WATTSTOPPER®
HUMAN CENTRIC LIGHTING
ADVANCED TUNABLE LIGHTING MADE SIMPLE
designed to be better™
BEAUTIFUL LIGHTING IS JUST THE BEGINNING
Introducing Wattstopper Human Centric Lighting

In the next phase of lighting innovation, light and art will come together for beautifully illuminated spaces.

Introducing Wattstopper Human Centric Lighting (HCL) from Legrand. A precision dimming and tunable lighting system with industry-leading quality of light that transforms any space.

Wattstopper combines their digital lighting control excellence in an exclusive partnership with Lumeneitx® Inc., a recognized leader in tunable color technology. This partnership enables new lighting experiences while reducing the complexity of design, installation, and operation of tunable LED lighting systems. This combination will enable lighting fixture manufacturers and specifiers to reliably address new market demands for precision dimming and HCL systems.

Now you can easily replicate the visual comfort of natural light with Wattstopper Human Centric Lighting: a turnkey HCL system of tunable light engines and accompanying HCL controls.
Tunable lighting just got simpler

Wattstopper takes the complexity out of tunable lighting projects with an integrated, turnkey system of tunable LED light engines designed to be integrated into fixtures and controlled by Wattstopper’s Digital Lighting Management (DLM) or Architectural Dimming systems.

The result is a new level of simplicity of design, installation, and occupant control for tunable lighting projects.

THE WATTSTOPPER DIFFERENCE

Light engines that deliver a higher quality of light
- Adjust color temperature to precisely follow the blackbody locus, replicating the color changes of natural daylight
- Accurate color rendering with a Color Rendering Index (CRI) of 90+ through the full range of color temperatures
- Closed loop thermal feedback ensures both color and lumen maintenance delivering consistency between fixtures over their entire life
- Precision, flicker-free dimming from 100% to 0.1%

QUICK INSTALLATION AND EASY CONTROL

- DLM’s Plug n’ Go™ automatic configuration eliminates the need for additional programming making installing an HCL system easier than ever before
- Simple to use interfaces for easy and intuitive adjustment of intensity and color temperature
INTRODUCING WATTSTOPPER HUMAN CENTRIC LIGHTING SOLUTIONS

Light Engines

Light Engine Package
(includes driver, array, power supply, and wiring harness)

Blanco Tunable White & Dim to Dark Driver
DLM Control Interface

Lumenetix® araya® Tunable Color Driver
DMX Control Interface
The essential component that makes Wattstopper HCL unique is the suite of light engines that enable fixtures from any manufacturer to deliver industry-leading quality of light. These light engines can be integrated into a broad range of fixtures to provide zone or fixture-based control and deliver a range of lighting color temperatures.

- Choose from four different light engine options depending on the tunable range and features desired
- DLM control makes installing and controlling tunable lighting easier than ever
- Option for DMX control with the Lumenetix® araya® tunable color light engine for adjustment of saturation and hue

**THE WATTSTOPPER HCL LIGHT ENGINES**

1. **Lumenetix® araya®**
   - **Tunable Color**
   - Five-color LED tunable color (1650K – 8000K)
   - Precision dimming from 100% to 0.1%*

2. **Blanco 3**
   - **Natural Tunable White**
   - Three-color LED tunable white (2700K – 6500K)
   - Precision dimming from 100% to 0.1%

3. **Blanco 2**
   - **Tunable White**
   - Two-color LED tunable white (3000K – 5000K)
   - Precision dimming from 100% to 0.1%

4. **Blanco 1 (Coming soon!**
   - **Dim to Dark**
   - Precision dimming from 100% to 0.1%

*Select fixture types
A new way to deliver natural light

Not all light is created equal. High-quality electric light should replicate the characteristics of natural daylight, including:

- Dynamic intensity—daylight changes in intensity during the day and so should electric light
- Correlated color temperature (CCT)—ability to adjust the color of the white light along the blackbody locus to reproduce the same color temperatures as daylight
- High CRI—ability of a light source to reveal the true colors of various objects in a similar way to a natural light source

NATURAL SUNLIGHT
Color temperature changes
Consistent CRI of 100%

LAMP
Static color temperature
Lower CRI

HUMAN CENTRIC LIGHTING
Ability to control color temperature
High CRI
Advanced driver technology enables higher quality tunable light

The chromaticity diagram represents the mapping of human color perception. For the highest quality of color, the Blanco and Lumenetix® araya 5 drivers follow the path of the blackbody locus as the temperature changes from a warm amber color at low temperatures to cool bluish white at very high temperatures.

