17-25-114
sampling aperture

area of the reference plane on which measurements are made

Note 1 to entry: The sampling aperture is delimited by the area illuminated, or by the area over which the receiver senses flux, whichever is smaller. If the illuminated area is the larger, the area measured is said to be "overfilled"; if it is the smaller, the area measured is said to be "underfilled".

Note 2 to entry: This entry was numbered 17-1135 in CIE S 017:2011.

17-25-115
spectral mismatch correction factor, <for a photometer>
DEPRECATED: colour correction factor
F^*

factor by which the readings of a physical photometer can be multiplied in order to correct for the error caused by differences between the relative spectral responsivity of the photometer and the spectral luminous efficiency for photopic vision, $V(\lambda)$, that it is intended to simulate when the photometer is used to measure a source having a relative spectral distribution different from that of the source with which the photometer was calibrated

Note 1 to entry: Most photometers are designed to simulate the spectral luminous efficiency for photopic vision, $V(\lambda)$, and are calibrated using a source corresponding to CIE standard illuminant A. For such a photometer, the spectral mismatch correction factor can be calculated using the equation:

$$F^* = \frac{\int_\lambda S(\lambda)V(\lambda)\,\mathrm{d}\lambda \int_\lambda S_\mathrm{A}(\lambda)s_\mathrm{rel}(\lambda)\,\mathrm{d}\lambda}{\int_\lambda S(\lambda)s_\mathrm{rel}(\lambda)\,\mathrm{d}\lambda \int_\lambda S_\mathrm{A}(\lambda)V(\lambda)\,\mathrm{d}\lambda}$$

where $s_\mathrm{rel}(\lambda)$ is the relative spectral responsivity of the photometer and $S(\lambda)$ and $S_\mathrm{A}(\lambda)$ are the respective relative spectral power distributions of the source to be measured and CIE standard illuminant A.

Note 2 to entry: The term "colour correction factor" is no longer used.

Note 3 to entry: The term "spectral mismatch correction factor" can also be applied to other detectors whose response is intended to simulate a particular observer function, such as actinic radiometers.

Note 4 to entry: The spectral mismatch correction factor has unit one.

Note 5 to entry: This entry was numbered 17-1224 and 17-205 in CIE S 017:2011.

17-25-116
stray light, <in measurement>

unwanted light that forms part of the measurement

EXAMPLE Light that reaches the detector from directions other than the desired path from the source to the detector, e.g. light scattered from walls, ceilings or optical components within the measuring system.
Light that reaches the detector which is at a wavelength other than the wavelength intended to be measured.

Note 1 to entry: This entry was numbered 17-1273 in CIE S 017:2011.

Section 26: Actinic effects of optical radiation

17-26-001
photoeffect

physical, chemical or biological change produced by the interaction of optical radiation with matter, characterized by one photon interacting with one atom or molecule

Note 1 to entry: Photoeffects include photoelectric, photo-optical, photochemical and photobiological effects, but radiant heating is normally not considered a photoeffect.

Note 2 to entry: This entry was numbered 845-06-01 in IEC 60050-845:1987.

Note 3 to entry: This entry was numbered 17-897 in CIE S 017:2011.

17-26-002
actinism

property of optical radiation that enables it to cause photochemical changes on certain living or non-living materials

Note 1 to entry: This entry was numbered 845-06-02 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-16 in CIE S 017:2011.

17-26-003
actinic, <applied to radiation> adj

capable of producing a photochemical effect (exhibiting actinism)

Note 1 to entry: This entry was numbered 845-06-03 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-13 (1.) in CIE S 017:2011.

17-26-004
actinic, <applied to concepts other than radiation or to devices> adj

referring to actinism

Note 1 to entry: This entry was numbered 17-13 (2.) in CIE S 017:2011.

17-26-005
indirect actinic effect

actinic effect that occurs away from the place where the radiant energy responsible for the effect is absorbed

EXAMPLE Photostimulation of endocrine glands; conversion of previtamin D3 to vitamin D by a non-photochemical thermal reaction.

Note 1 to entry: The distinction between direct and indirect actinic effect mainly applies to biological changes.

Note 2 to entry: This entry was numbered 845-06-05 in IEC 60050-845:1987.

Note 3 to entry: This entry was numbered 17-15 in CIE S 017:2011.

17-26-006
photosensitization

process by which a substance or a system becomes more susceptible to photoeffects by the action of another substance or system

Note 1 to entry: This entry was numbered 845-06-08 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-941 in CIE S 017:2011.

