2025 NON-RESIDENTIAL LIGHTING REPORT:

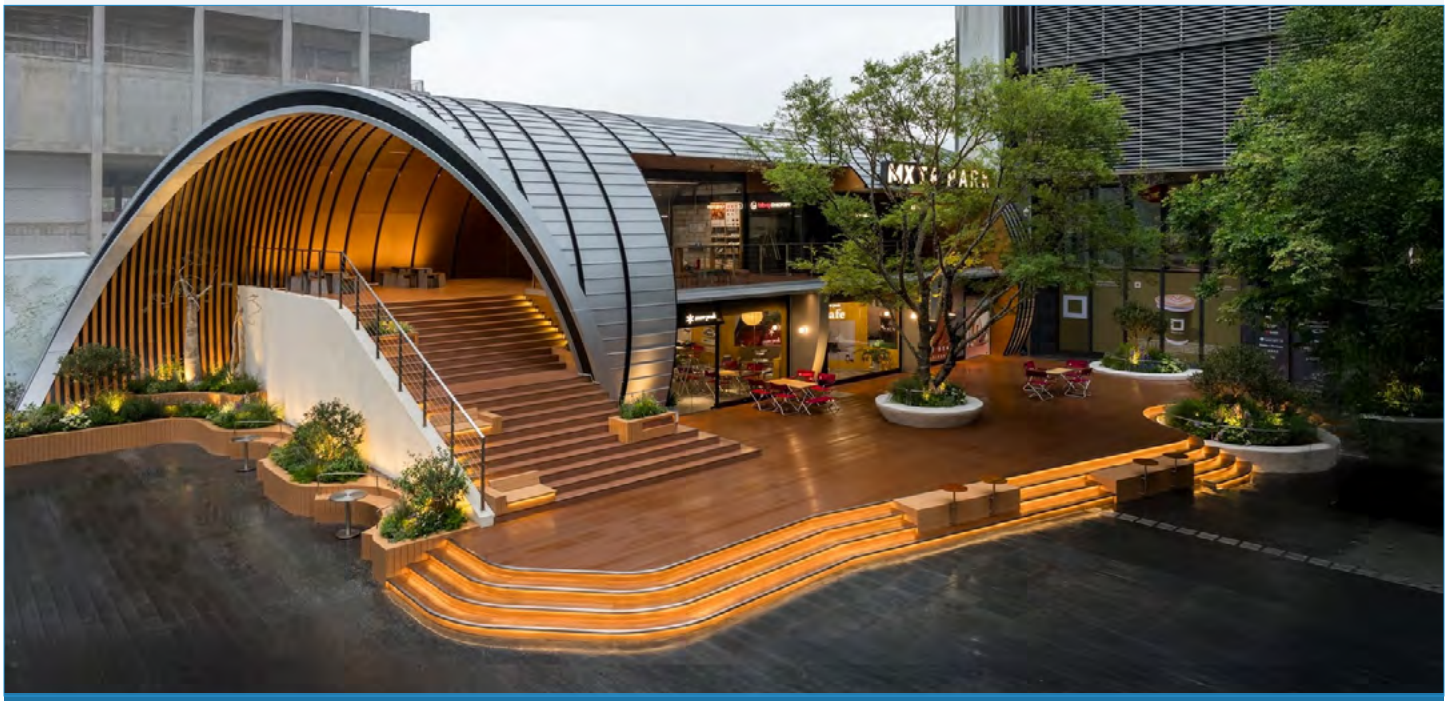
Energy Regulations and Design Trends

TABLE OF CONTENT

Where Energy Codes and Lighting Innovation Converge

Non-residential lighting continues to evolve, driven by ongoing energy regulation and accelerated technological advancement. In 2025, updated energy codes and new design trends shape how architects, lighting designers and engineers plan, specify and implement lighting systems across various commercial applications.

Technology and regulation now work in tandem, guiding lighting design toward smarter, more human-centered applications.



