

The terms and definitions in this glossary will be useful to you in studying and reviewing this manual. The unit references in parentheses enable you to refer to the manual for an in-depth discussion of the topic. You may want to keep the glossary handy for on-the-job reference.

A Lamps	The most common incandescent household lamp; a standard <i>general service lamp</i> . (Unit 4)
Absorption	The opposite of reflection. Absorbed light becomes heat. (Unit 8)
Accent Lighting	Localized and directional lighting used to highlight, focus attention and dramatize. Accent lighting fixtures include track, recessed, and specialty products. (Units 1, 10, 11, 16, 21)
Acid Etched	See <i>Etched Glass</i> . (Unit 12)
Acid Finish	Chemically processed weathered or distressed finish. (Unit 12)
Acrylic	A translucent or transparent plastic, suitable for indoor or outdoor use. May be clear, opal, or colored. Does not yellow, but is not shatter-resistant. (Units 12 and 13)
Adaptation	The process by which the visual system adjusts to changes in illumination, affecting the sensitivity of the eye to light.
Aged Finish	An oxidized finish, most often found on brass, to create a weathered appearance. Also called rust. (Unit 11)
Aiming Angle	How you point or direct an adjustable accent light. The aiming angle is calculated from vertical, or nadir. An aiming angle of 30 degrees is effective for paintings and sculpture. (Unit 21)
Alloy	A mixture of two or more different metals. (Unit 12)
Alternating Current (AC)	Current that reverses, or alternates, direction. Households use AC that alternates at 60 cycles per second. (Unit 9)
Alzak	The trade name used for its method of anodizing, now a generic term for brightened, anodized aluminum.
Ambient Lighting	Lighting that provides background brightness so you can move around a space and that reduces the contrast between sources of local brightness. (Unit 1)
Ampere (amp)	Unit of electrical current. The rate of electricity flow and circuit capacity are stated in amperes. (Unit 9)

Annual Savings	The amount of energy (KWH), energy costs (\$), or lamp costs (\$), saved in one year. Depends on annual usage in hours. Used for analyzing energy-wise lighting strategies. (Unit 23)
Anodized	A finish consisting of a thin, essentially transparent coating of aluminum oxide on the surface of an aluminum reflector. It is formed electrochemically and is essentially part of the substrate and so highly durable. (Unit 12)
ANSI Designations	Designations for lamps established by the <i>American National Standards Institute</i> . ANSI also develops consensus standards for lamps, ballasts, and test procedures.
Antique Finish	A finish that simulates aging, often accomplished by wiping dark pigment paint across a metal part. (Unit 12)
Aperture	Opening of a fixture through which light exits. (Unit 10)
Approach Angle	See <i>Aiming Angle</i> . (Unit 21)
Astronomical Clock	A clock programmed according to sunrise and sunset (seasonal) rather than 24-hour time. Used for timing controls. (Unit 17)
Arc Discharge	Light created when gases are excited by an electrical current. (Lightning is a natural form of this phenomenon.) Fluorescent and HID lamps use the arc discharge principle. (Units 5 and 6)
Architectural Lighting	Generally refers to built in lighting, such as recessed downlights, coves, and valences. May also mean <i>architecturally styled</i> fixtures, such as track.
Atmosphere	The subjective, emotional feel of a space. You create the atmosphere by the lighting composition and the choice of light source and color. (Units 3, 20, and 21)
Average Rated Life	The number of hours required for <i>half</i> of a large group of lamps to fail, or burn out. The actual life of any lamp or small group of lamps will typically be different from the average rated life. (Unit 3)

Back Box	Fixture or electrical enclosure installed during <i>Rough In</i> .
Back Light	Light from behind an object. Backlighting <i>Silhouettes</i> an object, creating a dramatic outline without surface detail. (Units 16 and 21)
Baffle	Part of the fixture that blocks light to prevent glare and control brightness. Baffles may be integral blades, plates, or grooves, or an accessory. Baffles are often painted black to absorb light. (Unit 8)
Ballast	Electrical or electronic component required for fluorescent (and HID) lamps. Ballasts provide enough voltage to start the lamp and then limit the current for continuing operation. (Unit 5)
Barn Doors	Adjustable "flaps" added to track fixtures to control spill light. (Unit 11)
Base	Part of the lamp that makes contact with the lamp holder. There are a wide variety of bases. You must assure that fixture has an appropriate lamp holder or socket for the lamp base in question, or vice versa. (Units 4 and 5)
Bath Bracket	Fixture used at a mirror or over a vanity for grooming; ideally a long, well diffused source of light. (Units 12 and 20)
Beamspread	The width of the beam in degrees. Beamspread is defined as the point where intensity falls to 50% of maximum candlepower. For the conical beams of most PAR and MR lamps, the apex angle of the cone is the beamspread. For asymmetrical beams, such as some PAR36, the beamspread is expressed as length x width. (Unit 4)
Beveled Glass	Clear glass, often with high lead content, with edges that are cut on an angle to add depth and glitter. (Unit 12)
Bi-Pin Base	A lamp base with two pins. Used for some halogen lamps, most MR lamps and fluorescent lamps.
Black Body	A device used to classify white light. The black body is heated until it glows and emits light. The color of that light is classified by the temperature of the black body. (Unit 3)
Blank	A sheet of metal. Blanking is the process of cutting a shape from a sheet using a die in a press. (Unit 12)
Bollard	Architectural outdoor fixture mounted low to the ground on a post for general or path lighting. Term derives from posts used for mooring at wharves or to prevent vehicles from entering a plaza. (Unit 16)

Bound Glass	Glass elements held together by metal strips, typically brass or copper; includes <i>Leaded Glass</i> (which looks heavier). (Unit 12)
Branch Circuit	Electrical circuit running from a electrical breaker panel. Each circuit has its own overload protection device. (Unit 9)
Breaker	See <i>Circuit breaker</i> .
Brushed Finish	<i>Satin</i> , or lightly textured, finish (usually on metal) produced by brushing with a wire wheel or buffing with an fine abrasive. (Unit 12)
BX Cable	Cable consisting of a flexible metal jacket surrounding two or more insulated wires. (Unit 9)
Bud Lights	Tiny incandescent or halogen lamps mounted on a copper foil strip to create a lighted string that can follow any form or outline a shape.
Bulb	The everyday term for an incandescent lamp. Also refers to the outer glass envelope of the lamp.
Candela	Unit of candlepower. (Unit 3)
Candlepower	The intensity of light in a specific direction. Center beam candlepower is the intensity in the middle of the beam, generally the maximum intensity in a reflectorized lamp. Manufacturers publish candlepower data for directional light sources and candlepower curves for most architectural fixtures. (Units 3 and 4)
Canopy	Fixture part that covers an outlet box.
Cans	Another term for recessed downlights.
Capacitor	Electric device used to correct power factor, as in <i>high power factor ballasts</i> .
Capsule	The halogen lamp inside an MR or halogen PAR lamp, sometimes called a <i>burner</i> . Also, miniature low voltage lamps used in decorative lighting or low voltage strips. (Unit 4)
Cased Glass	See <i>Triplex Glass</i> . (Unit 12)
Casting	Pouring or forcing molten metal or glass into a prepared mold. Also the part manufactured in this manner. (Unit 12)
Cathodes	Located at the ends of fluorescent lamps, they create the electron arc. (Unit 5)

