

This document is intended for installers of the WaveLinx LITE System



ATTENTION

DISCLAIMER OF LIABILITY: Cooper Lighting Solutions assumes no liability for damages or losses of any kind that may arise from the improper, careless, or negligent installation, handling or use of the products.

IMPORTANT: This manual provides information on the installation and operation of the WaveLinx LITE System. For proper operation it is important to follow the installation instructions for each product/component.

NOTE: WaveLinx LITE devices operate with other WaveLinx LITE devices and do not require the use of a WaveLinx Area Controller. Out-of-the box, WaveLinx LITE devices are not compatible with a WaveLinx Area Controller. Some WaveLinx LITE devices may allow firmware conversion to allow them to operate with a WaveLinx Area Controller.

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Welcome and Introduction

WaveLinx LITE (7.0) offers wireless control without the need for a centralized controller for outdoor and indoor applications. Outdoor applications include parking garages, decks, and surrounding areas while indoor applications include office, education, healthcare, hospitality, retail, industrial, and manufacturing. WaveLinx LITE provides a quick method to achieve code-compliance without extra wiring or complicated commissioning.

This manual provides an overview of WaveLinx LITE device programming and use.

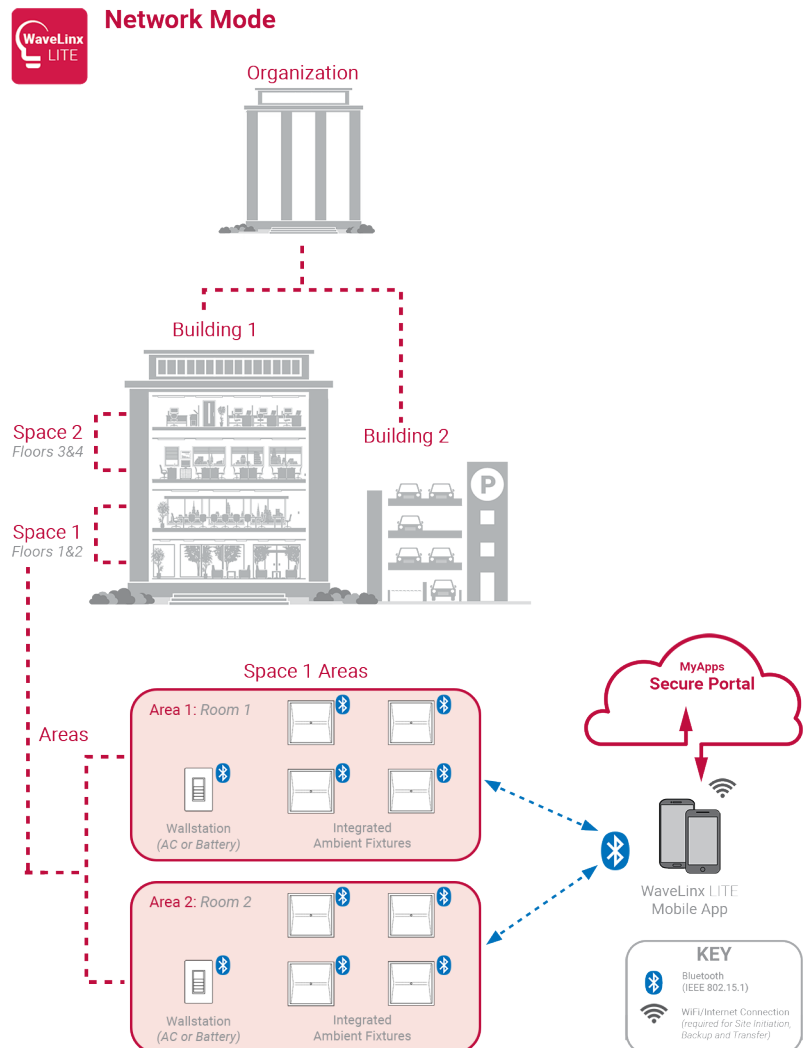
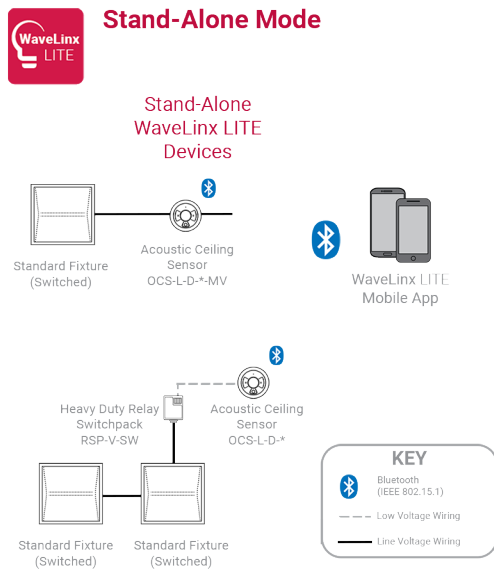
WaveLinx LITE (7.0) offers two modes of programming: **Stand-Alone** and **Network Mode**. Both methods will be discussed in this manual.

- **Stand-Alone Mode** is used for specific WaveLinx LITE devices to allow for quick settings adjustment for individual devices that may operate independently without communication to other devices in a system. The configured settings are stored in each device, accessed through a temporary connection in which the device configuration is read into the WaveLinx Mobile App to allow adjustment.
- **Network Mode** can be used with all WaveLinx LITE devices to configure and organize them into system database. Devices within the system can communicate with each other for control purposes or can operate independently with the configured settings. The database is stored on the MyApps Secure Portal through a Wi-Fi/Internet Connection.

In both Stand-Alone and Network Mode, the WaveLinx LITE Mobile Application uses the mobile device's Bluetooth connection to communicate and configure the WaveLinx LITE devices.

In Network Mode, The WaveLinx LITE architecture uses Bluetooth® mesh networking for a reliable and secure communication between devices. Also in Network Mode, the Mobile App uses an internet connection to communicate to a secure cloud portal to lock Spaces for editing, unlock Spaces for other users to edit once initial editing is complete, and to store and sync database programming.

The WaveLinx LITE architecture is scalable, allowing configuration and control from very simple stand-alone devices to larger applications where the WaveLinx LITE Mobile App may be used to administer WaveLinx LITE devices across an entire Organization.



WaveLinx LITE devices operate autonomously with default out-of-the-box programmed behavior once they are installed and powered. They will work indefinitely in this mode unless they are configured using the WaveLinx LITE Mobile App.

When using **Stand-Along Mode** to configure a compatible stand-alone WaveLinx LITE devices, the device will be accessed directly from the WaveLinx LITE Mobile App without the need to login to the Mobile App or to save the device configuration in the Mobile App database. Once the device configuration is accessed from the WaveLinx LITE Mobile App, the device will be **provisioned** (taken out of factory default mode).

When using **Network Mode**, the WaveLinx LITE devices will be accessed after logging in to the Mobile App. The process of adding the device(s) to the WaveLinx LITE system is referred to as **provisioning**. During **provisioning**, each device is assigned to an Area. The type of Area it is assigned to determines how the device will communicate and what features are available (Networked Area vs. Standalone Area). Each WaveLinx LITE Mobile App Space can have up to a total of 28 user defined Areas

- In a **Networked Area**, a unique Bluetooth mesh network is formed among devices assigned to that Area. Devices form communication paths for passing information using the structure of the mesh network architecture to create fault tolerant and self-healing paths such that if a device is removed, other devices continue to communicate and function without that device. For more information on Networked Areas, see page 52.
 - Up to 50 provisioned devices (40 best practice) may be assigned to each Networked Area.
 - The distance from one device to the next device in a Networked Area should not exceed 100ft (30m) LOS (line of sight).
 - When communicating in a Networked Area, device to device transmission will not exceed 5 hops.
 - Up to 16 control zones (groups) can be created in one Networked Area.
 - During provisioning, the distance from WaveLinx LITE device being provisioned to the mobile device running the WaveLinx LITE application should not exceed 60 feet/18 meters. For best results, get as close to the device as possible.
 - After the devices are provisioned, the mobile device running the WaveLinx LITE application can be within 60 feet/18 meters of any line powered device that belongs to the Area to configure any device in the Area.
- In a **Standalone Area**, devices operate autonomously. They communicate directly to the WaveLinx LITE Mobile App via Bluetooth but do not pass information to each other. (This is different from Stand-Along Mode in that the device configuration is saved as part of the Organization's database.) For more information on Standalone Areas, see page 52.
 - There is no limit to the number of devices that can be assigned to a Standalone Area.
 - Only devices that support Standalone operation will be available to be provisioned in a Standalone Area.
 - During provisioning and when making changes after provisioning, the distance from the WaveLinx device to the mobile device running the WaveLinx LITE application should not exceed 60 feet/18 meters. For best results, get as close to the device as possible.

The WaveLinx LITE Mobile Application will be used to communicate with the WaveLinx LITE devices. The steps outlined in this manual will require that the mobile device have a Bluetooth connection to communicate with the WaveLinx LITE device(s). In Network Mode, there must also be access to an internet connection to lock Spaces during editing and communicate database changes to and from the cloud portal.





WaveLinx LITE Device Reference Sheets

This section contains information about each device used in the WaveLinx LITE System. Each device will have a reference sheet describing the device and its general functionality. Additional details include specific information that will be used for reference throughout the manual. Once familiar with the general programming steps, the reference sheet can act as a quick reference guide for specific device behavior or programming details.

Each device reference sheet includes:

- General description
- Out-of-the-box (unprovisioned) behavior
- Provisioned default behavior
- LED behavior
- Specific details for programming supported device functions such as daylight operation, daylight calibration recommendations, and Emergency Mode
- Factory reset instructions (returning to out-of-the-box unprovisioned state)
- Identification behavior
- Loss of communications behavior

WaveLinx LITE Ambient Integrated Sensor Reference Sheet

WaveLinx LITE Ambient Integrated Sensor																					
 <p>Features</p> <ul style="list-style-type: none"> Integrated photocell for closed loop or open loop daylighting¹ Integrated Passive Infrared (PIR) motion sensor Bluetooth 4.2 Low Energy transmitter <p>Typical Applications</p> <p>Education, office, and other interior locations</p> <p>Models:</p> <ul style="list-style-type: none"> WLS-F1: Ambient Integrated Sensor WAB: Ambient Integrated Sensor <p>Available option on many Cooper Lighting luminaires.</p> <p>Mobile App Details:</p> <ul style="list-style-type: none"> Device Category: Integrated Sensor Default Device Name: <ul style="list-style-type: none"> IS-BLE IS-ECO WLS-F1 <p><i>Device name is dependent on hardware</i></p> <p><i>Device name will be followed by a number once provisioned</i></p> <p>Supported Modes</p> <ul style="list-style-type: none"> Network Mode: Networked and Standalone Areas <p>Normal Power Node Capability</p> <p>Normal Power Node capability allows a device powered from normal power to be used to trigger an UL924 approved WaveLinx LITE Emergency device to Emergency Mode when the Normal Power Node device loses power. A device that is assigned to act as a Normal Power Node device will repetitively send a beacon signal when it has power. When the beacon signal disappears (from power loss), the assigned Emergency devices will respond to Emergency Mode.</p> <p>The following models can be used as a Normal Power Node device:</p> <ul style="list-style-type: none"> IS-BLE: BLE Integrated Sensor 	<p>The WaveLinx LITE Ambient Integrated Sensor provides wireless control within the light fixture to reduce wiring, design, and installation time. The sensor provides both occupancy and daylight control that can be easily configured using the WaveLinx LITE Mobile App.</p> <p>Out-of-the-Box Operation</p> <ul style="list-style-type: none"> Once power is applied, the attached fixture operates via the motion sensors. <ul style="list-style-type: none"> The occupancy is set for high sensitivity. If occupied, the fixture will go to 100%. The fixture will dim to 50% after 10 minutes when the location is unoccupied. After 10 additional minutes, the fixture will dim to OFF and will remain OFF until the location is occupied again. The daylight sensor is disabled. LED flashes green for 500ms and then blue for 500ms once every 3 seconds when motion is detected.² <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left; padding: 5px;">Provisioned Device Default Behavior: Networked Area (default template used)³</th> <th style="width: 50%; text-align: left; padding: 5px;">Provisioned Device Default Behavior: Standalone Area (default template used)³</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> All sensors in the Area's occupancy sensor set control the lighting. <ul style="list-style-type: none"> Each occupancy sensor is set for low sensitivity. If occupied, all controlled zones go to 100%. The occupancy set hold time is 20 minutes: <ul style="list-style-type: none"> The fixtures will dim to 50% after 10 minutes when the location is unoccupied. The fixtures will dim to OFF after an additional 10 minutes if the location remains unoccupied. </td> <td style="padding: 5px;"> Once assigned to a Standalone Area, the device operates independently. <ul style="list-style-type: none"> The occupancy sensor is set for low sensitivity. If occupied the fixture turns ON to 100%. The occupancy hold time is 20 minutes: <ul style="list-style-type: none"> The fixture will dim to 50% after 10 minutes when the location is unoccupied. The fixture will dim to OFF after an additional 10 minutes if the location remains unoccupied. </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> <ul style="list-style-type: none"> The daylight sensor remains disabled LED flashes white for 500ms and then blue for 500ms once every 3 seconds when motion is detected.² </td> </tr> </tbody> </table> <p>Loss of Communications Operation</p> <p>If an integrated sensor is no longer communicating with other sensors, the device will continue to operate independently with its programmed parameters.</p> <p>Operation upon Return of Power</p> <p>Upon return of power, the fixture will turn ON to the last known manual light level. If the fixture was OFF, the power up will trigger the occupancy sensor to issue an occupied command. If occupancy set is set for Occupancy mode, the fixture will turn ON to the occupied light level until the sensor's hold time expires. If set for Vacancy mode⁴, the fixture will remain OFF if it was OFF prior to the power loss.</p> <p>LED Behavior</p> <p>The LED is located beneath the sensor lens or in a cutout next to the sensor lens (WLS-F1 model).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="width: 50%; text-align: left; padding: 5px;">LED conditions</th> <th style="width: 50%; text-align: left; padding: 5px;">Meaning</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Flashes green for 500ms, blue for 500ms and then turns OFF.² Repeats every 3 seconds.</td> <td style="padding: 5px;">Device is unprovisioned and is detecting motion.</td> </tr> <tr> <td style="padding: 5px;">Flashes white for 500ms, blue for 500ms and then turns OFF.² Repeats every 3 seconds.</td> <td style="padding: 5px;">Device is provisioned and is detecting motion</td> </tr> <tr> <td style="padding: 5px;">Flashes white for 10ms every 250ms (fast blink)</td> <td style="padding: 5px;">The daylight sensor has exceeded 150% of the calibrated light level for 30 minutes⁵</td> </tr> <tr> <td style="padding: 5px;">Flashes magenta for 1 second, and then OFF for 1 second, repeating for 15 seconds.²</td> <td style="padding: 5px;">The device has been placed in blink to identify mode  and is currently identifying.</td> </tr> <tr> <td style="padding: 5px;">Flashes magenta for 1 second, and then OFF for 1 second, repeating for 45 seconds.²</td> <td style="padding: 5px;">The device has been placed in identify mode using the IR Remote Rev ID button. The device will remain in this mode for 45 seconds to allow an identify scan from the mobile app to find this device.</td> </tr> <tr> <td style="padding: 5px;">LED is OFF</td> <td style="padding: 5px;">Device is not detecting motion. If motion is occurring, ensure device is powered and that the LED has not been disabled through the mobile app.⁶</td> </tr> </tbody> </table> <p>Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.</p>	Provisioned Device Default Behavior: Networked Area (default template used) ³	Provisioned Device Default Behavior: Standalone Area (default template used) ³	All sensors in the Area's occupancy sensor set control the lighting. <ul style="list-style-type: none"> Each occupancy sensor is set for low sensitivity. If occupied, all controlled zones go to 100%. The occupancy set hold time is 20 minutes: <ul style="list-style-type: none"> The fixtures will dim to 50% after 10 minutes when the location is unoccupied. 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¹ May require firmware update to allow for open loop capability.

² Devices with older firmware may not exhibit the exact LED pattern described.

³ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

⁴ Do not use vacancy mode unless WaveLinx LITE Wallstations are installed in the system to allow for manual override.

⁵ The LED will stop flashing if the light level drops but stays between 50% and 100% of the calibrated light level for 10 minutes OR if the light level falls below 50% of the calibrated light level for 30 seconds.

⁶ The LED may be difficult to see in very bright areas.

WaveLinx LITE Ambient Integrated Sensor (continued)




Blink to Identify Behavior

When placed in **Blink to Identify** mode:

- The fixture will turn ON for 1 second and then turn OFF for 1 second.
- The LED in the sensor window will flash magenta for 1 second, and then turn OFF for 1 second.⁷
- This cycle will repeat for 15 seconds.

Identification Mode

This device supports the use of identification mode to allow the device to appear in the mobile app when an identify scan is processed. The device will remain in identify mode for 45 seconds during which the LED will flash magenta.

Method	Meaning
WaveLinx PRO IR Remote (ACC-P-RT)	 Standing beneath the sensor, point the remote at the sensor, and then press and release the Rev ID button. The LED in the sensor window should begin flashing magenta.

Daylight Operation (closed loop)

- Daylight operation must be manually enabled for ambient integrated sensors.
- When the measured light exceeds the calibrated level, the fixture will dim lighting to reduce the light level.
- When the measured light level exceeds 150% of the calibrated light level for more than 30 minutes, the sensor will dim to OFF.
- Lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated light level for more than 10 minutes
 - The measured light level falls below 50% of the calibrated light level for longer than 30 seconds

Calibration methods supported: Auto calibration⁸ or manual calibration

Closed Loop Daylight Calibration Recommendations for Manual Calibration

If manually calibrating closed loop daylighting, it is best to calibrate indoor applications when there is a moderate to low level of daylight. If the daylight level is too high, it may be difficult to obtain the desired level of light at the task surface, even if the fixtures are completely OFF.

For Networked Areas, during calibration, use the **Calibrate All** feature and adjust slider bars to change the light level to the desired light level for each controlled fixture. Once all fixtures are adjusted, use a light meter on the surface to ensure the reading is in the desired range and then send the **Calibrate** command. Standalone Areas will perform the calibration individually for each device.

During calibration, if the light level in the location is still too bright when electric lighting is fully dimmed, use available shading to adjust the amount of incoming daylight or postpone calibration until the amount of incoming daylight has decreased.

Daylight Operation (open loop)

Daylighting will not operate until an open loop daylight set is created and configured in a Networked Area.

- Once configured, the controlled devices will dim in response to entering daylight.
 - When the measured daylight contribution increases or decreases, the controlled devices will dim or raise lighting to reduce or increase the light level.
 - When the measured light level exceeds 150% of the calibrated gain for more than 30 minutes, the sensor will dim to OFF.
- If lighting has dimmed to OFF and the location is still occupied, lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated gain for more than 10 minutes
 - The measured light level falls below 50% of the calibrated gain for longer than 30 seconds

Open Loop Daylight Adjustment Recommendations

- Perform calibration during daylight hours when electric lighting should be reduced but not fully dimmed. The use of a light meter is recommended. With electric lighting turned OFF, verify with a light meter at the work surface that the reading with daylight alone is within 50% to 75% of the desired target light level. If the light level is too high or too low, return at a time when the daylight level is within this optimal range. (For example, if the desired light level at the work surface is 500 lux, the reading with electric lighting OFF should be between 250 to 375 lux for best results.)
- In the daylight set's **Calibrate** screen, adjust the slider bar to change the light level to the desired light level, then tap the back button to save the change.

Soft Reset Instructions

A soft reset will reboot the device. Use the below method to reset the device:

Method	Meaning
Power cycle	Cycle the power (switch OFF (10 seconds and then ON) one time to force a soft reset to all devices on the circuit.

Factory Reset Instructions

The factory reset will unprovision the device, setting the device back to factory settings. The device will revert to out-of-the-box behavior and will need to be provisioned and reprogrammed.

- Cycle the power (switch OFF {30 seconds} and then ON {5 seconds}) to the device's circuit six times – 6th time leave ON.⁹
- After a brief period, the device should exhibit out-of-the-box behavior and may be provisioned again.





Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.

⁷ Devices with older firmware may not exhibit the exact LED pattern described.

⁸ May require a firmware update for auto calibration capability.

⁹ If the IS-ECO does not respond to the initial factory reset command, retry the power cycle with a longer OFF duration (switch OFF {45 seconds} and then ON {5 seconds}) six times – 6th time leave ON.

WaveLinX LITE Industrial Fixture Mount High Bay/Low Bay Sensor

WaveLinX LITE Industrial Fixture Mount High Bay/Low Bay Sensor																					
 <p>Features</p> <ul style="list-style-type: none"> Integrated photocell for closed loop or open loop daylighting¹⁰ Integrated Passive Infrared (PIR) motion sensor Bluetooth 4.2 Low Energy transmitter <p>Typical Applications</p> <p>Industrial and manufacturing facilities</p> <p>Models:</p> <ul style="list-style-type: none"> WIK: Low mount: 7-15ft (2.1-4.5m) WIM: High mount: 15-40ft (4.5-12.2m) <p>Available option on many Cooper Lighting luminaires.</p> <p>Mobile App Details:</p> <ul style="list-style-type: none"> Device Category: Industrial Default Device Name: <ul style="list-style-type: none"> WIK: IS-ILMT WIM: IS-IHMT <p><i>Device name will be followed by a number once provisioned</i></p> <p>Supported Modes</p> <ul style="list-style-type: none"> Network Mode: Networked and Standalone Areas <p>Normal Power Node Capability</p> <p>Normal Power Node capability allows a device powered from normal power to be used to trigger an UL924 approved WaveLinX LITE Emergency device to Emergency Mode when the Normal Power Node device loses power. A device that is assigned to act as a Normal Power Node device will repetitively send a beacon signal when it has power. When the beacon signal disappears (from power loss), the assigned Emergency devices will respond to Emergency Mode.</p> <p>The following models can be used as a Normal Power Node device:</p> <ul style="list-style-type: none"> WIK¹¹: IS-ILMT Low mount sensor WIM¹¹: IS-IHMT High mount sensor 	<p>The WaveLinX LITE Industrial Fixture Mount High Bay/Low Bay Sensor uses a simple tool-less twist lock method to connect to a Cooper Lighting fixture with WaveLinX LITE compatible 4-pin Zhaga Book 18 socket. The sensor has an IP66 rating for warehouse and manufacturing environments and provides both occupancy and daylight control that can be easily configured using the WaveLinX LITE Mobile App.</p> <p>Out-of-the-Box Operation</p> <ul style="list-style-type: none"> Once power is applied, the attached fixture operates via the motion sensors. <ul style="list-style-type: none"> The occupancy is set for high sensitivity. If occupied, the fixture will go to 100%. The fixture will dim to 50% after 10 minutes when the location is unoccupied. After 10 additional minutes, the fixture will dim to 10% and will remain at this level until the location is occupied again. The daylight sensor is disabled. 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If set for Vacancy mode¹⁴, the fixture will remain OFF if it was OFF prior to the power loss.</p> <p>LED Behavior</p> <p>The LED is located beneath the sensor lens.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left; padding: 5px;">LED conditions</th> <th style="width: 50%; text-align: left; padding: 5px;">Meaning</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Flashes green for 500ms, blue for 500ms and then turns OFF.¹² Repeats every 3 seconds.</td> <td style="padding: 5px;">Device is unprovisioned and is detecting motion.</td> </tr> <tr> <td style="padding: 5px;">Flashes white for 500ms, blue for 500ms and then turns OFF.¹² Repeats every 3 seconds.</td> <td style="padding: 5px;">Device is provisioned and is detecting motion</td> </tr> <tr> <td style="padding: 5px;">Flashes white for 10ms every 250ms (fast blink)</td> <td style="padding: 5px;">The daylight sensor has exceeded 150% of the calibrated light level for 30 minutes¹⁵</td> </tr> <tr> <td style="padding: 5px;">Flashes magenta for 1 second, and then OFF for 1 second, repeating for 15 seconds.¹²</td> <td style="padding: 5px;">The device has been placed in blink to identify mode  and is currently identifying.</td> </tr> <tr> <td style="padding: 5px;">Flashes magenta for 1 second, and then OFF for 1 second, repeating for 45 seconds.¹²</td> <td style="padding: 5px;">The device has been placed in identify mode using the IR Remote Rev ID button. 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¹⁰ May require firmware update to allow for open loop capability.

¹¹ The WIK/WIM sensors support Normal Power Node only when paired with a supported driver. If connected to an unsupported driver, the Mobile App will prevent assignment of the WIK/WIM as a Normal Power Node. If a WIK/WIM is initially assigned as a Normal Power Node and the driver is replaced with an unsupported driver, the LED on the WIK/WIM will turn ON blue and remain ON to indicate an error condition.

¹² Devices with older firmware may not exhibit the exact LED pattern described.

¹³ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

¹⁴ Do not use vacancy mode unless WaveLinX LITE Wallstations are installed in the system to allow for manual override.

¹⁵ The LED will stop flashing if the light level drops but stays between 50% and 100% of the calibrated light level for 10 minutes OR if the light level falls below 50% of the calibrated light level for 30 seconds.

¹⁶ The LED may be difficult to see in very bright areas.

WaveLinX LITE Industrial Fixture Mount High Bay/Low Bay Sensor (continued)


**Blink to Identify Behavior**

When placed in **Blink to Identify** mode:

- The fixture will turn ON for 1 second and then turn OFF for 1 second.
- The LED in the sensor window will flash magenta for 1 second, and then turn OFF for 1 second.¹⁷
- This cycle will repeat for 15 seconds.

Identification Mode

This device supports the use of identification mode to allow the device to appear in the mobile app when an identify scan is processed. The device will remain in identify mode for 45 seconds during which the LED will flash magenta.

Method		Meaning
WaveLinX PRO IR Remote (ACC-P-RT)		Standing beneath the sensor, point the remote at the sensor, and then press and release the Rev ID button. The LED in the sensor window should begin flashing magenta.

Daylight Operation (closed loop)

- Daylight operation must be manually enabled for industrial integrated sensors.
- When the measured light exceeds the calibrated level, the fixture will dim lighting to reduce the light level.
- When the measured light level exceeds 150% of the calibrated light level for more than 30 minutes, the sensor will dim to OFF.
- Lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated light level for more than 10 minutes
 - The measured light level falls below 50% of the calibrated light level for longer than 30 seconds

Calibration methods supported: Auto calibration¹⁸ or manual calibration

Closed Loop Daylight Calibration Recommendations for Manual Calibration

If manually calibrating closed loop daylighting, it is best to calibrate indoor applications when there is a moderate to low level of daylight. If the daylight level is too high, it may be difficult to obtain the desired level of light at the task surface, even if the fixtures are completely OFF.

For Networked Areas, during calibration, use the **Calibrate All** feature and adjust slider bars to change the light level to the desired light level for each controlled fixture. Once all fixtures are adjusted, use a light meter on the surface to ensure the reading is in the desired range and then send the **Calibrate** command. Standalone Areas will perform the calibration individually for each device.

During calibration, if the light level in the location is still too bright when electric lighting is fully dimmed, use available shading to adjust the amount of incoming daylight or postpone calibration until the amount of incoming daylight has decreased.

Daylight Operation (open loop)

Daylighting will not operate until an open loop daylight set is created and configured in a Networked Area.

- Once configured, the controlled devices will dim in response to entering daylight.
 - When the measured daylight contribution increases or decreases, the controlled devices will dim or raise lighting to reduce or increase the light level.
 - When the measured light level exceeds 150% of the calibrated gain for more than 30 minutes, the sensor will dim to OFF.
- If lighting has dimmed to OFF and the location is still occupied, lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated gain for more than 10 minutes
 - The measured light level falls below 50% of the calibrated gain for longer than 30 seconds

Open Loop Daylight Adjustment Recommendations

- Perform calibration during daylight hours when electric lighting should be reduced but not fully dimmed. The use of a light meter is recommended. With electric lighting turned OFF, verify with a light meter at the work surface that the reading with daylight alone is within 50% to 75% of the desired target light level. If the light level is too high or too low, return at a time when the daylight level is within this optimal range. (For example, if the desired light level at the work surface is 500 lux, the reading with electric lighting OFF should be between 250 to 375 lux for best results.)
- In the daylight set's **Calibrate** screen, adjust the slider bar to change the light level to the desired light level, then tap the back button to save the change.

Soft Reset Instructions

A soft reset will reboot the device. Use the below method to reset the device:

Method	Meaning
Power cycle	Cycle the power (switch OFF (10 seconds and then ON) one time to force a soft reset to all devices on the circuit.

Factory Reset Instructions

The factory reset will unprovision the device, setting the device back to factory settings. The device will revert to out-of-the-box behavior and will need to be provisioned and reprogrammed.

- Cycle the power (switch OFF {30 seconds} and then ON {5 seconds}) to the device's circuit six times– 6th time leave ON.
- After a brief period, the device should exhibit out-of-the-box behavior and may be provisioned again.


Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.

¹⁷ Devices with older firmware may not exhibit the exact LED pattern described.

¹⁸ May require a firmware update for auto calibration capability.

WaveLinX LITE Outdoor Fixture High/Low Mount Sensor Reference Sheet

WaveLinX LITE Outdoor Fixture High/Low Mount Sensor



Features

- Integrated photocell for closed loop or open loop daylighting¹⁹
- Integrated Passive Infrared (PIR) motion sensor
- Bluetooth 4.2 Low Energy transmitter

Typical Applications

Parking garage, deck, and associated pathways

Models:

- **WOB:** Low mount: 7-15ft (2.1-4.5m)
- **WOF:** High mount: 15-40ft (4.5-12.2m)

Available option on many Cooper Lighting luminaires.

Mobile App Details:

- **Device Category:** Outdoor
- **Default Device Name:**
 - **WOB:** IS-OLMT
 - **WOF:** IS-OHMT

Device name will be followed by a number once provisioned

Supported Modes

- Network Mode: Networked and Standalone Areas

The WaveLinX LITE Outdoor Fixture High/Low Mount Sensor uses a simple tool-less twist lock method to connect to a Cooper Lighting fixture with WaveLinX compatible 4-pin Zhaga Book 18 socket. The sensor has an IP66 rating for outdoor sites and indoor environments.

Out-of-the-Box Operation

- Once power is applied, the attached fixture operates via the daylight and motion sensors.
- ON at dusk / OFF at dawn via daylight sensor.
- If fixture is ON at dusk, the occupancy sensor determines the light level.
 - The occupancy is set for high sensitivity.
 - If occupied, the fixture will go to 100%.
 - The fixture will dim to 50% within 7.5 minutes when the location is unoccupied.
- LED flashes green (in sensor window) for 500ms and then blue for 500ms once every 3 seconds when motion is detected.²⁰

Provisioned Device Default Behavior: Networked Area (default template used)²¹

- The daylight sensor remains enabled for closed loop control: ON at dusk / OFF at dawn via daylight sensor.
- If the fixture is ON at dusk, the Area's occupancy sensor set determines the light level.
 - Each occupancy sensor is set for high sensitivity.
 - If occupied, all controlled zones go to 100%.
 - The occupancy set hold time is 20 minutes:
 - The fixtures will dim to 50% after 10 minutes when the location is unoccupied.
 - The fixtures will dim to OFF after an additional 10 minutes if the location remains unoccupied.

Provisioned Device Default Behavior: Standalone Area (default template used)²¹

- The daylight sensor remains enabled for closed loop control: ON at dusk / OFF at dawn via daylight sensor.
- If the fixture is ON at dusk, the fixture's occupancy sensor determines the light level.
 - The occupancy sensor is set for high sensitivity.
 - If occupied the fixture turns ON to 100%.
 - The occupancy hold time is 20 minutes:
 - The fixture will dim to 50% after 10 minutes when the location is unoccupied.
 - The fixture will dim to OFF after an additional 10 minutes if the location remains unoccupied.

- LED flashes white (in sensor window) for 500ms and then blue for 500ms once every 3 seconds when motion is detected.²⁰

Loss of Communications Operation


If an integrated sensor is no longer communicating with other sensors, the device will continue to operate independently with its programmed parameters.

Operation upon Return of Power

Upon return of power, the fixture will turn ON to the last known manual light level. If the fixture was OFF, the power up will trigger the occupancy sensor to issue an occupied command. If occupancy set is set for **Occupancy** mode, the fixture will turn ON to the occupied light level until the sensor's hold time expires. If set for **Vacancy** mode²², the fixture will remain OFF if it was OFF prior to the power loss.

LED Behavior

The LED is located beneath the sensor lens.

LED conditions	Meaning
Flashes green for 500ms, blue for 500ms and then turns OFF. ²⁰ Repeats every 3 seconds.	Device is unprovisioned and is detecting motion.
Flashes white for 500ms, blue for 500ms and then turns OFF. ²⁰ Repeats every 3 seconds.	Device is provisioned and is detecting motion
Flashes white for 10ms every 250ms (fast blink)	The daylight sensor has exceeded 150% of the calibrated light level for 30 minutes ²³
Flashes magenta for 1 second, and then OFF for 1 second, repeating for 15 seconds. ²⁰	The device has been placed in blink to identify mode () and is currently identifying.
Flashes magenta for 1 second, and then OFF for 1 second, repeating for 45 seconds. ²⁰	The device has been placed in identify mode using the IR Remote Rev ID button. The device will remain in this mode for 45 seconds to allow an identify scan from the mobile app to find this device.
LED is OFF	Device is not detecting motion. If motion is occurring, ensure device is powered and that the LED has not been disabled through the mobile app. ²⁴

Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.

¹⁹ May require firmware update to allow for open loop capability.

²⁰ Devices with older firmware may not exhibit the exact LED pattern described.

²¹ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

²² Do not use vacancy mode unless WaveLinX LITE Wallstations are installed in the system to allow for manual override.

²³ The LED will stop flashing if the light level drops but stays between 50% and 100% of the calibrated light level for 10 minutes OR if the light level falls below 50% of the calibrated light level for 30 seconds.

²⁴ The LED may be difficult to see in very bright areas.

WaveLinx LITE Outdoor Fixture High/Low Mount Sensor (continued)


**Blink to Identify Behavior**

When placed in **Blink to Identify** mode:

- The fixture will turn ON for 1 second and then turn OFF for 1 second.
- The LED in the sensor window will flash magenta for 1 second, and then turn OFF for 1 second.²⁵
- This cycle will repeat for 15 seconds.

Identification Mode

This device supports the use of identification mode to allow the device to appear in the mobile app when an identify scan is processed. The device will remain in identify mode for 45 seconds during which the LED will flash magenta.

Method		Meaning
WaveLinx PRO IR Remote (ACC-P-RT)		Standing beneath the sensor, point the remote at the sensor, and then press and release the Rev ID button. The LED in the sensor window should begin flashing magenta.

Daylight Operation (closed loop)

- Daylight operation is enabled by default.
- When the measured light exceeds the calibrated level, the fixture will dim lighting to reduce the light level.
- When the measured light level exceeds 150% of the calibrated light level for more than 30 minutes, the sensor will dim to OFF.
- Lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated light level for more than 10 minutes.
 - The measured light level falls below 50% of the calibrated light level for longer than 30 seconds.

Calibration methods supported: Auto calibration²⁶ or manual calibration

Closed Loop Daylight Calibration Recommendations for Manual Calibration

It is recommended that the daylight sensor be calibrated at night. During the day, there is too much daylight to accurately calibrate.

For Networked Areas, during calibration, use the **Calibrate All** feature and adjust slider bars to 100% to turn lighting full ON. Once all fixtures are adjusted send the **Calibrate** command. Standalone Areas will need to perform this same calibration individually for each device.

Daylight Operation (open loop)

Daylighting will not operate until an open loop daylight set is created and configured in a Networked Area.

- Once configured, the controlled devices will dim in response to daylight.
 - When the measured daylight contribution increases or decreases, the controlled devices will dim or raise lighting to reduce or increase the light level.
 - When the measured light level exceeds 150% of the calibrated gain for more than 30 minutes, the sensor will dim to OFF.
- If lighting has dimmed to OFF and the location is still occupied, lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated gain for more than 10 minutes
 - The measured light level falls below 50% of the calibrated gain for longer than 30 seconds

Open Loop Daylight Adjustment Recommendations

- In standard parking garage scenarios, perform calibration during daylight hours when electric lighting should be reduced but not fully dimmed. The use of a light meter is recommended. With electric lighting turned OFF, verify with a light meter at the work surface that the reading with daylight alone is within 50% to 75% of the desired target light level. If the light level is too high or too low, return at a time when the daylight level is within this optimal range. (For example, if the desired light level at the work surface is 500 lux, the reading with electric lighting OFF should be between 250 to 375 lux for best results.)
- In the daylight set's **Calibrate** screen, adjust the slider bar to change the light level to the desired light level, then tap the back button to save the change.

Soft Reset Instructions

A soft reset will reboot the device. Use the below method to reset the device:

Method	Meaning
Power cycle	Cycle the power (switch OFF (10 seconds and then ON) one time to force a soft reset to all devices on the circuit.

Factory Reset Instructions

The factory reset will unprovision the device, setting the device back to factory settings. The device will revert to out-of-the-box behavior and will need to be provisioned and reprogrammed.


- Cycle the power (switch OFF {30 seconds} and then ON {5 seconds}) to the device's circuit six times – 6th time leave ON.
- After a brief period, the device should exhibit out-of-the-box behavior and may be provisioned again.

Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.

²⁵ Devices with older firmware may not exhibit the exact LED pattern described.

²⁶ May require a firmware update for auto calibration capability.

WaveLinx LITE Tilemount Sensor Kit

WaveLinx LITE Tilemount Sensor Kit																					
 <p>Features</p> <p>Tilemount Sensor</p> <ul style="list-style-type: none"> Integrated photocell for closed loop or open loop daylighting²⁷ Integrated Passive Infrared (PIR) motion sensor Bluetooth 4.2 Low Energy transmitter <p>Control Module</p> <ul style="list-style-type: none"> Universal voltage input (120V-277V) Output control (120V-277V) <ul style="list-style-type: none"> Electronic ballast/driver 3 amps 0-10V dimming output <ul style="list-style-type: none"> Sinks up to 20mA (approximately 10 ballasts/drivers [2mA each]) <p>Typical Applications</p> <p>Education, office, and other interior locations</p> <p>Models:</p> <ul style="list-style-type: none"> WTK: Wireless Tilemount Sensor Kit <p>Mobile App Details:</p> <ul style="list-style-type: none"> Device Category: Integrated Sensor Default Device Name: <ul style="list-style-type: none"> IS-BLE <p><i>Device name is dependent on hardware</i></p> <p><i>Device name will be followed by a number once provisioned</i></p> <p>Supported Modes</p> <ul style="list-style-type: none"> Network Mode: Networked and Standalone Areas <p>Normal Power Node Capability</p> <p>Normal Power Node capability allows a device powered from normal power to be used to trigger an UL924 approved WaveLinx LITE Emergency device to Emergency Mode when the Normal Power Node device loses power. A device that is assigned to act as a Normal Power Node device will repetitively send a beacon signal when it has power. When the beacon signal disappears (from power loss), the assigned Emergency devices will respond to Emergency Mode.</p> <p>The following models can be used as a Normal Power Node device:</p> <ul style="list-style-type: none"> IS-BLE: BLE Integrated Sensor 	<p>The WaveLinx LITE Wireless Tilemount Sensor Kit provides both occupancy and daylight control for 0-10v luminaires that do not support the WaveLinx LITE integrated sensor. A control module connects to the Tilemount sensor and to the 0-10V luminaires for an easy control solution.</p> <p>Out-of-the-Box Operation</p> <ul style="list-style-type: none"> Once power is applied, the attached fixture(s) operates via the motion sensors. <ul style="list-style-type: none"> The occupancy is set for high sensitivity. If occupied, the fixture(s) will go to 100%. The fixture will dim to 50% after 10 minutes when the location is unoccupied. After 10 additional minutes, the fixture will dim to OFF and will remain OFF until the location is occupied again. The daylight sensor is disabled. LED flashes green (in sensor window) for 500ms and then blue for 500ms once every 3 seconds when motion is detected.²⁸ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left; padding: 5px;">Provisioned Device Default Behavior: Networked Area (default template used)²⁹</th> <th style="width: 50%; text-align: left; padding: 5px;">Provisioned Device Default Behavior: Standalone Area (default template used)²⁹</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> All sensors in the Area's occupancy sensor set control the lighting. <ul style="list-style-type: none"> Each occupancy sensor is set for low sensitivity. If occupied, all controlled zones go to 100%. 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If set for Vacancy mode³⁰, the fixture will remain OFF if it was OFF prior to the power loss.</p> <p>LED Behavior</p> <p>The LED is located beneath the sensor lens.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left; padding: 5px;">LED conditions</th> <th style="width: 50%; text-align: left; padding: 5px;">Meaning</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Flashes green for 500ms, blue for 500ms and then turns OFF.²⁸ Repeats every 3 seconds.</td> <td style="padding: 5px;">Device is unprovisioned and is detecting motion.</td> </tr> <tr> <td style="padding: 5px;">Flashes white for 500ms, blue for 500ms and then turns OFF.²⁸ Repeats every 3 seconds.</td> <td style="padding: 5px;">Device is provisioned and is detecting motion</td> </tr> <tr> <td style="padding: 5px;">Flashes white for 10ms every 250ms (fast blink)</td> <td style="padding: 5px;">The daylight sensor has exceeded 150% of the calibrated light level for 30 minutes³¹</td> </tr> <tr> <td style="padding: 5px;">Flashes magenta for 1 second, and then OFF for 1 second, repeating for 15 seconds.²⁸</td> <td style="padding: 5px;">The device has been placed in blink to identify mode and is currently identifying.</td> </tr> <tr> <td style="padding: 5px;">Flashes magenta for 1 second, and then OFF for 1 second, repeating for 45 seconds.²⁸</td> <td style="padding: 5px;">The device has been placed in identify mode using the IR Remote Rev ID button. 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²⁷ May require firmware update to allow for open loop capability.

²⁸ Devices with older firmware may not exhibit the exact LED pattern described.

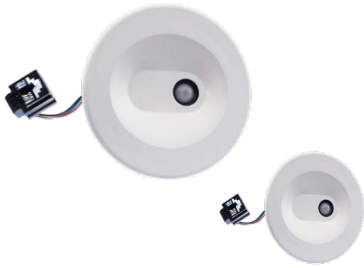
²⁹ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

³⁰ Do not use vacancy mode unless WaveLinx LITE Wallstations are installed in the system to allow for manual override.

³¹ The LED will stop flashing if the light level drops but stays between 50% and 100% of the calibrated light level for 10 minutes OR if the light level falls below 50% of the calibrated light level for 30 seconds.

³² The LED may be difficult to see in very bright areas.

WaveLinx LITE Tilemount Sensor Kit (continued)


**Blink to Identify Behavior**

When placed in **Blink to Identify** mode:

- The fixture will turn ON for 1 second and then turn OFF for 1 second.
- The LED in the sensor window will flash magenta for 1 second, and then turn OFF for 1 second.³³
- This cycle will repeat for 15 seconds.

Identification Mode

This device supports the use of identification mode to allow the device to appear in the mobile app when an identify scan is processed. The device will remain in identify mode for 45 seconds during which the LED will flash magenta.

Method		Meaning
WaveLinx PRO IR Remote (ACC-P-RT)		Standing beneath the sensor, point the remote at the sensor, and then press and release the Rev ID button. The LED in the sensor window should begin flashing magenta.

Daylight Operation (closed loop)

- Daylight operation must be manually enabled for tilemount sensors.
- When the measured light exceeds the calibrated level, the fixture will dim lighting to reduce the light level.
- When the measured light level exceeds 150% of the calibrated light level for more than 30 minutes, the sensor will dim to OFF.
- Lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated light level for more than 10 minutes
 - The measured light level falls below 50% of the calibrated light level for longer than 30 seconds

Calibration methods supported: Auto calibration³⁴ or manual calibration

Closed Loop Daylight Calibration Recommendations for Manual Calibration

If manually calibrating closed loop daylighting, it is best to calibrate indoor applications when there is a moderate to low level of daylight. If the daylight level is too high, it may be difficult to obtain the desired level of light at the task surface, even if the fixtures are completely OFF.

For Networked Areas, during calibration, use the **Calibrate All** feature and adjust slider bars to change the light level to the desired light level for each controlled fixture. Once all fixtures are adjusted, use a light meter on the surface to ensure the reading is in the desired range and then send the **Calibrate** command. Standalone Areas will perform the calibration individually for each device.

During calibration, if the light level in the location is still too bright when electric lighting is fully dimmed, use available shading to adjust the amount of incoming daylight or postpone calibration until the amount of incoming daylight has decreased.

Daylight Operation (open loop)

Daylighting will not operate until an open loop daylight set is created and configured in a Networked Area.

- Once configured, the controlled devices will dim in response to entering daylight.
 - When the measured daylight contribution increases or decreases, the controlled devices will dim or raise lighting to reduce or increase the light level.
 - When the measured light level exceeds 150% of the calibrated gain for more than 30 minutes, the sensor will dim to OFF.
- If lighting has dimmed to OFF and the location is still occupied, lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated gain for more than 10 minutes
 - The measured light level falls below 50% of the calibrated gain for longer than 30 seconds

Open Loop Daylight Adjustment Recommendations

- Perform calibration during daylight hours when electric lighting should be reduced but not fully dimmed. The use of a light meter is recommended. With electric lighting turned OFF, verify with a light meter at the work surface that the reading with daylight alone is within 50% to 75% of the desired target light level. If the light level is too high or too low, return at a time when the daylight level is within this optimal range. (For example, if the desired light level at the work surface is 500 lux, the reading with electric lighting OFF should be between 250 to 375 lux for best results.)
- In the daylight set's **Calibrate** screen, adjust the slider bar to change the light level to the desired light level, then tap the back button to save the change.

Soft Reset Instructions

A soft reset will reboot the device. Use the below method to reset the device:

Method	Meaning
Power cycle	Cycle the power (switch OFF (10 seconds and then ON) one time to force a soft reset to all devices on the circuit.

Factory Reset Instructions

The factory reset will unprovision the device, setting the device back to factory settings. The device will revert to out-of-the-box behavior and will need to be provisioned and reprogrammed.



- Cycle the power (switch OFF {30 seconds} and then ON {5 seconds}) to the device's circuit six times – 6th time leave ON.
- After a brief period, the device should exhibit out-of-the-box behavior and may be provisioned again.

Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.

³³ Devices with older firmware may not exhibit the exact LED pattern described.

³⁴ May require a firmware update for auto calibration capability.


WaveLinX LITE Switchpack Reference Sheet

WaveLinX LITE Switchpack							
 <p>Features</p> <ul style="list-style-type: none"> • Universal voltage (120V-347V) • Output control <ul style="list-style-type: none"> • Electronic ballast/driver 16A • General purpose (receptacle) 20A • Motor loads up to 1.5 HP (120VAC) • Class 2, 0-10V dimming output <ul style="list-style-type: none"> • Sinks up to 120mA (approximately 60 ballasts/drivers [2mA each]) • Bluetooth 4.2 Low Energy transmitter <p>Typical Applications</p> <p>Office, education, and other indoor applications</p> <p>Models:</p> <ul style="list-style-type: none"> • RSP-L-010-347: Wireless Universal Voltage Dimming Switchpack - 20 amp <p>Mobile App Details:</p> <ul style="list-style-type: none"> • Device Category: Lite Relay Switchpack • Default Device Name: <ul style="list-style-type: none"> • RSP-L <p><i>Device name will be followed by a number once provisioned</i></p> <p>Supported Modes</p> <ul style="list-style-type: none"> • Network Mode: Networked Areas only <p>Normal Power Node Capability</p> <p>Normal Power Node capability allows a device powered from normal power to be used to trigger an UL924 approved WaveLinX LITE Emergency device to Emergency Mode when the Normal Power Node device loses power. A device that is assigned to act as a Normal Power Node device will repetitively send a beacon signal when it has power. When the beacon signal disappears (from power loss), the assigned Emergency devices will respond to Emergency Mode.</p> <p>The following models can be used as a Normal Power Node device:</p> <ul style="list-style-type: none"> • RSP-L: Relay switch pack 	<p>The WaveLinX LITE Switchpack offers 120-347VAC 20amp control and continuous 0-10V dimming control of LED and non LED loads. The Switchpack also supports 20 amp plug load control.</p> <p>Out-of-the-Box Operation</p> <ul style="list-style-type: none"> • Once power is applied, the Switchpack output will go to ON/100%. • The onboard commissioning button can be pressed (less than 4 seconds) to turn the switchpack OFF and ON. • The Switchpack LED turns ON when the output is ON. <p>Provisioned Device Default Behavior: (default template used) ³⁵</p> <p>The WaveLinX LITE Switchpack can only be provisioned in a Networked Area. Once assigned to the Area, the Switchpack operates as part of the Area.</p> <ul style="list-style-type: none"> • It will respond with other devices when zone commands are received. • It will respond to the sensors in the Area's occupancy set. <ul style="list-style-type: none"> • If occupied, the fixtures will turn ON to 50% (Scene 3). • The occupancy set default hold time is 20 minutes. • If the location remains unoccupied for 20 minutes, the fixture will dim to 0% (Scene 0). • It will respond to any wallstations added to the Area per the default wallstation programming. <p>Loss of Communications Operation</p> <p>If a Switchpack is no longer communicating with other devices, the Switchpack will remain at its last light level.</p> <p>Operation upon Return of Power</p> <p>Upon return of power, the Switchpack will assume its last known light level until it receives its next command.</p> <p>Using the Onboard Manual Override Button</p> <p>The WaveLinX LITE Switchpack contains a manual override button on the bottom side of the device. This is labeled as the Commissioning Button. The override can be pressed for less than 4 seconds to switch the device between ON or OFF. The manual command will remain until the next command is received.</p>  <p>LED Behavior</p> <p>The LED is located on front of the Switchpack (label side).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="text-align: left; padding: 2px;">LED conditions</th> <th style="text-align: left; padding: 2px;">Meaning</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">ON (white)</td> <td style="padding: 2px;">The device relay is closed (ON)</td> </tr> <tr> <td style="padding: 2px;">OFF</td> <td style="padding: 2px;">The device relay is open (OFF)</td> </tr> </tbody> </table> <p>Blink to Identify Behavior</p> <p>When placed in Blink to Identify mode:</p> <ul style="list-style-type: none"> • The Switchpack will turn ON/100% for 1 second and then turn OFF for 1 second. • This cycle will repeat for 15 seconds. <p>Identification Mode</p> <p>This device does not currently support identification mode.</p> <p>Factory Reset Instructions</p> <p>The factory reset will unprovision the device, setting the device back to factory settings. The device will revert to out-of-the-box behavior and will need to be provisioned and reprogrammed.</p> <ul style="list-style-type: none"> • Cycle the power (switch OFF {30 seconds} and then ON {5 seconds}) to the device's circuit six times – 6th time leave ON. • After a brief period, the device should exhibit out-of-the-box behavior and may be provisioned again. 	LED conditions	Meaning	ON (white)	The device relay is closed (ON)	OFF	The device relay is open (OFF)
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³⁵ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

WaveLinx LITE Emergency Switchpack Reference Sheet

WaveLinx LITE Emergency Switchpack



Features

- Universal voltage (120V-347V)
- Output control
 - Electronic ballast/driver 16A
 - General purpose (receptacle) 20A
 - Motor loads up to 1.5 HP (120VAC)
- Class 2, 0-10V dimming output
 - Sinks up to 120mA (approximately 60 ballasts/drivers [2mA each])
- Bluetooth 4.2 Low Energy transmitter

Special Features

- UL924 approved control of Emergency Lighting

Typical Applications

- Emergency fixture control
- Office, education, and other indoor applications

Models:

- **ESP-L-010-347:** Emergency Dimming Switchpack - 20 amp

Mobile App Details:

- **Device Category:** Lite Relay Switchpack
- **Default Device Name:**
 - ESP-L

Device name will be followed by a number once provisioned

Supported Modes

- Network Mode: Networked Areas only

The WaveLinx LITE Emergency Switchpack controls Emergency lighting, including switched or 0-10V dimmable emergency lighting loads. This UL924 approved Emergency control solution operates with signals detected from up to three normal powered WaveLinx LITE devices. **Emergency Mode** will turn lighting full ON when the Emergency Switchpack detects that the signal is lost from any of up to three normal powered device. Normal operation will return when the monitored normal power device signals are all detected again.

Out-of-the-Box Operation

- Once power is applied, the Emergency Switchpack output will go to ON/100% and remain in **Emergency Mode**.
- The Emergency Switchpack LED turns ON when the output is ON.

Provisioned Device Default Behavior: Networked Area (default template used) ³⁶

The WaveLinx LITE Emergency Switchpack can only be provisioned in a Networked Area. Once assigned to the Area, the Emergency Switchpack will remain ON at 100% **Emergency Mode** and not respond to commands until **Emergency Mode (EM Mode)** is defined using the Mobile App.

Provisioned Device Default Behavior, Emergency Mode Defined: (default template used)

Once **Emergency Mode** is defined for the Emergency Switchpack, the Emergency Switchpack will evaluate the signals from the normal power devices assigned. If it detects signals from all monitored normal power devices, the Emergency Switchpack will operate like any other device in the Area.

- It will respond with other devices when zone commands are received.
- It will respond to the sensors in the Area's occupancy set.
 - If occupied, the fixtures will turn ON to 50% (Scene 3).
 - The occupancy set default hold time is 20 minutes.
 - If the location remains unoccupied for 20 minutes, the fixture will dim to 0% (Scene 0).
- It will respond to any wallstations added to the Area per the default wallstation programming.

Loss of Communications Operation


If an Emergency Switchpack no longer detects signal from any of its assigned normal power input devices, the Switchpack will trigger **Emergency Mode**, turning ON to 100%.

Operation upon Return of Power

Upon return of power, the Emergency Switchpack will trigger **Emergency Mode** until it receives signals from all its assigned normal power input devices. It will then return to normal operation mode and assume its last commanded light level.

Using the Onboard Manual Override Button

The WaveLinx LITE Emergency Switchpack contains a manual override button on the bottom side of the device. This is labeled as the Commissioning Button. **The override will not operate if the device is in Emergency Mode.** If the device is in normal operation, the override can be pressed for less than 4 seconds to switch the device between ON or OFF. The manual command will remain until the next command is received.



LED Behavior

The LED is located on front of the Switchpack (label side).

LED conditions	Meaning
ON (white)	The device relay is closed (ON)
OFF	The device relay is open (OFF)

³⁶ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

WaveLinx LITE Emergency Switchpack (continued)



Blink to Identify Behavior

When placed in **Blink to Identify** mode:

- The Switchpack will turn ON/100% for 1 second and then turn OFF for 1 second. **Blink to Identify will not operate if the device is in Emergency Mode)**
- This cycle will repeat for 15 seconds.

Identification Mode

This device does not currently support identification mode.

Emergency Mode Details

To ensure proper **Emergency Mode** operation:

- The Emergency Switchpack must be powered from an emergency lighting circuit and be connected to emergency lighting fixture(s). Fixtures may be ON/OFF or dimmable via 0-10V connection.
- The Emergency Switchpack must be provisioned to a zone within a Networked Area.
- At least one Normal Power Node capable device must be provisioned to a zone belonging to the same Networked Area. The Normal Power Node device(s) must be connected to a normal power circuit. Up to three Normal Power Node devices may be assigned to trigger **EM Mode** if desired (allows for three phase monitoring if each Normal Power Node device is connected to a normal circuit from a different electrical phase).
- **EM Mode** must be set for the Emergency Switchpack: At least one (max 3.) Normal Power Node device within the same Area must be assigned to trigger EM Mode for the Emergency Switchpack.

The Emergency Switchpack will be in **Emergency Mode** upon power up out-of-the-box until the **EM Mode** settings are defined.

Once the **EM Mode** settings are completed, under normal operation, the Emergency Switchpack will operate like any other lighting load according to the zone's programming assigned using the WaveLinx LITE Mobile Application. During loss of normal power to the assigned Normal Power Node device(s) the Emergency Switchpack will turn ON to 100% light output, only resuming normal operation after all assigned Normal Power Node device(s) indicate that normal power has returned.

To define the Emergency Mode settings, see "Modify Emergency Mode (EM Mode) Settings in Networked Areas" on page 111.

Testing Emergency Lighting Operation

Testing Emergency Lighting Operation is easy with the WaveLinx LITE Mobile App. Use the **EM Mode Test** option to trigger **Emergency Mode** for 5 minutes. During the test, the Emergency Switchpack will turn ON/100% and remain ON regardless of manual wallstation commands or other WaveLinx LITE commands. Test mode will time out automatically after 5 minutes, or can be manually stopped using the mobile app. To test Emergency Mode, see "Use Emergency Mode Test" on page 113.

Factory Reset Instructions

The factory reset will unprovision the device, setting the device back to factory settings. The device will revert to out-of-the-box behavior and will need to be provisioned and reprogrammed.

- Cycle the power (switch OFF {30 seconds} and then ON {5 seconds}) to the device's circuit six times – 6th time leave ON.
- After a brief period, the device should exhibit out-of-the-box behavior and may be provisioned again.

WaveLinx LITE Acoustic Ceiling Sensor

WaveLinx LITE Acoustic Ceiling Sensor



Features

Occupancy Sensor

- Integrated Passive Infrared (PIR) motion sensor
- Integrated Acoustics sensing
- Bluetooth 4.2 Low Energy transmitter

Photo Sensor

- Integrated photocell for open loop daylighting
 - Daylight switch the directly connected load³⁷ in Stand-Alone Mode
 - Daylight dim controlled devices in dimmable zones in Network Mode³⁷
 - Provide daylight dimming signal to a WaveLinx LITE area

Output details: OCS-L-D-MV Models

- Universal voltage input (120V-277V)
- Output control (120V-277V)
 - ON/OFF control
 - General use, standard or electronic ballast/driver, resistive: 3 amps

Output Details: OCS-L-D Models connected to RSP-V-SW Heavy Duty Switchpack

- Universal voltage input (120V-277V)
- Load control (120V-277V)
 - ON/OFF control
 - 20 amp ballast, 16 amp LED, 15 amp tungsten, 20 amp plug load
- Output control signal: 24VDC, 150mA
- BAS output via form C relay

Typical Applications

Education, office, and other interior locations

Models:

- **OCS-L-D-****: Acoustic Ceiling Sensor (Low Voltage Model)
 - **OCS-L-D-**-MV**: Acoustic Ceiling Sensor (Line Voltage Model)
- ** = **06** (600sq ft), **12** (1200sq ft), **20** (2000sq ft)

Mobile App Details:

- **Device Category**: Ceiling Sensor
- **Default Device Name**:
 - **OCS-L-D-*-MV**: OCS-AC-*-#####
 - **OCS-L-D-***: OCS-DC-*-#####

* = Device coverage sq ft
= Device MAC ID

Supported Modes

- Stand-Alone Mode
- Network Mode: Networked Areas only

The WaveLinx LITE Acoustic Ceiling Sensor controls lighting with both occupancy and daylight sensing. Passive infrared detects the heat from people moving in the area while acoustic detection operates along with the passive infrared to keep lighting on as long as there are people still in the space. An onboard photosensor allows for daylighting control.

The WaveLinx LITE Acoustic Ceiling Sensor is available in either line voltage or low voltage models with multiple coverage pattern options. Low voltage models operate with the WaveLinx LITE Heavy Duty Switchpack (RSP-V-SW).

The WaveLinx LITE Acoustic Ceiling Sensor can be configured as part of a WaveLinx LITE organization (Network Mode). The WaveLinx LITE Mobile App can be used to configure the sensor (Stand-Alone Mode) without the need for the sensor to be added as part of a WaveLinx LITE organization.

Out-of-the-Box Operation

- Once power is applied, the directly attached fixture(s)/switchpack will operate via the motion sensors.
 - The PIR signal is set for LOW sensitivity. The Acoustic signal is set for HIGH sensitivity.
 - If occupied, the fixture(s)/switchpack will turn ON.
 - The fixture/switchpack will be turned OFF when the location is unoccupied for 20 minutes.
- The daylight sensor is disabled.

Stand-Alone Mode Support

The Acoustic Ceiling Sensor supports Stand-Alone Mode configuration. For simple applications, Stand-Alone Mode allows adjustment of the out-of-the-box settings without the need to adjust any configuration switches. Simply use the WaveLinx LITE Mobile App in Stand-Alone Mode to make the necessary changes using a Bluetooth connection.

Network Mode Support

Use Network Mode to configure the Acoustic Ceiling Sensor as part of a larger WaveLinx LITE networked system, provisioning it as part of a Networked or Standalone Area.

Provisioned Device Default Behavior: Networked Area (default template used) ³⁸ **Provisioned Device Default Behavior: Standalone Area (default OCS template used)**

All sensors in the Area's occupancy sensor set control the lighting devices assigned to the area. <ul style="list-style-type: none"> • If occupied, all controlled zones go ON to 100%. • The occupancy set hold time is 20 minutes: <ul style="list-style-type: none"> • Dimmable lighting devices will dim to 50% after 10 minutes (switched loads will remain ON). • All lighting devices will dim to OFF/turn OFF after an additional 10 minutes. 	Once assigned to a Standalone Area, the device operates independently. <ul style="list-style-type: none"> • If occupied the attached fixture(s)/switchpack turns ON. • The occupancy hold time is 20 minutes: <ul style="list-style-type: none"> • The fixture(s)/switchpack will turn OFF after 20 minutes if the location remains unoccupied.
<ul style="list-style-type: none"> • The daylight sensor remains disabled 	

LED Behavior

LED conditions	Meaning
Flashes green for 500ms, blue for 500ms and then turns OFF. Repeats every 3 seconds.	Device is unprovisioned/unconfigured and the PIR technology is detecting motion.
Flashes green for 500ms, yellow for 500ms, blue for 500ms and then turns OFF. Repeats every 3 seconds.	Device is unprovisioned/unconfigured and the acoustic sensing technology is detecting occupancy.
Flashes white for 500ms, blue for 500ms and then turns OFF. Repeats every 3 seconds.	Device is provisioned/configured and the PIR technology is detecting motion.
Flashes white for 500ms, yellow for 500ms, blue for 500ms and then turns OFF. Repeats every 3 seconds.	Device is provisioned/configured and the acoustic sensing technology is detecting occupancy.
Flashes magenta for 1 second, and then OFF for 1 second, repeating for 15 seconds. ³⁹	The device has been placed in blink to identify mode ³⁹ and is currently identifying.
Flashes magenta for 1 second, and then OFF for 1 second, repeating for 45 seconds. ³⁹	The device has been placed in identify mode using the IR Remote Rev ID button. The device will remain in this mode for 45 seconds to allow an identify scan from the mobile app to find this device.
Flashes white for 10ms every 250ms (fast blink)	The daylight sensor has exceeded the threshold (Stand-Alone Mode) or 150% of the calibrated light level for 30 minutes (Network Mode)
LED is flashing blue for 500ms, OFF for 500ms and repeats for a couple seconds	The onboard reset button has been pressed for >1 second and <5 seconds to issue a soft reset.
LED is flashing yellow for 500ms, OFF for 500ms and repeats for a couple of seconds	The onboard reset button has been pressed for >5 seconds and <10 seconds to issue a factory reset.
LED is OFF	Device is not detecting motion. If motion is occurring, ensure device is powered and that the LED has not been disabled through the mobile app. ³⁹

Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.

³⁷ If operating as part of a WaveLinx LITE organization's area, the daylight sensor will not operate the sensor's connected lighting load.

³⁸ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

³⁹ The LED may be difficult to see in very bright areas.

WaveLinx LITE Acoustic Ceiling Sensor (continued)




Blink to Identify Behavior

When placed in **Blink to Identify** mode:

- The directly connected fixture/switchpack will turn ON for 1 second and then turn OFF for 1 second.
- The LEDs will flash magenta for 1 second, and then turn OFF for 1 second.
- This cycle will repeat for 15 seconds.

Identification Mode

This device supports the use of identification mode to allow the device to appear in the mobile app when an identify scan is processed. The device will remain in identify mode for 45 seconds during which the LED will flash magenta.

Method	Meaning
WaveLinx PRO IR Remote (ACC-P-RT) 	Standing beneath the sensor, point the remote at the sensor, and then press and release the Rev ID button. The LEDs should begin flashing magenta.

Daylight Operation (open loop)

Only open loop daylight configuration is available for the Acoustic Ceiling Sensor. Daylighting must be manually enabled to operate.

Stand-Alone Mode Daylight Operation

If the sensor's daylight switching is enabled in Stand-Alone Mode:

- If the space is unoccupied and the ambient light is below the set threshold (default 500 lux):
 - The lighting will turn ON when the area is occupied or if a GMDS switch is used to turn lighting ON (DC model sensors only).
 - Lighting will remain ON for the duration of the occupancy cycle, regardless of the increase in ambient light.
- If the space is unoccupied and the ambient lighting is above the set threshold (default 500 lux):
 - The lighting will remain OFF if the space is occupied or if a GMDS switch is used (DC model sensors only).
 - If the light level drops below the threshold while the space is occupied, lighting will turn ON and allow GMDS switch actions.

Network Mode

If an Acoustic Ceiling Sensor is assigned as the controlling sensor of an open loop daylight set, it will only operate **dimnable lighting zones**. The daylight sensor will not operate the sensor's directly connected lighting load.

- Once configured, the controlled devices will dim in response to entering daylight.
 - When the measured daylight contribution increases or decreases, the controlled devices will dim or raise lighting to reduce or increase the light level.
 - When the measured light level exceeds 150% of the calibrated gain for more than 30 minutes, the sensor will dim to OFF.
- If lighting has dimmed to OFF and the location is still occupied, lighting will be turned back ON when one of the two conditions occurs:
 - The measured light level falls between 100% and 50% of the calibrated gain for more than 10 minutes
 - The measured light level falls below 50% of the calibrated gain for longer than 30 seconds

Open Loop Daylight Adjustment Recommendations

Stand-Alone Mode

- Enable/adjust the daylight sensor settings at a time when the incoming daylight contribution should be turning the electric lighting OFF
- In Stand-Alone Mode, access the Acoustic Ceiling Sensor. Set **Daylight Switching to Enabled**. Wait for 30 seconds for the level to stabilize and then tap **USE CURRENT LUX** to set the current level as the threshold.

Network Mode

- Perform calibration during daylight hours when electric lighting should be reduced but not fully dimmed. With electric lighting turned OFF, verify with a light meter at the work surface that the reading with daylight alone is within 50% to 75% of the desired target light level. If the light level is too high or too low, return at a time when the daylight level is within this optimal range. (For example, if the desired light level at the work surface is 500 lux, the reading with electric lighting OFF should be between 250 to 375 lux for best results.)
- In the daylight set's **Calibrate** screen, adjust the slider bar to change the light level to the desired light level, then tap the back button to save the change.

Networked Area Loss of Communications Operation

If an acoustic occupancy sensor is no longer communicating with other sensors, the device will continue to operate its directly connected lighting load independently with its programmed parameters.

Operation upon Return of Power

Upon return of power, the directly connected fixture will turn ON. If the fixture was OFF prior to the power loss, the power up will trigger the occupancy sensor to issue an occupied command. If occupancy set is set for **Occupancy** mode, the fixture will turn ON to the occupied light level until the sensor's hold time expires. If set for **Vacancy** mode, the fixture will remain OFF if it was OFF prior to the power loss.

Soft Reset Instructions

A soft reset will reboot the device. Use one of the below methods to soft reset the device:

Method	Meaning
Power cycle	Cycle the power (switch OFF (10 seconds and then ON) one time to force a soft reset to all devices on the circuit.
Onboard reset button	Press the onboard reset button for >1 second and <5 seconds to issue a soft reset.
Stand-Alone Mode Reboot	If configured in Stand-Alone Mode, connect to the device and use the REBOOT option to issue a soft reset to the sensor

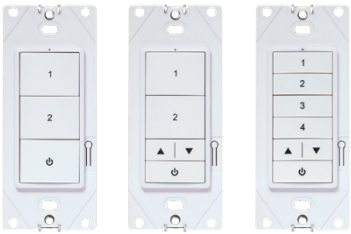
Factory Reset Instructions

The factory reset will unprovision the device, setting the device back to factory settings. The device will revert to out-of-the-box behavior and will need to be provisioned and reprogrammed.

Method	Meaning
Power cycle	Cycle the power (switch OFF (30 seconds) and then ON (5 seconds)) to the device's circuit six times – 6th time leave ON.
Onboard reset button	Press the onboard reset button for >5 second and <10 seconds to issue a soft reset.
Stand-Alone Mode Factory Reset	If configured in Stand-Alone Mode, connect to the device and use the FACTORY RESET option to issue a factory reset to the sensor

WaveLinx LITE WWL-Series Wallstation Reference Sheet

WaveLinx LITE WWL-Series Wallstation



Features

- Bluetooth 4.2 Low Energy transmitter
- Commands Supported:
 - Scene selection
 - Raise/lower
 - Zone level
 - No Action

Power:

- Line voltage powered 120-277VAC (neutral required)

Typical Applications

Education, office, and other interior locations

Models:

- **WWL3:** 3 Button
- **WWL3-RL:** 3 Button with Raise/Lower
- **WWL5-RL:** 5 Button with Raise/Lower

Custom engraving options

Mobile App Details:

- **Device Category:** Wallstation
- **Default Device Name:** Wall Station

Device name will be followed by a number once provisioned

Supported Modes

- Network Mode: Networked Areas only

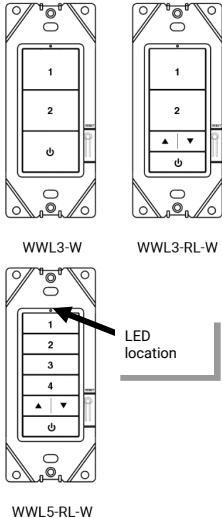
Powered from line voltage (120-277VAC), the WaveLinx LITE WWL-Series Wallstation can be installed in single or multi-gang configurations. The WaveLinx LITE WWL-Series Wallstation controls WaveLinx LITE devices by sending control signals through the Bluetooth Mesh network.

Out-of-the-Box Operation

- The wallstation will not control lighting out-of-the-box until it has been provisioned.
- When a button is pressed, the wallstation LED will blink green for 300ms, blue for 500ms, and then OFF for 1.2 second, repeating the cycle for 10 seconds to indicate that the wallstation is powered and in out-of-the-box mode.⁴⁰

Provisioned Device Default Behavior

Once provisioned in a Networked Area using the WaveLinx LITE Mobile App, the Line Voltage Wallstation operates lighting assigned to the same Area per the default programming. When a button is pressed, the wallstation LED will blink white for 300ms, blue for 500ms, and then OFF for 1.2 seconds, repeating the cycle for 10 seconds.⁴⁰



WWL3-W WWL3-RL-W

WWL5-RL-W

Button	Function	Default Level ⁴¹
1	Scene 3	50%
2	Scene 1	100%
3 <i>(WWL5-RL only)</i>	Scene 2	70%
4 <i>(WWL5-RL only)</i>	Scene 4	30%
▲	Press: increase 1% (per press) ⁴² Hold: increase 15% (per second) ⁴²	
▼	Press: decrease 1% (per press) ⁴² Hold: decrease 15% (per second) ⁴²	
⏻	Scene 0	OFF

Loss of Communications Operation

There is no special operation for loss of communications for the wallstation. When the wallstation is powered, it will send a command anytime a programmed button is pressed. If the controlled devices receive the signal, they will respond.

Operation upon Return of Power

The wallstation does not have any special behavior on powerup. Once powered, the wallstation will wait for the button to be pressed before sending any commands.

LED Behavior

The LED is located above the top button on the wallstation.

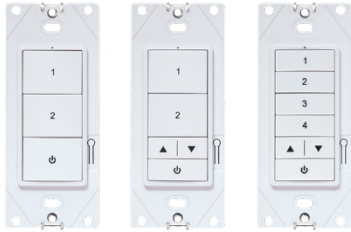
LED conditions	Meaning
Flashes green for 300ms, blue for 500ms and then turns OFF for 1.2 seconds. ⁴⁰ Repeats for 10 seconds.	A button was pressed and the wallstation is not provisioned
Flashes white for 300ms, blue for 500ms and then turns OFF for 1.2 second. ⁴⁰ Repeats for 10 seconds.	A button was pressed on the provisioned wallstation
LED flashes yellow for 500ms, turns OFF for 500ms and may repeat	The wallstation is being factory reset using the onboard reset button
LED flashes blue for 500ms, turns OFF for 500ms and may repeat	The wallstation is being soft reset using the onboard reset button
Flashes [COLOR] for 1 sec. OFF for 1 sec. for 15 seconds	The device has been placed in blink to identify mode and is currently identifying. <ul style="list-style-type: none"> • [COLOR] Green = unprovisioned wallstation • [COLOR] White = provisioned wallstation.
LED is OFF	The LED will be OFF during normal conditions when buttons are not being pressed if the station is powered

⁴⁰ Devices with older firmware may not exhibit the exact LED pattern described.

⁴¹ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.

⁴² This command affects all zones in the area.

WaveLinx LITE WWL-Series Wallstation (continued)



Blink to Identify Behavior

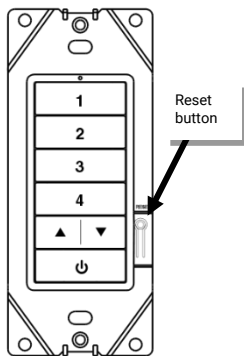
When placed in **Blink to Identify** mode:

- The wallstation LED will turn ON for 1 second, turn OFF for 1 second
- This cycle repeats for 10 seconds.
- The LED will be green on an unprovisioned wallstation and white on a provisioned wallstation.⁴³

Identification Mode

This device does not currently support identification mode.

Using the Onboard Reset Button



The WaveLinx LITE WWL-Series Wallstation has an onboard button that can be used for reset functions. To access this button, remove the wallplate.

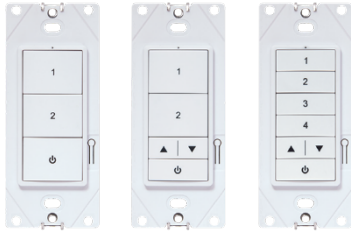
Function	Press Length	LED feedback	Device outcome
Reboot/Soft Reset	Press and hold for 3 seconds recommended and then release it (>1 sec. to < 5 sec.)	The wallstation LED will begin to flash blue (500ms ON, 500ms OFF)	Device will reboot/reset. Programmed settings are retained.
Reset factory defaults	Press and hold for 8 seconds recommended and then release it (>5 sec. to <=10 sec.)	The wallstation LED will begin to flash yellow (500ms. ON, 500ms. OFF) after 5 seconds and stop at 10 seconds.	All programming will be cleared, and the device will be reset to factory defaults. The device should exhibit out-of-the-box behavior and may be provisioned again.

Note: If the reset button is pressed <1 sec or >10 seconds, no soft reset or factory reset command will be issued.

⁴³ Devices with older firmware may not exhibit the exact LED pattern described.

WaveLinx LITE WWBL-Series Wallstation Reference Sheet

WaveLinx LITE WWBL-Series Wallstation



Features

- Bluetooth 4.2 Low Energy transmitter
- Commands Supported:
 - Scene selection
 - Raise/lower
 - Zone level
 - No Action

Power:

- Two CR123A replaceable alkaline batteries

Typical Applications

Education, office, and other interior locations

Models:

- **WWBL3:** 3 Button
- **WWBL3-RL:** 3 Button with Raise/Lower
- **WWBL5-RL:** 5 Button with Raise/Lower

Custom engraving options

Mobile App Details:

- **Device Category:** Battery Wallstation
- **Default Device Name:** BPW

Device name will be followed by a number once provisioned

Supported Modes

- Network Mode: Networked Areas only

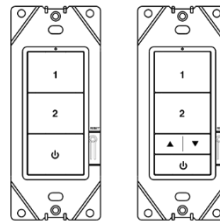
WaveLinx LITE WWBL-Series Battery Powered Wallstations simplify new and retrofit installations, allowing manually operated dimming and scene control without the need for wiring. The WaveLinx LITE WWBL-Series Wallstation controls WaveLinx LITE devices by sending control signals through the Bluetooth Mesh network. WaveLinx LITE WWBL-Series Battery Powered Wallstations must be in range of an always powered on device (integrated, tilemount or fixture mount WaveLinx LITE sensor) to maintain the ability to communicate while conserving maximum battery life.

Out-of-the-Box Operation

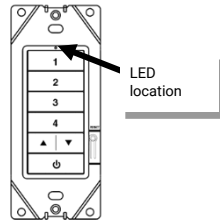
- The wallstation will not control lighting out-of-the-box until it has been provisioned.
- When a button is pressed, the wallstation LED will blink green for 300ms, blue for 500ms, and then OFF for 1.2 seconds, repeating the cycle for 10 seconds to indicate that the wallstation is powered and in out-of-the-box mode.

Provisioned Device Default Behavior

Once provisioned in a Networked Area using the WaveLinx LITE Mobile App, the WWBL-Series Wallstation operates lighting assigned to the same Area per the default programming. When a button is pressed, the wallstation LED will blink white for 300ms, blue for 500ms, and then OFF for 1.2 seconds, repeating the cycle for 10 seconds.



WWBL3 WWBL3-RL



WWBL5-RL

Button	Function	Default Level ⁴⁴
1	Scene 3	50%
2	Scene 1	100%
3 (WWL5-RL only)	Scene 2	70%
4 (WWL5-RL only)	Scene 4	30%
▲	Press: increase 1% (per press) ⁴⁵ Hold: increase 15% (per second) ⁴⁵	
▼	Press: decrease 1% (per press) ⁴⁵ Hold: decrease 15% (per second) ⁴⁵	
⏻	Scene 0	OFF

Loss of Communications Operation

There is no special operation for loss of communications for the wallstation. When the wallstation is powered, it will send a command anytime a programmed button is pressed. If the controlled devices receive the signal, they will respond.

LED Behavior

The LED is located above the top button on the wallstation.

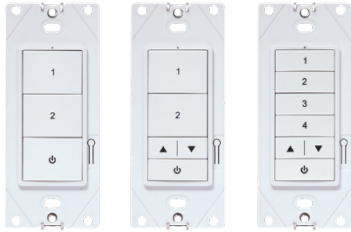
LED conditions	Meaning
Flashes green for 300ms, [COLOR2] ⁴⁶ for 300 to 500ms and then turns OFF for 1.2 to 1.4 seconds. Repeats for 10 seconds.	A button was pressed and the wallstation is not provisioned. <ul style="list-style-type: none"> • [COLOR2] Blue = Battery OK (>2.7V) • [COLOR2] Yellow = Battery Low (2.5V–2.7V) • [COLOR2] Red =Battery Very Low (<2.5V)
Flashes white for 300ms, [COLOR2] ⁴⁶ for 300 to 500ms and then turns OFF for 1.2 to 1.4 seconds. Repeats for 10 seconds.	A button was pressed on the provisioned wallstation <ul style="list-style-type: none"> • [COLOR2] Blue = Battery OK (>2.7V) • [COLOR2] Yellow = Battery Low (2.5V–2.7V) • [COLOR2] Red =Battery Very Low (<2.5V)
LED flashes yellow for 500ms, turns OFF for 500ms and may repeat	The wallstation is being factory reset using the onboard reset button
LED flashes blue for 500ms, turns OFF for 500ms and may repeat	The wallstation is being soft reset using the onboard reset button
LED is OFF	The LED will be OFF during normal conditions when buttons are not being pressed if the station is powered

⁴⁴ If a custom template is used, behavior will follow the programming used in the template, not the default behavior shown.


⁴⁵ This command affects all zones in the area.

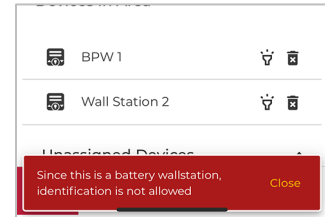
⁴⁶ Wallstations with older firmware may not display the second LED color. Update the wallstation firmware to show the described behavior.

WaveLinx LITE WWBL-Series Wallstation (continued)



Identification Mode Behavior

The Battery Powered Wallstation does not support the use of **Blink to Identify** mode. The WaveLinx LITE Mobile Application will display the following message if the identify icon () is selected for a battery powered device.



Identification Mode

This device does not currently support identification mode.

Battery Charge Indicator

The wallstation LED as well as the WaveLinx LITE Mobile App will give indication of the current charge of the wallstation's batteries:




Wallstation LED Battery Indicator⁴⁷

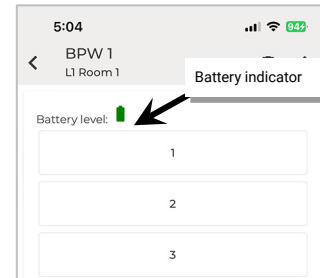
When a button on the wallstation is pressed, the LED will flash either green or white followed by a 2nd color and repeat for 10 seconds. The 2nd color LED indicates the battery status:

- Blue = Battery OK (>2.7V)
- Yellow = Battery Low (2.5V–2.7V)
- Red = Battery Very Low (<2.5V)⁴⁹

WaveLinx LITE Mobile App Battery Indicator⁴⁸

The Mobile App's wallstation page will show the status of the battery through a colored battery icon.

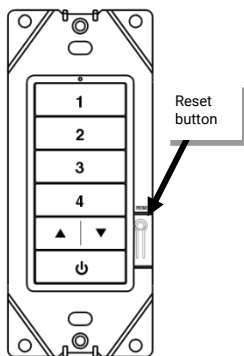
-  Green = Battery OK (>2.7V)
-  Yellow = Battery Low (2.5V–2.7V)
-  Red = Battery Very Low (<2.5V)⁴⁹



Operation upon Battery Change

Upon battery change, the device will operate with the last programmed settings when a button is pressed (device retains programming in unpowered state).

Using the Onboard Reset Button



The WaveLinx LITE WWBL-Series Wallstation has an onboard button that can be used for reset functions. To access this button, remove the wallplate.

Function	Press Length	LED feedback	Device outcome
Reboot/Soft Reset	Press and hold for 3 seconds recommended and then release it (>1 sec. to < 5 sec.)	The wallstation LED will begin to flash blue (500ms ON, 500ms OFF)	Device will reboot/reset. Programmed settings are retained.
Reset factory defaults	Press and hold for 8 seconds recommended and then release it (>5 sec. to <=10 sec.)	The wallstation LED will begin to flash yellow (500ms. ON, 500ms. OFF) after 5 seconds and stop at 10 seconds.	All programming will be cleared, and the device will be reset to factory defaults. The device should exhibit out-of-the-box behavior and may be provisioned again.

Note: If the reset button is pressed <1 sec or >10 seconds, no soft reset or factory reset command will be issued.

⁴⁷ Wallstations with older firmware may not display the second LED color. Update the wallstation firmware to show the described behavior.

⁴⁸ Wallstations with older firmware will not display a battery level indicator in the mobile application. Update the wallstation firmware to show the battery indicator.

⁴⁹ If the battery level falls below 2.5V, the wallstation will prompt for a battery replacement if the user attempts a firmware update and will not allow the firmware update to proceed.

WaveLinX PRO IR Remote

ACC-P-RT WaveLinX PRO IR Remote



Typical Applications

- Use to simplify setup when provisioning/configuring and identifying devices in the system.

Models:

ACC-P-RT: WaveLinX PRO IR Remote



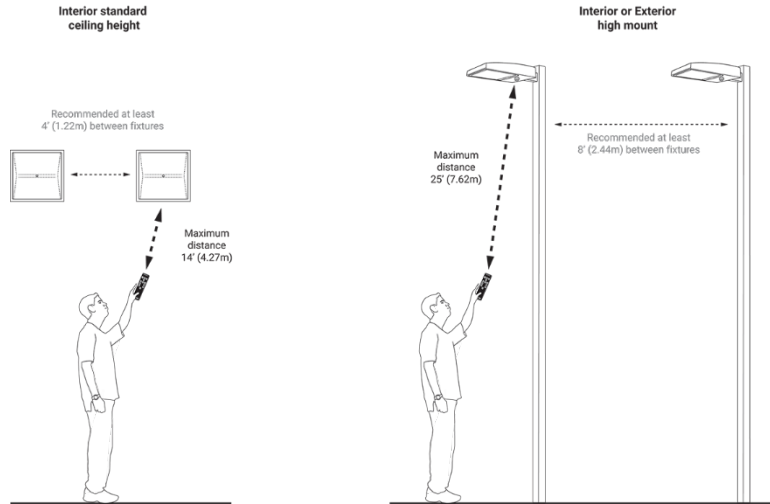
Only the **Rev ID** button will be used in identification



WaveLinX LITE v7.0 supports the use of the WaveLinX PRO IR Remote to place integrated, fixture mounted, tilemount and Acoustic Ceiling Sensors into identification mode. This can aid in streamlining system setup when provisioning/configuring devices.

IR Remote Considerations:

- Make certain that the fixture/sensor is powered.
- Stand directly below the fixture/sensor and point the IR remote at the sensor lens.
- For standard ceiling height mounted fixtures/sensors, use the IR remote within 14 feet (4.27m) of the fixture. With sensors mounted less than 4 feet (1.22m) apart, there is a possibility that the remote signal will be received by both sensors.
- For high mount industrial or outdoor fixture sensors, use the IR remote within 25 feet (7.62m) of the fixture. With high mount sensors mounted less than 8 feet (2.44m) apart, there is a possibility that the remote signal will be received by both sensors.

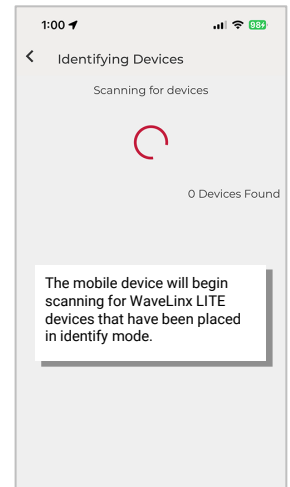
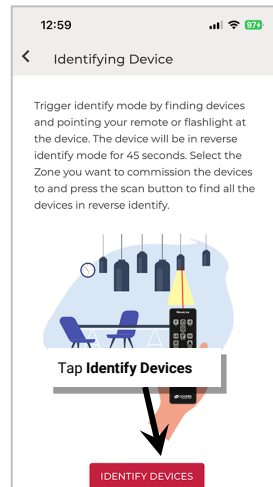
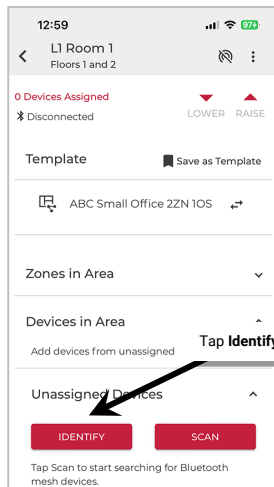


Using Identification

The **Rev ID** button will be used in the WaveLinX LITE app's **Identify** scan feature in both Network and Stand-Alone Modes.

- In Stand-Alone Mode, the remote can be used to identify Acoustic Ceiling Sensors.
- In Network Mode, integrated, fixture mount, tilemount, and Acoustic Ceiling Sensors will operate with the identify command as long as the device is not provisioned/configured already. Press the **Rev ID** button to place the device into identification mode for 45 seconds. If the Mobile App is running an **Identify** scan and the mobile device is in range, the identified device should appear in the scan window.

WaveLinX LITE App Identify Scan



The mobile device will begin scanning for WaveLinX LITE devices that have been placed in identify mode.

Prepare the WaveLinX LITE App for Use

The WaveLinX LITE Mobile Application is used to organize and program WaveLinX LITE devices. This section discusses the basics of preparing to use the WaveLinX LITE Mobile App for the first time.

Download and Install the WaveLinX LITE Mobile App

To use the WaveLinX LITE Mobile App to administer WaveLinX LITE devices, users of the application must first download the application to a mobile device.

The WaveLinX LITE Mobile App is supported on mobile devices running iOS 16+ or Android™ 13+ operating systems.

Download the latest version of the WaveLinX LITE Mobile App on the App Store® or get it on Google Play™. Install the mobile app on a smartphone or tablet. If prompted for permissions, accept all permission options to allow for proper functionality.



Once installed, the Mobile App can be launched by tapping the provided icon.

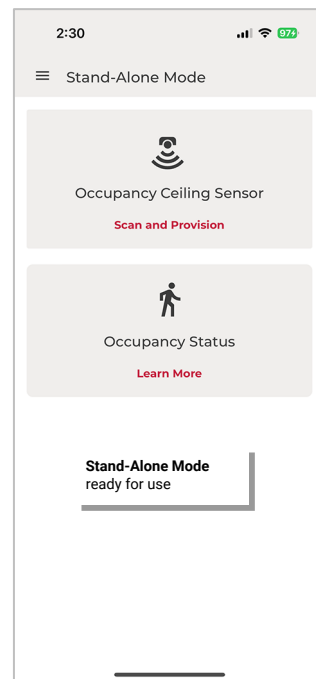
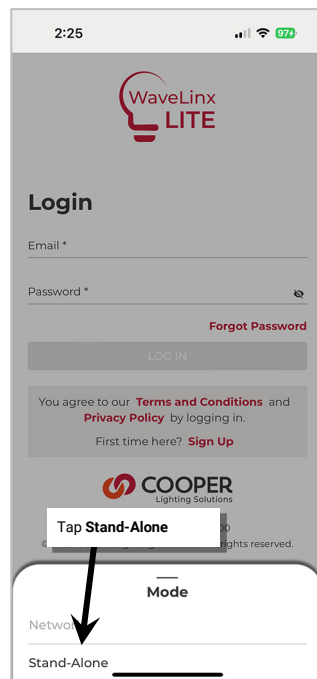
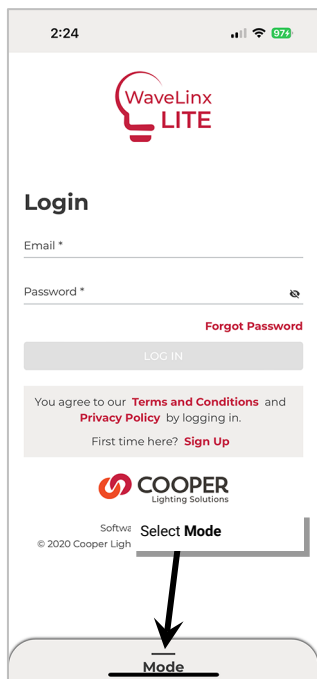
Access the WaveLinX LITE App in Stand-Alone Mode without Logging In

The WaveLinX LITE Mobile App can be used for basic device configuration of supported devices (Acoustic Ceiling Sensors) in Stand-Alone Mode without registering for a user account. Registration is recommended even for Stand-Alone Mode use to allow access to time-saving features such as being able to create and apply templates.

To access the WaveLinX LITE Mobile App in Stand-Alone Mode without logging in:

- 1: Launch the WaveLinX LITE Mobile App but do not login.
- 2: Tap **Mode** at the bottom of the screen.
- 3: Select **Stand-Alone**.

The Stand-Alone Mode screen will be displayed.



Register for a WaveLinX LITE Mobile App Account

The WaveLinX LITE Mobile App can be used for basic device configuration in Stand-Alone Mode without registering for a user account. Registration is recommended even for Stand-Alone Mode use to allow access to time-saving features such being able to create and apply templates.

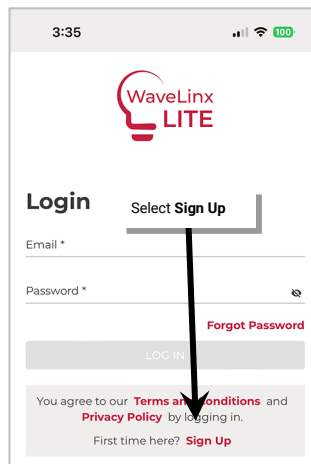
The WaveLinX LITE Mobile App can also be used to configure devices as part of a system in Network Mode. This requires a user to register for a Cooper MyApps Account. **An internet connection is required for the initial registration.** After registration, the user can log in to the MyApps Account which then stays logged in unless the user logs out.

To register for a Cooper MyApps Account:

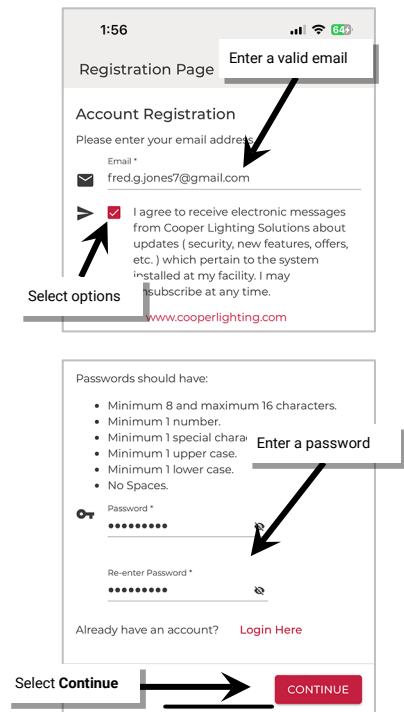
1: Tap on the WaveLinX LITE App icon to launch the Mobile App.



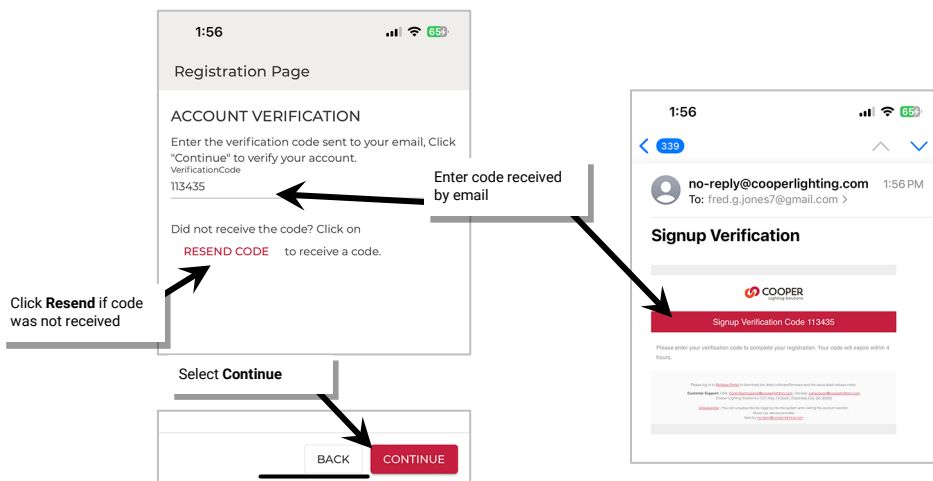
2: When prompted to login, select the option to **Sign Up**.



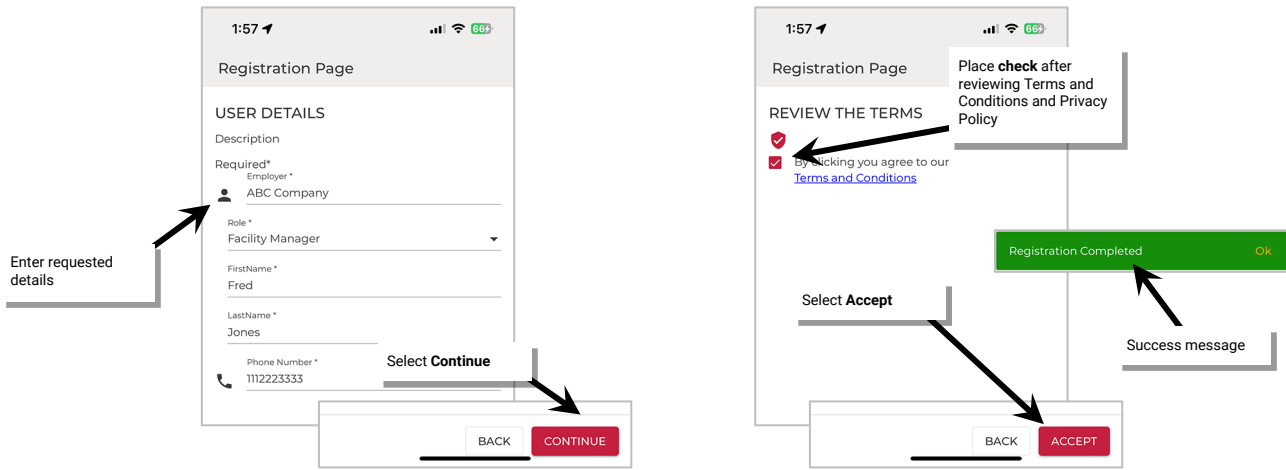
3: Enter a valid email address, select options for electronic messages, and enter the desired password. Tap **Continue**.



4: An email verification code will be sent to the email address entered. Enter the provided code, and then tap **Continue**. (If the code is not received, click **Resend Code** and check the email spam folder.)



5: Enter the requested details and then click **Continue** to advance the screen. **Review the Terms** and then tap the **checkbox** to agree. Tap **Accept** to finish registration.



To manage the MyApps Account or to obtain firmware updates, use a web browser to login to <https://myapps.cooperlighting.com>. Enter the registered email address and password.

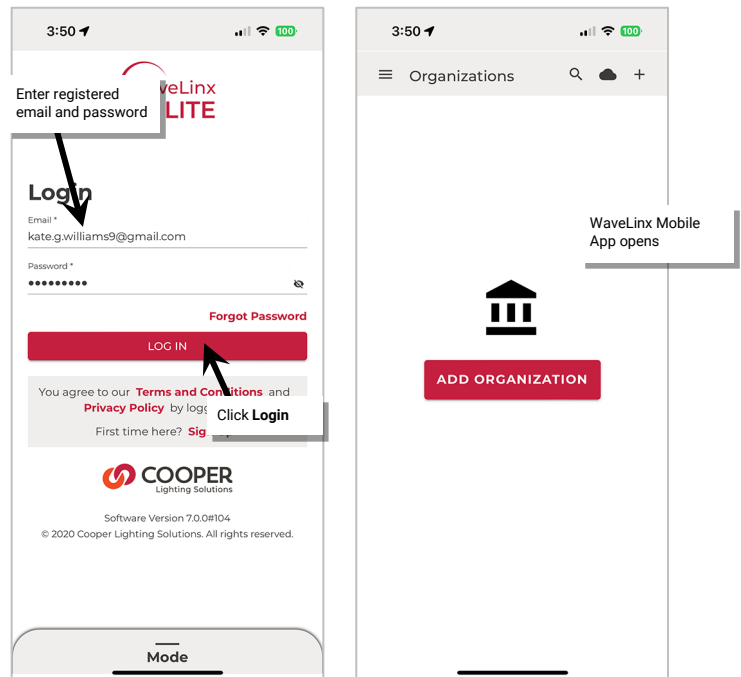
Login to the WaveLinx LITE Mobile App

After registering for a MyApps Account, login to the WaveLinx LITE Mobile App. **An internet connection is required for the initial login.** After login, the application will remain logged in unless the user logs out.

1: When prompted to login, enter the registered email address and account password and then tap **Login**.

2: The first time the app opens, grant permission to allow network access and notifications to ensure that the app functions properly.

3: The application is now logged in and ready for use with the WaveLinx system.



Switching Between Network Mode and Stand-Alone Mode

Stand-Alone Mode allows for access to the basic configuration and status function of supported devices (Acoustic Ceiling Sensors) and, when logged in with a registered user account, additional advanced functions such as template usage and firmware updates. The WaveLinx LITE Mobile App can also be used to configure devices as part of a system in Network Mode where devices are added to an Organization database. When logged in to the Mobile App as a registered user, the app allows the user to switch easily between modes.

To switch between Stand-Alone and Network Modes:

1: Launch the WaveLinx LITE Mobile App and then login. The app will automatically open in Network Mode.

2: To switch modes, tap **Menu** ☰ and then tap ☳.

3: Select **Stand-Alone Mode**. The Stand-Alone Mode menu will be displayed, ready for selection or tap on the gray area next to the menu to close the menu and open the main stand-alone mode screen.

To switch modes again, simply use the ☳ icon at the top of the menu.

Logout of the Mobile App

Once logged in to the Mobile App, it is not necessary to log out. The WaveLinx LITE Mobile App will remain logged in unless the user logs out. **An internet connection is required for user logout.** When logging out, the Mobile App will sync Organization data to the cloud account.

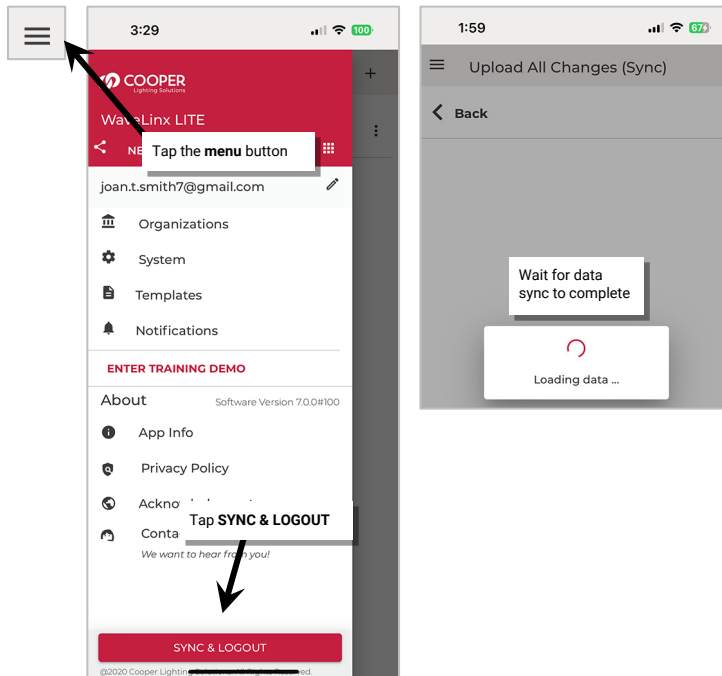
To log out of the Mobile App:

1: Tap **menu** ☰.

2: Select **SYNC & LOGOUT**.

Once the data is synced to the cloud, the user login screen will be displayed, ready for the next login.

To use the WaveLinx LITE Mobile App again, login as a registered user (requires an internet connection).



Use the WaveLinx LITE Mobile App in Stand-Alone Mode

When used in Stand-Alone Mode, the WaveLinx LITE Mobile App will be used to configure WaveLinx LITE devices that operate independently and do not need to be configured as part of an organized system. The Mobile App uses a direct Bluetooth to device connection to read the device's configuration, push changes to the configuration, and display status information. The device configuration is stored on the device, not in the Mobile App or cloud storage.

With WaveLinx LITE version 7.0, the following devices support configuration in Stand-Alone Mode:

- WaveLinx LITE Acoustic Ceiling Sensor
 - OCS-L-D-06, OCS-L-D-12, OCS-L-D-20: Acoustic Ceiling Sensor (Low Voltage Model)
 - OCS-L-D-06-MV, OCS-L-D-12-MV, OCS-L-D-20-MV: Acoustic Ceiling Sensor (Line Voltage Model)

By using WaveLinx LITE Acoustic Ceiling Sensors in traditional motion sensor stand-alone applications, installers and facility managers save time by making sensor configuration adjustments through an easy-to-use App rather than through traditional manual configuration switches.

Note: Once a WaveLinx LITE Acoustic Ceiling Sensor is configured using Stand-Alone Mode, the device will be provisioned and will not show as an available device in the Mobile App's Network Mode.

Access Stand-Alone Mode in the WaveLinx Mobile App

The WaveLinx LITE Mobile App's Stand-Alone Mode does not require a registered user account. Logging in as a registered user is optional but recommended as it allows access to advanced configuration features including firmware updates and templates that streamline the configuration process where multiple devices will share the same settings.

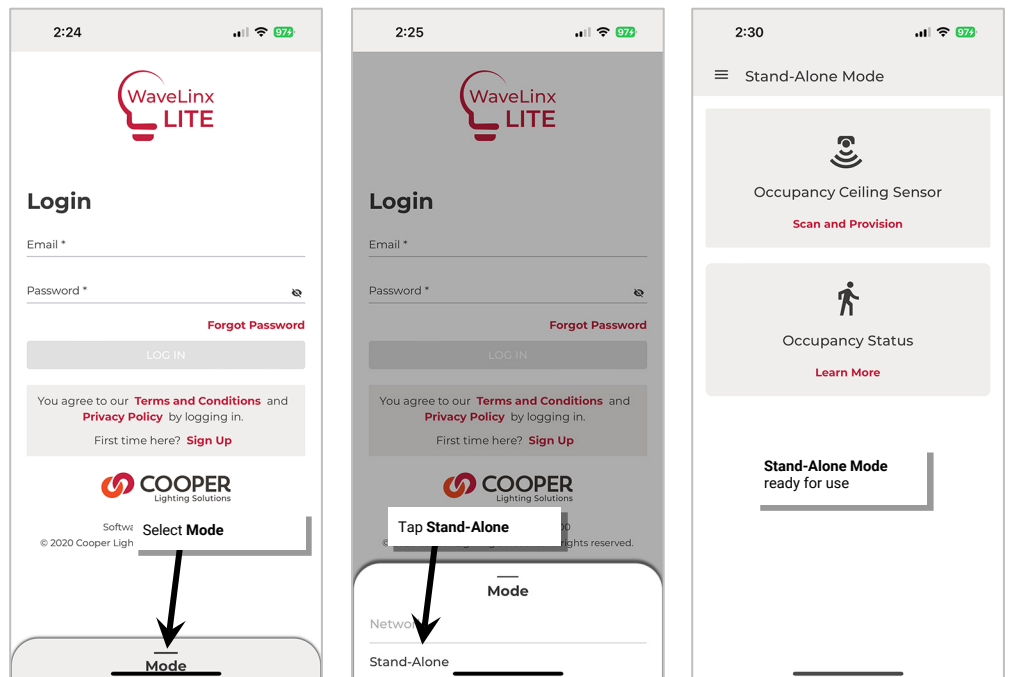
	Stand-Alone Mode Not Logged In	Stand-Alone Mode Logged In
Configure Device	●	●
Access Device Status	●	●
Create and Apply Templates to Devices		●
Update Device Firmware		●

Open Stand-Alone Mode (Not Logging In)

Stand-Alone Mode allows for access to the basic configuration and status function without logging in. To use Stand-Alone Mode without logging in:

- 1: Launch the WaveLinx LITE Mobile App but do not login.
- 2: Tap **Mode** at the bottom of the screen.
- 3: Select **Stand-Alone**.

