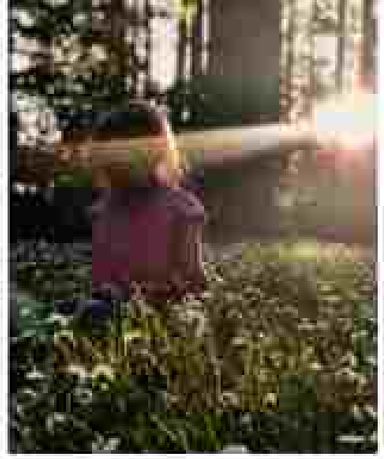
USAI Lighting

Color Select® Tunable White



Color Select®

EMPOWER WITH TUNABLE WHITE LIGHT

High quality lighting with adjustable color temperature and intensity has the power to enhance architecture, elevate aesthetics, and increase the energy efficiency of a space. But most importantly, lighting can improve the quality of life of the human beings who use it.

USAI Lighting

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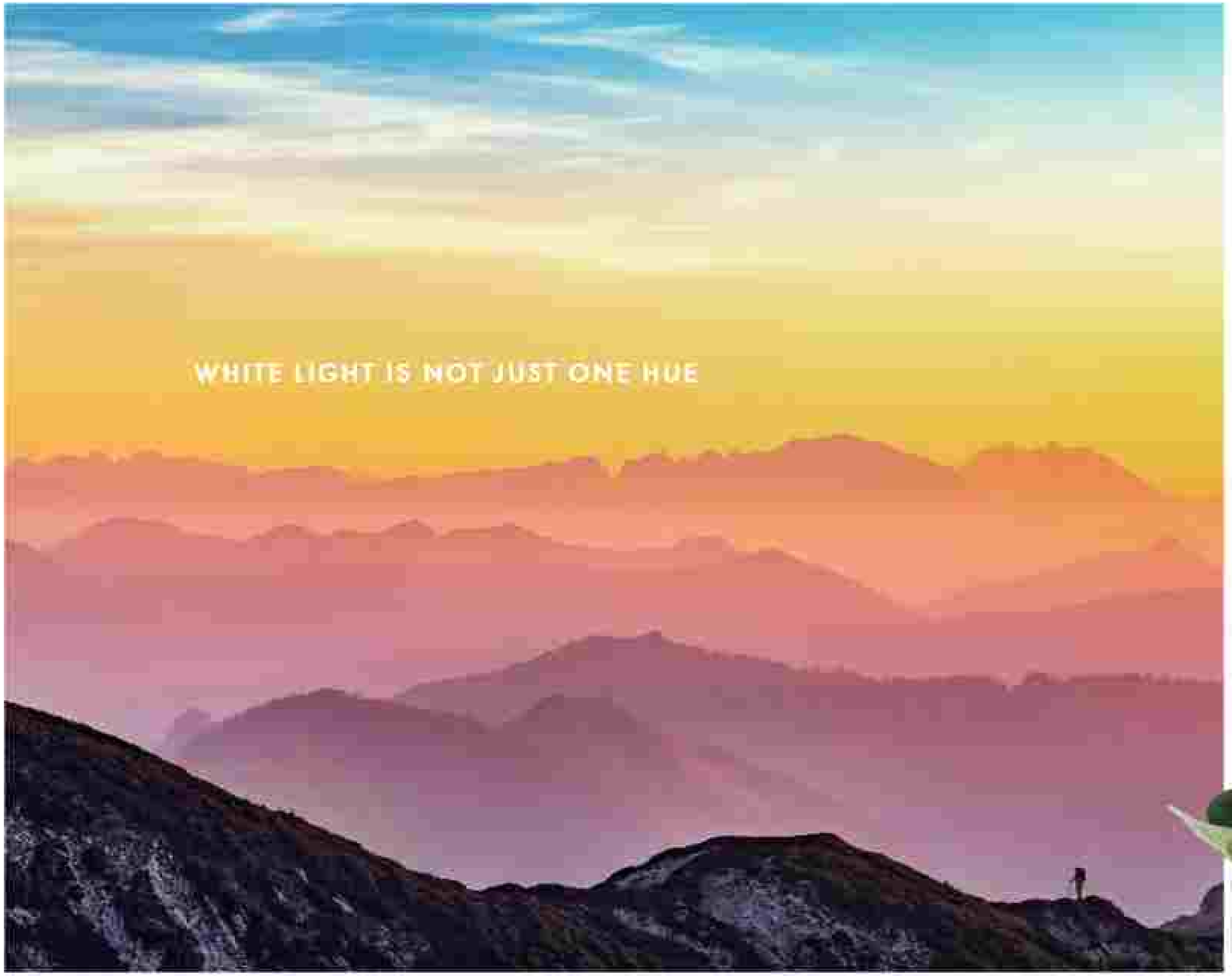


USAI Lighting

Nature Inspires Innovation.

