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⁽¹⁾ Text with EEA relevance

I

(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

REGULATIONS

COMMISSION REGULATION (EC) No 243/2009**of 23 March 2009****establishing the standard import values for determining the entry price of certain fruit and vegetables**

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) ⁽¹⁾,

Having regard to Commission Regulation (EC) No 1580/2007 of 21 December 2007 laying down implementing rules for Council Regulations (EC) No 2200/96, (EC) No 2201/96 and (EC) No 1182/2007 in the fruit and vegetable sector ⁽²⁾, and in particular Article 138(1) thereof,

Whereas:

Regulation (EC) No 1580/2007 lays down, pursuant to the outcome of the Uruguay Round multilateral trade negotiations, the criteria whereby the Commission fixes the standard values for imports from third countries, in respect of the products and periods stipulated in Annex XV, Part A thereto,

HAS ADOPTED THIS REGULATION:

Article 1

The standard import values referred to in Article 138 of Regulation (EC) No 1580/2007 are fixed in the Annex hereto.

Article 2

This Regulation shall enter into force on 24 March 2009.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 23 March 2009.

For the Commission

Jean-Luc DEMARTY

*Director-General for Agriculture and
Rural Development*

⁽¹⁾ OJ L 299, 16.11.2007, p. 1.

⁽²⁾ OJ L 350, 31.12.2007, p. 1.

ANNEX

Standard import values for determining the entry price of certain fruit and vegetables

(EUR/100 kg)

CN code	Third country code ⁽¹⁾	Standard import value
0702 00 00	IL	82,5
	JO	64,0
	MA	70,2
	TN	134,4
	TR	93,0
	ZZ	88,8
0707 00 05	MA	69,5
	TR	132,1
	ZZ	100,8
0709 90 70	MA	63,8
	TR	120,0
	ZZ	91,9
0709 90 80	EG	66,1
	ZZ	66,1
0805 10 20	EG	45,2
	IL	60,1
	MA	50,2
	TN	50,3
	TR	66,2
	ZZ	54,4
0805 50 10	TR	55,7
	ZZ	55,7
0808 10 80	AR	89,3
	BR	65,3
	CA	110,4
	CL	76,9
	CN	73,8
	MK	21,2
	US	112,9
	UY	68,9
	ZA	74,1
	ZZ	77,0
0808 20 50	AR	76,0
	CL	108,3
	CN	66,7
	ZA	90,9
	ZZ	85,5

⁽¹⁾ Nomenclature of countries laid down by Commission Regulation (EC) No 1833/2006 (OJ L 354, 14.12.2006, p. 19). Code 'ZZ' stands for 'of other origin'.

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****(Text with EEA relevance)**

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council ⁽¹⁾ and in particular Article 15(1) thereof,

After consulting the Ecodesign Consultation Forum,

Whereas:

(1) Under Directive 2005/32/EC ecodesign requirements shall be set by the Commission for energy using products representing significant volumes of sales and trades, having significant environmental impact and presenting significant potential for improvement in terms of their environmental impact without entailing excessive costs.

(2) Article 16(2) first indent of Directive 2005/32/EC provides that in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2), and after consulting the Ecodesign Consultation Forum, the Commission shall as appropriate introduce an implementing measure on domestic lighting products.

(3) The Commission has carried out a preparatory study which analysed the technical, environmental and economic aspects of lighting products typically used in households. The study has been developed together with stakeholders and interested parties from the Community and third countries, and the results have been made publicly available on the EUROPA website of the Commission.

(4) Mandatory ecodesign requirements apply to products placed on the Community market wherever they are installed or used, therefore such requirements cannot be made dependent on the application in which the product is used (such as for domestic lighting).

(5) Products subject to this Regulation are designed essentially for 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. Special purpose lamps designed essentially for other types of applications (such as traffic signals, terrarium lighting, or household appliances) and clearly indicated as such on accompanying product information should not be subject to the ecodesign requirements set out in this Regulation.

(6) New technologies emerging on the market such as light emitting diodes should be subject to this Regulation.

(7) The environmental aspects of the products covered that are identified as significant for the purposes of this Regulation are energy in the use phase as well as mercury content and mercury emissions.

(8) The annual electricity consumption related to products subject to this Regulation in the Community has been estimated to be 112 TWh in 2007, corresponding to 45 Mt CO₂ emissions. Without taking specific measures, the consumption is predicted to increase to 135 TWh in 2020. The preparatory studies showed that electricity consumption of products subject to this Regulation can be significantly reduced.

(9) Mercury emitted in the different life cycle phases of the lamps, including from use-phase electricity generation and from the 80 % of compact fluorescent lamps containing mercury which are presumed not to be recycled at the end of life, has been estimated to be 2,9 tonnes in 2007 from the installed stock of lamps. Without taking specific measures, the mercury emissions of the installed lamp stock is predicted to increase to 3,1 tonnes in 2020 while it has been demonstrated that it can be significantly reduced.

⁽¹⁾ OJ L 191, 22.7.2005, p. 29.

Although the mercury content of compact fluorescent lamps is considered to be a significant environmental aspect, it is appropriate to regulate it under Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment ⁽¹⁾.

The setting of energy efficiency requirements for lamps subject to this Regulation will lead to a decrease of the overall mercury emissions.

- (10) Article 10(1)(d) of the Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on Waste Electrical and Electronic Equipment ⁽²⁾ should be fully implemented to ensure minimising the potential risks for the environment and for human health in case of accidental breakage of compact fluorescent lamps or at their end of life.
- (11) Improvements of electricity consumption of products subject to this Regulation should be achieved by applying existing non-proprietary cost effective technologies, which lead to a reduction of the combined expenses for purchasing and operating the equipment.
- (12) Ecodesign requirements for products subject to this Regulation should be set with a view to improving the environmental performance of the products affected, contributing to the functioning of the internal market and to the Community objective of reducing energy consumption by 20 % in 2020 compared with the assumed energy consumption in that year if no measures are implemented.
- (13) This Regulation should increase the market penetration of energy efficient products subject to this Regulation, leading to estimated energy savings of 39 TWh in 2020, compared with the assumed energy consumption in that year if no Ecodesign measure is implemented.
- (14) The ecodesign requirements should not affect functionality from the user's perspective and should not negatively affect health, safety or the environment. In particular, the benefits of reducing the electricity consumption during the use phase should over-compensate potential, if any, additional environmental impacts during the production phase of products subject to this Regulation.
- (15) A staged entry into force of the ecodesign requirements should provide a sufficient timeframe for manufacturers to re-design products subject to this Regulation as appropriate. The timing of the stages should be set in such a way that negative impacts related to functionalities of

equipment on the market are avoided, and cost impacts for end-users and manufacturers, in particular small and medium enterprises, are taken into account, while ensuring timely achievement of the objectives of this Regulation.

- (16) Measurements of the relevant product parameters should be performed taking into account the generally recognised state of the art measurement methods; manufacturers may apply harmonised standards set up in accordance with Article 10 of Directive 2005/32/EC as soon as they are made available and published for that purpose in the *Official Journal of the European Union*.
- (17) In accordance with Article 8 of Directive 2005/32/EC, this Regulation should specify the applicable conformity assessment procedures.
- (18) In order to facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes V and VI to Directive 2005/32/EC in so far as this information relates to the requirements laid down in this Regulation.
- (19) In addition to the legally binding requirements, the identification of indicative benchmarks for best available technologies for products subject to this Regulation should contribute to ensuring wide availability and to facilitating access to information. This can further facilitate the integration of best design technologies for improving the life cycle environmental performance of products subject to this Regulation.
- (20) A review of this measure should take particular note of the evolution of sales of special purpose lamp types so as to verify that they are not used for general lighting purposes, of the development of new technologies such as LEDs and of the feasibility of establishing energy efficiency requirements at the 'A' class level as defined in Commission Directive 98/11/EC of 27 January 1998 implementing Council Directive 92/75 with regard to energy labeling of household lamps ⁽³⁾.
- (21) The requirements contained in this measure allow halogen lamps of socket G9 and R7s to remain on the market for a limited period of time, recognising the need to service the existing luminaire stock, to prevent undue costs on consumers and to give time to manufacturers to develop luminaires dedicated to more efficient lighting technologies.
- (22) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19(1) of Directive 2005/32/EC,

⁽¹⁾ OJ L 37, 13.2.2003, p. 19.

⁽²⁾ OJ L 37, 13.2.2003, p. 24.

⁽³⁾ OJ L 71, 10.3.1998, p. 1.

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

This Regulation establishes ecodesign requirements for the 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. It also establishes product information requirements for special purpose lamps.

The requirements set out in this Regulation shall not apply to the following household and special purpose lamps:

(a) lamps having the following chromaticity coordinates x and y :

$$— x < 0,200 \text{ or } x > 0,600$$

$$— y < -2,3172 x^2 + 2,3653 x - 0,2800 \text{ or}$$

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

(b) directional lamps;

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

(d) 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 (UVA) or 280-315 nm (UVB);

(e) fluorescent lamps without integrated ballast;

(f) high-intensity discharge lamps;

(g) 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 Article 3.

Article 2

Definitions

For the purposes of this Regulation, the definitions set out in Directive 2005/32/EC shall apply. The following definitions shall also apply:

1. '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;

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

3. 'household lamp' means a lamp intended for household room illumination; it does not include special purpose lamps;

4. 'special purpose lamp' means a lamp not intended for household room illumination because of its technical parameters or because the related product information indicates that it is unsuitable for household room illumination;

5. '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°);

6. 'non-directional lamp' means a lamp that is not a directional lamp;

7. '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 or may not contain gases influencing the process of incandescence;

8. 'incandescent lamp' means a filament lamp in which the filament operates in an evacuated bulb or is surrounded by inert gas;

9. '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. Tungsten halogen lamps are supplied either with or without integrated power supply;

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

11. '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;

12. '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;
13. '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;
14. '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;
15. 'fluorescent lamp without integrated ballast' means a single and double capped fluorescent lamp without integrated ballast;
16. '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 watts per square centimetre;
17. 'light emitting diode' or 'LED' means a solid state device embodying a p-n junction, emitting optical radiation when excited by an electric current;
18. 'LED lamp' means a lamp incorporating one or several LED.

For the purposes of Annexes II to IV, the definitions set out in Annex I shall also apply.

Article 3

Ecodesign requirements

1. Non-directional household lamps shall meet the ecodesign requirements set out in Annex II.

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

Stage 1: 1 September 2009,

Stage 2: 1 September 2010,

Stage 3: 1 September 2011,

Stage 4: 1 September 2012,

Stage 5: 1 September 2013,

Stage 6: 1 September 2016.

