The Good the Bad

Of Led Lights

Known facts About Led Lights

Never compared Watts incandescent light cfl lights and led light together

When one wants to compare lights one should only use the LUMIN output.

This is the light luminescence or light output. Watts are the power consumption energy used.

They technically go hand in hand for example a 60 watt incandescent light produces 800 Lumin a 15 watt fluorescent light produces 800 Lumin.

And a 7 watt Led light has a lumin output of 820 lumin.

So wattage is used to calculate your power for your energy savings

Lumin's are used to calculate or measure the quality of light produced.

This is a very important fact which is often misunderstood by all.

There is a document illumination on illumination available on the download page for those who require in depth information on the subject.

Led Lights are Expensive to buy True

They will continue to be expensive all the time the general populace holds on to current beliefs and current CFL technology is the only true energy saving light system available.

But then while the general populace still are under that false impression thats where we will stay unfortunately

Led lights are non polluting True

when compared to all other forms of lighting available.

Led lights are cheaper to run True

Even when compared to Hid light the supposedly new low power consumption light the led is vastly superior than the HID. The abbreviation of HID stands

High intensity discharge lamp a swept up version of an incandescent or arc light THEY use less power but they have lots of problems.

If one fails they can and do explode.

According to recommendations from PHILLIPS one needs specialised equipment clean up.

The Hid has to burn in for the first 100 hours then over a period of its short life of 20 000 hours slowly deteriorates. The HID burns hotter and has a very short life span. If they are turned off they have to cool down before they can be restarted. (this by the way is a danger point for HID they have a tendency to breakdown at this point they are extremely fragile lights and cannot handle shocks and bumps as opposed to LED

Led lights do not need to burn in but they do deteriorate at a rate of 1% over a thousand hours.

What this means is that after the LED light has been running for 2000 hours it has lost 2% of its brightness 2000 hrs. in normal usage @ 6 hours a day is 333.33 days

the average led light will run for 50000 hrs. that is 31 years at the above rate of use

Led Lights have no UV ultraviolet light output

This statement is actually True

The common Led lights that are for purchase for the public have no UV that radiates from the light source what so ever. They are one hundred percent safe

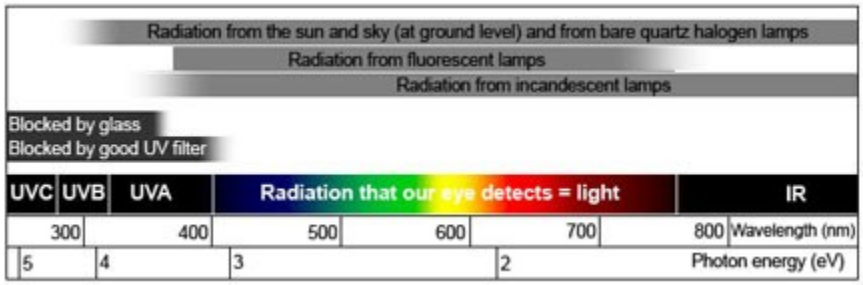
However they can be manufactured to only produce UV if need be for individual clients

Totally opposite is the current technology of lights available.

They are full of UV which is either a by-product of the production of light that is less than 1 % from an incandescent light or as in the case of fluorescent lights is required to produce white light as the by-product

All fluorescent technology relies on UV to function a by-product of Hid lights is UV also this is filtered out with a glass lens so that it reduces the harmful effects.

Consider this if one takes away the white phosphorus coating from either a mercury vapour light of Sodium vapour light one gets a purple blue type of light this is UV light. It is needed to react against the phosphorus coatings and the coatings of the Sodium light and florescent lights to create the white light we currently receive from such devices.



This is also the reason do not have a very long service life.

As the Light arcing is reacting to the chemical gas environment of exotic and rare earth gasses plus Mercury, inside the glass containment area the white phosphorus coating is reacting to the mercury vapour in the process creating white light.. While this process is carrying on the mercury vapour is absorbed into the phosphorus coating, hence the reason for fluorescent type lights reducing in intensity much as 15%to 25 % in the first 1000 hrs. Depending on the type of tube or globe purchased.

If one breaks one of theses lights then technically one is supposed to use specialized clean up equipment to avoid from getting mercury poisoning.

