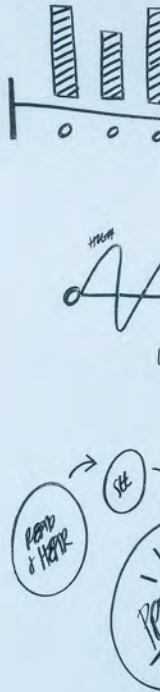


A modern office hallway with light wood flooring, white walls, and a curved ceiling. Several large potted plants are arranged in the foreground. In the background, there is a reception desk with a 'LUTRON' sign on the wall and large windows. A central white text box is overlaid on the image.

Touchless Technology for Adaptive Spaces

Lutron | Ketra



Agenda

What is the future of technology in the interior space?

It's all about Hygiene, combined with Convenience, Performance and Experience.

5 Easy-to-Implement Technologies for Touchless and Adaptable Spaces

Understand how to quickly and easily implement a touchless light and control strategy to ensure your spaces are future-proof.

Our Service Commitment

Q and A

Lutron – a legacy of innovation



A history of excellence

1961: Debut of the rotary dimmer – the beginning of human-centric lighting



Hardware + Software + Service

Our first principle is to take care of the customer



Range of cutting-edge solutions

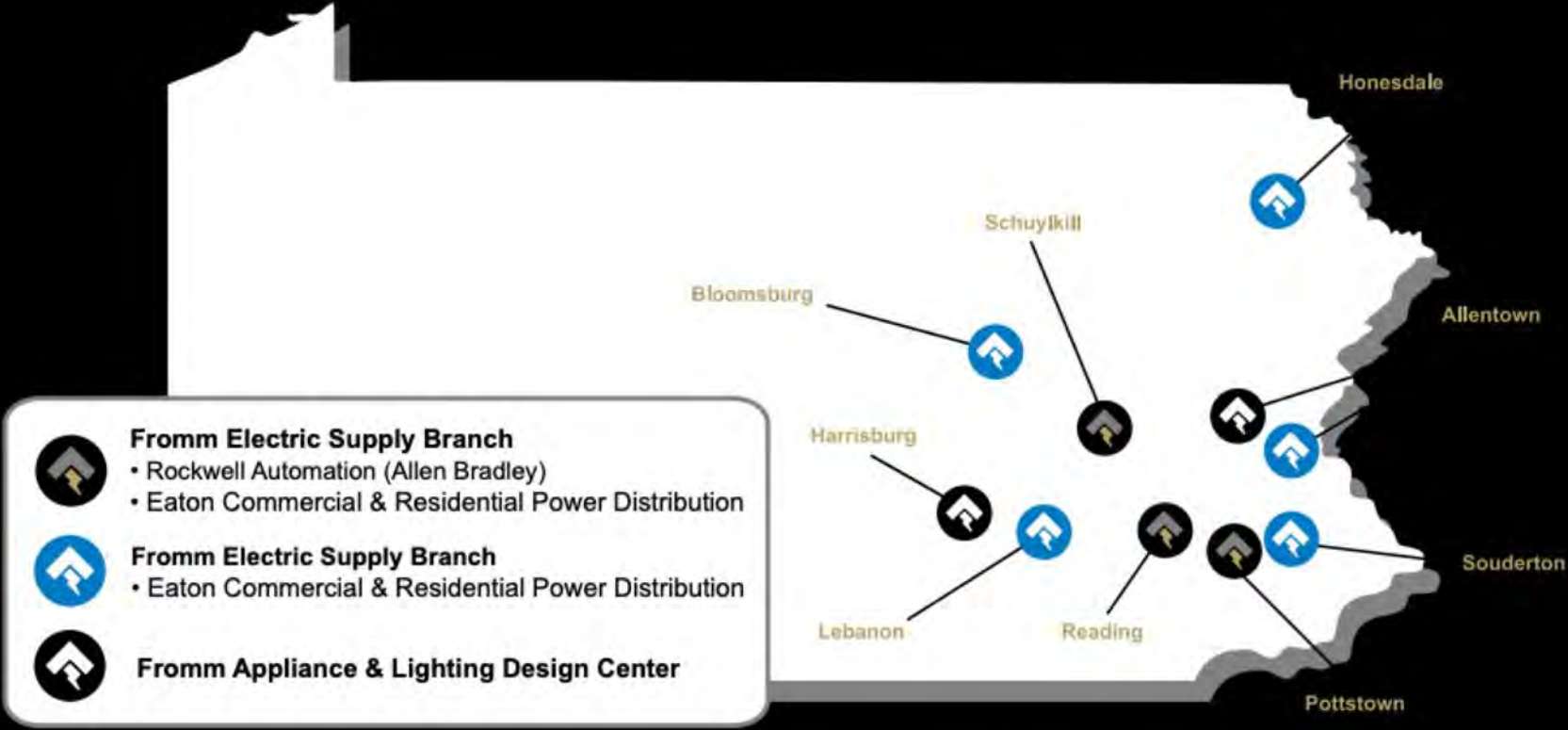
Lighting, Shading, Controls for residential & commercial spaces