Center Feed	See <i>Power Feed</i> . (Unit 11)
Central Control	System for controlling all lights from one or more locations. (Unit 17)
Chain Pliers	Tool with jaws that <i>open</i> as you squeeze the handles together; used to pry open links of chain to change the suspension height of a chandelier. (Unit 12)
Channel	<p>In dimming controls, a group of fixtures that are operated together, generally of the same type or for the same function. Also called <i>zones</i>. (Unit 17)</p> <p>In fixtures, a wire way, usually containing a ballast; also a term for a fluorescent strip light.</p>
Circuit	Wiring path for electricity, including conductors, load, and circuit protection. (Unit 9)
Circuit Breaker	Protective device that automatically breaks the electrical path when overloaded. Breakers are heat-activated and re-settable. Circuit breakers are located in the <i>Electrical Panel</i> . (Unit 9)
Cold Cathode Lamp	Type of fluorescent lamp operated at high voltage that can be custom-made into different lengths and curves. Used in coves, decorative forms, and signs. (Unit 6)
Cold Weather Ballasts	See <i>Low Temperature Ballasts</i> . (Unit 5)
Color Rendition	How light affects perception of color in objects and people. (Unit 3)
Color Rendering Index	Also called <i>CRI</i> . A measure of how different light sources render colors. The reference (CRI of 100) is a full spectrum source of the same color temperature as the lamp. The higher the CRI, the better the color rendering, given the <i>color temperature</i> of the lamp. Use fluorescent lamps with a CRI of at least 70 for most residential applications. (Unit 5)
Color Temperature	The appearance of white light, in terms of warmth or coolness. Color Temperature is measured using a <i>Black Body</i> and is shown in degrees Kelvin. Also called <i>Correlated Color Temperature</i> . Warm color corresponds to lower color temperatures and cool colors to warm color temperatures. (Unit 3)
Compact Downlight	Small recessed incandescent fixtures generally five inches deep, with apertures of four inches or less. (Unit 10)

Compact Fluorescent	Small, single-ended fluorescent lamp. Available as <i>Twin Tube</i> , <i>Quad Tube</i> , and other configurations. Useful for replacing incandescent lamps in small fixtures. Good color rendering. Requires a ballast, which may be built-in for use as a <i>Retrofit lamp</i> . (Unit 5)
Cone	Reflector used in the aperture of a downlight. (Unit 10) <i>Also</i> , the nerve endings in the focal area of the retina of the eye that are sensitive to color. (Unit 3)
Contrast	The relative brightness (technically, luminance) of an object against the immediate background.
Cool	White light with a bluish tint, like the gray sky of a winter day. The terms <i>cool</i> and <i>warm</i> relate to how we <i>feel</i> about the light and time of day and season to which it relates. In general, cooler sources -- 3500K or higher -- work well in commercial and industrial spaces and with high levels of illumination. (Unit 3)
Cornice Lighting	Light built into a <i>soffit</i> or behind a <i>fascia</i> at the intersection of the ceiling and wall, generally fluorescent. (Units 13 and 20)
Cove Lighting	Light built into cove (shelf or ledge at the upper part of the wall) that illuminates the ceiling. Typically fluorescent, cold cathode, or low voltage strip. (Units 13, 14, and 20)
Crimp	To squeeze, as when connecting wires. Crimped wires often short out. The term is also used when a small copper tube is fastened to a suspension cable (to shorten it), using a pliers or a crimping tool called a <i>swage</i> .
Cross Lighting	Accenting an object from two directions to enhance the appearance of form; used effectively for sculpture and trees. (Units 16 and 21)
Crystal	Fine quality transparent glass. See also <i>Lead Crystal</i> . (Unit 12)
Current	Flow of electrons through a wire; measured in amperes. (Unit 9)
Cutoff	A measure of glare control: the angle at which you can no longer see the lamp (or its image) in a fixture. Cutoff is measured from directly below the fixture; low cutoff mean you cannot see the lamp unless you look directly up into it. <i>Sharp cutoff fixtures</i> provide very precise glare control but may leave the top of the wall in shadow. (Unit 13)
Damp Location	UL Listing for fixtures used in a moist but unexposed area, such as a bathroom or under an eave. (Unit 10)

Daylight	Light from the sun. Includes direct sunlight, sunlight scattered by the atmosphere, and sunlight reflected from clouds or other surfaces. Note that each type of daylight has different properties. Daylight is a source of energy-efficient illumination and glare (also heat gain) and requires thoughtful utilization. (Units 3 and 20)
Dead End	End of a piece of track that is not receiving electric power; opposite of <i>Live End</i> . Also refers to the <i>cover or cap</i> at the dead end. (Unit 11)
Decorative Lamp	Incandescent bulb in flame, globe, chimney, or other decorative shape; intended to be used without a shade or diffuser. (Unit 4)
Depreciation	Lumen depreciation is the loss of light output as a lamp ages. Halogen lamps suffer little lumen depreciation due to the <i>halogen cycle</i> . Lumen depreciation in fluorescent lamps is reduced by use of premium phosphors. <i>Dirt build-up</i> on fixtures and room surfaces also reduces illumination and is called <i>dirt depreciation</i> . (Units 13 and 20)
Derating	Reducing the wattage capacity of a wall box dimmer to account for the added heat experienced when dimmers are <i>ganged</i> , or mounted together and the heatsink is reduced. (Unit 17)
Designer-Style Switch	Switch with a rectangular rocker or paddle and a matching wall plate. Some dimmers feature this style with a paddle or rocker for dimmer intensity or on/off control. (Unit 17)
Dichroic Coating	Film that reflects visible light and transmits <i>infrared light</i> . Reflector lamps with dichroic coatings, such as most MR16s, provide a cooler beam because most of the heat goes out the back. Dichroic PAR lamps are often called <i>Cool Beam</i> . (Unit 4)
Die Casting	Casting in a re-usable mold (the die). Die-castings are generally precise parts requiring a high initial investment in the die. (Unit 12)
Diffuser	Light control device that spreads light by scattering it. Opal glass and plastic, etched glass, fabric and paper act as diffusers. (Unit 8)
Diffusion	Spreading or scattering light in all directions. A matte white wall <i>reflects diffusely</i> , etched glass <i>transmits diffusely</i> . (Unit 8)
Digital	Dimmers or controls containing programmable microprocessors. This adds functions to the control, such as <i>full-function remotes</i> . (Unit 17)
Dimmer	Control that varies the output of the light source by reducing the voltage or current to the lamp. (Unit 17)

