GUIDE FOR THE APPLICATION OF THE COMMISSION REGULATION (EU) No. 874/2012 WITH REGARD TO ENERGY LABELLING OF ELECTRICAL LAMPS AND LUMINAIRES

Version 3
25 July 2014
The present Guide has been mainly amended following Article 7 and Annex VII of COMMISSION DELEGATED REGULATION (EU) No 518/2014 of 5 March 2014 with regard to labelling of energy-related products on the internet.

**AMENDMENTS**

- **PREFACE**: the second paragraph has been modified as follows: *This Guide is intended to help the market understanding the Commission Regulation (EU) No. 874/2012 of 12 July 2012, amended by COMMISSION DELEGATED REGULATION (EU) No 518/2014 of 5 March 2014 with regard to labelling of energy-related products on the internet.*
- **HIGHLIGHTS**: the definition of “nested display” has been added.
- **RECOMMENDATIONS**: at point 2 “via internet” has been added. Point 4 (new) has been added too.
- **Subchapter 1.1**: new paragraph: “The requirements of the COMMISSION DELEGATED REGULATION (EU) No 518/2014 of 5 March 2014 with regard to labelling of energy-related products on the internet, apply from 1st of January 2015.”
- **Subchapter 4.3**: a new point has been added: “the electronic version of the label is made available to dealers for each new lamp model (new model identifier) placed on the market from 1st January 2015. It may also be made available to dealers for existing lamp models”. The flow chart has been redrafted.
- **Subchapter 4.5**: has been redrafted.
- **Chapter 5**: new flow chart (redrafted).
- **Subchapter 5.4**: has been redrafted.
- **Subchapter 5.5**: new paragraph “Luminaire model sold via internet” has been added.

**OTHER CHANGES**

- Addition of footnote 7.
- Addition of footnote 8 (*Please note that the lamp label template provided by Commission for the simplified version results in a label which is below the minimum specified size of 62 mm.*)
- New Annex V.
Letter from the President

As President of LightingEurope, I am delighted to present you this GUIDE FOR THE APPLICATION OF THE COMMISSION REGULATION (EU) No. 874/2012 WITH REGARD TO ENERGY LABELLING OF ELECTRICAL LAMPS AND LUMINAIRES. It is our intention to help all stakeholders to enhance their understanding of the Commission Regulation (EU) No. 874/2012 of 12 July 2012 (supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires.

This guide is published at a time when the lighting industry is undergoing unprecedented change arising from the introduction of LED technology. It is not exaggerated to say that this new technology will revolutionize our understanding of lighting. It is in this context that LightingEurope has decided to bring you this guidance document in order to enable us all to seize the full opportunities of LED lighting based on a joint understanding of the regulations in place.

I am especially privileged to point out that this guide is the result of shared efforts. It represents LightingEurope’s unification of industry strengths and is drafted based on the valuable input from lighting companies and national lighting associations to meet the challenges and opportunities created by remarkable new lighting technology and production. LightingEurope will continue to serve as the main platform for development and communication of industry positions while shaping the future of lighting in Europe.

Yours sincerely,

Dietmar Zembrot

President LightingEurope
PREFACE

LightingEurope is the industry association representing leading European lighting manufacturers and national lighting associations. LightingEurope is committed to innovation, sustainability, quality and leadership. We contribute to shape policy and establish industry standards and guidelines. We are dedicated to promoting efficient lighting practices for the benefit of the global environment, human comfort, and the health and safety of consumers. For more information please visit http://www.lightingeurope.org/.

This Guide is intended to help the market understanding the Commission Regulation (EU) No. 874/2012 of 12 July 2012, amended by COMMISSION DELEGATED REGULATION (EU) No 518/2014 of 5 March 2014 with regard to labelling of energy-related products on the internet, supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires. The information provided in this Guide is the interpretation of the Regulation as understood by the members of LightingEurope.

Please note that LightingEurope has also published a questions and answers document about this the Commission Regulation (EU) No. 874/2012 which is available at http://www.lightingeurope.org/.


In 1992 the first EU Directive on energy consumption labelling, 92/75/EC, was published. This “horizontal” framework Directive was implemented by specific Directives for different applications/products. This first energy label showed the ratings of household appliances with energy efficiency classes from A (most efficient) to G (least efficient) to give guidance to the consumer market.

Commission Directive 98/11/EC covering “energy labelling of household lamps” was published in 1998. This energy label was limited to household lamps and excluded certain types like reflector and low-voltage lamps.

Since 1992 the efficiency of many appliances was increased and this was taken into account by the new framework Directive 2010/30/EU, which replaced Directive 92/75/EC and introduced new efficiency classes (EEC): A+, A++ and A+++.

This required a new implementing Regulation for lamps and on 26th September 2012 the Commission delegated Regulation (EU) No. 874/2012 with regard to energy labelling of electrical lamps and luminaires was published. The scope of the existing label for household lamps was extended to cover all lamp types and with new efficiency classes A+ and A++ (A+++ might be introduced at a later stage by a future updating or revision).
It is important to highlight that the label for luminaires does not refer to energy efficiency of the luminaire, but simply the characteristics of the lamp and/or LED module which it is compatible with.

Please note that this document provides only guidance to definitive requirements details in the Commission Regulation (EC) No. 874/2012. Responsibility for compliance with the Regulation rests firmly with the manufacturer or the person placing the lighting products on the EU market for the first time. This LightingEurope Guide does not necessarily ensure compliance with above mentioned EU Commission Regulation.
HIGHLIGHTS

The energy labelling Regulation will come into effect on 1\textsuperscript{st} September 2013, but with longer transitional provisions for certain products (see 1.2).

Non-directional lamps:

- new energy classes A+ and A++; deletion of classes F & G
- the total number of classes will be limited to seven
- the limits for classes A and below will remain the same
- new classes A+ and, for future LED, A++
- not limited to household lamps but also refers to those mainly used for professional applications (e.g. HID lamps)

Directional lamps:

- new energy efficiency classes A++ to E
- same light-generating technologies should be in the same class as their non-directional equivalent
- classification is based on different values

End-user luminaires:

- the label for luminaires gives information about the lamp compatibility of the luminaire and the energy efficiency of the lamps included (if any) with the luminaire
- for luminaire provided with non-end-user replaceable LED modules, the label inform the end users on such condition
- the label for luminaires gives no information on luminaire energy efficiency
- the label must be provided if the luminaire is presented at the point of sale
- the label shall be displayed with the luminaire and is not part of the packaging requirements

Key definitions from the EU Regulation and some explanatory meanings are given here to aid comprehension of this guide.

(A full listing of definitions is given in Annex I of the present guide).

*End-User*: means a natural person buying or expected to buy an electrical lamp or luminaire for purposes which are outside his trade, business, craft or profession (Art. 2, def. 28).

*Point of Sale*: means a physical location where the product is displayed or offered for sale, hire or hire-purchase to the end-user (Art. 2, def. 27).

*Nested display*: means visual interface where an image or data set is accessed by a mouse click, mouse roll-over or tactile screen expansion of another image or data set.
**User-replaceable lamps** are lamps that can be replaced by the end-user.

**Non-replaceable LED modules** are LED modules which are not intended to be replaced by the end-users.
RECOMMENDATIONS

In order to comply with the new Commission Regulation (EU) No. 874/2012 and its amendment, LightingEurope recommends each manufacturer to complete the following steps:

Lamps:

1. Determine the Energy Efficient Index and accompanying Energy Efficiency Class for each Lamp including LED Lamps and LED modules → see chapter 4.2
2. Prepare the Energy Efficiency Labels according to regulation 874/2012 only when the products are meant to be sold via a point of sale or via internet to the end user. → see chapter 4.1
3. Prepare the proper product documentation as prescribed by Regulation 874/2012 in product leaflets, product packaging and product information websites → See chapters 4.3 and 4.4
4. Implement the electronic version of the label for new models from 1st January 2015.

Luminaires:

1. Determine the Energy Efficiency class of compatible lamps and of the lamp(s) provided with the Luminaire if any
2. Prepare and make available the label for luminaires according to Regulation 874/2012 only when the products are meant to be sold to end-users via a point of sale or via internet → see chapters 5.1, 5.2 and 5.3
3. Prepare the proper product documentation as prescribed by Regulation 874/2012 in product leaflets and product information websites → See chapters 5.4 and 5.5
4. Implement the electronic version of the label for new models from 1st January 2015.
1 Introduction

1.1 Entry into force

The Regulation entered into force on 16 October 2012 (publication in the Official Journal of the European Union on 26 September 2012) and is legally binding in its entirety and directly applicable in all Member States!

