Collating your catalogue of light emitting diode (LED) lamp models into families

For the Energy Rating Product Registration system

Overview

Suppliers, manufacturers or resellers must register LED lamps before they can offer them for sale or supply in Australia from 3 March 2026 under the Greenhouse and Energy Minimum Standards (LED Lamps) Determination 2025 (determination).

LED lamps that don't meet the requirements cannot be sold unless they were imported or manufactured in Australia before 3 March 2026 and meet the grandfathering provisions.

You can register LED lamps as:

- a **single model**,
- a **standard family**. This is a family of models with similar technical characteristics. A standard family may contain up to 100 models. Refer to section 7 and 10 of the determination for more information, or
- a **special purpose family**. This is a family of models that do not have similar technical characteristics and are not ordinarily grouped together. You can only apply for one single cap and one double cap special purpose family of up to 10 models under the same legal entity. Refer to section 7 and section 10 of the determination for more information.

Just because you can register families of models doesn't mean you should. If a family of models registration application is approved and later found to be non-compliant, the GEMS Regulator can cancel or suspend the whole registration. If you had a family of 100 models, then 100 models can be suspended or cancelled.

Standard family – 8 basic steps

Before you apply for a standard family it's a great idea to review your catalogue. To do this collate the LED lamps by:

- Product class or cap type (single or double)
- Voltage (mains or non-mains)
- Dimmability (dimmable or non-dimmable)
- Direction (directional or non-directional)
- Filament (with or without)
- $L_{70}B_{50}$ lifetime (there are up to 3 bands and vary between product class)
- Colour rendering index (there are up to 3 bands and vary between product class)
- Reference control settings (if applicable).

For an illustration of the 8 basic steps you can use to collate your lamp catalogue refer to Figure 1.

Remember, all models in a standard family registration application needs to share the same technical characteristics.

Refer to Appendix 1 for illustrative examples to help you collate LED lamps into families. This includes many, but not all, of the possible combinations. Some of the combinations that are rare or unlikely to be developed are not included for simplicity.

In depth, what are some of the basic steps?

Do you need more information to help you follow the 8 basic steps? If so, you can refer to the determination and the following information for product class, mains voltage and reference control settings.

Product class

The determination provides information about in scope single and double cap types to collate your catalogue into one or more standard families of models. Refer to section 7 and 10 of the determination for more information.

Single capped lamps

Single capped lamps that are in scope include:

- BA15d, B15d, B22d, E11, E12, E13, E14, E17, E26, E27, E39, E40, GU10, GZ10, GX10, GU24, GX53 and G9,
- bi-pin lamp caps: G4, GU4, GY4, GZ4, GU5.3, G6.35, GY6.35, GU7 and G53.

You may include all single cap types in the same standard family registration application.

Double capped lamps

Double capped lamps that are in scope with a nominal length of 550 mm to 1500 mm include LED:

- retrofit lamps and double capped conversion LED lamps (as defined in the clauses 3.1 and 3.2 of IEC 62776) with G5 and G13 caps,
- lamps (as defined in IEC 62931) with GX16t-5 caps. This group is not widely available in the Australian market.

You can only have one double cap type in each standard family registration application.

Mains voltage

Mains voltage means the electricity supply of 230 (+10% to - 6%) volts of alternating current at 50 Hz.

Reference control settings

All models in a family must have the same reference control settings. If reference control settings are different you must create another family of models for that reference control setting.