Wattstopper offers three options for light engines using two, three, or five colors to provide different ranges of available color temperatures.

Regardless of which engine is selected, you can be assured the output will be an industry-leading quality of light.

**Blanco 2**
Two white LEDs
(3000K – 5000K)

**Blanco 3**
Three white LEDs
(2700K – 6500K)

**Lumenetix® araya**
Five color LEDs
(1650K – 8000K)
DLM Tunable White Control

The Wattstopper DLM system makes installation and control of tunable white SIMPLE

COLOR CONTROL SCHEDULE SWITCH
LMTS-101-CCT

- Automated time based color temperature control
- Daylight cycling based on building’s longitude and latitude
- Real time CCT display
- Easy Plug n’ Go™ automatic configuration

COLOR CONTROL PRESET SWITCH
LMSW-105-CCT

- Master raise/lower paddle to adjust color temperature levels between cool and warm light
- Scene buttons to set and recall up to four preset color temperature scenes
- Easy Plug n’ Go™ automatic configuration

DLM TOUCHSCREEN
LMEQ-41

- Beautiful 4.3” glass to edge LCD touchscreen
- Designed to work seamlessly with DLM via the new LMTI touchscreen injector
- Easy to use tunable white and intensity control with intuitive sliders or customizable scenes
- Easy Plug n’ Go™ automatic configuration

LMTS-101-CCT and LMSW-105-CCT control color temperature only. A separate DLM dimming switch is also needed for intensity (e.g. LMDM-101).
The Wattstopper light engines integrate seamlessly with DLM ensuring simple and intuitive control. DLM’s Plug n’ Go™ automatic configuration ensures these switches control the CCT channel and intensity immediately, bringing a new level of simplicity to tunable lighting projects.

**NETWORK SEGMENT MANAGER**
- Create automated and customized tunable white schedules for individual rooms and entire buildings based on time of day or latitude and longitude
- Centrally monitor and manage tunable white device parameters
- Include tunable white rooms in demand response scenarios and building management systems

**LMCS SOFTWARE**
- Wattstopper’s free LMCS Software makes it easy to build, design, document, and configure tunable white projects
- Create and edit tunable white preset buttons tailored for each room and room type
- Schedule and edit tunable white levels throughout the day
Architectural Dimming Control

Full color controls and precision dimming to complete your HCL system

**EQUINOX 40**
EQ40TB-TI-II

- Wall mounted, 4.3” digital keypad
- Control up to 15 discrete scenes, lights, or shades
- Quick access to set area or building CCT levels and intensities

**EQUINOX 41**
EQ41-LCAP

- Beautiful 4.3” glass to edge LCD touchscreen
- Portrait view of full lighting, scenes, and shading access for complete control
- Easy to use tunable white and tunable color graphical controls
- Control CCT levels and intensities with scenes, sliders, and color pickers

**EQUINOX 73**
EQ73-LCAP

- Always on 7” glass to edge LCD touchscreen
- Large, landscape view of lighting, scenes, and shading access for complete control
- Full color tunable white and tunable controls such as kelvin or RGB sliders and kelvin or RGB swatches
- Save swatches of tunable white or tunable color directly into scenes for easy access later
The combination of Lumenetix® araya® light engine with Architectural Dimming using DMX enables precise control of HCL and full color lighting. The Equinox line of touchscreens offers unlimited options when designing lighting scenes, schedules, and events allowing users simple to advanced control of tunable fixtures.

**DESIGN CENTER SOFTWARE**

- Fast and simple design, setup, and programming of architectural dimming projects
- Configure DMX lighting for both tunable color and tunable white control
- Create automated schedules and timers as well as other conditional logic elements for tunable lighting systems
- Enable BACnet® for DMX lighting into building management systems

**SHADING SYSTEMS**

- Integrate Solarfective® commercial shading solutions with Wattstopper HCL control for optimal daylighting and energy performance.

For more information visit: [www.legrand.us/shading-systems](http://www.legrand.us/shading-systems)
Lumenetix® araya⁵
Tunable Color

Lumenetix® araya⁵ mixes five colors to deliver full spectrum light that replicates the color and quality of natural sunlight. Ideally suited for applications where lighting defines and shapes the experience, fixtures with tunable color can bring scene-setting visual interest and drama to everyday environments. The Lumenetix® araya⁵ solution also performs precision dimming and tunable white functionality.

