Addendum 2 for

RP-16-17, Nomenclature and Definitions for Illuminating Engineering

If you, as a user of ANSI/IES RP-16-17, believe you have located an error not covered by the following revisions, you should e-mail your information to Pat McGillicuddy, pmcgillicuddy@ies.org, or send a letter to Pat McGillicuddy, Manager of Standards Development, IES, 120 Wall St., 17th Floor, New York, NY 10005. Additions will be posted as they become available.

Addendum 2 was approved by the IES Standards Committee on July 30, 2018, and by the American National Standards Institute (ANSI) on November 6, 2018.

NOTE: Changes to existing terms, numbers, or definitions are shown with strikethrough. New terms, numbers, and definitions are shown in red.

New and modified terms:

7.3.1 regular (specular) reflection specular reflection [replacing the term and its definition]
That process by which incident flux is redirected at the specular angle (see Section 7.3.3.1).

7.3.3.11 regular (specular) reflectance specular reflectance [replacing the term and its definition]
The ratio of the flux leaving a surface or medium by regular (specular) reflection to the incident flux.

7.3.11.1 specularly reflective [new term]
A material that reflects light in a mirror-like manner, according to Fresnel’s Law of reflection, where the angle of reflection of a ray from the surface equals the angle of incidence on that surface.

7.3.3.12.1 diffusely reflective [new term]
An ability to scatter incident light in a Lambertian, or near-Lambertian, manner.
7.5.1 regular transmission *specular transmission* [replacing the term and its definition]
That process by which incident flux passes through a surface or medium without scattering.
Sometimes called *regular transmission*.

7.5.3.12 regular transmittance *specular transmittance* [replacing the term and its definition]
The ratio of the regularly transmitted (straight through) flux leaving a surface or medium to the incident flux.
The ratio of the flux passing through a surface or medium without scattering to the incident flux. Also called *regular transmittance*.

7.5.3.12.1 specular angle (direction) for transmission [new term]
The exiting angle of a ray that passes through a surface or medium without scattering.

7.5.3.17 visible transmittance (VT, VLT, or Tvis) [new term]
The fraction of incident light that is transmitted through a glazing material or window assembly.

7.5.3.18 translucent [new term]
Transmitting light with diffusion, so that objects on the opposite side are not seen clearly (or at all).

10.5 daylighting [adding a definition to this existing term, previously just a heading.]
The use of controlled daylight to illuminate architectural space.

10.5.1 daylight [replacing the definition]
Direct and/or diffuse light from the sun.
Direct, diffuse, and/or reflected light that originates at the sun.

10.5.1.1 daylit [new term]
Illuminated by daylight. (Preferred over *daylighted*.)

10.5.10 sunlight 10.5.2 Astronomical and Geographical Solar Radiation [heading name changed]

10.5.10.1 10.5.2.1 global solar radiation [new number; replacing the definition]
Combined direct solar radiation and diffuse sky radiation.
The combination of direct solar radiation and diffuse sky radiation on a horizontal plane under a given sky condition.

**10.5.2.2 direct solar radiation** [new term]
Radiation received directly from the collimated sun beam.

**10.5.10.2 10.5.2.1 direct normal solar radiation** [new number only]

**10.5.10.3 10.5.2.3 diffuse sky radiation** [new number; replacing the definition]
That part of solar radiation that reaches the Earth as a result of being scattered by air molecules, aerosol particles, cloud particles, or other particles. ²

That part of solar radiation that reaches the Earth as a result of being scattered by air molecules, moisture, or other aerosol particles in the atmosphere.

**10.5.10.5 10.5.2.4 total (solar) radiation** [new number only]

**10.5.10.5.1 10.5.2.4.1 ground light** [new number; replacing the definition]
Visible radiation from the sun and sky reflected by surfaces below the plane of the horizon.

Visible radiation from the sun and sky reflected by exterior surfaces that lie below the plane of the horizon.

**10.5.10.6 solar constant 10.5.2.5 extraterrestrial solar irradiance constant** [new number; replacing the term and its definition]
Irradiance produced by extraterrestrial solar radiation on a surface perpendicular to the sun’s rays at the mean Sun-Earth distance. ²

Extraterrestrial beam solar irradiance on a plane perpendicular to a line through the centers of the sun and earth at the mean distance of the earth from the sun. Units: W/m². The currently accepted default value is 1,366 W/m². Also called solar constant.

