nLiGHT®

SensorView
User Manual

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SensorView Overview

SensorView is an intuitive and easy-to-use, web-based software that gives authorized users the ability to remotely configure and monitor nLight®, nLight® AIR, and/or XPoint™ Wireless network luminaires and controlled devices. It provides a simple and quick setup tool for creating custom configuration profiles that can either be scheduled or run on demand. SensorView also can assist with system commissioning by indicating and reporting on sensor and controller settings in addition to displaying live device status.

SensorView is installed on a single host computer (provided by others) that resides on the same Ethernet LAN (or WAN) as one or more nLight ECLYPSE™ or nLight Gateway devices. SensorView can also be configured to communicate directly with a single group of devices. The system architecture is shown in Figure 01.

This document covers common configuration and management tasks that arise when setting up and maintaining the network over time, as well as step by step instructions for accomplishing a given task.
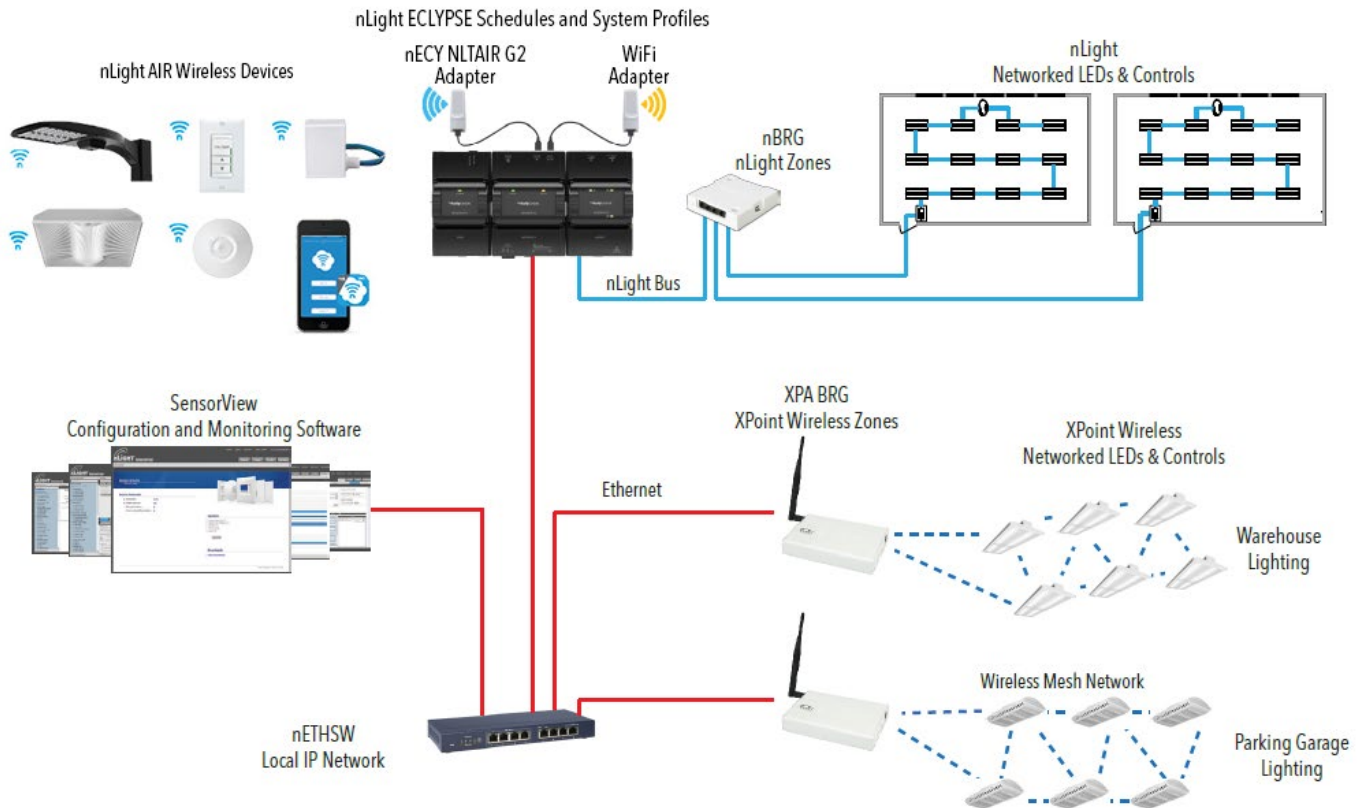

Figure 01 - System Architecture

SensorView Installation

To ensure proper intallation of the SensorView software, follow these steps:

1. **SensorView System Requirements:** Depending on the intended usage of SensorView, there are two sets of computer hardware/software requirements:

   - **Single-user / Commissioning Installation:** Recommend Windows 7 or Newer

   - **Multi-user Installation:** Recommend Windows Server 2012 or Newer

   - **Hardware Minimum Operating Specs:**
     * **Ram:** 8GB
     * **Hard Drive:** 20GB
     * **Browser:** Firefox, Chrome, Opera, IE 10+

   - **Version of Windows supported (both 32 and 64 bit versions supported):**
     * **Client Versions:** 8GB
     * **Server Versions:** 20GB

2. **Pre-installation:** The following Windows software components are required prior to SensorView installation:

   - **.NET Framework:** Available for download (free) from Windows Updates web page

   - **IIS (Internet Information Services):** IIS 7.0 Windows

   NOTE
   If .NET/IIS are not installed prior to running the SensorView installer, user will be automatically prompted to install these items during SensorView installation.

3. **SensorView Installation:** The SensorView application installer is downloaded from the Acuity Brands website:

   - **http://www.acuitybrands.com/-/media/Software%20Downloads/nLight/SensorViewInstallerv612%20zip.zip?la=en**

   NOTE
   Internet access is required during installation to download latest available version of the SensorView software.

4. **Connection to Gateway:** The Gateway uses its port labeled **LAN** to communicate with the computer running the SensorView software.

   - Please reference the Gateway Setup section under the Admin section for details on methods to connect to a system Gateway.

If assistance is required, please contact our technical support team at 800-535-2465 or nLight-Support@AcuityBrands.com.

Login and User Management

Once installed, SensorView can be accessed several ways: from the Start menu, via a desktop shortcut, or by typing **http://<Host Computer Name>/ SensorView** into a web browser. Users must enter a valid User Name and Password to login to the SensorView (Figure 02). The default User Name for the application is "**administrator**" with the Password "**admin**." After logging into the application using the default credentials, users can add new users or change the default user credentials through the **User** tab (Figure 03).
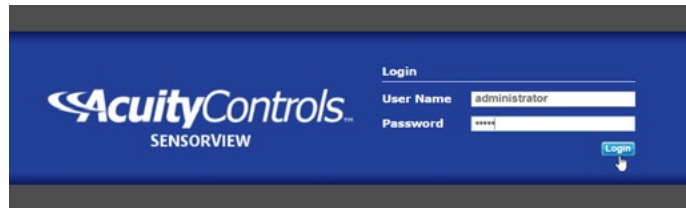

Figure 02: SensorView Login

Figure 03: Users Tab Location

SensorView supports three different User Types, as noted in the following table:

User Type	Description
Administrator	Administrator can access all the features in the application. The administrator user **only** features are listed below. • Add/Edit/Delete users. • Update the SensorView settings • Update the devices' Firmware. • View log details • View Reports • Configure and view the plugins • Export diagnostic archive
Basic	The Basic user privilege allows user to view and update all the device related settings and status except the features that can be only accessed by administrator.
Read-Only	The Read-Only user can only view the device settings and status.

Login and User Management - cont'd

Clicking on the **User** tab will bring you to the **User Accounts** screen. From here, you can follow these steps to add or edit users:

1. Click on the drop-down that says **administrator** and choose the **Add a user** option (Figure 04).
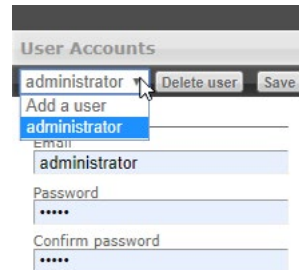
Figure 04: Add a User

2. Fill in the fields under the **User details** section with the relevant information (Figure 05).
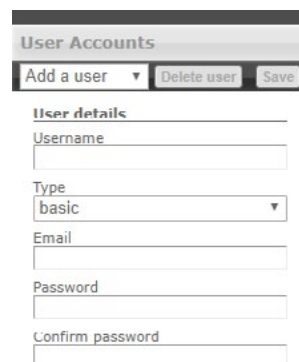
Figure 05: User Details

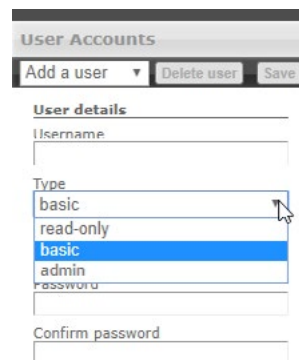3. Choose the desired User **Type** from the drop down menu (Figure 06).

Figure 06: User Type

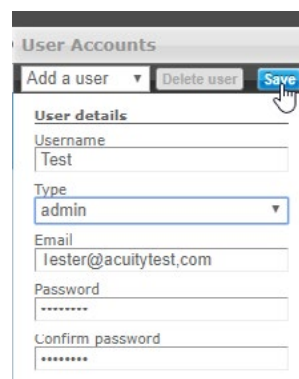4. Click the **Save** button to save the new user data (Figure 07).

Figure 07: Save New User

Admin

The **Admin Dashboard** is accessed by pressing the **Admin** button on the top left of the SensorView window (Figure 08). This option allows the SensorView administrator the ability to update and configure the following settings, each of which will be explored further in this section:
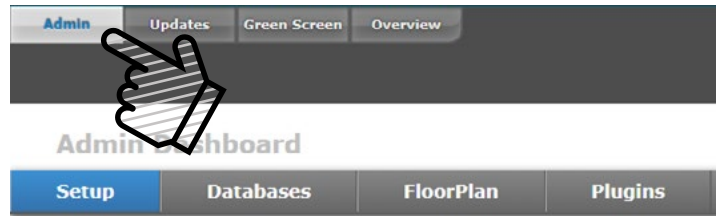
Figure 08: Accessing the Admin Dashboard

Setup (Figure 09) gives access to the basic settings of SensorView, including Registration (required to receive firmware updates), Location, Gateway Password, Gateways, Mail Server, and Custom Greeting.

Figure 09: Admin Dashboard - Setup

Databases (Figure10) allows you to create and load full system backups, as well as the option to Import/Export the same.
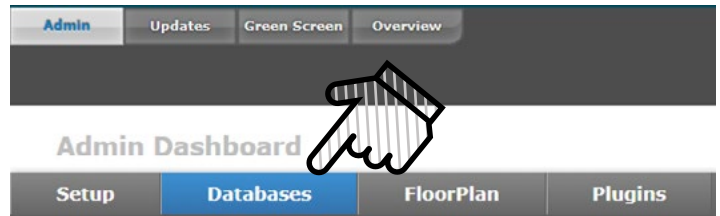
Figure 10: Admin Dashboard - Databases

FloorPlan (Figure 11) is for importing floor pan packages, and for exporting edited floor plans.
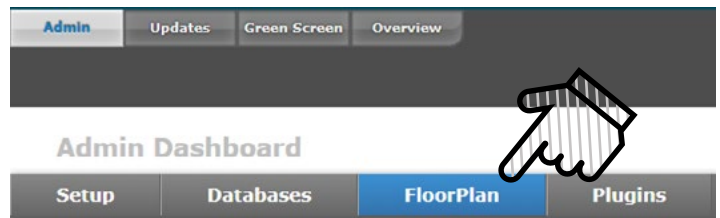
Figure 11: Admin Dashboard - Floorplan

The **Plugins** (Figure 12) option allows you to start services for the nLight GreenScreen Monitor, nLight Virtual Wallpod Server, and the nLight Plugin Host Service.

Figure 12: Admin Dashboard - Plugins

Located to the far right of the screen on the Admin Dashboard bar, **Reports** (Figure 13) allows you to generate various reports about SensorView and the devices on the connected network.
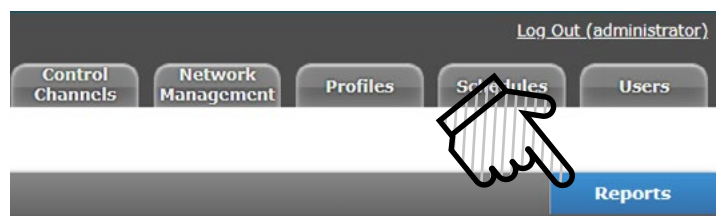
Figure 13: Admin Dashboard -Reports

Admin Dashboard - Setup

Administrators can update the following settings in this section:

Registration

Registration is where you input your contact information and details about your site (Figure 14). SensorView must be registered with Acuity Brands to get software and firmware updates. The information captured in this section may appear on your diagnostic logs and reports that help the support team identify details about your site to help diagnose your system. An internet connection is required to save this setting.
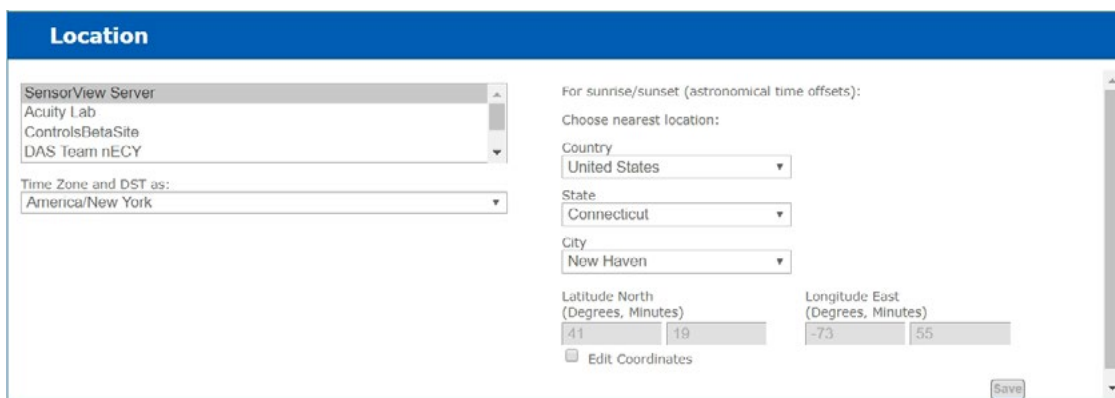
Figure 14: Setup - Registration

Location

The location of each gateway connected to SensorView can be updated in the **Location** section (Figure 15). Users can edit the location in one of two ways, as follows. If the **Edit Coordinates** box is checked, users may input the location via the latitude and longitude boxes on the right. If the **Edit Coordinates** box is unchecked, then the location may be edited through the dropdown menus. The **Save** button present in the bottom right of the section allows the user to save the updated location.

