



CABINET OF MINISTERS OF UKRAINE
RESOLUTION

No. 734 of 14 August 2019
Kyiv

**On Approval of the Technical Regulation on Ecodesign
Requirements for Non-directional Household Lamps**

In accordance with [Article 5](#) of the Law of Ukraine ‘On Technical Regulations and Conformity Assessment’, the Cabinet of Ministers of Ukraine hereby **resolves**:

1. Approve the **Technical Regulation on ecodesign requirements for non-directional household lamps** as attached to the original.
2. The State Agency on Energy Efficiency and Energy Saving shall ensure the implementation of the Technical Regulation approved by this Resolution.
3. The attached amendment shall be introduced to [the list of types of products subject to state market surveillance by state market surveillance authorities](#), approved by the Resolution of the Cabinet of Ministers of Ukraine No. 1069 of 28 December 2016 (Official Journal of Ukraine, 2017, No. 50, p. 1550).
4. This Resolution shall enter into force after six months following its publication.

Prime Minister of Ukraine

VOLODYMYR GROYSMAN

Ind. 21

APPROVED
by the Resolution of the Cabinet of Ministers of Ukraine
No. 734 of 14 August 2019

AMENDMENT
to be introduced to the list of types of products subject to state
market surveillance by state market surveillance authorities

The **list** shall be supplemented with point 33² to read as follows:

“33 ² . Non-directional household lamps	resolution by the Cabinet of Ministers of Ukraine No. 734 of 14 August “On Approval of the Technical Regulation on Ecodesign Requirements for On Approval of the Technical Regulation on Ecodesign Requirements for Non-directional Household Lamps”	State Service of Ukraine on Food Safety and Consumer Protection”.
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{The text of the Technical Regulation was taken from the official website of the Cabinet of Ministers of Ukraine}

TECHNICAL REGULATION
on Ecodesign Requirements for Non-directional Household Lamps

General Provisions

1. This Technical Regulation establishes ecodesign requirements for placing on the market of non-directional household lamps, including when they are marketed for non-household use or when they are integrated into other products. This Technical Regulation also establishes product information requirements for special purpose lamps.

This Technical Regulation is based on the Commission Regulation (EC) No. 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps.

2. This Technical Regulation shall not apply to the following household and special purpose lamps:

1) lamps having the following chromaticity coordinates x and y :

$x < 0,200$ or $x > 0,600$;

$y < - 2,3172 x^2 + 2,3653 x - 0,2800$ or;

$y > - 2,3172 x^2 + 2,3653 x - 0,1000$;

2) directional lamps;

3) lamps having a luminous flux below 60 lumens or above 12 000 lumens;

4) lamps having:

6% or more of total radiation of the range 250–780 nm in the range of 250–400 nm; the peak of the radiation between 315–400 nm (ultraviolet A) or 280–315 nm (ultraviolet B);

5) fluorescent lamps without integrated ballast;

6) high-intensity discharge lamps;

7) incandescent lamps with E14/E27/B22/B15 caps, with a voltage equal to or below 60 volts and without integrated transformer in Stages 1–5 according to point 4 of this Technical Regulation.

3. For the purpose of this Technical Regulation the terms shall have the following meaning:

‘ballast’ means a device which serves to limit the current of the lamp(s) to the required value in case it is connected between the supply and one or more discharge lamps. It may also include means for transforming the supply voltage, dimming the lamp, correcting the power factor and, either alone or in combination with a starting device, providing the necessary conditions for starting the lamp(s). It can be integrated or external to the lamp;

‘power supply’ means a device which is designed to convert alternating current (AC) power input from the mains power source input into direct current (DC) or another AC output;

‘lamp’ means a unit made in order to produce an optical radiation, usually visible, including any additional components necessary for starting, power supply or stable operation of the unit or for the distribution, filtering or transformation of the optical radiation, in case those components cannot be removed without permanently damaging the unit;

‘(tungsten) halogen lamp’ means a filament lamp in which the filament is made of tungsten and is surrounded by gas containing halogens or halogen compounds in a bulb, made of quartz or hard glass, which may be embedded into the second lamp envelope. Such lamps are supplied either with or without integrated power supply;

