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ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL

Sustainable Growth and EU 2020
Sustainable Industrial Policy and Construction

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AMENDMENT No. 3 TO M/495
TECHNICAL UPDATE (ANNEX B OF M/495)

PRODUCT GROUPS:
ELECTRICAL LAMPS AND RELATED EQUIPMENT ¹
(EXCEPT PRODUCTS COVERED BY MANDATE M/485)

**DETAILS OF REQUEST TO CEN, CENELEC AND ETSI FOR STANDARDISATION IN THE
FIELD OF ELECTRICAL LAMPS RELATED EQUIPMENT UNDER COMMISSION
REGULATIONS 244/2009, 874/2012 AND 1194/2012**

1. BACKGROUND

1.1. Legal basis

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 lamps², amended by Commission Regulation (EC) No 859/2009 of 18 September 2009 as regards the ecodesign requirements on ultraviolet radiation of non-directional household lamps³

Commission Delegated Regulation (EU) No 874/2012 of 12 July 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires⁴

Commission Regulation (EU) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment⁵

¹ These products are listed in Annex A of Mandate M/495 as "Non-Directional Household Lamps" and "Directional Lamps and Household Luminaires"

² OJ L 76, 24.3.2009 p 1.

³ OJ L 247, 19.9.2009, p 3.

⁴ OJ L258, 26.9.2012, p 1.

⁵ OJ L342, 14.12.2012, p 1.

1.2. The aim of the technical update

Commission Regulations N° 244/2009 and 1194/2012 set ecodesign requirements respectively for non-directional household lamps and for directional lamps, light emitting diode lamps and related equipment.

Commission Delegated Regulation N° 874/2012 sets energy labelling requirements for electrical lamps and luminaires.

Annex III to Commission Regulation N° 244/2009 exceptionally lists documents that are considered to be transitional measurement methods for the purposes of verifying compliance with the requirements of the Regulation. These references were meant to be replaced by references to harmonised standards when they become available. As Regulation 244/2009 covers to a large extent the same lamp technologies as Regulation 1194/2012, it is appropriate to update standardisation needs for the development of harmonised standards simultaneously for the two regulations.

These three regulations (referred to below as "the regulations") require that the measurement and calculation procedures for establishing energy performances and other environmental impacts shall be reliable, accurate and reproducible and take into account the generally recognised state of the art, in order to ensure comparable measurement and calculation procedures for the product types in the scope of the regulations and to facilitate market surveillance activities.

The aim of this technical update is to identify standardisation needs for harmonised standard(s) which cover(s) these requirements. The harmonised standard(s) shall incorporate relevant measurement and calculation methods, including measurement and calculation methods set out in Commission Communications which have been published for that purpose in the Official Journal of the European Union.

2. DESCRIPTION OF THE WORK

The Commission requests CEN, CENELEC and ETSI to elaborate (a) reliable, accurate and reproducible European standard(s), which take(s) into account the generally recognised state of the art, and/or to adopt or adapt existing European and international standards for electrical lamps and related equipment, laying down procedures and methods of measuring and calculating the parameters regulated in the regulations, as set out in Annex to this technical update to Annex B of Mandate M/495. The standard(s) ha(ve)s also to include the necessary definitions of the product types and of the parameters to be measured and/or calculated.

The standardisation tasks covered by this technical update are as follows.

Procedures and methods for measuring and calculating the parameters regulated in regulations 244/2009, 874/2012 and 1194/2012:

- (1) to ensure that the prospective harmonised standard(s) provide(s), where appropriate, revised and/or new definitions at least for the types and main characteristics of the products covered in the regulations, as set out in Annex;
- (2) to ensure that the prospective harmonised standard(s) provide(s) procedures and methods to verify, measure and calculate at least the aspects covered in the regulations, as set out in Annex;