17-26-007
photodesensitization

process by which a substance or a system becomes less susceptible to photoeffects by the action of another substance or system

Note 1 to entry: This entry was numbered 845-06-09 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-894 in CIE S 017:2011.

17-26-008
photobiology

branch of biology which deals with the effects of optical radiation on living systems

Note 1 to entry: This entry was numbered 845-06-10 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-885 in CIE S 017:2011.

17-26-009
photopathology

branch of biology and medicine that deals with pathologic effects linked to optical radiation

Note 1 to entry: This entry was numbered 845-06-11 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-935 in CIE S 017:2011.

17-26-010
photic maculopathy
blue light photoretinitis

retinal injury produced by staring at an extremely bright source of optical radiation

Note 1 to entry: This entry was numbered 17-881 and 17-940 in CIE S 017:2011.

17-26-011
photocarcinogenesis

carcinogenesis resulting from exposure to ultraviolet radiation

Note 1 to entry: This entry was numbered 17-886 in CIE S 017:2011.

17-26-012
photochemical carcinogenesis

carcinogenesis resulting from a reaction with a photoactivated drug or chemical

Note 1 to entry: This entry was numbered 17-890 in CIE S 017:2011.

17-26-013
photocarcinogenicity

direct (photochemical carcinogenesis) or indirect enhancement of UV-associated skin carcinogenesis (e.g. sunlight-associated carcinogenesis) by a drug or chemical

Note 1 to entry: This entry was numbered 17-887 in CIE S 017:2011.

17-26-014
photocataractogenesis
ultraviolet photocataractogenesis

clouding (opacification) of the lens resulting in a cataract

Note 1 to entry: Photocataractogenesis results in most cases from chronic exposure to excessive ultraviolet radiant energy incident upon the lens.

Note 2 to entry: Cataracts can also be produced by acute over-exposure to an excimer laser beam.

Note 3 to entry: This entry was numbered 17-888 and 17-1365 in CIE S 017:2011.

17-26-015
photocuring

effect of a liquid state polymer changing into the solid state, becoming insoluble to solvent or increasingly resistant to corrosive chemicals, by optical irradiation

Note 1 to entry: This entry was numbered 17-892 in CIE S 017:2011.

17-26-016
photoimmunology

study of the effects of optical radiation upon the immune system

Note 1 to entry: Effects can be localized or systemic and mediated through the skin.

Note 2 to entry: This entry was numbered 17-903 in CIE S 017:2011.

17-26-017
photokeratoconjunctivitis
snowblindness
arc eye
welder's flash

inflammatory response of the cornea and conjunctiva following exposure to ultraviolet radiation

Note 1 to entry: Wavelengths shorter than 320 nm are most effective in causing photokeratoconjunctivitis. The peak of the action spectrum is at approximately 270 nm.

Note 2 to entry: Different action spectra have been published for photokeratitis and photoconjuctivitis (CIE 106/2-1993 and CIE 106/3-1993); however, the latest studies support the use of a single action spectrum for both ocular effects (CIE 106/1-1993). See CIE 106-1993 *CIE Collection in Photobiology and Photochemistry (1993)*.

Note 3 to entry: This entry was numbered 17-904 in CIE S 017:2011.

17-26-018
photomorphogenesis

property of plants that enables them to utilize radiant energy to control the growth and development of their cells, tissues and organs

Note 1 to entry: This entry was numbered 17-915 in CIE S 017:2011.

17-26-019
photomutagenesis

production of mutations induced by exposure to optical radiation

Note 1 to entry: This entry was numbered 17-917 in CIE S 017:2011.

17-26-020
phototaxis

property of mobile organisms to move in response to light

Note 1 to entry: For example, positive phototaxis involves movement (such as in swimming) towards a source of optical radiation and negative phototaxis away from such a source.

Note 2 to entry: This entry was numbered 17-944 in CIE S 017:2011.

17-26-021
phototropism

change in the direction of growth of plant parts (cells, tissues, and/or organs) in response to a directional source of optical radiation

EXAMPLE Plant stems will typically bend towards a source of optical radiation and leaves will change orientation such that their upper surfaces tend to be perpendicular to a source of optical radiation.

Note 1 to entry: This entry was numbered 17-947 in CIE S 017:2011.

