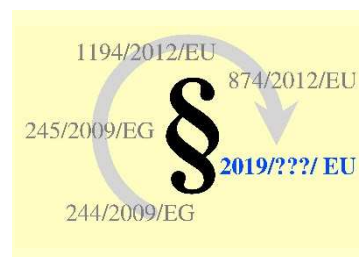


Texte zu den geplanten neuen EU-Regelungen zur umweltgerechten Produktgestaltung und zur Energieverbrauchs-kennzeichnung in der Beleuchtung – Zusammenstellung * des Umweltbundesamtes (UBA), Deutschland



Entwürfe der EU-Kommission vom 3. Juli 2018

Arbeitshilfe:

Begriffsbestimmungen: Zusammenstellung und Vergleich zwischen den Entwürfen zu Produktgestaltung und -information

EN: Information on the coming EU Lighting Regulations – Ecodesign and Energy Labelling – Compilation * of the Federal Environment Agency (UBA), Germany

The EU Commission's drafts of 3 July 2018

Working aid: Definitions – Compilation and comparison between the drafts for product design and product information

FR: Informations sur les futures réglementations de l'UE concernant l'éclairage – l'écoconception et l'étiquetage énergétique – Compilation * de l'Agence Fédérale de l'Environnement (UBA), Allemagne

Les projets de la Commission Européenne du 3 juillet 2018

Aide de travail : Compilation et comparaison entre les définitions pour conception des produits et celles pour l'information relative aux produits

Indication : Veuillez noter que dans le présent texte la traduction en français se limite aux titres et à quelques indications.

* <https://www.eup-network.de/de/eup-netzwerk-deutschland/offenes-forum-eu-regelungen-beleuchtung/dokumente/texte/>

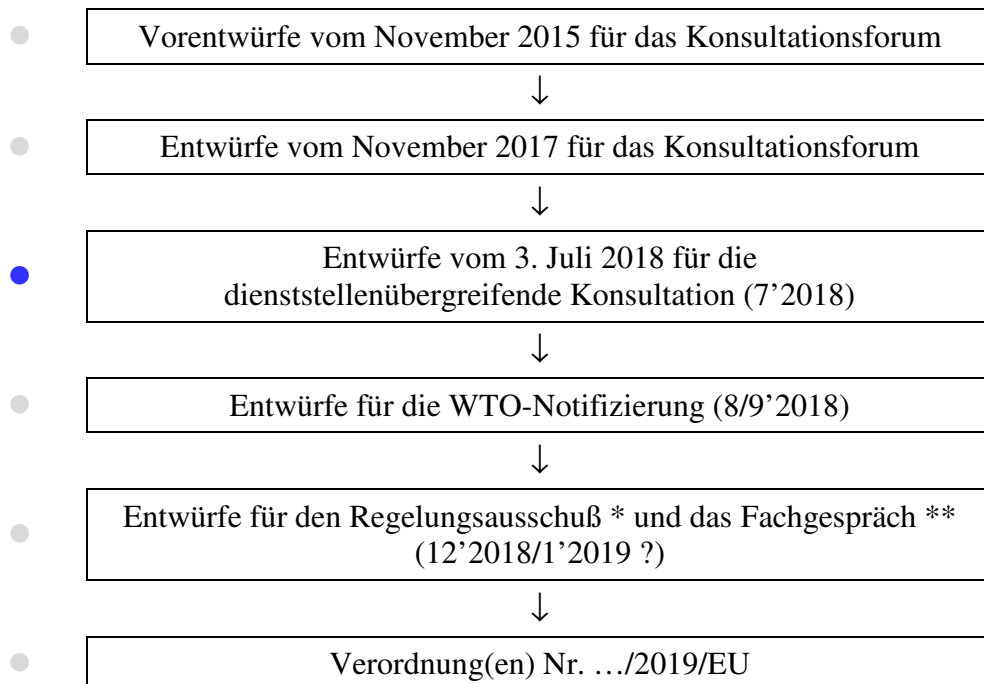
DE: ↓

EN: → page V

FR : → page VII

Regelungsentwürfe der EU-Kommission auf dem Weg zu neuen Verordnungen sowie Einordnung (●) der Dokumente der EU-Kommission vom 3. Juli 2018 (versandt am 13. Juli 2018)

Die Dokumente der EU-Kommission vom Juli 2018 stellen nur einen Zwischenstand auf dem Weg zu neuen Regelungen dar:



* zur Produktgestaltung ** zur Produktinformation

Liste der Hilfstexte zu den Dokumenten der EU-Kommission vom 3. Juli 2018 und Kennzeichnung des vorliegenden Textes (●)

A Hilfen für die Arbeit mit den Entwürfen vom Juli 2018:

- Aufteilung des Regelungsumfanges zwischen den Verordnungen zur Produktgestaltung und -information *
- Begriffsbestimmungen: Zusammenfassung und Vergleich zwischen den Regelungsentwürfen zu Produktgestaltung und –information

B Vergleich der Entwürfe vom Juli 2018 mit denen vom November 2017:

- Zusammenfassung der folgenden Vergleiche
Produktgestaltung und -information:
 - - Gliederung der Entwurfstexte: Inhaltspunkte/-verzeichnisse in Haupttexten und Anhängen
 - - Begriffsbestimmungen in Haupttexten und Anhängen
- Produktgestaltung:
 - - Haupttext: Artikel 1 und 3 bis 11 **.
 - - Geltungsbereich *: Vergleiche zu
 - Haupttext Artikel 1: Gegenstand und Geltungsbereich sowie
 - Anhang III: Ausnahmen
 - - Anforderungen an die Produktgestaltung ***: Vergleiche zu
 - Anhang II, 1: Stromeffizienz und
 - Anhang II, 2: Betriebseigenschaften von Lichtquellen

* Stand: 19. 8. 2018: Dieser Text ist noch nicht verfügbar.

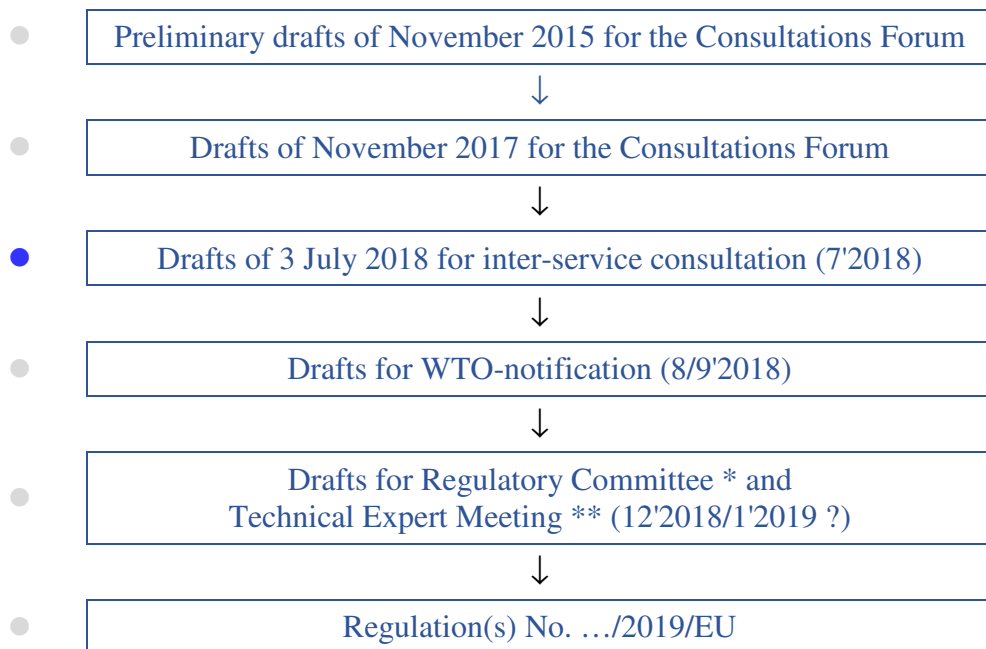
** Zu Artikel 2 *Begriffsbestimmungen* siehe den oben genannten Text

