lumos
CONTROLS
A WISILICA BRAND

Lighting Controls Design Guide

RETAIL

Retail destinations are multidimensional places, and lighting is crucial in creating a multifaceted experience. Lighting can grab customer attention onto a particular product and also create a positive and productive environment for occupants. Implementing lighting control strategies will meet all these requirements.

Lumos Controls has been assisting building communities in creating energy-efficient and lively spaces. We thought sharing our experiences, and best practices would be helpful for your following projects.
This guide will brief you on how we design lighting control strategies for retail with a focus on:

→ Energy savings and convenience
→ Creating the mood and ambiance
→ Directing the customers' attention to the merchandise
→ Draws attention to the shop and its displays
→ Minimizing eye fatigue and lethargy
→ Create an inviting atmosphere within the store

Retail Buildings Possibilities

With Us- Save Energy and Improve Shopping Experiences

We have a device portfolio that is simple to install and easy-to-use.

Energy efficiency and comfort are crucial in lighting, and our lighting controls help you achieve them. Our future-proof solution helps you save energy, enhance the ambiance, and guarantee superior shopping experience through easy deployment of lighting control strategies. We also provide detailed analytical reports on energy utilization, occupancy patterns, and device usage. The result is better ROI. The solution easily integrates with the building management system, bringing added benefits.

Did you know??

Color temperature is vital when creating the desired look and feel of a store. A cool color temperature, which is in the range of 5000k to 6000k, is recommended if the retailer wants a spacious, clean and crisp look and feel. Warm color temperature in the range of 3000k to 4000k can create a sense of coziness and familiarity.

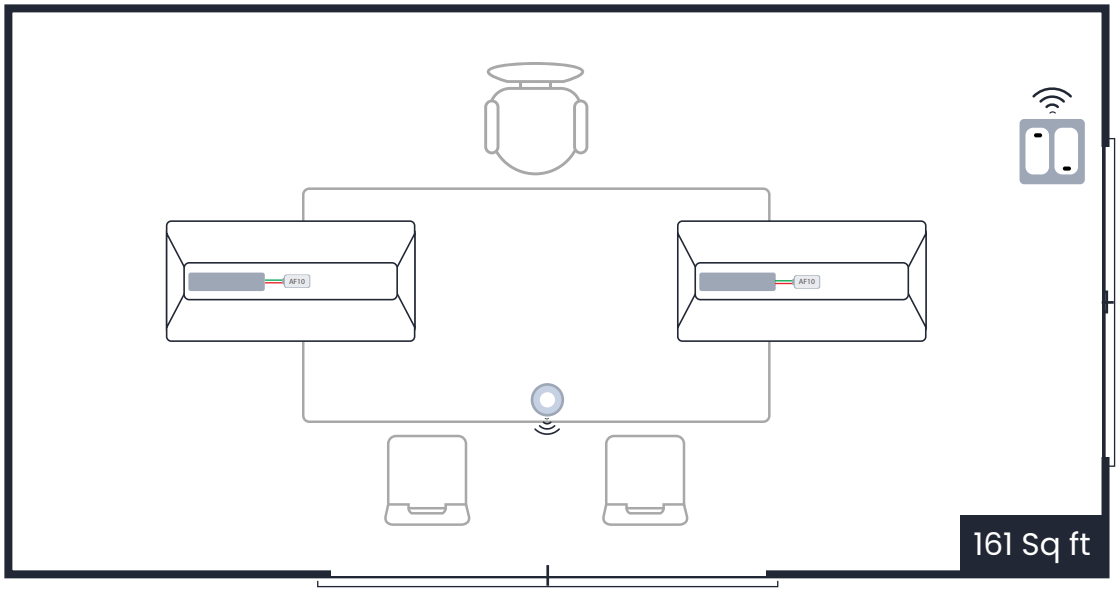
Lighting Control Strategies
for Each Spaces