The requirements of the energy labelling Regulation mandatorily apply from 1st September 2013.

The requirements of the COMMISSION DELEGATED REGULATION (EU) No 518/2014 of 5 March 2014 with regard to labelling of energy-related products on the internet, apply from 1st of January 2015.

1.2 Transitional provisions

There are transitional provisions for certain products:

- The information requirements for suppliers and dealers of luminaires are not mandatory before 1st March 2014.
- Printed advertisements or printed technical promotional material does not have to be changed if it is published before 1 March 2014.
- If lamps are placed on the market1 before 1st September 2013:
  - Lamps which are covered by the previous energy labelling Directive (98/11/EC) shall comply with:
    - either the previous labelling Directive (98/11/EC)
    - or with the new Energy Label (see Articles 9.3 and 9.4 of EU Regulation 874/2012).
  - Lamps which are not covered by the previous energy labelling Directive (98/11/EC) but within the Scope of the new Regulation may be compliant with the new Energy Label.

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1 Industry position on placing on the market (see Annex III of the present guide).
1.3 Responsibilities of dealers (Art. 6 of Directive 2010/30/EU)

It is important to note that for products which have been placed on the market before the above implementation dates (e.g. products with no energy label) there are no requirements for dealers as covered in the general rule set out in Directive 2010/30/EU:

*Member States shall ensure that:*

“(a) dealers display labels properly, in a visible and legible manner, and make the fiche available in the product brochure or other literature that accompanies products when sold to end-users;

(b) whenever a product covered by a delegated act is displayed, dealers attach an appropriate label, in the clearly visible position specified in the applicable delegated act, and in the relevant language version”.

As an example, this means that luminaires already placed on the market prior to 1st March 2014 can continue to be sold because they are not covered by this Regulation and have no label for a dealer to display.

2 Scope and exclusions

The new energy label has a wider scope than the old one, which was limited to lamps supplied directly from the mains and excluded reflector lamps. In addition luminaires designed to operate these lamps and marketed to the end-user also have to fulfil certain labelling requirements.

2.1 Products covered by the Regulation

Products covered by the Regulation, both directional and non-directional types, are:

- filament lamps,
- fluorescent lamps,
- high-intensity discharge lamps (HID),
- LED lamps and modules,
- related luminaires marketed to end-users
2.2 Products excluded by the Regulation

The following exclusions are listed in Article 1.2 for those lamps, modules and luminaires where efficiency is less important than other characteristics.

The following products shall be excluded from the scope of this Regulation:

(a) Lamps and LED modules with a luminous flux of less than 30 lumens.

(b) Lamps and LED modules marketed for operation with batteries.

(c) Lamps and LED modules marketed for applications where their primary purpose is not lighting, such as:

(i) emission of light as an agent in chemical or biological processes (such as polimerisation, photodynamic therapy, horticulture, petcare, anti-insect products);

(ii) image capture and image projection (such as camera flashlights, photocopiers, video projectors);

(iii) heating (such as infrared lamps);

(iv) signalling (such as airfield lamps).

These lamps and LED modules are not excluded when they are marketed for lighting.

(d) Lamps and LED modules marketed as part of a luminaire and not intended to be removed by the end-user, except when they are offered for sale, hire or hire purchase or displayed separately to the end user, for example as spare parts.

(e) Lamps and LED modules marketed as part of a product whose primary purpose is not lighting. However, if they are offered for sale, hire or hire purchase or displayed separately, for example as spare parts, they shall be included within the scope of this Regulation.

(f) Lamps and LED modules that do not comply with requirements becoming applicable in 2013 and 2014 according to Regulations implementing Directive 2009/125/EC.

(g) Luminaires that are designed to operate exclusively with the lamps and LED modules listed in points (a) to (c).

([..) Automotive lamps are excluded via Article 1.3.b of the framework Directive 2010/30/EC:

This Directive shall not apply to means of transport for persons or goods.

([..) Some types of luminaires are directly excluded by the Scope via Article 1, because of their complexity and because of generally designed for specific professional applications and so intended to be market to professional buyers, such as installers and similar.

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In conclusion, both following conditions are considered:

1. Luminaires not intended to be marketed to end-users;

2. (g) Luminaires that are designed to operate exclusively with the lamps and LED modules listed in points (a) to (c).

Battery operated lighting products are excluded from the scope of Regulation 874/2012 (even if they are included in the scope of Regulation 1194/2012).

The intention of the legislator is clearly related to products mainly end-user oriented and not to rare cases in which a professional product maybe sold in some way (at the end of the selling chain) to an end-user, too.

LightingEurope considers that products not intended to be marketed to the end-user are those that, because of their:

- complexity
- dimensions
- final destination
- lumen output
- and/or power rating

can be considered beyond the normal range for domestic applications. Products matching these conditions are not considered to be within the scope.

Types of luminaires not intended to be marketed to end users:

- Street lighting luminaires
- Tunnel lighting luminaires
- Sports lighting luminaires
- Specific office lighting products (e.g. louvre luminaires, continuous line luminaires, etc.)
- Production and shop lighting (e.g. continuous line luminaire)
- Warehouse lighting high bay luminaires
- Emergency lighting luminaires (including either self-contained emergency luminaires or slave emergency luminaires for central battery systems.
- Etc

Luminaires designed to operate exclusively with lamps and LED modules with a luminous flux of less than 30 lumens as well as for operation with batteries and/or marketed for applications where their primary purpose is not lighting are also excluded.
2.2.1 Luminaires not intended to be marketed to end-users

When a luminaire can be considered as not intended to be marketed to the end-user, it is excluded by the scope of the Regulation and no label for luminaire is mandatorily required.

The Regulation does not specify if in this case the use of a label for luminaire is prohibited.

For this reason LightingEurope is offering the following consideration as a common practice which may be used in close co-operation between Industry and EU Market Surveillance Authorities, preventing unfair competition or confusion on the EU market.

**Evaluation by Technical data of the luminaire**

Typical end-users buy many varied luminaire types for use at home, indoor and outdoor, for general lighting applications (or similar application). They may also buy specific task lighting luminaires for hobbies and other similar activities.

Typically an end-user is buying “household illumination” luminaires which in most cases use lamps with a lumen output of below 12000 lm. The Scope of EC Regulation 244/2009 (ref. Art.1 (c)) supports this level as being a maximum for household illumination use. This scope was based on work of the EC Consultant preparatory study, supported by Stakeholders consultation. Based on this, **luminaires using lamps with greater than 12000 lm are considered not for end-users**.

The following picture selection shows products which can be considered **out of the scope** for the Energy Labelling Regulation because of high lumen output and/or professional use only:
Luminaires & lighting applications considered being out of scope:

### Flood Lighting

<table>
<thead>
<tr>
<th>Luminaires</th>
<th>Lighting applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Light bulb" /></td>
<td><img src="image2.png" alt="Configuration" /></td>
</tr>
<tr>
<td>High power spot or flood light, e.g. with Halogen lamp R7s 750W (&gt; 12000 lm)</td>
<td></td>
</tr>
</tbody>
</table>

### Warehouse Lighting

<table>
<thead>
<tr>
<th>Luminaires</th>
<th>Lighting applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Light bulb" /></td>
<td><img src="image4.png" alt="Configuration" /></td>
</tr>
<tr>
<td>High-bay luminaire (e.g. LED or HID)</td>
<td></td>
</tr>
</tbody>
</table>

### Office Lighting

<table>
<thead>
<tr>
<th>Luminaires</th>
<th>Lighting applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5.png" alt="Light bulb" /></td>
<td><img src="image6.png" alt="Configuration" /></td>
</tr>
<tr>
<td>Recessed Luminaire</td>
<td></td>
</tr>
</tbody>
</table>
### Street, road and amenity lighting

<table>
<thead>
<tr>
<th>Luminaires</th>
<th>Lighting applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office pendant luminaire</td>
<td></td>
</tr>
<tr>
<td>Free standing luminaire</td>
<td></td>
</tr>
<tr>
<td>Street light</td>
<td></td>
</tr>
</tbody>
</table>
Other technical parameters which should be considered are luminaire dimensions which are not compatible with normal household rooms and spaces.