2025 ENERGY REGULATION UPDATES

While 2025 has not brought new regulations to non-residential lighting, it has brought clarity to existing requirements, giving architects and designers greater flexibility in designing commercial lighting systems.

Code Alignment and Clarification

This year's energy code updates focus on standardization and clarification of existing rules.

- **Title 24** updates aim to align California's cornerstone energy law more closely with **ASHRAE** and **IECC** standards.
- The California Lighting Technology Center (CLTC) published the Title 24 Lighting Language Cleanup Initiative to improve usability for designers and engineers by making Title 24 language simpler.
- **The California Energy Commission (CEC)** performs bi-annual studies and publishes comments. The **public comment periods** encourage industry involvement and discourse.

Lighting Control Updates

Key code updates for 2025 empower designers to strategically place controls, which is crucial for certain project types.

- Manual switches and dimmers can now be placed in **secure and remote locations**, improving design flexibility.
- If switches are placed remotely, **visual indicators**, such as pilot lights, are required.
- These changes **enhance safety and usability** in sensitive environments, such as hospitals, by allowing remote and secure control placement.

Hospitals can place controls remotely, such as behind the nurse's station. Institutional switches and controls can be put under lock and key to prevent tampering.

ON TREND: HIGH EFFICIENCY, REMOTE DIMMING CONTROL

Product: Alcon 14135 series MRI/Surgical Downlight

Alcon Lighting's 14135 series is designed for modern healthcare applications, delivering up to 7,000 lumens with LED efficiency to meet code requirements. The dimmable LED driver can be separately housed in a control or electrical room for security while providing a dimmable environment in an MRI suite to improve patient comfort.

Constructed from non-ferrous metals to ensure safe and reliable operation during procedures, the downlight features an anti-microbial finish to mitigate infection risk and an IP65 rating for easy cleaning. This product is Buy American Act (BAA) compliant for government projects.

Specify Now

4-Inch MRI and Surgical Recessed Lensed LED Downlight

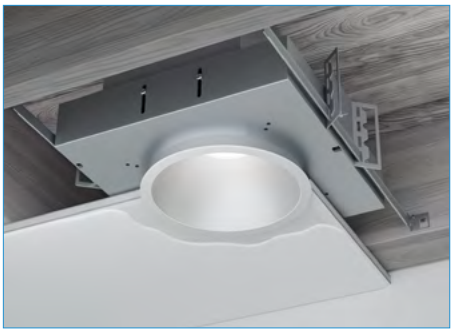
MODEL 14135-4-LNR

4-Inch MRI Recessed Open LED Downlight

MODEL 14135-4-OPR

6-Inch MRI and Surgical Recessed Lensed LED Downlight

MODEL 14135-6-LNR



6-Inch MRI Recessed Open LED Downlight

MODEL 14135-6-OPR

8-Inch MRI and Surgical Recessed Lensed LED Downlight

MODEL 14135-8-LNR

8-Inch MRI Recessed Open LED Downlight

MODEL14135-8-OPR

Daylighting Control Updates

Two notable changes to Title 24 this year clarify daylighting rules.

- **Architectural plans** must clearly lay out daylight zones for spaces greater than 250 square feet.
- **The threshold for automatic daylight control** was lowered from 120W to 75W to match the existing ASHRAE requirement.

Lighting Power Density

Lighting power density (LPD) refers to the maximum allowable wattage per square foot in specific space types, ensuring energy efficiency. Generally, power allowances have tightened as technology improves.

Experts predict this trend will continue with Title 24 updates throughout 2025, with a similar reduction of approximately five percent in lighting power density for certain space types.

EFFICIENCY APPLIED: A CASE STUDY IN CODE COMPLIANCE

Project: Bellco Credit Union | **Location:** Aurora, Colorado

Bellco Credit Union wanted the Aurora branch to be functional and welcoming, where members feel at ease and staff thrives. Arno Sandoval, Alisha Tyler and Lindsay Wehmeier of **NewGround International** developed a design to guide each member through the space so one can quickly receive help while complying with 2021 IECC energy regulations.