The location data helps SensorView maintain the date and time according to its time zone.

Figure 15: Setup - Location

Gateway Password

This feature enables authorized users to change the current system controller's password (Figure 16). It prevents unauthorized users from using a different SensorView instance to modify the system and restricts direct configuration access to system controllers. The **Save** button writes the updated password to the system controller. The **Gateway Password** will be blank for new installations and should be updated to match the SensorView Password assigned to all corresponding nLight ECLYPSE controllers. The Gateway Password can be updated on an nLight ECLYPSE controller by logging into the controller's web page (https://[ip address of controller]/login.html), accessing the nLight Explorer Tab, Selecting Settings, and Selecting the Reset button beside SensorView Password.

Figure 16: Setup - Gateway Password

Gateways

All the gateways present in network where SensorView is connected will be automatically discovered and included in the Gateways section (Figure 17). Administrators can enter system controller IP addresses to discover the controllers. Once discovered, controllers will be reflected in the Devices section. Controllers can be excluded from the Devices section by unchecking the **Include** box of the respective controller. A controller can be deleted from SensorView by clicking on the **Delete** button.

Figure 17: Setup - Gateways

Mail Server

This section is used to update the Mail Server settings, which adjusts where notifications are sent (Figure 18).
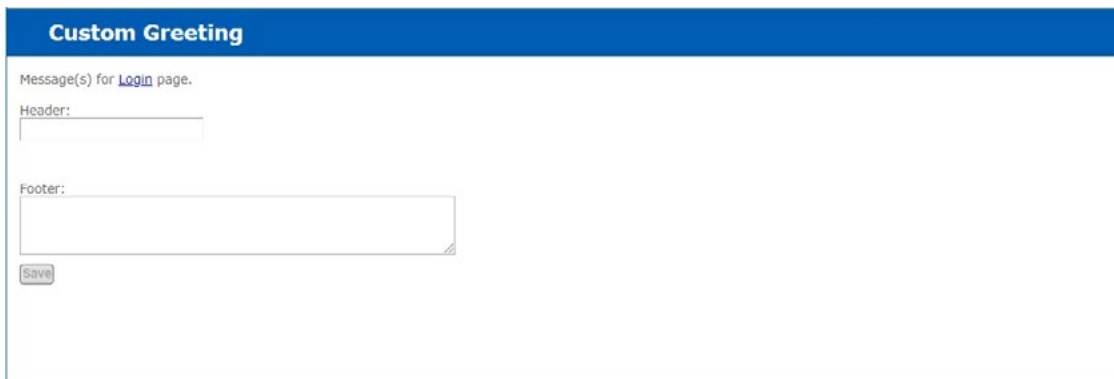
Figure 18: Setup - Mail Server

Custom Greeting

This section is used to update the custom greeting, which appears at the login screen (Figure 19). The greetings will show on the Login screen, as either a header or footer greeting, or both (Figure 20).

Figure 19: Setup - Custom Greeting

Figure 20: Setup - Greeting Locations

Admin Dashboard - Databases

The device network information and all other related details will be stored in the **Databases** section. The database will be backed up automatically and saved daily. The backed-up database's name contains the date and time so that the backup can be easily distinguished. Users can perform the following options on the database, as called out in Figure 21.
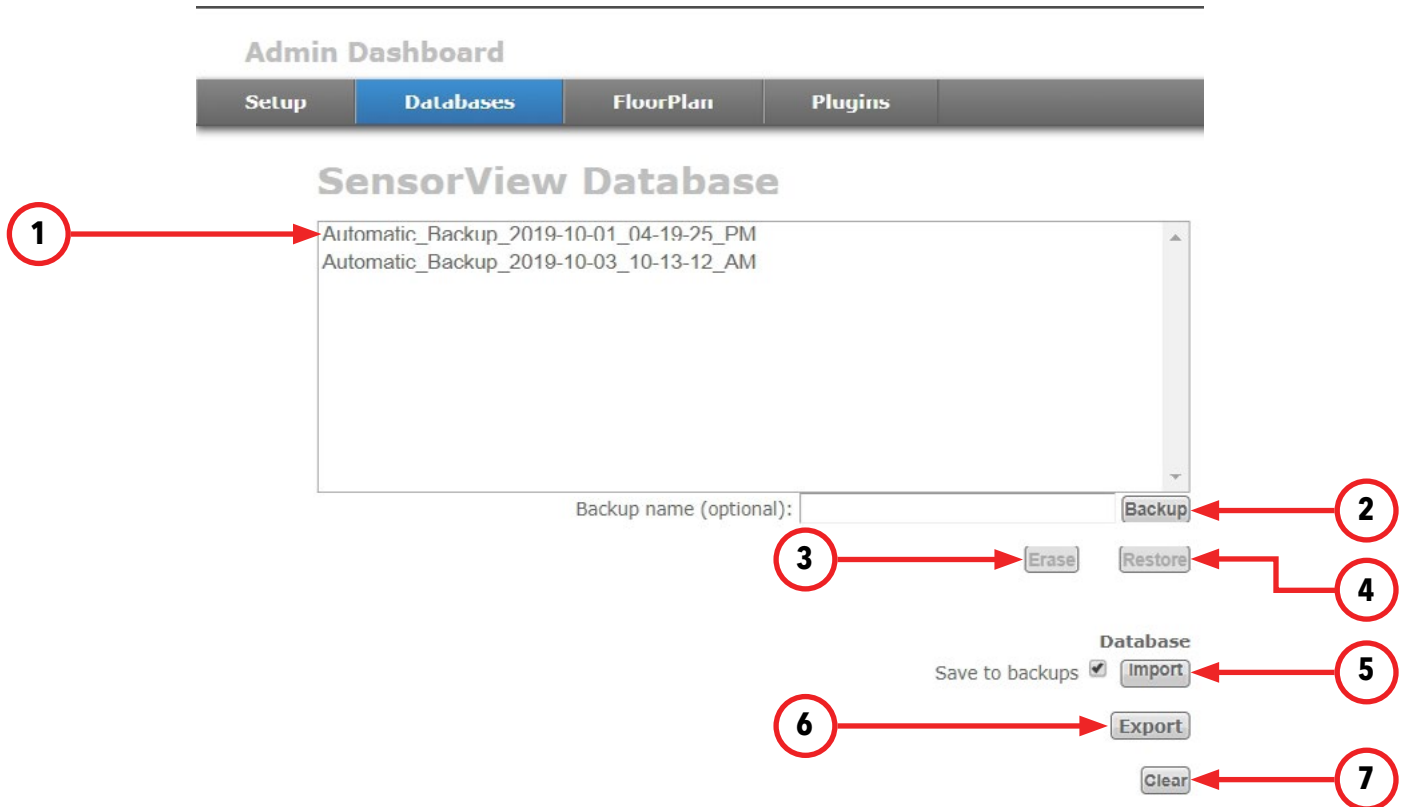
Figure 21: Databases Section

1. **Backup List:** All the backed-up databases will be displayed on this list. By selecting a database from the list user can perform Backup, Erase, Restore or Export the database as mentioned in below sections.

2. **Backup:** A backup of a database that has been created on an as-needed or as-desired basis. Administrators may backup the database at any time. To back up a database from the list, select the desired database, enter a name in the **Backup name (optional)** field, and click **Backup**.

3. **Erase:** A backed-up database from the list can be deleted by using **Erase**. Select the database and click on **Erase** button to delete it.

4. **Restore:** A backed-up database can be restored to SensorView using this option. SensorView will load all data from the selected database and user can perform the changes on it.

5. **Import:** SensorView allows the import of SensorView databases. The SensorView database can be identified by the extension ***. svdb**. The database can be imported as well as keep a copy of it in the backup. The imported data will be displayed to the user and user can analyze the data.

6. **Export:** The backed-up databases can be exported and shared with other users. The exported file will be with the extension of ***. svdb**. The file will be present in the download location of the browser.

7. **Clear:** The data of the current SensorView database can be cleared using this option. The data will be cleared and database will be filled with newer data from the networked devices.

Admin Dashboard - FloorPlan

The SensorView nFloorPlan tool provides a simple and intuitive way to navigate and monitor an nLight and/or XPoint Wireless lighting control system instead of traditional tree view display. To display the floor plan, the administrators must load the floor map packages. This section allows user to import or export the map packages.
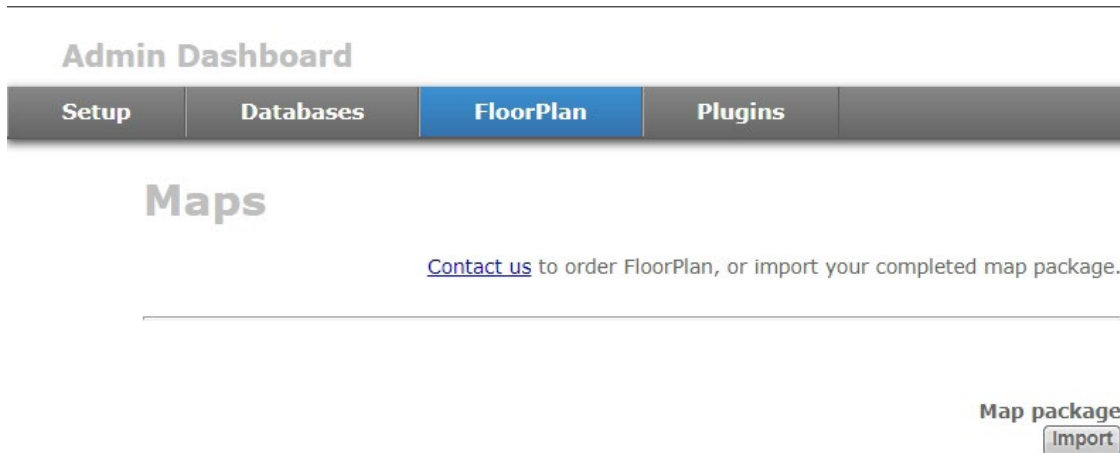
Figure 22: FloorPlan

Contact us to have a layout produced for your nLight installation. Once a layout is produced and you have received the layout (**.mvdb**) file, it can be imported into SensorView by clicking the **Import** button (Figure 22), then browsing to and selecting the file.

Plugins

Under the Plugins tab is the **Services** section, where each plugin is listed along with its current status, either Running or Stopped. Plugins can be stopped or started via the buttons to the right of the Status (Figure 23).
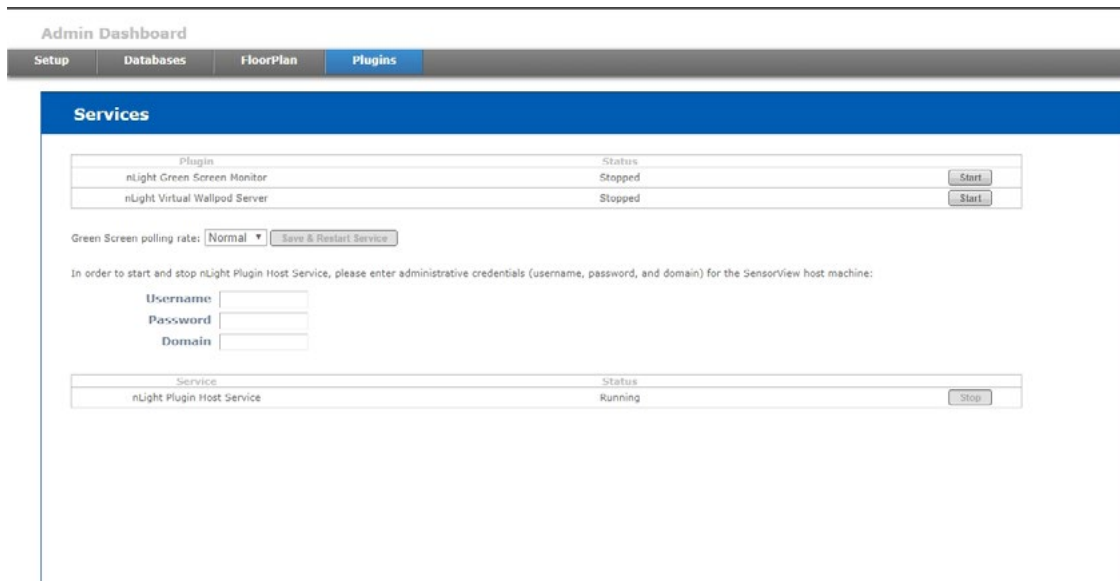
Figure 23: Plugins

GreenScreen polling rate controls the rate at which this plugin is being polled. Increasing the rate may allow for GreenScreen reporting points to increase, but will result in additional network traffic. To change the polling rate, select a new rate, and click Save & Restart Service.

The **nLight Plugin Host Service** status (either running or stopped) is indicated in the last table of the section. Controlling the nLight Plugin Host Service requires system administrator credentials (not SensorView credentials). You may have to contact your local IT department to retrieve the proper set of credentials. Administrators can enter their credentials (**Username**, **Password**, and **Domain**) for the SensorView host machine, and click Stop or Start.

Admin Dashboard - Reports

Located to the far right of the Admin Dashboard bar (Figure24), **Reports** is linked directly to the current active SensorView database, authorized administrators can view detailed reports on the following:

Figure 24: Reports

- **Network Device Report:** Creates a printable report containing basic information about the devices in the network and their basic properties, such as Label, Device ID, Firmware Version, Group, and parent Bridge.

- **Profile, Scene, & Presets Report:** Creates a printable report describing the configuration of all profiles, scenes, and presets currently in the system.

- **Device Settings Report:** Creates a printable report describing the default settings for all nLight devices in the system.

- **Global/Local Channels Report:** Creates a printable report listing all configured Global Channels along with the devices broadcasting and tracking within them. Also listed is all Global Preset configurations saved to any Global Preset capable device.

