

Why LED tubes from HSL over other products in the (NZ) market?

Safety

In semi-public spaces like Supermarkets, Retail shop, Petrol station safety and GOOD light is very important.

Therefore our tubes both meet and exceed current New Zealand certification requirements and are ready for new NZ standards requirements in the near future. Our tubes are already compliant with international & national NZ safety standards which are the safety standards in the EU (TUV) and US/Can (UL, ETL, and DLC) NZ/AUS (SAA). We believe in the highest quality, safety & Light output. We believe that UL, ETL or TUV safety standards will be implemented in the NZ market very soon. A lot of products in the NZ market place currently have the bare minimum that is CE. These products are for example so low in quality and therefore safety that they are not allowed into the US and Canadian markets. Please talk with you insurance company if necessary

Our tubes have ALL the current “international” safety certifications in place:

- **cUL** and **ULus** Listed product (single ended Power Supply only)
- **CE, LVD & EMC**
- **VDE**
- **FCC**
- **SAA (NZ & AUS safety)**
- **cCSA** and **CSAus** Listed product (single ended Power Supply only)
- Fully **RoHS** compliant (environmentally friendly product)
- **TuV** compliant (single ended Power Supply only)
- **DLC approved** T8 tube retrofit kit(1200mm-4ft tube only)



As stated by Manufacture

Products

Our LED tubes are of the highest Quality, and have all certification in place.

The manufacture holds all manufacturing patents for tube shape and Heat-sink including the patents for the Power Supply/Driver. The Power supply used is fully insulated to save cart safety (electrocution) and Moisture-proofing. LED Tubes have an IP rating of IP40.

DesignLights Consortium® (DLC) Units are available in Retrofit kits for 2, 3 & 4 lamp/tube troffers (all kits coming with external drivers).

DesignLights Consortium® (DLC) Lamp-style Retrofit Kits for Linear Panels (2>4 Troffers) category

Main Features

Estimated minimum Lifespan (L70) of 35.000hrs and estimated 80.000hrs and up in cold environments, All depending on ambient temperature

High CRI 70>80Ra+ depending on CCT kelvin colour

Wide range of CCT colours from 2500K > 9000k max (DLC Units/kit only in CCT4000k, 4500k &5000K)

High Shock & vibration resistances Durable PC-Cover in clear & frosted (DLC Units/Kit only in clear cover/lens)

Moisture-proof (IP40) fully insulated PS/Driver



Lengths available **600mm, 900mm, 1200mm, 1500mm, 1800mm, and 2400mm** (DLC units/Kit only in 1200mm)

Fixed or adjustable end cap as an option (No extra cost)

Endcaps available are G13, R17D and FA8 (DLC Units /kit only in G13)

Wide range of Operational temperatures form -20°C $>45^{\circ}\text{C}$, Perfect for Environments with Extreme Climates

Wide voltage and constant current design

Low wattage against **High lumen** output

Power factor of min PF0.90 >

Input Voltage: 120-277VAC

Frequency: 50-60Hz

Internal Power Supply Efficiency: 88%

Tubes available in **Single ended** (UL, CSA, ETL, and SAA) and **double ended** (CE only) Power supply

DLC unit/kit only in 1200mm clear cover and external Driver

Little depreciated lumens after burning 10,000hrs, **lumen maintenance** within **90%**

Original Epistar SMD3528 & SMD3014 chip and **Everlight** packaging

High luminous eff. above **>95lm/w** (internal driver tubes) DLC unit luminous eff. above **>115LM/W** (tube only)

Superior heat sink design and durable structure: Aluminum PCB boards with silicone bounding and aluminum integrated heat-sink housing. DLC approved tubes having external driver(s) specified

Saver due to "full" longer plastic end-cap, no short circuiting can occur and full compliant to UL &

SAA safety regulations and demands All CE tubes are to the same standards as our SAA & UL tubes but have a double sided power supply.

Fully **insulated Driver/Power supply** (internal and external PS/Driver)

Reliable from strict HSL & manufacture **quality control**, like **Hi-spot test, drop test, with a burn-in of 72hours**

IES files for lighting calculations available

LM79 data sheet available on request

LM80 data sheet available on request

All patents are been hold be Manufacture

3 years of manufacture Warranty, with 5 years as an option (CE, SAA & cULus listed tubes with internal driver)

5 years of manufacture Warranty for **DLC Retrofit kits** (LED T8 1200mm/4ft tubes incl. driver)

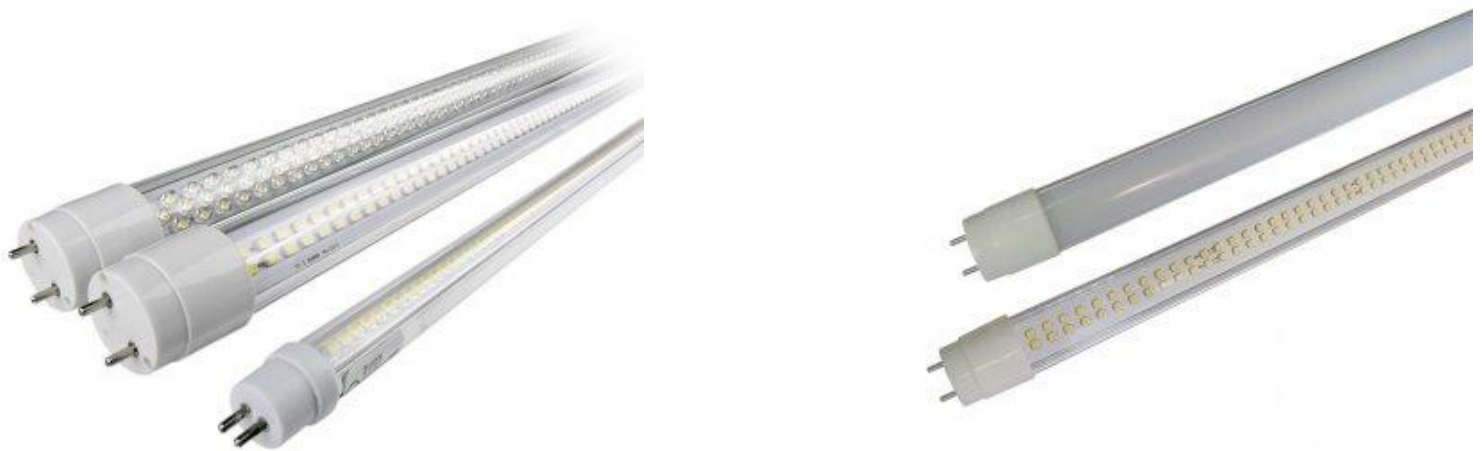
DesignLights Consortium® (DLC) Lamp-style Retrofit Kits for Linear Panels (2>4 Troffers) category

