

Lighting Industry Dictionary

Launch Edition: 160 Publication-Ready Definition Drafts

Primary audiences	Lighting designers, electrical contractors, electrical and lighting distributors
Publishing purpose	SEO, AEO, internal linking, education and sponsored resource development
Editorial status	Drafted for technical and legal review before web publication

Editorial principle

Each entry gives a direct answer first, explains why the term matters, identifies typical applications and creates natural internal-link targets. Definitions are original editorial drafts, not copied standard text. Where a term is governed by a code, standard, certification or program, the live page should link to the current authoritative source and name the applicable edition or jurisdiction.

How to Publish This Directory

Recommended URL pattern

/lighting-dictionary/[term-slug]/

Page title

What Is [Term]? Definition, Applications and Related Lighting Terms

Opening answer

Use the Definition paragraph as the 40-90 word answer immediately below the H1.

On-page structure

Definition; Why It Matters; Typical Applications; Related Terms; FAQs; Related USLT Articles; Manufacturer Resources

AEO treatment

Keep answers factual, self-contained and directly responsive. Add an author/reviewer, last-reviewed date, citations to primary authorities and visible corrections policy.

Commercial treatment

Keep the editorial definition independent. Clearly label sponsored manufacturer resources and do not allow sponsorship to alter the definition.

Sitewide FAQ prompts

- What does the term mean in lighting?
- Why does it matter to a lighting designer?
- What should an electrical contractor verify?
- What should a distributor ask before quoting?
- What related standards or qualification programs apply?
- What related lighting terms should the reader understand?

Authoritative references for editorial verification

- Illuminating Engineering Society, ANSI/IES LS-1 nomenclature and current IES standards
- DALI Alliance certification database and technical resources
- DesignLights Consortium current SSL, LUNA and NLC technical requirements
- DarkSky International glossary and responsible outdoor-lighting guidance
- Applicable adopted energy and electrical codes, authority having jurisdiction and program administrator documents

Commented [DG1]: Does this go under the Resources section in the Navigation Bar?

Commented [DG2]: Are you thinking AI adds to this or we have a function on the page that manufacturers can submit their content for consideration to be added under the definition (perhaps a one-liner with a link to their content.) Do we allow for any? Only advertisers? Is their a fee for non-advertisers (and they could pay via eCommerce) ... future phase.

Commented [DG3]: Perhaps add, or plan to add, for lighting controls

Commented [DG4]: Wherever possible, I think we should link back to the appropriate organization as it makes it more authoritative.

Also, IES announced that they are launching a Chat Bot where people will be able to ask “them” about various IES standards and it would only respond with IES data.

It would also be interesting to ask what elements of the NEC (National Electrical Code) 2024 relate to lighting (even though the NEC gets adopted at a local level at different times ... some areas don't follow, some are 2-3 versions behind.). As an FYI, the NEC gets updated every 3 years.

A major regulatory is Title 24 but that is only for California.

1. Lighting Fundamentals

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

1. What is Light?

Definition. Visible light is electromagnetic radiation that the human eye can detect. In professional lighting, light is shaped, distributed and controlled to support visibility, safety, comfort, appearance and human activity.

Why it matters. It is the foundation for every lighting decision, from source selection and photometry to controls and visual comfort.

Typical applications. Lighting design; product selection; codes; visual evaluation.

Related terms. Illuminance; Luminance; Luminous Flux; Spectral Power Distribution.

Suggested FAQ. How is Light specified, verified or applied on a lighting project?

Commented [DG5]: It may be good to have Linda or Jenel do some wordsmithing in case any “AI-ism” and to remove. Claude adds a watermark, via pixels, to highlight research conducted by Claude.

2. What is Illuminance?

Definition. Illuminance is the amount of luminous flux arriving at a surface per unit area. It is measured in lux in SI units or footcandles in U.S. customary practice.

Why it matters. Designers use illuminance targets to determine whether a workplane, floor, roadway or other surface receives enough light for the intended task.

Typical applications. Offices; schools; industrial spaces; roadways; retail.

Related terms. Lux; Footcandle; Luminous Flux; Calculation Grid.

Suggested FAQ. How is Illuminance specified, verified or applied on a lighting project?

Commented [DG6]: Will this be posted? My suspicion is no. I also don’t know if we should do “related terms” ... I could go either way

3. What is Luminance?

Definition. Luminance describes the luminous intensity leaving or passing through a surface in a given direction, commonly expressed in candelas per square meter. It relates closely to how bright a surface appears.

Why it matters. Luminance helps evaluate perceived brightness, contrast and glare, not merely the amount of light landing on a surface.

Typical applications. Displays; façades; roadways; interiors; glare analysis.

Related terms. Brightness; Contrast; Candela; Glare.

Suggested FAQ. How is Luminance specified, verified or applied on a lighting project?

4. What is Luminous Flux?

Definition. Luminous flux is the total quantity of visible light emitted by a source, weighted for the sensitivity of human vision. Its unit is the lumen.

Why it matters. It allows buyers to compare the total light output of lamps and luminaires, although distribution and application efficiency must also be considered.

Typical applications. Product comparison; fixture schedules; retrofit calculations.

Related terms. Lumen; Efficacy; Light Distribution; Zonal Lumens.

Suggested FAQ. How is Luminous Flux specified, verified or applied on a lighting project?

5. What is Luminous Intensity?

Definition. Luminous intensity is the amount of luminous flux emitted in a particular direction per unit solid angle. It is measured in candelas.

Why it matters. Intensity data shows where a luminaire sends light and supports beam, optical and photometric analysis.

Typical applications. Spotlights; roadway optics; floodlights; photometry.

Related terms. Candela; Center Beam Candlepower; Beam Angle; Polar Curve.

Suggested FAQ. How is Luminous Intensity specified, verified or applied on a lighting project?

6. What is Lumen?

Definition. A lumen is the SI unit of luminous flux and represents the total amount of visible light produced by a source. Lumens describe light output, not electrical consumption.

Why it matters. Replacing watt-based comparisons with lumen-based comparisons helps contractors and distributors select products by delivered light.

Typical applications. Lamp replacement; fixture comparison; takeoffs; retrofits.

Related terms. Luminous Flux; Wattage; Efficacy; Delivered Lumens.

Suggested FAQ. How is Lumen specified, verified or applied on a lighting project?

7. What is Footcandle?

Definition. A footcandle is a unit of illuminance equal to one lumen per square foot. One footcandle is approximately 10.764 lux.

Why it matters. Footcandles remain widely used on U.S. lighting plans, photometric reports and project specifications.

Typical applications. Commercial interiors; warehouses; site lighting; inspections.

Related terms. Lux; Illuminance; Workplane; Calculation Grid.

Suggested FAQ. How is Footcandle specified, verified or applied on a lighting project?

8. What is Lux?

Definition. Lux is the SI unit of illuminance and equals one lumen per square meter. One lux is approximately 0.0929 footcandle.

Why it matters. Lux enables consistent international measurement and is common in standards, product specifications and global projects.

Typical applications. International specifications; workplaces; sports; exterior lighting.

Related terms. Footcandle; Illuminance; Lumen; Measurement Plane.

Suggested FAQ. How is Lux specified, verified or applied on a lighting project?

9. What is Candela?

Definition. The candela is the SI unit of luminous intensity in a particular direction. Photometric reports use candela values to describe a luminaire's directional output.

Why it matters. Candela data is essential when comparing beam strength, cutoff and distribution patterns.

Typical applications. Accent lighting; floodlighting; roadway lighting; projection.

Related terms. Luminous Intensity; Candlepower; Beam Angle; Photometry.

Suggested FAQ. How is Candela specified, verified or applied on a lighting project?

10. What is Lighting Efficacy?

Definition. Lighting efficacy is the ratio of visible light output to electrical input power, normally expressed in lumens per watt. System efficacy may include driver and optical losses.

Why it matters. Higher efficacy can reduce connected load and operating cost, but it should be evaluated with light quality, distribution, controls and application needs.

Typical applications. Energy analysis; DLC review; product comparison; retrofits.

Related terms. Lumens per Watt; Efficiency; Lighting Power Density; DLC.

Suggested FAQ. How is Lighting Efficacy specified, verified or applied on a lighting project?

Commented [DG7]: I don't know if this is US given the conversion to meter.

11. What is Beam Angle?

Definition. Beam angle is commonly defined as the angle between the two directions where luminous intensity falls to 50 percent of the maximum intensity.

Why it matters. It helps designers and contractors predict the apparent width of a concentrated beam at a given distance.

Typical applications. Accent lighting; track lighting; downlights; landscape lighting.

Related terms. Field Angle; Center Beam Candlepower; Flood; Spot.

Suggested FAQ. How is Beam Angle specified, verified or applied on a lighting project?

12. What is Field Angle?

Definition. Field angle is the wider angular region of a beam where intensity falls to a lower percentage, commonly 10 percent of maximum.

Why it matters. Field angle describes the useful outer spread and helps distinguish the bright beam from surrounding spill light.

Typical applications. Theatrical lighting; accent lighting; display lighting.

Related terms. Beam Angle; Spill Light; Distribution; Optical Control.

Suggested FAQ. How is Field Angle specified, verified or applied on a lighting project?

13. What is Uniformity Ratio?

Definition. Uniformity ratio compares illuminance levels within an area, such as average-to-minimum or maximum-to-minimum illuminance.

Why it matters. Good uniformity can improve visual comfort, orientation and task visibility, while excessive uniformity may reduce visual hierarchy.

Typical applications. Roadways; parking lots; sports; workplaces.

Related terms. Average Illuminance; Minimum Illuminance; Calculation Grid; Contrast.

Suggested FAQ. How is Uniformity Ratio specified, verified or applied on a lighting project?

14. What is Glare?

Definition. Glare is a visual condition caused by excessive brightness or contrast that creates discomfort, reduces visibility, or both.

Why it matters. Managing glare is critical to visual comfort, safety and acceptance of LED luminaires with small, high-output sources.

Typical applications. Offices; roadways; sports; schools; industrial spaces.

Related terms. UGR; Disability Glare; Veiling Reflection; Shielding.

Suggested FAQ. How is Glare specified, verified or applied on a lighting project?

15. What is Unified Glare Rating (UGR)?

Definition. Unified Glare Rating is a calculated index used to estimate discomfort glare from indoor luminaires for a specified observer position and room condition. Lower calculated values generally indicate less discomfort glare.

Why it matters. UGR can support luminaire selection, but it is a system calculation rather than a permanent property of one product in every room.

Typical applications. Offices; classrooms; healthcare; commercial interiors.