Dimming Ballast	Electronic ballast for dimming fluorescent lamps; requires appropriate fluorescent dimming control. (Units 5, 13, and 17)
DIP Switch	Miniature rocker-style switch that mounts to the circuit boards of electronic controls. DIP switches program digital controls.
Direct Current (DC)	Continuous flow of electricity, as from a battery. (Unit 9)
Direct Glare	Glare from a bright source of light in the field of view, such as a lighting fixture or window. Direct glare is distracting and uncomfortable; it can also reduce visual performance. (Unit 20)
Direct Lighting	Lighting that casts all (or at least 90%) of the light downward. The term can refer to the distribution of light or the fixtures that produce it. (Unit 8)
Direct-Indirect	Lighting that casts approximately half the light upward and half-downward. (Unit 8)
Directional Lighting	Lighting that strikes an object or surface predominantly from a single direction. Generally used to include adjustable accent lighting using reflectorized sources. (Units 8, 11, and 22)
Distribution	Generally means the <i>luminous</i> distribution of a lamp or fixture.
Distribution Panel	Electrical or breaker panel. (Unit 9)
Downlight	Fixture that directs all light down. While downlights can be mounted on the ceiling or wall or suspended, the term often refers to a <i>Recessed Fixture</i> . (Unit 10)
Duplex Outlet	Plug-in or <i>convenience</i> receptacle for two plugs. (Unit 9)

Eclectic	Mixed from various sources; style that mixes elements from other defined styles. (Unit 22)
Efficacy	Lamp efficacy is total lumen output divided by total watts consumed and is expressed as <i>Lumens Per Watt or LPW</i> . Lamp efficacy measures the energy effectiveness of a light source (Units 3 and 23)
Efficiency	Fixture efficiency is total lumen (light) output from the fixture divided by the total lumens emitted from the lamps used in the fixture. Efficiency is shown as a percentage. (Unit 8)
Electronic Ballast	Ballast that supplies power to fluorescent lamps at very high frequency. Electronic ballasts <i>use less power</i> than magnetic ballasts. Electronic ballasts also reduce annoying hum and lamp flicker. Lamps on standard electronic ballasts cannot be dimmed; they require <i>electronic dimming ballasts</i> . (Units 5 and 23)
Electronic Dimmer	Dimmer that uses a <i>Triac</i> or solid state switch to turn off the current at very high frequency and so reduce lamp output. All modern dimmers are electronic. (Unit 9)
Electronic Switch	Solid state relay in a wall box that accepts control signals, provides on/off control as part of a <i>multi-scene or central control system</i> .
Electronic Transformer	Steps line voltage (120v) down to the lamp voltage (12v) using electronic switching rather than magnetic windings. Electronic transformers are smaller, lighter, and quieter than magnetic ones, but they require special dimmers. (Units 11 and 17)
Enclosed Downlight	Recessed fixtures enclosed at the bottom by a lens or diffuser. Enclosed downlights produce a medium beam and are most often used in kitchens and bath areas. Although the lamp may be shielded, the fixture itself may be a glare source. (Unit 10)
Energy	Light is a form of radiant energy. Electric light also relies on man-made energy in the form of electricity, which is a major cost of light. Electricity results from converting various energy sources, such as oil, gas, coal, wind, sunlight, water, and nuclear reaction. <i>Energy is power consumed over time</i> . Power is measured in watts; energy is measured in <i>watt-hours</i> . (Unit 23)
Energy Saving Ballast	<i>Magnetic ballast</i> with relatively low power loss. The <i>high power factor</i> ballasts used commercially are required to be energy saving (<i>ESB</i>). <i>Electronic ballasts</i> , however, are more energy efficient than their <i>ESB</i> counterparts. (Units 5 and 23)

EPACT	Federal Energy Policy Act of 1992; regulates lamp efficacy, requires lamp labeling, requires States to adopt energy codes, and calls for luminaire efficacy ratings (LER). EPACT is best known for prohibiting inefficient R and PAR lamps (other than halogen) and F40CW and WW fluorescent lamps, among others. (Unit 23)
ER Lamp	<i>Ellipsoidal Reflector Lamp</i> is a soft glass lamp that focuses the beam about 2" in front of the bulb. It is designed to improve the efficiency of deep baffle recessed downlights but is often misused in residential applications, where it may stick down from the fixture.
Etched Glass	Glass treated by an acid bath, producing a satiny, diffuse surface or design. (Unit 12)
Extended Life Lamp	Incandescent lamp with 2500+ hours of rated average life and reduced output; uses stronger filament. (Unit 4)
Extrusion	A long part produced by forcing a mass of metal or plastic through a die. Extrusions are cut to size, creating parts that have intricate profiles. Extrusion produces interior detail but cannot produce the fully rounded parts typical of casting. (Unit 12)
Eyeball	Recessed adjustable accent light. The spherical lamp holder pivots at the ceiling line for 25-40 degree adjustment, but it also <i>protrudes below the ceiling</i> . (Unit 10)
Facet	Side of a prism. (Unit 12)
Fade Rate	In dimming, the transition time between different scenes or settings.
Fascia	A thin board or panel that covers the supporting construction. Used to shield to shield under-cabinet task lights, cornice or valence lights.
Field	Soft light pattern around the central "hot" beam of a spot lamp.
Filament	The tightly coiled tungsten wire of an incandescent lamp; glows to produce light when electricity flows through it. (Unit 4)
Fill Gas	In incandescent lamps, usually argon or krypton with a little nitrogen; in fluorescent lamps, may be argon. Halogen is used in halogen incandescent lamps. (Units 4 and 5)
Filtering	Smoothing the electrical current to reduce the noise and interference from electronic dimmers; sometimes called <i>chokes or debuzzing coils</i> . Filters can built into, or added onto, dimmers. (Unit 17)

Finishing Section	UL term for the <i>Trim or Reflector Trim</i> used in a recessed downlight. The Finishing Section attaches to the <i>Rough-In Section or Kit, Housing, or Frame-In Kit</i> and is installed after the ceiling is completed. (Unit 10)
Fitter	Part of a fixture that accepts a glass or plastic globe. The diameter of the fitter determines the size of the neck or opening in the globe.
Flood	The wide distribution of a reflectorized lamp, abbreviated <i>FL</i> . Also a fixture with a widespread light beam.
Fluorescent Lamps	Operate by creating an electric arc inside a gas-filled tube. The arc excites the gas, producing ultra-violet energy, which in turn causes the phosphor coating inside the lamp to glow. The color of the light is determined by the phosphors. Fluorescent lamps require ballasts for proper operation. (Unit 5)
Fluorescent Troffers	Recessed fluorescent fixtures for 2' and 4' lamps, generally in modular sizes; used commercially. (Unit 13)
Footcandle (FC)	Unit of illuminance (light falling on a surface). One lumen falling on one square foot equals one footcandle. (Unit 3)
Footlambert	Unit of emitted or reflected light (or brightness). One footlambert is equal to the luminance of one lumen per square foot. Less frequently used than the preferred units: candelas/sq. foot. or candelas/sq. meter.
Forging	Shaping a solid mass of metal (not a sheet) by hitting it forcefully with a steel die. (Unit 12)
Four-Way Switch	Used with two three-way switches to allow a fixture to be controlled from <i>three or more locations</i> . (Unit 9)
Frame-In Kit	Part of a recessed downlight connected to the electrical circuit and generally installed when the ceiling is open. See <i>Rough-In Section</i> . (Unit 10)
Framing Projector	Fixture with lens and shutters, creating an adjustable, sharp-edged beam to outline pictures and other objects. (Units 10, 11, and 21)
Fresnel Lens	A <i>convex lens</i> that has been flattened into a disk or sheet to focus light into a beam, mostly used in enclosed downlights. (Unit 10)
Full Function Remote	Dimming control that wires to a digital dimmer and enables you both to adjust intensity and switch on/off from multiple locations. (Unit 17)

