

AirLink™ Blue

Tunable White Application Guide

INTRODUCTION

AirLink Blue provides a complete and flexible wireless Tunable White lighting control solution based on Bluetooth mesh networking technology.

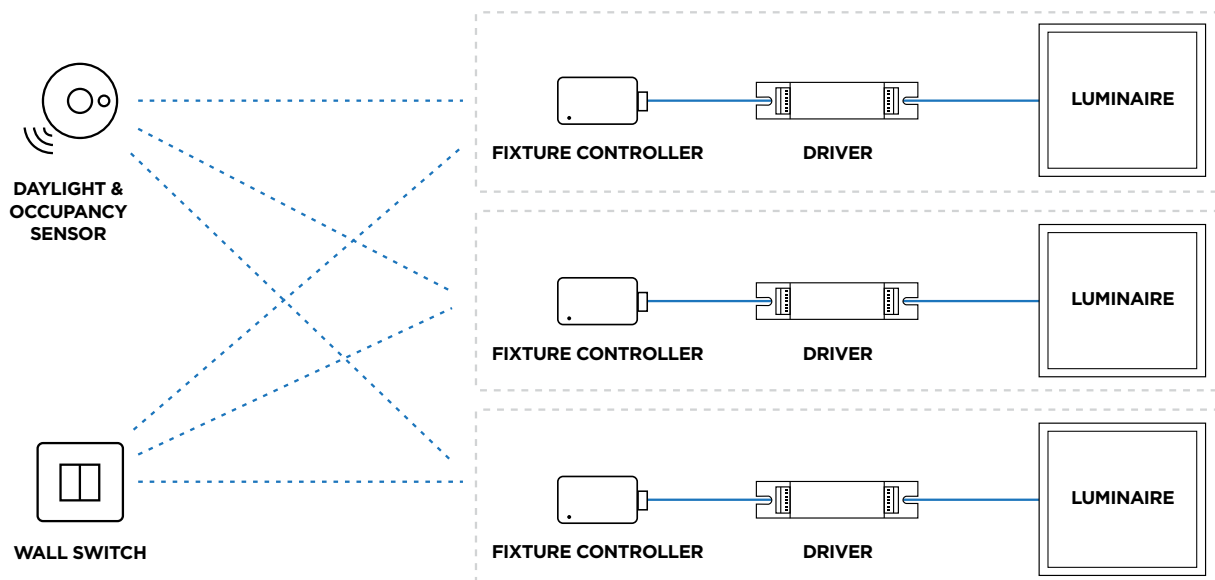
As part of our intelligent lighting platform, we provide a set of dedicated software tools for commissioning and managing connected Tunable White lighting installations. The Commissioning app has been designed to enable maximum flexibility in support of a number of lighting control strategies for commercial spaces. These include manual control, occupancy and vacancy sensing, daylight harvesting, scenes and Tunable White lighting control. Occupancy sensing and daylight harvesting are proven methods of reducing energy consumption, and for this reason are often mandated by building energy codes, such as California's Title 24.

Included in this guide is an overview of the System Architecture and Control Types as well as six designs of the most common typical installations for Tunable White lighting. Each design includes a description, controls bill of material and drawing. Tunable White lighting control is available in the LSI Industries LPEC, LPASC and SLI troffers.

SYSTEM ARCHITECTURE

Combining a Bluetooth mesh fixture controller with a two channel 0 - 10V LED driver allows it to be controlled via inputs from wireless Bluetooth mesh sensors and switches.

All commissioning of the lighting control is carried out using the AirLink Blue web and mobile apps. The settings are stored in the device itself, which then operates autonomously as part of a network with no central controller.



CONTROL TYPES

LIGHTING ZONES/GROUPING

AirLink Blue organizes devices (i.e. fixtures, drivers, sensors or switches) into zones. A zone is a group of devices that share the same lighting control scenario. A room can consist of one or multiple zones, e.g. separate daylight or smaller occupancy zones in order to achieve higher energy savings.