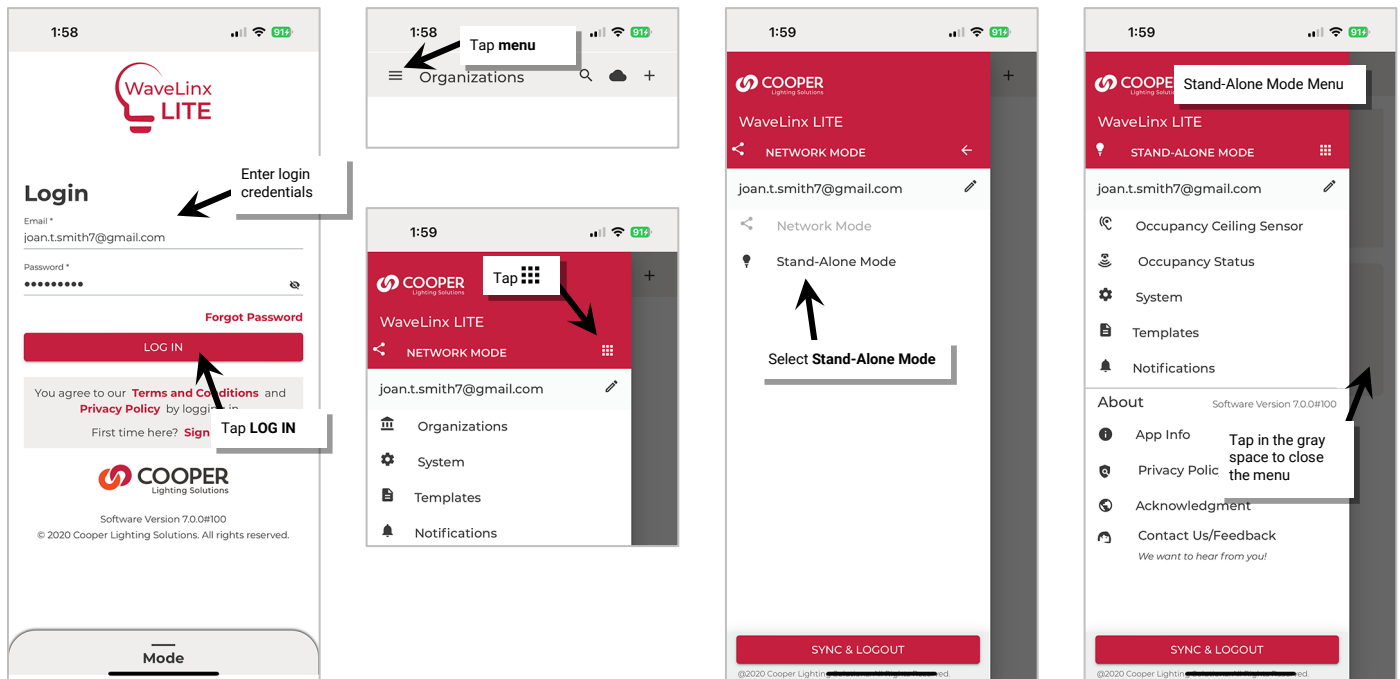
The Stand-Alone Mode screen will be displayed.



Open Stand-Alone Mode (Logged In)

Stand-Alone Mode allows for access to the basic configuration and status function and advanced functions such as template usage and firmware updates when used with a logged in registered user account. To use Stand-Alone Mode when logged in:

- 1: Launch the WaveLinX LITE Mobile App.
- 2: If necessary, create a registered user account (see page 29 for details).
- 3: Enter the user login credentials and then tap **LOG IN**.
- 4: Tap **Menu** ☰.
- 5: In the menu header at the top of the menu, tap ☰.
- 6: Select **Stand-Alone Mode**. The Stand-Alone Mode menu will be displayed, ready for selection or tap on the gray area next to the menu to close the menu and open the main stand-alone mode screen.



Communicate to Devices in Stand-Alone Mode

When configuring or viewing status of a device in Stand-Alone Mode, the device will need to be located and the communication to the device opened. Only devices that are still in an unprovisioned status OR devices that have been configured previously in Stand-Alone Mode will allow the communication connection in Stand-Alone Mode. Establishing a communication connection is done by:

- Performing a device **scan** which will locate any unprovisioned or previously configured stand-alone devices within the mobile device's Bluetooth range.
- Using the IR Remote to reverse **identify** a specific device(s) to open communication with the Mobile App.

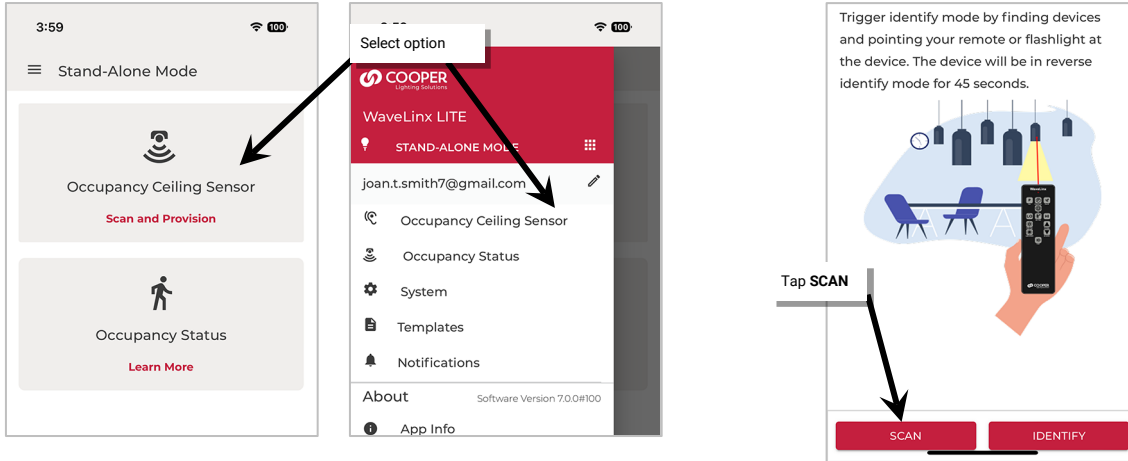
This section will show how to use the **Scan** or **Identify** options to open communication with a device for Stand-Alone Mode status or configuration.

Use the Scan Function to Open Communications in Stand-Alone Mode

In Stand-Alone Mode, the **scan** function locates and displays any unprovisioned or previously configured Stand-Alone Mode compatible devices that are within the mobile device's Bluetooth range (typically within 60 feet/18 meters). If more than one device is found within range, devices can then be visually distinguished using the **blink to identify** function.

To use the scan function:

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select either **Occupancy Ceiling Sensor** or **Occupancy Status** from the Stand-Alone menu or screen.
- 3: If **Occupancy Status** is selected, the scan will begin automatically. For **Occupancy Ceiling Sensor**, select the **SCAN** button.



4: Wait for the scan to complete. The Stand-Alone Mode compatible devices within range will be displayed.

Note: Only devices that are still in an unprovisioned status OR devices that have been configured previously in Stand-Alone Mode will allow the communication connection in Stand-Alone Mode.

5: Locate the desired device in the list. Typically, the closest device will show green status indicator bars. To verify that it is the correct device, tap **identify** 📶 to place the device in the identify mode. Verify that the expected device displays the identify behavior described in the device reference sheet section on page 10.

After 15 seconds the device will disconnect and return to normal operation. Prior to the 15 second timeout tap **identify** 📶 to cancel the command and disconnect manually. If an unintended device responds, try the next closest device and continue until the expected device is found.

Note: Devices that have never been configured will display as still in **Factory Mode**. Devices that have previously been programmed in Stand-Alone Mode will show as **Customized**.



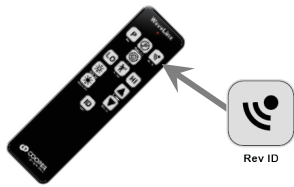
Once identified, access the device for status or configuration purposes. See "Configure a Sensor in Stand-Alone Mode" on page 37 or "View Sensor Status in Stand-Alone Mode" on page 45.

Use the Identify Function to Open Communications in Stand-Alone Mode

Additional Tools Required:



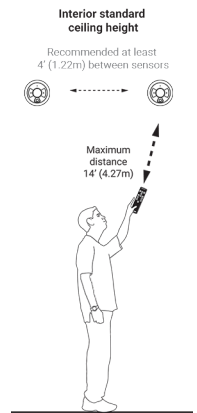
WaveLinX PRO IR Remote (ACC-P-RT)



In Stand-Alone Mode, the **identify** function uses the WaveLinX PRO IR Remote's REV ID button to reverse identify a specific device(s). This opens communication from that device to the Mobile App. The device must be within the mobile device's Bluetooth range (typically within 60 feet/18 meters).

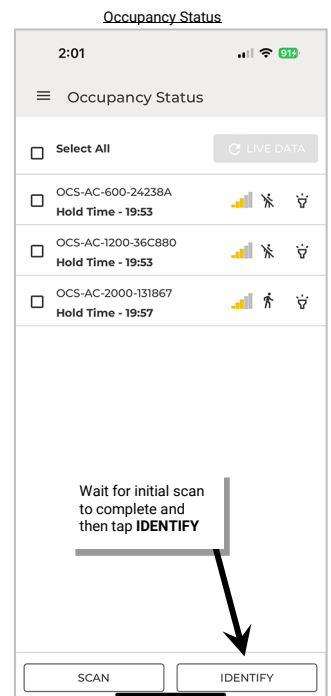
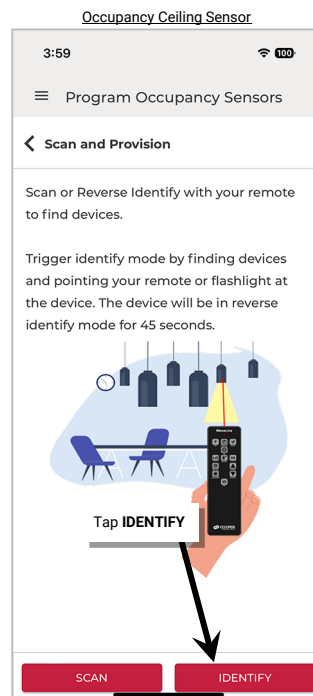
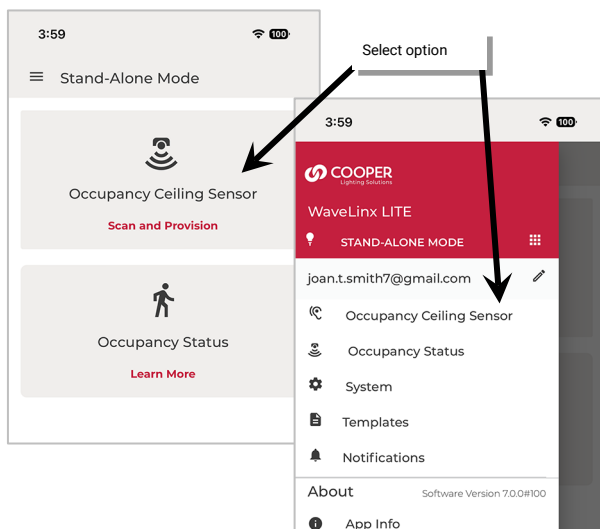
If using the WaveLinX PRO IR Remote:

- Only the **Rev ID** button will be used. No other buttons will function in the WaveLinX LITE system.
- Make certain that the Acoustic Ceiling Sensor is powered.
- Stand directly below the sensor and point the IR remote at the sensor lens.
- For standard ceiling height mounted sensors, use the IR remote within 14 feet (4.27m) of the sensor. With sensors mounted less than 4 feet (1.22m) apart, there is a possibility that the remote signal will be received by both sensors.



To use the identify function:

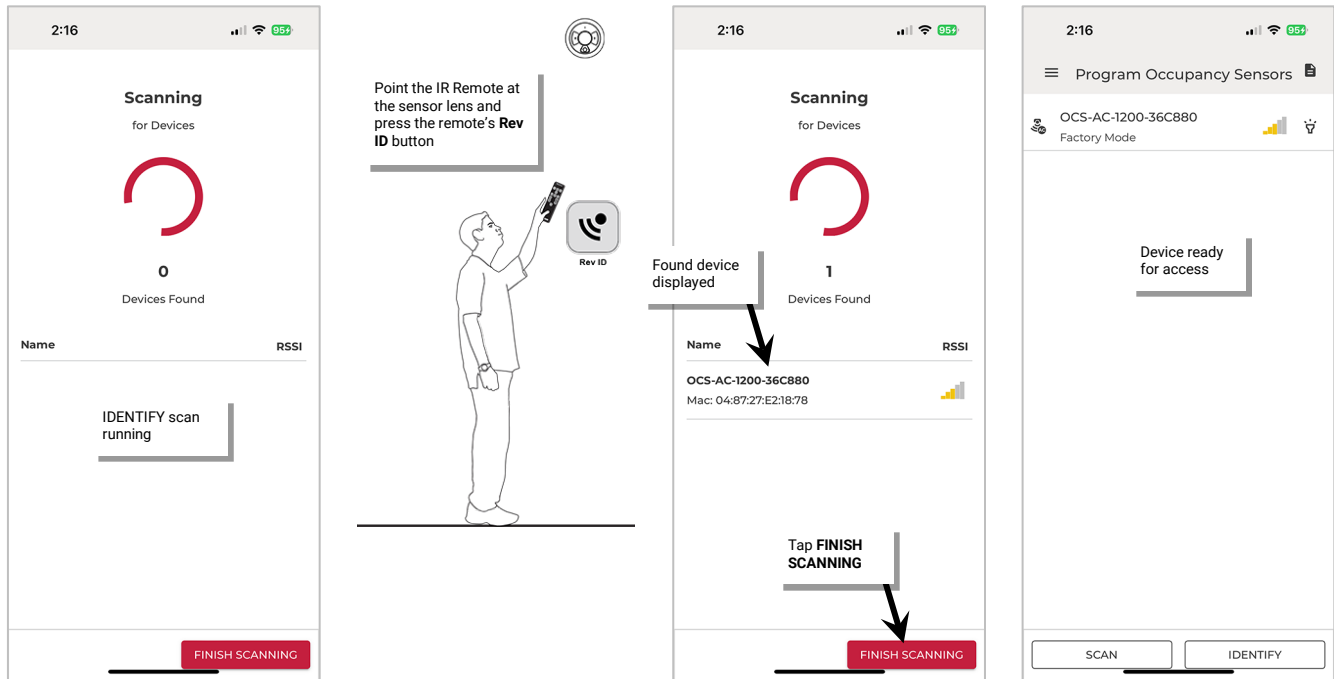
- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select either **Occupancy Ceiling Sensor** or **Occupancy Status** from the Stand-Alone menu or screen.
- 3: If **Occupancy Ceiling Sensor** is selected, tap the **IDENTIFY** button. If **Occupancy Status** is selected, the scan will begin automatically. Wait for the scan to complete and then select **IDENTIFY**. The IDENTIFY scan will begin.



4: Go to desired sensor and stand underneath it. Point the IR Remote at the sensor lens and press the remote's **Rev ID** button. The sensor's LED should begin flashing magenta repeatedly for 45 seconds as it identifies to the mobile app. The sensor should appear in the list of devices. (Optional) repeat for any additional sensors within range.

Note: Only devices that are still in an unprovisioned status OR devices that have been configured previously in Stand-Alone Mode will allow the communication connection in Stand-Alone Mode.

5: Tap **Finish Scanning**.



Make certain that the mobile device is still within range of all previously identified devices (within 60 feet/18 meters of the device) and then access the device for configuration purposes. See “Configure a Sensor in Stand-Alone Mode” on page 37 or “View Sensor Status in Stand-Alone Mode” on page 45.

Configure a Sensor in Stand-Alone Mode

Use the Stand-Alone screen's **Occupancy Ceiling Sensor** option to configure the Acoustic Ceiling Sensor settings.

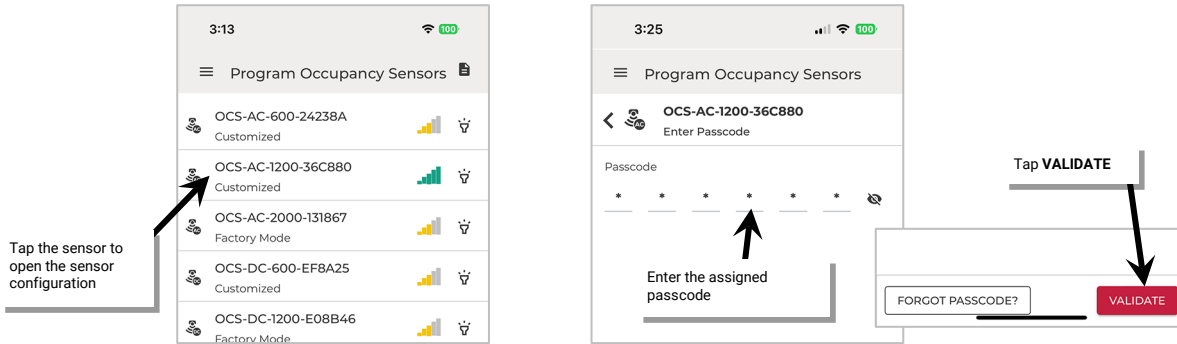
Note: Once a WaveLinx LITE Acoustic Ceiling Sensor is configured using Stand-Alone Mode, the device will be provisioned and will not show as an available device in the Mobile App's Network Mode.

By default, the Acoustic Ceiling Sensor has the following assigned default settings:

- **Passcode:** No passcode assigned
- **Occupancy Hold Time:** 20 minutes
- **PIR Sensitivity:** LOW
- **Acoustics:** Enabled
- **Acoustic Sensitivity:** HIGH
- **Test Mode:** Off
- **Sensor (occupancy):** Enabled
- **Daylight Switching:** Disabled
- **LED Indicator:** Enabled
- **Vacancy Mode (low voltage models only):** Disabled

To manually change any of these settings:

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select **Occupancy Ceiling Sensor** from the Stand-Alone menu or screen and then use SCAN (see page 34) or IDENTIFY (see page 36) to locate and open communications with the sensor.
- 3: Tap the sensor. If the sensor has been previously configured (customized) with a passcode, enter the assigned passcode and tap **VALIDATE**.



Adjust the desired setting or feature.

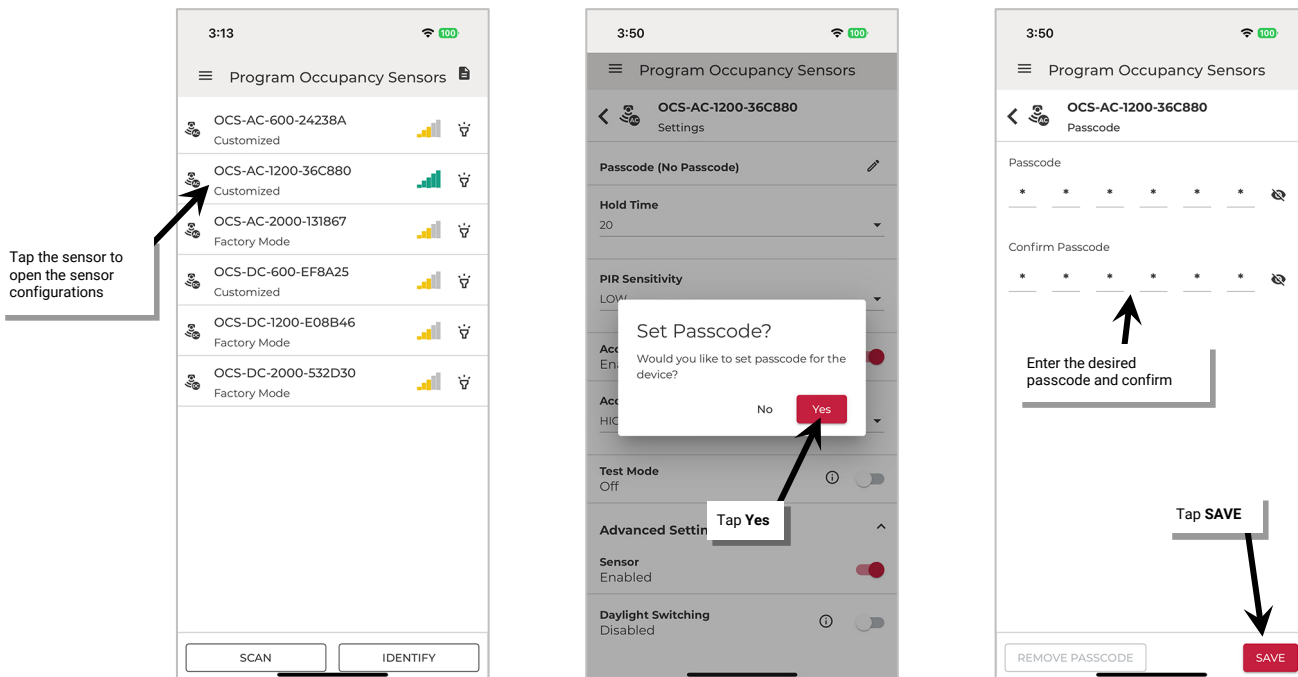
Sensor Stand-Alone Mode Passcodes

By default, the sensor passcode is not set. In Stand-Alone Mode, a six digit sensor passcode may be set to prevent unauthorized access. When the sensor is first opened for configuration, the Mobile App will ask if a passcode should be set for future access. Use this section for information on setting a passcode, changing or removing an existing passcode, or accessing the sensor if the passcode has been forgotten.

Set a Passcode

To set a passcode:

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select **Occupancy Ceiling Sensor** from the Stand-Alone menu or screen and then use SCAN (see page 34) or IDENTIFY (see page 36) to locate and open communications with the sensor.
- 3: Tap the sensor. When prompted to **Set Passcode?** select **Yes**.
- 4: Enter the six digit passcode and enter it again to confirm. Tap **SAVE**.

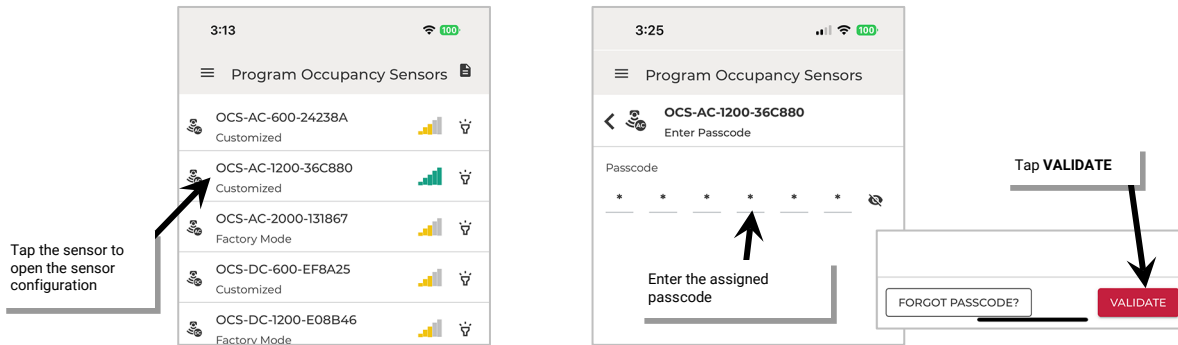


Change or Delete a Passcode

If an access passcode was previously assigned, it can be changed or deleted.

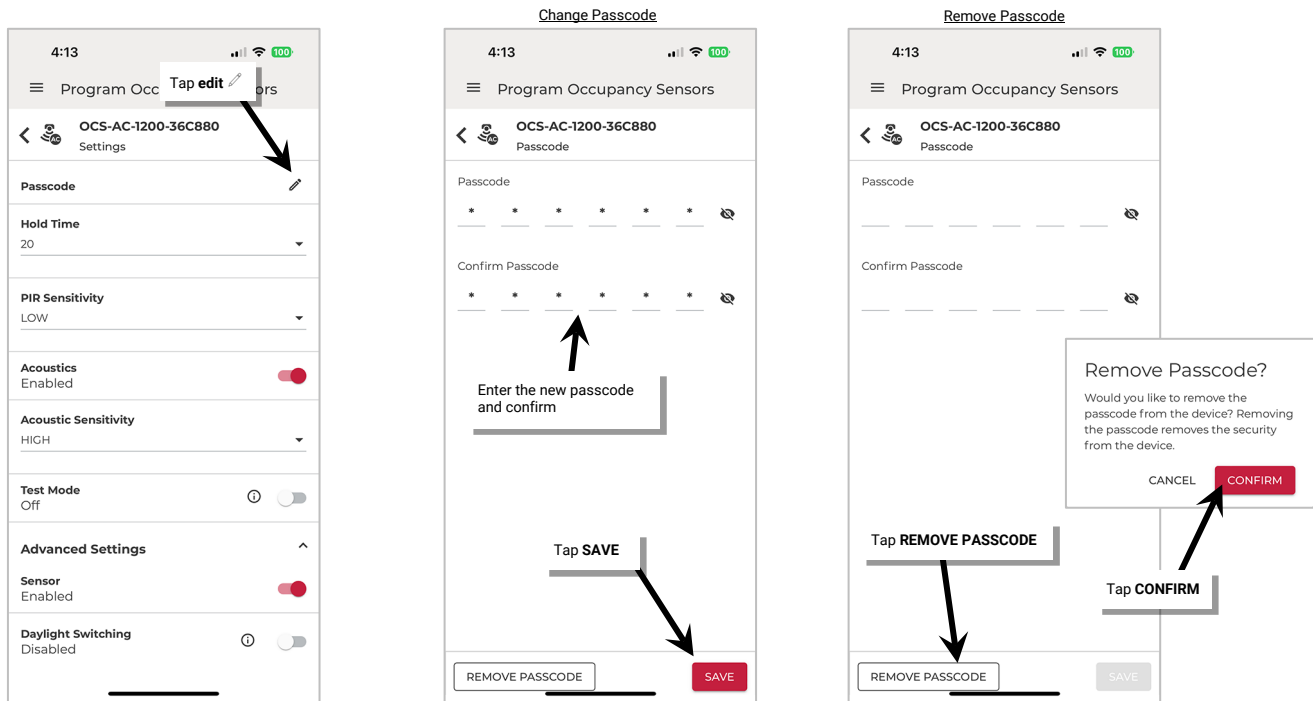
To change or delete a passcode:

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select **Occupancy Ceiling Sensor** from the Stand-Alone menu or screen and then use **SCAN** (see page 34) or **IDENTIFY** (see page 36) to locate and open communications with the sensor.
- 3: Tap the sensor. Enter the assigned passcode and tap **VALIDATE**.



4: Tap the **edit** next to **Passcode**.

- To **change** the passcode: Enter the new passcode and tap **SAVE**.
- To **remove** the passcode: Tap **REMOVE PASSCODE** and, when prompted, tap **CONFIRM**.

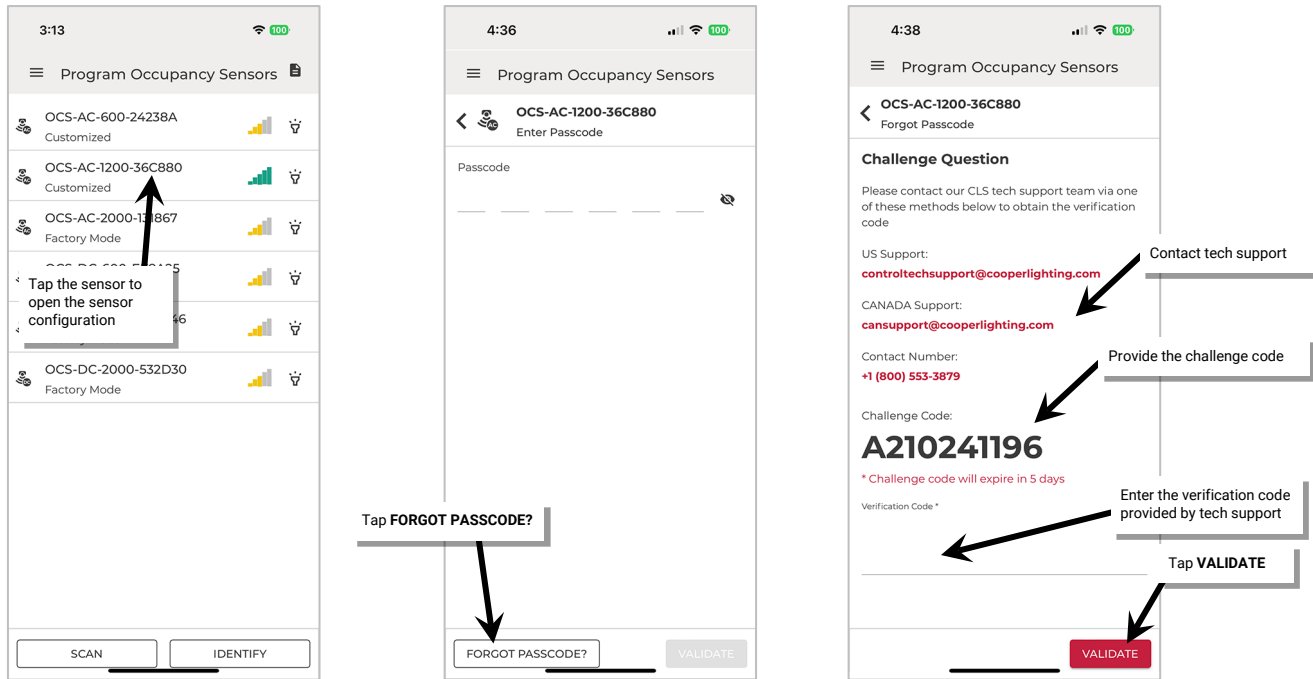


Forgotten Passcode

If a passcode was set on a Stand-Alone sensor and the passcode was forgotten, use the steps in this chapter to recover sensor access.

To recover access after a forgotten passcode:

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select **Occupancy Ceiling Sensor** from the Stand-Alone menu or screen and then use SCAN (see page 34) or IDENTIFY (see page 36) to locate and open communications with the sensor.
- 3: Tap the sensor. When prompted for the passcode, tap **FORGOT PASSCODE?**
- 4: Contact the CLS tech support team using one of the methods shown. When asked, give the **Challenge Code** displayed. Carefully enter the verification code given by tech support and tap **VALIDATE**. Make sure to update the sensor passcode.

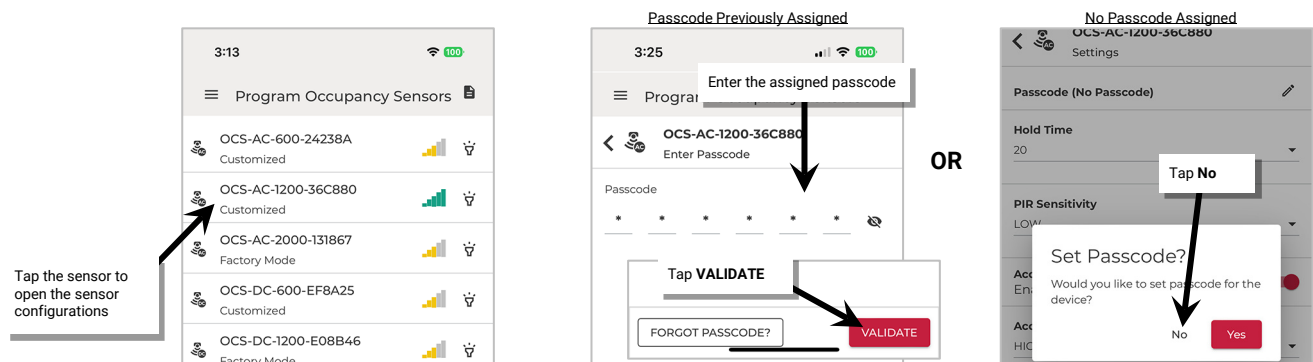


Sensor Configuration in Stand-Alone Mode

This section describes the steps of adjusting sensor settings in Stand-Alone Mode. Use the steps to adjust the sensor settings as described in the included table.

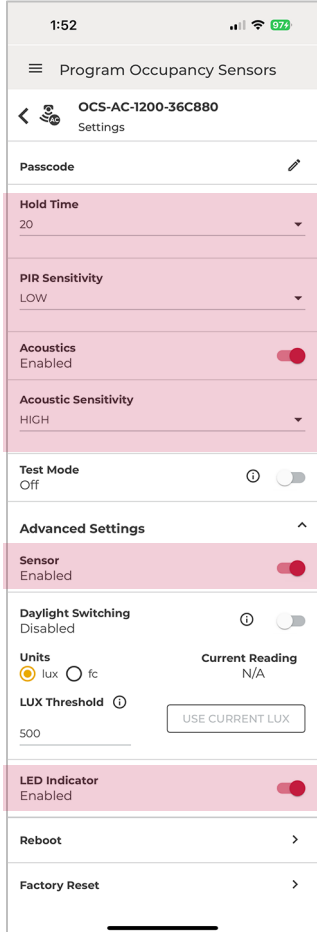
To change a sensor's configuration:

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select **Occupancy Ceiling Sensor** from the Stand-Alone menu or screen and then use SCAN (see page 34) or IDENTIFY (see page 36) to locate and open communications with the sensor.
- 3: Tap the sensor and, if necessary, enter the sensor's passcode and tap VALIDATE, or, if requested to set a passcode, tap No to bypass.



4: Using the instructions in the appropriate following section, locate the desired occupancy sensor setting, daylight setting to change and make the adjustment, or access the test mode, reboot or factory reset options.

Occupancy Sensor Settings



Setting	Default	Description
Passcode	No Passcode	See "Sensor Stand-Alone Mode Passcodes" on page 38.
Hold Time	20 Minutes	<p>The hold time determines how long the system will delay once the sensor is no longer detecting occupancy before turning the connected load OFF.</p> <ul style="list-style-type: none"> • Select 5, 10, or 20 from the drop down, OR, • Select Other and then type in the number of minutes (1 to 40) and tap ✓ to save the entered time.
PIR Sensitivity	LOW	Use the drop down to select between HIGH and LOW sensitivity for the PIR technology. Use LOW if a sensor is turning lights on when motion is detected outside of the desired area. Switch to HIGH to regain the full motion sensing range.
Acoustics	Enabled	The acoustic sensor will operate with the PIR sensor after the PIR sensor has signaled occupancy. Both technologies will operate together to determine if motion is still present to keep lighting on. To operate only from the PIR technology, switch acoustics to DISABLED . To operate from both technologies, switch to ENABLED .
Acoustic Sensitivity	HIGH	Use the acoustic sensitivity drop down to select how sensitive the acoustic detection should be. Choose between VERY HIGH , HIGH , MEDIUM , LOW , and VERY LOW .
Test Mode	Off	See "Use Occupancy Sensor Test Mode" on page 43.
Advanced Settings: Sensor	Enabled	Use the slide switch to place the sensor in Override mode. This will immediately turn ON any connected lighting loads, bypassing the occupancy sensing functionality. Return the sensor to Enabled mode to revert to occupancy sensor control.
Advanced Settings: Daylight Switching	Disabled	See "Daylight Sensor Settings" on page 42.
Advanced Settings: LED Indicator	Enabled	Disabling the LED is not recommended as it is often used to determine if the sensor is operational. If the sensor LED flash is a major distraction, slide the switch to Disable the LED flash.
Vacancy Mode <i>(displayed for low voltage DC sensors only)</i>	Disabled	<p>Use the slider to enable or disable vacancy mode.</p> <ul style="list-style-type: none"> • Disabled: The lighting will turn ON when the sensor detects initial motion. • Enabled: The sensor will not turn ON lighting upon initial motion detection. The occupant must turn ON loads manually using the GMDS switch wired between the sensor's brown lead and the switchpack's black lead wire.⁵⁰ Regardless of the setting, the lighting will turn OFF when motion is no longer detected and the defined hold time expires. <p>WARNING: Do not use vacancy mode unless a GMDS switch is installed to allow for manual override.</p>
Reboot	n/a	See "Reboot the Acoustic Ceiling Sensor" on page 44.
Factory Reset	n/a	See "Factory Reset the Acoustic Ceiling Sensor" on page 44.

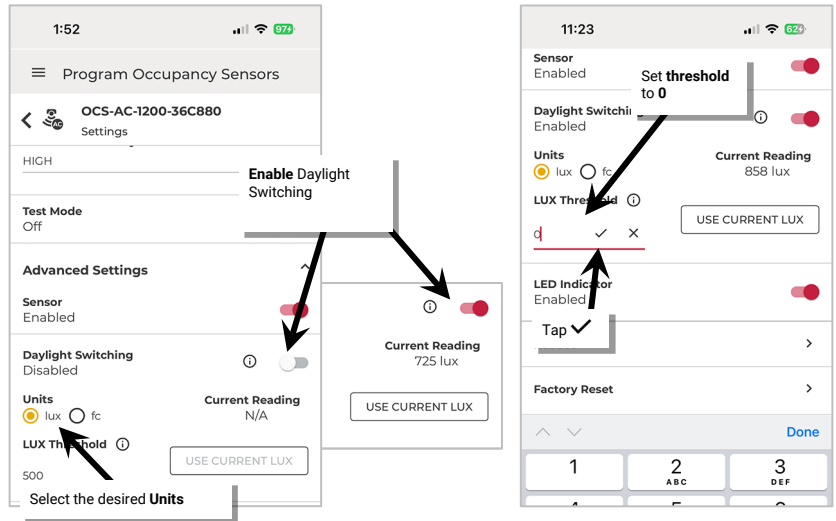
⁵⁰ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. Outside of the grace period, vacancy mode requires a manual button press to active lighting.

Daylight Sensor Settings

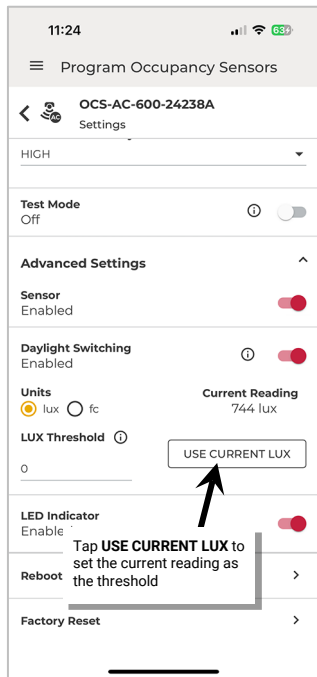
Enable and Configure Daylight Switching

In Stand-Alone Mode, the daylight sensor can be enabled to allow the connected load to be daylight switched ON or OFF based on the amount of daylight being contributed to the space. Daylight operation is disabled by default. To enable and configure the daylight switching behavior, once the sensor settings are displayed use the following steps:

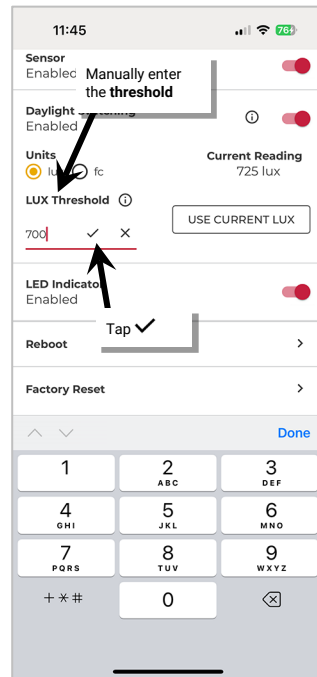
- 1: Enable/adjust the daylight sensor settings at a time when the incoming daylight contribution should be turning the electric lighting OFF.
- 2: Select the desired sensor to open the **Program Occupancy Sensor** screen. Stand out of the sensor lens view to prevent interference with readings.
- 3: Set **Daylight Switching** to **Enabled** and then select either **lux** or **fc** (footcandles) to display the reading in the desired **units**.
- 4: In the **LUX Threshold/FC Threshold** entry, enter **0** and then tap ✓. This will cause the controlled electric lighting to turn OFF.



- 5: Wait 30 seconds for the **current reading** field to stabilize and display the light level with just the daylight present and then tap the **USE CURRENT LUX** or **USE CURRENT FC** button to change the daylight switching threshold to the current light level or manually enter the light level and then tap ✓. Daylight switching will operate with the new threshold.



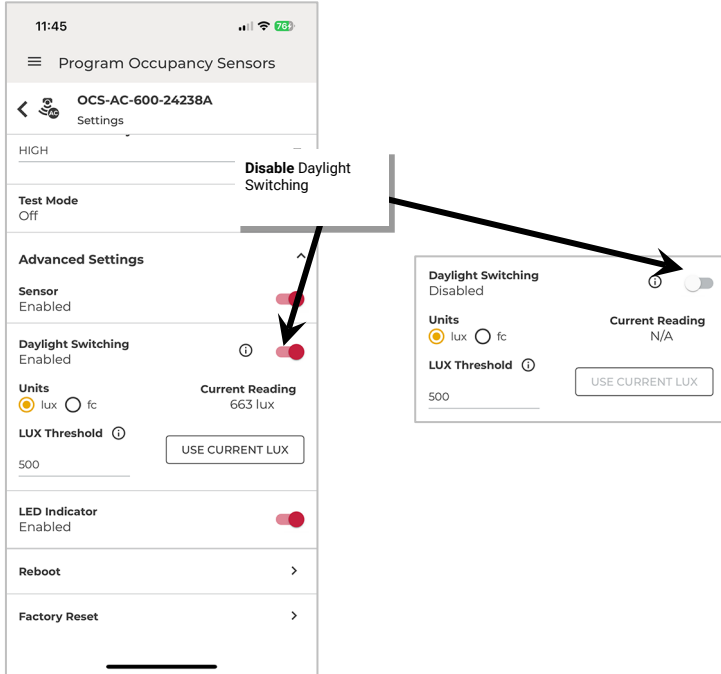
OR



Disable Daylight Switching

Daylight switching is disabled by default. If enabled, it can be manually disabled at any time.

- 1: Select the desired sensor to open the Program Occupancy Sensor screen.
- 2: Set **Daylight Switching** to **Disabled**. If the occupancy sensor is occupied when the daylight switching is disabled, the controlled lighting may turn ON if the daylight switching had the lighting OFF prior to the change.

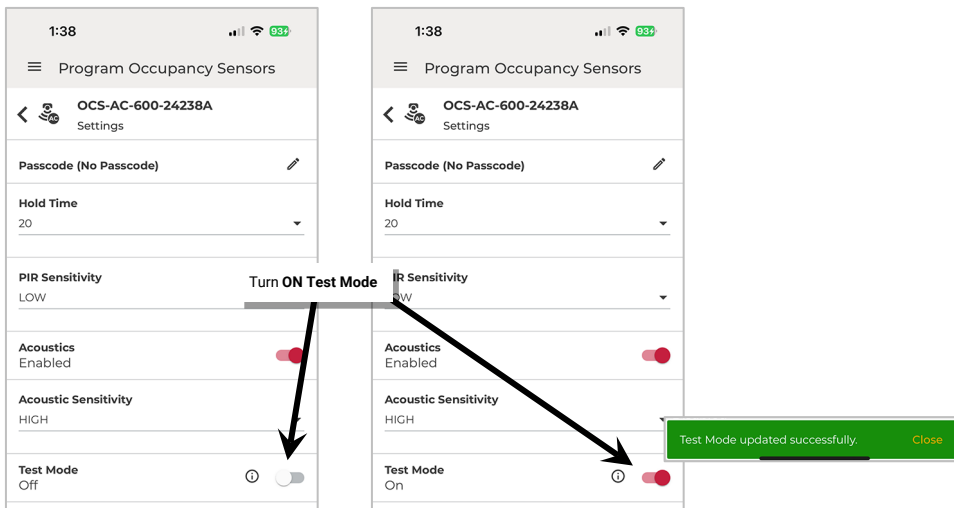


Use Occupancy Sensor Test Mode

The occupancy sensor may be placed into a temporary test mode to verify sensor response. During test mode, the sensor will operate with a 10 second hold time. Test mode will automatically revert to normal operation after 10 minutes or may be manually disabled through the mobile application.

To test the occupancy sensor:

- 1: Test during a time when there is little motion or sound occurring in the area.
- 2: Select the desired sensor to open the **Program Occupancy Sensors** screen.
- 3: Set **Test Mode** to ON.



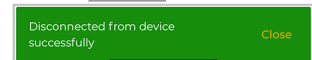
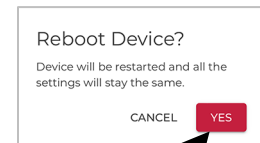
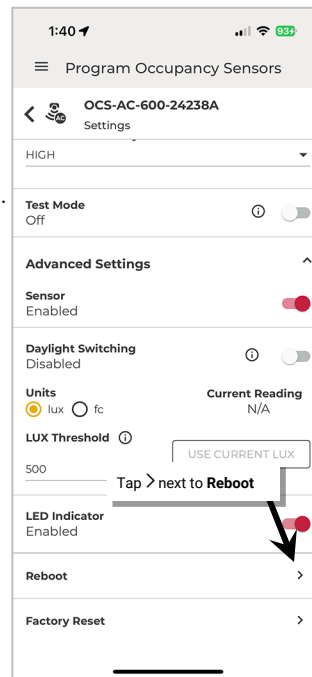
- 4: If lighting is ON, stand still/remain quiet. Lighting should transition to the unoccupied level after 10 seconds of no activity on any sensor. Once lighting turns OFF, move to verify that the lighting turns back ON and the sensor LED turns Blue to indicate PIR detection.
 - 5: Stand still again and clap your hands or speak, the LED should flash yellow to indicate Acoustic detection.
 - 6: Continue this process within the desired sensor range to make sure that motion/acoustics are detected. Adjust the sensor sensitivity as needed (see page 41 for further details).
 - 7: Move slightly out of the desired range and repeat the test to ensure the sensor is not picking up motion/acoustic signal beyond the intended location. Adjust the sensor sensitivity as needed (see page 41 for further details).
- Turn off test mode or allow test mode to automatically time out after 10 minutes.

Reboot the Acoustic Ceiling Sensor

The occupancy sensor may be rebooted to force a soft reset without the need of cycling power to the sensor.

To reboot the occupancy sensor:

- 1: Select the desired sensor to open the **Program Occupancy Sensors** screen.
- 2: Next to **Reboot**, tap **>**. When prompted, tap **YES** to reboot the device. The sensor will disconnect from the mobile app as it reboots.



Factory Reset the Acoustic Ceiling Sensor

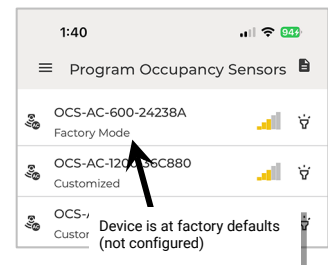
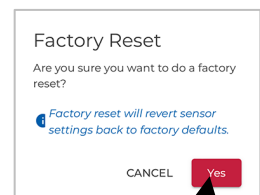
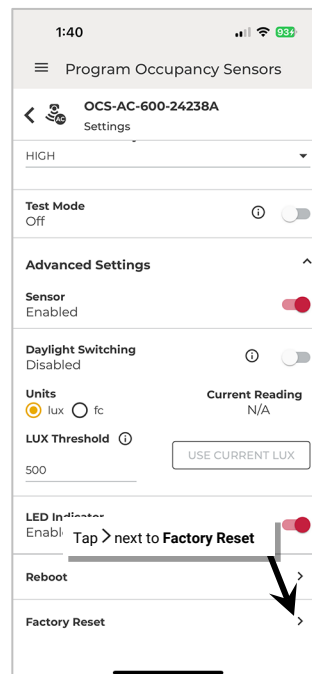
If a device is not responding to the mobile application or is exhibiting provisioned device behavior but is not able to be located in the mobile application, perform a **factory reset**. A **factory reset** returns the device to its out-of-the-box behavior and removes provisioning, allowing the device to be provisioned as a new device.

In Stand-Alone Mode, the Acoustic Ceiling Sensor can be factory reset from the mobile application, eliminating the need to cycle power.

To issue a factory reset in Stand-Alone Mode:

- 1: Select the desired sensor to open the **Program Occupancy Sensors** screen.
- 2: Next to **Factory Reset**, tap **>**. When prompted, tap **YES** to continue. The sensor will disconnect from the mobile app as it performs the factory reset.

Note: Once the factory reset is complete, if the device is scanned or identified in Stand-Alone Mode, it will display **Factory Mode** to indicate it has not been configured.



View Sensor Status in Stand-Alone Mode

Use the Stand-Alone screen's **Occupancy Status** option to view the status of Acoustic Ceiling Sensors. The status screen will allow visibility to the sensor's motion or no motion activity reading.

To view a sensor's status:

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select **Occupancy Status** from the Stand-Alone menu or screen. A **SCAN** will immediately start. Once finished, the sensors within Bluetooth range will display. Locate the desired device using **identify** 🗹 or if desired, use the **IDENTIFY** button at the bottom of the page (see page 36) to identify a specific sensor using the WaveLinx PRO IR Remote.

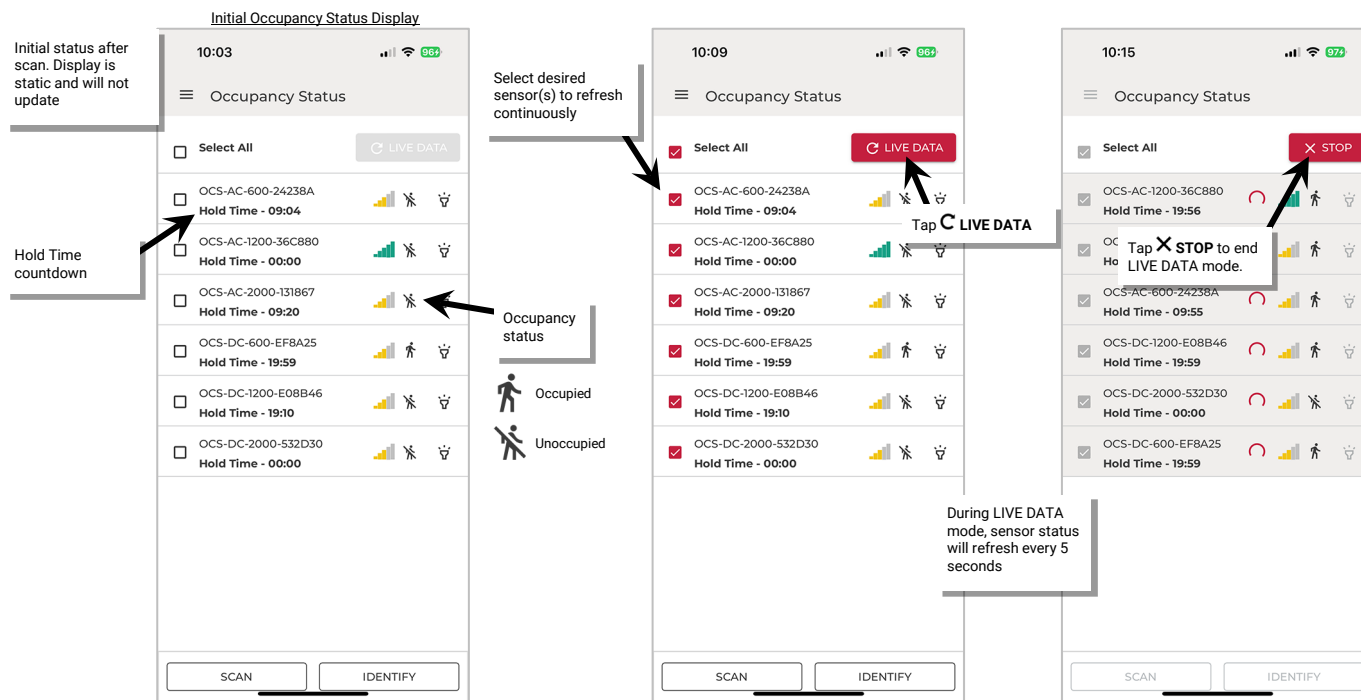
Note: Only devices that are still in an unprovisioned status OR devices that have been configured previously in Stand-Alone Mode will allow the communication connection in Stand-Alone Mode.

- 3: Once the SCAN or IDENTIFY completes, the screen will display the last gathered status of the motion sensor along with the current hold time countdown. This display is static and will not automatically update.

- 4: To refresh the status continuously, tap the checkbox next to the desired sensor(s) or select the Select All. Tap **C LIVE DATA**.

The status will refresh every 5 seconds with the latest status and hold time. The status indicator icon will immediately reflect (with no delay) whether the sensor is seeing motion activity. The status indicator does not take the sensor hold time into account which will display separately.

- 5: When done, tap **X STOP** to end the status refresh.



Use a Template to Configure Sensors in Stand-Alone Mode

The use of templates requires mobile app login by a registered user. The created templates will be stored in the cloud for easy access by the registered user. If using the mobile app for Stand-Alone Mode access without login, the mobile app will not display the template options described in this section.

The mobile app allows creation of templates for the Acoustic Ceiling Sensor making it easy to apply the same configuration to other Stand-Alone Mode sensors. Before beginning sensor configuration, first create any templates that will be needed for the sensors. By adjusting the settings in a custom template, it reduces the time spent having to apply the settings to each sensor.

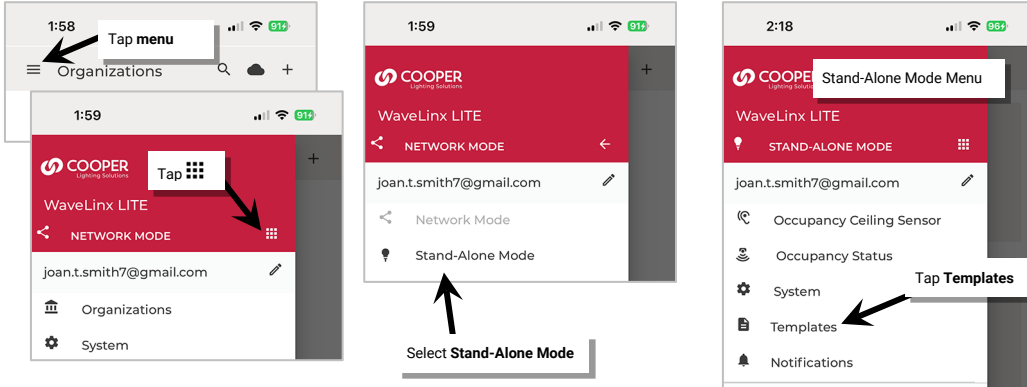
Create a Custom Template: Stand-Alone Mode

In Stand-Alone Mode, an Acoustic Ceiling Sensor template can be created from the WaveLinx LITE Mobile App's menu when the creator is logged in as a registered user.

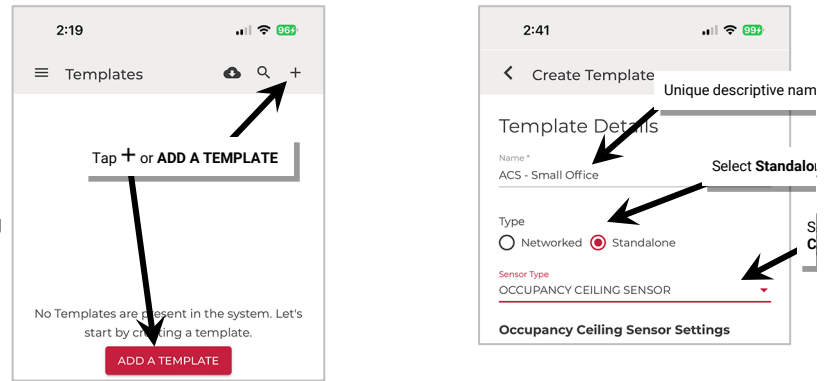
The user does not need a Bluetooth connection to WaveLinx devices or to the internet to create a custom template, although an internet connection will be necessary to sync the template to the cloud. If needed, the template sync can be performed later when an internet connection is available.

To create a custom template for an Acoustic Ceiling Sensor:

- 1: Launch the WaveLinX LITE Mobile App and login as a registered user.
- 2: Tap **Menu** ≡ and in the menu header at the top of the menu, tap **☰**. Select **Stand-Alone Mode**.
- 3: In the Stand-Alone Mode menu, select **Templates**.



- 4: If this is the first template created, tap **ADD A TEMPLATE**, otherwise tap **+** to add a new template.
- 5: Type a unique descriptive name for easy identification and then tap **Standalone**.
- 6: From the **Sensor Type** drop down, select **Occupancy Ceiling Sensor**.



- 7: Next, set the desired occupancy settings including:
 - Adjust the **Hold Time** (default 20 min)
 - Adjust **PIR Sensitivity** (default LOW)
 - Enable/Disable **Acoustics** (default ENABLED)
 - Adjust **Acoustics Sensitivity** (default HIGH)
 - Enable/Disable **Sensor** (default ENABLED)
 - Note:** Disable places sensor in override.
 - Enable **Daylight Switching** (default DISABLED)
 - Set the **Daylight Switching Threshold** (default 500 LUX)
 - Disable/Enable the **LED indicator** (default ENABLED)
 - Enable/Disable **Vacancy Mode** (default DISABLED)
 - Note:** this feature is only applicable to low-voltage DC sensors with attached GMDS switches





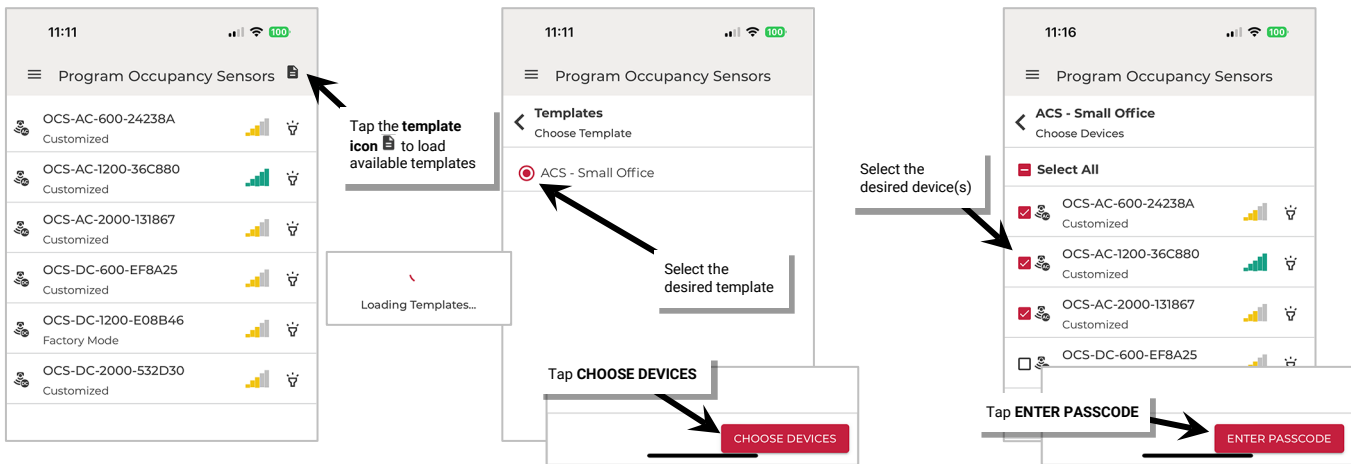
- 8: Review the settings, and then tap **SAVE**.

The template will be saved to the mobile device. If there is an internet connection, the template will automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Stand-Alone Mode" on page 50 for details.

Apply a Template to a Device(s): Stand-Alone Mode

Once the Occupancy Ceiling Sensor template is created, the template can be applied to Acoustic Ceiling Sensors being configured in Stand-Alone Mode.

- 1: Bring the mobile device close to the desired Acoustic Ceiling Sensor's location (within 60 feet/18 meters of the device) and open **Stand-Alone Mode** (see page 33).
- 2: Select **Occupancy Ceiling Sensor** from the Stand-Alone menu or screen and then use SCAN (see page 34) or IDENTIFY (see page 36) to locate and open communications with the sensor.
- 3: At the top of the **Program Occupancy Sensors** screen, tap the **template**  icon to load any available templates.
- 4: Select the desired template (only Acoustic Ceiling Sensor templates will be displayed). Then tap **CHOOSE DEVICES** and wait for the device scan to complete.
- 5: Locate the desired device(s) in the list. If necessary, tap **identify**  to place the device in the identify mode.
- 6: Tap the checkbox next to the sensor(s) or choose **Select All**. Tap **ENTER PASSCODE** to advance the screen.

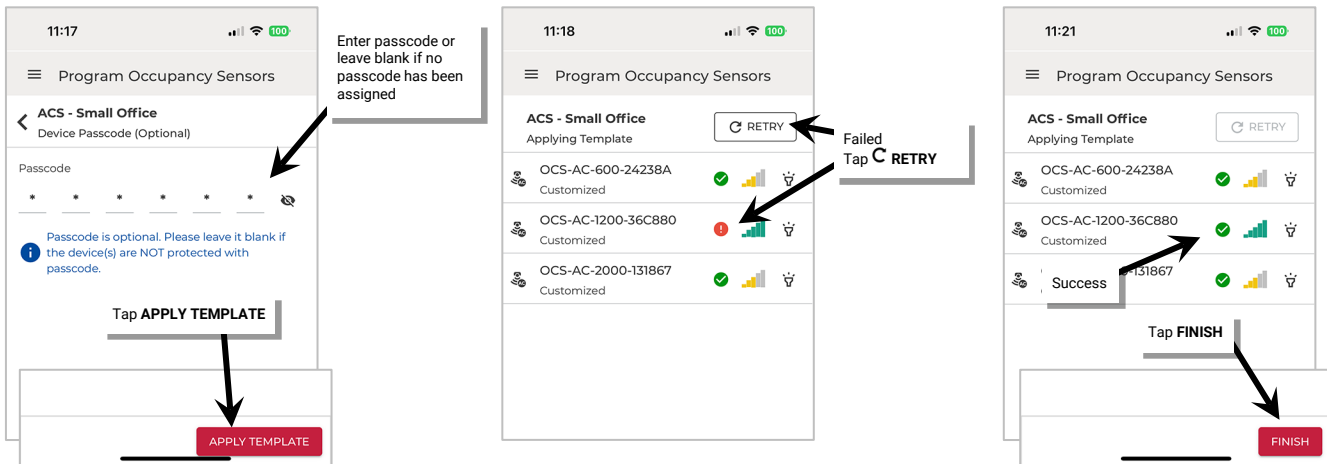


7: If the sensor(s) has previously had a passcode assigned, enter the passcode. Leave blank if no passcode is assigned. Tap **APPLY TEMPLATE**.

8: The template settings will be sent to the selected device(s). Verify success:

- **Success:** green checkmark 
- **Failed:** red exclamation mark : Make sure the mobile device is still within the sensor's range and tap **RETRY**.

9: Tap **FINISH** once all sensors register success.

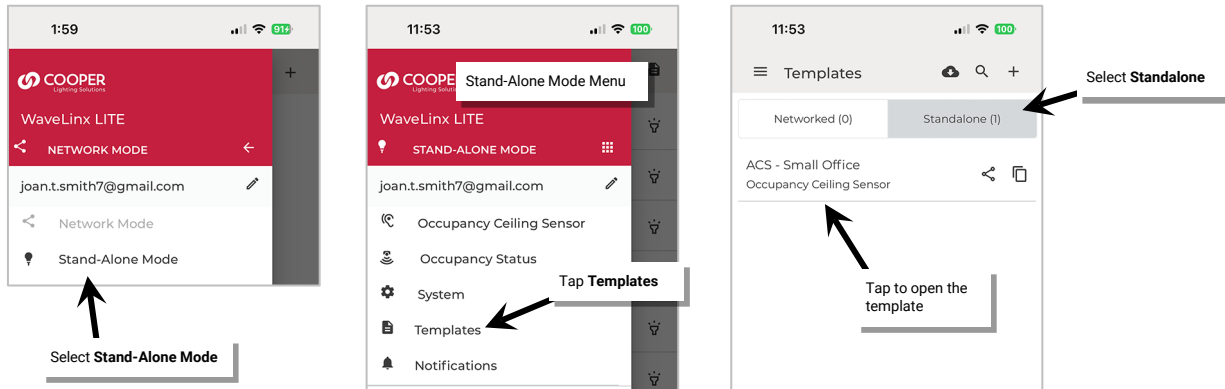


Modify a Template: Stand-Alone Mode

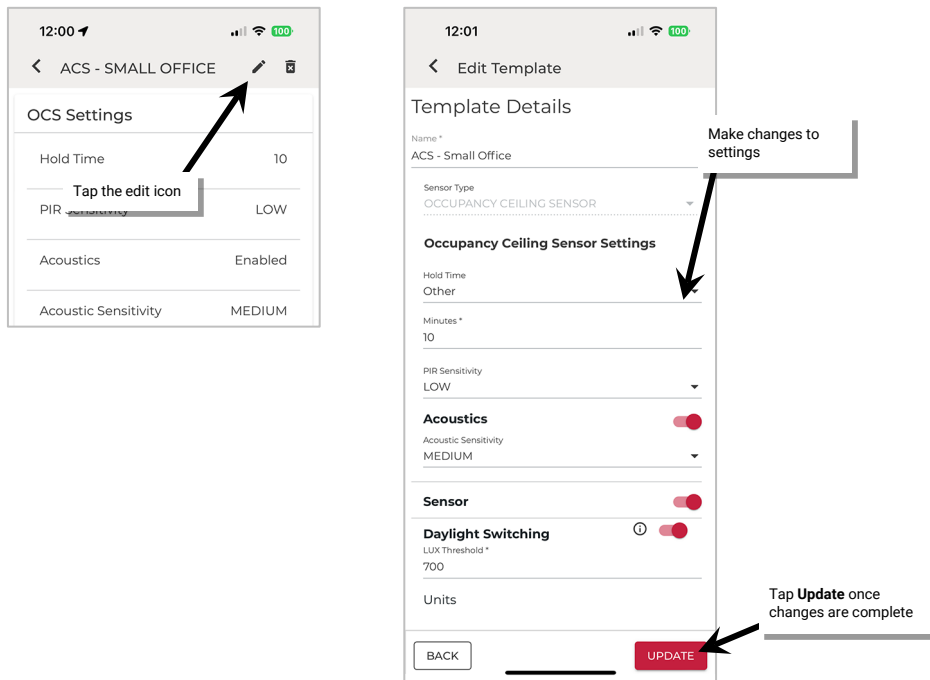
This method will modify the template for future use. Existing sensors who have been configured with the template prior will not be affected unless the template is reapplied.

To modify a template:

- 1: Launch the WaveLinx LITE Mobile App and login as a registered user in **Stand-Alone Mode**.
- 2: In the **Menu** ☰ and select **Templates**. Choose the **Standalone** template screen.
- 3: Select the template to modify.



- 4: Tap on the **edit icon** ✎. In the template details screen, make the desired changes:
- 5: Once the changes are complete, tap **UPDATE** to update the template.



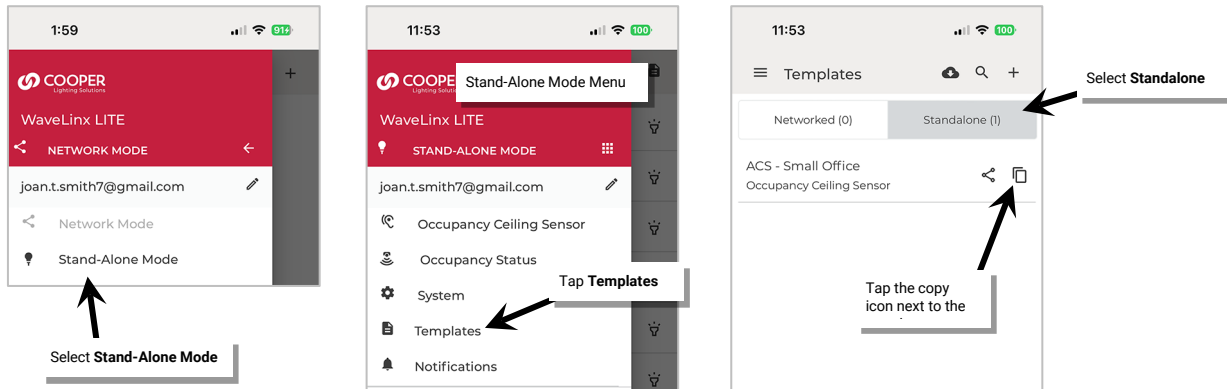
If there is an internet connection, the updated template will also automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Stand-Alone Mode" on page 50 for details.

Copy an Existing Template: Stand-Alone Mode

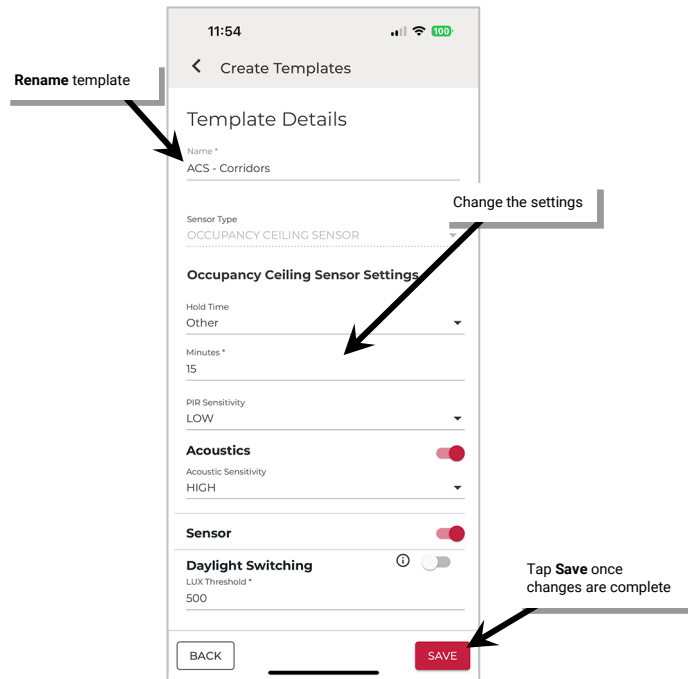
The mobile application allows copying of an existing template to create a new template allowing easy adjustment to meet a slightly different configuration need.

To copy a template:

- 1: Launch the WaveLinx LITE Mobile App and login as a registered user in **Stand-Alone Mode**.
- 2: In the **Menu** ☰ and select **Templates**. Choose the **Standalone** template screen.
- 3: Tap the **copy icon** 📄 next to the desired template.



- 4: Give the template a new unique name and then edit the template to make the desired changes. Tap **SAVE**.



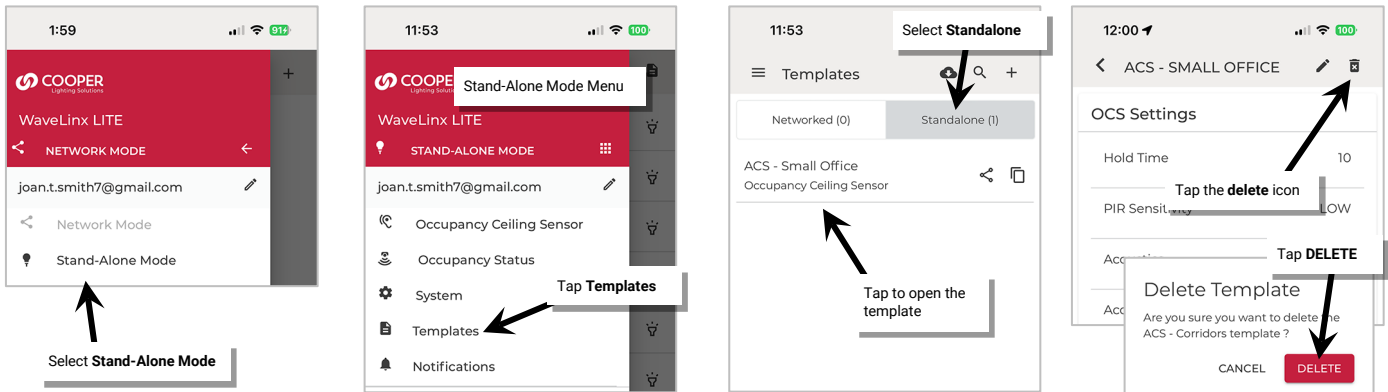
If there is an internet connection, the updated template will also automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Stand-Alone Mode" on page 50 for details.

Delete a Template: Stand-Alone Mode

Templates that are no longer being used can be deleted.

To delete an existing template:

- 1: Launch the WaveLinx LITE Mobile App and login as a registered user in **Stand-Alone Mode**.
- 2: In the **Menu** ☰ and select **Templates**. Choose the **Standalone** template screen.
- 3: Select the template to modify.
- 4: Tap on the Tap the **delete icon** 🗑️ and when prompted, tap **Delete**.



If there is an internet connection, the change will automatically sync to the user's cloud account. If there is not an internet connection, manually sync the templates once the connection is available. See "Sync Templates: Stand-Alone Mode" on page 50 for details.

Sync Templates: Stand-Alone Mode

If there is an internet connection, the template will automatically sync to the registered user's cloud account when the template is saved.

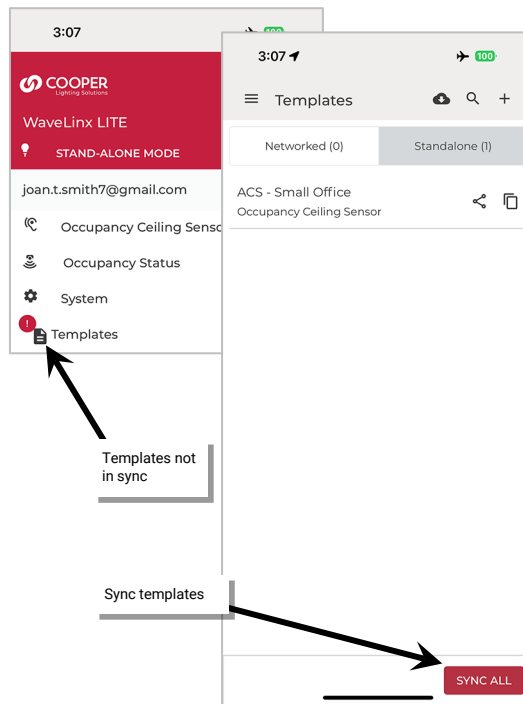
If there is no internet connection, the template will be saved to the mobile device only and a message will be displayed.



An exclamation point icon (!) will appear on the menu templates option to indicate a sync issue.

To sync the templates, established an internet connection in most cases, the templates will then sync automatically.

If the automatic sync does not occur, tap **Sync All** at the bottom of the template screen.



Share Templates: Stand-Alone Mode

As with Network Mode, templates can be shared with other registered users. For information on sharing templates, see "Share Templates with other Registered Users" on page 71.

Use the WaveLinx LITE Mobile App in Network Mode

When used in Network Mode, the WaveLinx LITE Mobile App will be used to provision and configure WaveLinx LITE devices as part of an organized system.

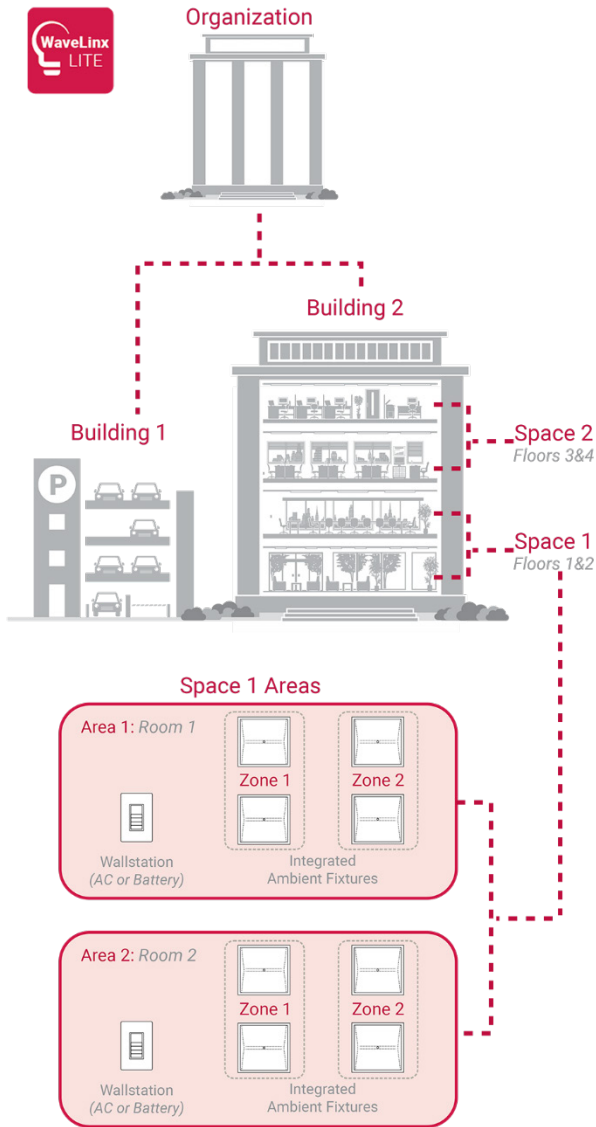
Understand WaveLinx LITE Mobile App Organization: Network Mode

The Organization structure in this section applies to new Organizations created the WaveLinx LITE Mobile App version 5.1 and higher. For sites created in prior versions, see “Convert Legacy WaveLinx LITE Sites (Spaces)” on page 193.

It is important to understand the basic organization and navigation within Network Mode in the WaveLinx LITE Mobile App. This section walks through these concepts.

Organize the Database

A WaveLinx LITE 7.0 version database is scalable from small to large applications. The Network Mode structure allows for easy administration. The structure created during initial setup will include an **Organization**, along with its **Building(s)**, **Space(s)**, and **Area(s)**. For small applications, the Organization, Building, and Space may all be the same facility name while larger applications may use the structure to mimic their main company with the controlled buildings and spaces within.



The WaveLinx LITE system is organized using the following:

<ul style="list-style-type: none"> Organization 	The company that owns/ manages the WaveLinx LITE devices and programming.	<i>A corporation</i>
<ul style="list-style-type: none"> Building 	A specific physical location within the Organization.	<i>A building, parking garage, or other facility</i>
<ul style="list-style-type: none"> Space 	A place within the Building that contains rooms of WaveLinx LITE devices. A Building may contain any number of Spaces.	<i>A floor or multiple floors of a building</i>
<ul style="list-style-type: none"> Area 	A room within the Space- Devices in the room operate lighting in that room. Maximum: 28 user defined Areas per Space. <ul style="list-style-type: none"> Networked Area: Devices interact together and form a Bluetooth mesh network with each other. Standalone Area: Devices operate independently and communicate independently to the Mobile App. 	<i>A room within the space</i> <i>A wallstation or sensor controls the room's lighting/devices</i> <i>Each fixture is controlled only by its own connected sensor</i>
<ul style="list-style-type: none"> Zone 	A collection of load Devices within a Networked Area that operates together Maximum 16 zones per Networked Area <i>Standalone Areas do not have zones</i>	<i>A row or group within the area</i>
<ul style="list-style-type: none"> Device 	A WaveLinx LITE component Maximum 50 devices (40 best practice) per Networked Area <i>Standalone Areas have no device maximum.</i>	<i>A switchpack, wallstation, node, integrated, fixture mounted or tilemount sensor</i>

Note: In smaller applications with fewer than 28 Areas, the Organization, Building and Space can be the same company/facility name.

Navigate the WaveLinx LITE Mobile App: Network Mode

When in Network Mode, the WaveLinx LITE Mobile App will reflect the organizational structure in its screens.

Organizations

Each Organization administered by the WaveLinx LITE App is created with a unique name. There is no limit on the number of Organizations that one user can create.

When an Organization is created, a local copy is created on the device in the mobile app and then pushed to the cloud storage. Internet access is required to ensure that Organization data is kept in sync with the cloud.

Organizations created by the same user will be listed in alphabetical order on the **Organizations** screen.

Tap an Organization name to view the Building(s).

Buildings

There is no limit to the number of Buildings one Organization can contain. Available Buildings will be listed in alphabetical order on the **Buildings** screen.

Tap a Building to view the available Space(s).

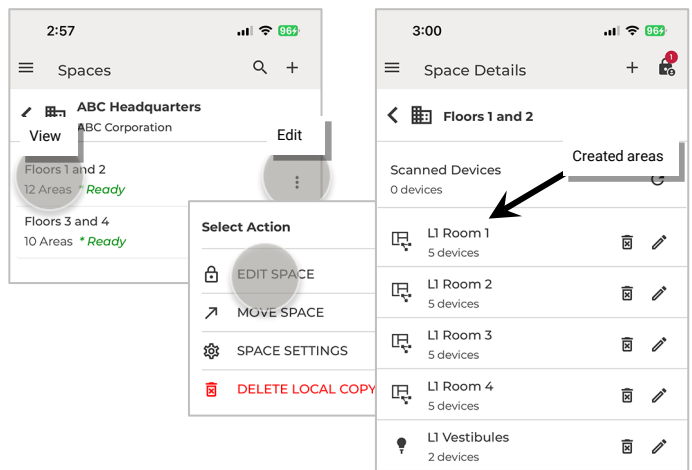
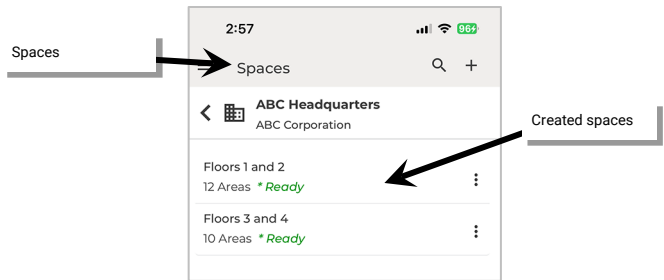
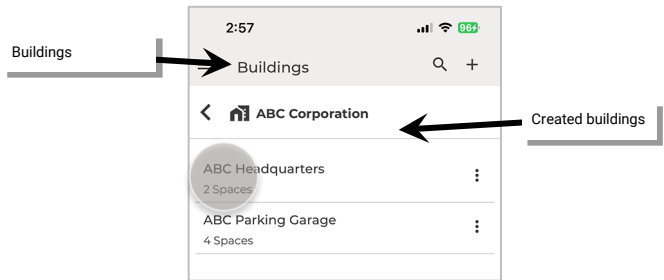
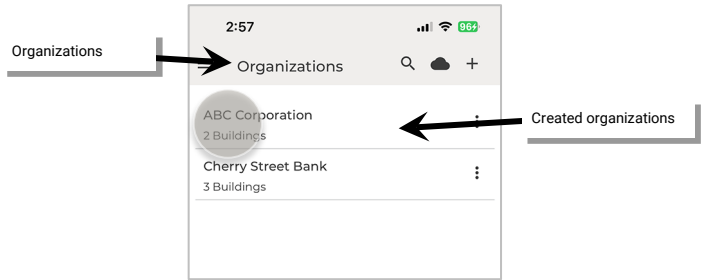
Spaces

There are no limits to the number of Spaces one Building can contain. Available Spaces will be listed in alphabetical order in the **Spaces** screen.

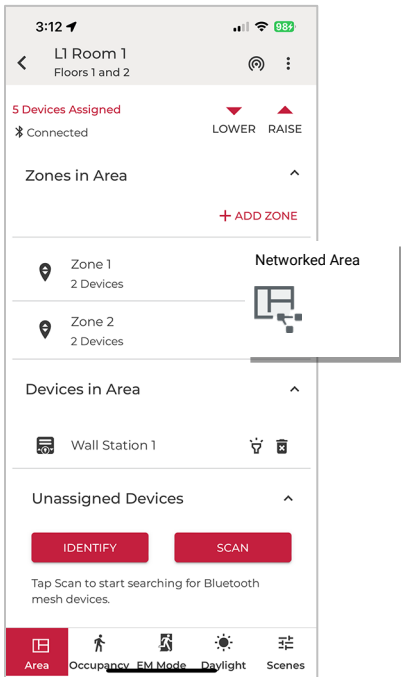
Areas


One Space can contain up to 28 Areas. Areas can be either viewed or edited.

- Tap a Space to view the available Areas.
- Tap \vdots at the end of the Space's row to enter **Edit Space** mode and lock the Space for programming. The available Areas will be displayed.
- Tap an Area to open it for viewing or programming.

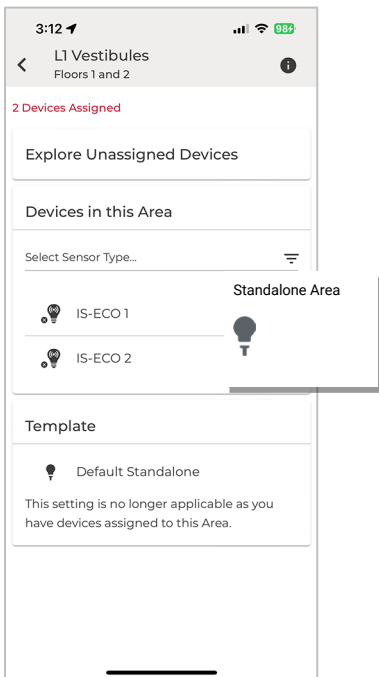
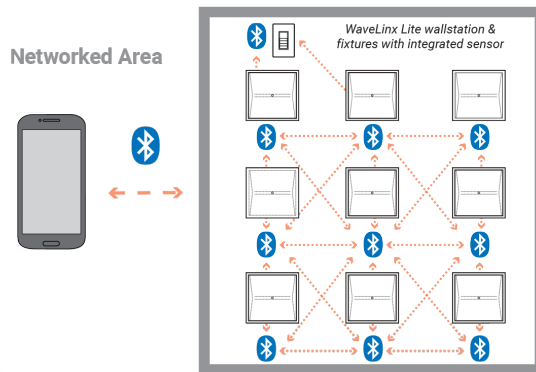



There are two distinct types of Areas in the WaveLinX LITE system.



Networked Area: Identified next to the Area name with the **network icon** , a Networked Area is a room in the facility where the devices in that room need to interact and communicate with each other. For instance, if a wallstation needs to control 9 light fixtures in a room, the wallstation and 9 light fixtures need to be provisioned in the same Area to allow this control. Up to 50 provisioned devices (40 best practice) may be assigned to a Networked Area. Devices in a Networked Area will create a unique Bluetooth mesh network among the provisioned devices. Integrated, fixture mount, or tilemount sensors are organized in zones within the Area while wallstations are organized directly in the Area.

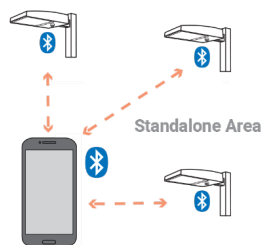
When opening a Networked Area, the mobile application will automatically try to connect to the Area's Bluetooth mesh network. It will connect through any line-voltage WaveLinX LITE device within range (within 60 feet/18 meters) that is provisioned to the Area. The mobile device can then communicate to any device (line voltage or battery powered)⁵¹ in that Area's Bluetooth mesh network.



Standalone Area: Identified next to the Area name with the **Standalone icon** , a Standalone Area contains devices that directly control lighting and operate autonomously without interaction with other controls. Having the device provisioned in a Standalone Area allows the device to operate independently and allows for adjustment of the device settings/behavior. There is no limit to the quantity of devices that may be provisioned in a Standalone Area. Devices within a Standalone Area do not form a Bluetooth mesh network.

When updating a device's settings, the mobile application will communicate directly to the device, meaning the mobile device running the WaveLinX LITE application must be within 60 feet/18 meters of the desired device.

A Standalone Area in Network Mode is different from modifying a device in Stand-Alone Mode because the device configuration is saved as part of the Organization's database.



- **Note:** Devices that require interaction with other devices to operate will not be available to assign to a Standalone Area, i.e., wallstations, switchpacks, and nodes.
- **Note:** Acoustic Ceiling Sensors cannot be assigned to Standalone Areas. Use Stand-Alone Mode for configuration unless they are in a Networked Area. See "Configure a Sensor in Stand-Alone Mode" on page 37 for details.

⁵¹ Once a battery powered wallstation is provisioned to a Networked Area, communication to the battery powered wallstation is routed through line voltage powered devices. At least one line voltage powered device in the same area must be in range of the battery powered wallstation to modify wallstation settings.




Zones

Select an Area to view the Area's zones.

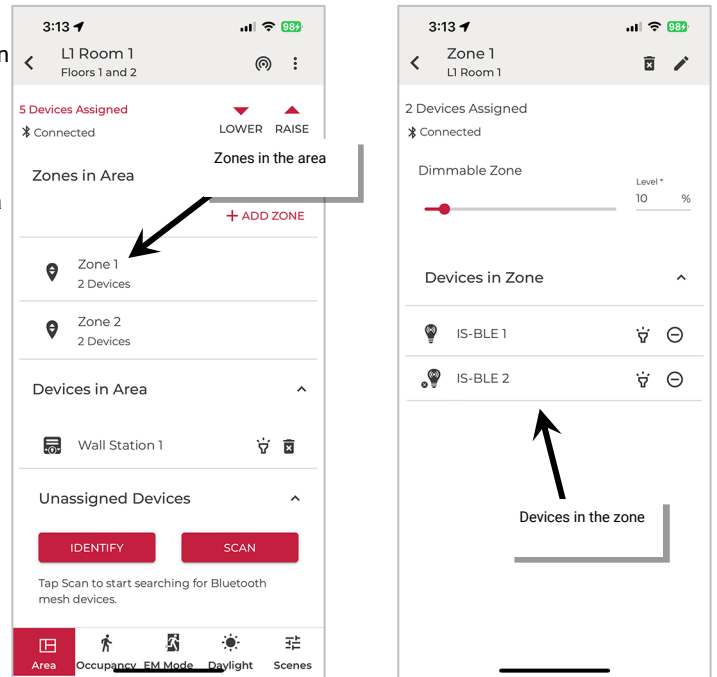
Zone: A zone is a group of lighting loads that should operate together in a Networked Area. For instance, fixtures in the same row may be grouped into a zone to allow uniform operation.

In a Networked Area, each device that directly attaches to/controls lighting loads will be assigned to a zone. The default Networked Area contains one zone. Additional zones can be created. A Networked Area is limited to no more than 16 zones.

Zones can be defined for dimmable devices, non-dimmable devices (on/off) or plug-load control (receptacle [on/off]). Each zone type is associated with a different zone icon:

-  Dimmable Zone
-  Non-Dimmable Zone
-  Receptacle Zone

Note: Standalone Areas will not contain zones. Zones are not needed for independent device operation.

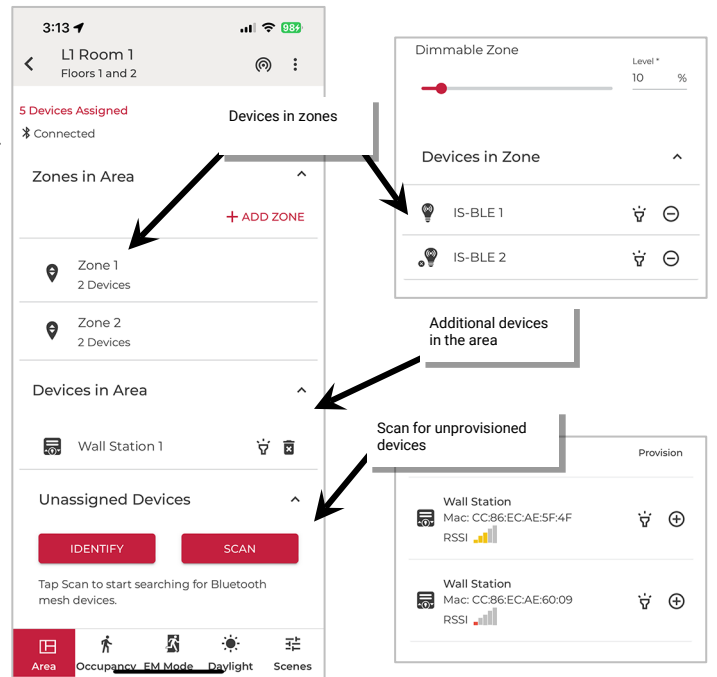


Devices

WaveLinx LITE devices operate autonomously with default out-of-the-box programmed behavior once they are installed and powered. They will work indefinitely in this mode unless they are programmed using the WaveLinx LITE Mobile App.

Using the Mobile App, devices will be organized and assigned to Areas. The process of assignment is referred to as **provisioning**.

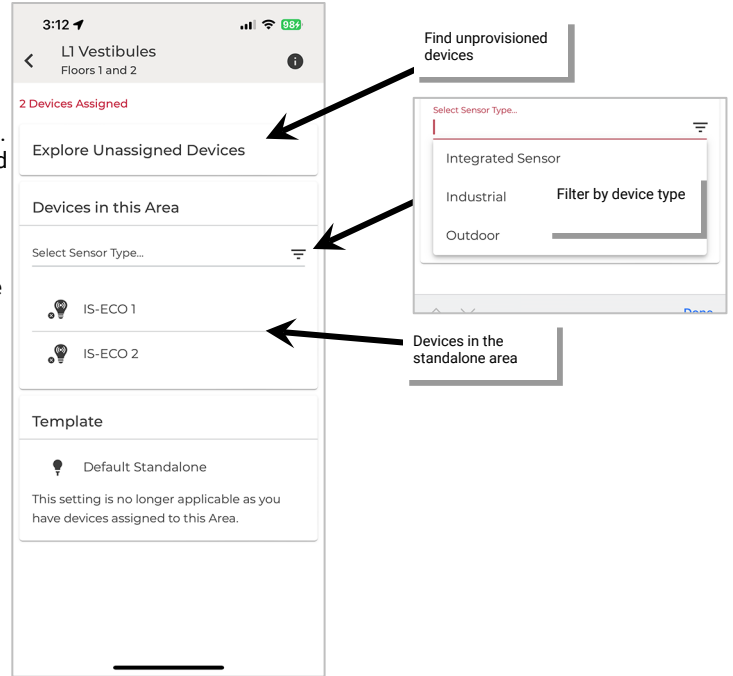
- Devices that directly attach to/control lighting loads will be assigned to a zone. Tap a zone to show the assigned control devices.
- Other devices such as wallstations will be found in a Networked Area in the **Devices in Area** section.
- If the device scan button is used, unprovisioned devices will appear in the **Unassigned Devices** section.



In a **Standalone Area**, the Area will only contain devices that attach to/control lighting loads as the device must operate independent of other controls. Wallstations, switchpacks and nodes cannot be assigned to this Area type.

Acoustic Ceiling Sensors also cannot be assigned to Standalone Areas. Use Stand-Alone Mode for configuration unless they are in a Networked Area. See “Configure a Sensor in Stand-Alone Mode” on page 37 for details.

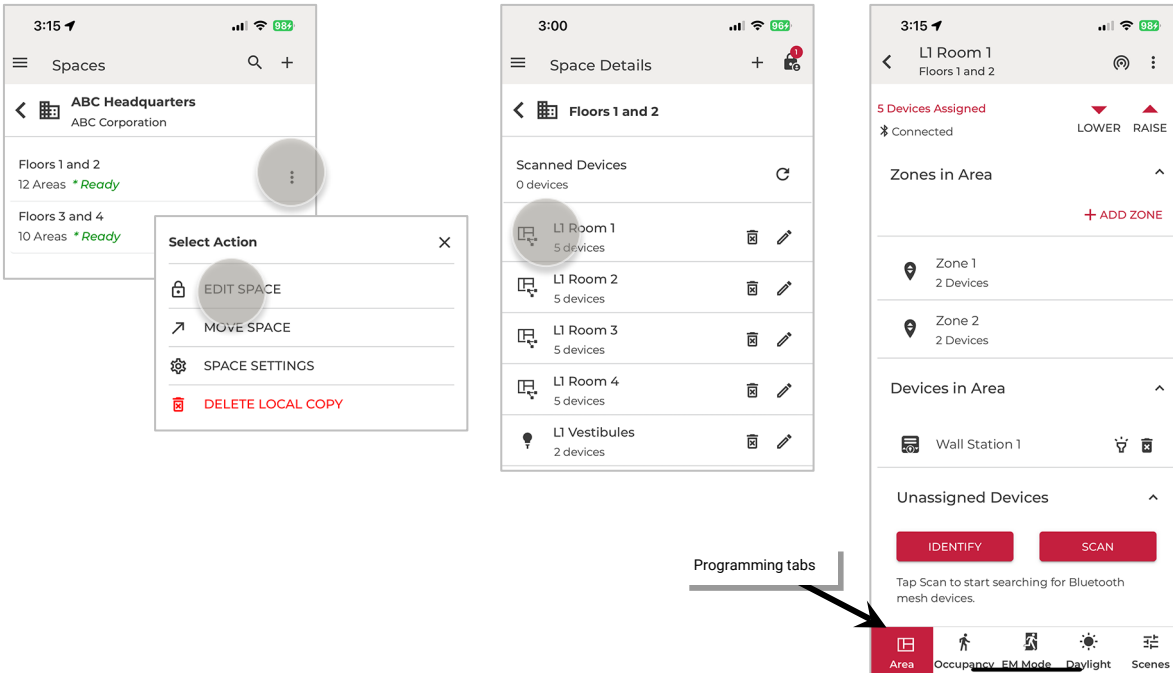
- Devices will show under the **Devices in this Area** section.
- Filters can be used to limit displayed devices to a selected device type.
- Tap **Explore Unassigned Devices** to perform a device scan to refresh unprovisioned devices.



Access Programming in the WaveLinX LITE Mobile App: Network Mode

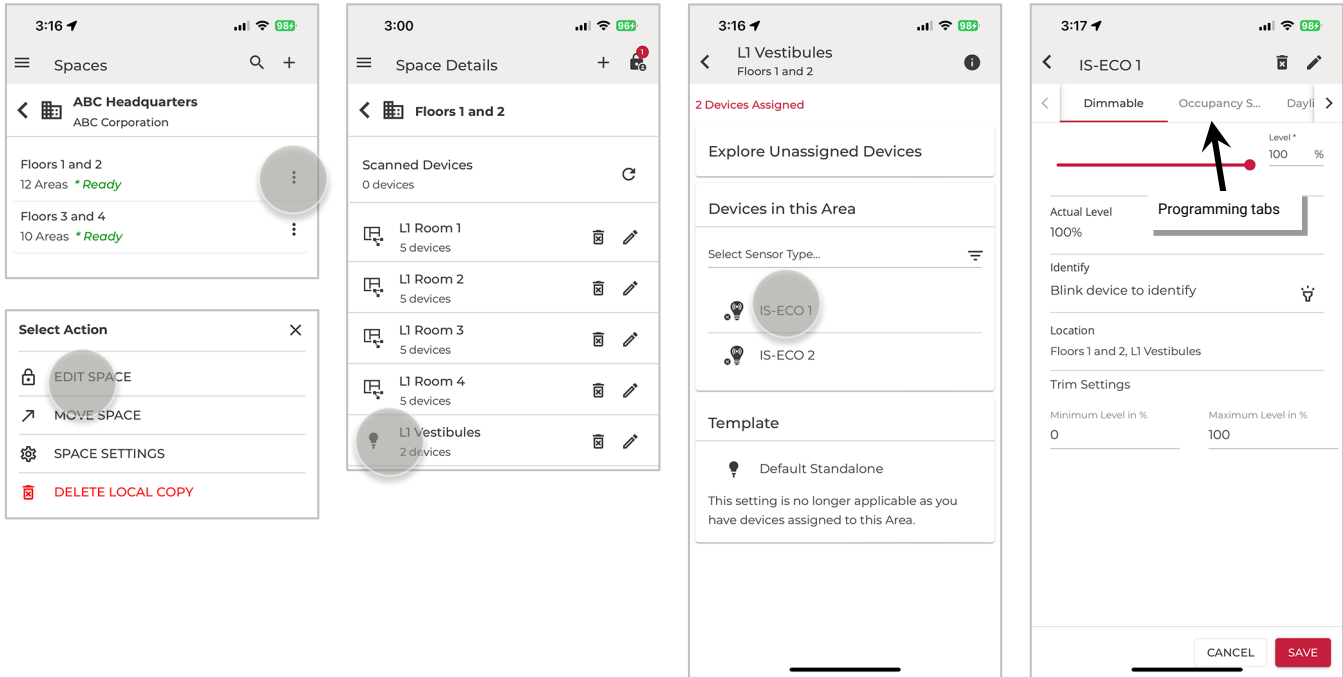
In a **Networked Area**, on screen tabs allow adjustment of programmed settings for the Area. The Space that the Area is assigned to must be opened in **Edit Space** mode to allow adjustment of programming. In **Edit Space** mode, tap on one of the tabs to view or change programming including:

- Area settings
- Occupancy settings
- Emergency mode settings
- Daylight settings
- Scene settings

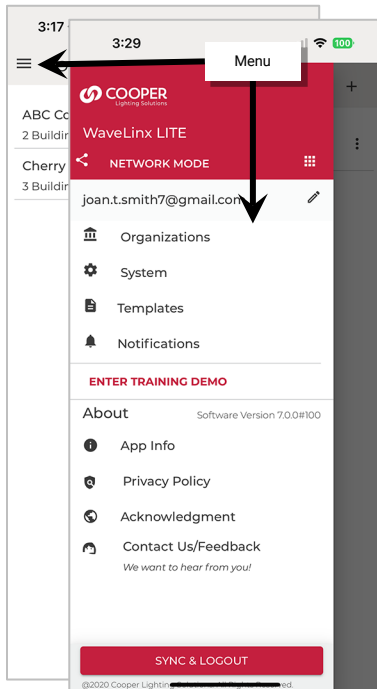


In a **Standalone Area**, all programming will be done by directly accessing the device's settings. The Space that the Area is assigned to must be opened in **Edit Space** mode to allow adjustment of programming. In **Edit Space** mode, tap on a device and use the tabs to change programming including:

- Device settings
- Occupancy settings
- Daylight settings



Use Menu Options: Network Mode

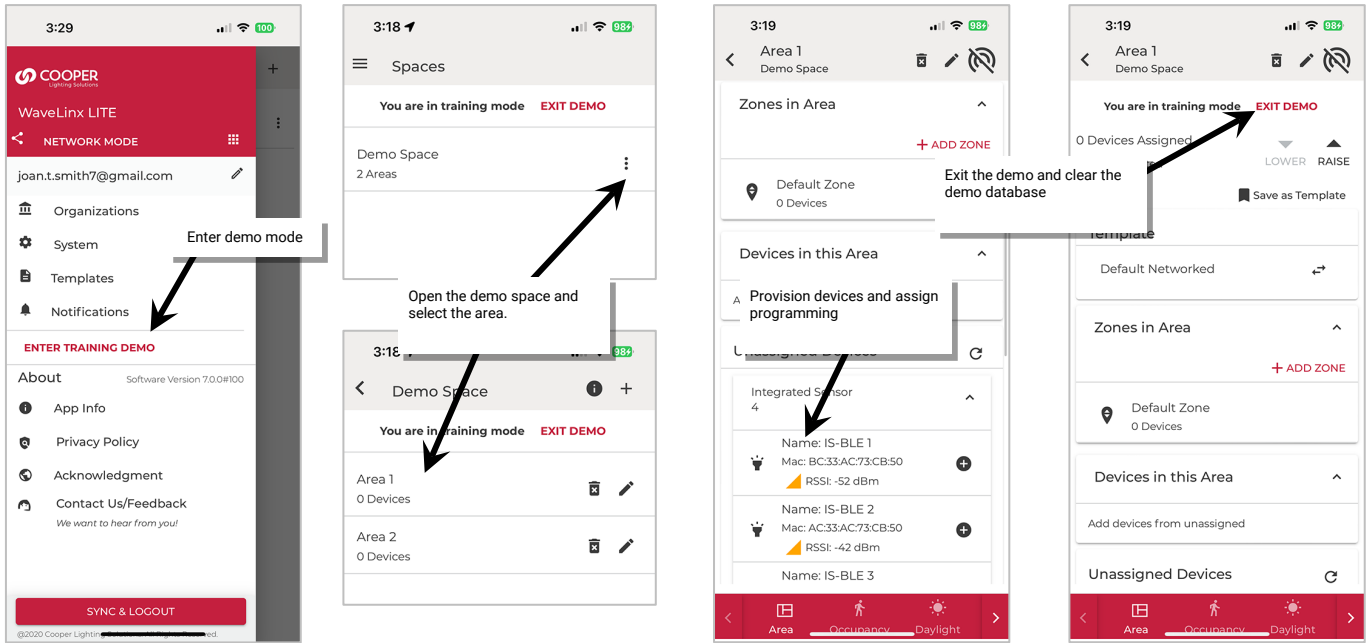


The WaveLinx LITE Network Mode menu allows access to additional features.

- **NETWORK MODE:** Tap ☰ to switch between **Stand-Alone** and **Network Mode** options. Make sure Network Mode is active.
- **Organizations:** Allows access to the programming for the created Organizations.
- **System:** Allows access to restore and firmware update options. See "Perform Management Functions" on page 195 for an in-depth overview.
- **Template:** Allows access to create or view templates. See "Create Templates for Initial Setup: Network Mode" on page 58 for an in-depth overview.
- **Notification:** Allows view of notifications from the mobile app. The app will display a notification icon when notifications are available.
- **About:** Contains information about the mobile application version and policies.

Use the Training Demo: Network Mode

Enter the training demo to learn how to set up a basic WaveLinx LITE features. The demo does not require any connection to WaveLinx LITE equipment. It allows offline exploration of the basics of navigation, device provisioning and programming (demo mode may not contain access to all features). Exit demo mode to reset the demo database and return to normal operation.



Create Templates for Initial Setup: Network Mode

This section is written specifically for commissioning agents who are performing the initial WaveLinx LITE equipment setup in Network Mode. For facility owners/other personnel that are using the WaveLinx LITE Mobile App to administer an Organization that has already been programmed, skip to “Modify Programming in Networked Areas: Network Mode” on page 100 or “Modify Programming in Standalone Areas in Network Mode” on page 150.

In Network Mode, the mobile app automatically provides two default templates which will be used for creating new Areas unless a customized template is made. **If the default template settings match the settings desired no custom templates are necessary. Skip this section and proceed to “Basic Organization Setup Using the Mobile Application: Network Mode” on page 73.**

Default Networked Area Template Settings:

- **Zones** created: 2
 - Default dimmable zone
 - Default dim level is 10%
 - Zone minimum level 0%
 - Zone maximum level 100%
 - Default Non-Dimmable Zone
 - Default OFF
 - Zone maximum level 100%
- **Occupancy Sets Created:** 1 occupancy set
 - Both default zones are assigned to default occupancy set
 - Occupancy mode: Occupancy
 - Occupancy hold time: 20 minutes⁵²
 - Energy saver mode: Enabled
 - Energy hold time: 10 minutes
 - Occupied level: 100%/ON⁵³
 - Energy saver level: 50%/ON
 - Unoccupied level: 0%/OFF
- **Scene Levels** for zones in the Area:

Scene	Light Level Response	
OFF	0%	OFF
Scene 1	100%	ON
Scene 2	70%	ON
Scene 3	50%	ON

Scene	Light Level Response	
Scene 4	30%	ON
Scene 5	10%	ON
Scene 6	1%	ON

Default Standalone Area Template

There are two standalone area templates that can be created **BUT only the Default Standalone-IS Template will be used in the Standalone Area.**

Default Standalone -IS Template

- Device low end trim settings: 0%
- Device high end trim settings: 100%
- Occupied hold time: 20 minutes^{52, 54}
- Energy saver mode: Enabled
- Energy hold time: 10 minutes
- Occupied level: 100%/ON⁵³
- Energy saver level: 50%
- Unoccupied level: 0%/OFF

The Default Standalone-OCS Template will only be used for Acoustic Ceiling Sensors that are being configured in Stand-Alone Mode and should not be used for Network Mode: Standalone Areas.

Before beginning the setup, first create any templates that will be needed for the Areas. In a typical facility, many rooms may have common layouts that do not match the default templates provided. Create custom templates for these locations to streamline setup. By adjusting the settings in a custom template, it reduces the time spent having to apply the settings to each Area.

Create Custom Templates: Network Mode

Once logged in in Network Mode, create customized templates for Networked and Standalone Areas as needed to match common layouts.