Control Requirement	Code Summary (IECC)	Enclosed office	Display Area	Storage Rooms	Billing/Delivery Counters	Trial Rooms
Manual ON/OFF /Dimming	Automatically controlled spaces must be controlled to automatically turn the lighting on at <50% intensity.	Yes				
Auto ON to 100% intensity	Automatically controlled spaces are allowed to turn on at 100% intensity	Yes	Yes	Yes	Yes	Yes
Manual ON/OFF	Manual control to allow occupants to turn fixtures ON/OFF	Yes	Yes	Yes		Yes
Automate light level via occupancy	Occupancy sensors shall automatically reduce lighting	Yes		Yes		Yes
Auto OFF via occupancy sensor	Fixtures to turn off automatically within 20 minutes of space becoming vacant	Yes		Yes		Yes
Light dimming control	Manual control that allows the occupants to reduce light levels				Yes	
Auto-receptacle control	Appropriate receptacles to be automatically turned off 20 mins of all occupants leaving the space	Yes			Yes	Yes
Daylight harvesting	Daylight-responsive controls	Yes	Yes		Yes	
Emergency Lighting Circuits	Lights that automatically turn on during emergencies	Yes	Yes	Yes	Yes	Yes

Did you Know?

Higher color temperatures (4,600K or more) appear blue-white and are called cool or daylight colors.
Mid-range color temperatures (3,100K–4,600K) appear cool white.
Lower color temperatures (up to 3,000K) range from red to yellowish-white in tone and are called warm colors.

Enclosed Office



147.6ft is the device-to-device BLE communication distance with LoS. The actual range depends on the installation conditions and varies between 30ft - 130ft.

Motion/Light Sensor AF10 0-10V Fixture Controller Switch DZ : Daylight zone

Enclosed offices require human-centric lighting to change the indoor atmosphere dramatically, boosts productivity and inspires workers. Appropriate light level can increase visibility, productivity, reduce work stress, exhaustion, and anxiety. The availability of daylight will remove adverse effects and reduce the chances of seasonal affective disorder (SAD).

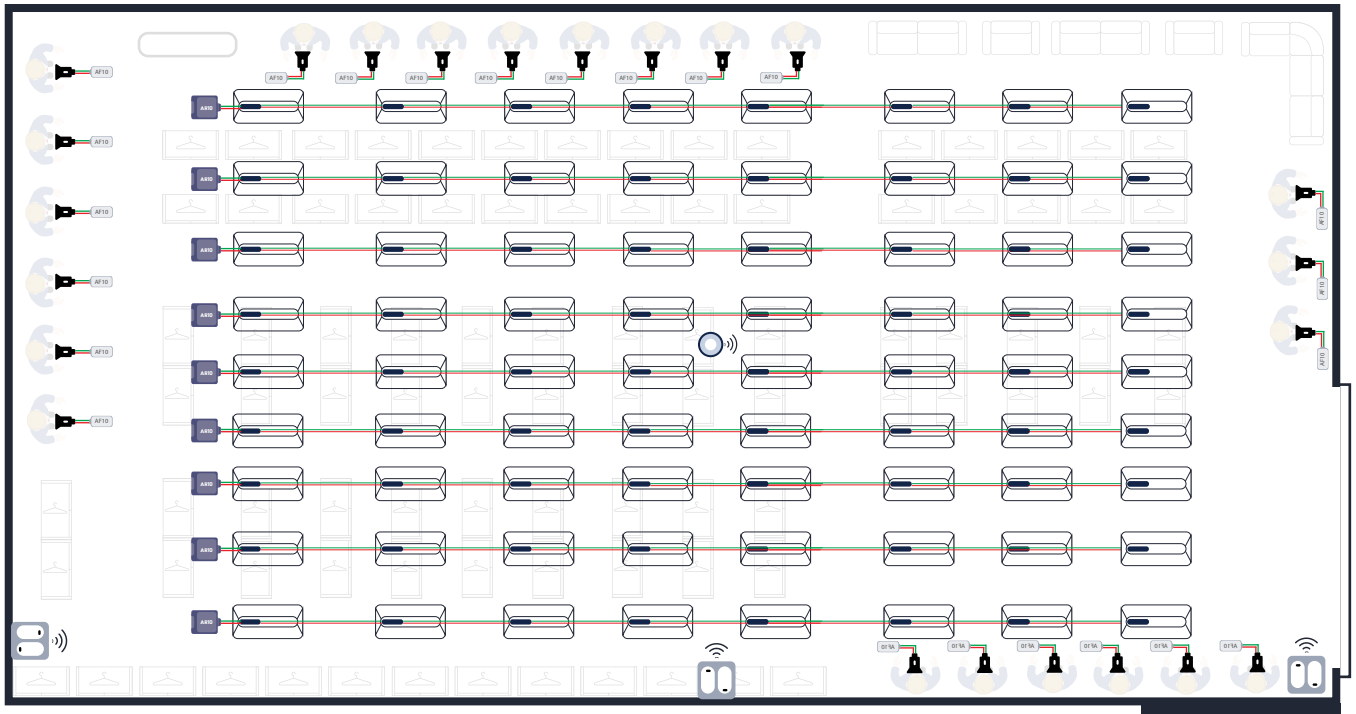
We suggest

→ Occupancy/ Vacancy sensing for safety and energy savings
→ Daylight sensing to improve energy savings, concentration and productivity