Furring	Spacer strips of wood or metal attached to wall studs or ceiling members to which surface material, such as wallboard, is fastened. Furring is used sometimes used to lower -- <i>furr down</i> -- a ceiling so that it aligns with other architectural elements, accommodates plumbing or air conditioning ducts, or <i>provides recessed depth for downlights</i> .
Fuse	Replaceable safety device that provides circuit overload protection. When the fuse overheats, an internal wire breaks, or <i>blows</i> , to open the circuit. (Unit 9)
G Lamp	Globe-shaped incandescent lamp, generally for exposed use. (Unit 4)
Ganging	Mounting wall box dimmers or other devices together in the same enclosure and faceplate. High wattage (and some lower wattage) dimmers must be <i>derated</i> when they are ganged. (Units 9 and 17)
General Lighting	<i>Ambient</i> lighting for basic tasks throughout the room. (Unit 1)
General Diffuse Lighting	Lighting distributed about equally in all directions; minimizes shadows, form, and texture. (Unit 8)
General Service Lamp	<i>A lamp</i> . (Unit 4)
Gimbal Ring	An adjustable ring that holds the PAR or MR lamp by its rim. A gimbal ring track fixture has no housing. (Unit 11)
Grazing Light	Directional light at an <i>acute angle</i> , which emphasizes texture. The sources of grazing light must be close to the surface. (Unit 21)
Greenfield	Flexible metal conduit that protects conductors.
Grounding	Connecting electrical components to earth for safety. (Unit 9)

Halogen Lamp	Incandescent lamp with halogen gas fill and a <i>quartz</i> glass capsule. The quartz capsule requires a separate glass shield or enclosure. Due to the <i>halogen cycle</i> , halogen lamps operate at higher internal temperatures, producing more lumens per watt and brighter light than ordinary incandescent; lamp life is extended. Halogen lamps include A, MB, T, PAR, and MR types. (Unit 4)
Halogen Cycle	Tungsten that evaporates (burns) off the filament combines with the halogen gas and returns to the filament. In ordinary lamps the tungsten coats the bulb wall, darkening the lamp over its life. (Unit 4)
Halophosphors	Inexpensive phosphor coating used in fluorescent lamps with poor color rendering properties. (Unit 5)
Handblown Glass	Individually produced glass (really <i>mouthblown</i>), made by artisans who blow molten glass to different shapes. (Unit 12)
Hand Chasing	Finishing the details of cast metal parts with a mallet and chisel, a costly and time-consuming process. (Unit 12)
Hard-Edged Beam	Light pattern with sharply defined boundary, like that produced by a framing projector. (Unit 21)
Heat Sink	Metal part that conducts heat away from sensitive dimmer (or fixture) components to maintain cool operation. (Unit 17)
Hertz	Unit of <i>frequency</i> , denoting cycles per second, abbreviated <i>Hz</i> . Household current in the US <i>alternates</i> at a frequency of 60 Hz. High frequency electronic ballasts operate at 20-60,000 Hertz, or 20-60 kilohertz, abbreviated 20-60 kHz. (Unit 9)
HID Lamp	<i>High Intensity Discharge</i> Lamp, including <i>Mercury, Metal Halide, and Sodium</i> types. (Unit 6)
High Hat	Recessed downlight. (Unit 10)
Hobnailed Glass	Molded glass with evenly spaced bumps all over. (Unit 12)
Hot Beam	The central, high intensity, beam of a spot lamp. (Unit 4)
Hot Spot	A small area of higher illumination than the surrounding surface, typically produced by locating a light source too close to the surface or by improper optical design of a fixture.
IC Fixture	See <i>Insulated Ceiling Fixture</i> . (Units 10 and 23)

Illuminance	Light falling on an object or surface, typically measured in footcandles. Lux is the metric unit. (Unit 3)
Incandescence	Light produced by heating a material so it glows. Incandescent filament lamps, candle flames, glowing coals are examples. (Unit 3)
Incandescent Lamp	Produces light with a wire filament, which <i>incandesces</i> to create light as it is heated by electric current. (Unit 3)
Incremental Cost	Additional cost.
Indirect Lighting	Lighting that directs all or most light upward for ambient or general illumination; very comfortable illumination with few shadows, but diminishes form and texture. (Unit 8)
Inductive Load	Magnetic transformer or motor.
Induction Lamp	A discharge source that uses a high-frequency current to <i>induce an arc</i> , rather than strike one with electrodes. Induction lamps are expensive but enjoy long lamp life; they are not widely used. (Unit 6)
Inside Frosted Lamp	Incandescent A lamp with a light etching, or sprayed on diffusing coating, on the inside of the bulb; designated as <i>IF</i> . (Unit 4)
Instant Start Ballast	A ballast that starts the lamp by means of high voltage, without pre-heating the cathodes. <i>Electronic</i> instant start ballasts are the most efficient but sacrifice some lamp life when frequently switched on.
Instant Start Lamp	Fluorescent lamp designed to start almost immediately at full brightness. No starter is used; the ballast supplies the high starting voltage. (Unit 5)
IR Lamp	<i>Infrared-Reflecting Halogen Lamp</i> . A special interior coating redirects infrared energy onto the filament, which increases output without added power. (Unit 4)
Initial Cost	The original, or first, cost of fixtures, lamps, and installation. Initial cost does <i>not</i> include such operating costs as electricity, relamping, and maintenance. Builders and contractors typically want low initial cost; owners, however, should understand the <i>lifecycle cost</i> . (Unit 23)
Input Power	Wattage required to operate the lamps and ballast. (Unit 23)
Inverse Square Law	Illuminance at a point varies <i>directly</i> with the intensity of the source and <i>inversely with the square of the distance</i> . (Unit 11)

Insulated Ceiling Fixture	Recessed downlight suitable for direct burial in thermal insulation, called <i>Type IC</i> . (Units 20 and 23)
Integral Ballast	A screw-base compact fluorescent lamp contains an integral ballast so it can operate in an incandescent fixture. (Units 5 and 23)
Integral Transformer	A transformer housed within a low voltage fixture. (Unit 10 and 11)
Intensity	Luminous intensity, or <i>candlepower</i> , is the strength of the light in a particular direction, measured in <i>candelas</i> . (Unit 3)
Jack	Plug-in stem used in low voltage fixtures. (Unit 14)
Junction Box	Enclosure that protects spliced wires and supports surface fixtures; also called <i>outlet box</i> . (Unit 10)
Kelvin	Scientific unit of temperature. <i>Color Temperature</i> is measured in on the Kelvin scale, for example 3500 degrees Kelvin, or 3500K. (Unit 3)
KWH	Kilowatt-hour or 1000 watt-hours, a measure of electrical energy consumed. 1 KWH = 1000 watts consumed for one hour (Unit 9).