Custom Template Details

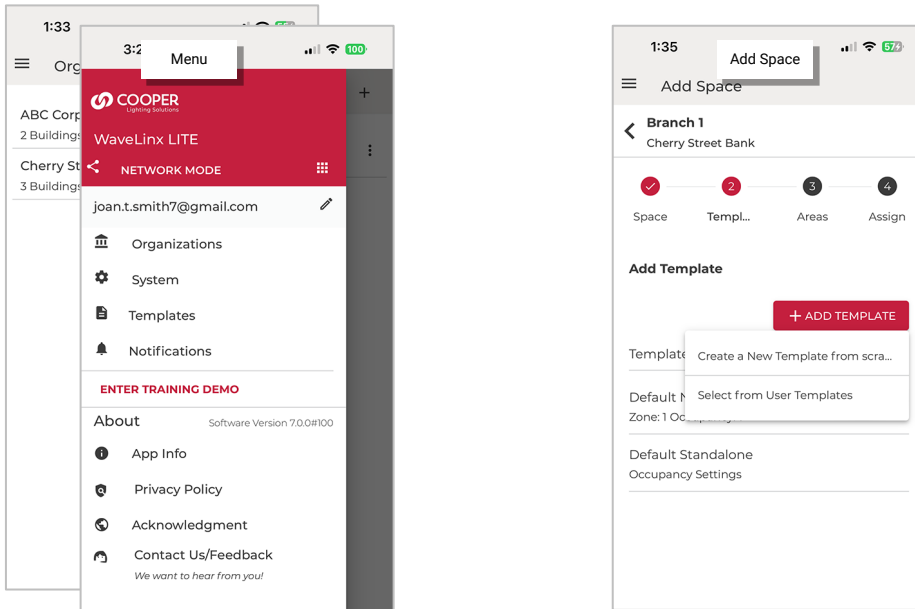
- Once an Area is created from a custom template, it remains linked to the template until devices are provisioned in the Area. This means that it is possible to edit a template and depending on where the template is edited, have the Areas created from that template update automatically if they do not yet have provisioned devices.
- Once an Area has provisioned devices, the Area is no longer linked to the custom template. Each provisioned Area will need to be manually updated if they need to match new template settings due to the need for the mobile device needing to be in the vicinity of provisioned devices.
- Once created, an Area will display the template details at the top of the Area screen until devices are provisioned in the area. Once devices are provisioned, the Area will display template details at the bottom of the screen.
- Custom templates are stored to a registered user’s cloud account so that they can be recalled for future projects. The template is not stored in the Space or Organization.
- Custom templates can be shared with other registered users of the WaveLinx LITE Mobile App. For details on sharing templates, see “Share Templates with other Registered Users” on page 71.

⁵² Energy saver state issues after the energy hold time expires. Then, dimmable lighting remains at energy saver level until the occupancy hold time expires, triggering the unoccupied state. Non dimmable and receptacle zones will remain at occupied level until 30 seconds after the occupied hold time expires.

⁵³ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

⁵⁴ Occupancy sensor is automatically set to Occupancy mode. Vacancy mode is not supported in a standalone area.

Templates can be created from the WaveLinx LITE Mobile App's menu (recommended method) or through the process of completing the **Add Space** wizard.



The steps in this section describe using the menu option to create templates although the steps for either option will be similar. The user does not need a Bluetooth connection to WaveLinx devices or to the internet to create a custom template, although an internet connection will be necessary to sync the template to the cloud. If needed, the template sync can be performed later when an internet connection is available.

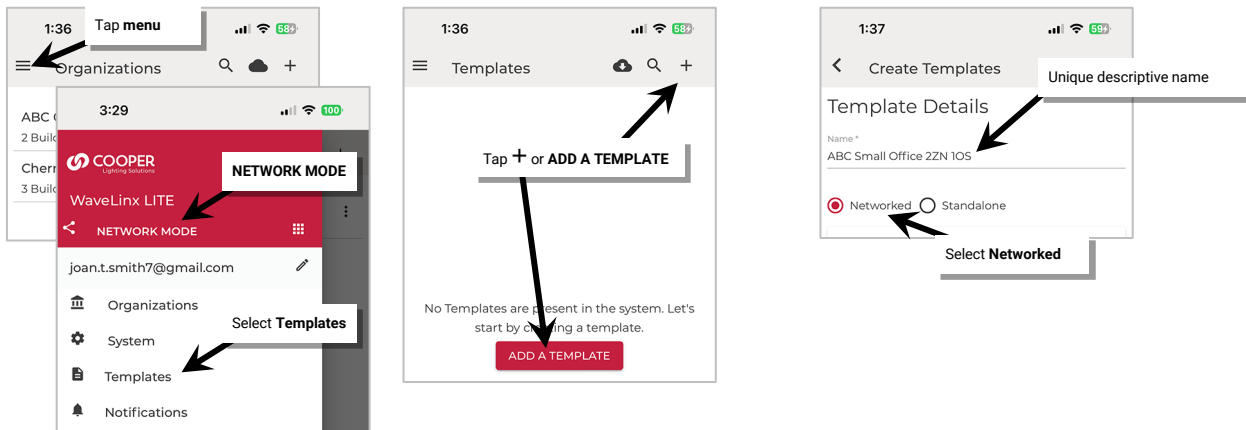
Create a Networked Area Custom Template: Network Mode

Templates for a **Networked Area** allow customization of:

- **Zones:** Define the quantity of zones, the high-end and low-end trim for the zone, and the default dim level (10% is typical).
- **Occupancy Sets:** Define the number of occupancy sets needed in the Area, assign the zone(s) to the occupancy set(s), change occupancy set mode (occupancy/vacancy), hold time and each assigned zone's response for occupied, energy saver (dimnable zones only) and unoccupied levels/states.
- **Scenes:** Define the light level that each zone should assume when scenes commands are used.

To create a custom template for a Networked Area:

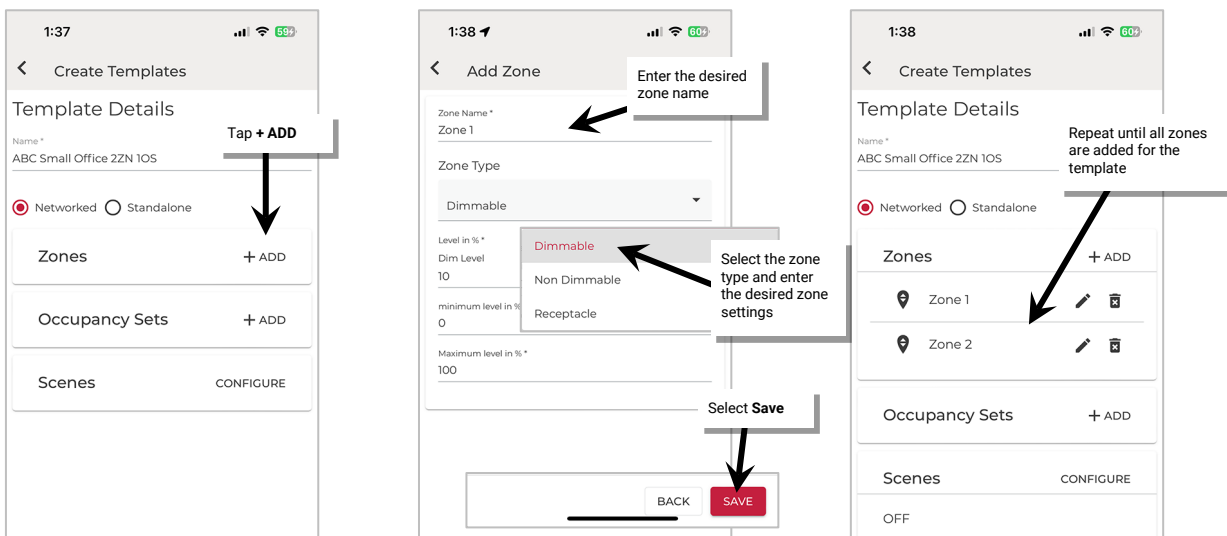
- 1: Launch the WaveLinx LITE Mobile App.
- 2: Tap **Menu** ≡ and use **⋮** to select **Network Mode**. Then select **Templates**.
- 3: If this is the first template created, tap **ADD A TEMPLATE**, otherwise tap **+** to add a new template.
- 4: Type a unique descriptive name for easy identification and then tap **Networked**.



5: Next to **Zones**, tap **+ ADD** and when prompted, enter the desired zone name for the first zone along with the zone settings:

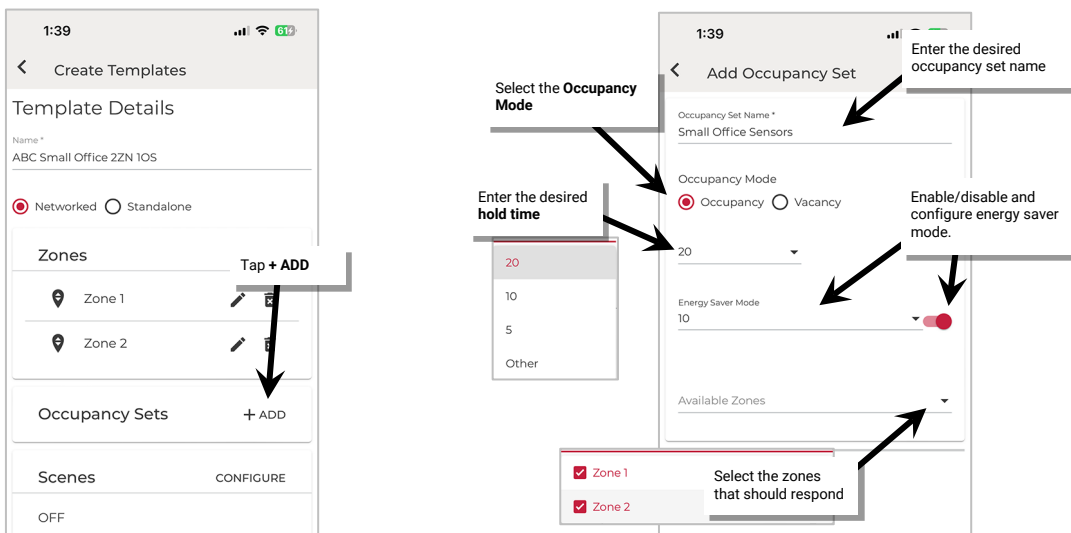
- **Zone type:** The zone type determines the options and behavior for the zone. For dimmable devices, select **Dimmable** control. For relays or lighting loads without dimming capability, select **Non Dimmable** control. For devices controlling plug loads, select **Receptacle**. Both **Non Dimmable** and **Receptacle** zone types follow first ON, last OFF functionality (command @ 1% to 100% = ON, command @ 0% = OFF).
- **Dim Level:** (dimmable zone type only) The light level that a newly provisioned device should go to when it is added to the zone. A low level (default 10%) is recommended. When a device is provisioned and assigned to this zone, it will dim to the defined level along with other devices in the zone. Unprovisioned devices will be ON to 100% if there is occupancy in the location, allowing for easy identification of unprovisioned vs. provisioned devices.
- **Minimum level (low end trim):** (dimmable zone type only) The default setting is 0%. Sets the lowest level that dimming commands can set the dimmable light level to. Typically used to provide a desired aesthetic. Regardless of the minimum level set, a 0% command will turn the load OFF.
- **Maximum level (high end trim):** The default setting is 100%. For dimmable zones, this sets the highest level that the dimming command can set the dimmable light level to. Typically used to save energy or to provide a desired aesthetic. For non-dimmable or receptacle zone types, the maximum level can be adjusted to set the desired ON level if dimmable light sources are assigned to the zone. When an ON command is received, the light source will be commanded ON to the maximum level set.

6: Repeat step 5 until all necessary zones are created for the template, then move on to the next step.

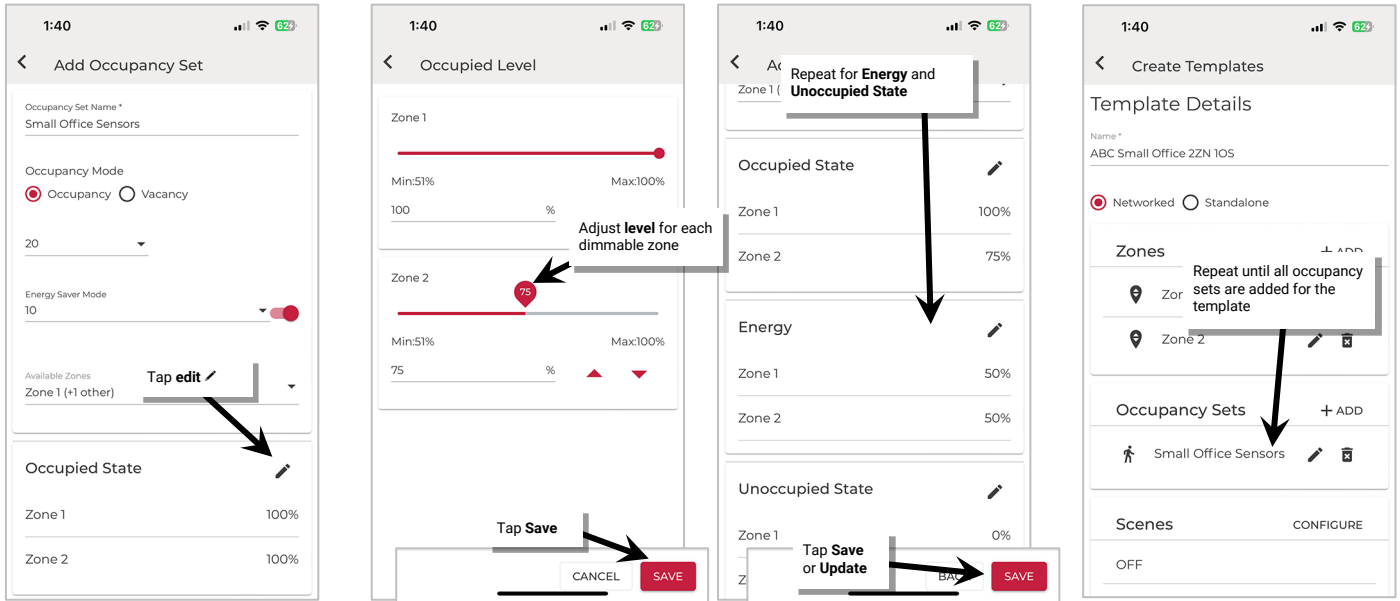


7: Next to **Occupancy Sets**, tap **+ ADD** and when prompted, enter the desired name for the occupancy set and the desired occupancy mode. Select the desired hold time and enable/disable and configure energy saver mode.

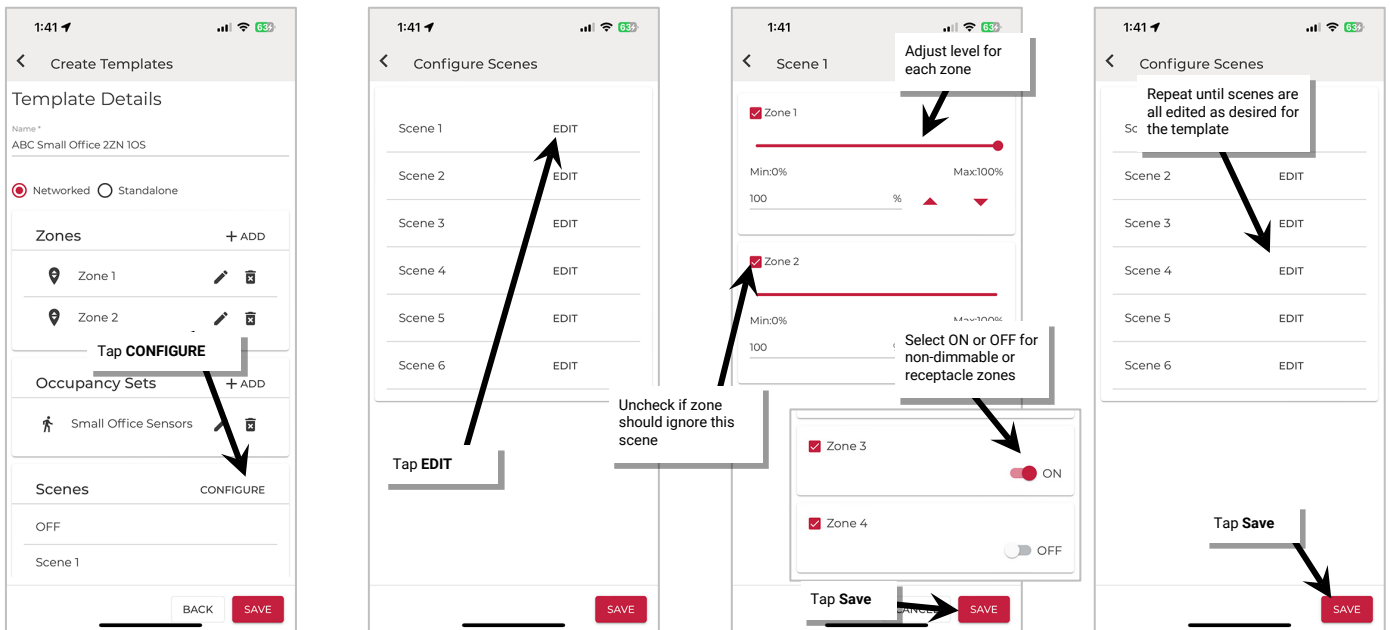
8: Tap the drop down for **Available Zones** and place a checkmark next to the zone(s) that should respond to this occupancy set.



- 9: In the **Occupied State** section⁵⁵, tap **edit** and set the **level** for each zone for when the occupied action occurs. The level set cannot be lower than the defined level for energy saver. Tap **SAVE**.
- 10: For dimmable zone types locate the **Energy** section and tap **edit**. Set the **level** for each dimmable zone for when the energy saver mode occurs. The level set cannot be higher than the defined level for the occupied state. Tap **SAVE**.
- 11: Locate the **Unoccupied State** section, and then tap **edit**. Set the **level** for each zone for when the unoccupied action occurs. The level set cannot be higher than the defined level for the **Energy** level. Tap **SAVE** and then tap **SAVE** again.
- 12: Repeat steps 7 through 12 for any additional occupancy sets needed for the template before moving on to the next step.

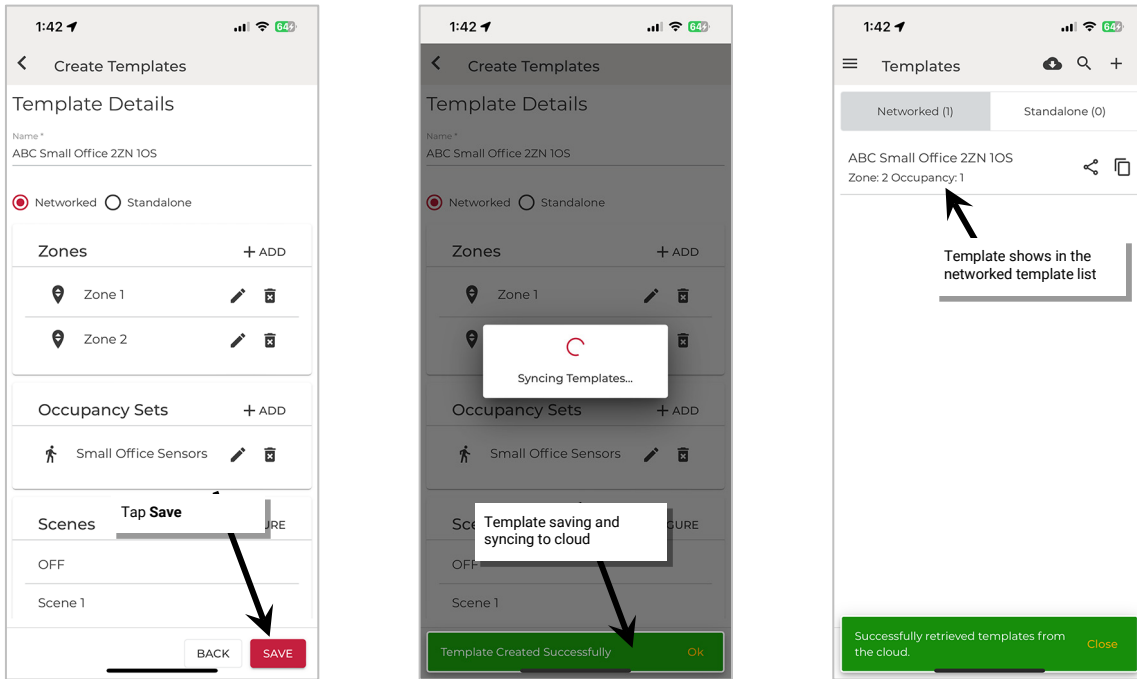


- 13: Next to **Scenes** tap **CONFIGURE**.
- 14: Tap **EDIT** next to a scene and then adjust each zone to the desired light **level**. Uncheck the zone if it should **ignore** the scene. Zones that are unchecked will remain at their prior light level when this scene is recalled. Once all zones are set, tap **SAVE**.
- 15: Repeat step 13 for each scene until all the desired scenes are defined. Once done, tap **SAVE**.



⁵⁵ If Vacancy mode is selected, the occupied state options will not be available.

16: The template is complete. In the **Template Details** screen, tap **SAVE** to save the template to the mobile device. If there is an internet connection, the templates will automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Network Mode" on page 66 for details.



17: Repeat the steps in this section to add additional Networked Area templates for any common Area configurations.

Create a Template from an Existing Networked Area: Network Mode

The mobile application allows creation of a template from a previously programmed Networked Area.

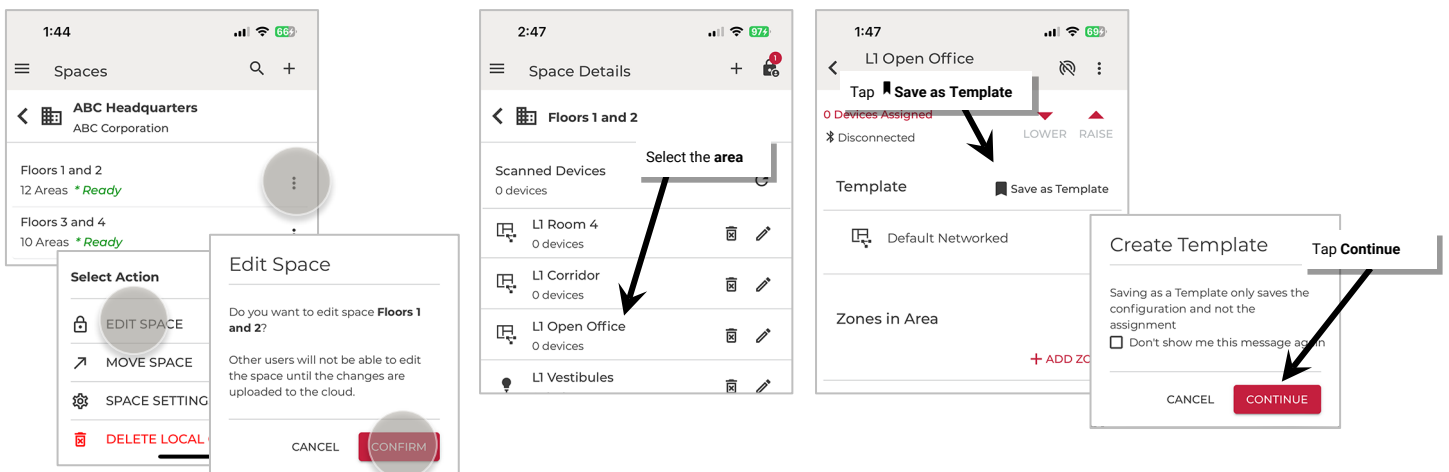
Before performing the steps below, make certain that the Area is configured with the desired settings.

To create a template from an existing Area:

- 1: Launch the WaveLinX LITE Mobile App in Network Mode.
- 2: Navigate to the Organization's **Spaces** and then tap the **more icon** next to the desired Space.
- 3: Tap **EDIT SPACE** and then tap **CONFIRM** to lock the Space for editing.
- 4: Tap the desired **Networked Area**.
- 5: Locate the template section on the screen and, tap **Save as Template**.

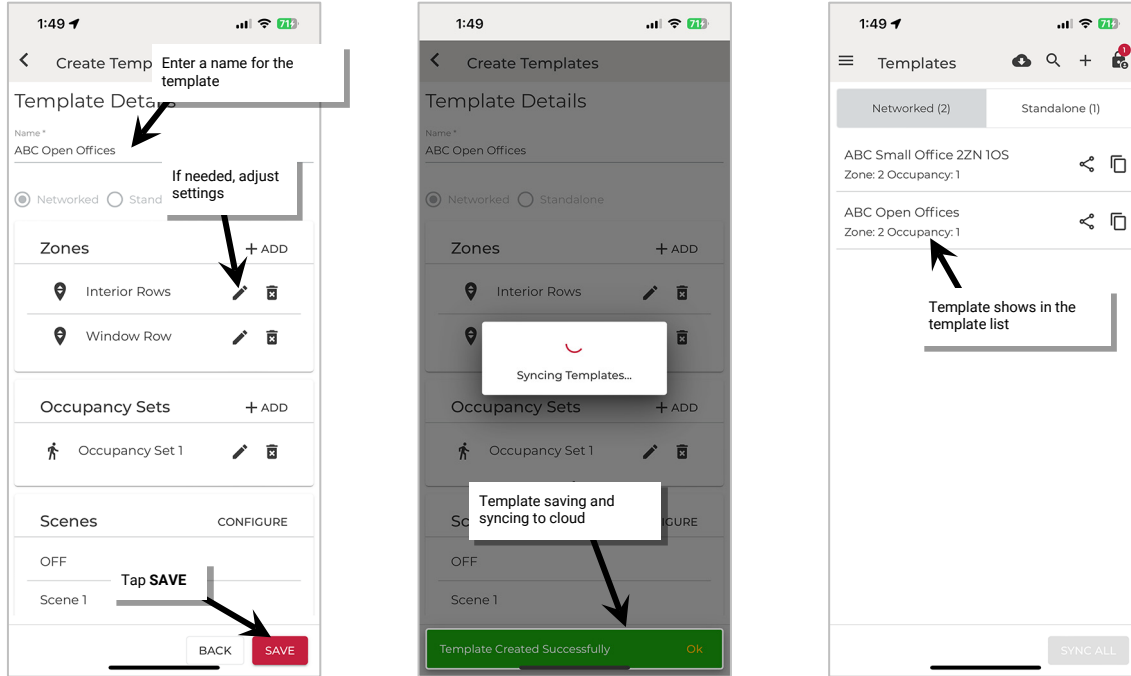
Note: This section will be at the top or bottom of the screen depending on whether devices have been provisioned in the area.

6: When prompted, tap **Continue**.



7: Type a unique descriptive name for easy identification.

8: If needed, adjust the template settings and tap **SAVE**. The template will be saved to the mobile device. If there is an internet connection, the template will automatically sync to the user's cloud account and will display as an available template in the template screen. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Network Mode" on page 66 for details.



Create a Standalone Area Custom Template: Network Mode

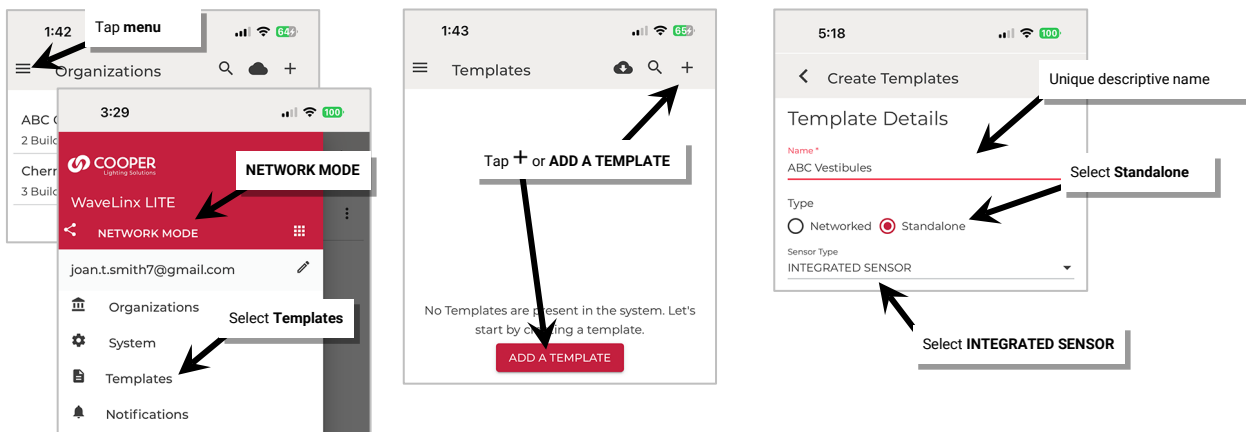
There are two standalone area templates that can be created **BUT only the Integrated Sensor template will be used in the Standalone Area**. This template will apply for Ambient Integrated Sensors, Industrial Fixture Mount High Bay/Low Bay Sensors, Outdoor Fixture High/Low Mount Sensors, and Tilemount Sensors.

The Integrated Sensor templates for a **Standalone Area** allow customization of:

- **Occupancy Sensor Settings:** Adjust the hold time, occupied, energy saver and unoccupied response.
- **Trim Settings:** Adjust the low-end and high-end trim levels.

To create a custom template for a Standalone Area:

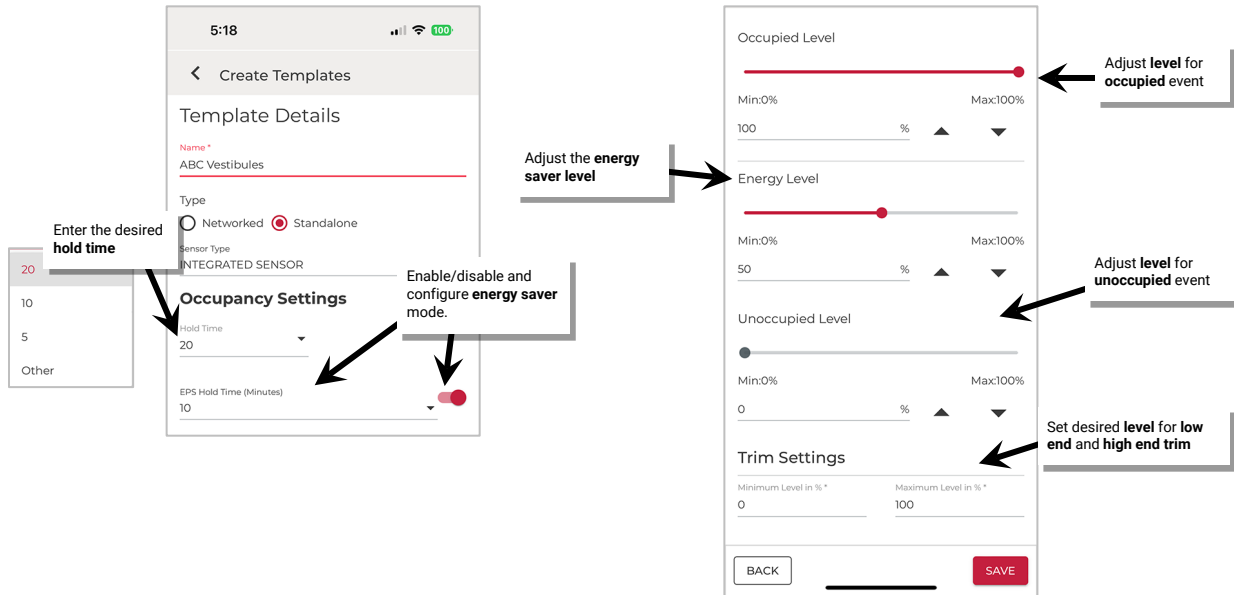
- 1: Launch the WaveLinx LITE Mobile App.
- 2: Tap **Menu** ≡ and use **⋮** to select **Network Mode**. Then select **Templates**.
- 3: If this is the first template created, tap **ADD A TEMPLATE**, otherwise tap **+** to add a new template.
- 4: Type a unique descriptive name for easy identification. Tap **Standalone** and then select **INTEGRATED SENSOR** from the **Sensor Type** drop down.



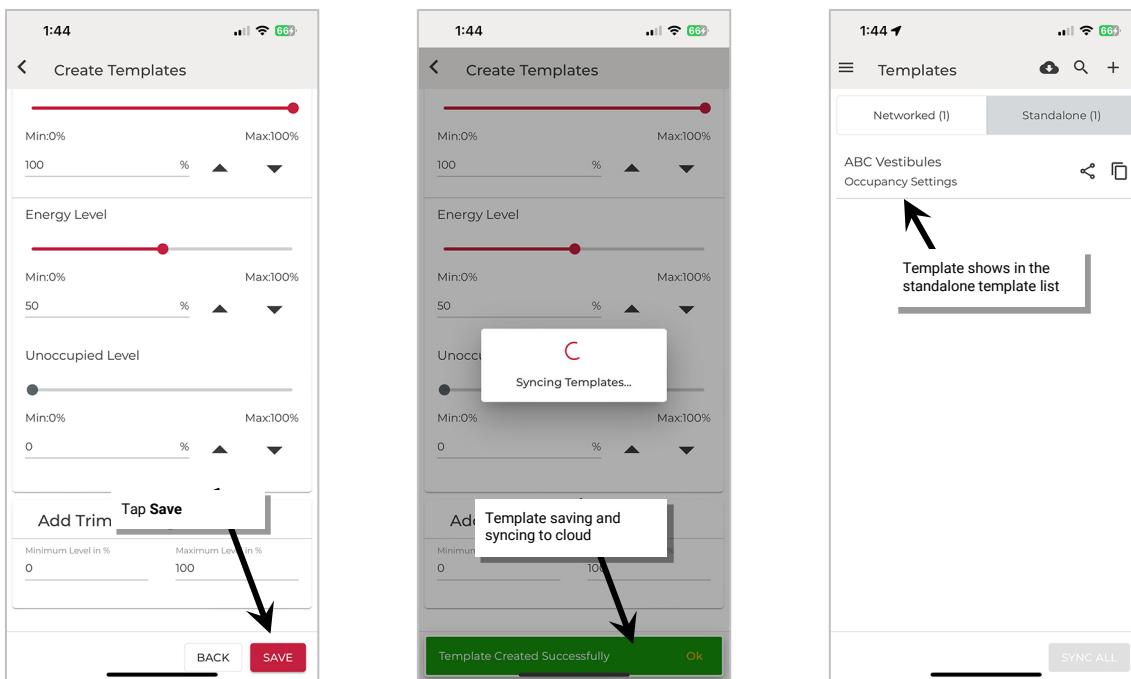
5: Next, set the default device occupancy settings. Select the desired **hold time** and then enable/disable and configure **energy saver mode**. Define the light level commands for when the **occupied**, **energy saver (dimmable load only)**, and **unoccupied** events occur. The occupied level cannot be lower than the defined level for energy saver mode. The energy saver level cannot be higher than the level defined for the occupied level. The unoccupied level cannot be higher than the level defined for the energy level.

6: Next, set the desired default trim settings for the devices that will be provisioned in this Standalone Area.

- **Minimum level** (low end trim): Sets the lowest level that dimming commands can set the dimmable light level to. Typically used to provide a desired aesthetic. The default setting is 0%. Regardless of the minimum level set, a 0% command will turn the load OFF.
- **Maximum level** (high end trim): Sets the highest level that the dimming command can set the dimmable light level to. Typically used to save energy or to provide a desired aesthetic. The default setting is 100%.



7: Review the settings, and then tap **SAVE**. The template will be saved to the mobile device. If there is an internet connection, the template will automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Network Mode" on page 66 for details.




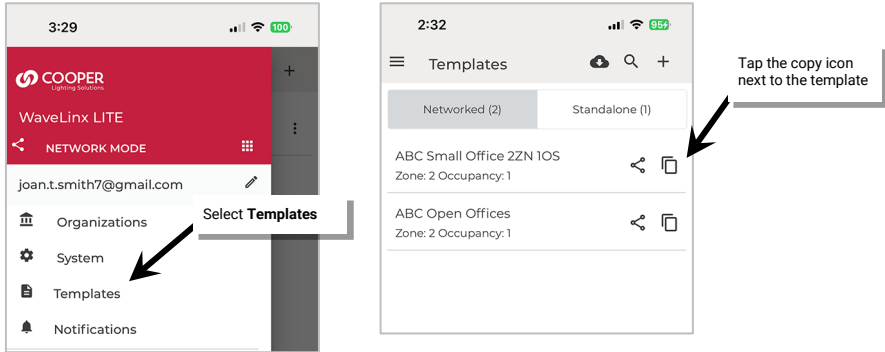
8: Repeat the steps in this section to add additional Standalone Area templates for any common Area configurations.

Copy an Existing Network or Standalone Area Template: Network Mode



The mobile application allows copying of an existing template to create a new template.

To copy a template:

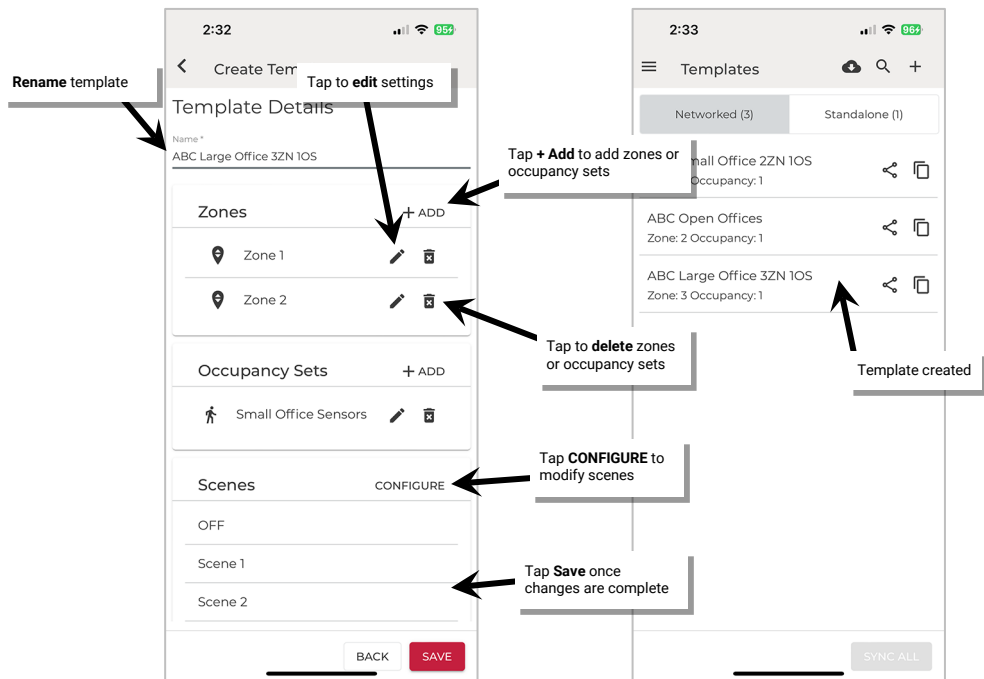
1: From the Network Mode menu, select **Templates**, and then locate the template to copy. Tap the **copy icon** .



2: Give the template a new unique name and then edit the template to make the desired changes:

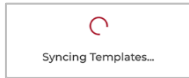
- Tap the **edit icons**  to modify existing settings.
- Tap the **delete icons**  to delete zones or occupancy sets.
- Tap the **+ Add** option to add additional zones or occupancy sets.
- Tap **Configure** to modify scene levels.

3: Once the changes are complete, tap **SAVE**. If there is an internet connection, the updated template will also automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Network Mode" on page 66 for details.



Sync Templates: Network Mode

If there is an internet connection, the template will automatically sync to the registered user's cloud account when the template is saved.



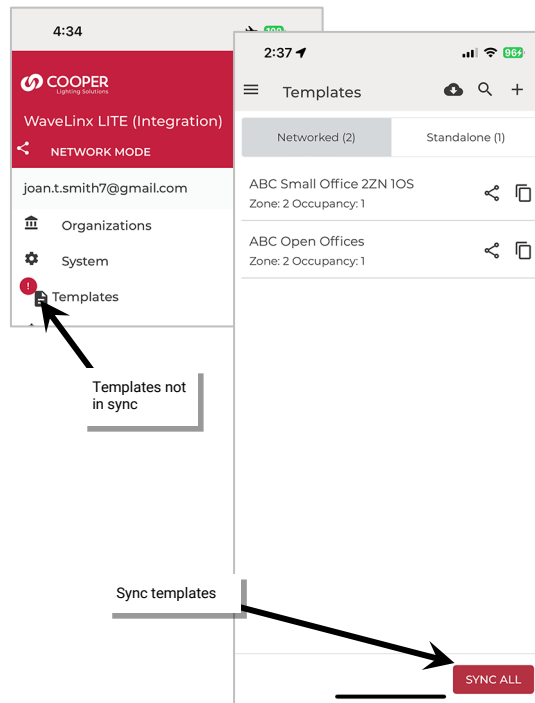
If there is no internet connection, the template will be saved to the mobile device only and a message will be displayed.



An exclamation point icon **!** will appear on the menu templates option to indicate a sync issue.


To sync the templates, established an internet connection in most cases, the templates will then sync automatically.

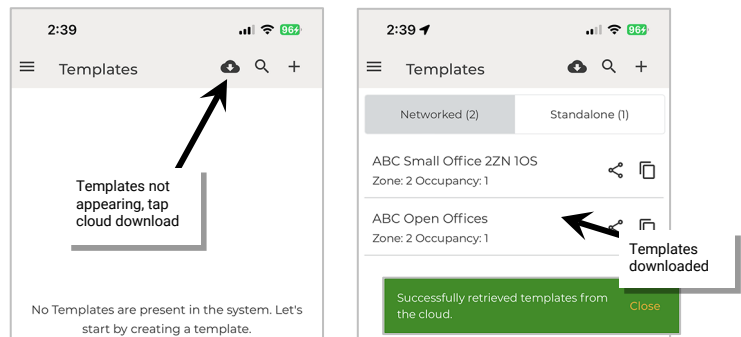
If the automatic sync does not occur, tap **Sync All** at the bottom of the template screen.



When the templates page is opened, on a device with an internet connection, templates will load from both the local device and from the user's cloud account.

If the user needs to login to their pre-existing WaveLinx LITE Mobile App using a new mobile device, previously created templates should appear automatically when the templates screen is opened.

If there is no internet connection available when the templates screen is opened on a new mobile device, templates may appear to be missing. Tap the cloud **download icon**  to download the templates from the user's cloud storage.



Use a Template to Create an Area: Network Mode

Once a template is created, use the template to create Areas in Network Mode. During the Area creation, either through the setup wizard or when manually creating Areas, the option will be given to load templates to create the Area(s). For details on using templates to create Areas:


- For information on using templates to create Areas in the Setup Wizard, see "Step 2: Load Templates using the Wizard" on page 76 and "Step 3: Create the Area(s) using the Wizard" on page 77.
- For information on using templates to create Areas manually, see "Step 3: Create the Area(s)" on page 82.

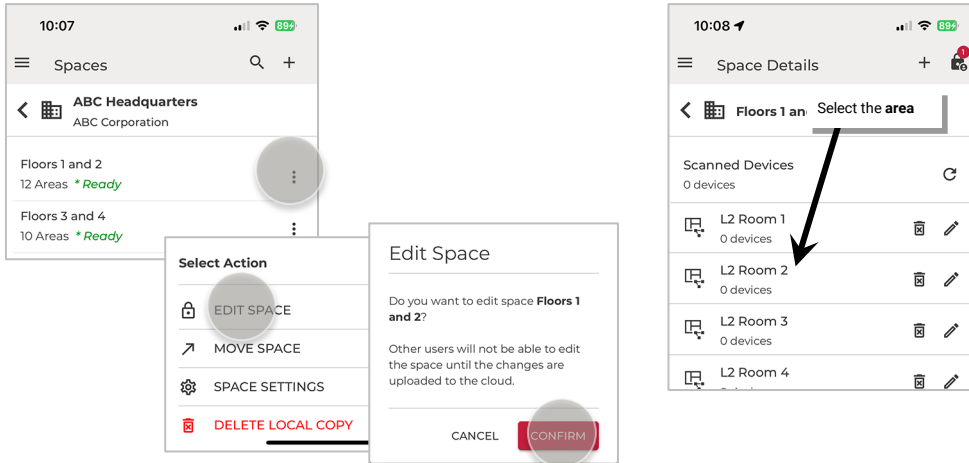
Template Maintenance: Network Mode


Revert a Networked Area to the Default Template: Network Mode

If no devices have been provisioned in a Networked Area that has been created from a custom template, the Area can be changed back to the default template settings using the **Revert Template** option. This option will not be available once devices are provisioned to the Area.

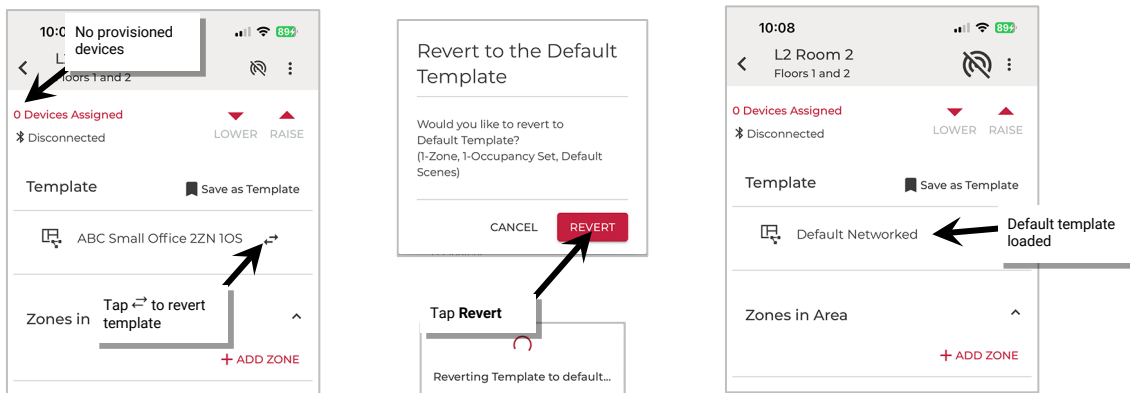
To revert an Area to the default template:

- 1: Launch the WaveLinx LITE Mobile App.
- 2: Navigate to the Organization's **Spaces** and then tap the **more icon**  next to the desired Space.
- 3: Tap **EDIT SPACE** and then tap **CONFIRM** to lock the Space for editing.
- 4: Open the Networked Area.



- 5: In the template section, tap the **revert icon** .

- 6: When prompted, confirm by tapping **Revert**. The Area template should reflect **Default** with the default configuration of zones, occupancy set settings, and scene settings.



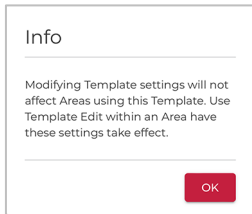
Modify a Template: Network Mode

Templates can be modified to change the zone, occupancy set and scene settings. Once an Area is created, it is linked to the template until devices are provisioned in the Area. There are two methods to modifying a template:

- Modifying templates from the Network Mode app menu: This method will modify the template for future use BUT will not automatically update existing Areas created from the template.
- Modifying templates from a Networked Area: This method will modify the template for future use AND will automatically update existing Networked Areas created from the template that have no provisioned devices. This includes Networked Areas in other Organizations if the same template was used. Networked Areas that have provisioned devices will not update and will need to be modified manually if the same changes are desired.

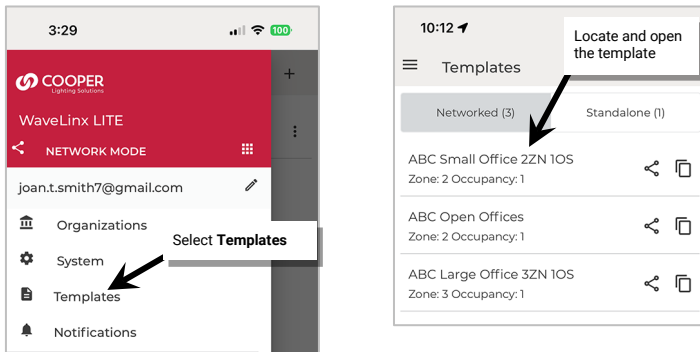
Modifying Templates from the App Menu: Network Mode

This method will modify the template for future use BUT will not automatically update existing Areas created from the template.



To modify an existing template:

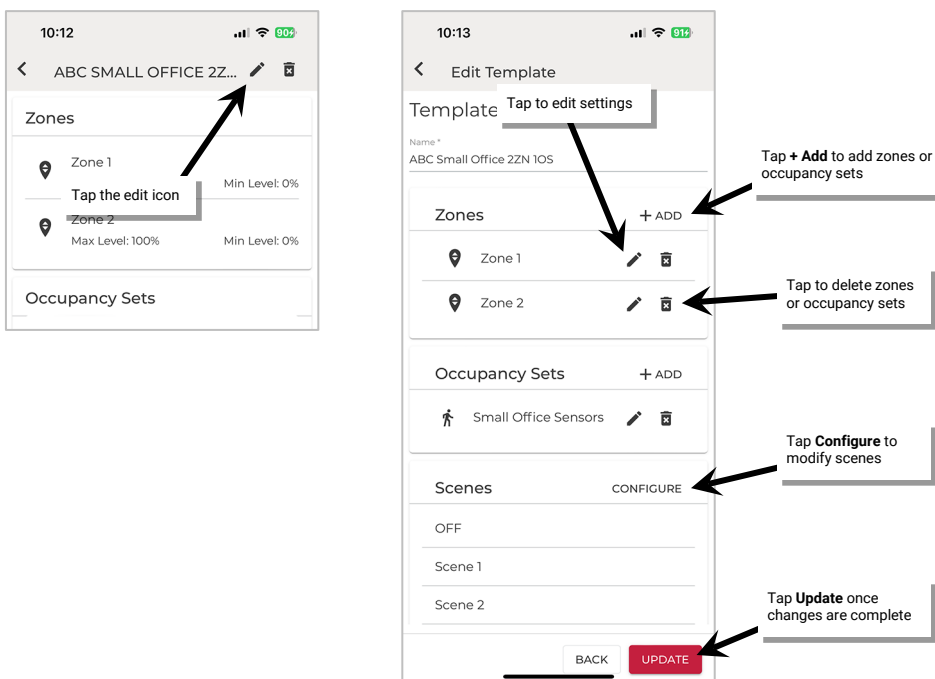
1: From the Network Mode menu, select **Templates**, and then locate and open the template to modify.



2: Tap on the **edit icon** . In the template details screen, make the desired changes:

- Tap the **edit icons** to modify existing settings.
- Tap the **delete icons** to delete zones or occupancy sets.
- Tap the **+ Add** option to add additional zones or occupancy sets.
- Tap **Configure** to modify scene levels.


3: Once the changes are complete, tap **UPDATE** to update the template. If there is an internet connection, the updated template will also automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Network Mode" on page 66 for details.

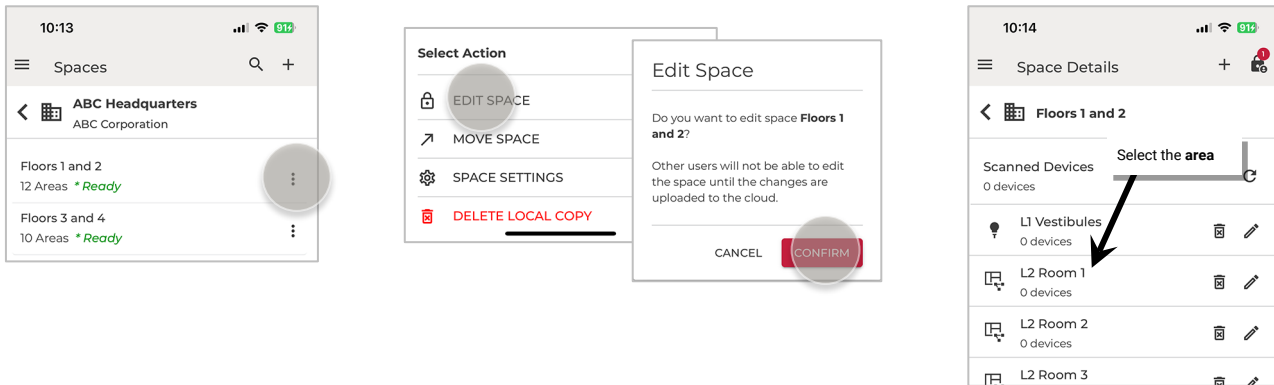




Modifying Templates from a Networked Area: Network Mode

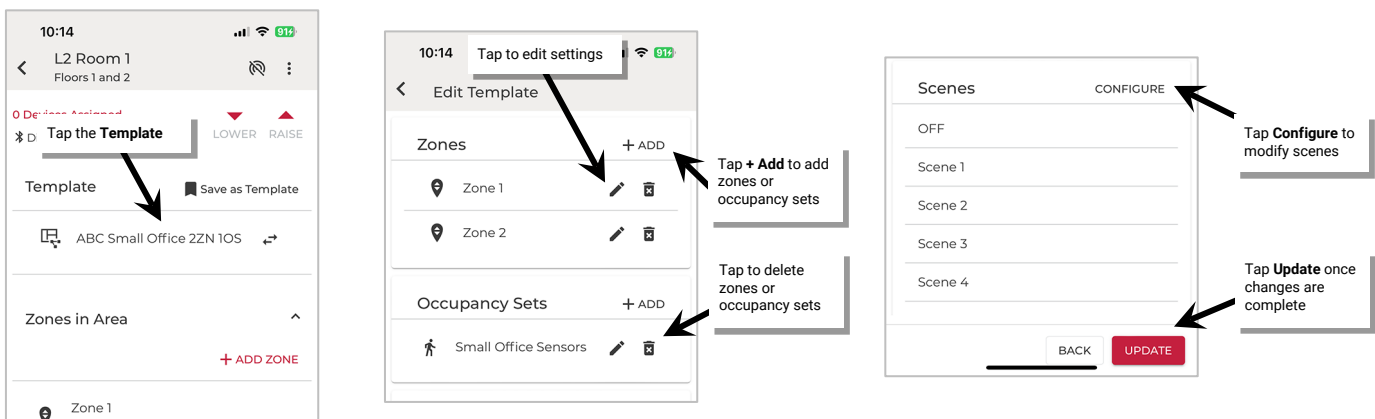
This method will modify the template for future use **AND** will automatically update existing Networked Areas created from the template that have no provisioned devices.

Updates to the template using this method will update Networked Areas in other Organizations if the same template was used. **ONLY NETWORKED AREAS WITH NO PROVISIONED DEVICES WILL BE UPDATED.** Networked Areas that have provisioned devices will need to be modified manually if the same changes are desired.

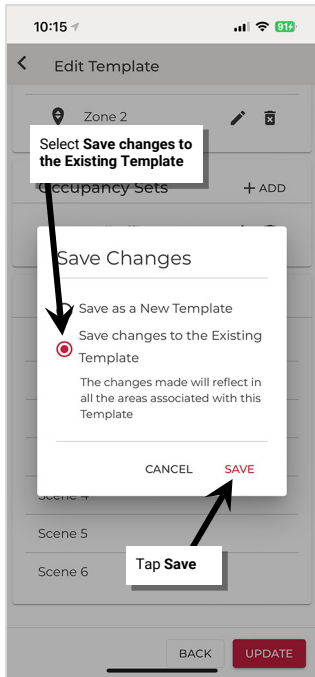
- 1: Launch the WaveLinx LITE Mobile App.
- 2: Navigate to the Organization's **Spaces** and then tap the **more icon**  next to the desired Space.
- 3: Tap **EDIT SPACE** and then tap **CONFIRM** to lock the Space for editing.
- 4: Tap the desired **Networked Area**.



- 5: In the **Template** section of the screen, tap the template name.
- 6: In the template details screen, make the desired changes:
 - Tap the **edit icons**  to modify existing settings.
 - Tap the **delete icons**  to delete zones or occupancy sets.
 - Tap the **+ Add** option to add additional zones or occupancy sets.
 - Tap **Configure** to modify scene levels.
- 7: Once the changes are complete, tap **UPDATE** to update the template.



8: At the prompt, select the option to **Save Changes to Existing Template** and then tap **SAVE**. A series of messages may show at the bottom of the screen:



- **Success Message:** Any Network Area that has no devices provisioned and uses this template has been updated with the changed settings.



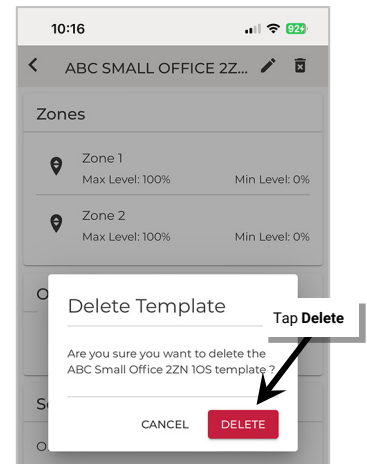
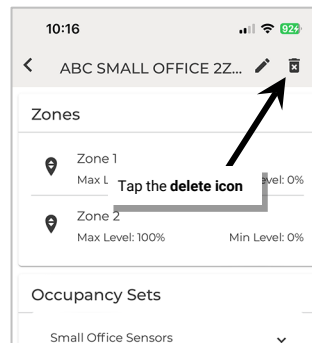
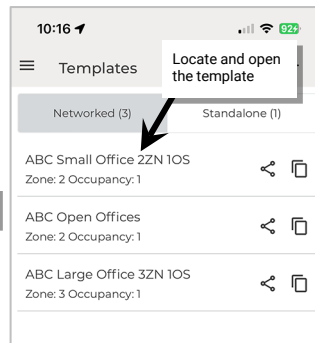
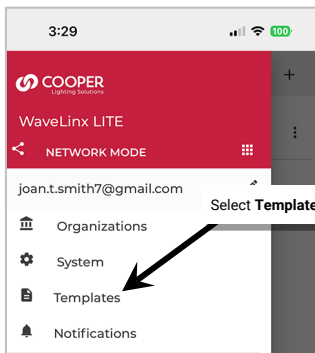
If there is an internet connection, the updated template will automatically sync to the user's cloud account. If there is not an internet connection, manually sync the template once the connection is available. See "Sync Templates: Network Mode" on page 66 for details .

Delete a Template: Network Mode

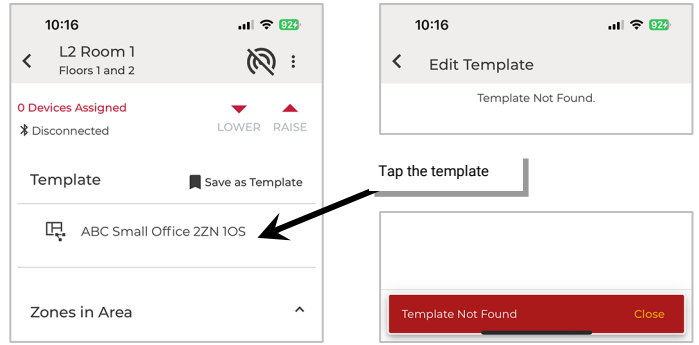
Templates that are no longer being used can be deleted.

To delete an existing template:

- 1: From the Network Mode **Menu** ☰, select **Templates**. Locate and open the template to delete.
- 2: Tap the **delete icon** 🗑️.
- 3: When prompted, tap **Delete**. If there is an internet connection, the change will automatically sync to the user's cloud account. If there is not an internet connection, manually sync the templates once the connection is available. See "Sync Templates: Network Mode" on page 66 for details.



If a template is deleted, Areas that were created with that template will still reflect the template name. If the template name is tapped, the **Edit Template** screen will show **Template Not Found**.



If a template is deleted, Areas created with that template will still show the original template name. To prevent confusion, avoid reusing the same template name for a new template. Preexisting Areas will not update if changes are made to a new template with the same name.

Share Templates with other Registered Users

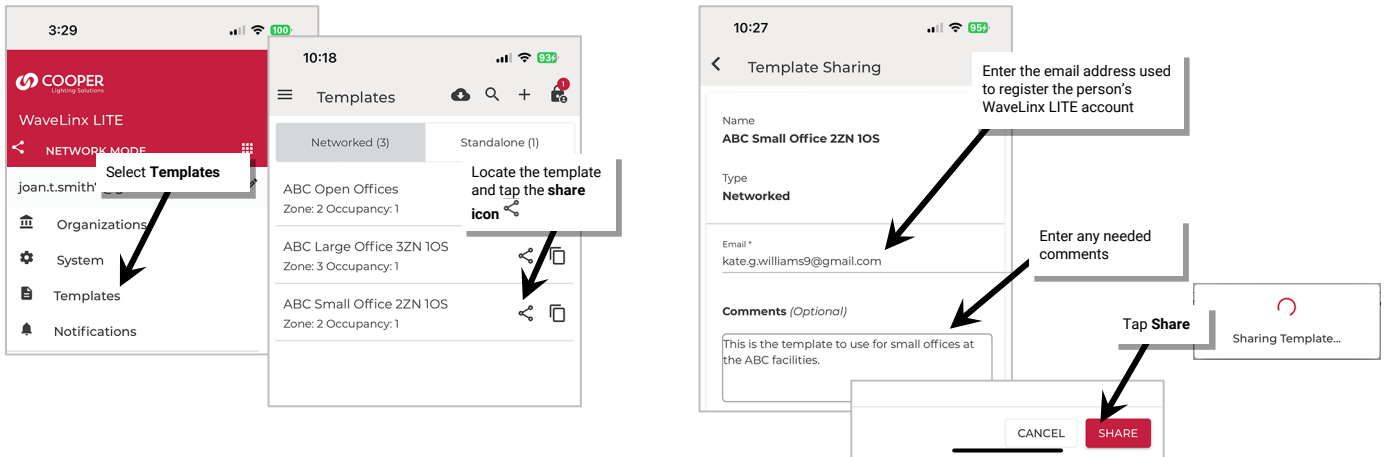
Templates may be shared with other WaveLinx LITE registered user accounts. This allows users to share the setup process while ensuring that Areas with the same layout are consistent in programming. Sharing templates can also be helpful if a new Organization has the same setup as an existing template.

The user receiving the template receives a copy of the template. Neither the sender nor receiver will receive updates to the template when changes are made unless the template is manually shared again.

Share a Template

Template sharing can be done through the **Templates** menu option. The recipient can easily load the shared template into their mobile device. A template can be shared with anyone that has a WaveLinx LITE registered user account. To share a template:

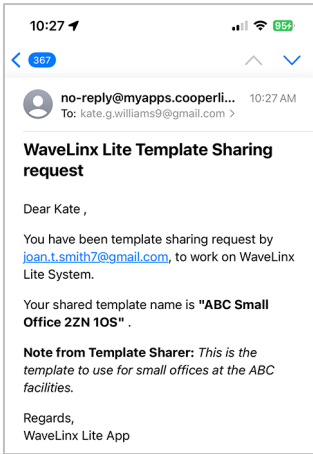
- 1: Ensure that the mobile device being used has an internet connection.
- 2: Tap **Menu** ☰ from either Network or Stand Alone mode, and then select **Templates**. Locate the template to share.
- 2: Tap the **share icon** 📄.
- 3: When prompted, enter the email address of the registered user and add any desired comments. Tap **Share** to send the invitation.



- 5: Repeat with any additional templates or registered users.

Open a Shared Template

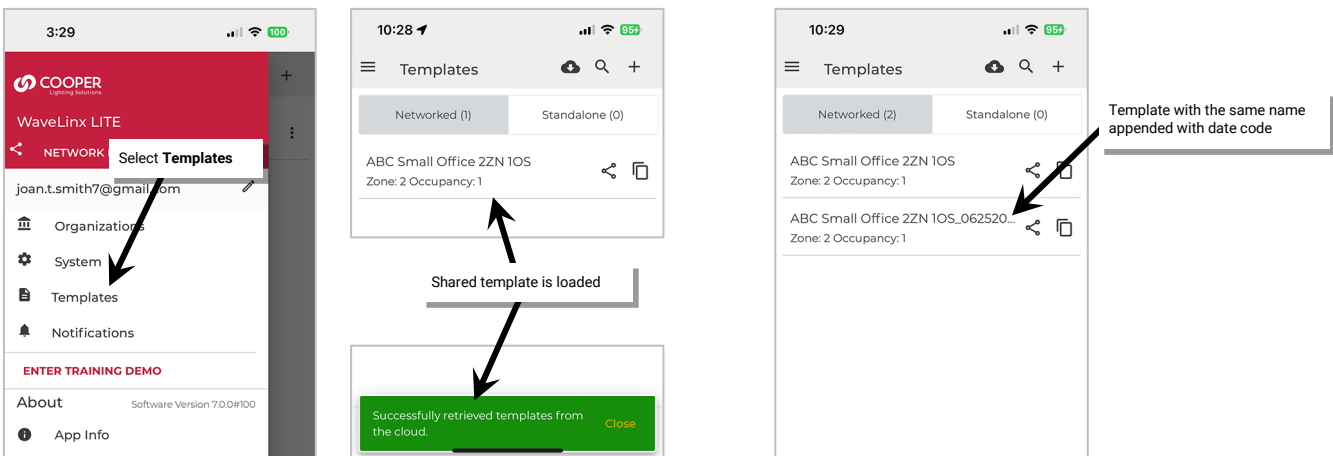
When a template is shared, an email is sent to the template recipient alerting them that a template has been shared with them.



To load the shared template:

- 1: Ensure that the mobile device being used has an internet connection and that the registered user account that the template has been shared to is logged in.
- 2: Tap **Menu** ≡ from either Network or Stand Alone mode, and then select **Templates**. Once the template page load is complete, the shared template should be shown in the template list.

If the shared template has the same name as a template that is already in the user's account, the template name will be appended with a randomized date code.

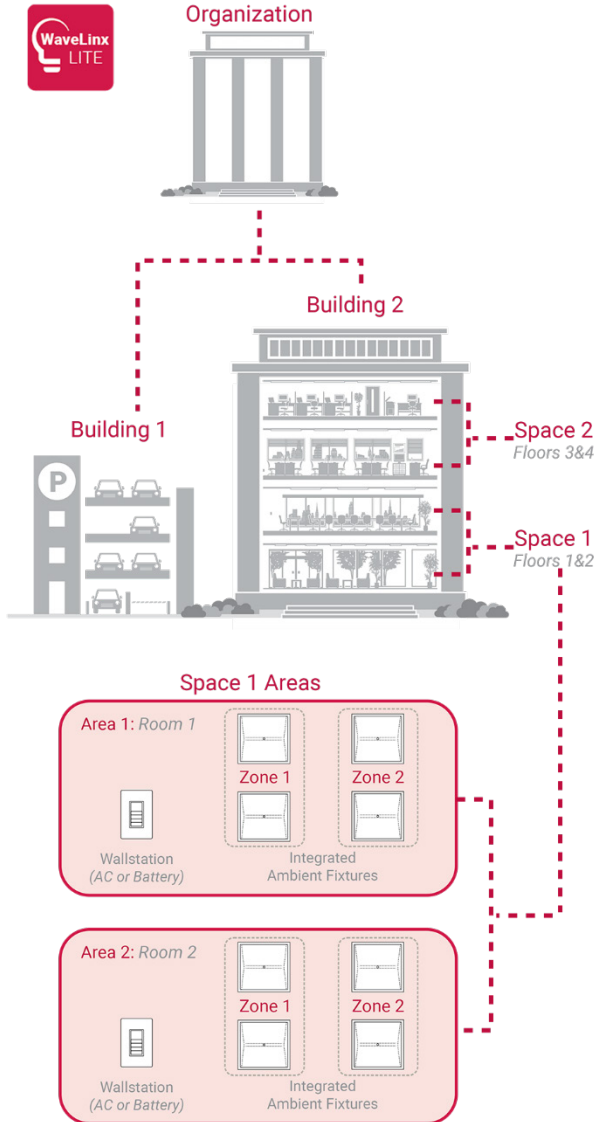


The user receiving the template receives a copy of the template. Neither the sender nor receiver will receive updates to the template when changes are made unless the template is manually shared again.

Basic Organization Setup Using the Mobile Application: Network Mode

This section is written specifically for commissioning agents who are performing the initial WaveLinx LITE 7.0 equipment setup. For facility owners/other personnel that are using the WaveLinx LITE Mobile App to administer a facility that has already been programmed, skip to “Modify Programming in Networked Areas: Network Mode” on page 100 or “Modify Programming in Standalone Areas in Network Mode” on page 150.

The structure created during initial setup will include an **Organization**, along with its **Building(s)**, **Space(s)**, and **Area(s)**. For small applications, the Organization, Building, and Space may all be the same facility name while larger applications may use the structure to mimic their main company with the controlled buildings and spaces within.



A WaveLinx LITE Network Mode system is organized using the following:

<ul style="list-style-type: none"> Organization 	<p>The company that owns/ manages the WaveLinx LITE devices and programming.</p>	<p><i>A corporation</i></p>
<ul style="list-style-type: none"> Building 	<p>A specific physical location within the Organization.</p>	<p><i>A building, parking garage, or other facility</i></p>
<ul style="list-style-type: none"> Space 	<p>A place within the Building that contains rooms of WaveLinx LITE devices. A Building may contain any number of Spaces.</p>	<p><i>A floor or multiple floors of a building</i></p>
<ul style="list-style-type: none"> Area 	<p>A room within the Space- Devices in the room operate lighting in that room. Maximum: 28 user defined Areas per Space.</p> <ul style="list-style-type: none"> Networked Area: Devices interact together and form a Bluetooth mesh network with each other. Standalone Area: Devices operate independently and communicate independently to the Mobile App. 	<p><i>A room within the space</i></p> <p><i>A wallstation or sensor controls the room's lighting/devices</i></p> <p><i>Each fixture is controlled only by its own connected sensor</i></p>
<ul style="list-style-type: none"> Zone 	<p>A collection of load devices within a Networked Area that operates together Maximum 16 zones per Networked Area. <i>Standalone Areas do not have zones</i></p>	<p><i>A row or group within the area</i></p>
<ul style="list-style-type: none"> Device 	<p>A WaveLinx LITE component Maximum 50 devices (40 best practice) per Networked Area <i>Standalone Areas have no device maximum.</i></p>	<p><i>A switchpack, wallstation, node, integrated, fixture mounted or tilemount sensor</i></p>

Note: In smaller applications with fewer than 28 Areas, the Organization, Building and Space can be the same company/facility name.

To create this structure there are five basic steps to creating an Organization in the Mobile Application: Create the Organization, Create the Building(s), Create the Space(s), Create Area(s) including the Zone(s) and the Occupancy Set(s), and Assign Devices to Areas (Provisioning)

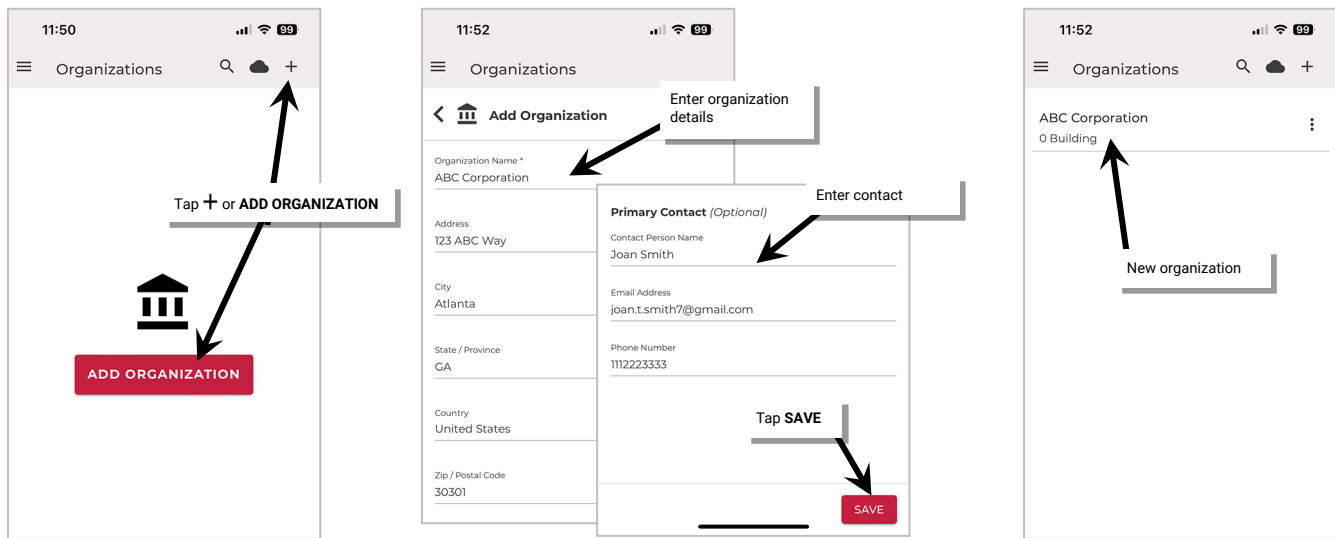
Before proceeding with the below steps, turn on the mobile device Bluetooth and ensure that the mobile device has internet access. Please review “Create Templates for Initial Setup: Network Mode” on page 58 regarding the use of customized templates to learn how to create custom templates. Default templates are provided if customization is not needed. Templates will be used in setting up Areas in the Organization.

Step 1: Create the Organization

To use the Mobile App to program WaveLinx LITE devices, first set up the Organization. The Organization is the company that owns/ manages the WaveLinx LITE devices and programming. An Organization can contain multiple Buildings if the Organization owns/manages more than one facility with WaveLinx LITE devices or may consist of a single facility. One user can create any number of Organizations if the user maintains programming multiple Organizations.

To create an Organization:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: In the **Organizations** screen, tap **+** or **ADD ORGANIZATION**.
- 3: Fill in the Organization details and optional contact information and then tap **SAVE**. Once created, the Organization will appear in the list.

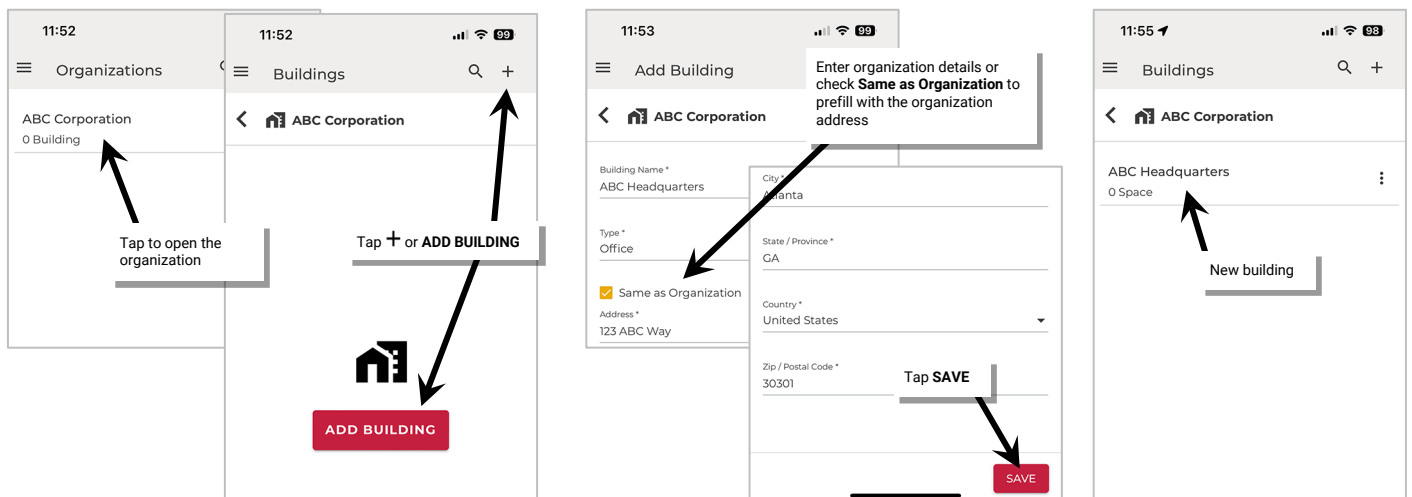


Step 2: Create the Building(s)

After the Organization is created, create the Building(s). A Building is a specific physical location within the Organization. For Organizations that have multiple Buildings with WaveLinx LITE devices, each Building can be created for easy device administration. For Organizations with a single location, a single Building can be created.

To create a Building:

- 1: In the **Organizations** list, tap the Organization name.
- 2: In the **Buildings** screen, tap **+** or **ADD BUILDING**.
- 3: Use the **Same as Organization** checkbox if the building address is the same as what was entered for the organization OR enter in the Building details and then tap **SAVE**. Once created, the Building will appear in the list.



- 4: Repeat to create additional Buildings needed for the Organization.

Once a Building is created, the Spaces, Areas and devices will need to be assigned. This can be done either using the create Space(s) wizard or may be done manually.

- To continue using the wizard, see “Using the Wizard to Create Spaces, Load Templates, Create Areas, and Provision Devices” on page 75.
- To continue manually to create the Space, Areas and provision devices, see “Manually Create Spaces, Areas, and Provision Devices” on page 81.

Using the Wizard to Create Spaces, Load Templates, Create Areas, and Provision Devices

This section shows how to use the wizard method of creating a Space, load templates, create the Areas in the Space and provision the devices in the Space.

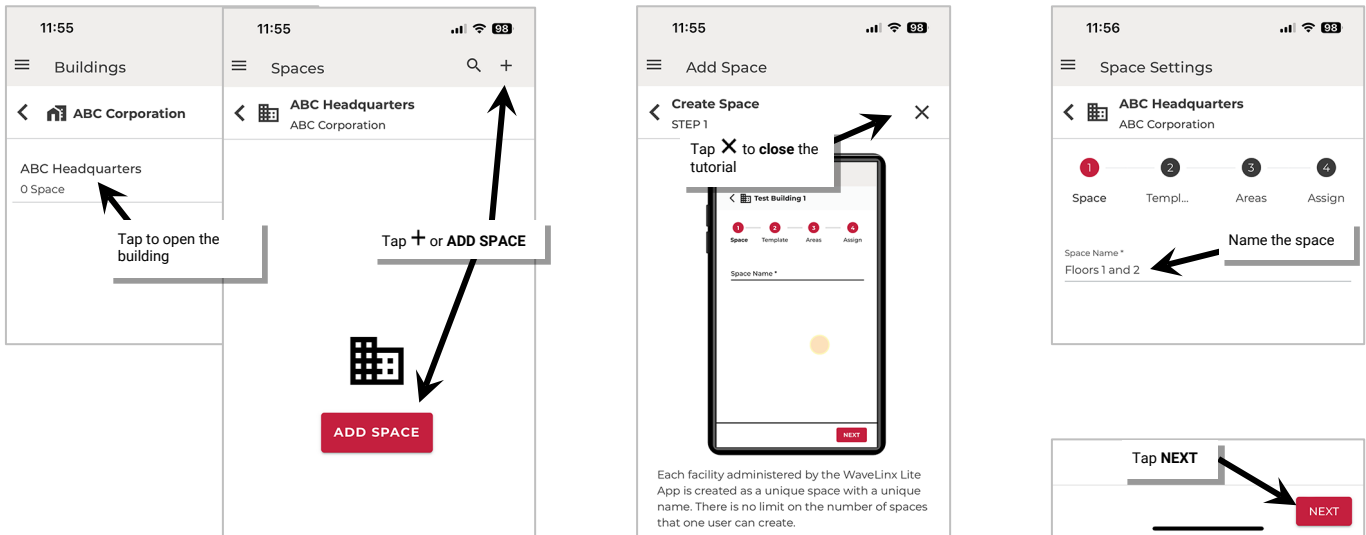
Before proceeding with the below steps, please review “Create Templates for Initial Setup: Network Mode” on page 58 regarding the use of customized templates to learn how to create custom templates. Templates will be used later during setup.

Step 1: Create a Space using the Wizard

Once the Building is created, create the Spaces in the Building. A Space is a place within the Building that contains rooms of WaveLinx LITE devices. If the facility has fewer than 28 rooms, a single Space can be created. (One Space can contain up to 28 user defined Areas/rooms). If the facility has more than 28 rooms, additional Spaces can be created to organize the additional rooms. A Building may contain as many Spaces as needed to organize all the necessary rooms in the facility.

To create a Space:

- 1: In the **Buildings** list, tap the Building name.
- 2: In the **Spaces** screen, tap **+** or **ADD SPACE**.
- 3: Tap **X** to **close** the tutorial and open **Space Settings**.
- 4: Fill in the **Space Name** and then tap **NEXT** to create the Space and proceed to the next wizard step.



Step 2: Load Templates using the Wizard

The default templates will be pre-loaded in the wizard. The default templates will apply the following settings. If using the default templates, skip to the next section.

Default Networked Area Template Settings:

- **Zones created:** 2
 - Default dimmable zone
 - Default dim level is 10%
 - Zone minimum level 0%
 - Zone maximum level 100%
 - Default Non-Dimmable Zone
 - Default OFF
 - Zone maximum level 100%
- **Occupancy Sets Created:** 1 occupancy set
 - Both default zones are assigned to default occupancy set
 - Occupancy mode: Occupancy
 - Occupancy hold time: 20 minutes⁵⁶
 - Energy saver mode: Enabled
 - Energy hold time: 10 minutes
 - Occupied level: 100%/ON⁵⁷
 - Energy saver level: 50%/ON
 - Unoccupied level: 0%/OFF
- **Scene Levels for zones in the Area:**

Scene	Light Level Response	
OFF	0%	OFF
Scene 1	100%	ON
Scene 2	70%	ON
Scene 3	50%	ON

Scene	Light Level Response	
Scene 4	30%	ON
Scene 5	10%	ON
Scene 6	1%	ON

Default Standalone Area Templates

There are two standalone area templates that can be created **BUT only the Default Standalone-IS Template will be used in the Standalone Area.**

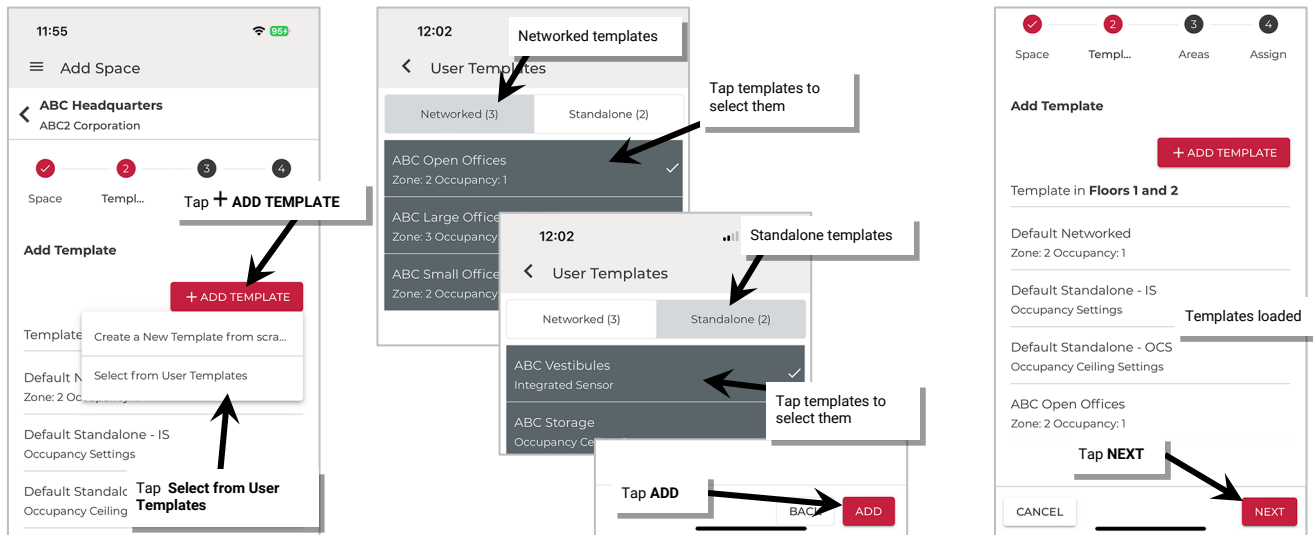
Default Standalone -IS Template

- Device low end trim settings: 0%
- Device high end trim settings: 100%
- Occupied hold time: 20 minutes^{56, 58}
- Energy saver mode: Enabled
- Energy hold time: 10 minutes
- Occupied level: 100%/ON⁵⁷
- Energy saver level: 50%
- Unoccupied level: 0%/OFF

The Default Standalone-OCS Template will only be used for Acoustic Ceiling Sensors that are being configured in Stand-Alone Mode and should not be used for Network Mode: Standalone Areas.

Templates can be custom created, matching common configurations for the Space being programmed. If using custom templates, load them in this step.

- 1: If custom templates have been created, tap **+ ADD TEMPLATE** and then **Select from User Templates**.
- 2: Tap on the template name select from Networked and Standalone Area templates. Once all templates are selected, tap **ADD**. Tap **NEXT** to move to the next step.



⁵⁶ Energy saver state issues after the energy hold time expires. Then, dimmable lighting remains at energy saver level until the occupancy hold time expires, triggering the unoccupied state. Non dimmable and receptacle zones will remain at occupied level until 30 seconds after the occupied hold time expires.

⁵⁷ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

⁵⁸ Occupancy sensor is automatically set to Occupancy mode. Vacancy mode is not supported in a standalone area.

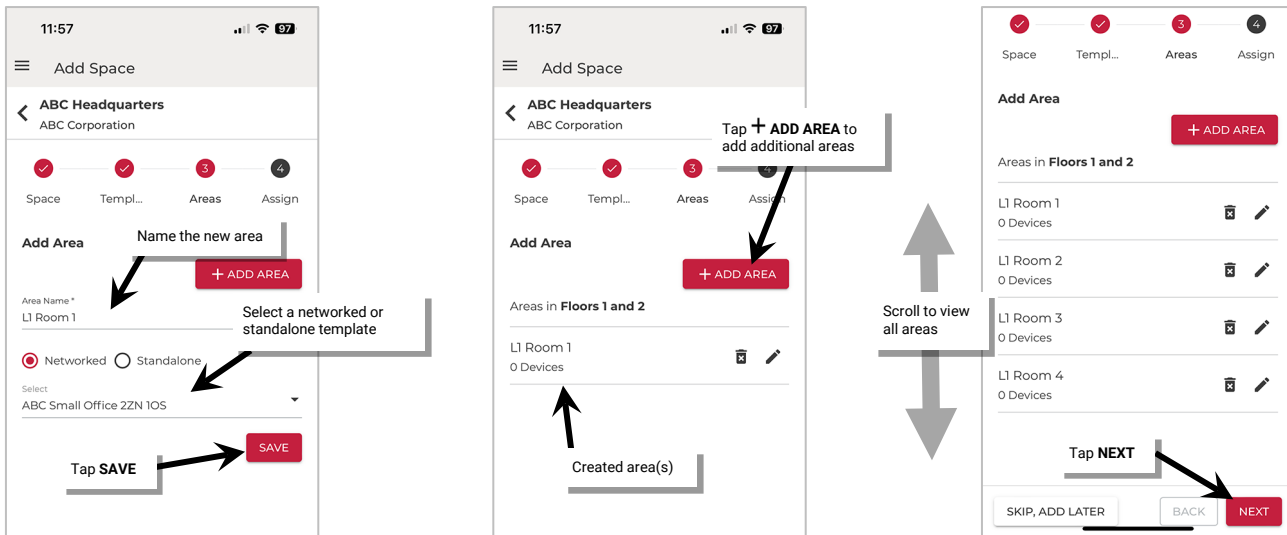
Step 3: Create the Area(s) using the Wizard

In this next step, create the Areas that will be needed in this Space. There are two different types of Areas in a WaveLinx LITE system:

- A **Networked Area** is a room within the Space in which the WaveLinx LITE devices operate together to control lighting in that room. Devices in a Networked Area will create a unique Bluetooth mesh network to communicate with each other. When defining Areas, keep in mind that devices in one Area cannot communicate to devices in another Area. Plan Areas accordingly based on device proximity and the need to share information. For example, if a wallstation needs to control multiple fixtures, the fixtures and wallstation need to be in the same Area. For most reliable operation, no more than 50 (40 best practice) provisioned devices should be assigned to any Networked Area.
- A **Standalone Area** contains devices that directly control lighting and operate autonomously without interaction with other controls. Having the device provisioned in a Standalone Area allows the device to operate independently and allows for adjustment of the device settings/behavior. There is a maximum of 28 user defined Areas (rooms) per Space. Devices within a Standalone Area do not form a Bluetooth mesh network and communicate with a direct Bluetooth connection to the mobile device if changes are made to the device's operation using the Mobile App. There is no limit to the number of devices that can be assigned/provisioned in a Standalone Area.

To create the Area(s):

- 1: Enter a **name** for the first Area.
- 2: Select the **Networked** or **Standalone Template** from the drop down and then tap **SAVE** to create the Area. The Area will be displayed in the Area list.
- 3: Tap **+ Add Area** to add the next Area, repeating the naming and template selection for the new Area.
- 4: Repeat this process until **all** necessary Areas are created for the Space (review by scrolling up and down the Area list) and then tap **NEXT**.



Step 4: Assign Devices to Areas (Provisioning) using the Wizard

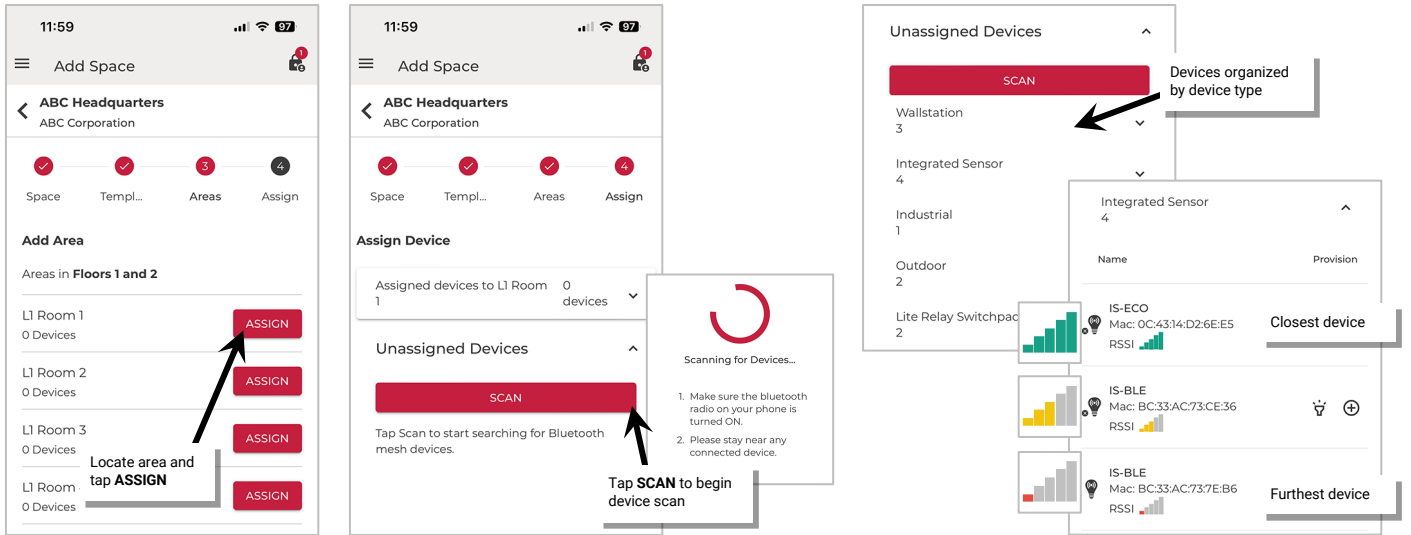
In this step, WaveLinx LITE devices will be assigned to each created Area. Do not exceed assigning more than 50 devices (40 best practice) to a Networked Area. There is no maximum number of devices in a Standalone Area.

To assign a device to an Area:

- 1: In the wizard screen, determine which Area will be the first to assign.
- 2: In the setup wizard, locate the Area and tap **Assign**.
- 4: With the mobile device, stand close to one of the WaveLinx LITE devices to be provisioned within the Area (within 60 feet/18 meters).
- 5: **If the device is a battery powered wallstation**, press any button on the wallstation before running the device scan to wake the station. The station will stay in a ready state for 30 seconds, waiting for communication from the mobile app. This step is not necessary for line-voltage powered wallstations or devices.
- 6: In **Unassigned Devices** tap **SCAN**. Wait for the device scan to complete.

Found devices will appear in **Unassigned Devices**, separated by device type. The device that has the strongest signal (typically the closest device) will be at the top. Signal strength is indicated by color. Green indicates the device is close, yellow is midrange, and red is far. This display is static and will not change until another scan command is processed.

Areas setup as Networked Areas will display any found wallstations, switchpacks, Acoustic Ceiling Sensors, and fixture mount, integrated or tilemount sensors. Standalone Areas will only display fixture mount, integrated, or tilemount sensors.



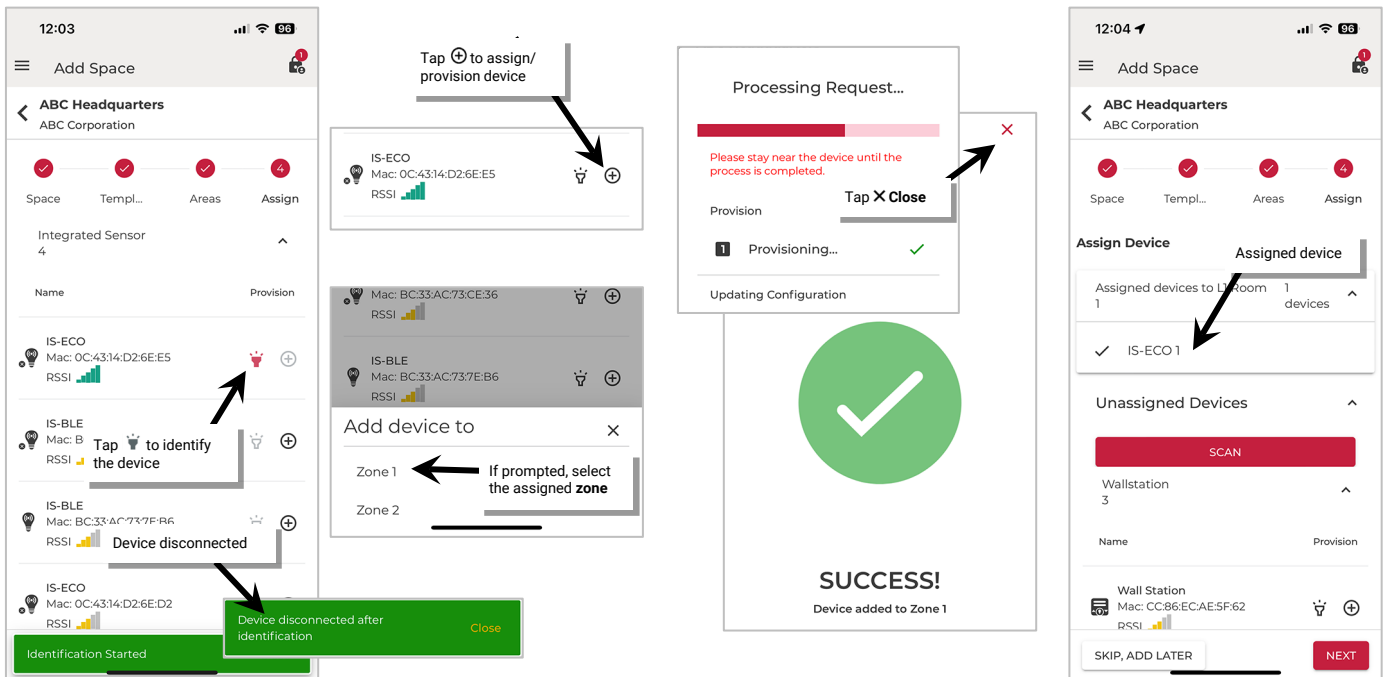
- 7: Locate and open the appropriate device type list for the device being provisioned.
- 8: The next step may vary slightly depending on the type of device being provisioned.

For non-battery powered WaveLinX LITE devices:

Stay near the device and tap the **identify icon** 📶. The device should respond with the identification behavior described in the device reference sheet section beginning on page 10. After 15 seconds the device will disconnect and return to normal operation (or tap the **identify icon** 📶 to cancel the command). If the wrong device responds, try the next device listed and continue until the expected device is found.

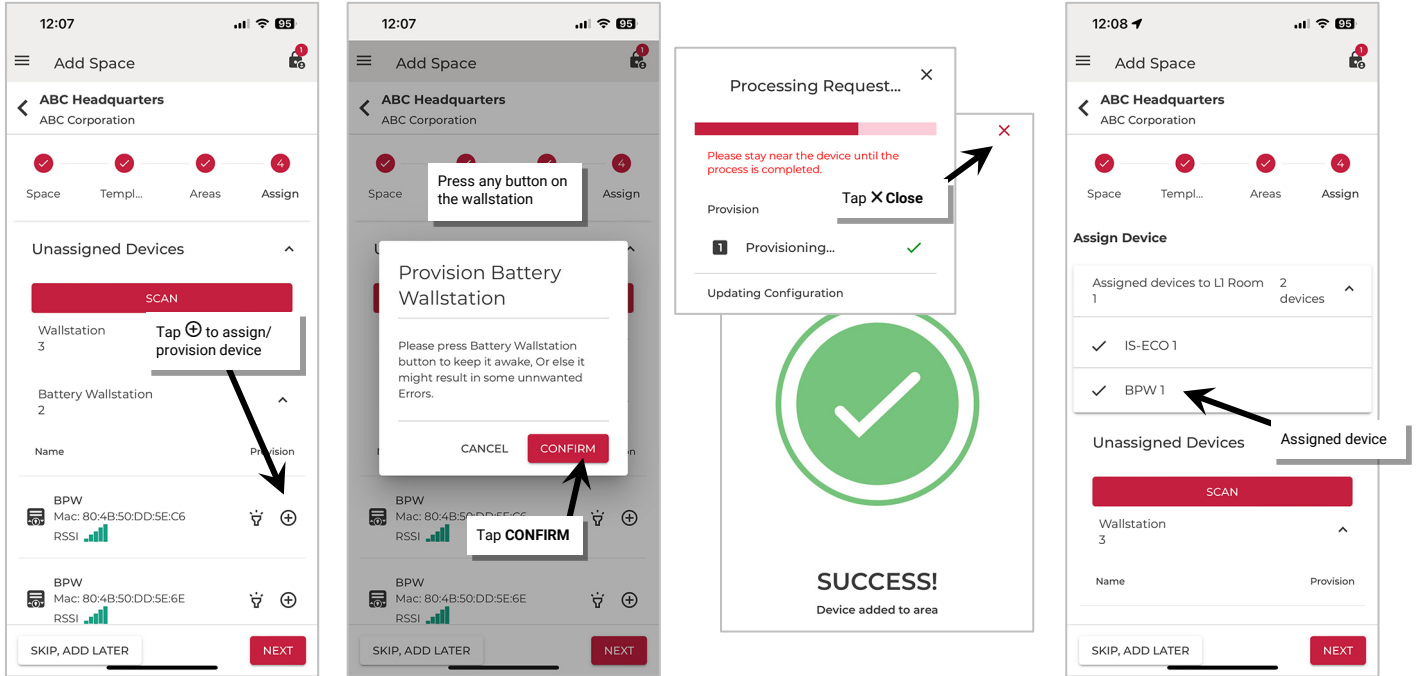
Once identified, tap the **add icon** ⊕ next to the device to begin the provisioning process.

- If the device is a line voltage powered wallstation, it will begin provisioning. Once the request is successfully processed, tap **Close**. The device should show assigned to the Area.
- If the device is an Acoustic Ceiling Sensor, fixture mount, integrated sensor, tilemount sensor, or switchpack, select the **zone** it should operate in. If the Area has only one zone defined, it will skip this option. The device will begin provisioning. Once the request is successfully processed, tap **Close**. The device should show assigned to the Area.

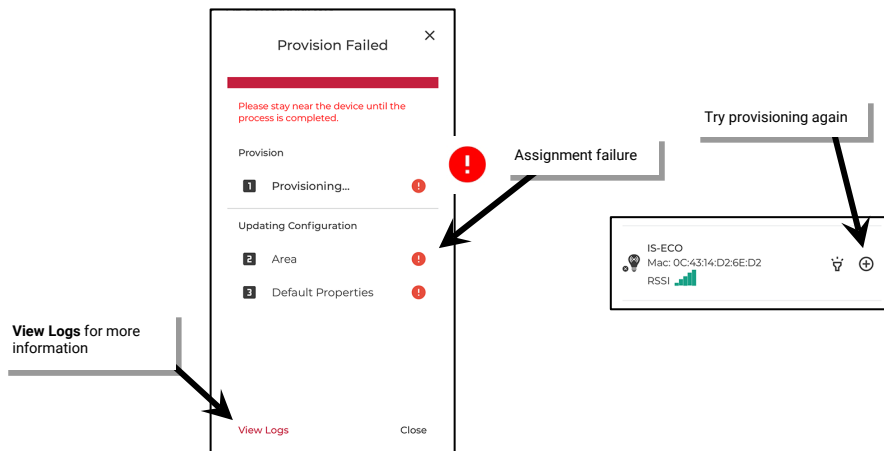


For battery powered WaveLinx LITE wallstations:

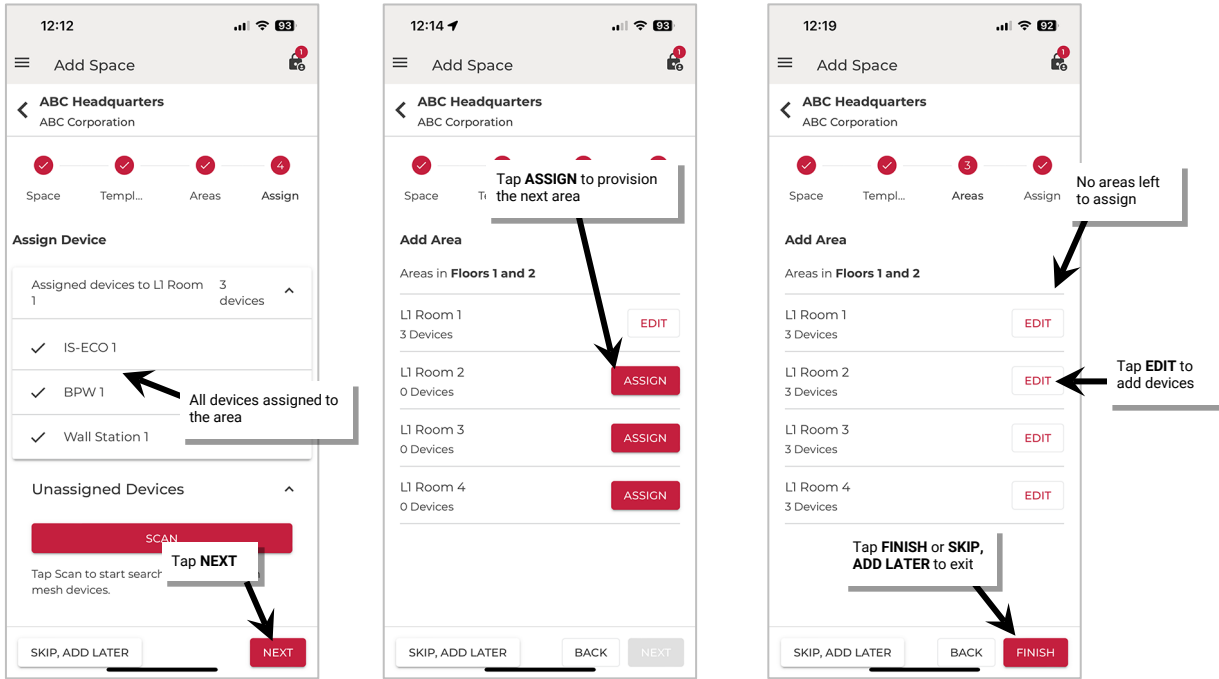
Stay near the device and tap the **add icon** ⊕ next to the device to begin the provisioning process. When prompted, press any button on station to wake the station (the station will stay in a ready state for 30 seconds) and then tap **CONFIRM**. The device will begin provisioning. Once the request is successfully processed, tap **X Close**. The device should show assigned to the Area.



If the provisioning fails, the screen will show exclamation points. Close the screen. If able, move closer to the device, and then tap ⊕ to start provisioning again. If the error continues, try closing the mobile application and then turn off and then on the mobile device Bluetooth. Open the mobile application and try again. If the error continues, select **View Logs** and then contact technical support.



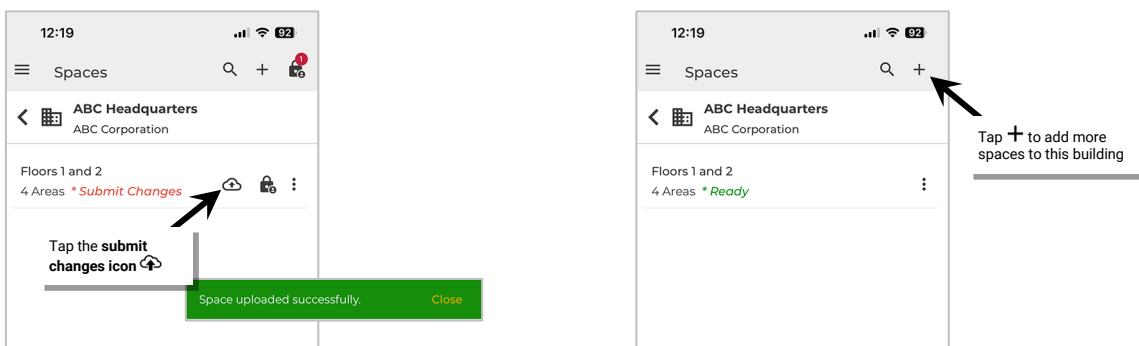
- 9: Move close to the next device and repeat steps 4 through 9 to provision the device to the Area and repeat for all devices that should belong to the Area.
- 10: Once that Area is complete, tap **NEXT**. Select the next Area and then repeat these steps until all devices have been provisioned. If needed, tap **EDIT** next to any Area to add additional devices.
- 11: Tap **FINISH** or **SKIP, ADD LATER** to exit the setup wizard.



Step 5: Submit Changes to the Cloud

Once the Space setup is complete, submit the changes to the cloud to backup the data and unlock the Space for editing by any other users that have been given permission to access the Space.

- 1: In the **Spaces** list, and then tap the **submit changes icon** for the Space to sync the Space's programming to the cloud.
- 2: To add additional Spaces, tap **+** at the top of the **Spaces** list and repeat all steps in the wizard to set up additional Spaces in this Building.



Manually Create Spaces, Areas, and Provision Devices

Before following the steps in this section, create the Organization (page 74) and Building(s) (page 74) This section discusses setting up the Building’s Space(s). The wizard will be used for the initial Space creation and then other steps will be manually performed. This allows a technician to initially create a Space, and then come back later to add the Areas and devices.

The setup wizard allows users to **SKIP, ADD LATER** at any point past the initial Space creation. At that point, any function that was skipped can be performed manually.