Typical cases are **chandeliers and luminaires having wiring length of more than standard**, e.g. those with pendant to ceiling wiring length of some meters can easily considered as designed and intended for installation in non-household spaces. This means that typical installation premises are related to professional buyers and installers mainly.

Products which reasonability can be considered **out of the scope** for the Energy Label Regulation **because of dimensions** could be, for example:

**Decorative luminaires of very large dimensions not intended for household application**
Evaluation by complexity beyond the end user norm

Emergency lighting luminaires can be widely considered as **products designed for specific professional applications** and so intended to be marketed to professional buyers such as installers or maintenance operators. For convenience here are displayed some pictures showing typical shape and construction related to Emergency lighting luminaires for safety lighting, safety sign (in escape routes), high-risk task area, ....

As a consequence for the above reasons, LightingEurope considers all types of Emergency lighting luminaires as clearly excluded from the EU Regulation requirements.
3 Energy efficiency classes for lamps and LED modules (Annex VI)

The levels for the energy efficiency classes are set in a way that the same technology is in the same efficiency class independently if it is directional⁴ or a non-directional lamp.

Typical examples are as shown in the table below:

<table>
<thead>
<tr>
<th>Energy efficiency class</th>
<th>Non-directional lamps</th>
<th>Directional lamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>A++ (most efficient)</td>
<td>Class currently empty, apart from some low-pressure sodium lamps used in street lighting. Soon to include best LEDs (including modules)</td>
<td>Class currently empty, soon to include best LEDs (including modules)</td>
</tr>
<tr>
<td>A+</td>
<td>Best LED lamps and modules, best linear fluorescent, compact fluorescent and high intensity discharge (HID) lamps</td>
<td>Best LED lamps and modules</td>
</tr>
<tr>
<td>A</td>
<td>Average LEDs and modules, average compact fluorescent lamps and less efficient linear fluorescents and less efficient HIDs</td>
<td>Average LEDs and modules, average to good compact fluorescents and HIDs</td>
</tr>
<tr>
<td>B</td>
<td>Less efficient compact fluorescent lamps and LEDs, best halogen lamps (extra low voltage capsules)</td>
<td>Less efficient compact fluorescent lamps and LEDs, best halogen lamps (extra low voltage capsules)</td>
</tr>
<tr>
<td>C</td>
<td>Less efficient conventional extra low-voltage halogen lamps</td>
<td>Less efficient conventional extra low-voltage halogen lamps</td>
</tr>
<tr>
<td>D</td>
<td>Best (xenon-filled) mains-voltage halogen lamps</td>
<td>Best (xenon-filled) mains-voltage halogen lamps</td>
</tr>
<tr>
<td></td>
<td>Conventional halogen lamps and best incandescent</td>
<td>Conventional halogen lamps and best incandescent</td>
</tr>
<tr>
<td>E (least efficient)</td>
<td>Typical incandescent range</td>
<td>Incandescent lamps and less efficient mains-voltage halogen lamps</td>
</tr>
</tbody>
</table>

⁴ ‘Directional lamp’ means a lamp having at least 80 % light output within a solid angle of $\pi \frac{r}{2}$ (corresponding to a cone with angle of 120°).
Whereby most of the lamps can easily dedicated to a specific efficiency classes with the table above, the wide range of incandescent and halogen reflector lamps needs special attention.

4 Energy Label for electrical lamps and LED modules

4.1 Label layout

If a lamp is presented at the point of sale, hereafter “PoS”, it shall carry an energy label with the following information:

Dimensions: 36 mm wide / 75 mm high

I. supplier’s name or trade mark

II. supplier’s model identifier (alphanumeric code)

III. energy efficiency class at the head of the arrow

IV. energy consumption in kWh per 1000 hours

If the mandatory information (points I, II and IV) is printed somewhere else on the packaging, the label can be chosen from the following illustrations.

The design specifications are defined in Annex I, 1.(4) of the Regulation, where further conditions are specified:

- The simplified version must be at least 36mm wide and 62mm high and only if no side of the packaging can is large enough or the largest side would be covered by more than 50% it could be reduced to 40% by height
- The background shall be **white** for the coloured or the monochrome version (more stringent condition when comparing with the label under 98/11/EC)
- A++ to E scale

*If using a monochrome label LightingEurope recommends choosing black on white but, as the monochrome version is not explicitly defined, the manufacturer is free to use any color instead of black that provides sufficient contrast.*
4.2 Energy efficiency classes for lamps and LED modules (Annexes VI and VII)

The energy efficiency class results from the energy efficiency index (EEI), which is calculated as follows and rounded to two decimal places: \( \text{EEI} = \frac{P_{\text{cor}}}{P_{\text{ref}}} \).

<table>
<thead>
<tr>
<th>Scope of the correction</th>
<th>Power corrected for control gear losses ( P_{\text{cor}} )</th>
<th>( P_{\text{ref}} ) is the reference power obtained from the useful luminous flux of the model ( \Phi_{\text{use}} ) by the following formulae:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamps operating on external halogen lamp control gear</td>
<td>( P_{\text{rated}} \times 1.06 )</td>
<td>For models with ( \Phi_{\text{use}} &lt; 1300 ) lumen: ( P_{\text{ref}} = 0.88 \sqrt{\Phi_{\text{use}}} + 0.049 \Phi_{\text{use}} )</td>
</tr>
<tr>
<td>Lamps operating on external LED lamp control gear</td>
<td>( P_{\text{rated}} \times 1.10 )</td>
<td>For models with ( \Phi_{\text{use}} \geq 1300 ) lumen: ( P_{\text{ref}} = 0.07341 \Phi_{\text{use}} )</td>
</tr>
<tr>
<td>Fluorescent lamps of 16 mm diameter (T5 lamps) and 4-pin single capped fluorescent lamps operating on external fluorescent lamp control gear</td>
<td>( P_{\text{rated}} \times 1.10 )</td>
<td></td>
</tr>
</tbody>
</table>

\(^5\) 244/2009 defines: 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.
### Scope of the correction

<table>
<thead>
<tr>
<th>Power corrected for control gear losses ($P_{cor}$)</th>
<th>$\Phi_{use}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_{rated} \times \frac{0.24 \sqrt{\Phi_{use}} + 0.0103 \Phi_{use}}{0.15 \sqrt{\Phi_{use}} + 0.0097 \Phi_{use}}$</td>
<td>The useful luminous flux is defined</td>
</tr>
</tbody>
</table>

#### Non-directional lamps

- Total rated luminous flux ($\Phi$)

#### Directional lamps

- Rated luminous flux in a 120° cone ($\Phi_{120°}$)
- Rated luminous flux in a 90° cone ($\Phi_{90°}$)

- Directional lamps with a beam angle ≥ 90° other than filament lamps and carrying a textual or graphical warning on Rated luminous flux in a 120° cone ($\Phi_{120°}$) and their packaging that they are not suitable for accent lighting

### Lamps operating on external high-intensity discharge lamp control gear

- $P_{rated} \times 1.10$

### Lamps operating on external low pressure sodium lamp control gear

- $P_{rated} \times 1.15$

### Based on the calculated EEI you can find the relevant energy efficiency class below:

<table>
<thead>
<tr>
<th>Energy efficiency class</th>
<th>Energy efficiency index (EEI) for non-directional lamps and LED modules</th>
<th>Energy efficiency index (EEI) for directional lamps and LED modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>A++ (most efficient)</td>
<td>EEI ≤ 0,11</td>
<td>EEI ≤ 0,13</td>
</tr>
<tr>
<td>A+</td>
<td>0,11 &lt; EEI ≤ 0,17</td>
<td>0,13 &lt; EEI ≤ 0,18</td>
</tr>
<tr>
<td>A</td>
<td>0,17 &lt; EEI ≤ 0,24</td>
<td>0,18 &lt; EEI ≤ 0,40</td>
</tr>
<tr>
<td>B</td>
<td>0,24 &lt; EEI ≤ 0,60</td>
<td>0,40 &lt; EEI ≤ 0,95</td>
</tr>
<tr>
<td>C</td>
<td>0,60 &lt; EEI ≤ 0,80</td>
<td>0,95 &lt; EEI ≤ 1,20</td>
</tr>
<tr>
<td>D</td>
<td>0,80 &lt; EEI ≤ 0,95</td>
<td>1,20 &lt; EEI ≤ 1,75</td>
</tr>
<tr>
<td>E (least efficient)</td>
<td>EEI &gt; 0,95</td>
<td>EEI &gt; 1,75</td>
</tr>
</tbody>
</table>
4.2.1 Calculation of the energy consumption (Annex VII/2)

The Commission Regulation (EU) No. 874/2012 states in Annex VII, part 2:

The weighted energy consumption ($E_c$) is calculated in kWh/1000h as follows and is rounded to two decimal places:

$$E_c = \frac{P_{\text{cor}} \times 1000h}{1000}$$

Where $P_{\text{cor}}$ is the power corrected for any control gear losses in accordance with part 1 above.