‘filament lamp’ means a lamp in which light is produced by means of a threadlike conductor which is heated to incandescence by the passage of an electric current. The lamp may contain gases influencing the process of incandescence;

‘fluorescent lamp’ means a discharge lamp of the low pressure mercury type in which most of the light is emitted by one or several layers of phosphors excited by the ultraviolet radiation from the discharge. Fluorescent lamps are supplied either with or without integrated ballasts;

‘compact fluorescent lamp’ means a unit which cannot be dismantled without being permanently damaged, provided with a lamp cap and incorporating a fluorescent lamp and any additional components necessary for starting and stable operation of the lamp;

‘fluorescent lamp without integrated ballast’ means a single and double capped fluorescent lamp without integrated ballast;

‘non-directional lamp’ means a lamp that is not a directional lamp;

‘incandescent lamp’ means a filament lamp in which the filament operates in an evacuated bulb or is surrounded by inert gas;

‘traffic signal incandescent lamp’ means an incandescent lamp of nominal voltage over 60 V having the premature failure rate of less than 2% at first 1000 operating hours;

‘discharge lamp’ means a lamp in which the light is produced directly by an electric discharge through a gas, a metal vapour or a mixture of several gases and vapours;

‘high intensity discharge lamp’ means an electric discharge lamp in which the light producing arc is stabilized by wall temperature and the arc has a bulb wall loading in excess of 3 W per square centimetre;

‘LED lamp’ means a lamp incorporating one or several LED modules that may or may not be provided with a lamp cap;

‘special purpose lamp’ means a lamp that uses technologies, covered by this Technical Regulation, but is designed for special applications because of its technical parameters as described in technical documentation; Special applications are those that require technical parameters not necessary for the purposes of illumination or objects in average circumstances. Special applications are of the following types:

1) applications where the primary purpose of the light is not lighting, such as:

emission of light as an agent in chemical or biological processes (such as polymerisation, ultraviolet light used for curing/drying/hardening, photodynamic therapy, horticulture, pet care, anti-insect products);

imaging and image projection (for example, in photo cameras, copying devices, video projectors);

heating (for example, infrared lamps);

signalization (for example, traffic control or aerodrome lamps);

2) illumination where:

the spectral distribution of the light is intended to change the appearance of the scene or object lit, in addition to making it visible (such as goods display lighting or coloured lamps as defined in point 1 of Annex 1), with the exception of variations in correlated colour temperature;

the spectral distribution of the light is adjusted to the specific needs of particular technical equipment, in addition to making the scene or object visible for humans (such as studio lighting, show effect lighting, theatre lighting);

illumination of scenes and objects lit requires special protection from negative effects of the light source (for example, lighting with dedicated filtering for photosensitive patients or photosensitive museum exhibits);

lighting is required only for emergency situations (such as emergency lighting luminaires or control gears for emergency lighting);

the lighting products have to withstand extreme physical conditions (such as vibrations or temperatures below -20°C or above 50°C);

Incandescent lamps longer than 60 mm are not special purpose products, if they are resistant only to mechanical shock or vibrations and are not incandescent traffic signalling lamps; or they possess a nominal power higher than 25 W and claim to have specific features that are also present in lamps having higher energy efficiency classes (such as zero EMC emissions, CRI value higher or equal to 95, and UV emissions less or equal than 2 mW per 1000 lm);

‘directional lamp’ means a lamp having at least 80% light output within a solid angle of π sr (corresponding to a cone with angle of 120°);

‘household room illumination’ means the full or partial illumination of a household room, by replacing or complementing natural light with artificial light, in order to enhance visibility within that space;

‘household lamp’ means a lamp intended for household room illumination; it does not include special purpose lamps;

‘light emitting diode’ or ‘LED’ means a light source comprising a solid state device embodying a p-n junction, emitting optical radiation when excited by an electric current.

For the purposes of Annexes 2 to 4, the definitions set out in Annex 1 shall apply.

Other terms used herein shall have meanings set out in the Laws of Ukraine ‘On Technical Regulations and Conformity Assessment’, ‘On State Market Surveillance and

Control of Non-Food Products’, ‘On Standardization’ and in the Technical Regulation establishing a framework for the setting of ecodesign requirements for energy-related products, approved by the Resolution of the Cabinet of Ministers of Ukraine of 3 October 2018 No. 804 (Official Journal of Ukraine, 2018, No. 80, p. 2678).