Lacquer	Clear coating that protects metal from rusting or tarnishing; may be tinted by adding colored dye. (Unit 11)
Lamination	Fusing thin sheets of material together. A <i>veneer</i> of expensive wood is often laminated to a thicker core of less expensive wood. (Unit 11)
Lamp	A manufactured light source, including the bulb, base, and internal light-producing structure (filament or arc tube). A <i>portable lamp</i> means a plug-in lighting device: table lamp, desk lamp, floor lamp, <i>torchiere</i> , etc. (Unit 15)
Lamp Holder	Socket inside a housing, which holds the lamp in place and connects it to the electrical source. (Unit 10) Also refers to a plain track fixture, usually with a stationary socket. (Unit 11)
Lamping	Equipping a fixture with a lamp. (Unit 3)
Lath and Plaster	See <i>Plaster /Lath</i> .
Lathe	A machine that rotates a piece of material so that a tool can shape the material symmetrically around the axis of rotation; used in spinning and turning.
Lead Crystal	Fine quality glass, having a high content of lead oxide, usually specified. (Unit 12)
Leaded Glass	Small pieces of glass joined at the edges with metal, traditionally lead; also called <i>bound glass</i> .
Lead-In Wires	Bring electrical current from the base to the filament in an incandescent lamp. (Unit 4)
LED	<i>Light Emitting Diode</i> , a small solid state device used to indicate dimmer status and in signs. (Unit 17)
Lens	Transparent device for controlling light beams; refracts (bends) rays of light so as to change the direct of the beam. (Unit 8)
Lexan	General Electric company trade name for polycarbonate.
Light Box	Demonstrates the color rendering properties of different lamps. Permits you to view the light from various lamps without direct view of the source and to switch each separately. (Unit 3)

Light Distribution	Pattern of light produced by a fixture, or created in a room. (Units 8, 20, and 21)
Live-End Feed	See <i>Power Feed</i> . (Unit 10)
Load	Lighting or other equipment controlled by dimmers. (Unit 17)
Local Lighting	Light over a small area, either to illuminate a task or to create a pool of brightness. (Units 14 and 20)
Local Transformer	Transformer associated with a single nearby fixture. Local transformers are not integrated into the fixture housing but supply only a single fixture. <i>Jack-mounted</i> fixtures often use local transformers. (Unit 11)
Long Life Lamp	See <i>Extended Life Lamp</i> .
Louver	An array of baffles or reflectors that block light at certain angles and control glare. (Unit 8)
Low-Temperature Ballast	Designed to start fluorescent lamps at lower temperatures. Also called <i>Cold Weather</i> ballasts or called <i>zero degree</i> ballasts. (Unit 5)
Low Voltage Lamps	Incandescent lamps that operate at 6, 12, or 24 volts, most commonly 12 volts. Low voltage lamps require a step-down transformer to reduce the voltage from the normal household 120 volts. (Unit 4)
Low Voltage Fixtures	Recessed, track, task, decorative, or landscape fixtures for low voltage lamps. The transformer may <i>local, integral or remote</i> .
Low Voltage Housing	Recessed housing with an integral (or, occasionally, remote) transformer. (Unit 10)
Low Voltage Trim	Confusing: either a <i>Reflector Trim with an integral transformer</i> , which installs in a <i>standard</i> housing, or the dedicated trim to a low voltage housing. (Unit 10)
Low Voltage Track	Track powered at low voltage by a step-down transformer (generally remote). Since the track-mounted lighting elements do <i>not</i> have transformers, they are particularly compact. (Units 11 and 14)
Lucite	Trade name for DuPont acrylic resin, a translucent plastic. (Unit 12)
Lumen	Unit of light output (technically: luminous flux). (Unit 3)

Lumen Depreciation	The reduction in light output as the lamp ages. Lumen depreciation varies from lamp to lamp. It is very low with halogen lamps, quite high with most HID sources, and moderate for fluorescent. You should consider lumen depreciation when selecting light sources and calculating light levels. (Units 3, 5 and 13)
Lumens Per Watt (LPW)	Light output per unit of energy consumption, indicates system <i>efficacy</i> . (Unit 23)
Luminaire	A complete lighting unit, consisting of lamp and fixture, including the ballast. This manual uses "fixture" for luminaire.
Luminance	Light emitted or reflected from an object, popularly called <i>Brightness</i> . Technically, luminance is a measurable quantity; brightness refers to how a surface appears to the eye. <i>Luminance Ratio</i> quantifies the relative luminance, or brightness, of two objects or surfaces. (Units 3, 20, and 21)
Luminous Ceiling	A continuous plane of diffusing, translucent ceiling panels with fluorescent strip lights above. Typically used to create a large, comfortable light source, often in kitchens. (Units 13 and 20)
Lux	The metric unit of illuminance, equal to one lumen per square meter. <i>One lux equals 10.76 footcandles.</i>

Machine-Blown Glass	Shaped by mechanically forcing air into molten glass so that it takes the shape of a mold. (Unit 12)
Magnetic Ballast	Uses a magnetic (iron) core and copper windings to regulate the current that drives a lamp. Magnetic ballasts produce audible hum and flicker. They are heavier and less efficient than electronic ballasts, but they cost less. (Unit 5)
Magnetic Transformer	Uses magnetic (iron) core and copper windings to reduce line voltage (120 volts) to low voltage. Magnetic transformers produce audible hum. They are heavier and bulkier than electronic transformers but simpler and less costly to dim. (Unit 13)
Master	<p>In dimming, the primary control location where you can set the scenes, the fade rate, and other variables.</p> <p>With commercial lighting, master designates a fluorescent fixture with a multi-lamp ballast that also controls a fixture without a ballast (the slave). Master/slave wiring saves energy by reducing ballast losses.</p>
Matte Finish	Matte finished surface produce a predominantly diffuse reflection, lightly textured, dull, not shiny. (Unit 12)
Mercury	An element used in a fluorescent lamp. When vaporized by the lamp's arc, mercury emits the ultra-violet radiation that excites the lamp phosphors. Mercury is a toxic substance. It is <i>harmless when contained</i> in the unbroken lamp. You should dispose of used fluorescent lamps properly to avoid mercury pollution. (Unit 5)
Mercury Lamp	An HID lamp, now largely obsolete. (Unit 6)
Metal Halide Lamp	A popular HID lamp with a generally cool, white color that can be suitable for indoor, commercial use. (Unit 6)
Milk Glass	See <i>Opal Glass</i> . (Unit 12)
Minimum Starting Temp.	The lowest temperature at which a fluorescent (and some HID) lamps can be started; varies by the lamp and ballast. (Unit 5)
Mogul Base	Used on high-wattage incandescent and HID lamps.
Motion Detector	See <i>Occupancy Sensor</i> . (Units 17 and 23)
Mounting Height	Distance between the fixture and the task plane.