Product Photo

T8 in SMD & DIP, **T5**, and **U shape** tube options, T5 external Power supply/Driver

NEW - 1200mm LED T8 Tube -20W- Approx. 2100>2150Lumen

NEW - 1200mm LED T8 tube DLC Approved retrofit kit for 2, 3 and 4 tube troffers - approx. 2200lm by 18w
- **600mm>1500mm LED T8 Tube Grow/Plant light in correct Red, Blue and UV-A Wavelengths**



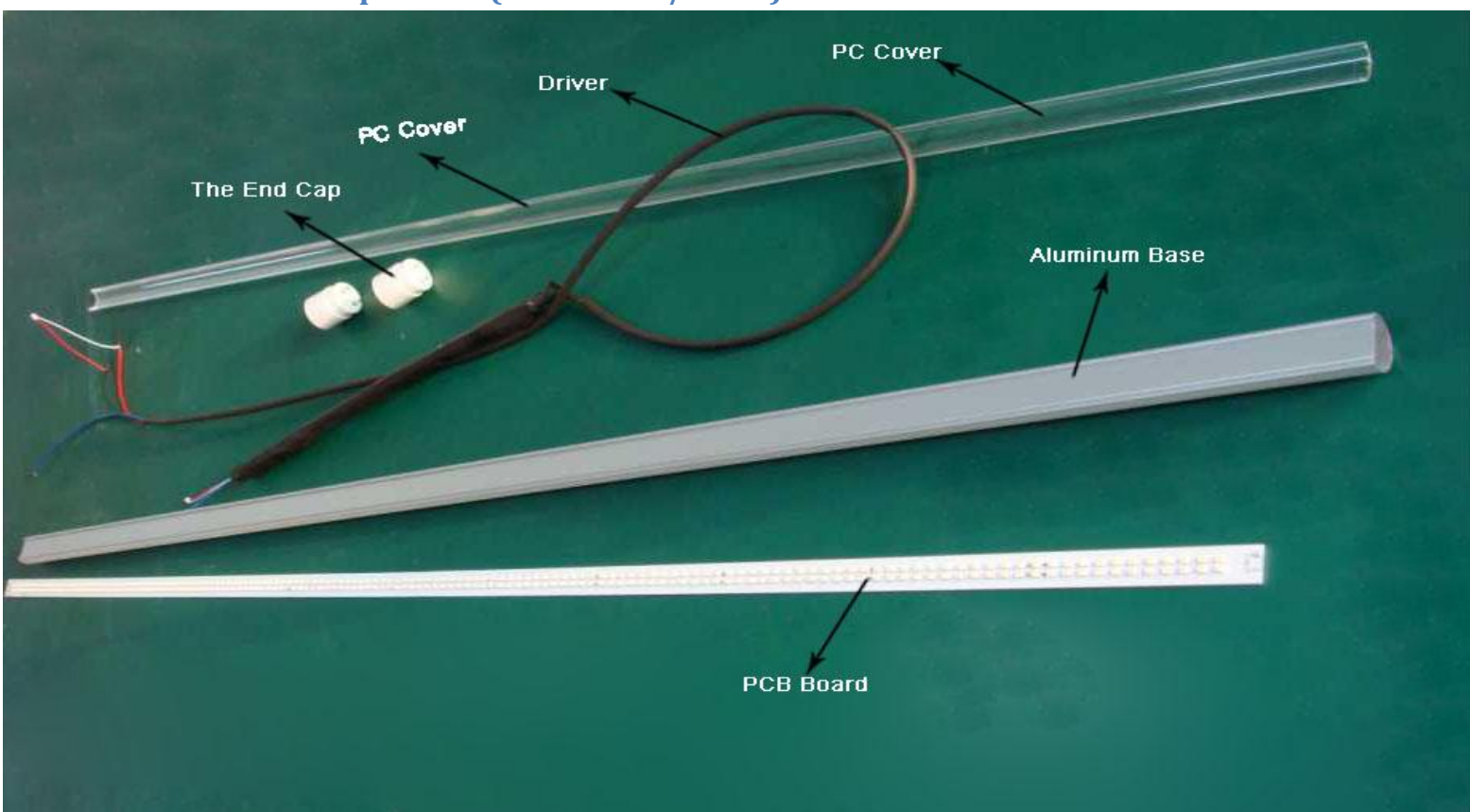


LED U shape Tube



LED **DLC approved T8** Tube retrofit kit (Min 2 two tubes in kit - Max 4 tube in kit)
DesignLights Consortium® (DLC) Lamp-style Retrofit Kits for Linear Panels (2>4 Troffers) category

Product components (Internal PS/Diver)



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LED LIGHTING/GROWING SOLUTIONS