

HOW TO SPOT  
FAKE LED IN  
8 EASY  
STEPS



## WHY IS THIS IMPORTANT?



Last year the BBC's Fake Britain TV programme reported that 1000 LED lamps arriving from China were intercepted on the East Coast of England. A large part of the light bulbs seized were potentially lethal, due to the fact that the samples were poorly assembled and the components were of extremely low quality. The no name light bulbs registered 179V and 91mA when submitted to testing, compared to the accepted 60V and 2mA required by the European Safety Standards.

The results were even more alarming for the commercial use lamps. These recorded 203V and 98mA, making them a potential death trap for consumers who attempted to use them.

With these kind of products flooding the market, the natural question occurs: How can YOU know if the LED lighting system you bought is going to save you money or cause more expense?

**Luckily, you don't need professional testing machinery in your home to identify substandard LEDs.**

# HERE ARE 8 STEPS TO LOOK OUT FOR

## 1 LIGHT BULB OVERALL CONSTRUCTION

Sometimes common sense can be a simple way to detect a substandard LED. The design, the look and overall feel need to be verified before purchasing. Check for the following: see if the powder coating is applied well, check if pieces are glued together well, are any pieces loose (see the lampshade for instance), is the circuit secure, check the lamp holder and lens are secure. If some/all of these apply, you're dealing with a low quality LED.

**When it comes to Supacell LED, you can always be sure you get the best quality. We operate a fully automated production and management system. This ensures strict quality control and provides a highly efficient production environment, increasing stability and capacity.**