*** Zu Artikel 4 *Ausbaubarkeit von Lichtquellen und getrennten Betriebsgeräten* siehe den Vergleich der Haupttext.

EN: List of EU Commission documents as of 3 July 2018 (sent out on 13 July 2017) and identification of the text at hand

Draft regulation of the EU-Commission on the way to new regulations and identification (●) of EU Commission documents of 3 July 2018 (sent on 13 July 2018)

These documents are only an interim stage on the way to new regulations:



* on product design ** on product information

List of work aids on EU Commission documents of 3 July 2018 and identification (●) of the text at hand

A Aids for the utilisation of the drafts of July 2018:

- Allocation of the regulatory content between the regulations for product design and product information *
- Definitions: Compilation and comparison between product design and product information

B Comparison of the drafts of July 2018 with those of November 2017:

- Summary of the following comparisons
Product design and product information:
 - - Structure of the drafts: content points (chapter headings) in main texts and annexes
 - - Definitions in main texts and annexes

Product design:

- - Main Text: Article 1 and 3 to 11 **.
- - Scope *: Comparison of
 - Main text Article 1: Subject matter and scope and
 - Annex III: Exemptions
- - Requirements on product design ***: Comparison of
 - Annex II, 1: Energy efficiency and
 - Annex II, 2: Functionality of light sources

* Status as of 19 August 2018: This text is not yet available.

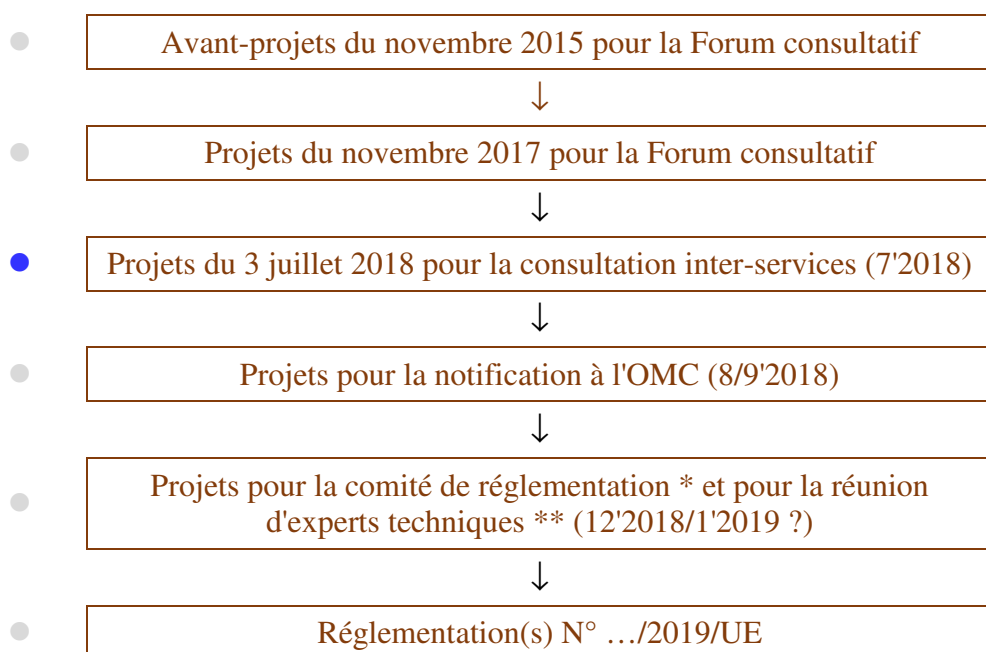
** For Article 2 *Definitions* see the text above.

*** For Article 4 *Removal of light sources and separate control gear*, see the comparison of the main texts.

FR: Liste des documents de la Commission européenne du 3 juillet 2018 (envoyé le 13 juillet 2018) et marquage du présent document

Projets de la Commission Européenne sur la voie de la nouvelle réglementation et marquage (●) des documents de la Commission européenne du 3 juillet 2018 (envoyés le 13 juillet 2018)

Ces documents ne sont qu'une position provisoire sur la voie de nouvelles réglementations.



* sur la conception des produits ** sur l'information relative aux produits

Liste des aides de travail sur les documents de la Commission européenne du 3 juillet 2018 et marquage (●) de le présent document

A Aides pour utiliser les projets du juillet 2018 :

- Répartition du contenu normatif entre les règlements sur la conception des produits et sur l'information relative aux produits *
- Définitions : Compilation et comparaison entre les définitions pour conception des produits et celles pour l'information relative aux produits

B Comparaison des projets du juillet 2018 avec ceux du novembre 2017 :

- Synthèse des comparaisons suivantes
Conception des produits et information relative aux produits :
 - - Structure des projets de textes : points de contenus (titres des chapitres) dans les textes principaux et les annexes
 - - Définition dans les textes principaux et les annexes

Conception des produits :

- - Texte principal : Articles 1 et 3 à 11 **.
- - Champ d'application * : Comparaisons de
 - Texte principal Article 1 : Objet et champ d'application et
 - Annexe III : Exemptions
- - Exigences de la conception des produits *** : Comparaisons de
 - Annexe II, 1 : Efficacité énergétique et
 - Annexe II, 2 : Fonctionnalités des sources lumineuses

* État au 19 août 2018 : Ce texte n'est pas encore disponible.

** Pour l'article 2 *Définitions*, voir le texte ci-dessus.

*** Pour l'article 4 *Suppression de sources lumineuses et de appareillages de commande séparées*, voir la comparaison du texte principal.

Es folgt ein unveränderter Originaltext.

EN: The following is an unmodified original text.

FR: Ce qui suit est un texte original.

Offenes Forum EU-Regelungen zur Beleuchtung:
**Begriffsbestimmungen in den Entwürfen der EU-Kommission
vom 3. Juli 2018**
— Arbeitshilfe von Christoph Mordziol, UBA —

EN:

Open Forum EU Policies on Lighting:
**Definitions in the draft regulations of the EU Commission
of 3 July 2018**
— Working aid by Christoph Mordziol, UBA —

FR:

Forum ouvert sur le politique européenne de l'éclairage :
**Définitions dans le projets de la Commission européenne
du 3 juillet 2017**
— Aide de travail par Christoph Mordziol, UBA —

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Vorbemerkungen ◇ Preliminary remarks ◇ Remarques préliminaires

Am 13. Juli 2018 machte die EU-Kommission neue Entwürfe für Regelungen zu Beleuchtungsprodukten mit Anforderungen an die Produktgestaltung und -information bekannt ^[1]. Diese Texte mit Stand vom 3. Juli stellen nur eine Zwischenstufe auf dem Weg zu neuen Regelungen dar.