17-26-022
retinal burn

retinal lesion produced by intense visible or IR-A radiation exposure

Note 1 to entry: The term "retinal burn" is generally used to describe a thermal retinal lesion (see "retinal thermal injury"); however, it is sometimes applied to a photochemical retinal lesion. More specific terms are also used for a photochemical "burn," i.e. a "photic maculopathy" or "blue light photoretinitis" (from blue-light-induced injuries), or for a retinal thermal injury, a "chorioretinal thermal injury".

Note 2 to entry: This entry was numbered 17-1098 in CIE S 017:2011.

17-26-023
retinal thermal injury

retinal injury caused by brief, intense radiant exposure of the retina from wavelengths in the retinal hazard spectral region (380 nm to 1 400 nm) within which the normal ocular media transmit optical radiation to the retina

Note 1 to entry: In IEC 62471/CIE S 009 *Photobiological safety of lamp and lamp systems* the maximum assessment time is taken as 10 s.

Note 2 to entry: This entry was numbered 17-1101 in CIE S 017:2011.

17-26-024
phototherapy

irradiation of the skin or other tissues, typically with ultraviolet radiation, in the treatment of diseases (e.g. psoriasis)

Note 1 to entry: The term "photodynamic therapy" has been used where special photo-sensitizing agents have been added as part of the treatment, or are endogenous in the tissue being targeted.

Note 2 to entry: This entry was numbered 845-06-12 in IEC 60050-845:1987.

Note 3 to entry: This entry was numbered 17-945 in CIE S 017:2011.

17-26-025
heliotherapy

treatment of disease by the use of solar irradiation

Note 1 to entry: This entry was numbered 845-06-13 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-530 in CIE S 017:2011.

17-26-026
light therapy

exposure of the human eye to visible radiation for the treatment of affective disorders or disorders due to circadian disruption

EXAMPLE a) for affective disorders: seasonal affective disorder or winter depression;
b) for disorders due to circadian disruption: advanced phase sleep disorder, circadian desynchronization related to shift work or jet travel

Note 1 to entry: This entry was numbered 17-670 in CIE S 017:2011.

17-26-027
action spectrum
spectral weighting function

function representing the relative spectral effectiveness of optical radiation, for a specified biological effect, in a specified system

Note 1 to entry: The normalized action spectrum is the wavelength dependence of the inverse of the dose of monochromatic radiation required to induce a certain (biologic) response; the action spectrum is commonly normalized to a value of 1 at the wavelength of "maximum action", i.e. where the smallest dose suffices to induce the required effect.

Note 2 to entry: This entry was numbered 845-06-14 in IEC 60050-845:1987.

Note 3 to entry: This entry was numbered 17-17 and 17-1232 in CIE S 017:2011.

17-26-028
actinic erythema
erythema

reddening of the skin caused by the actinic effect of solar radiation or artificial optical radiation

Note 1 to entry: Non-actinic erythema can be caused by various chemical or physical agents.

Note 2 to entry: This entry was numbered 845-06-15 in IEC 60050-845:1987.

Note 3 to entry: This entry was numbered 17-399 in CIE S 017:2011.

17-26-029
erythemal radiation

optical radiation effective in causing actinic erythema

Note 1 to entry: Ultraviolet radiation is the most effective erythemal radiation.

Note 2 to entry: See also "erythema spectral weighting function", "standard erythema dose".

Note 3 to entry: This entry was numbered 845-06-16 in IEC 60050-845:1987.

Note 4 to entry: This entry was numbered 17-405 in CIE S 017:2011.

17-26-030
sunburn

injury to the skin, accompanied by actinic erythema, caused by over-exposure to solar ultraviolet radiation

Note 1 to entry: This entry was numbered 845-06-17 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-1279 in CIE S 017:2011.

17-26-031
suntan

darkening of the skin caused by ultraviolet radiation (through melanogenesis)

Note 1 to entry: This entry was numbered 845-06-18 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-1283 in CIE S 017:2011.

17-26-032
bactericidal radiation
germicidal radiation
microbiocidal radiation

optical radiation capable of inactivating or killing pathogenic micro-organisms

Note 1 to entry: Bactericidal radiation is primarily UV-C radiation.

Note 2 to entry: This entry was numbered 845-06-19 in IEC 60050-845:1987.

Note 3 to entry: This entry was numbered 17-72, 17-491, and 17-775 in CIE S 017:2011.