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. Starting from 1 September 2009:

For special purpose lamps, the following information shall be clearly and prominently indicated on their packaging and in all forms of product information accompanying the lamp when it is placed on the market:

(a) their intended purpose; and

(b) that they are not suitable for household room illumination.

The technical documentation file drawn up for the purposes of conformity assessment pursuant to Article 8 of Directive 2005/32/EC shall list the technical parameters (if any) that make the lamp design specific for the special purpose indicated on the packaging.

Article 4

Conformity assessment

1. The conformity assessment procedure referred to in Article 8 of Directive 2005/32/EC shall be the internal design control system set out in Annex IV to that Directive or the management system set out in Annex V to that Directive.

2. For the purposes of conformity assessment pursuant to Article 8 of Directive 2005/32/EC, the technical documentation file shall contain a copy of the product information provided in accordance with Annex II, part 3, to this Regulation.

Article 5

Verification procedure for market surveillance purposes

When performing the market surveillance checks referred to in Article 3(2) of Directive 2005/32/EC, the authorities of the Member States shall apply the verification procedure described in Annex III to this Regulation for the requirements set out in Annex II to this Regulation.

Article 6

Indicative benchmarks

The indicative benchmarks for best-performing products and technology available on the market at the time of adopting this Regulation are identified in Annex IV.

Article 7

Revision

The Commission shall review this Regulation in light of technological progress no later than five years after the entry into force and present the result of this review to the Consultation Forum.

*Article 8***Entry into force**

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 18 March 2009.

For the Commission

Andris PIEBALGS

Member of the Commission

ANNEX I

Technical parameters covered and definitions for the purposes of Annexes II to IV**1. TECHNICAL PARAMETERS FOR ECODSIGN REQUIREMENTS**

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

- (a) 'Lamp efficacy' (η_{lamp}), which 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;
- (b) 'Lamp lumen maintenance factor' (LLMF), which 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;
- (c) 'Lamp survival factor' (LSF), which is the defined fraction of the total number of lamps that continue to operate at a given time under defined conditions and switching frequency;
- (d) 'Lamp lifetime', which 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;
- (e) 'Chromaticity', which is the property of a colour stimulus defined by its chromaticity coordinates, or by its dominant or complementary wavelength and purity taken together;
- (f) '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;
- (g) 'Correlated colour temperature' (T_c [K]), which 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;
- (h) 'Colour rendering' (R_a), which 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;
- (i) 'Specific effective radiant ultraviolet power', which 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);
- (j) 'Lamp start time', the time needed, after the supply voltage is switched on, for the lamp to start fully and remain alight;
- (k) 'Lamp warm-up time', which is the time needed for the lamp after start-up to emit a defined proportion of its stabilized luminous flux;
- (l) 'Power factor', which is the ratio of the absolute value of the active power to the apparent power under periodic conditions;
- (m) 'Luminance', which 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);
- (n) 'Lamp mercury content', which is the mercury contained in the lamp and is measured according to the Annex to Commission Decision 2002/747/EC ⁽¹⁾.

⁽¹⁾ OJ L 242, 10.9.2002, p. 44.

2. DEFINITIONS

- (a) 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;
 - (b) a 'nominal value' is the value of a quantity used to designate and identify a product;
 - (c) '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;
 - (d) '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;
 - (e) 'Non-clear lamp' is a lamp that does not comply with the specifications under point (d), including compact fluorescent lamps;
 - (f) 'Switching cycle' is the sequence of switching on and switching off the lamp with defined intervals;
 - (g) 'Premature failure' is 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;
 - (h) '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;
 - (i) 'Lamp holder' or 'socket' means a device which holds the lamp in position, usually by having the cap inserted in it, in which case it also provides the means of connecting the lamp to the electric supply.
-

ANNEX II

Ecodesign requirements for non-directional household lamps**1. LAMP EFFICACY REQUIREMENTS**

Incandescent lamps with S14, S15 or S19 caps shall be exempted from the efficacy requirements of Stages 1 to 4 as defined in Article 3 of this Regulation, but not from Stages 5 and 6.

The maximum rated power ($P_{\max}$) for a given rated 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 rated power are in Table 3.

Table 1

Application date	Maximum rated power ($P_{\max}$) for a given rated 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 rated 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 rated 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 $T_c \geq 5\,000 \text{ K}$	$P_{\max}/0,76$
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 rated lamp lifetime is higher than 2 000 h, the Stage 1 requirements for the parameters 'Rated lamp lifetime', 'Lamp Survival Factor' and 'Lumen maintenance' in Tables 4 and 5 are only applicable as from Stage 2.

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 III. For the purposes of testing lamp lifetime, lamp survival factor, lumen maintenance and premature failure, the standard switching cycle according to Annex III shall be used.

Table 4

Functionality requirements for compact fluorescent lamps

Functionality parameter	Stage 1	Stage 5
Lamp survival factor at 6 000 h	$\geq 0,50$	$\geq 0,70$
Lumen maintenance	At 2 000 h: $\geq 85\%$ ($\geq 80\%$ for lamps with second lamp envelope)	At 2 000 h: $\geq 88\%$ ($\geq 83\%$ for lamps with second lamp envelope) At 6 000 h: $\geq 70\%$
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
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	Stage 5
Rated lamp lifetime	$\geq 1\,000$ h	$\geq 2\,000$ h
Lumen maintenance	$\geq 85\%$ at 75 % of rated average lifetime	$\geq 85\%$ at 75 % of rated average lifetime
Number of switching cycles	$\geq$ four times the rated lamp life expressed in hours	$\geq$ four times the rated 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
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	$\geq 0,95$	$\geq 0,95$

3. PRODUCT INFORMATION REQUIREMENTS ON LAMPS

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

3.1. 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.

- (a) When the nominal lamp power is displayed outside the energy label in accordance with Directive 98/11/EC, 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;
- (b) Nominal life time of the lamp in hours (not higher than the rated life time);
- (c) Number of switching cycles before premature lamp failure;
- (d) Colour temperature (also expressed as a value in Kelvins);
- (e) Warm-up time up to 60 % of the full light output (may be indicated as 'instant full light' if less than 1 second);
- (f) A warning if the lamp cannot be dimmed or can be dimmed only on specific dimmers;
- (g) If designed for optimal use in non-standard conditions (such as ambient temperature $T_a \neq 25^\circ\text{C}$), information on those conditions;
- (h) Lamp dimensions in millimeters (length and diameter);
- (i) 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

- (j) 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 according to Tables 1, 2 and 3.

If the lamp contains mercury

- (k) Lamp mercury content as X,X mg;
- (l) Indication which website to consult in case of accidental lamp breakage to find instructions on how to clean up the lamp debris.

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

As a minimum, the following information shall be expressed at least as values.

- (a) The information specified in point 3.1;
- (b) Rated wattage (0,1 W precision);
- (c) Rated luminous flux;
- (d) Rated lamp life time;
- (e) Lamp power factor;
- (f) Lumen maintenance factor at the end of the nominal life;
- (g) Starting time (as X,X seconds);
- (h) Colour rendering.

If the lamp contains mercury

- (i) Instructions on how to clean up the lamp debris in case of accidental lamp breakage;
- (j) Recommendations on how to dispose of the lamp at its end of life.
-

ANNEX III

Verification procedure for market surveillance purposes

Member State 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 II as applicable, of this 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.

For the purposes of checking conformity with the requirements, the authorities of the Member States shall use accurate and reliable state-of-the-art measurement methods which deliver reproducible results, including:

- where available, harmonised standards the reference numbers of which have been published for that purpose in the *Official Journal of the European Union* in accordance with Articles 9 and 10 of Directive 2005/32/EC,
- otherwise, the methods set out in the following documents:

Measured parameter	Organisation ⁽¹⁾	Reference	Title
Lamp mercury content	European Commission	Decision 2002/747/EC (Annex)	Commission Decision 2002/747/EC of 9 September 2002 establishing revised ecological criteria for the award of the Community eco-label to light bulbs and amending Decision 1999/568/EC
Luminous efficacy	Cenelec	EN 50285:1999	Energy efficiency of electric lamps for household use — Measurement methods
Lamp caps	Cenelec	EN 60061:1993 All amendments up to A40:2008	Lamp caps and holders together with gauges for the control of interchangeability and safety Part 1: Lamp caps
Lamp lifetime	Cenelec	EN 60064:1995 Amendments A2:2003 A3:2006 A4:2007 A11:2007	Tungsten filament lamps for domestic and similar general lighting purposes - Performance requirements
	Cenelec	EN 60357:2003 Amendment A1:2008	Tungsten halogen lamps (non-vehicle) — Performance specifications
	Cenelec	EN 60969:1993 Amendments A1:1993 A2:2000	Self-ballasted lamps for general lighting services — Performance requirements
Lamp start time/ warmup time	Cenelec	EN 60969:1993 Amendments A1:1993 A2:2000	Self-ballasted lamps for general lighting services — Performance requirements

Measured parameter	Organisation ⁽¹⁾	Reference	Title
Power factor	Cenelec	EN 61000-3-2:2006	Electromagnetic compatibility (EMC) Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
Specific effective radiant UV power	Cenelec	EN 62471:2008	Photobiological safety of lamps and lamp systems
Colour rendering	International Commission on Illumination	CIE 13.3:1995	Method of Measuring and Specifying Colour Rendering Properties of Light Sources
Chromaticity Correlated Colour Temperature (T _c [K])	International Commission on Illumination	CIE 15:2004	Colorimetry
Luminance	International Commission on Illumination	CIE 18.2:1983	The Basis of Physical Photometry
Luminous flux	International Commission on Illumination	CIE 84:1989	The Measurement of Luminous Flux
Lamp Lumen Maintenance Factor (LLMF)	International Commission on Illumination	CIE 97:2005	Maintenance of indoor electric lighting systems
Lamp Survival Factor (LSF)			

⁽¹⁾ Cenelec: rue de Stassart/De Stassartstraat 35, B-1050 Brussels, tel. (32-2) 519 68 71, fax (32-2) 519 69 19 (<http://www.cenelec.org>).

International Commission on Illumination: CIE Central Bureau Kegelgasse 27 A-1030 Vienna AUSTRIA tel: +43 1714 31 87 0 fax: +43 1714 31 87 18 (<http://www.cie.co.at/>).

ANNEX IV

Indicative benchmarks for non-directional household lamps

(for information)

At the time of adoption of this Regulation, the best available technology on the market for the products concerned was identified as follows:

1. LAMP EFFICACY

The highest identified efficacy was 69 lm/W.

2. LAMP FUNCTIONALITY

Table 7

Functionality parameter	Compact fluorescent lamps
Rated lamp lifetime	20 000 h
Lumen maintenance	90 % at the rated 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.