# Original LED bulbs by Supacell® LED lighting

CANDLE C37  
CRYSTAL CLEAR



GOLF G45  
CRYSTAL CLEAR



CANDLE C37  
OPAL / PEARL



U LAMP  
OPAL / PEARL



GLS A60  
CRYSTAL CLEAR



REFLECTOR 50  
OPAL / PEARL



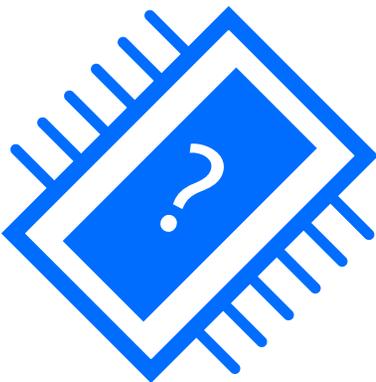
PAR 30  
CLASSIC LENS



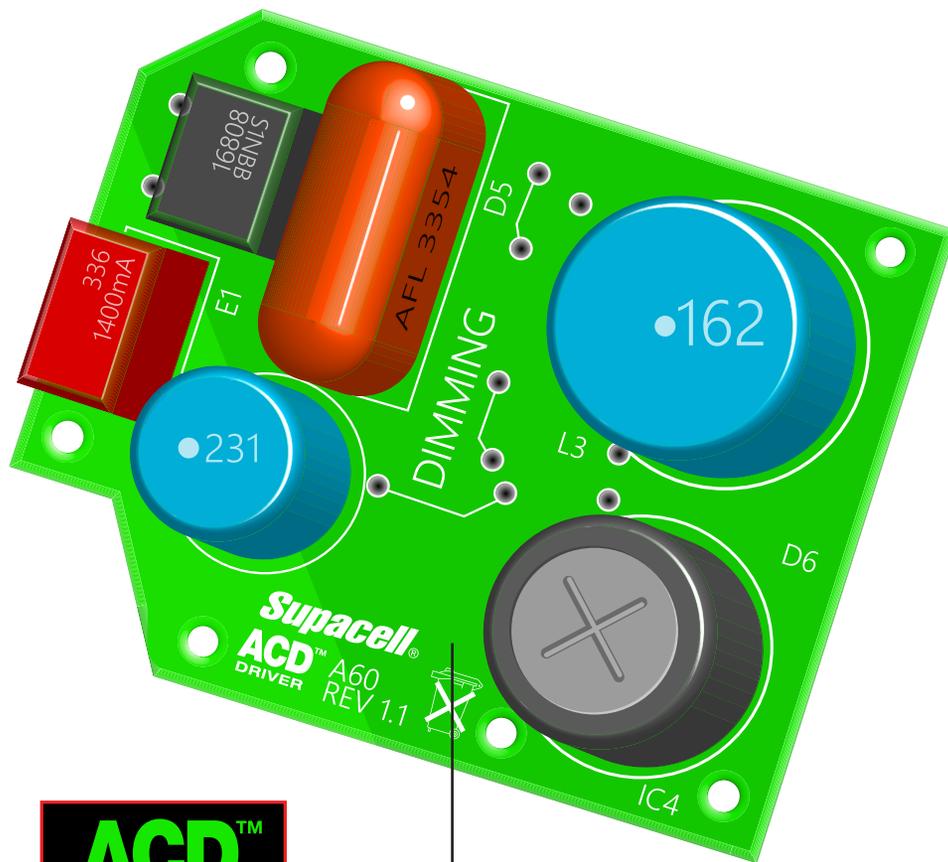
## 2 LOW QUALITY DRIVER

The driver needs to convert voltage, alternating current into direct current that flows at a constant number of amps through the chip. The best drivers will have approximately a 3% ripple in the power fluctuation for each cycle, while a substandard LED can reach up to 45%. This ripple will make the light flicker (which can cause migraines, increased irritability, anxiety or eye strain).

The flickering might not be as noticeable to the eye, so an easy way to identify this is to watch the light bulb functioning through a phones camera.



**Supacell LED use our own patented ACD driver. The ACD driver provides enhanced heat resistance for a longer life – enabling the light bulb to turn on and off at least 15.000 times during its lifetime.**