Ecodesign Requirements

4. Non-directional household lamps shall meet the ecodesign requirements set out in Annex 2.

1) Each ecodesign requirement shall apply in accordance with the following stages:

Stage 1: as of the date of entry into force of this Technical Regulation;

Stage 2: one year after the date of entry into force of this Technical Regulation;

Stage 3: two years after the date of entry into force of this Technical Regulation;

Stage 4: three years after the date of entry into force of this Technical Regulation;

Stage 5: four years after the date of entry into force of this Technical Regulation;

Stage 6: nine years after the date of entry into force of this Technical Regulation;

Unless a requirement is superseded or this is otherwise specified, it shall continue to apply together with the other requirements introduced at later stages.

2) Special purpose lamps shall meet the following requirements:

where chromaticity coordinates of a lamp always fall within the following range:

$$x < 0,270 \text{ or } x > 0,530$$

$$y < - 2,3172 x^2 + 2,3653 x - 0,2199 \text{ or } y > - 2,3172 x^2 + 2,3653 x - 0,1595;$$

the lamp's chromaticity coordinates shall be specified in the technical documentation file drawn up for the purposes of conformity assessment indicating that these coordinates make them a special purpose lamp;

for all special purpose lamps, their intended purpose shall be indicated in all forms of product information together with the warning that they are not intended for use in other devices.

The technical documentation file drawn up for the purposes of conformity assessment shall list the technical parameters that make the lamp design specific for the indicated special purpose.

If needed, the parameters may be listed in such a way as to avoid disclosing commercially confidential information linked to the manufacturer's intellectual property rights.

When a lamp is placed on the market, the following information shall be clearly and prominently indicated on its packaging:

its intended purpose;

that it is not suitable for household room illumination;

the technical parameters that make the lamp design specific for the indicated special purpose (this information may be provided inside the packaging).

Conformity Assessment

5. Conformity of non-directional lamps with the requirements of this Technical Regulation shall be assessed applying the internal design control procedure or the management system conformity assessment procedure set out, respectively, in Annexes 3 and 4 to the Technical Regulation establishing a framework for the setting of ecodesign requirements for energy-related products, approved by the Resolution of the Cabinet of Ministers of Ukraine of 3 October 2018 No. 804 (Official Journal of Ukraine, 2018, No. 80, p. 2678).

For the purposes of conformity assessment, the technical documentation shall contain a copy of the product information provided in accordance with Annex 2, part 3.

State Market Surveillance

6. Verification of conformity of non-directional lamps with the requirements of this Technical Regulation in the course of state market surveillance shall be made in accordance with the requirements set out in Annex 3.

Indicative Benchmarks

7. The indicative benchmarks for best-performing products and technology available on the market are set out in Annex 4.

Correlation Table

8. The correlation table between the provisions of the Commission Regulation (EC) No. 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps, and this Technical Regulation is set out in Annex 5.

Annex 1
to the Technical Regulation on
Ecodesign Requirements for Non-
directional Household Lamps

TECHNICAL PARAMETERS AND DEFINITIONS,
used in Annexes 2 to 4 to this Technical Regulation

For the purposes of compliance with the requirements of this Technical Regulation, the parameters below shall be established by reliable, accurate and reproducible measurement procedures, which take into account the state of the art measurement methods.

In Annexes 2 to 4, parameters for ecodesign requirements are used as follows:

‘Lamp efficacy’ (η_{lamp}) is the quotient of the luminous flux emitted (Φ) by the power consumed by the lamp (P_{lamp}): $\eta_{\text{lamp}} = \Phi / P_{\text{lamp}}$ (unit: lm/W). The power dissipated by non-integrated auxiliary equipment, such as ballasts, transformers or power supplies, is not included in the power consumed by the lamp;

‘lamp lumen maintenance factor’ (LLMF) is the ratio of the luminous flux emitted by the lamp at a given time in its life to the initial (100 hour) luminous flux;

‘lamp survival factor’ (LSF) is the defined fraction of the total number of lamps that continue to operate during burning under defined conditions and switching frequency;

‘lamp lifetime’ is the period of operation time after which the fraction of the total number of lamps which continue to operate corresponds to the lamp survival factor of the lamp, under defined conditions and switching frequency