In der vorliegenden Arbeitshilfe sind die Begriffsbestimmungen der Entwürfe vom Juli 2018 zusammengetragen und aufbereitet – zusammengetragen deshalb, weil sie in den beiden Entwürfen zu Produktgestaltung und –information auf insgesamt vier Texte verteilt vorliegen:

- Produktgestaltung
 - Haupttext Artikel 2 und
 - Anhang I sowie
- Produktinformation
 - Haupttext Artikel 2 und
 - Anhang II.

Im Abschnitt 1 des vorliegenden Textes sind die Begriffe nach Themen geordnet und die jeweiligen Begriffsbestimmungen wiedergegeben. Soweit die Entwürfe zu Produktgestaltung und –information beim Wortlaut voneinander abweichen, ist dies kenntlich gemacht.

In Abschnitt 2, ab Seite 21, sind die Begriffe alphabetisch geordnet und zu jedem ist angegeben, wo in den Entwurfstexten der

On 13 July 13 2018, the EU Commission announced new draft regulations on lighting products with requirements on product design and product information ^[1]. These texts, dated July 3, are only an intermediate stage on the way to new regulations.

The present working aid collated and prepares the definitions of the July 2018 drafts – “collates” because within the two draft regulations —product design and product information— the definitions are allocated to a total of four texts:

- Product design
 - Main text, article 2 and
 - Annex I and
- Product information
 - Main text, article 2 and
 - Annex II.

In section 1 of the present text, the terms are ordered by topic and the corresponding definitions are reproduced. As far as the draft regulations for product design and product information differ in wording, this is indicated.

In section 2, page 21ff, the terms are listed alphabetically and for each one it is indicated where the corresponding

¹ Zu den Bezugsquellen dieser Texte siehe Abschnitt A.1.1 (ab Seite 27). ◇ EN: The sources of supply of these texts can be found in section A.1.1 (page 27ff). ◇ FR: Les sources de référence pour cette textes se trouve dans chapitre A.1.1 (à partir de la page 27).

EU-Kommission sowie im vorliegenden Text die zugehörige Begriffsbestimmung zu finden ist.

definitions can be found i) in the draft regulations of the EU Commission and ii) in the present text.

1 Begriffsbestimmungen ◇ Definitions ◇ Définitions

Die Begriffsbestimmungen in den Entwürfen zu Produktgestaltung und denen zu Produktinformation sind nicht in allen Fällen vollkommen identisch. Ein Grund dafür ist, daß der Regelungsentwurf zur Produktgestaltung auf Lichtquellen und Betriebsgeräte zielt, der Regelungsentwurf zur Produktinformation aber nur auf Lichtquellen.

Textteile, die nur in dem Regelungsentwurf zur Produktgestaltung enthalten sind, sind wie im folgenden Beispiel dargestellt, in schwarzer Schrift gesetzt und eingeklammert:

... connected to the light sources [and/or to the separate control gear]

Ein anderer Teil der Abweichungen zwischen Produktgestaltung und -information ergibt sich daraus, daß Bezug auf jeweils andere Anhänge oder Textstellen genommen wird oder dadurch, daß unterschiedliche Bezeichnungen verwendet werden.

Textteile, die nur in dem Regelungsentwurf zur Produktinformation enthalten sind, sind wie im folgenden Beispiel dargestellt, in roter Schrift gesetzt und eingeklammert.

Beispiele:

... to [point 2 of Annex IV to Directive 2009/125/EC./Article 3(3) of Regulation 2017/1369].

... the term does not include [products/devices] within the scope ...

... digital signal transmitted to [the] light source [or separate control gear] ...

The definitions in the draft regulations on product design and product information are not completely identical in all cases. One reason for this is that the draft regulation on product design is aimed at light sources and control gear, but the draft regulation on product information is only for light sources. Parts of the text which can only be found in the draft regulation product design are in black writing and bracketed, as shown in the following example:

Another reason for differences in the wording for product design and product information arises from the fact that reference is made to different annexes or passages or to the use of different terms. Parts of the text which can only be found in the draft regulation product information are in red writing and bracketed, as shown in the following example:

Unterschiede, die belanglos sind, sind im Text nicht weiter kenntlich gemacht.

Differences which are negligible are not indicated in the text.

Es gibt auch Begriffsbestimmungen, die nur in einem der beiden Regelungsentwürfe zu finden sind. Diese sind hier im Abschnitt 1 nicht näher gekennzeichnet. Welche Begriffsbestimmung wo zu finden ist, zeigt die Tafel im Abschnitt 2.

There are definitions, too, which can be found in only one of the draft regulations. Here, in section 1, this is not specified. It is the table in section 2, which shows for each definition in which draft regulation it is included.

1.1 Produkte und Elemente ◇ Products and elements ◇ Produits et éléments

'light source'

means an electrically operated product intended to emit and/or be possibly tuned to emit light with all of the following optical characteristics:

- (a) chromaticity coordinates x and y in the range
 $0,270 < x < 0,530$ and
 $-2,3172 x^2 + 2,3653 x - 0,2199 < y < -2,3172 x^2 + 2,3653 x - 0,1595$;
- (b) a luminous flux < 500 lm per mm^2 of projected light-emitting surface area as defined in Annex I;
- (c) a luminous flux between 60 and 82 000 lumen;
- (d) a colour rendering index (CRI) $R_a > 0$;

using incandescence, fluorescence, high-intensity discharge, inorganic light emitting diodes (LED) or organic light emitting diodes (OLED), or their combinations as lighting technology, and that can be verified as a light source according to the procedure of Annex V.

High-pressure sodium light sources that do not fulfil condition (a) are anyway considered light sources in the sense of this Regulation.

For the purpose of this Regulation, the following products are not considered to be light sources:

- (a) LED dies or LED chips;
- (b) LED packages;
- (c) products containing light source(s) from which these light source(s) can be removed for verification;
- (d) light-emitting parts contained in a light source from which these parts cannot be removed for verification as a light source.

'control gear'

means one or more devices, possibly integrated in a light source, intended to prepare the mains electricity supply for the electric format required by one or more specific light sources within boundary conditions set by electric safety and electromagnetic compatibility. It may include transforming the supply and starting voltage, limiting operational and preheating current, preventing cold starting, correcting the power factor and/or reducing radio interference. ['Mains' or 'mains voltage' or '**mains electricity supply**' (MV) means the electricity supply of 230 (± 10 %) Volt of alternating current at 50 Hz.

The term 'control gear' does not include power supplies within the scope of Commission Regulation (EC) No 278/2009². The term does also not include lighting control parts and non-lighting parts (as defined in Annex I), although such parts may be physically integrated with a control gear or marketed together as a single product.