LightingEurope interpretation is that XXX on the label is the $P_{\text{cor}}$ value.

4.3 Responsibilities of suppliers

Suppliers of lamps shall ensure that:

- a product fiche is made available, whereby the content of the product fiche is defined in Annex II as the information specified for the label. Where product brochures are not supplied, the label provided with the product can also be considered to be the fiche;
- the technical documentation is made available on request to the authorities of the Member States and to the Commission;
- any advertisement, formal price quote or tender offer disclosing energy-related or price information for a specific lamp states the energy efficiency class;
- any technical promotional material concerning a specific lamp which describes its specific technical parameters states the energy efficiency class of that lamp;
- if the lamp is intended to be marketed through a point of sale (PoS), a label produced in the format and containing information is placed or printed on, or attached to, the outside of the individual packaging, and the packaging displays the nominal power of the lamp outside the label;
- the electronic version of the label is made available to dealers for each new lamp model (new model identifier) placed on the market from 1st January 2015. It may also be made available to dealers for existing lamp models.

The following flow-chart provides an overview of the above mentioned requirements:
4.4 Technical documentation

The technical documentation (Annex III of Commission Regulation (EU) No. 874/2012) shall include:

- the name and address of the supplier;
- a general description of the model, sufficient for it to be unequivocally and easily identified;
- where appropriate, the references of the harmonized standards applied;
- where appropriate, the other technical standards and specifications used;
- the identification and signature of the person empowered to bind the supplier;
- the technical parameters for determining energy consumption and energy efficiency in the case of electrical lamps, and compatibility with lamps in the case of luminaires, specifying at least one realistic combination of product settings and conditions in which to test the product;
- for electrical lamps, the results of the calculations (Annex VII).

4.5 Responsibilities of dealers (EU 874/2012, Art. 4, point 1)

Dealers of electrical lamps shall ensure that:

- each model offered for sale, hire or hire-purchase where the final owner cannot be expected to see the product displayed is marketed with the information concerning the energy efficiency class and the weighted energy consumption in kWh per 1000h, which have to be provided by suppliers.
- where the offer is made through the internet and an electronic label has been made available by the supplier, the appropriate label shall be shown on the display mechanism in proximity to the price of the product or may be displayed using a nested display;
- any advertisement, formal price quote or tender offer disclosing energy-related or price information for a specific model states the energy efficiency class
- any technical promotional material concerning a specific model which describes its specific technical parameters states the energy efficiency class of that model.
In the case of nested display, the sequence of display of the label shall be as follows:

1. the image referred to in the blue box above shall be shown on the display mechanism in proximity to the price of the product;
2. the image shall link to the label;
3. the label shall be displayed after a mouse click, mouse roll-over or tactile screen expansion on the image;
4. the label shall be displayed by pop up, new tab, new page or inset screen display;
5. for magnification of the label on tactile screens, the device conventions for tactile magnification shall apply;
6. the label shall cease to be displayed by means of a close option or other standard closing mechanism;
7. the alternative text for the graphic, to be displayed on failure to display the label, shall be the energy efficiency class of the product in a font size equivalent to that of the price.

4.6 Information

Information to be provided in cases where final owners cannot be expected to see the product (i.e. internet), displayed in the following order:

1. The energy efficiency class
2. The weighted energy consumption in kWh per 1000 hours rounded up to the nearest integer and calculated (Annex VII).
4.7 Market surveillance

Verification procedure for Market Surveillance purposes for electrical lamps and LED modules marketed as individual products (Annex V.1):

- Member States’ authorities shall test a sample batch of a minimum of twenty lamps of the same model from the same manufacturer, where possible obtained in equal proportion from four randomly selected sources, and taking into account the technical parameters set out in the technical documentation.
- the model shall be considered to comply with the requirements laid down in Articles 3 and 4 if:
  - the energy efficiency index calculated by the lumens and Watts, declared in the Technical Documentation File, corresponds to its declared energy efficiency class, and
  - if the average results of the test batch do not vary from the limit, threshold or declared values (including the energy efficiency index) by more than 10 %
- otherwise, the model shall be considered not to comply with the requirements.
- the tolerances for variation indicated above relate only to the verification of the measured parameters by the Member States’ authorities and shall not be used by the supplier as an allowed tolerance on the values in the technical documentation to achieve a more efficient energy class.
- the declared values shall not be more favourable for the supplier than the values reported in the technical documentation.
5 Label for luminaires and related information

The Regulation introduces labelling/information requirements for luminaires intended to be marketed to end-users that are designed to operate lamps as described in chapter 4.

A new label for luminaires intended to be marketed through a point of sale applies to luminaires placed on the market from 1st March 2014. This label, shows the energy efficiency classes of those lamps with which the luminaire is compatible, and also of those lamps included with the luminaire (if any). It does not give any information on the efficiency of the luminaire itself.

The Commission’s initial proposal to extend the energy labelling obligation to luminaires (on the basis of the lamps with which they are compatible) was found unintelligible to end-users/ -consumers. It was therefore decided to deviate from a pictogram-only approach and to provide additional information in textual form in order to help end-users/ -consumers understand the precise scope of the label, including a warning if the luminaire is not compatible with energy-efficient lamps.

The Regulation also specifies requirements for the information to be provided for any form of distance selling, advertisements and technical promotional material for luminaires. This may be in the format of a label or in another format such a fully textural.

The label for luminaires is not required:

- for luminaires designed to operate lamps or LED modules falling under the list of exclusions as detailed in chapter 4
- for luminaires which are not intended to be marketed to end-users.
- for luminaires which are not intended to be marketed through a “point of sale” e.g. web shop which is by definition not a “physical location” where the luminaire is marketed to the “end user”

The following flow-chart provides an overview of the above requirements:
The flow-chart shows that the information to be always provided with luminaires when marketed to end-users is:

I. Supplier's name or trade mark;
II. Supplier's model identifier;
III. Relevant sentence on compatibility with lamps or provided with LED modules not removable by end-users;
IV. Range of energy-efficiency classes of compatible lamp/s, or if the case, the classes of lamps with which the luminaire is not compatible;
V. If the case, “The luminaire is sold with a bulb of the energy class: [the appropriate energy classes shall be reported]”.

5.1 Format of the label for luminaires

The Regulation permits the label to be made available free of charge to dealers either in electronic (e.g. downloadable from the manufacturers WEB site) or paper format. Supply of the label in electronic format only is deemed to satisfy this requirement and this is recommended by the industry.

When the supplier chooses to supply labels only on request from dealers, the supplier shall deliver the labels promptly.

Where luminaires are displayed in their packaging at point of sale the provision of the label by printing it on the luminaire pack is considered as fulfilling the supplier obligation of this Regulation. The label may need to be included on the front face of the pack; in this case the inclusion of the luminaire part number and manufacturers’ name or logo are not required on the label as the label is obviously related to the luminaire within the pack. This approach is considered typical for retailer own brand luminaires which are in one language.

The label shall be made available in the relevant language version/s.

5.2 Languages of the label for luminaires

The industry view concerning which language versions of the text maybe used in the label for luminaires is that it shall be available in all needed versions related to countries in which the luminaire manufacturer’s business is demonstrated by his direct connection with dealers.

Most popular European languages, even not officially recognised in those countries can be considered as equivalent. A survey performed by the European institutions demonstrated that very often the English language is very popular in Countries such as in Denmark, Netherlands, Finland, etc...

6 For the dealer to fulfil their obligations (Article 4 point 2).
Industry considers that by providing the label for luminaires in the language shown in the table below, the requirement set out in the EU Regulation “The label shall be the relevant language version” is considered to be met.

Details on this consideration can be found in Annex II of the present Guide.