The lighting challenge

NewGround's team faced two challenges with the credit union redesign:

1. Maintain clear sightlines
2. Ensure consistent illumination throughout the space, regardless of the time of day or season

"Keeping sightlines clear in financial institutions is always an important factor, as well as having lighting that equally illuminates the space during daytime and evening," explains Cody Goodrich, Director of Marketing for NewGround Design. "This requires controls that adjust to varying daylight levels throughout the seasons."

Meeting energy requirements

Colorado follows IECC 2021 energy code requirements, allowing 10 energy credits for the Bellco Credit Union space.

"This client is very understanding in knowing that the best way to keep building costs down is to design a space that is both efficient and does not waste square footage," Goodrich says. The team ensured "that the building had full control of window shades and any other mechanical and plumbing considerations that could also be energy efficient."

For lighting fixtures, "they creatively adjusted wattages and quantities of fixtures to achieve this goal."

Demand Response

Demand response, which regulates the amount of energy used during high-demand times of the day, will be updated in the 2025 edition of Title 24.

- The code will require new buildings to include plug loads as part of demand response.
- Requirements apply to individual spaces, not just entire buildings.

ON TREND: TAMPER RESISTANCE FOR SENSITIVE ENVIRONMENTS

Product: Alcon 14078 series Vandal-Resistant Can Light

Certain environments, such as correctional facilities, behavioral health centers and schools, require lights that can withstand vandalism. Alcon Lighting's vandal-resistant can lights feature a one-piece design constructed from high-grade die-cast aluminium with a shatterproof lens.

Various optics, including 30x60° asymmetric and wall wash options, provide targeted lighting to fit any layout, while a remote dimming driver offers secure lighting customization. Add a marine-grade finish for demanding outdoor environments.

Specify Now

4-Inch Round Vandal-Resistant Exterior LED Can Light

Model 14078-D-4ND

6-Inch Round Vandal-Resistant Exterior LED Can Light

Model 14078-D-6ND

4-Inch Round Vandal-Resistant Exterior Adjustable LED Can Light

Model 14078-ADJ25-4ND

6-Inch Round Vandal-Resistant Exterior Adjustable LED Can Light

Model 14078-ADJ25-6ND

MARKET AND DESIGN TRENDS FOR 2025

Commercial lighting pivots with technical capability, meeting human needs in new and unexpected ways. Beyond efficiency, **design trends** this year focus on using lighting to shape how people experience and interact with built environments.

Efficiency Meets Experience

Lighting is no longer just about efficiency. New systems:

- **Adapt** to human action, habits, conduct and behavior.
- **Support circadian rhythms** with tunable white, RGB+W and warm-dim features.
- Enhance **wellness, productivity and creativity** in the office.

Creating Harmony with HCL

Human-centric lighting (HCL) aims to harmonize and address the physiological impact of artificial lighting on the individual. Numbers from decades of HCL research tell a compelling story:

- Thoughtfully designed lighting boosts workplace productivity by 6% and creative output by 15%
- 68% of employees say they would feel more valued if their employer invested in proper lighting
- Workers under circadian lighting systems show a 12% boost in task performance
- Natural daylight reduces eyestrain by 51% and headaches by 63% among office workers.

HCL APPLIED: A CASE STUDY IN HCL OFFICE LIGHTING

Project: Elmington Property Management Offices | **Location:** Nashville, Tennessee

Elmington Capital Group wanted the headquarters in Nashville to embody the company identity, providing a comfortable and engaging environment where employees can work, collaborate and grow.

Designers Stephanie Ervin and Taylor Fussell of **Stephanie Ervin Interiors** used lighting to create a workspace that promotes productivity while reflecting **Elmington's culture of affordable luxury through quality design**.