MANUAL CONTROL INCLUDING TUNABLE WHITE

Manual control includes on/off, scenes, dimming and adjusting color temperature (tunable white). If the manual controls have been used to override automatic control, it may be restored manually or automatically when a given zone is vacant after manual override timeout. Tunable White enables manual adjustment of CCT between 2700K and 6500K.

OCCUPANCY SENSING

Lights are automatically switched on to a defined level by occupancy sensors and dimmed or switched off automatically when the zone is vacant. Once occupancy is detected, they return to the defined light level.

VACANCY SENSING

To maximize energy savings, lights may be switched on manually using a wall switch and dimmed or switched off automatically when a given zone is vacant.

DAYLIGHT CONTROL PER ZONE

The light level in the zone is adjusted automatically in accordance with the available daylight measured by a single sensor added to that zone to maintain the desired light level.

HIGH-END AND LOW-END TRIM

AirLink Blue provides the ability to adjust the maximum and minimum light level to which the lights can be adjusted.

PRIVATE OFFICE

Private office in a single zone with a wall switch and ceiling mounted sensor.

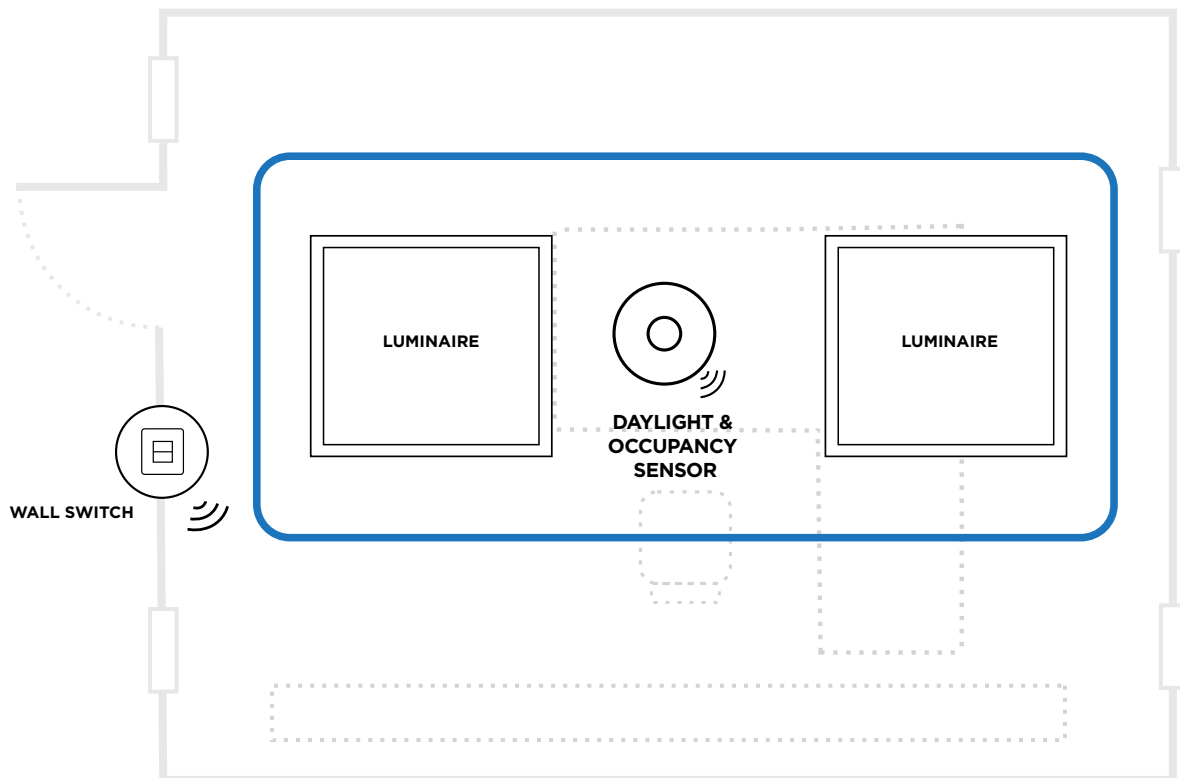
- Lights are switched on automatically when motion is detected and switched off automatically when the space is vacant or manually on/off.
- Lighting intensity can be raised or lowered manually.
- Lighting color (CCT) can be adjusted manually (tunable white).
- If the office has windows, the sensor has a daylight harvesting photocontrol that can be enabled to provide continuous dimming in response to the available ambient light.
- Two scenes can be created. Scenes are manually switch on/off via 4 button wall switch.