**CCT RANGE**
- 1650K – 8000K

**KEY APPLICATIONS**
- Accent Lighting
- Hotel Lobbies
- Atriums

**TECHNICAL FEATURES**
- 90+ CRI*
- 0.1% Dimming**
- Tunable Color
- Replicates Natural Light
- Thermal Feedback
- Optical Feedback
- Saturation & Hue Control

**SOFTWARE TOOLS**
- Design Center

**EXAMPLE CONTROL OPTIONS**
- Equinox App
- Equinox 73
- LMTS-101-CCT
- LMSW-105-CCT

*From 2000–6000K
**Select fixture types

Note: DLM control enables tunable white control only, not saturation and hue.
EXAMPLE

- Lumenetix® araya
- DMX control
- Controls: Equinox 73, Equinox App
Blanco 3
Natural Tunable White

This precise, three-color solution combines precision dimming with tunable white. Blanco 3 mixes three different colors of white LEDs to precisely trace the blackbody locus while delivering a wide range of color temperatures. With the ability to replicate natural daylight, Blanco 3 appeals to lighting designers who are seeking to personalize a space with customizable white light.

**CCT RANGE**

- 2700K - 6500K

**KEY APPLICATIONS**

- Conference Rooms
- Lobbies
- Patient Rooms

**TECHNICAL FEATURES**

- Blackbody Dimming
- 90+ CRI
- 0.1% Dimming
- Tunable White
- Thermal Feedback

**SOFTWARE TOOLS**

- Network Segment Manager (optional)
- LMCS

**EXAMPLE CONTROL OPTIONS**

- LMTS-101-CCT
- LMSW-105-CCT
- LMDM-101
- LMQ-41

2700K
EXAMPLE

- Blanco 3
- DLM control
- Controls: LMSW-105-CCT, LMDM-101
Blanco 2
Tunable White

This high-quality, two-color solution combines precision dimming with tunable white. Blanco 2 mixes two colors of white LEDs to closely approximate the blackbody locus for tunable white applications.

**CCT RANGE**
- 3000K - 5000K

**KEY APPLICATIONS**
- Classrooms
- Corridors
- Nurses Stations

**TECHNICAL FEATURES**
- 90+ CRI
- 0.1% Dimming
- Tunable White
- Thermal Feedback

**SOFTWARE TOOLS**
- Network Segment Manager (optional)
- LMCS

**EXAMPLE CONTROL OPTIONS**

- LMDS-101-CCT
- LMSW-105-CCT
- LMDM-101
- LEMQ-41
EXAMPLE

- Blanco 2
- DLM control
- Controls: LMSW-105-CCT, LMDM-101
Blanco 1 (Coming soon!) Dim to Dark

The Blanco 1 individual fixture control solution will drive precise intensity control to adjust the ambience of a space with precision architectural dimming. Designed for fixed color temperature applications, the Blanco 1 features a dimmable range from 100% to 0.1%.

**CCT RANGE**
- Fixed

**KEY APPLICATIONS**
- Auditoriums
- Meeting Rooms

**TECHNICAL FEATURES**
- 0.1% Dimming
- Works with any array

**SOFTWARE TOOLS**
- Network Segment Manager (optional)
- LMCS

**EXAMPLE CONTROL OPTIONS**

LMDM-101  LMSW-105
EXAMPLE

- Blanco 1
- DLM control
- Control options: LMDM-101, LMSW-105
Wattstopper Human Centric Lighting
The Ideal Solution for any Space

KEY APPLICATIONS

HEALTHCARE

EDUCATION

COMMERCIAL OFFICE

OTHER APPLICATIONS

HOSPITALITY

RETAIL

MUSEUMS
How to specify Wattstopper HCL

1. Choose driver (Blanco 2, Blanco 3, or Lumenetix® araya5) and the array form factor (linear or round)
   Sold to fixture partners & integrated into fixtures
   
   Browse fixture partners that have integrated our solutions:
   www.legrand.us/wattstopper/oem/oem-partners.aspx

2. Choose control interface and specify with the fixture manufacturer of choice

   - Wattstopper DLM
     (Available for Blanco or Lumenetix® araya5 modules)
   
   - Wattstopper Architectural Dimming (DMX)
     (Available for Lumenetix® araya5 only)

3. Enabled fixtures will work seamlessly with Wattstopper controls based on the interface selected

   - DLM switches, DLM touchscreen, controls, and software
     Best for general lighting applications in healthcare, education, and commercial office spaces.
   
   - Equinox touchscreens, keypads, and software
     Best for hospitality, retail, and specialized dimming applications.