- **Discovery Report:** Creates a printable report listing basic discovery statistics about gateways in the system. This is generally used for diagnostic purposes only

Updates

This feature enables user to update SensorView and network devices' firmware to the most recent versions. When this screen is accessed, SensorView's firmware cache will be updated for all available devices, and the information will be displayed as shown below (Figure 25).
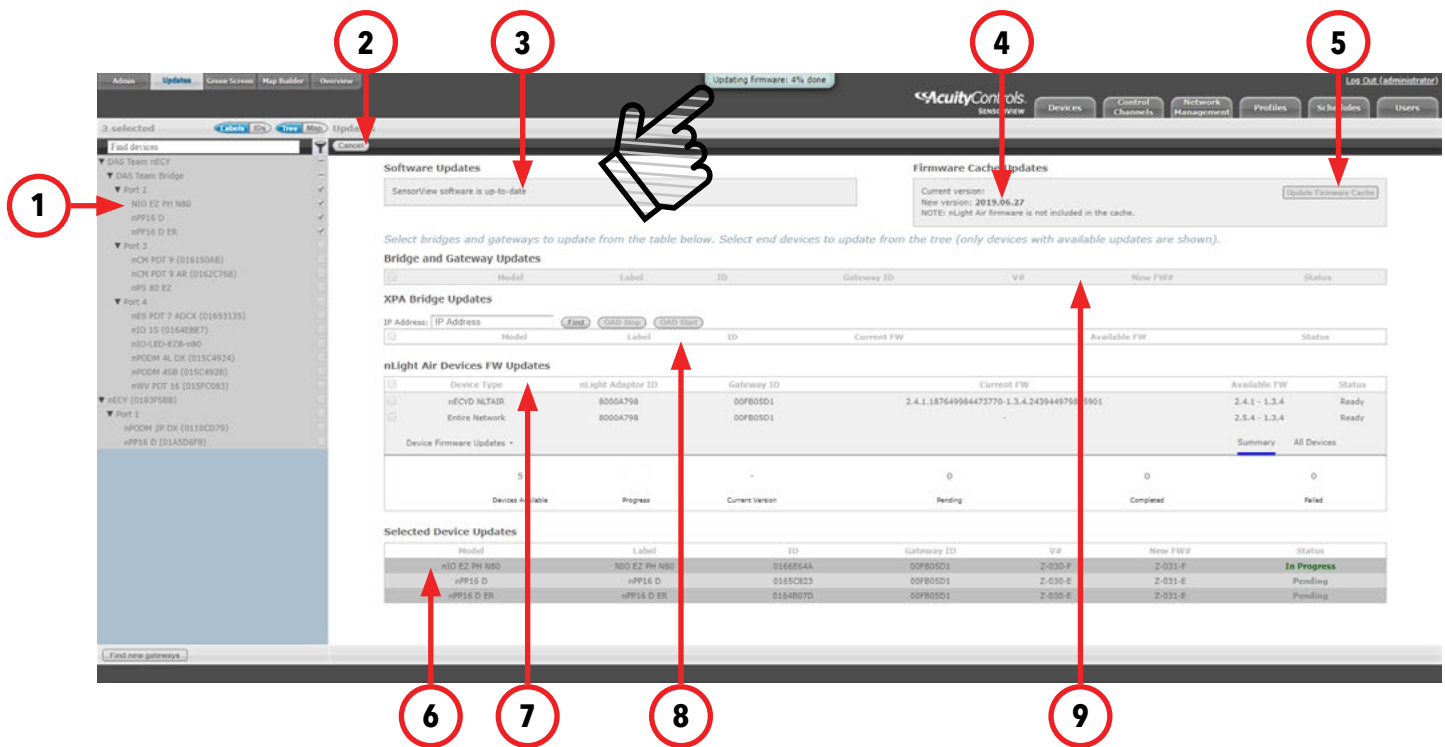
Figure 25: Updates

1. **Device Tree:** Devices with available updates will be displayed. As devices are selected, they will appear in the section indicated by callout 6. The devices will be updated to latest firmware upon click on **Update Firmware** button click after selecting it. The Gateway, Bridge and XPA device will be displayed in the grid directly.

2. **Update Firmware Button:** Clicking the **Update Firmware** button writes the latest firmware to all selected devices. As the devices update, the status of the update will be captured through a bubble at the top of the screen as pointed out in Figure 25. The status of the write will be displayed on the **Status** column of the grid. The grid also contains the details of the device with current firmware version.

3. **Software Updates:** If a newer version of SensorView is available, it will be displayed in this section. Users can run the installer and follow the installation setups described in the Installation section to continue with updates.

4. **Channel Information:** If updates are available for SensorView, this section will identify the channel from which the updates can be downloaded.

5. **Update Firmware Cache:** This feature enables user to download and update the local firmware cache of the devices.

6. **Selected Device Updates:** When devices are selected for a firmware update, they will appear in this section. Old and new firmware, update status, and completion status will be displayed in this section.

7. **nLight AIR Devices FW Updates:** If nLight AIR devices are present, a screen for updating each nLight AIR Adapter (nECYD NLTAIR) will be available along with options to update the entire nLight AIR network.

8. **XPA Bridge Updates:** XPoint Wireless devices will appear in this section. Devices are labeled using their IP address. Over the Air Discovery (OAD) options are available for any selected XPoint Wireless bridges.

9. **Bridge and Gateway Updates:** Bridge and system controller firmware can be updated by selecting devices from this section.

GreenScreen

Figure 26: GreenScreen

This section will detail how to setup SensorView to use the GreenScreen plug-in (Figure 26). This will entail installing and setting up a database (PostgreSQL), a driver to connect to the database, a DSN for the data source, initializing the database, starting GreenScreen, and configuring GreenScreen options in SensorView.

Setting Up PostgreSQL

Setting up PostgreSQL on a computer requires downloading and installing the application, configuring the database to accept remote connections, and restarting the database server.

- PostgreSQL is a separate product that is maintained and developed entirely separate from SensorView and is in no way affiliated with nLight, SensorSwitch, or Acuity Brands.

- For the remainder of this document the phrase "X.Y" will refer to major and minor versions of the version of PostgreSQL being installed; for example: 9.0.

- GreenScreen is compatible with PostgreSQL versions 9.0 or higher.

Installing PostgreSQL

SensorView can use an existing PostgreSQL database or a dedicated one. Which option is most appropriate is at the discretion of the system owner. The most recent versions can be downloaded at: http://www.enterprisedb.com/products/pgdownload.do#windows for the relevant windows version, x86-64 (64 bit) or x86-32 (32-bit).

Super-User Creation Screen

The screen below (Figure 27) configures the default super-user account for PostgreSQL, **take note of these credentials** as those will be the default login account and password for all access to the Postgre SQL database.

NOTE

Passwords may only use alpha-numeric characters (numbers, lowercase and uppercase letters) with no special characters.
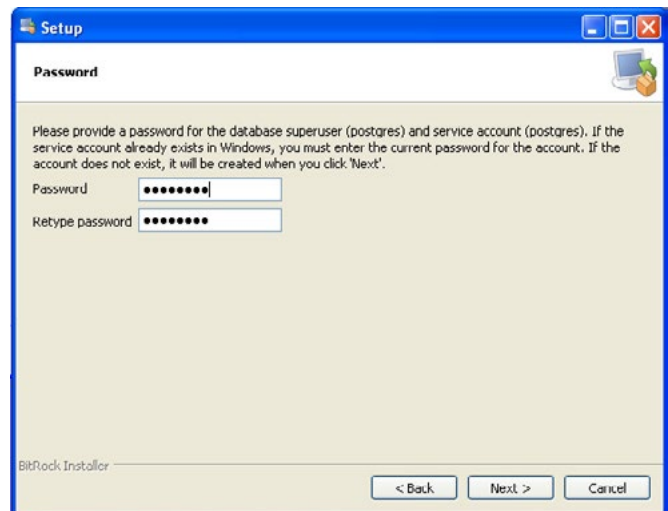
Figure 27: GreenScreen Password

Port Configuration Screen

The screen below (Figure 28) allows for configuration of the port that PostgreSQL will use for connections. Use whatever value is required by the system administrator.

NOTE

SensorView and GreenScreen can be configured to use any port value.
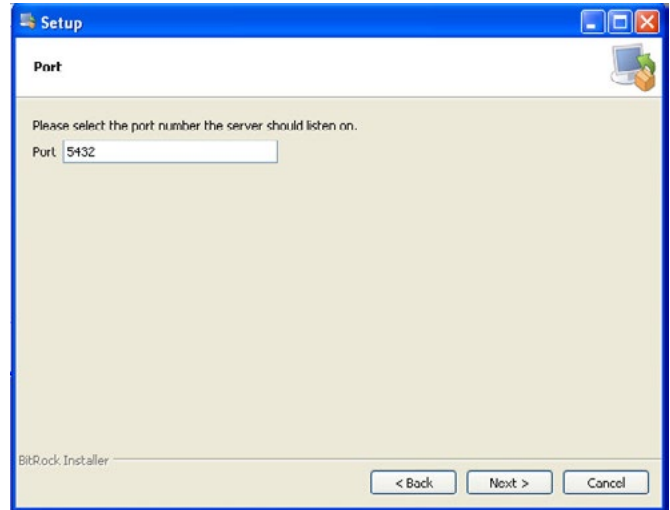
Figure 28: GreenScreen Port Configuration

Advanced Options

The screen below (Figure 29) allows for configuration of the locale that PostgreSQL is operating in. The default is almost always sufficient. If the installation site has specific requirements then select the most appropriate option from the drop down. The selected option does not seriously affect GreenScreen operations.

On the final screen, push **Next** to finish the installation of PostgreSQL onto the local computer.
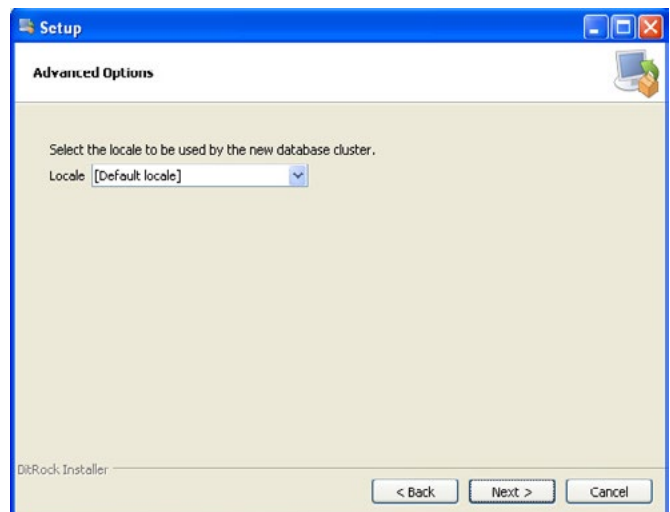
Figure 29: GreenScreen Advanced Options

GreenScreen - Configuring PostgreSQL to Allow Remote Connections

This step is only necessary if SensorView and the PostgreSQL database reside on separate computers. By default, PostgreSQL will not allow any remote connections; to change this, administrative access to the host machine for the database is required. To setup PostgreSQL to allow remote connections, go to the directory PostgreSQL was installed at (by default **C:\Program Files\PostgreSQL**), from that folder open the file at **X.Y\data\pg_hba.conf**; this file can be opened in notepad or any generic text editor. For additional documentation on how to configure **pg_hba.conf**, as well as any questions, refer to:

Version of PostgreSQL	URL
9.0	http://www.postgresql.org/docs/9.0/static/auth-pg-hba-conf.html

For all database versions, adding the following line to the bottom of the file to allow ALL remote connections to the database:

host all all 0.0.0.0/0 md5

NOTE
Allowing all connections is a potential security risk that should be weighed by system owners.

Save the changes and close the file. PostgreSQL will now accept remote connections from the configured host.

Restarting PostgreSQL

PostgreSQL must be restarted before the changes made to **pg_hba.conf** will take effect. If no changes were made to **pg_hba.conf** then this step is unnecessary. Go to **Start Menu -> Control Panel -> System and Security -> Administrative Tools -> Services**. In the services window select the following service:

Version of PostgreSQL	Service Name
9.0 (32 bit)	postgresql-9.0-PostgreSQL Server 9.0
9.0 (64 bit)	Postgresql-x64-9.0

Right click on the relevant service name and select **Restart**; this will restart the database server (Figure 30).

Figure 30: GreenScreen Restart Services

Firewall Setup

If the computer running PostgreSQL is a different from the computer running SensorView, then the firewall on the computer running PostgreSQL may need to be updated to allow for incoming connections on whichever port PostgreSQL was configured to listen on. This will vary depending on the firewall software in use.

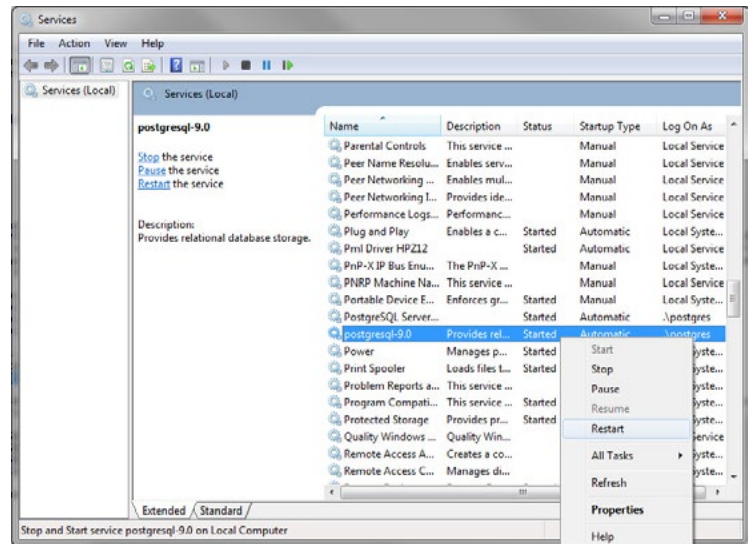A connection to the database that GreenScreen will store data in must be configured. This involves downloading and installing a driver for the database and configuring a system DSN that specifies the connection parameters to SensorView and GreenScreen. Both steps 2.1 and 2.2 must be performed on the computer that is running SensorView.

Installing a PostgreSQL Driver

For SensorView to connect and control the PostgreSQL database a driver must be installed on the machine running SensorView. Install the following driver:

https://ftp.postgresql.org/pub/odbc/versions/msi/psqlodbc_09_03_0400.zip

After downloading, open the zip file and run psqlodbc.msi and install the driver.

DSN Configuration

DSNs provide a way to configure a datasource connection in a standard consistent way that can be used throughout the machine. A DSN must be configured to allow SensorView and GreenScreen to connect to the database; this must be done on the machine running SensorView. A DSN consists of a name, database, server, port, user, password, and SSL connection requirements. Locating the correct DSN configuration tool varies depending on the specific version of Windows and whether or not it is 64 bit.

To configure a DSN for all 64 bit variants of Windows go to **Start Menu -> Run -> type C:\Windows\SysWOW64\odbcad32.exe** and press **Enter** (Assuming Windows is installed to C:, otherwise substitute correct system path).