**10.5.10.6.1 solar illuminance constant 10.5.2.5.1 extraterrestrial solar illuminance constant** [new number; replacing the term and its definition]
The solar illuminance at a normal incidence on a surface in free space at Earth’s mean distance from the sun. The current accepted value is 127.5 kilolux (11,850 footcandles).

The extraterrestrial solar beam illuminance on a plane perpendicular to a line between the centers of the Sun and Earth at the mean distance of the Earth from the Sun. Units: lm/m². The currently accepted value is 133.1 klux (12,370 footcandles).

**10.5.10.6.2 10.5.2.5.2 solar efficacy** [new number; replacing the definition]
The ratio of the solar illuminance constant to the solar irradiance constant. The current accepted value is 94.2 lumens per watt.

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The ratio of the solar illuminance to the solar irradiance.

10.5.2.6 **direct sunlight** [new term]
The contribution from the collimated solar beam that is neither reflected nor diffused.

10.5.2.7 **extraterrestrial solar radiation** [new term]
Solar radiation (from ultraviolet through infrared) that reaches the top of the Earth's atmosphere.

10.5.2.8 **global illuminance** [new term]
The combination of direct solar illuminance and diffuse sky illuminance on a horizontal plane under a given sky condition.

10.5.2.9 **sky illuminance** [new term]
Illuminance from the atmosphere that reaches a surface on the Earth as a result of scattering by the air molecules, moisture, or other aerosol particles in the atmosphere. It may include light originating from the sun or from electric sources.

10.5.13.1 10.5.2.10 **sky light** [new number only]

10.5.3 Solar Position [new subheading, followed by renumbered existing terms]

10.5.2.1 **altitude**. 10.5.3.1 **altitude angle** [replacing the term and its definition]
The angular distance of a heavenly body measured from horizontal on the great circle, perpendicular to the plane of the horizon, that passes through the body and through the zenith.

The angular distance of a heavenly body measured from the horizon toward the zenith.

10.5.3.2 **azimuth** [replacing the definition]
The angular distance between the vertical plane through a direction to a distant object or sky position, or the facing direction of a building façade, and a vertical (reference) plane aligned with North or South.

The angular distance between the vertical plane through a direction to a distant object or sky position, or the facing direction of a building façade, and a reference direction (typically North or South). (See also solar azimuth.)

10.5.3.3 **solar azimuth** [new term]
The angular distance between the vertical plane through the sun and a vertical (reference) plane aligned with North (or South, in the case of older IES reference material – prior to 2017). (See also azimuth.)

10.5.3.4 **zenith** [new term]
The point on the celestial sphere, directly above the observer, corresponding to an angle of 90 degrees above the horizontal plane.

10.5.3.5 **solar altitude** [new term]
The vertical angle of the sun above the horizon.
10.5.3.6 solar declination angle [new term]
The angle between the rays of the sun and the plane of the earth’s equator, which varies with time of year and ranges from -23.4 degrees to +23.4 degrees.

10.5.5 Sky Characteristics [new heading]

10.5.11 Sky Condition 10.5.5.1 Sky Classifications [replacing heading number and name, followed by renumbered existing terms]

10.5.11.1 10.5.5.1.1 clear sky [new number only]
10.5.11.2 10.5.5.1.2 partly cloudy sky [new number only]
10.5.11.3 10.5.5.1.3 cloudy sky [new number only]
10.5.11.4 10.5.5.1.4 overcast sky [new number only]

10.5.10.4 10.5.5.1.5 sky luminance distribution function [renumbering the term and replacing the definition]
For a specified sky condition, the luminance of each direction of the sky relative to the zenith luminance.
For a specified sky condition, the luminance of each position in the sky (azimuth and altitude) relative to a defined zenith luminance.

10.5.5.2 sky luminance distribution models [new term]
Published equations that define patterns of direct solar illuminance and sky luminance over the entire sky dome under specific sky conditions and time of day.

10.5.5.2.1 CIE sky models [new term]
A set of sky luminance distributions that model the sky from heavily overcast to cloudless, published by the International Commission on Illumination (CIE).