CONTROL COMPONENTS

(1) 4 Button Wall Switch **ALB WS EO4B WH**

(1) Ceiling Mount Sensor **ALB CM DHS OS**

Ceiling mount sensor includes daylight harvesting photocontrol (continuous dimming) which can be enabled or disabled depending on if the office contains a window.



CONFERENCE ROOM

Interior conference room in a single zone with a wall switch and ceiling mounted sensor.

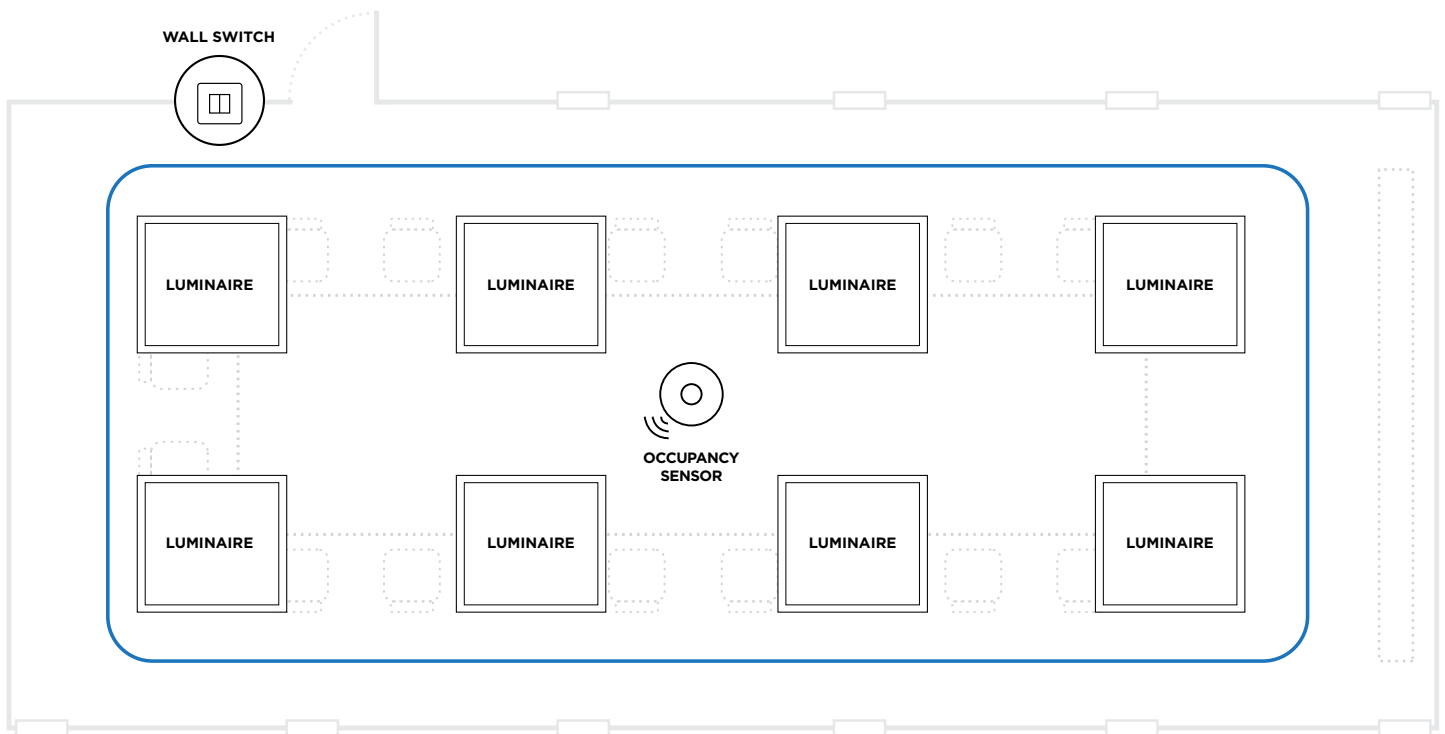
- Lights are switched on automatically when motion is detected and switched off automatically when the space is vacant or manually on/off.
- Lighting intensity can be raised or lowered manually.
- Lighting color (CCT) can be adjusted manually (tunable white).
- Two scenes can be created. Scenes are manually switch on/off via 4 button wall switch.