COMMISSION REGULATION (EC) No 245/2009**of 18 March 2009****implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council****(Text with EEA relevance)**

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council ⁽¹⁾, and in particular Article 15(1) thereof,

After consulting the Ecodesign Consultation Forum,

Whereas:

- (1) Under Directive 2005/32/EC ecodesign requirements shall be set by the Commission for energy using products representing significant volumes of sales and trades, having significant environmental impact and presenting significant potential for improvement in terms of their environmental impact without entailing excessive costs.
- (2) Article 16(2) second indent of Directive 2005/32/EC provides that in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2), and after consulting the Ecodesign Consultation Forum, the Commission shall as appropriate introduce an implementing measure on tertiary sector lighting products.
- (3) The Commission has carried out two preparatory studies which analysed the technical, environmental and economic aspects of lighting products typically used in the tertiary (office lighting and public street lighting)

sector. The studies have been developed together with stakeholders and interested parties from the Community and third countries, and the results have been made publicly available on the EUROPA website of the European Commission.

- (4) Mandatory ecodesign requirements apply to products placed on the market wherever they are installed, therefore such requirements cannot be made dependent on the application in which the product is used (such as office lighting or public street lighting). Therefore this Regulation should address specific products, such as fluorescent lamps without integrated ballast, high intensity discharge lamps, and ballasts and luminaires able to operate such lamps. Indicative benchmarks can be helpful in guiding users on the best available technology for specific applications (such as office or public street lighting).
- (5) Products subject to this Regulation are meant to be used essentially for general lighting purposes, meaning that they contribute to the provision of artificial light replacing natural light for the purposes of normal human vision. Special purpose lamps (such as lamps used in computer screens, photocopiers, tanning appliances, terrarium lighting and other similar applications) should not be subject to this Regulation.
- (6) The environmental aspects of the EuPs covered that are identified as significant for the purposes of this Regulation are:
 - (a) energy in the use phase;
 - (b) mercury content of lamps.
- (7) The annual electricity consumption related to products subject to this Regulation in the Community has been estimated to be 200 TWh in 2005, corresponding to 80 Mt CO₂ emissions. Without taking specific measures, the consumption is predicted to increase to 260 TWh in 2020. The preparatory studies showed that electricity consumption of products subject to this Regulation can be significantly reduced.

⁽¹⁾ OJ L 191, 22.7.2005, p. 29.

- (8) Mercury content of the installed base of lamps has been estimated to be 12,6 tons in 2005. Without taking specific measures, the mercury content of the installed lamp base is predicted to increase to 18,6 tons in 2020 while it has been demonstrated that it can be significantly reduced.
- (9) In the absence of internationally agreed scientific methods for measuring its environmental impact, the significance of the so-called 'light pollution' could not be assessed. However it is accepted that measures developed for increasing the lighting efficacy of tertiary lighting equipment can have a positive impact on 'light pollution'.
- (10) Improvements of electricity consumption of products subject to this Regulation should be achieved by applying existing non-proprietary cost effective technologies, which lead to a reduction of the combined expenses for purchasing and operating equipment.
- (11) Ecodesign requirements for products subject to this Regulation should be set with a view to improving the environmental performance of the products affected, contributing to the functioning of the internal market and to the Community objective of reducing energy consumption by 20 % in 2020.
- (12) This Regulation should increase the market penetration of technologies yielding improved energy efficiency for products subject to this Regulation, leading to estimated energy savings of 38 TWh in 2020, compared to a business as usual scenario.
- (13) The setting of energy efficiency requirements for lamps subject to this Regulation will lead to a decrease of their overall mercury content.
- (14) The ecodesign requirements should not have negative impact on the functionality of the product and should not negatively affect health, safety or the environment. In particular, the benefits of reducing the electricity consumption during the use phase should over-compensate potential, if any, additional environmental impacts during the production phase of products subject to this Regulation.
- (15) A staged entry into force of the ecodesign requirements should provide a sufficient timeframe for manufacturers to redesign products subject to this Regulation as appropriate. The timing of the stages should be set in such a way that negative impacts related to functionalities of equipment on the market are avoided, and cost impacts for end-users and manufacturers, in particular small and medium enterprises, are taken into account, while ensuring timely achievement of the objectives of this Regulation. The revision according to Article 8 should, *inter alia*, verify whether the performance requirement of ballasts for HID lamps in Annex III Section 2.1.C will be achievable eight years after this Regulation has entered into force.
- (16) The removal of replacement lamps from the market should be planned taking into account impacts on the end-users. Member States could impose higher requirements on lighting installations.
- (17) Measurements of the relevant product parameters should be performed taking into account the generally recognised state of the art measurement methods; manufacturers may apply harmonised standards set up in accordance with Article 10 of Directive 2005/32/EC.
- (18) In conformity with Article 8 of Directive 2005/32/EC, this Regulation should specify that the applicable conformity assessment procedures are the internal design control set out in Annex IV to Directive 2005/32/EC and the management system for assessing conformity set out in Annex V to Directive 2005/32/EC.
- (19) In order to facilitate compliance checks manufacturers should provide information in the technical documentation referred to in Annexes V and VI to Directive 2005/32/EC in so far as this information relates to the requirements laid down in this Regulation.
- (20) In addition to the legally binding requirements, the identification of indicative benchmarks for best available technologies for products subject to this Regulation should contribute to ensuring wide availability and easy access to information. This is particularly useful for small and medium enterprises and very small firms, as it further facilitates the integration of best design technologies for improving the life cycle environmental performance of products subject to this Regulation.

- (21) Although the mercury content of fluorescent and high intensity discharge lamps is considered to be a significant environmental aspect, it is appropriate to regulate it under Directive 2002/95/EC of the European Parliament and of the Council ⁽¹⁾, which covers also the lamp types exempted from this Regulation.
- (22) Directive 2000/55/EC of the European Parliament and of the Council of 18 September 2000 on energy efficiency requirements for ballasts for fluorescent lighting ⁽²⁾ is an implementing measure of Directive 2005/32/EC and has an ongoing effect on the installed ballast base, due to long luminaire and magnetic ballast lifetimes. However, there is further improvement potential, and more demanding minimum energy efficiency requirements as compared to Directive 2000/55/EC would be appropriate. Directive 2000/55/EC should therefore be replaced by this Regulation.
- (23) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19(1) of Directive 2005/32/EC,

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

This Regulation establishes ecodesign requirements for the placing on the market of fluorescent lamps without integrated ballast, of high intensity discharge lamps, and of ballasts and luminaires able to operate such lamps as defined in Article 2, even when they are integrated into other energy-using products.

This Regulation also provides indicative benchmarks for products intended for use in office lighting and public street lighting.

The products listed in Annex I shall be exempt from the requirements set out in this Regulation.

Article 2

Definitions

For the purposes of this Regulation, the definitions set out in Directive 2005/32/EC shall apply. The following definitions shall also apply:

1. 'general lighting' means substantially uniform lighting of an area without provision for special local requirements;

2. 'office lighting' means a fixed lighting installation for office work intended to enable people to perform visual tasks efficiently and accurately;
3. 'public street lighting' means a fixed lighting installation intended to provide good visibility to users of outdoor public traffic areas during the hours of darkness to support traffic safety, traffic flow and public security;
4. 'discharge lamp' means a lamp in which the light is produced, directly or indirectly, by an electric discharge through a gas, a metal vapour or a mixture of several gases and vapours;
5. 'ballast' means a device which serves mainly 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. A ballast 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);
6. 'luminaire' means an apparatus which distributes, filters or transforms the light transmitted from one or more light sources and which includes all the parts necessary for supporting, fixing and protecting the light sources and, where necessary, circuit auxiliaries together with the means for connecting them to the supply, but not the light sources themselves;
7. 'fluorescent lamps' means discharge lamps 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;
8. 'fluorescent lamps without integrated ballast' means single and double capped fluorescent lamps without integrated ballast;
9. 'high intensity discharge lamps' means electric discharge lamps in which the light producing arc is stabilised by wall temperature and the arc has a bulb wall loading in excess of 3 watts per square centimetre.

⁽¹⁾ OJ L 37, 13.2.2003, p. 19.

⁽²⁾ OJ L 279, 1.11.2000, p. 33.

For the purposes of Annexes I and III to VII, the definitions set out in Annex II shall also apply.

*Article 3***Ecodesign requirements**

The ecodesign requirements related to fluorescent lamps without integrated ballast, to high intensity discharge lamps and to ballasts and luminaires able to operate such lamps are set out in Annex III.

*Article 4***Conformity assessment**

The procedure for assessing conformity referred to in Article 8 of Directive 2005/32/EC shall be the internal design control system set out in Annex IV to Directive 2005/32/EC or the management system set out in Annex V to Directive 2005/32/EC.

For the purposes of conformity assessment pursuant to Article 8 of Directive 2005/32/EC, the technical documentation file shall contain a copy of the product information provided in accordance with Annex III parts 1.3, 2.2, and 3.2.

*Article 5***Verification procedure for market surveillance purposes**

Surveillance checks shall be carried out in accordance with the verification procedure set out in Annex IV.

*Article 6***Indicative benchmarks**

The indicative benchmarks for best-performing products and technology currently available on the market are identified:

(a) in Annex V for fluorescent lamps without integrated ballast, for high intensity discharge lamps and for ballasts and luminaires able to operate such lamps;

(b) in Annexes VI and VII for products intended for use in office lighting or in public street lighting.

*Article 7***Repeal**

Directive 2000/55/EC shall be repealed as from one year after the entry into force of this Regulation.

*Article 8***Revision**

No later than 5 years after the entry into force of this Regulation, the Commission shall review it in light of technological progress.

*Article 9***Entry into force**

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

The requirements set out in Annex III shall apply in accordance with the timetable provided for therein.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 18 March 2009.