10.5.5.2.2 Perez Sky Model [new term]

10.5.10.8 10.5.5.3 air mass (optical air mass) [new number; replacing the definition]
The ratio of the path length of radiation through the atmosphere ($l_m$) at any given angle, $Z$ degrees, to the sea level path length toward the zenith ($l_z$).\(^2\)

\[
AM = \frac{l_m}{l_z} = \sec Z, \text{or } 1/\cos Z, \text{ for } Z \leq 62^\circ
\]

The ratio of the path length of solar radiation through the atmosphere to a given point, relative to the path length from sea level to the zenith.

10.5.6 Building Position and Geometry

10.5.6 10.5.6.1 orientation

10.5.6.2 façade orientation

The clockwise angle between solar (true) North (or South, in the case of older IES reference material – prior to 2017) and the normal vector to a vertical building façade.

10.5.6.3 vertical shadow angle

The solar altitude angle projected onto a vertical plane perpendicular to a building facade or shading element edge. Alternatively, the vertical angle from a point to the linear edge of a shading element (e.g., overhang, light shelf, blind edge or adjacent building, rooftop) measured from the horizon in a plane perpendicular to that edge. Also called profile angle.

10.5.6.4 horizontal shadow angle

Angle which measures the difference in azimuth between the sun’s position and a line normal to a building face. Previously the solar elevation azimuth angle.

10.5.6.5 incident angle

The angle between a ray of light arriving at a surface and a line normal (perpendicular) to that surface.

10.5.7 Glazing

10.5.7.1 fenestration

Any opening or arrangement of openings (normally filled with media for control) for the admission of daylight.

The collection of all fixed and operable daylight transmitting apertures in a building, including doors, windows, skylights, panels, louvered openings, etc.

10.5.7.2 window

A glazed aperture in a section of a building envelope that is vertical or within 30 degrees of vertical.

10.5.7.2.1 view window

A glazed aperture, a portion of which is at eye level for building occupants, that provides a clear view to the outside of a building.

10.5.7.2.2 daylight window

A glazed aperture, commonly above eye level for building occupants, for the transmission and distribution of daylight into a space. It may incorporate specialized daylight management systems.

10.5.7.2.3 window sash
The operable component of a window frame that surrounds the glazing system and is capable of moving.

10.5.9.5.1 10.5.7.3 skylight [new number; replacing the definition]
A daylight opening on the roof or on a horizontal surface of a building. (See also Section 10.5.13.1 sky light.)
A glazed opening on the roof of a building making an angle of 0 to 60 degrees from the horizontal. (See also sky light.)

10.5.7.4 insulated glazing units [new term]
A glazing assembly with multiple light transmitting layers separated by gas or vacuum filled spaces, for the purpose of reducing heat transmission across the glazing.

10.5.7.5 low-iron glass [new term]
Glass with reduced iron content that provides high visible light transmittance with excellent clarity and reduced color distortion.

10.5.7.6 haze factor [new term]
The fraction or percentage of light transmitted through a material that is diffused.

10.5.7.7 spectrally selective glazing [new term]
A coated or tinted glazing with optical properties that make it more transparent to some wavelengths and more reflective to others. Typical spectrally selective coatings are more transparent in the visible spectrum and less in the UV and IR range.

10.5.7.8 low-e coating [new term]
A coating applied to one or more surfaces of a glazing system, having low emittance over the long-wavelength (IR) region of the solar spectrum to increase thermal resistance.

10.5.7.9 reflective film [new term]
A film with metallic layers, applied to a glazing surface to reflect some portion of the radiation spectrum.

10.5.7.10 solar film [new term]
A transparent film applied to a glazing surface for the purpose of reducing solar heat gain. Examples may include tinted, low-e, and reflective films.

10.5.7.11 laminated glass [new term]
Two or more sheets of glass bonded together by a transparent material, to increase the unit's resistance to force, hold the glass together when shattered, and reduce sound transmission.

10.5.7.12 translucent insulating panels [new term]

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A lightweight structural sandwich panel that combines a translucent inner and outer glazing element with an insulated internal cavity.*

**10.5.7.13 dynamic glazing** [new term]

Any glazing or glazing system that has the ability to change its performance properties, including U-factor, solar heat gain coefficient (SHGC), or visible transmittance (VT). This includes, but is not limited to, shading systems between the glazing layers and chromogenic glazing.

**10.5.7.14 chromogenic glazing** [new term]

Dynamic glazing that changes its optical properties, most notably its spectral transmittance, due to changes in temperature (thermochromic), radiation (photochromic), or through an applied voltage (electrochromic).