Natural light presents every hue of white light with varying intensities. Think of the sun as it rises with warmth in the morning, brightness with crisp, clear blue skies as it approaches mid-day, and slowly transitions through the afternoon to a dusky, evening sunset.

Inspired by nature, USAI became the trailblazers who innovated Color Select Tunable White Light. As a result, new possibilities and tools that were never before available were introduced by USAI.

Today, Color Select Tunable White Light provides high quality lighting with adjustable color temperatures from 6000K down to 2200K, while independently adjusting intensities from 100% to 0.1% to mimic natural daylight. USAI Lighting's advancements in LED Technology allows occupants to live healthier, more optimized and productive lifestyles that are as dynamic and flexible as their lives.

Why Choose Color Select Tunable White?

COLOR SELECT OFFERS

- The widest range of tunable white light color temperatures available, from a candlelight like 2200K to a bright daylight like 6000K.
- Balance artificial and natural light through the day with the ability to change color temperature from cool light at full intensity in the morning, to low light levels in the evening.
- Ability to program tunable white light to follow the natural light cycle and help improve sleep and health.
- Tailor lighting to daily activities addressing light that will help focus or relax.
- Enhance interiors real or with warm/cool color temperatures making materials and finishes look their best any time of the day.
- Choose from a dynamic offering of USAI downlight options.
- Compatible with all industry standard architectural lighting controls.

Light is equally as precious as the materials and finishes selected for a home. Choose color temperatures to make the details pop and look their best.

Vivid & Vibrant.
Cool 3600K - 6000K delivers deep reds, crisp whites, icy grays, and cool woods.

Soft & Warm.
Golden 2200K-3100K delivers fire engine reds, creamy whites, beige grays and warm woods.

The Right Light at the Right Time

There is more to light than meets the eye — a lot more, in fact. While light enables us to see our world in vivid color and stunning detail, we have also learned that we have evolved with the sun guiding our "internal clock" also known as circadian rhythm.

Our circadian rhythm regulates our sleep wake cycle, appetite, mood and overall health and well-being. The amount of light, duration of exposure, timing and color of light are all important factors – impacting how well we sleep at night. We know that the right light at the right time can help you get a good night's rest, resulting in increased healing, improved moods, sharpened focus, and much more.

According to research scientist and director of the Mineur Steel Center for Light and Health Research, Dr. Mariana Figueiro, the right light exposure during specific times of the day is equally as important as daily exercise. This timed exposure and the manipulation of wavelengths (red vs. blue light) and intensity affect our body's melatonin production and can further or improve our sleep patterns and ultimately, our mood levels.

As good health becomes an imperative for so many today, incorporating Color Select Tunable White Light and its ability to create a daylight cycle from a candlelight like 2200K to a 6000K is increasing in demand for a diverse range of projects.

See image on right for color temperatures, dimming intensities and wattage.

Color Select Scene >	Daylight | 6000K	Mid-afternoon | 4200K	Desk | 3500K	Sunset | 2700K	Early Sunrise | 2200K
Dimming Channel Setting >	100% Intensity	80% Intensity	60% Intensity	40% Intensity	25% Intensity
Color Channel Setting (0-10V) >	9V	6V	4V	2V	1V

Balancing Light

Discover the Right Light Day to Night

Light exists on a spectrum of warm to cool tones that are measured by their Correlated Color Temperature (CCT) which is measured in degrees Kelvin (K).

Every space, object, or work has an ideal shade of light to be lit by depending on the activity, atmosphere desired, and the time of day.

As our spaces travel through the course of the day, the appearance of interiors, finishes and occupants are influenced by the color and quality created by the blending of artificial and natural light.

Adjusting the color temperature and intensity of artificial light as the day evolves provides the ability to choose the right light setting at every moment with Color Select.

Warm White - Up to 3000K

Neutral White - 3000K to 4000K

Cool White - 4000K - 5000K

Daylight - 5000K - and higher

Warmer color temperatures add warmth and enrich colors with depth, bringing intimacy and sophistication to a space. Cooler color temperatures brighten and make rooms feel more spacious.

Images on the right illustrate the dramatic differences of how a room appears with varying color temperatures during the day and night.

2700K Day

2700K Night

3000K Day

3000K Night

3500K Day

3500K Night

4000K Day

4000K Night

USAI Lighting

Color Select for Your Project

A Solution for Every Space. Color Select is available with a variety of products within the USAI Lighting platform, ranging in recessed light apertures from 2" - 6", to various surface mount products, as well PoE and Title 24 options. All are compatible with most popular control systems and wall switches for both new and existing models.