Related terms. Glare; Luminance; Shielding Angle; Visual Comfort.

Suggested FAQ. How is Unified Glare Rating (UGR) specified, verified or applied on a lighting project?

16. What is Visual Comfort?

Definition. Visual comfort is the condition in which people can see and perform tasks without objectionable glare, flicker, excessive contrast or inadequate illumination.

Why it matters. Comfort depends on the complete application, including luminance balance, distribution, controls, color quality and occupant needs.

Typical applications. Workplaces; education; healthcare; hospitality.

Related terms. Glare; Flicker; Uniformity; Layered Lighting.

Suggested FAQ. How is Visual Comfort specified, verified or applied on a lighting project?

17. What is Task Lighting?

Definition. Task lighting provides light specifically for an activity or work area, supplementing or replacing general illumination where appropriate.

Why it matters. Targeted task lighting can improve visibility and reduce the need to raise ambient light levels throughout an entire space.

Typical applications. Desks; workbenches; kitchens; inspection stations.

Related terms. Ambient Lighting; Accent Lighting; Illuminance; Local Control.

Suggested FAQ. How is Task Lighting specified, verified or applied on a lighting project?

18. What is Ambient Lighting?

Definition. Ambient lighting provides the general background illumination of a space and supports orientation and circulation.

Why it matters. A well-designed ambient layer establishes the overall visual environment and works with task and accent layers.

Typical applications. Offices; retail; hospitality; residential; public spaces.

Related terms. Task Lighting; Accent Lighting; Layered Lighting; Indirect Lighting.

Suggested FAQ. How is Ambient Lighting specified, verified or applied on a lighting project?

19. What is Accent Lighting?

Definition. Accent lighting emphasizes objects, architectural features, merchandise or artwork by creating visual contrast.

Why it matters. It directs attention, establishes hierarchy and contributes to the character of a space.

Typical applications. Retail; museums; hospitality; façades; landscape.

Related terms. Beam Angle; Contrast Ratio; Wallwashing; Grazing.

Suggested FAQ. How is Accent Lighting specified, verified or applied on a lighting project?

20. What is Layered Lighting?

Definition. Layered lighting combines ambient, task, accent and decorative light to meet functional and aesthetic goals.

Why it matters. Multiple layers provide flexibility, visual hierarchy and better adaptation to different activities than a single uniform lighting system.

Typical applications. Hospitality; retail; offices; residential; cultural spaces.

Related terms. Ambient Lighting; Task Lighting; Accent Lighting; Scene Control.

Suggested FAQ. How is Layered Lighting specified, verified or applied on a lighting project?

Commented [DG8]: This whole section is interesting and leads me to thinking we should do the same on different types of fixtures

What is a high-bay
What is a troffer
What is linear lighting
What is tape lighting
What is a recessed can
What is a disc
What is a pendant
What is undercabinet

Etc

Could also be phase 2

2. LED Technology

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

21. What is LED Lighting?

Definition. LED lighting uses light-emitting diodes as the source of illumination. LEDs are semiconductor devices that emit light when electrical current passes through them.

Why it matters. LED systems offer controllability, long useful life, compact form factors and high efficacy, but performance depends on drivers, optics, thermal design and controls.

Typical applications. Commercial; industrial; outdoor; residential; specialty.

Related terms. LED Driver; LED Module; Thermal Management; Efficacy.

Suggested FAQ. How is LED Lighting specified, verified or applied on a lighting project?

22. What is **an** LED Driver?

Definition. An LED driver converts and regulates incoming electrical power to the current and voltage required by an LED load. Drivers may also provide dimming, controls communication, monitoring and protection.

Why it matters. Driver quality affects flicker, dimming performance, reliability, power quality and compatibility with controls.

Typical applications. All LED luminaires; retrofit kits; connected lighting.

Related terms. Constant Current; Constant Voltage; Dimming; Driver Lifetime.

Suggested FAQ. How is LED Driver specified, verified or applied on a lighting project?

Commented [DG9]: This is why I think Linda or Jenel should review ... for AI related wording

23. What is Constant Current LED Driver?

Definition. A constant current driver maintains a specified output current while allowing its output voltage to vary within a designed range.

Why it matters. Most high-power LED modules require controlled current to maintain output and protect the LEDs from overcurrent.

Typical applications. Downlights; troffers; high bays; roadway luminaires.

Related terms. LED Driver; Forward Voltage; LED Module; Dimming.

Suggested FAQ. How is Constant Current LED Driver specified, verified or applied on a lighting project?

24. What is Constant Voltage LED Driver?

Definition. A constant voltage driver maintains a fixed output voltage, commonly used with LED products that include current-regulating components.

Why it matters. Correct voltage matching is essential for LED tape, signage and modular low-voltage systems.

Typical applications. LED tape; signage; cabinet lighting; decorative systems.

Related terms. LED Driver; LED Tape; Power Supply; Voltage Drop.

Suggested FAQ. How is Constant Voltage LED Driver specified, verified or applied on a lighting project?

25. What is COB LED?

Definition. Chip-on-board LED technology mounts many LED dies closely together on a shared substrate so they operate as one concentrated emitting area.

Why it matters. COB sources can provide high lumen density, compact optics and a visually uniform source for directional luminaires.

Typical applications. Downlights; track lights; spotlights; high-output fixtures.

Related terms. SMD LED; LED Array; Heat Sink; Beam Control.

Suggested FAQ. How is COB LED specified, verified or applied on a lighting project?

26. What is SMD LED?

Definition. A surface-mount device LED is packaged for mounting directly on a printed circuit board. SMD packages are widely used in linear, planar and general illumination products.

Why it matters. The format supports scalable manufacturing, multiple package sizes and flexible optical layouts.

Typical applications. Troffers; strips; panels; lamps; outdoor luminaires.

Related terms. COB LED; LED Package; Printed Circuit Board; Binning.

Suggested FAQ. How is SMD LED specified, verified or applied on a lighting project?

27. What is OLED Lighting?

Definition. Organic light-emitting diode lighting uses thin layers of organic material that emit light across a surface when energized.

Why it matters. OLEDs enable thin, diffuse luminous panels, although output, cost and product availability differ from conventional LED systems.

Typical applications. Decorative panels; architectural features; specialty luminaires.

Related terms. LED Lighting; Edge-Lit; Luminous Surface; Solid-State Lighting.

Suggested FAQ. How is OLED Lighting specified, verified or applied on a lighting project?

28. What is Thermal Management?

Definition. Thermal management is the control and removal of heat generated within a lighting system through conduction, convection and radiation.

Why it matters. Excess temperature can reduce LED output, accelerate color shift and shorten the life of LEDs, drivers and other components.

Typical applications. All LED luminaires; enclosed fixtures; high ambient applications.

Related terms. Heat Sink; Junction Temperature; Thermal Resistance; LM-80.

Suggested FAQ. How is Thermal Management specified, verified or applied on a lighting project?

29. What is Heat Sink?

Definition. A heat sink is a component designed to conduct and dissipate heat away from LEDs or electronic components.

Why it matters. Proper heat sinking helps keep sensitive components within their rated temperature limits.

Typical applications. High-output LEDs; retrofit lamps; drivers; compact luminaires.

Related terms. Thermal Management; Junction Temperature; Ambient Temperature.

Suggested FAQ. How is Heat Sink specified, verified or applied on a lighting project?

30. What is Junction Temperature?

Definition. Junction temperature is the operating temperature at the semiconductor junction inside an LED. It is affected by ambient conditions, drive current and thermal design.

Why it matters. LED output, color and life projections are strongly dependent on junction temperature.

Typical applications. Product engineering; life testing; high-temperature applications.

Related terms. Thermal Resistance; Heat Sink; LM-80; In-Situ Temperature.

Suggested FAQ. How is Junction Temperature specified, verified or applied on a lighting project?

31. What is LED Useful Life?

Definition. LED useful life is the period during which an LED product meets specified performance criteria, often including lumen maintenance and catastrophic failure.

Why it matters. Useful life is more meaningful than a simple burn-out claim because LEDs typically depreciate rather than fail suddenly.

Typical applications. Lifecycle costing; warranties; maintenance planning.

Related terms. Rated Life; L70; Lumen Maintenance; TM-21.

Suggested FAQ. How is LED Useful Life specified, verified or applied on a lighting project?

32. What is L70?

Definition. L70 is the operating point at which light output has declined to 70 percent of its initial value under defined conditions. It is commonly expressed as a projected or reported number of hours.

Why it matters. L70 provides one reference point for evaluating lumen maintenance, but it is not the same as complete luminaire life or warranty duration.

Typical applications. Product comparison; specifications; maintenance planning.

Related terms. L80; L90; LM-80; TM-21.

Suggested FAQ. How is L70 specified, verified or applied on a lighting project?

33. What is L80?

Definition. L80 is the operating point at which light output has declined to 80 percent of its initial value under defined conditions.

Why it matters. Applications that require tighter light-level maintenance may specify L80 rather than L70.

Typical applications. Healthcare; industrial; roadway; high-maintenance-cost spaces.

Related terms. L70; L90; Lumen Maintenance; Useful Life.

Suggested FAQ. How is L80 specified, verified or applied on a lighting project?

34. What is L90?

Definition. L90 is the operating point at which light output has declined to 90 percent of its initial value under defined conditions.

Why it matters. L90 is useful where maintained illumination and long-term performance consistency are priorities.

Typical applications. Critical tasks; high-end retail; studios; infrastructure.

Related terms. L70; L80; Lumen Depreciation; TM-21.

Suggested FAQ. How is L90 specified, verified or applied on a lighting project?

35. What is LM-80?

Definition. IES LM-80 is an approved method for measuring lumen maintenance and related changes of LED packages, arrays or modules over an extended test period at controlled temperatures.

Why it matters. LM-80 test data is an input to life projections, but LM-80 itself does not predict the lifetime of a complete luminaire.

Typical applications. Product qualification; engineering; DLC documentation.

Related terms. TM-21; L70; LED Package; In-Situ Temperature.

Suggested FAQ. How is LM-80 specified, verified or applied on a lighting project?

36. What is TM-21?

Definition. IES TM-21 provides a method for projecting long-term lumen maintenance of LED light sources from LM-80 test data.

Why it matters. TM-21 creates a consistent projection method, but the result depends on test duration, temperature and the relationship between the tested source and the final luminaire.

Typical applications. Specifications; qualification; lifecycle analysis.

Related terms. LM-80; L70; Lumen Maintenance; LED Useful Life.

Suggested FAQ. How is TM-21 specified, verified or applied on a lighting project?

