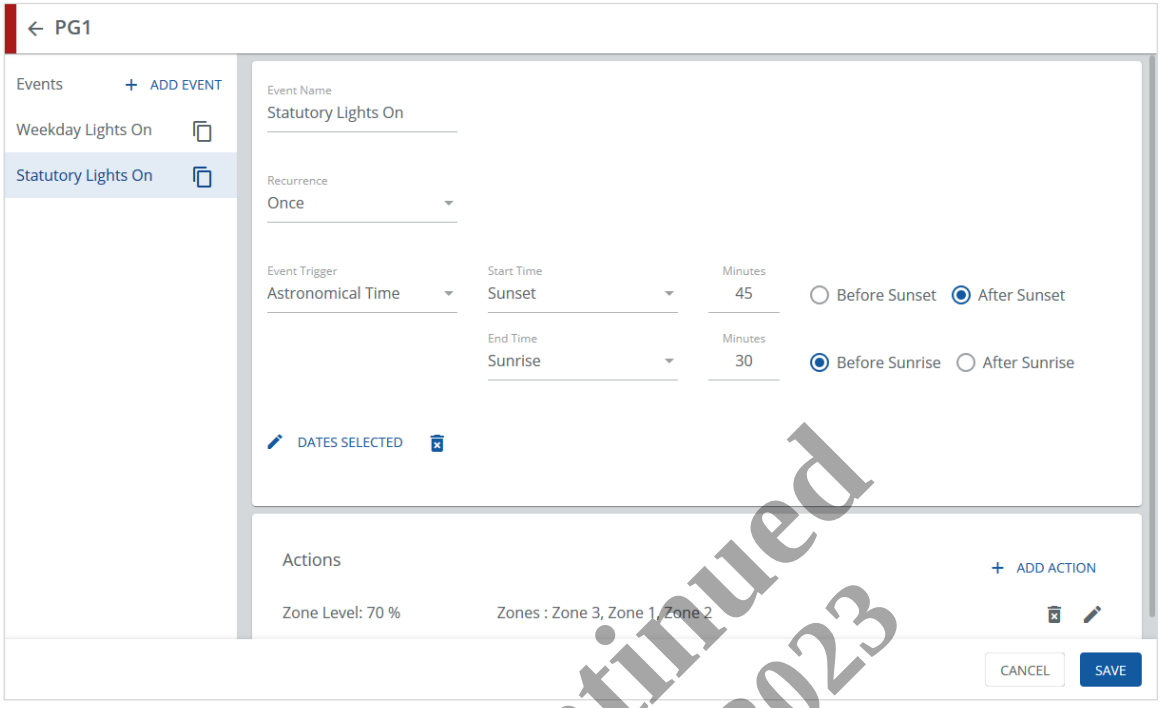
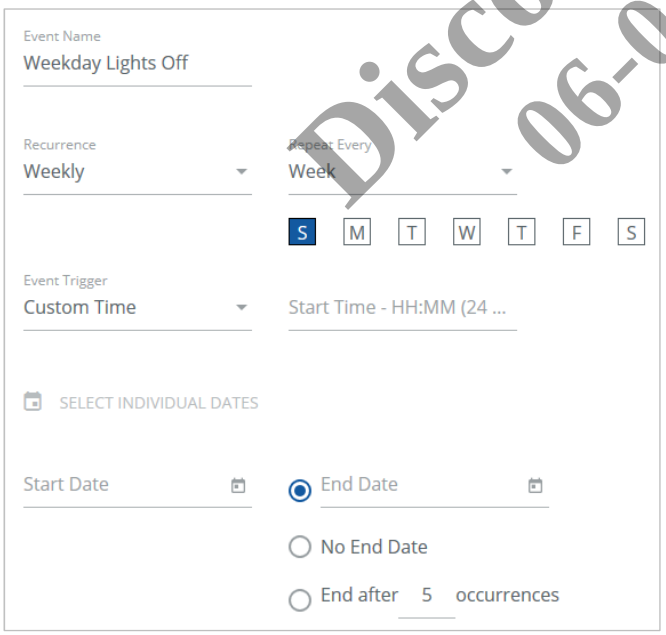
8.8 – Event Editing: Choosing to Repeat an Event

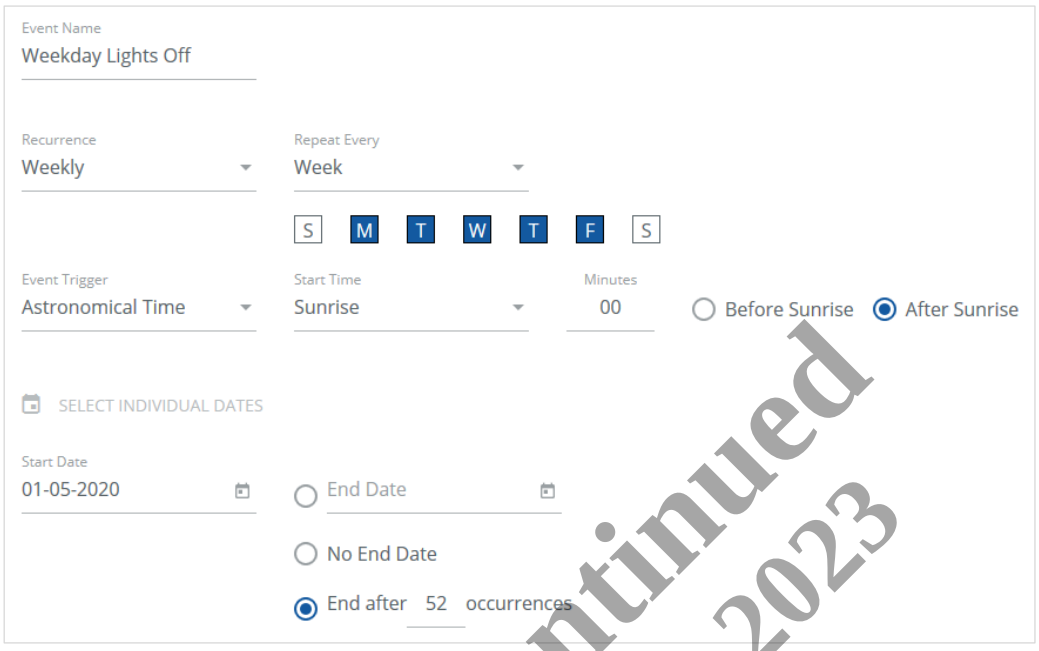
Follow the steps below to set whether an Event will repeat, and if so, at what interval.