<table>
<thead>
<tr>
<th>COUNTRIES</th>
<th>OFFICIAL LANGUAGES</th>
<th>OTHER ACCEPTED LANGUAGES</th>
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<tr>
<td>Belgium</td>
<td>French, Dutch and German</td>
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<tr>
<td>Bulgaria</td>
<td>Bulgarian</td>
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<tr>
<td>Cyprus</td>
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<tr>
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<tr>
<td>Croatia</td>
<td>Croatian</td>
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<tr>
<td>Denmark</td>
<td>Danish</td>
<td>English</td>
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<tr>
<td>Estonia</td>
<td>Estonian</td>
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<tr>
<td>Finland</td>
<td>Finnish &amp; Swedish</td>
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<td>Germany</td>
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<td>Ireland</td>
<td>Irish and English</td>
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<td>Lithuanian</td>
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<td>Luxemburg</td>
<td>Luxembourgish &amp; French &amp; German</td>
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<tr>
<td>Malta</td>
<td>Maltese &amp; English</td>
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<td>Netherlands</td>
<td>Dutch (+ Friesian in Friesland)</td>
<td>English</td>
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<td>Poland</td>
<td>Polish</td>
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<td>Slovene</td>
<td>Serbo-Croatian</td>
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<td>Spain</td>
<td>Spanish</td>
<td>Catalan, Galician, Basque</td>
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<td>Sweden</td>
<td>Swedish</td>
<td>English</td>
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<tr>
<td>United Kingdom</td>
<td>English</td>
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</tbody>
</table>
5.3 Label layout

The Regulation gives in details how to complete the information to be provided with the label for luminaires. The label dimensions are 50 mm wide and 100 mm high.

For a proper guidance the structure has been identified by dividing into 5 specific sectors, hereafter identified by Roman numbering system:

The content details of the label are:

I. Supplier's name (or trade mark);

II. Supplier's model identifier (e.g. alphanumeric code to distinguish a specific luminaire model from another one with the same trade mark);

III. Sentence as shown, in the language/s of the Member State/s, or one of its alternatives from the examples below, as applicable. Instead of the word ‘luminaire’, a more precise term may be used describing the particular luminaire type or the product into which the luminaire is integrated (such as “furniture”, “book shelf”, etc.), as long as it remains clear that the term refers to the product on sale that operates the light sources.

IV. The range of energy-efficiency classes of lamp/s, accompanied by:
– a ‘bulb’ pictogram indicating the classes of lamps (if replaceable by End-users) with which the luminaire is compatible according to state-of-the-art requirements for compatibility⁷; at the present as defined in the new ecodesign EU Regulation, compatibility means that when the lamp is intended to be operated by the luminaire, once having duly installed it (by insertion and/or connection), shortly after starting to use them together, end-users are not led to believe that any of the products has a defect and the safety risk of using the products together is not higher than when the same products taken individually are used in combination with other products.
– a cross over the classes of lamps with which the luminaire is not compatible according to state-of-the-art requirements for compatibility;

V. If the luminaire operates with lamps that are replaceable by the end-user, and such lamps are included in the packaging of the luminaire, the sentence to be reported has to be: “The luminaire is sold with a bulb of the energy class: [the appropriate energy classes shall be reported]”.

Where necessary, the sentence can be adjusted to refer to one lamp or several lamps, and several energy classes can be listed, too.

If the luminaire contains only LED modules not intended to be removed by the end-user, the sentence to be reported has to be: “The lamps cannot be changed in the luminaire” (or in the “specific product” into which the luminaire is integrated, as indicated below.

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⁷ For further information see Annex V of the present Guide (LightingEurope Position on Compatibility requirements for the luminaire label).
If the luminaire contains both non-replaceable LED modules and sockets (lamp caps) for user-replaceable lamps, with lamps included, the sentence to be reported is shown in the following picture:

If the luminaire contains both LED modules not intended to be removed by the end-user and sockets for replaceable lamps, and such lamps are not included with the luminaire, the sentence to be reported is shown in the following picture:
When lamps are not provided with the luminaire

If the luminaire operates only with lamps that are replaceable by the end-user and there are no such lamps included with the luminaire, the relevant space shall be left empty, as shown in the figure below.

Luminaire Logo

The Luminaire logo to be used in the label for luminaire is 13 mm x 13 mm pictogram may vary for better understanding or it can be the supplier's own pictogram or photo, if it describes better the luminaire belonging to the label.

The label for luminaires may also be displayed in horizontal orientation, in which case it shall be at least 100 mm wide and 50 mm high.
This luminaire is compatible with bulbs of the energy classes:

The luminaire is sold with a bulb of the energy class: B

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This luminaire contains built-in LED lamps.

The lamps cannot be changed in the luminaire.

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This luminaire is compatible with bulbs of the energy classes:

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874/2012
5.4 Responsibilities of suppliers

In Article 9 a special transitional provision was given because the new labelling Regulation has of broader scope than Commission Directive 98/11/EC and types of lamps newly falling within its scope will not have energy labels affixed until about one year after entry into force. Additional time was allowed for retailers to change their stocks afterwards and for luminaire producers to prepare their labels for luminaires to be presented at a Point of Sale.

The obligation for a label for luminaires as well as the obligation in providing its related contents as information to dealers is mandatory for luminaires placed on the market as of 1st March 2014.

Specific responsibilities for supplier of luminaires intended to be marketed to end-users are given in Article 3, point 2 of the Regulation and they are:

- The technical documentation file (TDF) is made available on request to the authorities of the Member States and to the Commission.
- The information contained in the label for luminaires is provided in the following situations:
  - in any advertisement, formal price quote or tender offer disclosing energy-related or price information for a specific luminaire;
  - in any technical promotional material concerning a specific lamp which describes its specific technical parameters.

In these cases the information may be provided in formats other than the one set out in Annex I.2., such as fully textual.

- If the luminaire is intended to be marketed through a point of sale, a label for luminaires is made available free of charge to dealers in electronic or paper format. If the supplier chooses a delivery system in which labels are provided only on request from dealers, the supplier shall promptly deliver the labels on request.
- An electronic version of the label for luminaires is made available to dealers for each new luminaire model (new model identifier) placed on the market from 1 January 2015. It is optional also be made available to dealers for existing luminaire models.”
- If the luminaire is placed on the market in a packaging for end-users that includes electrical lamps which the end-user can replace in the luminaire, the original packaging of those lamps is included in the luminaire’s packaging. If not, then the outside or inside of the luminaire packaging must present, in some other form, the information for end users given on the lamps’ original packaging and required by the relevant Ecodesign Regulation.
5.5  Technical documentation (Annex III)

In Article 3, point 2 sub-clause (a) it is reminded that authorities have the ability to require the following technical documentation:

- the name and address of the supplier;
- a general description of the model, sufficient for it to be unequivocally and easily identified;
- where appropriate, the references of the harmonized standards applied and/or the other technical standards and specifications used;
- the identification and signature of the person empowered to bind the supplier;
- the technical parameters for determining compatibility with lamps, specifying at least one realistic combination of product settings and conditions in which to test the product;

The information contained in the Technical Documentation File may be merged with the technical documentation provided in accordance with Ecodesign implementing measures under Directive 2009/125/EC.

In sub-clause (b) it is clarified that the information to the end-users has to be provided anyhow on price quote or tender offer disclosing energy-related or price information for a specific luminaire as well as in technical documentation by which the luminaire is promoted; it means that even if the label is not required e.g. when distance selling, its content is mandatorily provided. This can be made in fully textual form.

5.6  Responsibilities of dealers

From 1st March 2014, dealers of luminaires marketed to end-users shall ensure that the following information is given to the end-users, as indicated in the Chapter Label Layout:

I - Supplier’s name or trade mark;

II - Supplier’s model identifier;

III – relevant sentence on compatibility with lamps or provided with LED modules not removable by end-users;

IV - range of energy-efficiency classes of compatible lamp/s, or if the case, the classes of lamps with which the luminaire is not compatible;

V - If the case, “The luminaire is sold with a bulb of the energy class: [the appropriate energy classes shall be reported]”.

The information has to be provided anyhow on price quote or tender offer disclosing energy-related or price information for a specific luminaire as well as in
any technical documentation by which the luminaire is promoted; it means that even if the label is not required e.g. when distance selling, its content is mandatorily provided. This can be made in fully textual form.

Industry considers that by achieving at least the languages versions as identified according to the explanation as in Chapter Languages for the label in the related countries, the requirement set out in the EU Regulation have to be considered as to be met.