37. What is Lumen Depreciation?

Definition. Lumen depreciation is the gradual reduction in light output from a source or luminaire over operating time.

Why it matters. Designers account for depreciation when determining maintained light levels and maintenance factors.

Typical applications. Lighting calculations; maintenance planning; retrofits.

Related terms. L70; Maintenance Factor; Dirt Depreciation; Useful Life.

Suggested FAQ. How is Lumen Depreciation specified, verified or applied on a lighting project?

38. What is Color Shift?

Definition. Color shift is a change in a light source's chromaticity or color appearance over time, temperature, dimming level or operating condition.

Why it matters. Uncontrolled shift can create visible mismatch among luminaires and affect retail, hospitality and architectural environments.

Typical applications. Retail; museums; hospitality; wallwashing; tunable systems.

Related terms. Chromaticity; SDCM; Color Consistency; Thermal Management.

Suggested FAQ. How is Color Shift specified, verified or applied on a lighting project?

39. What is LED Module?

Definition. An LED module is an assembly containing one or more LED packages on a board or substrate and may include optical, thermal or electrical components.

Why it matters. Module format affects serviceability, replacement strategy and luminaire design.

Typical applications. Integrated luminaires; modular fixtures; field-serviceable systems.

Related terms. LED Board; LED Engine; Driver; Zhaga.

Suggested FAQ. How is LED Module specified, verified or applied on a lighting project?

40. What is Edge-Lit Technology?

Definition. Edge-lit technology places LED sources along the edge of a light guide that redirects light through a luminous surface.

Why it matters. It enables thin luminaires and broad luminous panels, but optical design affects uniformity, efficiency and visual comfort.

Typical applications. Panels; signage; decorative luminaires; displays.

Related terms. Light Guide; Direct-Lit Panel; Diffuser; Luminous Surface.

Suggested FAQ. How is Edge-Lit Technology specified, verified or applied on a lighting project?

3. Color and Light Quality

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

41. What is Correlated Color Temperature (CCT)?

Definition. Correlated color temperature describes the apparent warmth or coolness of nominally white light and is expressed in kelvin. Lower values generally appear warmer; higher values generally appear cooler.

Why it matters. CCT influences ambience, material appearance, visual preference and coordination among luminaires.

Typical applications. Hospitality; offices; retail; healthcare; outdoor.

Related terms. Kelvin; Chromaticity; Warm White; Cool White.

Suggested FAQ. How is Correlated Color Temperature (CCT) specified, verified or applied on a lighting project?

42. What is 2700K Lighting?

Definition. 2700K is a warm correlated color temperature associated with the appearance of many incandescent and warm residential sources.

Why it matters. It is often selected where a comfortable, intimate or traditional atmosphere is desired.

Typical applications. Residential; hospitality; restaurants; decorative lighting.

Related terms. 3000K; Warm White; Dim-to-Warm; CCT.

Suggested FAQ. How is 2700K Lighting specified, verified or applied on a lighting project?

43. What is 3000K Lighting?

Definition. 3000K is a warm-white correlated color temperature used widely in hospitality, residential, retail and architectural applications.

Why it matters. It balances a warm appearance with a somewhat crisp visual impression than 2700K.

Typical applications. Hotels; restaurants; retail; offices; residential.

Related terms. 2700K; 3500K; Warm White; CCT.

Suggested FAQ. How is 3000K Lighting specified, verified or applied on a lighting project?

44. What is 3500K Lighting?

Definition. 3500K is a neutral-to-warm correlated color temperature often used in commercial and institutional interiors.

Why it matters. It can bridge warmer architectural palettes and cooler task-oriented environments.

Typical applications. Offices; healthcare; education; commercial spaces.

Related terms. 3000K; 4000K; Neutral White; CCT.

Suggested FAQ. How is 3500K Lighting specified, verified or applied on a lighting project?

45. What is 4000K Lighting?

Definition. 4000K is a neutral-to-cool white correlated color temperature common in commercial, industrial and exterior applications.

Why it matters. It is frequently chosen for a clean visual appearance and coordination with task-oriented spaces.

Typical applications. Offices; warehouses; healthcare; site lighting.

Related terms. 3500K; 5000K; Cool White; CCT.

Suggested FAQ. How is 4000K Lighting specified, verified or applied on a lighting project?

46. What is 5000K Lighting?

Definition. 5000K is a cool, daylight-like correlated color temperature used in selected industrial, inspection, exterior and task applications.

Why it matters. Higher CCT does not automatically mean higher brightness or better visibility; spectrum, illuminance and glare still matter.

Typical applications. Industrial; inspection; security; specialty tasks.

Related terms. 4000K; Daylight White; CCT; Spectral Power Distribution.

Suggested FAQ. How is 5000K Lighting specified, verified or applied on a lighting project?

Commented [DG10]: I can understand why Claude does this but it is repetitive

47. What is Color Rendering Index (CRI)?

Definition. Color Rendering Index is a metric that compares how a test light source renders a set of color samples relative to a reference source of the same CCT. General CRI is commonly reported as Ra.

Why it matters. CRI is familiar and useful, but a single average value does not fully describe saturation, hue shifts or the rendering of every important color.

Typical applications. Retail; healthcare; hospitality; offices; general lighting.

Related terms. TM-30; R9; Rf; Color Rendition.

Suggested FAQ. How is Color Rendering Index (CRI) specified, verified or applied on a lighting project?

48. What is High-CRI Lighting?

Definition. High-CRI lighting generally refers to products with a relatively high reported Color Rendering Index, often 90 or above, although project requirements vary.

Why it matters. Higher CRI can improve color discrimination, but designers should also review spectrum, individual color samples and TM-30 information where relevant.

Typical applications. Retail; museums; healthcare; hospitality; studios.

Related terms. CRI; R9; TM-30; Spectral Power Distribution.

Suggested FAQ. How is High-CRI Lighting specified, verified or applied on a lighting project?

49. What is TM-30?

Definition. IES TM-30 is a method for evaluating color rendition using a large set of color evaluation samples and multiple outputs, including Fidelity Index Rf, Gamut Index Rg and color vector graphics.

Why it matters. It gives designers more information about fidelity, saturation and hue changes than a single CRI value.

Typical applications. Retail; hospitality; museums; healthcare; design review.

Related terms. CRI; Rf; Rg; Color Vector Graphic.

Suggested FAQ. How is TM-30 specified, verified or applied on a lighting project?

50. What is Fidelity Index (Rf)?

Definition. Rf is a TM-30 metric that describes the average similarity between colors viewed under a test source and a reference illuminant. Higher values indicate greater average fidelity.

Why it matters. Rf supports a more comprehensive discussion of color fidelity than general CRI, while still requiring other TM-30 outputs for a complete picture.

Typical applications. Product comparison; specifications; color-critical spaces.

Related terms. TM-30; Rg; CRI; Fidelity.

Suggested FAQ. How is Fidelity Index (Rf) specified, verified or applied on a lighting project?

51. What is Gamut Index (Rg)?

Definition. Rg is a TM-30 metric describing the average increase or decrease in color saturation relative to a reference illuminant. A value near 100 indicates similar average gamut.

Why it matters. Rg helps distinguish sources that make colors appear more or less saturated even when fidelity values are similar.

Typical applications. Retail; hospitality; entertainment; museums.

Related terms. TM-30; Rf; Saturation; Color Vector Graphic.

Suggested FAQ. How is Gamut Index (Rg) specified, verified or applied on a lighting project?

52. What is R9?

Definition. R9 is an individual special CRI test color sample associated with strong red rendering. It is not included in the calculation of general CRI Ra.

Why it matters. Red rendering can be important for skin tones, food, wood, artwork and medical observation, so specifications may request a minimum R9 value.

Typical applications. Retail; hospitality; healthcare; residential; museums.

Related terms. CRI; Ra; TM-30; Skin Tone Rendering.

Suggested FAQ. How is R9 specified, verified or applied on a lighting project?

53. What is Tunable White Lighting?

Definition. Tunable white lighting allows a system to vary the CCT of nominally white light, often along with light output, through controls.

Why it matters. It supports scene setting, occupant preference, daylight response and time-based lighting strategies.

Typical applications. Education; healthcare; offices; hospitality; residential.

Related terms. CCT; Dynamic Lighting; Circadian Lighting; Controls.

Suggested FAQ. How is Tunable White Lighting specified, verified or applied on a lighting project?

54. What is Dim-to-Warm Lighting?

Definition. Dim-to-warm lighting lowers CCT as light output is reduced, imitating the warmer appearance of dimmed incandescent sources.

Why it matters. It preserves a familiar warm ambience during dimming and is especially useful in hospitality and residential applications.

Typical applications. Restaurants; hotels; homes; lounges; decorative spaces.

Related terms. Warm Dimming; Tunable White; CCT; Dimming Curve.

Suggested FAQ. How is Dim-to-Warm Lighting specified, verified or applied on a lighting project?

55. What is Color Consistency?

Definition. Color consistency describes how closely the chromaticity of multiple light sources or luminaires matches initially and over time.

Why it matters. Visible mismatch is especially noticeable on white surfaces, in continuous rows and in wallwashing applications.

Typical applications. Linear systems; wallwashing; retail; hospitality; offices.

Related terms. SDCM; MacAdam Ellipse; Binning; Color Shift.

Suggested FAQ. How is Color Consistency specified, verified or applied on a lighting project?

56. What is SDCM?

Definition. Standard Deviation Color Matching, or SDCM, expresses chromaticity variation using MacAdam ellipse steps. Fewer steps generally indicate tighter initial color consistency.

Why it matters. SDCM helps specifiers assess the likelihood of visible color differences among nominally identical products.

Typical applications. Wallwashing; linear lighting; retail; high-end interiors.

Related terms. MacAdam Ellipse; Color Consistency; Chromaticity; Binning.

Suggested FAQ. How is SDCM specified, verified or applied on a lighting project?

57. What is MacAdam Ellipse?

Definition. A MacAdam ellipse represents a region of chromaticity differences that may be difficult for an average observer to distinguish under specified conditions.

Why it matters. Ellipse steps are used to communicate tolerances in white-light color consistency.

Typical applications. LED selection; specifications; quality control.

Related terms. SDCM; Chromaticity; ANSI Binning; Color Consistency.

Suggested FAQ. How is MacAdam Ellipse specified, verified or applied on a lighting project?

Commented [DG11]: Never heard of this

58. What is Spectral Power Distribution (SPD)?

Definition. Spectral power distribution shows how a light source's radiant power is distributed across wavelengths.

Why it matters. SPD helps explain color rendition, biological response, material appearance and the behavior of cameras or sensors.