NOTES

- *You must commit your changes to apply them to the Area Controllers*
- *WaveLinx Wired does not support the use of End Dates in a Schedule*

Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events.

Step	Action
2	If your Event will only be activated one time, select a **Recurrence** of **Once**. ***EXAMPLE*** 
3	If your Event will be activated at an interval of one or more weeks, select a **Recurrence** of **Weekly**. ***RESULT*** 
4	Select a **Repeat Every** (i.e., the number of weeks between repetitions) from **1 Week** to **4 Weeks**, and then select the days of the week (**S**-**M**-**T**-**W**-**T**-**F**-**S**) on which your Event will repeat.

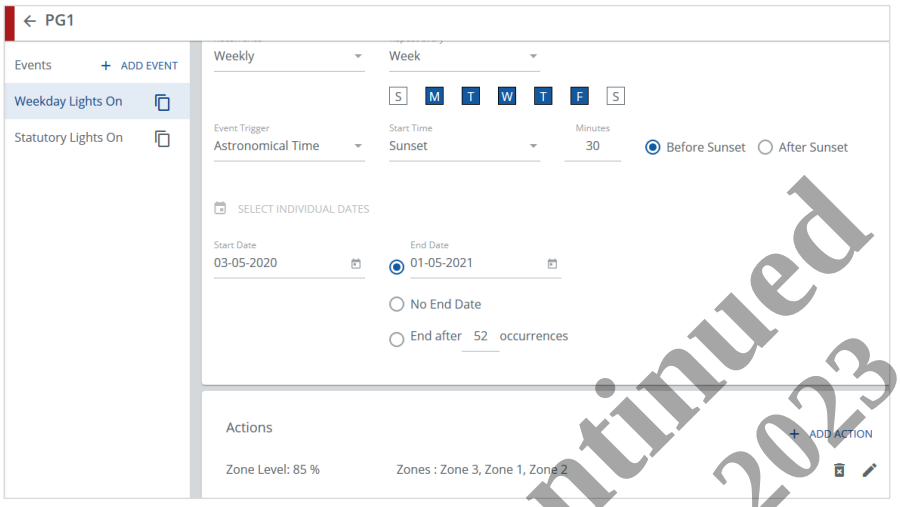
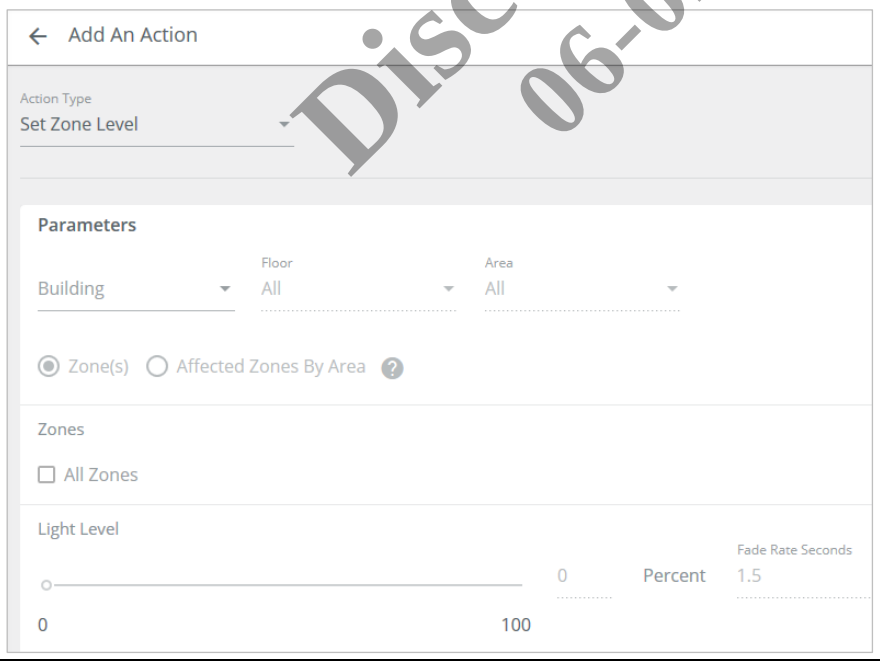
Step	Action
5	Select the **Start Date** after which the Event will be activated, and then select when it will stop being activated, as follows: • Select an **End Date** after which no more activations will occur • Select **No End Date** to let the event activate indefinitely • Select **End After**, and then enter a fixed number of repetitions after which the event will stop activating ***EXAMPLE*** 
6	Click **Save** to apply your changes.