CONTROL COMPONENTS

(1) 4 Button Wall Switch **ALB WS EO4B WH**

(1) Ceiling Mount Sensor **ALB CM OS**

Additional ceiling mount sensors may be required depending on room size.



OPEN OFFICE

Open office in a single zone with ceiling mounted sensors and a wall switch.

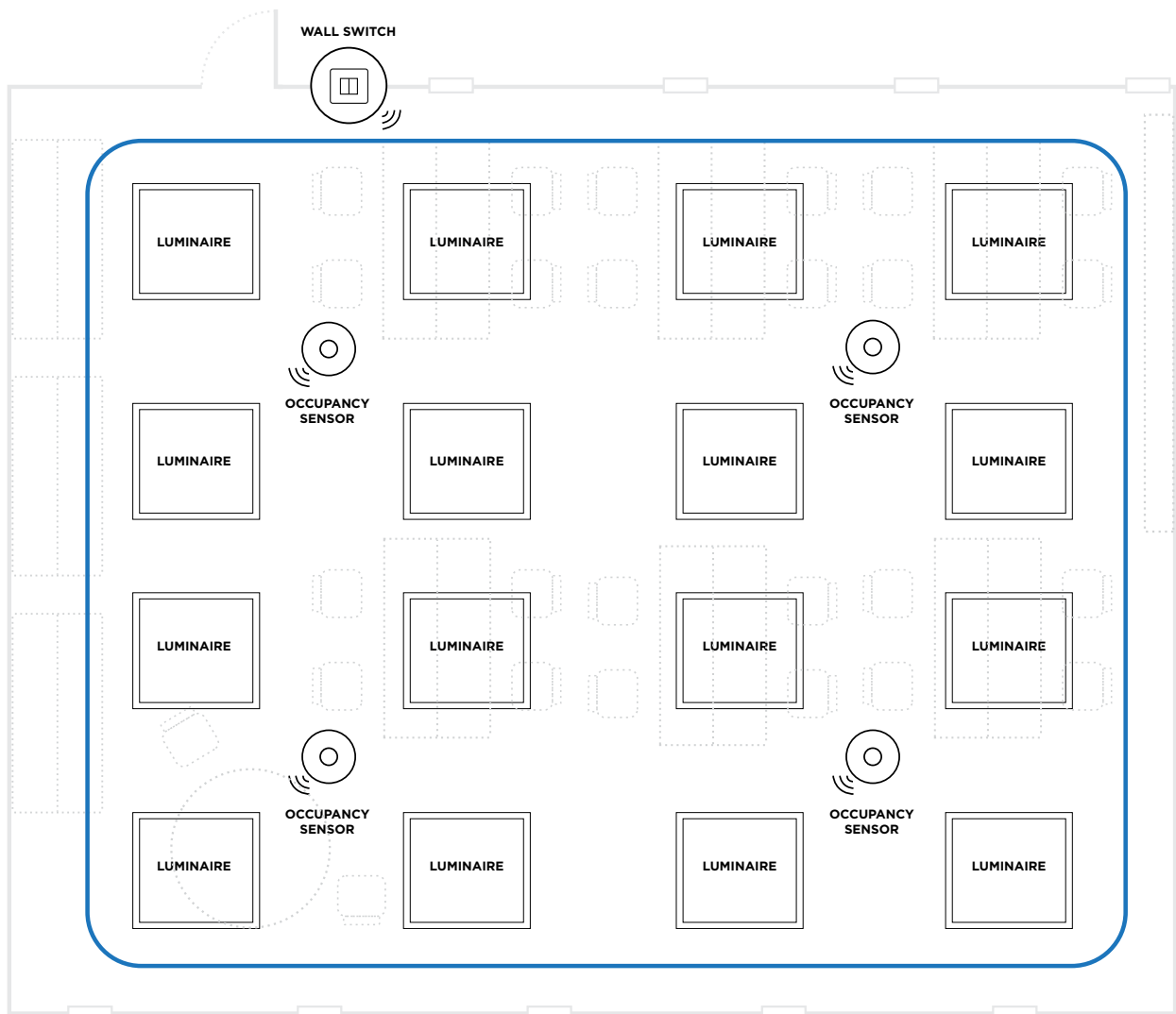
- Lights are switched on automatically when motion is detected and switched off automatically when the space is vacant or manually on/off.
- Lighting intensity can be raised or lowered manually.
- Lighting color (CCT) can be adjusted manually (tunable white).
- Two scenes can be created. Scenes are manually switch on/off via 4 button wall switch.