17-26-033
dose, <of optical radiation of specified spectral distribution>

radiant exposure, when used in photochemistry, phototherapy and photobiology

Note 1 to entry: See also "effective dose".

Note 2 to entry: The dose is expressed in joule per square metre ($J \cdot m^{-2}$).

Note 3 to entry: This entry was numbered 845-06-21 in IEC 60050-845:1987.

Note 4 to entry: This entry was numbered 17-346 in CIE S 017:2011.

17-26-034
effective dose
H_{eff}

dose which produces the effect considered

Note 1 to entry: This definition is based on the assumption that an action spectrum is adopted for the effect considered, and that its maximum value is 1.

Note 2 to entry: It is essential to specify which action spectrum is used, as the unit is the same for any action spectrum.

Note 3 to entry: The effective dose is expressed in joule per square metre ($J \cdot m^{-2}$).

Note 4 to entry: This entry was numbered 845-06-22 in IEC 60050-845:1987.

Note 5 to entry: This entry was numbered 17-359 in CIE S 017:2011.

17-26-035
actinic dose
H_{act}

quantity obtained by spectrally weighting the spectral radiant exposure with the actinic action spectrum

$$H_{\text{act}} = \int\int E_{\text{e},\lambda}(t) s_{\text{act}}(\lambda) \mathrm{d}\lambda \, \mathrm{d}t$$

where $E_{\text{e},\lambda}$ is the spectral irradiance in $W \cdot m^{-2} \cdot nm^{-1}$ and $s_{\text{act}}(\lambda)$ is the actinic action spectrum normalized to 1 at its maximum

Note 1 to entry: This definition is based on the assumption that an action spectrum is adopted for the actinic effect considered, and that its maximum value is 1.

Note 2 to entry: It is essential to specify which actinic action spectrum is used, as the unit is the same for any action spectrum.

Note 3 to entry: The actinic dose is expressed in joule per square metre ($J \cdot m^{-2}$)

Note 4 to entry: This entry was numbered 845-06-23 in IEC 60050-845:1987.

Note 5 to entry: This entry was numbered 17-14 in CIE S 017:2011.

17-26-036
dose rate

irradiance, when used in photochemistry, phototherapy and photobiology

Note 1 to entry: When reporting the dose rate the spectral distribution of the optical radiation shall be specified.

Note 2 to entry: The notion of rate applies similarly to actinic dose and effective dose.

Note 3 to entry: The dose rate is expressed in watt per square metre ($W \cdot m^{-2}$).

Note 4 to entry: This entry was numbered 845-06-25 in IEC 60050-845:1987.

Note 5 to entry: This entry was numbered 17-347 in CIE S 017:2011.

17-26-037
photobiological dose
H_{eff}

effective dose with the spectral radiant exposure spectrally weighted with a stated photobiological action spectrum

Note 1 to entry: This definition is based on the assumption that an action spectrum is adopted for the photobiological effect considered, and that its maximum value is 1.

Note 2 to entry: It is essential to specify which action spectrum is used, as the unit is the same for any action spectrum.

Note 3 to entry: The photobiological dose is expressed in joule per square metre ($J \cdot m^{-2}$).

Note 4 to entry: This entry was numbered 17-882 in CIE S 017:2011.

17-26-038
photobiological fluence
$H_{\text{eff,o}}$

radiant spherical exposure weighted with a stated photobiological action spectrum

Note 1 to entry: This definition is based on the assumption that an action spectrum is adopted for the photobiological effect considered, and that its maximum value is 1.

Note 2 to entry: It is essential to specify which action spectrum is used, as the unit is the same for any action spectrum.

Note 3 to entry: The photobiological fluence is expressed in joule per square metre ($J \cdot m^{-2}$).

Note 4 to entry: This entry was numbered 17-883 in CIE S 017:2011.

17-26-039
photobiological fluence rate
$E_{\text{eff,o}}$

spherical irradiance spectrally weighted with a stated photobiological action spectrum

Note 1 to entry: This definition is based on the assumption that an action spectrum is adopted for the photobiological effect considered, and that its maximum value is 1.

Note 2 to entry: It is essential to specify which action spectrum is used, as the unit is the same for any action spectrum.

Note 3 to entry: The photobiological fluence rate is expressed in watt per square metre ($W \cdot m^{-2}$).

Note 4 to entry: This entry was numbered 17-884 in CIE S 017:2011.