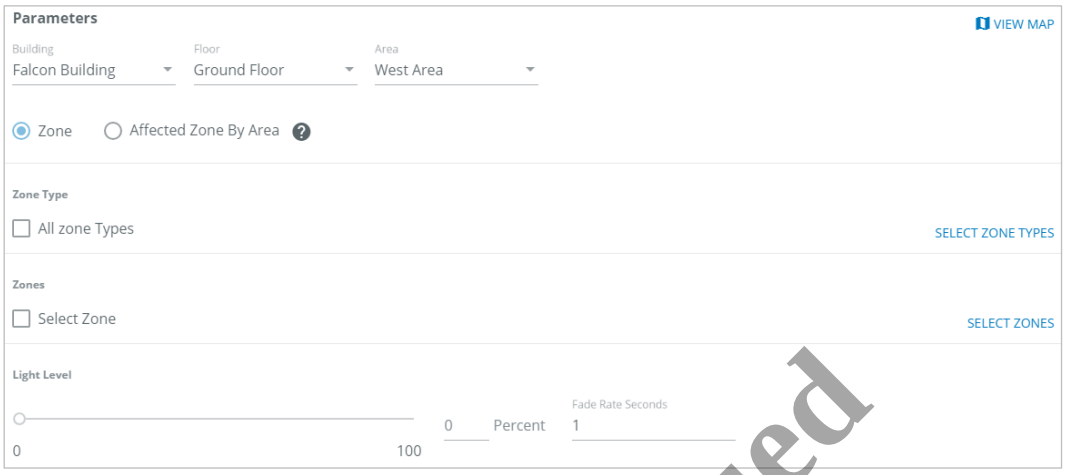
8.9 – Action Editing: Adding a Zone Level Action

Follow the steps below to add a Zone Level Action to your Event.

NOTES

- *A common application for a zone level action is turning on a corridor, or sets of corridors, to a specific light level*
- *You must commit your changes to apply them to the Area Controllers*

Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events. ***EXAMPLE*** 
2	Click **Add Action**, and then select **Zone Level** as the **Action Type**. ***RESULT*** 

Step	Action
3	Select the **Building**, then the **Floor**, and then the **Area** that your action will affect. ***NOTE*** *You can choose **All Floors** and **All Areas**.* ***RESULT*** 
4	Click **View Map** to display the Building Floor Map (if configured). See the *Trellix Lighting User Manual* for details on displaying Floor Maps.
5	If you want to target your action by the zone type or name, click **Zone**, and then • To limit the targeted zones by type, click **Select Zone Types**, then select one or more **Zone Types**, and then click **Add to Action** • To limit the target zones by name, click **Select Zones**, then select one or more **Zones**, and then click **Add to Action** ***EXAMPLE*** 

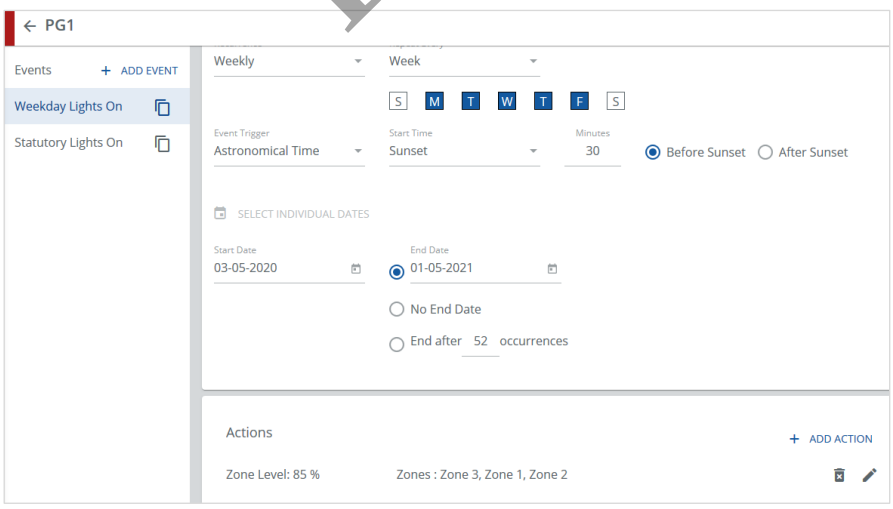
Step	Action
6	If you want to target your action by the Areas containing Zones, click **Affected Zone by Area,** then click **Select Areas,** then select one or more **Areas**. ***NOTE*** *WaveLinx Wired does not support the **Affected Zone by Area** option.* ***EXAMPLE*** 
7	Click **Add to Event** (shown inset above), and then click **Save** to apply your changes.

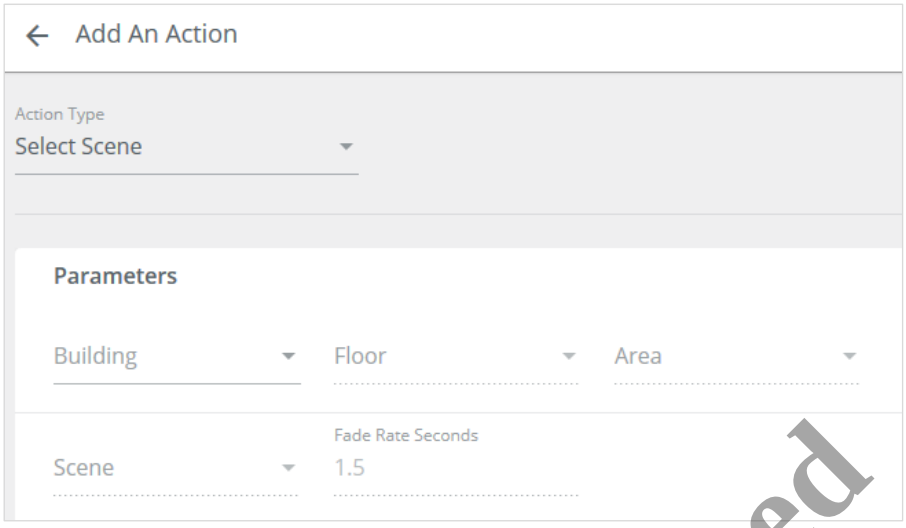
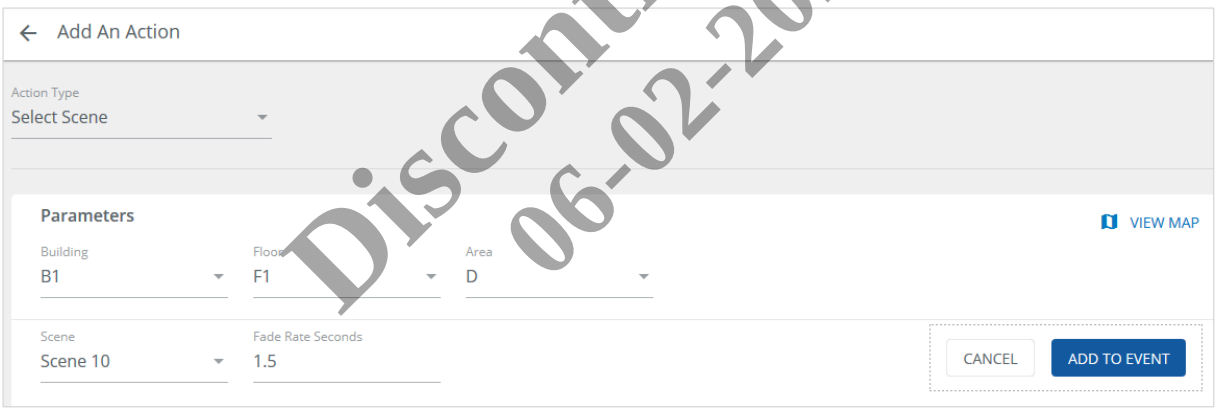
8.10 – Action Editing: Adding a Scene Action