Led Lights can be repaired TRUE and not a well known fact

They have replaceable components (power supplies lenses glass tops led diodes.they are the personification of recyclable)

A person is offered a full warranty on Led Lights the same as CFL lights

in New Zealand the consumer guarantees act applies.

The biggest difference.

If an led light breaks down even after the guarantee you can actually get it repaired, it is not an expensive replacement needed just a small repair.

It is also something that is not well advertised by yet.

Something that is truly novel about Led lights this actually makes them almost if not totally recyclable.

Orbis Technologies know this because we have done this. Some of our earlier lights from three years ago failed we approached manufacturer. Who too our

surprise said they could be repaired. We sent them back they repaired them and then they sent them back to us a small charge was involved shipping costs etc.

This is not what you get with CFL technology or the incandescent type lights they are not recyclable nor are they repairable.

They have to be disposed of in the case of fluorescent and CFL,which actually means disposed of safely to avoid mercury contamination of the environment. How to dispose of CFL lights the official Government word on the subject. WHICH IS ON OUR DOWN LOAD PAGE.

Led's fail for no explained reason FALSE there is always a reason

Only a company that really knows a lot about Led will take the time to explain to the customer if asked Leds can fail AND DO FAIL for a number of reasons but then again so do Cfls Fluorescents and Halogen and Hid Lights

We mention the subject briefly here but in a future document will be going into this in depth. Both with led and lights in general for the comparison

Led can replace some led lights in their existing bases this is actually a true

Though it is also a flawed statement, because of this and the general lack of understanding of the product. People are basically throwing money away, when they do not research the type of lights that they are using or considering purchasing.

This is a trap also for the unsuspecting person that purchases off the internet and not checking.

There are lots of products that are interchangeable, when it comes to Led one has to be very careful and fully understand the product We advise one to have a new base installed with a new Led light. In some cases the power supply as well.

Heat is a killer of Led lights True

(This is definitely one of the disadvantages of Led Lights)

Orbis Technologies has at present several patents pending in the led field.

And we have struck this problem on numerous occasions HEAT is very bad

One of the biggest problem is Heat it will kill the led very quickly the cooler the light can be kept the longer it will last.

Rule of thumb a quick test to see if the light you are purcahsing may present problems in the future (switch led light on and leave on for **1** hour if it is only warm to touch and I mean only warm you can hold your fingers or hand on the light and if it feels very comfortable heat it will probably be fine. However if it is hot and you cannot hold the led lamp walk away or check to see it is not the lamp holder restricting air flow.

Know where the heat goes!

This may be one of the most important tips you can read. For all high powered LED lights, excessive heat will be the leading cause of LED failure. All high powered LEDs require a heat sink. A heat sink is a term for a component or assembly that transfers heat generated within a solid material to a fluid medium, such as air or a liquid. A heat sink generally uses its extended surfaces (usually aluminium alloy fins) to increase the surface area in contact with the air. The heat sinks can be so elaborate and large that it is obvious that they cannot be sold separately but must come as part of a unit.

So be aware of older bases especially the down light bases that have no air circulation or air movement clearance.

Electrical spikes and surges Kill Led lights 100% TRUE

This is another disadvantage of Led Lights and all other lights in general.

Older bases that are being retrofitted with new led lights have been subjected to a lot of heat over the years, though one may not consider the base but the contact points have been heated and cooled, reheated ,cooled many thousands of times and over time the heating and cooling has created a very small gap between the light and the pins in the light base.

So what happens then the springs that keep the electrical contacts connected to the light have become annealed and weak because of high temps as they are not as strong as they used to be they will not connect to the base of the light as well leaving a very tiny gap which will spark if turned on.

If this is happening when one puts a new light in a socket and the contacts are not made securely we have a condition called EMF (elctromagnetic force) which can eventuate because of a loose connection to the base of the light.

To keep it simple it is the spark that will destroy all electrical equipment attached to the devices Led's being a semiconductor do not like this spark and neither do incandescent lights or other electronic components.

However CFL lights that run hot do not suffer so much with the problem from old inferior fittings and will tolerate some sparking but at the end of the day BEMF will kill them too. (refer JUST-LED Downloads Why lights fail)

Spiking power surges pulses Brown outs.