For the Commission

Andris PIEBALGS

Member of the Commission

ANNEX I

General exemptions

1. The following lamps shall be exempted from the provisions of this Regulation:
 - (a) lamps that are not white light sources as defined in Annex II; this exemption does not apply to high pressure sodium lamps;
 - (b) lamps that are directional light sources as defined in Annex II;
 - (c) lamps intended for use in other applications than general lighting and lamps incorporated into other products not providing a general lighting function;
 - (d) lamps having:
 - 6 % or more of total radiation of the range 250-780 nm in the range of 250-400 nm,
 - 11 % or more of total radiation of the range 250-780 nm in the range of 630-780 nm,
 - 5 % or more of total radiation of the range 250-780 nm in the range of 640-700 nm, and
 - the peak of the radiation between 315-400 nm (UVA) or 280-315 nm (UVB);
 - (e) double capped fluorescent lamps having:
 - a diameter of 7 mm (T2) and less,
 - a diameter of 16 mm (T5) and lamp power $P \leq 13$ W or $P > 80$ W,
 - a diameter of 38 mm (T12), lamp cap G-13 Medium BiPin base, ± 5 m (+magenta, -green) colour compensating filter value limit (cc). CIE coordinates $x=0,330$ $y=0,335$ and $x=0,415$ $y=0,377$, and
 - a diameter of 38 mm (T12) and equipped with an external ignition strip;
 - (f) single capped fluorescent lamps having a diameter of 16 mm (T5) 2G11 4 pin base, $T_c = 3\,200$ K with chromaticity coordinates $x=0,415$ $y=0,377$ and $T_c = 5\,500$ K with chromaticity coordinates $x=0,330$ $y=0,335$;
 - (g) high intensity discharge lamps with $T_c > 7\,000$ K;
 - (h) high intensity discharge lamps having a specific effective UV output > 2 mW/klm; and
 - (i) high intensity discharge lamps not having lamp cap E27, E40, PGZ12.
2. The following luminaires shall be exempted:
 - (a) emergency lighting luminaires and emergency sign luminaires within the meaning of Council Directive 2006/95/EC of the European Parliament and of the Council ⁽¹⁾;
 - (b) luminaires covered by the requirements of Directives 94/9/EC of the European Parliament and of the Council ⁽²⁾, Directive 1999/92/EC of the European Parliament and of the Council ⁽³⁾, Directive 2006/42/EC of the European Parliament and of the Council ⁽⁴⁾, Council Directive 93/42/EEC ⁽⁵⁾, Council Directive 88/378/EEC ⁽⁶⁾ and luminaires integrated into equipment covered by these requirements.

⁽¹⁾ Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (codified version) (OJ L 374, 27.12.2006, p. 10).

⁽²⁾ Directive 94/9/EC of the European Parliament and of the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres (OJ L 100, 19.4.1994, p. 1).

⁽³⁾ Directive 1999/92/EC of the European Parliament and of the Council of 16 December 1999 on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres (OJ L 23, 28.1.2000, p. 57).

⁽⁴⁾ Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) (OJ L 157, 9.6.2006, p. 24).

⁽⁵⁾ Council Directive 93/42/EEC of 14 June 1993 concerning medical devices (OJ L 169, 12.7.1993, p. 1).

⁽⁶⁾ Council Directive 88/378/EEC of 3 May 1988 on the approximation of the laws of the Member States concerning the safety of toys (OJ L 187, 16.7.1988, p. 1).

ANNEX II

Technical parameters covered and definitions for the purposes of Annexes I and III to VII**1. Technical parameters for ecodesign requirements**

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

- (a) 'Luminous efficacy of a source', 'light source efficacy' or 'lamp efficacy' (η_{source}), which means the quotient of the luminous flux emitted (Φ) by the power consumed by the source (P_{source}). $\eta_{\text{source}} = \Phi / P_{\text{source}}$. Unit: lm/W. The power dissipated by auxiliary equipment such as ballasts is not included in the power consumed by the source.
- (b) 'Lamp Lumen Maintenance Factor' (LLMF), which means the ratio of the luminous flux emitted by the lamp at a given time in its life to the initial luminous flux.
- (c) 'Lamp Survival Factor' (LSF), which means the fraction of the total number of lamps which continue to operate at a given time under defined conditions and switching frequency.
- (d) 'Ballast efficiency' (η_{ballast}), which means the ratio between the lamp power (ballast output) and the input power of the lamp-ballast circuit with possible sensors, network connections and other auxiliary loads disconnected.
- (e) 'Chromaticity', which means the property of a colour stimulus defined by its chromaticity coordinates, or by its dominant or complementary wavelength and purity taken together.
- (f) 'Luminous flux', which means a quantity derived from radiant flux (radiant power) by evaluating the radiation according to the spectral sensitivity of the human eye.
- (g) 'Correlated Colour Temperature' (T_c [K]), which means 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.
- (h) 'Colour rendering' (R_a), which means the effect of an illuminant on the colour appearance of objects by conscious or subconscious comparison with their colour appearance under a reference illuminant.
- (i) 'Specific effective radiant UV power', which means the effective power of the UV radiation of a lamp related to its luminous flux (unit: mW/klm).
- (j) 'Ingress protection grading', which means a coding system to indicate the degree of protection provided by an enclosure against ingress of dust, solid objects and moisture and to give additional information in connection with such protection.

2. Technical parameters for indicative benchmarks

- (a) 'Lamp mercury content', which means the amount of mercury contained in the lamp.
- (b) 'Luminaire Maintenance Factor' (LMF), which means the ratio of the light output ratio of a luminaire at a given time to the initial light output ratio.
- (c) 'Utilisation Factor' (UF) of an installation for a reference surface, which means the ratio of the luminous flux received by the reference surface to the sum of the individual total fluxes of the lamps of the installation.

3. Definitions

- (a) 'Directional Light Source' (DLS) means light sources having at least 80 % light output within a solid angle of π sr (corresponding to a cone with angle of 120 °).
- (b) 'White light source' means a light source having chromaticity coordinates that satisfy the following requirement:

$$— 0,270 < x < 0,530$$

$$— -2,3172 x^2 + 2,3653 x - 0,2199 < y < -2,3172 x^2 + 2,3653 x - 0,1595$$

- (c) A 'rated' value means a quantity value for a characteristic of a product for operating conditions specified in this Regulation or in applicable standards. Unless stated otherwise, all product parameter limits are expressed in rated values.
- (d) A 'nominal' value means an approximate quantity value used to designate or identify a product.
- (e) 'Light pollution' means the sum of all adverse impacts of artificial light on the environment, including the impact of obtrusive light.
- (f) 'Obtrusive light' means the part of the light from a lighting installation that does not serve the purpose for which the installation was designed. It includes:
 - light improperly falling outside the area to be lit,
 - diffused light in the neighbourhood of the lighting installation,
 - sky glow, which is the brightening of the night sky that results from the direct and indirect reflection of radiation (visible and non-visible), scattered from the constituents of the atmosphere (gas molecules, aerosols and particulate matter) in the direction of observation.
- (g) 'Efficiency Base ballast' (EBb) means the relationship between the rated lamp power (P_{lamp}) and the ballast efficiency.

For ballasts for single and double capped fluorescent lamps, the EBb_{FL} is calculated as follows:

When $P_{\text{lamp}} \leq 5 \text{ W}$: $\text{EBb}_{\text{FL}} = 0,71$

When $5 \text{ W} < P_{\text{lamp}} < 100 \text{ W}$: $\text{EBb}_{\text{FL}} = P_{\text{lamp}} / (2 \cdot \sqrt{P_{\text{lamp}} / 36} + 38 / 36 \cdot P_{\text{lamp}} + 1)$

When $P_{\text{lamp}} \geq 100 \text{ W}$: $\text{EBb}_{\text{FL}} = 0,91$

- (h) 'Second lamp envelope' means 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. In determining the presence of a second lamp envelope, the arc tubes of high intensity discharge lamps shall not count as a lamp envelope.
- (i) 'Light source control gear' means one or more components between the supply and one or more light sources which may serve to transform the supply voltage, limit the current of the lamp(s) to the required value, provide starting voltage and preheating current, prevent cold starting, correct power factor or reduce radio interference. Ballasts, halogen convertors and transformers and Light Emitting Diode (LED) drivers are examples of light source control gears.
- (j) 'High-pressure mercury (vapour) lamp' means a high intensity discharge lamp in which the major portion of light is produced, directly or indirectly, by radiation from mercury operating at a partial pressure in excess of 100 kilopascals.
- (k) 'High-pressure sodium (vapour) lamp' means a high intensity discharge lamp in which the light is produced mainly by radiation from sodium vapour operating at a partial pressure of the order of 10 kilopascals.
- (l) 'Metal halide lamp' means a high intensity discharge lamp 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.
- (m) 'Electronic or high frequency ballast' means a mains supplied a.c. to a.c. inverter, including stabilising elements for starting and operating one or more tubular fluorescent lamps, generally at high frequency.
- (n) 'Clear lamp' means a high-intensity discharge lamp with a transparent outer envelope or outer tube in which the light producing arc tube is clearly visible (e.g. clear glass lamp).

ANNEX III

Ecodesign requirements for fluorescent and high intensity discharge lamps and ballasts and luminaires able to operate such lamps

For each ecodesign requirement, the moment from which it applies is specified below. Unless a requirement is superseded or this is otherwise specified, it shall continue to apply together with the requirements introduced at later stages.

1. REQUIREMENTS FOR FLUORESCENT LAMPS WITHOUT INTEGRATED BALLAST AND FOR HIGH INTENSITY DISCHARGE LAMPS

1.1. Lamp efficacy requirements

A. First stage requirements

One year after the entry into force of this Regulation:

Double capped fluorescent lamps of 16 mm and 26 mm diameter (T5 and T8 lamps) shall have at least the rated luminous efficacies as specified in Table 1 at 25 °C.

In case the nominal wattages are different from those listed in Table 1, lamps must reach the luminous efficacy of the nearest equivalent in terms of wattage, except T8 lamps above 50 W, which must reach a luminous efficacy of 83 lm/W. If the nominal wattage is at equal distance from the two nearest wattages in the table, it shall conform to the higher efficacy of the two. If the nominal wattage is higher than the highest wattage in the table, it shall conform to the efficacy of that highest wattage.

Table 1

Rated minimum efficacy values for T8 and T5 lamps

T8 (26 mm Ø)		T5 (16 mm Ø) High Efficiency		T5 (16 mm Ø) High Output	
Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
15	63	14	86	24	73
18	75	21	90	39	79
25	76	28	93	49	88
30	80	35	94	54	82
36	93			80	77
38	87				
58	90				
70	89				

Single capped fluorescent lamps shall have the following rated luminous efficacies at 25 °C.

In case the nominal wattages or lamp shapes are different from those listed in tables 2 to 5: lamps must reach the luminous efficacy of the nearest equivalent in terms of wattage and shape. If the nominal wattage is at equal distance from two wattages in the table, it shall conform to the higher efficacy of the two. If the nominal wattage is higher than the highest wattage in the table, it shall conform to the efficacy of that highest wattage.