Pro tip:

You can use controllers to create glare-free and comfortable lighting. Occupancy sensors and controllers work together to detect human presence to turn lights ON automatically. Controllers and vacancy sensors detect vacancy and turn OFF devices. If the room gets enough daylight, incorporate light sensors and controllers for open-loop daylight harvesting. On the contrary, if you want to set a required light level, use light sensors and controllers for closed-loop daylight harvesting.

Display area



8611 Sq ft

147.6ft is the device-to-device BLE communication distance with LoS. The actual range depends on the installation conditions and varies between 30ft - 130ft.

Motion/ Light Sensor | AF10 0-10V Fixture Controller | AR10 0-10V Room Controller | Switch

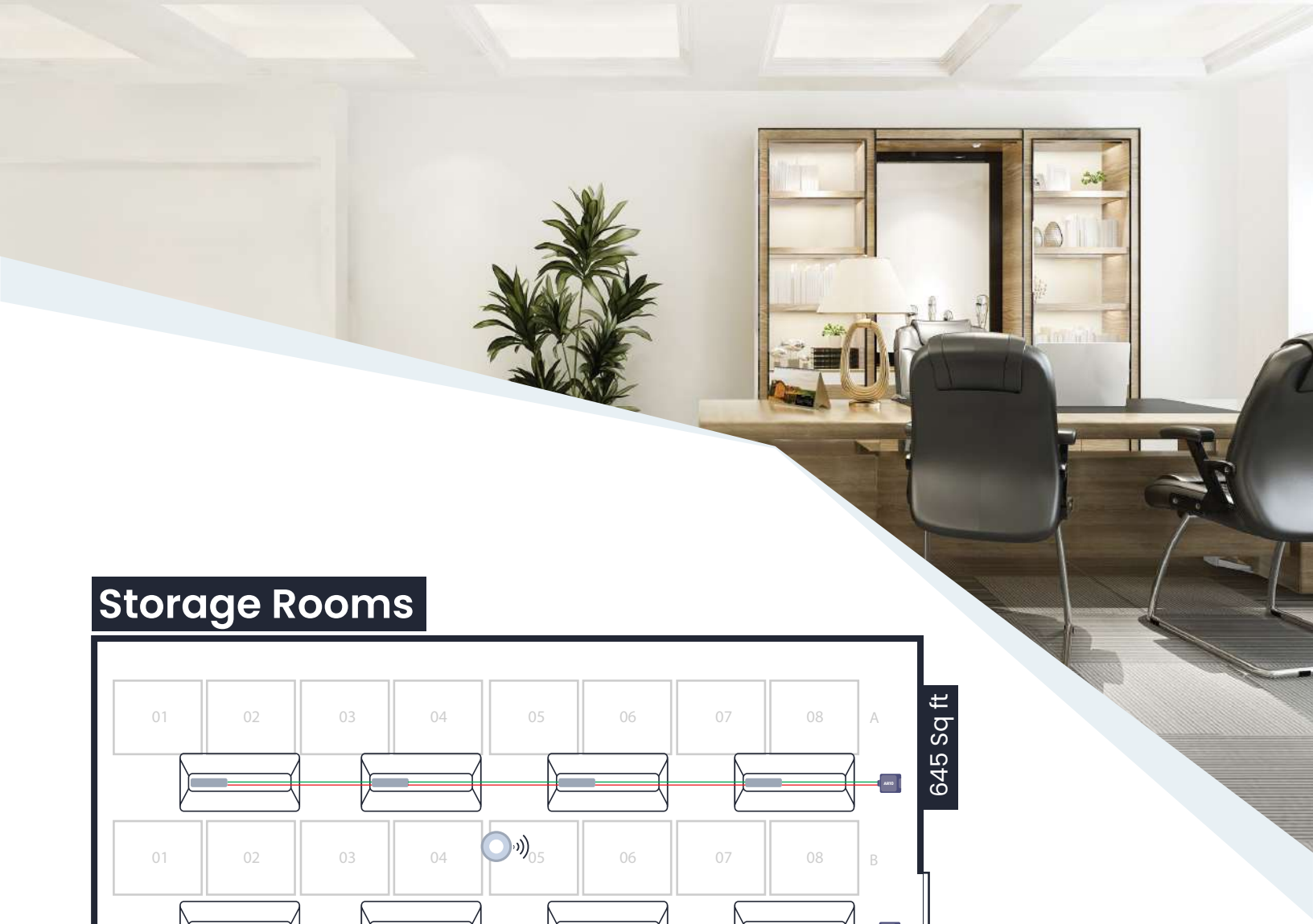
Display area requires lighting that can highlight particular items or crucial regions to bring attention to them. The lighting should be capable of directing customers to essential items or locations by making them more noticeable or emphasising.