17-26-040
biological rhythm

characteristic periodic change in a living organism or life-related process

EXAMPLE The circadian rhythm has a period of approximately 24 h.

Note 1 to entry: Biological rhythms can be influenced by optical radiation.

Note 2 to entry: This entry was numbered 845-06-26 in IEC 60050-845:1987.

Note 3 to entry: This entry was numbered 17-89 in CIE S 017:2011.

17-26-041
circadian rhythm

biological rhythm with a period of approximately 24 h

Note 1 to entry: This entry was numbered 17-176 in CIE S 017:2011.

17-26-042
photoperiod

natural or artificial cycle of light and darkness to which living organisms can be exposed

Note 1 to entry: This entry was numbered 845-06-27 in IEC 60050-845:1987.

Note 2 to entry: This entry was numbered 17-936 in CIE S 017:2011.

17-26-043
photoperiodism

response of organisms to the length of night and day periods, and the change in these periods with the natural progression of the seasons or the manipulation of day length with artificial light

Note 1 to entry: This entry was numbered 17-937 in CIE S 017:2011.

17-26-044
melatonin
melatonin hormone

hormone secreted from the pineal gland

Note 1 to entry: Levels of melatonin in the pineal gland, blood, saliva, and urine fluctuate in a circadian rhythm, higher at night and lower in the daytime, following the biological clock that is itself set naturally by day/night photoperiods. Light at night reduces melatonin, while decoupling the biological and natural (or artificially induced) photoperiods causes disruption of sleep/wake cycles (e.g. jet lag).

Note 2 to entry: This entry was numbered 17-762 in CIE S 017:2011.

17-26-045
additivity law of von Krefeld

law stating that effective doses can be added to a total effective dose, even if the dose response curves for different wavebands are different

Note 1 to entry: This means at the same time that no conductive (i.e. catalytic) or hindering (i.e. antagonistic) effects occur.

Note 2 to entry: This entry was numbered 17-25 in CIE S 017:2011.

17-26-046
skin hazard distance

distance from a source at which the irradiance equals the applicable exposure limit for the skin for the exposure duration

Note 1 to entry: Where the duration of exposure is not known, IEC 62471/CIE S 009 *Photobiological safety of lamp and lamp systems* applies a duration of 8 h.

Note 2 to entry: The skin hazard distance is expressed in metres (m).

Note 3 to entry: This entry was numbered 17-1188 in CIE S 017:2011.

17-26-047
ocular hazard distance

distance from a source within which the radiance or irradiance for a given exposure duration exceeds the applicable exposure limit

Note 1 to entry: The ocular hazard distance is expressed in metres (m).

Note 2 to entry: This entry was numbered 17-838 in CIE S 017:2011.

17-26-048
retinal hazard spectral region

spectral region from 380 nm to 1 400 nm within which the normal ocular media transmit optical radiation to the retina

Note 1 to entry: This entry was numbered 17-1099 in CIE S 017:2011.

17-26-049
retinal thermal hazard spectral weighting function
$R(\lambda)$; $r(\lambda)$

function representing the normalized spectral sensitivity of the human eye due to retinal thermal hazards

Note 1 to entry: The wavelength range for the retinal thermal hazard spectral weighting function is the retinal hazard spectral region.

Note 2 to entry: This entry was numbered 17-1100 in CIE S 017:2011.

17-26-050
retinal thermal radiance
L_R; L_r

effective radiance with the spectral radiance, L_λ, spectrally weighted with the retinal thermal hazard spectral weighting function, $r(\lambda)$

Note 1 to entry: The wavelength range for retinal thermal radiance is the retinal hazard spectral region.

Note 2 to entry: This definition is based on the assumption that an action spectrum is adopted for the effect considered, and that its maximum value is 1.

Note 3 to entry: It is essential to specify which action spectrum is used, as the unit is the same for any action spectrum.

Note 4 to entry: The retinal thermal radiance is expressed in watt per square metre per steradian ($W \cdot m^{-2} \cdot sr^{-1}$).

Note 5 to entry: This entry was numbered 17-1102 in CIE S 017:2011.

17-26-051
infrared cataract hazard
heat cataract hazard

clouding (opacification) of the lens resulting from exposure to excessive near-infrared radiant energy producing an elevated temperature of the lens

Note 1 to entry: This entry was numbered 17-578 in CIE S 017:2011.