Follow the steps below to add a Scene Action to your Event.

NOTES

- *A common application for a Scene Action is to turn on a conference room to a specific Scene, e.g., All On Scene*
- *You must push any changes to the Area Controllers*

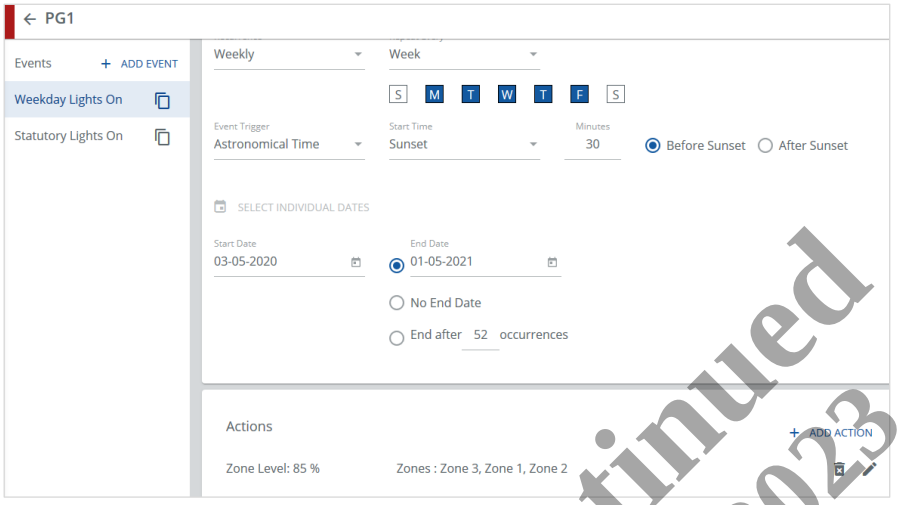
Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events. ***EXAMPLE*** 

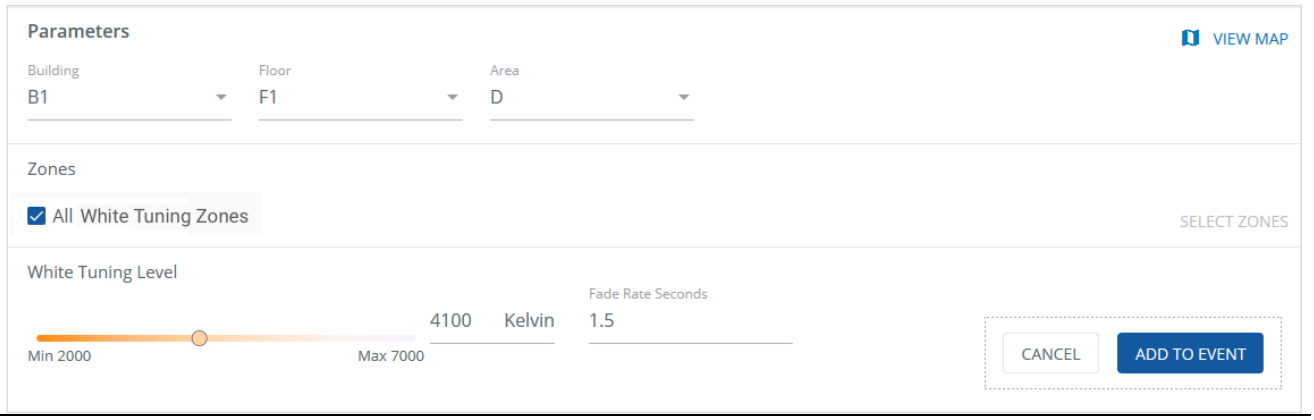
Step	Action
2	Click **Add Action**, and then choose **Select Scene** as the **Action Type**. ***RESULT*** 
3	Select the **Building**, then the **Floor**, and then the **Area** that your action will affect.
4	Click **View Map** to display the building floor plan (if configured).
5	Select the **Scene** to apply, then enter a **Fade Rate**. ***RESULT*** 
6	Click **Add to Event** (show inset above), and then click **Save** to apply your changes.

8.11 – Action Editing: Adding a White Tuning Level Action

Follow the steps below to add a White Tuning Level Action to your Event.

NOTE
You must commit your changes to apply them to the Area Controllers.