Table 2*Rated minimum efficacy values for single capped fluorescent lamps working on electromagnetic and electronic ballast*

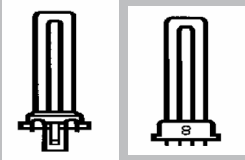
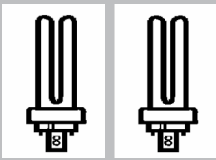
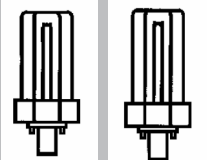
Small single parallel tube, lamp cap G23 (2 pin) or 2G7 (4 pin)		Double parallel tubes, lamp cap G24d (2 pin) or G24q (4 pin)		Triple parallel tubes, lamp cap GX24d (2 pin) or GX24q (4 pin)	
					
Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
5	50	10	60	13	69
7	57	13	69	18	67
9	67	18	67	26	66
11	82	26	66	32	75
				42	76
				57	75
				70	74

Table 3*Rated minimum efficacy values for single capped fluorescent lamps, working only on electronic ballast*

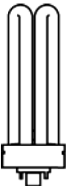
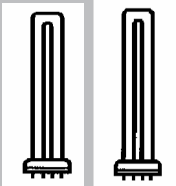
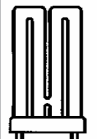
Four parallel tubes, lamp cap GX24q (4 pin)		Long single parallel tube, lamp cap 2G11 (4 pin)		4 legs in one plane, lamp cap 2G10 (4 pin)	
					
Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
57	75	18	67	18	61
70	74	24	75	24	71
		34	82	36	78
		36	81		
		40	83		
		55	82		
		80	75		

Table 4*Rated minimum efficacy values for single capped fluorescent lamps with square shape or (very) high output*

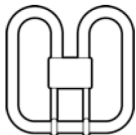
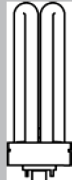
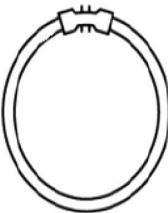
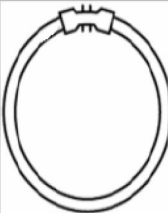
Single flat plane tube, lamp cap GR8 (2 pin), GR10q (4 pin) or GRY10q3 (4 pin)		Four or three parallel T5 tubes, lamp cap 2G8 (4 pin)	
			
Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
10	65	60	67
16	66	82	75
21	64	85	71
28	73	120	75
38	71		
55	71		

Table 5*Rated minimum efficacy values for T9 and T5 Circular lamps*

T9 Circular, tube diameter 29 mm with base G10q		T5 Circular, tube diameter 16 mm with base 2GX13	
			
Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
22	52	22	77
32	64	40	78
40	70	55	75
60	60	60	80

Corrections applicable to both single and double capped fluorescent lamps

The required luminous efficacy at 25 °C may be lower than required in the tables above in the following cases:

Table 6

Deduction percentages for rated minimum efficacy values for fluorescent lamps with high colour temperature, high colour rendering and/or second lamp envelope

Lamp parameter	Deduction from luminous efficacy at 25 °C
$T_c \geq 5\,000\text{ K}$	– 10 %
$95 > Ra > 90$	– 20 %
$Ra > 95$	– 30 %
Second lamp envelope	– 10 %

The indicated deductions are cumulative.

Single and double capped fluorescent lamps that do not have their optimum temperature at 25 °C must still comply at their optimum temperature with the luminous efficacy requirements as set out in the tables above.

B. Second stage requirements

Three years after the entry into force of this Regulation, the following efficacy requirements shall apply to fluorescent lamps without integrated ballast and high-intensity discharge lamps.

Double capped fluorescent lamps

The requirements applicable to double capped fluorescent lamps 26 mm in diameter (T8) during the first stage shall apply to all double capped fluorescent lamps of other diameters than those covered in the first stage.

These lamps must conform to the minimum efficacy of the T8 lamp which is their nearest equivalent with regards to wattage. If the nominal wattage is higher than the highest wattage in the table, it shall conform to the efficacy of that highest wattage.

The corrections defined for the first stage (Table 6) shall continue to apply.

High-intensity discharge lamps

Lamps with $T_c \geq 5\,000\text{ K}$ or equipped with a second lamp envelope shall fulfil at least 90 % of the applicable lamp efficacy requirements in tables 7, 8 and 9.

High Pressure Sodium lamps with $Ra \leq 60$ shall have at least the rated luminous efficacies in Table 7:

Table 7

Rated minimum efficacy values for high pressure sodium lamps

Nominal Lamp wattage [W]	Rated Lamp Efficacy [lm/W] — Clear lamps	Rated Lamp Efficacy [lm/W] — Not clear lamps
$W \leq 45$	≥ 60	≥ 60
$45 < W \leq 55$	≥ 80	≥ 70
$55 < W \leq 75$	≥ 90	≥ 80
$75 < W \leq 105$	≥ 100	≥ 95
$105 < W \leq 155$	≥ 110	≥ 105
$155 < W \leq 255$	≥ 125	≥ 115
$255 < W \leq 605$	≥ 135	≥ 130

The requirements in Table 7 shall apply to high pressure sodium retrofit lamps designed to operate on high pressure mercury vapour lamp control gear only 6 years after the entry into force of this Regulation.

Metal halide lamps with $R_a \leq 80$ and high pressure sodium lamps with $R_a > 60$ shall have at least the rated luminous efficacies in Table 8:

Table 8

Rated minimum efficacy values for Metal Halide Lamps

Nominal Lamp Wattage [W]	Rated Lamp Efficacy [lm/W] — Clear lamps	Rated Lamp Efficacy [lm/W] — Not clear lamps
$W \leq 55$	≥ 60	≥ 60
$55 < W \leq 75$	≥ 75	≥ 70
$75 < W \leq 105$	≥ 80	≥ 75
$105 < W \leq 155$	≥ 80	≥ 75
$155 < W \leq 255$	≥ 80	≥ 75
$255 < W \leq 405$	≥ 85	≥ 75

Six years after the entry into force of this Regulation, other high intensity discharge lamps shall have at least the rated luminous efficacies in Table 9:

Table 9

Rated minimum efficacy values for other high intensity discharge lamps

Nominal Lamp wattage [W]	Rated Lamp Efficacy [lm/W]
$W \leq 40$	50
$40 < W \leq 50$	55
$50 < W \leq 70$	65
$70 < W \leq 125$	70
$125 < W$	75

C. Third stage requirements

Eight years after the entry into force of this Regulation:

Fluorescent lamps without integrated ballast shall be designed to operate with ballasts of energy efficiency class at least A2 according to Annex III.2.2.

Metal halide lamps shall have at least the rated luminous efficacies in Table 10:

Table 10

Rated minimum efficacy values for metal halide lamps (third stage)

Nominal Lamp wattage (W)	Rated Lamp Efficacy (lm/W) — Clear lamps	Rated Lamp Efficacy (lm/W) — Not clear lamps
$W \leq 55$	≥ 70	≥ 65
$55 < W \leq 75$	≥ 80	≥ 75
$75 < W \leq 105$	≥ 85	≥ 80
$105 < W \leq 155$	≥ 85	≥ 80
$155 < W \leq 255$	≥ 85	≥ 80
$255 < W \leq 405$	≥ 90	≥ 85

Lamps equipped with $T_c \geq 5\,000$ K or with a second lamp envelope shall fulfil at least 90 % of the applicable lamp efficacy requirements.

1.2. Lamp performance requirements

A. First stage requirements

One year after the entry into force of this Regulation:

Fluorescent lamps without integrated ballast covered by the requirements of Annex III.1.1.A shall have a colour rendering index (Ra) of at least 80.

B. Second stage requirements

Three years after the entry into force of this Regulation:

Fluorescent lamps without integrated ballast shall have a colour rendering index (Ra) of at least 80. They shall have at least the lamp lumen maintenance factors in Table 11:

Table 11

Lamp lumen maintenance factors for single and double-capped fluorescent lamps — Stage 2

Lamp lumen maintenance factor	Burning hours			
Lamp types	2 000	4 000	8 000	16 000
Double-Capped Fluorescent lamps operating on non-high frequency ballasts	0,95	0,92	0,90	—
Double-Capped Fluorescent lamps on high frequency ballast with warmstart	0,97	0,95	0,92	0,90
Single-Capped Fluorescent lamps operating on non-high frequency ballasts	0,95	0,90	0,80	—
Single-Capped Fluorescent lamps on high frequency ballast with warmstart	0,97	0,90	0,80	—

Fluorescent lamps without integrated ballast shall have at least the lamp survival factors in Table 12:

Table 12

Lamp survival factors for single and double-capped fluorescent lamps — Stage 2

Lamp survival factor	Burning hours			
Lamp types	2 000	4 000	8 000	16 000
Double-Capped Fluorescent lamps operating on non-high frequency ballasts	0,99	0,97	0,90	—
Double-Capped Fluorescent lamps on high frequency ballast with warmstart	0,99	0,97	0,92	0,90
Single-Capped Fluorescent lamps operating on non-high frequency ballasts	0,95	0,92	0,50	—
Single-Capped Fluorescent lamps on high frequency ballast with warmstart	0,95	0,90	0,87	—

High pressure sodium lamps shall have at least the lamp lumen maintenance factors and lamp survival factors in Table 13:

Table 13

Lamp lumen maintenance factors and lamp survival factors for high pressure sodium lamps — Stage 2

Burning hours	Lamp lumen maintenance factor	Lamp survival factor
12 000 ($P \leq 75$ W)	> 0,80	> 0,90
16 000 ($P > 75$ W)	> 0,85	> 0,90

C. Third stage requirements

Eight years after the entry into force of this Regulation:

Metal halide lamps shall have at least the lamp lumen maintenance factors and lamp survival factors in Table 14:

Table 14

Lamp lumen maintenance factors and lamp survival factors for metal halide lamps — Stage 3

Burning hours	Lamp lumen maintenance factor	Lamp survival factor
12 000	> 0,80	> 0,80

1.3. Product information requirements on lamps

One year after the entry into force of this Regulation, manufacturers shall provide at least the following information on free-access websites and in other forms they deem appropriate for each of their fluorescent lamps without integrated ballast and each of their high intensity discharge lamps. That information shall also be contained in the technical documentation file drawn up for the purposes of conformity assessment pursuant to Article 8 of Directive 2005/32/EC.

- (a) Nominal and rated lamp wattage.
- (b) Nominal and rated lamp luminous flux.
- (c) Rated lamp efficacy at 100 h in standard conditions (25 °C, for T5 lamps at 35 °C). For fluorescent lamps both at 50 Hz (mains frequency) operation (where applicable) and at High Frequency (> 50 Hz) operation (where applicable) for the same rated luminous flux in all cases, indicating for High Frequency operation the calibration current of the test conditions and/or the rated voltage of the HF generator with the resistance. It shall be stated in a conspicuous manner that the power dissipated by auxiliary equipment such as ballasts is not included in the power consumed by the source.
- (d) Rated lamp Lumen Maintenance Factor at 2 000 h, 4 000 h, 6 000 h, 8 000 h, 12 000 h, 16 000 h and 20 000 h (up to 8 000 h only for new lamps on the market where no data is yet available), indicating which operation mode of the lamp was used for the test if both 50 Hz and High Frequency operation are possible.
- (e) Rated lamp Survival Factor at 2 000 h, 4 000 h, 6 000 h, 8 000 h, 12 000 h, 16 000 h and 20 000 h (up to 8 000 h only for new lamps on the market where no data is yet available), indicating which operation mode of the lamp was used for the test if both 50 Hz and High Frequency operation are possible.