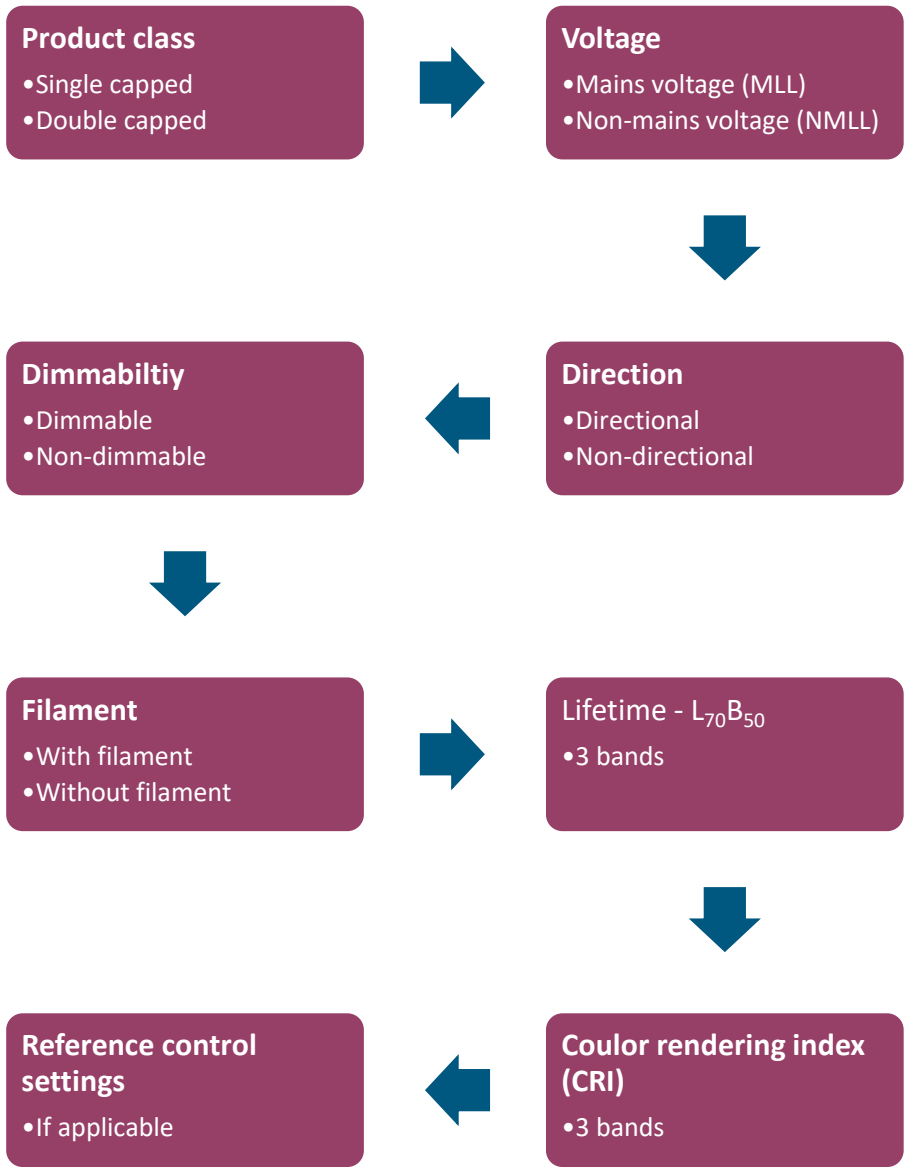
This requirement is applicable for models with control features that allow end users to adjust lamp characteristics that can impact energy performance of the model. Additionally, the reference control settings may be the:

- factory default setting, or
- setting after the automatic software update (if available) before the first use of the lamp.

The mode of control may be ‘manual or automatic’, ‘direct or remote’.

Refer to section 6 of the determination for more information.

Figure 1 Collate your lamp catalogue into families of models using 8 basic steps



Example – Single capped standard family of models
A supplier reviews their LED lamp model catalogue to submit registration application(s).
A supplier takes all the LED lamps that includes **any** single-capped mains voltage LED lamps (MLL) that are dimmable with directional lighting without a filament. This includes all the models that fall within the same lifetime band and the same CRI band.
After applying these steps, the supplier identifies 90 models that all share the same product class, voltage, dimmability, direction, filament, lifetime band and CRI band. None of them are smart lamps, therefore checking for reference control settings is not applicable.
This means 90 models can be registered as one standard family of models.

Example – New single model
A supplier has a new model that they are going to supply in Australia. Because they only have 1 model, the supplier submits a single registration application to register their new model.

Example – Double capped standard family of models
A supplier reviews their LED lamp model catalogue to submit registration application(s).
A supplier takes all the LED lamps that includes only the G13 cap double-capped mains voltage LED lamps (MLL) that are non-dimmable with non-directional lighting (without a filament). This includes all the models that fall within the same lifetime band and the same CRI band.
After applying these steps, the supplier identifies 120 models that all share the same product class, voltage, dimmability, direction, lifetime band and CRI band. None of them are smart lamps, therefore reference control settings no not apply.
This means 120 models can be registered over two or more standard family of models applications.

Example – Double capped special purpose family of models
A supplier has 10 LED lamp double capped models.
Some are G5 caps and others are G13 caps. They have different configurations of mains voltage LED lamp (MLL) and non-mains voltage LED lamp (NMLL), dimmable and non-dimmable, and fall into different bands of CRI.
The supplier submits a special family registration application so they can register 10 double capped models on the one special family registration application.
The same legal entity could also submit a special purpose family of models registration application for single capped LED lamps, but could not submit a second double capped special purpose family of models application.
(note: the special family application form is coming soon)

Want more information?

Visit our website at www.energyrating.gov.au or contact us.

For detailed information refer to the Greenhouse and Energy Minimum Standards (LED Lamps) Determination 2025 that is available on the Federal Register of Legislation.

For in-depth technical examples refer to Appendix 1.

DISCLAIMER: The information in this document is provided as guidance only. This document has been developed to help applicants understand their responsibilities under the legislative framework in Australia. This document should be read in conjunction with the Greenhouse and Energy Minimum Standards Act 2012, the supporting Regulations and Instruments. Changes to legislation may affect the information in this document. Ultimately, persons are responsible for determining their obligations under the law, and for applying the law to their individual circumstances. This document does not constitute legal advice and is not a substitute for independent professional advice.

Appendix 1 – Probable families of models

There are three illustrative examples of probable family of models in each of the product classes based on the ordering displayed in Figure 1.