Typical applications. Color-critical design; horticulture; circadian research; imaging.

Related terms. Spectrum; CCT; CRI; TM-30.

Suggested FAQ. How is Spectral Power Distribution (SPD) specified, verified or applied on a lighting project?

59. What is Human-Centric / Circadian Lighting?

Definition. Human-centric lighting is a broad design approach that considers visual performance, comfort, experience and potential nonvisual responses to light.

Why it matters. The term should not be treated as a single product feature; successful outcomes depend on intensity, spectrum, timing, duration, controls and the application.

Typical applications. Workplaces; healthcare; education; residential; senior living.

Related terms. Circadian Lighting; Tunable White; Melanopic Metrics; Daylight.

Suggested FAQ. How is Human-Centric Lighting specified, verified or applied on a lighting project?

60. What is Circadian Lighting?

Definition. Circadian lighting refers to lighting strategies intended to support the body's daily biological timing through the timing, amount, duration and spectrum of light exposure.

Why it matters. Claims require careful design and should distinguish established lighting practice from health or medical promises.

Typical applications. Healthcare; education; offices; senior living; residential.

Related terms. Human-Centric Lighting; Melanopic EDI; Tunable White; Daylight.

Suggested FAQ. How is Circadian Lighting specified, verified or applied on a lighting project?

Commented [DG12]: Can be combined with human-centric

4. Controls and Connected Lighting

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

61. What is DALI?

Definition. DALI, the Digital Addressable Lighting Interface, is a standardized digital protocol for communication between lighting control devices and control gear. It supports addressing, grouping, scenes, dimming and status communication.

Why it matters. DALI allows lighting behavior to be configured in software rather than fixed only by power wiring, improving flexibility and commissioning.

Typical applications. Commercial buildings; education; healthcare; airports; smart buildings.

Related terms. DALI-2; D4i; IEC 62386; Addressable Lighting.

Suggested FAQ. How is DALI specified, verified or applied on a lighting project?

62. What is DALI-2?

Definition. DALI-2 is the DALI Alliance certification program based on IEC 62386 requirements for control gear and control devices, with verified testing intended to improve interoperability.

Why it matters. It broadens certified device types and gives specifiers a product database for confirming certification claims.

Typical applications. Commercial controls; sensors; application controllers; LED drivers.

Related terms. DALI; D4i; DALI Alliance; IEC 62386.

Suggested FAQ. How is DALI-2 specified, verified or applied on a lighting project?

63. What is D4i?

Definition. D4i is an extension of DALI-2 for intelligent luminaires. It standardizes features such as luminaire, energy and diagnostics data and power arrangements for compatible sensors or network nodes.

Why it matters. D4i supports data-rich, sensor-ready luminaires for connected indoor and outdoor lighting. All D4i devices are also DALI-2 devices.

Typical applications. Smart streetlights; luminaire-level controls; asset management.

Related terms. DALI-2; Luminaire Data; Energy Data; Diagnostics Data.

Suggested FAQ. How is D4i specified, verified or applied on a lighting project?

64. What is 0-10V Dimming?

Definition. 0-10V dimming uses a low-voltage analog control signal to command compatible drivers or ballasts over a dimming range.

Why it matters. It is widely available and familiar to contractors, but interoperability, low-end performance and wiring behavior should be confirmed for each combination.

Typical applications. Commercial interiors; industrial; site lighting; retrofits.

Related terms. Dimming; Control Wiring; Sink/Source; DALI.

Suggested FAQ. How is 0-10V Dimming specified, verified or applied on a lighting project?

65. What is Phase-Cut Dimming?

Definition. Phase-cut dimming controls power by removing part of each AC waveform. Forward-phase and reverse-phase methods are used with compatible loads and drivers.

Why it matters. Compatibility among dimmer, driver, minimum load and wiring is essential to avoid flicker, noise, drop-out or limited range.

Typical applications. Residential; hospitality; decorative; retrofit lamps.

Related terms. Forward Phase; Reverse Phase; TRIAC; Dim-to-Warm.

Suggested FAQ. How is Phase-Cut Dimming specified, verified or applied on a lighting project?

66. What is Bluetooth Mesh?

Definition. Bluetooth Mesh is a many-to-many wireless networking approach based on Bluetooth technology that allows messages to be relayed among compatible nodes.

Why it matters. In lighting, it can reduce dedicated control wiring and support distributed sensing, commissioning and control.

Typical applications. Retrofits; offices; warehouses; retail; smart buildings.

Related terms. Wireless Controls; Node; Gateway; Networked Lighting Controls.

Suggested FAQ. How is Bluetooth Mesh specified, verified or applied on a lighting project?

67. What is Zigbee?

Definition. Zigbee is a low-power wireless communication technology used in building automation, lighting and connected-device networks.

Why it matters. It supports mesh networking, but project teams must verify profiles, gateways, cybersecurity and product interoperability.

Typical applications. Commercial controls; residential; smart buildings; sensors.

Related terms. Wireless Mesh; Gateway; IoT Lighting; Matter.

Suggested FAQ. How is Zigbee specified, verified or applied on a lighting project?

68. What is BACnet?

Definition. BACnet is a data communication protocol for building automation and control networks. Lighting systems often use gateways or native interfaces to exchange data with a building management system.

Why it matters. BACnet integration can coordinate lighting with HVAC, schedules, alarms and energy-management functions.

Typical applications. Commercial buildings; campuses; hospitals; data centers.

Related terms. BMS; Gateway; Building Automation; DALI.

Suggested FAQ. How is BACnet specified, verified or applied on a lighting project?

69. What is Power over Ethernet (PoE) Lighting?

Definition. PoE lighting uses compatible Ethernet infrastructure to transmit electrical power and data to luminaires, sensors or control devices.

Why it matters. It can combine low-voltage distribution with networked control and data, but design must address power budgets, cable limits, IT coordination and code requirements.

Typical applications. Offices; smart buildings; education; data centers.

Related terms. Ethernet; Digital Ceiling; Network Switch; Connected Lighting.

Suggested FAQ. How is Power over Ethernet (PoE) Lighting specified, verified or applied on a lighting project?

70. What is Networked Lighting Controls (NLC)?

Definition. Networked lighting controls connect devices so they can communicate and provide functions such as zoning, scheduling, sensing, centralized configuration, monitoring and data analysis.

Why it matters. NLCs can layer control strategies and make future rezoning or operational changes easier than isolated controls.

Typical applications. Commercial buildings; warehouses; schools; healthcare; campuses.

Related terms. LLLC; Occupancy Sensing; Daylight Harvesting; Gateway.

Suggested FAQ. How is Networked Lighting Controls (NLC) specified, verified or applied on a lighting project?

71. What is Luminaire-Level Lighting Controls (LLLC)?

Definition. Luminaire-level lighting controls integrate or closely associate sensing and control capability with individual luminaires.

Why it matters. LLLC can provide granular control, flexible zoning and detailed occupancy or energy data, depending on the system.

Typical applications. Offices; warehouses; schools; retrofits.

Related terms. NLC; Integrated Sensor; Wireless Controls; Energy Monitoring.

Suggested FAQ. How is Luminaire-Level Lighting Controls (LLLC) specified, verified or applied on a lighting project?

72. What is Occupancy Sensor?

Definition. An occupancy sensor automatically signals that a space is occupied, commonly using passive infrared, ultrasonic, microwave or other sensing methods.

Why it matters. Occupancy sensing can reduce lighting energy use and improve convenience when coverage, timeout and control sequence are properly designed.

Typical applications. Offices; restrooms; warehouses; classrooms; corridors.

Related terms. Vacancy Sensor; PIR; Ultrasonic; Control Zone.

Suggested FAQ. How is Occupancy Sensor specified, verified or applied on a lighting project?

73. What is Vacancy Sensor?

Definition. A vacancy sensor requires manual activation of lighting and automatically turns lighting off after the space is unoccupied for a set period.

Why it matters. Manual-on operation can avoid unnecessary activation while preserving automatic shutoff.

Typical applications. Private offices; classrooms; residential; code compliance.

Related terms. Occupancy Sensor; Manual-On; Timeout; Automatic Shutoff.

Suggested FAQ. How is Vacancy Sensor specified, verified or applied on a lighting project?

74. What is Passive Infrared Sensor (PIR)?

Definition. A PIR sensor detects changes in infrared radiation associated with movement of warm objects across its field of view.

Why it matters. PIR is common, energy-efficient and resistant to some false triggers, but it requires line of sight and appropriate placement.

Typical applications. Offices; warehouses; corridors; outdoor fixtures.

Related terms. Occupancy Sensor; Detection Pattern; Ultrasonic Sensor.

Suggested FAQ. How is Passive Infrared Sensor (PIR) specified, verified or applied on a lighting project?

75. What is Ultrasonic Sensor?

Definition. An ultrasonic occupancy sensor emits high-frequency sound and detects changes in reflected signals caused by movement.

Why it matters. It can detect small motion and movement around some obstructions, but placement and sensitivity must be managed to limit false activation.

Typical applications. Restrooms; partitioned offices; classrooms; enclosed spaces.

Related terms. Occupancy Sensor; Dual-Technology; PIR; Sensitivity.

Suggested FAQ. How is Ultrasonic Sensor specified, verified or applied on a lighting project?

76. What is Dual-Technology Sensor?

Definition. A dual-technology sensor combines two sensing methods, often PIR and ultrasonic, and applies logic to occupancy detection.

Why it matters. Combining technologies can improve detection reliability when correctly commissioned for the space.

Typical applications. Classrooms; offices; conference rooms; complex spaces.

Related terms. PIR; Ultrasonic Sensor; Occupancy Sensor; Commissioning.

Suggested FAQ. How is Dual-Technology Sensor specified, verified or applied on a lighting project?

77. What is Daylight Harvesting?

Definition. Daylight harvesting uses photosensors and controls to reduce or switch electric lighting when sufficient daylight is available.

Why it matters. It can save energy and maintain target light levels, but sensor location, zoning and commissioning are critical.

Typical applications. Perimeter offices; atriums; classrooms; skylit warehouses.

Related terms. Photosensor; Closed-Loop Control; Dimming; Daylight Zone.

Suggested FAQ. How is Daylight Harvesting specified, verified or applied on a lighting project?

78. What is Photosensor?

Definition. A photosensor measures light and provides a signal to a control system. Depending on placement, it may respond to daylight, electric light or both.

Why it matters. Photosensors enable daylight-responsive control, dusk-to-dawn operation and light-level regulation.

Typical applications. Daylight harvesting; outdoor lighting; atriums; façades.