RECESSED

BeveLED Mini® Complete – 3"

BeveLED Mini® Title 24 Compliant - 3"

TrueEdge™ - 3"

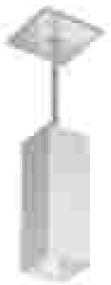
TrueZero360™ - 3"

TrueSq™ - 4"

BeveLED® 2.2 Complete - 4.5"

BeveLED® 5.0 - 6"

SURFACE MOUNTS



BeveLED Mini® Cylinder - 3.5"

BeveLED® 2.2 Cylinder - 6"

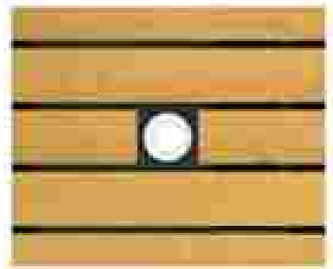
SOLUTIONS FOR EVERY DESIGN CHALLENGE

Incline® for Sloped Ceilings
BeveLED Mini® - 3"
and BeveLED® 2.2 - 4.5"

BeveLED® 2.2 Glow

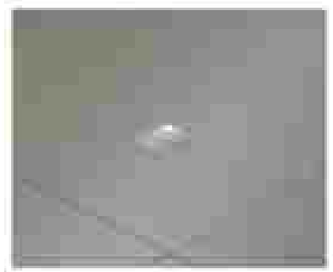
INTEGRATED ARMSTRONG CEILING SOLUTIONS®

PoE Products - Various

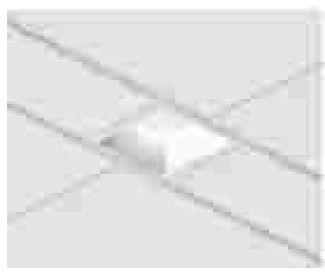


BeveLED for WoodWorks® Ceiling Systems

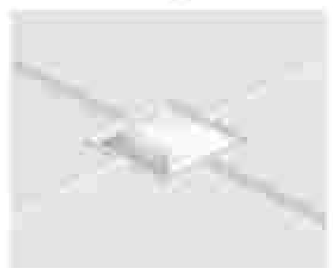
BeveLED for Trimless Acoustical



BeveLED for MetalWorks™ Ceiling Systems

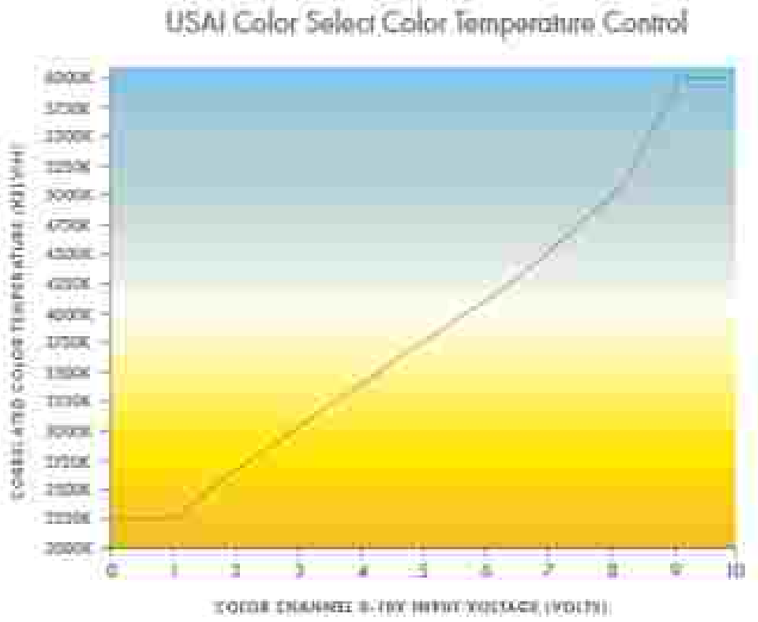


USAI for TechZone® Ceiling Systems



Connect™ for Intersective Downlighting

Controls and Dimming



Color Select paired with popular control systems creates a seamless and healthy experience for the end-user.