‘chromaticity’ is the property of a colour stimulus defined by its chromaticity coordinates, or by its dominant or complementary wavelength together with purity of a colour stimulus;

‘luminous flux’ (Φ), which is a quantity derived from radiant flux (radiant power) by evaluating the radiation according to the spectral sensitivity of the human eye, measured after 100 hours of lamp running time;

‘correlated colour temperature’ ($T_c[\text{K}]$) is 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 rendering’ (R_a) is the effect of an illuminant on the colour appearance of objects by conscious or subconscious comparison with their colour appearance under a reference illuminant;

‘specific effective radiant ultraviolet power’ is the effective power of the ultraviolet radiation of a lamp weighted according to the spectral correction factors and related to its luminous flux (unit: mW/klm);

‘lamp start time’ is the time needed, after the supply voltage is switched on, for the lamp to start fully and remain alight;

‘lamp warm-up time’ is the time needed for the lamp after start-up to emit a defined proportion of its stabilized luminous flux;

‘power factor’ is the ratio of the absolute value of the active power to the apparent power under alternate voltage conditions;

‘luminance’ is the amount of light, per unit of apparent surface, that is emitted by or reflected by a particular area within a given solid angle (unit: cd/m²);

‘lamp mercury content’ is the amount of mercury contained in the lamp.

2. In Annexes 2 to 4, definitions are used as follows:

a ‘rated value’ is the value of a quantity used for specification purposes, established for a specified set of operating conditions of a product. Unless stated otherwise, all requirements are set in rated values;

a ‘nominal value’ is the value of a quantity used to designate and identify a product;

‘second lamp envelope’ is a second outer lamp envelope which 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, for protecting from ultraviolet radiation or for serving as a light diffuser;

‘clear lamp’ is a lamp (excluding compact fluorescent lamps) with a luminance above 25 000 cd/m² for lamps having a luminous flux below 2 000 lm and above 100 000 cd/m² for lamps having more luminous flux, equipped with only transparent envelopes in which the light producing filament, LED or discharge tube is clearly visible;

‘non-clear lamp’ is a lamp that does not comply with the specifications under the fifth indent of this point, including compact fluorescent lamps;

‘switching cycle’ is the sequence of switching on and switching off the lamp with defined intervals;

‘premature failure’ is a condition when a lamp reaches its end of life after a period in operation which is less than the rated life time stated in the technical documentation;

‘lamp cap’ means that part of a lamp which provides connection to the electrical supply by means of a socket or lamp connector and, in most cases, also serves to retain the lamp in the socket;

‘lamp holder’ or ‘socket’ means a device which holds the lamp in position, usually by having the cap inserted in it. In this case it also provides the means of connecting the lamp to the electric supply.

Annex 2
to the Technical Regulation on
Ecodesign Requirements for Non-
directional Household Lamps

ECODESIGN REQUIREMENTS
for non-directional household lamps

1. Lamp efficacy requirements

Stages 1 to 4 of transitional periods shall not apply to incandescent lamps with S14, S15 or S19, and only Stages 5 and 6 shall apply.

The maximum nominal power (P_{\max}) for a given nominal luminous flux (Φ) is provided in Table 1.

The exceptions to these requirements are listed in Table 2 and the correction factors applicable to the maximum nominal power are in Table 3.

Table 1

Transitional period stage	Maximum nominal power (P_{\max}) for a given nominal luminous flux (Φ) (W)	
	Clear lamps	Non-clear lamps
Stages 1 to 5	$0,8 (0,88\sqrt{\Phi+0,049\Phi})$	$0,24\sqrt{\Phi+0,0103\Phi}$
Stage 6	$0,6 (0,88\sqrt{\Phi+0,049\Phi})$	$0,24\sqrt{\Phi+0,0103\Phi}$

Table 2

Exceptions	
Scope of the exception	Maximum nominal power (W)
Clear lamps $60 \text{ lm} \leq \Phi \leq 950 \text{ lm}$ in Stage 1	$P_{\max} = 1,1 * (0,88\sqrt{\Phi+0,049\Phi})$
Clear lamps $60 \text{ lm} \leq \Phi \leq 725 \text{ lm}$ in Stage 2	$P_{\max} = 1,1 * (0,88\sqrt{\Phi+0,049\Phi})$
Clear lamps $60 \text{ lm} \leq \Phi \leq 450 \text{ lm}$ in Stage 3	$P_{\max} = 1,1 * (0,88\sqrt{\Phi+0,049\Phi})$
Clear lamps with G9 or R7s cap in Stage 6	$P_{\max} = 0,8 * (0,88\sqrt{\Phi+0,049\Phi})$

The correction factors in Table 3 are cumulative where appropriate and also applicable to the products covered by the exceptions of Table 2.