To configure a DSN for Windows 7 32bit/Windows 10 32bit go to **Start Menu -> Control Panel -> System and Security -> Administrative Tools -> Data Sources (ODBC).**

Once the Data Sources (ODBC) popup is open, select the tab **System DSN**, then press **Add**. Select a datasource from the list. The name of the driver will vary depending on what was installed, commonly for 32 bit the name will be "PostgreSQL Unicode", this is the driver that was previously installed during PostgreSQL setup section. Select **Finish** and a form will appear with additional fields to fill out (Figure 31). Fill out the form with the following values:

Data Source	A custom name for the DSN that will be put into SensorView
Database	nLight_system_data
Server	IP Address or hostname of machine running PostgreSQL server. (127.0.0.1 or localhost for local computer)
Port	Port PostgreSQL was configured to run on (by default 5432)
User name	Account name and password for the database user (refer to **Super User Creation**)
Password	
SSL Mode	As appropriate for the database (disabled by default)

Select **Save**.

NOTE
The Data Source name value as this is the field that must be entered into SensorView later.

NOTE
Pressing the Test button will fail with "database not found" until Configuring the Administrator Email has been completed.
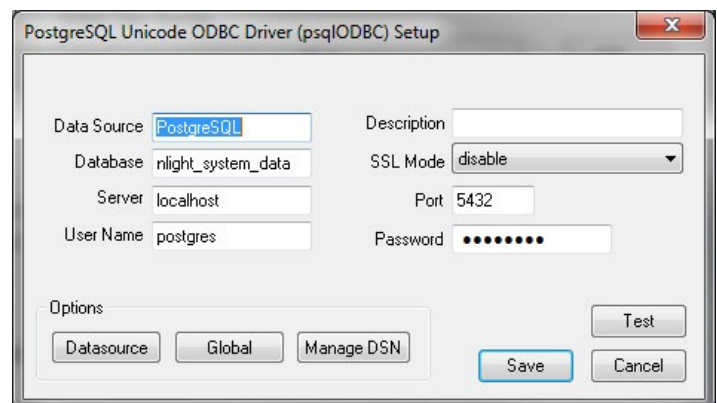

Figure 31: GreenScreen ODBC Driver Setup

In order to configure and run SensorView the plug-ins component must be installed. For new installs this can be accomplished by making sure that plug-ins is checked during the feature select portion of the SensorView install. For existing installations, run the installer and select **Modify**, then check plug-ins and push modify. Once the plug-in components have been installed, open SensorView and go to the **Admin** page and select **Plugins**.

Configure Administrator Email (Optional)

GreenScreen will notify the administrator via email if it encounters any issues while attempting to start. To configure email notification the administrator use of SensorView must have an email address entered; additionally the Mail Server section (found at **Admin->Setup->Mail Server**) must be filled out to allow for email to be sent from SensorView. Notification emails will be sent if the host Windows service fails.

Database Initialization

Once PostgreSQL, the database driver, and the system DSN have been set up and configured, the last step is to build the GreenScreen database and start the service. To build the database, in SensorView, go to **Admin -> Databases**. At the bottom of the screen is the GreenScreen Database Setup section (Figure 32). Input the name of the custom DSN that was previously configured and SensorView will build the database (upon hitting save). If the credentials supplied in the DSN do not have the create database privilege, then SensorView will prompt for credentials that do. SensorView will use those credentials to create the database and give ownership to the credentials in the DSN. Afterwards the other, higher, set of credentials will be discarded.
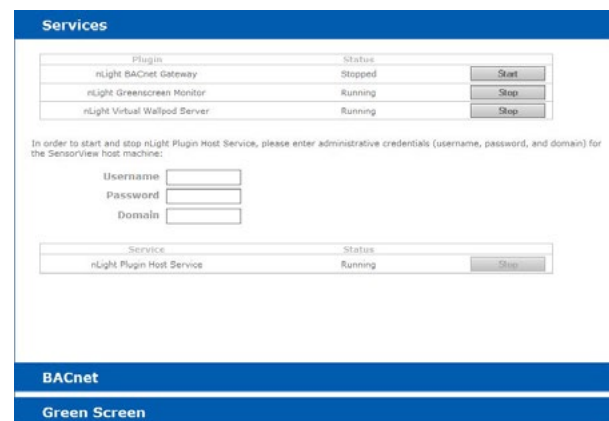
Figure 32: GreenScreen ODBC Database Setup

Starting GreenScreen

In order to start GreenScreen, the plug-ins component must have previously been installed (**Setting Up GreenScreen**); if this has not been done then there will be no **Plugins** tab. Proceed to the Admin screen in SensorView and select **Plugins** (Figure 33). The host service should already be running; if it is not then the username, password, and domain (optional) must be filled out, then start the **nLight Plugin Host Service**. Once this is running GreenScreen can be started and stopped in the top window.

Figure 33: GreenScreen Start Plugins

Within the accordion select **GreenScreen**; on this page options can be set that will configure how GreenScreen will compute savings and what units to display them in (Figure 34).
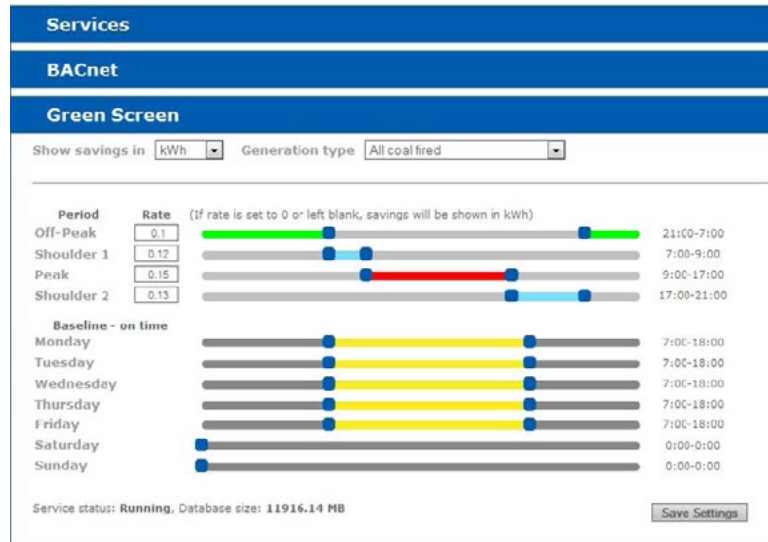
Figure 34: GreenScreen Configuration

Display Options

SensorView can be configured to show savings in dollars or kWh. For CO2 savings, the generation type for the electricity can be selected that will be used to determine CO2 savings.

Electrical Rates

SensorView can be configured with the building's electrical rates. Set the rate and time periods in which the rate applies. These settings will only be used if SensorView is set to display savings in dollars.

Baseline Periods

During these periods, SensorView will assume the building is occupied. Energy savings (whether in dollars or kWh) are relative to how much energy would have been spent, with all control points in the system being on for the duration of the baseline periods. Refer to the GreenScreen data sheet for a more detailed explanation of savings analysis.

Hit **Save Settings** to save the configuration.

Once SensorView has a valid Data Source which can connect to the database, it will display the current size of the database and the state of hosting service in the bottom left corner of the screen.

Overview

The **Overview** screen will be the default selection after the successful login of the user (Figure 35). The Overview screen will show the summary of the system.
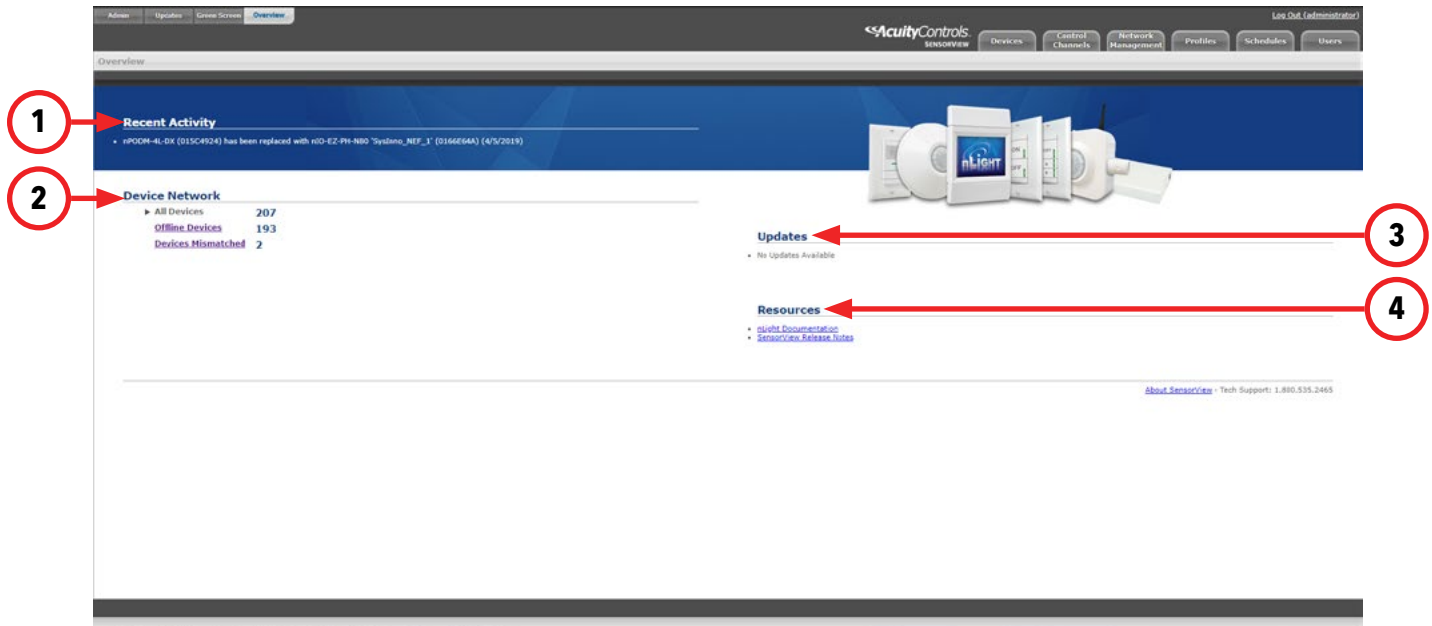
Figure 35: Overview Screen

The summary includes the details noted below:

1. **Recent Activity:** Recent activities that have occurred in the networked devices, such as Firmware updates, will be displayed in this section. The information will be very high level.

2. **Device Network:** The available gateways and associated device's count will be displayed in this section, including **All Devices**, **Offline Devices**, and **Devices Mismatched** (ones whose settings differ from SensorView's records).

3. **Updates:** All available updates for connected devices will appear here. Users can navigate to the update screen from this section.

4. **Resources:** Documentation for the current SensorView version and for the devices on the nLight network can be accessed here.

Devices

On the SensorView **Devices** page, the user selects from the **Device Tree**. By default these devices are listed in hierarchical order: gateways are parents of bridges, which are parents of groups, each of which contain sensors, switches, relays, dimmers, or other devices.

Device Tree Overview
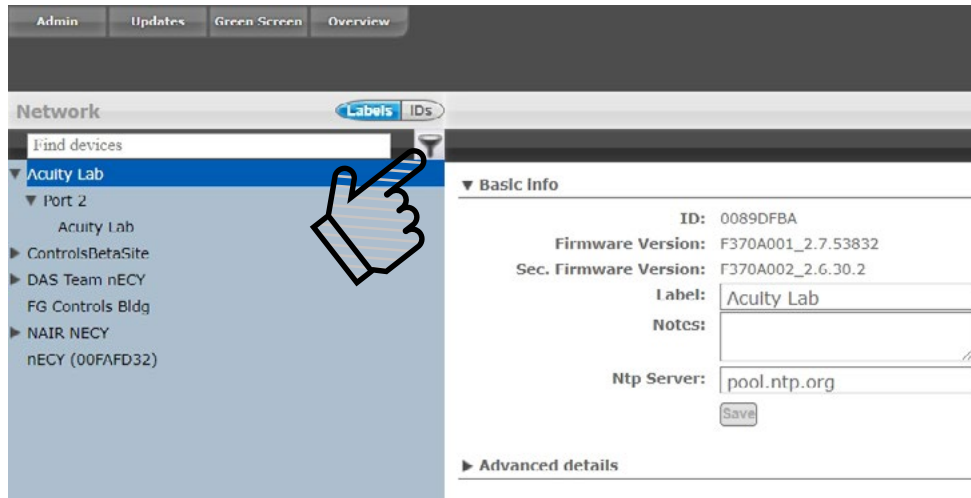
Figure 36: Device Tree

The **Device Tree Menu**, available from the filter icon to the right of the search textbox, contains selection features that aid in the location/selection of devices (Figure 36). Three primary types of search features exist: **Features**, **Profiles**, and **Device States** (Figure 37).
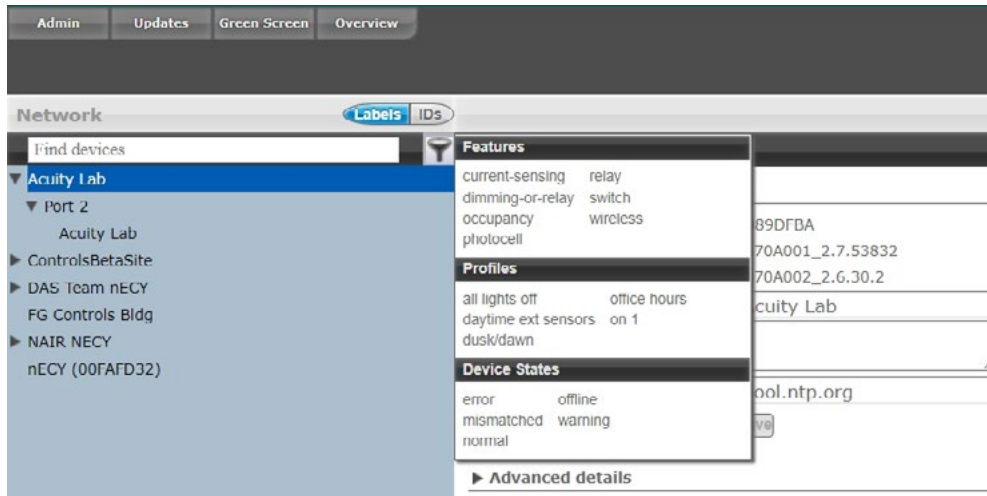
Figure 37: Device Tree Menu

Features allows for selecting/searching of the tree based on predefined characteristics of the device, such as whether it has a relay or occupancy sensor; available options are: current-sensing, occupancy, daylighting, relay, dimming, switch, dimming-or-relay. **Profiles** locates or selects devices that are in a particular profile; this is useful when creating a new profile that operates on all the devices already in an existing profile. As profiles are added or removed from the system the contents of this selections will change. **Device States** allows for searching or selecting devices depending on their current state.