17-26-052
ultraviolet hazard irradiance
E_S

effective irradiance with the spectral irradiance, E_λ, spectrally weighted with the ultraviolet hazard spectral weighting function, $S_{UV}(\lambda)$

Note 1 to entry: The wavelength range for ultraviolet hazard irradiance is specified in ICNIRP-recommendations as $\lambda = 180$ nm to $\lambda = 400$ nm.

Note 2 to entry: The ultraviolet hazard irradiance is expressed in watt per square metre ($W \cdot m^{-2}$).

Note 3 to entry: This entry was numbered 17-1361 in CIE S 017:2011.

17-26-053
ultraviolet hazard radiant exposure
H_S

effective radiant exposure with the spectral radiant exposure, H_λ, spectrally weighted with the ultraviolet hazard spectral weighting function, $S_{UV}(\lambda)$

Note 1 to entry: The wavelength range for ultraviolet hazard radiant exposure is specified in ICNIRP-recommendations as $\lambda = 180$ nm to $\lambda = 400$ nm.

Note 2 to entry: The ultraviolet hazard radiant exposure is expressed in joule per square metre ($J \cdot m^{-2}$).

Note 3 to entry: This entry was numbered 17-1362 in CIE S 017:2011.

17-26-054
ultraviolet hazard spectral weighting function
$S_{UV}(\lambda)$; $S(\lambda)$

weighting function that combines the normalized spectral sensitivities of the human eye and skin to ultraviolet radiation for radiation protection purposes

Note 1 to entry: The wavelength range for the ultraviolet hazard spectral weighting function is specified in ICNIRP-recommendations as $\lambda = 180$ nm to $\lambda = 400$ nm.

Note 2 to entry: This entry was numbered 17-1363 in CIE S 017:2011.

17-26-055
blue light hazard
BLH

potential for a photochemically induced retinal injury (photic maculopathy) resulting from optical radiation exposure at wavelengths primarily between 400 nm and 500 nm

Note 1 to entry: This damage mechanism dominates over the thermal damage mechanism for exposure durations exceeding 10 s.

Note 2 to entry: The action spectrum extends into the UV-A for persons without a normal UV-A absorbing lens.

Note 3 to entry: This entry was numbered 17-97 and 17-96 in CIE S 017:2011.

17-26-056
blue light hazard irradiance
E_{B}

effective irradiance with the spectral irradiance, E_λ, spectrally weighted with the blue light hazard spectral weighting function, $B(\lambda)$

Note 1 to entry: Blue light hazard irradiance is typically of interest for small sources subtending less than 0,011 rad.

Note 2 to entry: The wavelength range for the blue light hazard irradiance is specified in ICNIRP-recommendations as $\lambda = 300$ nm to $\lambda = 700$ nm.

Note 3 to entry: This definition is based on the assumption that an action spectrum is adopted for the actinic effect considered, and that its maximum value is 1.

Note 4 to entry: It is essential to specify which actinic action spectrum is used, as the unit is the same for any action spectrum.

Note 5 to entry: The blue light hazard irradiance is expressed in watt per square metre ($\mathrm{W \cdot m^{-2}}$).

Note 6 to entry: This entry was numbered 17-98 in CIE S 017:2011.

17-26-057
blue light hazard radiance
L_{B}

effective photobiological radiance with the spectral radiance, L_λ, spectrally weighted with the blue light hazard spectral weighting function, $B(\lambda)$

Note 1 to entry: The wavelength range for the blue light hazard radiance is specified in ICNIRP-recommendations as $\lambda = 300$ nm to $\lambda = 700$ nm.

Note 2 to entry: This definition is based on the assumption that an action spectrum is adopted for the actinic effect considered, and that its maximum value is 1.

Note 3 to entry: It is essential to specify which actinic action spectrum is used, as the unit is the same for any action spectrum.

Note 4 to entry: The blue light hazard radiance is expressed in watt per square metre per steradian ($\mathrm{W \cdot m^{-2} \cdot sr^{-1}}$).

Note 5 to entry: This entry was numbered 17-99 in CIE S 017:2011.

17-26-058
blue light hazard radiance dose
blue light hazard time integrated radiance
$L_{\mathrm{B},t}$

time integral of the blue light hazard radiance, L_{B}, as integrated with respect to the exposure duration

Note 1 to entry: This definition is based on the assumption that an action spectrum is adopted for the actinic effect considered, and that its maximum value is 1.

Note 2 to entry: It is essential to specify which actinic action spectrum is used, as the unit is the same for any action spectrum.