FROMM'S FOUNDATION

- Fromm is a long established, independent and family-owned electrical distributor serving the Mid-Atlantic region of the United States. Since 1923, our company has been supplying electrical products and services to the industrial, commercial construction, and residential markets. We operate eight electric supply counters, two residential design centers, and a central distribution warehouse in Pennsylvania.
- Fromm has been distributing products and services in the Lehigh Valley Facilities Managers Association's operational footprint for nearly a century.

FROMM'S DISTRIBUTION FOOTPRINT



Fromm is a leading supplier of Lighting and Lighting Control Services

- **Energy Efficiency:** Our specialists will perform an energy efficiency audit at your facility then provide you with a summary of recommendations on lowering your energy consumption and costs. Our experts will also help you apply for utility rebates for quicker payback on your investment.
- **Lighting Design:** Fromm's team of experts can advise you on both lighting output and lighting design features. They can help you manage your lighting design projects and control costs.
- **Utility Rebates:** Fromm partners with local utility providers to offer a variety of rebates to help you choose energy-efficient retrofit products, including lighting and variable frequency drives.
- **Lighting Control:** Fromm's lighting team can incorporate controls into designs and retrofit scenarios to supplement efficiency, energy savings and automation of an entire lighting system (of any size). Whether it's scene control, dimming, touchless technology, whole building systems, remote management/monitoring, etc., they work with customers on their facilities to propose the best solutions.

Fromm & Lutron

- Lutron has been a proud partner of Fromm's for several decades, so our sales team knows the Lutron product line and which products will work for your project.
- Together, Fromm and Lutron are capable of providing expertise on lighting control design, efficiencies/improvements and retrofit scenarios (resulting in energy savings + utility rebates).
- Our team of experts will work with you to:
 - Evaluate needs...both aesthetically and technologically.
 - Develop design and document benefits.
 - Assist with project management and coordination.



What is the future of technology in interior spaces?

Automation and AI

Sustainable buildings

Meeting code

UX

Taking care of the people

Data gathering

Efficiencies

Enhanced wellbeing

Hygienic

Performance

- Empowering people and buildings for optimal results
- Achieving sustainable ratings and energy efficiency: LEED, WELL, Energy Code
- A building that performs now and continues to perform over time with embedded technologies that can adapt and learn

Convenience

- A technology experience designed to make the mundane disappear
- Simple technology that “just works”
- Maintain an environment that feels “just right” without touching a button with automation, scheduling, and sensors.

Experience

- Spaces that are bespoke, memorable, and curated
- More comfort, more accomplished: People are the most valuable asset.
- A space where you want to be – because it's designed with **people** in mind.

5 Easy-to-Implement Strategies for Touchless and Adaptable Technology

1. Touchless Controls
2. Shade Fabrics for Wellbeing
3. Flexibility Through Digital Lighting
4. Lighting for Messaging and Wayfinding
5. Dedicated Personalized Control

1a

The power of wireless sensors....

- No need to touch wall controls!
- Quickly retrofit spaces to have automated lighting and shading control via wireless sensors
- Occupancy sensors can turn on and off lights w/o touch



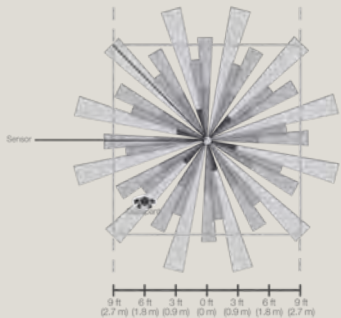
1a

Many form factors to choose from...