Table 3

Correction factors

Scope of the correction	Maximum nominal power (W)
Filament lamp requiring external power supply	$P_{\max}/1,06$
Discharge lamp with cap GX53	$P_{\max}/0,75$
Non-clear lamp with colour rendering index ≥ 90 and $P \leq 0,5$ * $(0,88\sqrt{\Phi}+0,049\Phi)$	$P_{\max}/0,85$
Discharge lamp with colour rendering index ≥ 90 and $T_c \geq 5000$ K	$P_{\max}/0,76$
Non-clear lamp with second envelope and $P \leq 0,5$ * $(0,88\sqrt{\Phi}+0,049\Phi)$	$P_{\max}/0,95$
LED lamp requiring external power supply	$P_{\max}/1,1$

2. Lamp functionality requirements

The lamp functionality requirements are set out in Table 4 for compact fluorescent lamps and in Table 5 for lamps excluding compact fluorescent lamps and LED lamps.

Where the nominal lamp lifetime is higher than 2000 h, the Stage 1 requirements for the parameters ‘Nominal lamp lifetime’, ‘Lamp Survival Factor’ and ‘Lumen maintenance’ in Tables 4 and 5 are only applicable as from Stage 2 of the transitional periods.

For the purposes of testing the number of times the lamp can be switched on and off before failure, the switching cycle shall consist of periods comprising 1 minute on and 3 minutes off, while the other test conditions are defined according to Annex 3. For the purposes of testing lamp lifetime, lamp survival factor, lumen maintenance and premature failure, the standard switching cycle according to Annex 3 shall be used.

Table 4

Functionality requirements for compact fluorescent lamps

Functionality parameter	Stage 1 of transitional periods	Stage 5 of transitional periods
Lamp survival factor at 6 000 h	$\geq 0,50$	$\geq 0,70$
Lumen maintenance	At 2 000 h: ≥ 85 % (≥ 80 % for lamps with second lamp envelope)	At 2 000 h: ≥ 88 % (≥ 83 % for lamps with second lamp envelope) At 6 000 h: ≥ 70 %
Number of switching cycles before failure	\geq half the lamp lifetime expressed in hours $\geq 10\ 000$ if lamp starting time $> 0,3$ s	\geq lamp lifetime expressed in hours $\geq 30\ 000$ if lamp starting time $> 0,3$ s
Starting time	$< 2,0$ s	$< 1,5$ s if $P < 10$ W $< 1,0$ s if $P \geq 10$ W

Functionality parameter	Stage 1 of transitional periods	Stage 5 of transitional periods
Lamp warm-up time to 60% Φ	< 60 s or < 120 s for lamps containing mercury in amalgam form	< 40 s or < 100 s for lamps containing mercury in amalgam form
Premature failure rate	$\leq 2,0$ % at 200 h	$\leq 2,0$ % at 400 h
UVA + UVB radiation	$\leq 2,0$ mW/klm	$\leq 2,0$ mW/klm
UVC radiation	$\leq 0,01$ mW/klm	$\leq 0,01$ mW/klm
Lamp power factor	$\geq 0,50$ if $P < 25$ W $\geq 0,90$ if $P \geq 25$ W	$\geq 0,55$ if $P < 25$ W $\geq 0,90$ if $P \geq 25$ W
Colour rendering (Ra)	≥ 80	≥ 80

Table 5

Functionality requirements for lamps excluding compact fluorescent lamps and LED lamps

Functionality parameter	Stage 1 of transitional periods	Stage 5 of transitional periods
Nominal lamp lifetime	$\geq 1\ 000$ h	$\geq 2\ 000$ h
Lumen maintenance	≥ 85 % at 75 % of nominal average lifetime	≥ 85 % at 75 % of nominal average lifetime
Number of switching cycles	\geq four times the nominal lamp life expressed in hours	\geq four times the nominal lamp life expressed in hours
Starting time	< 0,2 s	< 0,2 s
Lamp warm-up time to 60 % Φ	$\leq 1,0$ s	$\leq 1,0$ s
Premature failure rate	$\leq 5,0$ % at 100 h	$\leq 5,0$ % at 200 h
Lamp power factor	$\geq 0,95$	$\geq 0,95$

3. Product information requirements on lamps

For non-directional household lamps, the following information shall be provided as from Stage 2 of transitional periods, except where otherwise stipulated.