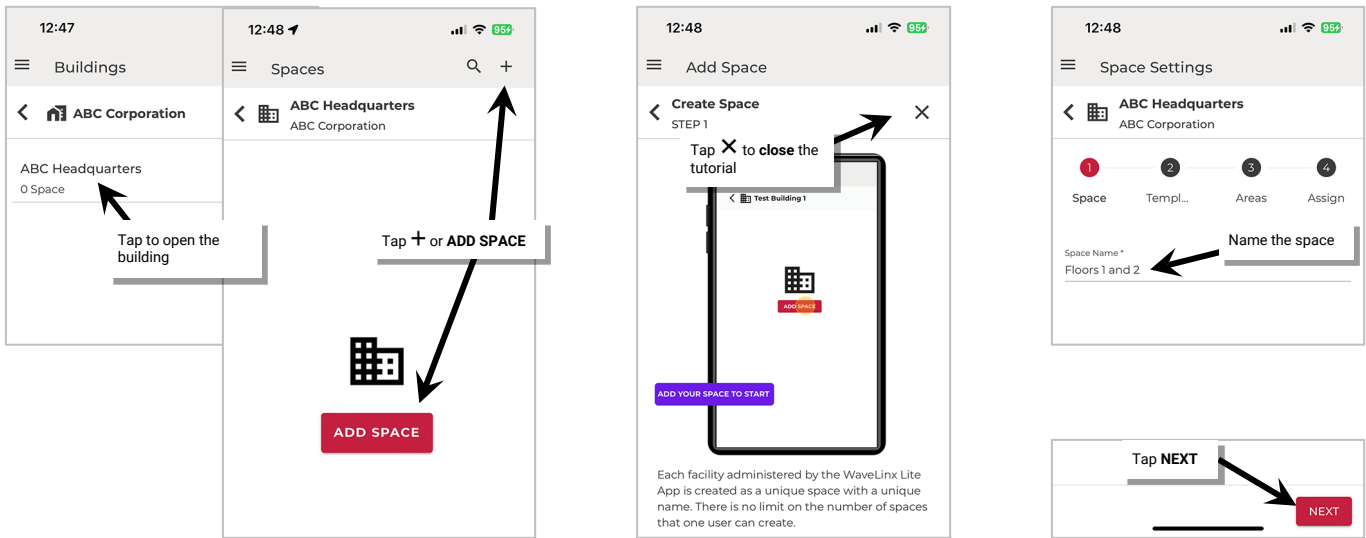
- Step 1: Create a Space
- Step 2: Create Areas
- Step 3: Manage the Area’s zones
- Step 4: Manage the Area’s occupancy sets
- Step 5: Provision the Area devices and assign to zones
- Step 6: Repeat process for additional Areas

Before proceeding with the below steps, please review “Create Templates for Initial Setup: Network Mode” on page 58 regarding the use of customized templates to learn how to create custom templates. Templates will be used in step 2.

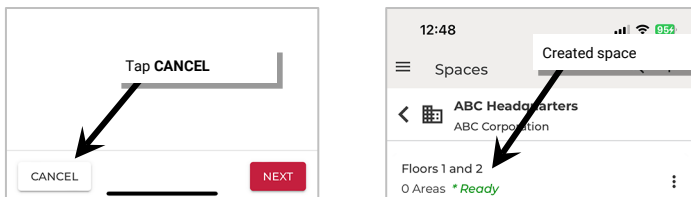
Step 1: Create a Space

Once the Building is created, create the Space(s) in the Building. A Space is a place within the Building that contains rooms of WaveLinx LITE devices. If the facility has fewer than 28 rooms, a single Space can be created. (One Space can contain up to 28 user defined Areas/rooms). If the facility has more than 28 rooms, additional Spaces can be created to organize the additional rooms. A Building may contain as many Spaces as needed to organize all the necessary rooms in the facility.

- 1: In the **Buildings** list, tap the Building name.
- 2: In the **Spaces** screen, tap **+** or **ADD SPACE**.
- 3: Tap **X** to **close** the tutorial and open **Space Settings**.
- 4: Fill in the **Space Name** and then tap **NEXT** to create the Space.



- 5: At the bottom of the screen tap **CANCEL** to exit out of the setup wizard. The **Spaces** list will show the new Space.

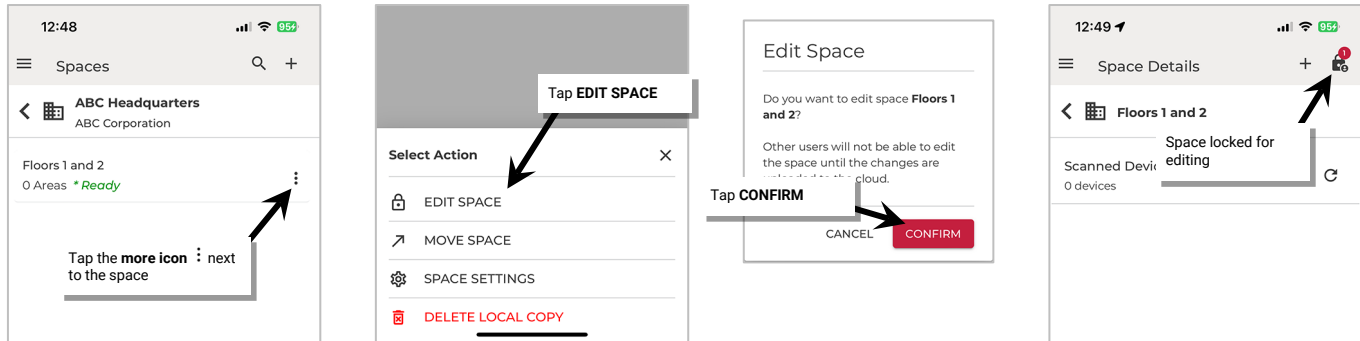


- 6: For larger Buildings containing more than 28 Areas, repeat these steps to create the additional Spaces needed for the Building.

Step 2: Place the Space in EDIT SPACE Mode

Place a Space in **EDIT SPACE** mode to modify the Space's programming. This "checks out" the Space from the cloud and locks it for editing, preventing modification by other authorized users while the Space is being edited.

- 1: Navigate to the Organization's **Spaces** and then tap the **more icon** ⋮ next to the desired Space.
- 2: Tap **EDIT SPACE** and then tap **CONFIRM** to lock the Space for editing.



Step 3: Create the Area(s)

Next, create the Areas that will be needed for the Space. There are two different types of Areas in a WaveLinX LITE system:

- A **Networked Area** is a room within the Space in which the WaveLinX LITE devices operate together to control lighting in that room. Devices in a Networked Area will create a unique Bluetooth mesh network to communicate with each other. When defining Areas, keep in mind that devices in one Area cannot communicate to devices in another Area. Plan Areas accordingly based on device proximity and the need to share information. For example, if a wallstation needs to control multiple fixtures, the fixtures and wallstation need to be in the same Area. For most reliable operation, no more than 50 (40 best practice) provisioned devices should be assigned to any Networked Area.
- A **Standalone Area** contains devices that directly control lighting and operate autonomously without interaction with other controls. Having the device provisioned in a Standalone Area allows the device to operate independently and allows for adjustment of the device settings/behavior. There is a maximum of 28 user defined Areas (rooms) per Space. Devices within a Standalone Area do not form a Bluetooth mesh network and communicate with a direct Bluetooth connection to the mobile device if changes are made to the device's operation using the Mobile App. There is no limit to the number of devices that can be assigned/provisioned in a Standalone Area.

Templates can be custom created matching common configurations for the Space being programmed or the Area can be created with the default template. If using the default template, all Areas will be created with the following settings:

Default Networked Area Template Settings:

- **Zones created:** 2
 - Default dimmable zone
 - Default dim level is 10%
 - Zone minimum level 0%
 - Zone maximum level 100%
 - Default Non-Dimmable Zone
 - Default OFF
 - Zone maximum level 100%
- **Occupancy Sets Created:** 1 occupancy set
 - Both default zones are assigned to default occupancy set
 - Occupancy mode: Occupancy
 - Occupancy hold time: 20 minutes⁵⁹
 - Energy saver mode: Enabled
 - Energy hold time: 10 minutes
 - Occupied level: 100%/ON⁶⁰
 - Energy saver level: 50%/ON
 - Unoccupied level: 0%/OFF
- **Scene Levels for zones in the Area:**

Scene	Light Level Response	
OFF	0%	OFF
Scene 1	100%	ON
Scene 2	70%	ON
Scene 3	50%	ON

Scene	Light Level Response	
Scene 4	30%	ON
Scene 5	10%	ON
Scene 6	1%	ON

Default Standalone Area Templates

There are two standalone area templates that can be created **BUT only the Default Standalone-IS Template will be used in the Standalone Area.**

Default Standalone -IS Template

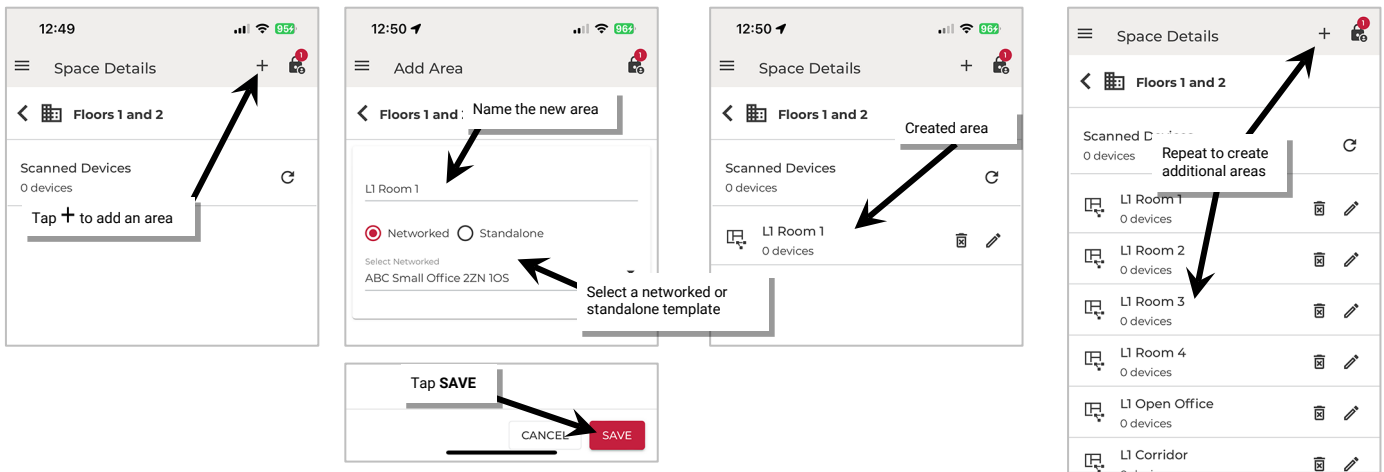
- Device low end trim settings: 0%
- Device high end trim settings: 100%
- Occupied hold time: 20 minutes^{59, 61}
- Energy saver mode: Enabled
- Energy hold time: 10 minutes
- Occupied level: 100%/ON⁶⁰
- Energy saver level: 50%
- Unoccupied level: 0%/OFF

The Default Standalone-OCS Template will only be used for Acoustic Ceiling Sensors that are being configured in Stand-Alone Mode and should not be used for Network Mode: Standalone Areas.

For a step-by-step walkthrough of creating templates please see “Create Custom Templates: Network Mode” on page 58.

To create an Area:

- 1: In the Mobile App, navigate to the **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of the device).
- 2: Tap **+** at the top of the **Space Details** screen.
- 3: Fill in the **Area Name** and select the desired **Networked** or **Standalone** template from the drop down. Tap **SAVE** to create the Area.
- 4: Repeat steps 2 and 3 to create the other Areas needed in this Space.



⁵⁹ Energy saver state issues after the energy hold time expires. Then, dimmable lighting remains at energy saver level until the occupancy hold time expires, triggering the unoccupied state. Non dimmable and receptacle zones will remain at occupied level until 30 seconds after the occupied hold time expires.

⁶⁰ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

⁶¹ Occupancy sensor is automatically set to Occupancy mode. Vacancy mode is not supported in a standalone area.

Step 4: Add Zones (Networked Areas Only)

Skip this step for Standalone Areas which do not use zones.

In WaveLinx LITE, controlled devices (light fixtures, for example) are organized into zones. A **zone** is a group of lighting loads that should operate together in a Networked Area. For instance, fixtures in the same row may be grouped into a zone to allow for uniform operation. A Networked Area can contain up to 16 zones.

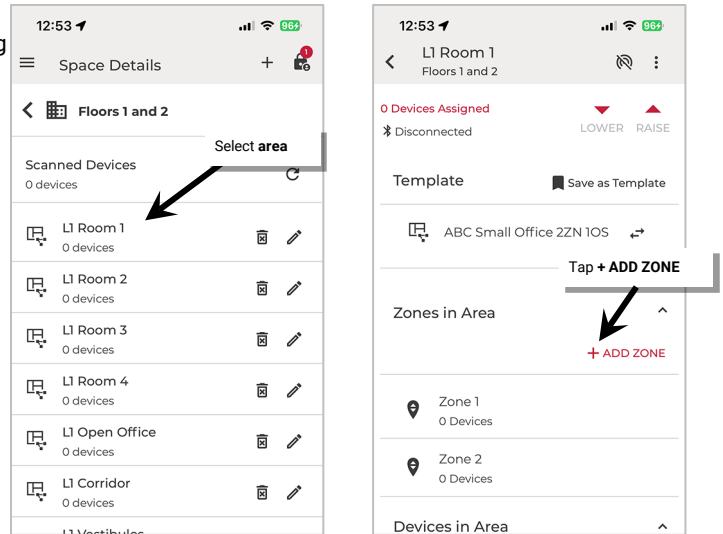
During the Area creation, the template chosen will determine the quantity of zones added to a Networked Area. If more zones are needed than what was provided in the template, use these steps to create the necessary zones.

To create a zone:

1: In the Mobile App, navigate to the **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of the device).

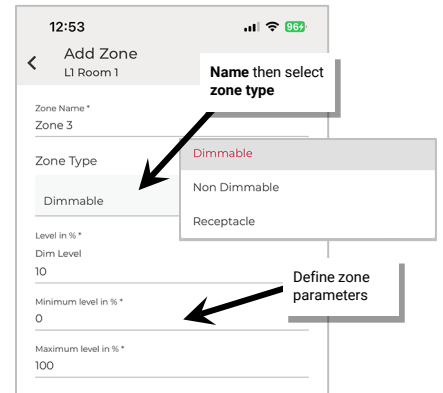
2: In the Area list, select the desired **Area**.

3: Locate the **Zones in Area** section and tap **+ ADD ZONE**.

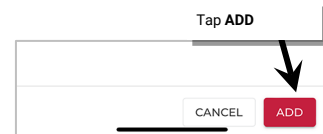


4: Tap on the fields to name the zone and enter parameters:

- **Zone name:** Enter a unique name for the zone. Zone names must be unique within the Area.
- **Zone type:** The zone type determines the options and behavior for the zone. For dimmable devices, select **Dimmable**. For switchpacks or Acoustic Ceiling Sensors controlling lighting loads without dimming capability, select **Non Dimmable**. For switchpacks controlling plug loads, select **Receptacle**. Both **Non Dimmable** and **Receptacle** zone types follow **first ON, last OFF** functionality (command @ 1% to 100% = ON, command @ 0% = OFF).
- **Dim Level:** (dimmable zone type only) The light level that a newly provisioned device should go to when it is added to the zone. A low level (default 10%) is recommended. When a device is provisioned and assigned to this zone, it will dim to the defined level along with other devices in the zone. Unprovisioned devices will be ON to 100% if there is occupancy in the Area, allowing for easy identification of unprovisioned vs. provisioned devices
- **Minimum level** (low end trim): (dimmable zone type only) The default setting is 0%. Sets the lowest level that dimming commands can set the dimmable light level to. Typically used to provide a desired aesthetic. Regardless of the minimum level set, a 0% command will turn the load OFF.
- **Maximum level** (high end trim): The default setting is 100%. For dimmable zones, this sets the highest level that the dimming command can set the dimmable light level to. Typically used to save energy or to provide a desired aesthetic. For non-dimmable or receptacle zone types, the maximum level can be adjusted to set the desired ON level if dimmable light sources are assigned to the zone. When an ON command is received, the light source will be commanded ON to the maximum level set.



5: Tap **ADD** to create the zone.



6: Repeat until all necessary zones are created in the Area.

Note: If adding zones, all new zones will be automatically added to the first occupancy set in the occupancy set list unless the Area does not contain any occupancy sets. If the Area contains more than one occupancy set, make certain that the new zone is assigned to the correct occupancy set. To change the zone assignment, refer to "Adjust Controlled Zones" on page 122.

Step 5: Manage the Area Occupancy Sets (Networked Areas Only)

Skip this step for Standalone Areas which do not use occupancy sets. For information on adjusting occupancy sensor settings in a Standalone Area, see “Modify Occupancy Sensor Settings in Standalone Areas” on page 155.

In a Networked Area, an **occupancy set** is a group of occupancy sensors that operate together to control a group of devices in the Area. Any sensor in the group sensing motion will refresh its occupied command at continuous intervals. When a sensor in the group no longer receives occupied signals from other sensors, and is no longer registering motion itself, it will begin transitioning its connected fixture through the hold time to the unoccupied level. With this logic, ANY sensor in the occupancy set can command the group to the occupied light level, but ALL sensors in the occupancy set need register an unoccupied state before lighting can transition to the unoccupied level.

During the Area creation, if a custom template is chosen, the template will determine the behavior of the occupancy set, the quantity of occupancy sets added to a Networked Area, and what zones are controlled by the occupancy sets. Up to 6 occupancy sets can be created in each Area.

If the default template is used to create the Area, the default occupancy set behavior is:

- **Mode:** Occupancy
- **Occupancy Hold Time:** 20 minutes
- **Energy Saver Mode:** Enabled
- **Energy Hold Time:** 10 minutes
- **Occupied level/state:** Default Zone level 100%/ON⁶²
- **Energy Saver level:** 50%
- **Unoccupied level/state:** Default Zone level 0%/OFF

Follow the steps in this section if:

- More occupancy sets are needed because lights need to react to occupancy sensors in different ways within the same Area (Part 1)
- Zones have been added to an Area with multiple occupancy sets and need to be assigned to the correct occupancy set (Part 2)

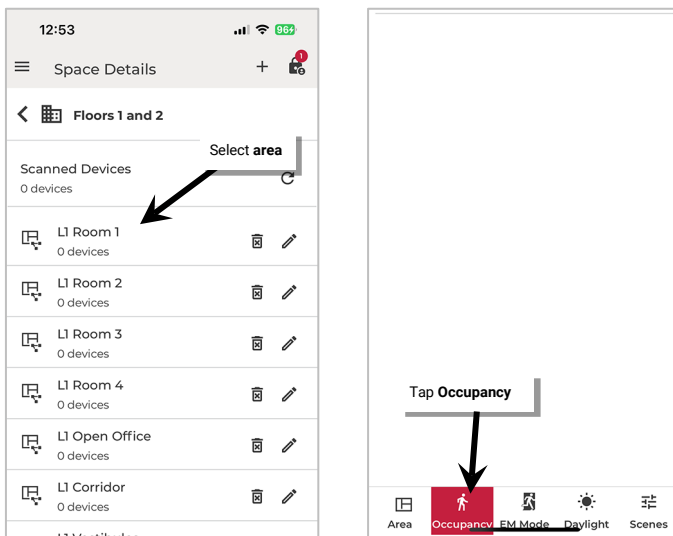
Occupancy set behavior modification and renaming will be discussed in a later section. See “Modify Occupancy Sets in Networked Areas” on page 115.

Part 1: Create New Occupancy Sets


It may be necessary to create additional occupancy sets if motion in one zone should not trigger lighting in another zone or if zones need to operate differently with motion commands. In this case, each zone would need an occupancy set to separate out the motion response. Up to 6 occupancy sets can be created in the Area.

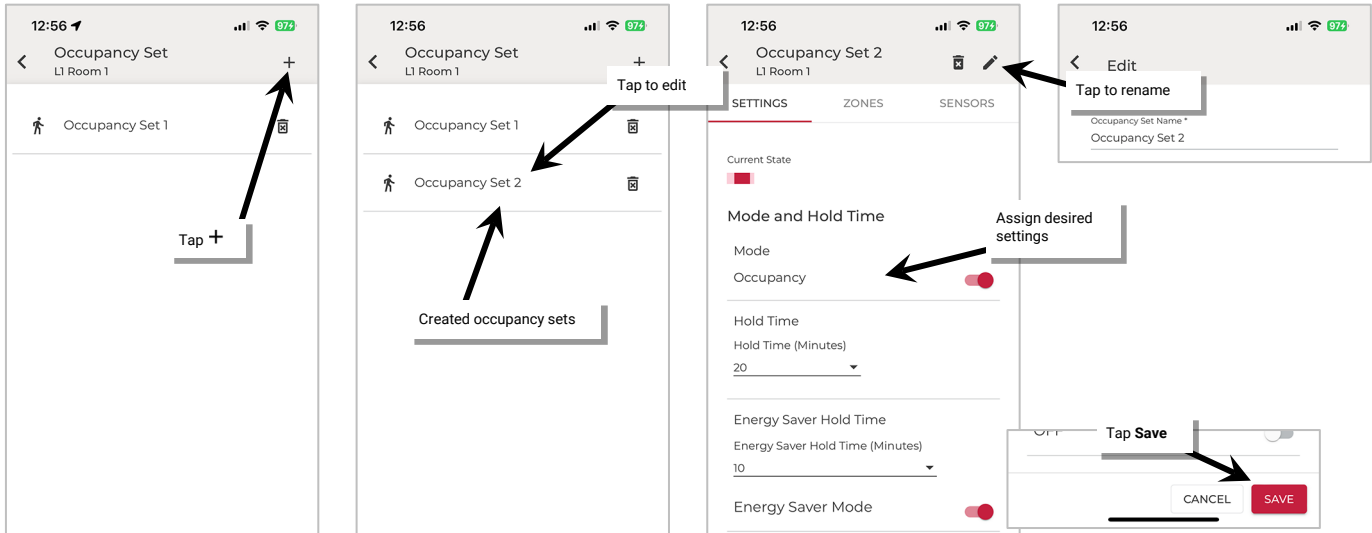
To create a new occupancy set:

- 1: In the Mobile App, navigate to the **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of the device).
- 2: In the Area list, select the desired **Area**.
- 3: Tap the **Occupancy** tab.



⁶² If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

- 4: Tap **add +** to add an occupancy set.
- 5: (Optional) Select the occupancy set and then tap **edit**  to **name** the occupancy set.
- 6: Assign the necessary settings for the occupancy set. See "Adjust Occupancy Set Settings" on page 119 for details.
- 7: Repeat until the needed occupancy sets are created.

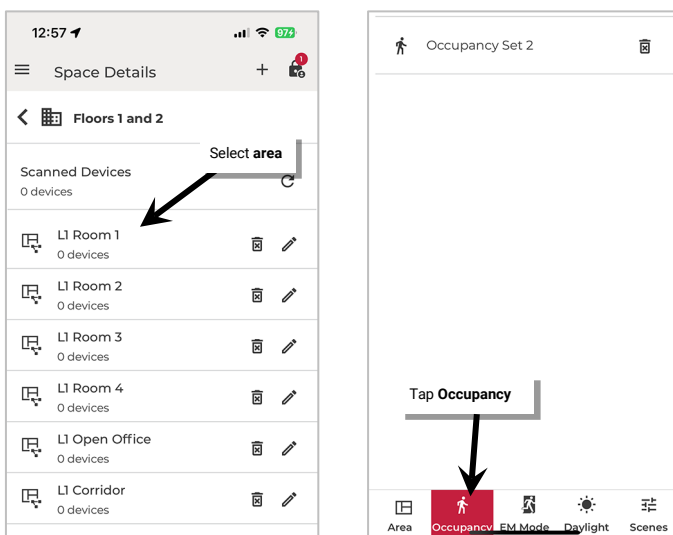


Part 2: Assign and Unassign Zones to Occupancy Sets

If not created from a previously mapped template, a new Area that has multiple occupancy sets needs to have the zones manually assigned to the correct occupancy set. Unless a customized template is used, all created zones will be assigned to the first occupancy set shown in the occupancy set list. It will be necessary to change the assignment of the zone to the correct occupancy set. One occupancy set can have multiple zones assigned to it if the zones need to respond to the same occupancy commands.

To assign or unassign zones:

- 1: In the Mobile App, navigate to the **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of the device).
- 2: In the Area list, select the desired **Area**.
- 3: Tap the **Occupancy** tab.



4: Select the desired occupancy set and then tap **Zones**.

5: Review the assigned and available zones. Tap **+** to add zones, tap **+** next to the zone. To unassign a zone, tap **-** next to the zone.

6: Repeat until all zones are assigned to the correct occupancy set. When complete, the **Available Zones** section should be empty unless the remaining zones will not respond to occupancy commands.



Step 6: Assign Devices to Areas (Provisioning)

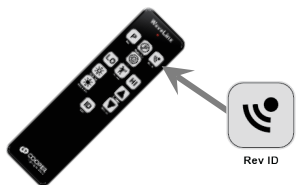
Provisioning steps, options and screens will be different depending on if the Area is a Networked Area or a Standalone Area. Refer to the steps in the section for the type of Area being provisioned.

Networked Area Provisioning

Once the zones and occupancy sets are defined and assigned, provision the devices in the Area.

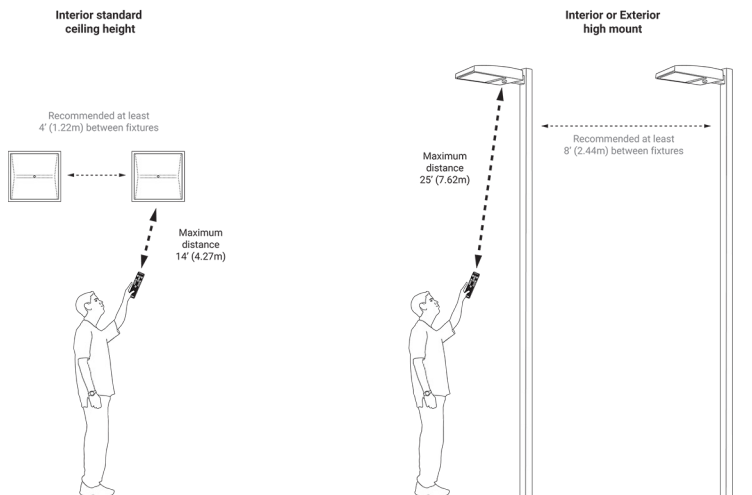
Additional Tools Required:

WaveLinx PRO IR Remote (ACC-P-RT)



If using the WaveLinx PRO IR Remote (recommended):

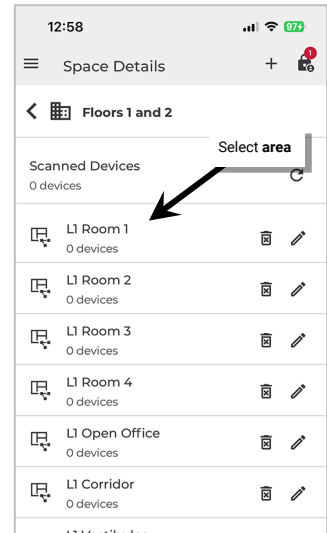
- Only the **Rev ID** button will be used. No other buttons will function in the WaveLinx LITE system.
- Make certain that the fixture/sensor is powered.
- Stand directly below the fixture and point the IR remote at the sensor lens.
- For standard ceiling height mounted fixtures or Acoustic Ceiling Sensors, use the IR remote within 14 feet (4.27m) of the fixture. With sensors mounted less than 4 feet (1.22m) apart, there is a possibility that the remote signal will be received by both sensors.
- For high mount industrial or outdoor fixtures, use the IR remote within 25 feet (7.62m) of the fixture. With high mount sensors mounted less than 8 feet (2.44m) apart, there is a possibility that the remote signal will be received by both sensors.



If unable to use the WaveLinx Pro IR Remote to identify the fixture mounted sensors or tilemount sensors at this facility, follow the procedures in the "Identify and Provision Other Non-Battery Powered Devices:" section on page 90.

Begin the Provisioning Process:

- 1: In the Mobile App, navigate to the **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of the device).
- 2: Verify that all the Area's WaveLinX LITE devices are displaying the correct out-of-the box and LED behavior for an unprovisioned device as described on the device's reference sheet in the "WaveLinX LITE Device Reference Sheets" section beginning on page 10.
- 3: In the Area list, select the desired **Area**.

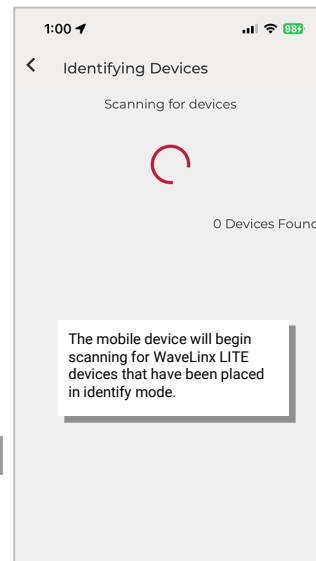
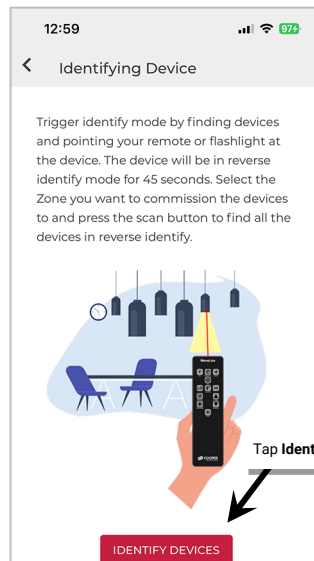
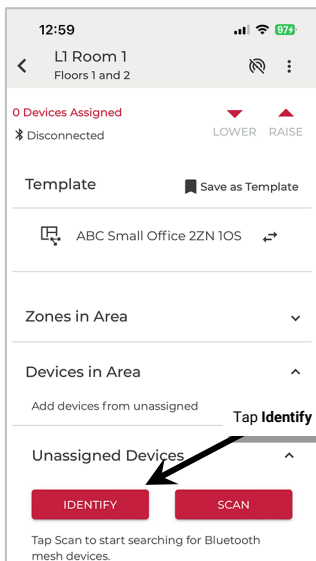


Identify and Provision Acoustic Ceiling Sensors, Integrated/Fixture Mounted Sensors, or Tilemount Sensors:

First, visually determine what fixtures/sensors need to be assigned to each zone in the Area.

This section assumes the use of the WaveLinX PRO IR Remote. If unable to use the remote to identify the fixture mounted sensors or tilemount sensors at this facility, follow the procedures in the "Identify and Provision Other Non-Battery Powered Devices:" section on page 90.

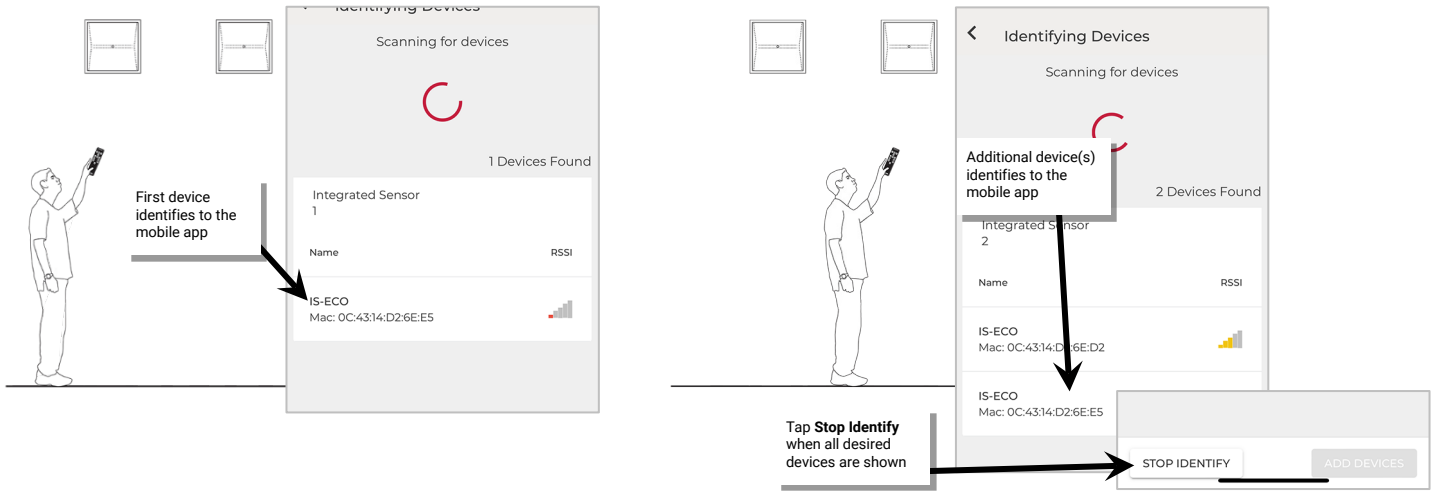
- 4: In the Area details, scroll down to the **Unassigned Devices** list, and then tap **Identify** and review the tips on using the identify feature. Tap **Identify Devices** to continue. The scan will begin for any devices that are identified.



5: Go to a fixture/sensor in the first zone and then stand underneath it. Point the IR Remote at the sensor lens and press the remote's **Rev ID** button.

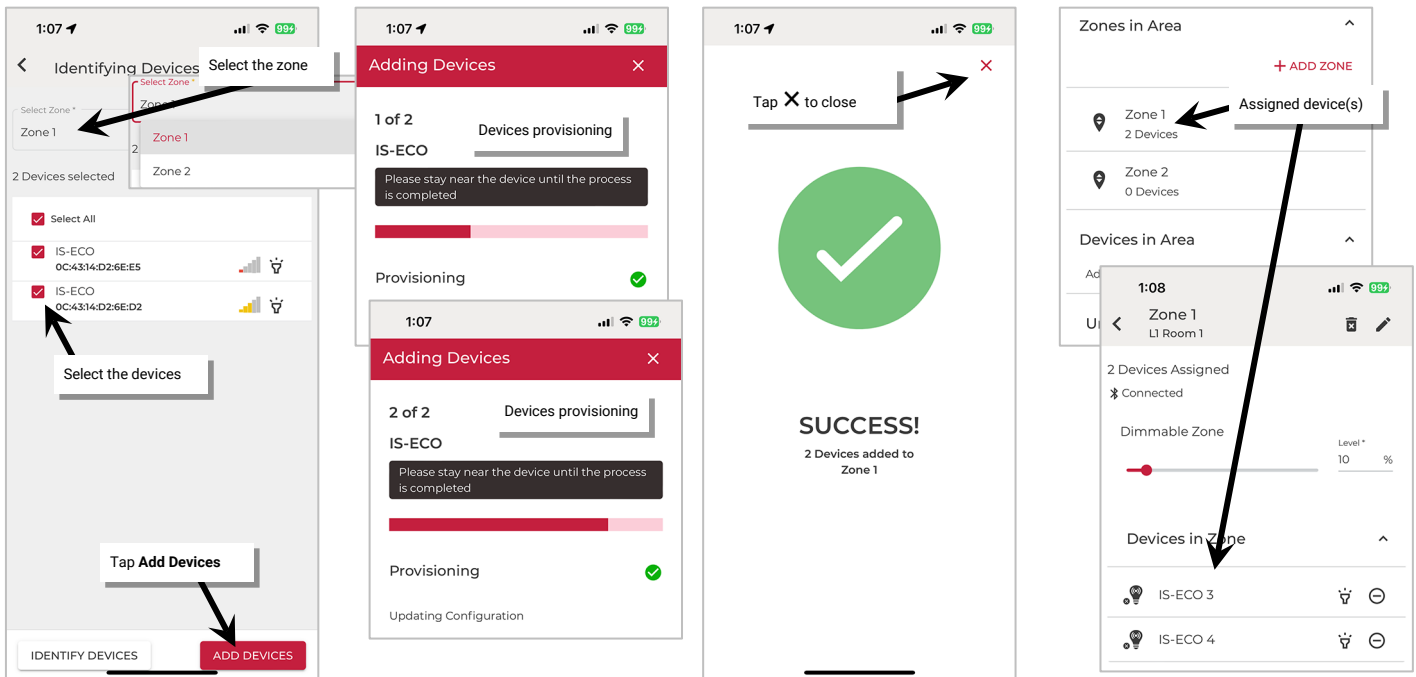
The device LED should begin flashing magenta repeatedly for 45 seconds as it identifies to the mobile app. The device should appear in the **Identifying Devices** list.⁶³

6: Move to the next fixture/sensor that should be assigned to that zone and repeat step 5 for the additional device. Repeat for additional sensors until all sensors for the zone are showing in the list and then tap **Stop Identify**. Make certain that the mobile device is still within range of all previously identified devices (within 60 feet/18 meters of the device).⁶⁴



7: From the drop down, select the zone that the devices should be assigned to and then checkmark the devices that should be assigned to the zone. If any devices were mistakenly identified, deselect the checkbox to skip those devices. Tap **Add Devices** to begin the provisioning process.

8: Stay within range of the fixtures during the process. The app will provision the devices one after the other and then display a success message showing the total quantity of devices added. Tap **X** to close the confirmation screen. The device(s) should show assigned to the zone.

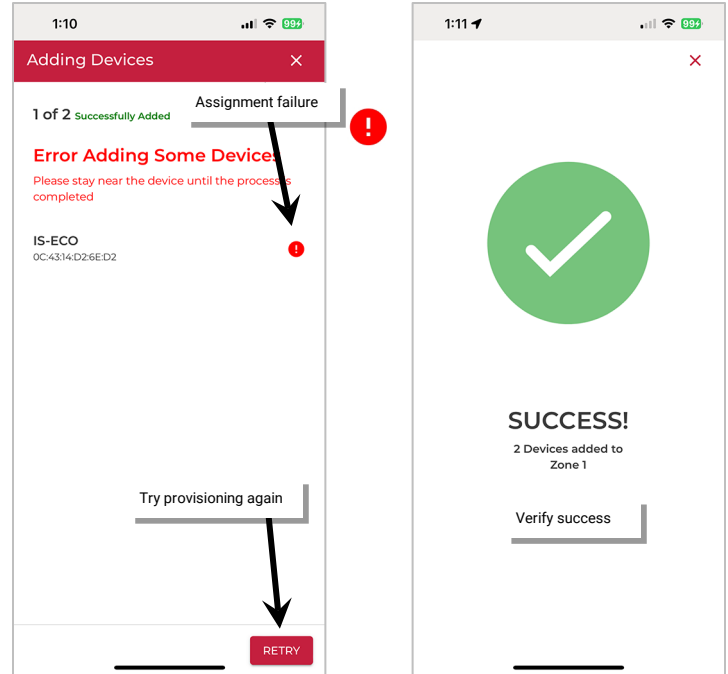


⁶³ To end a device's identification prior to the automatic time out, press the **Rev ID** button on the IR Remote. If a device is in identify mode, this command will cancel it. Note: Cancelling the identify will not clear the device from the identify screen.

⁶⁴ If the area is very large and devices are out of range when performing the identification method of provisioning, split the zone into sections and perform the procedure for one section at a time.

9: Repeat steps 4 through 9 for additional zones in that Area until all IR compatible sensors in the Area are identified and provisioned.

If the provisioning fails for any device, the screen will display the device(s) that errored. Move closer to the displayed device(s), and then tap **Retry** to provision the device that failed. If the error continues, try closing the mobile application and then turn off and then on the mobile device Bluetooth. Open the mobile application and try again. If the error continues, contact technical support.



Identify and Provision Other Non-Battery Powered Devices:

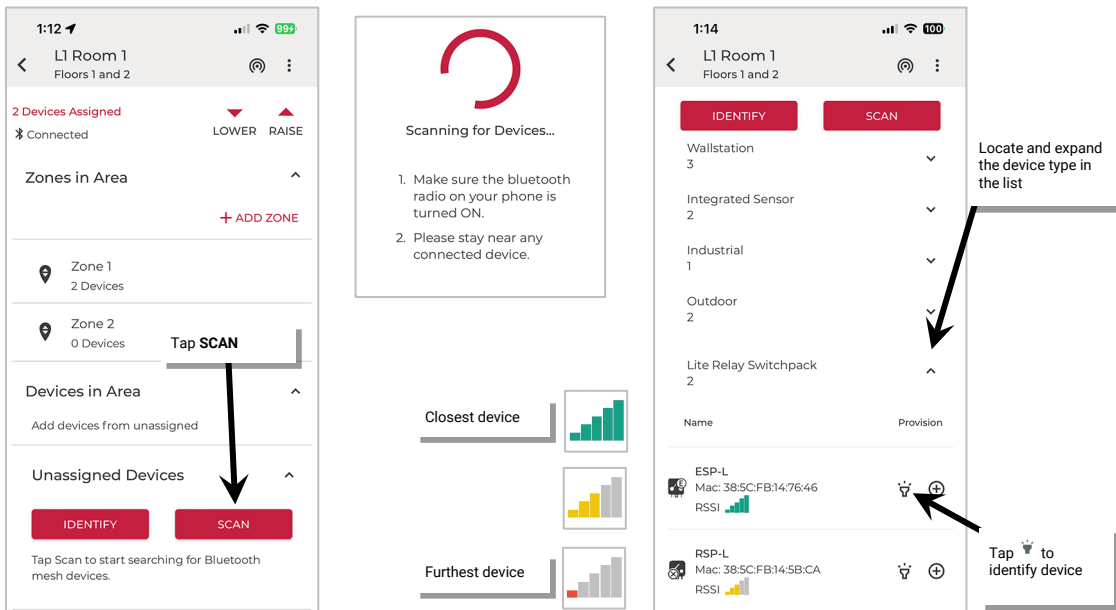
Use the steps in this section to provision any non-battery powered WaveLinx LITE device including switchpacks, line voltage wallstations, Acoustic Ceiling Sensors, and fixture mounted or integrated sensors.

10: With the mobile device, stand as close as possible to the WaveLinx LITE line voltage powered device.

11: In the Area details, scroll down to the **Unassigned Devices** list and then tap the **Scan** button to start a device scan. Wait for the scan to complete.

12: Locate the device in the list. The top listed device in the device type section will typically be the device closest to the mobile device. To verify it is the correct device, tap **identify** to place the device in the identify mode. Verify that the expected device displays the identify behavior described in the device reference sheet section on page 10.

After 15 seconds the device will disconnect and return to normal operation. Prior to the 15 second timeout tap **identify** to cancel the command and disconnect manually. If an unintended device responds, try the next device listed and continue until the expected device is found.



13: Staying near the identified device, tap ⊕ on the device in the mobile app to begin the provisioning process. If the device is a load control device and the Area has more than one zone, select the zone it should operate with. Once the request is successfully processed, tap ✕ **Close**. The device should show assigned to the Area. Load control devices will show in **Zones in Area** while wallstations will show in the **Devices in Area**.



If the provisioning fails, the **Processing Request** screen will show exclamation points ! instead of checkmarks. Tap **Close**, move closer to the device, and then tap ⊕ to start the provisioning again until the process is successful. If the error continues, try closing the mobile application and then turn off and then on the mobile device Bluetooth. Open the mobile application and try again. If the error continues, select **View Logs** for further information and contact technical support.

Identify and Provision Battery Powered Devices:

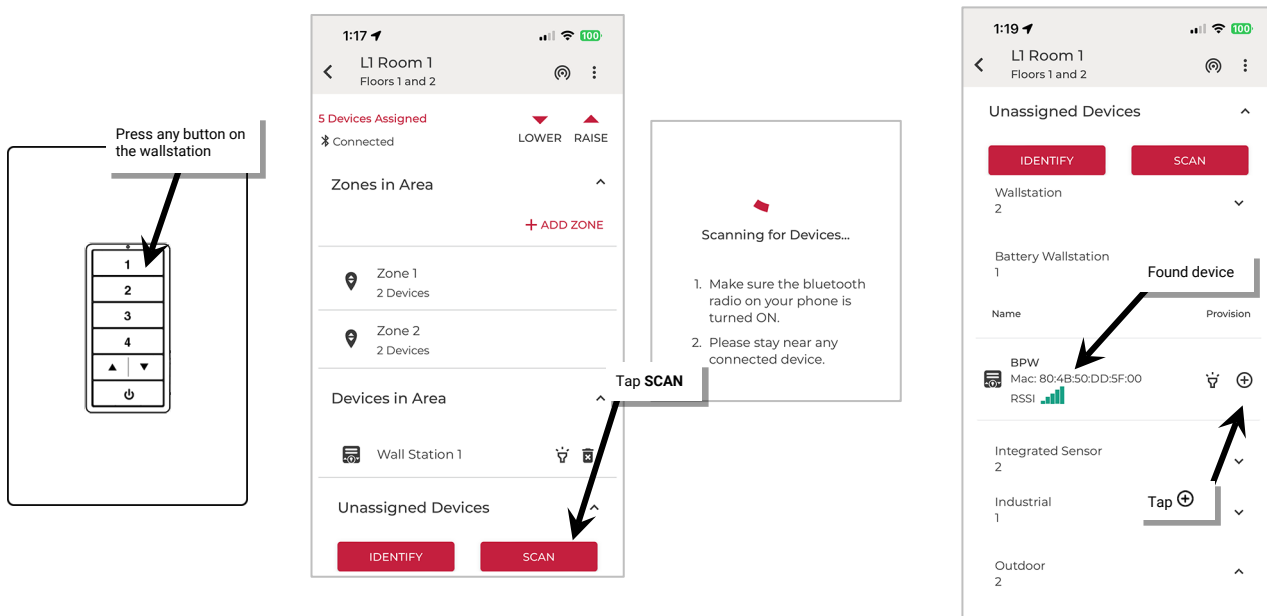
Use the steps in this section to provision any battery powered WaveLinx LITE devices such as WaveLinx LITE battery powered wallstations.

14: With the mobile device, stand as close as possible to the WaveLinx LITE battery powered wallstation.

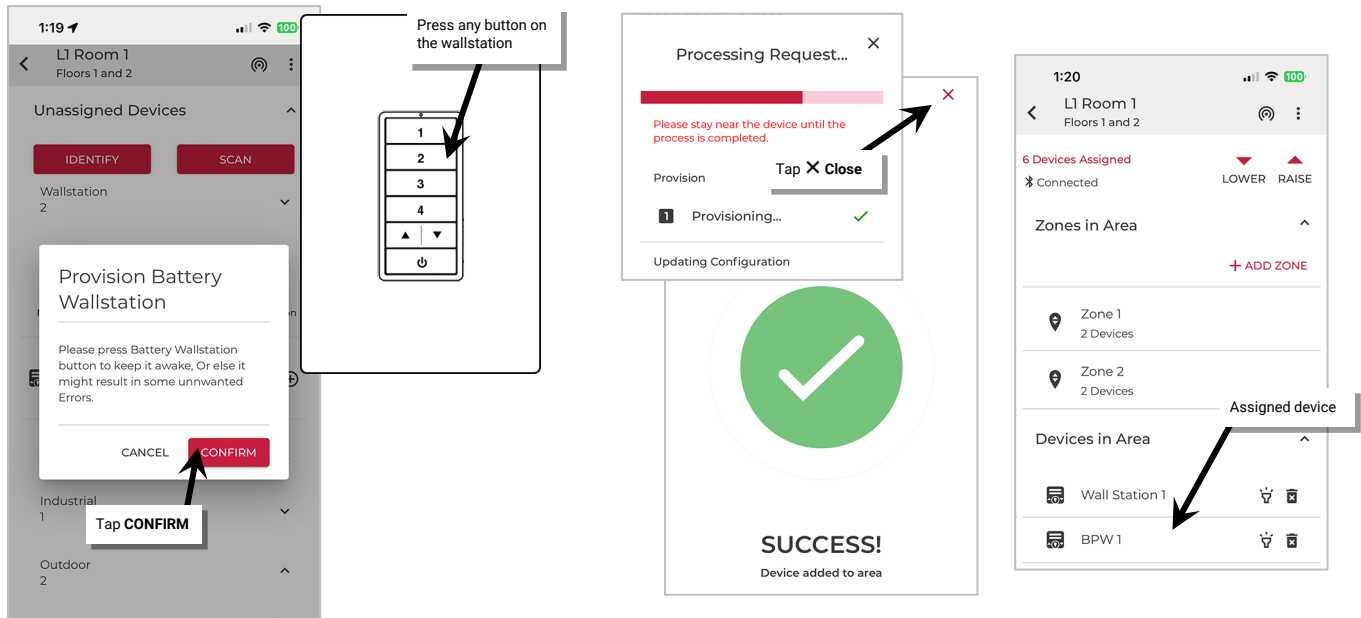
15: Press any button on the wallstation to wake the station. The station will stay in a ready state for 30 seconds, waiting for communication from the mobile app.

16: In the Area details, scroll down to the **Unassigned Devices** list and then tap **SCAN**. Wait for the scan to complete.

17: Open the **Battery Wallstation** list to view the scanned wallstation. Tap ⊕ next to the wallstation to begin provisioning.



18: When prompted, press any button on the wallstation to place the station in a ready state and within 30 seconds tap **CONFIRM**. The device will begin provisioning. Once the request is successfully processed, tap **X Close**. The device should show assigned to the Area.

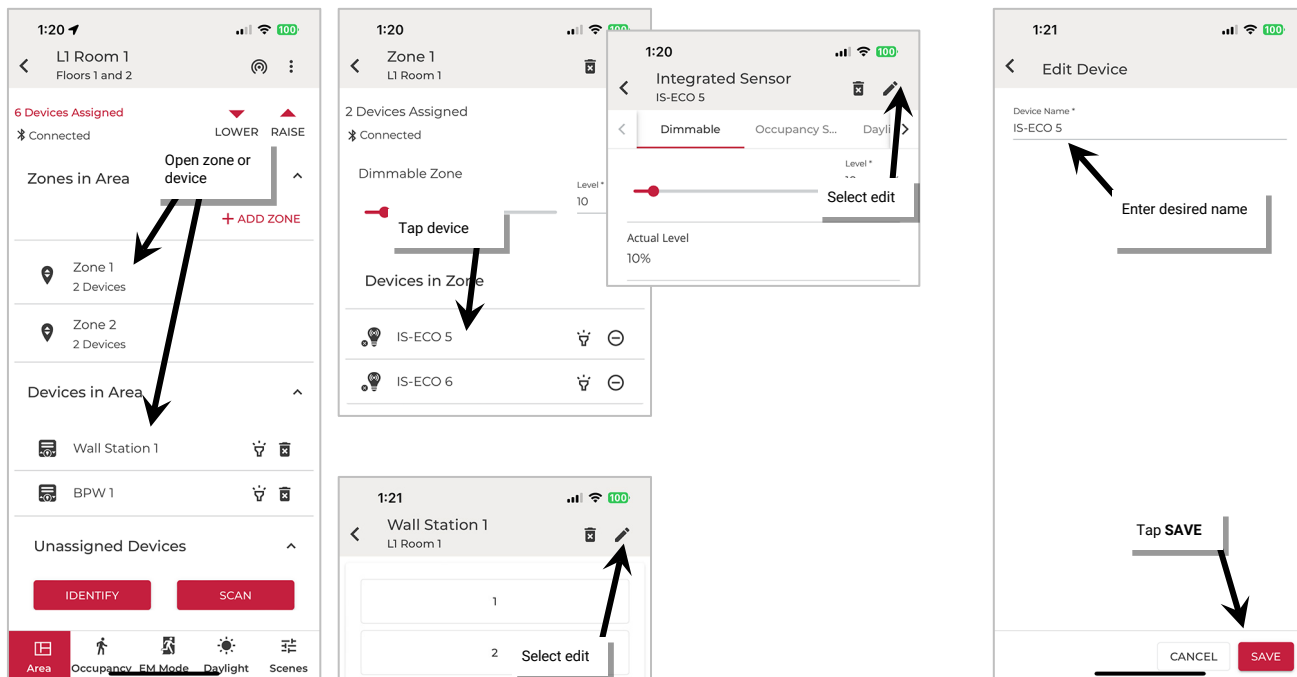


19: Repeat steps 14 through 18 for any additional battery powered wallstations in the Area.

If the provisioning fails, the **Processing Request** screen will show exclamation points **!** instead of checkmarks. Tap **Close**, move closer to the device, press a button to wake up the battery powered wallstation, and then tap **+** to start the provisioning again until the process is successful. If the error continues, try closing the mobile application and then turn off and then on the mobile device Bluetooth. Open the mobile application and try again. If the error continues, select **View Logs** for further information and contact technical support.

Final Steps:

20: (Optional/Recommended) Name each device with a descriptive name to make it easier to find in the mobile application. Tap the device to open it and then tap **edit**, rename the device and then tap **SAVE**. (For battery powered wallstations, press any button on the wallstation when prompted to wake up the device).

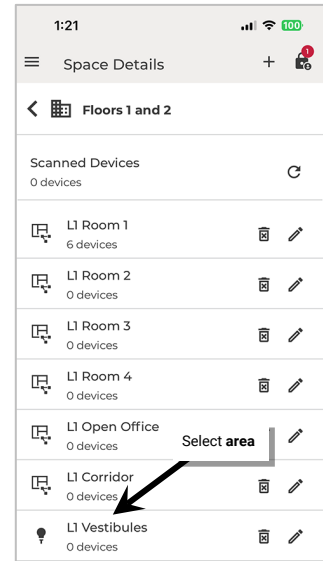


Once devices are provisioned and assigned to the Areas, the devices will begin operating with the default provisioned behavior or with the behavior programmed into the template used for the Areas.

Standalone Area Provisioning

Once a Standalone Area is created, provision the devices that belong in that Area.

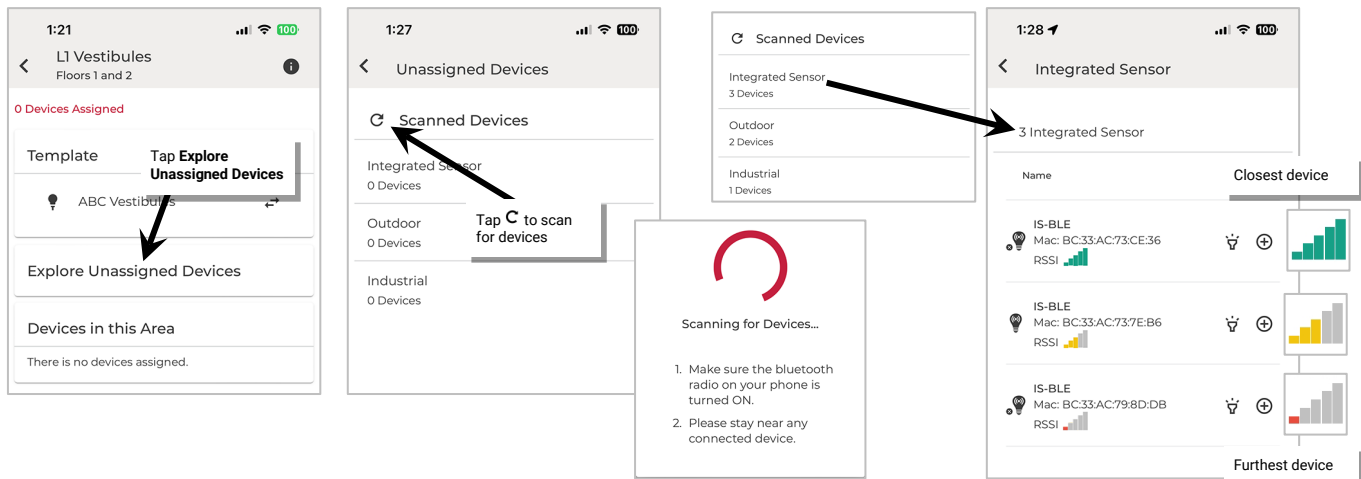
- 1: In the Mobile App, navigate to the **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of the device).
- 2: Verify that the WaveLinX LITE device is displaying the correct out-of-the box and LED behavior for an unprovisioned device as described on the device’s reference sheet in the “WaveLinX LITE Device Reference Sheets” section beginning on page 10.
- 3: In the Area list, select the desired Standalone Area.



- 4: Tap **Explore Unassigned Devices** and then tap the **scan icon C**. Wait for the scan to complete.

Currently, Standalone Areas support the use of integrated sensor devices (Ambient Integrated Sensors, Industrial Fixture Mount High Bay/Low Bay Sensors, Outdoor Fixture High/Low Mount Sensors, and Tilemount Sensors). Only compatible devices will be displayed. Locate the device in the list. The top listed device in the device type section will typically be the device closest to the mobile device. To verify it is the correct device, tap **identify** to place the device in the identify mode. Verify that the expected device displays the identify behavior described in the device reference sheet section on page 10.

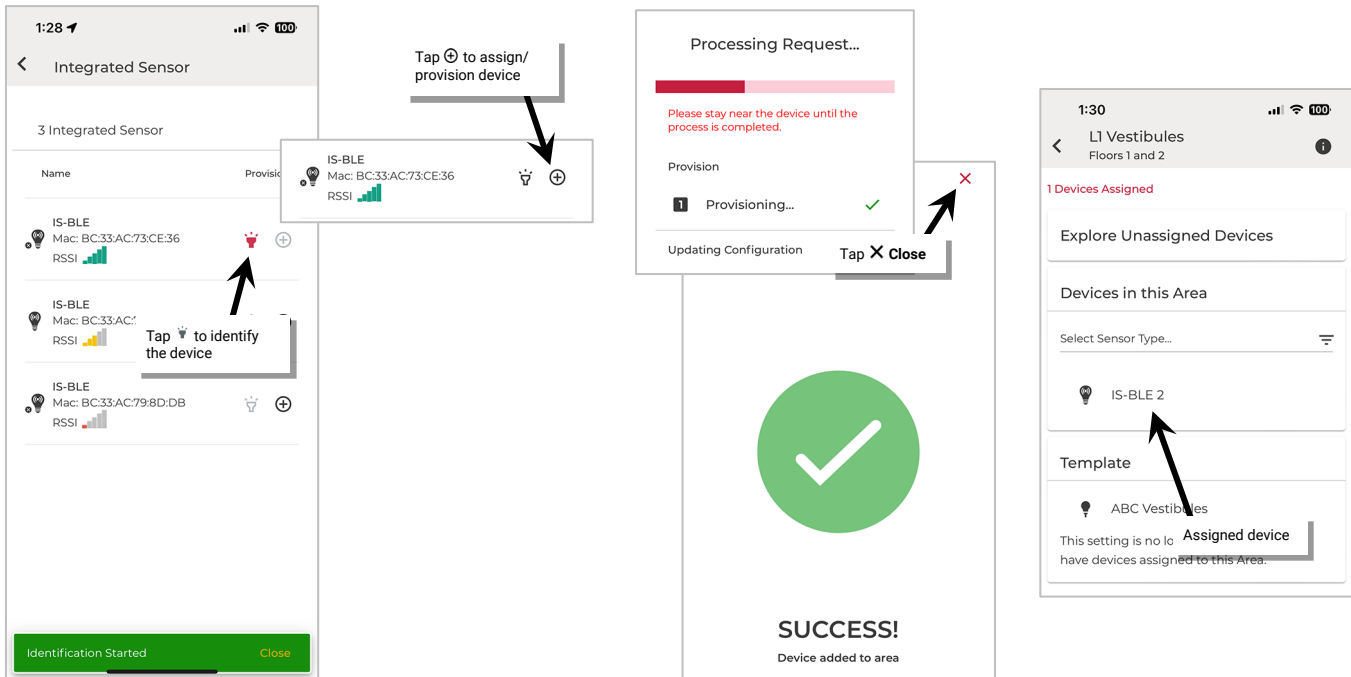
After 15 seconds the device will disconnect and return to normal operation. Prior to the 15 second timeout tap **identify** to cancel the command and disconnect manually. If an unintended device responds, try the next device listed and continue until the expected device is found.



5: Open the appropriate device type list. Tap the **identify icon** to place the device in the identify mode and verify that it is the expected device. The device should respond with the identification behavior described in the device reference sheet section beginning on page 10.

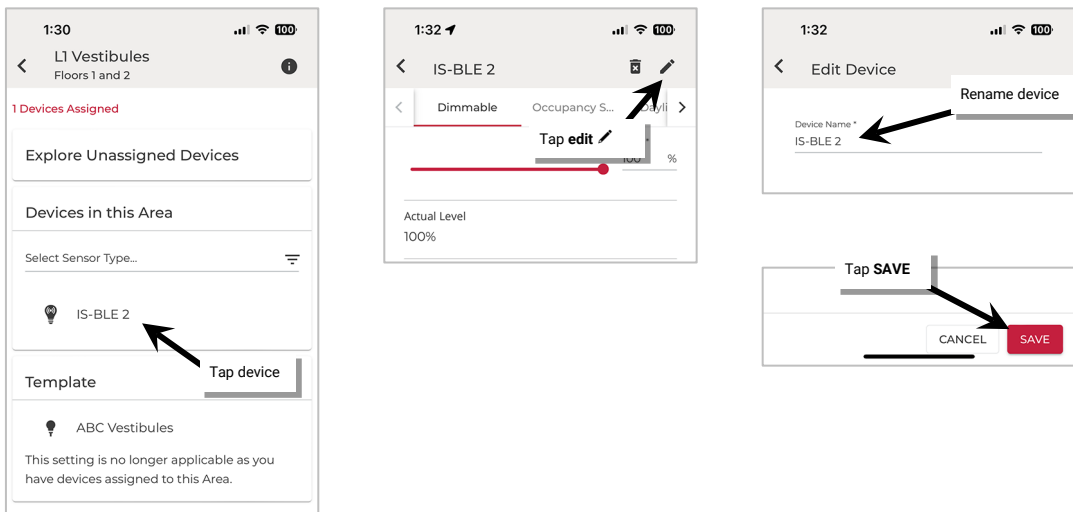
After 15 seconds the device will disconnect and return to normal operation or tap the **identify icon** prior to 15 seconds expiring to cancel the command and disconnect manually. If an unintended device responds, try the next device listed and continue until the expected device is found.

6: Staying near the device, tap on the identified device to begin the provisioning process. Once the request is successfully processed, and then tap **X Close**. Tap the < back button until back to the Standalone Area screen. The device should show assigned to the Area.



If the provisioning fails, the **Processing Request** screen will show exclamation points instead of checkmarks. Tap **Close**, move closer to the device, press a button to wake up the battery powered wallstation, and then tap to start the provisioning again until the process is successful. If the error continues, try closing the mobile application and then turn off and then on the mobile device Bluetooth. Open the mobile application and try again. If the error continues, select **View Logs** for further information and contact technical support.

7: (Optional/Recommended) Name the device with a descriptive name to make it easier to find in the mobile application. Tap the device to open it and then tap **edit** , rename the device and then tap **SAVE**.



8: Move close to the next device and repeat these steps. Repeat for all devices that should belong to the Standalone Area.

Once devices are provisioned and assigned to the Areas, the devices will begin operating with the default provisioned behavior or with the behavior programmed into the template used for the Areas.

Step 7: Repeat the Process for Additional Areas

Once the devices have been provisioned for the first Area, repeat steps 4 through 6 for any additional Areas in the Space. For each Area follow the steps in the sections shown below:

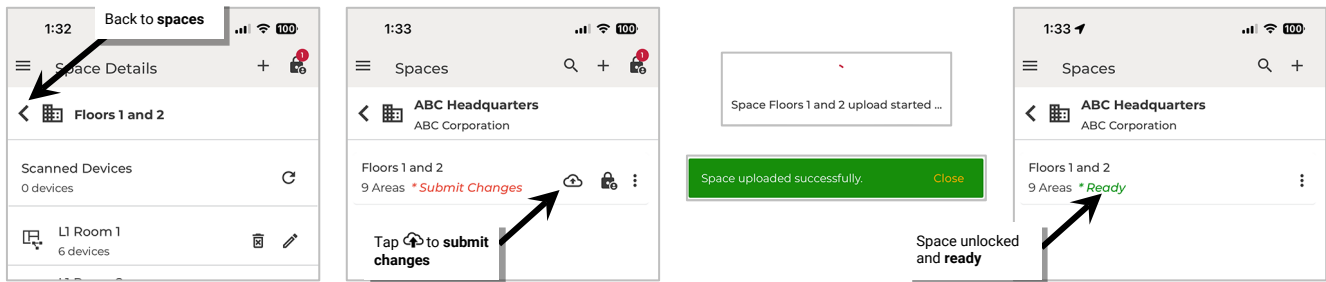
- “Step 4: Add Zones (Networked Areas Only)” on page 84
- “Step 5: Manage the Area Occupancy Sets (Networked Areas Only)” on page 85
- “Step 6: Assign Devices to Areas (Provisioning)” on page 87

Step 8: Exit EDIT SPACE Mode

Once changes are complete, submit the changes to the cloud to back up the changes and **Exit EDIT SPACE** mode. This not only backs up the changes but also “checks in” and unlocks the Space for programming access by other authorized users.

1: Navigate back to the **Spaces** list.

2: Tap the **submit changes icon** and wait for the upload to complete. Once uploaded, the Space will show **Ready**.



Note: The WaveLinx LITE mobile app will automatically try to sync changes every 15 minutes dependent on the mobile device’s operating system, performance, battery charge, and internet connection.

Understand Space Status and EDIT SPACE Mode: Network Mode


The WaveLinx LITE v7.0 architecture allows for multi-user access to an Organization. There are controls in place to prevent more than one user from accessing the same programming at the same time and to keep the database in sync for all users. This section discusses the process to:

- Ensure the database is in sync
- Lock a Space for modification: EDIT SPACE mode
- Unlock a Space by submitting changes: Exit EDIT SPACE mode


Ensure the Space is in Sync

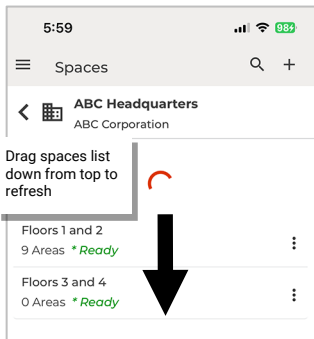
For modifications to be made, the Space should be in a Ready status.

The WaveLinx LITE Mobile Application strives to keep the local mobile app database in sync with the cloud database to prevent the data from getting out of sync, especially with Multi-User Organizations. This section discusses the sync status indicators and their meanings/resolutions. Spaces can also be restored from the cloud to a new mobile device or to a new user's device for multi-user applications.


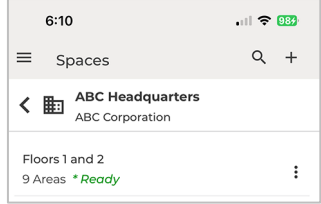


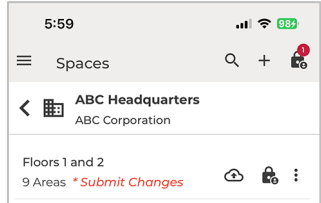


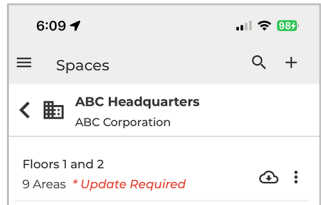
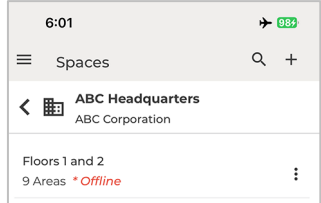



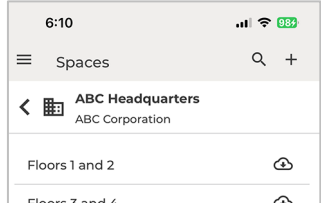
WaveLinx LITE v7.0 screens contain indicators next to the Space name that show the Space sync status. Space status indicators include the Ready status, Submit Changes status, Update Required status, and Offline status. The Space status indicator may also be blank except for the update/download icon  indicating that the Space needs to be restored.

Follow the steps below to ensure that the Space is in **Ready** status:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: From the **menu**  select **Organizations** and tap on the desired **Organization's row to open it**.
- 3: Select the Building for the Space being modified.
- 4: **Refresh** the Space list by dragging down from the top listed Space.






- 5: Review the Space status. If the Space is not **Ready**, perform the steps listed in the following table to return the Space to **Ready** based on the status message received.

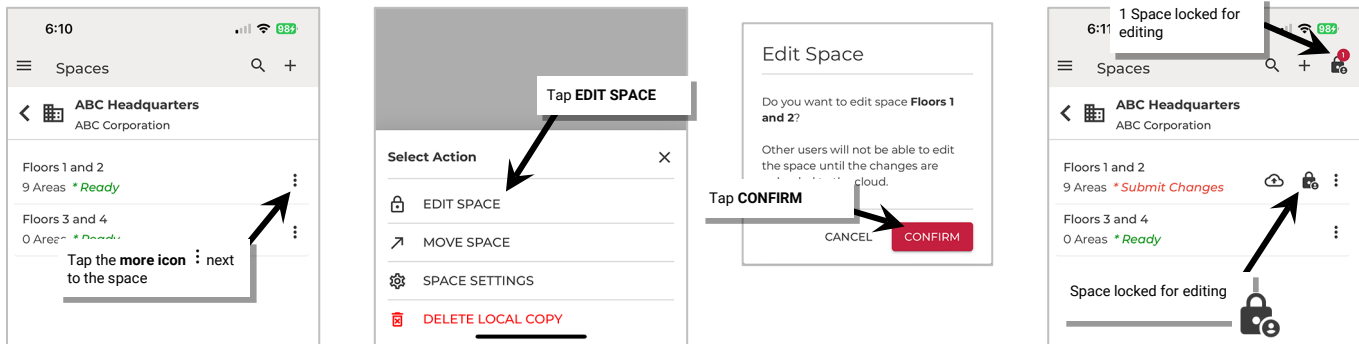
Status Message	Meaning and Actions	Display Example
<p>* Ready</p>	<p>For modifications to be made, the Space should be in a Ready status. Ready means that the local database on the mobile device matches what is in the cloud. No action is necessary.</p> <p>Note: If the Space status is Ready but a lock icon  appears in the row, another user is currently editing the Space. The other user must submit changes before the Space will be unlocked.</p>	
<p>* Submit Changes </p>	<p>Submit Changes will be displayed anytime the Space is opened in EDIT SPACE mode. The Mobile App recognizes that the local database on the device is newer than what is on the cloud. Note that this message will be displayed even if changes have not been made to the Space after the Space is opened.</p> <p>To get the Space back to a Ready status:</p> <ul style="list-style-type: none"> Continue to make changes as needed on the local device. Then sync the database by tapping the submit changes/upload icon  to send the changes to the cloud and unlock the Space from EDIT SPACE mode. <p>Note: The Space may also automatically sync the changes to the cloud as part of the Mobile App's built in auto sync feature.</p>	
<p>* Update Required </p>	<p>Update Required will be displayed anytime the Space database on the local device is older than the cloud database. This can occur when multiple users are administering the system. One of the other users may have made changes.</p> <p>To get the Space back to a Ready status:</p> <ul style="list-style-type: none"> Tap the update/download icon  to load the latest database copy from the cloud. Once the update completes, the Space status should be Ready. 	
<p>* Offline</p>	<p>Offline will be displayed if there is no internet connection available. The app is unable to compare the local database to the cloud to determine the status.</p> <p>To get the Space back to Ready status:</p> <ul style="list-style-type: none"> Make an internet connection and then drag down on the top listed Space to refresh the status. <p>Note: There must be an internet connection available to open the Space in EDIT SPACE mode. Once the Space is open in EDIT SPACE mode, changes can be made without internet access. Internet access must be available to submit the changes and exit EDIT SPACE mode.</p>	
<p> (restore)</p>	<p>If no status is displayed but the update/download icon  appears at the end of the row, the Space database does not exist on the mobile device and needs to be restored from the cloud. This can occur if the user is using the app on a new mobile device (one user account should not be signed in to more than one mobile device at a time) or if a new user is opening an Organization that they have been given access to.</p> <p>To get the Space back to Ready status:</p> <ul style="list-style-type: none"> Tap the update/download icon  to load the latest database copy from the cloud. Once the update completes, the Space status should be Ready. 	


Enter EDIT SPACE Mode

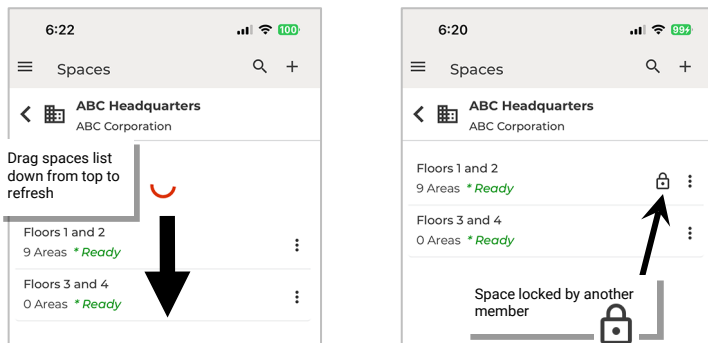
Place a Space in **EDIT SPACE** mode to modify the Space's programming. This "checks out" the Space from the cloud and locks it for editing, preventing modification by other authorized members while the Space is being edited. More than one Space can be locked out at a time if needed. For information on adding authorized members see "Multi-User Setup: Manage Members and Member Roles: Network Mode" on page 179.

- 1: Navigate to the Organization's **Spaces** and then tap the **more icon**  next to the desired Space.
- 2: Tap **EDIT SPACE** and then tap **CONFIRM** to lock the Space for editing. Proceed with the needed changes.

On the display of the member that has placed the Space in **EDIT SPACE** mode, the **lock icon**  next to the Space will show the Space is locked. The **lock icon**  at the top of the **Space Details** screen will show how many Spaces are currently locked by that member.




Other members who are accessing the same Building will be alerted that the Space is locked once they refresh their **Spaces** screen. **Refresh** the Space list by dragging down from the top listed Space. Any Spaces that are locked will show a **lock icon** .

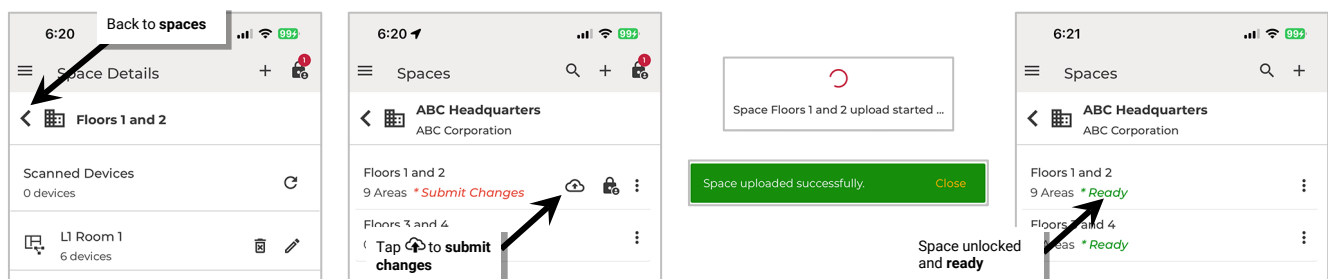


Exit EDIT SPACE Mode

Once changes are complete, submit the changes (sync) to the cloud and **Exit EDIT SPACE** mode. This not only syncs the database but also "checks in" and unlocks the Space for programming access by other authorized members. For information on adding authorized members see "Multi-User Setup: Manage Members and Member Roles: Network Mode" on page 179.

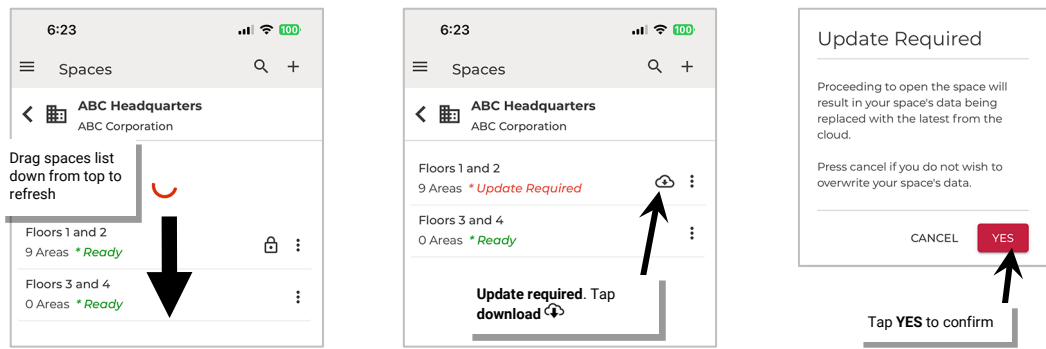
The member that placed the Space in **EDIT SPACE** mode must **submit changes** or **Sync** the Space to unlock it for other member access.

- 1: Navigate back to the **Spaces** list.
- 2: Tap the **submit changes icon**  and wait for the upload to complete. Once uploaded, the Space will show **Ready**.



Note: The WaveLinx LITE mobile app will automatically try to sync changes every 15 minutes dependent on the mobile device's operating system, performance, battery charge, and internet connection. This may unlock the Space when the sync is performed.

Other authorized members who are accessing the same Building will show that the Space is unlocked once they refresh their **Spaces** screen. **Refresh** the Space list by dragging down from the top listed Space. The Space that showed as locked before should now show with a ***Update Required** message. Tap the **download icon** to sync the changes from the cloud storage and when prompted, tap **YES** to overwrite the local database.



Note: If the member tries to enter EDIT SPACE mode without updating first, the Space will force the update prior to locking the Space.

Modify Programming in Networked Areas: Network Mode

This section is specific to Network Mode and Networked Areas. For Standalone Areas, see “Modify Programming in Standalone Areas in Network Mode” on page 150.

Before proceeding with the steps in this section, review the “Understand Space Status and EDIT SPACE Mode: Network Mode” section beginning on page 96.

Once a Networked Area has been defined, the default behavior can be modified if different operation is expected. This section discusses how to:



- Modify Areas
- Modify zones
- Modify devices
- Modify wallstations
- Modify occupancy sets
- Setup Emergency Mode for emergency switchpacks
- Modify scene light levels
- Work with daylight sets

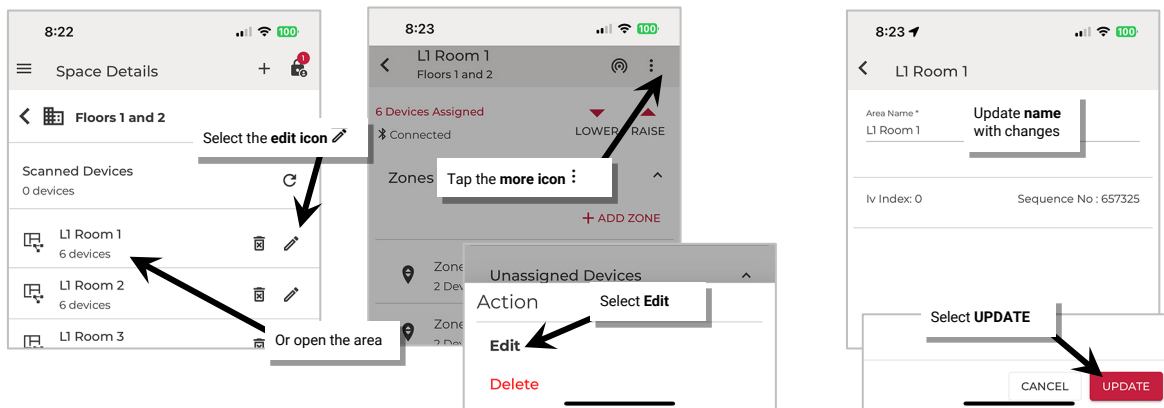
Modify Area Settings in Networked Areas

Once created, Areas can be renamed or deleted. This section discusses how to perform these functions.

Rename an Area

An Area can be renamed at any time. To rename an Area:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98).
- 3: In the Area list tap the **edit icon** , or in the Area, tap the **more icon**  and select **Edit**.
- 4: Enter the Area **name**, and then tap **UPDATE**.



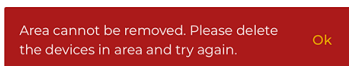
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Add an Area

For steps to add a new Area, refer to “Step 3: Create the Area(s)” on page 82.



Delete an Area

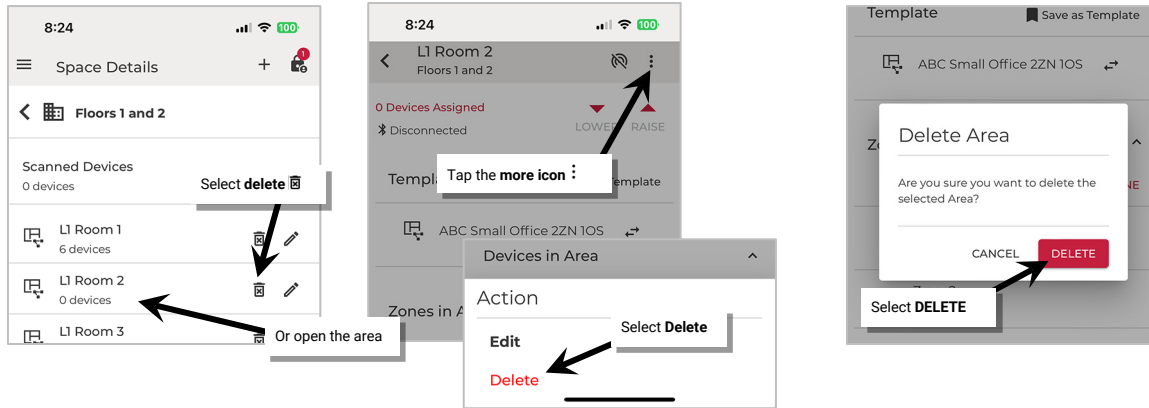
An Area can be deleted ONLY if there are no provisioned devices in the Area. The mobile application will block the deletion if the Area still contains provisioned devices.



To delete an Area:

An Area can be deleted ONLY if there are no provisioned devices in the Area.

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98).
- 3: In the Area list tap the **delete icon** , or in the Area, tap the **more icon**  and select **Delete**.
- 4: When prompted, tap **DELETE** again. The Area will be removed.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Modify Zones in Networked Areas

After zones are created it is possible to change the zone name and update zone operation parameters. Devices may also be moved between zones and zones can be deleted.

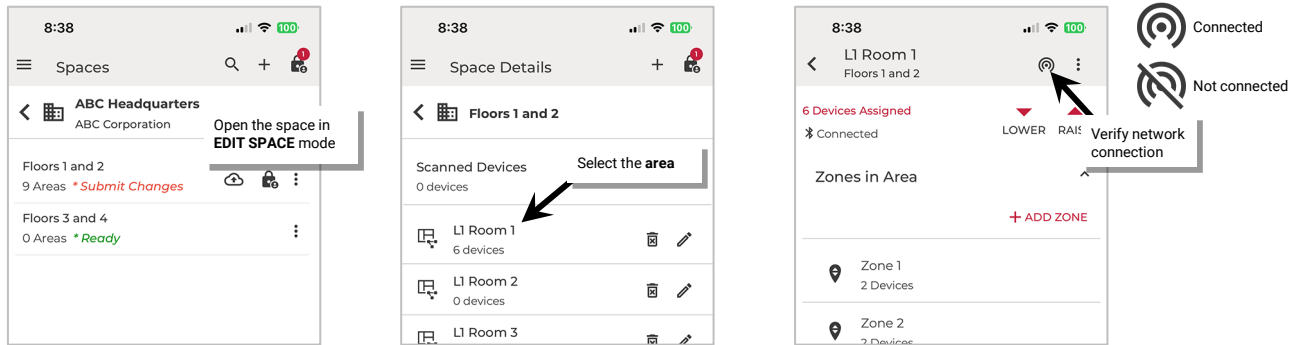
Rename Zones and Update Operation Parameters


The zone name and the operation parameters, i.e., minimum and maximum levels, can be changed after the initial setup except for the zone type.

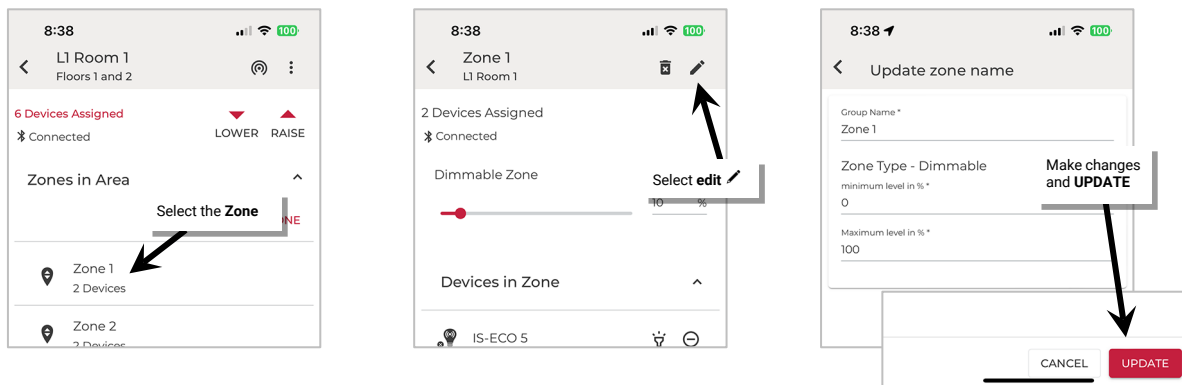
- **Zone name:** Enter a unique name for the zone. Zone names must be unique within the Area.
- **Zone type:** (Zone type cannot be changed after zone is created. The zone must be deleted and recreated if the zone type needs to be changed). The zone type determines the options and behavior for the zone. For dimmable devices, select **Dimmable** control. For relays or lighting loads without dimming capability, select **Non Dimmable** control. For devices controlling plug loads, select **Receptacle**. Both **Non Dimmable** and **Receptacle** zone types follow first ON, last OFF functionality (command @ 1% to 100% = ON, command @ 0% = OFF).
- **Dim Level:** (dimmable zone type only) The light level that a newly provisioned device should go to when it is added to the zone. A low level (default 10%) is recommended. When a device is provisioned and assigned to this zone, it will dim to the defined level along with other devices in the zone. Unprovisioned devices will be ON to 100% if there is occupancy in the Area, allowing for easy identification of unprovisioned vs. provisioned devices
- **Minimum level (low end trim):** (dimmable zone type only) The default setting is 0%. Sets the lowest level that dimming commands can set the dimmable light level to. Typically used to provide a desired aesthetic. Regardless of the minimum level set, a 0% command will turn the load OFF.
- **Maximum level (high end trim):** The default setting is 100%. For dimmable zones, this sets the highest level that the dimming command can set the dimmable light level to. Typically used to save energy or to provide a desired aesthetic. For non-dimmable or receptacle zone types, the maximum level can be adjusted to set the desired ON level if dimmable light sources are assigned to the zone. When an ON command is received, the light source will be commanded ON to the maximum level set.

To change the zone name or operation parameters:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.



- 5: Tap the desired **Zone**.
- 6: Tap **edit**  to open the zone name and parameters.
- 7: Change the **zone name**, update the **parameters**, and then tap **UPDATE**.⁶⁵



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Add Zones

For steps on adding zones to an Area, see "Step 4: Add Zones (Networked Areas Only)" on page 84.

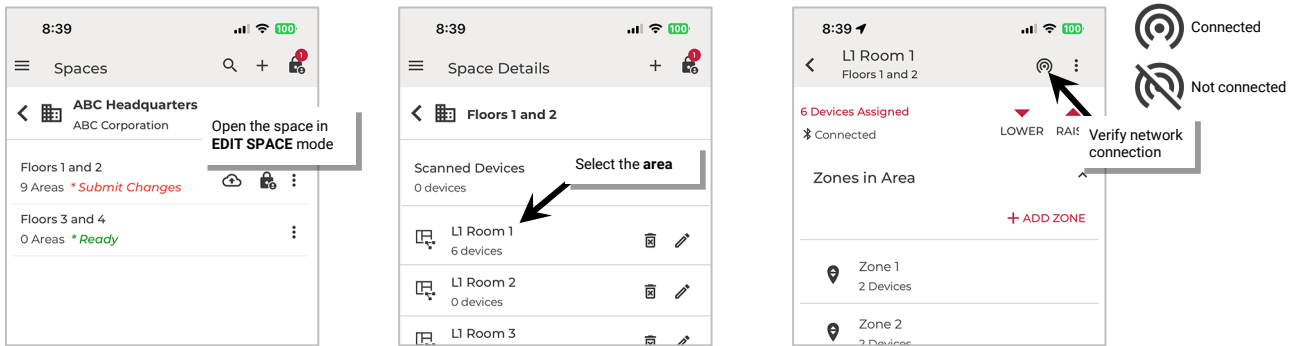
⁶⁵ It is not possible to update the zone type after a zone is created. To change a zone type, delete the zone and then set up the zone as a new zone with the desired zone type.

Move Devices to Different Zones

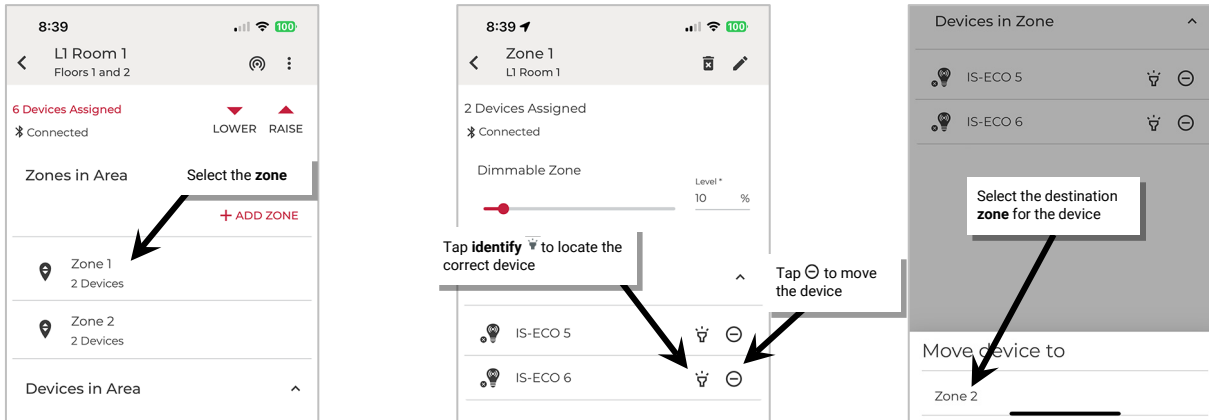
If a device that was assigned to a zone during provisioning needs to be moved to a different zone, follow the steps below.

To move a device to a different zone:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.



- 5: Tap the desired **Zone**.
- 6: In the list of devices in the zone, locate the device to move. If needed, tap **identify** to flash the device until the correct one is found.
- 7: Tap the **minus** icon.
- 8: When prompted, select the **Zone** the device should be moved to and wait for the move to complete.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

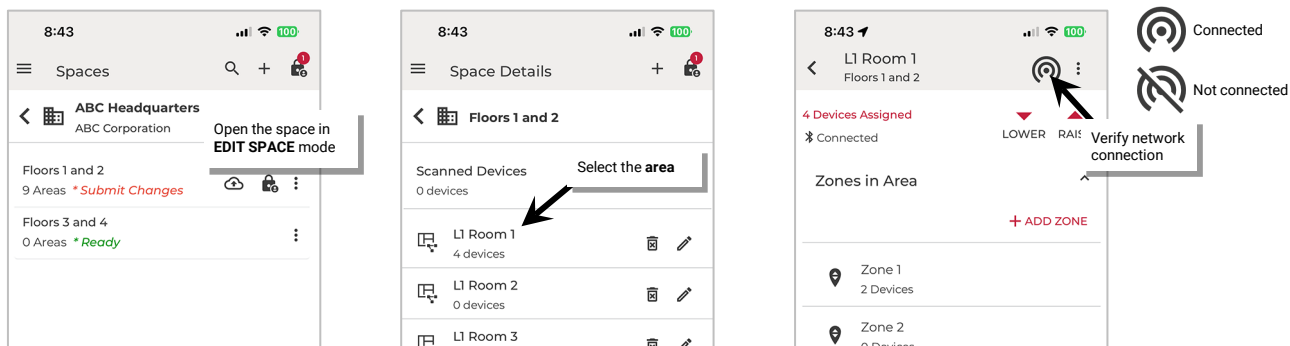
Delete a Zone

IMPORTANT: Communications issues may occur when deleting zones that have assigned devices. For best results, move the devices individually, assigning them to different zones, and then delete the original zone. See the instructions starting on page 103 for information on moving devices.


To delete a zone:

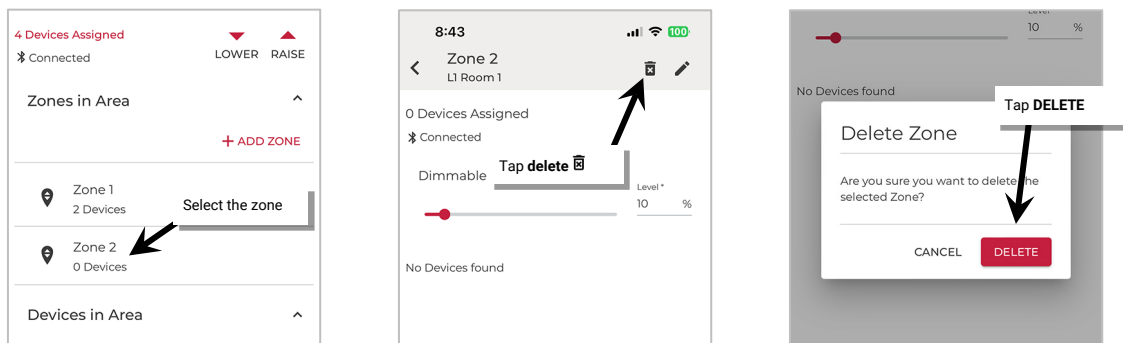
Make certain that there are no devices assigned to the zone. Move any devices from the zone to be deleted. Refer to page 103 for instructions.

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: If there are provisioned devices in the Area, verify that the mobile app is connected to the Area's Bluetooth mesh network.



5: Tap the desired **Zone**.

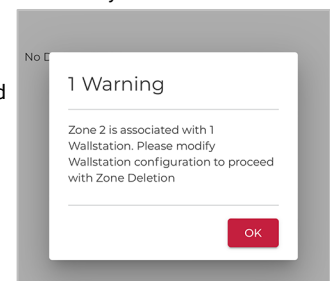
6: Tap **delete**  and then confirm by tapping **DELETE** when prompted.




Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

NOTE: If devices were not moved prior to deletion, select the desired zone to move the devices to. Communications errors may occur. ⁶⁶

NOTE: If a wallstation is programmed for a zone level, raise level or lower level action type to a specific zone, that zone will not allow deletion until the wallstation action is changed, displaying a warning message on the screen. Adjust the wallstation programming per the instructions on page 109 to change the wallstation button actions and then delete the zone.



⁶⁶ If errors or alert icons  display after this step, refer to the section "Resolve Mobile Application Communication Issues" on page 196 to resolve the errors before proceeding.

Modify Devices in Networked Areas

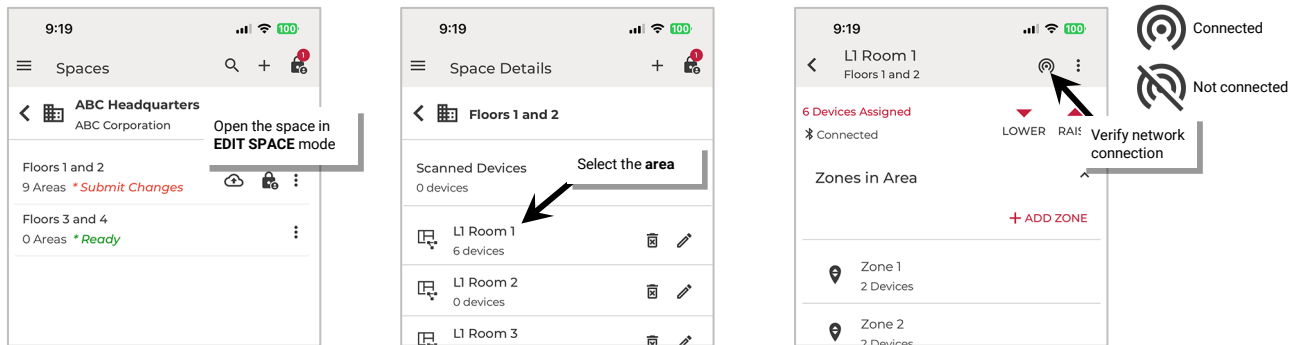
After devices are provisioned, it is possible to change the device name. Devices may also be deleted, returning them to an unprovisioned state. For details on moving a device to a different zone, refer to page 103.

Rename Devices

Optionally devices may be given a more descriptive name to help with identifying the device location or function.

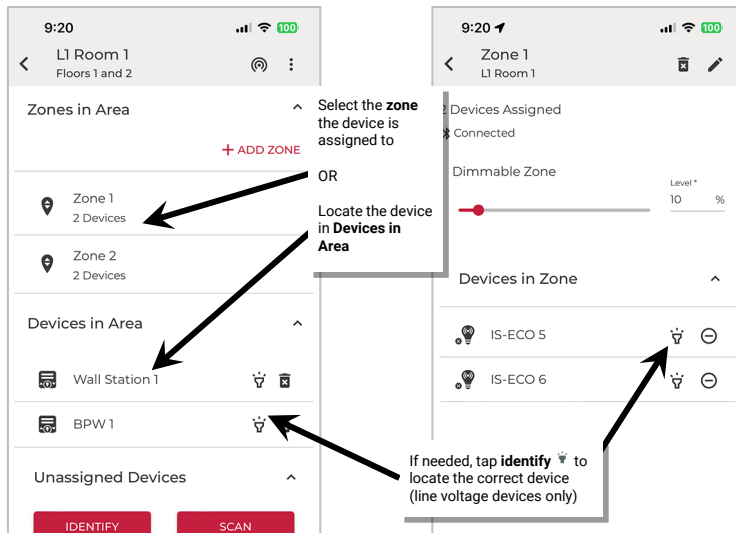
To change a device name:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.



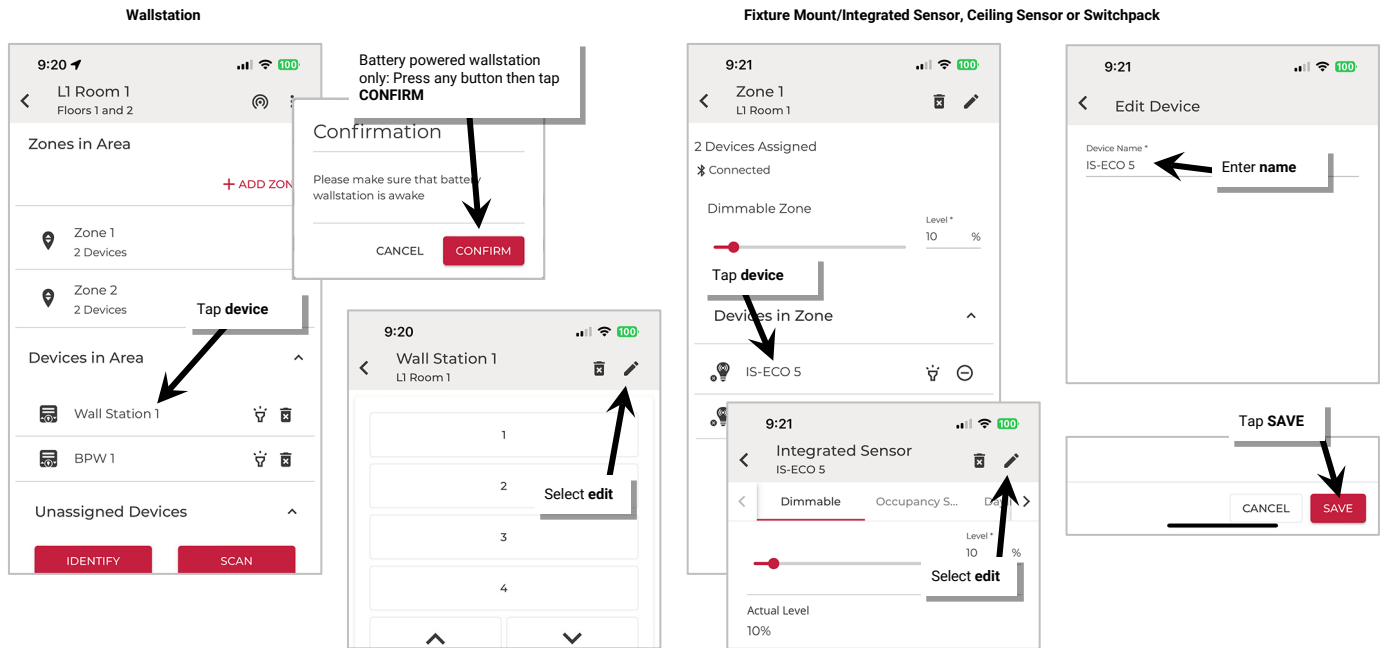
- 5: If the device is a wallstation, locate the device in the **Devices in Area**. If the device is a control device (fixture mount or integrated sensor, switchpack, etc.) open the device's **zone**.

- 6: If needed, tap **identify**  to locate the correct device (battery powered devices will not respond to an identify command).



7: Tap the **device** to open the device and then tap **edit**  to change the device a new name. Tap **SAVE**.

Note: Battery powered wallstations will request that a button be pressed. Once the wallstation is awake, tap CONFIRM to proceed.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Add/Provision a New Device

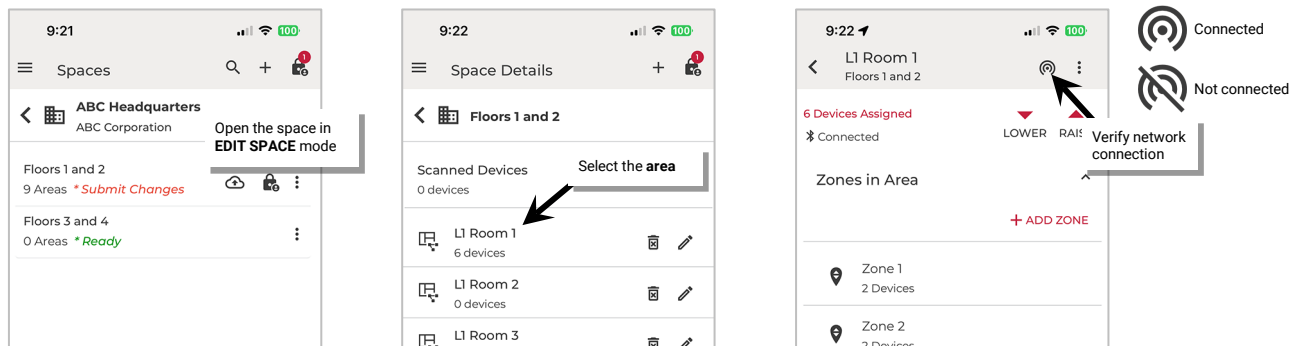
To add an additional new device to an existing Area, see “Networked Area Provisioning” on page 87.


Delete Devices (Return to Unprovisioned State)

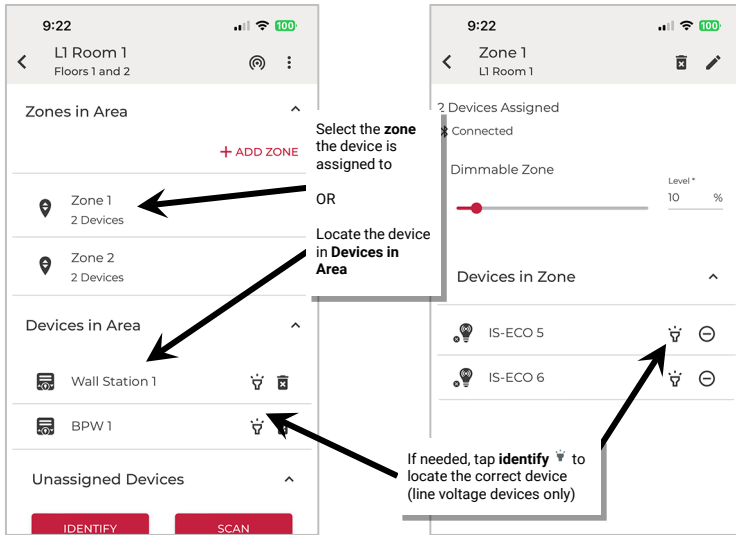
Any device in an Area can be removed and returned to unprovisioned status.



To delete a device:

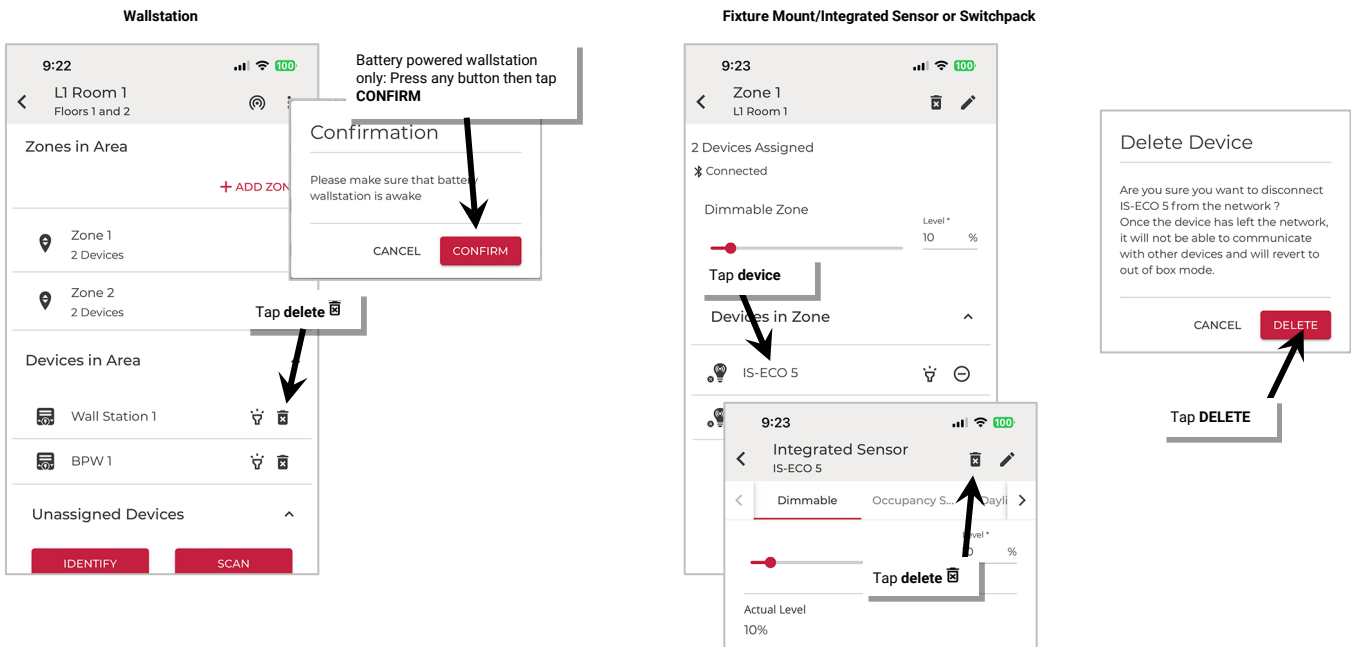
- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.



- If the device is a wallstation, locate the device in the **Devices in Area**. If the device is a control device (fixture mount or integrated sensor, ceiling sensor, switchpack, etc.) open the device's **zone**.
- If needed, tap **identify**  to locate the correct device (battery powered devices will not respond to an identify command).



- For a wallstation, tap **delete**  next to the device. For a device assigned to a zone, open the zone and then tap the device. In the device screen, tap **delete** . Tap **DELETE** again when prompted.
- Note:** Battery powered wallstations will request that a button be pressed. Once the wallstation is awake, tap CONFIRM to proceed.



The device will return to its default out-of-the-box behavior. The device can then be provisioned as a new device. Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

If a device is no longer communicating, refer to "Replace Devices" on page 205 for details on deleting the device from the mobile application. Provisioning can also be manually removed. Refer to "WaveLinx LITE Device Reference Sheets" beginning on page 10 for device specific instructions on how to perform a factory reset.