The design goal

"The overarching design goal for the Elmington workspace project was to cultivate an environment that promotes productivity and engagement among employees while authentically embodying the distinctive work culture at Elmington," explains Ervin.

The solution

Ervin and Fussell used lighting to define distinct areas within the open floor plan office, establishing symmetry while contributing to a visually pleasing open ceiling design. This allowed them to:

- Balance artificial lighting to complement abundant natural lighting in the space with floor-to-ceiling windows.
- Create a comfortable, relaxed atmosphere to reflect Elmington's culture using 3000K color temperature luminaires.
- Use geometric lighting to define work and relaxation areas.

"Through the customization of lights along our workstations, Alcon Lighting helped us achieve unique and impactful lighting solutions that seamlessly integrated with our overall design vision."

Material Innovation

This year has seen the expansion of an ongoing design trend of designers redefining materials used in commercial spaces. In 2024, the trend focused on natural elements and sustainability.

In 2025, designers are experimenting with:

- **Refraction, diffusion, prisms and mirrored materials**
- Lighting that interacts with surfaces to create immersive experiences or subtle wayfinding

ON TREND: REIMAGINING THE TRADITIONAL TROFFER

Product: The Alcon 24000 Perforated Metal Center-Basket Troffer reimagines troffer lighting for offices, classrooms and hospitals with a design that eliminates glare using material reflection.

The LEDs are housed within the perforated metal center basket. Some light diffuses through the perforated surface, but most is reflected back at the curved reflector to provide softly diffused indirect lighting. The result is a fixture that can brightly light a space without creating eyestrain for workers, students and patients.

Wattage and color temperature selection switches provide field-adjustable lighting for customized ambiance, while occupancy and daylight harvesting sensors meet code requirements.

Specify Now

Perforated Metal Center-Basket Recessed LED Troffer Light

MODEL 24000

Perforated Metal Center-Basket Recessed LED Troffer Light

MODEL 24000

Perforated Metal Center-Basket Surface-Mount LED Troffer Ceiling Light

MODEL 24000-S

Perforated Metal Center-Basket Surface-Mount LED Troffer Ceiling Light

MODEL 24000-S

MILLWORK MATERIALISM: A CASE STUDY IN MATERIAL THAT EVOKES MEMORY

Project: Charter Oak Emporium | **Location:** Bradley International Airport, Connecticut

The design of the **Charter Oak Emporium** drew inspiration from nature. Ken Nisch of **JGA, Inc.** aimed to create an environment that connects with local passengers to create a sense of ease and familiarity within the fast-paced environment of the airport.

The inspiration

The Charter Oak Emporium is a market, gift and souvenir shop that derives its name from the famous Charter Oak Tree—a white oak that stood for 500 years on Wyllys Hill in Hartford, Connecticut.

"The design was meant to feel like a tree with tree-like millwork fixtures that branch upwards to a green expansive ceiling and leafy texture/transparent perforated panel," says Angela Hill, Studio Director for JGA. "We designed a wood trellis system to have the feeling of branches with spots of ambient 'sunlight' poking through."

The solution

To create ambient light within the slats, Hill said they sought "creative ways to get ambient light within these slats that were interesting, but not typical track lighting, and had enough lumens/brightness to enhance the space." Instead of traditional recessed linear fixtures, the team suspended large linear fixtures between the slats to achieve the desired effect.

Smarter Systems

Intelligent lighting systems not only improve efficiency but also support a trend of empowering commercial property owners with monitoring and control.

- Integration of smart controls, daylight and occupancy sensors reduces energy consumption while supporting HCL environments.
- Cloud-based analytics and monitoring allow business owners to track space usage for customer insights.

Flexibility in Design

New control standards allow greater flexibility in switch placement and circuit design. As a result, control systems can better align with layout, safety and user preferences.