1) Information to be visibly displayed prior to purchase to end-users on the packaging and on free access websites.

The information does not need to be specified using the exact wording of the list below. It may be displayed using graphs, figures or symbols rather than text.

These information requirements do not apply to filament lamps not fulfilling the efficacy requirements of Stage 4 of transitional periods.

Requirements:

When the nominal lamp power is displayed on the energy label in accordance with the Technical Regulation on Energy Labelling of Electrical Lamps and Luminaires, approved by the Resolution of the Cabinet of Ministers of Ukraine No.340 of 27.5.2015 (Official Journal of Ukraine, 2015, No. 44, p. 1387), the nominal luminous flux of the lamp shall also be separately displayed in a font at least twice as large as the nominal lamp power display outside the label;

nominal life time of the lamp in hours (not higher than the rated life time);

number of switching cycles before premature lamp failure;

colour temperature (also expressed as a value in Kelvins);

warm-up time up to 60% of the full light output (may be indicated as “instant full light” if less than 1 second);

a warning if the lamp cannot be dimmed or can be dimmed only on specific devices (dimmers);

if designed for optimal use in non-standard conditions (such as ambient temperature $T_a \neq 25^\circ\text{C}$), information on those conditions;

lamp dimensions in millimeters (length and diameter);

if equivalence with an incandescent lamp is claimed on the packaging, the claimed equivalent incandescent lamp power (rounded to 1 W) shall be that corresponding in Table 6 to the luminous flux of the lamp contained in the packaging.

The intermediate values of both the luminous flux and the claimed incandescent lamp power (rounded to 1W) shall be calculated by linear interpolation between the two adjacent values.

Table 6

Rated lamp luminous flux Φ [lm]			Claimed equivalent incandescent lamp power
CFL	Halogen	LED and other lamps	[W]
125	119	136	15
229	217	249	25
432	410	470	40
741	702	806	60
970	920	1 055	75
1 398	1 326	1 521	100
2 253	2 137	2 452	150
3 172	3 009	3 452	200

the term ‘energy saving lamp’ or any similar product related promotional statement about lamp efficacy may only be used if the lamp complies with the efficacy

requirements applicable to non-clear lamps in Stage 1 of the transitional periods according to Tables 1, 2 and 3 of this Annex.

If the lamp contains mercury:

lamp mercury content as X,X mg;

indication which website to consult in case of accidental lamp breakage to find instructions on how to clean up the lamp debris;

2) Information to be made publicly available on free-access websites.

The following information shall be expressed as values:

the information specified in subpoint 3.1 of point 3 of this Annex;

nominal power (0,1 W precision);

nominal luminous flux;

nominal (rated) lamp lifetime;

lamp power factor;

lumen maintenance factor at the end of the nominal life;

starting time (as X,X seconds);

colour rendering.

If the lamp contains mercury

instructions on how to clean up the lamp debris in case of accidental lamp breakage;

recommendations on how to dispose of the lamp at its end of life.

Annex 3
to the Technical Regulation

REQUIREMENTS

for conformity verification of non-directional household lamps with the requirements of this Technical Regulation in the course of state market surveillance

State market surveillance authorities shall test a sample batch of minimum 20 lamps of the same model from the same manufacturer randomly selected.

The batch shall be considered to comply with the provisions set out in Annex 2 of this Technical Regulation if the average results of the batch do not vary from the limit, threshold or declared values by more than 10%.

Otherwise, the model shall be considered not to comply with the requirements of the Technical Regulation.