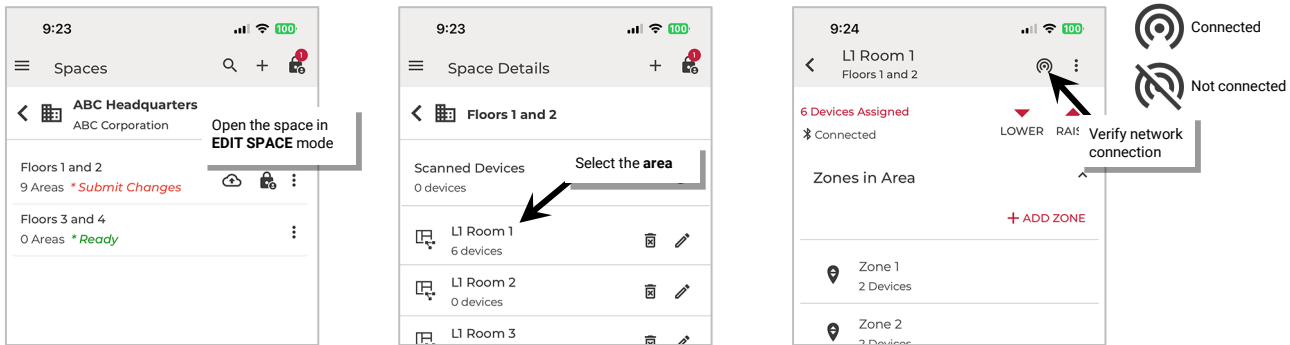
Modify Wallstations in Networked Areas

Wallstations can only be provisioned/assigned to Networked Areas. Within the Area, wallstations can be modified to allow for a more descriptive name and different command actions.

Rename Wallstation

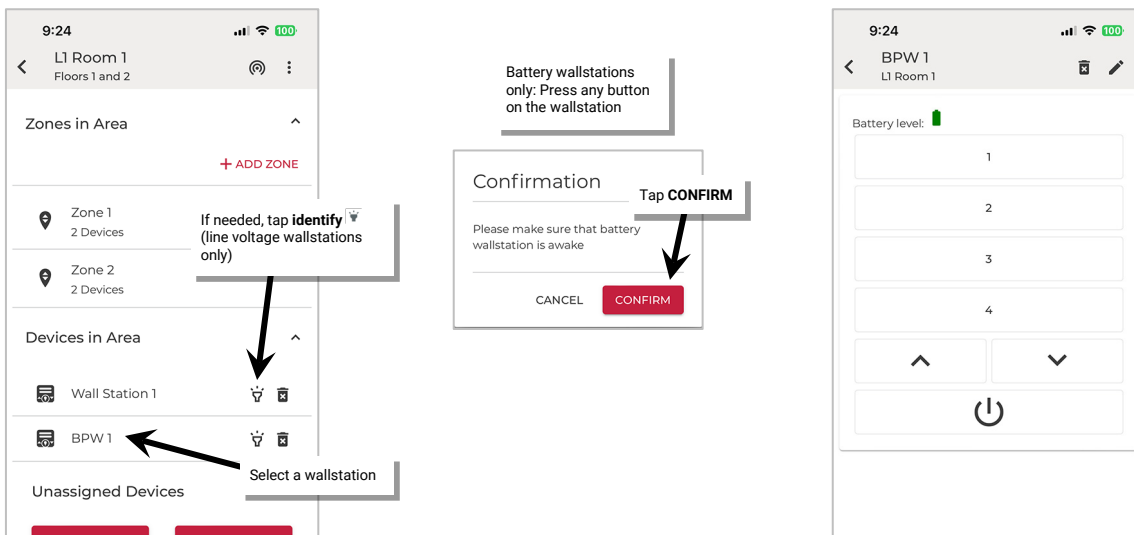
To modify a wallstation:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).⁶⁷
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.




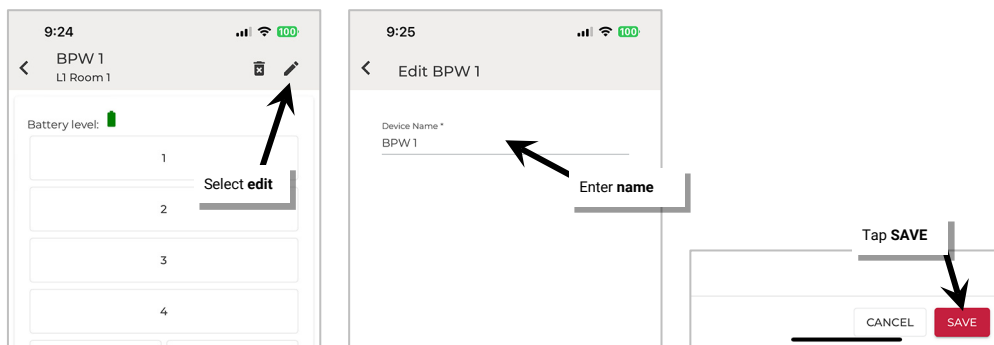
- 5: Locate the wallstation in the **Devices in Area** Tap on the wallstation to open it for configuration. The mobile application will display the wallstation's configuration on the screen.

- **Line voltage wallstations only:** If needed, tap **identify** to flash the wallstation LED until the correct one is identified.
- **Battery powered wallstations only:** After selecting the wallstation, when prompted to wake the station, press any button on the wallstation and then tap **CONFIRM**.



⁶⁷ To make a change to a battery powered wallstation, there must be a Bluetooth communication connection through a line voltage powered WaveLinX LITE device.

6: Tap **edit**  at the top of the screen and then type a unique **name** for the wallstation. Tap **SAVE**.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Modify Wallstation Actions

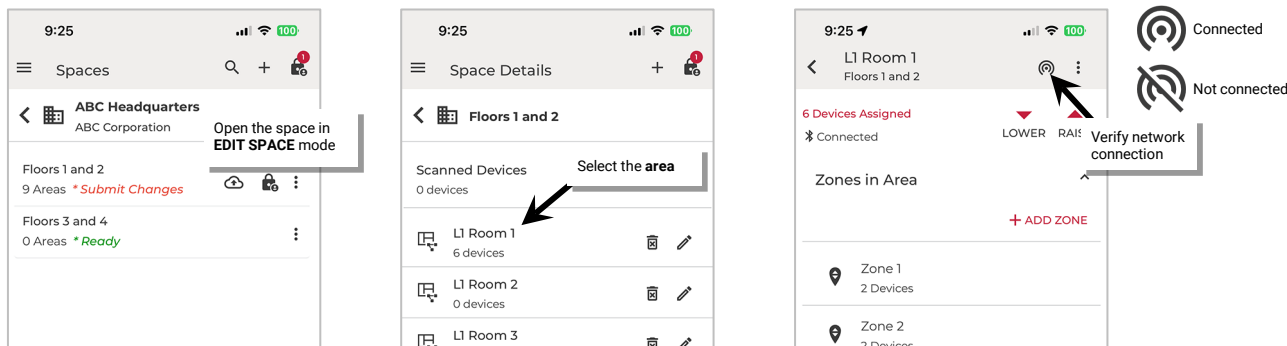
Wallstations will operate according to their default behavior described in the “WaveLinx LITE Device Reference Sheets” starting on page 10. Each wallstation button’s default response can be modified to respond in a different manner.

WaveLinx LITE wallstations support the following actions (commands).

- **No action:** The button will not perform any command if pressed.
- **Select scene:** The button will issue the selected scene to the designated Area with a 1.5 second fade rate.
- **Zone level:** The button will operate the selected zone(s) in the selected Area to the defined level with a 1.5 second fade rate. Select to control a single zone or all zones in the Area. Non dimmable and receptacle zones will turn ON if commanded to a level from 1% to 100% and will turn OFF with a level of 0%.
- **Raise level:** The button will gradually raise the light level for the selected dimmable zone in the selected Area. Select to control a single zone or all zones in the Area. A press and release of the button will increase the light level 1% per press. A hold of the button will increase the light level 15% per second. If non dimmable or receptacle zones are included in this command, devices will remain ON as long as levels are within 1% to 100% and will turn OFF when the level reaches 0%.
- **Lower level:** The button will gradually lower the light level for the selected dimmable zone in the selected Area. Select to control a single zone or all zones in the Area. A press and release of the button will decrease the light level 1% per press. A hold of the button will decrease the light level 15% per second. If non dimmable or receptacle zones are included in this command, devices will remain ON as long as levels are within 1% to 100% and will turn OFF when the level reaches 0%.


To modify a wallstation:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).⁶⁸
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.



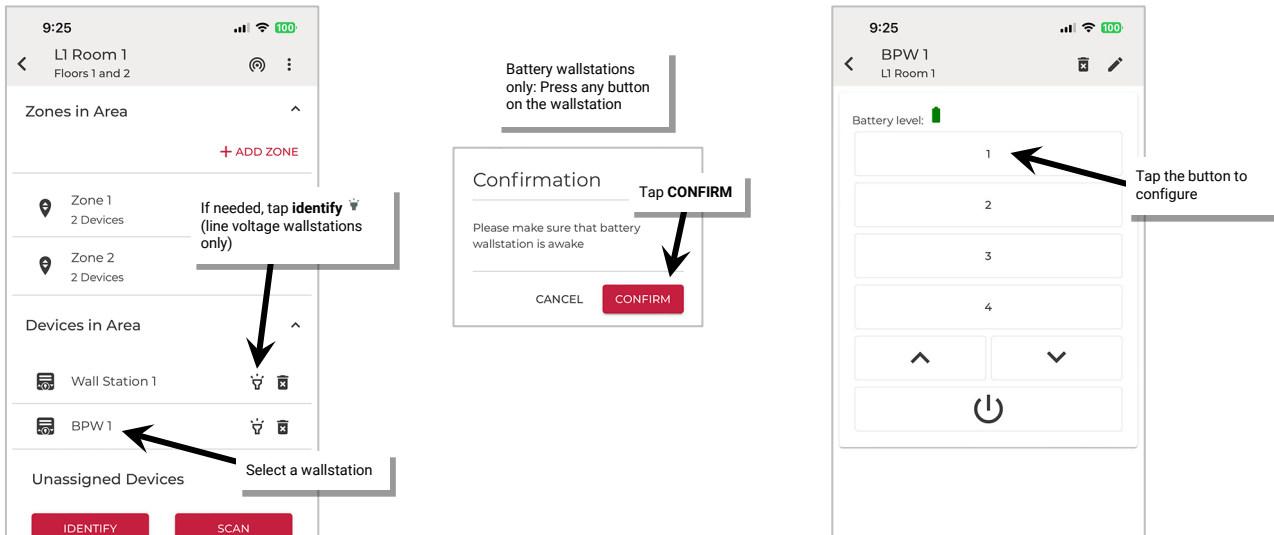
⁶⁸ To make a change to a battery powered wallstation, there must be a Bluetooth communication connection through a line voltage powered WaveLinx LITE device.

5: Locate the wallstation in the **Devices in Area** Tap on the wallstation to open it for configuration. The mobile application will display the wallstation's configuration on the screen.

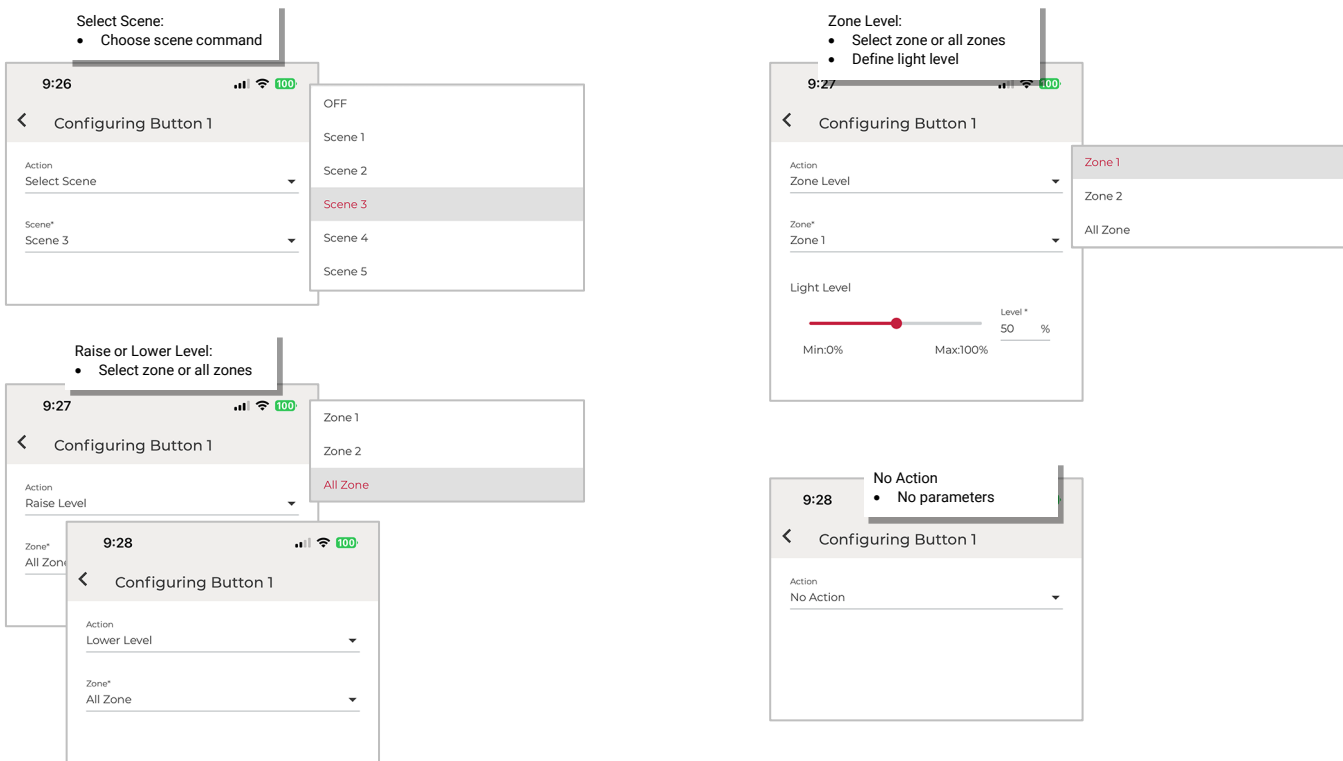
- **Line voltage wallstations only:** If needed, tap **identify**  to flash the wallstation LED until the correct one is identified.
- **Battery powered wallstations only:** After selecting the wallstation, when prompted to wake the station, press any button on the wallstation and then tap **CONFIRM**.

6: Tap the button on the screen display to edit the assigned button action.

Note: Each wallstation model will be shown with buttons that correspond to that model's button configuration.



7: Use the action dropdown to select the desired action and then define the parameters required for that action. Parameters will change based on action type selected. Tap **SAVE** to send the changes to the wallstation.



8: Repeat as needed for additional wallstation buttons and wallstations.

Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Modify Emergency Mode (EM Mode) Settings in Networked Areas

In WaveLinx LITE v7.0 **EM Mode**, or **Emergency Mode**, allows WaveLinx LITE areas to comply with UL924 Emergency Lighting Control requirements without additional devices. Emergency lighting circuits are controlled through WaveLinx LITE Emergency devices that are provisioned in a Networked Area. This allows the emergency fixtures to operate like any other fixture in the space unless there is an interruption of normal power. Upon detection of loss of normal power, the device enters Emergency Mode, forcing the connected fixture(s) to full brightness until normal power returns.

Out-of-the-box, WaveLinx LITE Emergency devices will remain in Emergency Mode where lighting is ON/100% and will remain in Emergency Mode indefinitely unless EM Mode is properly programmed in the WaveLinx LITE App.


When programming EM Mode, there are two different device types involved:

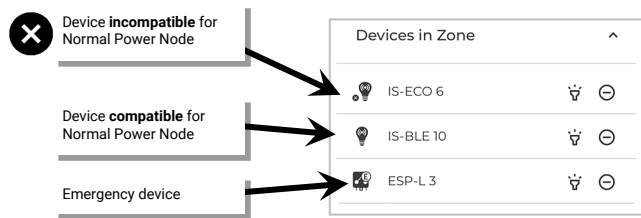
- **Normal Power Node:** A Normal Power Node is a device that is connected to a normal power circuit and can sense power loss on the attached circuit within the required UL924 ten second period. When powered, a Normal Power Node device that is assigned to an area’s EM Mode program sends a beacon signal to the Emergency Power Device. When it loses power, the beacon signal ends, causing the Emergency Power Device to assume EM Mode.
- **Emergency Device:** Emergency devices are the UL924 approved WaveLinx LITE emergency devices. Emergency devices are connected to emergency circuits. An emergency device that is assigned to the area will listen to the area’s EM Mode assigned Normal Power Node device beacons. If any Normal Power Node device beacon is not detected, the emergency device will go to Emergency Mode. Once all Normal Power Node device beacons are detected again, the emergency device will go back to normal operation.

EM Mode is properly programmed when at least one Normal Power Node (max. 3) is assigned as an input for EM Mode. Any WaveLinx LITE Emergency devices in the area are automatically assigned as Outputs for the EM Mode operation. The maximum of 3 Normal Power Node devices allows for one device from each of the three electrical phases to be monitored if desired. Once the EM Mode is programmed, the Emergency devices will begin operation like any other device in normal circumstances allowing for WaveLinx LITE command control.

As of WaveLinx LITE v7.0 the following devices can be used as Emergency or Normal Power Node devices.

Normal Power Node Devices	Emergency Devices
<ul style="list-style-type: none"> • WAB: Ambient Integrated Sensor – IS-BLE device type (WTK (Tilemount) may be used if the device type is IS-BLE) • RSP-L-010-347: Relay Switchpack with updated hardware • WIM: Industrial Fixture Mount High Bay Sensor⁶⁹ • WIK: Industrial Fixture Mount Low Bay Sensor⁶⁹ 	<ul style="list-style-type: none"> • ESP-L-010-347


Note: Only compatible devices will show in the EM Mode screens. Devices that are incompatible as Normal Power Nodes or Emergency Devices will have an  icon next to the device in most screens. For devices such as the IS-BLE, WIM, and WIK, a firmware upgrade (see page 199) may be necessary before the device shows as compatible for Normal Power Node usage.^{69,70}



For proper operation:

- The Emergency device must be powered from an emergency lighting circuit and be connected to emergency lighting fixture(s). Fixtures may be ON/OFF or dimmable via 0-10V connection.
- The Emergency device must be provisioned to a zone within a Networked Area.
- At least one Normal Power Node device must be provisioned to a zone belonging to the same Networked Area. The Normal Power Node device must be connected to a normal power circuit. Up to three Normal Power Node devices may be assigned to trigger EM Mode if desired (allows for three phase monitoring if one device is connected to a normal circuit from each electrical phase).
- EM Mode must be set up through the Mobile App for the Emergency device with at least one (max. 3) Normal Power Node device assigned.

⁶⁹ The WIK/WIM sensors support Normal Power Node only when paired with a supported driver. The WaveLinx LITE Mobile App will prevent assignment of the WIK/WIM as a Normal Power Node if it is connected to an unsupported driver. If the WIK/WIM is initially connected to a supported driver and is assigned as a Normal Power Node and the driver is later replaced with an unsupported driver, the LED on the WIK/WIM will turn blue and remain ON to indicate an error condition.

⁷⁰ Devices that are updated for Normal Power Node compatibility will not automatically show the updated compatibility. Once the firmware update of these devices is complete, power down and then power up the device from the circuit breaker. Wait for approximately 1 minute and then send an identify  command to the updated device. The device’s icon will then be updated on the next screen refresh.

Setup Emergency Mode (EM Mode)

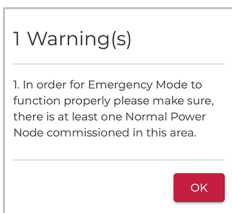
Until the Emergency device is configured for proper EM Mode operation, the Emergency device will remain ON at 100% light output.

Once the EM Mode settings are completed, under normal operation, the Emergency device will operate like any other lighting load according to the zone’s programming assigned using the WaveLinx LITE Mobile Application. During loss of normal power to any of the monitored Normal Power Node devices, the Emergency device will turn ON to 100% light output, only resuming normal operation after all monitored Normal Power Node devices indicate that normal power has returned.

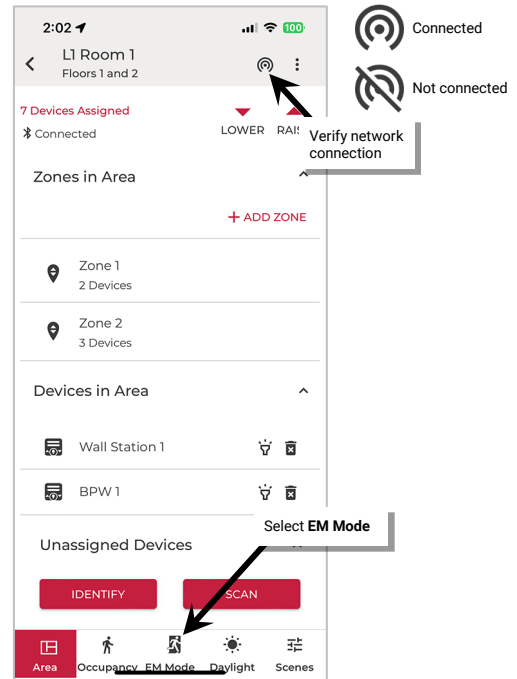
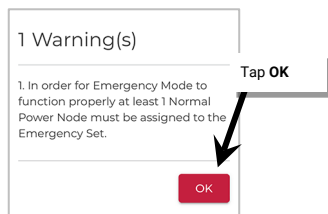
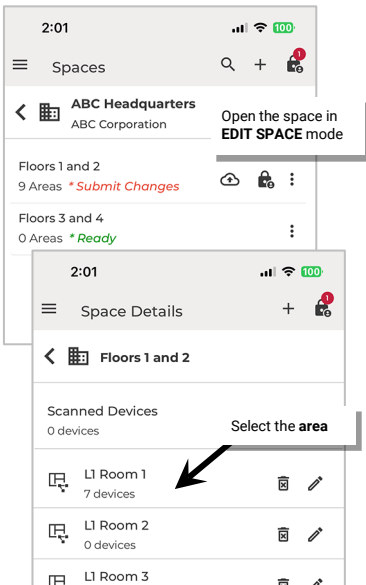
To setup EM Mode:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Ensure that the Emergency devices and Normal Power Node devices have been provisioned to the desired Area and zone(s). See “Step 6: Assign Devices to Areas (Provisioning)” on page 87 for instructions.



Note: If an Emergency device has been assigned to the area but the area does not contain any Normal Power Node compatible devices, an error message will display. Assign a compatible device or ensure that assigned devices have up-to-date firmware (see page 199). ⁷¹




- 3: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 4: In the Area list, select the desired **Area**.
- 5: If the EM Mode has not been previously programmed, a warning will display that a Normal Power Node must be assigned to the Emergency Set. Tap **OK**.
- 6: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.
- 7: Select the **EM Mode** tab and open the **INPUT** screen.

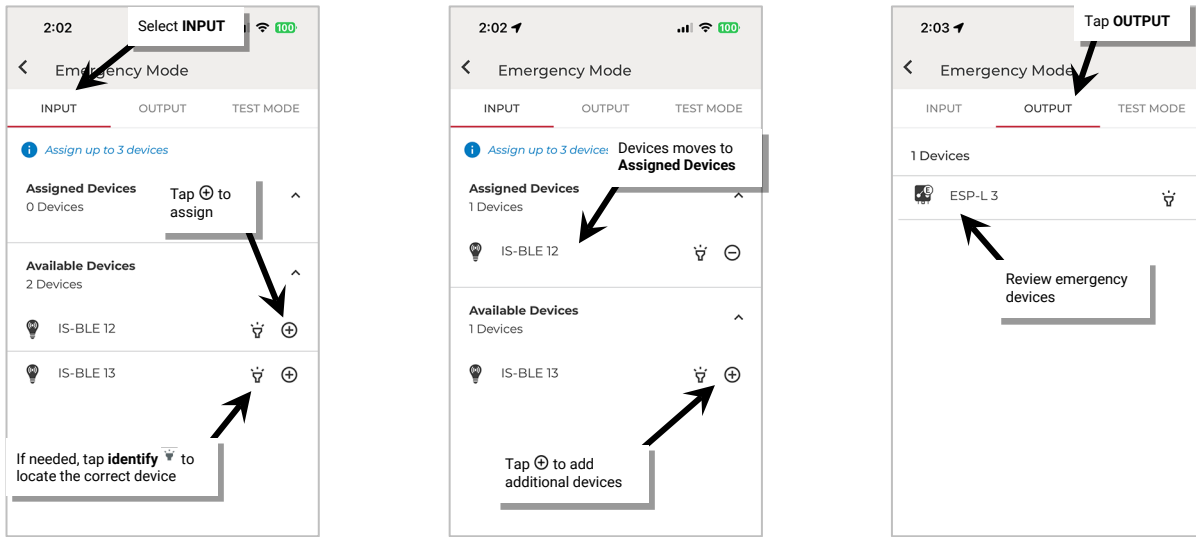


⁷¹ Devices that are updated for Normal Power Node compatibility will not automatically show the updated compatibility. Once the firmware update of these devices is complete, power down and then power up the device from the circuit breaker. Wait for approximately 1 minute and then send an identify ▼ command to the updated device. The device’s icon will then be updated on the next screen refresh.

- 8: Verify the **INPUT** screen is active. Under **Available Devices**, locate the Normal Power Node device(s) that will be used to monitor normal power (max. 3). If needed, tap **identify**  to locate the correct device(s).
- 9: Tap  in the row of each Normal Power Node device to add the device(s) (up to 3). The device(s) will move to the **Assigned Devices**.

The Emergency device may turn lighting ON/100% for a few seconds until the newly assigned normal power device's signal is received.

- Note:** If needed, a Normal Power Device can be unassigned. Tap  next to the assigned device to move it back to Available Devices.
- 10: Next, tap **OUTPUT** to verify that the Emergency device(s) in the Area appear in the device list.



EM Mode setup for this Area is complete. Tap the back button to exit EM Mode setup. If normal power is present, the Emergency devices should now respond like any other device to WaveLinx LITE device or Mobile App commands.

- 11: Repeat Emergency Mode Setup for any additional Areas.
- Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

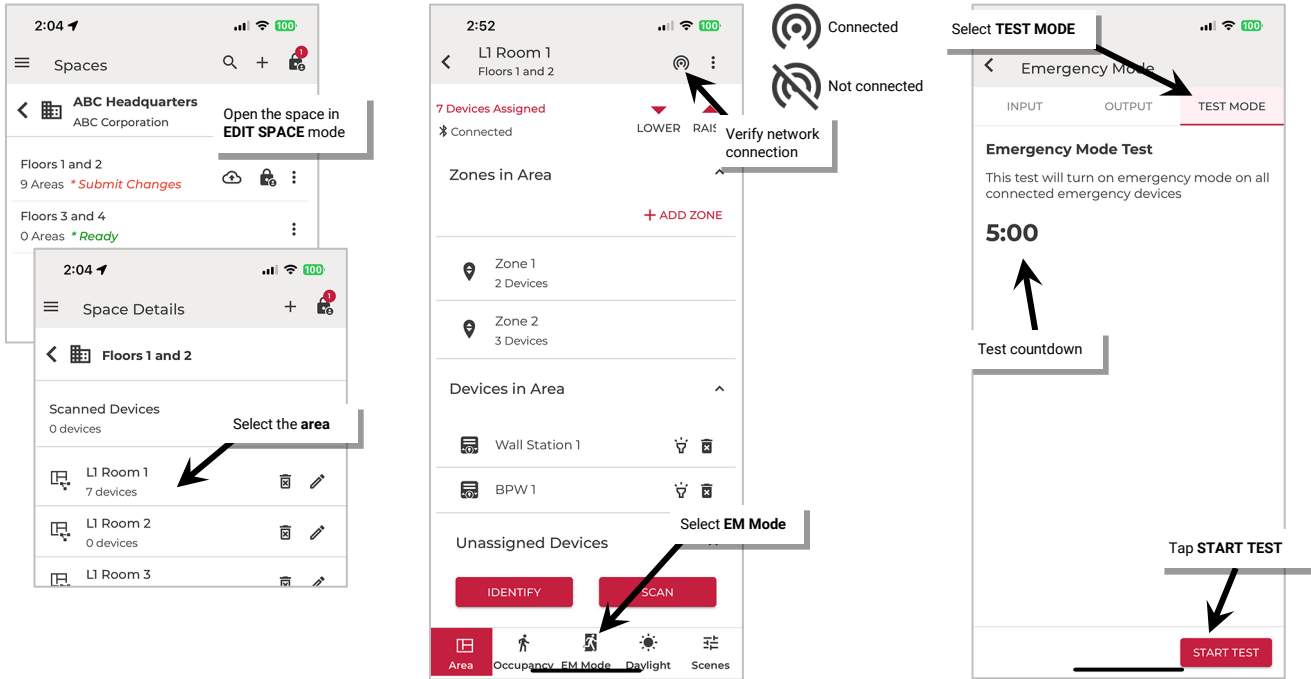
Use Emergency Mode Test

Use the WaveLinx LITE Mobile App to test Emergency device response and operation of the connected emergency fixtures. This allows simulation of loss of normal power response without the need to turn off normal power.

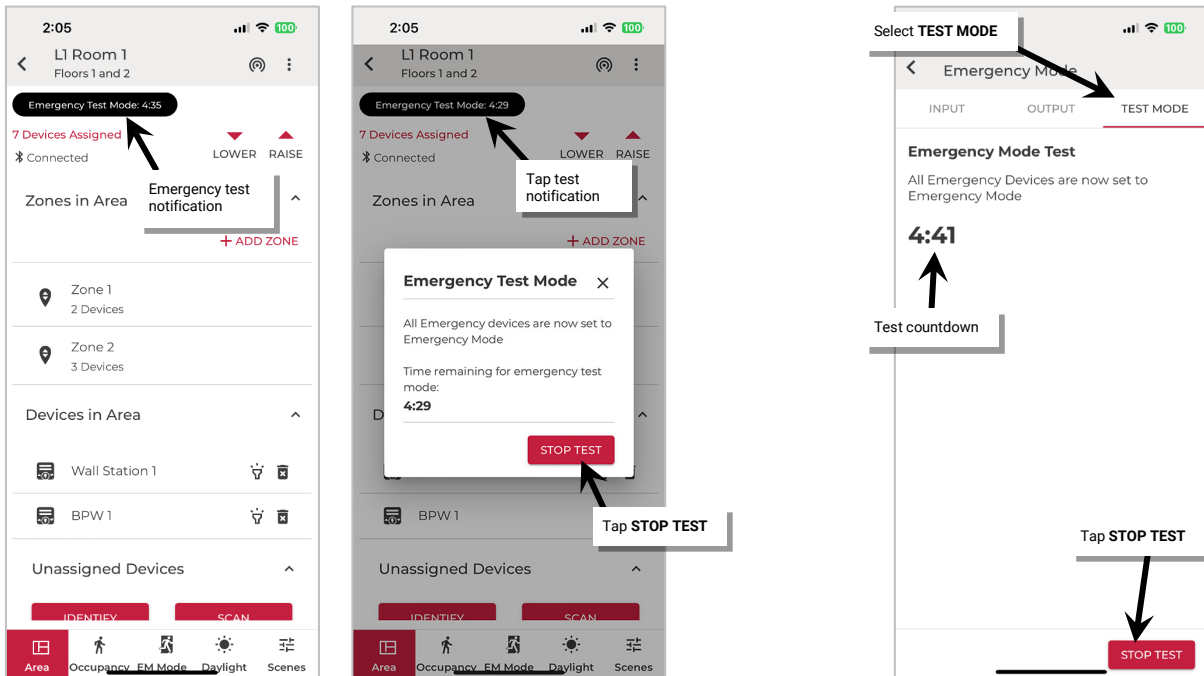
During Emergency Mode Test, the emergency test will simulate loss of communication with the normal power node devices assigned to the EM Mode for the Emergency device. Within a few seconds of entering the test mode, the Emergency device(s) will go to full output and ignore control attempts for 5 minutes. In test mode, wallstations in the Area will control normal power WaveLinx devices while the fixtures controlled by the Emergency device(s) will remain ON at full output. If visible, any Emergency Switchpack LEDs will go solid red for the duration of test mode. After 5 minutes, the Emergency Test will time out or the test can be manually stopped prior to the timeout. The Emergency device(s) will return to normal power operation.

To enter Emergency Mode Test:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area** and verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 4: Select the **EM Mode** tab, open the **TEST MODE** screen, and tap the **START TEST** button. Within a few seconds the Emergency device(s) in the Area will respond to EM Mode and the timer will begin a 5 minute countdown.



- 5: During the test, the Area will display a message showing that the test is running along with the remaining time on the timer. Let the 5 minute timer expire automatically or manually cancel the test. Tap the message and tap **STOP TEST** or in the **TEST MODE** screen, tap **STOP TEST**.



Once the test is complete, **Exit EDIT SPACE** mode (see page 98).

Modify Occupancy Sets in Networked Areas

In Networked Areas, occupancy sensors belong to an occupancy set. An **occupancy set** is a group of occupancy sensors that operate together to control a group of devices. Any sensor sensing motion will refresh its occupied command at continuous intervals to the group. When a sensor is no longer registering motion and is no longer receiving occupied signals from other sensors in the group, it will begin transitioning its connected fixture through the hold time to the unoccupied level. With this logic, ANY sensor in the occupancy set can command the group to the occupied light level, but ALL sensors in the occupancy set need register an unoccupied state before lighting can transition to the unoccupied level.

The behavior of the occupancy set initially is dependent on the template used when the Area was first created. If a custom template was used, the occupancy set will follow the behavior defined in the template. If the Area was created with the default Networked Area template, the occupancy set behavior is:

- **Mode:** Occupancy
- **Occupancy Hold Time:** 20 minutes⁷²
- **Energy Saver Mode:** Enabled
- **Energy Hold Time:** 10 minutes
- **Occupied level/state:** Default Zone level 100%/ON⁷³
- **Energy Saver level:** Default Zone level 50%/ON
- **Unoccupied level/state:** Default Zone level 0%/OFF

The occupancy set behavior can be changed to meet other requirements. This section discusses how to:

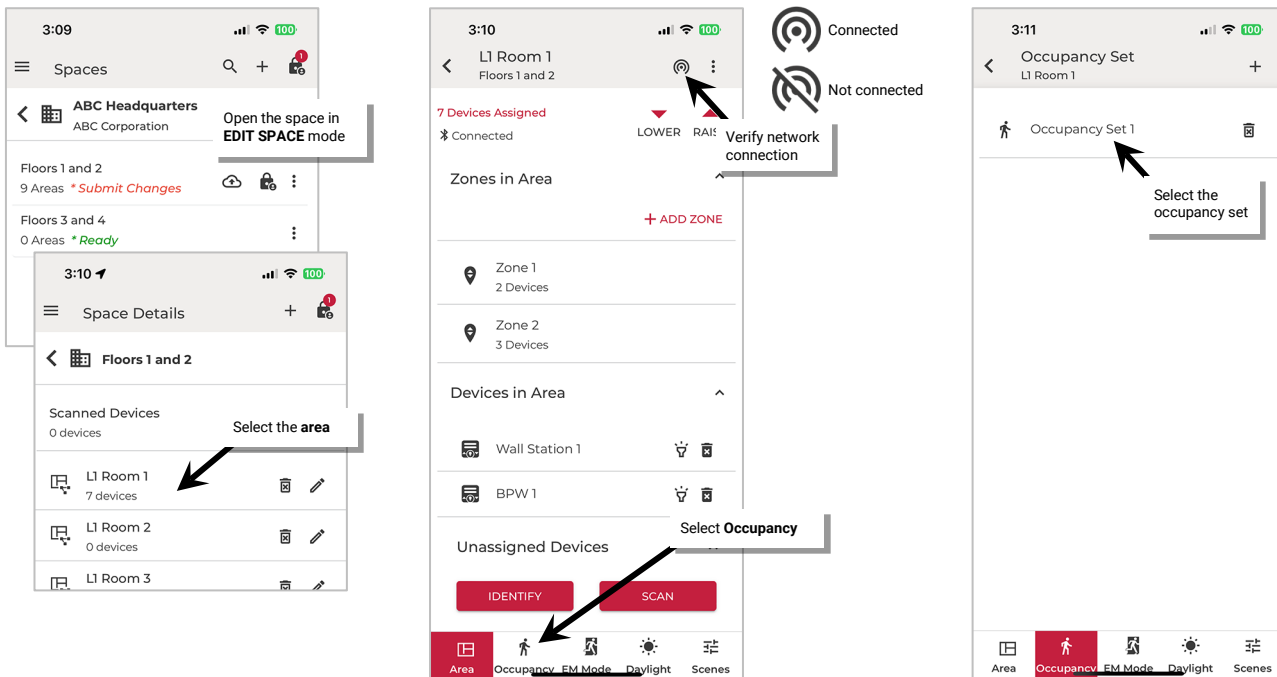
- Rename an occupancy set
- Adjust individual occupancy sensor settings
- Adjust occupancy set settings
- Adjust controlled zones
- Review assigned sensors
- Use test mode
- Create new occupancy sets
- Delete occupancy sets

Rename an Occupancy Set

The occupancy set will be given a generic name upon creation. The occupancy set can be renamed at any time to allow for easier identification.


To rename an occupancy set:

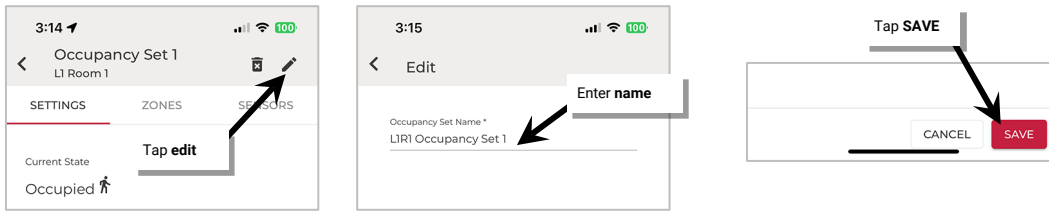
- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Select the **Occupancy** tab and then select the desired **occupancy set**.



⁷² Energy saver state issues after the energy hold time expires. Then, dimmable lighting remains at energy saver level until the occupancy hold time expires, triggering the unoccupied state. Non dimmable and receptacle zones will remain at occupied level until 30 seconds after the occupied hold time expires.

⁷³ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

6: In **Settings**, review the settings or tap on **edit**  and type a unique **name** for the occupancy set. Tap **SAVE**.



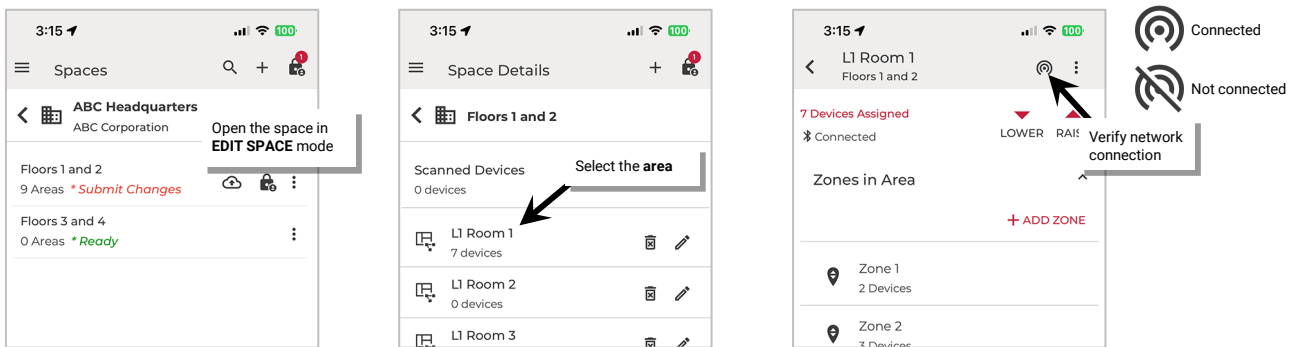
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).


Adjust Individual Occupancy Sensor Settings

While most sensor settings will be assigned in the occupancy set, specific settings are available in the individual **occupancy sensor details** page.

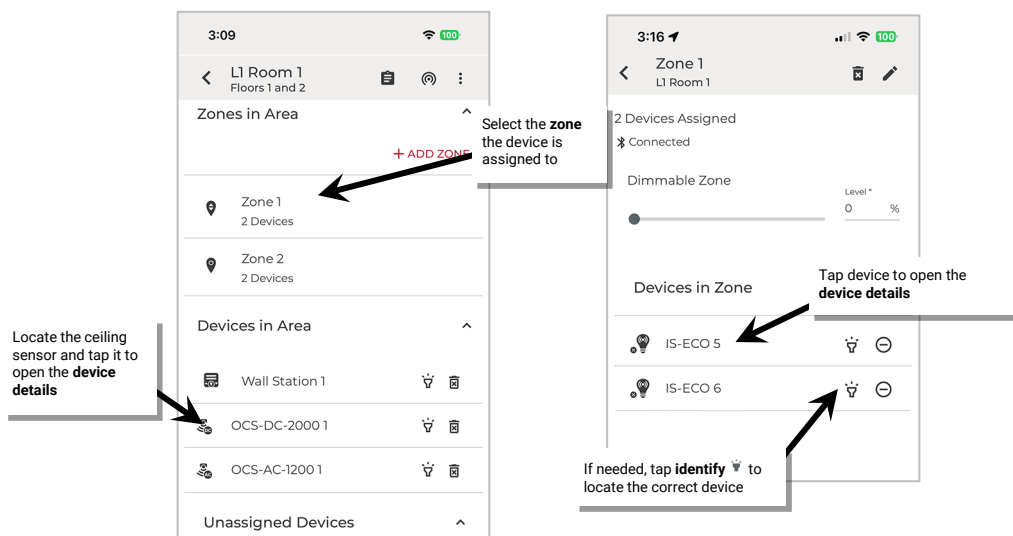
To access the device's **occupancy sensor details** page:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.



5: For ceiling sensors, locate the sensor in the **Devices in Area**. For other device types, open the device's **zone**. If needed, tap **identify**  to locate the correct device.

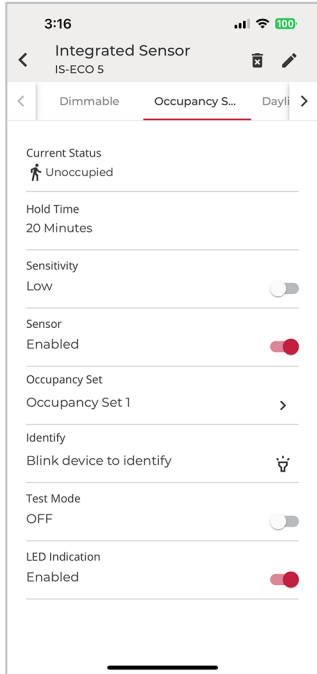
6: Tap the **device** to open the **device details**.



7: In the **device details**, tap **Occupancy Sensor**. Refer to the appropriate settings chart in the following pages for the device type selected.

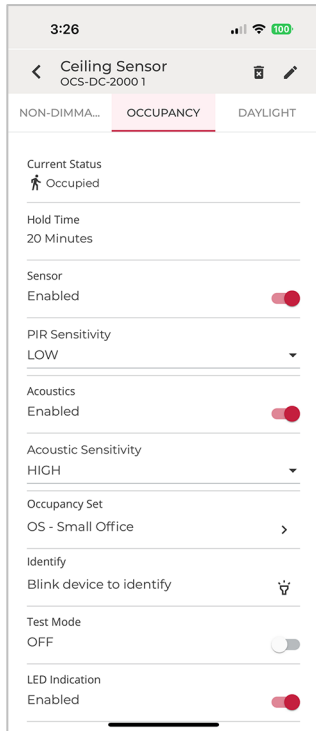
8: Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Fixture Mounted, Integrated and Tilemount Sensor Settings



Setting	Default	Description
Current Status	N/A	Displays the status of the sensor, either occupied or unoccupied. Note: Status reflected does not include the hold time delay. It reflects if actual motion activity was occurring at the time the status last loaded.
Hold Time	20 Minutes	Displays the Occupancy Set’s programmed hold time for informational purposes (not editable) as hold time affects an entire occupancy set, not just one device.
Sensitivity	Depends on sensor type	Slide the switch to Low sensitivity if a sensor is detecting motion outside of the desired coverage Area. Switch to High to regain the full motion sensing range.
Sensor	Enabled	Slide the switch to disable the occupancy sensor for this device. This can be helpful if a sensor is false-triggering due to challenging placement. Examples: near air vents or doorways. Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.
Occupancy Set	Occupancy Set 1	Displays the occupancy set that the sensor is assigned to. Tap on the arrow > to navigate directly to the occupancy set configuration.
Blink to Identify	N/A	Tap identify 📶 to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap identify 📶 again.
Test Mode	N/A	If test mode is activated (slide switch to activate), the sensor will be placed in test mode for 10 minutes. During test mode, the occupancy sensor will operate with a 10 second hold time. Note: if more than one occupancy sensor reports to the occupancy set, use test mode at the occupancy set level to prevent other sensors in the occupancy set from holding the lighting ON. See “Use Occupancy Sensor Set Test Mode” on page 124.
LED	Enabled	Disabling the LED is not recommended as it is often used to determine if the sensor is operational. If the sensor LED flash is a major distraction, slide the switch to disabled.

Acoustic Ceiling Sensor Settings



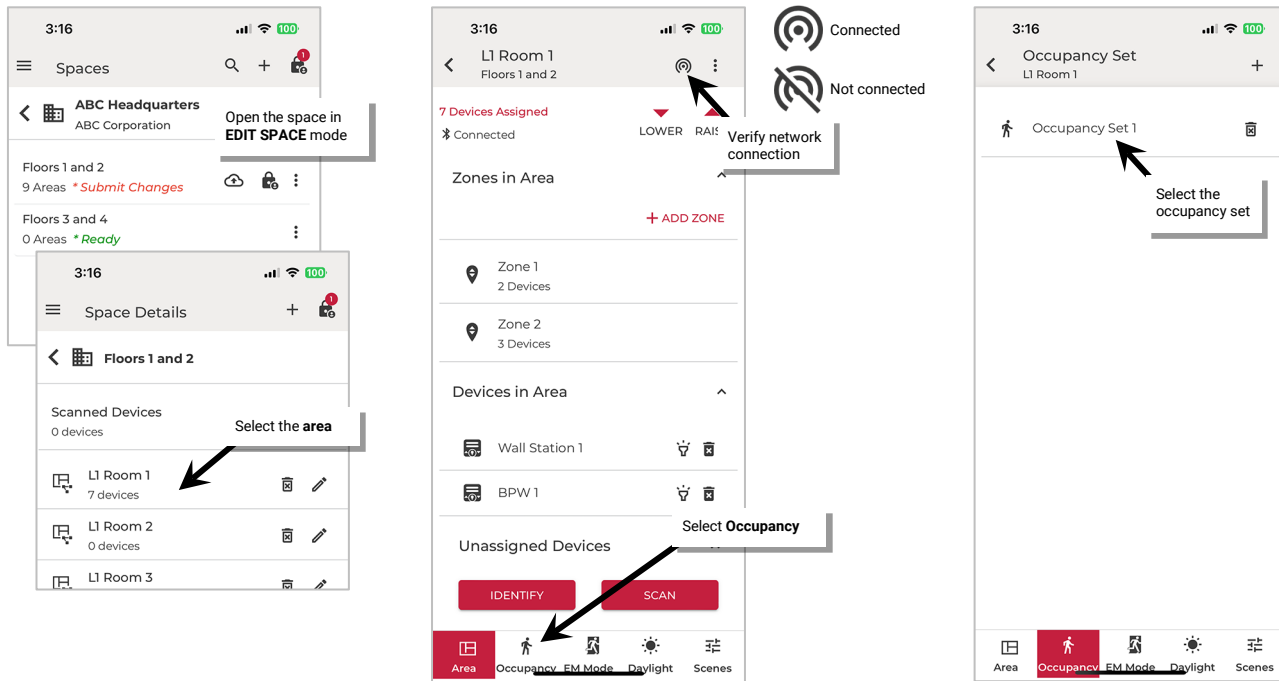
Setting	Default	Description
Current Status	N/A	Displays the status of the sensor, either occupied or unoccupied. Note: Status reflected does not include the hold time delay. It reflects if actual motion activity was occurring at the time the status last loaded.
Hold Time	20 Minutes	Displays the Occupancy Set's programmed hold time for informational purposes (not editable) as hold time affects an entire occupancy set, not just one device.
Sensor	Enabled	Slide the switch to disable the occupancy sensor for this device. This can be helpful if a sensor is false-triggering due to challenging placement. Examples: near air vents or doorways. Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.
PIR Sensitivity	LOW	Use the drop down to select between HIGH and LOW sensitivity for the PIR technology. Use LOW if a sensor is turning lights on when motion is detected outside of the desired area. Switch to HIGH to regain the full motion sensing range.
Acoustics	Enabled	The acoustic sensor will operate with the PIR sensor after the PIR sensor has signaled occupancy. Both technologies will operate together to determine if motion is still present to keep lighting on. To operate only from the PIR technology, switch acoustics to DISABLED . To operate from both technologies, switch to ENABLED .
Acoustic Sensitivity	HIGH	Use the acoustic sensitivity drop down to select how sensitive the acoustic detection should be. Choose between VERY HIGH, HIGH, MEDIUM, LOW, and VERY LOW .
Occupancy Set	Occupancy Set 1	Displays the occupancy set that the sensor is assigned to. Tap on the arrow > to navigate directly to the occupancy set configuration.
Blink to Identify	N/A	Tap identify 🗨 to cause the sensor LED to flash magenta and any directly connected load to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap identify 🗨 again.
Test Mode	N/A	If test mode is activated (slide switch to activate), the sensor will be placed in test mode for 10 minutes. During test mode, the occupancy sensor will operate with a 10 second hold time. Note: if more than one occupancy sensor reports to the occupancy set, use test mode at the occupancy set level to prevent other sensors in the occupancy set from holding the lighting ON. See "Use Occupancy Sensor Set Test Mode" on page 124.
LED	Enabled	Disabling the LED is not recommended as it is often used to determine if the sensor is operational. If the sensor LED flash is a major distraction, slide the switch to disabled.

Adjust Occupancy Set Settings

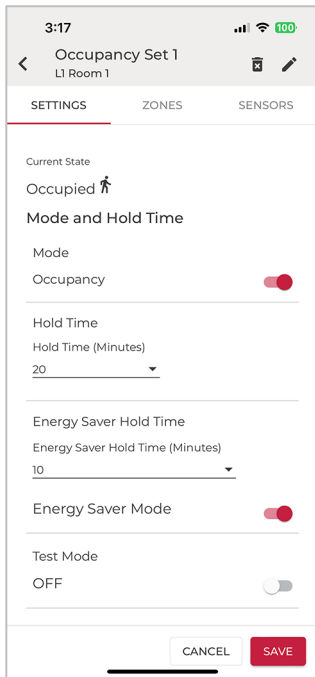
The occupancy set programming defines the response for all sensors within that set. Zones are assigned to occupancy sets during the initial Space setup. Fixture mount or integrated sensors are then assigned to a zone when they are provisioned, which automatically joins the sensor to the assigned occupancy set.

To modify the occupancy sensor set behavior:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Select the **Occupancy** tab and then select the desired **occupancy set**.



6: In **SETTINGS**, review the details. Tap items to change the current behavior. Refer to the chart for information on the items shown.



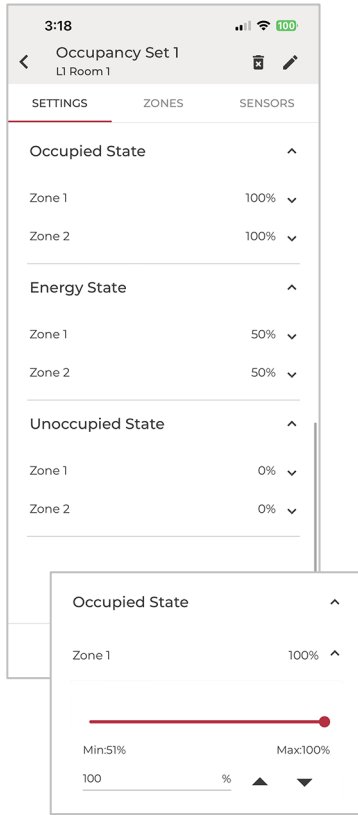
Setting	Default	Description
Current State	N/A	Displays the status of the occupancy set, either occupied or unoccupied. Note: Status reflected includes the hold time delay and will only revert to unoccupied once the hold-time expires.
Mode	Occupancy	Use the slider to select the occupancy mode. <ul style="list-style-type: none"> Occupancy mode: The defined occupied level will occur when any sensor in the group detects initial motion.⁷⁴ Vacancy mode: The sensors will not perform any action upon initial motion detection. The occupant must turn ON loads manually using controls in the location.⁷⁵ WARNING: Do not use vacancy mode unless WaveLinx LITE Wallstations are installed in the system to allow for manual override. For both modes, the lighting will transition to the unoccupied level when motion is not detected by all sensors in the occupancy set after the defined hold time expires. Note: If the energy saver mode is enabled, the transition to the energy state will occur after the time defined for energy saver mode and then will transition to the unoccupied state once the defined hold period expires.
Hold Time	20 Minutes	The hold time determines how long the system will take once all sensors no longer detect occupancy to reach the defined unoccupied level. The hold time can be defined from 1 to 40 minutes by selecting from the drop-down options, or by typing in the desired hold time. ⁷⁶
Energy Saver Mode	Enabled	Use the slider to enable or disable energy saver mode. <ul style="list-style-type: none"> If disabled, once the location is no longer occupied and the hold time expires, the lighting will transition from the current level to the unoccupied state with no interim light level. If enabled, once the location is no longer occupied, the hold time countdown and energy saver mode countdown begin. Dimmable zones will go to the energy saver level after the energy saver mode time defined. Non dimmable zones will remain at their occupied state in energy saver mode. If the location remains unoccupied and the hold time expires, the lighting will go to the unoccupied level. Example: If the hold time is 20 minutes, and the Energy Saver Mode time is set for 10 minutes, the Energy Saver level occurs after 10 minutes of no occupancy. After an additional 10 minutes, the unoccupied level is issued.
Energy Saver Hold Time	10 Minutes	If Energy Saver Mode is enabled, this setting defines the amount of time that the occupancy set will wait once the location is unoccupied before transitioning any dimmable load light levels to the levels defined for the Energy State. Use the drop down to adjust the desired energy saver hold time.
Test Mode	OFF	Use the slider to turn ON test mode. Once activated, all sensors in the occupancy set will be placed in test mode for 10 minutes. During test mode, the occupancy set will operate with a 10 second hold time. See page 124 for more information on test mode procedures.

⁷⁴ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

⁷⁵ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. Outside of the grace period, vacancy mode requires a manual button press to active lighting. Devices with older firmware may not observe the 30 second grace period.

⁷⁶ Non dimmable and receptacle zones will remain at occupied level an additional 30 seconds after the occupied hold time expires.

Continued



Setting	Default	Description
Occupied State	Level 100%	<p>Tap the zone dropdown ▼ in the Occupied State section to expand and show the zone(s) programmed occupied level(s). This is the light level that will be issued when motion is initially detected.⁷⁷ Occupied State will not appear if vacancy mode is enabled.</p> <p>Tap the dropdown ▼ next to the zone and then adjust the occupied light level using the slider bar, raise lower controls, or text box entry. Dimmable zones will respond to the level defined. For non-dimmable or receptacle zones 0% = OFF, 1% to 100%= ON. Tap SAVE if changes are made.</p>
Energy State	Level 50%	<p>Tap the zone dropdown ▼ in the Energy State section to expand and show the zone(s) programmed energy state level(s). If Energy Saver Mode is enabled, this setting defines the light level that will be issued to dimmable zones once the location is unoccupied and the Energy Saver Mode time expires. Non dimmable zones will remain at their occupied state.</p> <p>Tap the dropdown ▼ next to the zone and then adjust the energy saver light level using the slider bar, raise lower controls, or text box entry. Dimmable zones will respond to the level defined. Tap SAVE if changes are made.</p>
Unoccupied State	Level 0%	<p>Tap the zone dropdown ▼ in the Unoccupied State section to expand and show the zone(s) programmed unoccupied level(s). This is the light level that will be issued when the hold time expires.⁷⁸</p> <p>Tap the dropdown ▼ next to the zone and then adjust the unoccupied light level using the slider bar, raise lower controls, or text box entry. Dimmable zones will respond to the level defined. For non-dimmable or receptacle zones 0% = OFF, 1% to 100%= ON. Tap SAVE if changes are made.</p>

Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

⁷⁷ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

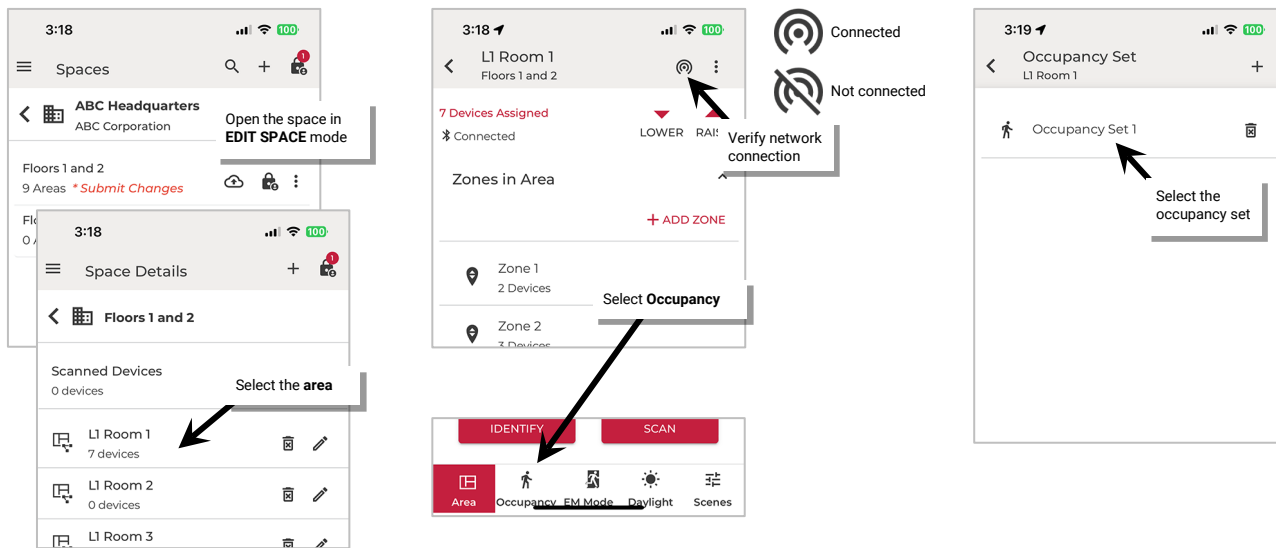
⁷⁸ Non dimmable and receptacle zones will remain at occupied level an additional 30 seconds after the occupied hold time expires.

Adjust Controlled Zones

IMPORTANT: Moving a populated zone may cause communication errors. If possible, move zones before devices are assigned. Refer to “Resolve Mobile Application Communication Issues” on page 196 if communication errors occur.

To adjust the controlled zones:

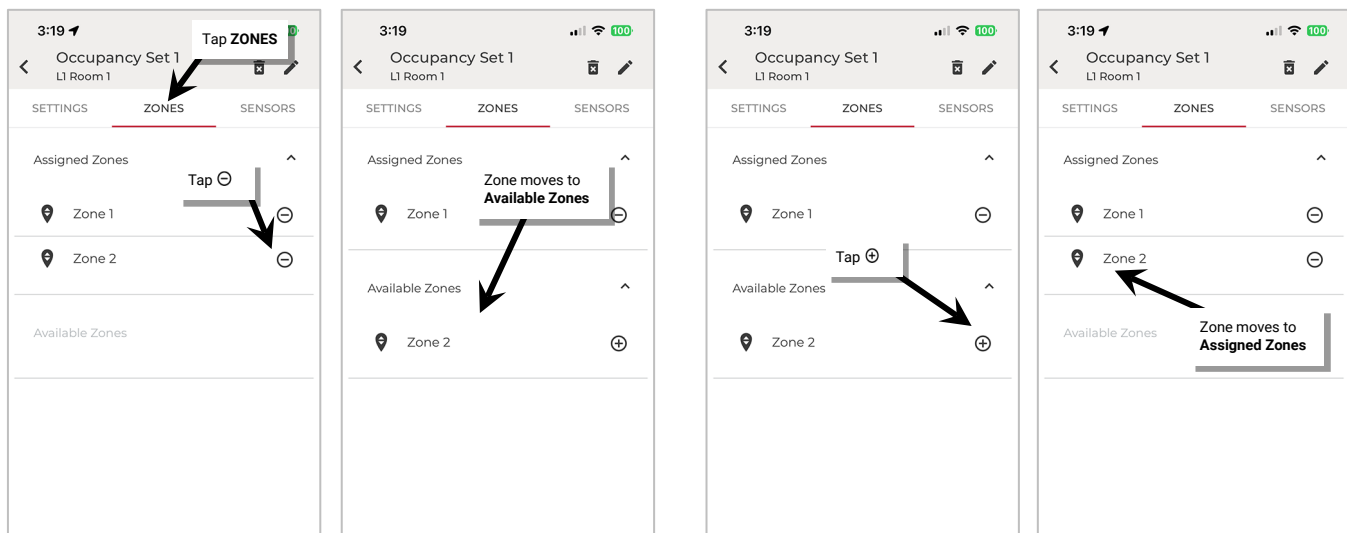
- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.
- 5: Select the **Occupancy** tab and then select the desired **occupancy set**.



6: Tap **ZONES**, review the details and make changes:

- **To remove a zone:** In the **Assigned Zones** tap ⊖ in the row of the zone remove
- **To add a zone:** In the **Available Zones**, tap ⊕ in the row of the zone to add.

Once complete, tap **back** < three times to exit out of the occupancy set.



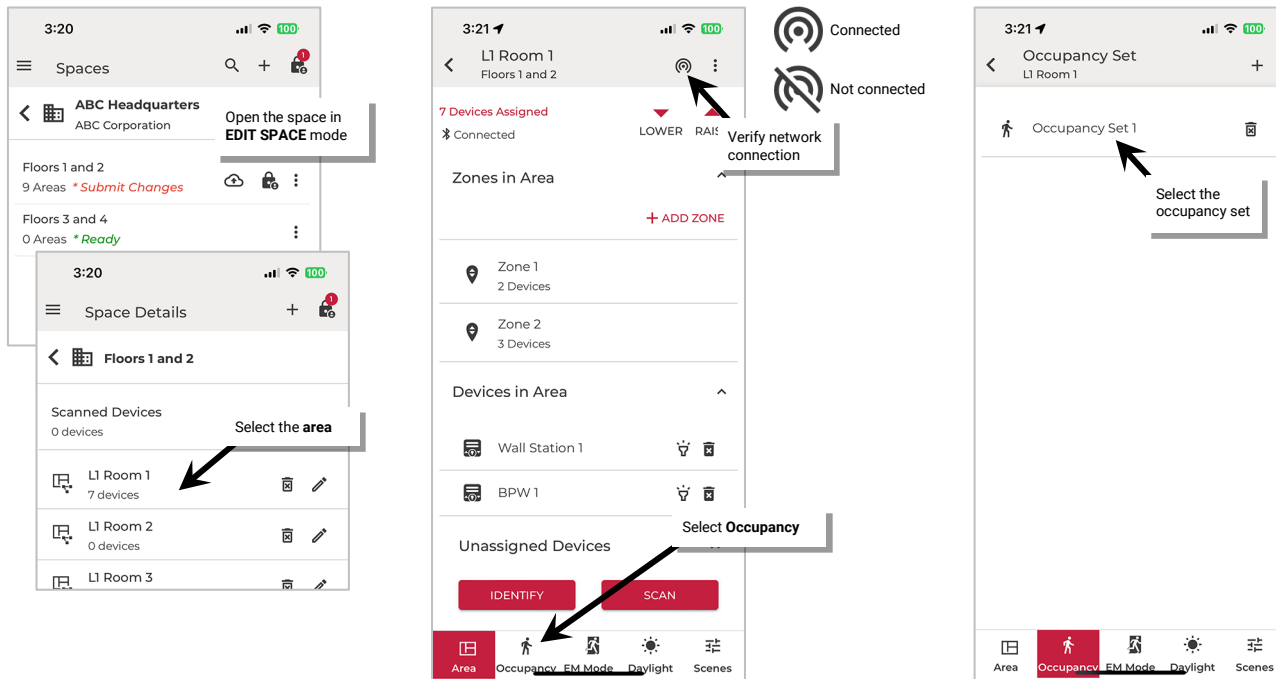
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Review Assigned Sensors

It is possible to view the individual sensors assigned to the occupancy sensor set. Ceiling sensors as well as fixture mount, integrated, and tilemount sensors are automatically assigned to the occupancy set when the device is provisioned and added to a zone that has already been assigned to an occupancy set. Ceiling sensors as well as fixture mount, integrated, and tilemount sensors cannot be assigned to an occupancy set that is different from the device's assigned zone.

To review the individual sensors in the occupancy set:

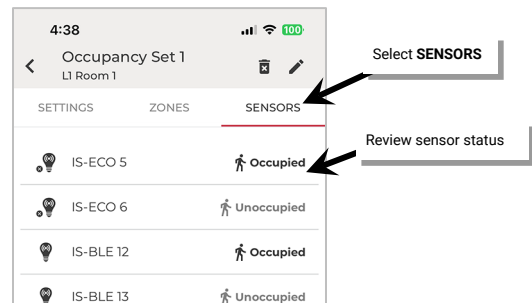
- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Select the **Occupancy** tab and then select the desired **occupancy set**.



- 6: Next, tap **SENSORS** to display the list of assigned sensors. Devices will be listed, showing the device name and the status of the occupancy sensor.

Tap **back** < three times to exit out of the occupancy set.

Note: Status reflected does not include the hold time delay. It reflects the actual motion activity that was occurring at the time the status page refreshed.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Use Occupancy Sensor Set Test Mode

The occupancy set may be placed into a temporary test mode to verify sensor response. If test mode is activated, all sensors belonging to the occupancy set will be placed in test mode for 10 minutes. Sensors will operate with a 10 second hold time. Test mode will automatically revert to normal operation after 10 minutes or may be manually disabled through the mobile application.

To test occupancy sensors, test during a time when there is little motion occurring in the Area. Access the occupancy set settings screen and slide the test switch to the ON position.

If lighting is ON, stand still (acoustic sensors also remain quiet). Lighting should transition to the unoccupied level after 10 seconds of no activity on any sensor. Once lighting goes to the unoccupied level, move to verify that the lighting goes back to the occupied level.

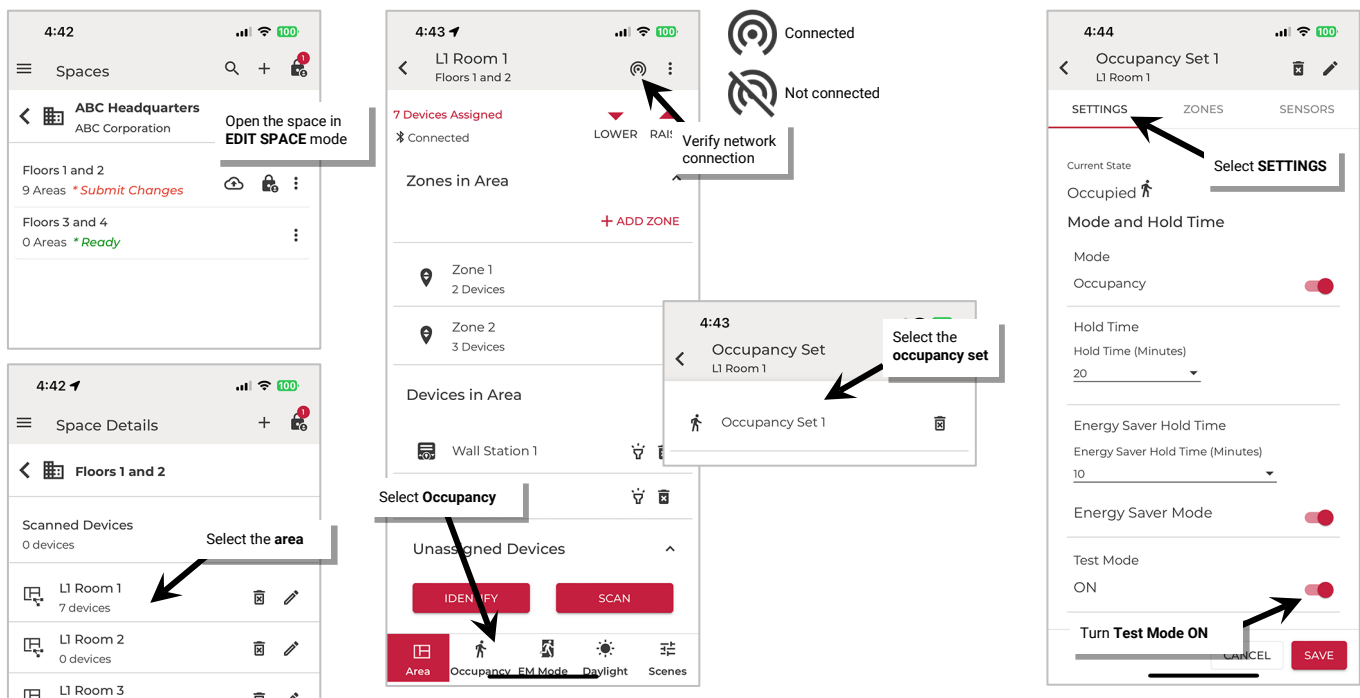
For Acoustic Ceiling Sensors, stand still again and clap your hands or speak, the LED should flash yellow to indicate Acoustic detection.

Continue this process at each sensor location to verify individual sensor operation within the desired sensor range to make sure that motion/acoustics are detected. Move slightly out of the desired range and repeat the test to ensure the sensor is not picking up motion/acoustic signal beyond the intended location. Adjust the sensor sensitivity as needed (see page 116 for further details).

Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.

To place the occupancy set in test mode:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Select the **Occupancy** tab and then select the desired **occupancy set**.
- 6: In **SETTINGS**, slide the **TEST MODE** switch to the **ON** position.



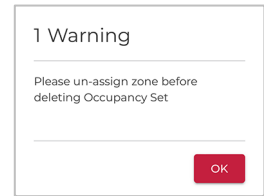
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Create New Occupancy Sets

For details on creating new occupancy sets, see “Step 5: Manage the Area Occupancy Sets (Networked Areas Only)” on page 85 for a step-by-step walkthrough.

Delete Occupancy Sets

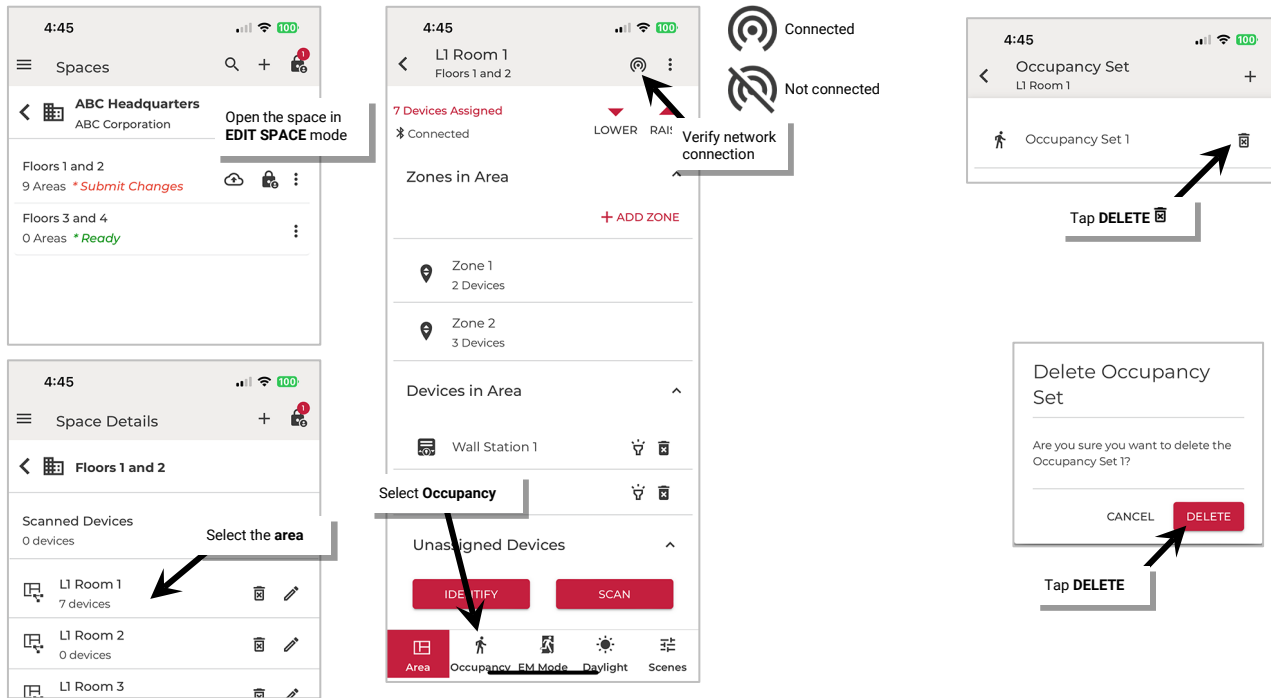
An occupancy set can be deleted **ONLY** if there are no zones assigned to it. The mobile application will block the deletion if the occupancy set has assigned zones, displaying the following message:



To delete an occupancy set:

Make sure there are no zones assigned. See page 122 for instructions on removing zones.

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.
- 5: Select the **Occupancy** tab. Tap **delete** next to desired occupancy set and then tap **DELETE** when prompted to confirm.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Work with Daylight Sets in Networked Areas

Daylight sensor control is achieved through Acoustic Ceiling Sensors and fixture mount, tilemount, and integrated sensors for both interior and exterior applications. WaveLinx LITE v7.0 supports both closed loop and open loop daylighting approaches for devices assigned to **dimnable zones**.⁷⁹

For outdoor applications, the focus is typically on ensuring that the fixtures turn OFF at dawn and turn ON or enable motion activity to turn ON lighting at dusk. For indoor applications, the focus is typically on trying to maintain a consistent light level by adjusting the amount of electric light needed based on the amount of daylight present in the location.

In both scenarios, the daylighting functionality may be disabled for fixtures that are not located in daylight zones or for any devices where daylight operation is not desired.

Daylighting filters or inhibits the fixture's response to other control commands. A command from a wallstation button or occupancy sensor to go to 100% level will adjust the electric light level output to meet the calibrated daylight level (calibrated light level = 100%). A command from a wallstation button or occupancy sensor to go to 50% will adjust the electric light level to meet 50% of the calibrated daylight level. The actual electric light level output with these commands will vary based on the available amount of daylight and how much electric light needs to be contributed to maintain the commanded target. If the electric light has daylight dimmed to OFF, lighting will remain OFF if occupancy or wallstation commands are received, preventing unnecessary energy waste when adequate daylight is present.

For information on how a specific device operates with dimming and dim-to-off response, refer to "WaveLinx LITE Device Reference Sheets" beginning on page 10 to locate the specific daylight response by device type.

- **Closed Loop Daylighting:** With the closed loop approach, the sensor controls only its connected light fixture. A closed loop sensor reads the reflected light level from the surface directly below it including light contributed by the electric light and the daylight that falls within the sensor's view. As daylight contribution increases, the sensor dims the electric light to keep the light level on the surface as consistent as possible. If bright daylight causes the surface light level to be above the desired level even after the light level has been fully dimmed, after a period the fixture will dim to OFF.⁸⁰ As daylight contribution decreases and the surface light level lowers, the fixture will turn back ON and then raise the amount of electric light accordingly. Acoustic Ceiling Sensors cannot be assigned to Closed Loop Daylight sets.
- **Open Loop Daylighting:** Acoustic Ceiling Sensors⁸¹, fixture mount, tilemount, and integrated sensors will allow a selected sensor to provide open loop daylight control for devices that are assigned to **dimnable zones**.⁷⁹ With open loop daylighting, a correlation is made between the level of the contributed daylight and the desired electric light level output, adjusting how much the sensor dims the electric light in response to daylight (adjusting the gain). The sensor adjusts the electric lighting as daylight contribution increases and decreases including dim to OFF if enough daylight is present.⁸²

Modify Closed Loop Daylight Control

This section focusses on the use of closed loop sensor control for fixture mounted, tilemount and integrated sensors that are provisioned to a dimmable zone.⁷⁹ This includes details on how to:

- Identify the daylight set being used for a specific device
- Enable/disable daylighting for specific sensors
- Use auto calibration for closed loop sensors
- Manually calibrate closed loop sensors
- Test daylight sensor operation

⁷⁹ Devices provisioned in non-dimmable or receptacle zones will not allow daylight control. If a switched device needs to be controlled by daylight commands, assign the device to a dimmable zone. The device will turn ON with commands of 1% or greater and will turn OFF with a command at 0%.

⁸⁰ If the device allows dim-to-off, when the measured light level exceeds 150% of the calibrated light level for more than 30 minutes, the sensor will turn lighting OFF. Lighting will be turned back ON when one of the two conditions occurs. Condition 1: The measured light level falls between 100% and 50% of the calibrated light level for more than 10 minutes. Condition 2: The measured light level falls below 50% of the calibrated light level for longer than 30 seconds.

⁸¹ If an Acoustic Ceiling Sensor is assigned as the controlling sensor of an open loop daylight set, it will only operate devices in dimmable lighting zones. The daylight sensor will not operate the sensor's directly connected lighting load.

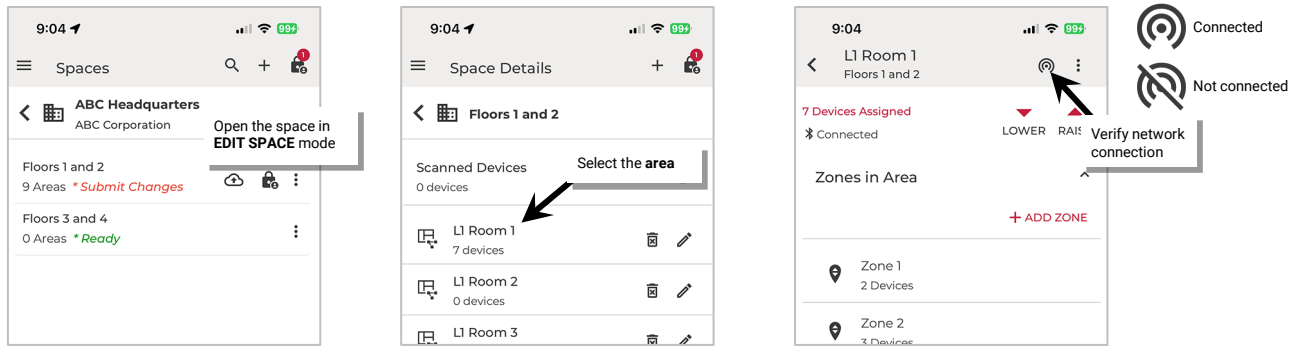
⁸² When the measured light exceeds 150% of the calibrated gain for more than 30 minutes, the sensor will turn lighting OFF. Lighting will be turned back ON when one of the two conditions occurs. Condition 1: The measured light level falls between 100% and 50% of the calibrated gain for longer than 10 minutes. Condition 2: The measured light level falls below 50% of the calibrated gain for longer than 30 seconds.


Identify and Rename a Closed Loop Daylight Set

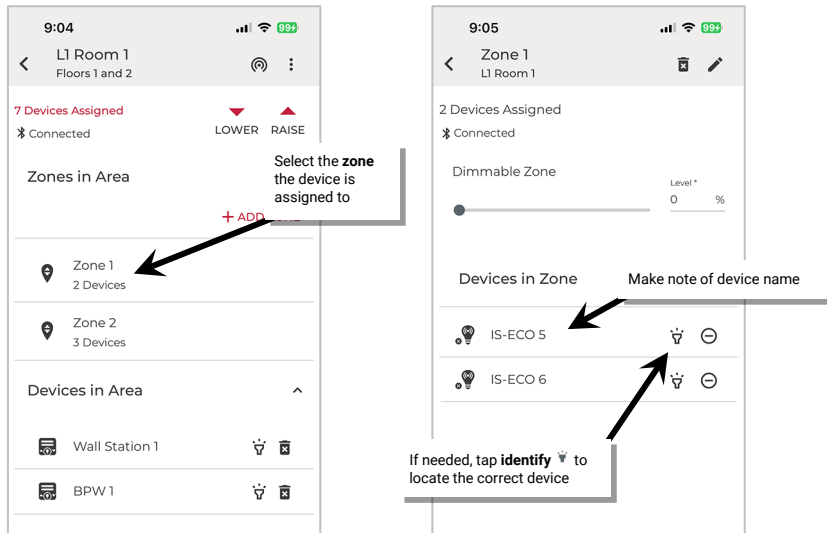
Once a device that has a daylight sensor is provisioned, a closed loop daylight set is automatically created for that device.⁸³ Before making any changes to daylight sets, first make certain to identify the correct device/daylight set.

To identify the daylight set:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.



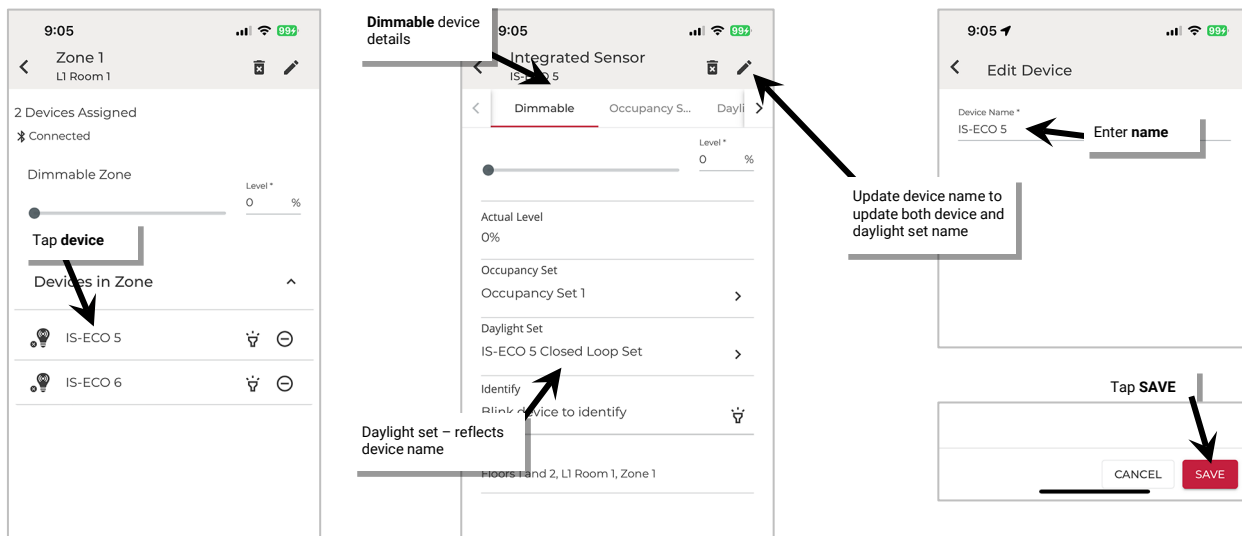
- 5: Tap the **zone** that the sensor is located in. In the list of devices in the zone, locate the device and if needed, tap **identify**  to locate the correct device. Make note of the **device name** as the daylight set will be named for that device.



⁸³ Closed loop daylight sets for devices provisioned in non-dimmable or receptacle zones will automatically be disabled and will not allow adjustment.

6: Tap the identified device to open the device details **Dimmable** screen to see the daylight set name.

7: To make it easier to locate daylight sets as well as devices, rename the device with a more descriptive name. This will also update the daylight set name for the device.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

WARNING: Although there is an option to rename a closed loop daylight set in the daylight set screen, any change to the device name will overwrite the daylight set name.

Disable and Enable Daylighting for Closed Loop Sensors

Default closed loop daylight operation is dependent on sensor type:

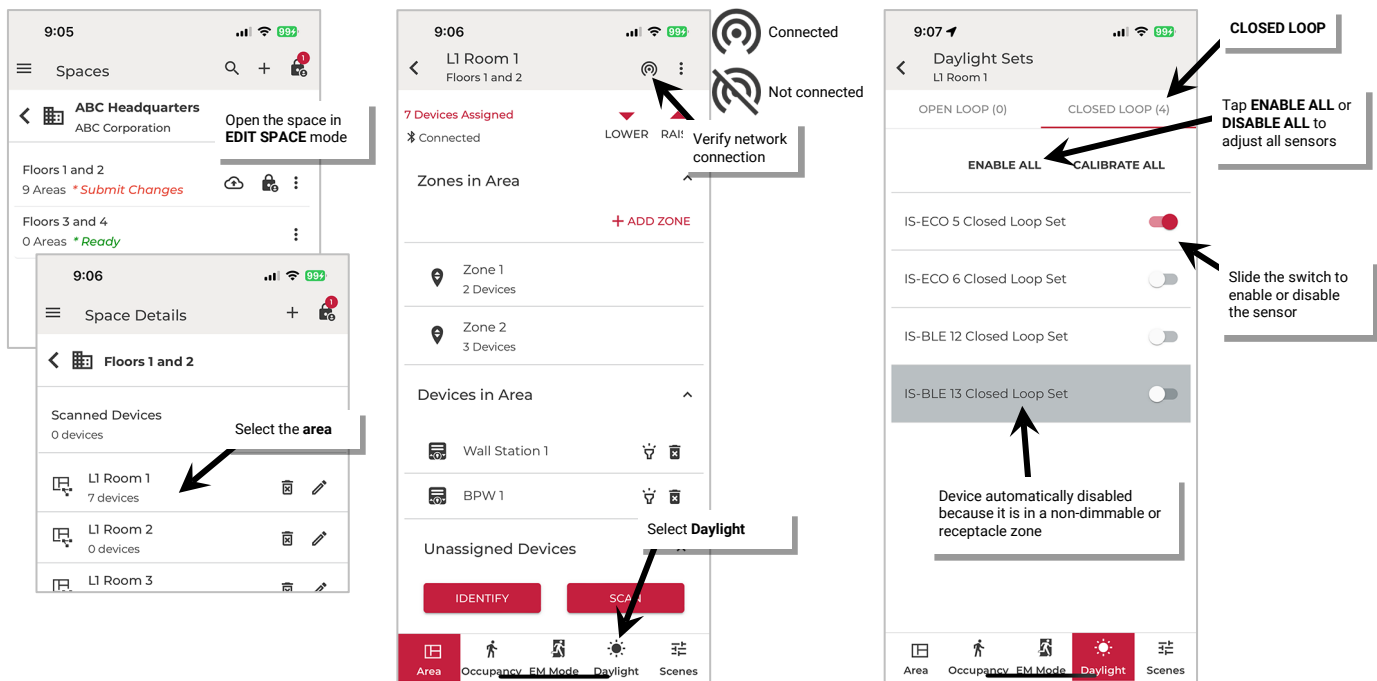
- By default, daylight dimming and dim-to-off functionality **is enabled** for outdoor closed loop sensors in dimmable zones. If the devices are in Areas that should not respond to daylighting disable the daylight set.
- By default, daylight dimming and dim-to-off functionality **is disabled** for interior closed loop sensors in dimmable zones (ambient, industrial, and tilemount sensors) and will need to be enabled for lighting to respond to daylighting.

WARNING: Disabling the daylight set will cause sensors to operate solely from motion sensor activity. The occupancy sensor will trigger response during daytime and nighttime hours regardless of light level.

To disable or enable daylighting for a sensor:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: If necessary, identify the correct daylight set using the instructions starting on page 127.
- 3: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 4: In the Area list, select the desired **Area**.
- 5: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 6: Select the **Daylight** tab.
- 7: Tap **CLOSED LOOP**; and locate the desired daylight set, scrolling up and down as needed. Once located, slide the switch to disable or enable the desired daylight set, or use the enable/disable all button at the top of the screen to affect all daylight sensors in the Area.

Note: If a sensor is being used for an open loop daylight set it will appear inactive (grayed out) on the screen and cannot be adjusted. Devices that are provisioned in a non-dimmable or receptacle zone will have a dark gray highlight and cannot be adjusted.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Auto Calibrate Closed Loop Daylight Sensors

Closed loop sensors that have updated firmware provided with WaveLinx LITE 7.0 will have the ability to automatically calibrate. The dynamic auto calibration assumes that the location has been designed such that the fixture light level at 100% with no contributed daylight is the desired light level for the location. If this is not the case, use manual calibration instead of the auto calibration feature.

With dynamic auto calibration, the sensor determines how much electric light is contributed to its reading by reviewing readings over a period (at least 24 hours). Within this time, it determines an initial optimal light value. This is based on the sensor's reading at night when the lights are to at 100%. The sensor then reduces or increases light level to maintain this optimal light value when daylight is present. The sensor continually gathers data, adjusting the dimming response needed to maintain this light value until it finds the optimal dimming curve.

Once the optimal dimming curve is established, the sensor continues to monitor for changes. If the light reflectivity of the location changes, i.e., paint color is changed, carpeting is replaced, blacktop is redone, etc., the sensor compares its current optimal values against the new values returned. If the comparison results in a difference between the values, the sensor will begin adjusting over a period of several days until the optimal value and comparison values match.

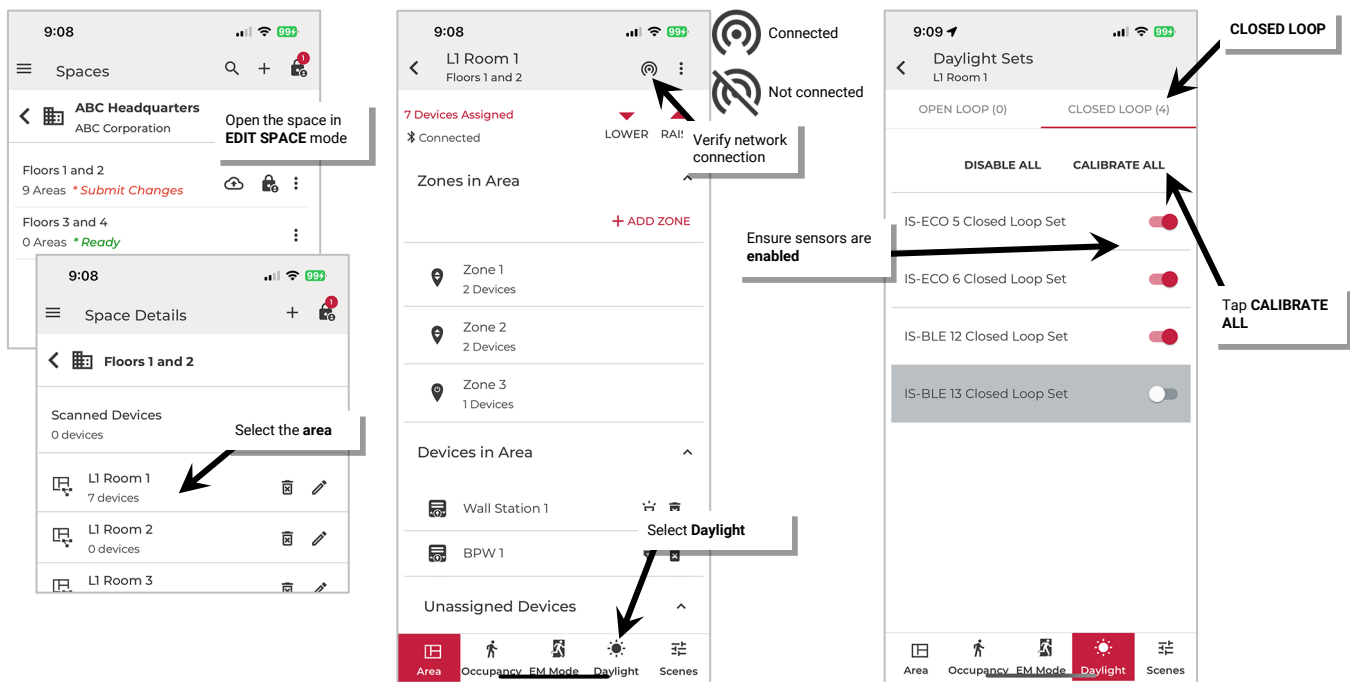
Out-of-the-box, the sensor will begin gathering the data used for auto calibration as soon as it is powered. By default, the sensor's response to using the auto calibrate determined values is disabled. This allows the sensor to gather the necessary data before the response is enabled. The sensor/fixture should be powered for at least 24 hours before enabling the auto calibrate response. The auto calibration can only occur if the dim level of the fixture is over 30%. If the location has low occupancy during the 24-hour period where the fixture light level is below the 30%, the sensor may take longer (several days) to adjust the optimal value.

Enabling Auto Calibration Response in All or Selected Sensors in an Area

To enable auto calibrate closed loop response in all or selected sensors in the Area:

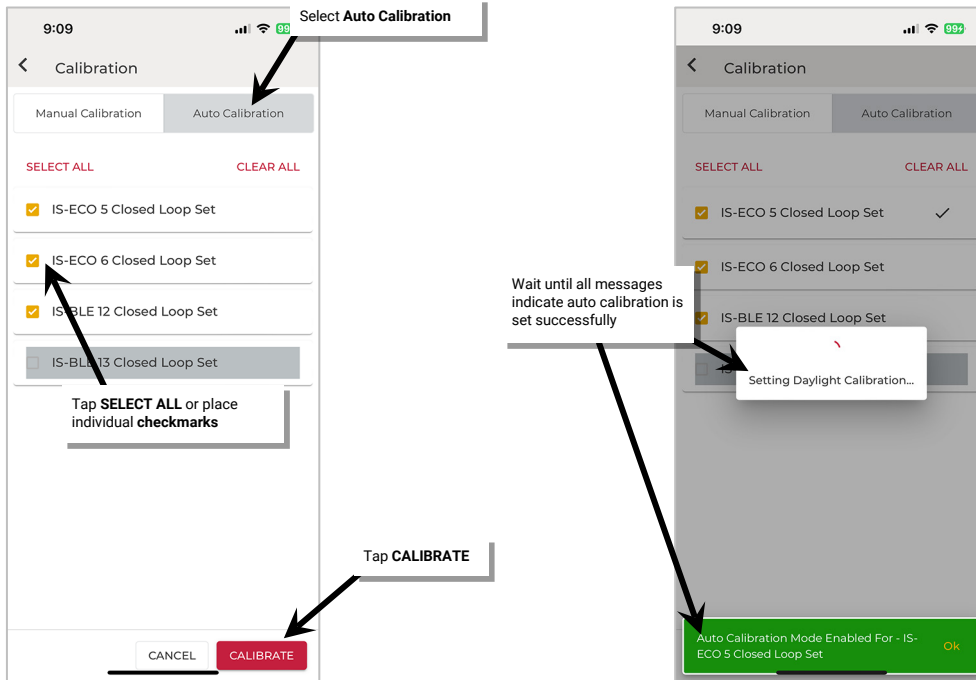
- 1: Ensure that the fixtures have been powered and operational (either out-of-the-box or provisioned operation) for at least 24 hours.
- 2: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 3: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 4: In the Area list, select the desired **Area**.
- 5: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 6: Select the **Daylight** tab.
- 7: Tap **CLOSED LOOP**. Verify that the desired sensors are **ENABLED** and then tap **CALIBRATE ALL**.

Note: If a sensor is being used for an open loop daylight set it will appear inactive (grayed out) on the screen and cannot be adjusted. Devices that are provisioned in a non-dimmable or receptacle zone will have a dark gray highlight and cannot be adjusted.



8: Tap the **Auto Calibration** tab. Place a **checkmark** in the checkboxes or **SELECT ALL** to choose the desired sensors.

9: Select **CALIBRATE** and wait for each sensor's confirmation message that auto calibration is enabled. Tap the back button to exit the display.



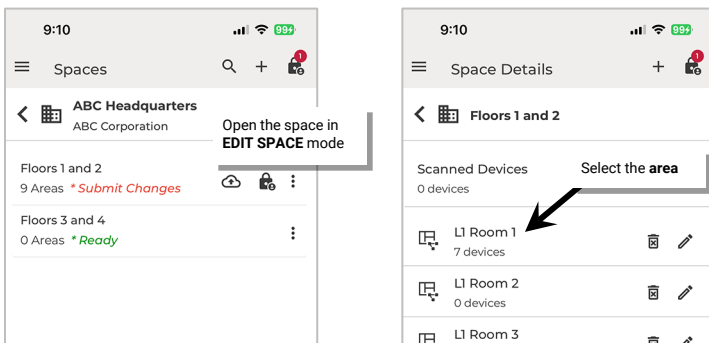
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Enable or Disable Auto Calibration Response for a Single Sensor

It is also possible to enable or disable the auto calibration response for an individual sensor/fixture.

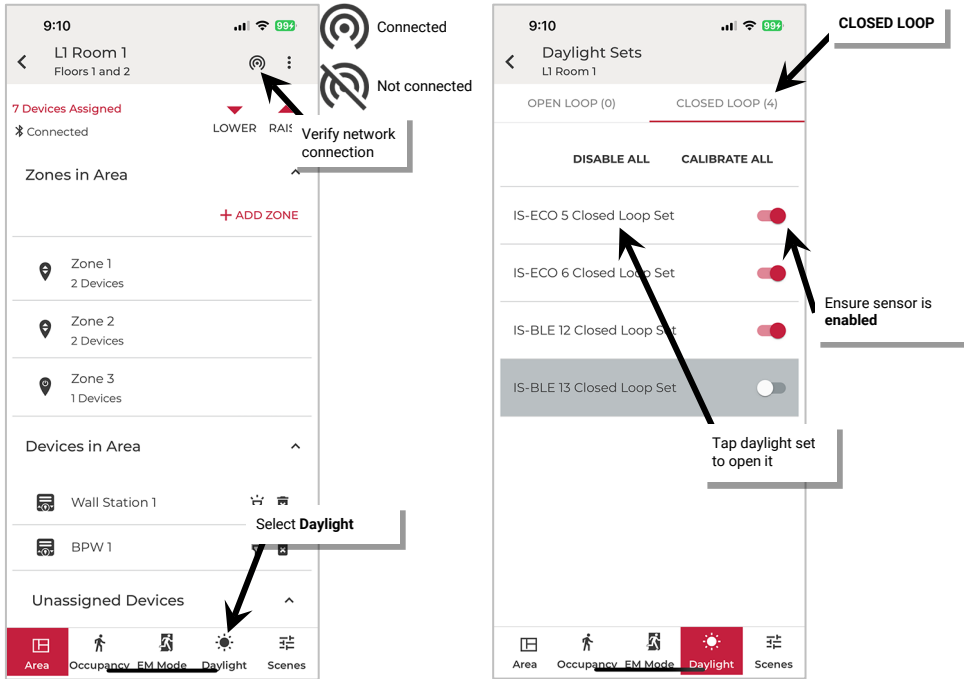
Identify the daylight set following the instructions on page 127 and then follow the steps below.

- 1: Ensure that the fixtures have been powered and operational (either out-of-the-box or provisioned operation) for at least 24 hours.
- 2: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 3: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 4: In the Area list, select the desired **Area**.

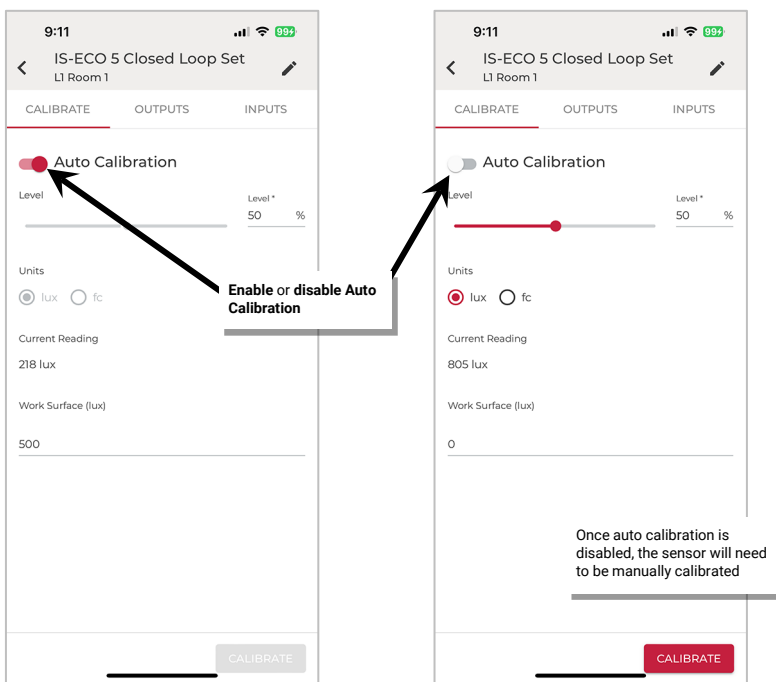


- 5: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 6: Select the **Daylight** tab.
- 7: Tap **CLOSED LOOP**. Verify that the desired daylight set is **ENABLED** and then tap the daylight set to open it.

Note: If a sensor is being used for an open loop daylight set it will appear inactive (grayed out) on the screen and cannot be adjusted. Devices that are provisioned in a non-dimmable or receptacle zone will have a dark gray highlight and cannot be adjusted.



- 8: In the calibration screen, tap the slider to **enable** (yellow) or **disable** (gray) **Auto Calibration** and then tap the back button to exit the screen. If auto calibration is disabled, the screen can be used to manually calibrate the sensor. See the next section for further details on manual calibration.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Manually Calibrate Closed Loop Daylight Sensors

In the WaveLinx LITE system, fixture mount, tilemount and integrated sensors provisioned in dimmable zones⁸⁴ use closed loop daylighting to directly control the physically connected load. Each daylight sensor is automatically assigned to a unique daylight set.

Each sensor has default factory settings that provide closed loop daylighting to a reasonable light level when the daylight sensor or daylight set is enabled. The default factory settings cannot account for all factors that affect the light level measured at the sensor. The sensor location is not at the surface but at the fixture and therefore its reading of reflected light levels is affected by many variables, including the mounting height and the reflective properties of the surface.

For many applications, no calibration is necessary. In addition, with WaveLinx LITE 7.0, the auto calibration feature may be used to allow the sensor to dynamically adjust to the optimal light level. **Manual calibration of sensors is recommended where the performance of factory set parameters or auto calibration is unacceptable including:**

- The light level at the surface is consistently too low or too high during periods of moderate daylight.
- The desired light level is lower than the 100% light output of the fixtures (with no contributed daylight).
- Lighting does not turn OFF during periods of bright sunshine (sunrise for outdoor applications).
- Lighting does not turn ON during dark periods (sunset for outdoor applications).

If calibration is necessary, **for best results, calibrate and adjust the target level of all the sensors within one Area at the same time using the mobile application's option to calibrate all.** In this method, all the sensors within the location (Area) will be calibrated together, accounting for the possible effects of lighting from adjacent fixtures. If necessary, individual sensor calibration can be used to fine-tune settings.

⁸⁴ Devices provisioned in non-dimmable or receptacle zones will not allow daylight control.

Manually Calibrate All Sensors in an Area

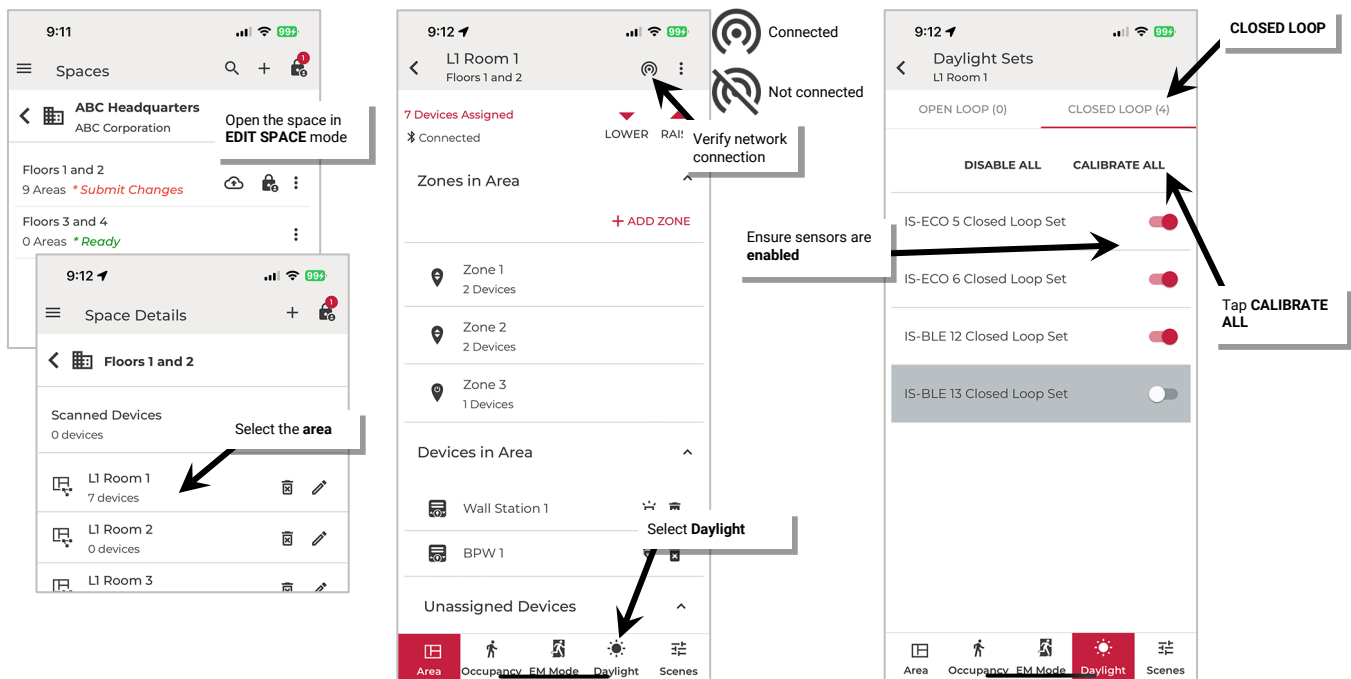
IMPORTANT: Before calibration, review the specific device recommendations for when daylight calibration should be performed. See “WaveLinX LITE Device Reference Sheets” beginning on page 10 to find the suggestions for that device.