Find New Gateways (Figure 38) searches the local subnet for gateways that may not be reflected in the device tree.
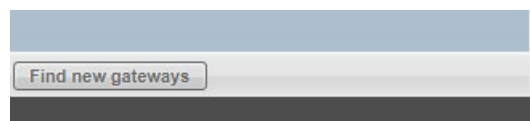
Figure 38: Find New Gateways

Devices - Tree Layout

The layout of the SensorView device tree corresponds closely with the actual wiring of the devices, with a few notable exceptions:
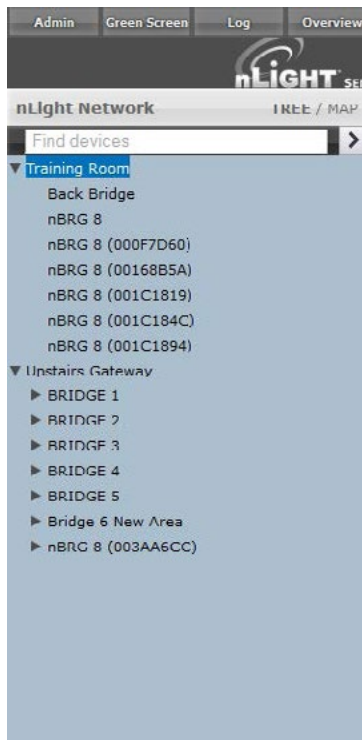
Figure 39: Tree Layout 01

Figure 40: Tree Layout 02
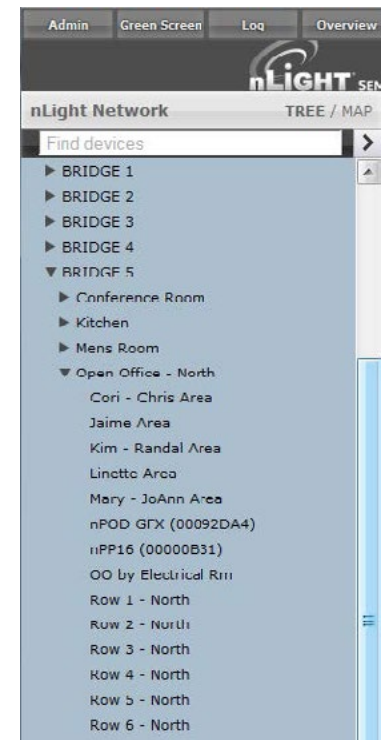
Figure 41: Tree Layout 03

- Bridges are not nested within their parents (Figure 39).

- Groups off a bridge are displayed in ascending alphabetical order (Figure 40).

- Devices in a group are displayed in alphabetical order, not wiring order (Figure 41).

Search/Filter/Locate Device

The SensorView tree allows for the user to select or search for devices based on a variety of parameters. The Device Tree Menu contains numerous options for searching for ("finding") devices based on predetermined characteristics (such as device state, or features the device has). The text field above the device tree also allows for **free text search over the devices** (Figure 42). A user can type any value into the field and the tree will automatically begin filtering to display devices with label(s), model(s), or device ID(s) matching the entered value(s).

There are two primary ways to quickly locate a device: use the device **Search**, or the **Prebuilt Filters.**

1. **Device Search:** Allows a user to immediately begin typing to search for the device (over device ID, model, or custom label).

2. **Prebuilt Filters:** Allows for a user to search for a device based on:
   - **Features:** Current-sensing, dimming-or-relay, occupancy, photocell, relay, switch, wireless
   - **Profiles:** Select by Profile name
   - **Device States:** Error, normal, offline, warning
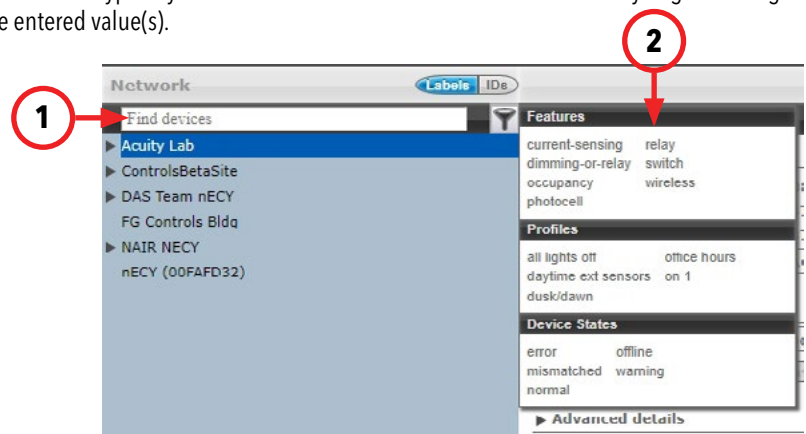
Figure 42: Search Devices

Note that any device matched and displayed will automatically cause the parent group, bridge, and gateway to be displayed. When operating in MultiSelect (link) mode, clicking on the parent nodes will select all the currently visible child nodes, and will omit the ones that have been filtered out.

Devices - View Device Properties and State

For any device selected from the Device Tree (left), SensorView displays data in real time by selecting one of the available tabs: **Properties**, **Current Settings**, **Default Settings**, and **Status**. Figure 43 shows the readings from one of the **n**Light **C**eiling-**M**ount, **P**assive **D**ual-**T**echnology sensors covering approximately an area of **9** meters in diameter (**nCM PDT 9**) in the **Group** called "Port 6", which has been selected from the device tree menu.
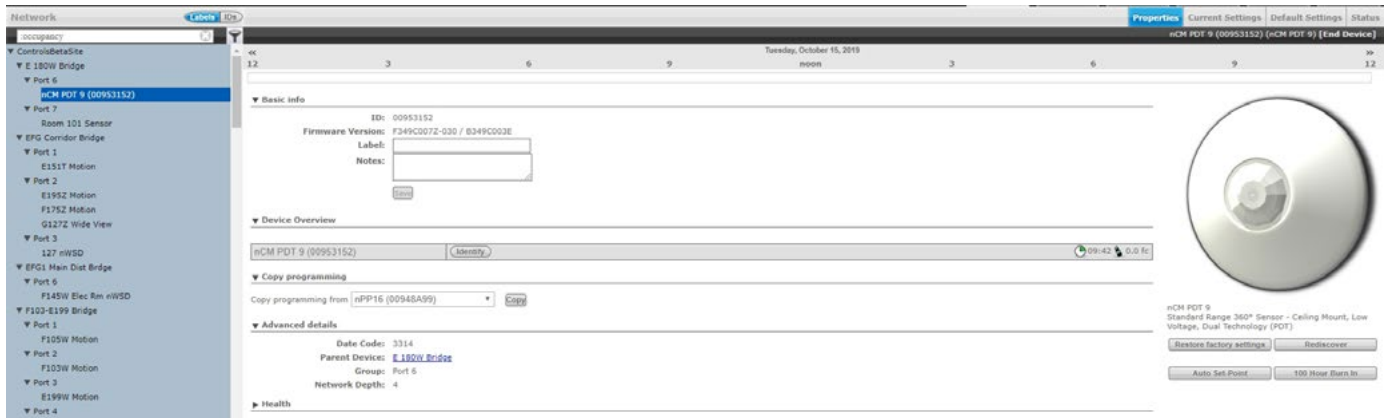
Figure 43: Device Properties

There are 5 possible states that an nLight device can be in. These different states generally indicate some sort of operational problem with a device.

- **Offline:** The device is no longer online, check that the device is properly connected

- **Bootstrap:** The device failed a firmware update and is in bootloader mode. Any relay or dimming output will be toggled on, but the device will not respond to any operational changes. Update the device to resolve this.

- **Misread:** Some properties of the device were not read by the gateway. To resolve state, go to the device and select **Rediscover** or use **Network Management -> Rediscover**

- **Incompatible:** SensorView is not compatible with this device and is unable to configure it. Upgrade the device to resolve this.

- **Mismatched:** SensorView has detected that the device settings do not match what is expected. Synchronize the device (either using SensorView or the device's settings) to resolve. Choosing to synchronize from a device will update SensorView's record of device settings. Choosing to update from SensorView will update a device's settings to match SensorView's record.

NOTE

Device State is not the same as Device Status. Individual device types can have various status conditions, depending on their functions.

Under the product image of your selected device (Figure 44) are a number of options. Note that some options pertain only to certain types of devices and do not appear otherwise::

Restore Factory Settings
- Resets the device to its default factory settings.

Rediscover
- Reprompt Sensorview to poll the selected device.

100 Hour Burn In
- Overrides relay on and/or dimming output to full bright (typically used for lamp seasoning)

Download Screen Saver
- Download the current background screen image from the selected device.

Upload Screen Saver
- Upload a screen image to the selected device. Supported file formats: JPG, PNG, GIF, BMP, TIF Optimal resolution: 320x240 16bit color

Figure 44: Device Options

Other information found on the **Properties** tab includes the following. Note that some items on Properties pertain only to certain types of devices and do not appear otherwise:

Basic Info

- **ID:** An unique ID assigned to the device.
- **Firmware Version:** Indicates the firmware currently installed and running on the device. If this number does not match information in the Overview screen under "Updates", it may be time for a firmware update.
- **Label:** This custom label should be used to describe and represent the device.
- **Notes:** (optional) Comments on this device or the area it serves.
- **Load:** (in Watts) Shows and/or sets the load on the selected device or devices within the selected group; used with Green Screen. Only applicable to devices containing relays or nIO LEDs.
- **Update Historical Load Data:** This indicates whether to change the load for data points previously collected for Green Screen (when checked) or leave old load values unaltered (unchecked). Only applicable to devices containing relays or nIO LEDS.

Device Overview

- A brief overview of the selected device, its unique ID, and its general status.
- **Identify:** Causes the device LED to flash, helping to identify the physical device in the space.

Copy Programming

- Copy programming to the selected device from another existing device.

Advanced Details
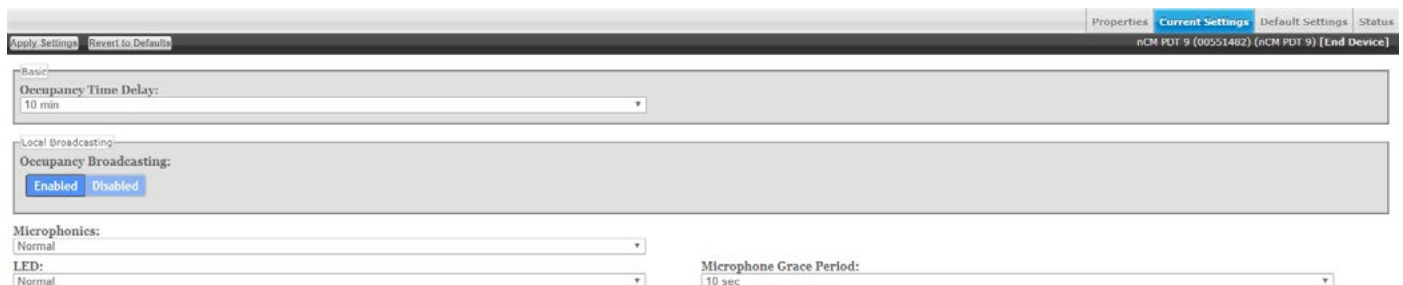
- **Date Code:** Indicates the internal lot number for the device.
- **Parent Device:** The name of the device above the selected group in the network hierarchy.
- **Group:** The name of the group in which the selected device resides.
- **Network Depth:** The number of steps below a gateway in the network hierarchy.

Health

- This section provides diagnostics read-outs for nLight Engineers and Field Techs.

Current Settings

The **Current Settings** option (Figure 45) allows the administrators to see the current settings for the selected device, and make changes there via drop down menus. Once changes are made, use the **Apply Settings** button to push the changes to the device, or **Revert to Defaults** to set the device back to the defaults set in the **Default Settings** option.

Figure 45: Device Current Settings

Devices - Default Settings

The **Default Settings** option (Figure 46) allows the administrators to change and apply the default settings for a device. Once changes are made, use the **Save Defaults** button to save the changes to the "Default" settings collection, or use the **Save Defaults and Apply Now** button to save the settings, update settings that appear under Current Settings, and affect active settings on the device.
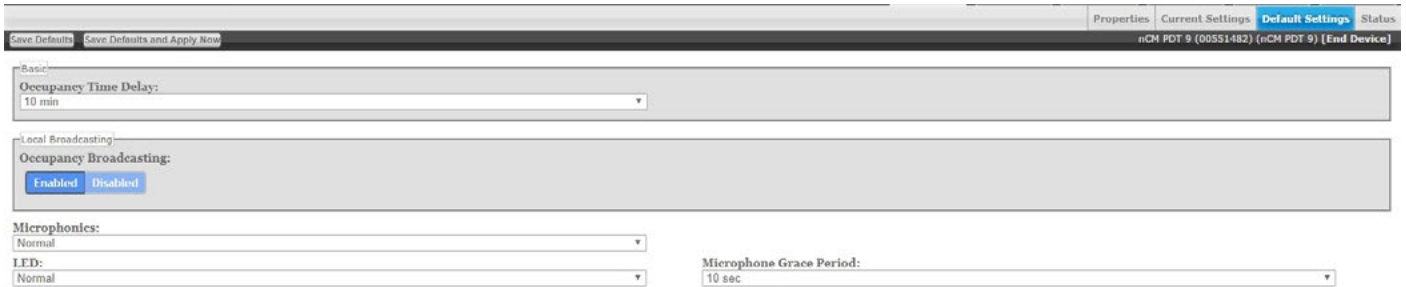
Figure 46: Device Default Settings

For detailed information on what settings affect, hover over a setting, and a description of that setting will appear in the lower left corner of the screen.

Wallpods

The **Wallpods** page is where users adjust what switch options appear on an nPOD GFX and nPOD TOUCH (Figure 47). Users can define how a switch will appear (as dimming capable or only on/off), and they can optional choose for the switch to appear under the Shades/Blind screen (applies to an nPOD TOUCH).

Figure 47: Wallpods

Scenes

The **Scenes** page is where users adjust what scene options affect an nPOD GFX or nPOD TOUCH (Figure 48).