CONTROL COMPONENTS

(1) 4 Button Wall Switch **ALB WS EO4B WH**

(4) Ceiling Mount Sensor **ALB CM OS**

Quantity of ceiling mount sensors dependent on room size



OPEN OFFICE WITH WINDOWS

Open office in two zones with ceiling mounted occupancy sensing, daylight harvesting and a wall switch.

- Lights are switched on automatically when motion is detected and switched off automatically when the space is vacant or manually on/off.
- Lights along the window wall are adjusted automatically based on available daylight to maintain predetermined light levels.
- Lighting intensity can be raised or lowered manually.
- Lighting color (CCT) can be adjusted manually (tunable white).
- Two scenes can be created. Scenes are manually switch on/off via 4 button wall switch.

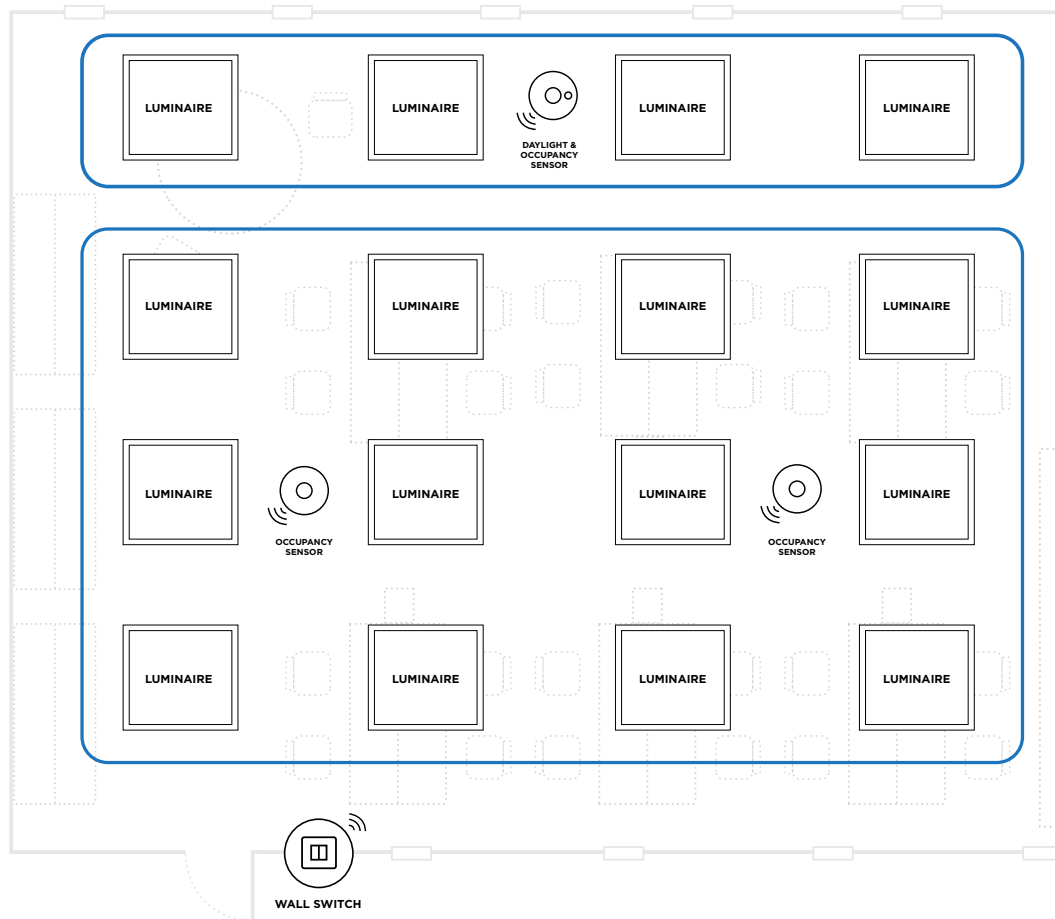
CONTROL COMPONENTS

(1) 4 Button Wall Switch **ALB WS EO4B WH**

(2) Ceiling Mount Sensor **ALB CM OS**

(1) Ceiling Mount Motion and Daylight Harvesting Sensor **ALB CM DHS OS**

Quantity of ceiling mount sensors dependent on room size.