BEFORE PROCEEDING VERIFY THAT SENSORS ARE NOT SET TO AUTO CALIBRATE. Follow the instructions in “Enable or Disable Auto Calibration Response for a Single Sensor” on page 131 to **disable** auto calibration for each daylight set that will be manually calibrated. **Continue to with this process only when auto calibration is disabled.**

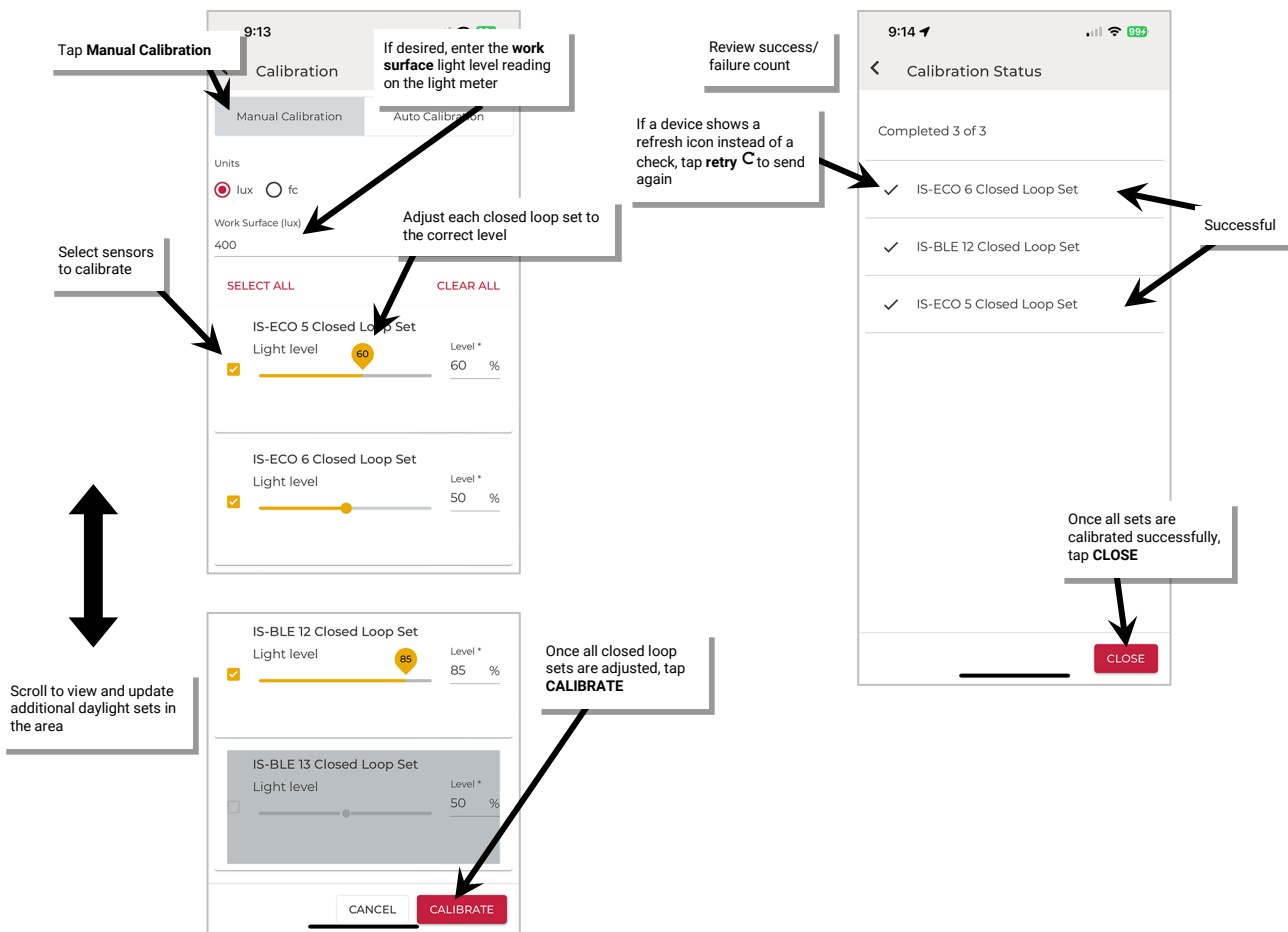
To manually calibrate all sensors in an Area:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.
- 5: Select the **Daylight** tab.
- 6: Tap **CLOSED LOOP**. Verify that the desired sensors are **ENABLED** and then tap **CALIBRATE ALL**.

Note: If a sensor is being used for an open loop daylight set it will appear inactive (grayed out) on the screen and cannot be adjusted. Devices that are provisioned in a non-dimmable or receptacle zone will have a dark gray highlight and cannot be adjusted.



- 7: Tap **Manual Calibration** and then tap **SELECT ALL** or individually select the **checkbox** next to each sensor that needs to be manually calibrated.
- 8: Next, optionally, enter the **work surface** light reading using a light meter for reference. This allows current reading fields to approximate more closely what the light level is at the desired surface. This will have no effect on the calibrated level other than for reviewing or displaying the current reading. If entering the reading, select either **lux** or **foot-candles** to match what was used on the light meter.
- 9: Use the screen controls to change each **Closed Loop Set light level**. The fixture will immediately respond to the level selected:
 - For outdoor applications calibrated at night: Recommended to set all closed loop sets to 100% light level.
 - For indoor applications: Use the light level adjustment controls to adjust each fixture to the desired light level.
 Repeat for all sensor sets in the Area, scrolling if necessary. Lighting should respond and assume the defined light level.
- 10: Tap **CALIBRATE**. The current light level of each of the affected sensor will then be stored as the target 100% light level.
- 11: Verify that calibration was successful for all devices. Devices that show a **checkmark** ✓ indicate successful transmission. Devices may either not appear or may show **refresh** ⌂ to indicate a transmission failure. Tap the refresh icon or try to calibrate again until all devices show successful transmission.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Manually Calibrate a Single Sensor

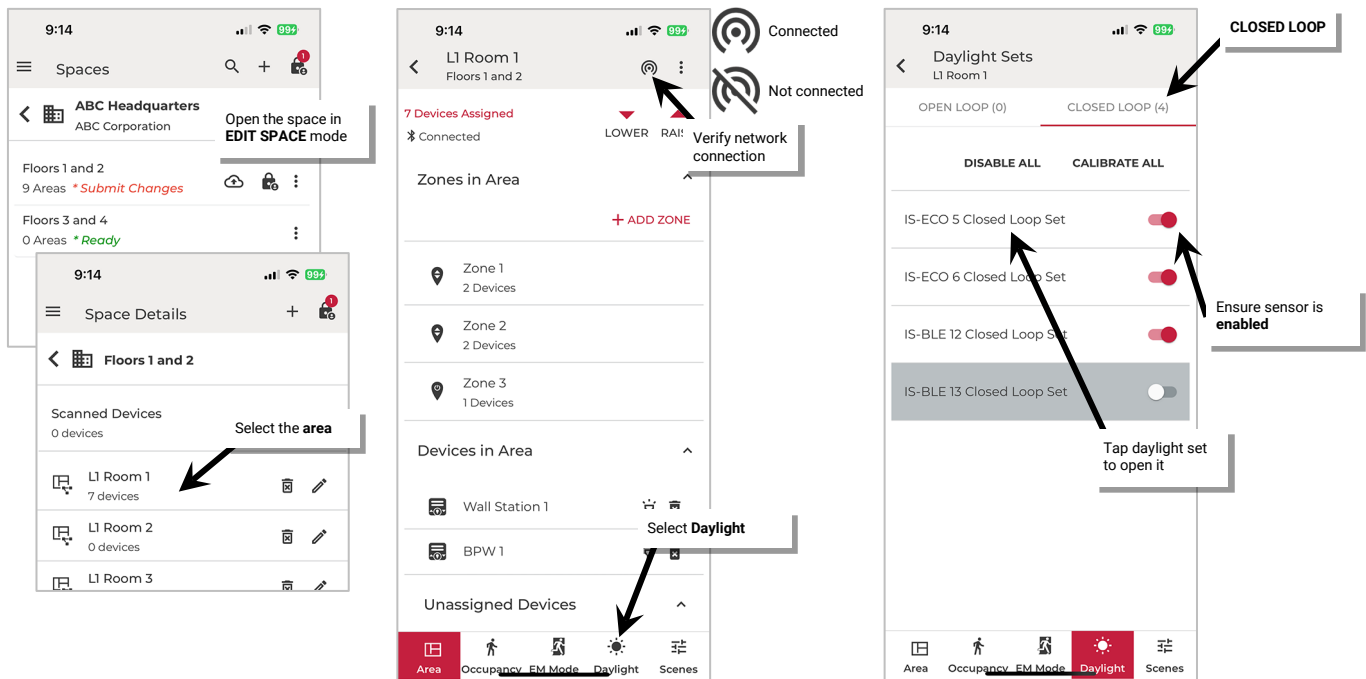
It is also possible to adjust the closed loop settings for an individual sensor if settings need to be fine-tuned for a single sensor.

IMPORTANT: Before calibration, review the specific device recommendations for when daylight calibration should be performed. See “WaveLinX LITE Device Reference Sheets” beginning on page 10 to find the suggestions for that device

Identify the daylight set following the instructions on page 127 and then follow the steps below.

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.
- 5: Select the **Daylight** tab.
- 6: Tap **CLOSED LOOP**. Verify that the desired daylight set is **ENABLED** and then tap the daylight set to open it.

Note: If a sensor is being used for an open loop daylight set it will appear inactive (grayed out) on the screen and cannot be adjusted. Devices that are provisioned in a non-dimmable or receptacle zone will have a dark gray highlight and cannot be adjusted.

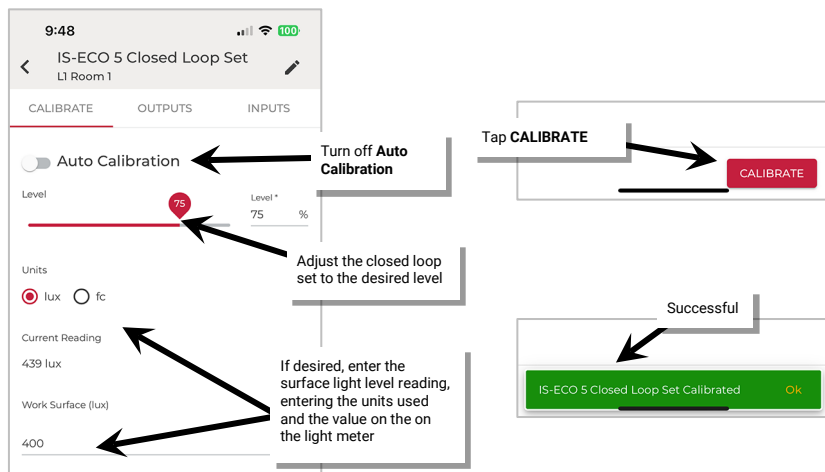


7: In the calibration screen, first make sure that **Auto Calibration** is turned **off** and then use the screen controls to change the **light level**:

- For outdoor applications calibrated at night: Set all closed loop sets to 100% light level.
- For indoor applications: Use the light level adjustment controls to adjust each fixture to the desired light level. Lighting should respond and assume the defined light level.

8: Optionally, enter the **work surface** light reading using a light meter for reference. This allows current reading fields to approximate more closely what the light level is at the desired surface. This will have no effect on the calibrated level other than for reviewing or displaying the current reading. If entering the reading, select either **lux** or **foot-candles** to match what was used on the light meter.

9: Tap **CALIBRATE**. A message will briefly be shown at the bottom of the display to indicate a successful transmission. The current light level of the sensor is now stored as the target light level.



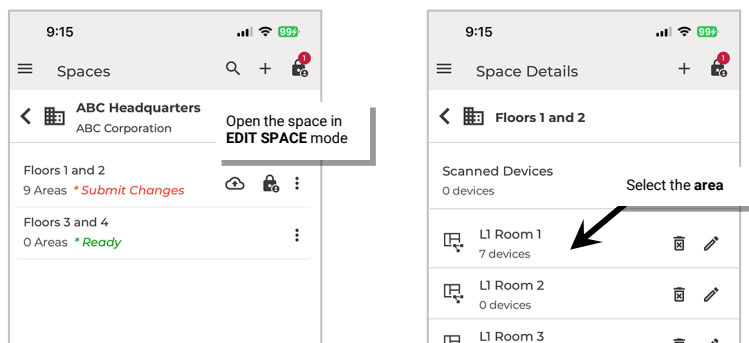
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Test Daylight Sensor Operation

The daylight sensor response can be tested by placing the sensor into test mode. During test mode, the daylight fade rate is lowered to 10 seconds and the time delays for dim-to-off functionality is reduced.⁸⁵ The faster response allows the sensor operation to be quickly verified on site. If left on, test mode will automatically time out after 10 minutes.

To use test mode:


- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.

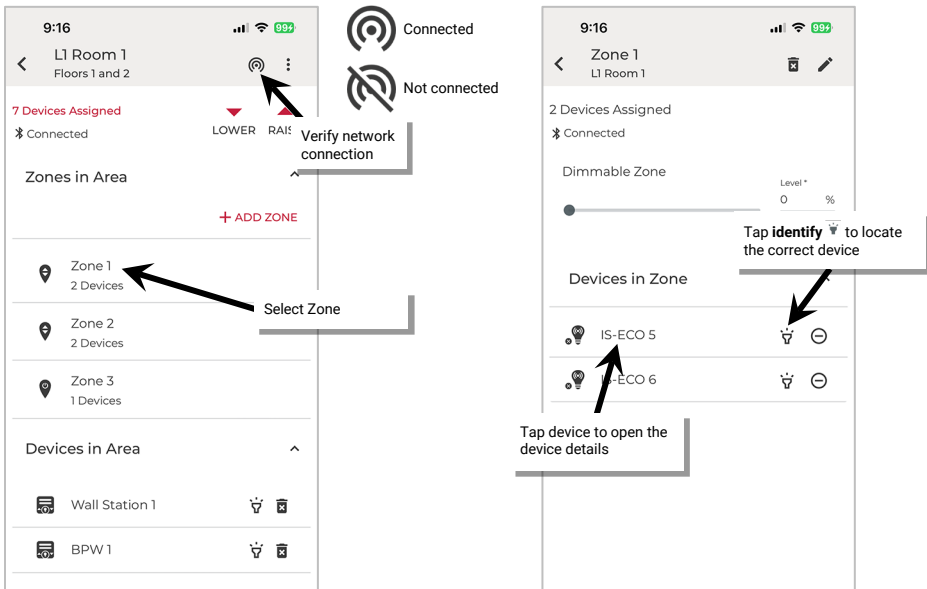


⁸⁵ If the device allows dim-to-off, when the measured light level exceeds 150% of the calibrated light level for more than 30 seconds, the sensor will turn lighting OFF. Lighting will be turned back ON when one of the two conditions occurs. Condition 1: The measured light level falls between 100% and 50% of the calibrated light level for more than 20 seconds. Condition 2: The measured light level falls below 50% of the calibrated light level for longer than 5 seconds

4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.

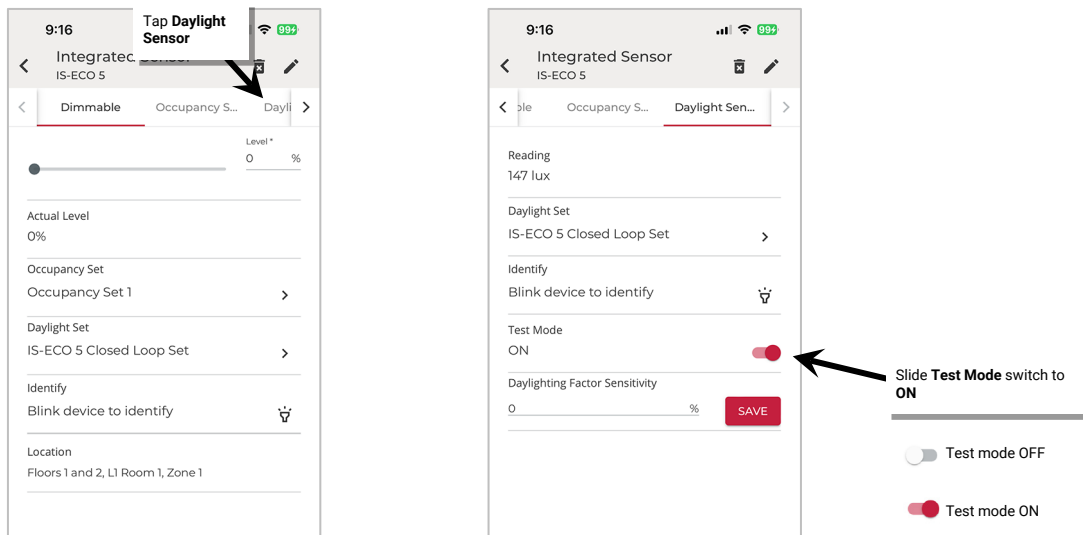
5: Tap the desired **Zone**.

6: In the list of devices in the zone, locate the daylight sensor device. If needed, tap **identify**  to flash the device until the correct one is found. Tap the device to open the device details.



7: Tap **Daylight Sensor** at the top of the page.

8: Locate and then slide the switch for **Test Mode** to the **ON** position and proceed to test the sensor.



Once testing is complete, slide the switch to **OFF** or allow test mode to automatically time out after 10 minutes.

Remember to **Exit EDIT SPACE** mode (see page 98).

Modify Open Loop Daylight Control

This section focusses on the use of open loop sensor control for fixture mounted, tilemount and integrated sensors. Creating an open loop daylight set is a multi-step process. This section includes details on how to:

- Step 1: Create and name the open loop daylight set
- Step 2: Enable/disable the open loop daylight set
- Step 3: Assign/remove the lighting loads controlled
- Step 4: Assign/remove the controlling daylight sensor
- Step 5: Adjust the amount of lighting response
- Step 6: Test daylight sensor operation
- Control lighting loads at different light levels from the same daylight sensor

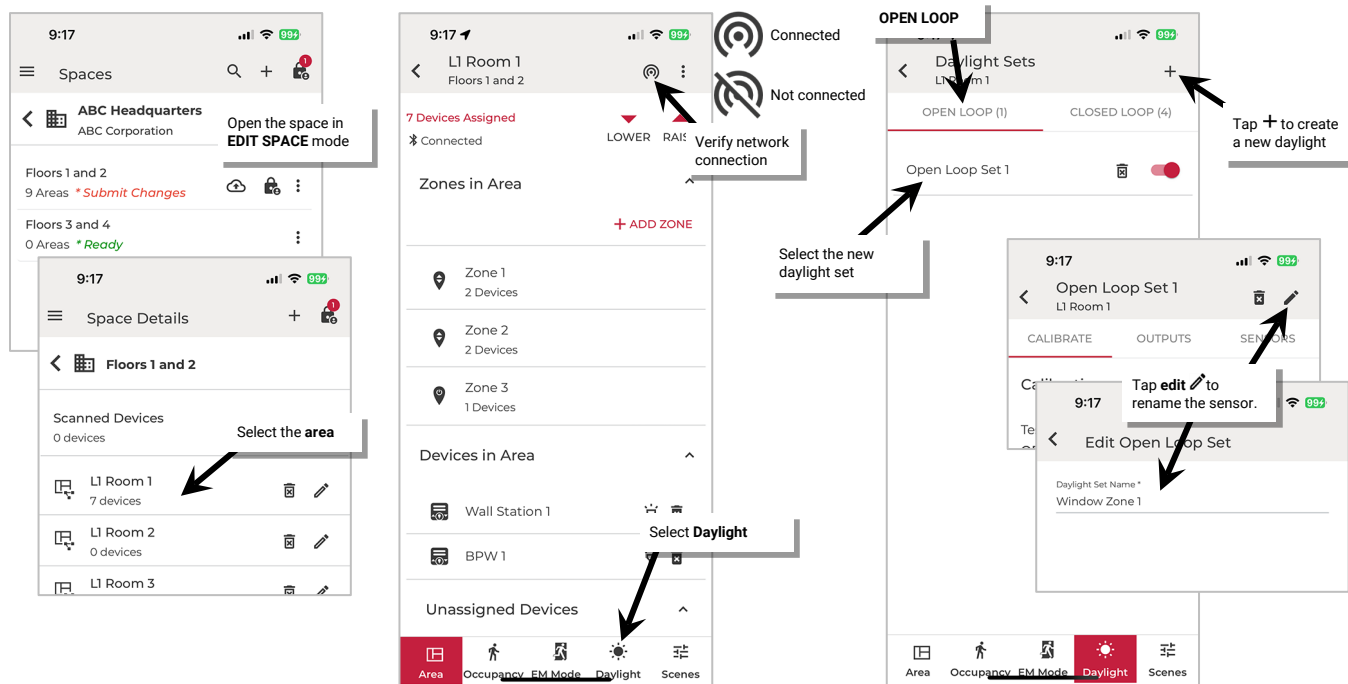
Acoustic Ceiling Sensors, Integrated and Fixture Mount Sensors and Tilemount sensors can be used for open loop daylighting. During sensor assignment, the mobile app will execute a compatibility check to ensure that the sensors have the required hardware/firmware version. If a sensor is not showing as compatible, make certain that the firmware is up to date. See “Update Device Firmware” on page 199 for details.

Sensors in devices that are in non-dimmable or receptacle zones may be used as the controlling sensor but devices that belong to non-dimmable or receptacle zones will not respond to daylight commands. **Only dimmable loads in dimmable zones will respond to open loop daylight signals unless the switched load is assigned to a dimmable zone. If switched loads are assigned to dimmable zones, they will respond ON to any command 1% or greater and OFF with commands at 0%, including daylight commands.**⁸⁶

Step 1: Create and Name the Open Loop Daylight Set

One Area can have up to 6 open loop daylight sets. To use open loop daylight control, first create an open loop daylight set.

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.
- 5: Select the **Daylight** tab.
- 6: Tap **OPEN LOOP**, and then tap **+** to add a new open loop set. The open loop set will appear with a generic name and will automatically be enabled. Tap the daylight set to open it.
- 7: Tap **edit**. Type in a unique **name** for this daylight set and then select **SAVE**.



- 8: Repeat to create any additional needed open loop daylight sets in the Area.

Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

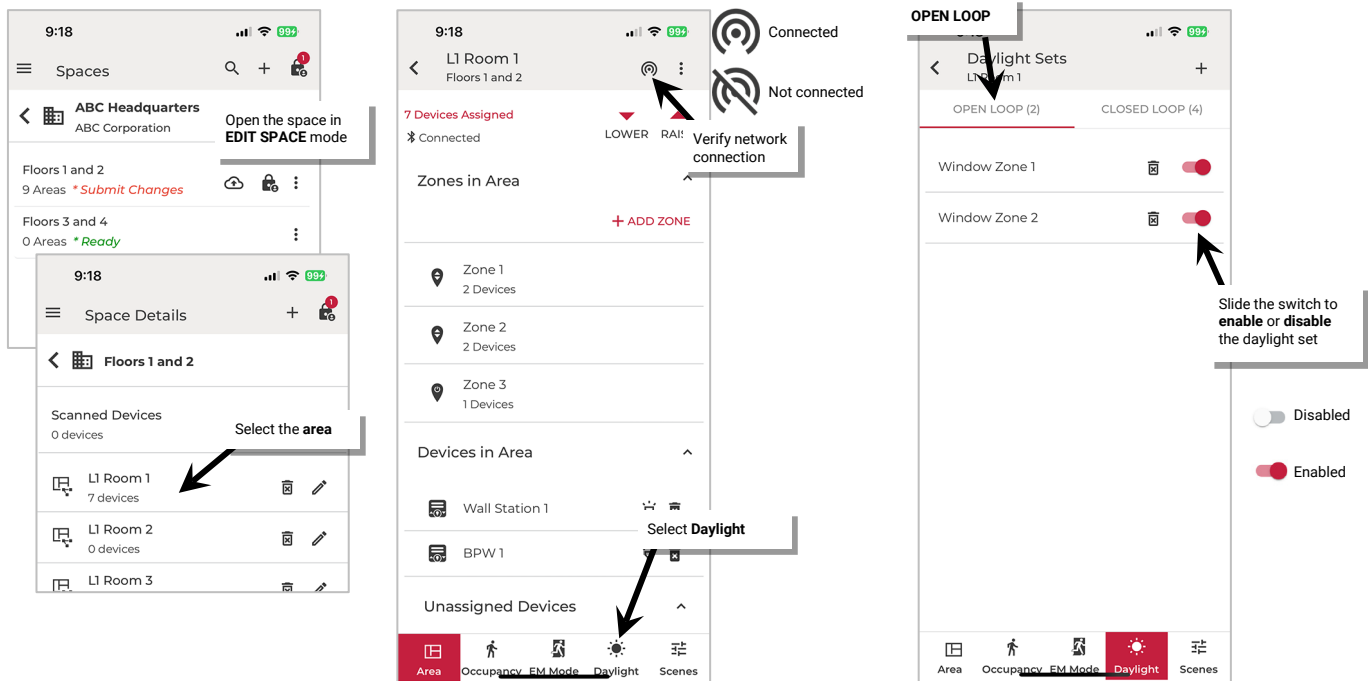
⁸⁶ If an Acoustic Ceiling Sensor is assigned as the Open Loop Set sensor, the sensor’s connected load will not be able to operate from the daylight set even if assigned to a dimmable zone. The acoustic ceiling sensor will be able to control loads connected to other devices that are assigned to the daylight set for control.

Step 2: Enable/Disable the Open Loop Set

During creation, an open loop set is enabled by default. It is possible to disable the set to prevent the daylighting from affecting the controlled lighting loads. Ensure that the desired open loop daylight sets are enabled for daylight operation.

To disable or enable daylighting for an open loop daylight set:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Select the **Daylight** tab.
- 6: Tap **OPEN LOOP** and locate the desired daylight set. Once located, slide the switch to disabled or enabled.
- 7: Repeat for any additional open loop daylight sets until only the open loop daylight sets that should operate are enabled.



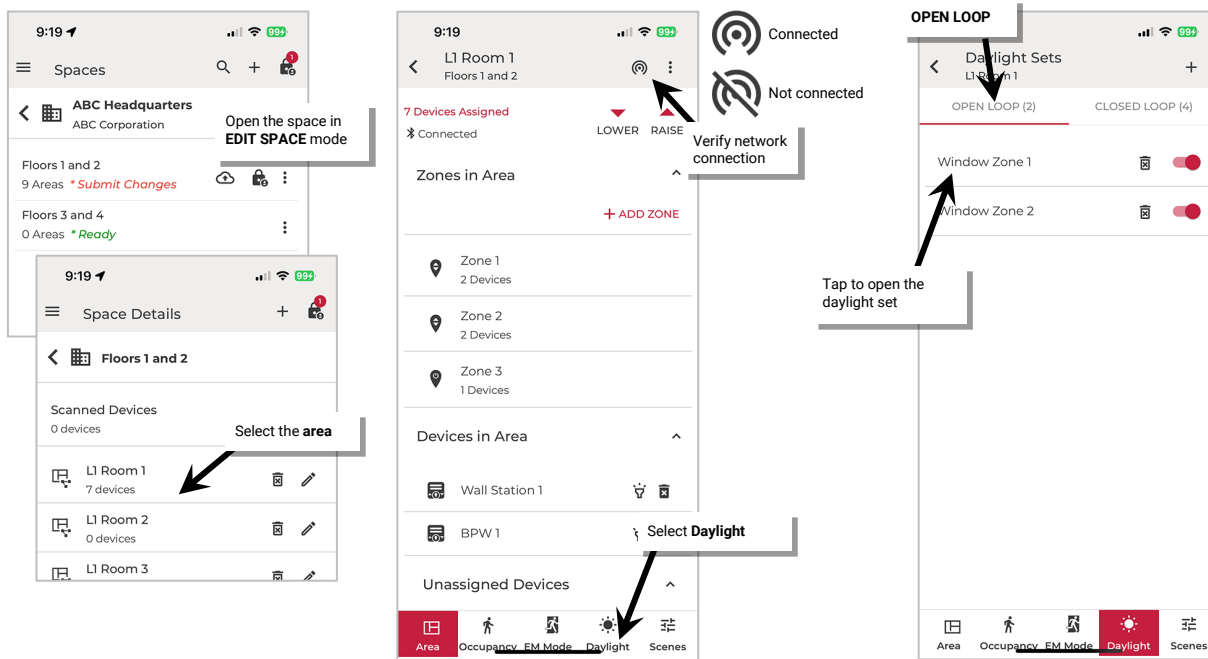
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Step 3: Assign/Remove Controlled Lighting Loads

After the open loop daylight set is created, assign the lighting loads that need to respond to the daylight signals. Once assigned, use these same steps to remove a lighting load that no longer needs to respond.

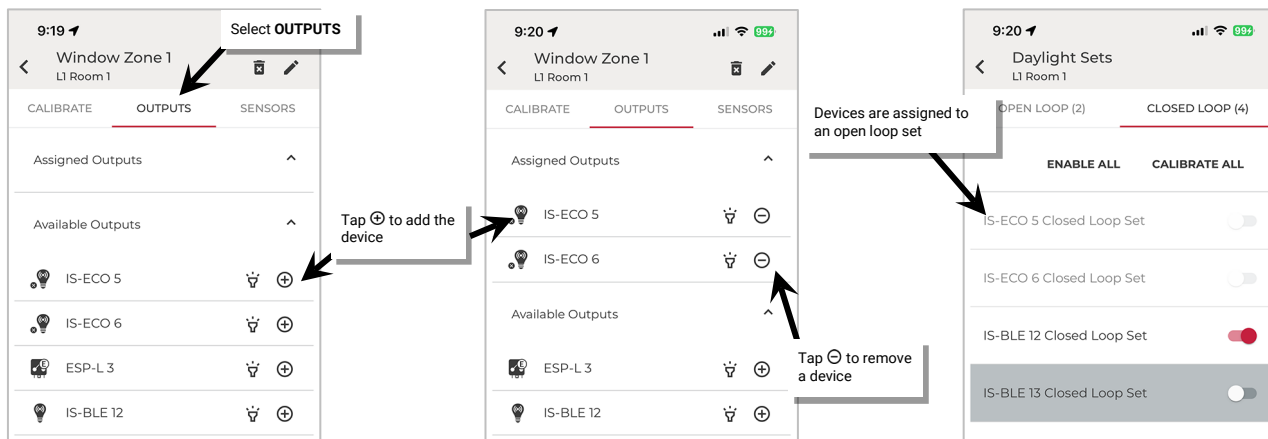
To assign or remove a controlled lighting load:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area** and then verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 4: Select the **Daylight** tab and then tap **OPEN LOOP**. Locate the desired daylight set and then tap the daylight set to open it.



- 5: Select **OUTPUTS** and then in **Available Outputs**, locate the desired device. If needed, tap **identify** to locate the correct device.^{87, 88}
- 6: Tap next to the desired device to **add it to Assigned Outputs**. Repeat for additional devices. To **remove** an already assigned device, in **Assigned Outputs** tap the to remove the device. The device will show as an available output again.

Note: When a device is added to the outputs, if there is a closed loop daylight set associated with the device, it is automatically disabled. The closed loop daylight set will appear grayed out and will not allow configuration.



⁸⁷ The output assignment screen will allow devices that are provisioned in non-dimmable and receptacle zones to be assigned. If these devices are assigned to an open loop daylight set, they will ignore all daylight commands. Assign switched devices to dimmable zones if they need to respond the daylight sensor.

⁸⁸ If an Acoustic Ceiling Sensor is assigned as the Open Loop Set sensor, the sensor's connected load will not be able to operate from the daylight set even if assigned to a dimmable zone. It will not appear as an available output.

Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

When a device is removed from an open loop daylight set, **the closed loop set associated with the device is enabled**. If daylight operation is not desired, disable the closed loop daylight set. See page 129 for instructions.

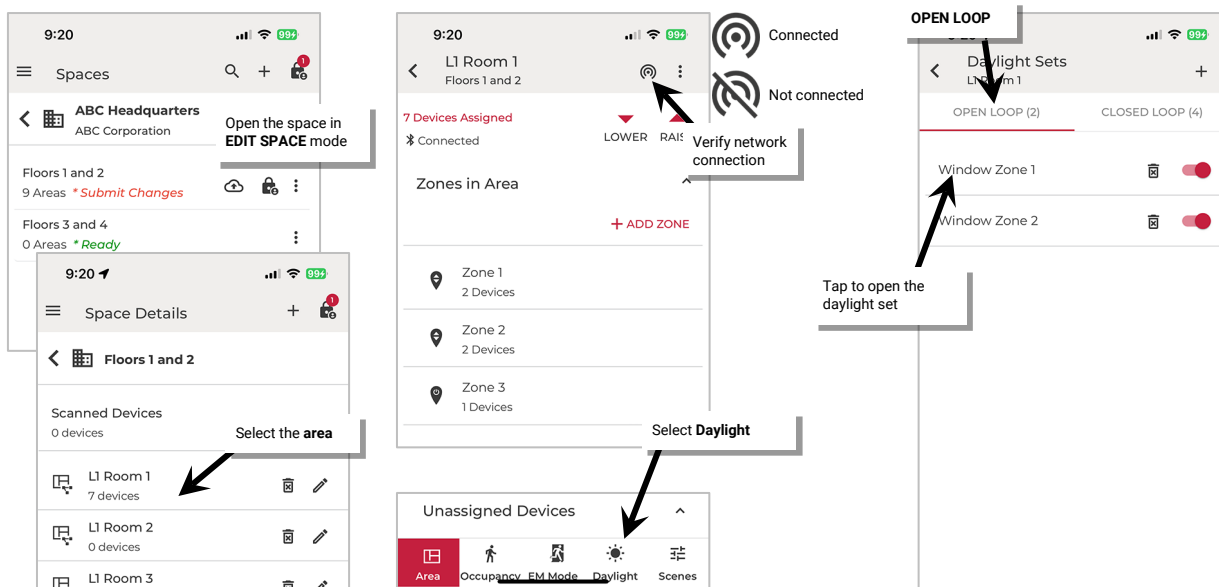
Step 4: Assign/Remove the Controlling Daylight Sensor

After the lighting devices are assigned to the open loop daylight set, select ONE daylight sensor that will control the loads. Once assigned, use these same steps to remove the daylight sensor or to select another. One daylight sensor can be assigned to multiple open loop daylight sets to allow for different daylight response from the same sensor.

During sensor assignment, the mobile app will execute a compatibility check to ensure that the sensors have the required hardware/firmware version. If a sensor is not showing as compatible, make certain that the firmware is up to date.


To assign or remove the controlling daylight sensor.



- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5 Select the **Daylight** tab.
- 6: Tap **OPEN LOOP** and locate the desired daylight set. Tap the daylight set to open it.

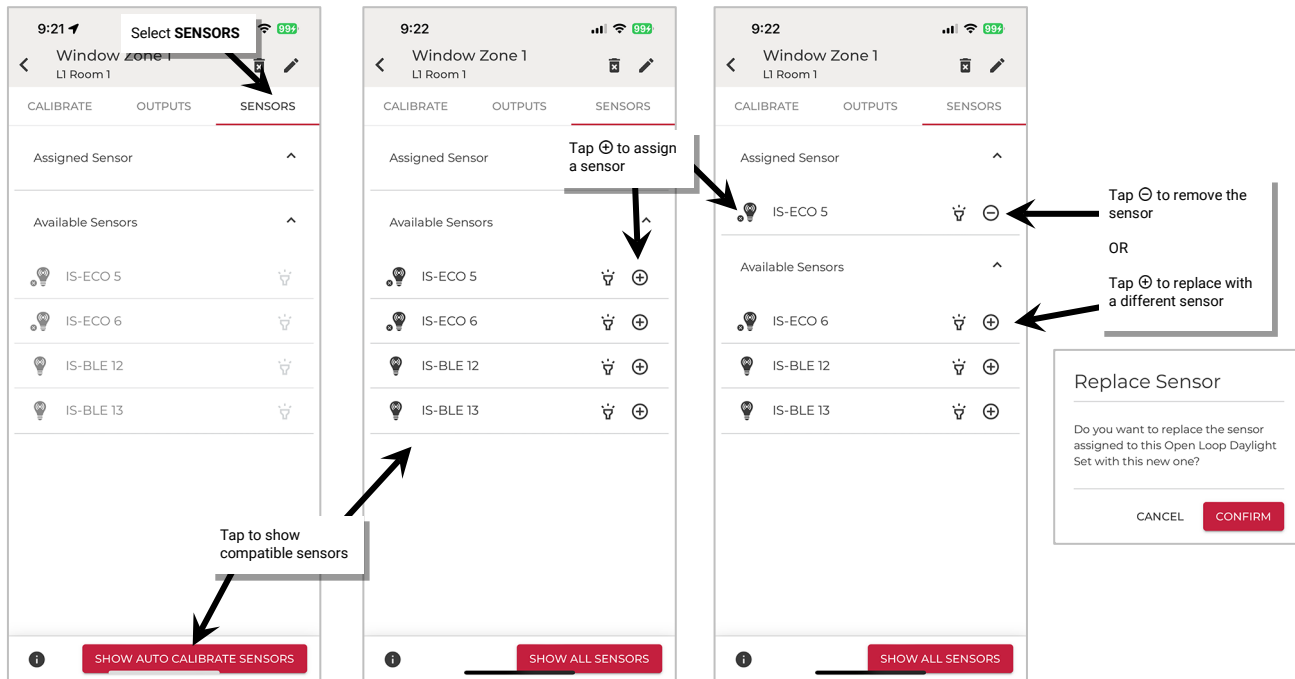


7: Select **SENSORS** and verify that the Acoustic Ceiling Sensor appears OR tap **SHOW AUTO CALIBRATE SENSORS** to check for open loop compatibility amongst other sensors in the Area. The compatible sensors will be enabled.

Note: To switch back to show sensors that do not support auto calibration, tap the SHOW ALL SENSORS button.

8: In **Available Sensors**, locate the desired device. If needed, tap **identify**  to locate the correct device.

Tap  next to the desired daylight sensor to **add** it to be the **Assigned Sensor**. **Only one sensor may be assigned to an open loop daylight set**. To remove an already assigned sensor, tap the  to **remove** the device, or select a different sensor to replace the assigned sensor.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

IMPORTANT: When a integrated sensor, fixture mounted sensor or tilemount sensor is assigned as the open loop daylight sensor, its associated load output is automatically assigned to the open loop daylight set unless it has already been assigned to a different open loop daylight set. If using an Acoustic Ceiling Sensor is assigned as the open loop daylight sensor, it can be assigned to other load outputs but its own output will not appear for assignment.

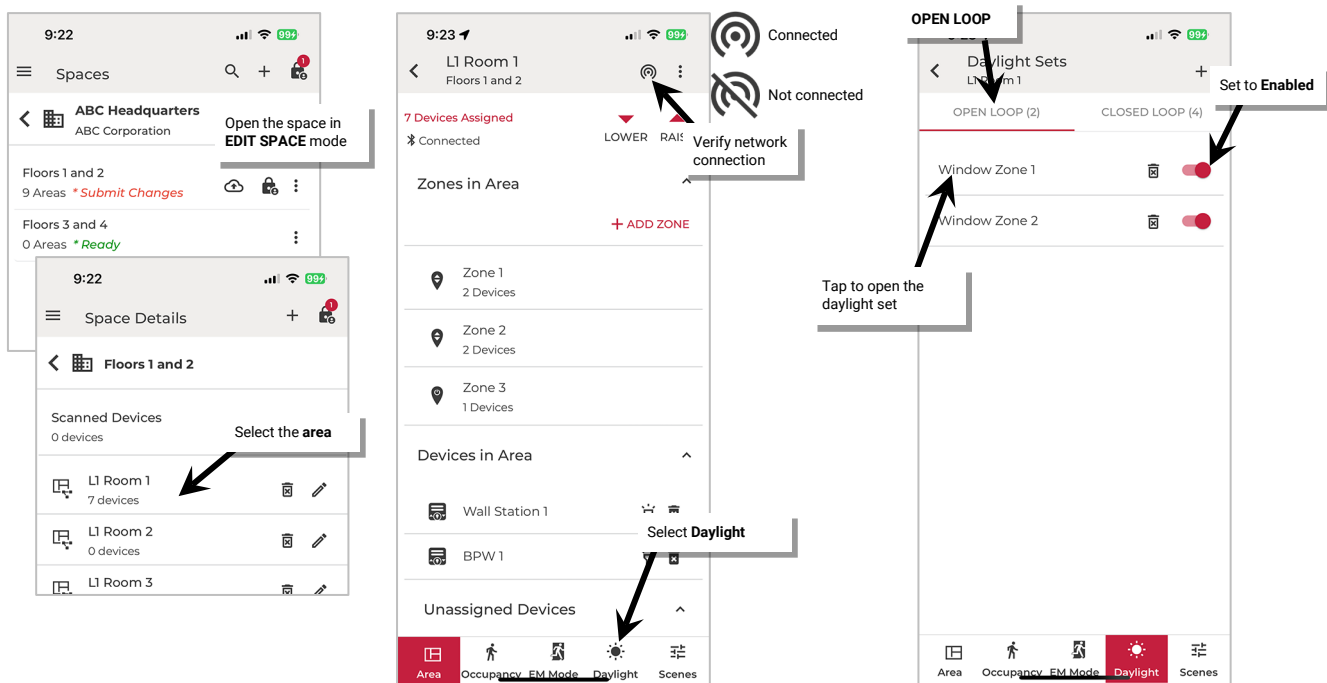
Step 5: Adjust the Amount of Lighting Response

When using Open Loop Daylight Control, manually adjust the daylight set's response to daylight. This is done by adjusting the sensor's gain which either decreases or increases the electric light dimming response to the ambient light level present.

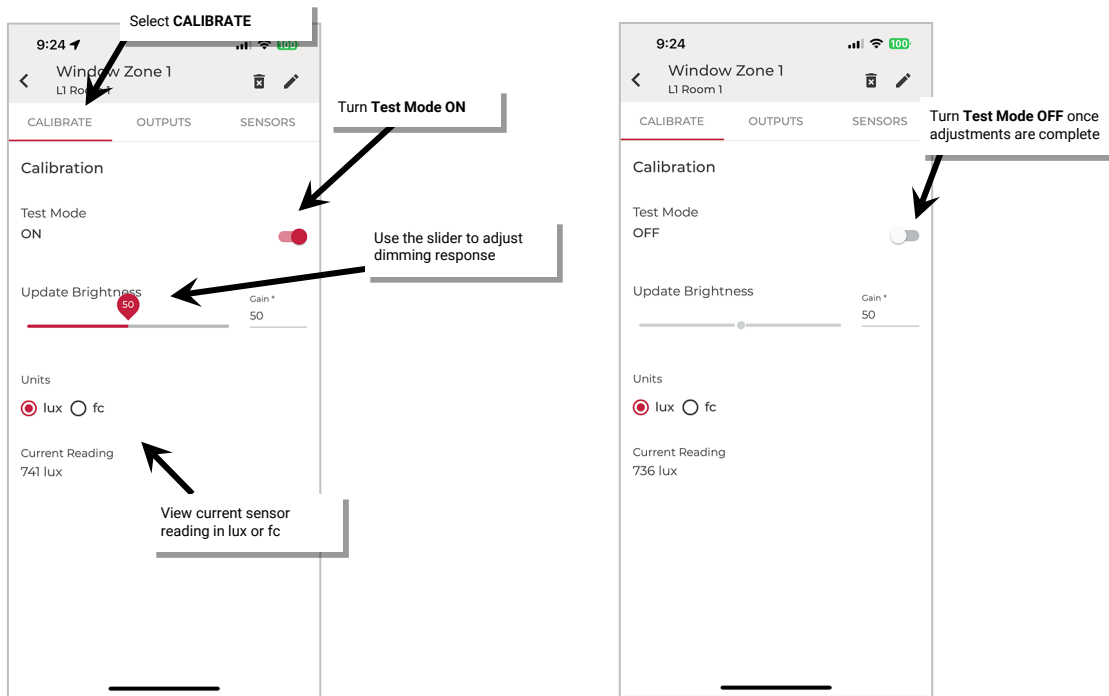
IMPORTANT: Before adjusting, review the specific device recommendations for when daylight adjustments should be performed. See "WaveLinx LITE Device Reference Sheets" beginning on page 10 to find the suggestions for that device.

To adjust the daylight set's lighting response to daylight:

- 1: Ensure that the fixtures have been powered and operational (either out-of-the-box or provisioned operation) for at least 24 hours.
- 2: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 3: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 4: In the Area list, select the desired **Area**.
- 5: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 6: Select the **Daylight** tab.
- 7: Tap **OPEN LOOP** and locate the desired daylight set. Make sure it is enabled and then tap the daylight set to open it.



- 8: Switch **Test Mode** to **ON**. Test mode invokes a faster dimming response to allow the adjustment to be made in real-time.
- 9: Any adjustments in this screen are immediately saved. Use the slider to adjust the lighting response to daylight. After making an adjustment, wait approximately 10 seconds before making another adjustment to allow the light level to stabilize. Continue to adjust the slider as needed until the light level is in the desired range using a light meter at the work surface to verify.
- Lower the slider level (gain) to lower the electric light level and increase sensitivity to daylight (ideal for zones closer to windows).
 - Raise the slider level (gain) to increase the electric light level and decrease sensitivity to daylight (ideal for zones further from windows).
- The screen allows visibility of the current sensor reading in either lux or foot-candles for quick reference. This is an approximate reading at the sensor, not the worksurface.
- 10: Once adjustments are complete, tap **Test Mode** to turn it **OFF**. If not turned off, test mode will time out automatically after 10 minutes.



- 11: Repeat these steps for additional open loop daylight sets.
- Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Test Daylight Sensor Operation

The open loop daylight sensor response can be tested manually by placing the sensor into test mode. During test mode:

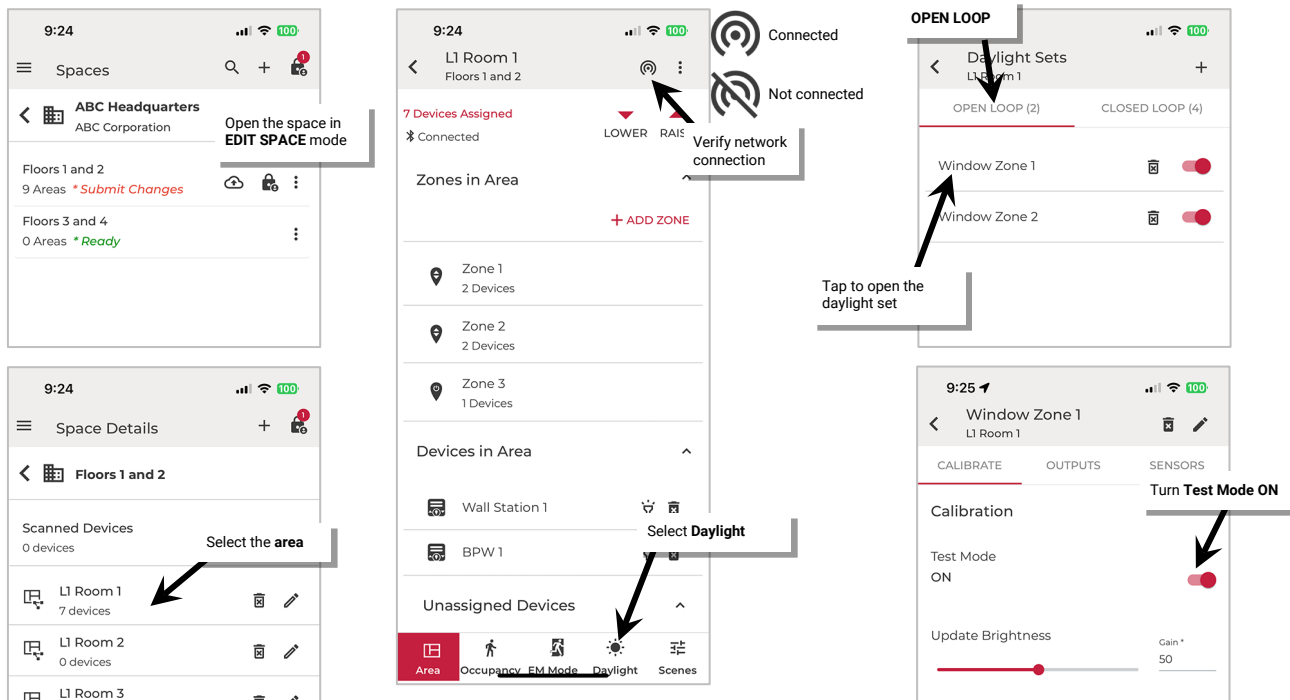
- The daylight fade rate is lowered to 10 seconds.
- The time delay for dim-to-off functionality is also reduced in test mode. When the measured light level exceeds 150% of the calibrated gain for more than 30 seconds, the sensor will turn lighting OFF. Lighting will be turned back ON when one of the two conditions occurs.
 - Condition 1: The measured light level falls between 100% and 50% of the calibrated gain for more than 20 seconds.
 - Condition 2: The measured light level falls below 50% of the calibrated gain for longer than 5 seconds.

The faster response allows the sensor operation to be quickly verified on site. Shine a laser pointer or bright focused flashlight into the sensor lens or cover the sensor to verify the lighting response.

The daylight set will automatically exit test mode after 10 minutes or test mode can be manually disabled once testing is complete.

To adjust the daylight set's lighting response to daylight:

- 1: Ensure that the fixtures have been powered and operational (either out-of-the-box or provisioned operation) for at least 24 hours.
- 2: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 3: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 4: In the Area list, select the desired **Area**.
- 5: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 6: Select the **Daylight** tab.
- 7: Tap **OPEN LOOP** and locate the desired daylight set. Tap the daylight set to open it.
- 8: Switch **Test Mode** to **ON**. Once testing is complete, slide the switch to **OFF** or allow test mode to automatically time out after 10 minutes.



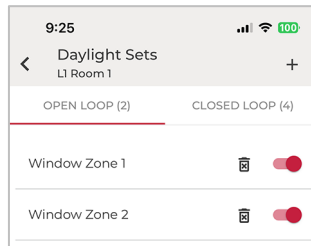
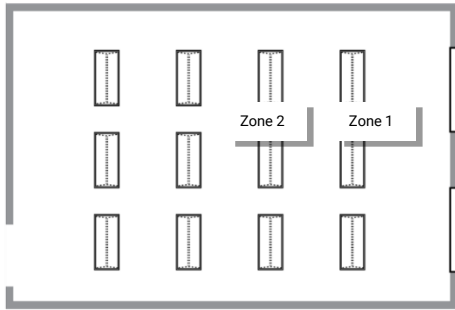
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Control Lighting at Different Light Levels from the Same Daylight Sensor

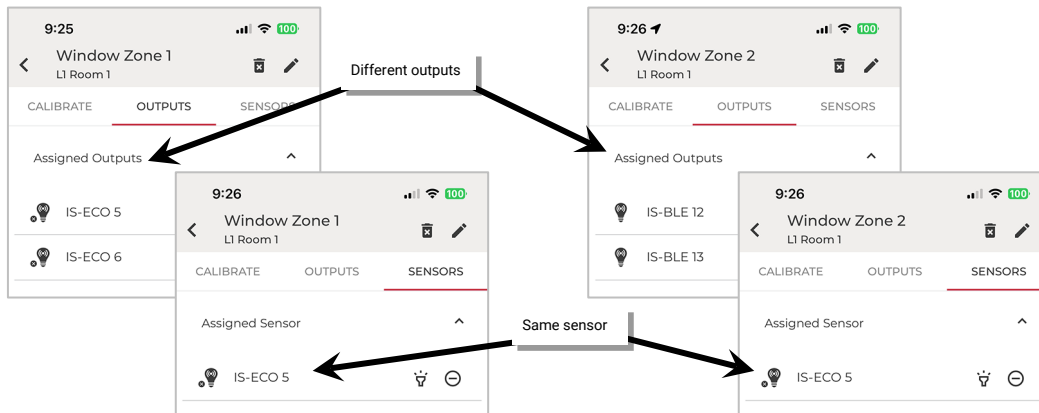
One Area can have up to six open loop daylight sets. A different sensor can be assigned to each open loop daylight set, or one sensor can be assigned to multiple daylight sets. This section shows one common application in which one sensor is assigned to two open loop daylight sets.

In this example, there are two daylighting zones in the room, the lighting closest to the window is Zone 1. The secondary row of lighting further into the room is Zone 2. Both zones need to perform open loop daylighting from the same daylight sensor. Zone 1 needs to dim more aggressively than Zone 2 due to its proximity to the window.

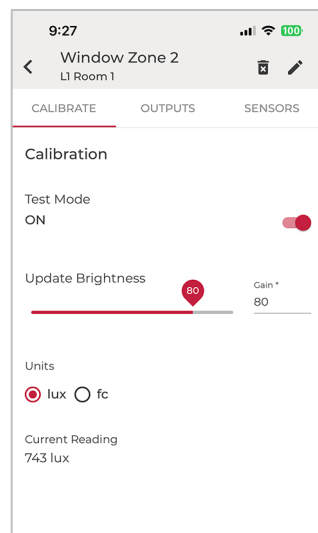
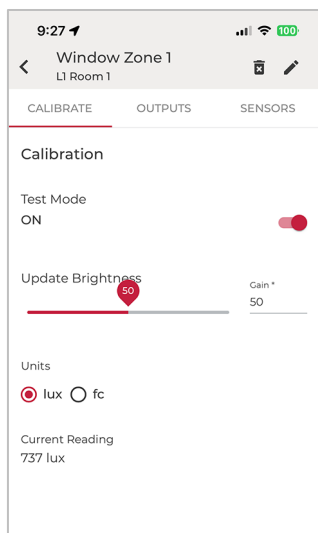
Two open loop daylight sets are created in the Area.



The outputs for the lighting that belongs to Zone 1 are assigned to the daylight set labeled Window Zone 1. The outputs for the lighting that belongs to Zone 2 are assigned to the daylight set labeled Window Zone 2. The same sensor is assigned to both daylight sets.



Each daylight set is adjusted for the optimal light level based on the incoming daylight. Note that Zone 1 is adjusted for a more aggressive response than Zone 2 which is further from the window.



Modify Scene Light Levels in Networked Areas


The WaveLinX LITE system allows for seven scenes per Networked Area. Standalone Areas do not use scenes. In WaveLinX LITE, scenes can be issued by wallstation buttons or by the system administrator from the WaveLinX LITE Mobile Application.

The initial scene behavior of a Networked Area is dependent on the template used when the Area was first created. If a custom template was used, the zones will follow the scene levels defined in the template. If the Area was created with the default Networked Area template, the default zone levels for the scenes are:

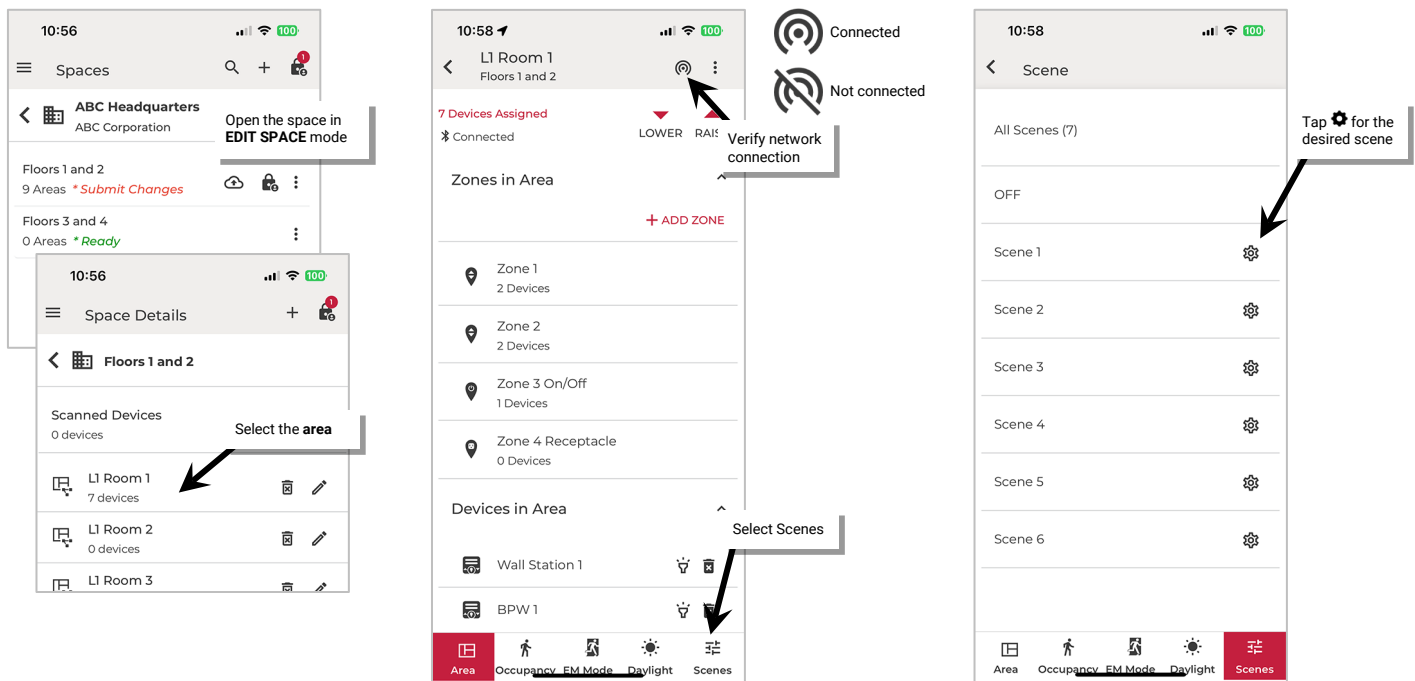
Scene	Light Level Response All Zones	
OFF	0%	OFF
Scene 1	100%	ON
Scene 2	70%	ON
Scene 3	50%	ON
Scene 4	30%	ON
Scene 5	10%	ON
Scene 6	1%	ON

The scene defaults for Scenes 1 through Scene 6 can be modified to respond in a different manner. The OFF scene cannot be modified.

To modify scene levels:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Select the **Scenes** tab and then tap  on the row for the desired scene.

Note: Tapping the row of the scene anywhere other than on the gear icon will issue the scene command and change the light levels.



6: Set the scene attribute options first. This includes:

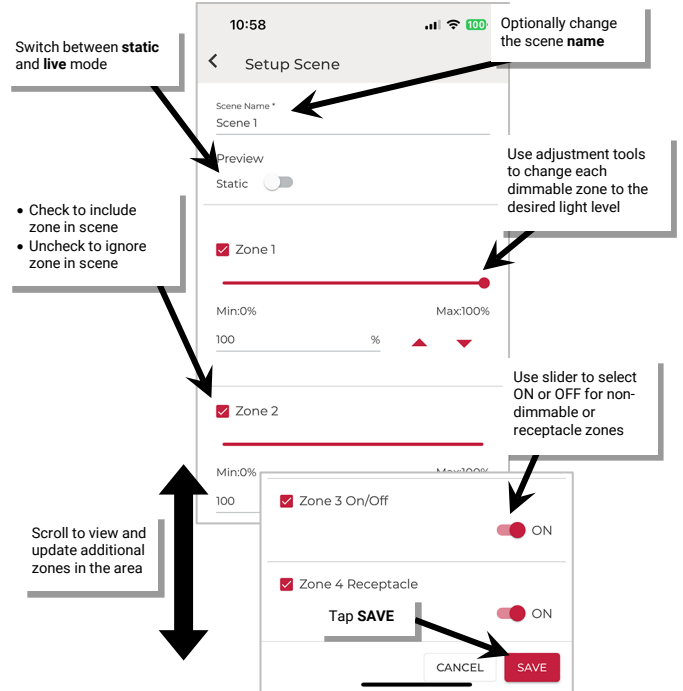
- Optionally changing the **name**. Tap the name field and type the desired unique scene name.
- Slide the switch to select between the option to adjust in **Static** mode or **Live** mode. Adjustments to the scene levels made in **Static** mode will have no effect on current light levels. Adjustments made in **Live** mode happen in real-time to allow visibility of the effect on lighting.

Note: If adjustments are made in static mode and then mode is switched to live, lighting may not reflect the adjusted levels. Adjust to another level and then back to the desired level to refresh light levels.

7: Assign the desired zone operation for each zone in the scene.

- Optionally uncheck a zone to ignore it from the scene. The ignored zone will stay at its previous light level when this scene command is issued. If zones should operate as part of the scene, make sure they are checked.
- Use the adjustment tools in each zone section to modify the scene response, adjusting the percentage for each dimmable zone or selecting between ON and OFF for non-dimmable or receptacle zones. Scroll down to see additional zones beyond the page view.

8: Tap **SAVE** to save the changes and then repeat for any additional scenes that require changes.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Modify Programming in Standalone Areas in Network Mode

This section is specific to Standalone Areas created in Network Mode. For Networked Areas, see “Modify Programming in Networked Areas: Network Mode” on page 100.

Before proceeding with the steps in this section, review the “Understand Space Status and EDIT SPACE Mode: Network Mode” section beginning on page 96.

Once a Standalone Area has been defined, the behavior of devices can be modified if different operation is expected. This section discusses how to:

- Modify Areas
- Modify devices
- Modify occupancy sensor settings
- Calibrate closed loop sensors



Modify Area Settings in Standalone Areas

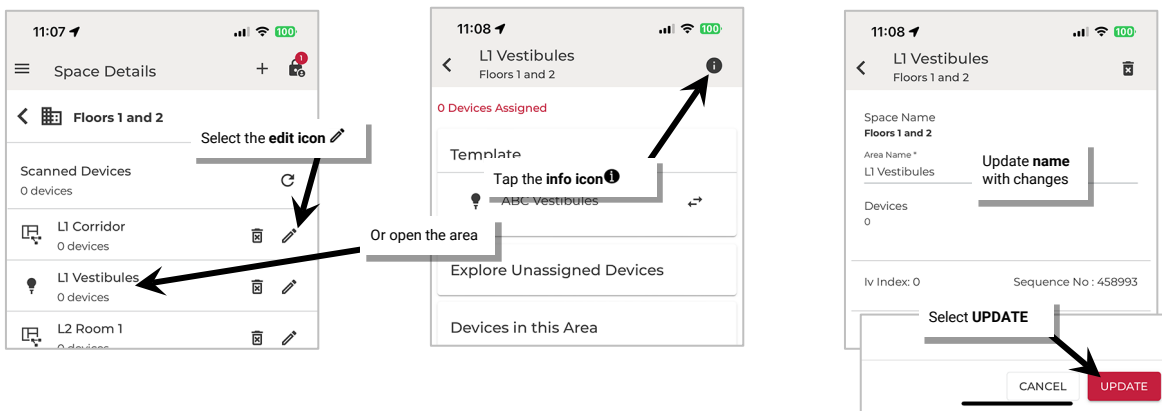
Once created, Areas can be renamed or deleted. This section discusses how to perform these functions.

Rename an Area

An Area can be renamed at any time.

To rename an Area:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98).
- 3: In the Area list tap the **edit icon** , or tap to open the Area and then tap the **info icon** .
- 4: Enter the Area **name**, and then tap **UPDATE**.



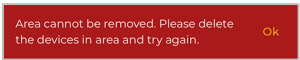
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Add an Area




For steps to add a new Area, refer to “Step 3: Create the Area(s)” on page 82.

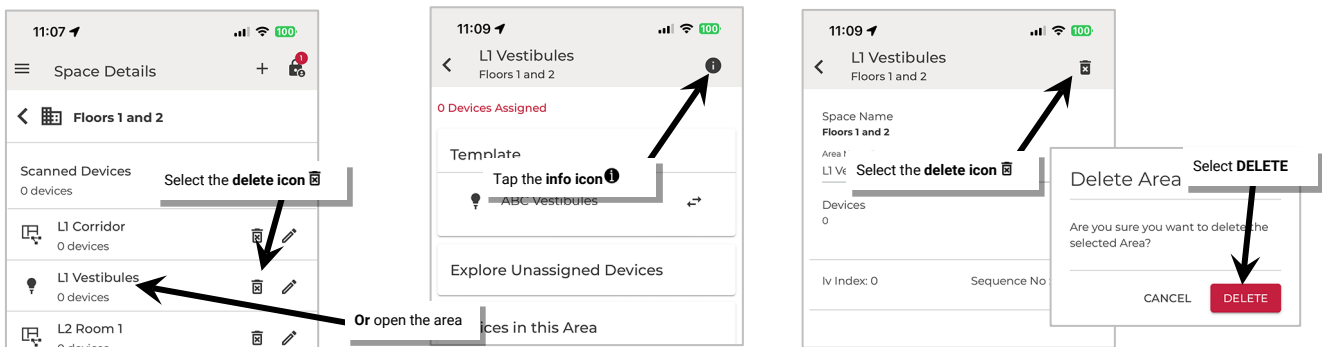
Delete an Area

An Area can be deleted ONLY if there are no provisioned devices in the Area. The mobile application will block the deletion if the Area still contains provisioned devices.



To delete an Area:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98).
- 3: In the Area list tap the **delete icon** , or open the Area and tap the **info icon**  and then the **delete icon** .
- 4: When prompted, tap **DELETE**. The Area will be removed.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).



Modify Devices in Standalone Areas

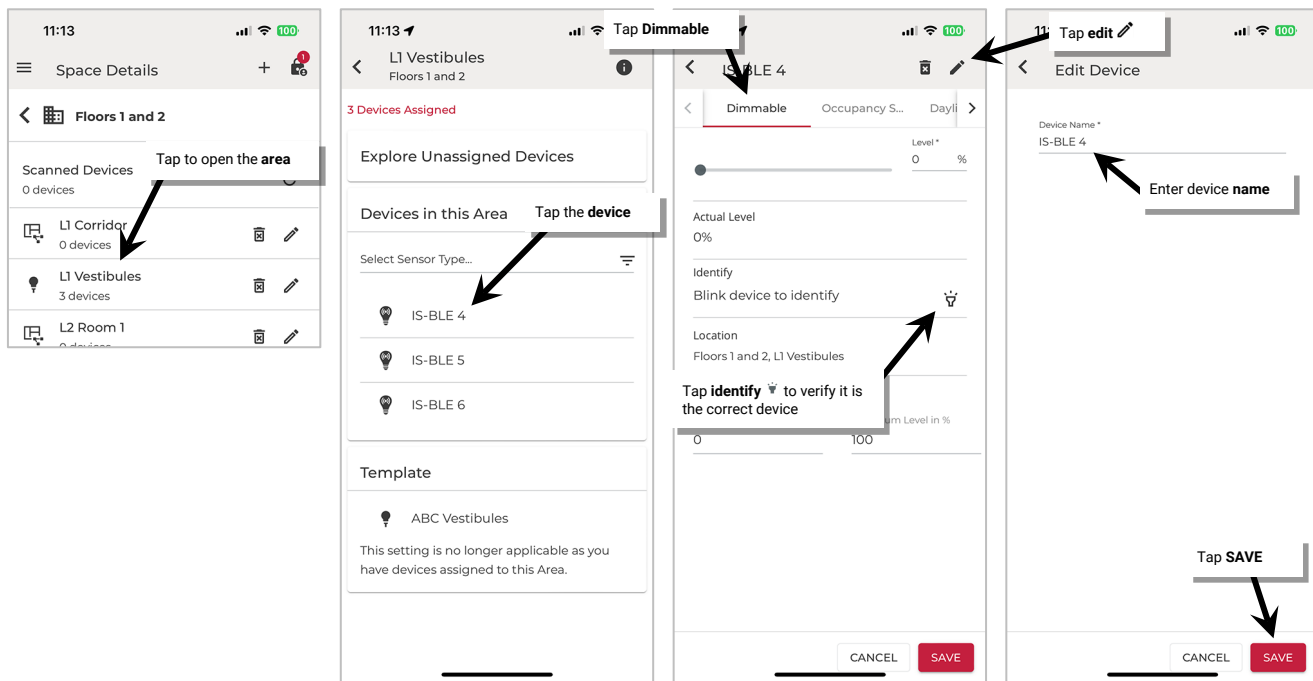
After devices are provisioned, it is possible to change the device name. Devices may also be deleted, returning them to an unprovisioned state. Internet connection is not needed to modify a device but connection to the WaveLinx LITE device is required. The mobile device will need to be in range and as close as possible (within 60 feet/18 meters) to the device being modified.

Rename a Device

A device can be renamed in the Standalone Area. This process requires a Bluetooth connection to the device.

To rename a device:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: In the device's **Dimmable** tab, tap **identify**  to verify it is the correct device.
- 6: Tap **edit**  and then change the device **name**. Tap **SAVE**.





Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

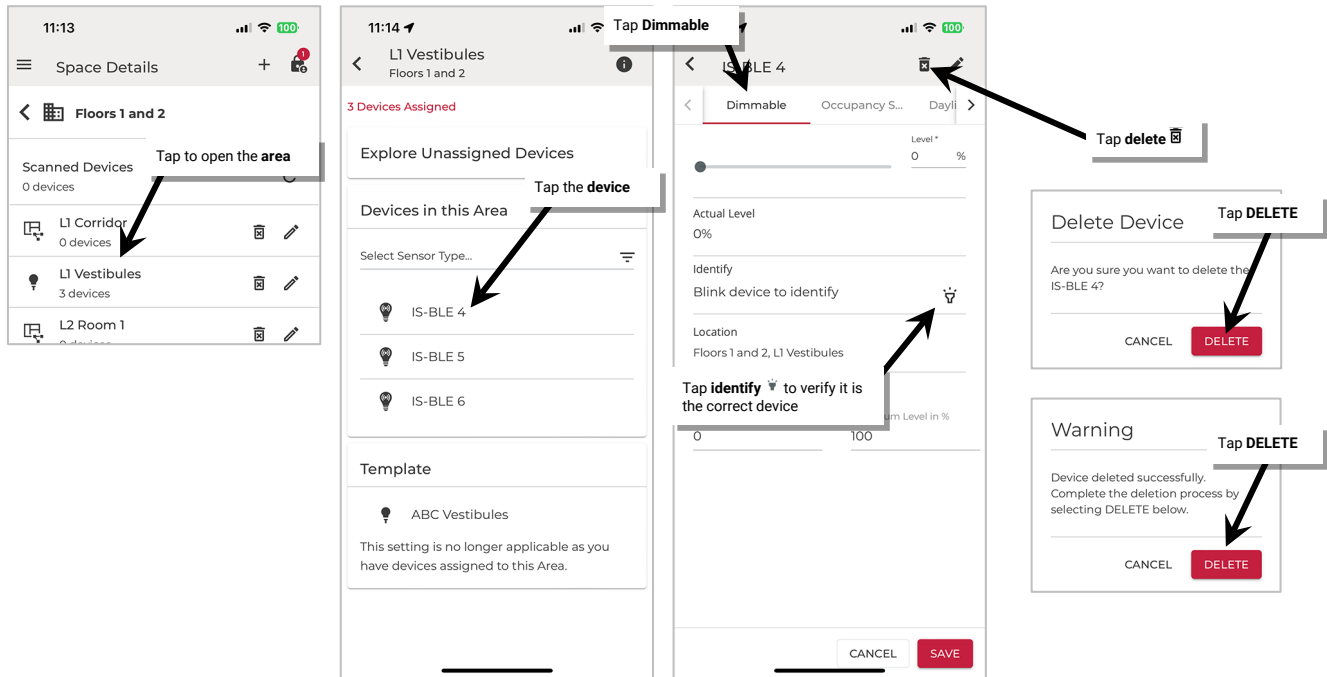
Add/Provision a New Device

To add an additional new device to an existing Area, see “Standalone Area Provisioning” on page 93.

Delete Devices (Return to Unprovisioned State)

Any device in an Area can be removed and returned to unprovisioned status.⁸⁹

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: In the device's **Dimmable** tab, tap **identify**  to verify it is the correct device.
- 6: Tap **delete**  and when prompted, select **DELETE** to confirm.
- 7: After the command is communicated to the device, an additional confirmation message will appear. Tap **DELETE** to remove the device from the database.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Once complete, the device will return to its default out-of-the-box behavior. The device can be provisioned as a new device.

If a device is no longer communicating, refer to “Replace Devices” on page 205 for details on deleting the device from the mobile application. Provisioning can also be manually removed through performing a factory reset. Refer to “WaveLinX LITE Device Reference Sheets” beginning on page 10 for device specific instructions on how to perform a device factory reset.

⁸⁹ it is not possible to delete a device that is not communicating from a standalone area. Having the device still showing on the display will not affect other device functions.

Modify Dimmable Device Trims in Standalone Areas


Dimmable devices in a Standalone Area will allow modification of the device trims. Device trims are typically used to provide a desired aesthetic or to save energy. When adjusting device settings in a Standalone Area, the adjustment must be made to each device that requires the change.

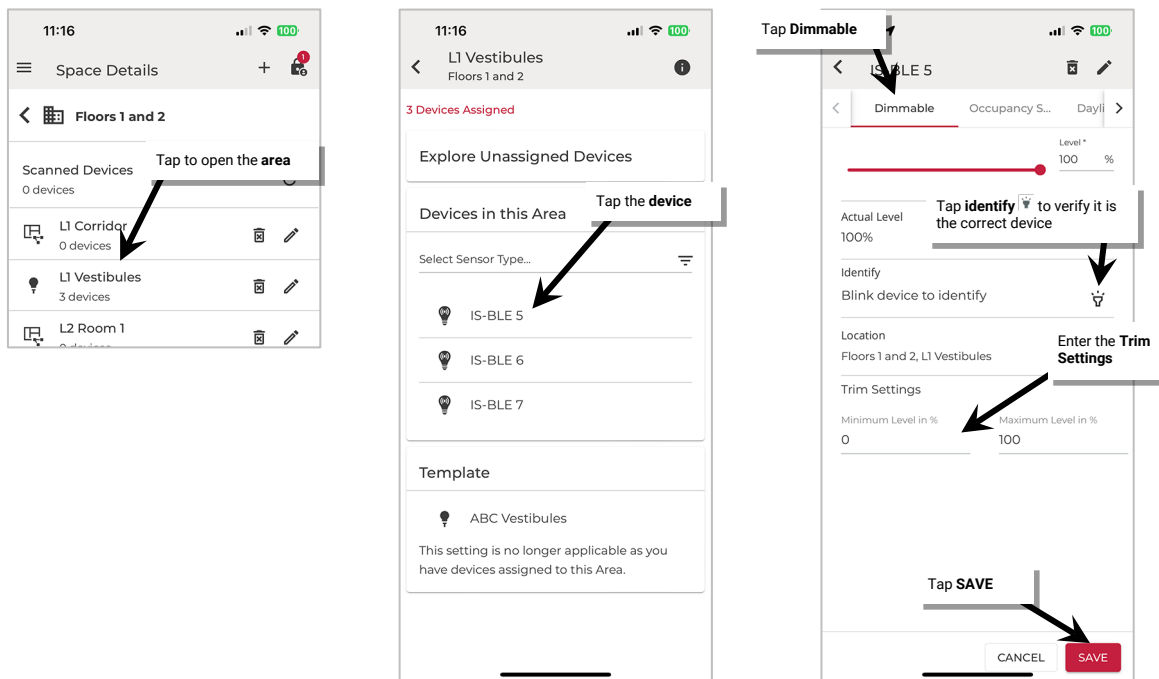
The initial device trim settings are dependent on the template used when the Standalone Area was created. If a custom template was used, the device trim settings will be as defined in the template. If the default template was used the trim settings are:

- Minimum Level (low end trim): 0%**
 Sets the lowest level that dimming commands can set the dimmable light level to. Typically used to provide a desired aesthetic. Regardless of the minimum level set, a 0% command will turn the load OFF.
- Maximum Level (high end trim): 100%**
 Sets the highest level that the dimming command can set the dimmable light level to. Typically used to save energy or to provide a desired aesthetic.

The default settings can be changed to meet other requirements.

To change a dimmable device's trim settings in a Standalone Area:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: In the device's **Dimmable** tab, tap **identify**  to verify it is the correct device.
- 6: Enter the desired **minimum level** and **maximum level** in **Trim Settings**. Tap **SAVE**.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Modify Occupancy Sensor Settings in Standalone Areas

Occupancy sensors in a Standalone Area will operate its attached lighting load independent of other devices. When adjusting occupancy sensor settings in a Standalone Area, the adjustment must be made to each sensor that requires the change.

Occupancy sensors in the Standalone Area will automatically be in **Occupancy Mode**. The defined occupied level will occur when the sensor detects initial motion.⁹⁰ Lighting will start transitioning to the unoccupied level when motion is not detected after the defined hold time expires.

The initial hold time, occupied level, and unoccupied level as well as energy saving options for any occupancy sensor in the Standalone Area is dependent on the template used when the Standalone Area was created. If a custom template was used, the sensors will respond as defined in the template. If the default template was used the initial sensor default behavior is:

- **Occupancy Hold Time:** 20 minutes
- **Energy Saver Mode:** Enabled
- **Energy Hold Time:** 10 minutes
- **Occupied level/state:** Default level 100%/ON⁹⁰
- **Energy Saver level:** 50%
- **Unoccupied level/state:** Default level 0%/OFF



The default settings can be changed to meet other requirements. This section discusses how to:

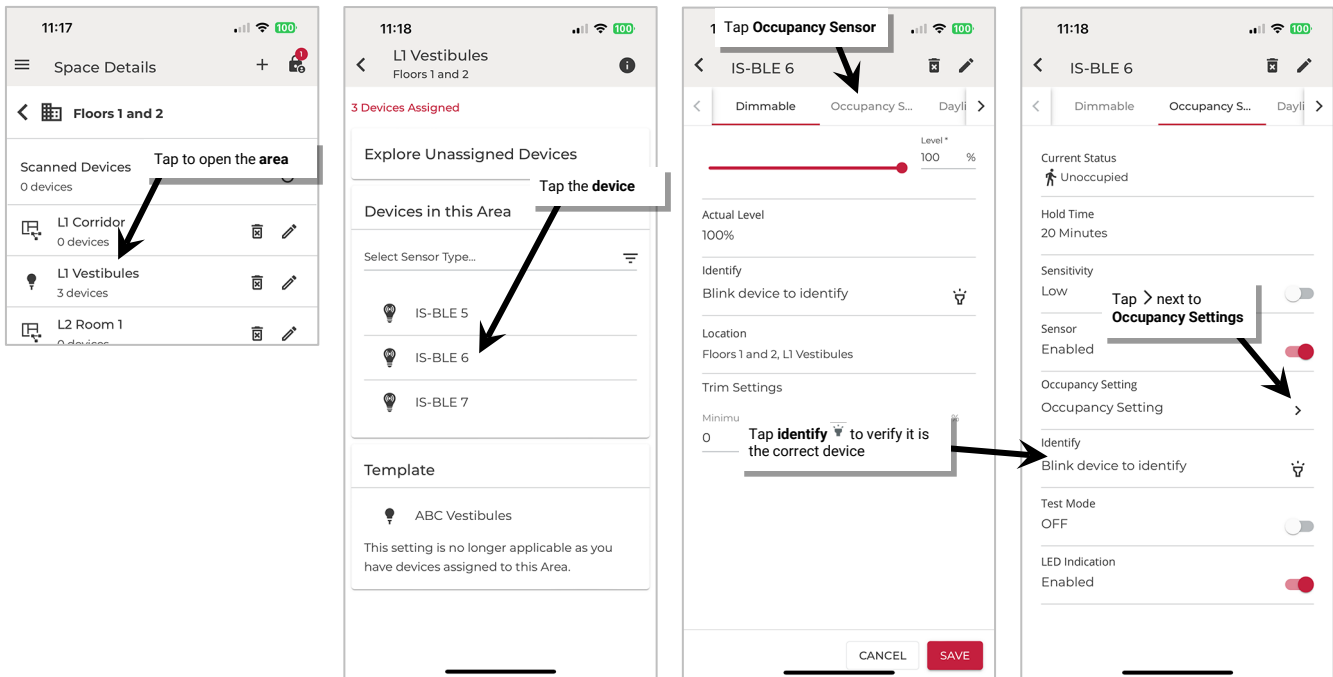
- Adjust occupancy sensor command settings in a Standalone Area
- Review and adjust other occupancy sensor settings
- Use test mode

⁹⁰ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

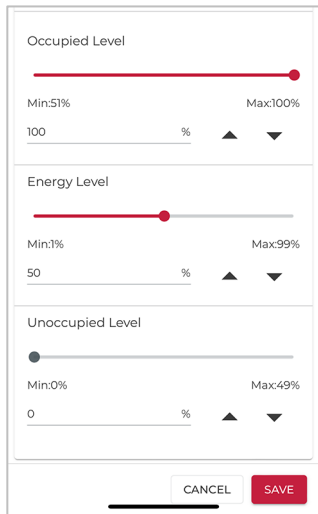
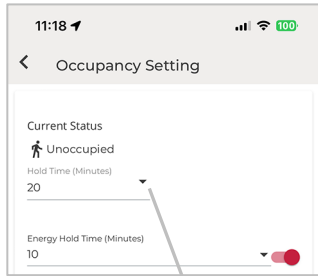
Adjust Occupancy Sensor Main Settings in a Standalone Area

To change the hold time, occupied level, unoccupied level, and/or energy saver settings for a sensor in a Standalone Area:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: Tap the **Occupancy Sensor** tab, tap **identify**  to verify it is the correct device and then tap the **arrow**  next to **Occupancy Setting**.



6: Adjust the desired setting per the chart below, and then tap **SAVE**.



Setting	Default	Description
Current Status	N/A	Displays the status of the sensor, either occupied or unoccupied. Note: Status reflected does not include the hold time delay. It reflects if actual motion activity was occurring at the time the status last loaded.
Hold Time	20 Minutes	The hold time determines how long the fixture will wait after the sensor no longer detects occupancy before going to the defined unoccupied level. The hold time can be defined from 1 to 40 minutes by selecting from the drop-down options, or by typing in the desired hold time.
Energy Saver Mode	Enabled	Use the slider to enable or disable energy saver mode for a dimmable load. <ul style="list-style-type: none"> If disabled, once the room is no longer occupied and the hold time expires, the lighting will transition from the current level to the unoccupied state with no interim light level. If enabled, once the room is no longer occupied, the hold time countdown and energy saver mode countdown begin. Dimmable lighting will go to the defined energy saver level after the energy saver mode time defined. If the room remains unoccupied and the hold time expires, the lighting will go to the unoccupied level. Example: If the hold time is 20 minutes, and the Energy Saver Mode time is set for 10 minutes, the Energy Saver level occurs after 10 minutes of no occupancy. After an additional 10 minutes, the unoccupied level is issued.
Energy Saver Hold Time	10 Minutes	If Energy Saver Mode is enabled, the energy saver hold time setting defines the amount of time that the sensor will wait once the location is unoccupied before transitioning dimmable light level to the level defined for the Energy State.
Occupied Level	Level 100%	This is the light level that will be issued when motion is initially detected. ⁹¹ Use the slider bar, raise lower controls, or text box entry to adjust the level. The occupied level cannot be lower than the energy level.
Energy Level	Level 50%	This is the light level that will be issued to a dimmable load if the energy saver mode has been enabled and the energy hold time has expired. Use the slider bar, raise lower controls, or text box entry to adjust the level. The energy level cannot be higher than the occupied level.
Unoccupied Level	Level 0%	This is the light level that will be issued when the hold time expires. Use the slider bar, raise lower controls, or text box entry to adjust the level. The unoccupied level cannot be higher than the energy level.

Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).


Review/Adjust Additional Occupancy Sensor Settings in a Standalone Area

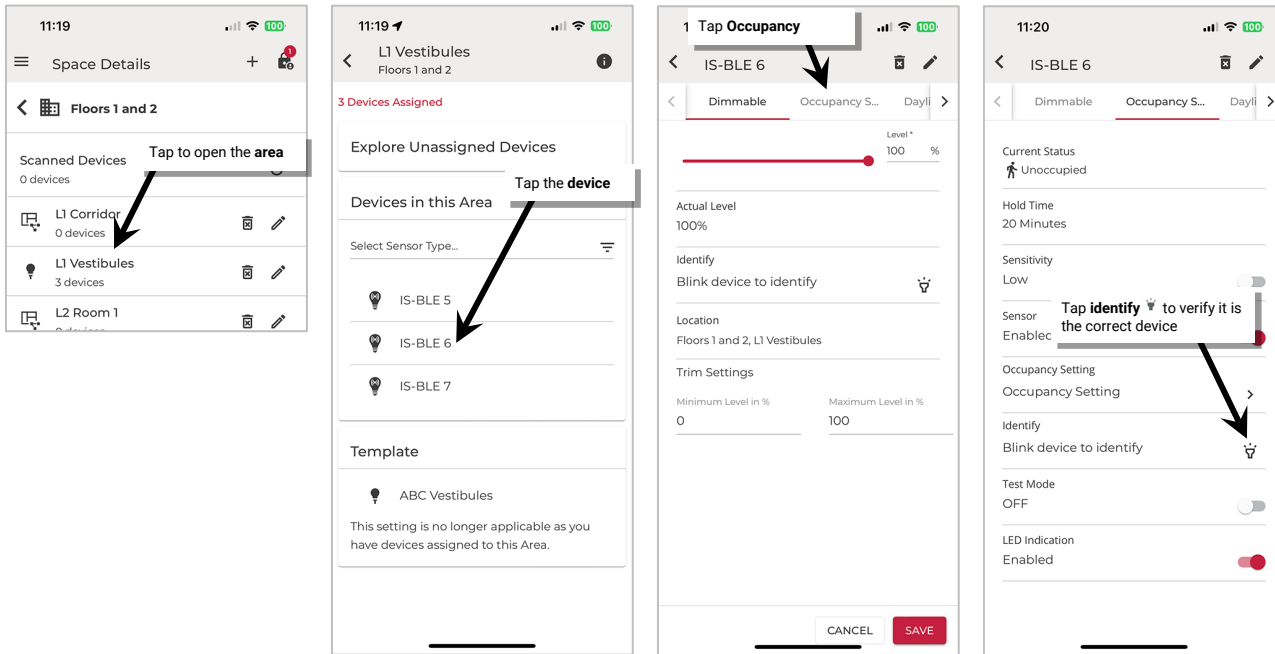
Additional details regarding the sensor can be seen in the **Device Details** page.

To access the device’s occupancy sensor details page:

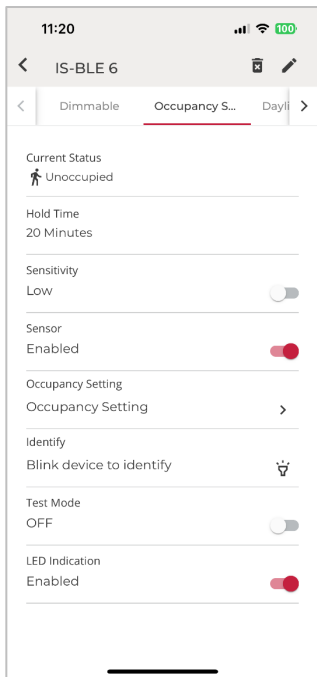
- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).



⁹¹ If occupancy is sensed in the 30 seconds after an unoccupied command is issued (grace period), the device will resume the previous light level. If outside of the grace period, the light level issued when occupied will be as defined for the occupied command. Devices with older firmware may not observe the 30 second grace period.

- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: Tap the **Occupancy Sensor** tab, tap **identify**  to verify it is the correct device.



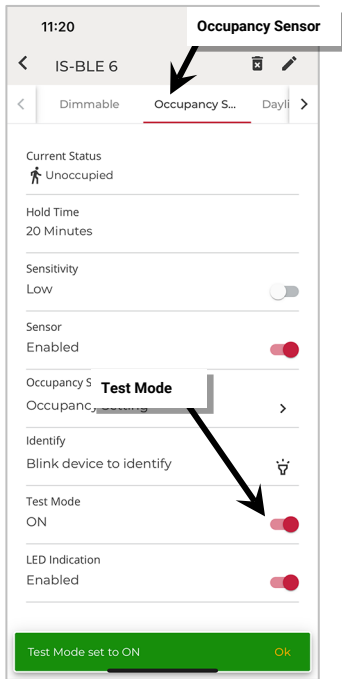
6: Refer to the chart for information on the items shown.



Setting	Default	Description
Current Status	N/A	Displays the status of the sensor, either occupied or unoccupied. Note: Status reflected does not include the hold time delay. It reflects if actual motion activity was occurring at the time the status last loaded.
Hold Time	20 Minutes	Displays the occupancy sensor’s programmed hold time for informational purposes.
Sensitivity	Depends on sensor type	Slide the switch to low sensitivity if a sensor is detecting motion outside of the desired coverage area. Switch to High to regain the full motion sensing range. Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.
Sensor	Enabled	Always leave occupancy sensor ENABLED for devices in Standalone Areas. Changing to disabled will prevent proper operation of the fixture in a Standalone Area.
Occupancy Settings	N/A	Select this to change the hold time, occupied level, unoccupied level and energy saver settings.
Blink to Identify	N/A	Tap on the icon  to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap  again.
Test Mode	OFF	If test mode is activated (slide switch to activate), the sensor will be placed in test mode for 10 minutes. During test mode, the occupancy sensor will operate with a 10 second hold time.
LED	Enabled	Disabling the LED is not recommended as it is often used to determine if the sensor is operational. If the sensor LED flash is a major distraction, slide the switch to disabled.

Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Use Occupancy Sensor Test Mode in a Standalone Area



An occupancy sensor may be placed into a temporary test mode to verify sensor response. If test mode is activated, this sensor will be placed in test mode for 10 minutes. The sensor operates with a 10 second hold time. Test mode will automatically revert to normal operation after 10 minutes or may be manually disabled through the mobile application.

To test an occupancy sensor, test during a time when there is little motion occurring in the location. Tap **Occupancy Sensor** and slide the **Test Mode** switch to the **ON** position.

If lighting is ON, stand still. Lighting should transition to the unoccupied level after 10 seconds of no activity on any sensor. Once lighting goes to the unoccupied level, move to verify that the lighting goes back to the occupied level.

Repeat this process for each sensor location to verify individual sensor operation. If the sensor sensitivity needs to be adjusted, see page 116 for further details.

Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Modify Closed Loop Daylight Settings in Standalone Areas

Daylight sensor control is achieved in WaveLinx LITE through fixture mount, tilemount and integrated sensors for both interior and exterior applications. The WaveLinx LITE v7.0 system supports a closed loop daylighting approach in Standalone Areas for fixtures connected to these devices.

For outdoor applications, the focus is typically on ensuring that the fixtures turn OFF at dawn and turn ON or enable motion activity to turn ON lighting at dusk. For indoor applications, the focus is typically on trying to maintain a consistent light level by adjusting the amount of electric light needed based on the amount of daylight present in the room.

In both scenarios, the daylighting functionality may be disabled for fixtures that are not located in daylight zones or for any devices where daylight operation is not desired. In Standalone Areas, if daylighting is disabled, the device will work solely from occupancy settings and commands from the mobile application.

Daylighting filters or inhibits the fixture's response to other control commands. A command from the occupancy sensor to go to 100% level will adjust the electric light level output to meet the calibrated daylight level (calibrated light level = 100%). A command from the occupancy sensor to go to 50% will adjust the electric light level to meet 50% of the calibrated daylight level. The actual electric light level output with these commands will vary based on the available amount of daylight and how much electric light needs to be contributed to maintain the commanded target. If the electric light has daylight dimmed to OFF, lighting will remain OFF if occupancy commands are received, preventing unnecessary energy waste when adequate daylight is present.

For information on how a specific device operates with dimming and dim-to-off response, refer to "WaveLinx LITE Device Reference Sheets" beginning on page 10 to locate the specific daylight response by device type.

- **Closed Loop Daylighting:** With the closed loop approach, the sensor controls only its connected light fixture. A closed loop sensor reads the reflected light level from the surface directly below it including light contributed by the electric light and the daylight that falls within the sensor's view. As daylight contribution increases, the sensor dims the electric light to keep the light level on the surface as consistent as possible. If bright daylight causes the surface light level to be above the desired level even after the light level has been fully dimmed, after a period the fixture will dim to OFF.⁹² As daylight contribution decreases and the surface light level lowers, the fixture will turn back ON and then raise the amount of electric light accordingly.

This section focusses on the use of closed loop sensor control. This includes details on how to:

- Enable/disable daylighting for a sensor
- Use auto calibration for a closed loop sensor
- Manually calibrate a closed loop sensor
- Test a daylight sensor's operation

Enable or Disable Daylighting for a Closed Loop Sensor


Default closed loop daylight operation is dependent on sensor type:

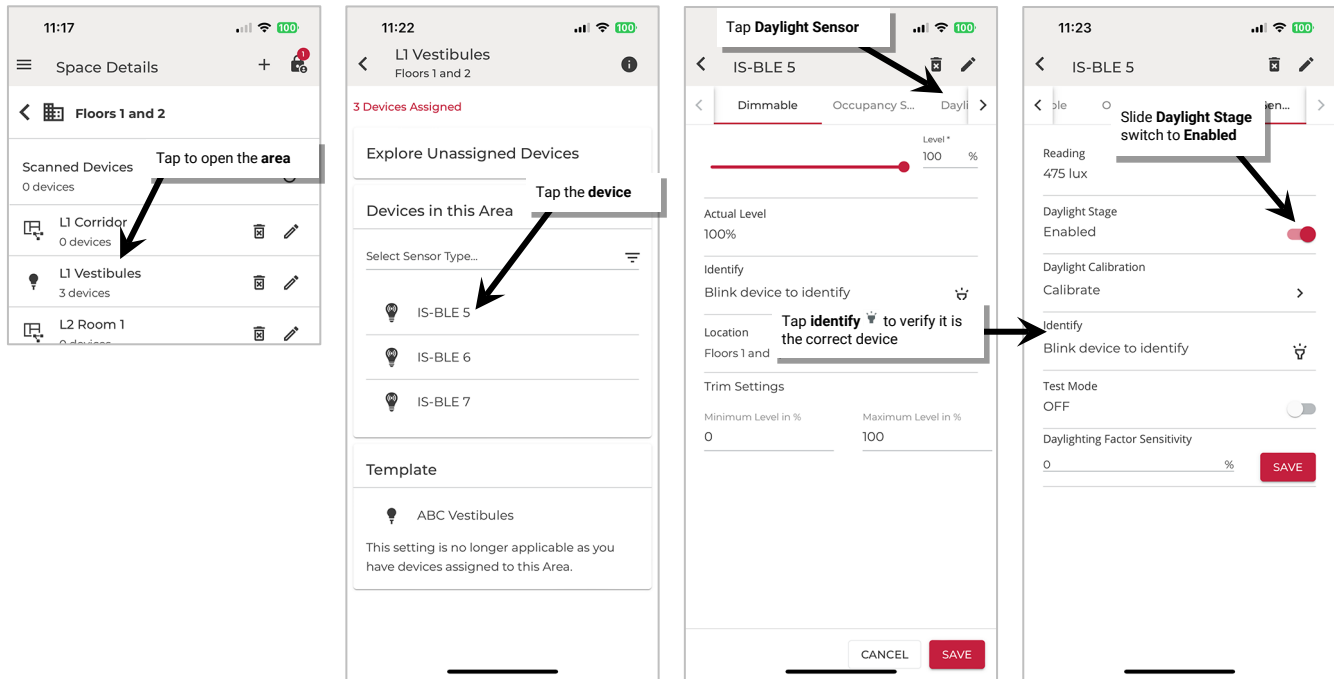
- By default, daylight dimming and dim-to-off functionality **is enabled** for all outdoor closed loop sensors. If the devices should not respond to daylighting disable the daylight sensor.
- By default, daylight dimming and dim-to-off functionality **is disabled** for all interior (ambient, industrial, and tilemount) closed loop sensors. If the devices should respond to daylighting, enable the daylight sensor.

WARNING: Disabling the daylight sensor will cause the fixture to operate solely from motion sensor activity. The occupancy sensor will trigger response during daytime and nighttime hours regardless of light level.

⁹² If the device allows dim-to-off, when the measured light level exceeds 150% of the calibrated light level for more than 30 minutes, the sensor will turn lighting OFF. Lighting will be turned back ON when one of the two conditions occurs. Condition 1: The measured light level falls between 100% and 50% of the calibrated light level for more than 10 minutes. Condition 2: The measured light level falls below 50% of the calibrated light level for longer than 30 seconds.

To disable or enable daylighting for a sensor:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 2: In the Area list, select the desired **Area**.
- 3: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 4: Tap the **Daylight Sensor** tab, tap **identify**  to verify it is the correct device.
- 5: Locate the **Daylight Stage** switch and slide to the **Enabled** position (red=enabled, gray=disabled).



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Enable or Disable Auto Calibration for a Closed Loop Daylight Sensor

Closed loop sensors that have updated firmware provided with WaveLinx LITE v7.0 will have the ability to automatically calibrate. The dynamic auto calibration assumes that the location has been designed such that the fixture light level at 100% with no contributed daylight is the desired light level for the location. If this is not the case, use manual calibration instead of the auto calibration feature.

With dynamic auto calibration, the sensor determines how much electric light is contributed to its reading by reviewing readings over a period (at least 24 hours). Within this time, it determines an initial optimal light value. This is based on the sensor's reading at night when the lights are to at 100%. The sensor then reduces or increases light level to maintain this optimal light value when daylight is present. The sensor continually gathers data, adjusting the dimming response needed to maintain this light value until it finds the optimal dimming curve.

Once the optimal dimming curve is established, the sensor continues to monitor for changes. If the light reflectivity of the location changes, i.e., paint color is changed, carpeting is replaced, blacktop is redone, etc., the sensor compares its current optimal values against the new values returned. If the comparison results in a difference between the values, the sensor will begin adjusting over a period of several days until the optimal value and comparison values match.

Out-of-the-box, the sensor will begin gathering the data used for auto calibration as soon as it is powered. By default, the sensor's response to using the auto calibrate determined values is disabled. This allows the sensor to gather the necessary data before the response is enabled. The sensor/fixture should be powered for at least 24 hours before enabling the auto calibrate response. The auto calibration can only occur if the dim level of the fixture is over 30%. If the room has low occupancy during the 24-hour period where the fixture light level is below the 30%, the sensor may take longer (several days) to adjust the optimal value.

To enable the auto calibrate closed loop response in a daylight sensor:

1: Ensure that the fixture has been powered and operational (either out-of-the-box or provisioned operation) for at least 24 hours.


1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.

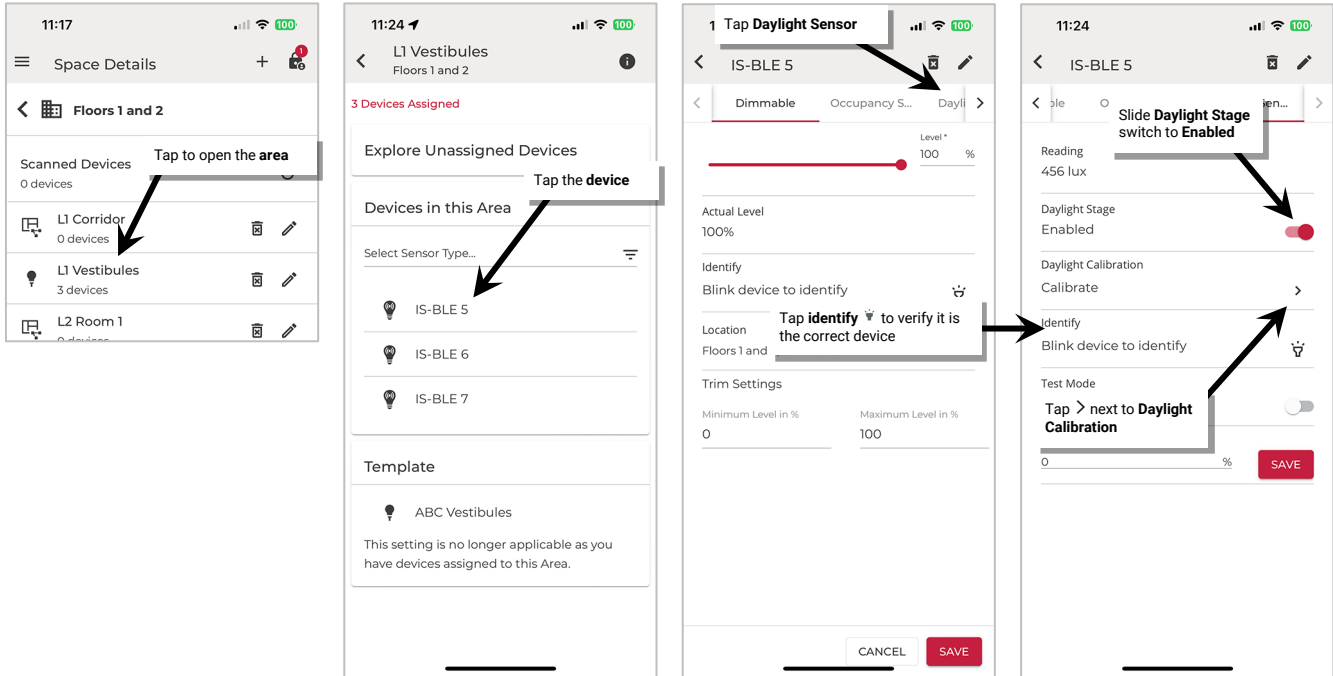
3: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).

4: In the Area list, select the desired **Area**.

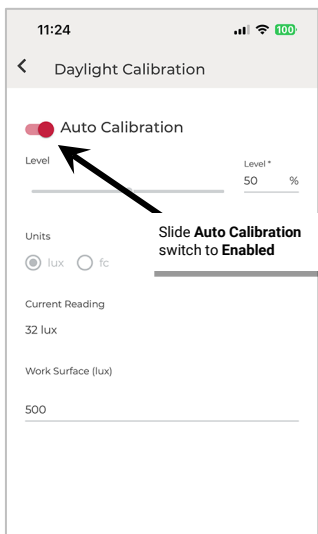
5: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.

6: Tap the **Daylight Sensor** tab, tap **identify**  to verify it is the correct device.

7: Make certain that **Daylight Stage** is **Enabled** and then tap the **arrow**  next to **Daylight Calibration**.



8: In the calibration screen, set **Auto Calibration** to **Enabled** (red=enabled, gray=disabled) If auto calibration is disabled, the screen can be used to manually calibrate the sensor. See the next section for further details.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Manually Calibrate a Closed Loop Daylight Sensor

In the WaveLinx LITE system, fixture mount, tilemount and integrated sensors use closed loop daylighting to directly control the physically connected load.



Each sensor has default factory settings that provide closed loop daylighting to a reasonable light level when the daylight sensor is enabled. The default factory calibration cannot account for all factors that affect the light level measured at the sensor. The sensor location is not at the surface but at the fixture and therefore its reading of reflected light levels is affected by many variables, including the mounting height and the reflective properties of the surface.

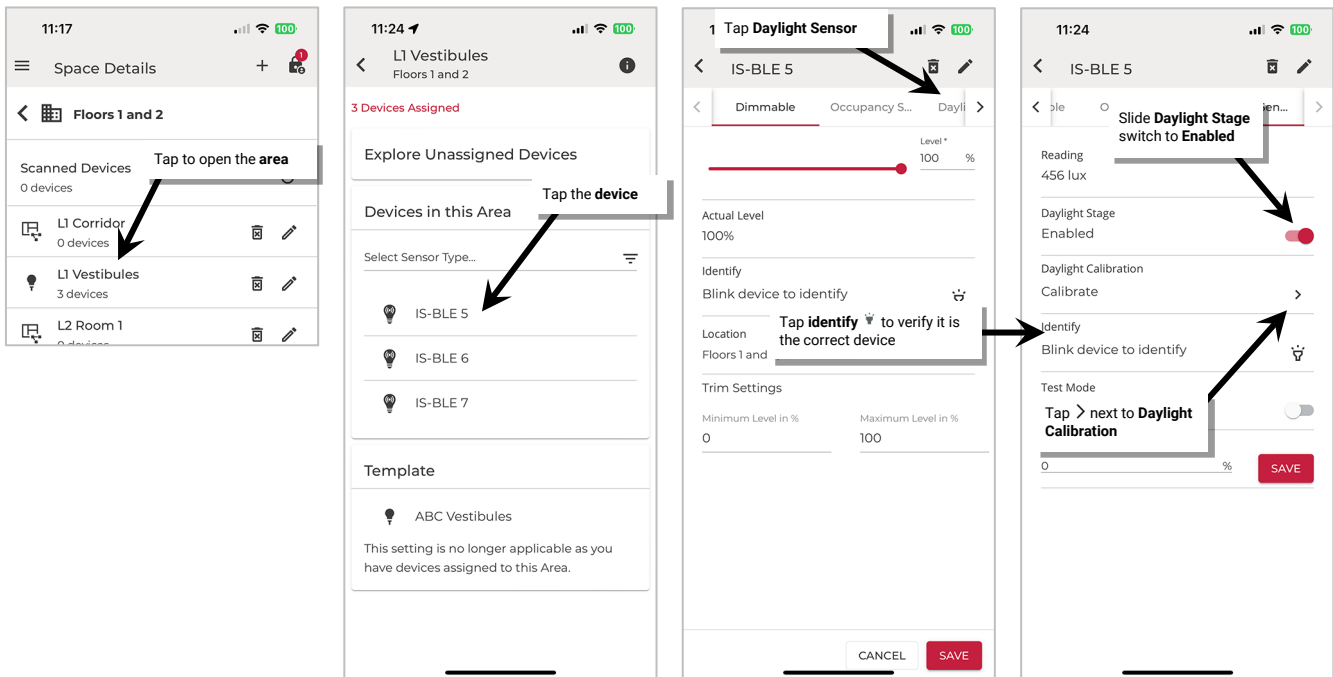
For many applications, no calibration is necessary. In addition, with WaveLinx LITE v7.0, the auto calibration feature may be used to allow the sensor to dynamically adjust to the optimal light level. **Manual calibration of sensors is recommended where the performance of factory set parameters or auto calibration is unacceptable including:**

- The light level at the surface is consistently too low or too high during periods of moderate daylight.
- The desired light level is lower than the 100% light output of the fixture (with no contributed daylight).
- Lighting does not turn OFF during periods of bright sunshine (sunrise for outdoor applications).
- Lighting does not turn ON during dark periods (sunset for outdoor applications).

In a Standalone Area, each device will be calibrated separately if calibration is necessary.

IMPORTANT: Before calibration, review the specific device recommendations for when daylight calibration should be performed. See “WaveLinx LITE Device Reference Sheets” beginning on page 10 to find the suggestions for that device.

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: Tap the **Daylight Sensor** tab, tap **identify**  to verify it is the correct device.
- 6: Make certain that **Daylight Stage** is **Enabled** and then tap the **arrow**  next to **Daylight Calibration**.



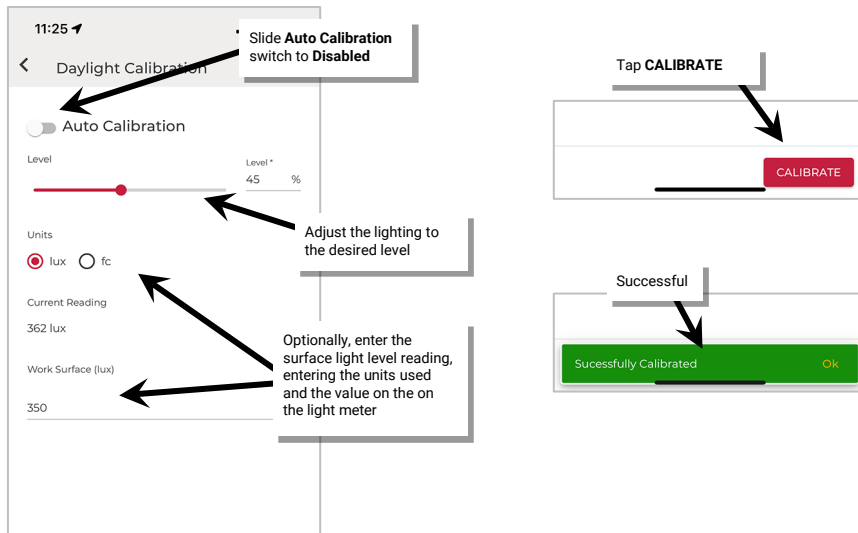
7: In the calibration screen, make sure **Auto Calibration** is set to **Disabled** (red=enabled, gray=disabled) and then use the screen controls to adjust the light level:

- **For outdoor applications calibrated at night:** Set fixture calibration to 100% light level.
- **For indoor applications:** Use the light level adjustment controls to adjust the fixture to the desired light level.