Related terms. Photocell; Daylight Zone; Open-Loop Control; Closed-Loop Control.

Suggested FAQ. How is Photosensor specified, verified or applied on a lighting project?

79. What is Scene Control?

Definition. Scene control recalls predefined combinations of light levels, colors or control states for a space.

Why it matters. Scenes make complex lighting changes easy for occupants and support different activities without rewiring.

Typical applications. Conference rooms; restaurants; hospitality; worship; homes.

Related terms. Preset; Dimming; Tunable White; Group Control.

Suggested FAQ. How is Scene Control specified, verified or applied on a lighting project?

80. What is Demand Response Lighting?

Definition. Demand response lighting temporarily reduces electrical demand in response to a utility, grid or facility signal while maintaining acceptable operation.

Why it matters. Lighting can contribute to peak-load management when reductions are coordinated with occupancy, safety and business needs.

Typical applications. Commercial buildings; campuses; utilities; smart grids.

Related terms. Load Shedding; Energy Management; NLC; Peak Demand.

Suggested FAQ. How is Demand Response Lighting specified, verified or applied on a lighting project?

5. Energy, Codes and Qualification

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

81. What is DesignLights Consortium (DLC)?

Definition. The DesignLights Consortium is a nonprofit organization that develops technical requirements and maintains qualified products lists for commercial and industrial lighting and networked lighting controls.

Why it matters. Many efficiency programs use DLC qualification as one input when determining product eligibility for incentives.

Typical applications. Commercial products; utility programs; specifications; retrofits.

Related terms. Qualified Products List; DLC Premium; NLC; LUNA.

Suggested FAQ. How is DesignLights Consortium (DLC) specified, verified or applied on a lighting project?

82. What is DLC Premium?

Definition. DLC Premium is a higher-performance classification within applicable DLC technical requirements. Exact criteria depend on the current requirement version and product category.

Why it matters. Distributors and contractors should verify the current qualified-products listing rather than relying on an outdated cut sheet or general claim.

Typical applications. Utility incentives; high-performance specifications; retrofits.

Related terms. DLC; QPL; Efficacy; Lumen Maintenance.

Suggested FAQ. How is DLC Premium specified, verified or applied on a lighting project?

83. What is Qualified Products List (QPL)?

Definition. A qualified products list is a published database of products or systems that have met the administrator's stated eligibility and technical requirements.

Why it matters. A QPL helps project teams verify current qualification status, model numbers and reported performance.

Typical applications. Rebates; procurement; submittals; compliance review.

Related terms. DLC; ENERGY STAR; Product Qualification; Model Number.

Suggested FAQ. How is Qualified Products List (QPL) specified, verified or applied on a lighting project?

84. What is Lighting Power Density (LPD)?

Definition. Lighting power density is the connected lighting wattage per unit of floor area, commonly expressed in watts per square foot.

Why it matters. Energy codes limit LPD for many building and space types, so accurate fixture wattage and area calculations are essential.

Typical applications. Code compliance; design; renovations; energy modeling.

Related terms. Connected Load; ASHRAE 90.1; IECC; Power Allowance.

Suggested FAQ. How is Lighting Power Density (LPD) specified, verified or applied on a lighting project?

85. What is ASHRAE 90.1?

Definition. ANSI/ASHRAE/IES Standard 90.1 establishes minimum energy-efficiency requirements for many buildings except low-rise residential buildings, including lighting power and control provisions.

Why it matters. Project teams must use the edition adopted by the relevant jurisdiction and coordinate it with local amendments.

Typical applications. Commercial construction; renovations; energy compliance.

Related terms. IECC; LPD; Automatic Shutoff; Daylight Controls.

Suggested FAQ. How is ASHRAE 90.1 specified, verified or applied on a lighting project?

86. What is International Energy Conservation Code (IECC)?

Definition. The IECC is a model energy code covering energy efficiency in buildings, including lighting power and control requirements. Jurisdictions adopt specific editions and may amend them.

Why it matters. Contractors and designers must identify the locally adopted code rather than assuming the newest model edition applies.

Typical applications. New construction; alterations; permit review; commissioning.

Related terms. ASHRAE 90.1; LPD; Energy Code; Local Adoption.

Suggested FAQ. How is International Energy Conservation Code (IECC) specified, verified or applied on a lighting project?

87. What is California Title 24 Lighting?

Definition. California Title 24 refers to the state's building standards, including energy-efficiency requirements for lighting and controls in applicable projects.

Why it matters. Requirements vary by code edition, occupancy and project scope, so current California Energy Code documents and acceptance procedures must be reviewed.

Typical applications. California commercial and residential projects.

Related terms. Acceptance Testing; Automatic Controls; LPD; Energy Code.

Suggested FAQ. How is California Title 24 Lighting specified, verified or applied on a lighting project?

88. What is Energy Code Compliance?

Definition. Energy code compliance is the process of designing, documenting, installing and verifying lighting systems against the energy requirements adopted by the authority having jurisdiction.

Why it matters. Compliance includes more than efficient fixtures and may involve power limits, controls, documentation, testing and commissioning.

Typical applications. Permits; submittals; inspections; renovations; new construction.

Related terms. LPD; Controls Narrative; Acceptance Testing; AHJ.

Suggested FAQ. How is Energy Code Compliance specified, verified or applied on a lighting project?

89. What ~~is~~are Utility Lighting Rebates?

Definition. A utility lighting rebate is a financial incentive offered by an eligible program for qualifying lighting equipment, controls or verified energy savings.

Why it matters. Rules, qualifying products, pre-approval and documentation vary by program and may change, so eligibility should be confirmed before purchase or installation.

Typical applications. Retrofits; new construction; NLC; industrial projects.

Related terms. Prescriptive Rebate; Custom Rebate; DLC; Incentive.

Suggested FAQ. How is Utility Lighting Rebate specified, verified or applied on a lighting project?

90. What ~~is~~are Prescriptive Rebates?

Definition. A prescriptive rebate provides a predefined incentive for an eligible measure that meets specified program requirements.

Why it matters. It is usually simpler than a custom calculation but may impose specific product, baseline and installation rules.

Typical applications. Lamp replacement; fixtures; controls; common retrofit measures.

Related terms. Utility Rebate; Custom Rebate; QPL; Pre-Approval.

Suggested FAQ. How is Prescriptive Rebate specified, verified or applied on a lighting project?

91. What ~~is~~are Custom Rebates?

Definition. A custom rebate bases the incentive on calculated or measured energy savings for a project not fully covered by prescriptive measures.

Why it matters. Custom applications often require engineering assumptions, operating hours, baseline documentation and approval before commitment.

Typical applications. Complex retrofits; controls; industrial facilities; campuses.

Related terms. Measurement and Verification; Baseline; Energy Savings; Pre-Approval.

Suggested FAQ. How is Custom Rebate specified, verified or applied on a lighting project?

92. What is Demand Reduction?

Definition. Demand reduction is a decrease in the rate of electrical power use, usually measured in kilowatts, during a defined interval.

Why it matters. Reducing peak demand can lower facility charges and help utilities manage system capacity.

Typical applications. NLC; dimming; scheduling; demand response.

Related terms. Energy Savings; Peak Demand; Load Shedding; kW.

Suggested FAQ. How is Demand Reduction specified, verified or applied on a lighting project?

93. What is Energy Benchmarking?

Definition. Energy benchmarking compares a building's energy use with its past performance or with similar buildings using consistent metrics.

Why it matters. Lighting upgrades and controls can be evaluated within a broader building-performance context rather than as isolated equipment changes.

Typical applications. Portfolio management; building performance standards; ESG.

Related terms. Energy Use Intensity; Metering; Baseline; Measurement.

Suggested FAQ. How is Energy Benchmarking specified, verified or applied on a lighting project?

94. What is a Net-Zero Energy Building?

Definition. A net-zero energy building is generally designed so that annual delivered energy use is balanced by renewable energy production or procurement under a defined methodology.

Why it matters. Efficient lighting and controls reduce the load that renewable systems must offset, but definitions and accounting boundaries vary.

Typical applications. High-performance buildings; campuses; public projects.

Related terms. LPD; Renewable Energy; Energy Modeling; Decarbonization.

Suggested FAQ. How is Net-Zero Energy Building specified, verified or applied on a lighting project?

95. What is Embodied Carbon in Lighting?

Definition. Embodied carbon refers to greenhouse gas emissions associated with materials, manufacturing, transportation, installation, maintenance and end-of-life stages of lighting products.

Why it matters. It expands sustainability analysis beyond operational electricity and encourages attention to durability, material use and circularity.

Typical applications. Specifications; lifecycle assessment; ESG; sustainable procurement.

Related terms. Operational Carbon; EPD; Circular Economy; Product Longevity.

Suggested FAQ. How is Embodied Carbon in Lighting specified, verified or applied on a lighting project?

96. What is **an** Environmental Product Declaration (EPD)?

Definition. An EPD is a standardized, third-party-verified report presenting quantified environmental information about a product based on life-cycle assessment rules.

Why it matters. EPDs support more transparent comparison, but results must be interpreted within the stated product category rules and system boundaries.

Typical applications. Green building; procurement; embodied carbon analysis.

Related terms. Lifecycle Assessment; Embodied Carbon; Product Category Rules.

Suggested FAQ. How is Environmental Product Declaration (EPD) specified, verified or applied on a lighting project?

97. What is Circular Lighting?

Definition. Circular lighting applies circular-economy principles such as durability, repairability, replaceable components, reuse, remanufacture and responsible material recovery.

Why it matters. It can reduce waste and preserve product value beyond a one-time installation cycle.

Typical applications. Specifications; service models; renovations; sustainable design.

Related terms. Product Stewardship; Modular Luminaire; Take-Back; Embodied Carbon.

Suggested FAQ. How is Circular Lighting specified, verified or applied on a lighting project?

98. What is **an** Automatic Shutoff?

Definition. Automatic shutoff is a control function that turns lighting off when it is not needed, based on schedules, occupancy or other control logic.

Why it matters. It is a common energy-code strategy and can reduce after-hours operation.

Typical applications. Commercial interiors; warehouses; schools; exterior lighting.

Related terms. Occupancy Sensor; Time Scheduling; Energy Code; Override.

Suggested FAQ. How is Automatic Shutoff specified, verified or applied on a lighting project?

99. What is Lighting Control Commissioning?

Definition. Lighting control commissioning is the documented process of verifying that installed controls are configured and operating according to the design intent and project requirements.

Why it matters. Even well-selected controls can underperform without correct zoning, sensor settings, schedules, sequences and owner training.