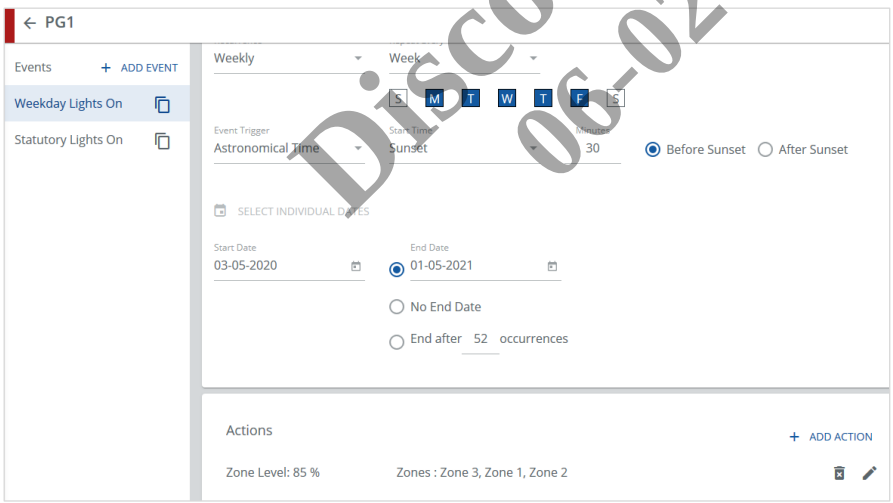
Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events. ***EXAMPLE*** 
2	Click **Add Action**, and then choose **Set White Tuning Level** as the **Action Type**. ***RESULT*** 
3	Select the **Building**, then the **Floor**, and then the **Area** that your action will affect.
4	Click **View Map** to display the building floor plan (if configured).

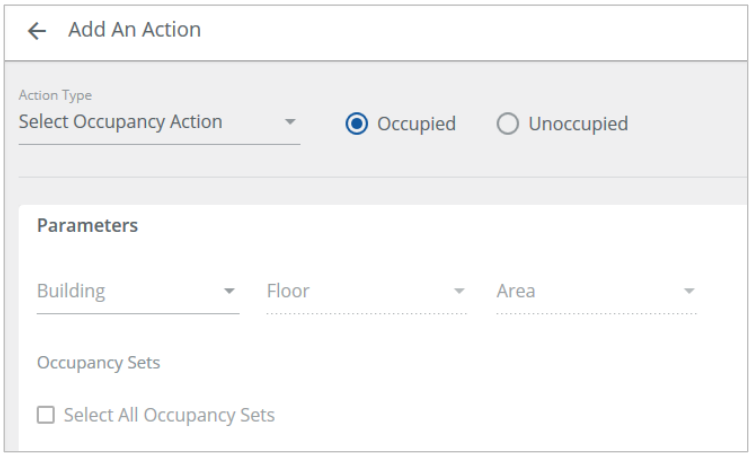
Step	Action
5	Select **All White Tuning Zones**, then select or enter **White Tuning Level**, and then enter a **Fade Rate**. ***EXAMPLE*** 
6	Click **Add to Event** (shown inset above), and then click **Save** to apply your changes.

8.12 – Action Editing: Adding an Occupancy Action

Follow the steps below to add an Occupancy Action to your Event.

NOTE
You must commit your changes to apply them to the Area Controllers.

Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events. ***EXAMPLE*** 

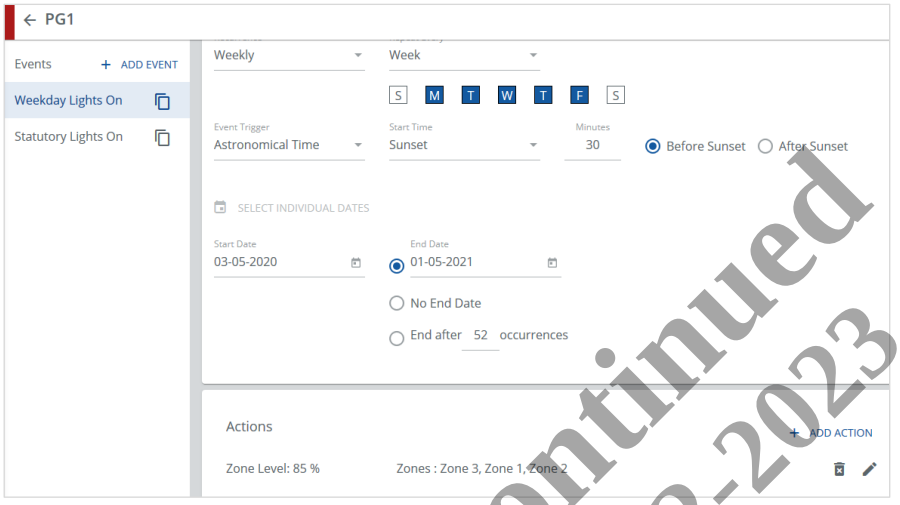
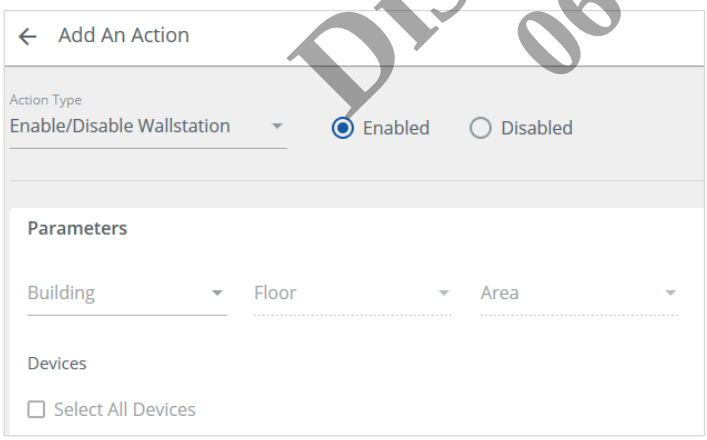
Step	Action
2	Click **Add Action**, then choose **Select Occupancy Action** as the **Action Type,** and then click **Occupied** or **Unoccupied** as the state that will trigger this action. ***RESULT*** 
3	Select the **Building**, then the **Floor**, and then the **Area** that your action will affect.
4	Click **View Map** to display the building floor plan (if configured).
5	Choose **Select All Occupancy Sets** to target all available sets, or click **Select Occupancy Sets** to choose specific sets, and then select **Scene** or **Set Zone Level** as the **Action Type**. ***EXAMPLE*** 
6	If you selected **Scene** as the **Action Type**, select a specific **Scene**, and then enter a **Fade Rate Seconds** value. ***EXAMPLE*** 
7	If you selected **Set Zone Level** as the **Action Type**, follow Steps 4 and 5 in *Action Editing: Adding a Zone Level Action*.
8	Click **Add to Event** (shown inset above), and then click **Save** to apply your changes.