MR Lamp	<i>Multi-faceted Reflector Lamp</i> , the most popular of which is MR16. MR lamps surround a halogen capsule with a computer-designed glass or metal reflector with many surfaces or facets. These compact lamps require a glass cover, either integral or with the fixture. (Unit 4)
Multi-Level Switching	Wiring and switches that permit you to create several levels of illumination, mostly used with non-dimmed fluorescent.
Multi-Scene Control	Dimming system that creates several different settings (or scenes) for the lights in a room, generally using a push-button keypad. (Unit 17)
Nadir	Straight down below a fixture; used in photometry and designated as 0 degrees. (Unit 3)
Nanometer	One billionth of a meter; the wavelengths of light range from 380 to 780 nanometers. (Unit 3)
National Electrical Code	Sets out standards for wiring and electrical devices. The <i>NEC</i> requirements are widely followed by local jurisdictions, whose authority governs. (Units 9 and 10)
NEMA	National Electrical Manufacturers Association, which includes the lamp, electrical device, and larger fixture manufacturers. NEMA develops consensus ratings and designations for various products.
Neon Lamp	Low pressure arc discharge lamps that operate at high voltage, similar to cold cathode. (Unit 6)
Network	A system of dimming controls that are wired and programmed to respond together, usually to link controls in several rooms. (Unit 17)
Nominal Watts	The power rating of lamps, as published by lamp manufacturers. Actual <i>Input Power</i> depends on the ballast used and includes the power consumed by the ballast, or <i>ballast loss</i> . (Units 5 and 23)
Non-Dim	A dimming <i>Zone or Channel</i> set for on/off control only. (Unit 17)

Occupancy Sensor	Control that uses <i>Passive Infrared</i> or <i>Ultrasonic</i> detection to sense whether someone is present or not and to turn on or off appropriately. <i>Automatic On</i> sensors turn lights on when presence is sensed; <i>Manual On</i> sensors require you to press a switch. Both types turn lights off automatically when they no longer sense you. (Unit 23)
Opal Glass	Milky, translucent glass produced by adding ingredients to clear glass; used for diffusing light. (Unit 12)
Operating Cost	The combined cost of electricity, relamping (including labor), and maintenance. (Unit 23)
Outlet Box	See <i>Junction box</i> . (Unit 9)
Over-Voltage	Incandescent lamps experience shortened lamp life when operated above their rated voltage. (Unit 3)
PAR Lamp	<i>Parabolic Aluminized Reflector Lamp</i> . Constructed of hard glass, with a separate back reflector and front lens that are fused together. PAR lamps may be line or low voltage and can be used unprotected outdoors. Their beam patterns often have an uneven field. (Unit 4)
Parabolic Louver	Grid of parabolic-shaped reflector blades, either formed aluminum or molded, aluminized plastic, providing a highly efficient light shield in a recessed fluorescent troffer. (Unit 13)
Parabolic Troffer	Recessed fluorescent fixture with a <i>Parabolic Louver</i> . (Unit 13)
Passive Infrared Sensor	Detector that senses small movements in your <i>thermal image</i> ; not "fooled" by wind or other false signals, but requires a clear line of sight. See <i>Ultrasonic</i> .
Pendant	Fixture suspended from the ceiling on cable, chain or stem. Pendant is also a term for a <i>stem</i> . <i>Pendant Track</i> is suspended on stems (Units 8, 11 and 12)
Phosphors	Mineral coating on the inside of a fluorescent tube; phosphors determine the color temperature and rendering of the lamp. (Unit 5)
Photocell	Light-sensitive device used to operate fixtures according to available daylight. Most often used to turn on outdoor or security lights at dusk and to turn them off a down. (Unit 17)

Photometry	Light measurement. Used to rate lamps and to calculate the luminous distribution of fixtures and reflectorized lamps. (Unit 3)
Pinhole	Recessed downlight that includes a faceplate, having a small aperture in it; used for inconspicuous accent lights. (Unit 10)
Plaster/Lath	Construction where wet plaster is applied over a lath, a structure of thin wood strips or a wire mesh; generally found in <i>older homes</i> . Mounting recessed downlights in plaster and lath is sometimes difficult.
Plaster/Skim Coat	A thin layer of wet plaster is trowelled over wallboard for a smoother, more elegant finish on walls and ceilings.
Plenum	The space between the ceiling and the floor -- or roof -- above. (Units 10 and 19)
Point Source	A small source of light, such as most incandescent lamps. The term is also used to denote some fixtures, such as open downlights and track lights. (Unit 8)
Polycarbonate	Heat- and shatter resistant plastic, usable indoors and out. Versatile polycarbonate can be transparent, translucent, or opaque. (Unit 13)
Polystyrene	See <i>Styrene</i> .
Power Factor	The relationship between power consumption (watts) and current draw (amps) in an electrical device. The most efficient ballasts and transformers have a <i>High Power Factor</i> (max is 1.0). Low power factor devices require additional circuiting and larger wires. (Unit 5)
Power Feed	Connection point that brings electricity to track and other lighting systems. Power feed may be at the <i>end</i> , <i>floating</i> , or at an <i>intersection</i> . (Unit 11)
Preheat Lamp	A fluorescent lamp that uses a starting switch to pre-heat the electrodes in to start the lamp. Most small compact fluorescent lamps are preheat types.
Preset	Setting for a dimmer that can be selected without readjusting the dimmer intensity level each time; usually activated by a rocker or pushbutton. A <i>preset scene</i> is a setting for several channels or zones in a multi-scene dimming system. (Unit 17)

Prism	Refractor of transparent glass or plastic, with three or more straight sides. Light entering one side of the prism bends and exits another side. (Unit 8)
Prismatic Lens	A light shielding that consists of many tiny prisms, which redirect the light rays so as to control fixture brightness. (Units 8 and 13)
PS Lamp	Pear-shaped incandescent lamps of high wattage.
Pull-Down Fixture	Recessed downlight with a retractable lampholder/housing (usually a roundback cylinder or bullet) that <i>pulls down</i> from the ceiling to aim at angles up to 90 degrees from vertical. (Unit 10)
Quad-Tube Lamp	Single-ended compact fluorescent lamp consisting of <i>two twin tubes</i> on a single base. (Unit 5)
Quartz Lamp	Or quartz-halogen; terms for a <i>Halogen Lamp</i> . The term derives from the quartz glass capsule that encloses the filament and halogen gas. Quartz glass can withstand the high pressure of the halogen lamp but it transmits more UV radiation than ordinary hard glass. Touching the quartz glass with bare hands leaves an oily residue that reduces lamp life. (Unit 4)

R Lamp	Reflector lamp. Soft-glass reflectorized lamp with a generally smooth distribution. (Unit 4)
Rapid Start Lamp	The most common type of fluorescent <i>lamp</i> . <i>Rapid start ballasts</i> preheat the lamp electrodes; the lamp comes to full brightness in two-to-three seconds. No separate starter is required. Magnetic ballasts for most linear and longer compact fluorescent lamps use rapid start circuits. Electronic ballasts can be <i>rapid start or instant start</i> . Using an instant start ballast on a rapid start lamp saves energy but reduces lamp life. Fluorescent dimming ballasts are rapid start. (Unit 5)
Rare-Earth Phosphors	Mineral coating with rare-earth elements used in fluorescent lamps. Rare earth phosphors produce good color rendering with high light output and reduced lumen depreciation. <i>RE730</i> designates a lamp with rare-earth phosphors, CRI from 70-79, and color temperature of 3000K. For example, F32T8/730 (Unit 5)
Rated Life	See <i>Average Rated Life</i> . (Unit 3)
Receptacle	See <i>Duplex Outlet</i> . (Unit 15)
Recessed Fixture	Fixture mounted above the ceiling. With downlights, only the <i>Aperture and Trim</i> visible from below. With fluorescent troffers and luminous ceilings, only the lightshield is visible. Recessed fixtures provide direct downlighting. (Units 8, 10, and 13)
Reflectance	Percentage of light <i>reflected</i> from a surface. (Unit 8)
Reflected Glare	Glare from the <i>Specular Reflection</i> of bright light sources. You often experience reflected glare when looking at a computer screen, when reading a glossy magazine, or when working on a polished counter surface. See also <i>Veiling Reflection</i> . (Unit 20)
Reflection	Light bouncing off of a surface, not absorbed or transmitted. See also <i>Specular Reflection</i> . (Unit 8)
Reflector	Part of a fixture that redirects light to control brightness, beamspread, or intensity. Reflectors are frequently <i>Specular</i> , but may also be glossy, diffuse, or matte. (Unit 8)
Reflector Lamp	See <i>R Lamp</i> . (Unit 4)
Reflector Trim	<i>Finishing Section or Trim</i> for a recessed downlight, which uses a reflector. (Unit 10)