We suggest

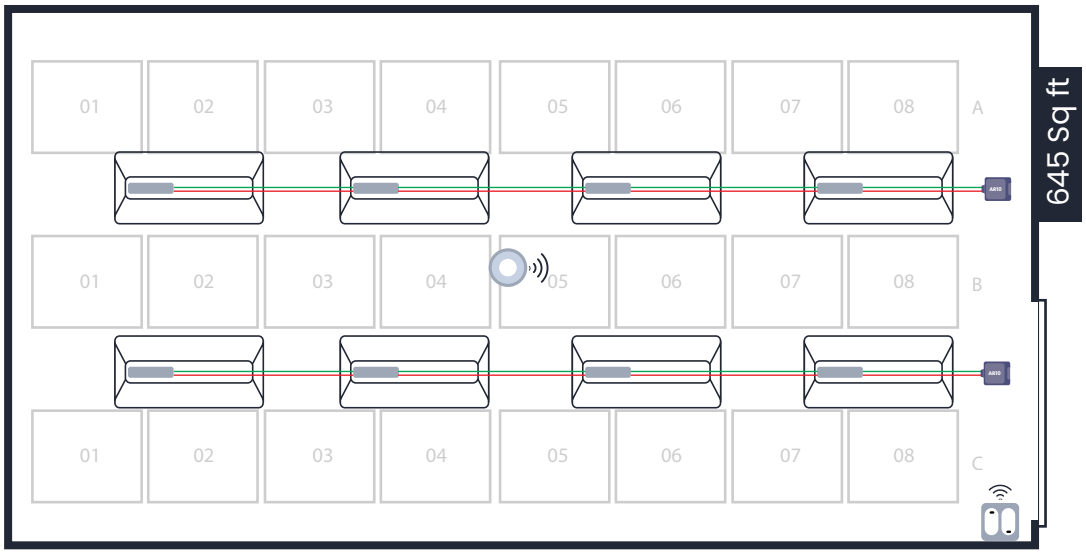
→ Daylight sensing to improve energy savings, concentration and productivity

Pro tip:

To gain attention, you can use our controllers and create appropriate light levels on items. If the room gets enough daylight, incorporate light sensors and controllers for open-loop daylight harvesting. On the contrary, if you want to set a required light level, use light sensors and controllers for closed-loop daylight harvesting.



Storage Rooms



147.6ft is the device-to-device BLE communication distance with LoS. The actual range depends on the installation conditions and varies between 30ft - 130ft.

Microwave Motion Sensor 0-10V Room Controller Switch

Storage space is mostly unoccupied. Lights must be turned ON only when people come in, ensuring easy access and visibility.