A Power over Ethernet (PoE) switch is not a control gear in the sense of this Regulation. '**Power-over-Ethernet switch**' or 'PoE switch' means equipment for power-supply and data-handling that is installed between the mains and office equipment and/or light sources for the purpose of data transfer and power supply;]

'separate control gear',

means a control gear that is not physically integrated with a light source and is placed on the market as a separate product or as a part of a containing product ;

'containing product'

means a product containing one or more light sources and/or separate control gears. Examples of containing products are luminaires that can be taken apart to allow separate verification of the contained light source(s), household appliances containing light source(s), furniture (shelves, mirrors, display cabinets) containing light source(s), and other products that cannot be practically verified as light source themselves, so that the contained light source(s) have to be considered;

'non-lighting parts'

means parts that are integrated in a light source [or in a separate control gear], or physically separate but marketed together with a light source [or separate control gear] as a single product, that are not necessary for the light source [to emit light at full-load, or for the separate control gear to supply the electric power that enables light source(s)] to emit light at full-load, and that are not 'lighting control parts'. Examples include, but are not limited to: speakers (audio), cameras, repeaters for communication signals to extend the range (e.g. WiFi), parts supporting grid balance

² OJ L93, 7.4.2009, p.3.

(switching to own internal batteries when necessary), battery charging, visual notification of events (mail arriving, door bell ringing, alert), use of Light Fidelity (Li-Fi, a bidirectional, high-speed and fully networked wireless communication technology);

'data-connection parts'

means parts that perform any one of the following functions:

- (a) reception or transmission of wired or wireless data signals and the processing thereof (either used to control the light emission function or otherwise),
- (b) sensing and processing of the sensed signals (either used to control the light emission function or otherwise),
- (c) actuation by audio control (including voice control),
- (d) a combination of these;

'lighting control parts'

means parts that are integrated in a light source [or in a separate control gear], or physically separated but marketed together with a light source [or separate control gear] as a single product, that are not strictly necessary for the light source to emit light at full-load, [or for the separate control gear to supply the electric power that enables light source(s) to emit light at full-load,] but that enable manual- or automatic-, direct- or remote-, control of luminous intensity, chromaticity, correlated colour temperature, light spectrum and/or beam angle. Dimmers shall also be considered as lighting control parts;

The term also includes data-connection parts, but the term does not include [products/devices] within the scope of Commission Regulation (EC) No 1275/2008 ³;

'network'

means a communication infrastructure with a topology of links, an architecture, including the physical components, organisational principles, communication procedures and formats (protocols);

'LED die or LED chip'

means a small block of light-emitting semiconducting material on which a functional light emitting diode (LED) circuit is fabricated;

³ 1 OJ L 339, 18.12.2008, p. 45 and later amendments.

'LED package'

means a single electric part comprising principally at least one LED die. It does not include (parts of) a control gear, does not include a cap, is not connected directly to the supply voltage, and does not include active electronic components. It is used as a part of an LED module or of an LED lamp. It can include one or more of the following: optical elements, light converters (phosphors), thermal, mechanical and electric interfaces, parts to address electrostatic discharge concerns. So called Chip-on-Board (CoB) packages, and similar light-emitting devices that are intended to be used directly in an LED luminaire, are not considered to be LED packages, but LED modules;

'non-clear envelope'

for a HID light source means a non-transparent outer envelope or outer tube in which the light producing arc tube is not visible;

'second envelope'

means a second outer envelope on a HID light source that is not required for the production of light, such as an external sleeve for preventing mercury and glass release into the environment in case of lamp breakage. In determining the presence of a second envelope, the HID arc tubes shall not count as an envelope;

'anti-glare shield'

means a mechanical or optical reflective or non-reflective impervious baffle designed to block direct visible radiation emitted from the light emitter in a directional light source, in order to avoid temporary partial blindness (disability glare) if viewed directly by an observer. It does not include surface coating of the light emitter in the directional light source;

1.2 Sockel ◇ Sockets ◇ Culots

'G4', 'GY6.35' and 'G9'

means an electrical interface for a light source consisting of two small pins at distances of 4, 6.35 and 9 mm respectively, as defined in standards;

'G9.5', 'GX9.5', 'GY9.5', 'G9.5HPL', 'G16d', 'GX16d', 'GY16', 'G22' and 'G38'

means an electrical interface for a light source consisting of two pins at distances of 9.5, 16, 22 and 38 mm respectively, as defined in standards. 'G9.5HPL' includes a heatsink of specific dimensions as used on High-Performance halogen lamps, and may include additional pins for grounding purposes;

'P28s', 'P40s' and 'PGJX50'

means an electrical interface for a light source that uses a flange contact to correctly position (pre-focus) the light source in a reflector, as defined in standards;

'Quick eXchange Lamp (QXL)'

means an electrical interface for a light source consisting, on the light source side, of two lateral tabs including the electrical contact surfaces and, on the opposite (rear) side, of a central protrusion allowing to grab the light source with two fingers. It has been specifically designed for use in a class of stage lighting luminaires, in which the light source is inserted from the rear of the luminaire using a ¼ turn rotation to fix or unfix it;

'R9'

means the colour rendering index for a red coloured object as defined in standards

1.3 Lichtquellen, unterschieden nach der Art der Stromversorgung ◇ Light sources, differentiated following to the type of power supply ◇ Sources lumineuses différenciées selon la type d'alimentation électrique

'mains light source (MLS)'

means a light source that can be operated directly on the mains electricity supply. Light sources that operate directly on the mains, and can also operate indirectly on the mains using a separate control gear, shall be considered to be mains light sources;

'non-mains light source (NMLS)',

means a light source that is not a mains light source. These light sources require a separate control gear to operate on the mains;

'battery-operated'

means a product that operates only on direct current (DC) supplied from a source contained in the same product, without being connected directly or indirectly to the mains electricity supply;

'connected light source' (CLS)

means a light source including data-connection parts that are physically or functionally inseparable from the light emitting parts to maintain the 'reference control settings';

The light source can have physically integrated data-connection parts in a single inseparable housing, or the light source can be combined with physically separate data-connection parts placed on the market together with the light source as a single product.

'connected separate control gear' (CSCG)

means a separate control gear including data-connection parts that are physically or functionally inseparable from the actual control gear parts to maintain the 'reference control settings';

The separate control gear can have physically integrated data-connection parts in a single inseparable housing, or the separate control gear can be combined with physically separate data-connection parts placed on the market together with the control gear as a single product;

1.4 Lichtquellen, unterschieden nach der Art der Lichterzeugung ◇ Light sources, differentiated according to type of light generation ◇ Sources lumineuses différenciées selon la manière de production de la lumière

'incandescence'

means a phenomenon where light is produced from heat, in light sources typically produced through a threadlike conductor ('filament') which is heated by the passage of an electric current. Incandescent light sources are either GLS - General Lamp Shape light sources or halogen light sources. Halogen light source means an incandescent light source with a threadlike conductor made from tungsten surrounded by gas containing halogens or halogen compounds;

'high intensity discharge' (HID)

means an electric gas discharge in which the light- producing arc is stabilised by wall temperature and the arc chamber has a bulb wall loading in excess of 3 Watts per square centimetre.