Figure 48: Events

Devices - Status

The **Status** page (Figure 49) displays the present state of any device selected in the left tree menu. Device types have different functions. The status pages display parameters specific to the type of device selected, indicated by icons easily seen at glance. The current state of the device for each parameter (icon) is also displayed in readable text, which may include additional information on the particular status of the parameter within the selected device.

For a complete guide to Status Icons or possible conditions for a given device parameter, visit the **Status Icon Glossary.**

Figure 49: Device Status

Events

When selecting a system controller (nLight ECLYPSE or Gateway), the **Events** button will be visible (Figure 50). Selecting the Events button will display all gateway captured records over a user-selected time period (24 hours, 7 days, 30 days, or all records). The resulting list of events can be sorted by errors, warnings, or "other." Lastly, the cause for the event can be filtered as well.

Figure 50: Events

Control Channels

nLight Devices exchange control information via the use of Local and Global channels, accessed via the Control Channels tab (Figure 51). Communication performed within a group (single nBRG port) is dictated via Local Channels; while Global Channels allow a device to receive input from any other device on the nLight network.

SensorView allows users to modify both Local and Global Channels to configure the control they need. Local Channels are commonly used to subdivide a single Group and allow for switches to control individual fixtures or switch legs within a Group, rather than all of them. Global Channels are more commonly used to provide instantaneous switch control over the entire building with a master switch.

Channels, both Global and Local, can be used to fine tune the control that one devices has over others, for Occupancy, Switching, and Daylighting.

Figure 51: Control Channels

Local Channels

The **Local Channels** option (Figure 52) allows a user to specify the channeling for all devices in the selected group. Users can configure **Switching**, **Occupancy**, and **Photocell** channels on a single screen.

Devices tracking a particular channel will respond to commands sent by any device broadcasting on that channel. To configure one device to control another simply set the broadcasting and tracking numbers for the devices to the same number. The column on the left indicates broadcasting devices assigned to channels, and the column on the right indicates teacking devices assigned to channels.

Figure 52: Control Channels - Local Channels

Start by selecting a group from the **Device Tree**. Users may then add channels via the **New Channel** button, turn existing channels **Off** or **On**, or add devices to either the broadcasting or tracking fields. Once a field is selected, the device tree will indicate a list of devices that could be added to that field, via checkbox (Figure 53). When all changes have been made, click **Save**.

Figure 53: Control Channels - Add Devices

Control Channels - Global Channels

With traditional wired nLight systems, devices within a group communicate occupancy, photocell and switch events over local channels.
With the **Global Channels** option (Figure 54), communication of this information is possible between groups as well. This provides enhanced design flexibility for applications requiring master control stations or centralized relays. Global channels are set through SensorView.

Figure 54: Control Channels - Global Channels

Start by selecting the **Global Channels** option. Any Global Channels that have been previously assigned will be displayed. **A maximum of 128 Global Channels are available**. To view or edit the devices that are part of a global channel expand the channel by clicking the arrow next to the channel name. Users may add channels via the **New Channel** button, turn existing channels **Off** or **On**, or add devices to either the broadcasting or tracking fields. Once a field is selected, the device tree will indicate a list of devices that could be added to that field, via checkbox. Devices can be added to more than one channel if desired. When all changes have been made, click **Save**. To delete a channel, click the red circled X at the far right of the channel.

Network Management

The **Network Management** tab is where default settings can be modified for many devices at once.

Settings

From the **Settings** option (Figure 55), start by selecting devices from the **Device Tree**.

Figure 55: Network Management - Settings

Users may select multiple devices at once. When operating in this tab, all line items displayed in the tree will be given a checkbox which will allow for selection (Figure 56). Single clicking on a device no longer displays information specific to the device, but rather selects/deselects it. This mode of selection is used when large amounts of devices are to be operated on simultaneously. Selecting a device within a group only selects/deselects that device. Selecting a group, bridge, or gateway selects/deselects children; this allows for a user to quickly select all devices in a group, bridge, or gateway (Figure 57). The user may also deselect individual devices from a group, bridge, or gateway (Figure 58).

Figure 56: Network Management - MultiSelect
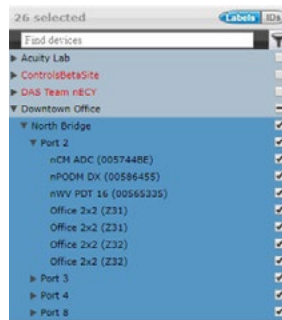
Figure 57: Network Management - Select All Devices
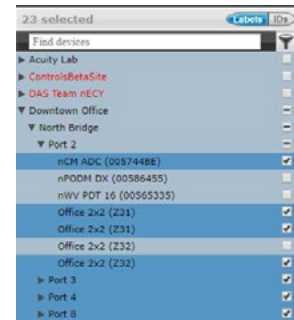
Figure 58: Network Management - Deselect Devices

With a device or devices selected, the user may now click the drop-down list next to **Add a Setting**. The list of settings available depends on the devices selected. Add one or more settings, then select the desired value(s) for those settings before choosing **Save** (see below). Settings on multiple devices can be adjusted from this screen by selecting devices from the tree, and when updates are made, only the devices selected are affected. Settings that can be adjusted include settings such as Basic (PIR sensitivity, override, occupancy time delay), Dimming (follow photocell mode, occupied bright level, unoccupied dim level), Broadcasting, Tracking, ADR, and Global Broadcasting and Tracking. The other choices beneath the **Settings** option include:

Save
- **Defaults and Apply Now:** This saves your settings as a default and immediately applies them to the selected devices, as applicable.
- **Defaults Only:** Saves the settings as defaults but does not push them immediately to the devices selected.

Revert
- **To Custom Defaults:** Reverts the settings of the selected devices to the user defined custom values.
- **To Factory Settings:** Reverts the settings of the selected devices to factory default settings.

Synchronize
- The synchronize button allows users the ability to synchronize settings on multiple devices with SensorView or to synchronize SensorView settings to match the devices.

Rediscover Devices
- Rediscover devices causes SensorView to search for devices per what has been selected in the device tree.

Network Management - Group Copy

The **Group Copy** option (Figure 59) allows the user to copy settings, scenes, profiles, and loads to devices from a source group over to the destination group. Drag devices in the destination group to change the mapping. When devices are mapped appropriately, click **Copy.**

Figure 59: Network Management - Group Copy

Loads

Output capable devices have a field for **Load**, which represents the power of the fixture(s) they are controlling. The **Loads** option (Figure 60) allows a user to select devices to modify and write a value to the Load field on those devices. Click **Save** to apply the changes made. Click **Set Baselines** to make the new setting the baseline for that device (this will cause the relay to toggle on and off). Lastly, check the box to **Update Green Screen Historical Data** to ensure that changes made are recorded in the Green Screen reports.

Figure 60: Network Management - Loads

Fixtures

The **Fixtures** option (Figure 61) allows for a user to adjust the icon that appears for the device when under Map view. Users can select from fixture manufacturer types Lithonia, Peerless, and Holophane. A selection of fixture-specific icons appear under each of the manufacturers. **Select A Manufacturer** via drop down, then **Select A Fixture** from the following list. When you are done, click **Save Fixtures**.

Figure 61: Network Management - Fixtures

Screen Savers

Screen Savers for nPOD GFX and nPOD TOUCH devices can be uploaded from this screen. Upload a screen image to the selected device using the **Upload Screen Saver** button. Optimal resolution is suggested to be 320 x 240 16bit color. Accepted file formats include JPG, PNG, GIF, BMP, and TIF.

Export Diagnostics

The **Export Diagnostics** screen is used to create a zip file with system-pertinent information required for both history and troubleshooting purposes. The file includes information on gateway health and diagnostic information, error logs, a SensorView database export, and a SensorView Map Builder export. Clear Health is used to reset all counters for selected devices to 0. Only devices that are selected using the tree view are affected. In the Description field, users can enter notes or text, and all entered information will appear in their Diagnostic Export as a .txt file. An option to **Include Health Statistics** of devices is found below **Description**. This option is enabled by default, and when left enabled, the created diagnostic file will include a .xlsv with information relating to devices and their corresponding health statistic counts.

Profiles

The **Profiles** tab (Figure 62) is where control modes and settings for a particular group are selected. A schedule (complete with a recurrence pattern) and priority are also chosen on this page. The tab has three configuration panels: **Profiles**, **Settings**, and **Scheduler**.

Figure 62: Profiles Tab

Profiles are stored in the database and the Gateway, which administers profiles according to priorities. The profiles can also be activated on demand via SensorView or the Gateway.

Click **New** under the **Profiles** panel (Figure 63) to start creating a new profile, or click the name of a profile in the list to edit an existing profile.

Figure 63: New Profiles

In the **Settings** panel to the right of the Profiles panel, users will be prompted to select the devices affected by this profile and to create a name for the profile (Figure 64). When you are finished making changes to the profile, click the **Save** or **Save As Copy** button.

Figure 64: Name Profile

Add or remove devices using the checkboxes in the **Device Tree** on the left (Figure 65). Checked devices can participate in the profile and receive applicable settings while the profile runs.
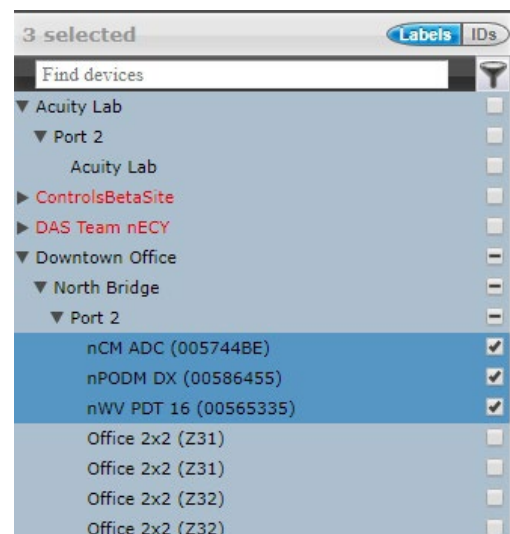

Figure 65: Select Devices

Profiles - cont'd

Figure 66: Select Settings

Select the desired settings for the selected devices via the **Add a Setting** drop down menu (Figure 66). Multiple settings can be added to the profile and will affect the applicable selected devices.

Create a new schedule on the **Scheduler** panel, or select an existing schedule from the drop down menu (Figure 67). The Scheduler allows the following options:

- Schedule date/hour/minute for any setting change or control mode

- Astronomical start/end dates include +/-180 minute deviance from Sunrise/Sunset

- Set daily/weekly/monthly/yearly recurrences; drilldown options provide more detailed patterns

Unlike other systems which allow scheduling of lights on/off or on-demand dimming scene control, nLight provides users with the ability to schedule changes to almost any operational parameter. This allows for dynamic sequences of operation that can be tailored to a space across different times of day and/or dates
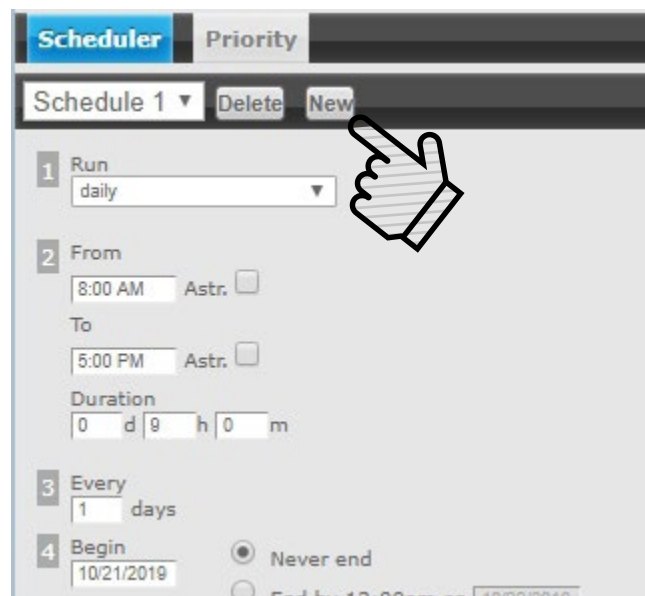
Figure 67: Create Schedule

Users can change the priority status of profiles on the **Priority** tab (Figure 68), which allows devices in multiple profiles to react based on the priority of said profiles. Select the priority of the profile to change, then use the arrows to move to the appropriate position, or down into the disabled area
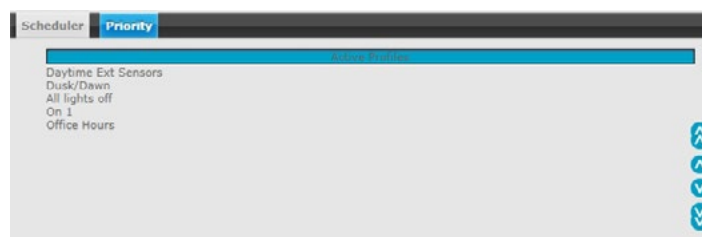
Figure 68: Set Profile Priorities
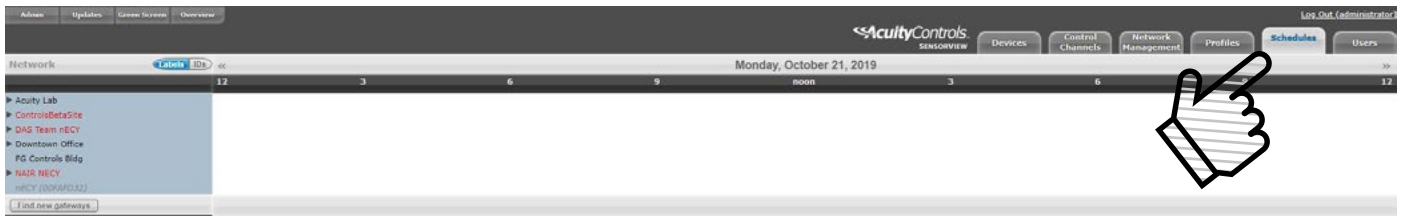
Schedules

Figure 69: S hedules

The **Schedules** tab (Figure 69) shows all scheduled profiles for zones and devices in the nLight network, on a 24-hour schedule for a given date.

Hovering over a profile name displays the profile's begin and end times. Clicking the profile name is a shortcut to editing that profile on the Profiles tab. When a zone is expanded, individual schedule bars for the zone's devices are generated. These bars are colored to denote a specific profile. Clicking the header with the time markings will bring up a date picker for quick viewing of a future date.

If two profiles are scheduled at the same time, the one with the higher priority (per the **Profiles** tab section) takes precedence.