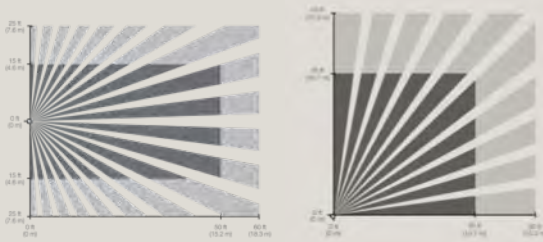
Ceiling Mount

- Wireless



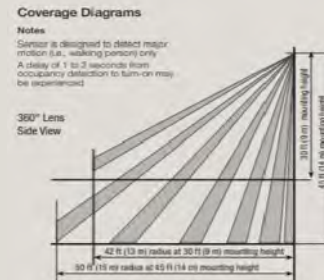
Wall/Corner Mount

- Wireless



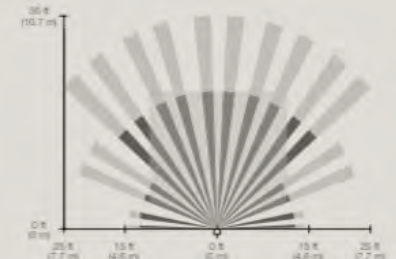
High Bay

- Wired



In-Wall

- Wired



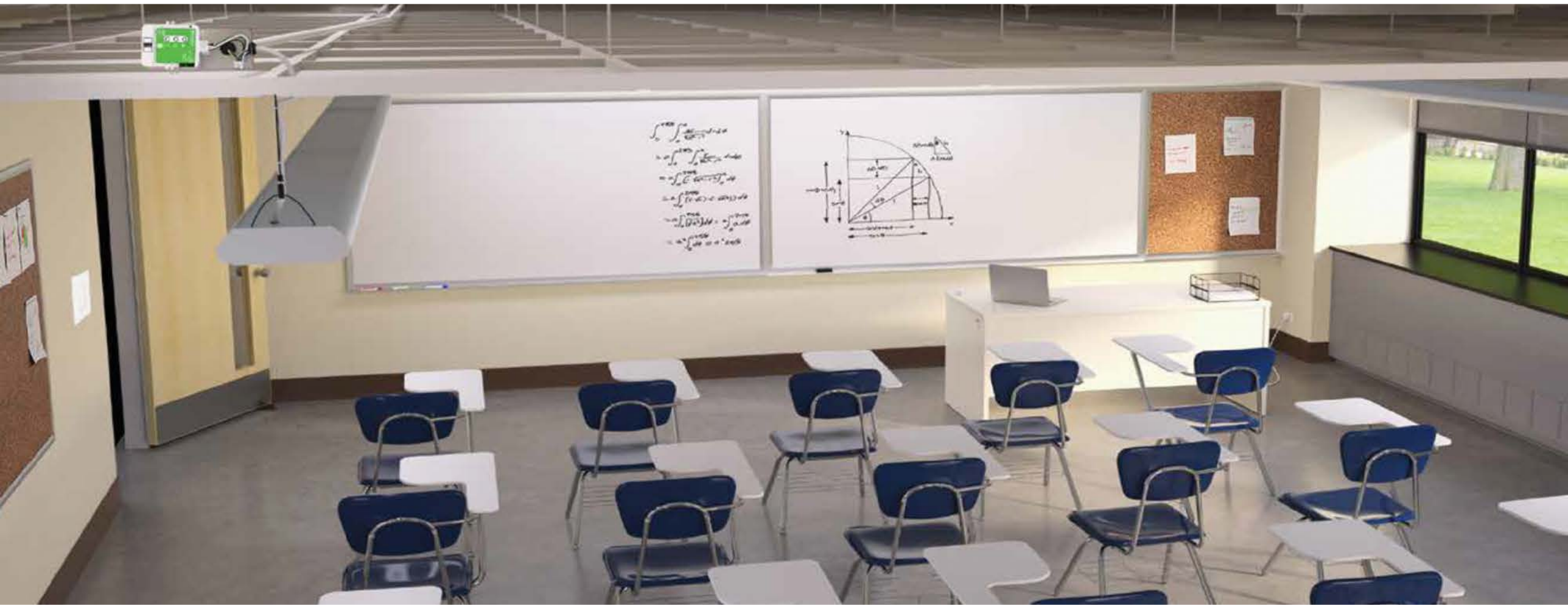
1a

Sensors: Best Practices for Easy Implementation

- Choose a form factor.
- Complete a sensor layout.
 - Quantity
 - Coverage
- Use 3M Tape to mount wireless sensors for early move-in days; secure later.