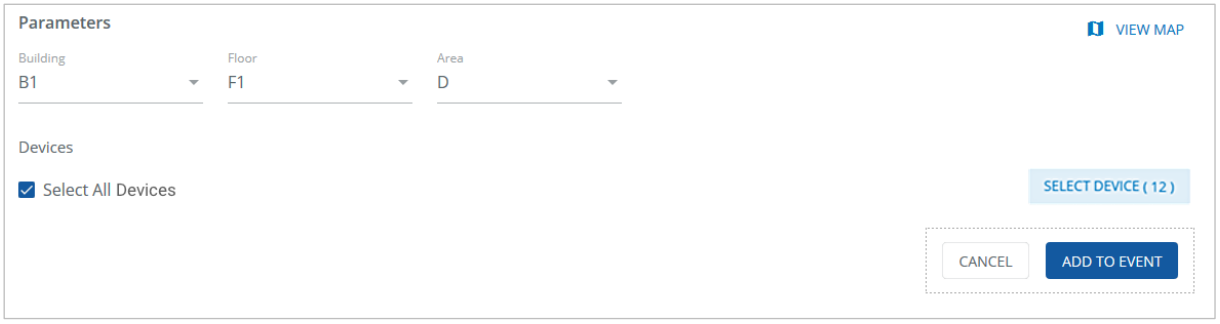
8.13 – Action Editing: Adding an Enable/Disable Wallstation Action

Follow the steps below to add an Enable/Disable Wallstation Action to your Event.

NOTES

- *A common application for a wallstation action is to disable a wallstation station in an open space during normal operating hours, and then enable it in the evening to facilitate the cleaning staff activity*
- *You must commit your changes to apply them to the Area Controllers*

Step	Action
1	Display the desired Event as described in *Searching for Scheduled Events* or *Editing, Enabling, Adding, Deleting, and Copying Scheduled* Events. ***EXAMPLE*** 
2	Click **Add Action**, then choose **Enable/Disable Wallstation** as the **Action Type,** and then click **Enabled** or **Disabled** as the state that will trigger this action. ***RESULT*** 
3	Select the **Building**, then the **Floor**, and then the **Area** that your action will affect.
4	Click **View Map** to display the building floor plan (if configured). See the *Trellix Lighting User Manual* details.

Step	Action
5	Choose **Select All Devices** to target all available wallstations, or click **Select Devices** to choose specific wallstations. ***EXAMPLE*** 
6	Click **Add to Event** (shown inset above), and then click **Save** to apply your changes.

9 – Troubleshooting

This chapter describes error messages, status messages, and other situations you may encounter while using Trellix Lighting. There are suggested actions provided for each one.

NOTE
If an alarm is shown with a device name of "NA", the WAC and IM databases are out of sync and should be synchronized.

9.1 – Console Menu Options

Trellix Core provides a CLI (Command Line Interface) when a USB keyboard and HDMI monitor are connected directly to it. This makes features available that are not found in the standard UI, such as Tier 2/3 troubleshooting. It is mainly used for the following:

- Checking the health of the system
- Checking the application service status and logs in real time
- Accessing the system for troubleshooting if the standard UI services are malfunctioning or inaccessible
- Resetting the system to its original factory values

The following menu options provided through the console when connected to a screen (HDMI) and keypad (USB):

- **Reset to Defaults** – Reset Trellix Core to original factory settings
- **Network configuration and status** – Change the network IP and the IP status
- **Shutdown / Reboot** – Shutdown or reboot the entire system
- **Service Control** – Start and stop services (once logged in)
- **Linux command prompt** – Access the Linux command prompt

9.2 – Invalid Password

Description

When editing an account password, this error indicates that the password you provided does not meet a system requirement.

Suggested Action

- Confirm that the new password is not the same as any of the previous 10 passwords used for this account

9.3 – No Controllers Found

Description

When attempting to discover devices, this message indicates that there were no connected devices found.

Suggested Action

- If you believe a controller is connected, and you know its IP address, try the **Discover using IP Address** command in the **Choose an action** menu

9.4 – No New Controllers Found

Description

When discovering devices, this message indicates that all connected devices have already been discovered, so there are no new ones to add to the system

Suggested Action

- If you expect to see a controller that does not appear on the Devices page, try the **Discover using IP Address** command in the **Choose an action** menu

9.5 – Error While Discovering Controllers

Description

While attempting to discover controllers, this error indicates an issue with the IM system services that prevented the operation from completing.

Suggested Actions

- Try the discovery operation again

9.6 – Error While discovering The Controller Using The IP Address

Description

While attempting to discover a controller by specifying its IP address, this error indicates a problem connecting to a controller at that IP address.

Suggested Actions

- Check that the IP address you provided matches the controller you are trying to discover

9.7 – The Area Controller With The IP Address Has Already Been Discovered

Description

While attempting to discover a controller by specifying its IP address, this error indicates that a controller with that IP address has already been added to the system.

Suggested Actions

- Check that the IP address you provided matches for the controller you are trying to discover

9.8 – No Devices Found

Description

While importing devices on a controller, this message indicates that no connected devices were found.

Suggested Actions

- Confirm that the network is properly connected and then repeat the import operation

9.9 – No New Devices Found

Description

While importing devices on a controller, this message indicates that all connected devices that were found have already been imported.

9.10 – Error Importing Devices

Description

While attempting to import devices on a controller, this error indicates an issue with the IM system services that prevented the operation from completing.