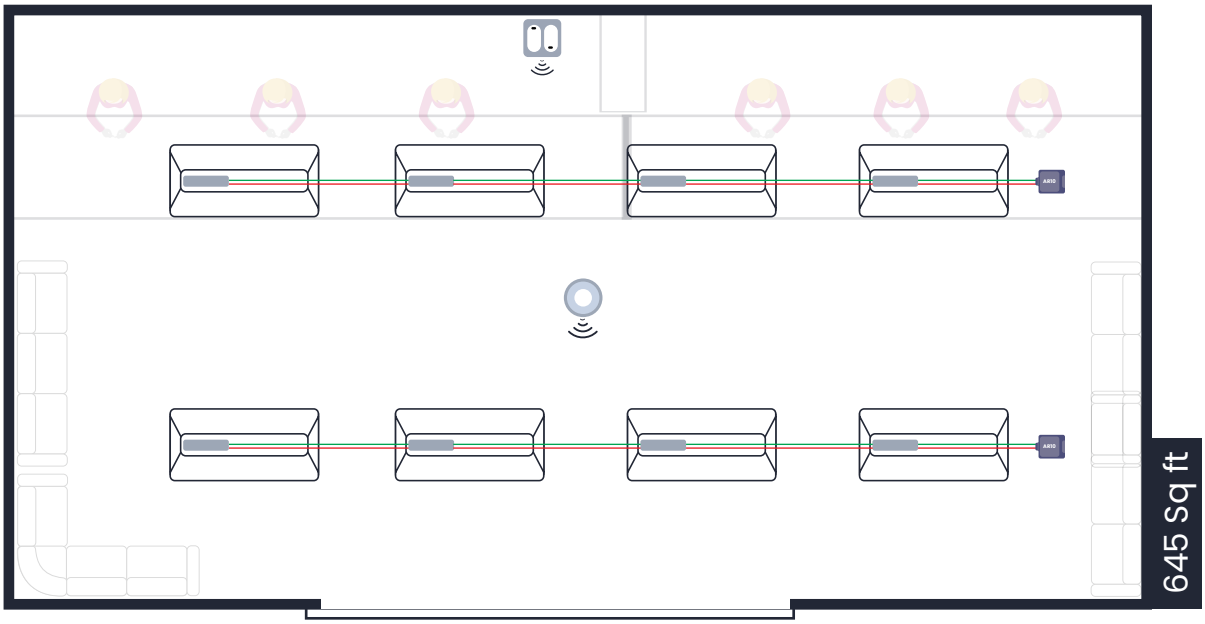
We suggest

→ Occupancy/Vacancy sensing for safety and energy savings

Pro tip:

Use controllers to create a required light intensity. Occupancy sensors and controllers work together to detect human presence to turn lights ON automatically. Controllers and vacancy sensors detect vacancy and turn OFF devices.

Billing/Delivery Counters



147.6ft is the device-to-device BLE communication distance with LoS. The actual range depends on the installation conditions and varies between 30ft - 130ft.

Motion/Light Sensor 0-10V Room Controller Switch

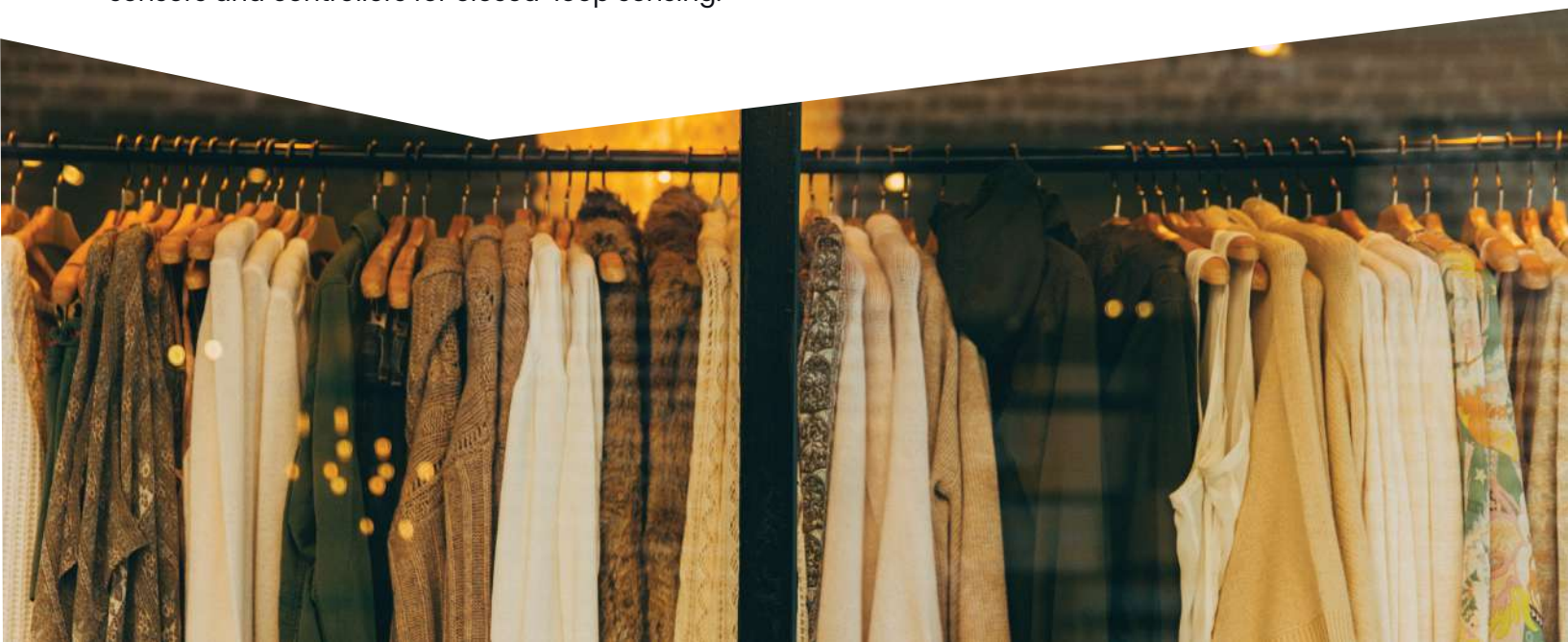
Billing or delivery counters require brighter lighting for visual comfort. Lighting for products or items displayed near the billing counter should be designed in a way to grab the attention of customers.