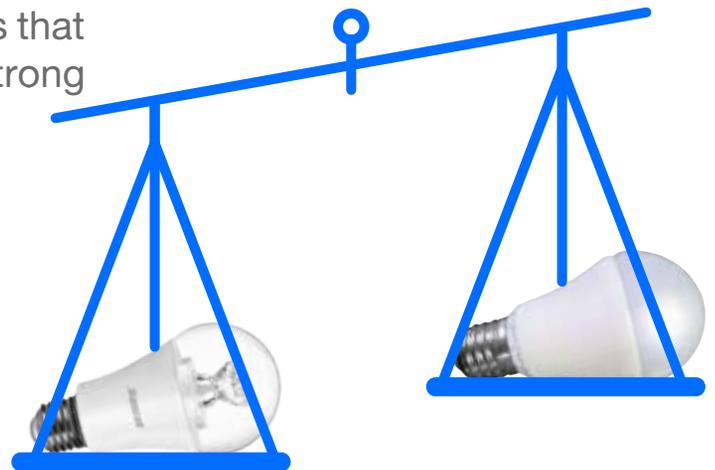


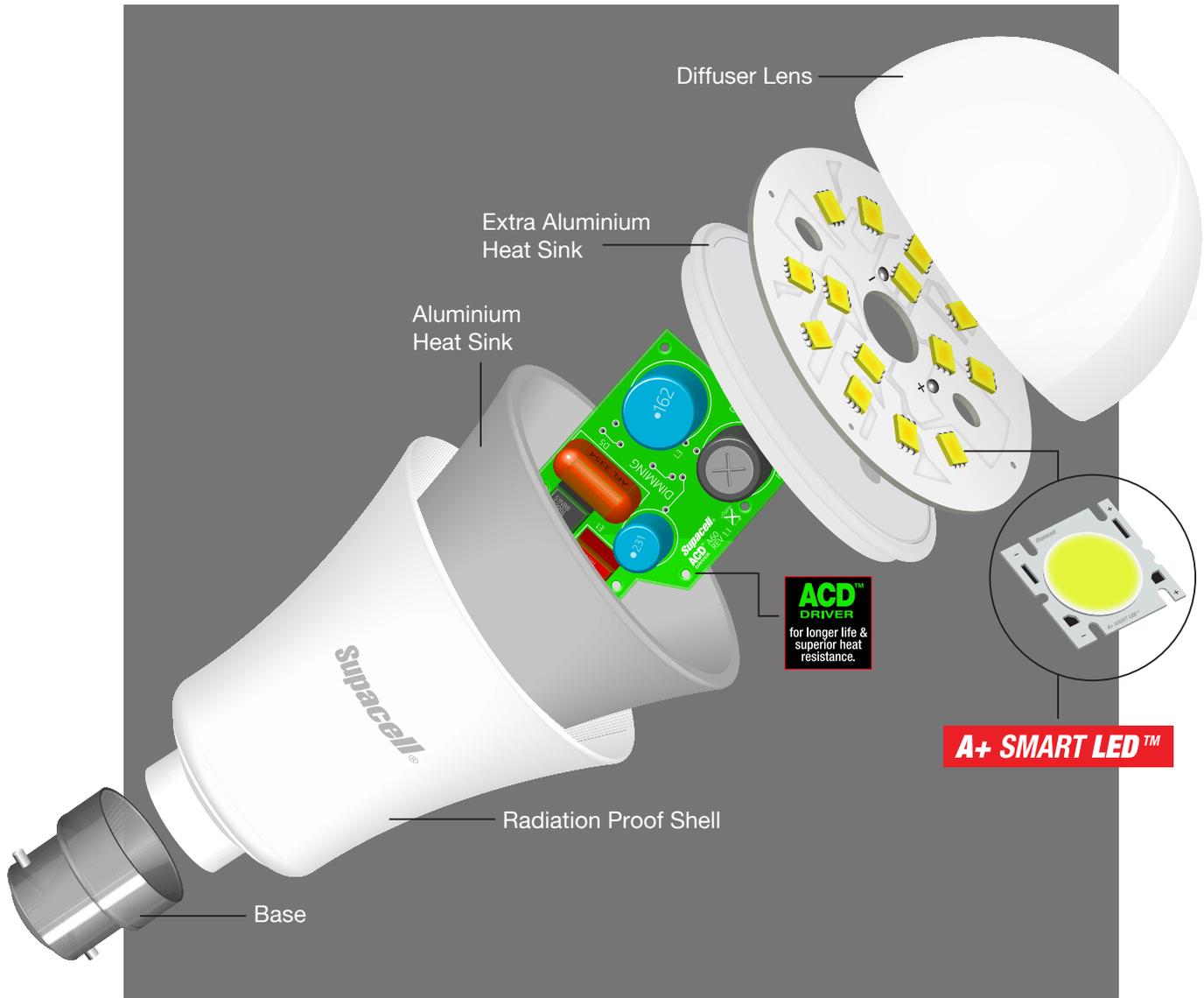
**ACD™**  
**DRIVER**  
for longer life &  
superior heat  
resistance.

# 3 LOW WEIGHT = LOW QUALITY

Although LED lights are well known for producing less heat than conventional bulbs, that doesn't mean they don't produce ANY heat. LED also get hot, but the heat is dissipated by a heat sink located in the base of the bulb. For good heat dissipation to take place, you need a good amount of aluminium. So the main thing to look for is the heat sink. A thin or small heat sink - for instance, may indicate poor quality. Some manufacturers provide 12W to 20W lights with heat sinks that feel as light as plastic, which is a strong indicator of low quality.

**Supacell LED use Die-Cast Aluminium Heat Sinks inside to maximise the LED's surface area and increase the contact of the cooling medium that surrounds it for efficient heat dissipation.**