- (f) lamp mercury content as X.X mg.
- (g) Colour Rendering Index (Ra) of the lamp.
- (h) Colour temperature of the lamp.
- (i) Ambient temperature at which the lamp was designed to maximise its luminous flux. If the lamp does not fulfil at least 90 % of the respective luminous efficacy requirement in Annex III.1.1 at an ambient temperature of 25 °C (100 % for T5 lamps), it shall be stated that the lamp is not suitable for indoor use at standard room temperatures.

2. REQUIREMENTS ON BALLASTS FOR FLUORESCENT LAMPS WITHOUT INTEGRATED BALLAST AND BALLASTS FOR HIGH INTENSITY DISCHARGE LAMPS

2.1. Ballast energy performance requirements

Multiwattage ballasts shall comply with the requirements below according to each wattage on which they operate.

A. First stage requirements

One year after this Regulation comes into force:

The minimum energy efficiency index class shall be B2 for ballasts covered by table 17 in Annex III.2.2, A3 for the ballasts covered by table 18, and A1 for dimmable ballasts covered by table 19.

At the dimming position corresponding to 25 % of the lumen output of the operated lamp, the input power (P_{in}) of the lamp-ballast circuit shall not exceed:

$$P_{in} < 50 \% * P_{Lrated} / \eta_{ballast}$$

Where P_{Lrated} is the rated lamp power and $\eta_{ballast}$ is the minimum energy efficiency limit of the respective EEI class.

The power consumption of the fluorescent lamp ballasts shall not exceed 1,0 W when operated lamps do not emit any light in normal operating conditions and when other possible connected components (network connections, sensors etc.) are disconnected. If they cannot be disconnected, their power shall be measured and deducted from the result.

B. Second stage requirements

Three years after the implementing measure comes into force:

Ballasts for high intensity discharge lamps shall have the efficiency described in Table 15.

Table 15

Minimum efficiency for ballasts for high intensity discharge lamps — Stage 2

Nominal lamp wattage (P) W	Minimum ballast efficiency ($\eta_{ballast}$) %
$P \leq 30$	65
$30 < P \leq 75$	75
$75 < P \leq 105$	80
$105 < P \leq 405$	85
$P > 405$	90

The power consumption of ballasts used with fluorescent lamps without integrated ballast shall not exceed 0,5 W when operated lamps do not emit any light in normal operating conditions. This requirement shall apply to ballasts when other possible connected components (network connections, sensors etc.) are disconnected. If they cannot be disconnected, their power shall be measured and deducted from the result.

C. Third stage requirements

Eight years after this Regulation comes into force:

Ballasts for fluorescent lamps without integrated ballast shall have the efficiency:

$$\eta_{\text{ballast}} \geq \text{EBbFL}$$

where EBbFL is defined in Annex II.3.g

Ballasts for high intensity discharge lamps shall have the efficiency described in Table 16.

Table 16

Minimum efficiency for ballasts for high intensity discharge lamps — Stage 3

Nominal lamp wattage (P) W	Minimum ballast efficiency (η_{ballast}) %
$P \leq 30$	78
$30 < P \leq 75$	85
$75 < P \leq 105$	87
$105 < P \leq 405$	90
$P > 405$	92

2.2. Product information requirements on ballasts

Manufacturers of ballasts shall provide at least the following information on free-access websites and in other forms they deem appropriate for each of their ballast models. That information shall also be affixed in a distinct and durable form to the ballast. It shall also be contained in the technical documentation file drawn up for the purposes of conformity assessment pursuant to Article 8 of Directive 2005/32/EC.

A. First stage requirements

One year after the entry into force of this Regulation:

for ballasts for fluorescents lamps, an energy efficiency index (EEI) class shall be provided as defined below.

'Energy efficiency index' (EEI) means a classification system of ballasts for fluorescent lamps without integrated ballasts in classes according to efficiency limit values. The classes for non-dimmable ballasts are (in descending order of efficiency) A2 BAT, A2, A3, B1, B2 and for dimmable ballasts A1 BAT and A1.

Table 17 contains the EEI classes for ballasts which are designed to operate the lamps mentioned in the table or other lamps which are designed to be operated by the same ballasts as the lamps mentioned in the table (meaning that the data of the reference ballast is equal).

Table 17*Energy efficiency index requirements for non-dimmable ballasts for fluorescent lamps*

LAMP DATA					BALLAST EFFICIENCY (Plamp/Pinput)				
					Non-dimmable				
Lamp type	Nominal Wattage	ILCOS CODE	Rated/typical wattage		A2 BAT	A2	A3	B1	B2
			50 Hz	HF					
	W		W	W					
T8	15	FD-15-E-G13-26/450	15	13,5	87,8 %	84,4 %	75,0 %	67,9 %	62,0 %
T8	18	FD-18-E-G13-26/600	18	16	87,7 %	84,2 %	76,2 %	71,3 %	65,8 %
T8	30	FD-30-E-G13-26/900	30	24	82,1 %	77,4 %	72,7 %	79,2 %	75,0 %
T8	36	FD-36-E-G13-26/1200	36	32	91,4 %	88,9 %	84,2 %	83,4 %	79,5 %
T8	38	FD-38-E-G13-26/1050	38,5	32	87,7 %	84,2 %	80,0 %	84,1 %	80,4 %
T8	58	FD-58-E-G13-26/1500	58	50	93,0 %	90,9 %	84,7 %	86,1 %	82,2 %
T8	70	FD-70-E-G13-26/1800	69,5	60	90,9 %	88,2 %	83,3 %	86,3 %	83,1 %
TC-L	18	FSD-18-E-2G11	18	16	87,7 %	84,2 %	76,2 %	71,3 %	65,8 %
TC-L	24	FSD-24-E-2G11	24	22	90,7 %	88,0 %	81,5 %	76,0 %	71,3 %
TC-L	36	FSD-36-E-2G11	36	32	91,4 %	88,9 %	84,2 %	83,4 %	79,5 %
TCF	18	FSS-18-E-2G10	18	16	87,7 %	84,2 %	76,2 %	71,3 %	65,8 %
TCF	24	FSS-24-E-2G10	24	22	90,7 %	88,0 %	81,5 %	76,0 %	71,3 %
TCF	36	FSS-36-E-2G10	36	32	91,4 %	88,9 %	84,2 %	83,4 %	79,5 %
TC-D / DE	10	FSQ-10-E-G24q=1 FSQ-10-I-G24d=1	10	9,5	89,4 %	86,4 %	73,1 %	67,9 %	59,4 %
TC-D / DE	13	FSQ-13-E-G24q=1 FSQ-13-I-G24d=1	13	12,5	91,7 %	89,3 %	78,1 %	72,6 %	65,0 %
TC-D / DE	18	FSQ-18-E-G24q=2 FSQ-18-I-G24d=2	18	16,5	89,8 %	86,8 %	78,6 %	71,3 %	65,8 %
TC-D / DE	26	FSQ-26-E-G24q=1 FSQ-26-I-G24d=1	26	24	91,4 %	88,9 %	82,8 %	77,2 %	72,6 %
TC-T / TE	13	FSM-13-E-GX24q=1 FSM-13-I-GX24d=1	13	12,5	91,7 %	89,3 %	78,1 %	72,6 %	65,0 %
TC-T / TE	18	FSM-18-E-GX24q=2 FSM-18-I-GX24d=2	18	16,5	89,8 %	86,8 %	78,6 %	71,3 %	65,8 %
TC-T / TC-TE	26	FSM-26-E-GX24q=3 FSM-26-I-GX24d=3	26,5	24	91,4 %	88,9 %	82,8 %	77,5 %	73,0 %
TC-DD / DDE	10	FSS-10-E-GR10q FSS-10-L/P/H-GR10q	10,5	9,5	86,4 %	82,6 %	70,4 %	68,8 %	60,5 %
TC-DD / DDE	16	FSS-16-E-GR10q FSS-16-I-GR10q FSS-10-L/P/H-GR10q	16	15	87,0 %	83,3 %	75,0 %	72,4 %	66,1 %
TC-DD / DDE	21	FSS-21-E-GR10q FSS-21-I-GR10q FSS-21-L/P/H-GR10q	21	19	89,4 %	86,4 %	79,2 %	73,9 %	68,8 %
TC-DD / DDE	28	FSS-28-E-GR10q FSS-28-I-GR10q FSS-28-L/P/H-GR10q	28	26	89,7 %	86,7 %	81,3 %	78,2 %	73,9 %
TC-DD / DDE	38	FSS-38-E-GR10q FSS-38-L/P/H-GR10q	38,5	36	92,3 %	90,0 %	85,7 %	84,1 %	80,4 %