We suggest

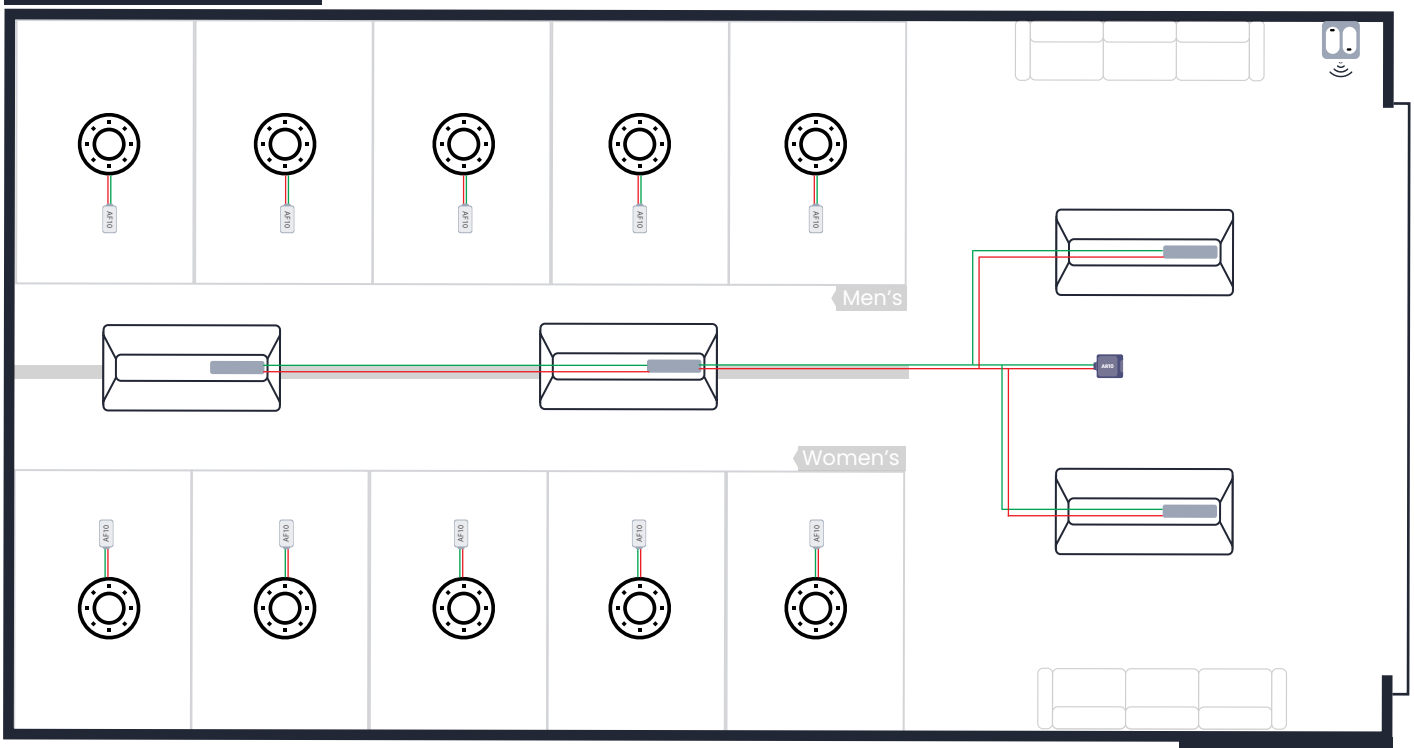
→ Task tuning to ensure glare-free lighting
→ Daylight sensing to improve concentration, productivity and enhanced energy savings