**Luminaire model presented at a point of sale**

Each model presented to end-users at a point of sale is accompanied by the label for luminaires. The label shall be displayed in one or both of the following ways:

- in proximity to the displayed luminaire, so as to be clearly visible and identifiable as the label belonging to the model, without having to read the brand name and model number on the label;
- clearly accompanying the most directly-visible information about the displayed luminaire such as the price or the technical data and information;

When the luminaire is sold in a packaging for end-users that includes electrical lamps which the end-user can replace along luminaire life, the original packaging of those lamps shall be included in the luminaire’s packaging.

If the lamp packaging is not included, then the outside or inside of the luminaire packaging must present, in some other form, the information given on the lamps’ original packaging and required by this Regulation and by Commission Regulations setting ecodesign requirements for lamps pursuant to Directive 2009/125/EC. This information is:

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**For non-directional lamps** *(ref. EC Regulation 244/2009, Annex II.3.1)*

- a) nominal lamp power
- b) Nominal life time
- c) Number of switching cycles before premature lamp failure;
- d) Colour temperature;
- e) Warm-up time up to 60 % of the full light output
- 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 $T_a \neq 25 \, ^\circ C$), 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)
- 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 $XX \, mg$;
l) **Indication which website to consult in case of accidental lamp breakage to find instructions on how to clean up the lamp debris.**

**For directional lamps (ref. EU Regulation 1194/2012, Annex III.3.1.2)**

- a) Nominal useful luminous flux;
- b) Nominal life time;
- c) Colour temperature;
- d) Number of switching cycles before premature failure;
- e) Warm-up time up to 60 % of the full light output;
- f) A warning if the lamp cannot be dimmed or can be dimmed only on specific dimmers;
- g) If designed for optimum use in non-standard conditions (such as ambient temperature $T_a \neq 25^\circ C$ or specific thermal management is necessary), information on those conditions;
- h) Lamp dimensions in millimetres (length and largest diameter);
- i) Nominal beam angle;
- j) Warning that the lamp is not suitable for accent lighting (if the lamp’s beam angle is ≥90° and its useful luminous flux is measured in a 120° cone);
- k) Drawing comparing the lamp’s dimensions to the dimensions of the filament lamp(s) it replaces (if the case);
- l) Indication of the lamp type of Extra-low voltage reflector as listed in the EU Regulation, if the case;
- m) Equivalence claim involving the power of a replaced lamp type, if the case;

If the lamp contains mercury

- n) Lamp mercury content as XX mg;
- o) **Indication which website to consult in case of accidental lamp breakage to find instructions on how to clean up the lamp debris.**

Lamps falling under EC Regulation 245/2009 and EU Regulation 347/2010 have no mandatory product information required for packaging by these regulations.

**Luminaire model sold via internet**

Each new model offered for sale, hire or hire-purchase through the internet and for which an electronic label has been made available by the supplier, is accompanied by the appropriate label which shall be shown on the display mechanism in proximity to the price of the product or may be displayed using a nested display.
Where the offer is made through the internet, for accessing the label in the case of **nested display**, the image used shall:

(a) be an arrow in the colour corresponding to the energy efficiency class of the product on the label;

(b) indicate on the arrow the energy efficiency class of the product in white in a font size equivalent to that of the price; and

(c) have one of the following two formats:

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A++
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In the case of nested display, the sequence of display of the label shall be as follows:

1. the image referred to in the blue box above shall be shown on the display mechanism in proximity to the price of the product;
2. the image shall link to the label;
3. the label shall be displayed after a mouse click, mouse roll-over or tactile screen expansion on the image;
4. the label shall be displayed by pop up, new tab, new page or inset screen display;
5. for magnification of the label on tactile screens, the device conventions for tactile magnification shall apply;
6. the label shall cease to be displayed by means of a close option or other standard closing mechanism;
7. the alternative text for the graphic, to be displayed on failure to display the label, shall be the energy efficiency class of the product in a font size equivalent to that of the price.

### 5.7 Market Surveillance

Verification procedure for Market Surveillance purposes for luminaires intended to be marketed or marketed to the end-user (Annex V.2)

The luminaire shall be considered to comply with the requirements on the responsibilities of suppliers and dealers, laid down in Articles 3 and 4 of the EU Regulation 874/2012 if:

- it is accompanied by the required product information, and
• if it is found to be compatible with any lamps with which it is claimed to be compatible according to point 2.2(IV)(a) and (b) of Annex I, applying state-of-the-art methods and criteria for assessing compatibility.

6 Conclusions

The EU Regulation with regard to energy labelling of electrical lamps (including LED modules) and luminaires is the logical consequence of the new framework Directive and the new EcoDesign implementing measure on directional lamps (including LED modules).

The challenge will not be the label itself, but the way the information shall be provided.

From 1st September 2013 it will not only be mandatory to have the new label on lamp packaging. The information related to the new lamp and the new label for luminaires has also been provided with every price quote, tender, technical information and advertisement. In addition retailers have to find a way, how to present the luminaire label at the point of sale.

7 Disclaimer

This information is for general guidance on matters of interest only. While every attempt to ensure that the information has been obtained from reliable sources has been made, LightingEurope is not responsible for any errors or omissions or for the results obtained from the use of this information. All information is provided with no guarantee of completeness, accuracy, timeliness or of the results obtained from the use of this information, and without warranty of any kind, express or implied, including, but not limited to warranties of performance, merchantability and fitness for a particular purpose. In no event will LightingEurope, its related partnerships or corporations, or the partners, agents or employees thereof be liable to you or anyone else for any decision made or action taken in reliance on the information or for any consequential, special or similar damages, even if advised of the possibility of such damages.

The pictures displayed in this Guide are kindly provided from the LightingEurope members.
Annex I – Definitions

The following definitions are taken from Article 2 of EU Regulation 874/2012:

Article 2
Definitions
In addition to the definitions laid down in Article 2 of Directive 2010/30/EU, the following definitions shall apply for the purposes of this Regulation:

(1) ‘Light source’ means a surface or object designed to emit mainly visible optical radiation produced by a transformation of energy. The term ‘visible’ refers to a wavelength of 380-780 nm;

(2) ‘Lighting’ means the application of light to a scene, objects or their surroundings so that they may be seen by humans;

(3) ‘Accent lighting’ means a form of lighting where light is directed so as to highlight an object or a part of an area;

(4) ‘Lamp’ means a unit whose performance can be assessed independently and which consists of one or more light sources. It may include additional components necessary for starting, power supply or stable operation of the unit or for distributing, filtering or transforming the optical radiation, in cases where those components cannot be removed without permanently damaging the unit;

(5) ‘Lamp cap’ means that part of a lamp which provides connection to the electrical supply by means of a lamp holder or lamp connector and may also serve to retain the lamp in the lamp holder;

(6) ‘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;

(7) ‘Directional lamp’ means a lamp having at least 80 % light output within a solid angle

(8) ‘Non-directional lamp’ means a lamp that is not a directional lamp;

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

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

(11) ‘(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. They may be supplied with an integrated power supply;
(12) ‘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;

(13) ‘Fluorescent lamp’ means a discharge lamp of the low pressure mercury type in which most of the light is emitted by one or more layers of phosphors excited by the ultraviolet radiation from the discharge. Fluorescent lamps may be supplied with an integrated ballast;

(14) ‘Fluorescent lamp without integrated ballast’ means a single- or double-capped fluorescent lamp without integrated ballast;

(15) ‘High-intensity discharge lamp’ means an electric discharge lamp 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;

(16) ‘Light-emitting diode (LED)’ means a light source which consists of a solid state device embodying a p-n junction. The junction emits optical radiation when excited by an electric current;

(17) ‘LED package’ means an assembly having one or more LED(s). The assembly may include an optical element and thermal, mechanical and electrical interfaces;

(18) ‘LED module’ means an assembly having no cap and incorporating one or more LED packages on a printed circuit board. The assembly may have electrical, optical, mechanical and thermal components, interfaces and control gear;

(19) ‘LED lamp’ means a lamp incorporating one or more LED modules. The lamp may be equipped with a cap;

(20) ‘Lamp control gear’ means a device located between the electrical supply and one or more lamps, which provides a functionality related to the operation of the lamp(s), such as transforming the supply voltage, limiting the current of the lamp(s) to the required value, providing a starting voltage and preheating current, preventing cold starting, correcting the power factor or reducing radio interference. The device may be designed to connect to other lamp control gear to perform these functions. The term does not include:

- control devices,
- power supplies converting the mains voltage to another supply voltage that are designed to supply in the same installation both lighting products and products whose primary purpose is not lighting;

(21) ‘Control device’ means an electronic or mechanical device controlling or monitoring the luminous flux of the lamp by other means than power conversion for the lamp, such as timer switches, occupancy sensors, light sensors and daylight regulation devices. In addition, phase cut dimmers shall also be considered as control devices;

(22) ‘External lamp control gear’ means non-integrated lamp control gear designed to be installed outside the enclosure of a lamp or luminaire, or to be removed from the enclosure without permanently damaging the lamp or the luminaire;
(23) ‘Ballast’ means lamp control gear inserted between the supply and one or more discharge lamps which by means of inductance, capacitance or a combination of inductance and capacitance, serves mainly to limit the current of the lamp(s) to the required value;

(24) ‘Halogen lamp control gear’ means lamp control gear that transforms mains voltage to extra low voltage for halogen lamps;

(25) ‘Compact fluorescent lamp’ means a fluorescent lamp that includes all the components necessary for starting and stable operation of the lamp;

(26) ‘Luminaire’ means an apparatus which distributes, filters or transforms the light transmitted from one or more lamps and which includes all the parts necessary for supporting, fixing and protecting the lamps and, where necessary, circuit auxiliaries together with the means for connecting them to the electric supply;

(27) ‘Point of sale’ means a physical location where the product is displayed or offered for sale, hire or hire-purchase to the end-user;

(28) ‘End-user’ means a natural person buying or expected to buy an electrical lamp or luminaire for purposes which are outside his trade, business, craft or profession;

(29) ‘Final owner’ means the person or entity owning a product during the use phase of its life cycle, or any person or entity acting on behalf of such a person or entity.

(30) Compatibility* means that when a product is intended to be installed in an installation, inserted into another product or connected to it through physical contact or wireless connection,

(i) it is possible to perform the installation, insertion or connection; and

(ii) shortly after starting to use them together, end-users are not led to believe that any of the products has a defect;

and

(iii) the safety risk of using the products together is not higher than when the same products taken individually are used in combination with other products.

*From EU Regulation 1194/2012.
Annex II - Languages of the label for luminaires

The European Union has 23 official and working languages. They are: Bulgarian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Irish, Italian, Latvian, Lithuanian, Maltese, Polish, Portuguese, Romanian, Slovak, Slovene, Spanish and Swedish.

In terms of the most common foreign languages spoken, the linguistic map of Europe shows the following five most widely spoken foreign languages as: English (38%), French (12%), German (11%), Spanish (7%) and Russian (5%).

At a national level English is the most widely spoken foreign language in 19 of the 25 Member States where it is not an official language (i.e. excluding the UK and Ireland).

Languages in foreign countries:

respondents to an EU survey in the Netherlands (90%), Malta (89%), Denmark and Sweden (86% in each) are particularly likely to speak English as a foreign language, followed by those in Cyprus and Austria (73% in each) and Finland (70%).

In the remaining six Member States:

Russian is the most widely spoken foreign language in Lithuania (80%), Latvia (67%) and Estonia (56%);

Croatian the most commonly spoken in Slovenia (61%); and

Czech the most widely spoken in Slovakia (47%).

In Luxembourg respondents are most likely to mention French (80%), followed by German (69%), although both are official languages of the country.


Industry consider that by achieving at least the above languages versions in the related countries, the requirement set out in the EU Regulation “The label shall be the relevant language version” have to be considered as to be met.

Templates for basic layout and wording in 22 EU languages (to note that Irish is not provided with) are already available at:


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8 Source: Special Eurobarometer 386 - http://ec.europa.eu/languages/languages-of-
europe/eurobarometer-survey_en.htm
9 Please note that the lamp label template provided by Commission for the simplified version results in a label which is below the minimum specified size of 62 mm.
Annex III - Industry position on “placing on the market”

Also available at:
transferred from the manufacturer in a third country to an authorized representative in the Community whom the manufacturer has engaged to ensure that the product complies with the directive;
- transferred to a manufacturer for further measures (for example assembling, packaging, processing or labeling);
- not (yet) granted release for free circulation by customs, or has been placed under another customs procedure (for example transit, warehousing or temporary importation), or is in a free zone;
- manufactured in a Member State with a view to exporting it to a third country;
- displayed at trade fairs, exhibitions or demonstrations; or
- in the stocks of the manufacturer, or the authorized representative established in the Community, where the product is not yet made available, unless otherwise provided for in the applicable directives.

In order to provide further guidance in the practical interpretation of the term "placing on the market", the ELC sets out below the industry understanding thereof, considering four scenarios and using information available from the EUP Directive and available Commission guidance document.

1. Private label products

The EUP Directive sets out that a brand owner is regarded as “manufacturer” when the EUP is placed on the market under the manufacturer’s own name or trademark. This, together with the requirement as per article 3 of the EUP Directive that “…EUP’s covered by implementing measures may be placed on the market … only if they comply with those measures …” means that a product being transferred from the stage of manufacture, if there are no further measures (e.g. assembling, packaging, processing or labelling) carried out at or by the brand owner, is regarded to be placed on the market. Hence, once a private label product is transferred to a brand owner and enters the private label owner’s distribution chain before the 1. September deadline, in its entirely final form and final packaging, without any further measures, including without limitation conducting a conformity assessment, other than preparing the products for shipment, to be carried out at or by the brand owner, then that product is considered to be placed on the market and can be further marketed by the brand owner.

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1 The product is considered to be transferred either when the physical hand-over or the transfer of ownership has taken place.
2.) Manufacture and Storage in the EU

Taking into account the definition of placing on the market in the EUP Directive and the clarification notes from the Blue Book it is our understanding that a final product manufactured in the EU is considered to be placed on the market when the manufacturing process is fully completed (no more packaging, labelling, assembling needed), the product is transferred from the stage of manufacture (both physically and administratively, documented in the books and database of the manufacturer) to the distribution chain (whether it is a third party distributor or the commercial chain of the manufacturer responsible for distributing the product, e.g., a distribution warehouse of the manufacturer), hence the final product is made available and ready for shipment. Preparing the products for their shipment within the distribution chain (e.g. wrapping final and packaged products for shipment, putting products on euro-pallets, wrapping pallets with plastic film for shipment) is not considered as “packing” within the manufacturing process.

3.) Importing

It is clear from the EUP Directive and the Blue Book that in case of importing to EU from outside of EU, the finished product is put on the market when it is released by EU customs authorities.

4.) Assembled lighting products

In this scenario the lamps are built into and sold together with other products e.g. fixtures. In this case the person who mounts and sells the lamps and fixtures together is not considered to be manufacturer, since he is not distributing the lamps under his name or trade mark, and he is not changing the intended use and purpose of the lamp. Therefore the general rules apply to these lamps, i.e. they are placed on the market as individual EuPs as and when they are made available for the first time on the Community Market with a view to their distribution or use within the Community - see point 2. above and thus, there is no limitation to build in such lamps into any devices.
Annex IV - Industry position on lamp labelling under Regulation 874/2012/EC (Energy Label)

LightingEurope Position paper on lamp labeling under Regulation (EU) No 874/2012 (Energy Label)

16 April 2013

Changes from the new energy labelling Regulation on products labelled under 98/11/EC (old label)

Objective:
The purpose of this paper is to provide information about the consequences of the new, more stringent European Energy Efficiency Labelling Regulation, in particular about the change of Energy Efficiency Classes for certain Mains Voltage Halogen lamps.

Background
The European Commission has published the new energy labelling Regulation (EU) No 874/2012 that replaces the lamps energy label 98/11/EC from 1998.

The existing label for household lamps was extended with new efficiency classes A+ and A++ (A+++ is reserved for a later stage) and now covers most lamp types as well as luminaires.

The new Regulation may lead to a reclassification of some products, when compared to the current Energy Efficiency Label.

LightingEurope supports the introduction of this revised Regulation on Energy Efficiency Labelling.

In the current energy label Regulation, the energy efficiency index was calculated with the rated luminous flux and the rated power input as it was defined in international standards. The revised Energy Efficiency Regulation 874/2012 is now introducing new evaluation criteria, disallowing the use of any tolerances when designing the product. Furthermore, the revised Regulation is establishing an amended description of the verification procedure established for market surveillance purposes.