Why Vive Wireless? Installs Faster



Why Vive Wireless?

Installs Faster



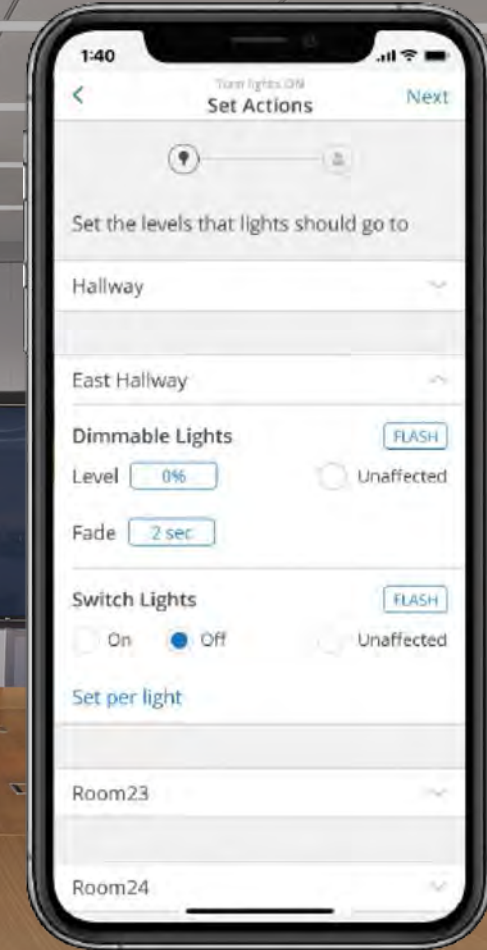
Reliable Wireless Communication



1b

Scheduling / Timeclock

- Automatically and consistently alter lighting and shading settings based on time of day or event.



Schedules

[Add Event](#)

All schedules

09-Aug-20 to 15-Aug-20

| Time | 9 Sun | 10 Mon | 11 Tue | 12 Wed | 13 Thu | 14 Fri | 15 Sat |
|----------|-------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------------|
| 08:00 AM | | | | | | | |
| 09:00 AM | | 14 events | 9:15 AM Project Meeting | 9:15 AM Project Meeting | 9:15 AM Project Meeting | 9:15 AM Project Meeting | |
| 10:00 AM | | 10:00 AM 5 events | | | | | |
| 11:00 AM | | | | | | | |
| 12:00 PM | 12:00 PM Weekend and holidays | 12:00 PM Lunch dwnlts off | 12:00 PM Lunch dwnlts off | 12:00 PM Lunch dwnlts off | 12:00 PM Lunch dwnlts off | 12:00 PM Lunch dwnlts off | 12:00 PM Weekend and holidays |
| 01:00 PM | | | | | | | |

NEIL LIVE DEMO

Shading and Lighting Technology

Making it all come together for the greater good of the
Building, the Business, and the People

1c

Natural Show

- Let nature run its course - let the interior light automatically meld with that of the exterior with Ketra technology.
- Create environments that feel warm, invigorating, or comfortable dependent on time of day.

