

# Qualifying requirements and procedures for LED light sources listed on the Danish Energy Saving Trust's (Go' Energi) product overview

## Qualifying requirements

In order to be listed on the Danish Energy Saving Trust's (hereinafter called the Trust) product overview of recommended LED light sources and thereby be entitled to use the Energy Saving Label (Go' Energimærket), the product must conform to the following requirements, namely:

- The product must be classified as energy efficiency class A per Commission Directive 98/11/EC
- The product must have a lamp life of at least 15,000 hours
- Efficacy requirements including ballast:

### NDLS – Non Directional Lighting Sources

	2011/2012	2013*	2014*	2015*
- $R_a \geq 80$	$\geq 61^{lm/W}$	$\geq 70^{lm/W}$	$\geq 75^{lm/W}$	$\geq 80^{lm/W}$
- $R_a \geq 90$	$\geq 52^{lm/W}$	$\geq 60^{lm/W}$	$\geq 65^{lm/W}$	$\geq 70^{lm/W}$

### DLS – Direct Lighting Sources

	2011/2012	2013*	2014*	2015*
- $R_a \geq 80$	$\geq 50^{lm/W}$	$\geq 60^{lm/W}$	$\geq 65^{lm/W}$	$\geq 70^{lm/W}$
- $R_a \geq 90$	$\geq 40^{lm/W}$	$\geq 50^{lm/W}$	$\geq 55^{lm/W}$	$\geq 60^{lm/W}$

\*) From 2012 onwards the requirements may change in line with improvements to LED light sources.

- Lumen maintenance requirement: After 1,000 hours at least 95% of the tested LED-lamps must have a luminous flux of at least 85 % of the initial luminous flux (lumen value stamped on the product)
- Stabilised light output: The starting time shall be less than 0.5 seconds. The time to 95% stabilized rated lumen output after switch-on, shall be less than 2 seconds
- Ignition requirement: The number of ignitions that the lamp can endure in an ignition test shall be no less than half of the lamp life in hours without failures ( $\geq 7.500$ )  
The ignition test is based on an on/off cycle of 30 seconds on and 30 seconds off at least 7.500 times without failures. (See the EU Quality Charter for further information)
- Colour rendering (CRI) ( $R_a$ ) must be at least 80
- Colour temperature (CCT) must be between 2.600 K and 3.500 K
- Flicker: The frequency is required to be  $\geq 100$ Hz and no flicker must appear when the LED is dimmed

For direct lighting sources, the following requirements also apply to the labelling on the packaging:

- Information on light coverage angle
- Information on colour rendering (CRI) in  $R_a$

In addition, The Trust requires that:

- The product must comply with all other statutory requirements in Denmark
- A user manual in Danish or the Scandinavian languages must be supplied with the product

- The product must be available on the Danish market at the time that the product is included on the Trust's product overview of LED Light Sources at savingtrust.dk
- There must be an agent for Denmark located in the EU, who is responsible for contact with the Trust
- The producer/importer (hereinafter called the market participant) must make it possible for Danish consumers to have their enquiries dealt with by a Danish speaking contact person
- Sales figures for the product must be sent to the Danish Energy Label Secretariat (Sekretariat for Go' Energimarkedet) every year

### **Inclusion procedure**

Before the product is listed on the Trust's product overview, the market participant must forward a signed declaration. Thereafter the market participant must forward one specimen of the light source in its original packaging together with a completed form (available from the Danish Energy Label Secretariat) including the following information:

- Manufacturer and product name as stated on the packaging of the light source
- Energy class, luminous flux (lumen), power output (Watts), lamp life and socket type
- Colour temperature, colour rendering, dimensions and shape
- Date when product is available on the Danish market

If the product fulfils the requirements, the market participant should sign a "Product information" form and a "Product data documentation" form containing the relevant data for the light sources that it wishes to have listed. If the product fulfils the requirements, it will be added to the Trust's overview of recommended LED Light Sources.

### **Energy Saving Label**

Once a product is included on the Trust's product overview, retailers and the market participant have the right to use the Energy Saving Label in connection with the marketing of the product on the understanding that they have entered into a User and Product Agreement with the Trust. The individual agreements can be requested from the Danish Energy Label Secretariat.

### **Conditions for inclusion on the product overview**

The market participant must inform the Trust about any product alterations, and if it is no longer sold, or is being phased out of the Danish market. A product may only be listed on the Trust's product overview as long as it remains unaltered. If the product is altered, or fails a random test, it will be removed from the product overview and thereafter may not use the Energy Saving Label. If the market participant wishes to have the altered product re-listed on the product overview, the market participant must complete the application procedure again. Only the Trust can decide whether the product should be recommended again.

The Trust reserves the right to amend the qualifying requirements for inclusion on the product overview. In the event of changes to the qualifying requirements and procedures a minimum of 2 months notice will be given. Thereafter, a product will be deleted from the product overview subject to the fact that no new documentation is delivered demonstrating that the products conform to the new requirements.

### **Additional documentation**

The Trust may at any time, and without stating a reason, request the market participant to forward additional documentation showing that the product meets the qualifying requirements. The product will be listed on the product overview once all the additional documentation has been processed and

approved by the Trust. The market participant agrees to allow the Trust to pass on information to the test laboratory used by the Trust.

### **Random testing**

The Trust reserves the right to undertake random testing of products listed on its overview of recommended LED light sources. The Trust typically selects 3-20 specimens of the product(s) selected for testing from the warehouses or showrooms of producers, distributors or retailers. The market participant will make products to be tested available free of charge to the Trust, irrespective of the location from which they are delivered. If tests show that a product does not comply with the requirements listed for inclusion on the product overview, the product will be removed from the product overview. Furthermore, in this situation the market participant may be required to pay the costs incurred by the Trust in performing the tests. These costs may not exceed DKK 50,000 excluding Danish VAT per year. The Trust has the right to distribute the test results to the relevant authorities and retailers of the products tested, as well as publish the test results via the relevant media.

### **Submission of material**

The material required, and any questions should be addressed to:

The Danish Energy Label Secretariat  
For and on behalf of Go' Energi  
Bredbjergvej 44  
DK-5230 Odense M  
Tel.: +45 33 95 58 37  
Fax: +45 33 95 58 23  
E-mail: [goenergimaerket@team.goenergi.dk](mailto:goenergimaerket@team.goenergi.dk)