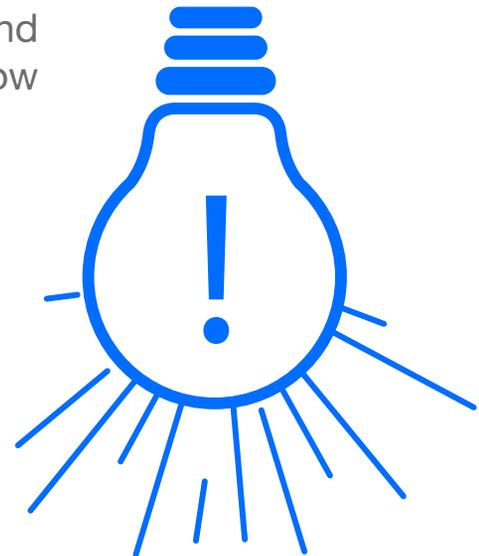


# 4 LOW LIGHT QUALITY

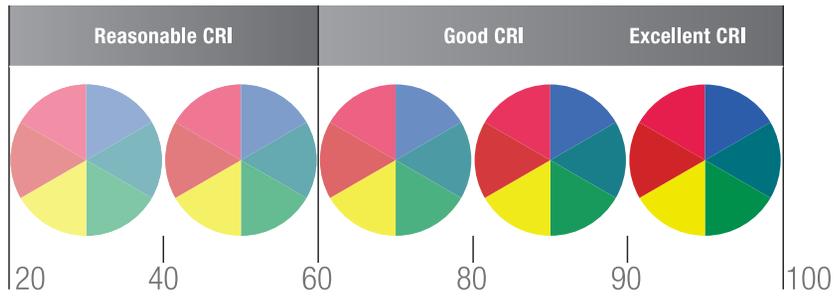
Another component where a manufacturer may try to cut cost is in the phosphor (fluorescent powder). Low quality phosphor translates into a low CRI (colour rendering index). This means the light bulb will emit different colour shades of white or have dead spots in the light. Remember light should be distributed evenly.

The higher the CRI value, the more natural and truer the colour will be reflected. Anything below CRI 80 is a sign of poor quality.

**Supacell LED light bulbs for instance have a CRI 83+ value which means that colours will be reflected truly and naturally.**



**Supacell<sup>®</sup> digital electronics** **LED LIGHTING** **CRI 83+**



Sunlight is CRI 100



CRI 80



CRI 70



CRI 60



# 5 LOW IP (INGRESS PROTECTION)

IP also known as Ingress Protection has 2 numbers. The first one refers to how susceptible the product is to dust getting inside. The second one refers to water protection.

Combined the number will tell you how resistant the product really is. For instance an IP67 rating tells you that the products are fit for outside use (high dust protection) and are also protected against the temporary effects of submerging into water (30 minutes or less).

**Supacell LED has an IP65 rating for its outdoor floodlights - that means they are fully protected against dust AND from water jets coming from any angle.**



# IP RATING METHOD

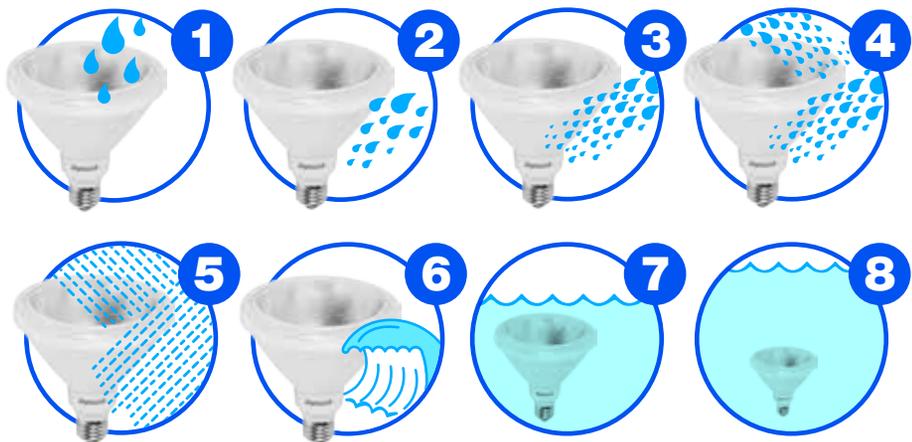
## 1<sup>ST</sup> DIGIT REPRESENTS PROTECTION AGAINST SOLID MATTER

1. PROTECT AGAINST BIGGER THAN 50MM, SUCH AS HAND
2. PROTECT AGAINST BIGGER THAN 12.5MM, SUCH AS FINGER
3. PROTECT AGAINST BIGGER THAN 2.5MM, SUCH AS WIRE
4. PROTECT AGAINST BIGGER THAN 1MM, SUCH AS THIN STRAP
5. DUST PROTECTED. PREVENTS INGRESS OF DUST SUFFICIENT TO CAUSE HARM
6. DUST TIGHT. NO INGRESS OF DUST