'**Gas discharge**' means a phenomenon where light is produced, directly or indirectly, by an electric discharge through a gas, plasma, metal vapour or mixture of gases and vapours. For the purpose of this Regulation, HID light sources are limited to metal halide, high-pressure sodium and mercury vapour types as defined in Annex I;

'high-pressure sodium light source' (HPS)

means a high intensity discharge light source in which the light is produced mainly by radiation from sodium vapour operating at a partial pressure of the order of 10 kilopascals. HPS light sources may have one ('single-ended') or two ('double-ended') connectors to their electricity supply.

'high-pressure mercury light source'

means a high intensity discharge light source in which the major portion of light is produced, directly or indirectly, by radiation from predominantly vaporized mercury operating at a partial pressure in excess of 100 kilopascals;

'metal halide light source' (MH)

means a high intensity discharge light source in which the light is produced by radiation from a mixture of metallic vapour, metal halides and the products of the dissociation of metal halides. MH light sources may have one ('single-ended') or two ('double-ended') connectors to their electricity supply. The material for the arc tube of MH light sources can be quartz (QMH) or ceramic (CMH);

'fluorescence' or 'fluorescent light source' (FL)

means the phenomenon or a light source using an electric gas discharge of the low-pressure mercury type in which most of the light is emitted by one or more layers of phosphors excited by the ultraviolet radiation from the discharge. Fluorescent light sources may have one ('single-capped') or two ('double-capped') connections ('caps') to their electricity supply. For the purposes of this Regulation, magnetic induction light sources are also considered as fluorescent light sources;

'magnetic induction light source'

means a light source using fluorescent technology, where energy is transferred to the gas discharge by means of an induced high-frequency magnetic field, instead of using electrodes placed inside the gas discharge. The magnetic inductor can be external or internal to the shape of the discharge tube;

'inorganic light emitting diode' (LED)

means a technology in which light is produced from a solid state device embodying a p-n junction of inorganic material. The junction emits optical radiation when excited by an electric current;

'organic light emitting diode' (OLED)

means a technology in which light is produced from a solid state device embodying a p-n junction of organic material. The junction emits optical radiation when excited by an electric current;

1.5 **Lichtquellen, unterschieden nach der Art der Strahlungsabgabe** ◇ **Light sources, differentiated according to type of light emissions** ◇ **Sources lumineuses différenciées selon la type d'émission de la lumière**

'directional light source' (DLS)

means a light source having at least 80% of total luminous flux within a solid angle of π sr (corresponding to a cone with angle of 120°);

'non-directional light source' (NDLS)

means a light source that is not a directional light source;

'colour-tuneable light source' (CTLS)

means a light source that can be set to emit light with a large variation of colours outside the range defined in article 2(1) but can also be set to emit white light inside the range defined in article 2(1) for which the light source is in scope of this Regulation;

The term does not include tuneable-white light sources that can only be set to emit light, with different correlated colour temperatures, within the range defined in Article 2(1).

The term also does not include dim-to-warm light sources, that shift their white light output to lower correlated colour temperature when dimmed, simulating the behaviour of incandescent light sources;

'HL R7s'

is a mains-voltage, double capped, linear halogen light source with a cap-diameter of 7 mm;

'LFL T5-HE'

means a high-efficiency linear fluorescent T5 light source with driving current lower than 0.2 A;

'LFL T5-HO'

means a high-output linear fluorescent T5 light source with driving current higher than or equal to 0.2 A;

'LFL T8 2-foot', 'LFL T8 4-foot' or 'LFL T8 5-foot'

means a linear T8 fluorescent light source with a length of approximately 600 mm (2 feet), 1200 mm (4 feet) or 1500 mm (5 feet) respectively, as defined in standards;

'T2', 'T5', 'T8', 'T9' and 'T12'

means a tubular light source with diameter of approximately 7, 16, 26, 29 and 38 mm respectively, as defined in harmonised standards. The tube can be straight (linear) or bent (e.g. U-shaped, circular);

'compact fluorescent light source' (CFL)

means a single-capped fluorescent light source with a bent-tube construction designed to fit in small spaces. CFLs may be primarily spiral-shaped (i.e. curly forms) or primarily shaped as connected multiple parallel tubes, with or without a second bulb-like envelope. CFLs are available with (CFLi) or without (CFLni) physically integrated control gear;

1.6 Betrieb: Betriebszustände, Signale und Steuerung ◇ Operation: operating modes, signals and control ◇ Fonctionnement : états de fonctionnement, signaux et commande

'control signal'

means an analogue or digital signal transmitted to [the] light source [or separate control gear] wirelessly or wired either via voltage modulation in separate control cables or via a modulated signal in the supply voltage. The signal transmission is not through a network but e.g. from an internal source or from a remote control delivered with the product;

'remotely initiated trigger'

means a signal that comes from outside the light source [or separate control gear ^[4]] via a network;

'full-load' means:

- the condition of a light source, within the declared operating conditions, in which it emits the maximum (undimmed) initial luminous flux [, or
- the operating conditions and loads of the control gear under efficiency measurement as specified in the relevant standards;]

'standby mode'

means the condition of a light source [or of a separate control gear], where it is connected to the power supply but the light sources are intentionally not emitting light, and the light source [or control gear] is awaiting a control signal (from a source different from a network) to return to a state with light emission. Lighting control parts enabling the standby function shall be in their control mode. Non-lighting parts shall be disconnected or switched off or their power consumption shall be minimized following manufacturer's instructions;

⁴ Hinweis des Herausgebers: Diese Begriffsbestimmung ist im Anhang zur Produktinformation, offensichtlich versehentlich, zweimal und mit teilweise unterschiedlichem Wortlaut zu finden. Die Abweichung ist hier durch eine Klammer gekennzeichnet. ◇ EN: Editor's note: This definition can be found twice in the appendix to the draft regulation on product information, obviously accidentally. the wording partly differs. The deviation is indicated here by brackets.

'control mode'

means the condition of lighting control parts where they are connected to the light source [and/or to the separate control gear] and performing their functions in such a way that a control signal can be internally generated or a remotely initiated trigger can be received, by wire or wireless, and processed to lead to a change in the light emission of the light source [or to a corresponding desired change in the power supply by the separate control gear;]

'networked standby mode'

means the condition of a connected light source (CLS) [or a connected separate control gear (CSCG)] where it is connected to the power supply but the light source is intentionally not emitting light [or the control gear does not supply the electric power that enables light source(s) to emit light,] and is awaiting a remotely initiated trigger (from a network) to return to a state with light emission. Lighting control parts shall be in their control mode and data-connection parts shall be in a state enabling the networked standby function. Non-lighting parts shall be disconnected or switched off or their power consumption shall be minimized following manufacturer's instructions;

'no-load mode'

means the condition of a separate control gear in which its input is connected to the mains power source and its output is intentionally disconnected from light sources, and, if applicable, from data-connection parts, lighting control parts and non-lighting parts. If these parts cannot be disconnected, they shall be switched off and their power consumption shall be minimized following the manufacturer's instructions;

No-load mode only applies to separate control gear for which the manufacturer or importer has declared in the technical documentation that it has been designed for this mode;

'reference control settings' (RCS)

means a control setting or a combination of control settings that is used to verify compliance of a light source with this Regulation. These settings are relevant for light sources that allow the end-user to control, manually or automatically, directly or remotely, the luminous intensity, colour, correlated colour temperature, spectrum, and/or beam angle of the emitted light.