CLASS ROOM

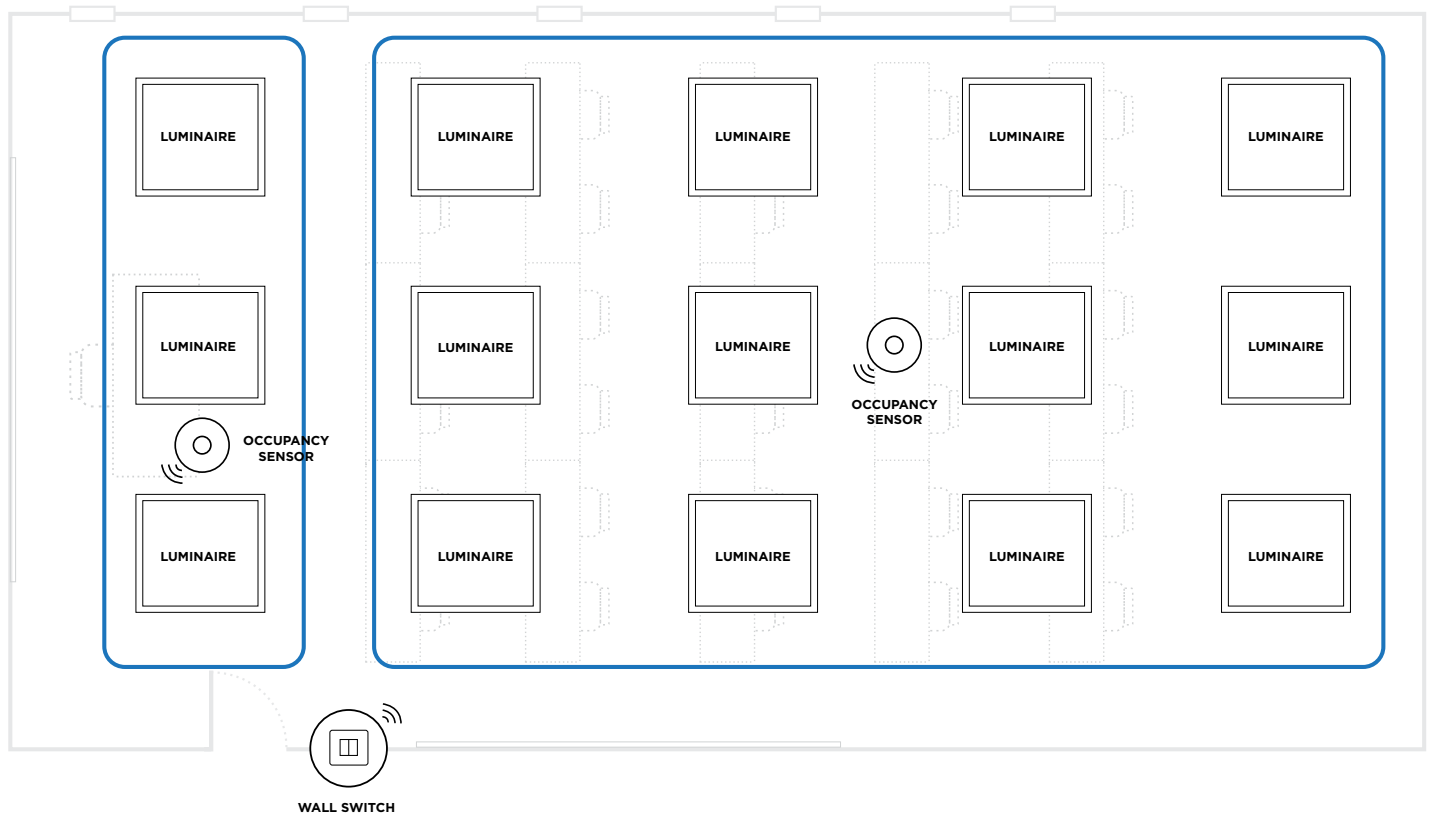
Classroom in two zones (front of class with whiteboard/ teacher's desk and the student desk area) each with independent occupancy sensors.

- Occupancy in each zone triggers lighting in that space.
- Single wall switch for the whole room at the teacher's station with manual on/off, dimming, scenes and tunable white lighting control.
- Lights are switched on automatically when motion is detected and switched off automatically when the space is vacant or manually on/off.
- Lighting color (CCT) can be adjusted manually (tunable white).
- Two scenes can be created. Scenes are manually switch on/off via 4 button wall switch.

CONTROL COMPONENTS

(1) 4 Button Wall Switch **ALB WS EO4B WH**

(2) Ceiling Mount Sensor **ALB CM OS**



CLASS ROOM WITH WINDOWS

Classroom in three zones (front of class with whiteboard/ teacher's desk, fixtures along window wall and the rest of the student desk area) each with independent occupancy sensors.

- Occupancy in each zone triggers lighting in that space.
- Single wall switch for the whole room at the teacher's station with manual on/off, dimming, scenes and tunable white lighting control.
- Lights along the window wall are adjusted automatically based on available daylight to maintain predetermined light levels.
- Lights are switched on automatically when motion is detected and switched off automatically when the space is vacant or manually on/off.
- Lighting color (CCT) can be adjusted manually (tunable white).