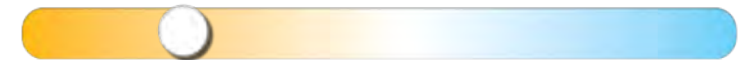
Extend the Natural Light





Powerful, Intuitive Control

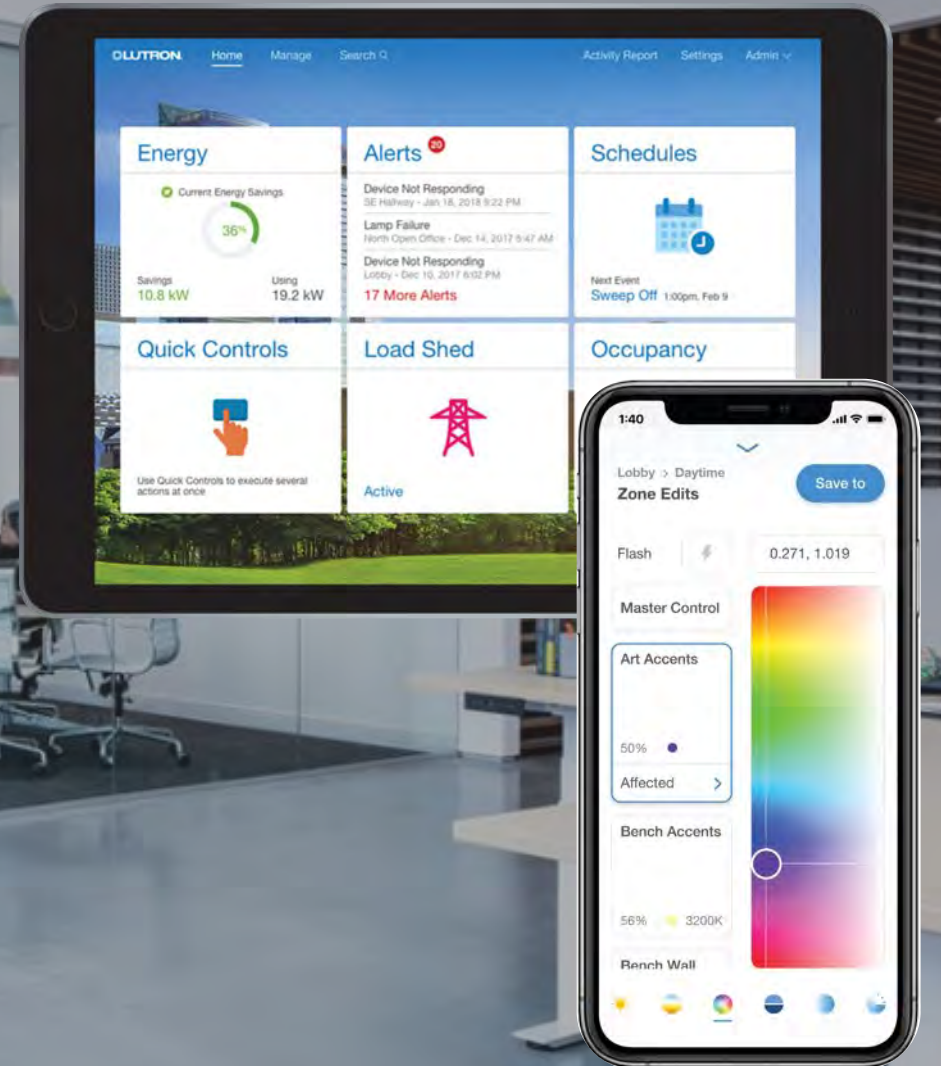
- Adapt the space quickly with integrated control of lights, shades and A/V equipment
- Provide personal control where you need it – wired and wireless
- Save energy with sensors and simple-to-adjust timeclocks
- Optional advanced programming for highly sensitive research and experiments



1d

Software Interface

- Easily make changes to scene setting, monitor energy and occupancy from computer or app
 - Scheduling / Timeclock
 - Natural Show
 - Hyperion shades w/ daylight sensors
 - Sensors (occupancy / vacancy)



Video – Vue

<https://www.youtube.com/watch?v=tIMTvxF-Z1Y>

1e

Hyperion Shades – Automated Adjustment to Avoid Touch, Glare, and Heat Build Up

- Shades open and close automatically based on solar algorithm
- Sensor override when bright and cloudy
- No need to touch controls or shades!



Avoid this...