* **10.5.7.14.1 electrochromic glazing** [new term]

A controllable glazing where a change in transmission properties is effected by application of a voltage.

* **10.5.7.14.2 photochromic glazing** [new term]

Glazing that includes a layer or embedded material whose spectral transmittance can be changed along a range of values via radiation stimulus.

* **10.5.7.14.3 thermochromic glazing** [new term]

Glazing whose spectral transmittance varies depending on its temperature.

**10.5.8 Building Design Strategies** [new subheading]

**10.5.8.1 sidelighting**

Daylighting through vertical apertures such as windows, clerestories, or translucent walls around the perimeter of a space. Unilateral: one sided. Bi-lateral: from two opposing sides.

* **10.5.9.1 10.5.8.1.1 bilateral sidelighting** [new number; replacing the definition]

Sidelighting systems in which daylight is introduced through apertures in two opposite walls of a space.

Daylighting from two opposite sides of a space.

* **10.5.9.6 10.5.8.1.2 unilateral sidelighting** [new number only]

**10.5.9.2 10.5.8.2 clerestory** [new number; replacing the definition]

That part of a building that rises clear of the roofs or other parts and whose walls contain windows for lighting the interior.

A window located in a section of wall above the normal view-window height. In some cases this window is located above an adjacent rooftop.

* **10.5.9.3 10.5.8.3 shading coefficient** [new number; replacing the definition]

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* American Architectural Manufacturers Association (AAMA).
The ratio of solar heat gain through a glazing system under a specific set of conditions to the solar gain through a single layer (3.2 mm [1/8 inch]) of double-strength sheet glass under the same conditions.

*This term has been deprecated. It has been replaced by solar heat gain coefficient, which is defined differently.*

10.5.9.4 **10.5.8.4 lighting-cooling index** *new number only*

10.5.9.5 **10.5.8.5 toplighting** *new number; replacing the definition*

Daylighting systems in which daylight is admitted through apertures in roofs.

Daylighting systems in which daylight is admitted through apertures in the ceiling or roof, such as skylights or roof monitors.

10.5.8.6 **tubular daylighting device (TDD)** *new term*

High reflectance specular metal tube(s), typically with glazing or optical devices at top and bottom, which act as a light pipe to transfer daylight from a rooftop aperture to a diffuser in a space below.

10.5.8.7 **rooftop monitor** *new term*

A raised portion of the roof that typically contains vertical or steeply sloped glazing on one or more sides.

10.5.8.8 **sawtooth roof** *new term*

A roof that allows the entry of daylight via a series of parallel vertical or inclined glazed apertures, separated by horizontal or sloped opaque planar roof sections. *(See Figure x.)*

Figure x. Example of a sawtooth roof.

10.5.8.9 **daylight harvesting** *new term*

The reduction of electric lighting power and illumination in a space in direct response to daylight illumination.

10.5.8.10 **daylighting system** *new term*

A single or series of building apertures, along with their associated management components, for the controlled admission and distribution of daylight.

10.5.8.11 **daylight management** *new term*

The control of how daylight is admitted into architectural spaces in quality, quantity and timing. It includes design and/or control of apertures, glazing types, shading, filtration,
and light redirection devices, and can be static (i.e., passive) or dynamic (with manual or automated adjustment).

10.5.8.12 window shades [new term]
Continuous planar material (translucent or opaque; woven, mesh or film; interior or exterior) which can be deployed/retracted along the plane of the glazing to control solar heat gain, visible transmittance, view, and/or visual privacy.

10.5.8.13 blinds [new term]
A light controlling shading device consisting of overlapping thin slats which can be varied in angle and deployment.

10.5.8.13.1 venetian blinds [new term]
Horizontal slatted blinds

10.5.8.13.2 vertical blinds [new term]
Vertical slatted blinds.

10.5.8.13.3 miniblinds [new term]
Horizontal slatted blinds 2.5 cm (1 in.) or less in width.

10.5.8.14 daylight louver [new term]
A non-retractable, fixed or rotatable series of slatted elements (solid or perforated, specular or diffusing) in a planar relationship used to redirect or shade daylight.

10.5.8.15 light shelf [new term]
A horizontal planar element (interior or exterior) along a window that intercepts and redirects sunlight and sky light upward into a space.