TC	5	FSD-5-I-G23 FSD-5-E-2G7	5,4	5	72,7 %	66,7 %	58,8 %	49,3 %	41,4 %
TC	7	FSD-7-I-G23 FSD-7-E-2G7	7,1	6,5	77,6 %	72,2 %	65,0 %	55,7 %	47,8 %
TC	9	FSD-9-I-G23 FSD-9-E-2G7	8,7	8	78,0 %	72,7 %	66,7 %	60,3 %	52,6 %
TC	11	FSD-11-I-G23 FSD-11-E-2G7	11,8	11	83,0 %	78,6 %	73,3 %	66,7 %	59,6 %
T5	4	FD-4-E-G5-16/150	4,5	3,6	64,9 %	58,1 %	50,0 %	45,0 %	37,2 %
T5	6	FD-6-E-G5-16/225	6	5,4	71,3 %	65,1 %	58,1 %	51,8 %	43,8 %
T5	8	FD-8-E-G5-16/300	7,1	7,5	69,9 %	63,6 %	58,6 %	48,9 %	42,7 %
T5	13	FD-13-E-G5-16/525	13	12,8	84,2 %	80,0 %	75,3 %	72,6 %	65,0 %
T9-C	22	FSC-22-E-G10q-29/200	22	19	89,4 %	86,4 %	79,2 %	74,6 %	69,7 %
T9-C	32	FSC-32-E-G10q-29/300	32	30	88,9 %	85,7 %	81,1 %	80,0 %	76,0 %
T9-C	40	FSC-40-E-G10q-29/400	40	32	89,5 %	86,5 %	82,1 %	82,6 %	79,2 %
T2	6	FDH-6-L/P-W4.3x8.5d-7/220		5	72,7 %	66,7 %	58,8 %		
T2	8	FDH-8-L/P-W4.3x8.5d-7/320		7,8	76,5 %	70,9 %	65,0 %		
T2	11	FDH-11-L/P-W4.3x8.5d-7/420		10,8	81,8 %	77,1 %	72,0 %		
T2	13	FDH-13-L/P-W4.3x8.5d-7/520		13,3	84,7 %	80,6 %	76,0 %		
T2	21	FDH-21-L/P-W4.3x8.5d-7/		21	88,9 %	85,7 %	79,2 %		
T2	23	FDH-23-L/P-W4.3x8.5d-7/		23	89,8 %	86,8 %	80,7 %		
T5-E	14	FDH-14-G5-L/P-16/550		13,7	84,7 %	80,6 %	72,1 %		
T5-E	21	FDH-21-G5-L/P-16/850		20,7	89,3 %	86,3 %	79,6 %		
T5-E	24	FDH-24-G5-L/P-16/550		22,5	89,6 %	86,5 %	80,4 %		
T5-E	28	FDH-28-G5-L/P-16/1150		27,8	89,8 %	86,9 %	81,8 %		
T5-E	35	FDH-35-G5-L/P-16/1450		34,7	91,5 %	89,0 %	82,6 %		
T5-E	39	FDH-39-G5-L/P-16/850		38	91,0 %	88,4 %	82,6 %		
T5-E	49	FDH-49-G5-L/P-16/1450		49,3	91,6 %	89,2 %	84,6 %		
T5-E	54	FDH-54-G5-L/P-16/1150		53,8	92,0 %	89,7 %	85,4 %		
T5-E	80	FDH-80-G5-L/P-16/1150		80	93,0 %	90,9 %	87,0 %		
T5-E	95	FDH-95-G5-L/P-16/1150		95	92,7 %	90,5 %	84,1 %		
T5-E	120	FDH-120-G5-L/P-16/1450		120	92,5 %	90,2 %	84,5 %		
T5-C	22	FSCH-22-L/P-2GX13-16/225		22,3	88,1 %	84,8 %	78,8 %		
T5-C	40	FSCH-40-L/P-2GX13-16/300		39,9	91,4 %	88,9 %	83,3 %		
T5-C	55	FSCH-55-L/P-2GX13-16/300		55	92,4 %	90,2 %	84,6 %		
T5-C	60	FSCH-60-L/P-2GX13-16/375		60	93,0 %	90,9 %	85,7 %		
TC-LE	40	FSDH-40-L/P-2G11		40	91,4 %	88,9 %	83,3 %		
TC-LE	55	FSDH-55-L/P-2G11		55	92,4 %	90,2 %	84,6 %		
TC-LE	80	FSDH-80-L/P-2G11		80	93,0 %	90,9 %	87,0 %		
TC-TE	32	FSMH-32-L/P-2GX24q=3		32	91,4 %	88,9 %	82,1 %		
TC-TE	42	FSMH-42-L/P-2GX24q=4		43	93,5 %	91,5 %	86,0 %		
TC-TE	57	FSM6H-57-L/P-2GX24q=5 FSM8H-57-L/P-2GX24q=5		56	91,4 %	88,9 %	83,6 %		
TC-TE	70	FSM6H-70-L/P-2GX24q=6 FSM8H-70-L/P-2GX24q=6		70	93,0 %	90,9 %	85,4 %		
TC-TE	60	FSM6H-60-L/P-2G8=1		63	92,3 %	90,0 %	84,0 %		
TC-TE	62	FSM8H-62-L/P-2G8=2		62	92,2 %	89,9 %	83,8 %		
TC-TE	82	FSM8H-82-L/P-2G8=2		82	92,4 %	90,1 %	83,7 %		
TC-TE	85	FSM6H-85-L/P-2G8=1		87	92,8 %	90,6 %	84,5 %		
TC-TE	120	FSM6H-120-L/P-2G8=1 FSM8H-120-L/P-2G8=1		122	92,6 %	90,4 %	84,7 %		
TC-DD	55	FSSH-55-L/P-GR10q		55	92,4 %	90,2 %	84,6 %		

In addition, non-dimmable ballasts not included in table 17 shall be assigned an EEI depending on their efficiency as described in Table 18:

Table 18

Energy efficiency index requirements for non-dimmable ballasts for fluorescent lamps not included in Table 17

η_{ballast}	Energy Efficiency Index
$\geq 0,94 * \text{EBb}_{\text{FL}}$	A3
$\geq \text{EBb}_{\text{FL}}$	A2
$\geq 1-0,75*(1-\text{EBb}_{\text{FL}})$	A2 BAT

Where EBb_{FL} is defined in Annex II.3.g.

Furthermore, dimmable fluorescent lamp ballasts receive EEI classes according to the class into which the ballast would fall when it is operated at the 100 % lumen output, as described in Table 19.

Table 19

Energy efficiency index requirements for dimmable ballasts for fluorescent lamps

Complied class at 100 % lumen output	Energy Efficiency Index of dimmable ballast
A3	A1
A2	A1 BAT

Multi-wattage ballasts shall either be classified according to their efficiency under the lowest (worst) efficiency, or a relevant class shall be indicated for each operated lamp.

B. Second stage requirements

Three years after the entry into force of this Regulation:

for ballasts for high intensity discharge lamps, the efficiency of the ballast as defined in Annex II.1.d shall be indicated.

3. REQUIREMENTS FOR LUMINAIRES FOR FLUORESCENT LAMPS WITHOUT INTEGRATED BALLAST AND FOR LUMINAIRES FOR HIGH INTENSITY DISCHARGE LAMPS

3.1. Luminaire energy performance requirements

A. First stage requirements

One year after this Regulation comes into force:

the power consumption of luminaires for fluorescent lamps without integrated ballast shall not exceed the sum of the power consumption of the incorporated ballasts when the lamps they are normally operating do not emit any light when other possible connected components (network connections, sensors etc.) are disconnected. If they cannot be disconnected, their power shall be measured and deducted from the result.

B. Second stage requirements

Three years after this Regulation comes into force:

Luminaires for fluorescent lamps without integrated ballast and for high intensity discharge lamps shall be compatible with ballasts complying with the third stage requirements, except luminaires with ingress protection grade at least IP4X.

The power consumption of luminaires for high intensity discharge lamps shall not exceed the sum of the power consumption of the incorporated ballasts when the lamps they are normally operating do not emit any light when other possible connected components (network connections, sensors etc.) are disconnected. If they cannot be disconnected, their power shall be measured and deducted from the result.

C. Third stage requirements

Eight years after this Regulation comes into force:

All luminaires for fluorescent lamps without integrated ballast and for high intensity discharge lamps shall be compatible with ballasts complying with the third stage requirements.

3.2. Product information requirements on luminaires**A. First stage requirements**

18 months after this Regulation comes into force:

Manufacturers of luminaires for fluorescent lamps without integrated ballast with total lamp lumen above 2 000 lumen shall provide at least the following information on free-access websites and in other forms they deem appropriate for each of their luminaire models. That information shall also be contained in the technical documentation file drawn up for the purposes of conformity assessment pursuant to Article 8 of Directive 2005/32/EC:

- (a) if the luminaire is placed on the market together with the ballast, information on the efficiency of the ballast according to Annex III.2.2, in accordance with the ballast manufacturer's data;
- (b) if the luminaire is placed on the market together with the lamp, lamp efficacy (lm/W) of the lamp, in accordance with the lamp manufacturer's data;
- (c) if the ballast or the lamp are not placed on the market together with the luminaire, references used in manufacturers' catalogues must be provided on the types of lamps or ballasts compatible with the luminaire (e.g. ILCOS code for the lamps);
- (d) maintenance instructions to ensure that the luminaire maintains, as far as possible, its original quality throughout its lifetime;
- (e) disassembly instructions.

B. Second stage requirements

Three years after this Regulation comes into force:

the information provision requirements of the first stage shall also apply to luminaires for high intensity discharge lamps with total lamp lumen above 2 000 lumen. In addition, all luminaires for high intensity discharge lamps shall indicate that they are designed for either clear and/or coated lamps within the meaning of Annex II.

ANNEX IV

Verification procedure for market surveillance purposes

When performing the market surveillance checks referred to in Article 3(2) of Directive 2005/32/EC, the authorities of the Member States shall apply the following verification procedure for the requirements set out in Annex III.

For lamps

Member State authorities shall test a sample batch of minimum twenty 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 III Part 1, as applicable, to this 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.

For ballasts and luminaires

Member State authorities shall test one single unit.

The model shall be considered to comply with the provisions set out in Annex III Parts 2 and 3, as applicable, to this Regulation if the results do not exceed the limit values.

Otherwise, three more units shall be tested. The model shall be considered to comply with this Regulation if the average of the results of the latter three tests does not exceed the limit values.

Otherwise, the model shall be considered not to comply.

ANNEX V

Indicative benchmarks for fluorescent and high intensity discharge products

(for information)

At the time of adoption of this Regulation, the best available technology on the market for the products concerned was identified as follows.

1. Lamp efficacy and lamp life

For single and double capped fluorescent lamps, the benchmark values are the best values included in the tables in Annex III Parts 1.1 and 1.2.

For high-intensity discharge lamps

Metal Halide Lamps (clear and frosted):

Table 20

Indicative rated efficacy and performance values for metal halide lamps (benchmark level)

	Ra ≥ 80	80 > Ra ≥ 60
Nominal Lamp Wattage [W]	Rated Lamp Efficacy [lm/W]	Rated Lamp Efficacy [lm/W]
W ≤ 55	≥ 80	≥ 95
55 < W ≤ 75	≥ 90	≥ 113
75 < W ≤ 105	≥ 90	≥ 116
105 < W ≤ 155	≥ 98	≥ 117
155 < W ≤ 255	≥ 105	
255 < W ≤ 405	≥ 105	

Burning Hours	Lamp Lumen Maintenance Factor	Lamp Survival Factor
12 000	> 0,80	> 0,80

High-pressure sodium lamps (clear and frosted):

Table 21

Indicative rated efficacy and performance values for high pressure sodium lamps (benchmark level)

Nominal Lamp Wattage [W]	Rated Lamp Efficacy [lm/W]
W ≤ 55	≥ 88
55 < W ≤ 75	≥ 91
75 < W ≤ 105	≥ 107
105 < W ≤ 155	≥ 110
155 < W ≤ 255	≥ 128
255 < W ≤ 405	≥ 138

Burning Hours	Lamp Lumen Maintenance Factor	Lamp Survival Factor
16 000	> 0,94	> 0,92

2. Lamp mercury content

The energy efficient fluorescent lamps with the lowest mercury content include not more than 1,4 mg mercury and the energy efficient high-intensity discharge lamps with the lowest mercury content include not more than 12 mg of mercury.

3. Ballast performance

For applications where dimming is beneficial, the benchmarks are as follows:

Fluorescent lamp ballasts with energy efficiency index A1 BAT that are continuously dimmable down to 10 % light output.