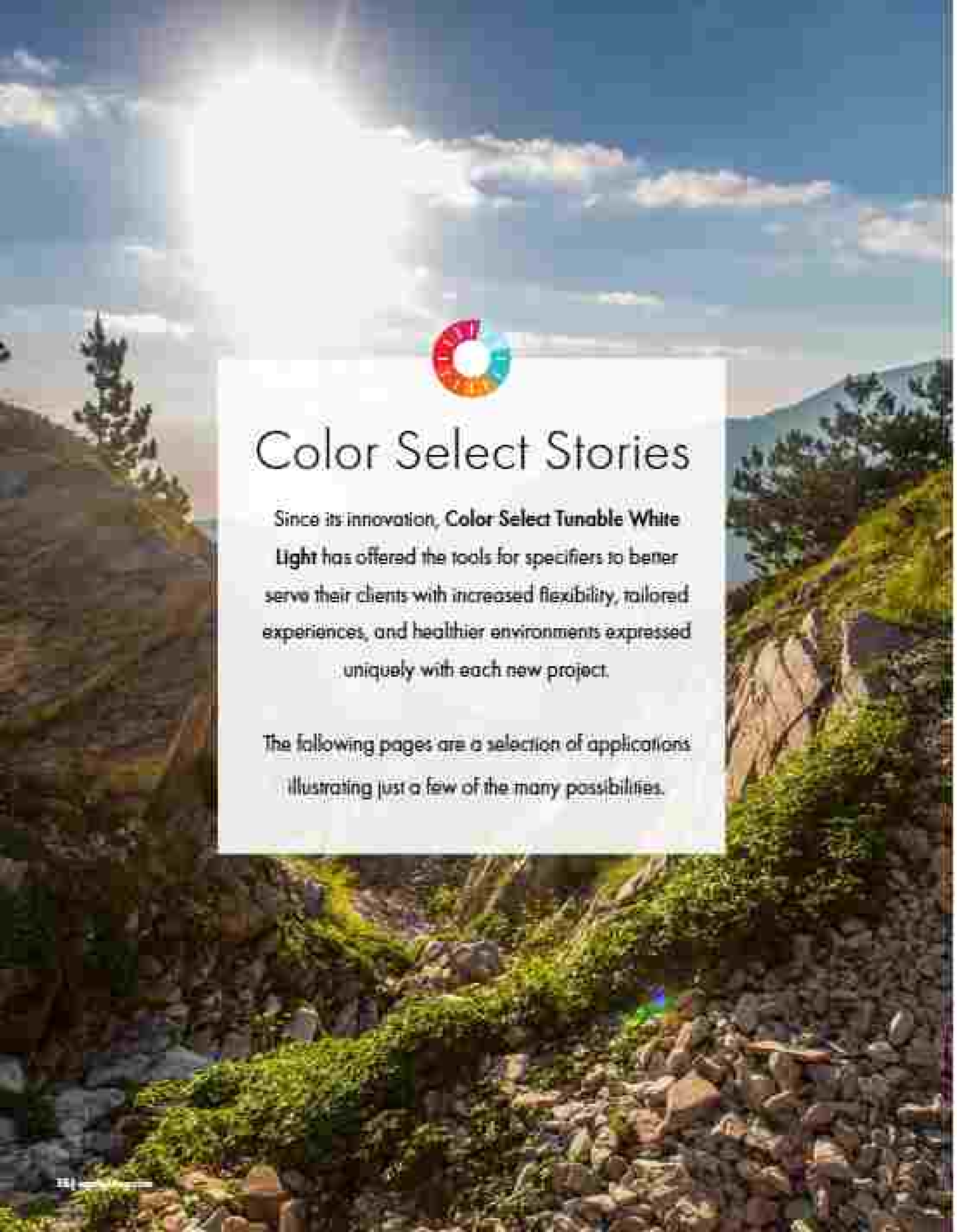
By independently adjusting light levels and color temperature, the full dynamic range of natural daylight can be recreated in an interior space. If the building control system uses an astronomical time clock, Color Select can be commissioned to change color temperature and light level automatically, allowing for the reproduction of outdoor lighting conditions in a windowless indoor space.

USAI Lighting

Simplicity, Flexibility, Compatibility

Controls required to take advantage of the full functionality of Color Select Tunable White are simple.

All that needs to be provided is a dimming control of your choice for intensity – whether it be 0-10V dimming controls, DALI, DMX, EcoSystem, or phase dimming – and a separate set of 0-10V dimming controls for the color tuning channel. That's it. And unlike our competition, USAI's entire Color Select product line has been specifically designed to be compatible with all standard architectural dimming controls, which means that industry-leading tunable white performance can be available at your fingertips without limiting the interfaces you have to choose from.



Color Select Stories

Since its innovation, **Color Select Tunable White Light** has offered the tools for specifiers to better serve their clients with increased flexibility, tailored experiences, and healthier environments expressed uniquely with each new project.

The following pages are a selection of applications illustrating just a few of the many possibilities.

USAI Lighting

[illegible] Project: [illegible], Lighting Design: [illegible], Architect: [illegible], Photograph: [illegible]

A Light Cycle To Enhance The Workday

Using **Color Select Tunable White** LED Light Technology and its ability to mimic the sun's natural light, Lucas Lighting designed personalized light scenes with varying color temperatures and intensities to allow the space to visually evolve and evoke emotional responses aligned with daily events occurring throughout the food hall, and coffee/wine bar - morning to evening. Layered in with dynamic lighting accents, an inviting space was created that changes every time you enter through the course of the day yet illuminating a consistent daily light cycle to provide familiarity.