Reflectorized Lamp	Incandescent lamp with a reflector integrated into the envelope. Reflectorized lamps produce directional beams. The varieties include PAR, R, MR, ER, AR, and other types. (Unit 4)
Refraction	Bending light as it passes through a lens or prism to change the direction of the beam. (Unit 3)
Relay	Switch that accepts a low-power signal to control a high-power load.
Remodeler	<i>Rough-In Section</i> for a recessed downlight that is designed to install from below into a finished ceiling. (Unit 10)
Remote	Electronic control mounted separately from the master or individual dimmer, permitting operation from multiple locations. <i>Full-Function Remotes</i> set the dimming level as well as switching on/off. (Unit 17)
Rods	Nerve endings in the "non-focal" area of the retina of the eye. Rods are very sensitive but see only black and white. (Unit 3)
Rough-In	Process of wiring a home and installing the <i>Rough-In Sections</i> of fixtures and the <i>Back boxes</i> of electrical devices; precedes the finishing work.
Rough-In Section	UL term for the part of a recessed downlight that mounts to the building and connects to the electrical circuit. <i>Housings, Cans, Frame-In Kits, Rough-Ins, and Rough-In Kits</i> are all industry terms for the rough-in section. A <i>Finishing Section</i> attaches to the rough in; it provides the optics and trims out the ceiling. (Unit 10)
Rust	Corrosion of metal, particularly iron and steel, from exposure to moist air and other elements; also called oxidation. Rust is a <i>reddish-brown finish</i> that can be produced by paint or chemical process. (Unit 12)

Sand Casting	A process where molten metal is poured into a mold of compacted sand. The molds can be used only once. The process is costly, including finishing the fairly rough casting. (Unit 12)
Satin Finish	Slightly textured or brushed surface, having a fine grain, that reflects light with some diffusion. (Unit 12)
Scallops	The arch-, or scallop-shaped, pattern of light created when you locate a directional source close to a wall. See <i>Wall Washer</i> .
Scene	Specific setting for a group of dimmers, channels or zones. A <i>Multi-Scene Control</i> allows you to select the different settings by pushing a button. (Units 17 and 20)
Sconce	Wall bracket derived from the form of a candelabra, often with exposed or decorative light sources. (Unit 12)
Self-Ballasted Lamp	Compact fluorescent lamp with an <i>integral ballast</i> used to retrofit incandescent. (Unit 23)
Semi-Direct Lighting	Distribution of light that is mostly down. (Unit 8)
Semi-Specular	See <i>Specular</i> .
Service Entrance	Where electrical power from the public utility feeds into the home; location of the meter. (Unit 9)
Silhouetting	Accent lighting technique that creates a dramatic outline by <i>back lighting</i> ; used in landscape lighting. (Unit 16)
Silvered Bowl Lamp	Pear-shaped incandescent lamp with silvery reflective coating at the round end of bulb. (Unit 4)
Single-Pole Switch	Operates a fixture or group of fixtures from one location. (Unit 9)
Sleeve	Package for lamp, gives lamp designation code.
Snoot	Tubular track accessory that cuts out side light and conceals the light source. (Unit 11)
Soffit	In <i>architecture</i> : the underside of an overhead component, such as an arch, cornice, beam, or balcony. Often used to describe an area of the ceiling that drops below the primary surface. (Unit 19)

Soft-Edged Beam	Light pattern where the intensity diffuses gently out from the center. Characteristic of A lamp downlights, R lamp downlights and accent lights, and fixtures with spread lenses. (Units 4, 11, and 21)
Soft-White Lamp	Incandescent lamp with a dense, milky-white silica coating on the inside of the bulb; diffuses the light and completely conceals the lamp filament. (Unit 4)
Solid Brass	Fixture or parts made entirely of brass; in other words, not plated or simulated. Solid brass parts are "solid brass", not "solid parts"; often, they are hollow castings and tubing. (Unit 12)
Solid State	Electronics that use <i>semi-conductor chips and circuitry</i> , rather than vacuum tubes. See <i>Electronic Ballast, Electronic Dimmer, Electronic Transformer</i> .
Solid Wood	Fixture or parts made entirely of the genuine wood, <i>not veneered</i> . (Unit 12)
Spacing Ratio	For an even lighting pattern, the maximum distance between fixtures, as a function of their <i>Mounting Height</i> . Important for spacing downlights. Also called <i>Spacing-to-Mounting Height Ratio</i> and abbreviated <i>S/MH</i> . A <i>S/MH</i> of 0.7 indicates fixtures should be spaced no more than 5.6' apart for even lighting on the floor from an 8' ceiling. (Unit 10)
Specification-Grade	Fixtures with construction and lighting performance suitable for institutional, better commercial, and premium residential applications. Generally larger, with higher wattage lamps, and more costly.
Specular Finish	Highly polished and mirror-like. <i>Semi-Specular Finish</i> is generally bright but without a well defined mirror image. (Units 8, 10, and 12)
Specular Reflection	Light bouncing off of a surface so the <i>angle of incidence equals the angle of reflection</i> ; creates a perfect, mirror image. (Unit 8)
Specular Reflector	Fixture component of highly polished metal, usually aluminum. Used in recessed downlights to produce the most efficient fixtures with the most comfortable apertures and least glare. (Unit 10)
Spinning	The process of shaping a disk of metal by rotating it on a lathe and pushing it with a forming tool. Also, a part made this way. (Unit 12)
Spot Lamp	Reflectorized lamp with a narrow distribution. (Unit 4)
Stamping	Inexpensive way to form sheet metal by hitting it with a die. (Unit 12)

Stem Mounting	Suspension by a rigid tube or rod, called a stem.
Stop	A means of preventing a fixture from rotating past the desired point. This prevents wires from twisting or the fixture from aiming in the wrong direction.
Strain Relief	Crimp or knot in wire or cord that prevents splices from pulling apart.
Styrene	Short for polystyrene, an inexpensive plastic that yellows and becomes brittle with age.
Squares	Short for recessed square downlights, which are usually shallow fixtures with diffusers or lenses. (Unit 10)
Support Wires	Hold the filament in place in an incandescent lamp (Unit 4)
Swag	Chain draped across the ceiling. A <i>swagged</i> pendant does not hang directly below its canopy.
Switch Leg	Wiring that connects the switch or dimmer output to the fixture or load being controlled.