Ballasts for dimmable high intensity discharge lamps which can be dimmed down to 40 % light output having ballast efficiency of 0,9 (best known result, actual dimming possibilities may depend on the HID lamp type used with the ballast).

4. Luminaire product information

The following product information is provided on free-access websites and in other forms the manufacturers deem appropriate for benchmark luminaires in addition to the provisions in Annex III.3.2:

CEN flux code of the luminaire or the complete photometric file.

ANNEX VI

Indicative benchmarks for products meant to be installed as office lighting

(for information)

At the time of adoption of this Regulation, the best available technology on the market for the products concerned was identified as follows.

1. LAMP BENCHMARKS

1.1. **Lamp performance**

Lamps have an efficacy according to Annex V.

These lamps have the lamp lumen maintenance factors (LLMF) and lamp survival factors (LSF) in Table 22:

Table 22*Indicative LLMF and LSF for office lighting lamps (benchmark level)*

Burning hours	2 000	4 000	8 000	16 000
LLMF	0,97	0,93	0,90	0,90
LSF	0,99	0,99	0,98	0,93

In addition, these lamps are dimmable to 10 % or less of their light output.

1.2. **Product information for lamps**

The following information is provided on free-access websites and in other forms the manufacturers deem appropriate for lamps:

The information required by Annex III.1.3, as applicable.

2. LIGHT SOURCE CONTROL GEAR BENCHMARKS

2.1. **Light source control gear performance**

Fluorescent lamp ballasts have an energy efficiency index of at least A1 (BAT) according to Annex III.2.2 and are dimmable.

High intensity discharge lamp ballasts have an efficiency of 88 % (≤ 100 W lamp power) and else 90 % and are dimmable if the sum of lamp powers operated on the same ballast is above 50 W.

Any other types of light source control gear have an efficiency of 88 % (≤ 100 W input power) and else 90 % when measured according to the applicable measurement standards and are dimmable for lamps above total input power 55 W.

2.2. **Product information for light source control gear**

The following information is provided on free-access websites and in other forms the manufacturers deem appropriate for light source control gear:

Information on the efficiency of the ballast or the applicable type of light source control gear.

3. LUMINAIRE BENCHMARKS

3.1. **Luminaire performance**

Luminaires have a luminaire maintenance factor LMF $> 0,95$ in normal office pollution degrees with a cleaning cycle of 4 years.

If they are fluorescent or HID lamp luminaires, they are compatible with at least one lamp type complying with the benchmarks of Annex V.

In addition, these luminaires are compatible with lighting control systems offering the following features:

- presence detection,
- light responsive dimming (for daylight and/or room reflectance variations),
- dimming to accompany changes in illumination requirements (during the working day, over a longer period or due to changes in functionality),
- dimming to compensate for: luminaire pollution, changes in lamp lumen output over its life time and changes in lamp efficacy when the lamp is replaced.

The compatibility can also be ensured by incorporating the appropriate components in the luminaires themselves.

The compatibility or the features offered by the incorporated components is indicated in the luminaire's product documentation.

3.2. Product information on luminaires

The following information is provided on free-access websites and in other forms the manufacturers deem appropriate for each of the luminaire models:

The information required by Annex III.3.2 and Annex V, as applicable.

In addition, for all luminaires, excluding luminaires with bare lamps and no optics, applicable luminaire maintenance factor (LMF) value data is provided with cleaning instructions if needed up to 4 years, using a similar table:

Table 23

Indicative luminaire maintenance factor values (benchmark level)

LMF values							
Environment	cleaning intervals in years						
	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Very Clean							
Clean							
Normal (optional)							
Dirty (optional)							

The table is accompanied by a disclaimer that it contains only indicative values that may not reflect the achievable maintenance values in a particular installation.

For luminaires for directional light sources such as reflector lamps or LEDs, only the applicable information is provided, e.g. $LLMF \times LMF$ instead of simply the LMF.

ANNEX VII

Indicative benchmarks for products meant to be installed as public street lighting

(for information)

At the time of adoption of this Regulation, the best available technology on the market for the products concerned was identified as follows.

1. LAMP BENCHMARKS**1.1. Lamp performance**

Lamps have an efficacy according to Annex V.

These lamps have the lamp lumen maintenance factors (LLMF) and lamp survival factors (LSF) in Table 24:

Table 24*Indicative LLMF and LSF for public street lighting lamps (benchmark level)*

Burning hours	2 000	4 000	8 000	16 000
LLMF	0,98	0,97	0,95	0,92
LSF	0,99	0,98	0,95	0,92

In addition, these lamps are dimmable to at least 50 % of their light output when the rated lamp lumen output is above 9 000 lumen.

1.2. Product information for lamps

The following information is provided on free-access websites and in other forms the manufacturers deem appropriate for lamps:

The information required by Annex III.1.3, as applicable.

2. LIGHT SOURCE CONTROL GEAR BENCHMARKS**2.1. Light source control gear performance**

Fluorescent lamp ballasts have an energy efficiency index of at least A1 BAT according to Annex III.2.2 and are dimmable.

High intensity discharge lamp ballasts have an efficiency of above 87 % (≤ 100 W lamp power) and else above 89 % measured according to Annex II and are dimmable if the sum of lamp powers operated on the same ballast is above or equal to 55 W.

Any other types of light source control gear have an efficiency of above 87 % (≤ 100 W input power) and else above 89 % when measured according to the applicable measurement standards and are dimmable for lamps equal or above total input power 55 W.

2.2. Product information for light source control gear

The following information is provided on free-access websites and in other forms the manufacturers deem appropriate for light source control gear:

Information on the efficiency of the ballast or the applicable type of light source control gear.

3. LUMINAIRE BENCHMARKS

3.1. Luminaire performance

Luminaires have an optical system that has an ingress protection rating as follows:

- IP65 for road classes ME1 to ME6 and MEW1 to MEW6
- IP5x for road classes CE0 to CE5, S1 to S6, ES, EV and A

The proportion of the light emitted by an optimally installed luminaire going above the horizon should be limited to:

Table 25

Indicative maximum Upward Light Output Ratio (ULOR) values per road class for street lighting luminaires (at benchmark level)

Road classes ME1 to ME6 and MEW1 to MEW6, all lumen outputs	3 %
Road classes CE0 to CE5, S1 to S6, ES, EV and A:	
— 12 000 lm ≤ light source	5 %
— 8 500 lm ≤ light source < 12 000 lm	10 %
— 3 300 lm ≤ light source < 8 500 lm	15 %
— light source < 3 300 lm	20 %

In areas where light pollution is of concern, the maximum proportion of the light going above the horizon is not more than 1 % for all road classes and lumen outputs.

Luminaires are designed so that they avoid emitting obtrusive light to the maximum extent. However, any improvement of the luminaire aiming at reducing the emission of obtrusive light is not to the detriment of the overall energy efficiency of the installation for which it is designed.

If they are luminaires for fluorescent or high-intensity discharge lamps, they are compatible with at least one lamp type complying with the benchmarks of Annex V.

Luminaires are compatible with installations equipped with appropriate dimming and control systems that take account of daylight availability, traffic and weather conditions, and also compensate for the variation over time in surface reflection and for the initial dimensioning of the installation due to the lamp lumen maintenance factor.

3.2. Product information on luminaires

The following information is provided on free-access websites and in other forms the manufacturers deem appropriate for the relevant models:

- (a) the information required by Annex III.3.2 and Annex V, as applicable;
- (b) Utilisation Factor values for standard road conditions in tabular form for the defined road class. The table contains the most energy efficient UF values for different road widths, different pole heights, maximum pole distances, luminaire overhang and inclination, as appropriate for the given road class and luminaire design;
- (c) installation instructions for optimising the Utilisation Factor;
- (d) additional installation recommendations to minimise obtrusive light (if not conflicting with UF optimisation and safety);

- (e) for all luminaires, excluding luminaires with bare lamps and no optics, applicable luminaire maintenance factor (LMF) value data is provided according using a similar table:

Table 26

Indicative luminaire maintenance factor values (benchmark level)

LMF values							
Pollution category	Exposure time in years						
	1,0	1,5	2,0	2,5	3,0	3,5	4,0
High							
Medium							
Low							

For luminaires for directional light sources such as reflector lamps or LEDs, only the applicable information is provided, e.g. LLMF × LMF instead of simply the LMF.

III

(Acts adopted under the EU Treaty)

ACTS ADOPTED UNDER TITLE V OF THE EU TREATY

POLITICAL AND SECURITY COMMITTEE DECISION *Atalanta*/1/2009

of 17 March 2009

on the appointment of an EU Force Commander for the European Union military operation to contribute to the deterrence, prevention and repression of acts of piracy and armed robbery off the Somali coast (*Atalanta*)

(2009/288/CFSP)

THE POLITICAL AND SECURITY COMMITTEE,

Having regard to the Treaty on European Union, and in particular the third subparagraph of Article 25 thereof,

Having regard to Council Joint Action 2008/851/CFSP of 10 November 2008 on a European Union military operation to contribute to the deterrence, prevention and repression of acts of piracy and armed robbery off the Somali coast ⁽¹⁾ (*Atalanta*), and in particular Article 6(1) thereof,

Whereas:

- (1) Pursuant to Article 6(1) of Joint Action 2008/851/CFSP the Council authorised the Political and Security Committee (PSC) to take decisions on the appointment of the EU Force Commander.
- (2) On 18 November 2008, the PSC adopted Decision *Atalanta*/1/2008 ⁽²⁾ appointing Commodore Antonios PAPAIOANNOU as EU Force Commander for the European Union military operation to contribute to the deterrence, prevention and repression of acts of piracy and armed robbery off the Somali coast.
- (3) The EU Operation Commander has recommended the appointment of Captain (Navy) Juan GARAT CARAMÉ as the new EU Force Commander for the European Union military operation to contribute to the deterrence, prevention and repression of acts of piracy and armed robbery off the Somali coast.

(4) The EU Military Committee has supported that recommendation.

(5) In accordance with Article 6 of the Protocol on the position of Denmark annexed to the Treaty on European Union and to the Treaty establishing the European Community, Denmark does not participate in the elaboration and the implementation of decisions and actions of the European Union which have defence implications,

HAS DECIDED AS FOLLOWS:

Article 1

Captain (Navy) Juan GARAT CARAMÉ is hereby appointed EU Force Commander for the European Union military operation to contribute to the deterrence, prevention and repression of acts of piracy and armed robbery off the Somali coast.

Article 2

This Decision shall take effect on 7 April 2009.

Done at Brussels, 17 March 2009.

For the Political and Security Committee
The Chairman
I. ŠRÁMEK

⁽¹⁾ OJ L 301, 12.11.2008, p. 33.

⁽²⁾ OJ L 317, 27.11.2008, p. 24.