Typical applications. New construction; retrofits; NLC; code compliance.

Related terms. Functional Testing; Sequence of Operations; Acceptance Testing.

Suggested FAQ. How is Lighting Control Commissioning specified, verified or applied on a lighting project?

100. What is Measurement and Verification (M&V)?

Definition. Measurement and verification is the process of quantifying project performance or energy savings using documented measurements, calculations and assumptions.

Why it matters. M&V helps owners, utilities and contractors determine whether expected savings were achieved.

Typical applications. Performance contracts; custom rebates; controls; retrofits.

Related terms. Baseline; Metering; Energy Savings; Operating Hours.

Suggested FAQ. How is Measurement and Verification (M&V) specified, verified or applied on a lighting project?

6. Outdoor and Site Lighting

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

101. What is DarkSky-Responsible Lighting?

Definition. DarkSky-responsible lighting uses light only where, when and at the level needed, while limiting uplight, glare, light trespass and unnecessary short-wavelength content.

Why it matters. It can improve nighttime visibility, reduce wasted energy and lessen impacts on neighbors, wildlife and the night sky.

Typical applications. Roadways; parking; campuses; parks; façades.

Related terms. Skyglow; Light Trespass; BUG Rating; Shielding.

Suggested FAQ. How is DarkSky-Responsible Lighting specified, verified or applied on a lighting project?

102. What is a BUG Rating?

Definition. BUG is a photometric classification of Backlight, Uplight and Glare zones for an outdoor luminaire. Ratings are derived from zonal lumen data and depend on the luminaire's orientation.

Why it matters. BUG ratings help specifiers evaluate where a luminaire sends light, but suitable limits depend on the application and lighting zone.

Typical applications. Area lights; wall packs; roadway fixtures; site lighting.

Related terms. Backlight; Uplight; Glare; Zonal Lumens.

Suggested FAQ. How is BUG Rating specified, verified or applied on a lighting project?

103. What is Uplighting?

Definition. Uplight is light emitted above a luminaire's horizontal plane or directed upward from an installation.

Why it matters. Excess uplight contributes to skyglow and may conflict with outdoor-lighting requirements.

Typical applications. Area lighting; façades; landscape; sports lighting.

Related terms. BUG Rating; Skyglow; Full Cutoff; Shielding.

Suggested FAQ. How is Uplight specified, verified or applied on a lighting project?

104. What is Backlighting?

Definition. Backlight is light emitted behind an outdoor luminaire relative to its intended forward direction.

Why it matters. Controlling backlight can reduce spill onto adjacent property or behind poles and walls.

Typical applications. Roadways; parking lots; perimeter lighting; wall packs.

Related terms. BUG Rating; Light Trespass; House-Side Shield; Distribution.

Suggested FAQ. How is Backlight specified, verified or applied on a lighting project?

105. What is Light Trespassing?

Definition. Light trespass is light that falls beyond the property or area intended to be illuminated.

Why it matters. It can disturb neighbors, waste energy and create compliance issues at site boundaries.

Typical applications. Parking lots; sports fields; façades; residential-adjacent sites.

Related terms. Property Line; Spill Light; Backlight; Shielding.

Suggested FAQ. How is Light Trespass specified, verified or applied on a lighting project?

106. What is Skyglow?

Definition. Skyglow is increased brightness of the night sky caused by natural and human-made factors, including light scattered upward from outdoor lighting.

Why it matters. Reducing unnecessary uplight and excessive illumination helps preserve night-sky visibility.

Typical applications. Communities; campuses; roadways; urban planning.

Related terms. Uplight; DarkSky; Light Pollution; CCT.

Suggested FAQ. How is Skyglow specified, verified or applied on a lighting project?

107. What is a Full-Cutoff Luminaire?

Definition. Full cutoff is a legacy photometric classification indicating no candela at or above 90 degrees from nadir and limited intensity near the horizontal. Current practice often uses BUG ratings and application-specific criteria.

Why it matters. The term remains common in specifications, but project teams should check the exact photometric requirement rather than relying on the label alone.

Typical applications. Site lighting; wall packs; roadways; ordinances.

Related terms. BUG Rating; Uplight; Shielding; Cutoff Classification.

Suggested FAQ. How is Full-Cutoff Luminaire specified, verified or applied on a lighting project?

108. What is Adaptive Outdoor Lighting?

Definition. Adaptive outdoor lighting changes output or operation in response to time, traffic, occupancy, environmental conditions or other inputs.

Why it matters. It can reduce energy and light exposure during low-activity periods while maintaining needed illumination.

Typical applications. Roadways; parking; pathways; campuses; smart cities.

Related terms. Dimming; Motion Sensing; Smart Street Lighting; Curfew.

Suggested FAQ. How is Adaptive Outdoor Lighting specified, verified or applied on a lighting project?

109. What is Smart Street Lighting?

Definition. Smart street lighting combines controllable luminaires with communications, monitoring and management software. Systems may support dimming, fault reporting, energy data and integration with other city services.

Why it matters. It can improve maintenance visibility and operational flexibility, but procurement should address cybersecurity, ownership, networking and interoperability.

Typical applications. Municipal roads; campuses; utilities; transportation.

Related terms. D4i; NLC; Central Management System; Adaptive Lighting.

Suggested FAQ. How is Smart Street Lighting specified, verified or applied on a lighting project?

110. What is Wildlife-Friendly Lighting?

Definition. Wildlife-friendly lighting is selected and operated to reduce adverse effects on species and habitats through control of location, timing, intensity, distribution and spectrum.

Why it matters. There is no universal solution for every species or site, so project criteria should be based on local ecology and authoritative guidance.

Typical applications. Coastal areas; parks; bridges; rural sites; sensitive habitats.

Related terms. Amber Lighting; Shielding; Curfew; Spectral Power Distribution.

Suggested FAQ. How is Wildlife-Friendly Lighting specified, verified or applied on a lighting project?

111. What is Turtle-Friendly Lighting?

Definition. Turtle-friendly lighting refers to coastal lighting practices intended to reduce disruption to nesting sea turtles and hatchlings. Requirements commonly address shielding, visibility from the beach, intensity and spectrum.

Why it matters. Projects must follow applicable local and wildlife-agency requirements rather than relying only on a product marketing label.

Typical applications. Coastal properties; roadways; pathways; hospitality.

Related terms. Wildlife-Friendly Lighting; Amber Light; Shielding; Coastal Code.

Suggested FAQ. How is Turtle-Friendly Lighting specified, verified or applied on a lighting project?

112. What is Area Lighting?

Definition. Area lighting illuminates broad outdoor spaces such as parking lots, yards, campuses and plazas, commonly using pole-mounted luminaires.

Why it matters. Good design balances visibility, uniformity, glare control, spill light, energy use and maintenance.

Typical applications. Parking; logistics yards; campuses; public spaces.

Related terms. Pole Light; BUG Rating; Uniformity; Mounting Height.

Suggested FAQ. How is Area Lighting specified, verified or applied on a lighting project?

113. What is Roadway Lighting?

Definition. Roadway lighting is designed to support nighttime visibility and safety for drivers, cyclists and pedestrians using the road environment.

Why it matters. Design involves pavement luminance or illuminance, uniformity, glare, conflict areas, geometry and maintenance.

Typical applications. Streets; highways; intersections; tunnels.

Related terms. Veiling Luminance; Cobrahead; Adaptive Lighting; IES Roadway Practice.

Suggested FAQ. How is Roadway Lighting specified, verified or applied on a lighting project?

114. What is Parking Lot Lighting?

Definition. Parking lot lighting provides illumination for vehicle movement, parking, pedestrian circulation and security-related visibility.

Why it matters. Pole placement, distribution, uniformity, glare and property-line control are as important as average light level.

Typical applications. Retail; offices; airports; campuses; multifamily.

Related terms. Area Lighting; Pole Spacing; BUG Rating; Occupancy Controls.

Suggested FAQ. How is Parking Lot Lighting specified, verified or applied on a lighting project?

115. What is Bollard Lighting?

Definition. A bollard luminaire is a low, usually vertical outdoor fixture used along pathways, plazas and landscapes.

Why it matters. Bollards can support wayfinding and pedestrian-scale lighting, but poor optics may create glare or inefficient horizontal light.

Typical applications. Paths; courtyards; campuses; hospitality.

Related terms. Pathway Lighting; Shielding; Pedestrian Lighting; Glare.

Suggested FAQ. How is Bollard Lighting specified, verified or applied on a lighting project?

116. What is Floodlighting?

Definition. Floodlighting uses broad-beam luminaires to illuminate large areas, façades, signs, sports surfaces or work zones.

Why it matters. Aiming, shielding and beam selection are critical to limit glare, spill and uplight.

Typical applications. Sports; façades; yards; signs; security.

Related terms. Beam Angle; Aiming; Spill Light; Sports Lighting.

Suggested FAQ. How is Floodlighting specified, verified or applied on a lighting project?

117. What is [a](#) Wall-Pack Luminaire?

Definition. A wall-pack is an exterior luminaire mounted on a building wall to illuminate entrances, perimeters, loading areas or adjacent ground.

Why it matters. Optical distribution and mounting height should be selected to reduce glare, uplight and light beyond the intended area.

Typical applications. Warehouses; commercial buildings; schools; service areas.

Related terms. Full Cutoff; Forward Throw; BUG Rating; Photocell.

Suggested FAQ. How is Wall-Pack Luminaire specified, verified or applied on a lighting project?

118. What is Pedestrian-Scale Lighting?

Definition. Pedestrian-scale lighting uses mounting heights, spacing and distributions suited to people walking through paths, plazas and streetscapes.

Why it matters. It supports orientation, facial recognition and a comfortable nighttime environment when glare is carefully controlled.

Typical applications. Downtowns; campuses; parks; mixed-use developments.

Related terms. Bollard; Post-Top; Vertical Illuminance; Wayfinding.

Suggested FAQ. How is Pedestrian-Scale Lighting specified, verified or applied on a lighting project?

119. What is Sports Lighting?

Definition. Sports lighting provides illumination for players, officials, spectators and broadcast or recording systems.

Why it matters. Design must address horizontal and vertical light levels, uniformity, glare, flicker, aiming and spill beyond the venue.

Typical applications. Fields; arenas; courts; stadiums; recreation.

Related terms. Flicker; Vertical Illuminance; Floodlight; Spill Control.

Suggested FAQ. How is Sports Lighting specified, verified or applied on a lighting project?

120. What is [a](#) Photocell Control?

Definition. A photocell control switches or adjusts outdoor lighting according to measured ambient light.