Lighting should respond and assume the defined light level.

8: Next, optionally, enter the **work surface** light reading using a light meter for reference. This allows current reading fields to approximate more closely what the light level is at the desired surface. This will have no effect on the calibrated level other than for reviewing or displaying the current reading. If entering the reading, select either **lux** or **foot-candles** to match what was used on the light meter.


9: Tap **CALIBRATE**. The current light level of the sensor will then be stored as the target 100% light level.

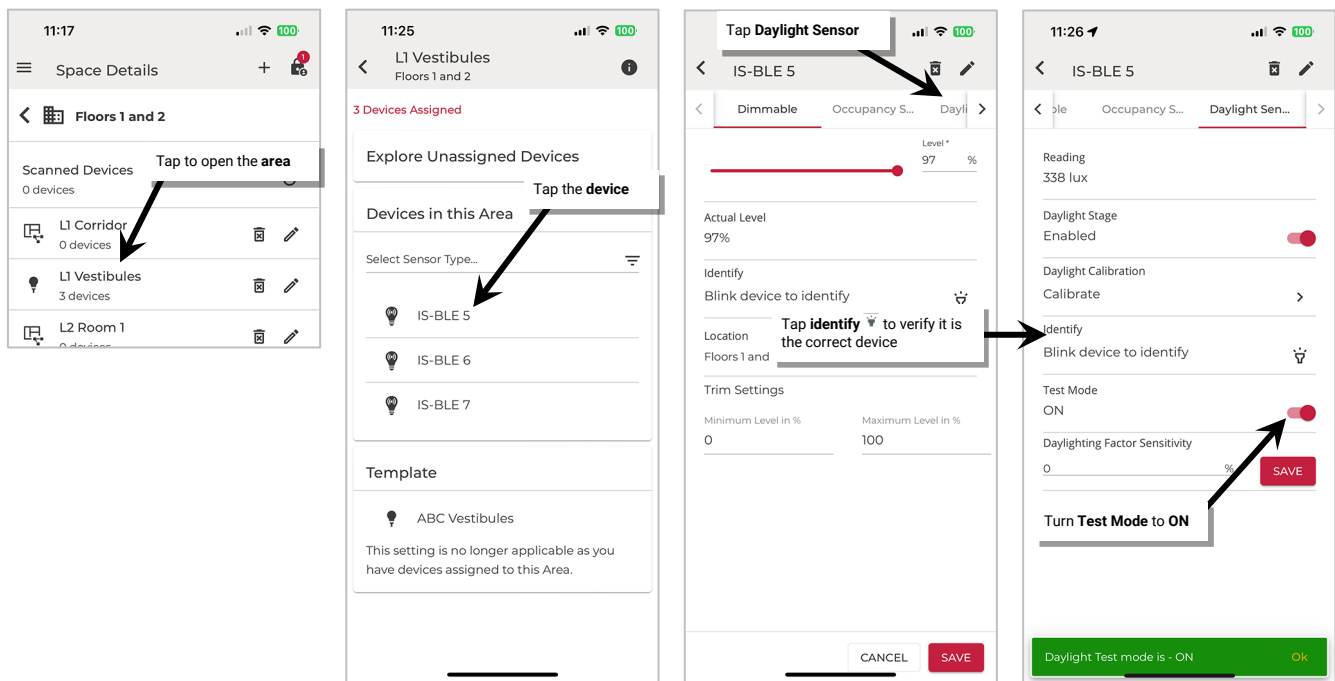


Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Test Daylight Sensor Operation in a Standalone Area

The daylight sensor response can be tested by placing a sensor into test mode. During test mode, the daylight fade rate is lowered to 10 seconds and the time delays for dim-to-off functionality is reduced. The faster response allows the sensor operation to be quickly verified on site. If left on, test mode will automatically time out after 10 minutes.⁹³

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: Tap the **Daylight Sensor** tab, tap **identify**  to verify it is the correct device.
- 6: Slide the **Test Mode** switch to the **ON** position and proceed to test the sensor. Once testing is complete, slide the switch to OFF or allow test mode to automatically time out after 10 minutes.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

⁹³ If the device allows dim-to-off, when the measured light level exceeds 150% of the calibrated light level for more than 30 seconds, the sensor will turn lighting OFF. Lighting will be turned back ON when one of the two conditions occurs. Condition 1: The measured light level falls between 100% and 50% of the calibrated light level for more than 20 seconds. Condition 2: The measured light level falls below 50% of the calibrated light level for longer than 5 seconds.

Use Screen Controls to Issue Commands and View Details in Network Mode

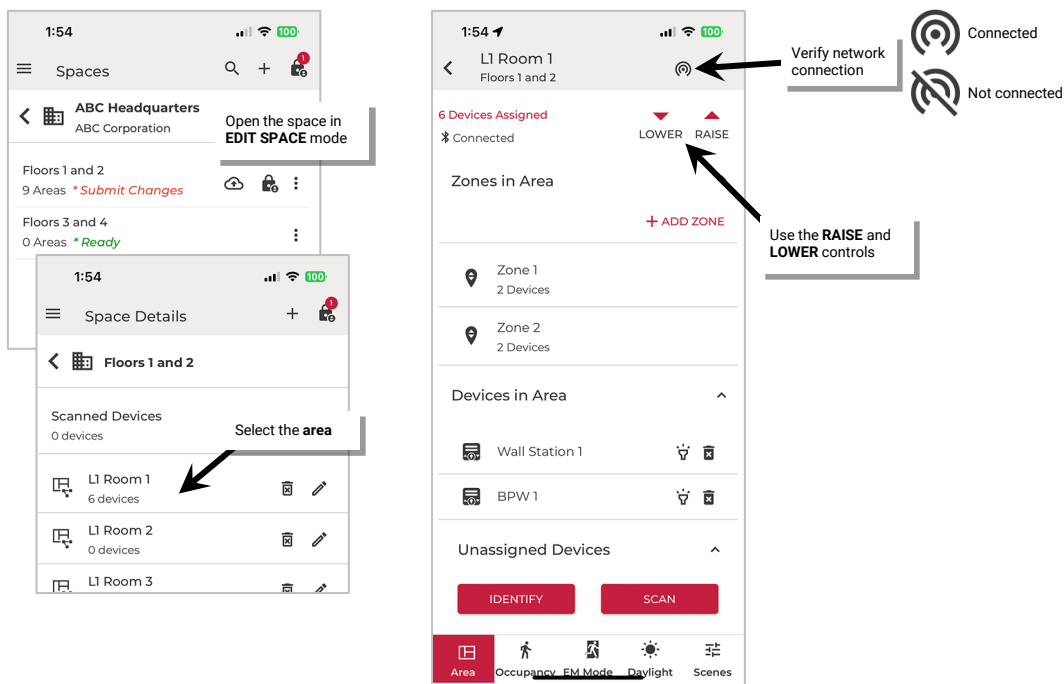
The administrators can use the WaveLinX LITE Mobile Application to issue real-time lighting commands and view details and status. Some of these commands may only be appropriate for Networked Areas while others will be used in both Standalone and Networked Areas. This section will discuss the use of the mobile application to:

- Raise and lower the light level of a Networked Area
- Raise and lower the light level of a zone in a Networked Area
- Issue scene commands in a Networked Area
- Raise and lower the light level of a single device in any Area
- View status and device details in any Area

Raise and Lower the Light Level of a Networked Area

To raise and lower the light level of all devices in an Area:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Use the **RAISE** ▲ and **LOWER** ▼ controls to adjust the light level for all zones:
 - **Single tap**: Light level will raise/lower in 1% increments.
 - **Press and hold**: Light level will raise/lower faster (4% every 250ms) until finger is removed from the control.



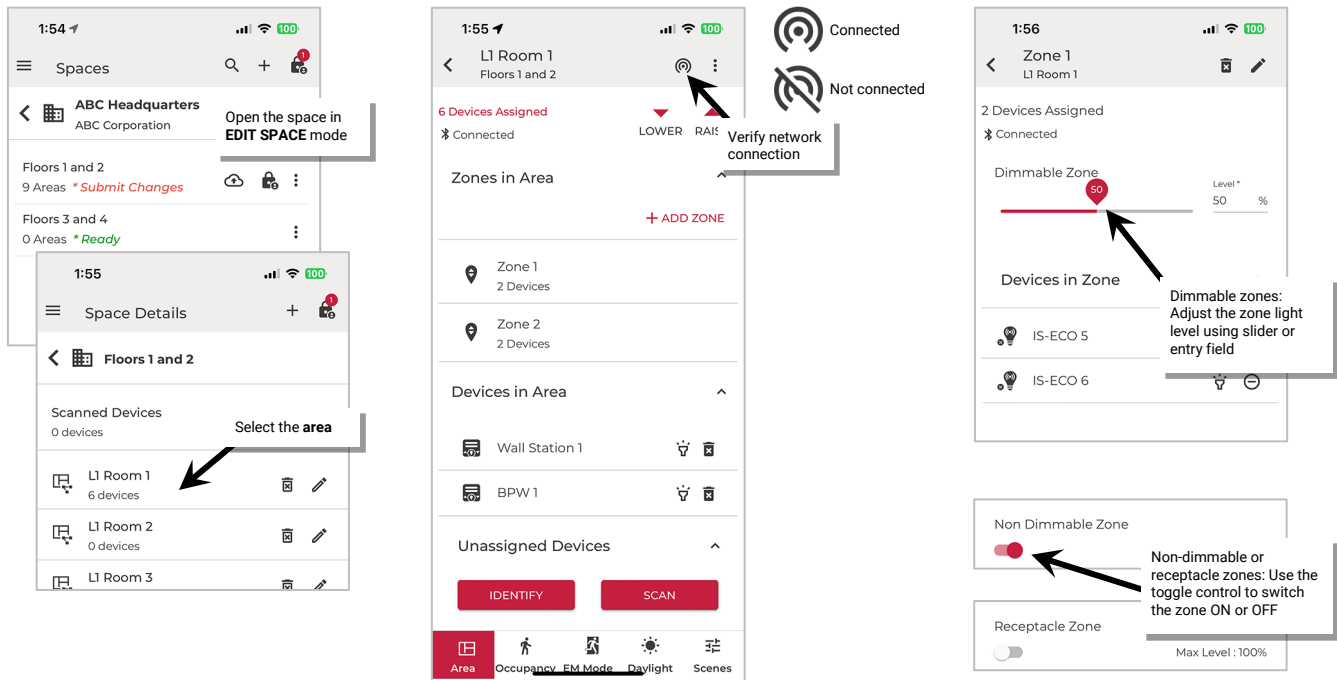
Note: The reported light level at the zone level will not reflect adjusted light level when Area raise and lower commands are used.

Once the light level is adjusted, **Exit EDIT SPACE** mode (see page 98).

Raise and Lower the Light Level of a Zone in a Networked Area

To raise and lower the light level of a specific zone:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Tap the desired **Zone**.
- 6: Use the zone slider or level entry field to adjust any dimmable zone to the desired light level.^{94 95 96} For non-dimmable or receptacle zones, use the ON/OFF toggle to adjust the desired state.



Once the light level is adjusted, **Exit EDIT SPACE** mode (see page 98).

⁹⁴ The reported light level of the zone slider may not reflect current light level if device light level has been adjusted by area raise and lower commands or by other devices that do not issue zone commands.

⁹⁵ The slider will display the full 0-100% scale and will not reflect adjustments to the minimum level (low end trim) or maximum level (high end trim) for the zone. The zone will stop changing when the slider reaches the defined minimum or maximum level and will stay at that level if the slider is moved beyond the defined range, until the slider is moved back into the defined range. The exception is that a slider level of 0% will turn the zone OFF regardless of minimum level (low end trim) setting.

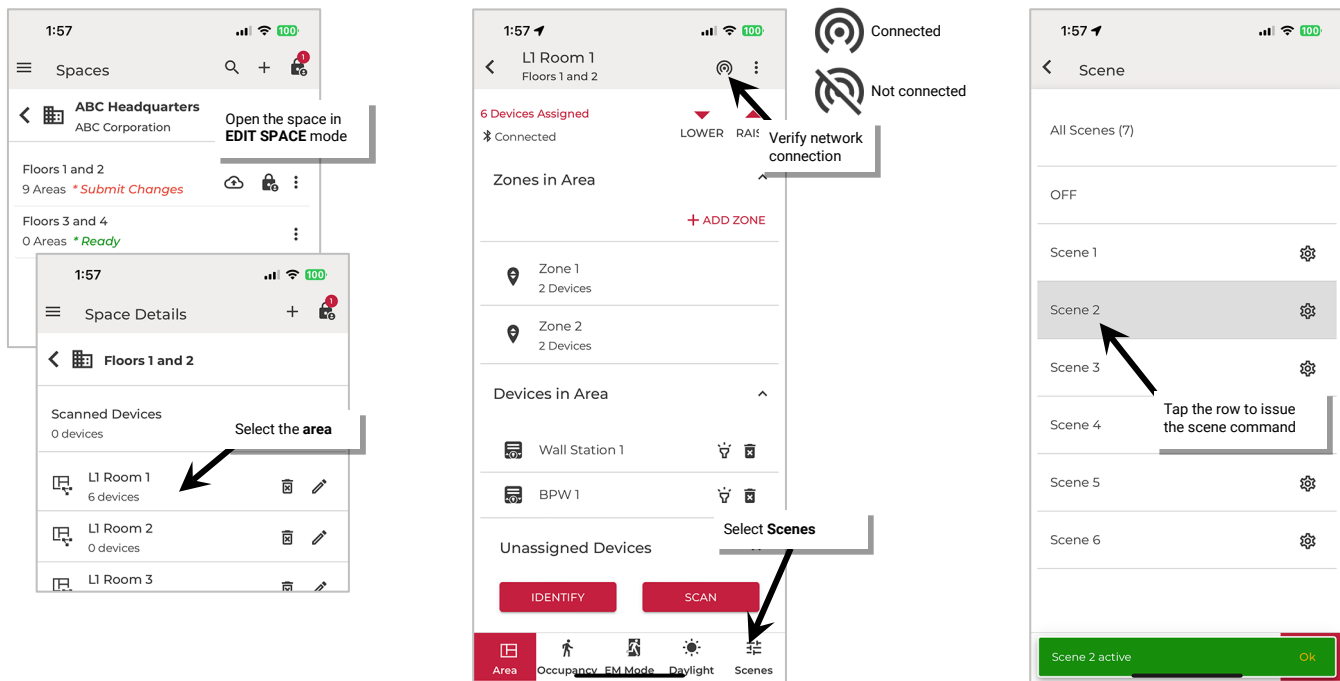
⁹⁶ Adjusting the slider at the zone level will rewrite the zone's default **Dim Level** to the new level selected. Any new devices that are newly provisioned to the area will go to the zone's new dim level value.

Issue Scene Commands in a Networked Area

Use the scene screen to send a scene command from the mobile application.

To send a scene command:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Tap the **Scenes** tab.
- 6: Tap the **Scene Row** to issue the desired scene.



Once the light level is adjusted, **Exit EDIT SPACE** mode (see page 98).

Raise and Lower the Light Level of a Single Device in Any Area

If the light level of a single device is raised or lowered from the mobile application, the mobile application treats this as a **temporary High Priority Override (HPO)**. A **High Priority Override** will prevent other commands from processing and overrides the current commanded level until the priority is released.

The **High Priority Override** will command the lighting to the desired level and remain in effect for:

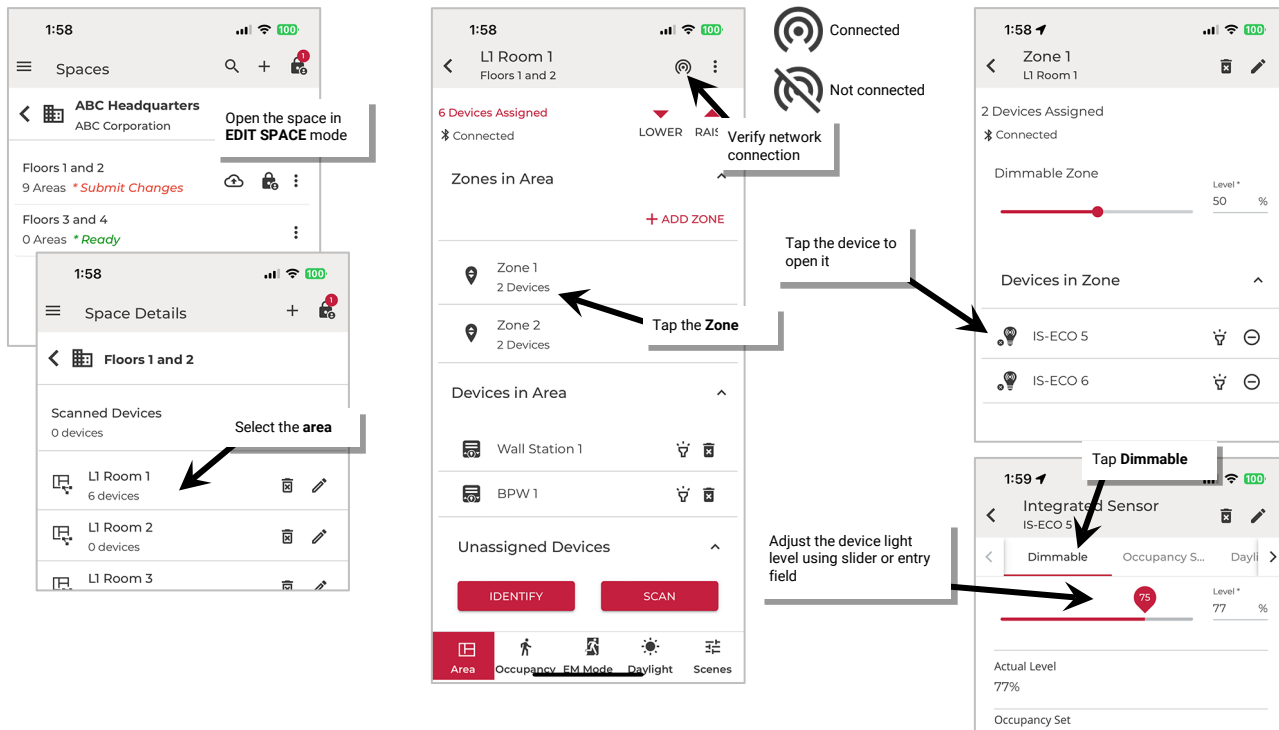
- 10 minutes if the mobile application is left in the device details page (can navigate between Dimmable, Occupancy Sensor, or Daylight Sensor tabs) without making further adjustments OR
- the device details page is exited

When the device exits from the **High Priority Override**, it will revert to the zone light level.

Raise and Lower the Light Level of a Single Device in a Networked Area (HPO)

To temporarily raise and lower the light level of a specific device in a Networked Area using a **High Priority Override**:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Open the device's **zone**.
- 6: Tap the **device** to open the **device details**.
- 7: In the **device details**, tap **Dimmable** or **Non-Dimmable**. Use the slider to adjust the light level for a dimmable device or the ON/OFF slide switch to command a non-dimmable device. The command will adjust the light to the desired level for 10 minutes or until the device details page is exited.

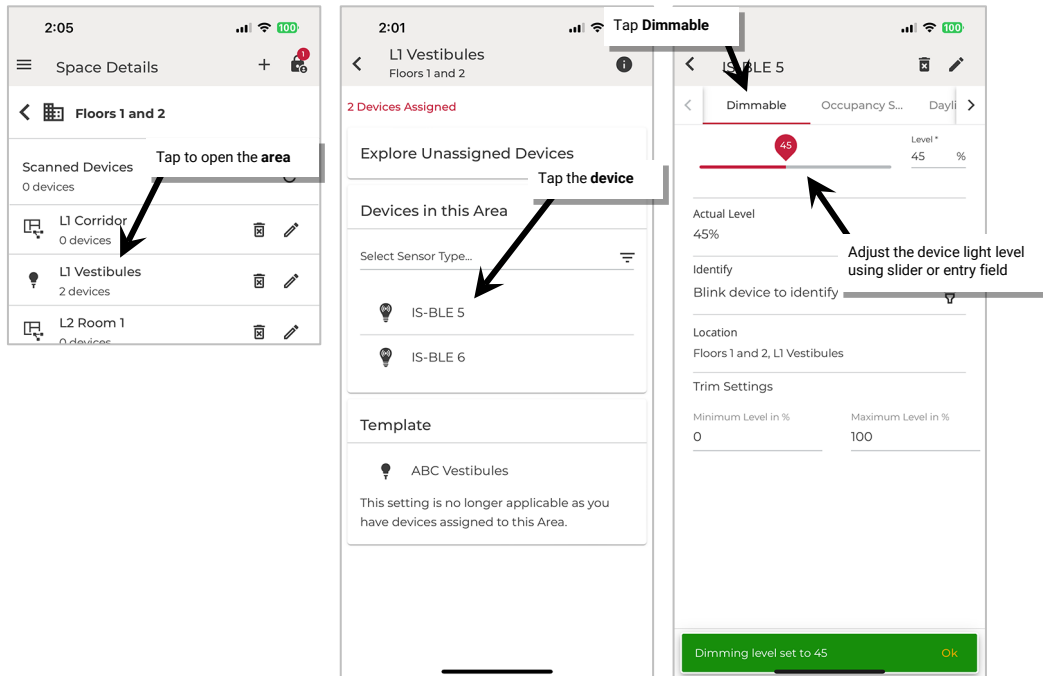


Once finished, **Exit EDIT SPACE** mode (see page 98).

Raise and Lower the Light Level of a Single Device in a Standalone Area (HPO)

To **temporarily** raise and lower the light level of a specific device in a Standalone Area using a **High Priority Override**:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.
- 5: In the **device details**, tap **Dimmable**. Use the slider to adjust the light level for the desired device. The command will adjust the light to the desired level for 10 minutes or until the device details page is exited.




Once finished, **Exit EDIT SPACE** mode (see page 98).

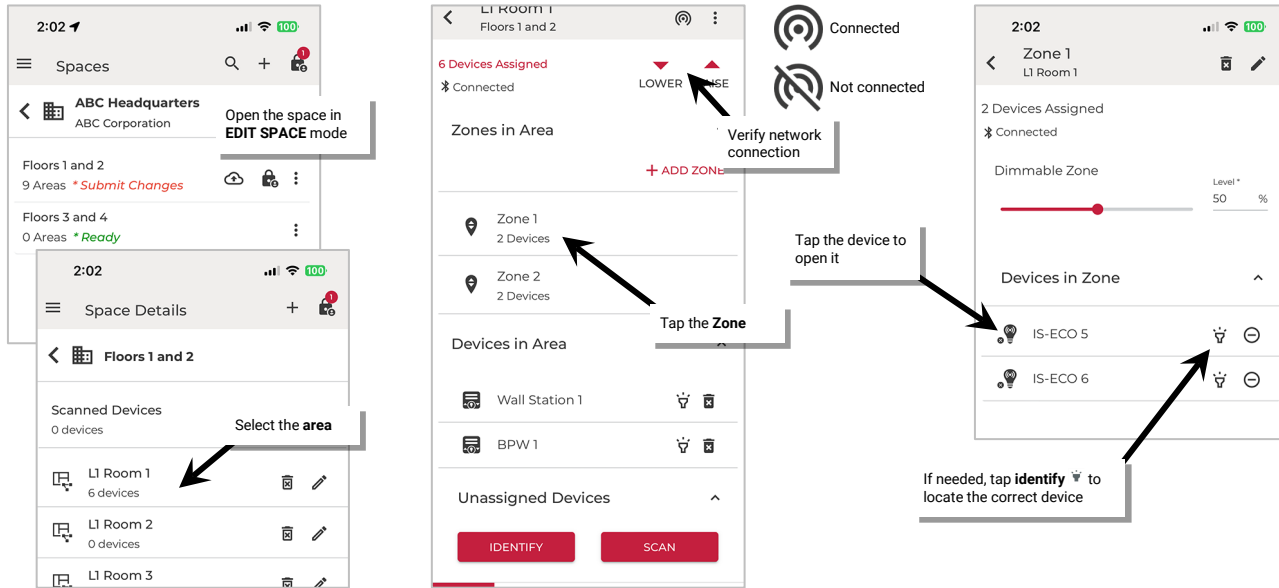
View Status and Device Details in Any Area

The device details pages give status information regarding the device's dimming level, occupancy status, and daylight reading. The details pages also contain valuable information and selectable options for the device. This section outlines the status, details, and functions available on the device details pages.

View Status and Device Details in a Networked Area

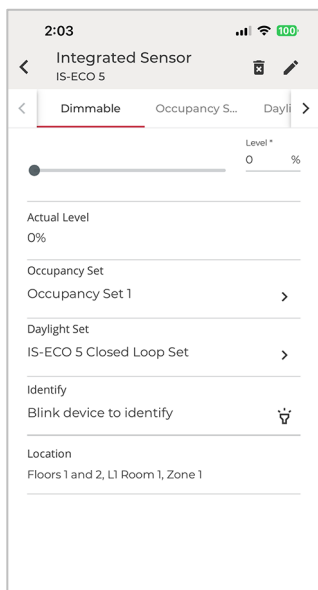
To access the device details pages:



- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.
- 5: Tap the desired **Zone**. In the list of devices in the zone, locate the device.
- 6: If needed, tap **identify**  to flash the device until the correct one is found. Tap the **device** to open it.



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Device Details Dimmable / Non-Dimmable Page

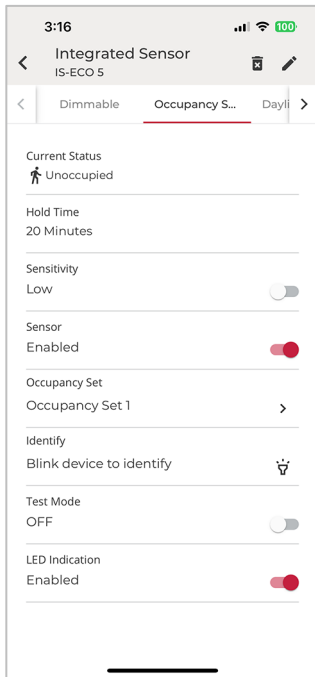


Setting	Default	Description
Current Status	N/A	Dimmable device: Displays the current light level of the dimmable device. Use the slider or entry field to temporarily issue a high priority override to the light level. Non-Dimmable device: Displays ON or OFF device status. Use the ON/OFF slide switch to temporarily issue a high priority override to the device. Light level will revert to normal operation after 10 minutes if still in the device details page at this time or once the screen is exited.
Actual Level	N/A	Displays the current light level of the device. Note: Light level may not automatically refresh if commands have processed after screen was entered.
Occupancy Set		Shows the zone's currently assigned occupancy set. Tap the arrow > to go to the occupancy set page.
Daylight Set		Shows the zone's currently assigned daylight set. Tap the arrow > to go to the closed loop daylight set page. For open loop, always access the open loop daylight set from the daylight set list (see "Modify Open Loop Daylight Control" on page 139 for details).
Identify	N/A	Tap identify  to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap  again.
Location	N/A	Lists the Space, Area, and zone that the device is assigned to.

Device Details Occupancy Sensor Page

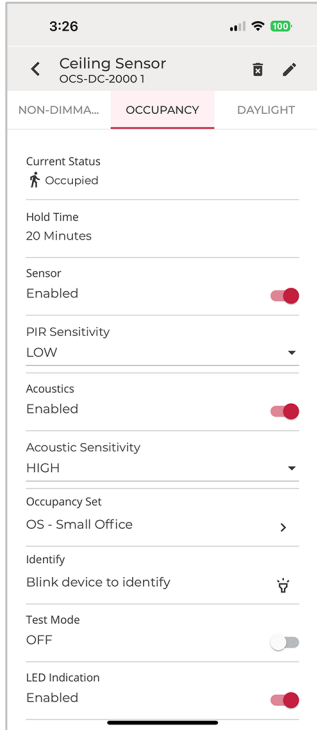
The occupancy sensor details displayed will depend on the type of sensor being reviewed. Refer to the appropriate settings in the following pages for the device type selected.

Fixture Mounted, Integrated and Tilemount Sensor Details



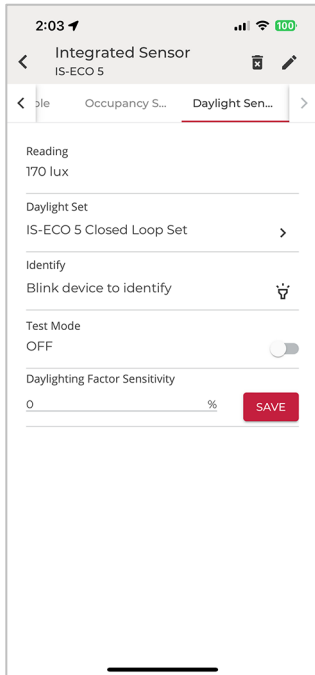
Setting	Default	Description
Current Status	N/A	Displays the status of the sensor, either occupied or unoccupied. Note: Status reflected does not include the hold time delay. It reflects if actual motion activity was occurring at the time the status last loaded.
Hold Time	20 Minutes	Displays the Occupancy Set's programmed hold time for informational purposes (not editable) as hold time affects an entire occupancy set, not just one device.
Sensitivity	Depends on sensor type	Slide the switch to Low sensitivity if a sensor is detecting motion outside of the desired coverage Area. Switch to High to regain the full motion sensing range.
Sensor	Enabled	Slide the switch to disable the occupancy sensor for this device. This can be helpful if a sensor is false-triggering due to challenging placement. Examples: near air vents or doorways. Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.
Occupancy Set	Occupancy Set 1	Displays the occupancy set that the sensor is assigned to. Tap on the arrow > to navigate directly to the occupancy set configuration.
Blink to Identify	N/A	Tap identify 🗨 to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap identify 🗨 again.
Test Mode	N/A	If test mode is activated (slide switch to activate), the sensor will be placed in test mode for 10 minutes. During test mode, the occupancy sensor will operate with a 10 second hold time. Note: if more than one occupancy sensor reports to the occupancy set, use test mode at the occupancy set level to prevent other sensors in the occupancy set from holding the lighting ON. See "Use Occupancy Sensor Set Test Mode" on page 124.
LED	Enabled	Disabling the LED is not recommended as it is often used to determine if the sensor is operational. If the sensor LED flash is a major distraction, slide the switch to disabled.



Acoustic Ceiling Sensor Details



Setting	Default	Description
Current Status	N/A	Displays the status of the sensor, either occupied or unoccupied. Note: Status reflected does not include the hold time delay. It reflects if actual motion activity was occurring at the time the status last loaded.
Hold Time	20 Minutes	Displays the Occupancy Set’s programmed hold time for informational purposes (not editable) as hold time affects an entire occupancy set, not just one device.
Sensor	Enabled	Slide the switch to disable the occupancy sensor for this device. This can be helpful if a sensor is false-triggering due to challenging placement. Examples: near air vents or doorways. Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.
PIR Sensitivity	LOW	Use the drop down to select between HIGH and LOW sensitivity for the PIR technology. Use LOW if a sensor is turning lights on when motion is detected outside of the desired area. Switch to HIGH to regain the full motion sensing range.
Acoustics	Enabled	The acoustic sensor will operate with the PIR sensor after the PIR sensor has signaled occupancy. Both technologies will operate together to determine if motion is still present to keep lighting on. To operate only from the PIR technology, switch acoustics to DISABLED . To operate from both technologies, switch to ENABLED .
Acoustic Sensitivity	HIGH	Use the acoustic sensitivity drop down to select how sensitive the acoustic detection should be. Choose between VERY HIGH, HIGH, MEDIUM, LOW, and VERY LOW .
Occupancy Set	Occupancy Set 1	Displays the occupancy set that the sensor is assigned to. Tap on the arrow > to navigate directly to the occupancy set configuration.
Blink to Identify	N/A	Tap identify 🗨 to cause the sensor LED to flash magenta and any directly connected load to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap identify 🗨 again.
Test Mode	N/A	If test mode is activated (slide switch to activate), the sensor will be placed in test mode for 10 minutes. During test mode, the occupancy sensor will operate with a 10 second hold time. Note: if more than one occupancy sensor reports to the occupancy set, use test mode at the occupancy set level to prevent other sensors in the occupancy set from holding the lighting ON. See "Use Occupancy Sensor Set Test Mode" on page 124.
LED	Enabled	Disabling the LED is not recommended as it is often used to determine if the sensor is operational. If the sensor LED flash is a major distraction, slide the switch to disabled.

Device Details Daylight Sensor Page

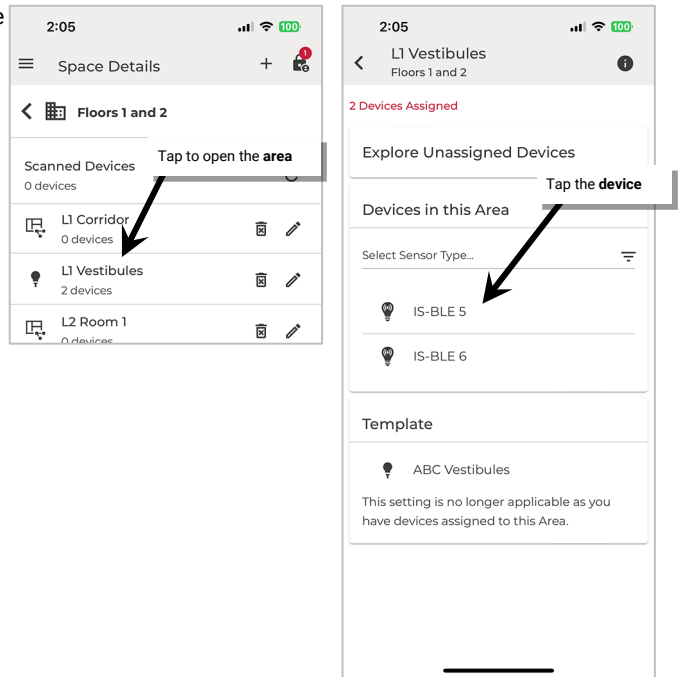


Setting	Default	Description
Reading	N/A	Displays sensor's light level reading in lux. Note: If the reading does not dynamically update, exit the screen, and then re-enter to verify current reading.
Daylight Set		Shows the zone's currently assigned daylight set. Tap the arrow > to go to the closed loop daylight set page. For open loop, always access the open loop daylight set from the daylight set list (see "Modify Open Loop Daylight Control" on page 139 for details).
Identify	N/A	Tap identify  to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap  again.
Test Mode <i>(will not show for Acoustic Ceiling Sensors)</i>	N/A	If test mode is activated (slide switch to activate), the daylight sensor will begin test mode operation. During test mode, the daylight fade rate is changed to 10 seconds and the time delays for OFF and ON functions are reduced to the following: <ul style="list-style-type: none"> • When the measured light level exceeds 150% of the calibrated light level for more than 30 seconds, the sensor will turn lighting OFF. • Lighting will be turned back ON when one of the two conditions occurs: <ul style="list-style-type: none"> • The measured light level falls between 100% and 50% of the calibrated light level for more than 20 seconds • The measured light level falls below 50% of the calibrated light level for longer than 5 seconds Once finished with the daylight sensor test, slide the switch to the OFF position. If left ON, test mode will automatically time out after 10 minutes.
Daylight Factor Sensitivity <i>(will not show for Acoustic Ceiling Sensors)</i>	0%	WARNING: Do not adjust the daylight factor sensitivity from the 0% default unless resolving a daylighting issue. See page 213 for further details.

View Status and Device Details in a Standalone Area

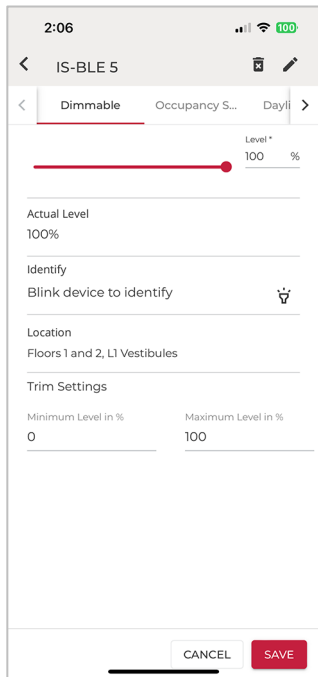
To access the device details pages:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the device being modified (within 60 feet/18 meters of the desired device).
- 3: In the Area list, select the desired **Area**.
- 4: Locate the device in the **Devices in this Area** and tap the **device** to open it. The Mobile App will make a connection to the device.



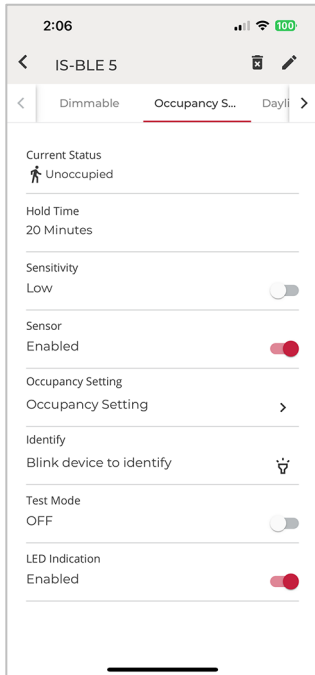
Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

Device Details Dimmable Page



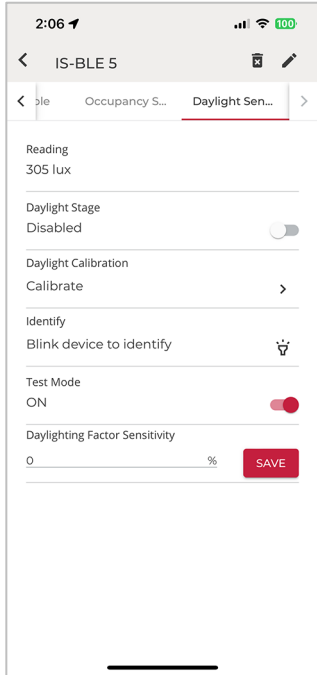
Setting	Default	Description
Level Adjustment	N/A	Displays the current light level of the dimmable device. Use the slider or entry field to temporarily issue a high priority override to the light level. Light level will revert to normal operation after 10 minutes if still in the device details page at this time or once the screen is exited. Note: Light level may not automatically refresh if commands have processed after screen was entered.
Actual Level	N/A	Displays the current light level of the dimmable device. Note: Light level may not automatically refresh if commands have processed after screen was entered.
Identify	N/A	Tap on identify to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap again.
Location	N/A	Lists the Space, Area, and zone that the device is assigned to.
Trim Settings	Min 0% Max 90%	Displays the current trim settings for the device. <ul style="list-style-type: none"> • The minimum level is the lowest level that dimming commands can set the dimmable light level to (low end trim). Regardless of the minimum level set, a 0% command will turn the load OFF. • The maximum level sets the highest level that a dimming command can set the dimmable light level to (high end trim). The fields can be used to modify the settings. Tap SAVE after modifying the trim settings.

Device Details Occupancy Sensor Page



Setting	Default	Description
Current Status	N/A	Displays the status of the sensor, either occupied or unoccupied. Note: Status reflected does not include the hold time delay. It reflects if actual motion activity was occurring at the time the status last loaded.
Hold Time	20 Minutes	Displays the sensor's programmed hold time.
Sensitivity	Dependent on sensor type	Slide the switch to low sensitivity if a sensor is detecting motion outside of the desired coverage Area. Switch to High to regain the full motion sensing range.
Sensor	Enabled	Slide the switch to disable the occupancy sensor for this device. This can be helpful if a sensor is false-triggering due to challenging placement. Examples: near air vents or doorways. Note: It is recommended to avoid placing sensors within 3ft (1m) of air vents.
Occupancy Setting	N/A	Tap on the right arrow icon > to navigate directly to the occupancy settings configuration.
Identify	N/A	Tap identify 📢 to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap 📢 again.
Test Mode	N/A	If test mode is activated (slide switch to activate), the sensor will be placed in test mode for 10 minutes. During test mode, the occupancy sensor will operate with a 10 second hold time.
LED Indication	Enabled	Disabling the LED is not recommended as it is often used to determine if the sensor is operational. If the sensor LED flash is a major distraction, slide the switch to disabled.

Device Details Daylight Sensor Page



Setting	Default	Description
Reading	N/A	Displays sensor's light level reading in lux. Note: If the reading does not dynamically update, exit the screen, and then re-enter to verify current reading.
Daylight Stage	Depends on sensor type	Slide the switch to enable or disable daylighting for this sensor. If disabled, the sensor will operate solely from occupancy sensor commands.
Calibrate	N/A	Tap on the right arrow icon > to navigate directly to the daylight calibration configuration settings.
Blink to Identify	N/A	Tap identify to cause the connected fixture to flash ON and OFF for a 15 second period. To cancel blink to identify before the timer expires, tap again.
Test Mode	N/A	If test mode is activated (slide switch to activate), the daylight sensor will begin test mode operation. During test mode, the daylight fade rate is changed to 10 seconds and the time delays for OFF and ON functions are reduced to the following: <ul style="list-style-type: none"> • When the measured light level exceeds 150% of the calibrated light level for more than 30 seconds, the sensor will turn lighting OFF. • Lighting will be turned back ON when one of the two conditions occurs: <ul style="list-style-type: none"> • The measured light level falls between 100% and 50% of the calibrated light level for more than 20 seconds • The measured light level falls below 50% of the calibrated light level for longer than 5 seconds Once finished with the daylight sensor test, slide the switch to the OFF position. If left ON, test mode will automatically time out after 10 minutes.
Daylight Factor Sensitivity	0%	WARNING: Do not adjust the daylight factor sensitivity from the 0% default unless resolving a daylighting issue. See page 213 for further details.




Viewing Battery Status of Battery Powered Wallstations

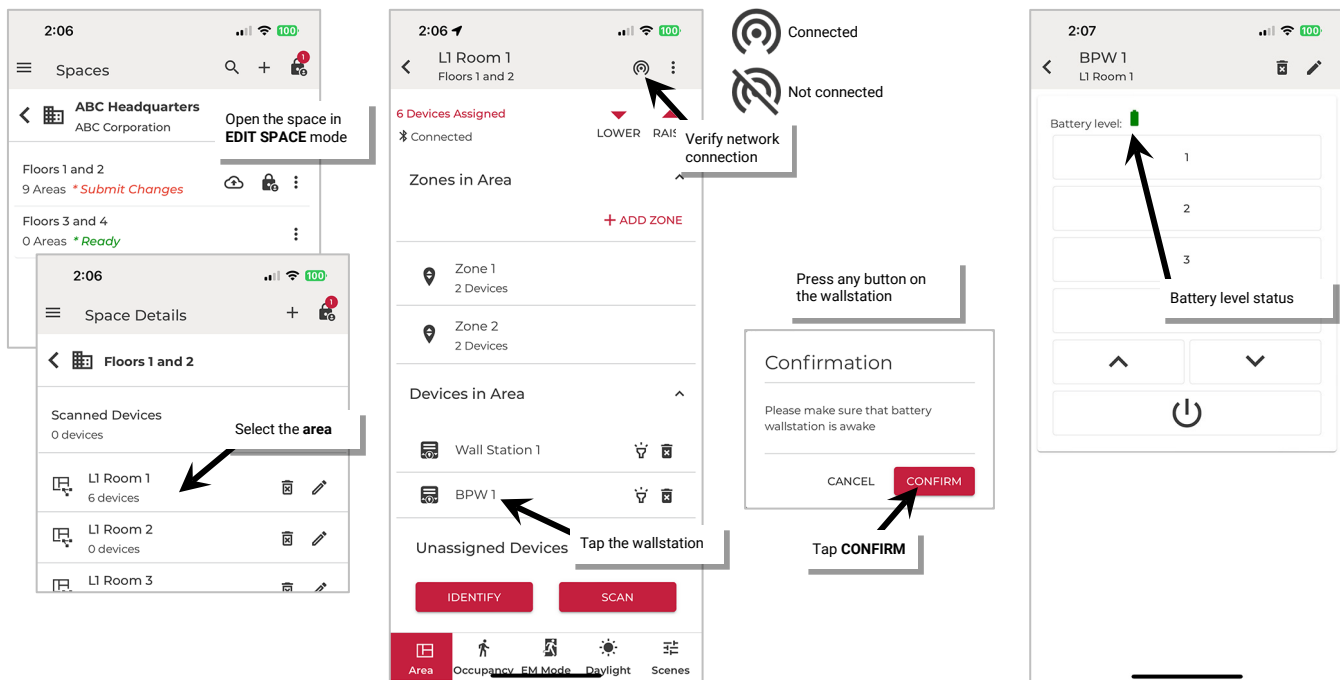
Along with LED indicators on board each wallstation, the mobile app allows visibility of the battery status of battery powered wallstations. Battery powered wallstations are always provisioned in Networked Areas.

Please refer to “WaveLinX LITE WWBL-Series Wallstation Reference Sheet” on page 26 for details on monitoring battery status through the onboard wallstation LED indicator.

To view the battery status through the mobile app:

- 1: Launch the WaveLinX LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinX LITE device provisioned in the Area).⁹⁷
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area’s Bluetooth mesh network.
- 5: Locate the wallstation in the **Devices in Area**. Tap on the wallstation to open it for configuration. When prompted to wake the station, press any button on the wallstation and then tap **CONFIRM**.
- 6: View the battery status icon:

- Battery OK (over 2.7V) = Green icon 
- Battery low (2.5V to 2.7V) = Yellow icon 
- Battery very low (under 2.5V)⁹⁸ = Red icon 



Once all changes to the Space are complete, **Exit EDIT SPACE** mode (see page 98).

⁹⁷ To make a change to a battery powered wallstation, there must be a Bluetooth communication connection through a line voltage powered WaveLinX LITE device.

⁹⁸ If the battery level falls below 2.5V, the wallstation will prompt for a battery replacement if the user attempts a firmware update and will not allow the firmware update to proceed.

Multi-User Setup: Manage Members and Member Roles: Network Mode

WaveLinx LITE v7.0 uses a system of **Members** and **Member Roles** allowing for multiple people to share administration and/or programming tasks for Network Mode created Organization, its Buildings and its Spaces. Any user can create a new Organization and administer it, but for users to access an existing Organization, they must be made a **Member** and given a **Member Role**.

WaveLinx LITE 7.0 Member Roles

There are three member roles that can be created in the WaveLinx LITE 7.0 architecture. These roles include **Organization Admin**, **Building Admin**, and **Facility Manager**. The role that is assigned to a member determines what tasks they can perform and what Areas of the Organization's programming they can access. The below table shows the capability of each defined role:

	Organizational Admin	Building Admin	Facility Manager
Access and administer Organization settings	✓		
Add or remove members at the Organization level	✓		
Create, edit and delete Buildings under the Organization	✓		
Add or remove members at the Building level	✓	✓*	
Move a Building from the current Organization to another Organization	✓	✓*	
Unlock a Space that is locked by another member	✓	✓*	
Move a Space from one Building to another within the Organization or to another Organization	✓	✓*	
Move a legacy Site to a Building in an Organization	✓	✓*	
Create, edit, and delete a Space under a Building	✓	✓*	✓*
View a Space	✓	✓*	✓*

* Members can perform this function only for the Building that their member account is assigned to

Add Members and Assign Roles

The user that is logged in to the WaveLinx LITE Mobile App when an Organization is created is automatically assigned to be the Organizational Admin. This allows full access to all Areas of the Organization, its Buildings, and its Spaces. The Organizational Admin can then share the administration with other members.

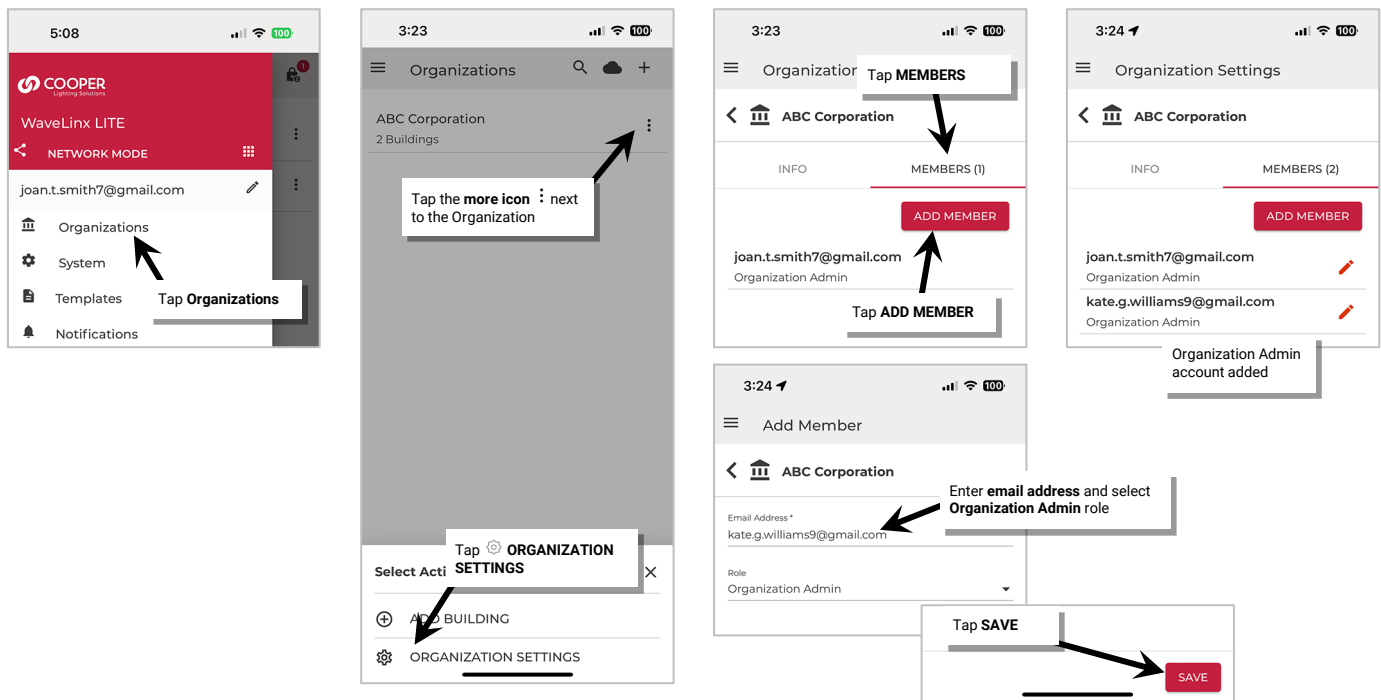
Role Assignment Rules

- If an Organizational Admin assigns an Organizational Admin role to another person, either member can administer all the functions in the Organization.
- If an Organizational Admin assigns a Building Admin member role to another person, the Building Admin can also assign member roles to other people but only within their assigned Building(s).
- If one member needs to act in a Building Admin, Facility Manager or Viewer role for more than one Building in the Organization, the same member can be assigned to the needed role at the necessary Buildings.

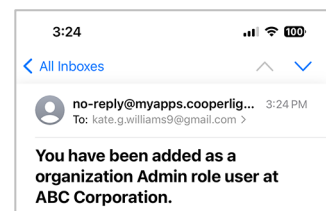
Add a Member as an Organization Admin

Members must be registered users for the admin to assign them to a member role. Before assigning member roles, the additional people should install the WaveLinx LITE Mobile App and register for a user account. See “Download and Install the WaveLinx LITE Mobile App” on page 29 and “Register for a WaveLinx LITE Mobile App Account” on page 30 for instructions.

- 1: Launch the WaveLinx LITE Mobile App and login as the current Organization Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations**.
- 3: Locate the desired **Organization** and tap **more** ⋮ to open the available actions. Select ⚙️ **ORGANIZATION SETTINGS**.
- 4: Tap **MEMBERS** and then tap **ADD MEMBER**.
- 5: Enter the **email address** for the registered member. Use the drop down to select the **Organization Admin** role and then tap **SAVE**.



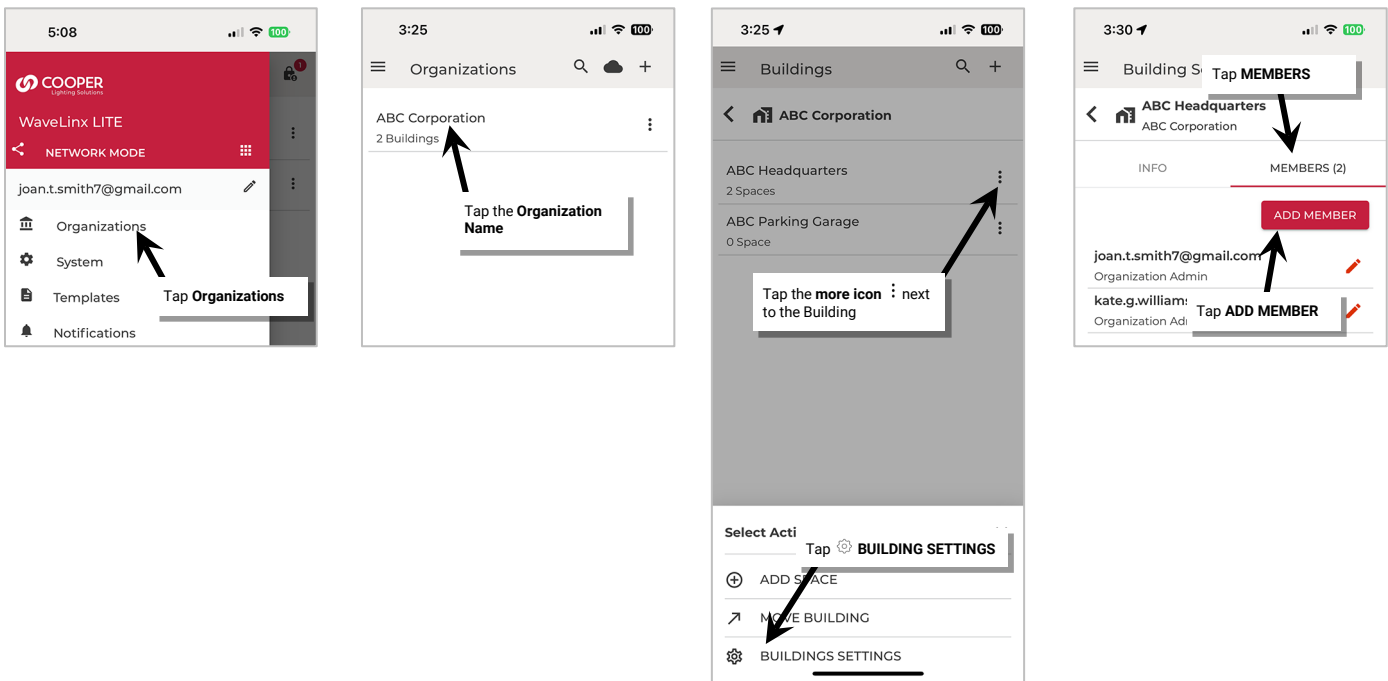
The assigned member will receive an email alerting them of their assigned role. When the member opens the WaveLinx LITE Mobile App on their device, the Organization will be available for them to administer.



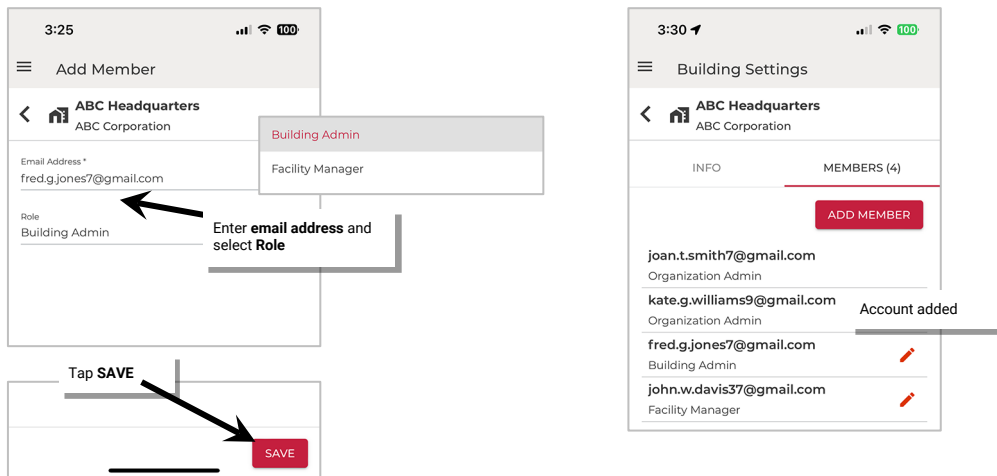
Add a Member as a Building Admin, Facility Manager or Viewer

Members must be registered users for the admin to assign them to a member role. Before assigning member roles, the additional people should install the WaveLinX LITE Mobile App and register for a user account. See “Download and Install the WaveLinX LITE Mobile App” on page 29 and “Register for a WaveLinX LITE Mobile App Account” on page 30 for instructions.

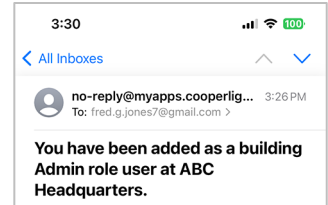
- 1: Launch the WaveLinX LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations**.
- 3: Locate the desired **Organization** and tap on the row to open it.
- 4: In the Buildings list, locate the Building where the member needs to be assigned. Tap **more** ⋮ to open the available actions. Select **BUILDING SETTINGS**.
- 5: Tap **MEMBERS**, and then select **ADD MEMBER**.



- 6: Enter the **email address** for the registered member and use the drop down to select the **desired member role**. Tap **SAVE**.



The assigned member will receive an email alerting them of their assigned role. When the member opens the WaveLinX LITE Mobile App on their device, the Organization will be available for their assigned role.



Change an Existing Member's Assigned Role

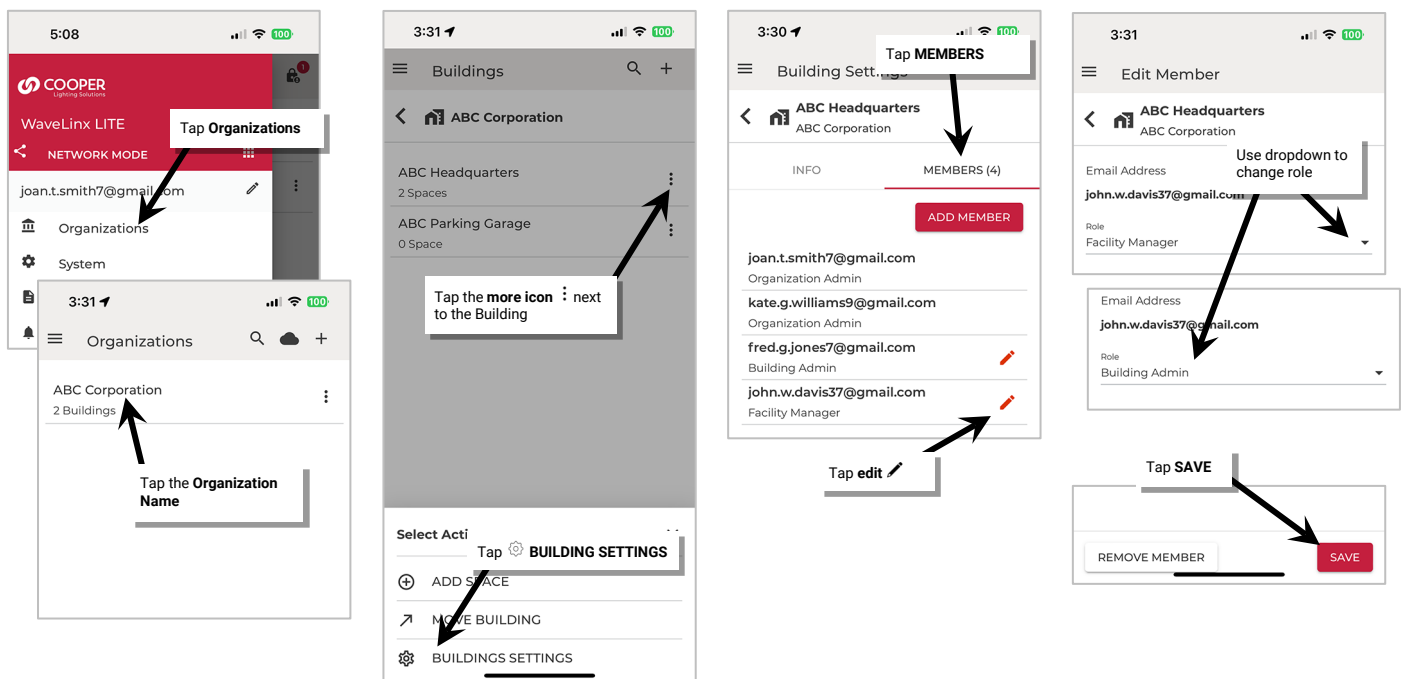
If a member has been assigned a role and that member's role needs to change, the Organization Admin or Building Admin can assist with the change.

Only an Organization Admin can assign or change a member to an Organization Admin role. If a member is assigned as a Building Admin, Facility Manager or Viewer and that member needs to be changed to the Organization Admin role, the Organization Admin should remove the member from their current Building(s) role(s) before following the steps to Add them as an Organization Admin.

Either the Organization Admin or Building Admin can make changes to a member role assigned at the Building level.

To make changes to a member role assigned at the Building level:

- 1: Launch the WaveLinX LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations**.
- 3: Locate the desired **Organization** and tap **on the row to open it**.
- 4: In the Buildings list, locate the Building where the member needs to be assigned. Tap **more** ⋮ to open the available actions. Select **BUILDING SETTINGS**.
- 5: Tap **MEMBERS**, and then locate the member to change. Tap **edit** ✎ next to the desired member.
- 6: Use the drop down to select the **desired member role**. Tap **SAVE**.



The assigned member will receive an email alerting them of their changed role. When the member opens the WaveLinX LITE Mobile App on their device, the Organization will be available for their new role.

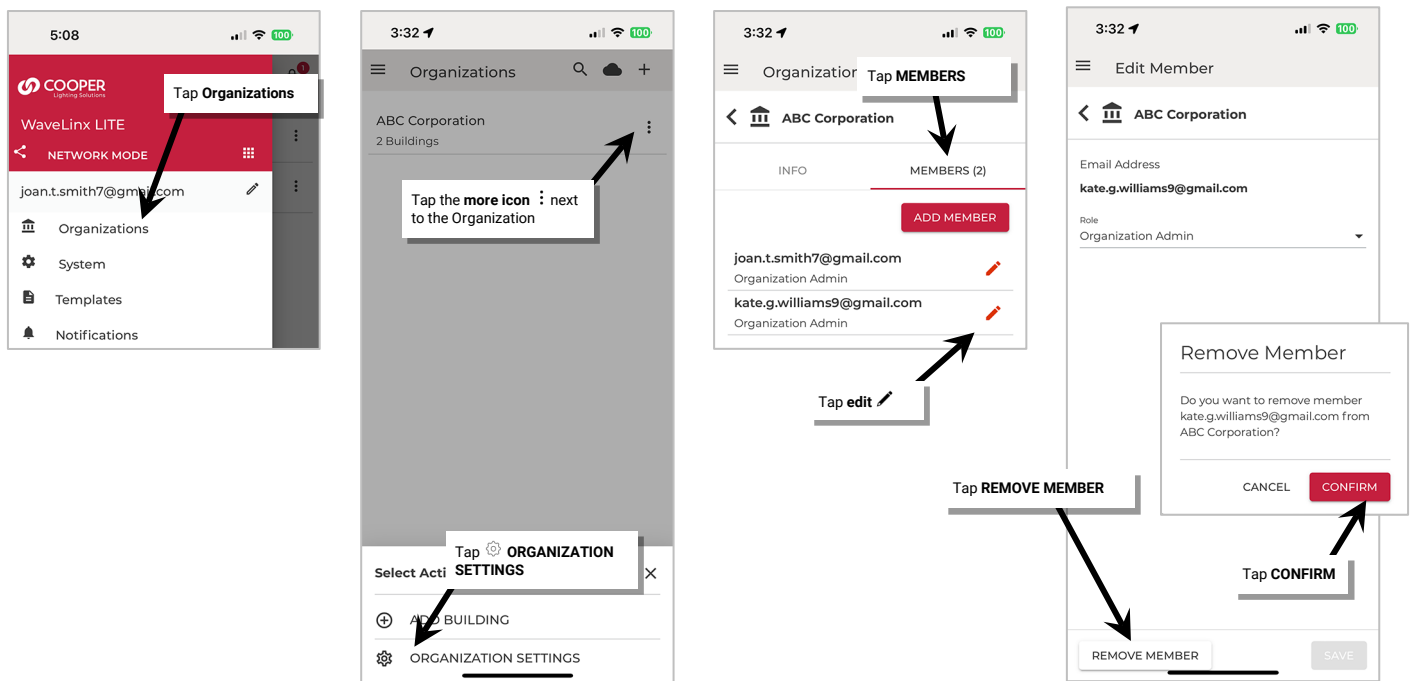
Remove a Member

If a member leaves the Organization or no longer needs access to the WaveLinX LITE programming, remove the member role.

Removing an Organization Admin

Only an Organization Admin can remove a member assigned to an Organization Admin role. The option to remove an Organization Admin will only appear if there is more than one Organization Admin member. Have the previous Organization Admin add the member that will be the new Organization Admin and assign them to the Organization Admin role.

- 1: Launch the WaveLinX LITE Mobile App and login as the new Organization Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations**.
- 3: Locate the desired **Organization** and tap **more** ⋮ to open the available actions. Select ⚙️ **ORGANIZATION SETTINGS**.
- 4: Tap **MEMBERS**, and then tap **edit** ✎ next to the member to be removed.
- 5: Tap **REMOVE MEMBER** and then tap **CONFIRM** when prompted to verify.

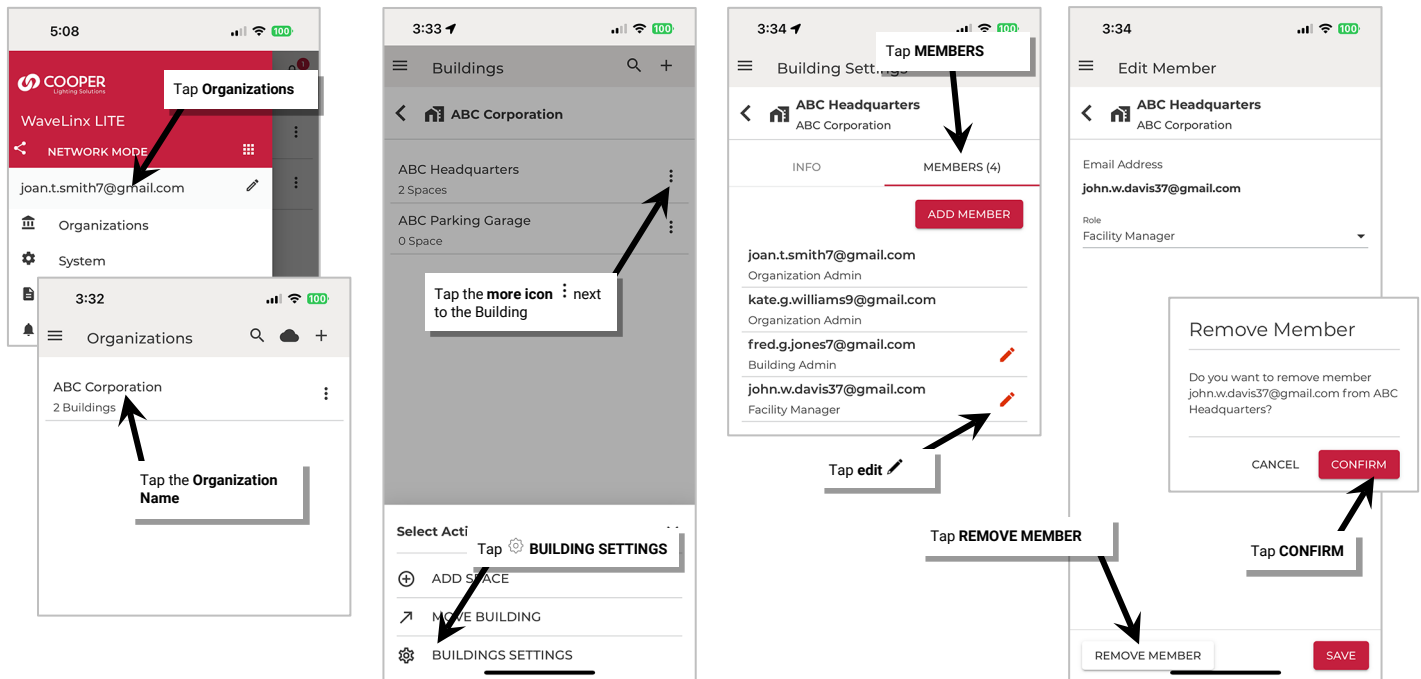


The deleted member will receive an email alerting them of their deleted access. When the member opens the WaveLinX LITE Mobile App on their device, the Organization will no longer be available.

Removing a Building Admin and Facility Manager Members

Organization Admin and Building Admins can remove a member assigned to a Building member role.

- 1: Launch the WaveLinx LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: From the menu ☰ select **Organizations**.
- 3: Locate the desired **Organization** and tap on the row to open it.
- 4: In the Buildings list, locate the Building where the member needs to be removed. Tap **more** ⋮ to open the available actions. Select **BUILDING SETTINGS**.
- 5: Tap **MEMBERS**, and then locate the member to remove. Tap **edit** ✎ next to the desired member.
- 6: Tap **REMOVE MEMBER** and then tap **CONFIRM** when prompted to verify.



The deleted member will receive an email alerting them of their deleted access. When the member opens the WaveLinx LITE Mobile App on their device, the Organization will no longer be available.

Multiple Member Operation



With WaveLinx LITE v7.0, multiple people can be logged into the same Organization at the same time. However, only one member can process an **EDIT SPACE** to the same Space at a time.


- When a Space is opened in EDIT SPACE mode, the Space is locked for editing. Other members will see a lock icon or if they try to edit the Space, they will receive an error message that the Space is already in edit mode.
- Only when the editing member submits the changes (sync) will the Space become available for others to access. This prevents more than one member trying to change programming for the same Space at the same time.
- Although the one Space may be locked, other Spaces in the Building should be open for access. One member can program one Space while another member programs a different Space.
- If a Space is stuck in locked mode and the member who locked it cannot submit the changes, an administrator can force unlock the Space.
- If a member has submitted changes and unlocked the Space and a second member then edits the same Space, the WaveLinx LITE Mobile App will recognize that the database has been updated and will download the updated Space onto the second member's mobile device before locking the Space for editing.

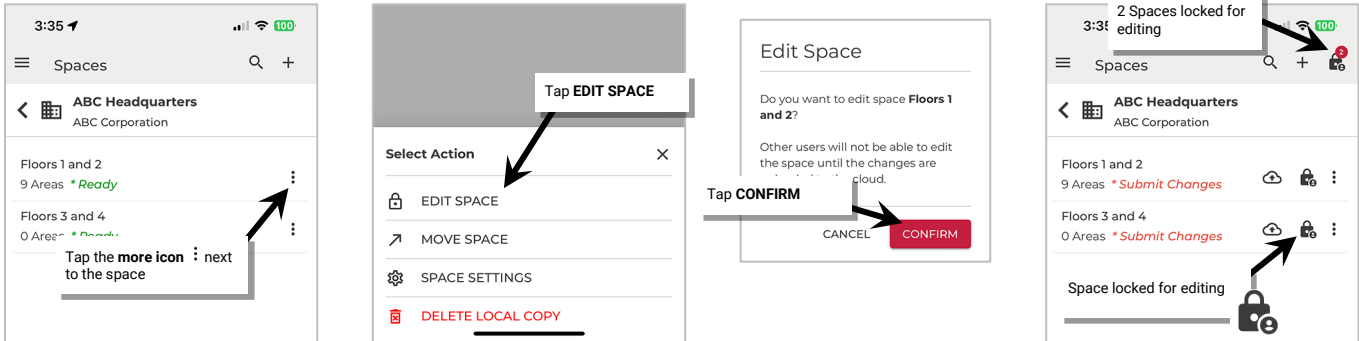
Lock a Space with EDIT SPACE Mode with Multiple Members

A member can lock a Space for editing by placing the Space in **EDIT SPACE** mode. More than one Space can be locked at a time.


To place a Space in EDIT SPACE mode:

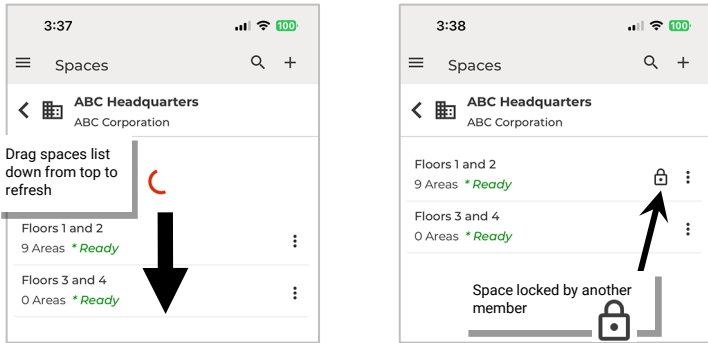
On the display of the member that has placed the Space in **EDIT SPACE** mode, the **lock icon**  next to the Space will show the Space is locked. The **lock icon**  at the top of the **Space Details** screen will show how many Spaces are currently locked by that member.

- 1: Launch the WaveLinx LITE Mobile App and login. Make sure the app is in **Network Mode**.
- 2: Navigate to the Organization’s **Spaces** and then tap the **more icon**  next to the desired Space.
- 3: Tap **EDIT SPACE** and then tap **CONFIRM** to lock the Space for editing. Proceed with the needed changes.

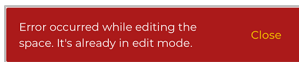


What other members see when a Space is locked:

Other members who are accessing the same Building will be alerted that the Space is locked once they refresh their **Spaces** screen. **Refresh** the Space list by dragging down from the top listed Space. Any Spaces that are locked will show a **lock icon** .




Note: If a refresh is not done to show the Space is locked and the member tries to enter **EDIT SPACE** mode, they will get an error message that the Space is locked.

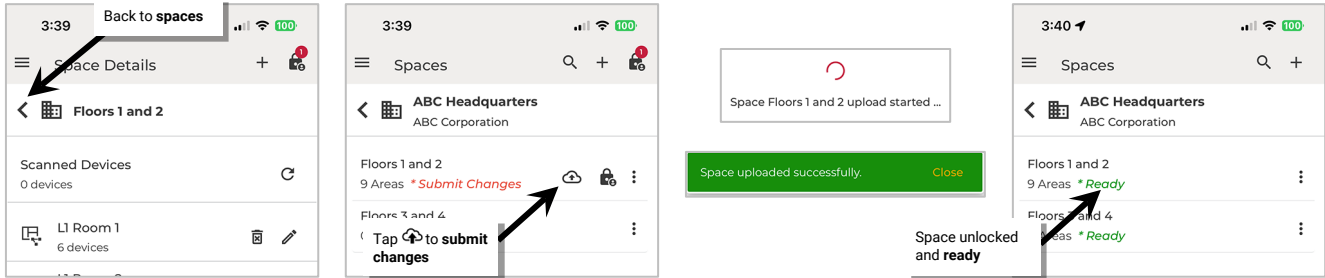


Unlock a Space by Processing a Sync Command


The member that placed the Space in **EDIT SPACE** mode must **submit changes** or **Sync** the Space to unlock it for other member access.

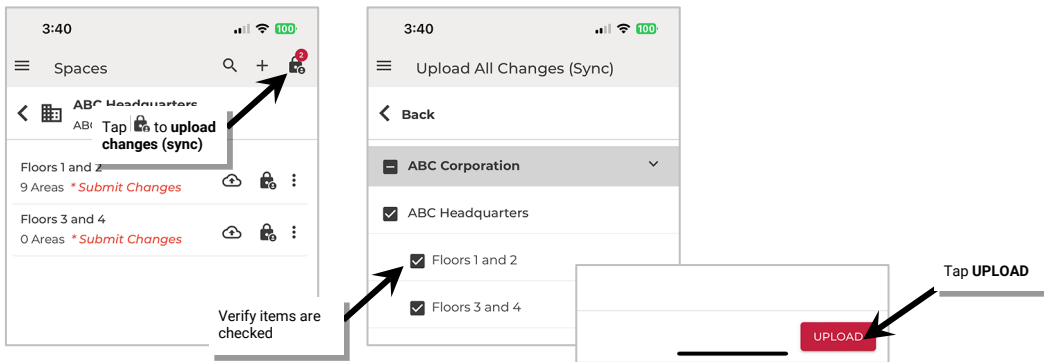
To unlock a Space from EDIT SPACE mode:

- 1: If necessary, launch the WaveLinX LITE Mobile App and login. Make sure the app is in **Network Mode**.
- 2: Navigate back to the **Spaces** list.
- 3: Tap the **submit changes icon**  and wait for the upload to complete. Once uploaded, the Space will show **Ready**.




OR

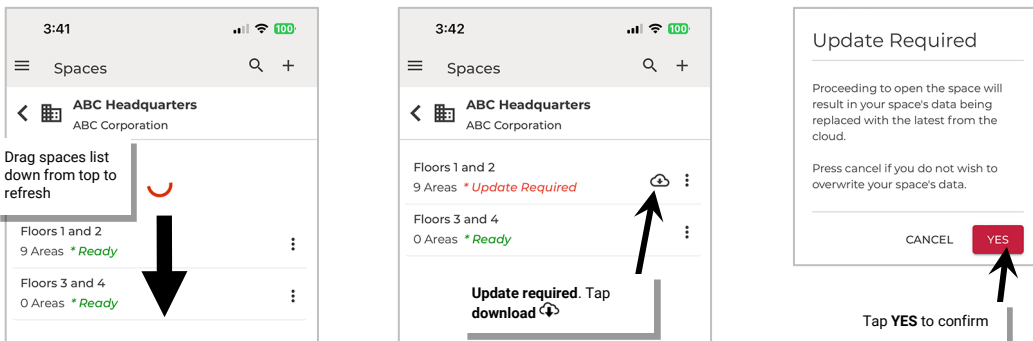
- 1: If necessary, launch the WaveLinX LITE Mobile App and login. Make sure the app is in **Network Mode**.
- 2: Tap the **lock icon**  at the top of the **Space Details** or **Spaces** screen.
- 3: Review the Spaces that will be synced and ensure they are all checked and then tap **UPLOAD**. Wait for the messages to process that the Spaces were uploaded successfully. The screen will return to the **Organizations** list when the upload is complete.



Note: The WaveLinX LITE mobile app will automatically try to sync changes every 15 minutes dependent on the mobile device's operating system, performance, battery charge, and internet connection. This may unlock the Space when the sync is performed.

What other members see when a Space is unlocked:

Other members who are accessing the same Building will show that the Space is unlocked once they refresh their **Spaces** screen. **Refresh** the Space list by dragging down from the top listed Space. The Space that showed as locked before should now show with a ***Update Required** message. Tap the **download icon**  to sync the changes from the cloud storage and when prompted, tap **YES** to overwrite the local database.

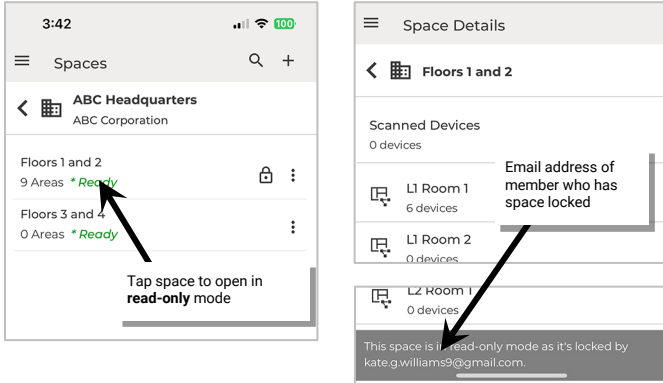


Note: If the member tries to enter EDIT SPACE mode without updating first, the Space will download the update prior to locking the Space.

Force Unlock a Space

If a Space is locked by a member and it is not possible for the member to unlock by syncing the Space, the Organization Admin or Building Admin can unlock the Space.

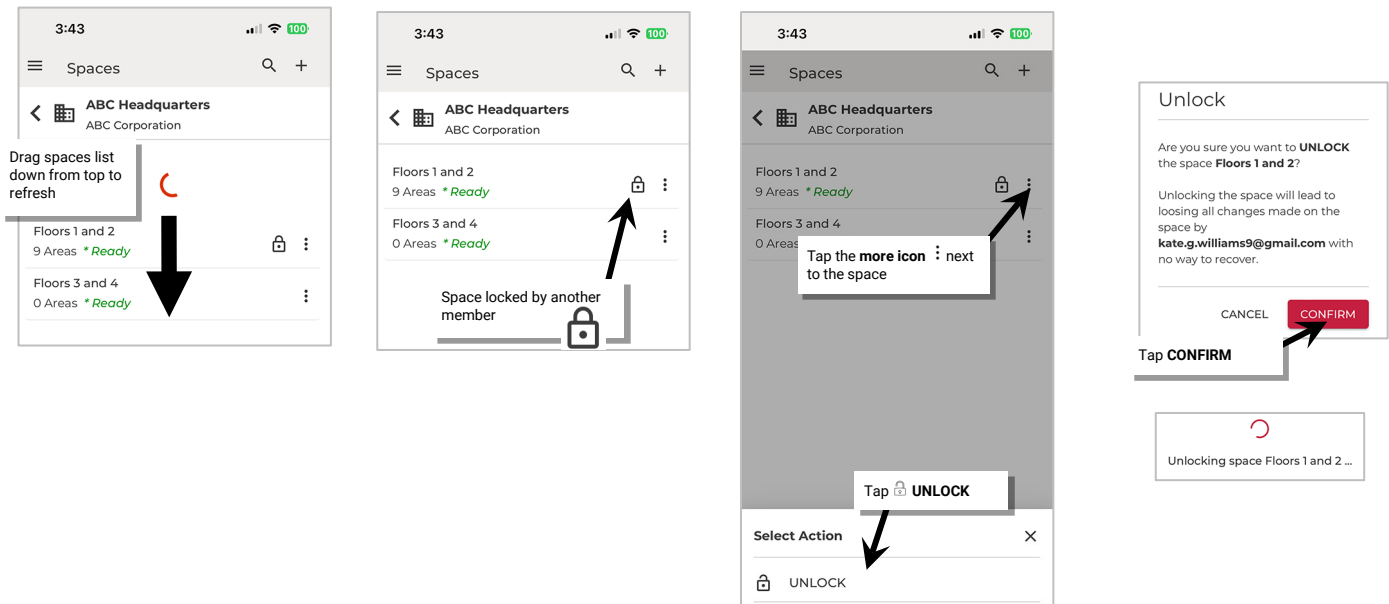
The Organization Admin or Building Admin can also tell what member has locked the Space by opening the Space in **Read-Only mode**. Tap the Space name to open in **Read-Only mode**. At the bottom of the screen, the display will show the email address of the member who currently has the Space locked. If possible, have the member unlock the Space by submitting changes.



Warning: The Force Unlock command should be used as a last resort. When possible, always try to have the member submit changes. If the member has made changes that are not synced, the changes will be lost.

To Force Unlock a Space:

- 1: Launch the WaveLinx LITE Mobile App and login as the Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: Navigate to the Spaces page. **Refresh** the Space list by dragging down from the top listed Space. Any Spaces that are locked will show a **lock icon** .
- 3: On the line of the locked Space, tap **more** to open the available actions and select **UNLOCK**. When prompted, select **CONFIRM**. The Space will be unlocked.



WARNING: If the member who locked the Space made changes, these changes may be lost. If devices were added or moved, they may no longer respond to commands from the database. It may be necessary to factory reset devices and then add them as new devices if this occurs. Programming for zones, occupancy sets, scenes, EM Mode and daylight sets may also be affected and may need to be updated and saved again to sync the database with the devices.

Modify Organizations, Buildings and Spaces

The Organization, Building(s), and Space(s) structure was created with change in mind. The Organization Admin and Building Admin members can make changes at their permitted levels to the settings of these items including:

- Change Information for the Organization, Building, or Space
- Add an Organization, Building, or Space
- Delete an Organization, Building, or Space
- Move a Building or Space
- Convert Legacy WaveLinx LITE Sites

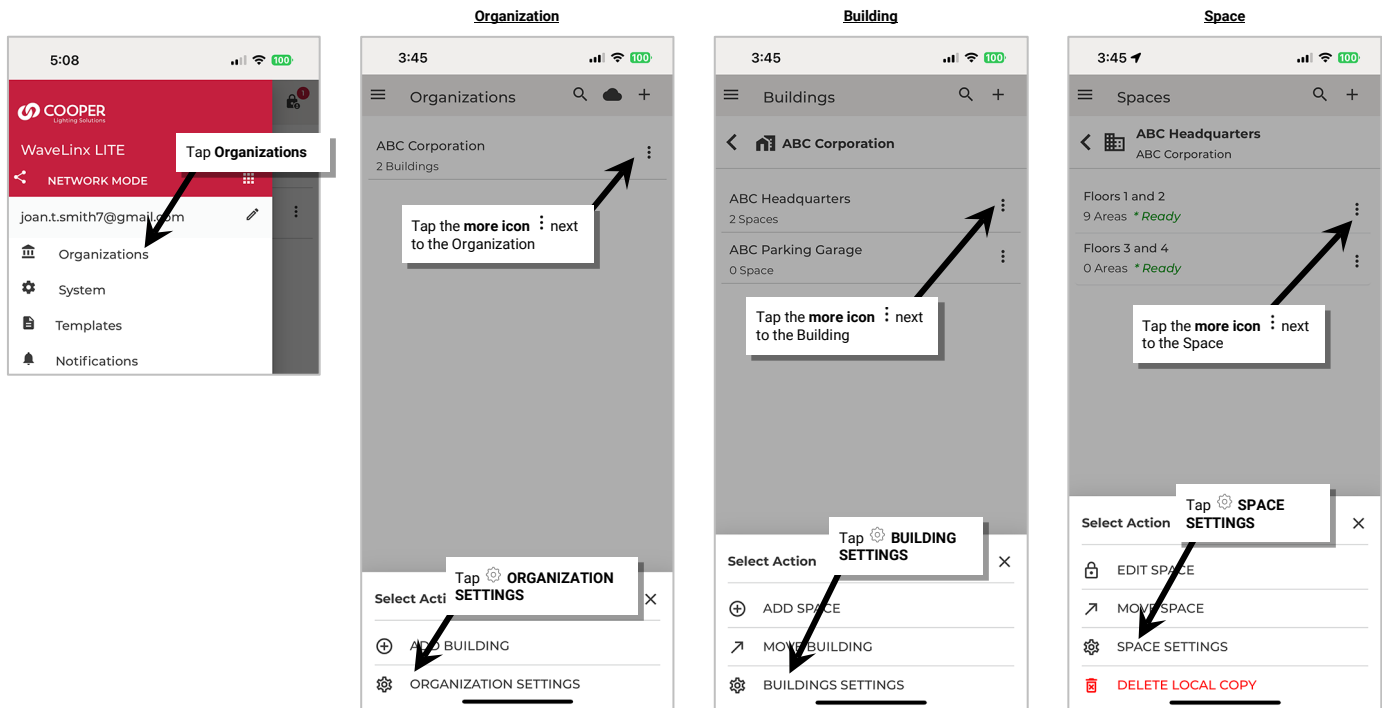
The following sections discuss the steps to administer these items.

Change Information for the Organization, Building, or Space

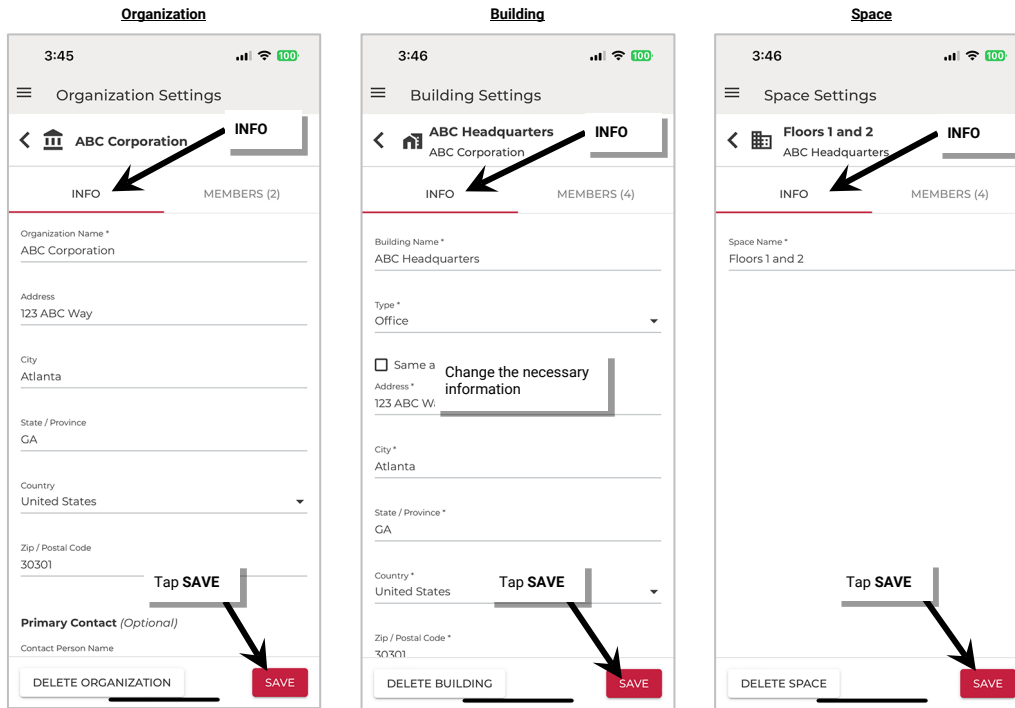
During the Organization, Building and Space setup, the Organization Admin defined information fields. This information can be updated for any location in the Organization by a member who is an Organization Admin. The information at the Building or Space level can also be updated by a member with the role of Building Admin.

To update the information settings:

- 1: Launch the WaveLinx LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations**.
- 3: Locate the desired **Organization, Building, or Space**.
- 4: Tap **more** ⋮ next to the desired item and select the option for the item's **SETTINGS**.



5: Select **INFO** and scroll to view the data. Make the changes needed and then tap **SAVE**.



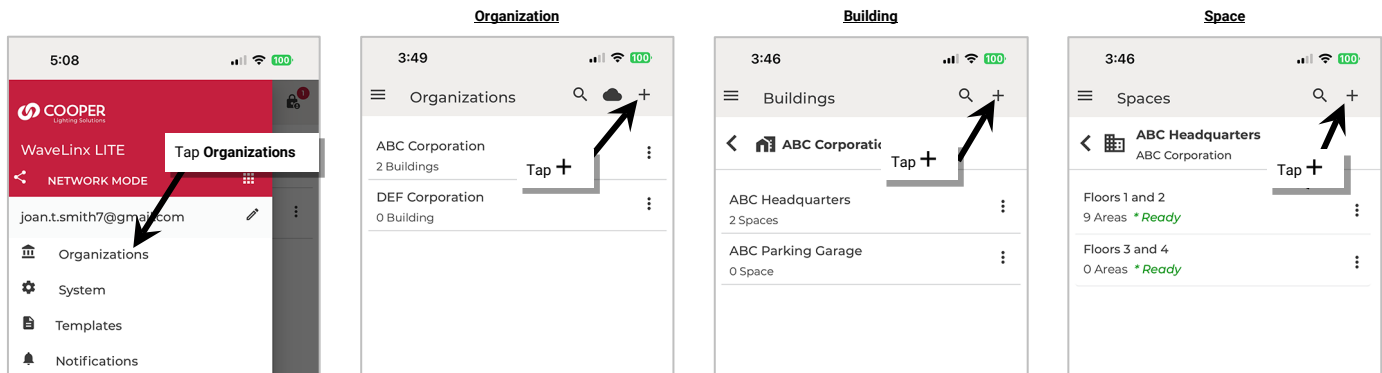
Add an Organization, Building, or Space

The Organization Admin can add additional Buildings and both the Organization Admin and Building Admin can add Spaces to the Building if WaveLinX LITE devices are added in the Organization.

Any user can create a new Organization. This allows a user to create a separate Organization for a different client if needed. The user creating a new Organization will automatically be assigned to be the Organization Admin.

To add an Organization, Building or Space:

- 1: Launch the WaveLinX LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations**.
- 3: Locate the desired **Organization, Building, or Space**.
- 4: Tap **add** + at the top of the screen to add the desired item. Fill in the required details.



For further information, see

- “Step 1: Create the Organization” on page 74.
- “Step 2: Create the Building(s)” on page 74.
- “Using the Wizard to Create Spaces, Load Templates, Create Areas, and Provision Devices” on page 75 OR “Manually Create Spaces, Areas, and Provision Devices” on page 81.

Delete an Organization, Building, or Space

The Organization Admin can delete Organizations and both the Organization Admin and Building Admin can delete Buildings and Spaces if needed. There are some rules regarding deletion:

- A Space can be deleted ONLY if there are no provisioned devices assigned to Areas in the Space.
- A Building can be deleted ONLY if there are no provisioned devices assigned to Areas in its Spaces.
- An Organization can be deleted ONLY if there are no Buildings.

This may mean that additional steps need to be taken to remove devices or delete other items prior to deleting the desired item. Error messages will be displayed to remind users that items cannot be deleted if any rule is broken.

Note: The Building Admin will only be able to delete Buildings and Spaces in the Buildings where they are assigned members

To delete an Organization, Building, or Space:

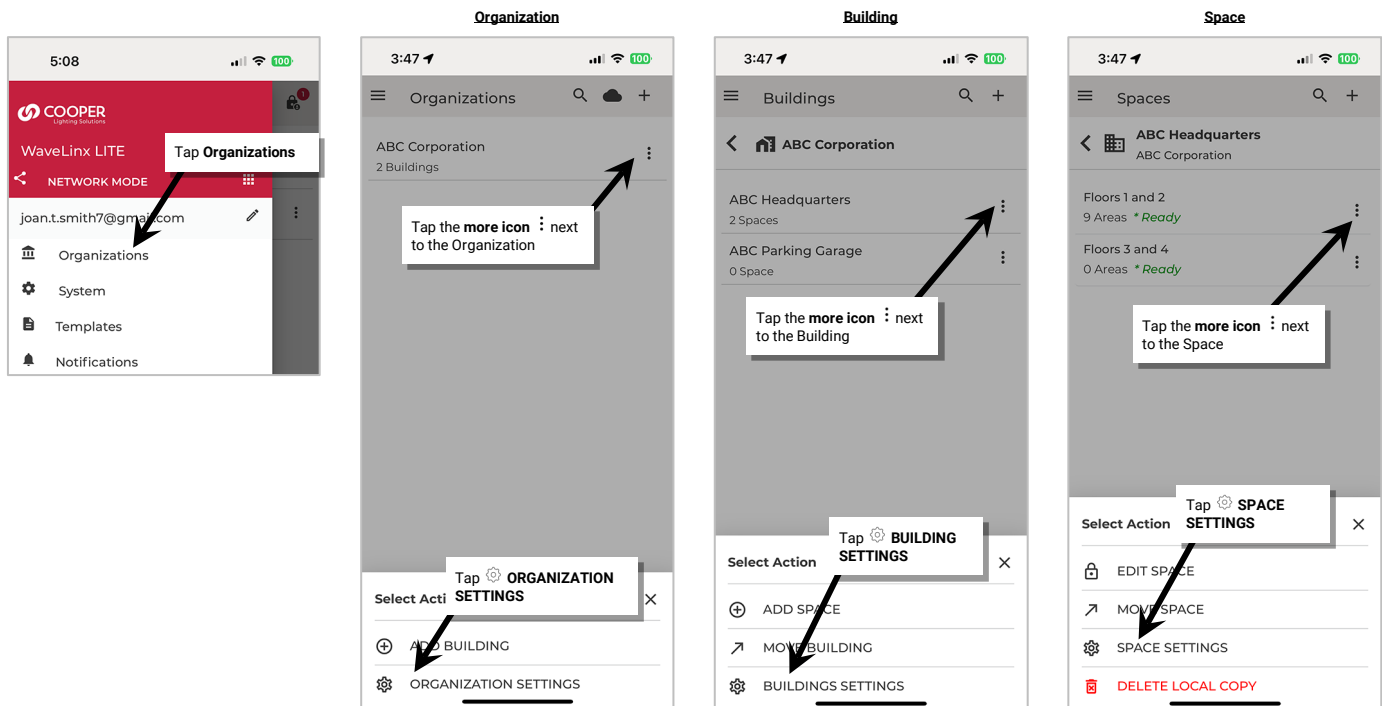
Before proceeding, ensure there are no provisioned devices in the Spaces within the Buildings in the Organization. If needed, delete the device(s) using the WaveLinx LITE Mobile App. See “Delete Devices (Return to Unprovisioned State)” on page 106 for instructions.

1: Launch the WaveLinx LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.

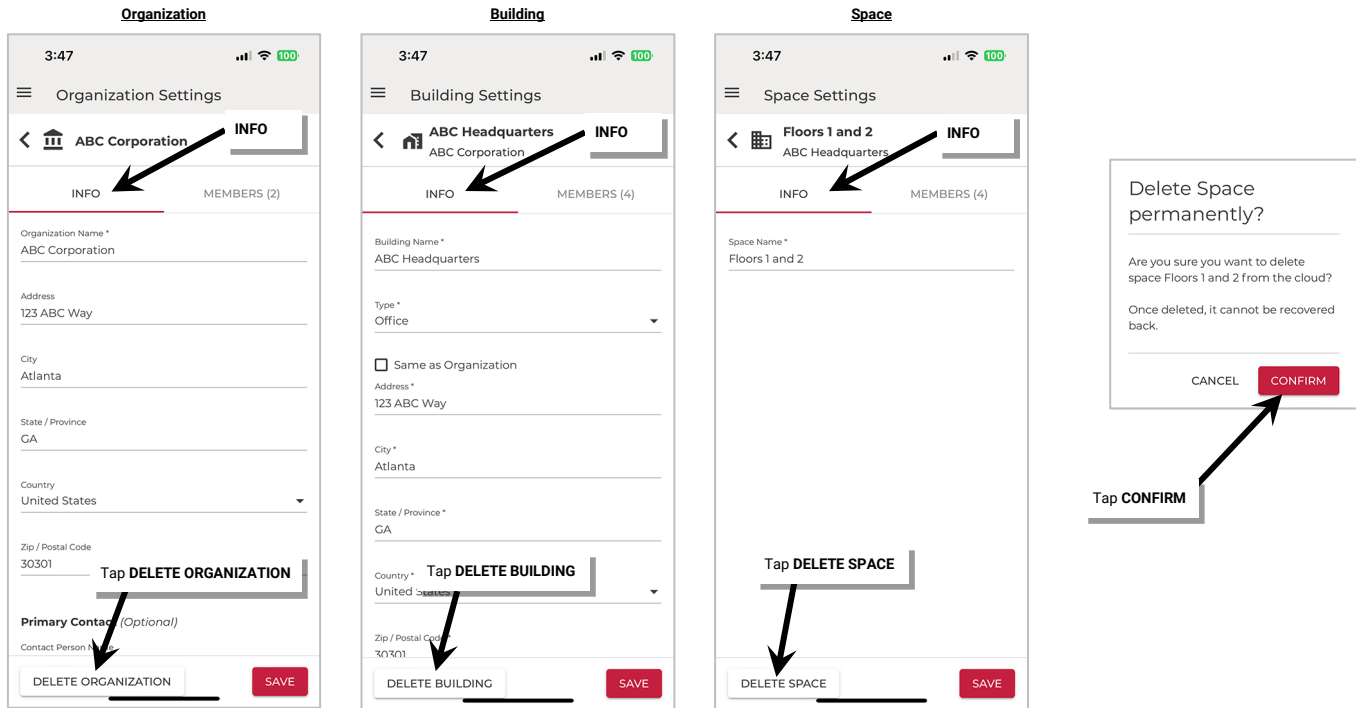
2: From the **menu** ☰ select **Organizations**.

3: Locate the desired **Organization, Building, or Space**.

4: Tap **more** ⋮ next to the desired item and select the option for the item's ⚙️ **SETTINGS**.



5: Select **INFO** and at the bottom of the page, tap the **DELETE** button option. When prompted, tap **CONFIRM**.



Move a Building or a Space

Both the Organization Admin and Building Admin can move Buildings and Spaces if needed. There are some rules regarding moving:

- A Space can be moved to another Building in the same Organization or may be moved to another Building in a different Organization. The user moving the Space must be an Admin of the Building or Organization that the Space is being moved to.
- A Building can be moved to a different Organization. The user moving the Building must be an Admin of the Organization that the Building is being moved to.

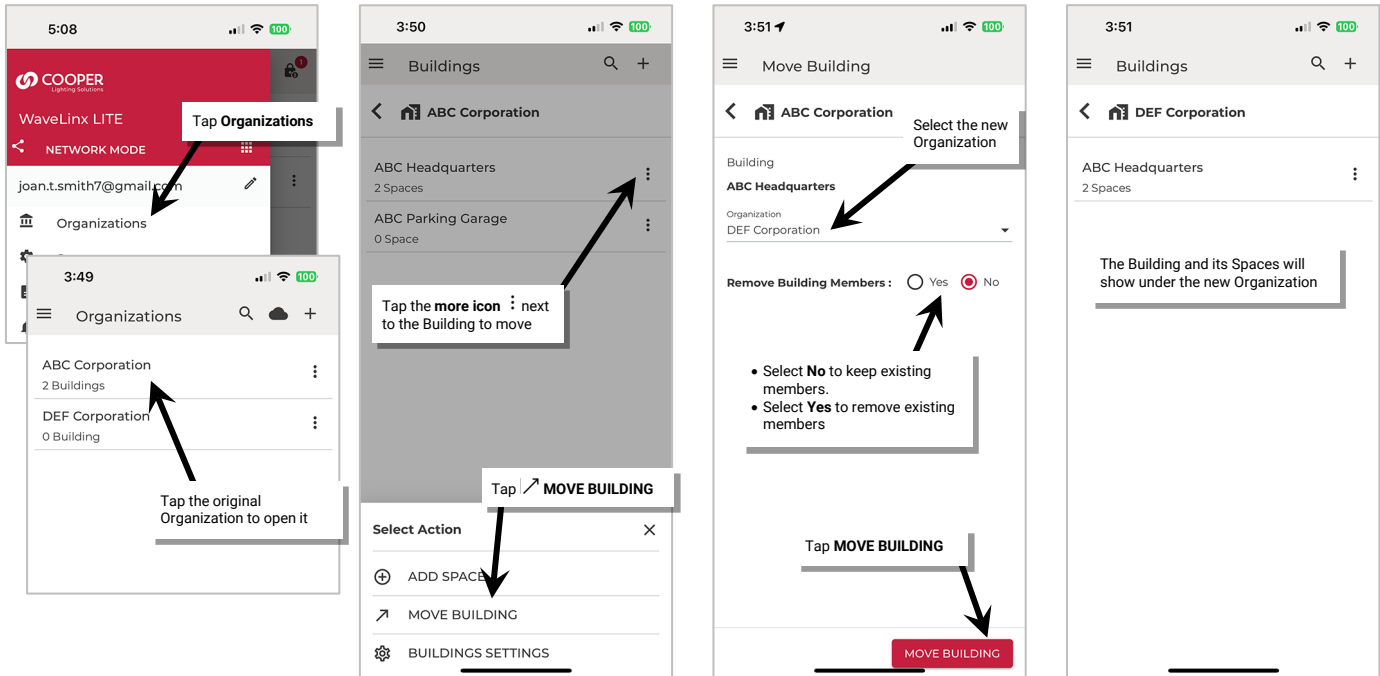
Note: The Building Admin will only be able to move Buildings and Spaces in the Buildings where they are an assigned member.

Move a Building to a Different Organization

Before proceeding, make sure that the new Organization is created and that the Building Admin or Organization Admin user account making the change has an Organization Admin member role in the new Organization. To create a new Organization, see "Step 1: Create the Organization on page 74. To add the user as an Organization Admin, see "Add a Member as an Organization Admin" on page 180.

- 1: Launch the WaveLinX LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations** and then tap the current Organization to open the Buildings screen.
- 3: In the **Buildings** list, tap **more** ⋮ in the row for the desired Building and then select ↗ **MOVE BUILDING**.
- 4: Use the drop down to select the new **Organization** that the Building should be moved to.
- 5: Next, select **No** to keep the existing members assigned and move them with the Building or select **Yes** if the current assigned members should be removed.
- 6: Tap **MOVE BUILDING**. The Building and all its Spaces will be moved to the new Organization.

Note: If members are removed, the existing members will no longer be able to access the Building in the new Organization unless the Organization Admin reassigns them.



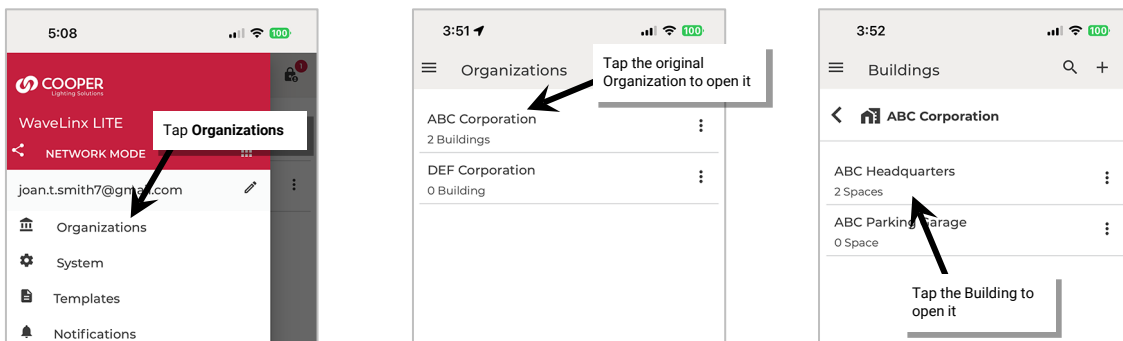
Move a Space to a Different Building



An existing Space can be moved to another Building within the current Organization or to a Building in a new Organization.