In principle, the reference control settings shall be those predefined by the manufacturer as factory default values, and encountered by the user at first installation (out-of-the-box values). If the installation procedure foresees an automatic software update during first installation, or if the user has the option to perform such an update, the resulting change in settings (if any) shall be taken into account.

If the out-of-the-box value is deliberately set differently from the reference control setting (e.g. at low power for safety purposes), the manufacturer shall indicate in the technical documentation how to recall the reference control settings for compliance verification.

The light source manufacturer shall define the reference control settings such that:

- the light source is in scope of this Regulation according to Art. [1/(2)] and none of the conditions for exemption of Annex I applies (if this is not possible, the light source is out-of-scope or exempted);
- the power consumption of lighting control parts and non-lighting parts is minimal (if these parts cannot be disconnected or switched-off);
- the full-load condition is obtained (maximum initial luminous flux given the other chosen settings);
- when the end-user opts to reset factory defaults, the reference control settings are obtained.

For light sources that allow the manufacturer of a containing product to make implementation choices that influence light source characteristics (e.g. definition of the operating current(s); thermal design), and that cannot be controlled by the end-user, the reference control settings need not be defined. In that case the test conditions defined in applicable standards apply;

1.7 Strahlung und ihre Bewertung \diamond Light emission and its classification \diamond Emission lumineuse et sa classification

'light'

means electromagnetic radiation with a wavelength between 380 nm and 780 nm;

'luminous flux' or 'flux' (Φ),

expressed in lumen (lm), means the quantity derived from radiant flux (radiant power) by evaluating the electromagnetic radiation in accordance with the spectral sensitivity of the human eye. It refers to the total flux emitted by a light source in a solid angle of 4π steradians under conditions (e.g. current, voltage, temperature) specified in applicable standards. It refers to the initial flux for the undimmed light source after a short operating period, unless it is clearly specified that the flux in a dimmed condition or the flux after a given period of operation is intended. For light sources that can be tuned to emit different light spectra and/or different maximum light intensities, it refers to the flux in the 'reference control settings' as defined in Annex II;

'useful luminous flux' (Φ_{use}),

means the part of the luminous flux of a light source that is considered when determining its energy efficiency:

- for non-directional light sources it is the total flux emitted in a solid angle of 4π sr (corresponding to a 360° sphere).
- for directional light sources with beam angle $\geq 90^\circ$ it is the flux emitted in a solid angle of π sr (corresponding to a cone with angle of 120°).
- for directional light sources with beam angle $< 90^\circ$ it is the flux emitted in a solid angle of 0.586π sr (corresponding to a cone with angle of 90°).

'luminous intensity' (candela or cd)

means the quotient of the luminous flux leaving the source and propagated in the element of solid angle containing a given direction, by the element of solid angle;

'chromaticity'

means the property of a colour stimulus defined by its chromaticity coordinates (x and y).

'correlated colour temperature' (CCT [K])

means the temperature of a Planckian (black body) radiator whose perceived colour most closely resembles that of a given stimulus at the same brightness and under specified viewing conditions;

'colour purity index':

a percentage computed for a CTLS set to emit light of a certain colour, using a procedure further defined in standards, by drawing a straight line on an (x,y) colour space graph from a point with colour coordinates $x=0.313$ and $y=0.330$ (D65 reference point, point 1), going through the point representing the (x,y) colour coordinates of the light source (point 2), and ending on the outer border of the colour space (locus; point 3). The colour purity index is computed as the distance between points 1 and 2 divided by the distance between points 1 and 3. The full length of the line represents 100% colour purity (point on the locus). The D65 reference point represents 0% colour purity (white light);

'colour rendering index' (CRI)

is the average R_a of the colour rendering for the first 8 test colours (R1-R8) defined in standards, and means the effect of an illuminant on the colour appearance of objects by conscious or subconscious comparison with their colour appearance under the reference illuminant;

'specific effective radiant ultraviolet power' (mW/klm)

means the effective power of the ultraviolet radiation of a light source weighted according to the spectral correction factors and related to its luminous flux;

'flicker'

means the perception of visual unsteadiness induced by a light stimulus the luminance or spectral distribution of which fluctuates with time, for a static observer in a static environment. The fluctuations can be periodic and non-periodic and may be induced by the light source itself, the power source or other influencing factors.

The metric for flicker used in this Regulation is the 'Pst LM', where 'st' stands for short term and 'LM' for light flickermeter method, as defined in standards. A value Pst LM=1 means that the average observer has a 50% probability of detecting flicker;

'stroboscopic effect'

means a change in motion perception induced by a light stimulus the luminance or spectral distribution of which fluctuates with time, for a static observer in a non-static environment. The fluctuations can be periodic and non-periodic and may be induced by the light source itself, the power source or other influencing factors.

The metric for the stroboscopic effect used in this Regulation is the 'SVM' (Stroboscopic Visibility Measure), as defined in standards. SVM=1 represents the visibility threshold for an average observer;

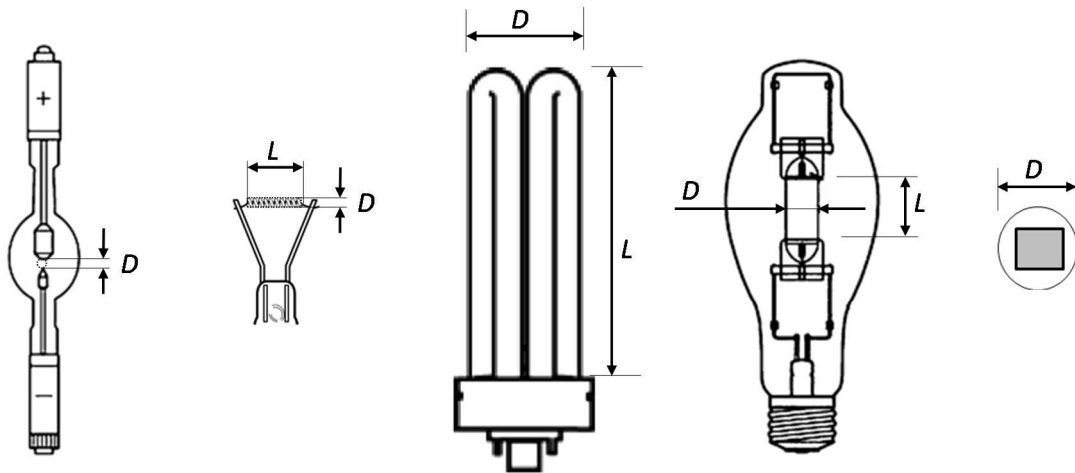
'projected light-emitting surface area (A)'

is the surface area in mm² (square millimetres) of the view in an orthographic projection of the light-emitting surface from the direction with the highest light intensity, where the light-emitting surface area is the surface area of the light source that emits light with the declared optical characteristics, such as the approximately spherical surface of an arc (a), cylindrical surface of a filament coil (b) or a gas discharge lamp (c, d), flat or semi-spherical envelope of a light-emitting diode (e).

For light sources with a non-clear envelope or with anti-glare shield, the light-emitting surface area is the entire area through which light leaves the light source.