- (3) to ensure that the prospective harmonised standard(s) provide a list of criteria (including on product information where appropriate) for each relevant product to be considered as compliant with state-of-the-art requirements for compatibility. Such requirements are not understood as resulting in full compatibility in all possible combinations and circumstances. They are supposed to target an optimal compromise between affordability, clarity and convenience to the users, and energy savings. Affordability should include not only the lamp or luminaire price, but also the cost of upgrading the electrical installation if necessary for the user. The mandate does not extend to the criteria for the compatibility of luminaires with lamps of different energy classes under Regulation 874/2012, which will be tackled in transitory measurement method documents published by the Commission in the Official Journal of the EU, outside the context of this mandate;
- (4) to ensure that the prospective harmonised standard(s) build(s) on existing standards by taking into account improved measurement and calculation methods and new appliance types to better reflect the user behaviour and the state of the art at European and international level;
- (5) to ensure that the overall tolerance(s) and measurement uncertainty(ies) of prospective harmonised standard(s) are in compliance with market surveillance verification procedure(s) defined in the regulations;

Verification procedure for market surveillance purposes:

- (1) to ensure that the prospective harmonised standard(s) identify(ies) and control(s) the sources of variability to be considered for market surveillance purposes;
- (2) to provide values for measurement uncertainties for the purposes of the verification procedure for the measured parameters taking into account the different sources of variability to be considered when a specific product is taken from the market and measured for market surveillance purposes;
- (3) to verify if, in order to reduce the impact of variability to the system, the standard(s) should include specific criteria to be met by laboratories involved in the verification of the declared data (e.g. quality management system, qualification system, personnel training...).
- (4) to ensure that the tolerances set out in regulations are not being used by manufacturers to systematically place on the market products and/or put them into service that are not compliant with the requirements of the above-mentioned regulations or that systematically result in lower energy performance compared to what can be inferred by the energy efficiency class indicated on their energy label.

Template for test report:

- (1) to define a template for a test report indicating the information to be declared by the manufacturers to fulfil at least the eco-design and energy labelling requirements in the regulations.

3. EXECUTION OF THE WORK

CEN, CENELEC and ETSI are requested to communicate to the Commission, within 2 months of the reception of this technical update, a work plan for the execution of the above mentioned standardisation tasks, indicating the standard(s) requiring revision or amendment, and the new standard(s) that would need to be developed, if any, including the proposed timetable for the completion of the planned standard(s).

CEN, CENELEC and ETSI are requested to communicate to the Commission after 15 months from the reception of this technical update an interim report on the progress of the tasks set out in this mandate indicating any eventual difficulties encountered and communicating details of any standard(s) that has been taken into consideration and modified to answer to the needs of the Mandate.

CEN, CENELEC and ETSI are requested to execute this technical update according to the timetable to be agreed with the Commission in the work plan, but in any case not later than 36 months from the reception of the update.

CEN, CENELEC and ETSI are requested to draw up the work plan and execute the above mentioned tasks in close cooperation in order to ensure consistency and avoid overlapping standards.

Annex to the Amendment 3 of the Mandate M/495

General remarks

This technical update Mandate M/495 does not set out detailed specifications for the measurement methods. It refers to the regulations under which the standards are supposed to be developed and which contain the detailed specifications for each parameter.

For example, according to the ecodesign regulations, lumen maintenance is required to be checked at different moments during a compact fluorescent lamp's lifetime. However, this will not be specified in the mandate, only in the regulations.

Legend

Empty cells mean that the regulations do not contain a requirement for the particular parameter (row) of the particular technology (column), therefore there is no need to standardise it under the regulations.

Each entry contains the reference to the regulation which sets out the requirement, as follows:

1194 = Commission Regulation 1194/2012 on ecodesign of directional lamps and LEDs

244 = Commission Regulation 244/2009 on ecodesign of non-dir household lamps

874 = Delegated Regulation 874/2012 on the energy labelling of electrical lamps and luminaires

Further abbreviations:

INC = incandescent lamp

HAL = halogen lamp

CFL = compact fluorescent lamp

LED = light emitting diode lamp

HID = high-intensity discharge lamp

OTHER = any lamp technology not listed in previous columns (except as specified in footnote)