LEARN MORE
[illegible]
[illegible] Case Study

USAI Lighting

BeveLED, Project: FISERV, Lighting Designer: Cahill – Tengelin, Architect: TVS Design, Photograph: Chris Little Photography

Lighting for Personalized and Flexible Corporate Spaces

First impressions are powerful. The atrium entrance became a prominent part of Fiserv's headquarters in Atlanta, GA. The intent was to have a space that encapsulated the brand and could shift with time to impress its clients and guests as a premier, innovative leader in financial technology. Color Select's ability to independently control color and intensity provided the flexibility to create a space that welcomes guests as they arrive with lighting that matches the outdoor daily light cycle. The atrium serves as a place for large meetings during the day with a bright, crisp setting, and winds down for cocktail parties and receptions in the evening with warm lighting.

LEARN MORE:
Read Fiserv's
Case Study

Sorell22 Wall Cylinder.

Biophilic Elements. Bringing the Outdoors Inside.

Use Color Select Tunable White to design a thriving workplace. Windowless spaces become the new coveted areas to work in. Bring the look and feel of calming nature into the office with a daily light cycle mixed with biophilic design elements.

BeveLED. Project: UK Kentucky Children's Hospital; Architect: HGA; Photograph: Hallkin Mason Photography

BeveLED. Project: Children's Hospital of Philadelphia; Architect: ZGF Architects; Photograph: Hallkin Mason Photography

BeveLED. Project: Crystal Sandy Springs (Senior living); Architect: Pope Architects; Photograph: Collective Photography

Light That Helps Improve Health

Color Select Tunable Light is often used in medical and senior living facilities to help improve health and well-being.

UK Kentucky Children's Hospital's Neonatal Intensive Care Unit (NICU)
Color Select Tunable White placed in all patient rooms to help infants improve weight gain, growth and oxygen saturations, as well as reduce crying and fussing.

Children's Hospital of Philadelphia's Behavioral Health Unit.
ZGF Architects' lighting design team used Color Select to create a specialized lighting system for all patient, staff and corridor areas within the Medical Behavioral Health Unit to support circadian rhythms and help keep patients calm.

Senior Living Facilities.
Aging can result in deterioration in eyesight, balance and sleep. Implementing lighting that mimic's the natural light cycle can help improve these conditions. Often living environments for the elderly will choose Color Select Tunable White to provide cool bright color temperatures for daytime activities and warm dim color temperatures for evening hours in common spaces where residents spend the most time.

BeamLED Wall. Project: Hampton Downs, Interior Design: Kit Design Group, Photographer: Craig Blewitt

BeamLED Wall Complete. Project: Ocean 44, Lighting Design: Ideal Lighting Design, Architect: Mahon Parkman Architects – Hansen, Photograph: Courtesy of Ocean 44

Light for an Elevated Dining Experience

Hampton Downs

Lighting is used in the dining room to define a sophisticated space and create different atmospheres from day to night.

Ocean 44

Scottsdale, Arizona's most sought after seafood restaurant elevates exquisite service with curated kinetic white light. Creating a vibrant, curated atmosphere that ranges from dramatic to intimate to functional. Lighting seamlessly matches the intention of each space as it evolves through the day.