Pro tips:

Use controllers to set the required light level. If the room gets enough daylight, incorporate light sensors and controllers for open-loop sensing. On the contrary, if you want to set a required light level, use light sensors and controllers for closed-loop sensing.



Trial Rooms



147.6ft is the device-to-device BLE communication distance with LoS. The actual range depends on the installation conditions and varies between 30ft - 130ft.

Motion/ Light Sensor | AF10 0-10V Fixture Controller | AR10 0-10V Room Controller | Switch

Trial room lighting plays a crucial role in decision-making. The lighting should be cozy, intimate, and pleasant, making customers feel good and happy about themselves.

We suggest

→ Occupancy/Vacancy sensing for safety and energy savings

Pro tips:

Use controllers to set the required light level making customers feel pleasant and happy about themselves. Implement occupancy sensors and controllers together to detect human presence to turn lights ON automatically. Controllers and vacancy sensors detect vacancy and turn OFF devices.

Use our mobile app to enjoy maximum convenience and flexibility. You can wall mount our kinetic/ remote switches for ease of use. Our controllers meet emergency lighting requirements to ensure your building safety. Implement plug load controls for maximizing energy savings.

Grow Seamless

Optimize building operations with our advanced reports and analytics.

→ Understand occupancy patterns
→ Energy utilization
→ Device usage

Emergency monitoring dashboards ensure occupant safety 24*7

[Available only with our DALI lighting control system]

Device Placement Guidelines

Device placement considerations are crucial for optimizing the performance and functionality of devices in various scenarios. Here are some key points to consider:

1. **Signal Strength and Distance:** Keep in mind that signal strength tends to weaken as the distance between devices increases. Therefore, it is essential to consider the proximity of devices to ensure reliable communication. Maintain an appropriate distance between devices to ensure optimal signal strength.

2. **Metal Structures:** When devices are placed near metal structures, it is important to ensure that the Bluetooth Low Energy (BLE) antennas have a clear line of sight with nearby devices. This can be achieved by creating small holes in the metal enclosure to allow the BLE antennas to maintain connectivity.

3. **Sensor Mounting Guidelines:** Install sensors in a way that protects them from damage, vandalism, and accidents. Avoid placing sensors near heating sources that can cause rapid temperature changes within the detection or measurement zone. This includes air vents, fan heaters, incandescent lamps, and halogen lamps.