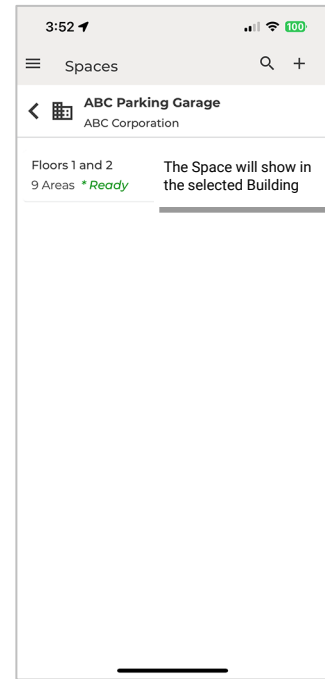
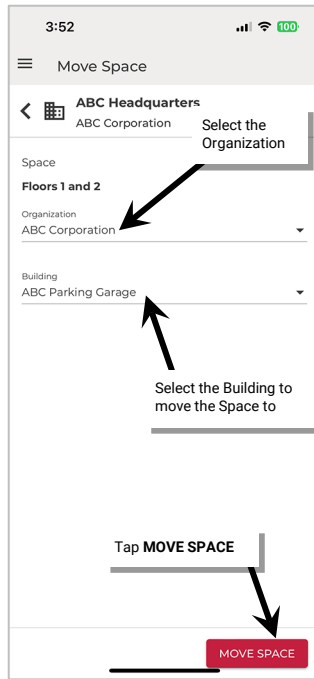
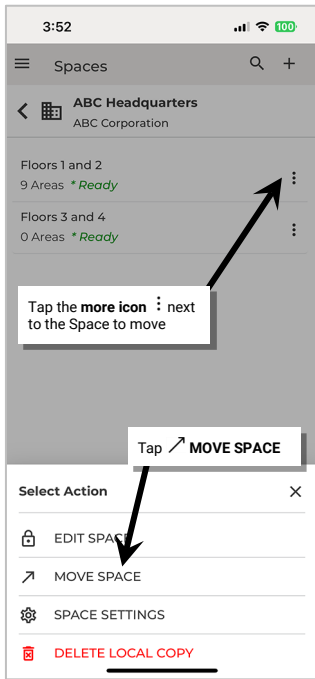
Before proceeding, make sure:

- If a Building Admin is moving the Space within the current Organization, the Building Admin must have a Building Admin member role in both the current and new Building.
- If a Building Admin or Organization Admin is moving the Space to a new Organization, they must have an Organization Admin role in the new Organization.
- If the Space is being moved to a new Organization, the Organization must have a Building created for the Space to be moved to.

- 1: Launch the WaveLinX LITE Mobile App and login as the current Organization Admin or Building Admin. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations** and then tap the current **Organization** to open the Buildings list. Tap a **Building** to open it.



- 3: In the **Spaces** screen, tap **more**  in the row for the desired Space and then select  **MOVE SPACE**.
- 4: Use the drop downs to select the **Organization** and **Building** that the Space should be moved to and then tap **MOVE SPACE**. The Space will be moved to the new location.



Convert Legacy WaveLinx LITE Sites (Spaces)

Prior to WaveLinx LITE v5.0, the Organization structure of the WaveLinx App was different. Users created Sites (the equivalent of Spaces in the current WaveLinx LITE v7.0) in the main directory, i.e., there were no Organizations and Buildings to sort the Sites (Spaces) within.

The WaveLinx LITE v7.0 Mobile App allows users to administer programming for legacy WaveLinx LITE Sites (Spaces) as well as the new Organizations. If a user account is the Site Owner of a legacy WaveLinx LITE Site, a **SPACES (LEGACY)** tab will be shown on the Organizations screen. It is not possible to create new Sites/Spaces in the SPACES (LEGACY) tab as the option to add **+** is missing.

While not recommended, it is possible to leave the Site/Space in the SPACES (LEGACY) list. Programming and terminology for Legacy Spaces (Sites) may be slightly different. For instance, there is no **EDIT SPACE** mode or **exit EDIT SPACE** mode which locks and unlocks the legacy Space. The Site/Space is simply opened and then changes submitted when the configuration is complete. Legacy Spaces did not allow for multi-user administration. It was possible to share a Space configuration by a process of Inviting users to collaborate. Each user would be responsible for a specific Area(s) within the Space after which the original Space Owner merged the Areas into a final single Space. The Site Owner could then transfer the site ownership to the Facility Manager account (single user). For specific details on legacy Space programming, inviting collaborators, merging a collaborated site, transferring ownership, and other legacy administration topics, please refer to the WaveLinx LITE v4.0 User Manual. Legacy programming will not be covered in this manual.

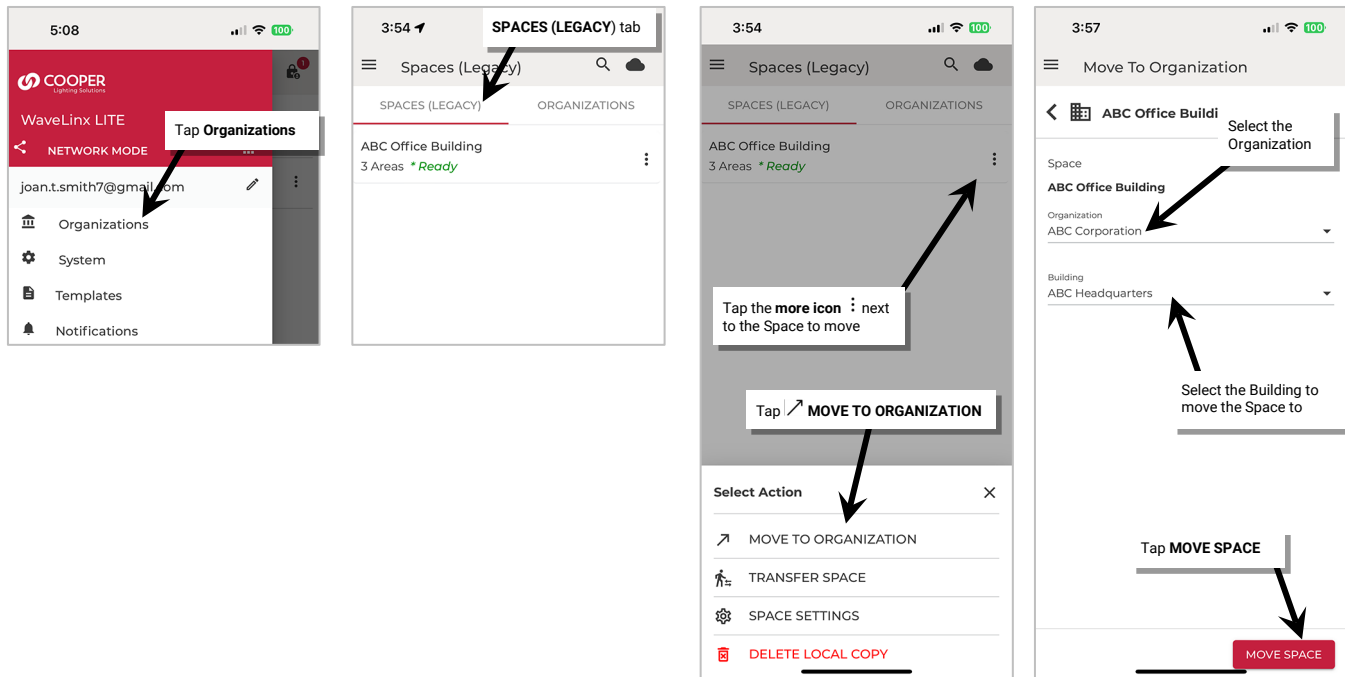
It is recommended that users convert Legacy Spaces into the new WaveLinx LITE architecture. This is done creating Organization and Buildings and moving the Sites/Spaces into the new Organization. This section is dedicated to discussing how to move Legacy Spaces to the Organization structure found in WaveLinx LITE v7.0.

Move a Legacy Space into an Organization

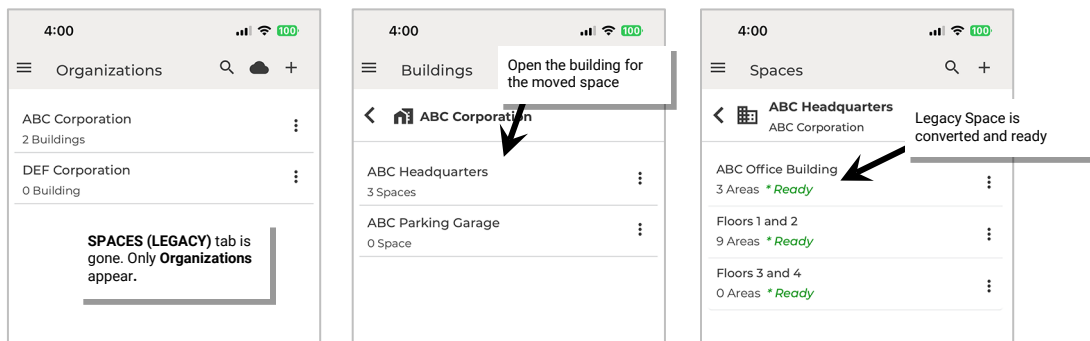
A WaveLinX LITE Legacy Space (Site) can be converted to the v7.0 architecture by moving the Space to an Organization and Building. The user must be the Site Owner of the Legacy Space (Site) and an Organization Admin of the new Organization.

Before proceeding, make sure there is an Organization and Building for the legacy Space to be moved to. This can be an existing Organization or a new Organization that is created specifically for the legacy Space.

- 1: Launch the WaveLinX LITE Mobile App and login. Make sure the app is in **Network Mode**.
- 2: From the **menu** ☰ select **Organizations** and then tap **SPACES (LEGACY)** to open the Legacy Spaces (Sites) list.
- 3: Tap **more** ⋮ in the row for the desired Space and then select ↗ **MOVE TO ORGANIZATION**.
- 4: Use the drop downs to select the **Organization** and **Building** that the Space should be moved to and then tap **MOVE SPACE**. The Space will be moved to the new location.



Once the Legacy Space is moved to the Organization and Building, it will inherit the members and member roles that are defined in the Organization and Building hierarchy allowing for multi-user access.



Perform Management Functions

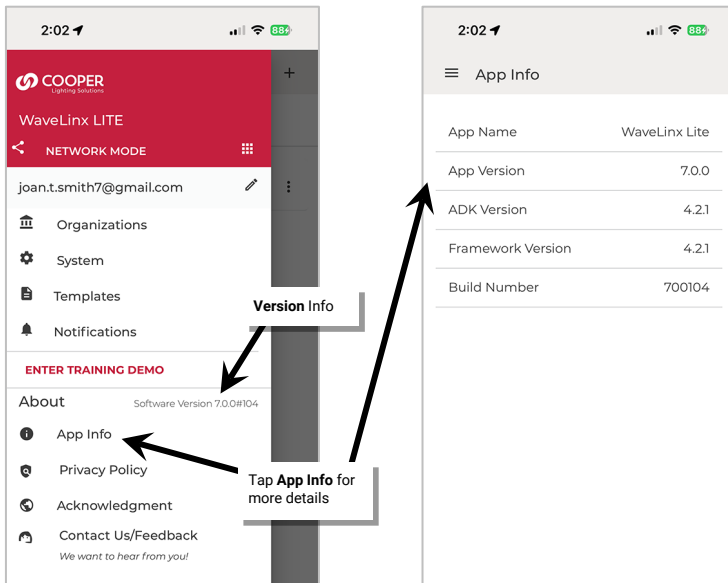
This section describes some additional advanced functions that may be required in the WaveLinx LITE Mobile Application. This includes:

- Update the mobile application
- Resolve Mobile Application communications Issues
- Use device scan
- Update device firmware
- Replace devices
- Factory reset devices
- Sync and restore databases
- Delete the database local copy
- Reset a user account password
- Delete a User Account
- Perform Advanced Daylight Calibration

Update the Mobile Application




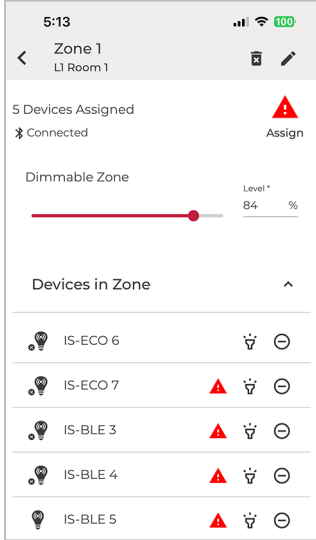
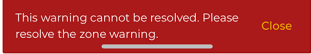


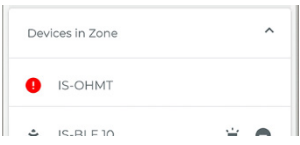
Updates to the WaveLinx LITE Mobile App will be performed per the user's preference settings on each mobile device. If not updated automatically, updates may be installed manually from the updates section on the App Store or on Google Play.


The current App version can be viewed by accessing the menu's **About** section. For detailed information, select the **i** **App Info** option.



Resolve Mobile Application Communication Issues

Communications issues may be caused by a variety of factors. This section discusses specific steps to resolve communications issues that may occur.

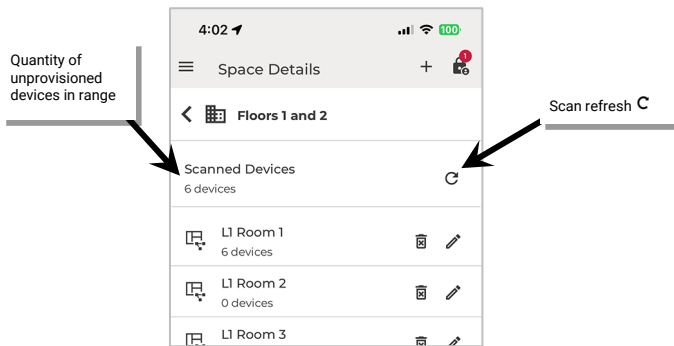
Communication Issue	Possible Causes	Resolution Steps
 <p>The communications icon indicates no network connection</p>	<ul style="list-style-type: none"> The network connection needs to be refreshed. The mobile device's Bluetooth may be off. There are no provisioned line voltage powered devices assigned to the Area. Bluetooth connection may need to be reset. Device is out of range of nearest WaveLinx LITE Device 	<p>Tap on the  icon to refresh the connection.</p> <p>Verify that Bluetooth is turned ON.</p> <p>Provision a line voltage powered device and assign it to the Area.</p> <p>On the mobile device, turn off Bluetooth and then turn it back on to refresh the connection.</p> <p>Move closer to the nearest device.</p>
 <p>There are alert icons on the zone and devices in the zone screen.</p> 	<p>This is caused when programmed settings fail to completely transmit to some of the devices.</p> <ul style="list-style-type: none"> Large amounts of network traffic may have occurred on the Bluetooth network when the command was processed. The device took too long to respond and communications timed out. Intermittent signal issues. The device is offline. The mobile device's Bluetooth may need to be reset. 	<p>Make sure that the mobile device is well within range of the nearest WaveLinx LITE device and the network shows a connection.</p> <p>Process the zone alert first.</p> <ul style="list-style-type: none"> Tap on the alert icon at the top of the zone screen. <p>The system will attempt to reprocess the communications. If successful, the alert will clear. This may also cause device alert icons to clear too. Retry if the alert does not clear.</p> <p>If the alert still does not clear:</p> <ul style="list-style-type: none"> Close the mobile app. Turn off the mobile device's Bluetooth. Turn on the mobile device's Bluetooth. Open the mobile app. Try to clear the zone alert again. <p>Retry if the alert does not clear. If successful, the alert will clear. This may also cause device alert icons to clear too. Retry if the alert does not clear.</p> <p>If alerts still show on individual devices, tap on the device alert to reprocess the communication. The alert will clear once the settings have been sent to the device. Retry if the alert does not clear.</p> <p>If an alert does not clear after multiple retry attempts, follow device is offline steps.</p>
 <p>The message "This warning cannot be resolved. Please resolve the zone warning" is displayed after tapping on a device alert  icon.</p>	<ul style="list-style-type: none"> The zone alert needs to be cleared before the device alert. 	<p>When clearing alerts, always clear an alert at the zone level before attempting to clear an alert at the device level.</p>
 <p>There is an alert icon next to a device.</p> 	<ul style="list-style-type: none"> The device did not configure properly during provisioning. 	<p>If present, tap the RETRY option or tap the icon and when prompted, delete the device. Perform a factory reset on the device if the device shows provisioned behavior. Refer to the "WaveLinx LITE Device Reference Sheets" on page 10 for details on performing a factory reset.</p> <p>Once the device is deleted and factory reset, try to provision the device again.</p>

Communication Issue	Possible Causes	Resolution Steps
<p>A device that has been provisioned as part of an Organization's Space appears to be offline. Repeated attempts to send settings continue to fail.</p>	<ul style="list-style-type: none"> • Device has no power. • Device is offline. 	<p>Verify that there is power to the effected device.</p> <p>If possible, try to power cycle the device (turn power OFF for 30 seconds and then back ON).</p> <p>If LEDs are visible on the device, try to see if the LED shows normal reaction to motion activity.</p> <p>Bring the mobile device close to the WaveLinx LITE device. In the mobile application, try to process a blink to identify command. If the device responds, attempt to communicate again. If communications still fail, the device may need to be deleted from the Area and then provisioned again.</p> <p>If the device does not respond, contact technical support for further guidance or to replace the device.</p>
<p>An Acoustic Ceiling Sensor is showing provisioned LED behavior and appears to be operating but will not communicate with the Mobile App.</p>	<ul style="list-style-type: none"> • Device may have been provisioned in Stand-Alone Mode. 	<p>Try to communicate with the ceiling sensor using Stand-Alone Mode. A device that is provisioned in Stand-Alone Mode will only communicate to the Mobile App in Stand-Alone Mode.</p>
<p>The light connected to the device is ON but the device's LED indicator is not functioning. The device is not communicating with the mobile app/is not controllable.</p>	<ul style="list-style-type: none"> • Device has become physically disconnected • Device is defective 	<p>Power down the controlled circuit and ensure that the internal device wiring is properly connected to the controlled lighting. Once connections are correct, reapply power and ensure the device is operating properly and responsively.</p> <p>If the connections are correct and the device is still unresponsive, contact technical support for further guidance or to replace the device.</p>
<p>An Area Disconnected message is displayed</p>	<ul style="list-style-type: none"> • A communication command may have completed which may reset the device that the mobile application is connected through • The mobile device may have moved out of range of the network. 	<p>This message is a normal message after completing communication. The network connection should attempt to refresh automatically. If the network connection does not refresh, tap the  icon.</p> <p>Make sure that Bluetooth is on and then try moving closer to one of the devices and try again if the network fails to connect.</p>
<p>An RSSI is too low message is displayed.</p>	<ul style="list-style-type: none"> • The Bluetooth signal is too low for the command to process. 	<p>This message may occur during provisioning or updating firmware when there is a direct Bluetooth connection between the mobile device and a WaveLinx LITE Device.</p> <p>Move as close to the device as you can. Maximum distance from the device should not exceed within 60 feet/18 meters including the fixture height.</p>
<p>No error messages occurred when an occupancy set or scene level was adjusted but a device was offline or powered off when the settings were sent. Now the device is working differently from other devices in the Area.</p>	<ul style="list-style-type: none"> • Group settings (Occupancy set and Scene Level Adjustments) do not require acknowledgement from individual devices and do not know if individual devices did not receive the commands. 	<p>Ensure that all devices are powered and online and then use the mobile application to change a setting in the occupancy set or scene level. Save the change and then change the setting back to the desired selection and save it again. This will refresh the setting to all communicating devices.</p>

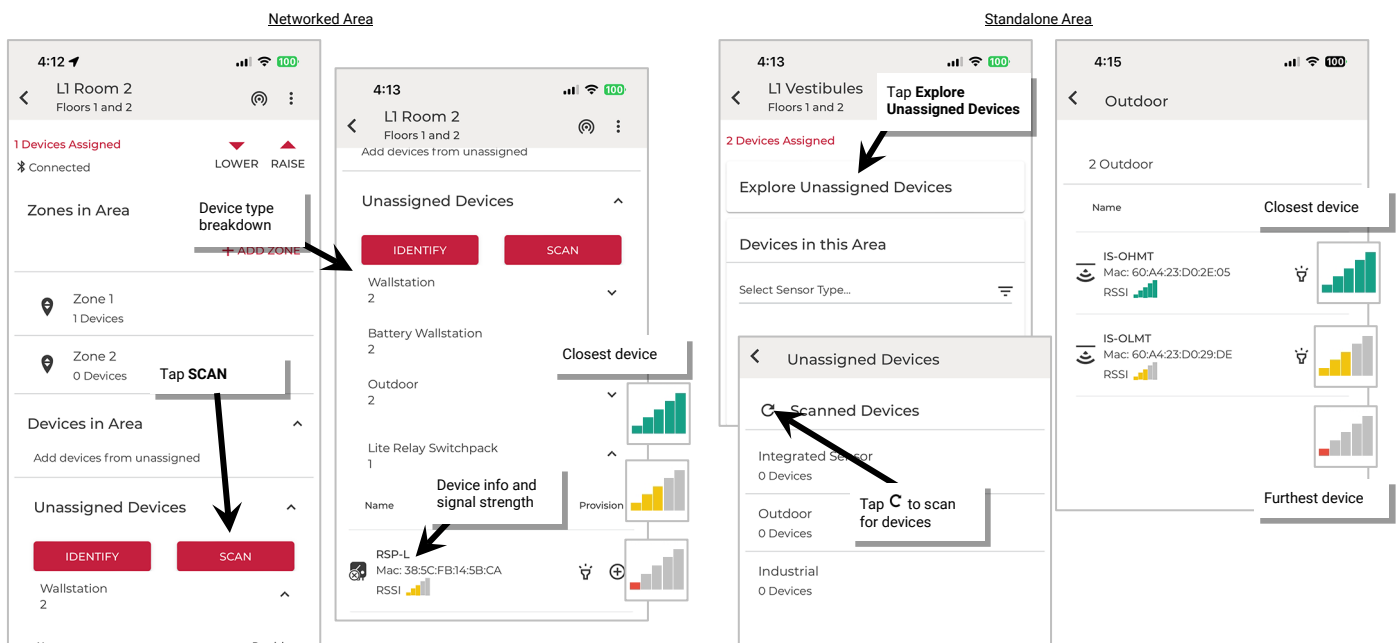
Use Device Scan

The WaveLinx LITE Mobile Application allows devices that are still in the out-of-the-box mode to be scanned from various locations in the mobile application. This can be helpful to see what unprovisioned WaveLinx LITE devices are in range of the mobile device.

For a quick scan of the quantity of unprovisioned devices in the range of the mobile device, open a Space in EDIT SPACE mode, and then tap **refresh C** in the **Scanned Devices** section. The quantity of unprovisioned devices in Bluetooth range will be displayed.



For more detailed scans, open an Area and run the scan. In a **Networked Area**, scan in the **Unassigned Devices** section. In a **Standalone Area**, run the scan under **Explore Unassigned Devices**. Found devices will be categorized by type. In each section, devices will be organized in order by the strongest signal strength (closest devices) to the weakest signal strength (devices further away). Signal strength is color coded. This detailed scan will show the device type as well as the device MAC address.



Update Device Firmware

At times, it may be necessary to update devices with new firmware. It is important that firmware is up to date to ensure functionality and security. A direct Bluetooth connection from the mobile device to the WaveLinx LITE device is required for firmware updates. The update will not be processed through the Bluetooth mesh network. Except for the Battery Powered Wallstation, it is possible to update devices of the same type at the same time if they are within range of the mobile device. Devices do not have to be provisioned to respond to a firmware update if they are within the mobile device's Bluetooth range.

During Firmware Updates:

- Device configuration will be retained during a firmware update.
- Devices will remain in the last commanded state during the firmware update, re-evaluating after the firmware update is complete. If device contains an occupancy sensor, the occupancy sensor may issue an occupied command when device resets. If the Area is not occupied, the device will follow its programmed hold time sequence to enter the unoccupied state.
- If a firmware update fails, the device will remain operational with the original device firmware.
- Firmware updates can be performed in Network Mode or Stand-Alone Mode if a registered user is logged in to the Mobile App.

Note: Some devices may also support conversion from WaveLinx LITE to WaveLinx PRO operation. For this specific procedure, see "Appendix A: Converting WaveLinx LITE Devices to WaveLinx PRO Operation" beginning on page 216.

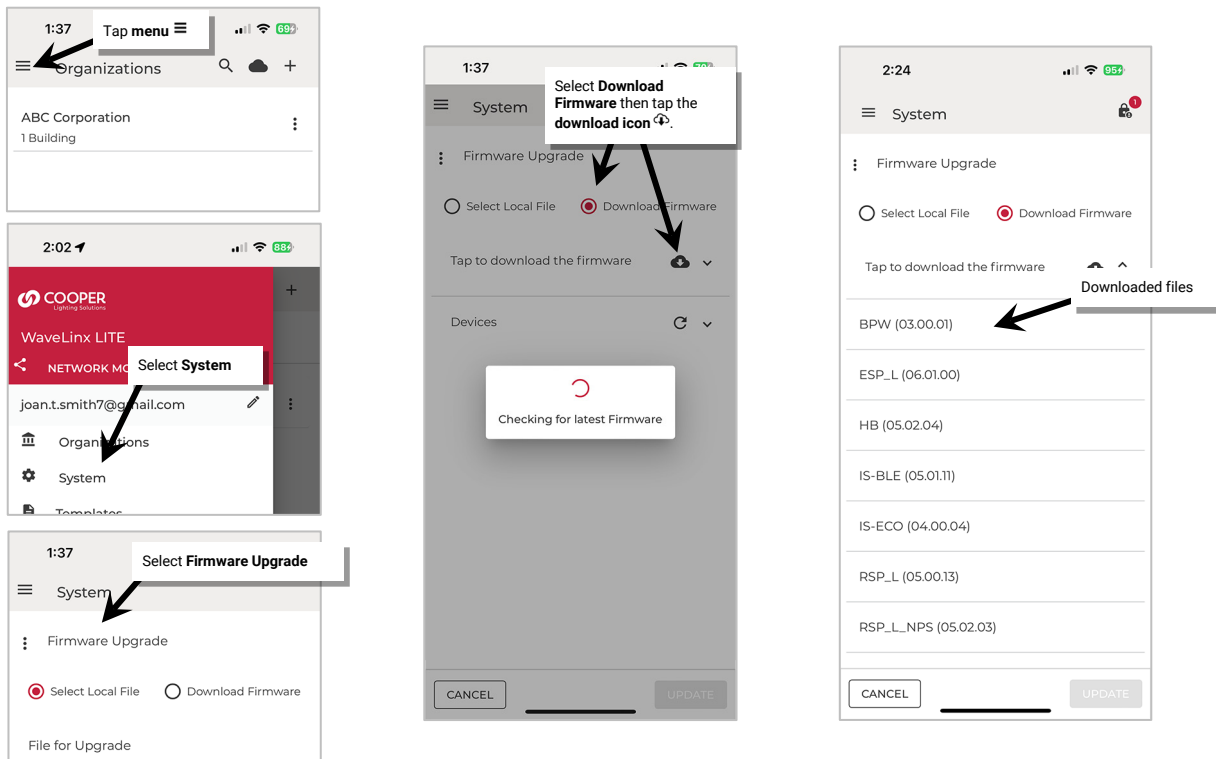
Update Devices Using Firmware Files Obtained from the Cloud

Registered WaveLinx LITE 7.0 Mobile App users will receive a notification in the app when new firmware files are available.

Downloading the Firmware Files from the Cloud

The WaveLinx LITE Mobile App allows registered users to download the most recently released firmware directly into the mobile device from the Mobile App's **System** page. This requires an internet connection to access the cloud. The System page is available in both Network Mode and Stand-Alone Mode if a registered user is logged in.

- 1: Ensure that the mobile device has internet access and then launch the WaveLinx LITE Mobile Application. Login to the mobile app.
- 2: Tap **menu** ≡, and then **System**. If not already showing the **Firmware Upgrade** screen, select the **more icon** ⋮ and then tap **Firmware Upgrade**.
- 3: Tap **Download Firmware** and then tap the cloud **download icon** ☁ to download the latest firmware from the cloud.
- 4: The downloaded files will be displayed, ready to be used in the device update. Proceed to the next section to run the device update.




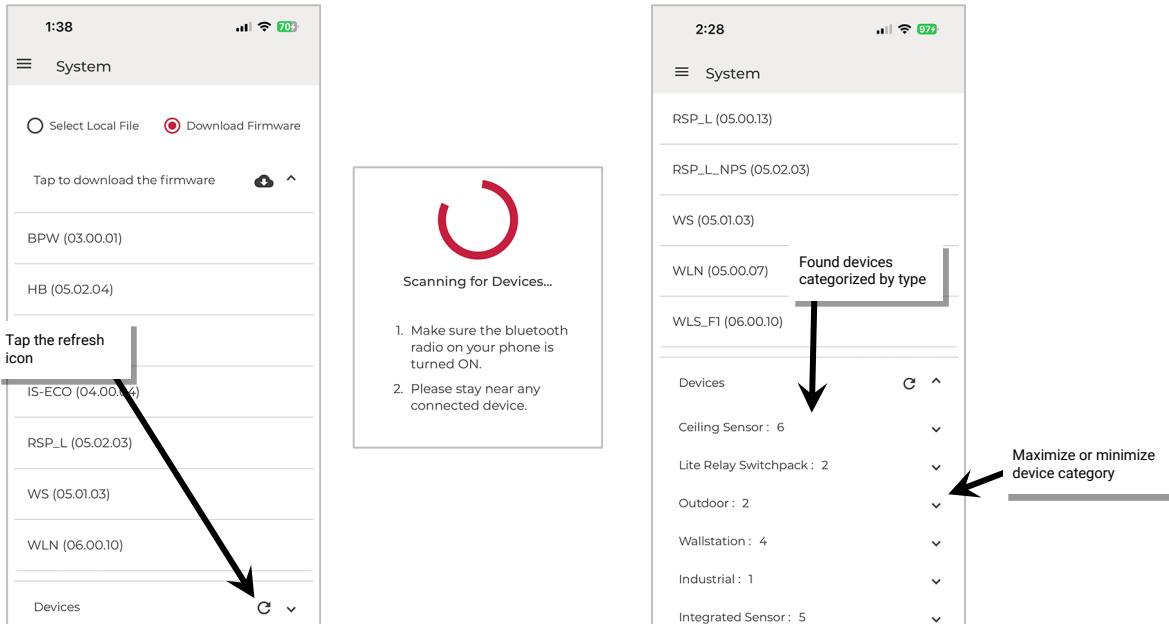
Downloaded files are stored on the mobile device and will remain available for any registered user logged in on that mobile device. Tap the cloud icon to overwrite the downloaded files with updated files from the cloud. This can be done at any time or if a notification is received that a new firmware version is available.

Run the Device Update

Devices do not need to be provisioned to perform a firmware update if they are within the mobile device's Bluetooth range. Firmware updates are performed by direct communications from the mobile device to a device and do not use the created Bluetooth mesh networks. The mobile device must be in range of the devices being updated.

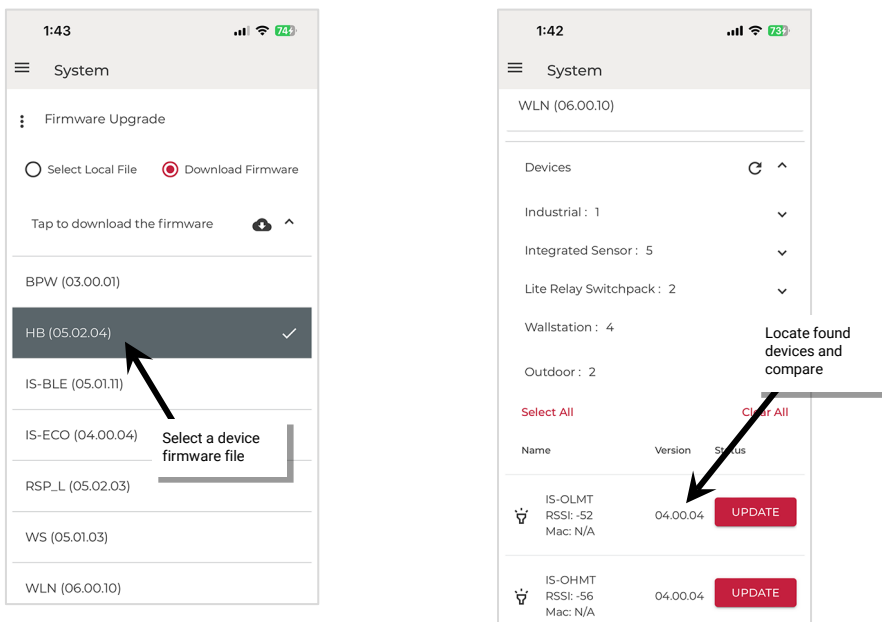
This section assumes that the mobile device is still within the **System** → **Firmware Upgrade** → **Download Firmware** screen from the previous section. This path is available in Network Mode or Stand-Alone Mode if the user is logged in.

- 1: Determine which WaveLinx LITE device to update. Ensure that the mobile device Bluetooth is turned on. Stand as close as possible to the chosen WaveLinx LITE device (within 60 feet/18 meters).
- 2: If the device is a Battery Powered Wallstation, press any button on the wallstation to wake the station up.
- 3: In the mobile app, tap **refresh**  in the **Devices** section to start a device scan. Found devices will be categorized by device type. Maximize or minimize device categories to view the found devices.



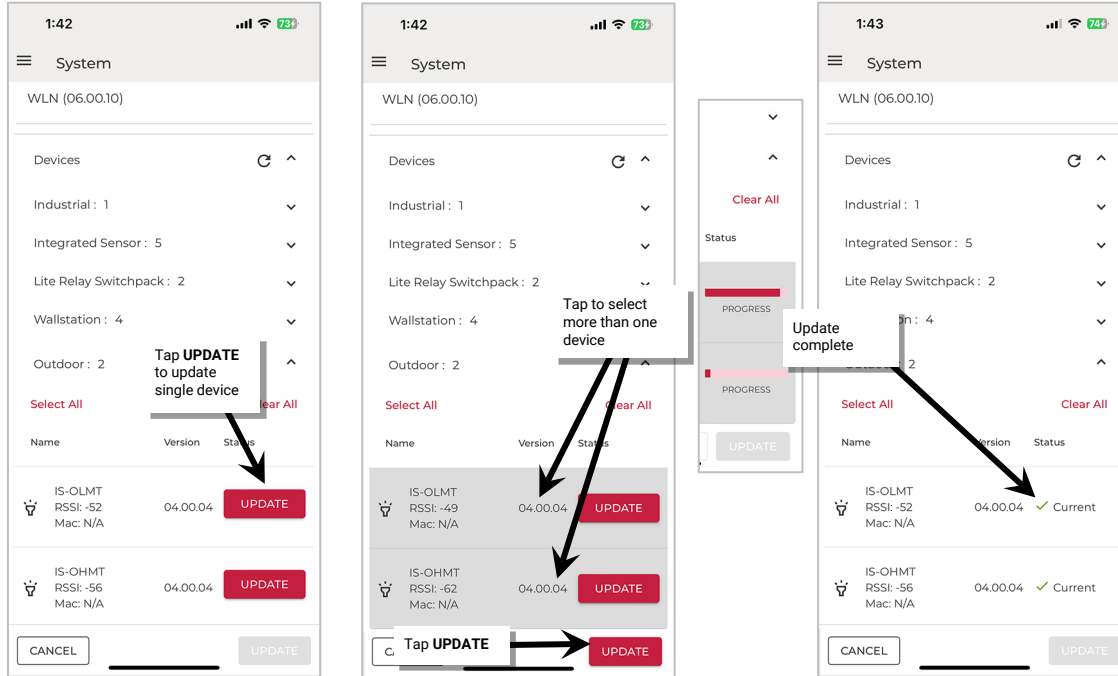
- 4: From downloaded firmware list, tap to **select a device firmware file**.

- 5: In the found devices list, locate the device type that matches the selected file. If the devices are up to date, they will show a status of **Current**. If they require an update, they will have the **UPDATE** button available.

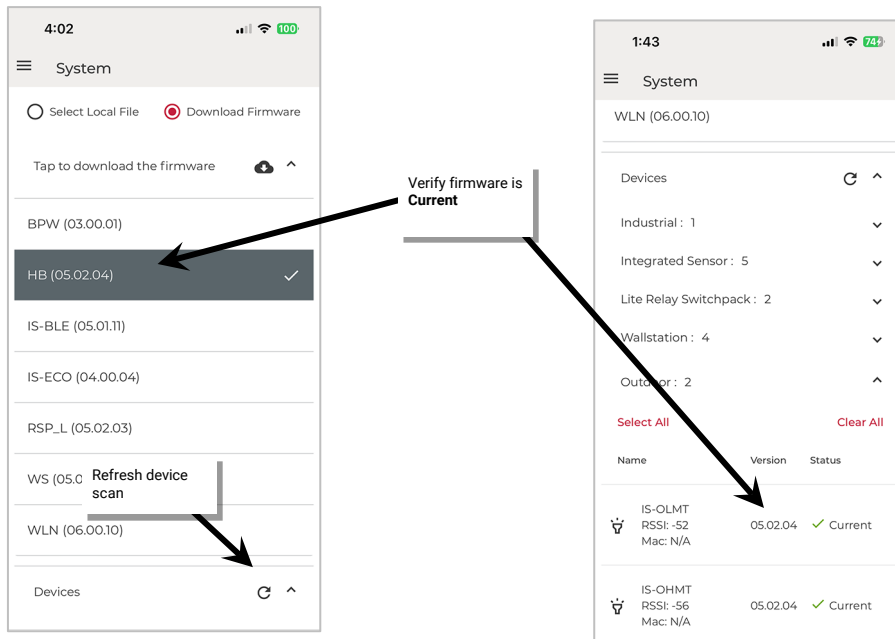


6: To update a single device, tap the device's **UPDATE** button. (For Battery Powered Wallstations only, when prompted to confirm that the **battery wallstation is awake**, press any button on the wallstation and then tap **confirm** to proceed.)⁹⁹

To update multiple devices within range, tap the desired device rows to highlight them and then select the **UPDATE** button at the bottom of the page. Stay in range of the device(s) until the progress indicates that the updates are complete. (Battery Powered Wallstations will not allow selection of multiple devices.)



7: Wait approximately one minute as the device finishes the update and reboots and then verify the update was successful. Rescan the devices and review for **Current** firmware versions.



8: Move within Bluetooth range (within 60 feet/18 meters) of additional devices and repeat these steps until all devices are updated.

⁹⁹ If the battery level falls below 2.5V, the wallstation will prompt for a battery replacement if the user attempts a firmware update and will not allow the firmware update to proceed.

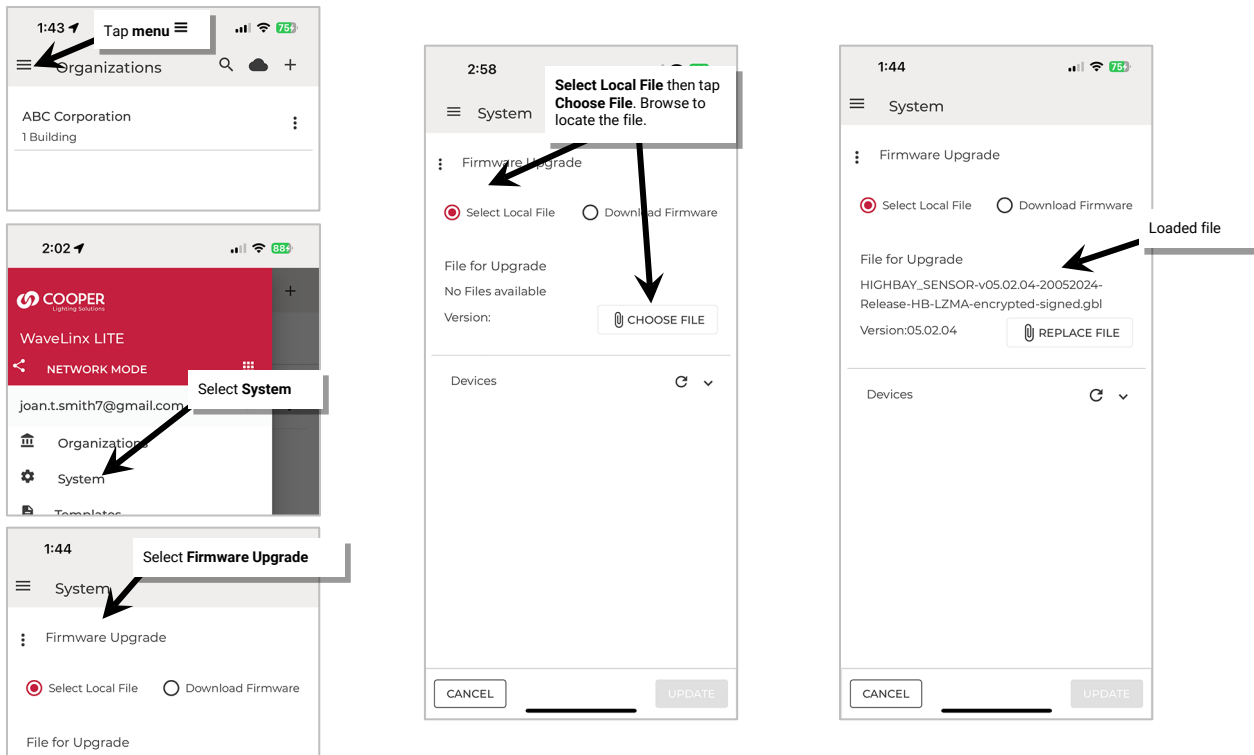
Update Devices Using a Separately Provided Firmware File

If a firmware file for a specific device has been provided, the update will follow a slightly different procedure.

Loading a Provided Firmware File into the Mobile App

The WaveLinx LITE Mobile App allows users to load a specific device firmware file for device upgrade. In this instance, the file is not downloaded through the cloud and will be specific to one device type.

- 1: Save the provided firmware file to an easy to locate file on the mobile device. Do not change the name of the file unless instructed to do so. Launch the WaveLinx LITE Mobile Application. Login to the mobile app. The next steps will work in both Network and Stand-Alone Mode.
- 2: Tap **menu** ☰, and then **System**. If not already showing the **Firmware Upgrade** screen, select the **more icon** ⋮ and then tap **Firmware Upgrade**.
- 3: Tap **Select Local File** and then use the **Choose File** button to browse to the file location. The file name should be displayed in the **File for Upgrade** section. Proceed to the next section to run the device update.




Once this screen is exited, the file will no longer be available. Follow the steps above to load the file if it needs to be used again or select **Replace File** to select a file for a different device type.

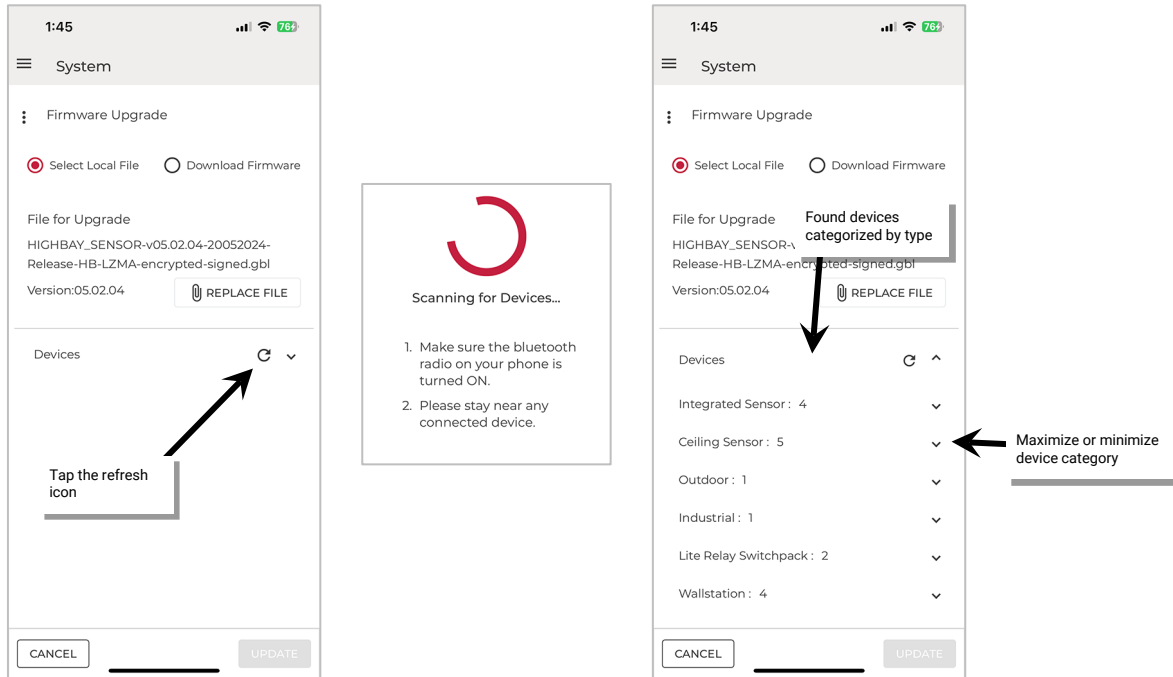
Note: Some devices may also support conversion from WaveLinx LITE to WaveLinx PRO operation. For this specific procedure, see "Appendix A: Converting WaveLinx LITE Devices to WaveLinx PRO Operation" beginning on page 216.

Run the Device Update

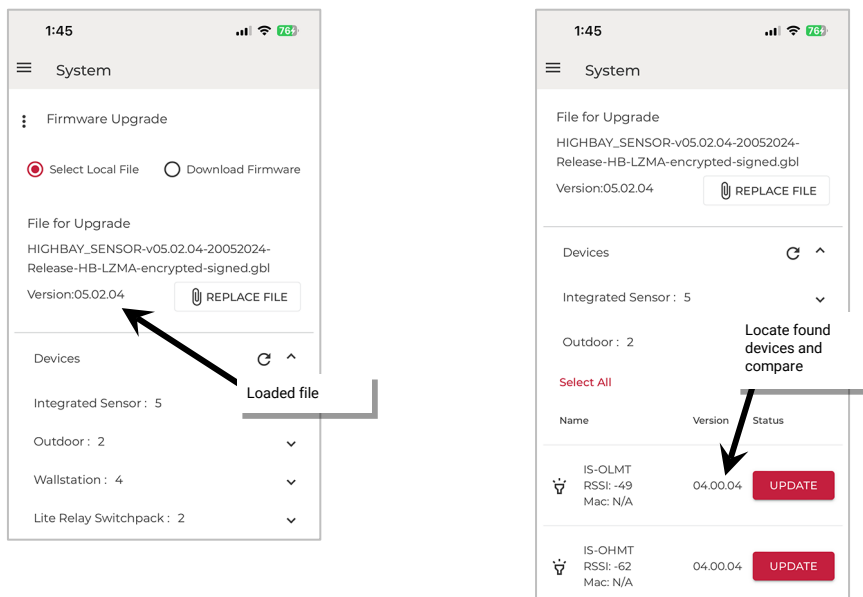
Devices do not need to be provisioned to perform a firmware update if they are within the mobile device's Bluetooth range. Firmware updates are performed by direct communications from the mobile device to a device and do not use the created Bluetooth mesh networks. The mobile device must be in range of the devices being updated.

This section assumes that the mobile device is still within the **System** → **Firmware Upgrade** → **Select Local File** screen with a file already loaded.

- 1: Determine which WaveLinx LITE device to update. Ensure that the mobile device Bluetooth is turned on. Stand as close as possible to the chosen WaveLinx LITE device (within 60 feet/18 meters).
- 2: If the device is a Battery Powered Wallstation, press any button on the wallstation to wake the station up.
- 3: In the mobile app, tap **refresh**  in the **Devices** section to start a device scan. Found devices will be categorized by device type. Maximize or minimize device categories to view the found devices.

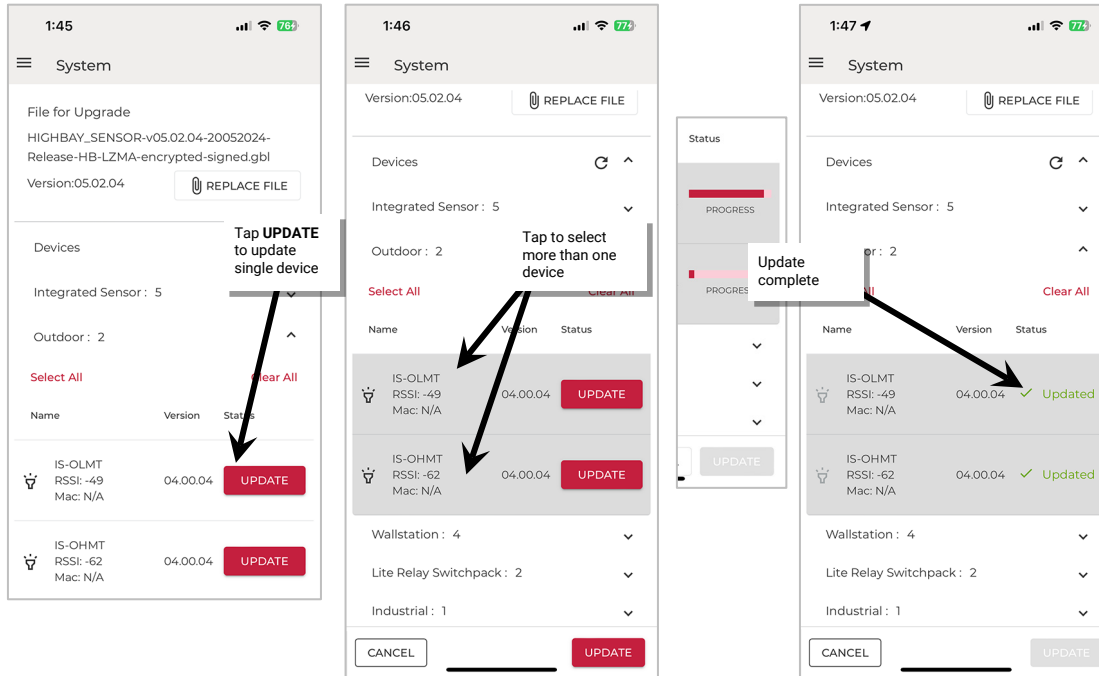


- 4: In the found devices list, locate the device type that matches the selected file. If the devices are up to date, they will show a status of **Current**. If they require an update, they will have the **UPDATE** button available.

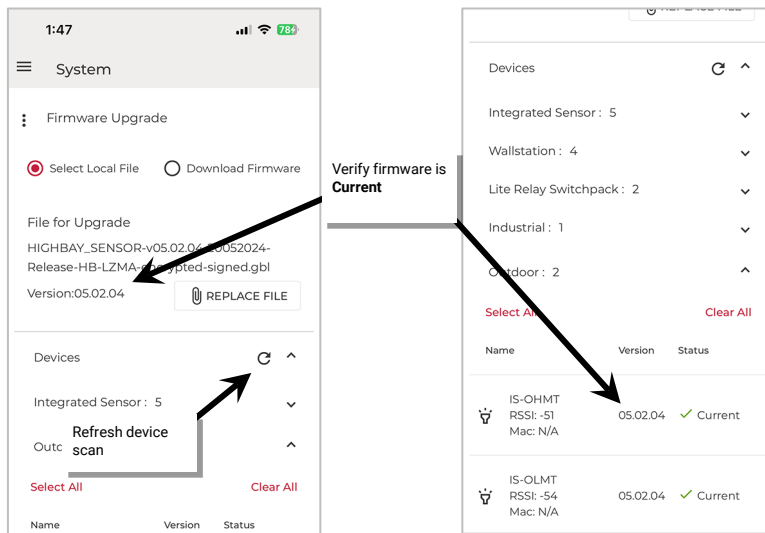


5: To update a single device, tap the device's **UPDATE** button. (For Battery Powered Wallstations only, when prompted to confirm that the **battery wallstation is awake**, press any button on the wallstation and then tap **confirm** to proceed.)¹⁰⁰

To update multiple devices within range, tap the desired device rows to highlight them and then select the **UPDATE** button at the bottom of the page. Stay in range of the device(s) until the progress indicates that the updates are complete. (Battery Powered Wallstations will not allow selection of multiple devices.)



6: Wait approximately one minute as the device finishes the update and reboots and then verify the update was successful. Rescan the devices by tapping **refresh** **C** and review for **Current** firmware versions.



7: Move within Bluetooth range (within 60 feet/18 meters) of additional devices and repeat these steps until all devices are updated.

¹⁰⁰ If the battery level falls below 2.5V, the wallstation will prompt for a battery replacement if the user attempts a firmware update and will not allow the firmware update to proceed.

Replace Devices

This procedure can be used to replace a device that is not operating properly.

Replace a Device in Stand-Alone Mode

For devices that have been provisioned and configured in Stand-Alone Mode, there is no special procedure for replacing the device. Simply replace the device and then provision the new device with the desired settings.

Replace a Device in Network Mode

When replacing a device that has been provisioned in Network Mode, the device configuration is saved as part of the Organization database. This does require some extra steps to ensure the previous device configuration is deleted and the new device is added in the correct location. The following procedure can be used to replace a device or to delete a device that is no longer communicating to the Mobile App.

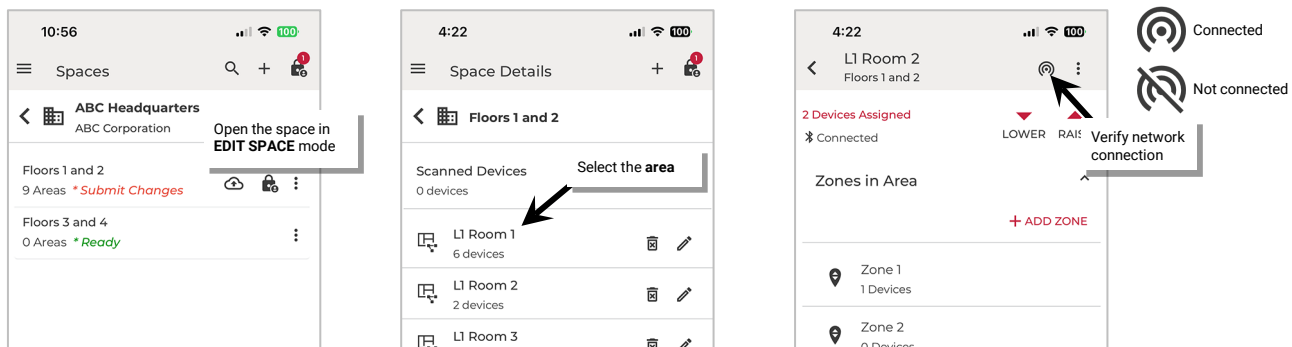
Replace a Device in a Networked Area



Before replacing a device that is malfunctioning make note of the zone that the device is currently assigned to, and any special programming assigned to it in the device details page. These settings will need to be manually assigned to the new device.

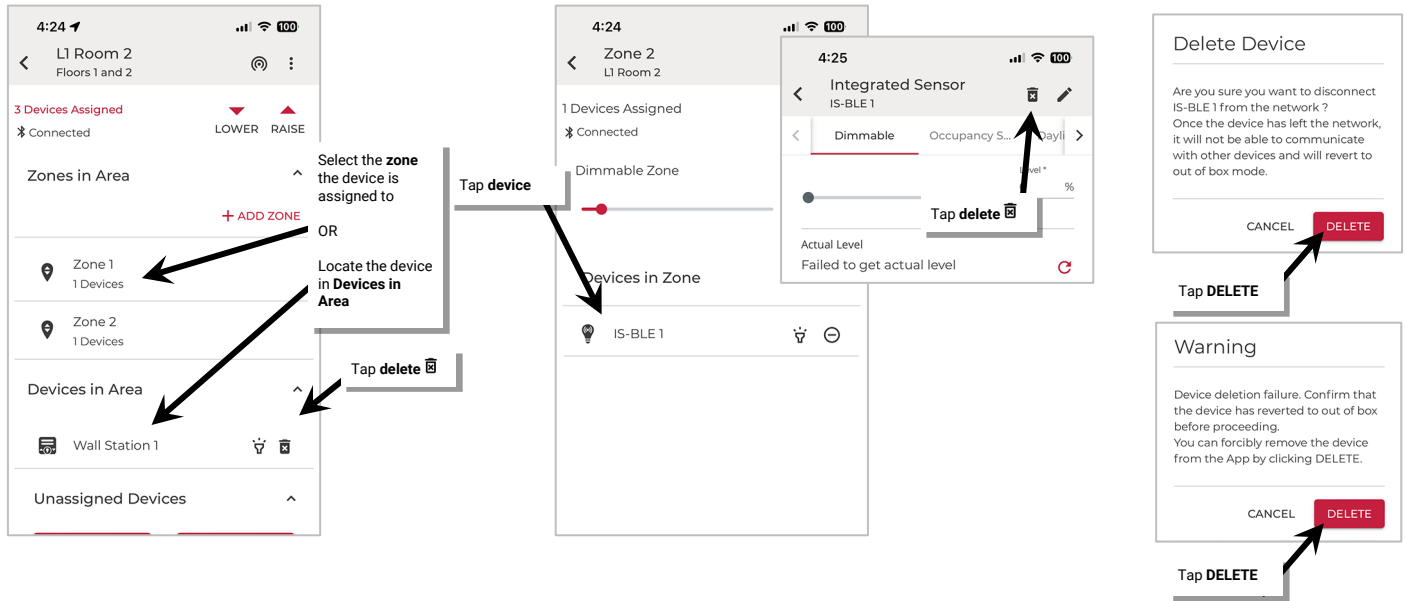
Before performing these steps, if necessary unassign the device from any Open Loop Daylight Sets or EM Mode Input assignment. See "Setup Emergency Mode (EM Mode)" on page 112.

Delete the unresponsive or malfunctioning device from the Space by following the steps below:

- 1: Launch the WaveLinx LITE Mobile App and login if necessary. Make sure the app is in **Network Mode**.
- 2: Navigate to the desired **Space**, ensure it is in **Ready** status (see page 96), and then enter **EDIT SPACE** mode (see page 98). Bring the mobile device to the location being modified (within 60 feet/18 meters of any line voltage powered WaveLinx LITE device provisioned in the Area).
- 3: In the Area list, select the desired **Area**.
- 4: Verify that the mobile app is connected to the Area's Bluetooth mesh network.



- 5: If the device is a wallstation, locate the device in the **Devices in Area**. If the device is a control device (fixture mount or integrated sensor, switchpack, etc.) open the device's **zone**.
- 6: For a wallstation, tap **delete**  next to the device.
- Note:** Battery powered wallstations will request that a button be pressed. If the wallstation is not communicating, simply press **CONFIRM** to bypass this message.
- For a control device assigned to a zone, open the zone and then tap the device. In the device screen, tap **delete** .
- 7: When prompted, tap **DELETE** again to confirm. If the device is not communicating, a **Warning: Device delete failure** message will display. Tap **DELETE** again to remove the device from the Space.



- 8: Once the malfunctioning device is deleted, add/provision the new device and assign it to the same zone as the old device. Make sure to match any special settings found in the device details pages. Refer to page 87 for information on adding a device.

Replace a Device in a Standalone Area

In WaveLinx LITE 7.0 (as a precaution to prevent inadvertent device deletion) it is not possible to delete a device that is not communicating from a Standalone Area.

When replacing a device in a Standalone Area simply provision the new device, assigning it to the Standalone Area as instructed in "Standalone Area Provisioning" on page 93.

Factory Reset a Device

If a device is not responding to the mobile application or is exhibiting provisioned device behavior but is not able to be located in the mobile application, perform a manual **factory reset**.

A manual **factory reset** returns the device to its out-of-the-box behavior.

For specific details on performing the manual device factory reset, refer to that specific device's reference sheet starting on page 10.

Sync and Restore Databases: Network Mode

When used in Network Mode, the WaveLinx LITE Mobile Application strives to keep the local mobile app database in sync with the cloud database to prevent the data from getting out of sync, especially with Multi-User Organizations. This section discusses the Automatic Sync function as well as the options to manual sync or restore a database.

Automatic Sync

The mobile app is automatically set to allow a background sync to occur. If there is an internet connection and the WaveLinx LITE App is running (ensure the app is minimized NOT forced closed), the background sync can occur. The frequency of the background sync will depend on the mobile device used. Typically, a sync will occur every 15 minutes if the mobile device’s operating system, performance, battery charge, and internet connection allow.

Only Space databases that have a status of **Submit Changes** or **Update Required** will automatically sync. Databases with **Ready** status will be skipped. **Offline** databases cannot be synced as there is no internet connection.

If prompted by the mobile device to optimize power by putting apps to sleep, make sure that the WaveLinx LITE Mobile Application is exempted and remains running to allow the background sync to occur.

Note: If a user has a Space locked in **EDIT MODE** and an automatic sync occurs, the changes will be uploaded to the cloud and the Space will be unlocked.

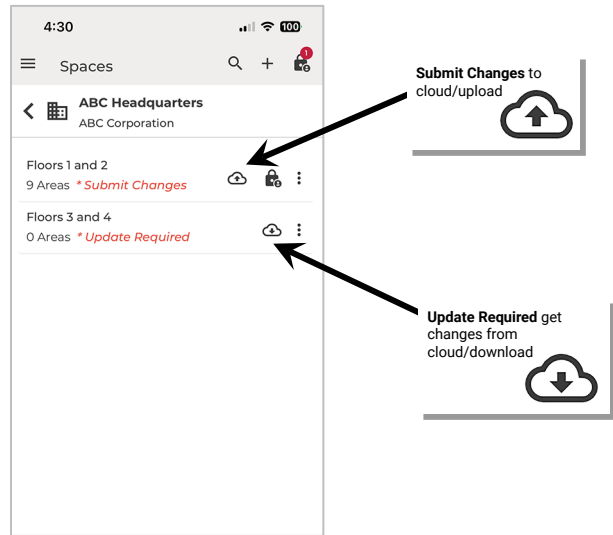
Manual Sync

To upload or download database changes, manually sync the Space programming.¹⁰¹

The manual sync can be processed in one of two ways.

1: For Spaces that are in **Submit Changes** status or in **Update Required** status, use the icon next to the status indicator to either send the changes to the cloud or to load the database from the cloud.

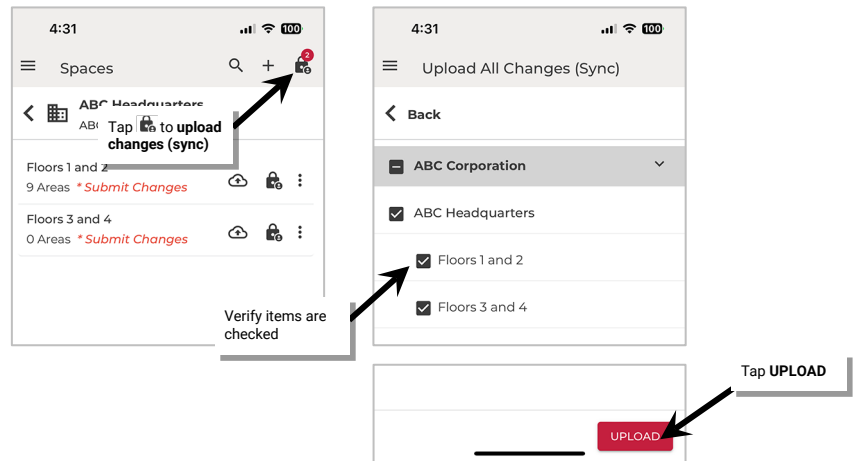
Submitting Changes will unlock a Space from **EDIT MODE**.



For Spaces in the Submit Change status.

2: Tap the **lock icon** at the top of the **Space Details** or **Spaces** screen. Spaces that are in **Submit Change** status will appear to be synced. Make sure that all Spaces are checked and then tap **UPLOAD**.

Note: This can also be accessed from **Menu** → **System** → **more icon** → **Backup & Restore** → **Backup**




Restore

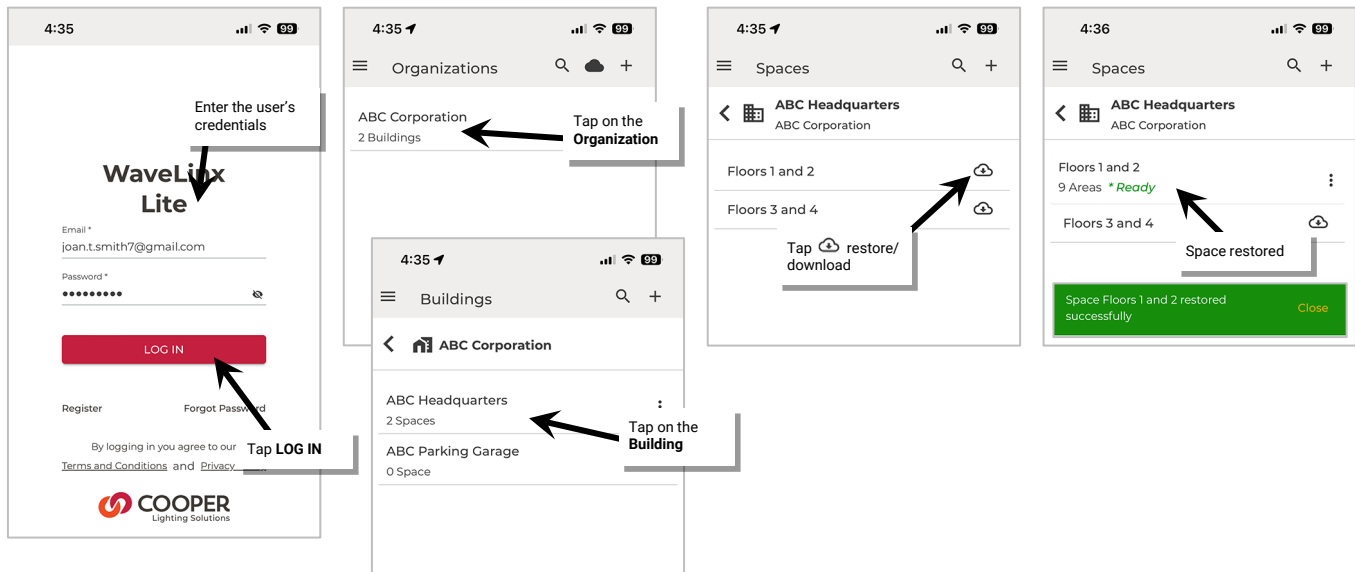
The restore function allows a user to load Organizations, Buildings and Spaces that are stored in the cloud portal onto a **new** mobile device or to access an Organization or Building that has been opened for the user to access. The restore function can be done to restore individual Spaces or can be done to restore all the Spaces at once. See “Multi-User Setup: Manage Members and Member Roles: Network Mode” on page 179 for details on adding user access to Organization and Buildings.

¹⁰¹ It is not possible to store multiple backups for the same Space. Only one database for the Space will be stored on the cloud.

Restore an Individual Space

If the original mobile device being used for the Mobile App fails and has been replaced with a new device or if a user account has been assigned to an Organization or Building in a new member role, use the procedure below to restore the Spaces, one Space at a time.

- 1: Ensure that the mobile device has internet access and then launch the WaveLinx LITE Mobile Application from the app icon.
- 2: When prompted for login, enter the registered email address and password, and then tap **LOG IN**. The Organizations that the member has access to will be displayed.
- 3: Locate the desired **Organization** and tap **on the row to open it**.
- 4: In the Buildings list, locate the Building and tap **on the row to open it**. The Building's Spaces will be displayed.
- 5: Tap the restore/download next to a Space  to restore an individual Space.

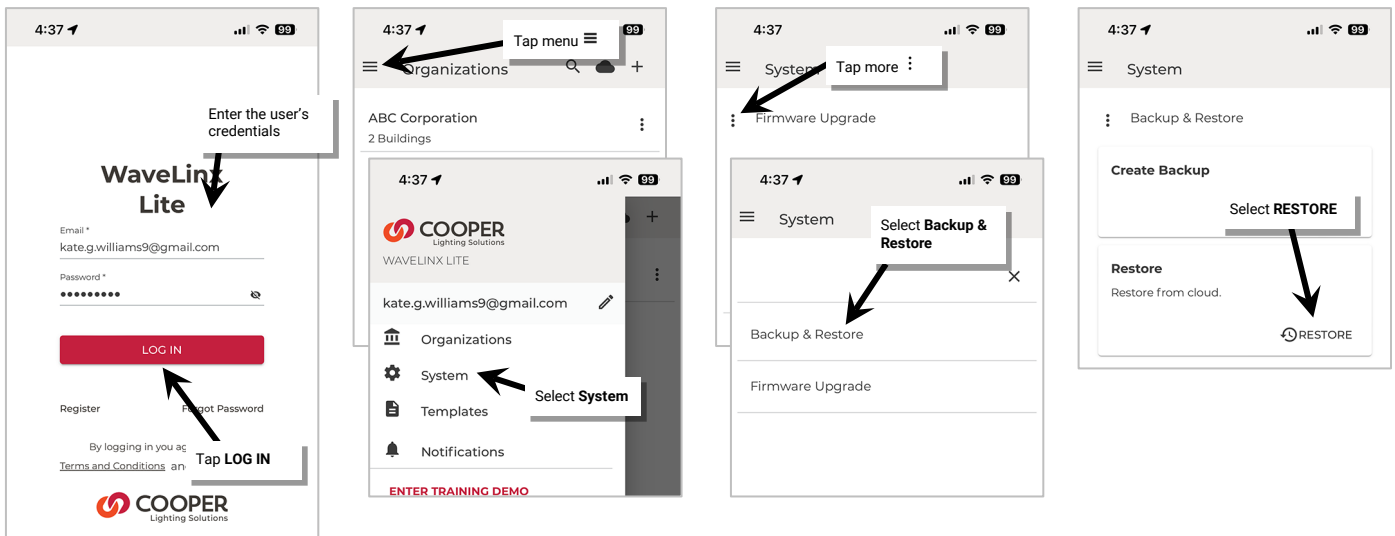


Restore All Spaces

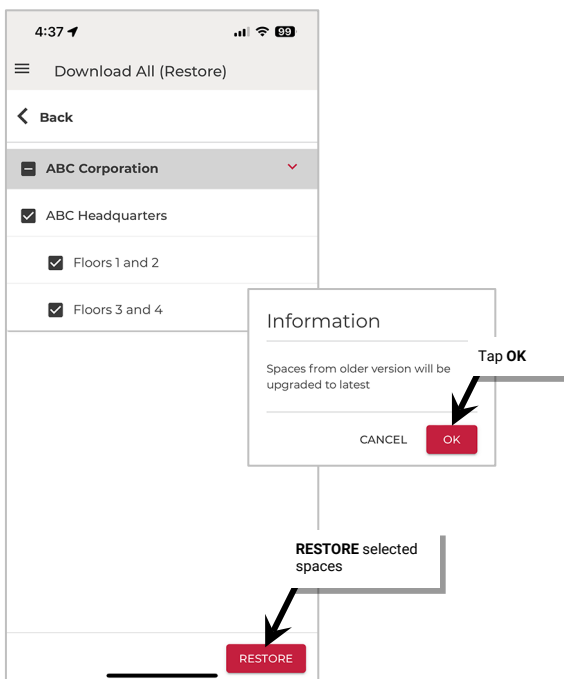
If the original mobile device being used for the Mobile App fails and has been replaced with a new device or if a user account has been assigned to an Organization or Building in a new member role, use the procedure below to restore the Spaces all at the same time.

Restore All Spaces will only select Space databases that are not currently loaded on the device. It will not sync Spaces that have an **Update Required** status. Use the individual restore option to sync these Spaces.

- 1: Ensure that the mobile device has internet access and then launch the WaveLinx LITE Mobile Application from the app icon.
- 2: When prompted for login, enter the registered email address and password, and then tap **LOG IN**. The Organizations that the member has access to will be displayed.
- 3: From the **menu** ☰ select **System**.
- 4: Next to **Firmware Upgrade** select the **more icon** ⋮ and then tap **Backup & Restore**.
- 5: In the Restore section, tap **RESTORE**.



- 6: Review the list of items to restore, unchecking any that are unwanted, and then tap **RESTORE**. Tap **OK** when prompted to confirm.



Once all Spaces are restored, tap the back button to exit.

Delete Local Copy: Network Mode

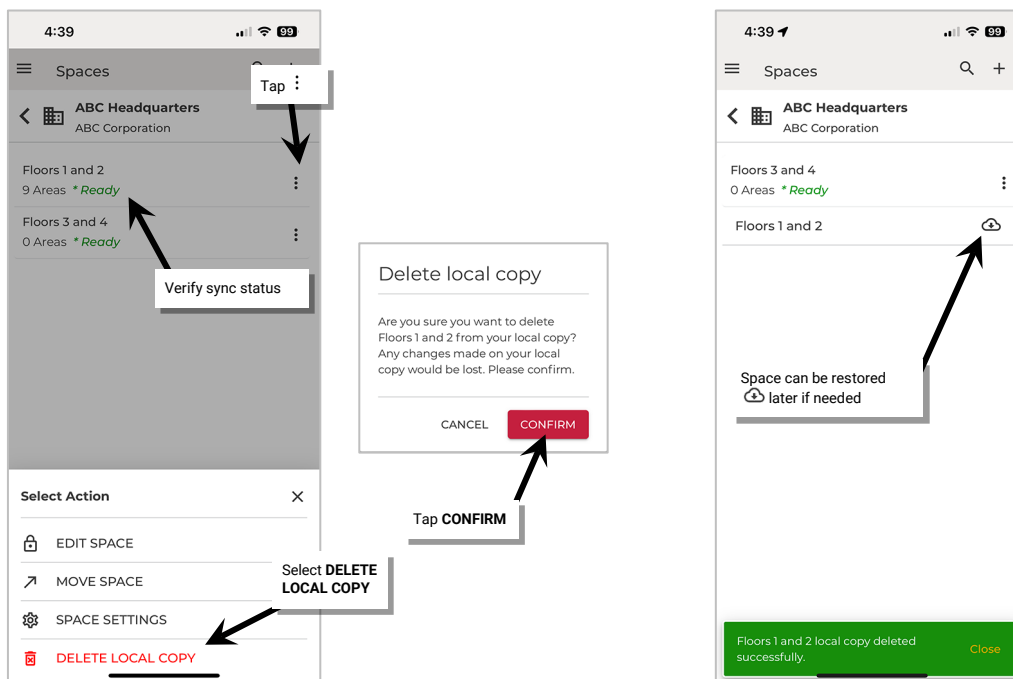
When used in Network Mode, WaveLinx LITE v7.0 allows the user to delete the Space's local database copy from the mobile device. This does not delete the Space from the Cloud database, allowing the user to restore the Space from the cloud. In WaveLinx LITE v7.0 **Delete Local Copy** can be used to free up space on the mobile device if the user does not need to regularly access the WaveLinx LITE Space.

The command to **Delete Local Copy** is not available if the Space is in **EDIT MODE** with a status of **Submit Changes**. The user must upload the changes and unlock the Space to access the **Delete Local Copy** command. **Delete Local Copy** will also be unavailable if the Space status is **Offline**.

To **Delete Local Copy**:

- 1: Ensure that the mobile device has internet access and then launch the WaveLinx LITE Mobile Application.
- 2: Once logged in, review the Space status and ensure it is either **Ready** or **Update Pending**.
- 3: Next, tap the **more icon** \vdots in the Space's row.
- 4: Select the **Delete Local Copy** and when prompted, tap YES to confirm.

The local copy of the Space database will be removed from the mobile device. To access the Space again, tap the **restore icon** \downarrow .

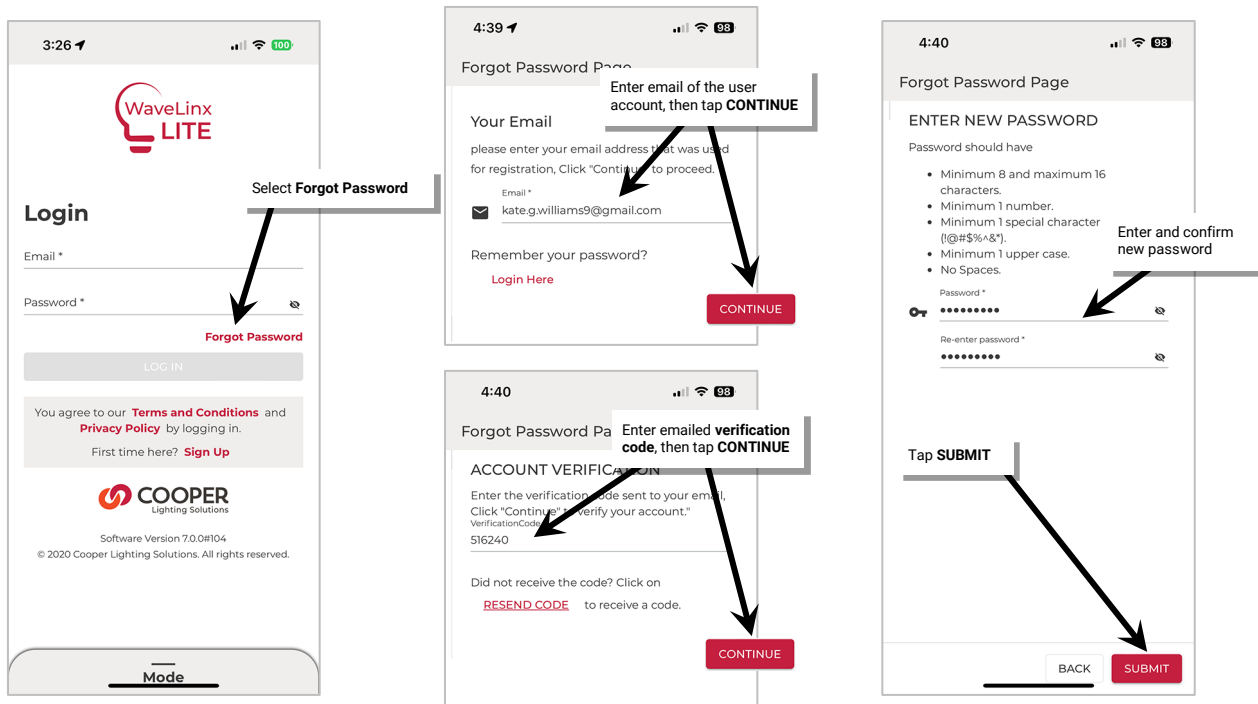


Reset a User Account Password

Use the WaveLinx LITE Mobile Application to reset the password of a user account.

To reset a password:

- 1: Ensure that the mobile device has internet access and then launch the WaveLinx LITE Mobile Application.
- 2: When prompted for login, tap **Forgot Password**.
- 3: Enter the **email** associated with the user's account.
- 4: An email verification code will be sent to the provided email address. Enter the **verification code**, and then tap **CONTINUE**.
Note: Check the email spam folder if the code is not received or tap **Resend Code**.
- 5: Define the new password and confirm.
- 6: When prompted, login with the user account and new password.



Delete a User Account

The WaveLinx LITE v7.0 Mobile App allows deletion of a user account. If a user account is deleted, the user will no longer be able to login to the mobile application.

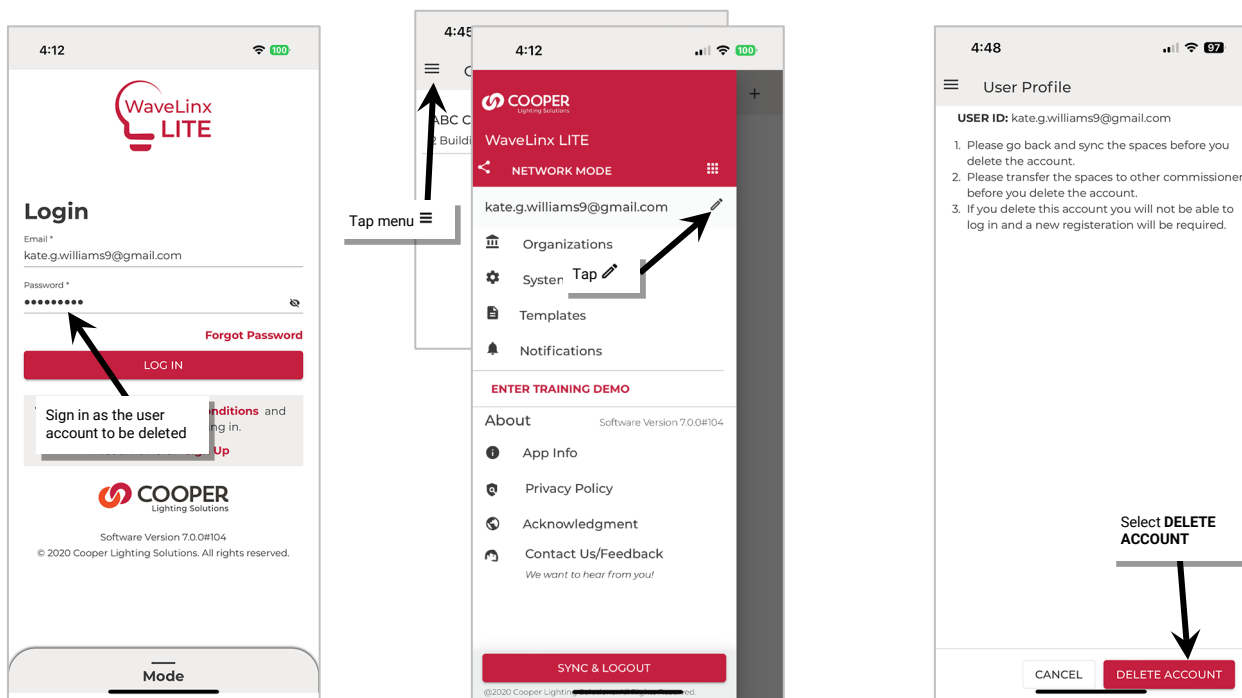
EXTREME CAUTION should be used when Deleting User Accounts!!!!

Be sure to process **Submit Changes** requests to upload all Space changes to the cloud. Also, be sure that the Organization has an Organization Admin other than the user being deleted.

Deleting a User Account without verifying these items will result in loss of data or loss of access to the Organization and its programming.

To delete the account:

- 1: Login to the user account that is to be deleted.
- 2: Tap the **menu** ☰ and then next to the user name, tap ✎.
- 3: Make sure that all the account deletion action items on the screen have been done and then tap **DELETE ACCOUNT**.



All Organization member roles for the user will be removed and the user account will be deleted. The user will not be able to login using their credentials. The user can register for a new user account but will not have any access to their previous Organizations unless the Organization Admin gives them a new member role.

Advanced Daylight Calibration: Calculate the Daylighting Factor Sensitivity Value

Outdoor applications may have specific challenges that arise when calibrating closed loop daylighting. In parking garages or other outdoor situations, the lighting may turn OFF correctly, but there may be enough light from adjacent fixtures that prevents specific fixtures from turning back ON at night. If the lighting is turning OFF at sunrise correctly but is preventing some fixtures from functioning correctly after Sunset, a **Daylight Factor Sensitivity** value can be applied to help fix this issue.

This procedure assumes that original calibration was done at night with lighting calibrated to 100%.

IMPORTANT: Perform these steps at night. The procedure does involve turning fixtures OFF in the affected location. Plan accordingly. A light meter or light meter app will be required.

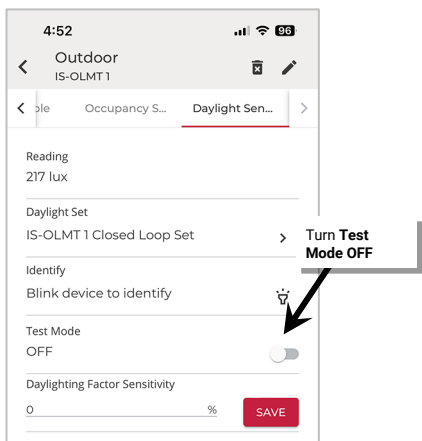
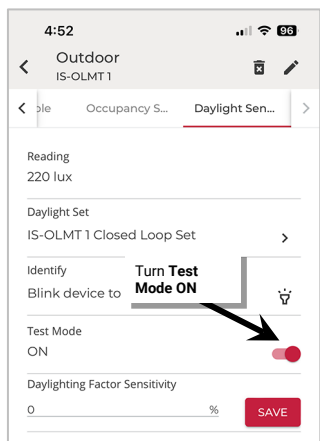
Follow the steps below to calculate the **Daylighting Factor Sensitivity** value:

- 1: Go to the location that is exhibiting the behavior.
- 2: **If the fixture that exhibits the behavior is currently ON, skip to step 3.** If the fixture is currently OFF, use the light meter to measure the light level under the fixture. This is the measured light level (M1). Write the measured light level down:

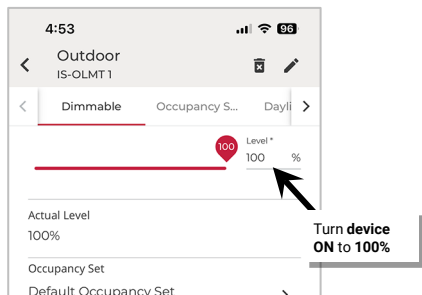
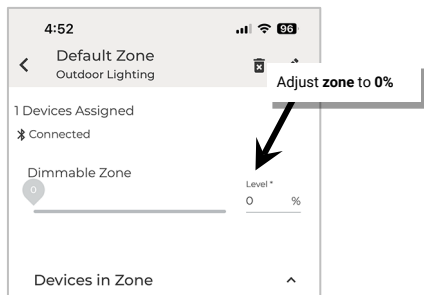
M1=_____

- 3: **If the fixture that exhibits the behavior is currently OFF, skip to step 4.** If the fixture is currently ON, use the mobile application to go to the device details, **Daylight Sensor** page and switch the **Test Mode** switch to the **ON** position to speed up daylight transitions. Shine a flashlight into the sensor lens until the light turns OFF (30 seconds to 1 minute). Use the light meter to measure the light level under the fixture. This is the measured light level (M2). Write the measured light level down. **Turn OFF** daylight sensor **Test Mode**.

M2=_____



- 4: Use the mobile application to issue **zone commands** to turn OFF (0%) all the fixtures in the zone. (All directly adjacent fixtures and the fixture under test should turn OFF).
- 5: Use the mobile application to access the **device details** page for the fixture under test. In the **Dimmable** page, drag the slider to 100% and leave the page open. At this point, all fixtures except for the one under test should be off. The fixture under test should be FULL ON.

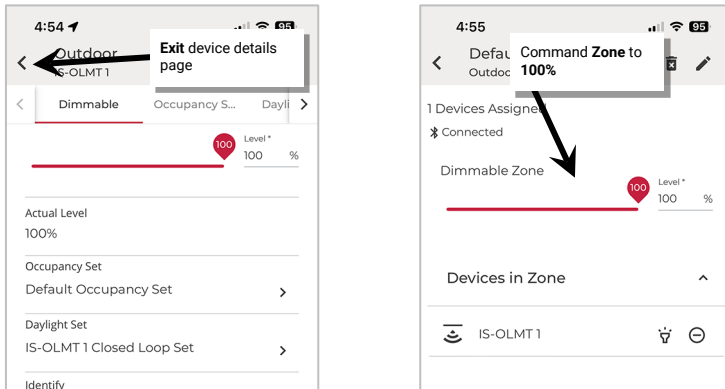


- 6: Use the light meter to measure the light level under the fixture. This should be the calibrated light level (C). Write the calibrated light level down:

C=_____

Note: The measurement can be taken in either lux or foot-candles as long as any other measurements are made using the same unit of measurement.

7: **Exit** the **device details** page to cancel the override command to the fixture under test (light may turn OFF). Use the mobile application to issue **zone commands** to turn the zones back ON to 100%.



8: Calculate the **Daylight Factor Sensitivity (DFS)** value using the noted measurement:

Calculation 1:
$$\frac{\text{(M1) or (M2) Measured Light Level}}{\text{(C)alibrated Light Level}} = \text{(Result 1)}$$

Calculation 2:
$$\text{(Result 1)} - 1 = \text{(Result 2)}$$

If Result 2 = less than .20

$$\text{DFS} = 20\%$$

If M1 was used to calculate & Result 2 is greater than or equal to .20

$$\left(\frac{\text{(Result 2)}}{\text{(Result 2)}} + .20 \right) \times 100 = \text{(DFS)}\%$$

If M2 was used to calculate & Result 2 is greater than or equal to .20

$$\left(\frac{\text{(Result 2)}}{\text{(Result 2)}} + .30 \right) \times 100 = \text{(DFS)}\%$$

Example 1:

C = 40 lux M = 38 lux
 Calculation 1: $38 \div 40 = .95$
 Calculation 2: $.95 - 1 = .05$
 .05 < .20 so: **DFS = 20%**

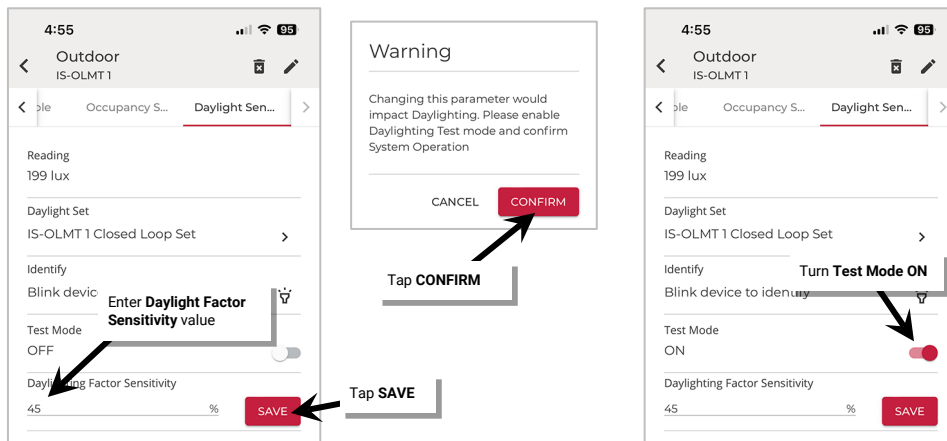
Example 2:

C = 40 lux M1 = 50 lux
 Calculation 1: $50 \div 40 = 1.25$
 Calculation 2: $1.25 - 1 = .25$
 .25 > .20 so: $(.25 + .20) \times 100 = 45\%$
DFS = 45%

Example 3:

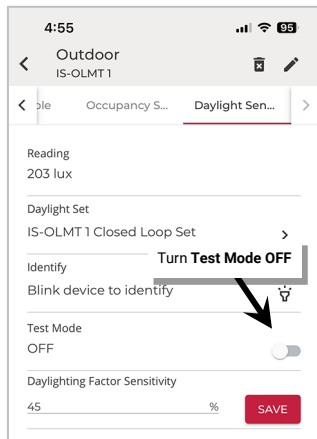
C = 40 lux M2 = 50 lux
 Calculation 1: $50 \div 40 = 1.25$
 Calculation 2: $1.25 - 1 = .25$
 .25 > .20 so: $(.25 + .30) \times 100 = 55\%$
DFS = 55%

- 9: In the mobile application, navigate to the **device details, Daylight Sensor** page and enter the **Daylight Factor Sensitivity** value from the calculations. Tap **SAVE** and then **CONFIRM** in the warning message popup.
- 10: In the same screen, place the daylight sensor back into test mode.



11: Shine a flashlight into the sensor lens until the light turns OFF (30 seconds to 1 minute). Turn the flashlight OFF and wait for the light to turn back ON. (Light should respond after approximately 30 seconds).

- If the light responds properly to this test: Adjustment is complete. **Turn OFF test mode.**
- If the light remains OFF after the flashlight is removed, increase the Daylight Factor Sensitivity by 20% and then repeat step 11 test. If the light responds correctly, adjustment is complete. **Turn OFF test mode.** (If the light still does not respond ON, contact technical support.)



Repeat this procedure for every fixture that exhibits the failure to turn ON behavior.

Note: Adjusting one fixture may cause other fixtures adjacent to that fixture to exhibit the behavior. If this occurs, follow these procedures for the affected fixtures.

Appendix A: Converting WaveLinx LITE Devices to WaveLinx PRO Operation

Some WaveLinx LITE devices may support the conversion from WaveLinx LITE to WaveLinx PRO operation. WaveLinx LITE devices operate by communicating through a Bluetooth mesh network without the need for a central communications controller. WaveLinx PRO system devices operate by communicating through an 802.15.4 network using a WaveLinx Area Controller (WAC) to process communications.

This section discusses the procedure to convert a compatible device from using WaveLinx LITE Bluetooth communication to using WaveLinx PRO system 802.15.4 network communications.

WARNING: Once a device has been converted from WaveLinx LITE to WaveLinx PRO, it may not be possible to reverse the conversion. Do not proceed unless certain the device will be used in a WaveLinx PRO system.

Conversion of the WaveLinx LITE device to WaveLinx PRO operation requires the use of a customized firmware file for the device type being updated. Obtain this the customized conversion files by contacting technical support. The conversion of the device will be done through the WaveLinx LITE Mobile App.

Currently the following devices support WaveLinx LITE to PRO conversion:

- Ambient Integrated Sensors (IS-ECO, WLS-F1)
- Industrial Integrated Sensors (IS-IHMT, IS-ILMT)
- Outdoor Integrated Sensors (IS-OHMT, IS-OLMT)
- Switchpack (RSP, ESP)
- Wallstation (WWL, WWBL)

To process a WaveLinx LITE to WaveLinx PRO device conversion:

1: Obtain the necessary device file(s) for the WaveLinx LITE to WaveLinx PRO conversion by contacting technical support.

Phone: 1-800-553-3879



Email: United States: Controltechsupport@cooperlighting.com / Canada: CANSupport@cooperlighting.com

2: Download the file(s) onto a computer. The file(s) provided will be in either a .gbl or an .ota format.


3: Verify that the desired WaveLinx LITE device(s) is powered. It does not need to be provisioned to be converted.


4: With the mobile device, stand as close as possible to the desired WaveLinx LITE device (within 60 feet/18 meters).

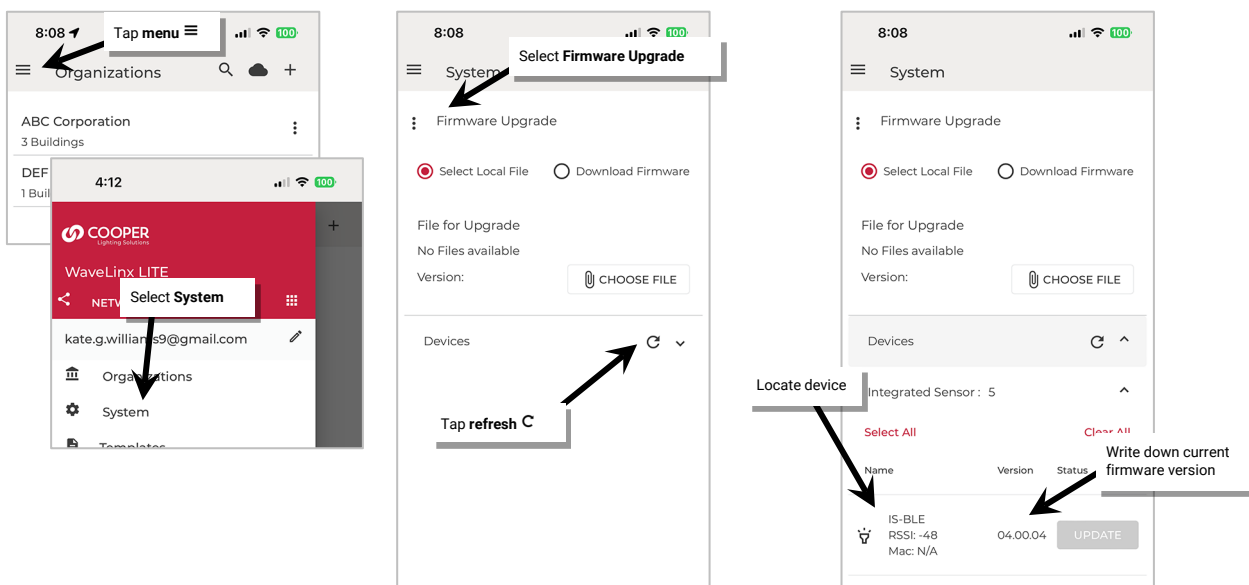
5: Ensure that the mobile device's Bluetooth is on and then launch the WaveLinx LITE Mobile Application and login.

6: Tap the **menu** , and then select **System**. If not already showing the **Firmware Upgrade** screen, select the **more icon**  and then tap **Firmware Upgrade**.

7: If the device is a Battery Powered Wallstation, press any button on the wallstation to wake the station up.

8: In the mobile app, tap **refresh**  in the **Devices** section to start a device scan. Found devices will be categorized by device type. Maximize or minimize device categories to view the found devices.

9: In the found devices list, locate the device type that matches the selected device. If necessary, use the **identify**  command to locate that specific device. Write down the device's current firmware version.

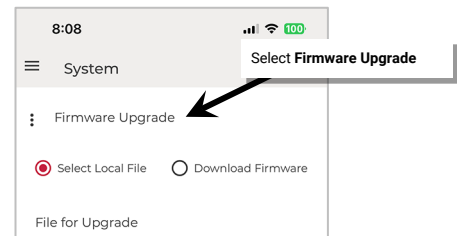
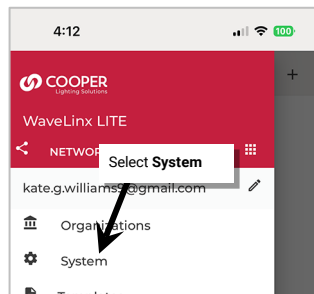
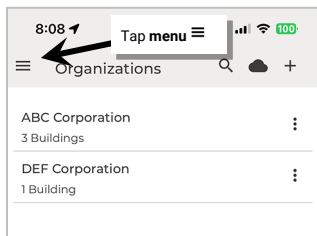


10: Using the computer, rename the provided device conversion files using the following naming syntax:

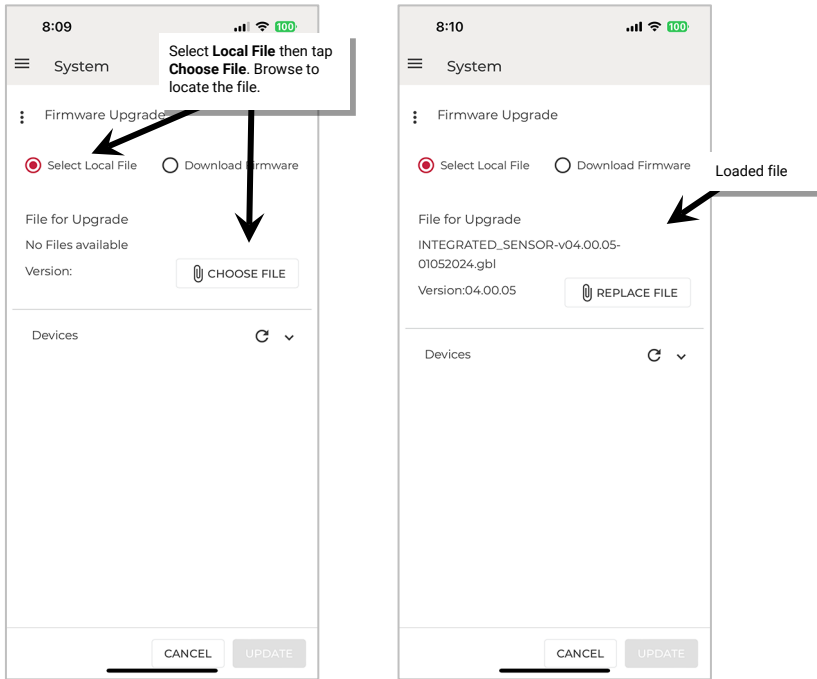
Device Type	File Naming Prefix	Version	Date Code	File Extension	Example: if device firmware is 06.06.13 and a .gbl file is provided
Ambient Integrated Sensor WLS-F1	WLS_F1-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	WLS_F1-v06.06.14-18092024.gbl
Ambient Integrated Sensor IS-ECO	IS_ECO-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	IS_ECO-v06.06.14-18092024.gbl
Industrial Integrated Sensor IS-IHMT & IS-ILMT	HIGHBAY_SENSOR-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	HIGHBAY_SENSOR-v06.06.14-18092024.gbl
Outdoor Integrated Sensor IS-OHMT & IS-OLMT	HIGHBAY_SENSOR-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	HIGHBAY_SENSOR-v06.06.14-18092024.gbl
Switchpack RSP-L	RSP_L_NPS-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	RSP_L_NPS-v06.06.14-18092024.gbl
Emergency Switchpack ESP-L	ESP_L-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	ESP_L-v06.06.14-18092024.gbl
Line Voltage Wallstation Wall Station	WALLSTATION-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	WALLSTATION-v06.06.14-18092024.gbl
Battery Powered Wallstation BPW	BPW-v	current noted device firmware version + 1	- Any date placed in DDMMYY format	Leave as original file extension .gbl or .ota	BPW-v06.06.14-18092024.gbl

WARNING: Industrial Integrated Sensors and Outdoor Integrated Sensors use the same file name syntax but require different files. Ensure that the correct file is used for the correct device. The device will not operate after conversion if the incorrect file is loaded.

- 11: Load the renamed file(s) to the mobile device being used, placing the file(s) in an easy to find location.
- 12: With the mobile device, stand as close as possible to the desired WaveLinX LITE device (within 60 feet/18 meters).
- 13: Ensure that the mobile device's Bluetooth is on and then launch the WaveLinX LITE Mobile Application.
- 14: Tap the **menu** , and then select **System**. If not already showing the **Firmware Upgrade** screen, select the **more icon** and then tap **Firmware Upgrade**.



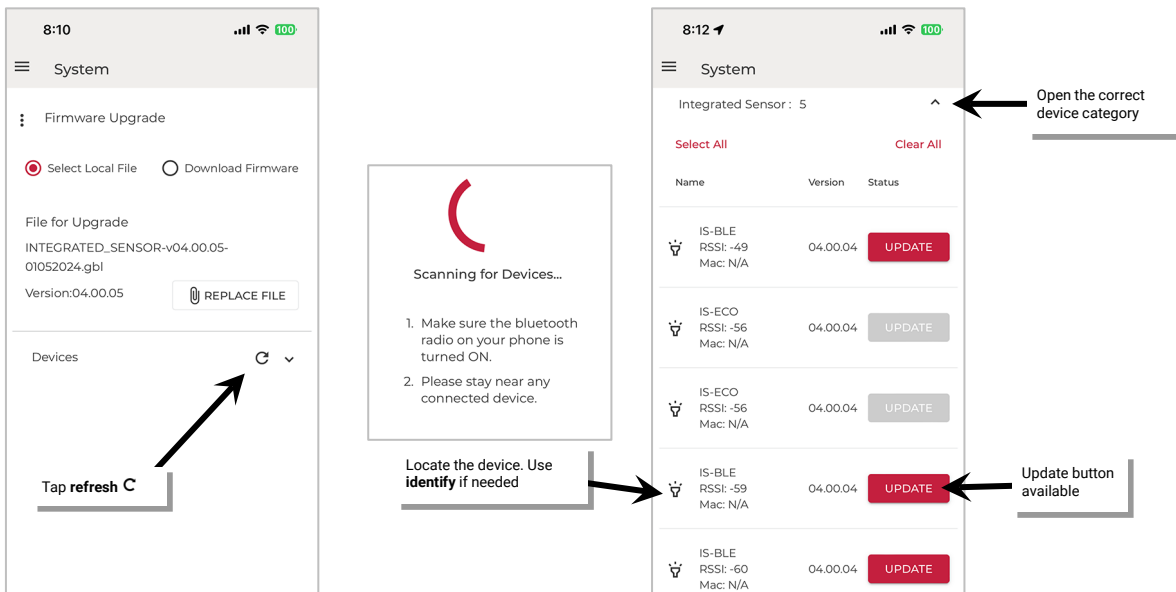
15: Tap **Select Local File** and then use the **Choose File** button to browse to the file location and select the renamed file for the device type being converted. The file name should be displayed in the **File for Upgrade** section.



16: If the device is a Battery Powered Wallstation, press any button on the wallstation to wake the station up.

17: In the mobile app, tap **refresh C** in the **Devices** section to start a device scan.

18: In the found devices list, open the device type category for the device being converted and locate the desired device. If necessary, use the **identify** command to locate the specific device. The device should have an **UPDATE** button displayed.

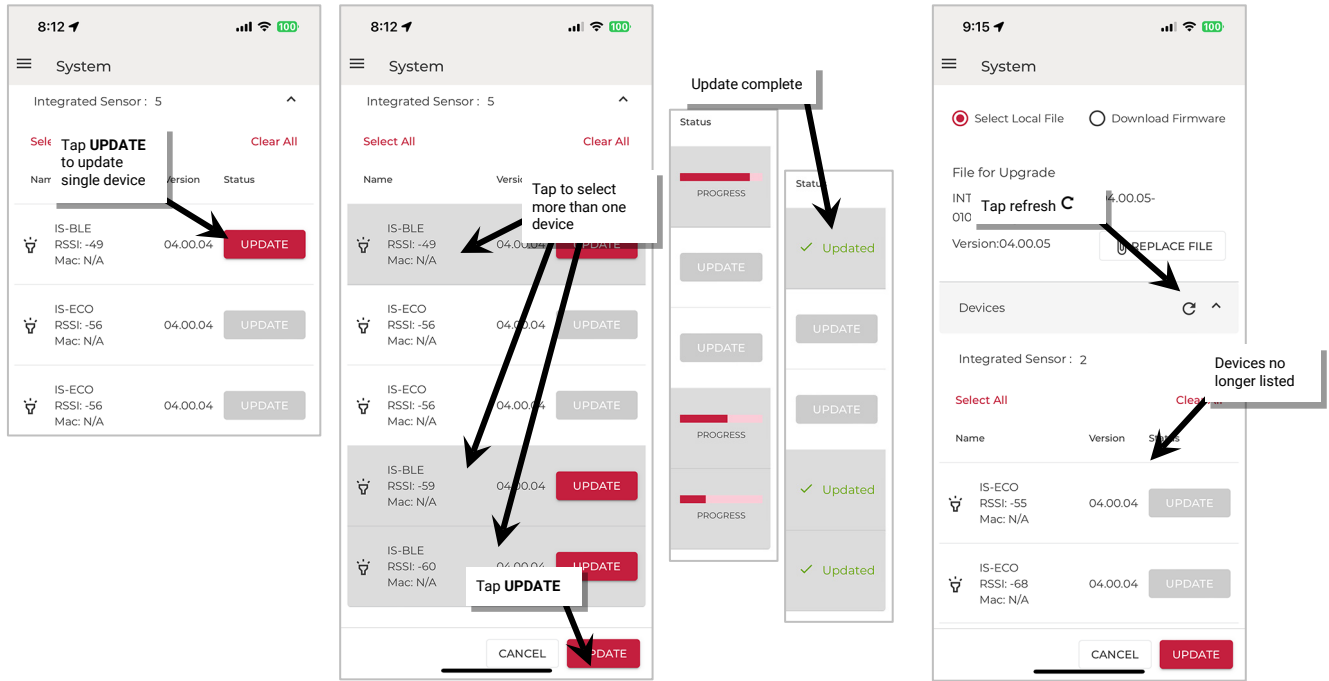


WARNING: Industrial Integrated Sensors and Outdoor Integrated Sensors use the same file name syntax but require different files. The update button will be active for both device types once the file is loaded. Ensure that the correct device is selected for the file being used. The device will not operate after conversion if the incorrect file is loaded.

19: To update a single device, tap the device's **UPDATE** button. To update multiple devices of the same type that are within range, tap the desired device rows to highlight them and then select the **UPDATE** button at the bottom of the page. For battery powered wallstations, when prompted, press a button on the wallstation to wake the station up and begin the update. Stay in range of the device(s) until the progress indicates that the updates are complete.

20: Wait a minute for the devices to finish updating and reboot.

21: Verify the conversion is complete. First, tap **refresh** **C** in the **Devices** section to start a device scan. The updated device(s) should no longer show as an available WaveLinx LITE device. Next, verify that the device is exhibiting the default out-of-the-box behavior described in the WaveLinx PRO System User Guide.



Proceed with pairing the device with the desired WaveLinx Area Controller as described in the WaveLinx PRO System User Guide.

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 for our terms and conditions.

Garanties et limitation de responsabilité

Veillez consulter le site www.cooperlighting.com pour obtenir les conditions générales.

Garantías y Limitación de Responsabilidad

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

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