Do not buy LEDs if your home or office is subject to known frequent voltage spikes. Unlike the CFL or incandescent light a voltage spike(actually energy spike) can "fry" an LED very easily This is not considered a manufacturers defect and is never covered by any warranty. You may be unaware of voltage spikes and they may occur in seemingly random areas of your home or office.

There is also something that you should know if you have lights or Led lights

that have packed up for no apparent reason that you can see and you have the occasion to send them back to be replaced or repaired while under Guarantee Please be very aware, the manufacture can test to find out what actually failed on the led light they have components that fail under very specific conditions which they test for.

One such test is the checking of the contacts for micro pitting on the surface of the contacts (a by-product of BEMF back electromagnetic force)

Another test is they are able to see if the light has been subject to extreme heat as well. (that one's easy you will see that one yourself scorching marks that around contacts and base of light)

There is one condition that occurs quite often with Led its not a problem of the Led The culprit is your power provider and they are allowed to do this.

Led and the electrical surge in particular the night storage and hot water heating controlled switching that is done in New Zealand. Making the Led Flicker is a fault of the Led is well and truly False.

Have you ever been sitting at home at night and noticed the lights have stated pulsing Most people do not notice.

Very slightly usually around the **1800** hrs. to **2300** hrs. time slot. (This time varies from centre to centre)

If you have then you have just noticed the ripple control switching control cycle operating on the power lines to either turn on your hot water of high storage device or turn it off. Ripple control systems wiki

The power companies also turn street lighting on this way as well

They pulse the electricity by quickly pulsing it at different frequencies.

LED power supplies stop that pulsing from reaching the led so they should not flicker.

However existing power supplies that run halogen down lights do not have that ability to filter out that pulse some do most don't.(they don't have too generally the halogen lights draw so much current that the ripple control, is fast enough to not effect the light to turn off for you to notice it.)

The led is able to switch on and off very fast so it interprets this ripple control signal as an almost off or almost on and does just that.

What happens is that your lights will start to flicker this is not a fault of the Led Light. It's possibly because your power supply unit used for your halogen down lights is not that good for Led.

Why we mention this is simply because people will try out Led lights, especially the 4.5 watt down lights that replace the 50 and 35 watt halogen down lights. And in doing so could get the wrong impression on reliability and stability.

In doing so they generally will not consider replacing that power supply pack. So you have new lights old power pack not designed to run Led, 60 % of these combinations do not work in some case the led lights will just not work as they do not even trigger the power pack, the power usage is so low this can happen we have seen it. We recommend that one purchase a new power supply and of course replace the actual plug in base as well especially if the base is more that 2 years old on the down lights the base I am talking about is the little porcelain one inside that the lights pins fit into and has been subject to a lot of use and excessive heat.

Led Lights Do not use as much power as other forms of lighting True

Even fluorescent lights are efficient but Led are 60 to 75% again more efficient than fluorescent.

Even after one factors in the cost difference that one gets from purchasing CFL then actually adds in the price of having to replace said CFL every few years. The quality of light output etc

The initial outlay and cost of putting Led in the first place far outlays the decision of using CFL. Yes CFL lights are cheap but they have a very heavy environment price target called mercury its really bad stuff

Most commercial installations should recoup costs for total conversion within one year to max of 14 months depending on type and usage.

They are still within their guarantee period, something not given with CFL, namely because they cannot they know after 16 months, they are already passed the 75% mark or pretty close to it if tubes used 12 hrs a day and most commercial ventures are boarder line 12 to 16 hrs usage each day any way

Leds tubes used that way would have a depreciation of light approx 1.5% after 2 years

LEDS COST PRICE

Because the prices are low does not mean you have a good led or a bargain again buyer beware

The best companies pay the most for high quality lights with only a slight colour variation. The rest of the LEDs are not discarded but sold to inferior companies at much lower rates.

These companies can then turn around and sell at much lower prices.

The LED market is saturated with poorly made products as well as lights that do not have a warranty at all. there are great differences in colour quality and light intensity. When a LED is created it is first inspected for colour and light quality and sorted ("binned") into different categories.

Well that is about all I can tell you in this document I will as I mentioned early be going into depth with some of the issues concerning Led.

So if you have finally decided to retrofit you home well

Then the last three things are all you have left to know about

Warm White Cool White Daylight White.

That warm white light is not very warm! Learn about the Kelvin scale.