For light sources containing more than one light emitter, the projection of the smallest gross volume enveloping all emitters shall be taken as the light-emitting surface.

For HID light sources definition (a) applies, unless the dimensions defined in (d) apply with $L > D$, where L is the distance between the electrode tips and D the inner diameter of the arc tube.



(a)
 $A = \frac{1}{4}\pi D^2$

(b)
 $A = L \cdot D$

(c)
 $A = L \cdot D$

(d)
 $A = L \cdot D$

(e)
 $A = \frac{1}{4}\pi D^2$

'beam angle'

of a directional light source means the angle between two imaginary lines in a plane through the optical beam axis, such that these lines pass through the centre of the front face of the light source and through points at which the luminous intensity is 50 % of the centre beam intensity, where the centre beam intensity is the value of luminous intensity measured on the optical beam axis;

For light sources that have different beam angles in different planes, the largest beam angle shall be the one taken into account;

For light sources with user-controllable beam angle, the beam angle corresponding to the 'reference control setting' shall be the one taken into account;

1.8 Stromverbrauch und –effizienz ◇ Electricity consumption and energy efficiency ◇ Consommation électrique et efficacité énergétique

'on-mode power' (P_{on}),

expressed in Watt, is the electric power consumption of a light source in full-load with all lighting control parts and non-lighting parts disconnected. If these parts cannot be disconnected they shall be switched off or their power consumption shall be minimised following the manufacturer's instructions;

In case of a non-mains light source (NMLS) that requires a separate control gear to operate, P_{on} can be measured directly on the input to the light source, or P_{on} is determined using a control gear with known efficiency, whose electric power consumption is subsequently subtracted from the measured mains power input value;

'no-load power' (P_{no}),

expressed in Watts, is the electric power consumption of a separate control gear in no-load mode;

'standby power' (P_{sb}),

expressed in Watts, is the electric power consumption of a light source [or of a separate control gear] in standby mode;

'networked standby power' (P_{net}),

expressed in Watts, is the electric power consumption of a connected light source (CLS) [or of a connected separate control gear CSCG] in networked standby mode;

'control gear efficiency'

is the output power divided by the input power of a separate control gear using the conditions and methods defined in measurement standards. Any lighting control parts and non-lighting parts are disconnected, switched off or set to minimum power consumption according to manufacturer's instructions and subtracting this power consumption from the overall input power;

'displacement factor ($\cos \phi_1$)'

means the cosine of the phase angle ϕ_1 between the fundamental harmonic of the mains supply voltage and the fundamental harmonic of the mains current. It is used for mains light sources using LED- or OLED-technology. The displacement factor is measured at full-load, for the reference

control settings where applicable, with any lighting control parts in control mode and non-lighting parts disconnected, switched off or set to minimum power consumption according to the manufacturer's instructions;

1.9 Lebensdauer ◇ Lifetime ◇ Durée de vie

'lifetime'

for LED and OLED light sources means the time in hours between the start of their use and the moment when for 50% of a population of light sources the light output has gradually degraded to a value below 70% of the initial luminous flux. This is also referred to as the L70B50 lifetime;

'lumen maintenance factor' (LMF)

means the ratio of the luminous flux emitted by a light source at a given time in its life to the initial luminous flux;

'survival factor' (SF)

means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching frequency;

'functionality after endurance testing'

means the functionality of a LED or OLED light source after endurance testing as defined in Annex V;

'colour consistency'

means the maximum deviation of the initial (after a short period of time), spatially averaged chromaticity coordinates (x and y) of a single light source from the chromaticity centre point (cx and cy) declared by the manufacturer or the importer, expressed as the size (in steps) of the MacAdam ellipse formed around the chromaticity centre point (cx and cy);

1.10 Sonstiges ◇ Others ◇ Autres

`declared value`

for a parameter means the value given by the manufacturer or importer in the technical documentation pursuant to [point 2 of Annex IV to Directive 2009/125/EC; /Article 3(3) of Regulation 2017/1369];

`equivalent model`

means a model with the same relevant technical and performance characteristics as another model placed on the market under a different commercial code;

`point of sale`

means a physical location where the product is displayed or offered for sale, hire or hire-purchase to the end-user.

`end-user`

means a natural person buying or expected to buy a product for purposes which are outside his trade, business, craft or profession;

`photosensitive patients`

means people with a specific condition causing photosensitive symptoms and who experience adverse reactions to natural and/or certain forms of artificial lighting technology;

2 Nachschlageregister ◊ Lookup register ◊ Registre de recherche

Die folgende Tafel enthält ein alphabetisch geordnetes Verzeichnis der Begriffe mit Angaben dazu, wo die zugehörigen Begriffsbestimmungen zu finden sind:

- in den Entwurfstexten der EU-Kommission und
- im vorliegenden Text.

The following table contains an alphabetical list of terms with information on where to find the corresponding definitions:

- in the draft texts of the EU Commission and
- in the present text.

Erklärungen zur folgenden Tafel:

Explanations to the following table:

- PG Regelungsentwurf zur Produktgestaltung ◊ **EN:** Draft Regulation on product design ◊ **FR:** Projet de règlement de la conception des produits
- PI Regelungsentwurf zur Produktinformation ◊ **EN:** Draft Regulation on product information ◊ **FR:** Projet de règlement sur l'information relative aux produits
- H Haupttext ◊ **EN:** Main Text ◊ **FR:** Texte principal
- Ah Anhang ◊ **EN:** Annex ◊ **FR:** Annexe
- BB ↑ Zur Begriffsbestimmung siehe im vorliegenden Text den Abschnitt ... ◊ **EN:** For the definition, see in the text at hand section ... ◊ **FR :** Pour la définition, voir la section ... dans le présent document
- Siehe in der Liste unter der folgenden Bezeichnung ◊ **EN:** See in the list under the following term. ◊ **FR :** Voir dans la liste sous le nom suivant.
- ↑ Siehe ebenda. ◊ **EN:** See ibidem. ◊ **FR :** Voir ibidem.

Bezeichnungen ◊ EN: Terms ◊ FR: Termes	PG		PI		BB ↑
	H	Ah	H	Ah	
$\Phi = \uparrow$ luminous flux					
$\Phi_{\text{use}} = \uparrow$ useful luminous flux					
A = \uparrow projected light-emitting surface area					
anti-glare shield		43		36	1.1
battery-operated		40		33	1.3
beam angle		13		13	1.7

Bezeichnungen ◇ EN: Terms ◇ FR: Termes	PG		PI		BB ↑
	H	Ah	H	Ah	
CCT = ↑ correlated colour temperature					
CFL = ↑ compact fluorescent light source					
CFLi = compact fluorescent light source with physically integrated control gear → compact fluorescent light source					
CFLni = compact fluorescent light source without physically integrated control gear → compact fluorescent light source					
chromaticity	8		7		1.7
CLS = ↑ connected light source					
colour consistency		52		43	1.9
colour purity index		9		9	1.7
colour rendering index	10		9		1.7
colour-tuneable light source		8		8	1.5
compact fluorescent light source		29		28	1.5
connected light source		5		6	1.3
connected separate control gear		6		—	1.3
containing product	4		3		1.1
control gear	2		2		1.1
control gear efficiency		44		—	1.8
control mode		18		17	1.6
control signal		20		19	1.6
correlated colour temperature		51		42	1.7
cos φ1 = ↑ displacement factor					
CRI = ↑ colour rendering index					
CSCG = ↑ connected separate control gear					
CTLS = ↑ colour-tuneable light source					
data-connection parts		7		7	1.1
declared value		48		40	1.10
directional light source		3		4	1.5