Due to these new rules, some products which are on the lower limit of a certain class in the current directive 98/11/EC, either need to be reclassified to a lower efficiency class or need to be technically improved to fulfil the new Energy Efficiency Labelling requirements as laid down in 874/2012.
Consequences for lamps

Thorough analysis of the technologies and products supplied to the market by members of LightingEurope show that for certain lamps the revised Regulation might result in a lower energy class. Pending further analysis, LightingEurope expects issues for specific types of compact fluorescent and low pressure discharge lamps.

However, this is especially true for Mains Voltage Halogen lamps:

Non-directional Mains Voltage Halogen lamps are so close to the lower limit of Energy Efficiency class C that, due to the approach of the revised Regulation, the vast majority of non-directional Mains Voltage Halogen lamps, have to be reclassified under the revised Regulation and will fall into class D.

The most common non-directional Mains Voltage halogen lamps are E14, E27, B15d, B22d (replacing incandescent light bulbs) G9 and R7s.

This position does not preclude the putting on the market of those Mains Voltage Halogen lamp types that can achieve higher classes than “D”.

LightingEurope members do not see any possible improvements for these lamps to achieve class C without jeopardizing other product specifications like lifetime and luminous flux. Therefore everyone supplying these lamps to the market as well as market surveillance authorities and customs are requested to test these lamps according to the new requirements, and pay extra attention to those products on the market with class C in combination with the new energy label (meaning any label on lighting products showing classes A++ to E). This applies to most lamps placed on the market as of September 1st, 2013.

Compliance with Ecodesign regulations

Whether a lamp is allowed on the European market according to Ecodesign Regulation 244/2009 does not depend on the declared or actual energy efficiency class. Rather, it is determined by the requirements of energy use, performance and on-pack information in these regulations. Consequently, non-directional Mains Voltage Halogen lamps as mentioned above with a revised energy class D can still be fully compliant with the Ecodesign regulations.
(That means that the common simplification “C class halogen is compliant, D class is not”, no longer holds true for the new energy label.)

**In short:**

1. Members of LightingEurope conclude, based on a common understanding and interpretation of the applicable law, that as per September 1st, 2013, non-directional Mains Voltage Halogen E14, E27, B15d, B22d, G9 and part of R7s lamps from LightingEurope members change from Energy Efficiency class C to class D.

2. These products will still remain fully compliant with Ecodesign Regulation 244, also after September 1st, 2013.

3. Any supplier or trader offering class C products of the above mentioned types after September 1st, 2013 is most likely offering products that are not compliant with the revised Energy Efficiency regulation 874/2012 and should be subject to scrutiny by national surveillance authorities.

4. With this distinction between class C and D products, potential non-compliance with the revised Energy Efficiency regulation 874/2012 is easy to identify for Mains Voltage halogen lamps.
Annex V: LightingEurope Position on Compatibility requirements for the luminaire label

Also available at:

Luminaire labelling and lamps included with the luminaire

LightingEurope understanding on compatibility requirements for the luminaire label and the impact this has on included lamps, based on the text of Reg. 874/2012:

“Recital 5

(5) Luminaires are often sold with incorporated or accompanying lamps. This Regulation should ensure that consumers are informed about the compatibility of the luminaire with energy-saving lamps and about the energy efficiency of the lamps included with the luminaire. At the same time, this Regulation should not impose a disproportionate administrative burden on luminaire manufacturers and retailers, nor should it discriminate between luminaires as regards the obligation to provide consumers with information on energy efficiency.

and

Annex V

2. VERIFICATION PROCEDURE FOR LUMINAires INTENDED TO BE MARKETED OR MARKETED TO THE END-USER

The luminaire shall be considered to comply with the requirements laid down in Articles 3 and 4 if it is accompanied by the required product information, and if it is found to be compatible with any lamps with which it is claimed to be compatible according to point 2.2(IV)(a) and (b) of Annex I, applying state-of-the-art methods and criteria for assessing compatibility.”

is the following:

Primarily this discussion concerns GU10 lamps but in the future this will expand to other types (E27, E14, B22, B15D, MR16, MR11, G9, G4, etc).

The main issue concerns the definition of “state-of-the-art requirements for compatibility” and the practical meaning of this. Our understanding is that this can cover parameters such as lumen output, physical size, dimmability, CRI, thermal related life issues with LED lamps in enclosed/semi-enclosed luminaires etc. Some of these parameter are covered by European Standards (lumen output, CRI) but others such a dimmer compatibility are not yet covered.
It is the responsibility of the luminaire manufacturer to determine if their luminaire is compatible with lamps on the market based on state-of-the-art requirements for compatibility but different approaches can be taken leading to different lamps being allowed to be included.

The explanation below details the Regulation requirements and then the options that LightingEurope consider are possible for a luminaire manufacturer.

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The requirements are split between Regulation 874/2012 covering luminaire labelling and 1194/2012 covering ERP Ecodesign.

The first step is to define the luminaire label under Regulation 874/2012.

**Luminaire Label**

Regulation 874/2012 requires the luminaire label to show which classes of lamps the luminaire is compatible with based on “state-of-the-art requirements for compatibility”.

The relevant text from Regulation 874/2012 is below:

**874/2012 Annex I Clause 2, IV - Applies from 1st March 2014**

IV. the range of energy-efficiency classes according to part 1 of this Annex, accompanied by the following elements, as applicable:

(a) a ‘bulb’ pictogram indicating the classes of user-replaceable lamps with which the luminaire is compatible according to state-of-the-art requirements for compatibility,

(b) a cross over the classes of lamps with which the luminaire is not compatible according to state-of-the-art requirements for compatibility,

....... 

**Included Lamps**

Regulation 1194/2012 then requires any lamps included with the luminaire to be one of the two highest classes for which the luminaire is labelled as compatible.

The relevant text from Regulation 1194/2012 is below:

**1194/2012 Annex III Clause 2.3 - Applies from 1st September 2014**

When a luminaire is placed on the market and intended to be marketed to the end-users, and lamps that the end-user can replace are included with the luminaire, these lamps shall be of one of the two highest energy classes, according to Commission Delegated Regulation (EU) No 874/2012, with which the luminaire is labelled to be compatible.

....... 

**Approach 1)**
A luminaire manufacture could decide that there are not sufficient LED lamps on the market fulfilling state-of-the-art requirements for compatibility:

- Compatibility is not limited to the physical size and lamp fitting, but also taken into account are elements like lumen output, light distribution, dimmability, life issues, thermal, etc.
- Luminaires are often designed to the light distribution of a certain lamp technology. Therefore the luminaire manufacturer must be able to deliver the appropriate (sometimes lower energy efficiency) lamps.
  - In this case the luminaire manufacturer shall label the luminaire showing compatibility only with the less energy efficient lamps.
  - The CE technical documentation shall detail the claimed compatibility. Legislation does not require detailing the non-compatibility.
- On the other hand, often lower efficiency lamps are excluded (non-compatible) due to thermal management in the luminaire
- We also believe that a luminaire manufacturer must be able to deliver products that are (as much as possible) compatible with installed electrical installation (e.g. dimmers, PIRs, ...) in end-users home. This means that delivering luminaires with lower efficiency lamps ((eco) halogen lamps) must be possible.
  - In all cases, all lamps included with a luminaire have to meet the ErP requirements. Luminaire manufacturers should allow these categories of lamps.
  - The term “compatibility” is too vague and can have different interpretations.

**Approach 2)**

- The luminaire manufacturer could decide that there are sufficient LED lamps on the market fulfilling *state-of-the-art requirements for compatibility*.
- The luminaire manufacturer would label the luminaire to show LED lamp compatibility (possibly Classes A+ and below).
- The CE Technical documentation file should detail a compatible lamp (brand, wattage etc.) that is available.
- If a lamp is included with the luminaire then the lamp shall be of the top 2 classes (possibly Class A+ or A).
- All lamps included with a luminaire have to meet the ERP requirements.

**CONCLUSIONS**

In the absence of the harmonized standard it is the responsibility of the luminaire manufacturer to determine if their luminaire is compatible with lamps on the market based on state-of-the-art requirements for compatibility. Third parties (e.g.
dealers) cannot impose on luminaire manufacturers to declare a luminaire compatibility with top energy classes based on the lamp cap compatibility only.

It is the task of market surveillance authorities to verify the validity of the application of the labelling. In the absence of harmonized standards the only verification possible is a check on availability of lamps (as documented in technical documentation files) that meets the luminaire label and if the lamps included are of the top two energy classes mentioned on the luminaire label.