T Lamp	See <i>Tubular Lamp</i> . (Unit 3)
Tap	Part of transformer or ballast that connects to the input or output wires. Low voltage transformers may have <i>multiple taps</i> on a switch so they can provide several <i>secondary voltages</i> or handle <i>several wattages</i> at the same voltage. Landscape transformers often have <i>high and low</i> taps. HID ballasts usually provide <i>multiple primary taps</i> so one ballast can serve in a variety of conditions. See <i>Transformer</i> .
Task Lighting	Localized light for specific visual activities. (Units 1, 14, and 20)
Textural Rendition	How well or poorly a light source shows surface texture, such as on stone, brick, or stucco. (Unit 3)
Thermal Protector	Device that shuts off when fixture overheats or is improperly buried in thermal insulation. Some thermal protectors react only to the actual temperature; some react to both temperature level and heat gain. Recessed incandescent fixtures and fluorescent ballasts must be thermally protected. (Unit 10)
Three-Way Lamp	Incandescent lamp with two filaments that provides three levels of light when sequentially switched. (Unit 4)
Three-Way Switch	Operates a fixture from two locations. Also called a three-pole switch because it is connected to three wires: "hot" in, "switched" out, and a "traveler" to the other three-way switch. (Unit 9)
Three-Way Dimmer	Dimmer that works with a three-way switch for control from two locations; turns on/off and dims at the dimmer but only turns on/off at the switch. (Unit 17)
Timer	Device that turns lights on and off at programmed times. See also <i>Astronomical Clock</i> . (Units 16,17, and 23)
Tinted Glass	Clear glass with color added during manufacture; also clear or opal glass coated with a thin film of colored glass or plastic. (Unit 11)
Toggle	Lever used for control, as in the common <i>Toggle Switch</i> or a <i>Toggle Dimmer</i> , which is designed to match. (Unit 17)
Torchiere	Indirect floor lamp that sends all, or most, light upward. (Unit 15)
Track Connector	Part that joins sections of electrified track. (Unit 11)

Track Lighting	System of electrified channel, or track, and movable lighting elements. Track is the most flexible approach to accent lighting. (Unit 11)
Transmission	Light passing through a material. (Unit 8)
Transformer	A device used to raise (step up) or lower (step down) the voltage. <i>Step down transformers</i> reduce household voltage (120 volts) to low voltage used for accent and landscape lighting. Larger transformers reduce the high voltage used for efficient power distribution to safer and flexible household voltage. Input voltage is on the <i>primary tap</i> ; output voltage is on the <i>secondary tap</i> . (Units 4,9,10,11,14, and 16)
Triac	Semi-conductor switch used in electronic controls. (Unit 17)
Trim	Confusing: sometimes the edge or visible part of a recessed downlight, as in "white trim"; sometimes the <i>Finishing Section</i> of the recessed fixture, as in "housing and trim". (Unit 10)
Trim Ring	Plastic or metal ring on a recessed downlight that covers the cut edge of the ceiling hole. (Unit 10)
Tri Phosphor	See <i>Rare-Earth Phosphor</i> . (Unit 5)
Triplex Glass	Three-layered glass consisting of clear, opal, or colored sandwiched between clear, all fused together. Triplex glass provides more luster and diffusion than homogenous colored or opal glass. (Unit 12)
Troffer	Recessed fluorescent fixture for use in a suspended ceiling; derived from the words "trough" and "coffer". (Unit 13)
Tubular Lamp	<i>T Lamp</i> ; may be incandescent, halogen, or fluorescent. (Unit 3)
Tungsten	Metal used to make the wire filament of incandescent lamps. (Unit 4)
Tungsten Halogen	See <i>Halogen</i> . (Unit 4)
Turning	Shaping metal or wood on a lathe by cutting it with a tool. (Unit 12)
Twin-Tube Lamp	Single-ended <i>compact fluorescent lamp</i> with the tube bent into a very tight "U" shape. (Unit 5)

U Lamp	Linear, double-ended fluorescent lamp, usually T8 or T12, bent into a "U" shape. (Unit 5)
UL	<i>Underwriters' Laboratories</i> . A not-for-profit organization that works with the National Electrical Code to develop standards for electrical devices, wiring, and lighting fixtures. UL also tests fixtures and materials for compliance with the standards and lists fixtures for various applications, such as <i>Wet Location</i> . (Unit 10)
Ultrasonic Sensor	Detects motion or occupancy by radiating high frequency sound waves and noting any disturbance in the reflected waves. Ultrasonic sensors can detect motion over partial-height partitions because the sound waves bounce off of the room surfaces but can be fooled rustling curtains or small animals. (Unit 23)
Ultraviolet Light (UV)	Light beyond the visible spectrum, having wavelengths from 10-380 nanometers. (Unit 3)
Under Voltage	Incandescent lamps enjoy extended life but suffer reduced output and yellow color when operated below their rated voltage. See <i>Voltage Drop</i> . (Unit 4)
Universal	Common name for a plain track light that accepts a wide range of line voltage reflectorized lamps. (Unit 11)
Urn	Wall bracket with an upright distribution. (Unit 12)
Valance Lighting	Fixture installed behind a longitudinal shielding member mounted over a window or along a wall; light is distributed up and down, usually fluorescent. (Units 13 and 20)
Vanity Lights	See <i>Bath Bracket</i> . (Unit 20)
Veneer	Thin sheet of material, usually wood or plastic, <i>laminated</i> to a core of stronger and less valuable material. (Unit 12)
Volt	Unit of electrical force or pressure. Household voltage in the United States, nominally 120 volts, varies between 110-125 volts. (Unit 3)
Voltage Drop	Difference in voltage along a circuit. Voltage drop becomes a problem with low voltage wiring and small cable, reducing the intensity of lights at the far end of the cable. (Units 14 and 16)

Wall Bracket	Fixture designed to be mounted on a vertical surface, including sconces, urns, and valances. (Unit 12)
Wall Lighting	Lighting directed on a wall or vertical surface for to emphasize that plane, enhance the surface texture, or bounce light back into the room. Increasing wall brightness generally makes a room seem more spacious. (Unit 1)
Wall Washing	Lighting a wall smoothly to reduce texture or specular reflection. (Units 1, 10, 11, 20, and 21).
Wall Washer	Fixture with special optics that direct light to the top of the wall and <i>de-scallop</i> the distribution on the wall. (Unit 10)
Warm	Light that is tinted red, such as candles and flame. The term "warm" relate to how we feel about the light and the time of day and season to which it relates. In general, we prefer warm light for residential and warm interior spaces, intimate atmosphere, and low intensity illumination. See also <i>Cool</i> . (Unit 3)
Watt	Unit of electrical power. (Unit 23)
Wave Length	Describes wave phenomena, like energy. Light is radiant energy with wavelengths from 380 to 780 <i>nanometers</i> . Each color of light can be described by its wavelength: red is 700-780 nanometers; yellow is 570-620 nanometers, etc. (Unit 3)
Weathered	Distressed finish that simulates aging. (Unit 12)
White Light	Combination of all colors of the spectrum; the light produced by common electric lamps. The <i>color of white light</i> is described by <i>Color Temperature</i> . (Unit 3)
White Metal	Inexpensive alloy of zinc, lead, and other metals; used in castings. (Unit 12)
Wrought Iron	Soft iron that is hammered and bent into shape. (Unit 12)
Zone	In dimming, lights that are operated together. Also called <i>Channel</i> . (Unit 17)