Category	Regulatory Parameter	Directional lamps							Non-directional lamps							
		INC	HAL	CFL	HID	LED module ¹	other LED	OTHER	INC	HAL	CFL	LED module ¹	LED tubes	other LED	OTHER ²	
Lamp purpose	technical description of excluded lamps for labelling ³	874	874	874	874		874	874	874	874	874		874	874	874	
	technical description of special purpose lamps for ecodesign ⁴	1194	1194	1194	1194	1194	1194	1194	244	244	244	244	244	244	244	
Lamp efficacy	Lamp power	874	874/1194	874/1194	874/1194	1194	874/1194	874/1194	874	874/244	874/244	244	874/244	874/244	874/244	
	(Useful) luminous flux	874	874/1194	874/1194	874/1194	1194	874/1194	874/1194	874	874/244	874/244	244	874/244	874/244	874/244	
	Beam angle	874	874/1194	874/1194	874/1194	874/1194	874/1194	874/1194								
Lamp aging and lifetime	Lamp Survival Factor			1194		1194	1194				244	1194	1194	1194	244	
	Lamp life		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
	Lumen maintenance		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
	Number of switches before failure		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
	Premature failure rate		1194	1194		1194	1194	1194		244	244	1194	1194	1194	244	
Starting time	Starting time		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
	Warm-up time to x% •		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
Colorimetry	chromaticity coordinates	1194	1194	1194	1194	1194	1194	1194	244	244	244	244/1194	244/1194	244/1194	244	
	Colour rendering index (CRI)		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
	Correlated colour temperature (CCT)		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
	Colour consistency					1194	1194					1194	1194	1194		
Other aspects	Power factor ⁵		1194	1194	1194	1194	1194	1194		244	244	244/1194	244/1194	244/1194	244	
	Lamp dimensions		1194	1194	1194		1194	1194		244	244	244	244	244	244	
	Spectral power distribution		1194	1194	1194		1194	1194	244	244	244	244	244	244	244	
	UVA+UVB Radiation										244					
	UVC Radiation										244					
	Mercury content			1194	1194			1194				244			244	
	Compatibility with filament lamp equipment			1194				1194					1194	1194		
	dimmability		1194	1194	1194		1194	1194			244	244		244	244	244
	lamp type (MR11 GU4 etc.)		1194	1194	1194			1194	1194							
	peak intensity in candela		1194	1194	1194			1194	1194							
luminous intensity around the tube												1194				

¹ marketed as part of a luminaire from which it is not intended to be removed by the end-user

² excluding fluorescent lamps without integrated ballast and high-intensity discharge lamps

³ describing in precise technical parameters the lamp categories listed in Article 1.2 (b) and (c) of Regulation 874/2012

⁴ describing in precise technical parameters the lamp categories listed in Article 2.4 of Regulation 1194/2012

⁵ only for lamps with integrated control gear

Category	Regulatory Parameter	Lamp control gear ¹		Luminaires ¹		Dimming control device ^{1,2}	Other equipment bw mains / lamps ¹
		halogen gear	other gear	LED luminaires	other luminaires		
Product purpose	technical description of excluded products for labelling ³			874	874		
	technical description of special purpose products for ecodesign ⁴	1194	1194	1194	1194	1194	1194
Efficiency	no-load power	1194	1194				
	standby power	1194	1194				
	efficiency	1194					
Compatibility	compatibility with lamps of different energy classes				874 - to be tackled in transitory measurement method documents		
	compatibility with A-class lamps	1194	1194			1194	1194
	luminous flux of operated lamp at lowest dimmer setting					1194	
Functionality	number of switching cycles			1194 ⁵			
	premature failure rate			1194 ⁵			
	starting time			1194 ⁵			
	warm-up time			1194 ⁵			
	temperature of the LED module			1194 ⁵			

¹ excluding products used with fluorescent lamps without integrated ballast and with high-intensity discharge lamps

² "Dimming control device" is understood as a control device that itself dims, not as one that controls a dimmer.

³ describing in precise technical parameters the luminaires in Article 1.2.g of Regulation 874/2012

⁴ describing in precise technical parameters the product categories listed in Article 2.4 of Regulation 1194/2012

⁵ LED luminaires where LED modules cannot be extracted for testing