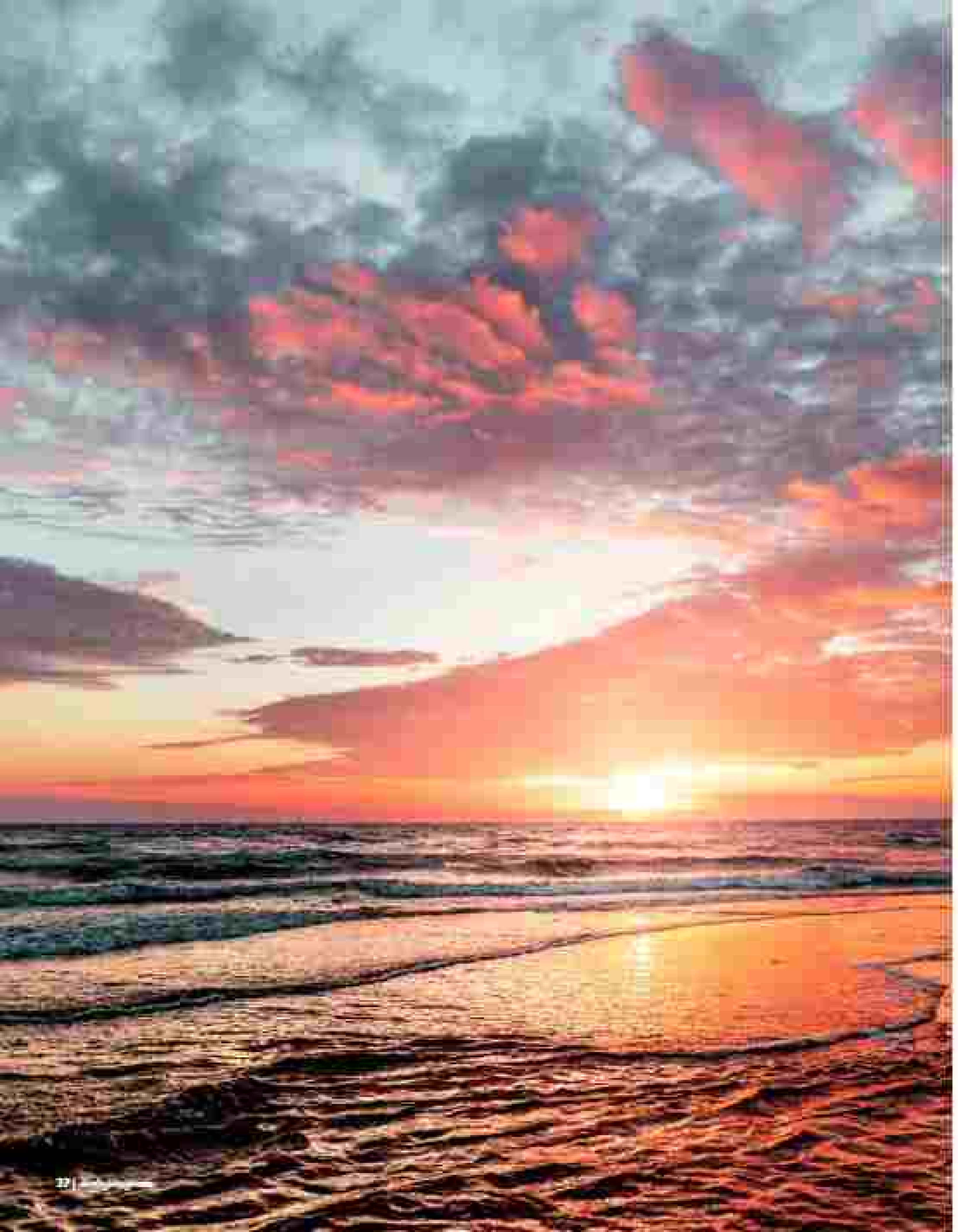
- Cool lighting to showcase seafood at its best
- Warm ambiance lighting for an inviting, evening dining experience
- Task lighting for cleaning when restaurant is closed

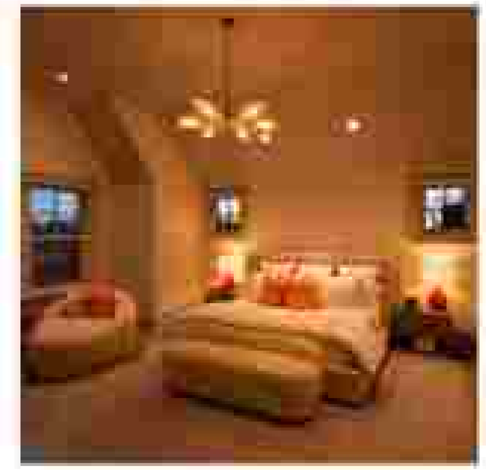
USAI
Lighting

BeveLED, Project: Christie's West, Lighting Designer: C. Pierce with Brill Design Group, Architect: Gensler architects, Photograph: Jonathan Gerling, Courtesy of Gensler architects

Flexible Lighting To Align With Creative Concepts.

Christie's auction house used Color Select to tune their art galleries at their Rockefeller Center location in NYC with LED lights to match the time of day and environment in which the piece was created in - uniquely allowing the viewer to experience the colors and details as the artist did.





BevelED Mini, Project: Hamptons House, Interior Design: EA Design Group, Photography: Greg Barrett

Lighting that Optimizes the Home Experience

Dynamic lighting in the home allows interior spaces to look however we desire – even on a cloudy day. Interiors move into a bright, crisp blue sky that helps keep us focused and alert, and then gradually soften into an evening sunset as we settle into a relaxing night, signaling our bodies to prepare for a restful sleep.

Make materials and finishes look their best. Whether for the home or commercial spaces, light is equally precious as the materials and finishes chosen for a space. Light with cooler temperatures (4000K) to bring out vibrancy. Use warmer color temperatures (2200K) for dramatic warmth.