## 2<sup>ND</sup> DIGIT REPRESENTS PROTECTION AGAINST LIQUID

1. WATER DROPLET PROTECTION
2. 15° WATER DROPLET PROTECTION
3. WATER SPRAY AT 60° PROTECTION
4. WATER SPRAY FROM ANY ANGLE PROTECTION
5. PROTECT AGAINST WATER JETS
6. PROTECT AGAINST HEAVY SEAS AND WATER JETS
7. PROTECT AGAINST THE EFFECTS OF TEMPORARY SUBMERSION IN WATER (30 MINUTES AT 3 FEET)
8. PROTECT AGAINST THE EFFECTS OF PERMANENT SUBMERSION IN WATER (UP TO 13 FEET)



# 6 SHORT WARRANTY AND LIFESPAN

One of the main reasons why people choose LEDs is their long and extended life. High quality LEDs will always come with a 2 year warranty and at least 25,000 hours of life. So the better the technology, the longer the life of the bulb.

Thanks to the A+Smart technology, Supacell LED can provide a 3 year guarantee and a predicted 25 year lifespan – that's more than 30,000 hours life!



Supacell LED bulbs being submitted to the ageing testing procedure

# 7 UV AND THERMAL RADIATION

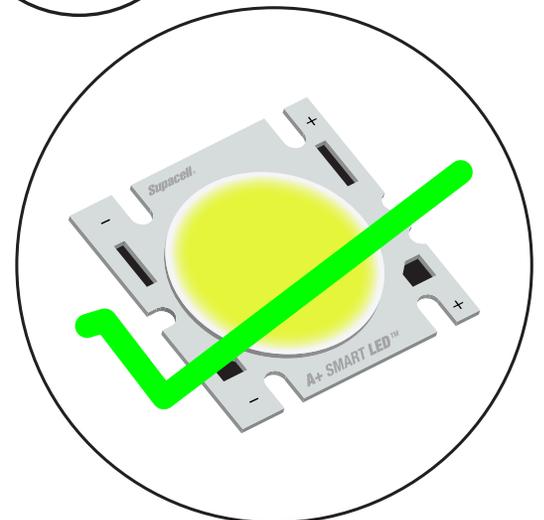
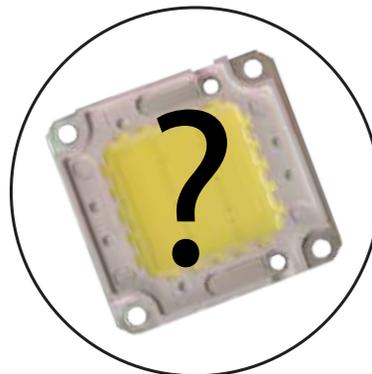
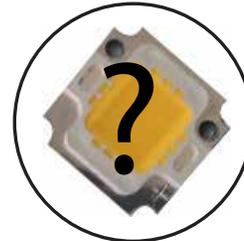
Perhaps the best and easiest way to tell if you have real LED technology in your hands is to submit the LED light to nature's test. As you may know, insects such as flies and moths are attracted to UV radiation. So if you find them attracted too much to the LED, that's definitely not genuine!



# 8 LOW QUALITY LED CHIP

In order to have as much light as possible and greater stability against electrical fluctuations, you need a large chip. The larger chips provide the best quality. Cheap LEDs use smaller chips which provide less light and they are not so stable, so can become dangerous in use.

Supacell LED is created with the latest LED technology – the A+Smart LED chip. This ensures that the bulbs provide brighter, better quality light and with a longer life.



**These are just a few of the indicators to look for when dealing with substandard or fake LED. Remember cheap substandard LED light bulbs can put your life in danger so if you have any doubts, do not purchase them.**

**Make sure you make the best choice. Call our lighting specialists who can guide you through our premium range - Supacell Digital LED. Enjoy your shopping!**



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