This subject is in depth in the document the colour of light a PDF on Our WEB site download page

The Kelvin scale is often used in the measure of the colour temperature of light sources.

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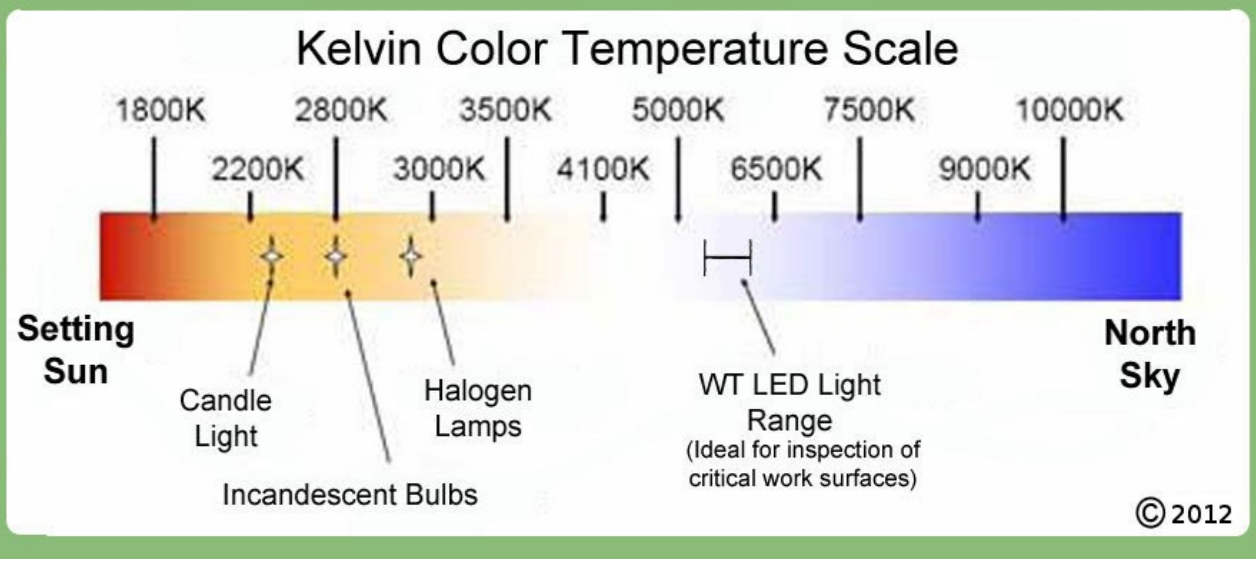

Using the scale allows us to quantify, for example the differences between soft white, warm white and cool white. The colour temperature of an incandescent light bulb is about 3000k. This is normally construed as warm white. If a light is labelled warm, make sure to check what it claims on the Kelvin scale. Pure white is normally considered about 5000k, to imagine what this looks like picture hospital lighting, very bright white.

Check the CRI. The colour rendering index (CRI), is a quantitative measure of the ability of a light source to reproduce the colours of various objects faithfully in comparison with an ideal or natural light source. Think how pale people look under certain light sources compared to being in sunlight. Depending on the environment you wish lighted, a CRI of at least 70 is desirable.

For online purchases start small! Do not try, all at once, to retrofit your entire

home with LED lights from any online company. If you order a few bulbs and you like them go ahead and complete the retrofit of the rest of your home. Many companies do not take returns or have very limited warranties. This is especially true with regards to colour variation, which most companies do not considered a defect.

02/04/2012

One Final Thing and it is this little warning

This Section Is an Opinion

it is only placed here as a caution

We all love a bargain and Trade me is a good place that is so far from the truth its not funny

Yes there are some reputable sellers on the Trade me site but as the TV Programme Fair Go always says BUYER BEWARE

Please do you homework or due diligence first.

Our opinion of A good company should be easy to check up on

Not hide under a non-deplume of whatever ?????? name.

Have a somewhat dubious history with stars attached to it

Of so called satisfied customers and unsatisfied customers

This is not good look.

Neither should one have to pay to join an organisation to

Find out if you are dealing with legitimate providers.

To ask questions from that trader is a right

Not a service you have to pay for

But that is the online auction companies of today.

I suppose it seem to be pay as you go now

That is what the public wants or so it seems

Well that is our opinion we are entitled to have our opinion