Users - Virtual Switches

Most of the options available under the **Users** tab have been covered in previous sections. One that has yet to be covered is **Virtual Switches**. Here, users may also create **Virtual Switches** (Figure 70). With the Virtual WallPod applications, users can control their lighting from their desktop or iOS mobile device. Designed to look like WallPods®, these applications are an excellent alternative to remote controls, which are often lost and require battery replacement. Simple user permissions provide facility managers necessary administrative control.

SensorView is a required component of the Virtual WallPods Plugin. It is used to setup and configure Users and the Virtual WallPods associated with them; as well as authenticate and process commands sent by Virtual WallPods. Use of Virtual WallPods requires SensorView be online and accessible.

Figure 70: Virtual Switches

Before configuring your Virtual Switches, first, be sure that the **nLight Virtual Wallpod Server** is running. This can be found under the **Admin** tab, beneath the **Plugins** sub tab (Figure 71).
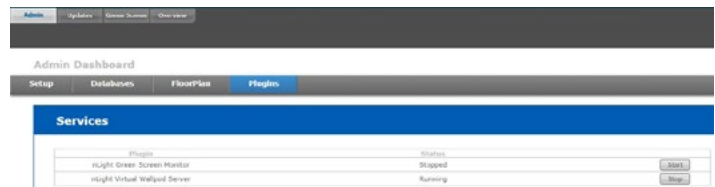
Figure 71: Virtual Wallpod Server

Now that the nLight Virtual WallPod Server is running, go to the **User** tab. Select a user by clicking on the drop down arrow beneath the words U**ser Accounts**. Click the **Add Switch** button beneath the **Virtual Switches** option beneath the selected user.

Next, configure the Virtual Wallpod (Figure 72). The following options may be configured:
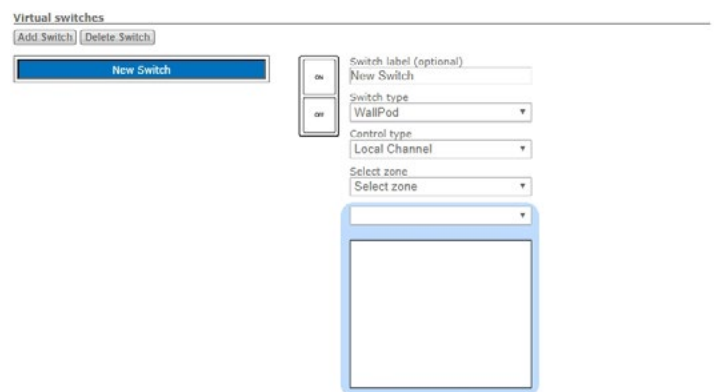
Figure 72: Configure Virtual Wallpod

Switch Label (optional)
- Create a label for the Virtual Switch.

Switch Type
- **Wallpod**
- **Dimming Wallpod**
- **Global Preset**
- **Button Press**

Control Type
- **Individual Device**
- **Local Channel**
- **Global Channel**

Select Zone
- Select the zone to be controlled by the Virtual Wallpod

Select Channel
- Select the channel within the zone to be controlled, and then select the devices listed there.
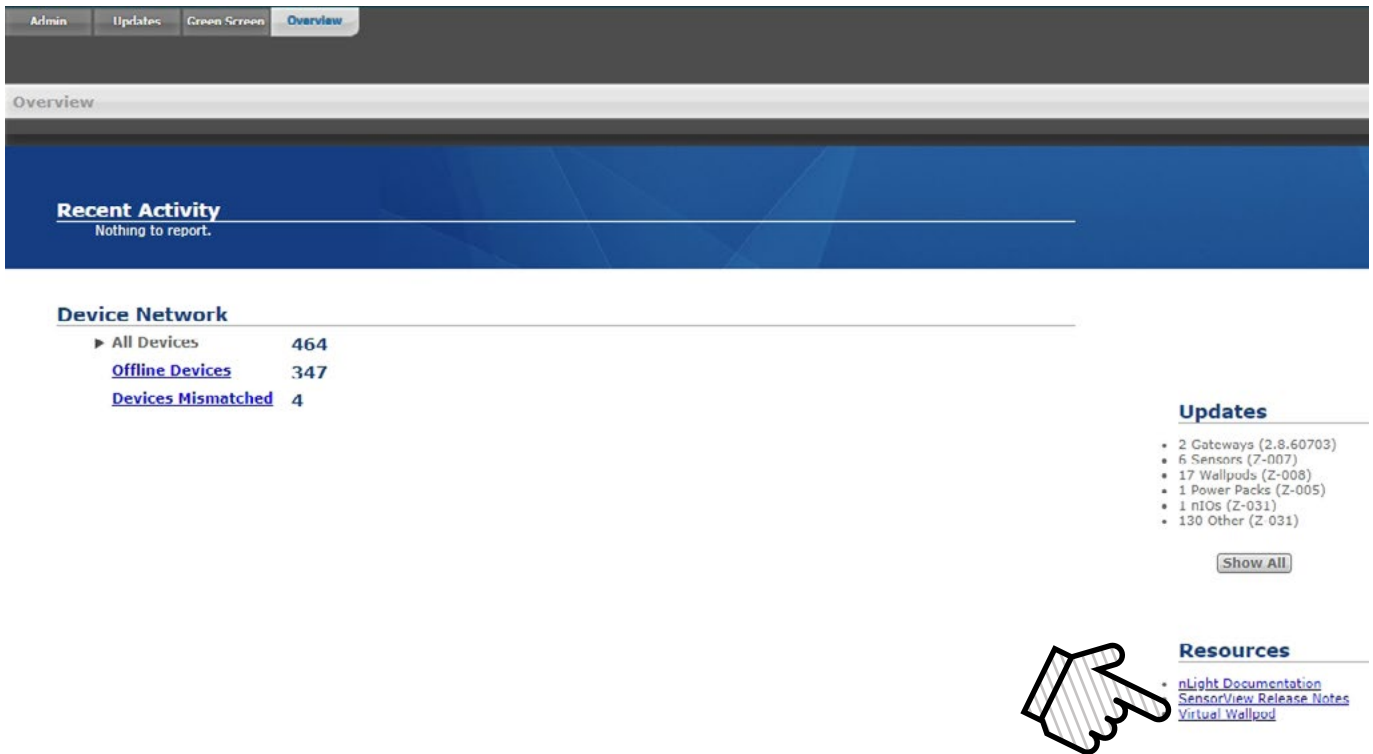
Figure 73: Virtual Wallpod Application

Download the **Virtual WallPod** application from the Overview page of SensorView (Figure 73). Click the **Overview** tab at the top right portion of the screen, then Virtual WallPod under the **Downloads** section (bottom right) to download. It is recommended to save this file to a flash drive so that it can be installed to other machines throughout the network.

Once the files have been downloaded and extracted to a folder, locate it and run **setup.exe** and follow the installation steps to completion. Find and launch the device from your system's applications menu (Figure 74).

NOTE
The download link will only be shown if the Virtual WallPod Plugin has been enabled.
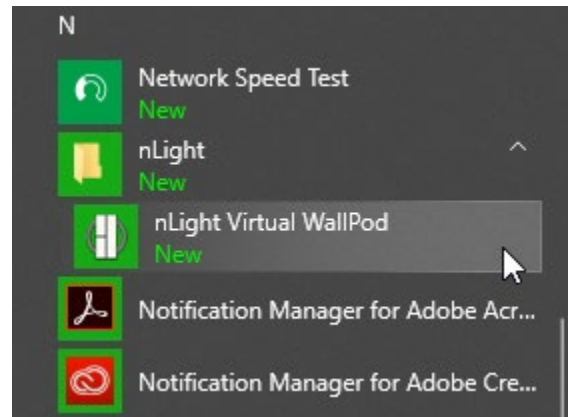
Figure 74: Launch Virtual Wallpod Application
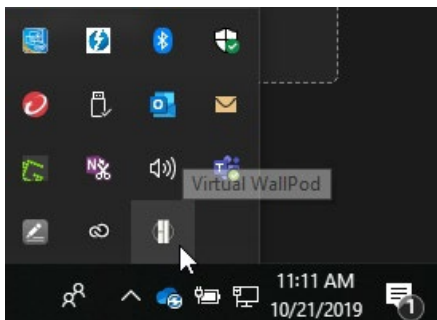
Figure 75:Virtual Wallpod Task Icon
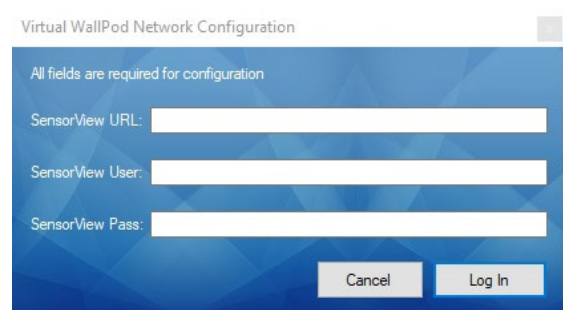
Figure 76: Network Configuration

Once the icon for the **nLight Virtual WallPod** appears in the **Taskbar** (Figure 75), right-click it and enter the **Network Configuration** (Figure 76).

If the nLight Virtual WallPod app is installed to the SensorView host machine, the SensorView URL will be **http://localhost/sensorview**.
If it is installed to a remote machine (that is on the same LAN or subnet) the SensorView URL will be: **http://[host name or IP address]/sensorview**.

Login as a user assigned one or more Virtual WallPods in SensorView.

The **nLight Virtual WallPod** (Figure 77) is now running and will control the assigned relays.

Now that setup for the host machine is complete, the iOS app can be downloaded and installed.

Figure 77: Virtual Wallpod Running

Virtual WallPod iOS App

This section details how to install and setup the **Virtual WallPod** software for iOS devices (Figure 78).

Go to the **App Store** on the device that will have the nLight Virtual WallPod installed.

Search for **nLight Virtual WallPod**.

Note that the App is free of charge, as is all nLight software.

Click **FREE**, followed by the green **INSTALL** button that appears. (note: an iTunes account is required)

Figure 78: Virtual Wallpodon iOS

Once installed, click the **WallPod App** icon to launch.

Once the app is launched, the **Virtual Wallpod** Login screen will load (Figure 79). Click the Information icon in the upper right to access the configuration screen.

From there, enter the server URL , and enable the desired options from the following list:

- **Save Username**
- **Save Password**
- **Auto Logon**
- **Use Wi-Fi Connection**

Click **Done**, then login with the user credentials for the nLight Virtual WallPod you wish to control. Select a switch from the devices list. Installation is now complete.

Figure 79: Virtual Wallpodon iOS Login

Sensorview Terms

The following is a glossary of terms, sorted alphabetically, used in Sensorview.

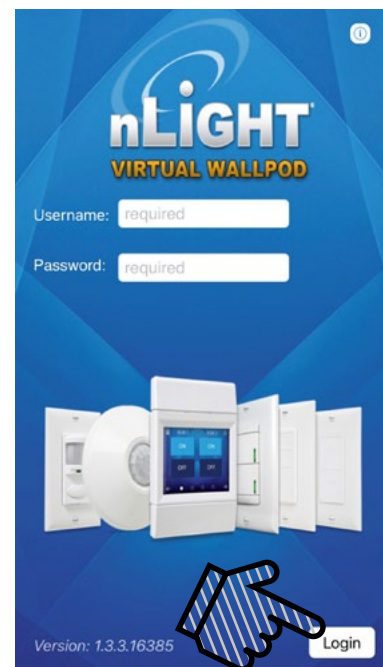|	
100 Hour Burn In	Overrides relay on and/or dimming output to full bright for one hundred hours.
Active Screen Brightness	Specifies the brightness of the backlight when device is in use.
ADC Photocell On/Off	Turn the lights on or off if dimming is insufficient to meet photocell Set-Point requirements.
Auto Set-Point	Photocell calibration procedure for detecting optimum lighting control level.
Automated Demand Response	Enable/Disable load shedding.
Automated Demand Response Low Level	Dim Level to use as upper limit when in load shedding mode.
Automated Demand Response Max Level	Dim Level to use as upper limit when in load shedding mode.
Automated Demand Response Medium Level	Dim Level to use as upper limit when in load shedding mode.
BLE Output Power	The BLE radio output power in dBm
Blink Warning	Enables a blink warning for the output to toggle five minutes before it turns off.
Button Action	Defines what action a button press performs.
Button Enabled	Specifies whether or not the button is currently disabled / inactive.
Cloud Detection	When enabled extends transition time from daylight harvesting to reduce on/off transitions when ambient light level is rapidly changing.
Color Number	Sets the active color for the color cell.
Color Number Switch Tracking	If enabled, the luminaire will ignore Color Number commands.
Color Temperature Global Switch Tracking	Indicates whether color temperature will track global switch channels.
Color Temperature Percent	The color temperature of a tunable white fixture as it relates to wall switch dim level percentage.
Color Temperature Switch Tracking	Indicates whether a device's color temperature output will react to manual switching and/or dimmer events.
Contrast Level	Sets the grayscale Contrast Level for the luminaire.
Custom Color 100%	Sets a user-defined color for Custom Color 100.
Custom Color 93%	Sets a user-defined color for Custom Color 93.
Custom Color 94%	Sets a user-defined color for Custom Color 94.
Custom Color 95%	Sets a user-defined color for Custom Color 95.
Custom Color 96%	Sets a user-defined color for Custom Color 96.
Custom Color 97%	Sets a user-defined color for Custom Color 97.
Custom Color 98%	Sets a user-defined color for Custom Color 98.
Custom Color 99%	Sets a user-defined color for Custom Color 99.
Deadband External Photocell	Adjustment factor for measured artificial light contribution
Dim When Held	Light levels will dim when pressed and held.
Dimming Always On	Maintain dimming level at minimum value when in the "off" state.
Dimming Curve	Specifies dimming curve used in the driver (linear/log).
Dimming Level	The dimming level output when the associated preset is activated.
Driver Group	Group dimming outputs together
Dual Zone Off-Point	Zone 2's set-point as a percentage of Zones 1's set-point (Dual Zone photocell applications only).
Dual Zone Offset	Fixed voltage increase of Zone 2's dimming output from Zone 1's dimming output (Dual Zone photocell applications only).
DZ Photocell Mode	Indicates a Dual Zone photocell sensor's method of operation.
Fade Off Time	The time after receiving an "off command" for lights to dim down before turning off.