Bezeichnungen ◇ EN: Terms ◇ FR: Termes	PG		PI		BB ↑
	H	Ah	H	Ah	
displacement factor		53		44	1.8
DLS = ↑ directional light source					
end-user		58	17		1.10
equivalent model		57		48	1.10
FL = ↑ fluorescent light source					
flicker		46		37	1.7
fluorescence or fluorescent light source	12		11		1.4
fluorescent light source → fluorescence ...					
full-load		14		14	1.6
functionality after endurance testing		45		—	1.9
G16d → G9.5, ...					
G22 → G9.5, ...					
G38 → G9.5, ...					
G4, GY6.35 and G9		35		—	1.2
G9 → G4, ...					
G9.5, GX9.5, GY9.5, G9.5HPL, G16d, GX16d, GY16, G22 and G38		37		—	1.2
G9.5HPL → G9.5, ...					
gas discharge → high intensity discharge					
GX16d → G9.5, ...					
GX9.5 → G9.5, ...					
GY16 → G9.5, ...					
GY6.35 → G4, ...					
GY9.5 → G9.5, ...					
HID = ↑ high intensity discharge					
high intensity discharge	13		12		1.4
high-pressure mercury light source		27		26	1.4
high-pressure sodium light source	16		15		1.4
HL R7s		36		32	1.5

Bezeichnungen ◇ EN: Terms ◇ FR: Termes	PG		PI		BB ↑
	H	Ah	H	Ah	
HPS = ↑ high-pressure sodium light source					
incandescence	11		10		1.4
inorganic light emitting diode	14		13		1.4
LED = light emitting diode → inorganic light ...					
LED chip → LED ...					
LED die or LED chip	6		5		1.1
LED package	7		6		1.1
LFL T5-HE		31		30	1.5
LFL T5-HO		32		31	1.5
LFL T8 2-foot, LFL T8 4-foot or LFL T8 5-foot		33		—	1.5
LFL T8 4-foot → LFL T8 2-foot, ...					
LFL T8 5-foot → LFL T8 2-foot, ...					
lifetime		56		47	1.9
light	5		4		1.7
light source	1		1		1.1
lighting control parts		10		10	1.1
LMF = ↑ lumen maintenance factor					
lumen maintenance factor		54		45	1.9
luminous flux or flux	9		8		1.7
luminous intensity		50		41	1.7
magnetic induction light source		34		—	1.4
mains → control gear					
mains electricity supply → control gear					
mains light source		1		1	1.3
mains voltage → control gear					
metal halide light source		28		27	1.4
MH = ↑ metal halide light source					
MLS = ↑ mains light source					
NDLS = ↑ non-directional light source					

Bezeichnungen ◇ EN: Terms ◇ FR: Termes	PG		PI		BB ↑
	H	Ah	H	Ah	
network		21		21	1.1
networked standby mode		17		16	1.6
networked standby power		25		24	1.8
NMLS = ↑ non-mains light source					
no-load mode		15		—	1.6
no-load power		23		—	1.8
non-clear envelope		42		35	1.1
non-directional light source		4		5	1.5
non-lighting parts		11		11	1.1
non-mains light source		2		2	1.3
OLED = ↑ organic light emitting diode					
on-mode power		22		22	1.8
organic light emitting diode	15		14		1.4
P28s, P40s and PGJX50		38		—	1.2
P40s → P28s, ...					
PGJX50 → P28s, ...					
photosensitive patients		59		—	1.10
P _{net} = ↑ networked standby power					
P _{no} = ↑ no-load power					
PoE = ↑ Power over Ethernet					
PoE switch → control gear					
point of sale	—		16		1.10
P _{on} = ↑ on-mode power					
Power-over-Ethernet switch → control gear					
projected light-emitting surface area		60		49	1.7
P _{sb} = ↑ standby power					
QXL (Quick eXchange Lamp)		39		—	1.2
QXL= ↑ Quick eXchange Lamp					
R9		—		39	1.2

Bezeichnungen ◊ EN: Terms ◊ FR: Termes	PG		PI		BB ↑
	H	Ah	H	Ah	
RCS = ↑ reference control settings					
reference control settings		26		25	1.6
remotely initiated trigger		19		18 + 20 ^[5]	1.6
second envelope		41		34	1.1
separate control gear	3			3	1.1
SF = ↑ survival factor					
specific effective radiant ultraviolet power		49		—	1.7
standby mode		16		15	1.6
standby power		24		23	1.8
stroboscopic effect		47		38	1.7
survival factor		55		46	1.9
T12 → T2, ...					
T2, T5, T8, T9 and T12		30		29	1.5
T5 → T2, ...					
T8 → T2, ...					
T9 → T2, ...					
useful luminous flux		12		12	1.7

⁵ Diese Begriffsbestimmung ist im Anhang zur Produktinformation, offensichtlich versehentlich, zweimal zu finden. ◊ **EN:** This definition can be found twice in the appendix to the draft regulation on product information, obviously accidentally. ◊ **FR :** Cette définition devrait être trouvée deux fois dans l'annexe de l'information sur le produit, de toute évidence accidentelle.

A Anhang ◇ **Annex** ◇ **Annexe**

A.1 Bezugsquellen für Dokumente, auf die im vorliegenden Text verwiesen wird ◇ **Sources of supply for documents referred to in the text at hand** ◇ **Sources de référence pour les documents auxquels il est fait référence dans le présent texte**

A.1.1 Entwürfe der EU-Kommission vom 3. Juli 2018 ◇ **EU Commission's drafts of 3 July 2018** ◇ **Projets de la Commission européenne du 3 juillet 2018**

Entwurf für Anforderungen an die Produktgestaltung ◇ **EN: Draft for product design** ◇ **FR : Projet d'exigences de la conception des produits**

DE: Haupttext ◇ **EN: main text** ◇ **FR : Texte principal**

https://www.eup-network.de/fileadmin/user_upload/Lichtquellen_EK_2018_07_03_PG_Haupttext.pdf

DE: Anhang ◇ **EN: Annex** ◇ **FR : Annexe**

https://www.eup-network.de/fileadmin/user_upload/Lichtquellen_EK_2018_07_03_PG_Anhang.pdf

Entwurf für Anforderungen an die Produktinformation ◇ **EN: Draft for product information** ◇ **FR : Projet d'exigences en matière d'information sur le produit**

DE: Haupttext ◇ **EN: main text** ◇ **FR : Texte principal**

https://www.eup-network.de/fileadmin/user_upload/Lichtquellen_EK_2018_07_03_PI_Haupttext.pdf

DE: Anhang ◇ **EN: Annex** ◇ **FR : Annexe**

https://www.eup-network.de/fileadmin/user_upload/Lichtquellen_EK_2018_07_03_PI_Anhang.pdf

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