

<b>Install an LED General Purpose Lamp; Residential Only</b>	<b>Activity No.</b>
	<b>L1</b>

### 1. ACTIVITY SPECIFIC DEFINITIONS

**Integral referring to a lamp** means that the power supply electronics are integrated into the lamp housing allowing direct connection to the existing power supply (typically using a Bayonet cap or Edison screw fitting).

**Directional Lamp:** Directional lamps include types PAR, ER, R, RE, XR, YR, ZR or MR 11-16 or any other type that has at least 80 per cent light output within a cone with an angle of 120°

**Non-Directional Lamp:** A lamp other than a directional lamp

### 2. ACTIVITY DESCRIPTION (SUMMARY)

Replace a mains voltage incandescent or halogen lamp (non-directional or directional) with a light emitting diode integral lamp (LED).

### 3. ACTIVITY ELIGIBILITY REQUIREMENTS

- (1) The number of individual lamp replacements in any one premises shall not exceed 40.
- (2) All equipment that is replaced must be in working order immediately prior to removal.
- (3) Replaced equipment (lamp) shall have rated power according to Table L1A (non-directional lamps) or Table L1B (directional lamps). Refer column B for tungsten incandescent and column C for halogen lamps. If required, intermediate values of rated power are referenced to the next lower rated power.
- (4) Where it can be demonstrated that the lamps being replaced have not previously been installed for the purposes of REPS, Activity L1 can be delivered twice per premises, providing all other aspects of the specification are met.

### 4. INSTALLED PRODUCT REQUIREMENTS

The installed product shall:

- (1) Be installed at the time of removal of the existing equipment.
- (2) Have an equivalent light output to that of the replaced lamp.
- (3) Have a measured average minimum initial luminous efficacy of 90 lm/W
- (4) Be either a "warm white" (rated colour temperature of 2700K to 3500K) or "cool white" (rated colour temperature of 3500K to 4000K) lamp. The installer is required to install either warm white or cool white according to the preference of the home owner, where no preference is provided then warm white shall be installed.
- (5) Have a measured average initial luminous flux (for LEDs test procedure as required by the programs described below) of at least the corresponding\* value in column D of Table L1A (non-directional lamps) or Table L1B (directional lamps). \*Note that this should correspond to the class of replaced lamp.
- (6) Provide a minimum 2 years replacement warranty.
- (7) Either
  - (a) Be approved under the NSW ESS or Victorian VEU scheme, or

- (b) demonstrate compliance with either Energy Star Integral LED Lamps V1.4 or Energy Star Lamps V1.0 by providing, where required for verification, current proof of program certification.

## 5. MINIMUM INSTALLATION REQUIREMENTS

- (1) A person or entity undertaking this activity shall use best endeavours to ensure that any replacements are targeted at high usage luminaires in the first instance.
- (2) All equipment replaced shall be removed from the premises and not re-used.
- (3) Installed equipment shall not be connected to a transformer, dimmer, timer, motion sensor, daylight switch or other automated switch or control (or combination thereof) unless specified by the manufacturer as being compatible with such device or combinations of devices.
- (4) If connected to a dimmer, the installer shall test the equipment through its full dimming range to ensure that the equipment works to the satisfaction of the customer.
- (5) Where installed equipment causes sub-optimal operation, the installer shall either reinstall equipment equivalent to the original equipment or replace any components of the equipment that are causing the installation not to operate, at no expense to the resident. Such a request for reinstatement must be acted upon if made within 20 business days of the installation of the new equipment.
- (6) The person undertaking this activity in a residential customer's premises must satisfy the REPS Code mandatory safety training requirements. Registered Plumbers, Gas Fitters, Electricians and Building Work Supervisors are exempt from this requirement.

## 6. NORMALISED REPS GIGAJOULES

The normalised REPS gigajoules achieved (per lamp installed) from undertaking this activity is equal to:

Normalised REPS Gigajoules= Productivity factor (as per table below) x REPS Transition Factor (as per table below).

**Table L1A: Non-Directional Lamps – Productivity Factors**

A	B	C	D	Replacement Lamp Efficacy Range					
				90 – 99 Lm/W	100-109 Lm/W	110-119 Lm/W	120-129 Lm/W	130-139 Lm/W	140 + Lm/W
Class	Removed Lamp: Typical rated incandescent lamp power (W)	Removed Lamp: Typical rated halogen lamp power (W)	Installed Lamp: Minimum luminous flux (lumens)						
0	25	18	200	0.068	0.083	0.095	0.105	0.114	0.121
1	40	28	350	0.104	0.130	0.151	0.169	0.184	0.196
2	60	42	650	0.149	0.197	0.236	0.269	0.297	0.320
3	75	53	850	0.186	0.249	0.301	0.343	0.380	0.411
4	100	70	1150	0.245	0.330	0.399	0.457	0.506	0.548
5	150 or higher	105 or higher	1800	0.363	0.496	0.604	0.695	0.772	0.837

**Table L1B: Directional Lamps – Productivity Factors**

A	B	C	D	Replacement Lamp Efficacy Range					
				90 – 99 Lm/W	100-109 Lm/W	110-119 Lm/W	120-129 Lm/W	130-139 Lm/W	140 + Lm/W
Class	Removed Lamp: Typical rated incandescent lamp power (W)	Removed Lamp: Typical rated halogen lamp power (W)	Installed Lamp: Minimum luminous flux (lumens)						
0	25	18	150	0.062	0.073	0.082	0.090	0.096	0.102
1	40	28	250	0.094	0.113	0.128	0.141	0.151	0.160
1a	50	35	350	0.114	0.140	0.161	0.178	0.193	0.206
2	60	42	460	0.132	0.166	0.193	0.217	0.236	0.253
3	75	53	600	0.164	0.208	0.244	0.275	0.300	0.322
4	100	70	810	0.214	0.274	0.323	0.364	0.398	0.428
4a	120	84	990	0.255	0.328	0.388	0.438	0.480	0.516
5	150 or higher	105 or higher	1260	0.316	0.409	0.485	0.549	0.602	0.648

**ACTIVITY L1 – REPS TRANSITION FACTORS**

Year of Installation	REPS Transition Factor
2021	<b>2</b>
2022	<b>1.5</b>
2023	<b>1</b>
2024	<b>1</b>
2025 onwards	<b>1</b>

**7. GUIDANCE NOTES (INFORMATIVE ONLY – NOT MANDATORY)**

All reasonable endeavours should be undertaken to recycle removed equipment.

Transition factors have been applied to certain REPS activities to provide a pathway to transition the REPS toward delivery of a preferred mix of activities over the first five-year stage. Application of these factors provides a phased trajectory for retailers that addresses both the challenge of managing the downgrading of deemed gigajoules for lighting activities due to reducing additionality, as well as the pivot toward business models to deliver deeper retrofit activities and demand response activities