Why it matters. Correct orientation, shielding and set point help prevent nuisance cycling and unnecessary daytime operation.

Typical applications. Roadways; wall packs; signs; parking; landscape.

Related terms. Photosensor; Dusk-to-Dawn; Timeclock; Outdoor Controls.

Suggested FAQ. How is Photocell Control specified, verified or applied on a lighting project?

7. Designer, Contractor and Distributor Practice

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

121. What is [a](#) Lighting Takeoff?

Definition. A lighting takeoff is the quantified extraction of luminaires, lamps, controls and related equipment from project drawings and specifications for pricing, procurement or planning.

Why it matters. Accuracy depends on reconciling plans, schedules, details, alternates, addenda and control requirements, not simply counting symbols.

Typical applications. Bidding; estimating; distribution; project management.

Related terms. Fixture Schedule; Bill of Materials; Addendum; Scope Review.

Suggested FAQ. How is Lighting Takeoff specified, verified or applied on a lighting project?

122. What is [a](#) Fixture Schedule?

Definition. A fixture schedule is a project table that identifies luminaire types and key attributes such as description, source, wattage, mounting, controls, manufacturer or basis of design.

Why it matters. It is a central coordination document, but it must be read with drawings, specifications, notes and approved substitutions.

Typical applications. Design; bidding; submittals; procurement; installation.

Related terms. Luminaire Type; Basis of Design; Lighting Plan; Submittal.

Suggested FAQ. How is Fixture Schedule specified, verified or applied on a lighting project?

123. What is [a](#) Lighting Layout?

Definition. A lighting layout shows the planned positions, types and often control relationships of luminaires within a project.

Why it matters. Layout affects light levels, uniformity, coordination, installation labor and aesthetics.

Typical applications. Design; estimating; installation; renovation.

Related terms. Reflected Ceiling Plan; Photometric Study; Fixture Schedule.

Suggested FAQ. How is Lighting Layout specified, verified or applied on a lighting project?

124. What is [a](#) Reflected Ceiling Plan (RCP)?

Definition. A reflected ceiling plan is a drawing that shows ceiling elements as viewed from above, commonly including luminaires, diffusers, sprinklers, speakers and ceiling systems.

Why it matters. Contractors use the RCP to coordinate fixture locations and avoid conflicts with mechanical, fire-protection and architectural elements.

Typical applications. Commercial interiors; healthcare; education; hospitality.

Related terms. Lighting Plan; Ceiling Coordination; Fixture Schedule; Clash.

Suggested FAQ. How is Reflected Ceiling Plan (RCP) specified, verified or applied on a lighting project?

125. What is [a](#) Photometric Study?

Definition. A photometric study is a calculated analysis of predicted lighting performance using luminaire photometric data, geometry, surface properties and design assumptions.

Why it matters. It helps test light levels, uniformity and distribution before installation, but results depend on accurate inputs.

Typical applications. Roadways; parking; interiors; sports; industrial.

Related terms. IES File; Calculation Grid; Reflectance; Maintenance Factor.

Suggested FAQ. How is Photometric Study specified, verified or applied on a lighting project?

126. What is **a** Lighting Specification?

Definition. A lighting specification defines product, performance, execution, control, testing and documentation requirements for a project.

Why it matters. It establishes expectations beyond the drawings and helps evaluate substitutions and submittals consistently.

Typical applications. Bid-spec projects; construction documents; procurement.

Related terms. Basis of Design; Approved Equal; Submittal; Division 26.

Suggested FAQ. How is Lighting Specification specified, verified or applied on a lighting project?

127. What is **a** Basis of Design?

Definition. The basis of design identifies the product, system or performance approach used to develop the project documents.

Why it matters. It provides a benchmark for coordination and evaluation of proposed alternates without necessarily prohibiting approved equivalents.

Typical applications. Specifications; alternates; submittals; value engineering.

Related terms. Approved Equal; Lighting Specification; Performance Criteria.

Suggested FAQ. How is Basis of Design specified, verified or applied on a lighting project?

128. What is **an** Approved Equal?

Definition. An approved equal is an alternate product accepted by the authorized design or project representative as meeting the stated requirements.

Why it matters. Equal status should be based on documented comparison of performance, dimensions, listings, controls, warranty, finish and project impact.

Typical applications. Bidding; substitutions; procurement; distribution.

Related terms. Basis of Design; Substitution Request; Alternate; Compliance Matrix.

Suggested FAQ. How is Approved Equal specified, verified or applied on a lighting project?

129. What is **a** Substitution Request?

Definition. A substitution request is a formal proposal to replace a specified product, material or system with an alternative.

Why it matters. Early, complete documentation reduces risk related to photometry, controls, dimensions, certifications, appearance, lead time and cost.

Typical applications. Bid stage; procurement; value engineering; shortages.

Related terms. Approved Equal; Compliance Matrix; Value Engineering; Addendum.

Suggested FAQ. How is Substitution Request specified, verified or applied on a lighting project?

130. What is Value Engineering in Lighting?

Definition. Lighting value engineering is the structured evaluation of alternatives intended to improve project value by balancing cost, performance, risk, schedule, maintainability and design intent.

Why it matters. A lower purchase price alone is not value engineering if it creates energy, labor, controls, photometric, warranty or aesthetic penalties.

Typical applications. Budget alignment; redesign; procurement; alternates.

Related terms. Lifecycle Cost; Substitution; Basis of Design; Total Installed Cost.

Suggested FAQ. How is Value Engineering in Lighting specified, verified or applied on a lighting project?

131. What is Bid-Spec Lighting?

Definition. Bid-spec lighting is a project delivery approach in which construction documents define products or performance and contractors bid the specified scope.

Why it matters. Clear documents and disciplined substitution review are necessary to maintain design intent and competitive pricing.

Typical applications. Commercial construction; public work; institutional projects.

Related terms. Design-Build; Specification; Addendum; Approved Equal.

Suggested FAQ. How is Bid-Spec Lighting specified, verified or applied on a lighting project?

132. What is Design-Build Lighting?

Definition. Design-build lighting places design and construction responsibility within a single project team or contract structure.

Why it matters. It can improve coordination and speed, but performance criteria and documentation remain important for owner expectations and code compliance.

Typical applications. Warehouses; offices; retail; industrial; renovations.

Related terms. Design-Assist; Performance Specification; Contractor; Commissioning.

Suggested FAQ. How is Design-Build Lighting specified, verified or applied on a lighting project?

133. What is Design-Assist Lighting?

Definition. Design-assist involves early collaboration by contractors, distributors, manufacturers or specialists while the design remains under the design professional's direction.

Why it matters. Early input can improve constructability, budgeting, controls coordination and product availability.

Typical applications. Complex controls; large projects; fast-track construction.

Related terms. Design-Build; Preconstruction; Value Engineering; Coordination.

Suggested FAQ. How is Design-Assist Lighting specified, verified or applied on a lighting project?

134. What is a Submittal Package?

Definition. A lighting submittal package is the contractor's or supplier's collection of product data, drawings, photometry, controls information, samples or certifications submitted for review.

Why it matters. A complete, clearly indexed package speeds review and reduces the risk of ordering noncompliant equipment.

Typical applications. Procurement; approvals; construction administration.

Related terms. Product Data; Shop Drawing; Compliance Matrix; Fixture Schedule.

Suggested FAQ. How is Submittal Package specified, verified or applied on a lighting project?

135. What is a Product Data Sheet?

Definition. A product data sheet summarizes a manufacturer's published information about a product, such as dimensions, electrical options, photometry, finishes, ratings and ordering codes.

Why it matters. Data sheets must match the exact proposed configuration; a family brochure alone may not prove compliance.

Typical applications. Submittals; sales; specification; procurement.

Related terms. Catalog Number; Cut Sheet; Specification; Certification.

Suggested FAQ. How is Product Data Sheet specified, verified or applied on a lighting project?

136. What is a Shop Drawing?

Definition. A shop drawing shows project-specific fabrication, assembly, dimensions, mounting, wiring or coordination information prepared by a contractor, fabricator or supplier.

Why it matters. Shop drawings translate design intent into installable details and should identify deviations clearly.

Typical applications. Custom luminaires; controls; linear systems; mounting details.

Related terms. Submittal; Coordination Drawing; Product Data; Field Dimension.

Suggested FAQ. How is Shop Drawing specified, verified or applied on a lighting project?

137. What is [a](#) Lighting Commissioning?

Definition. Lighting commissioning is a quality-focused process that verifies lighting and controls meet the owner's project requirements and design intent through planning, review, testing and documentation.

Why it matters. It reduces operational problems and helps ensure savings, sequences and user interfaces work as intended.

Typical applications. New construction; NLC; renovations; high-performance buildings.

Related terms. Functional Testing; Controls Narrative; Training; Acceptance Testing.

Suggested FAQ. How is Lighting Commissioning specified, verified or applied on a lighting project?

138. What is Acceptance Testing?

Definition. Acceptance testing is formal verification required by a code, program or project to demonstrate that installed lighting systems and controls perform specified functions.

Why it matters. The exact procedures and credentials depend on the governing requirement and jurisdiction.

Typical applications. Code compliance; California projects; utility programs; handover.

Related terms. Functional Testing; Commissioning; Test Report; AHJ.

Suggested FAQ. How is Acceptance Testing specified, verified or applied on a lighting project?

139. What is [a](#) Punch List?

Definition. A punch list records incomplete, damaged or nonconforming work that must be corrected before project closeout.

Why it matters. Lighting items often include aiming, labeling, control programming, failed components, finish damage and missing documentation.

Typical applications. Construction closeout; commissioning; owner turnover.

Related terms. Deficiency; Closeout; Warranty; Functional Testing.

Suggested FAQ. How is Punch List specified, verified or applied on a lighting project?

140. What is [a](#) Lighting Retrofit?

Definition. A lighting retrofit upgrades existing lamps, luminaires or controls while retaining some existing infrastructure.

Why it matters. Successful retrofits require field verification of voltage, condition, dimensions, controls, light levels, code impacts and disposal requirements.

Typical applications. Commercial; industrial; exterior; institutional.

Related terms. Relighting; Retrofit Kit; Rebate; Lighting Audit.

Suggested FAQ. How is Lighting Retrofit specified, verified or applied on a lighting project?

8. Data Center and Mission-Critical Lighting

20 launch definitions for this category. Each entry is structured for a standalone US Lighting Trends resource page.

141. What is Data Center Lighting?

Definition. Data center lighting serves data halls, support rooms, circulation, loading, offices and exterior areas while coordinating with stringent operational, energy and maintenance requirements.

