

ElectroniCast Consultants presents...

## General Lighting Solid-State Lighting LED Lamp Consumption in Australia Market Forecast & Analysis (2009-2019)

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This report, by ElectroniCast Consultants, provides the research findings of our study of the Australian consumption of Light Emitting Diode lamps (also known as “consumer-level bulbs” or “consumer-level globes”), which are used in luminaires in stationary (non-vehicle) solid-state lighting (SSL) General Lighting applications.

General Lighting Stationary Applications The definition used by ElectroniCast for General Lighting is – lighting that is used to *provide the main illumination of an area*. ElectroniCast includes Directional Lighting, Supplementary Lighting and Architectural Lighting in the General Lighting category; however, “architainment” lighting, such as large display units are not considered in the General Lighting segment. LEDs used in signage, displays, signals, decorative Christmas/holiday lighting *are not included* in the market forecast data for this study.

LED lamps used in theaters, photography, news-gathering (TV broadcasts, film, similar) and even lighting used in nightclubs on the dance floor and in operation rooms (surgery) are considered in the General Lighting application.

LEDs are used in both functional and decorative light fixtures, with an advantage of energy savings. Compared to incandescent lighting, LED-based solid-state lighting (SSL) delivers visible light with reduced heat. In addition, its solid-state nature provides for greater resistance to shock, vibration, and wear, thereby significantly increasing its lifespan.

LED Level Quantified in the ElectroniCast Study Below, are five levels (or “food chain”) pertaining to the LED marketplace. For the purposes of this ElectroniCast study, we quantify and provide a market forecast for “Level 4”

Level 1 - The chip or die

Level 2 - The LED component (component-level bulb)

Level 3 - LED array; may include optics, heat sink and/or power supply

Level 4 - Lamp

Level 5 - Luminaire (light fixture/lamp holder)

This report provides the 2009-2019 market data by the following functions:

- Consumption Value (US\$, million)
- Quantity (number/units in Millions)
- Average Selling Prices (ASP US\$, each)

The value is determined by multiplying the number of units (lamps) by the average selling price (ASP) in US Dollars. The ASPs are not retail prices; the prices are based on the price of the LED lamp at the initial factory level (prior to FOB – Free On Board; therefore, no shipping expenses are included). The value is then based on the end-use application in Australia.

This study report also provides an overview of Standards on or related to LED lighting (including general regulations & standards, environmental issues etc.); Policies and schemes for promoting the penetration of LED lighting; Industry trends in LED lighting fixtures; Distribution Channel (retail stores, Web-based, other sales/distribution channels); LED Lighting industry competitive environment; profiles of over 70 LED lamp selected manufacturers and related companies in Australia, as well as over 260 competitors worldwide are provided.

The information is presented in easy-to-follow illustrations and text. LED technology overviews, trends and analysis are presented. Terms, acronyms, and abbreviations used are defined.

**Market Forecast Product Categories** This market forecast of Australian consumption is presented for five major lamp-type categories. The lamp categories, in turn, may have multiple sub-categories, which are determined by lamp luminous flux and/or the physical size of the lamp. Note: lower-level products, which are indented in the list shown in Table 1, are summed-up to the higher-level product category stated above it.

**Table 1**  
**ElectroniCast Market Forecast Data Base Hierachy Structure**  
**Australian LED Lamp Product Category List**

Total Consumption: LED Lamps

**Parabolic aluminized reflector (PAR)**

PAR16

PAR20

PAR30

PAR38

PAR56

PAR64

PAR-Types: Other (Miscellaneous) Sizes

**General Service/Globes: Mushroom, Globe, Candle, Fancy Round, Other**

**Multifaceted reflector (MR) Compatible**

MR16

MR11 / Other MR

**Linear / Tube**

< 1200mm

> 1200mm

**Street / Parking-lot / Campus / Similar / Light Panels**

Luminous Flux (< 2,600Lm)

Luminous Flux (> 2,600Lm)

The increasing automatic assembly and test manufacturing process for selected LED solid-state lighting products allows for mass-production capability. In addition, over the next few years, the average selling prices of the SSL general lighting products will be driven lower, as a result of production efficiencies, yield improvements (aided by quality controls), competition (both market competition and technological competition), marketing/sales distribution improvements, and other factors.

### Market Opportunity Analysis – Market Dynamics

The study process by ElectroniCast Consultants also covers the following points:

- Standards on or related to LED lighting (including general regulations & standards, environmental issues etc.)
- Policies and schemes for promoting the penetration of LED lighting
- Industry trends in LED lighting fixtures
- Distribution Channel (DIY stores, other stores, Web-based, other)
- LED Lighting industry competitive environment

The Australian Government agreed to ratify the Kyoto Protocol; therefore, Australia now has a binding obligation to meet its agreed target. The Government of Australia released its Green Paper on the Carbon Pollution Reduction Scheme to address climate change by reducing carbon pollution. Improving Australia's energy efficiency, such as the use of improved lighting technologies, was stated as an essential step in reducing greenhouse gas emissions.

In a Government announcement, it was acknowledged that LEDs would play an increasingly important role in the future of lighting. The Australian Government has since accelerated the phase-out of traditional incandescent light bulbs and implementing import bans on the inefficient bulbs.

*Note: Market forecast data in this study report refers to consumption (use) for a particular calendar year; therefore, this data is not cumulative data.*

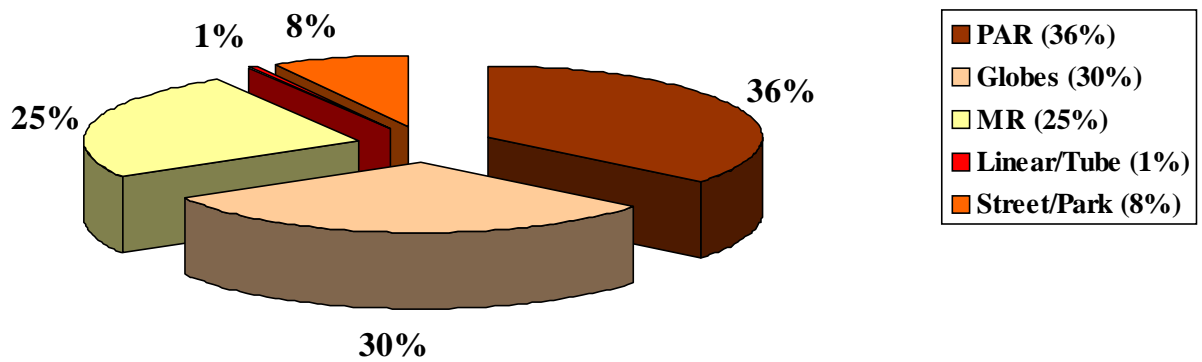
### **About ElectroniCast**

ElectroniCast Consultants specializes in forecasting trends in photonics industry. This includes technology forecasting, markets and applications forecasting, strategic planning and consulting.

ElectroniCast Consultants, as a technology-based independent forecasting firm, serves industrial companies, trade associations, government agencies, optical communication, microwave/wireless and LED illumination companies, as well as the financial community. Reduction of the risk of major investment decisions is the main benefit provided. ElectroniCast's goal is to understand the challenges and opportunities facing clients and to provide timely, accurate information for strategic planning.

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**Figure 1**  
**LED Lamps Used in Solid-State Light (SSL) General Lighting**  
**Australia Market Forecast (Value Basis) in 2010**  
(Source: ElectroniCast Consultants)



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