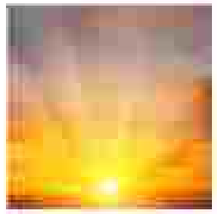
Light Scenes

with Color Select Tunable White

USAI Lighting

At USAI Lighting, we believe that light should be as powerful and dynamic as your life. USAI's Color Select Tunable White can provide personal lighting scenes that enable you to choose the right light, at the right time, for any occasion. Lighting inspired by beautiful days outside to enhance everyday living. From morning exercise to a relaxing evening and every minute in between, you'll find the perfect light for every moment of your day with these expertly designed scenes. The right light can influence our emotions, energy levels and wellbeing. Once you've picked the settings that are right for you, easily display them with any standard architectural dimming controls system, through either a preset static scene or a dynamically changing show.

Scenes for Natural Light

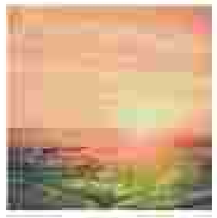


USAI Sunrise

2400K

10% Dimming Intensity

A soft morning glow as the sun rises. A gentle setting that's perfect for waking up as we [illegible] naps

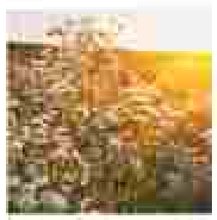


USAI Warm Day

3500K

70% Dimming Intensity

Indulge in the soft golden warmth of rose gold hues. A beautiful setting for the day



USAI Sunlight

4300K

80% Dimming Intensity

Invigorate spaces with a bright, clean, energetic feeling of a bright space.

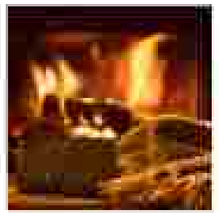
USAI Blue Sky

5700K

85% Dimming Intensity

Bright blue skies on a clear day. The cool white setting provides stimulating light and keeps mood sunny

Scenes for Relaxation



USAI Relaxation

2800K

20% Dimming Intensity

Soothing, tranquil lighting for end of day activities and conversations

USAI Media

3400K

30% Dimming Intensity

Low level light for comfortable television viewing and home theater settings

USAI Reading

3500K

70% Dimming Intensity

Settle in with a good book. The neutral white shade with cool energy light levels helps make reading the fine print easy on the eyes

USAI Good Night

2200K

1% Dimming Intensity

Drift off to sleep deep with the nightlight setting, which gives enough light for nighttime wanderings yet doesn't interrupt your sleep schedule.

Scenes for Energizing

USAI Caffeine

6000K

90% Dimming Intensity

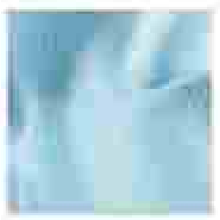
Get an extra boost of energy by switching to this vivid, bluish white hue – similar to what you would get from a cup of coffee, without the caffeine!

USAI Clean

4000K

80% Dimming Intensity

Illuminate every corner of a space for a thorough cleaning with bright, cool light.



USAI Energize

4000K

70% Dimming Intensity

This cool white light setting is designed to accelerate mood, acuity and improve concentration. It's perfect for tasks that require attention and focus

Scenes for Entertaining

USAI Exercise

3100K

30% Dimming Intensity

Where light, bright enough to see guests yet dim enough to foster [illegible] and an energy building mood.

USAI Dine

2300K

10% Dimming Intensity

Allow guests to appreciate beautifully plated food while engaging in conversation with a relaxed warm light.

Color Select & Circadian Lighting FAQs

Q: What is Circadian Lighting?

A: Light regulates many biological responses in people which are not associated with our sense of sight, including an "internal clock" in our bodies that wakes us when during the day and sleepy at night. This daily changes in our physical, mental and behavioral states that respond to a light-and-dark cycle is commonly known as our circadian rhythm. When our biological cycles are synchronized with the solar day this is referred to as "entrainment". An entrained circadian system that is aligned with the natural light/dark cycle of the solar day – sleeping at night and waking up at sunrise, for example – results in better sleep, diet, mood, and hormonal functioning, whereas an unentrained system – jet lag, for example – results in the opposite.

Circadian Lighting is a specific set of values that scientists agree can help optimize individuals' cycles with that of their surrounding environment, which is desirable for improved mood, health, longevity and wellbeing.
For these reasons, entrained effects are what we want and need from our lighting today, and this can be done easily and simply with *Color Select*. Daylight provides bright, blue-rich light in the early morning to deliver an alerting signal as we wake up, while warm, low-level light in the early evening provides a cue to our bodies for a period of rest. We can replicate this natural light cycle with USAI's Color Select, to give ourselves the best chance of feeling good from day to day. We can now create personalized lighting to mitigate circadian disruption, optimize mood and mood responses, and improve our sense of wellbeing, in better ways than ever before.

Q: Do I need tunable white light to achieve circadian lighting?