10.5.8.16 light well [new term]
A rectangular or splayed vertical shaft in a building, either open or roofed with a skylight, that delivers daylight to spaces below.

10.5.9 Daylight Analysis [new heading]

10.5.9.1 daylight zone [new term]
A term used in energy codes to reference an area where separate control must be provided, either manual or automatic depending on the code, for the purpose of daylight harvesting.

10.5.9.1.1 primary daylight zone [new term]
A daylight zone close to windows or skylights where a majority of the electric light can be replaced by daylight.

10.5.9.1.2 secondary daylight zone [new term]
A daylight zone farther from windows or skylights where some electric light can be replaced by daylight.
10.5.9.2 lighting power density (LPD) [new term]
The total input power of the installed lighting system per unit floor area, typically expressed as watts per square meter or per square foot.

10.5.9.3 light-to-solar-gain ratio [new term]
Ratio of the visible transmittance (VT or Tvis) of a glazing system to its solar heat gain coefficient (SHGC). It is one measure of the degree of a glazing’s spectral selectivity.

10.5.9.4 U-factor [new term]
The rate of transfer of heat through a building assembly or glazing system per unit area divided by the difference in temperature of the environment on either side.

10.5.9.5 solar heat gain coefficient (SHGC) [new term]
The fraction of incident solar radiation that is admitted through a window or skylight, both directly transmitted and absorbed, and subsequently released inward. SHGC can be expressed as a number between 0 and 1 for the glass area alone, or for the whole window assembly.

10.5.9.6 critical task location [new term]
In daylighting, the work plane location that requires the highest light output from a controlled zone of luminaires to reach a target illuminance in combination with the available daylight.

10.5.9.7 artificial sky [new term]
A physically or digitally simulated sky luminance distribution, which may also include the solar disk.

10.5.9.7.1 artificial sky “mirror box” [new term]
A physical artificial sky in the form of a box with a luminous ceiling and mirrored walls, used to model uniform or overcast skies.

10.5.9.9 daylight autonomy (DA) [new term]
The fraction of time in an annual simulation or study period that an analysis point meets or exceeds a specified illuminance level.

10.5.9.9.1 spatial daylight autonomy (sDA) [new term]
An annual daylighting metric which quantifies the fraction of the area within a space for which the daylight autonomy exceeds a specified value. The specific methodology for computation is described in IES LM-83-12, IES Spatial Daylight Autonomy (sDA) and Annual Sunlight Exposure (ASE).

10.5.9.9.2 continuous daylight autonomy (cDA) [new term]
The fraction of time in an annual simulation that an analysis point meets or exceeds a specified illuminance level, with proportional credit given for daylight contributions that partially meet this level.

10.5.9.10 useful daylight illuminance (UDI) [new term]
The fraction of time across a daylighting study period where the illuminance at a point lies between selected minimum and maximum levels (typically 100 and 3,000 lux).

**10.5.13 10.5.9.11 daylight factor (DF) [new number; replacing the definition]**

A measure of daylight illuminance at a point on a given plane, expressed as a ratio of the illuminance on the given plane at that point to the simultaneous exterior illuminance on a horizontal plane from the whole of an unobstructed sky of assumed or known luminance distribution. Direct sunlight is excluded from both interior and exterior values of illuminance.

A measure of daylight illuminance at a point on a plane, expressed as the ratio of the illuminance at that point to the simultaneous exterior illuminance on a horizontal plane from an unobstructed sky of assumed or known luminance distribution (typically overcast). Direct sunlight is excluded from both interior and exterior illuminance values.

**10.5.9.12 daylight coefficient [new term]**

A factor for an analysis point, that when multiplied by the luminance of a sky patch or the solar disk at a particular solar position, provides the daylight illuminance at that point from that source, typically including both direct and reflected light.

**10.5.9.13 local solar time (LST) [new term]**

The time used in the calculation of the sun's position wherein the sun is at its highest position in the sky at noon as it crosses the local meridian. Also called solar time.

**10.5.9.14 direct sunlight hours [new term]**

The number of total hours within a specified analysis period for which an analysis point receives direct sunlight greater than or equal to a specified illuminance (1,000 lux per LM-83-12, IES Spatial Daylight Autonomy (sDA) and Annual Sunlight Exposure (ASE)).

**10.5.9.15 equation of time [new term]**

The equation that provides the difference between standard clock time and solar time at a given location, which varies with Julian day.