Suggested Actions

- Try the import operation again

9.11 – Total BACnet Object Count Exceeds Maximum

Description

While saving BACnet configuration, this error indicates that the number of BACnet objects in the connected controllers exceeds the maximum number supported by Trellix Lighting at this time (10,000).

Suggested Actions

- Disable Areas, Zones, Input Devices, and/or Output Devices until the number of BACnet objects is less than 10,000

9.12 – Error Syncing The Imported Devices With BACnet

Description

While importing device data, Trellix Lighting attempted to synchronize the data but BACnet was disabled.

NOTE
Any change to the Building or Device hierarchy will cause BACnet to be disabled.

Suggested Action

1. Enable BACnet as described in *Configuring BACnet*.
2. Return to Devices, select Trellix Core, and then click Sync to BACnet in the Choose an action menu.

9.13 – Invalid File Format (During Backup)

Description

When restoring the system from a local backup file (i.e., a file from your computer), this error indicates that it does not appear to be a valid system backup file.

Suggested Action

- Confirm that the file extension is "`.tar.gz`" (e.g.,"`Trellix-Backup-2018-03-07-092937.tar.gz`")

9.14 – Invalid Update File Name (During Upgrade)

Description

While attempting to upgrade the Trellix Lighting software with a file on your local computer, this error indicates that it does not appear to be a valid upgrade file.

Suggested Action

- Check that the file extension is "`.tar.gz`" (e.g., "`Trellix-Backup-2018-03-07-092937.tar.gz`")

9.15 – Error Loading The System Setup

Description

After logging in to Trellix Lighting, the error states that one or more Trellix Core system services are not running.

Suggested Actions

- Wait for a few minutes and then try again
- Reboot Trellix Core

9.16 – Invalid Open ADR Certificate Files

Description

After uploading an Open ADR certificate zip file, an error indicates one or more files are missing.

Required Files

The following files are required for an Open ADR certificate:

- keystore.ks
- truststore.ks
- config.properties

NOTE
The config.properties file should contain the following lines:

```
keystorePassword=<clientProvidedPassword>
truststorePassword=<clientProvidedPassword>
```

Suggested Actions

- Compare the files you provided with those listed above
- Upload a new zip file that contains the required files

9.17 – Areas, Zones, And Devices Lost From Floor Plan

Description

Two possible causes for are as following:

- A Trellix backup from another network with different IP addresses was restored
- Controllers were removed from Trellix for some reason

Suggested Actions

You can preserve the Areas, Zones and Devices drawn on a floor plan by doing the following:

- Re-discover each controller on the new Trellix network to obtain the correct IP address
- Import all devices on each controller

See *Device Discovery, Import, and Configuration* for details.

9.18 – No Building Schedules Are Working

Description

If no schedules are working on a Building, the time zone for that Building may not be configured.

Suggested Action

- Configure the Building time zone

See *Buildings and Floors*

Viewing and Editing a Building for details.

9.19 – Invalid Backup File Name

Description

Trellix will not accept a backup file that is being uploaded.

Special characters, such as "(" and ")", are not supported in a backup file name. Some operating systems will append these characters to the file name when a backup file is downloaded more than once to the same directory. For example, BackupFile (1), BackupFile (2).

Suggested Action

Ensure that no special characters, such as "(" or ")", are part of the file name before attempting to restore with it.

9.20 – Invalid Upgrade File Name

Description

Trellix will not accept a system upgrade file that is being uploaded.

Suggested Action

Ensure that no special characters, such as "(" or ")", are part of the file name before attempting to upgrade with it.

9.21 – Trellix Time Drifting Out Of Sync

Description

Trellix time has drifted away from the current clock time after being synchronized.

Suggested Action

Trellix time can only be as reliable as the designated time source. The best and recommended option is NTP Server synchronization using the Stratum 1-14 NTP servers.

If the Stratum 1-14 NTP servers are not accessible, time will be obtained from BIOS (hardware time). Trellix will check the ntp.conf (ntpd client/server) configuration. If ntpd is not set, Trellix will get time from external resources by executing the `hwclock -su` command, which means "set the system time from the hardware clock and keep the hardware clock in UTC".

NOTES

- If the hardware clock is incorrect, do not expect system time to be equal to geographical time
- Hardware time can be checked from the console by executing the `hwclock -ru` command
- Hardware time can be adjusted with BIOS configuration or from console by executing the `hwclock -wu` command (providing the system time is set to geographical time)
- Setting BIOS time is not a Trellix task and must be done in advance