In the three examples, different colours have been used depending on the product class and characteristics, to help you navigate the table. A key is below for your ease.

Table 1: Table colour key

Colour	Description
	single-capped mains voltage (MLL) (Refer Table 2)
	single-capped non-mains (NMLL) family for all in scope cape types with light green shading on the second row (Refer Table 3)
	double capped lamps (MLL) for G5 cap type family with dark green shading on the first row (Refer Table 4)
	Mains voltage LED lamps
	Non-mains LED lamps
	Dimmable
	Non-dimmable
	Directional
	Non-directional
	Without filament $L_{70}B_{50}$ lifetime (there are up to 3 bands and vary between product class), Colour rendering index (there are up to 3 bands and vary between product class)
	With filament $L_{70}B_{50}$ lifetime (there are up to 3 bands and vary between product class), Colour rendering index (there are up to 3 bands and vary between product class)

Single capped, MLL

Table 2 highlights:

- how single capped, MLL models in your product catalogue can be collated into families of models, and
- 39 single capped MLL in scope probable families of models for a LED lamp registration application in the Energy Rating Product Registration system.

In-scope single capped lamps include:

- BA15d, B15d, B22d, E11, E12, E13, E14, E17, E26, E27, E39, E40, GU10, GZ10, GX10, GU24, GX53 and G9, and
- bi-pin lamp caps: G4, GU4, GY4, GZ4, GU5.3, G6.35, GY6.35, GU7 and G53.

Table 2: Single capped, MLL

Single Capped																																						
Mains Voltage (MLL)																																						
Dimmable																		Non dimmable																				
Directional						Non-directional												Directional						Non-directional														
Without filament						With filament						Without filament						Without filament						With filament						Without filament								
Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs			15,000 < Lifetime ≤ 30,000 hrs			Lifetime > 30,000 hrs		
80 ≤ CRI < 90	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**70 ≤ CRI < 80***	**80 ≤ CRI < 90**	**CRI ≥ 90**	**70 ≤ CRI < 80***	**80 ≤ CRI < 90**	**CRI ≥ 90**	**70 ≤ CRI < 80***	**80 ≤ CRI < 90**	**CRI ≥ 90**

* Lamps that have a CRI greater than or equal to 70 and less than 80 must meet: have a cap type of E40 or E 27; an initial luminous flux > 2000 lumens; and have capacity to operate on control gear designed for high intensity discharge lamps. These lamps are only for outdoor and industrial applications and product packaging must have clear markings to this effect.

Single capped, NMLL

Table 3 highlights:

- how single capped NMLL models in your product catalogue can be collated into families of models, and
- 36 single capped NMLL in scope probable families of models for a LED lamp registration application in the Energy Rating Product Registration system.

In-scope single capped lamps include:

- BA15d, B15d, B22d, E11, E12, E13, E14, E17, E26, E27, E39, E40, GU10, GZ10, GX10, GU24, GX53 and G9, and
- bi-pin lamp caps: G4, GU4, GY4, GZ4, GU5.3, G6.35, GY6.35, GU7 and G53.

Table 3: Single capped, NMLL

Single Capped																							
Non-Mains (NMLL)																							
Dimmable												Non dimmable											
Directional				Non-directional						Directional				Non-directional									
Without filament				With filament			Without filament			Without filament				With filament			Without filament					
Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs		Lifetime ≤ 15,000 hrs		15,000 < Lifetime ≤ 30,000 hrs		Lifetime > 30,000 hrs	
80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90	80 ≤ CRI < 90	CRI ≥ 90

Double capped lamps, MLL for G5 cap type

Table 4 highlights:

- how double capped MLL models for G5 cap type in your product catalogue can be collated into families of models, and
- 24 double capped MLL in scope probable families of models for G5 cap type for a LED lamp registration application in the Energy Rating Product Registration system.

In-scope double capped lamps for the following table mean, a nominal length of 550 mm to 1500 mm include LED retrofit lamps and double capped conversion LED lamps (as defined in the clauses 3.1 and 3.2 of IEC 62776) with G5 caps type.

Table 4: Double capped lamps, MLL for G5 cap type

Double Capped																							
Mains Voltage (MLL)																							
Dimmable												Non dimmable											
Directional						Non-directional						Directional						Non-directional					
Without filament						Without filament						Without filament						Without filament					
Lifetime ≤ 30,000 hrs		30,000 < Lifetime ≤ 60,000 hrs		Lifetime > 60,000 hrs		Lifetime ≤ 30,000 hrs		30,000 < Lifetime ≤ 60,000 hrs		Lifetime > 60,000 hrs		Lifetime ≤ 30,000 hrs		30,000 < Lifetime ≤ 60,000 hrs		Lifetime > 60,000 hrs		Lifetime ≤ 30,000 hrs		30,000 < Lifetime ≤ 60,000 hrs		Lifetime > 60,000 hrs	
80 ≤ CRI < 90	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**	**80 ≤ CRI < 90**	**CRI ≥ 90**