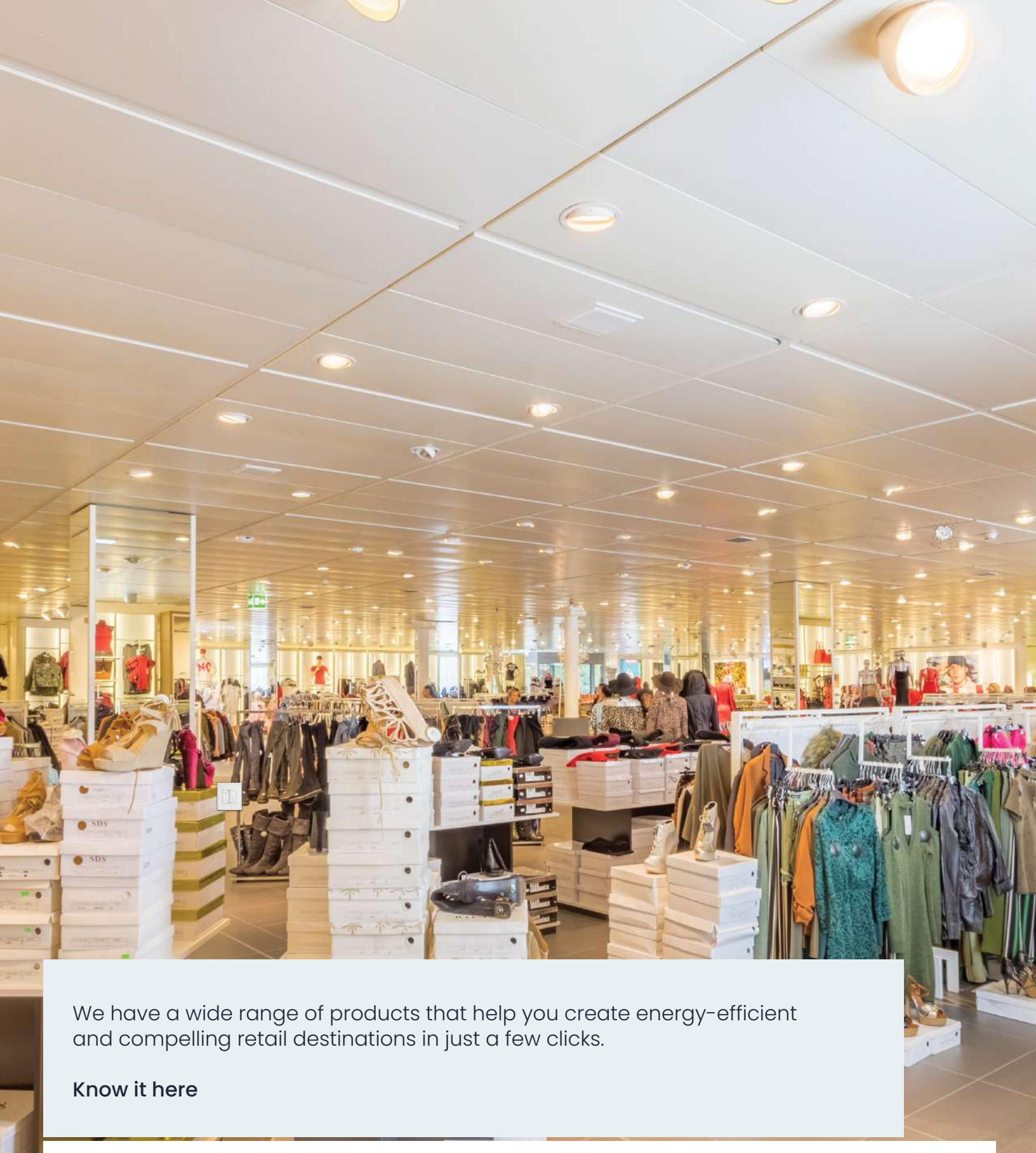
4. **Interference-Free Detection Range:** Ensure that the detection range of sensors is free from interferences that can affect their performance. Identify and mitigate potential sources of interference to maintain accurate and reliable measurements.

5. **Light Sensor Placement:** When using light sensors, make sure they only measure indirect light (light reflected from other surfaces) to avoid measurement distortions caused by direct sunlight. This ensures accurate and consistent measurement results.

6. **Scaling Up for Large Installations:** For large installations, establish a proper building hierarchy before commissioning the devices. Use Lumos Controls app, which allows devices to be divided among Buildings, Floors, and Zones. Choose the appropriate Zone for each device during commissioning. Note that devices commissioned in a Zone can only communicate with other devices in the same Zone. It is recommended to use a single phone for commissioning and configuring devices within a specific Zone to avoid multiple sync attempts to the cloud.

7. **Proximity for Configuration:** When creating, deleting, or editing Groups, Scenes, Schedules, etc., ensure that you are within the Bluetooth Low Energy (BLE) range of the related control devices. This proximity is necessary for seamless configuration and synchronization.

By considering these device placement considerations, you can optimize the performance, reliability, and functionality of your devices in various environments and scenarios.



We have a wide range of products that help you create energy-efficient and compelling retail destinations in just a few clicks.

Know it here

lumos CONTROLS
A WISILICA BRAND

ISO/IEC 27001:2013
Information security certified

20321 Lake Forest Dr D6,
Lake Forest, CA 92630

www.lumoscontrols.com
+1 949-397-9330