*"We're
distracted."*

... And Shade Fabrics for Wellbeing That Are:

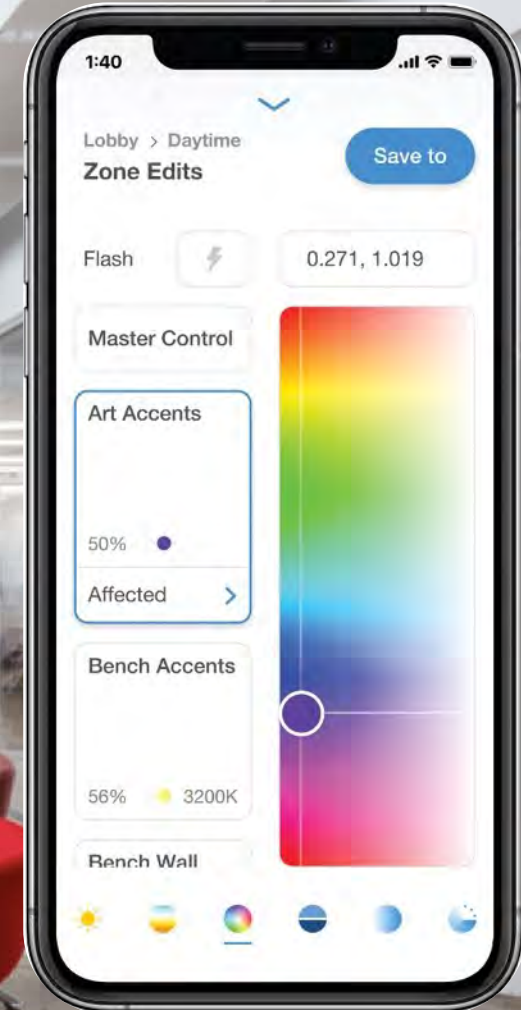
- Antimicrobial
- PVC Free
- Low VOC
- Easy to clean
- Provide views to the outdoors while blocking light and reducing glare

Video – 2:23

[https://www.youtube.com/watch
?v=mfJzXqrLgo8](https://www.youtube.com/watch?v=mfJzXqrLgo8)

Flexibility through Digital Lighting

- Reconfigure a space w/o lifting a finger (or calling a contractor)
- Digitally rezone your lighting as spaces take new forms.
- Lighting in an open floor plan office today can be broken into multiple zones for private offices tomorrow.



Lighting Designer App Video

https://www.youtube.com/watch?v=rPNSS_aGeaQ

Light for messaging and wayfinding

- Use colored light to denote when a room is *vacant / clean* – *vacant / needing cleaning* – or *occupied*.
- Reduce touch by enabling people to navigate via light.

Video Wayfinding

5

Dedicated Personalized Controls

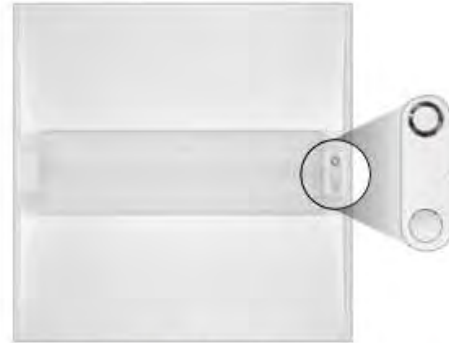
- Use the wireless Pico to have personalized control that only YOU touch.
- Custom engrave as you like.

Individual Fixture Control

Step 1

Simply count the fixtures—the technology is built in

- Visit lutron.com/hpfi for a list of fixtures that come with Vive wireless technology built in
- Fixtures are shipped with occupancy, vacancy and daylight sensing already installed



Occupancy/vacancy sensors

Step 2

Control your lights where you need to

- Wireless devices can be mounted to any surface with no wiring needed
- Controls communicate wirelessly to the controls in the ceiling
- 10-year battery life



Switching



Dimming



Scene

Pico wireless remotes



Step 3

System software and control

- Timeclock
- Demand response
- BACnet & API integration
- Energy and Occupancy information
- Proactive maintenance alerts



Vive Software

See easy system programming on pages 16 & 17





"Wow" is when it all comes together.

Lutron's Commitment to Service

- Dedicated support from design through occupancy
- Virtual Education and CEUs
- Project Management
- 24/7 Technical Support
- Remote or on-site startup
- System performance verification documentation & walkthrough (for LEED)
- Title 24 acceptance test visit

What's next?

Develop a touchless tech plan with your local Fromm Sales Representative.

Todd Rutledge - Fromm Rep - trutledge@frommelectric.com

Neil Schroder - Lutron Rep - neils@ses95.com

Liam Traver - Business Development - ltraver@lutron.com





Questions?