Fade On Time	The time after receiving an "on command" for devices to reach full bright.
Follow Photocell Mode	Instructs a device to track the dimming output maintained by an ADC device.
Global Occupancy Broadcasting	Enable/Disable global occupancy broadcasting.
Global Occupancy Tracking	Enable/Disable global occupancy tracking.
Global Photocell Broadcasting	Enable/Disable global photocell broadcasting.
Global Photocell Tracking	Enable/Disable global photocell tracking.
Global Switch Broadcasting	Enable/Disable global switch broadcasting.
Global Switch Tracking	Enable/Disable global switch tracking.
High End Input Trim (100%)	Max photocell voltage. Follow photocell level will be 100% at high trim.
High End Trim (100%)	Maximum dimming voltage. Output reports 100% at high trim; corresponding lumens depend on ballast/driver.
Idle Screen Brightness	Backlight brightness is reduced to this level after backlight timeout setting.
Idle Time Until Dim	Time after last detected occupancy that lights reduce to Unoccupied Dim Level for local channels. Time after occupancy time delay expires lights remain at Unoccupied Dim Level for global channels.
Invert Relay Logic	Reverses open/closed state for relays.
Lamp Type	Specifies the dimming curve for PCD.
LED	Controls whether or not a device will illuminate its LED.
LED 1% Follow Photocell Level	Foot-candle level in shaft in which the LEDs will be full dim (1%).
LED 100% Follow Photocell Level	Foot-candle level in shaft in which the LEDs will be full bright (100%).
LED 50% Follow Photocell Level	Foot-candle level in shaft in which the LEDs will be at 50%.
LED Inhibit Offset	Offset (deadband) above "LED 1% Follow Photocell Level" before "Photocell Transition Off" timer begins.
Line Voltage	Specifies the main's voltage the current monitoring device is operating on; used to properly calculate power level.
Load Fault Protection	Enable/Disable load fault protection.
Local Occupancy Only	Instructs a device with a relay and/or dimming output to react to only its internal occupancy information.
Local Photocell Only	Instructs a device with a relay and/or dimming output to react to only its internal photocell information.
Local Switch Only	Instructs a device with a relay and/or dimming output to react to only its internal switch information..
Louver inhibit	Foot-candle level in shaft in which the Louver Transitions from Full Open to Full Close (Evening) or Full Close to Full Open (Morning).
Louver Photocell Delay Time	The amount of time between pulses that are sent to the motor in response to daylight harvesting.
Louver Photocell Pulse Time	The length of the pulses that are sent to the motor in response to daylight harvesting.
Louver Stroke Time	Time it takes the louver to go from fully open to fully closed (or vice versa).
Louver Switch Delay Time	Time between pulses due to switch commands.
Louver Switch Pulse Time	Time the relay closes due to switch commands.
Low End Input Trim (1%)	Min photocell voltage. Follow photocell level will be 1% at low trim.
Low End Trim (1%)	Min dimming voltage. Dim level reports 1% at low trim; lumen output depends on ballast/driver. Not recommended to be below factory defaults.
Lumen Compensation	Specifies lumen compensation mode.
Maintain Dim Level when Vacant	Prevents lights from turning fully off once in unoccupied state.

Microphone Grace Period	The time period after lights are automatically turned off that they can be reactivated by audio.
Microphonics	Specifies sensitivity of microphone used to enhance occupancy detection.
Middle Input Trim (50%)	Mid photocell voltage. Follow photocell level will be 50% at middle trim.
MLO (High)	Dim level for the MLO high state.
MLO (Low)	Dim level for the MLO low state.
MLO Mode	When enabled allows a single pole switch to control two individual switch channels.
MLO Secondary Broadcast Channel	The channel on which a device with a manual switch will transmit its secondary MLO switch press.
MLV Mode Enabled	Optimizes control for magnetic low voltage devices, preventing flickering.
Momentary Relay Mode	Toggles relay momentarily for 1s when a tracked input causes an state change..
nClass	Operational modes for classroom configurations.
Night Light Brightness	The percent of full brightness of the units night light LED.
nIO Input	Specifies how the device should interpret incoming data on the input wires and the action it should take.
nIO RLX Input	Determines if actions on the input wire affect dimming, on/off, or both.
Occupancy Broadcast Channel	The local channel on which a sensor transmits its occupancy information.
Occupancy Broadcasting	Indicates whether a sensor will transmit its occupancy information to the rest of its zone.
Occupancy Expiration of Manual Off	Reverts override off commands to normal mode after Occupancy Time Delay expires.
Occupancy PIR Sensitivity	Threshold at which motion is considered detected for Occupancy.
Occupancy Time Delay	The length of time an occupancy sensor will keep the lights on after it last detects occupancy.
Occupancy Tracking	Indicates whether a device's relay and/or dimming output will react to occupancy information.
Occupancy Tracking Channels	The local channels on which a relay and/or dimming output receives occupancy information.
Occupied Bright Level	The percentage of the controllable dimming range up to which lights will rise when occupancy is detected or the luminaire is overridden on.
Override	Indicates whether a device's relay is forced on/off and/or dimming output is forced to maximum/minimum.
Override Input State	Specifies the state to which the relay will remain when panel Override input is made and held.
Pattern Number 3 Cell	Sets a predefined grayscale pattern.
Pattern Number 5 Cell	Sets a predefined grayscale pattern.
Pattern Number 9 Cell	Sets a predefined grayscale pattern.
Phase Dimming Frequency	Specifies frequency of the power feed the phase dimmer is operating on.
Photocell Broadcast Channel	The local channel on which a sensor transmits its photocell information.
Photocell Broadcasting	Indicates whether a sensor will transmit its photocell information to the rest of its zone.
Photocell Dimming Range (High)	The maximum output percentage up to which an automatic dimming photocell will control.
Photocell Dimming Range (Low)	The minimum output percentage down to which an automatic dimming photocell will control.
Photocell Mode	Enable photocell either to turn lights on and off, or only prevent lights from turning on.
Photocell Tracking	Indicates whether a device's relay and/or dimming output will react to photocell information.
Photocell Tracking Channels	The local channels on which a relay and/or dimming output receives photocell information.
Photocell Transition Off	The time period for which a photocell must measure a light level above the set-point before it will turn the lights off.
Photocell Transition On	The time period for which a photocell must measure a light level below the set-point before it will initiate the lights on.
Photocell/Profile Dimming Rate	The speed at which dimming level changes when triggered via profile scenes (global or local) or automatic photocell dimming.

PIN Protection	Specifies whether a pin is required to modify light levels and program device.
Predictive Exit Time	Time period after manually switching lights off for the occupant to leave the space.
Predictive Grace Period	The time period after the Predictive Exit Time that the sensor rescans the room for remaining occupants (Predictive Off mode only)
Profile Override	Allow button-initiated profiles to run concurrently, as long as the profiles target different devices.
Push-Button Operation	Overrides a device and enables its push-button to toggle the device's internal relay(s) or dim level.
Reduced Turn-on	Reduces the initial PIR detection strength required to trigger occupancy.
Relay Always On	Forces relay to stay closed even in off state.
Relay End State	Specifies the state which the relay will go to when the panel loses power.
Relay Line Voltage Phase	Indicates relay load's phase relative to relay panel power supply. Helps reduce relay wear related to high switching voltages
Relay Throw Delay	Specifies the delay between relays when throwing multiple relays at the same time.
Rubik Factory Test Mode	Factory test commands.
Scene Expiration Blink	Blink warning will toggle all outputs prior to the expiration of the scene timer.
Scene Expiration Time	The length of time a selected profile scene (global or local) will run before reverting affected devices to defaults.
Screen Backlight Timeout	Specifies how long the backlight should remain at full brightness when in use.
Screen Backlight Timeout	Specifies how long the backlight should remain at full brightness when in use.
Screen Order for GFX Scenes/WallPods	Specifies order of the Scenes and WallPods screens.
Screen Saver Mode	Controls displayed screen saver.
Screen Saver Timeout	Sets idle time before screen saver is displayed.
Screen Saver Timeout	Sets idle time before screen saver is displayed.
Semi-Auto Grace Period	The time period after lights are automatically turned off that they can be reactivated with occupancy.
Sensor LED	Controls whether or not the sensor will illuminate its LED.
Set-Point Ones Digit	The target light level that is to be maintained by the device (foot-candles).
Set-Point Tens Digit	The target light level that is to be maintained by the device (foot-candles).
Setup Screen Timeout	Sets idle time before device exits setup mode.
Setup Screen Timeout	Sets idle time before device exits setup mode.
Special Operating Modes	Unique behaviors for relays and/or dimming outputs.
Special Switch Tracking Mode	Allows a device to ignore specific switch commands.
Speed Percent	Sets the speed at which grayscale patterns will transition.
Speed Switch Tracking	If enabled, the luminaire will ignore Speed Percent commands.
Start-to-High	Lights go to full bright for 20 minutes upon initial power up.
Sunlight Discount Factor	Adjust the photocell's ability to influence light level. Decreasing the discount in a period of high daylight will lower the light level.
Sweep Exit Time	The time period before a sweep is executed (affects all buttons operating in sweep mode).
Sweep Grace Period	The remaining time delay a sensor reverts to after a sweep is executed.
Switch Broadcast Channel	The local channel on which a device with a manual switch and/or dimmer transmits.
Switch Broadcasting	Indicates whether a device will transmit its manual switching and/or dimmer events to the rest of its zone.
Switch Tracking	Indicates whether a device's relay and/or dimming output will react to manual switching and/or dimmer events.

Switch Tracking Channels	The local channels on which a relay and/or dimming output receives manual switching or dimming events.
Temperature Fault Protection	Enable/Disable temperature fault protection.
Timed Expiration of Manual Off	Reverts override off commands to normal mode after Timed Override Delay expires.
Timed Override Delay	The length of time an Override On or Off state initiated by a Special Operating Mode will remain in effect.
Unlimited Photocell Dimming Range	Allows the offset zone on a DZ device, or follow photocell device, to go full bright or full dim.
Unoccupied Dim Level	Level to which lights dim once the Idle Time Until Dim expires. Also, low trim level for dimming switches and photocells.
Visibility (Graphic Preset)	Specifies whether or not a configured Preset button will be displayed.
Visibility (Graphic Scene)	Specifies whether or not a configured Scene button will be displayed on the main page.
Visibility (Graphic WallPod)	Specifies whether or not a configured WallPod button will be displayed on the main page.
WallPod Dimming Adjustments	Defines whether user dimming adjustments are maintained after lights are cycled or whether they revert to preset levels.

Status Icons

Voltage Status

Icon	Value	Description
	Bridge / Transceiver PowerState Power Supply Voltage: (VDC)	Device has adequate power (bridge)
	Bridge / Transceiver PowerState Power Supply Voltage: (VDC)	Device is close to low power condition (bridge)
	Bridge / Transceiver Power State Power Supply Voltage: (VDC)	Device is in low power condition (bridge)

Broadcasting & Tracking Status

Icon	Value	Description
	Occupancy Broadcasting	Occupancy status broadcast is active
	Occupancy Tracking	Occupancy status tracking is active
	Photocell Broadcasting	Photocell status broadcast is active
	Photocell Tracking	Photocell status tracking is active
	Switch Broadcasting	Switch status broadcast is active
	Switch Tracking	Switch status tracking is active

Scenes & Profiles Status

Icon	Value	Description
	Scene States (per button/nIO) Scene State: Active	Scene associated with button is active
	Scene States (per button/nIO) Scene State: Idle	Scene associated with button is not active
	Scene States (per button/nIO) Scene State: Disabled	Button is disabled
	Scene Expiration Time	Indicates when current running scene/profile will expire
	Photocell Not Inhibiting	Indicates that photocell is not preventing lights from being on
	Photocell Status (per pole) Transition time: (hh:mm:ss)	Indicates when current photocell state will change
	Temperature	Current temperature at the processor of the device
	LightLevel Measured light level: (fc)	Current foot candle level as measured by the photocell
	Profile Active	Profile is currently active
	Profile Inactive	Profile is NOT currently active

Photocell Status

Icon	Value	Description
	Photocell Inhibiting	Indicates that photocell is preventing the lights from being on
	Photocell Not Inhibiting	Indicates that photocell is not preventing lights from being on
	Photocell Status (per pole) Transition time: (hh:mm:ss)	Indicates when current photocell state will change
	LightLevel Measured light level: (fc)	Current foot candle level as measured by the photocell

PIR & PDT Status

Icon	Value	Description
	Time Delay Remaining: (hh:mm:ss)	Indicates when current occupancy state will expire
	Tracked Occupancy Timer	Reason why pole is open or closed
	PIR Activity	PIR Activity detected/detecting occupant motion
	PIR Activity	No PIR Activity. PIR not currently detecting occupant motion
	Microphonic Activity	Microphone has detected a triggering noise
	Microphonic Activity	Microphone is not currently detecting noises

Occupancy, Relay & Dimming Status

Icon	Value	Description
	Occupied	Room is occupied
	Vacant	Room is not occupied
	Dimming Output (input) level: (%)	Current % of 0-10 VDC scales
	Input Dim Level	Follow Photocell Level: 4.9% or Input Dim Level: 100%
	Pole State Reason	Reason why pole is open or closed
	Accumulated Hours	Accumulated Hours: 1272
	Compensated Output Level	Compensated Output Level: 0
		Pole State reason: Manual Switch Override Off
	Relay State (per pole)	Closed

Occupancy, Relay & Dimming Status - cont'd

Icon	Value	Description
	Relay State (per pole)	Open

Photocell Status

Icon	Value	Description
	Wireless Signal Strength: (1- 5)	Indicates wireless signal strength (higher is better)
	Wireless PAN ID	Wireless panel identification number
	Wireless Node ID	Wireless node identification number
	Wireless Channel: (11-26)	Indicates the wireless channel currently being used
	Wireless State:	Wireless States: • Normal • Validating the network • Searching for a network that is allowing joining • Creating a new network • Allowing joining • Cloning is happening in the system • Multiple SSI networks are allowing joining • Lost a remote device during OTA cloning • Wireless device is not responding
	Bridge Port Information	Port States: Polling downstream devices Upstream port Commissioning tool connected Polling downstream bridges Error: Too many adds/deletes (reset bridge) Error: Local loop Error: Non-local loop Error: Devices connected between bridges
		Number of downstream wireless Bridges and Transceivers

Photocell Status - cont'd

Icon	Value	Description
	Transceiver Port Status	Port States: • Polling downstream devices • Upstream port • Commissioning tool connected • Polling downstream bridges • Error: Too many adds/deletes (reset bridge) • Error: Local loop • Error: Non-local loop • Error: Devices connected between bridges
		Number of downstream wireless Bridges & Transceivers