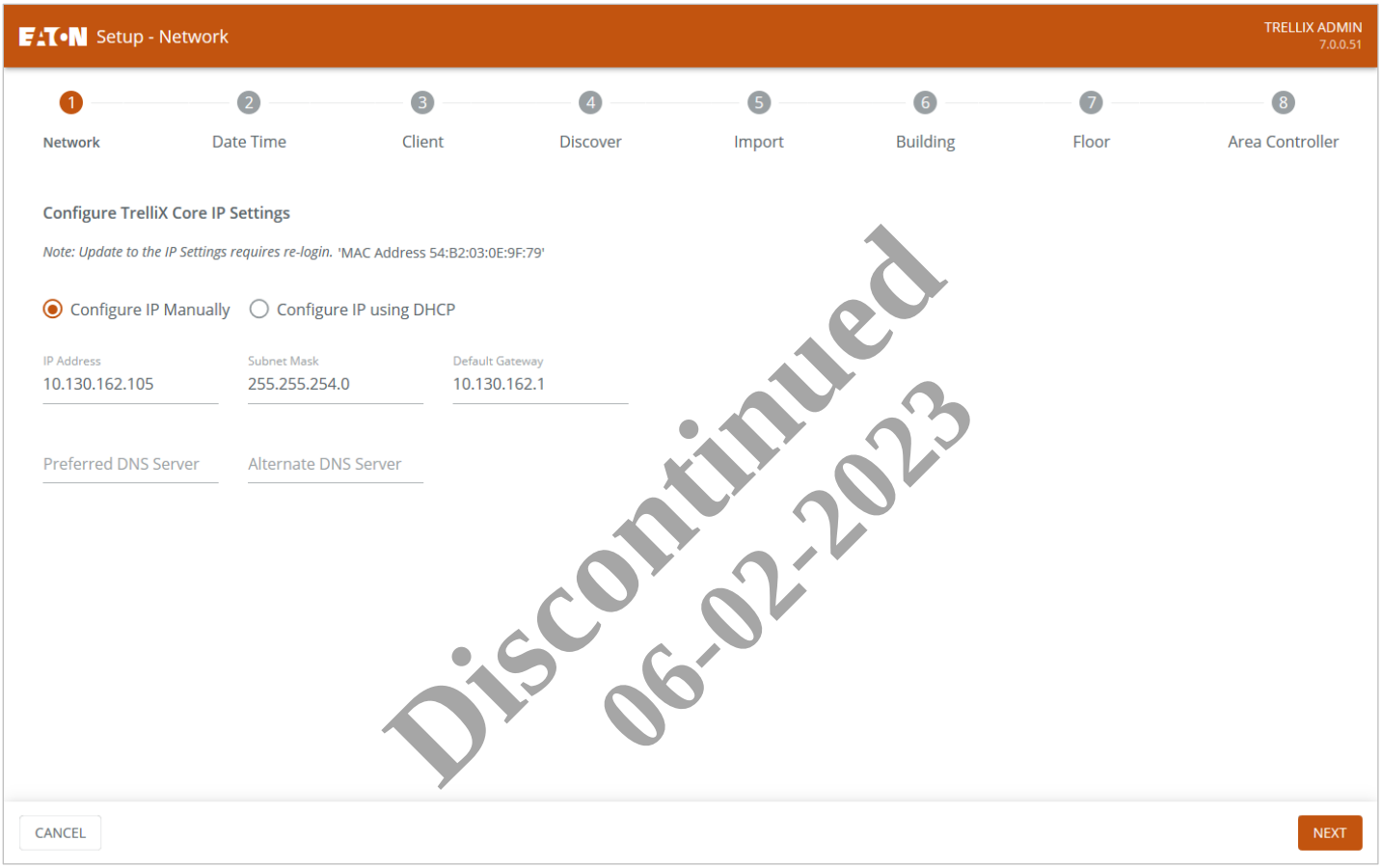
10 – Appendix

This appendix contains supporting information for Trellix Lighting.

10.1 – Setup Wizard

The first time the Admin account is used to login to Trellix Core, the Setup Wizard shown below will guide the user through the initial system configuration.

NOTE
Refer to the *Trellix Core Quick Start Guide* for step-by-step instructions if you are installing Trellix Lighting for the first time.



The Wizard steps are described below, including links to relevant information in this document.

- **Network** – Configure the network address this Trellix Core host will use. See *Device Discovery, Import, and Configuration* for details.
- **Date Time** – Configure how this Trellix Core host will handle date and time. See *Setting Up the Trellix Core Date & Time* for details.
- **Client** – Configure the product license, and the client whose Buildings will be managed with this Trellix Core.
- **Discover** – Discover the WACs and WaveLinx Wired EGs connected to this Trellix Core. See *Discovering WACs* for details.
- **Import** – Synchronize Trellix Core with data from the discovered controllers. See *Pairing Devices with a WAC* for details.
- the Setup Wizard.
- **Building** – Configure one or more Buildings to manage with this Trellix Core. See *Adding a Building* for details.
- **Floor** – Configure one or more Floors to manage with this Trellix Core. See *Adding a Building*
- for details.
- **Area Controller** – Assigning each WAC to a client, building and floor. See *Associating a WAC with a Building and Floor* for details.

The Trellix Lighting Alarm page will display when the Wizard has completed. You will be prompted if a reboot is required (e.g., Date Time configuration was changed.)

10.2 – Account Permissions

The access provided by each Trellix Lighting permission is listed below.

Permission	Description
View Only	View-only access to assigned Areas.
User Management	Create, view, modify, and delete user accounts.
User Role Management	Management of user roles and permissions.
System Settings	• Modify the system and subsystem networking settings • Backup and restore system configuration • Backup and restore the database • Update and manage system and subsystem software versions • View diagnostic logs components and features
System Configuration	Manage system configuration such as Buildings, Devices, and Floorplans.
Schedule	View and manage schedules in assigned Areas.
Acknowledge Alarms	Acknowledge alarms.
Normal Priority Override	Send a Normal Priority override.
High Priority Override	Send a High Priority override.
Demand Response	Access demand response components and features (can only be assigned Demand Response role).
Interface Settings	Access integrated interface settings components and features (can only be assigned Third Party Integration role).
Alarms and Events View	View-only access to Alarms and Events.

10.3 – WaveLinx Alarms

The WaveLinx alarms reported by Trellix Lighting are listed and described below.

Alarm	Description
Device not reachable	Unable to communicate with device
Battery low	Device is battery-powered, and the battery will soon need replacement
Battery very low	Device is battery-powered, and will go offline very soon unless the battery is replaced
Device failed to update	The WAC failed to update its firmware or that of a paired device
Voltage out of range	DC power bus voltage is out of its specified range
Lamp error	Occupancy sensor has signaled that the lamp voltage or current is out of the specified range

10.4 – WaveLinx Wired Alarms

The WaveLinx Wired alarms reported by Trellix Lighting are listed and described below.

Alarm	Description
Device not reachable	Unable to communicate with device

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

Note: The equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons.

Warranties and Limitation of Liability

Please refer to www.cooperlighting.com/WarrantyTerms for our terms and conditions.

Garanties et limitation de responsabilité

Veuillez consulter le site www.cooperlighting.com/WarrantyTerms pour obtenir les conditions générales.

Garantías y Limitación de Responsabilidad

Visite www.cooperlighting.com/WarrantyTerms para conocer nuestros términos y condiciones.

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Printed in USA
Publication No. MN503099EN
April 2021