ON TREND: ADAPTIVE LIGHTING WITH SMART CONTROLS AND SENSORS

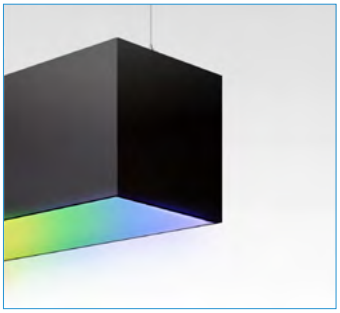
Product: Continuum Linear Lighting

Alcon Lighting's 12100 linear lighting series provides efficient, LED lighting with smart controls and sensors that suit modern commercial environments. Daylight dimming and occupancy sensors with daylight harvesting reduce energy consumption and meet code requirements.

Tunable white and RGBW color changing capabilities allow occupants to customize a space for a certain time of day or create a vibrant scene for an event, controlled by DMX, RF or Bluetooth Mesh.

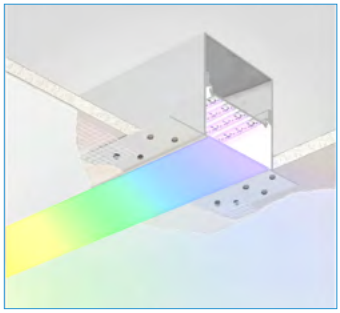
The Continuum series offers the ultimate design flexibility with tandem mounting for continuous runs, fully illuminated corners for original layouts and designs, seamless ceiling-to-wall recessed connections and z-connector pendants for three-dimensional depth.

Request a Quote



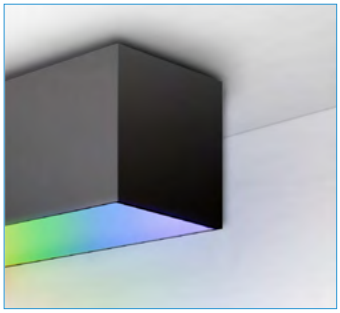
4-Inch RGBW Color-Changing LED Linear Pendant Light

MODEL 12100-40-P-RGBW



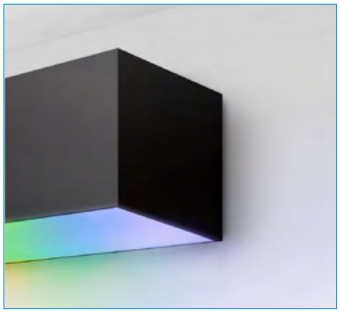
4-Inch RGBW Color-Changing Linear Recessed LED Light

MODEL 12100-40-R-RGBW



4-Inch RGBW Color-Changing Linear Recessed LED Light

MODEL 12100-40-S-RGBW



4-Inch RGBW Color-Changing Linear LED Wall Light

MODEL 12100-40-W-RGBW

Looking Ahead

Here are some trends we anticipate will gain ground in 2025 and beyond.

- Greater client **emphasis on well-being and biophilia**, connecting people to the natural world
- More **integrated lighting in architectural details**, allowing light to act as a subtle design detail
- **Responsive lighting** for both functional and experiential design

ON TREND: BLENDING LIGHTING INTO ARCHITECTURAL DETAILS

Product: Outdoor LED Perimeter Lighting

Alcon Lighting's new outdoor perimeter LED lighting collection empowers architects and designers to accent architectural features while improving wayfinding.

Trace architectural features with lights that bend horizontally or vertically, highlight water features with vibrant RGBW color-changing lighting and create immersive lighting experiences with pixel-level color control.

Request a Quote

As government lighting regulations become more restrictive and specific and human-centric design continues to be in demand, the industry moves toward lighting that mixes performance, wellness and state-mandated sustainability. Complying with energy codes and adopting emerging design trends will be essential for any commercial lighting project in 2025 and in the near future.

AICON LIGHTING

Contact us today for specifications, IES files and pricing.

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