**10.5.9.16 Julian day [new term]**

*For the purpose of daylight simulations and solar position determination*: The integer assigned to a calendar day continuously counted from 1 starting with January 1st, for the purpose of daylighting calculations.

**10.5.9.17 annual operating hours [new term]**

The number of hours per annum for which a building, lighting, or other system is operating.

**10.5.9.18 sky component (SC) [new term]**

The daylight contribution of scattered light from the sky (excluding direct sun) in a daylight calculation or measurement.

**10.5.9.19 externally reflected component (ERC) [new term]**
The daylight contribution to an interior surface that results from the sunlight and skylight that has been diffusely or specularly redirected from the ground and other exterior surfaces.

**10.5.9.20 internally reflected component (IRC) [new term]**
The daylight contribution at a point within a space resulting from the interreflections that occur within that space.

**10.5.10.5 total solar radiation [new term]**
The combination of the direct solar, diffuse sky, and reflected solar radiation onto a surface.

**11.5.9.2 astronomical time clock astronomical time clock control [replacing the term and its definition]**
A time clock with automatic compensation for the annual change in length of day such that the switching operation is coordinated with daylight conditions.

A time clock control that automatically compensates for local sunrise and sunset times across the year.

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**Added to new Section 13 – Control Systems, created in Addendum 1:**

**13.2.5 photosensor [new term]**
A device that generates an electric signal proportional to the light radiation incident on a light-sensitive material.

**13.2.6 field of view (FOV) [new term]**
In lighting control systems: The solid angle from which a sensor receives a signal.

**13.2.7 photosensor control algorithm [new term]**
One or more functions that translate the signal from a photosensor to a control signal that adjusts the electric lighting or shading devices.

**13.2.8 bi-level lighting control [new term]**
A control that includes two different levels of output, plus off.

**13.2.9 multilevel lighting control [new term]**
Control of light output of a source or luminaire, with ranges that include at least two levels of output, plus off.

**13.2.10 closed-loop control [new term]**
For daylighting, a photosensor-based method for electric lighting and/or shading system control where the outcome of the controlled system impacts the photosensor signal.

**13.2.11 open-loop control [new term]**
For daylighting, a photosensor-based method for electric lighting and/or shading system control, where the outcome of the controlled system has minimal impact on the photosensor signal.
13.2.12 dual-loop photosensor control [new term]
A photosensor-based control of electric lighting or shading devices that uses both closed-loop and open-loop sensing.

Removed from RP-16-17:

10.5.3 latitude
The geographical latitude of a point is the angle measured in the plane of the local meridian, between the equator and a line perpendicular to the surface of the earth through the point in question.

10.5.4 longitude
The angular distance measured along the equator of the earth from the meridian through Greenwich, England, to the local meridian through the point in question. Longitude is measured either east or west from Greenwich through 180 degrees or 12 hours.

10.5.7 profile angle
The projection of the true solar altitude angle onto a vertical plane perpendicular to a particular building elevation.

10.5.8 sun bearing
The angle measured in the plane of the horizon between a vertical plane at a right angle to the window wall and the position of this plane after it has been rotated to contain the sun.

10.5.10.7 solar radiation simulator
A device designed to produce a beam of collimated radiation having a spectrum, flux density, and geometric characteristic similar to those of the Sun outside Earth's atmosphere.

10.5.10.8 direct solar simulator
A device designed to produce a beam of collimated radiation having a spectrum, flux density, and geometric characteristic similar to those of the Sun outside of the Earth's atmosphere.

10.5.12 sky factor
The ratio of the illuminance on a horizontal plane at a given point inside a building due to the light received directly from the sky, to the illuminance due to an unobstructed hemisphere of sky of uniform luminance equal to that of the visible sky.

Added to Index:

daylighted, see daylit

profile angle, see vertical shadow angle

solar constant, see extraterrestrial solar irradiance constant

solar illuminance constant, see extraterrestrial solar illuminance constant
solar time, see local solar time (LST)

*Changed Index entry:*

regular (specular) reflectance, see specular reflectance
regular (specular) reflection, see specular reflection
regular transmission, see specular transmission
regular transmittance, see specular transmittance

*Also changed these numbers:*

10.5.14 → 10.4.10
10.5.15 → 10.5.11
10.5.16 → 10.5.12
10.6.17 → 10.5.13