Why it matters. Lighting is a small part of total facility power but must support safe work, clear identification and reliable maintenance without obstructing infrastructure.

Typical applications. Data centers; colocation facilities; edge facilities.

Related terms. White Space; Emergency Lighting; Controls; Maintenance Lighting.

Suggested FAQ. How is Data Center Lighting specified, verified or applied on a lighting project?

142. What is White Space Lighting?

Definition. White space lighting illuminates the active data hall where racks, servers and related IT equipment are installed.

Why it matters. The system should provide useful vertical and horizontal illumination while respecting cable trays, containment, airflow and maintenance access.

Typical applications. Data halls; server rooms; colocation suites.

Related terms. Rack Aisle; Vertical Illuminance; Occupancy Controls; Coordination.

Suggested FAQ. How is White Space Lighting specified, verified or applied on a lighting project?

143. What is Hot-Aisle Lighting?

Definition. Hot-aisle lighting serves aisles where heated exhaust air is discharged from IT equipment, often within or adjacent to containment systems.

Why it matters. Fixture placement must coordinate with containment, high temperatures, overhead services and maintenance tasks.

Typical applications. Contained data halls; high-density computing.

Related terms. Hot-Aisle Containment; Maintenance Lighting; Ambient Temperature.

Suggested FAQ. How is Hot-Aisle Lighting specified, verified or applied on a lighting project?

144. What is Cold-Aisle Lighting?

Definition. Cold-aisle lighting serves aisles where conditioned air is supplied to IT equipment intakes.

Why it matters. Design should provide clear visibility of rack faces and labels without obstructing air delivery or containment.

Typical applications. Data halls; colocation; enterprise server rooms.

Related terms. Cold-Aisle Containment; Vertical Illuminance; Rack Lighting.

Suggested FAQ. How is Cold-Aisle Lighting specified, verified or applied on a lighting project?

145. What is Mission-Critical Lighting?

Definition. Mission-critical lighting supports facilities where interruption, poor visibility or maintenance delays can create significant operational consequences.

Why it matters. System architecture should consider emergency power, maintainability, controls behavior and failure modes in addition to normal illumination.

Typical applications. Data centers; hospitals; control rooms; industrial processes.

Related terms. Emergency Lighting; Redundancy; UPS; Generator.

Suggested FAQ. How is Mission-Critical Lighting specified, verified or applied on a lighting project?

146. What is UPS-Supported Lighting?

Definition. UPS-supported lighting is connected to an uninterruptible power supply so selected lighting remains energized during the transition or failure of normal power, subject to system design.

Why it matters. It can provide continuity for critical tasks, but load, runtime, coordination and code-required emergency functions must be distinguished.

Typical applications. Data halls; network operations centers; critical rooms.

Related terms. Emergency Lighting; Generator; Critical Branch; Runtime.

Suggested FAQ. How is UPS-Supported Lighting specified, verified or applied on a lighting project?

147. What is Generator-Backed Lighting?

Definition. Generator-backed lighting is supplied by an emergency or standby generator after loss of normal power and transfer through the applicable distribution system.

Why it matters. Transfer time, circuit classification and required duration depend on the facility design and governing codes.

Typical applications. Data centers; hospitals; industrial; campuses.

Related terms. Transfer Switch; Emergency Power; Standby Power; Egress Lighting.

Suggested FAQ. How is Generator-Backed Lighting specified, verified or applied on a lighting project?

148. What is Rack-Aisle Lighting?

Definition. Rack-aisle lighting is arranged to illuminate the vertical rack faces and floor areas used for equipment installation, inspection and service.

Why it matters. Vertical illumination and glare control may matter more than high average horizontal illumination.

Typical applications. Data halls; network rooms; labs.

Related terms. Vertical Illuminance; White Space; Task Lighting; Linear Lighting.

Suggested FAQ. How is Rack-Aisle Lighting specified, verified or applied on a lighting project?

149. What is Network Operations Center Lighting?

Definition. Network operations center lighting serves screen-intensive control rooms where staff monitor systems for extended periods.

Why it matters. Design should balance low reflected glare, comfortable ambient light, task needs, alertness and scene control.

Typical applications. NOCs; security operations centers; control rooms.

Related terms. Screen Glare; Indirect Lighting; Tunable White; Scene Control.

Suggested FAQ. How is Network Operations Center Lighting specified, verified or applied on a lighting project?

150. What is Data Center Emergency Lighting?

Definition. Data center emergency lighting provides code-required illumination for egress and other designated emergency functions when normal power fails.

Why it matters. It must be coordinated with containment, changing rack layouts, exit paths, testing and the facility's power architecture.

Typical applications. Data halls; electrical rooms; corridors; support spaces.

Related terms. Egress Lighting; Emergency Power; Transfer Switch; Testing.

Suggested FAQ. How is Data Center Emergency Lighting specified, verified or applied on a lighting project?

151. What is Maintenance Lighting?

Definition. Maintenance lighting provides sufficient illumination for inspection, servicing, repair and equipment replacement, including locations not normally occupied.

Why it matters. It supports safety and accuracy during work and may require local switching, portable lighting or dedicated fixtures.

Typical applications. Mechanical rooms; electrical rooms; above-rack spaces; yards.

Related terms. Task Lighting; Temporary Lighting; Service Area; Vertical Illuminance.

Suggested FAQ. How is Maintenance Lighting specified, verified or applied on a lighting project?

152. What is Underfloor Lighting?

Definition. Underfloor lighting illuminates raised-floor plenums or service spaces for inspection and maintenance.

Why it matters. It should be durable, safely powered and located to avoid interference with airflow, cabling and floor systems.

Typical applications. Raised-floor data halls; telecom rooms; legacy facilities.

Related terms. Maintenance Lighting; Raised Floor; Portable Lighting.

Suggested FAQ. How is Underfloor Lighting specified, verified or applied on a lighting project?

153. What is Containment-Compatible Lighting?

Definition. Containment-compatible lighting is selected and positioned to work with hot-aisle or cold-aisle containment architecture.

Why it matters. Coordination prevents luminaires, sensors and wiring from blocking panels, airflow or service access.

Typical applications. High-density data halls; modular containment.

Related terms. Hot-Aisle Containment; Cold-Aisle Containment; Coordination.

Suggested FAQ. How is Containment-Compatible Lighting specified, verified or applied on a lighting project?

154. What is a High-Ambient-Temperature Luminaire?

Definition. A high-ambient-temperature luminaire is rated for operation in ambient conditions above common room-temperature ratings.

Why it matters. Using equipment outside its rated ambient range can affect life, output, driver performance and warranty.

Typical applications. Hot aisles; mechanical rooms; industrial support spaces.

Related terms. Ambient Rating; Thermal Management; Driver Life; Temperature.

Suggested FAQ. How is High-Ambient-Temperature Luminaire specified, verified or applied on a lighting project?

155. What ~~is~~are Data Hall Occupancy Controls?

Definition. Data hall occupancy controls reduce lighting when aisles or zones are unoccupied while restoring light for personnel activity.

Why it matters. Granular sensing can reduce energy and heat without compromising task visibility when coverage and sequences are commissioned correctly.

Typical applications. Colocation; enterprise data halls; edge sites.

Related terms. LLLC; Occupancy Sensor; Control Zone; Timeout.

Suggested FAQ. How is Data Hall Occupancy Controls specified, verified or applied on a lighting project?

156. What is Data Center Lighting Redundancy?

Definition. Lighting redundancy is the use of multiple circuits, sources or power paths to reduce the effect of a single failure on required illumination.

Why it matters. The needed level is a project-specific risk decision and should not be confused with code-required emergency lighting.

Typical applications. Mission-critical facilities; NOCs; electrical rooms.

Related terms. N+1; Emergency Lighting; UPS; Generator.

Suggested FAQ. How is Data Center Lighting Redundancy specified, verified or applied on a lighting project?

157. What is Security Lighting for Data Centers?

Definition. Security lighting supports surveillance, access control, perimeter observation and safe movement around a data center site.

Why it matters. It should provide appropriate vertical illumination for people and cameras while limiting glare, spill and unnecessary light.

Typical applications. Perimeters; gates; loading areas; entrances; yards.

Related terms. Vertical Illuminance; CCTV; Area Lighting; Light Trespass.

Suggested FAQ. How is Security Lighting for Data Centers specified, verified or applied on a lighting project?

158. What is Remote Lighting Monitoring?

Definition. Remote lighting monitoring reports status, energy use, faults or operating conditions to an authorized interface or management platform.

Why it matters. It can improve maintenance response and reduce routine inspection, depending on the system's sensors and data quality.

Typical applications. Large data centers; campuses; colocation portfolios.

Related terms. NLC; Fault Detection; Energy Monitoring; D4i.

Suggested FAQ. How is Remote Lighting Monitoring specified, verified or applied on a lighting project?

159. What is Data Center Lighting Controls Integration?

Definition. Lighting controls integration connects lighting with selected building, security, IT or energy-management systems through defined interfaces.

Why it matters. Integration can coordinate schedules and alarms, but cybersecurity, ownership, data boundaries and fail-safe behavior must be planned.

Typical applications. Smart data centers; campuses; NOCs.

Related terms. BACnet; API; BMS; Cybersecurity.

Suggested FAQ. How is Data Center Lighting Controls Integration specified, verified or applied on a lighting project?

160. What is Data Center Lighting Commissioning?

Definition. Data center lighting commissioning verifies normal, emergency and control functions against project requirements and documents settings, tests and training.

Why it matters. Mission-critical facilities benefit from clear sequence testing, power-loss scenarios and maintainable records.

Typical applications. New data centers; expansions; controls upgrades.

Related terms. Functional Testing; Emergency Test; Sequence of Operations; Handover.

Suggested FAQ. How is Data Center Lighting Commissioning specified, verified or applied on a lighting project?

Publishing and Quality-Control Checklist

- Assign a knowledgeable author and independent technical reviewer.
- Verify standards, code editions, certification status and program requirements against current primary sources.
- Add a concise meta title and meta description without keyword stuffing.
- Add Article or WebPage structured data; use FAQ structured data only when visible FAQ content and current search guidance support it.
- Link each page to one category hub, three to six related definitions and relevant USLT editorial coverage.
- Use original diagrams or licensed manufacturer assets with clear source treatment.
- Add reviewed date, correction pathway and disclosure for sponsored resources.
- Recheck numerical examples, unit conversions and claims before publishing.
- Review pages after standards or qualification program updates.
- Track organic impressions, cited-answer appearances, assisted conversions, newsletter signups and sponsor engagement.

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