For the purposes of checking conformity of non-directional lamps with the requirements of the Technical Regulation in the course of state market surveillance, the state market surveillance authorities must use measurement methods laid down in the national standards, which are identical to European harmonized standards, including the following documents:

DSTU EN 50285:2007 Electric lamps for household use. Energy efficiency measurement methods (EN 50285:1999, IDT);

DSTU EN 60061-1:2017(EN 60061-1:1993; all amendments up to A56:2017, IDT) Lamp caps and holders together with gauges for the control of interchangeability and safety. Part 1. Lamp caps;

DSTU EN 60357:2017 (EN 60357:2003, all amendments up to A11:2016, IDT) Tungsten halogen lamps (non-vehicle). Performance specifications;

DSTU 4270:2003 (IEC 60969:2001) Self-ballasted compact fluorescent lamps for general lighting services. Performance requirements;

DSTU IEC 60064:2008 (IEC 60064:2005) Tungsten filament lamps for domestic and similar general lighting purposes. Performance requirements;

DSTU EN 61000-32:2015 (EN 61000-32:2006, IDT) Electromagnetic compatibility (EMC). Part 3-2: Limits. Limits for harmonic current emissions (equipment input current no more than 16 A per phase);

DSTU EN 62471:2017 (EN 62471:2008, IDT) Photobiological safety of lamps and lamp systems;

DSTU CIE 013.3:2017 (CIE 013.3:1995, IDT) Method of measuring and specifying colour rendering properties of light sources;

DSTU CIE 015:2017 (CIE 015:2004, IDT) Colorimetry;

DSTU CIE 018.2:2017 (CIE 18.2:1985, IDT) The basis of physical photometry;

DSTU CIE 084:2017 (CIE 084:1989, IDT) Measurement of luminous flux;

DSTU CIE 097:2017 (CIE 097:2005, IDT) Guideline on maintenance of indoor electric lighting systems.

Annex 4
to the Technical Regulation

INDICATIVE BENCHMARKS

This Annex identifies indicative benchmarks for the best available technology on the market.

1. Lamp efficacy

The highest identified efficacy was 69 lm/W.

2. Lamp functionality

Table 7

Functionality parameter	Compact fluorescent lamps
Nominal lamp lifetime	20 000 h
Lumen maintenance	90% at the nominal lamp lifetime
Number of switching cycles	1 000 000
Starting time	< 0,1 s
Lamp warm-up time to 80% Φ	15 s, or 4 s for special mixed CFL/halogen lamps
Lamp power factor	0,95

3. Lamp mercury content

The energy efficient compact fluorescent lamps with the lowest mercury content include not more than 1,23 mg mercury.

Annex 5
to the Technical Regulation

CORRELATION TABLE

of the provisions of Commission Regulation (EC) No 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps and of the Technical Regulation on Ecodesign Requirements for Non-directional Lamps

Provisions of the Commission Regulation (EC)	Provisions of the Technical Regulation
Article 1	point 1, 2
First indent of Article 2	first indent of point 3
Point 1 of Article 2	thirtieth indent of point 3
Point 2 of Article 2	fourth indent of point 3
Point 3 of Article 2	thirty-first indent of point 3
Point 4 of Article 2	sixteenth indent of point 3
Point 5 of Article 2	twenty-ninth indent of point 3
Point 6 of Article 2	tenth indent of point 3
Point 7 of Article 2	sixth indent of point 3
Point 8 of Article 2	eleventh indent of point 3
Point 9 of Article 2	fifth indent of point 3
Point 10 of Article 2	thirteenth indent of point 3
Point 11 of Article 2	seventh indent of point 3
Point 12 of Article 2	second indent of point 3
Point 13 of Article 2	third indent of point 3
Point 14 of Article 2	eighth indent of point 3
Point 15 of Article 2	ninth indent of point 3
Point 16 of Article 2	fourteenth indent of point 3
Point 17 of Article 2	thirty-second indent of point 3
Point 18 of Article 2	fifteenth indent of point 3
Point 19 of Article 2	twelfth indent of point 3
Article 3	points 4 to 5
Article 4	points 6 to 7

Provisions of the Commission Regulation (EC)	Provisions of the Technical Regulation
Article 5	point 8
Article 6	point 9
Article 7	-
Article 8	-
Annex I	Annex 1
Annex II	Annex 2
Annex III	Annex 3
Annex IV	annex 4