A: One of the most important features of natural daylight is its dynamic range from bright to dark. Even if there were no color shift during the course of a day, our bodies would be getting the circadian stimulation they need from entrained daylight through changes in light level alone – so, tunable white light color change is not required to achieve circadian lighting. However, what scientists have found is that it is very essential for interior spaces to achieve the high levels of light required for optimal circadian stimulation, and by shifting the spectrum of the light, we can give the light a circadian "boost". Additional tools and metrics can be used to quantify the circadian effectiveness of any given light source.
New lighting metrics, such as circadian light (CLA), circadian stimulus (CS), melanopic lux and others have emerged to guide lighting designers and help evaluate how well they are lighting interior spaces for the circadian system.

Q: Why would I use warm versus cool color temperatures?

A: If the goal is to achieve a certain circadian stimulus for daytime lighting, cooler color temperatures can give a circadian "boost" in a specific lighting installation – even if the light levels do not change. As a result of the way these new circadian metrics work, blue light is given some weight in terms of its impact on the circadian system from the longer red wavelengths.

If it's not possible to increase the wattage on a project, it may be enough simply to shift the color temperature for a few hours in the mornings. Additionally, in a daylit space, cool color temperatures provide a closer match to natural daylight outside the windows and can help create a more seamless indoor-to-outdoor architectural experience, while warm color temperatures in the same space may appear muddy.

By comparison, in late afternoon when warm and cool color temperatures can feel jarring and out of sync with what's happening in the surrounding area and a warmer color temperature may be more appropriate. Finishes can also play a role in this choice: realistic and stone interiors may shine in cool color temperatures, while wood and leathers may reveal undertones in warm color temperatures. It can come down to a matter of preference.

Q: How do I use Color Select in my project?

A: Implementing *Color Select* tunable white in an architectural space is easy. Simply specify the lighting layout as you would with any other white light product, and then ensure that on the control's side, two zones of dimming control are provided for each zone of light fixtures. One will be used for the intensity dimming channel, and the other will be used for the color tunability.

Additionally, if you wish the lighting color and intensity to change automatically throughout the course of the day, then activate an astronomical time clock with the controls system of your choice. The controls commissioning agent can help set the scenes for the time and points of your choice.

Alternatively, static scenes can be stored as presets in your architectural dimming control system should you choose that option.

If the goal is to achieve a circadian effective lighting layout, then special calculations will need to be made to ensure adequate circadian light is being achieved within the space. Contact your local USAI Lighting sales representative for assistance with circadian lighting specifications for your project.

Q: What USAI products should I use?

A: Anything you like! USAI offers Color Select in recessed form factors from 3" aperture for smaller scale buildings all the way to 6" for high volume spaces, and pendants and surface mounted fixtures in a variety of sizes and form factors to satisfy practically every ceiling type imaginable. See a variety of USAI product options listed on pages 11 – 12.

USAI Lighting

A Guide to USAI® LED Color Choices

What's Right for You?

USAI LED COLOR CHOICES	Classic White®	Dim-to-Warm	Warm Glow® Dimming	Color Select® Tunable White	Infinite Color+®
	 Project: New York Investment Firm; Lighting Designer: [illegible]; Architect: [illegible]; Photograph: [illegible]	 Project: Hotel Room Concept	 Project: [illegible]; Lighting Designer: [illegible]; Architect: [illegible]; Photograph: © Jeff Goldberg / Esto	 Project: [illegible] Home; Interior Designer: [illegible] Design Group; Photograph: [illegible]	 Project: [illegible] Hard Rock Hotel & Casino; Lighting Designer: [illegible] Lighting; Architect: [illegible] Group; Photograph: [illegible]
Tier 1 Budget Friendly Tier 2 [illegible] Tier 3 Ultimate	TIER 1, 2, 3	TIER 1, 2	TIER 3	TIER 3	TIER 3
EXPERIENCE	Color Consistency and Premium Performance	Traditional Warmth in an LED	Uncompromised, Patented, Traditional Warmth in an LED	Daily Light Cycle Matching Outdoor Natural Light	Full Spectrum of Colors from Personalized Whites to Saturated
CLIENT REQUIREMENTS	Clients looking for beautiful consistent and static LED lights with smooth dimming.	Projects on a budget with the desire for a similar warmth to traditional light sources (halogens and incandescent).	Option for specifiers who adore traditional light sources (halogens and incandescent) and want the same warmth and dimming experience with their LED.	A desire to bring the outdoor light cycle inside for well-being benefits and personalized environments.	Spaces that require the ultimate in dynamic lighting with the greatest flexibility – from bespoke experiences, to perfectly matched layers of light from other fixtures.

LEARN MORE about LED Color at USAI.

Color Select® Tunable White

CALL, EMAIL, OR VISIT USAILIGHTING.COM TO LEARN MORE

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