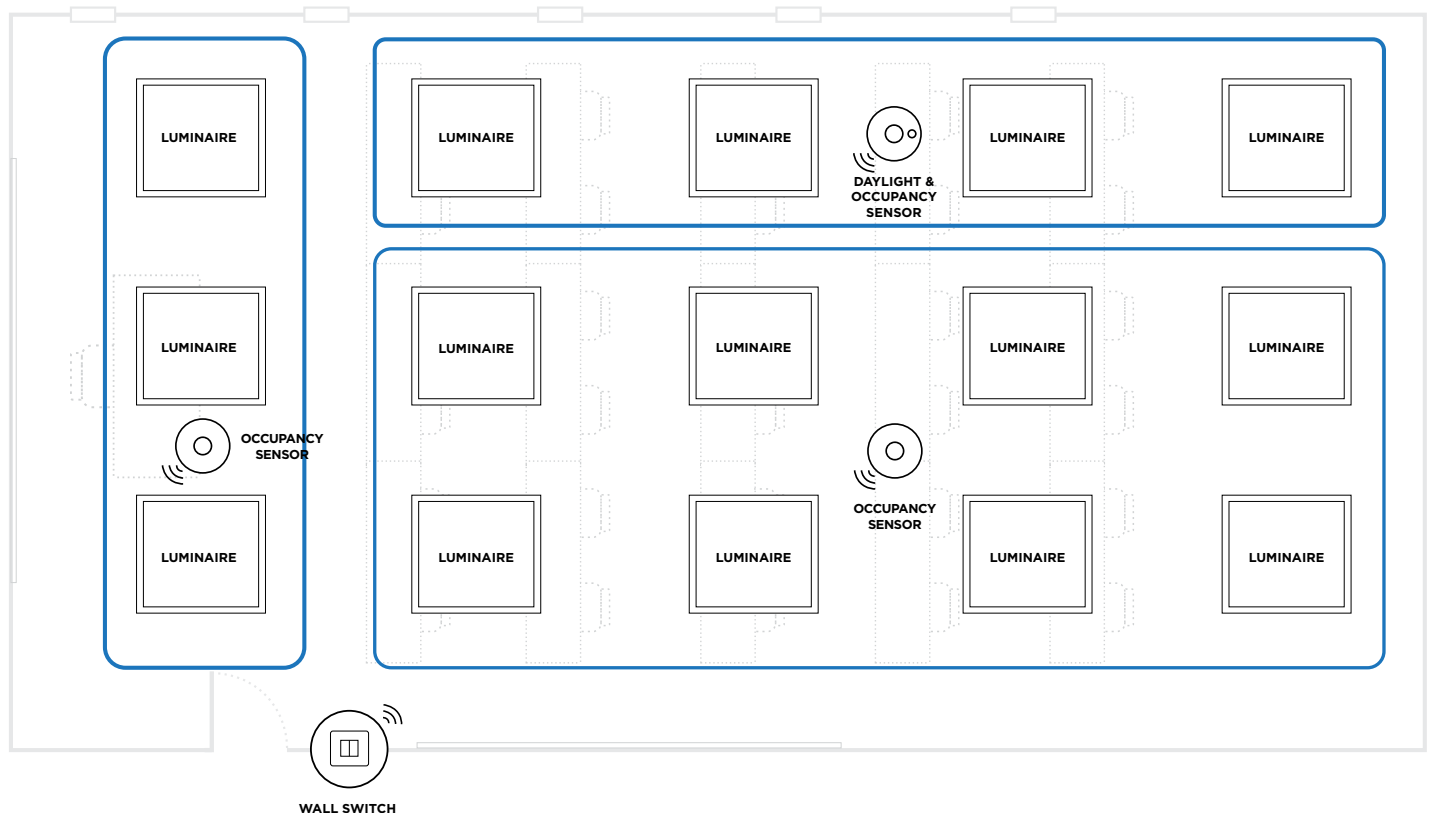
Two scenes can be created. Scenes are manually switch on/off via 4 button wall switch.

CONTROL COMPONENTS

(1) 4 Button Wall Switch **ALB WS EO4B WH**

(2) Ceiling Mount Sensor **ALB CM OS**

(1) Ceiling Mount Motion and Daylight Harvesting Sensor **ALB CM DHS OS**





Visit us online at www.lsicorp.com

