



GreenStar
Technologies

Circadian Lighting



Intelligent Lighting

Transform the look and feel of your home with light...

Looking to create better comfort and ambience in your home? GreenStar Technologies offers fully adaptable home lighting automation solutions that let you take control of rooms and enjoy the full convenience of whole home management. Whether you want to create mood lighting or easily turn off all the lights when you go out, we can provide a solution that meets your needs. Lighting is being used more and more often to complement architectural and interior design ideas in home design. Good lighting design gives you a transformed appreciation of colour, texture, proportion and space. It can also change the way you feel in that space, as humans are very receptive to changes in light

Smart home lighting lets you set the feel and tone of any space for different times of the day, with one-touch scenes and individual circuit control when you need it. An open plan kitchen-living area may have one-touch scenes for arriving home, dining, TV watching and entertaining. Sensors may automatically activate dimming late at night when entering ensuite or hallways, responding to you more naturally, or your outdoor pool terrace may have vibrant lighting before dinner and then more subdued lighting for drinks or a late night dip. Colour adjustable lighting can also provide highlights to vegetation, wall features and surfaces for beautiful and subtle transitions.

» **One Keypad:** Control multiple lights in multiple rooms, or even set an entire scene with pre-set lighting, music, temperature control and door locks.

» **Customisable:** Switches, dimmers and keypads can be customised to match your decor and blend in seamlessly to interior and exterior design.

» **Eco-Friendly:** Smart lighting helps you conserve energy and reduces your energy bills over time.

» **Smart Device / App Control:** Monitor, control and access the lighting app on your phone, tabletop or in-wall touchscreens. Keep your home safe while you're away with remote management capabilities and turn lights on and off right from your phone while you're away - anywhere in the world.

» **“Mockupancy” Feature:** Control, monitor and access your lighting and electronics to turn on and off on their own to “mock” how they would be used if you were home; perfect for while you're away on a holiday or just out for the night.

» **Personalised Scenes:** E.g. “Cooking” scene that will start your favourite playlist and bring your lights up to full illumination, or a “Goodnight” scene that will turn off all the lights in your home, lock the doors, arm the security system and queue up your bedtime routine.

» **Integration:** Add in exterior lights, some of which are activated by motion controls or light sensors, and just about every room in your house is likely to have multiple lighting options.

Lighting Systems

Our intelligent lighting control solutions offer energy efficiency, increased safety and security, and the ability to manage other smart technology solutions within the home all with the push of a button. If you can imagine it, then the Technology Designers at GreenStar Technologies can make it a reality for your home. Experience an up-close-and-personal look at the most intuitive and innovative smart lighting solutions on the market when you visit our fully functional Showroom in Glen Huntly.

Learn and experience the most popular smart home brands and solutions all in one space. We're proud providers of pioneering technology which include brands like Control4, Philips Dynalite, Crestron Home, Clipsal C-Bus, DKNX, Lutron and so much more...

Using keypads, an app, touchscreens, or a remote, you're able to dim lights or change colours and hues in any (and every) room and set a specific mood. Our Technology Designers will conveniently place your lighting keypads to allow you to turn off every light on your way out the door with one tap. As you arrive home, your garage door can trigger the entryway lights to lead your way into the house. Motion detectors brighten the hallway lights during the evening and throughout the night, making it easier to move about without disturbing the rest of the household.

It all begins with just a conversation...Your dream smart home journey begins at our Home & Lifestyle Experience Centre.





Circadian Lighting

What is Circadian lighting?

Also known as Human Centric Lighting, Circadian Lighting mimics the intensities and colour temperature changes of the sun throughout the day. Individual light fittings are “tunable”, meaning their colour temperatures can be shifted through the spectrum of warm white to cool white. These settings can be programmed via the lighting control system (DALI) to happen automatically throughout the day and/or night in conjunction with dimming to save energy.

Why install a Circadian Lighting System?

Proven health benefits - the effects of changes in light characteristics in synchronicity with the human body clock have been shown to improve mood, sleep, well being and increase productivity. Circadian lighting settings can be finely tuned by the end user to their individual personal preferences. Economical to install and cost effective to run, circadian lighting systems represent the future of lighting.

Circadian lighting should provide a strong daytime light signal, telling our brain that it is daytime and to perform all the functions it needs to during the day. At night, we want to reduce that daytime light signal to help our bodies wind down, telling our brain to perform nighttime functions.

LA Lounge combine Circadian Lighting, DALI control and considered lighting schemes to enhance the functionality and enjoyment of a space while highlighting aesthetics and key design elements.

Productivity

Lighting to optimise circadian health continues to gain popularity and many homeowners are interested in circadian lighting as a means of and understanding whether happier, more energised individuals result in increased productivity. Benefits of circadian lighting go beyond wellness and offer a new way to increase productivity and motivation throughout the day. Some studies suggest circadian lighting can promote productivity, citing an increase in people's energy and vitality – particularly at the start and middle of the day. Research continues to look at methods for bringing key aspects of daylight indoors and how that might have a beneficial effect on memory recall and other tasks.

Wellness

Wellness is becoming more of a central theme in the design and a critical part of each of our daily routines. We know that subtle changes in lifestyle can allow us to feel better, which has a significant ripple effect on our overall feelings of well-being. Circadian lighting is one way we can design better spaces to create subtle, yet meaningful change in our lifestyle. With true circadian lighting, our bodies are getting better daytime light signals which can help improve sleep, mood, and our overall sense of well-being.

Circadian lighting sends signals to our internal master clock which regulates all kinds of hormone production, telling our bodies when and what to do during the day and even at night while we sleep. Sending strong light signals to the master clock promotes better sleep, reduced fatigue, and increased concentration which all contribute to how motivated we feel.



DALI Lighting

What is DALI lighting?

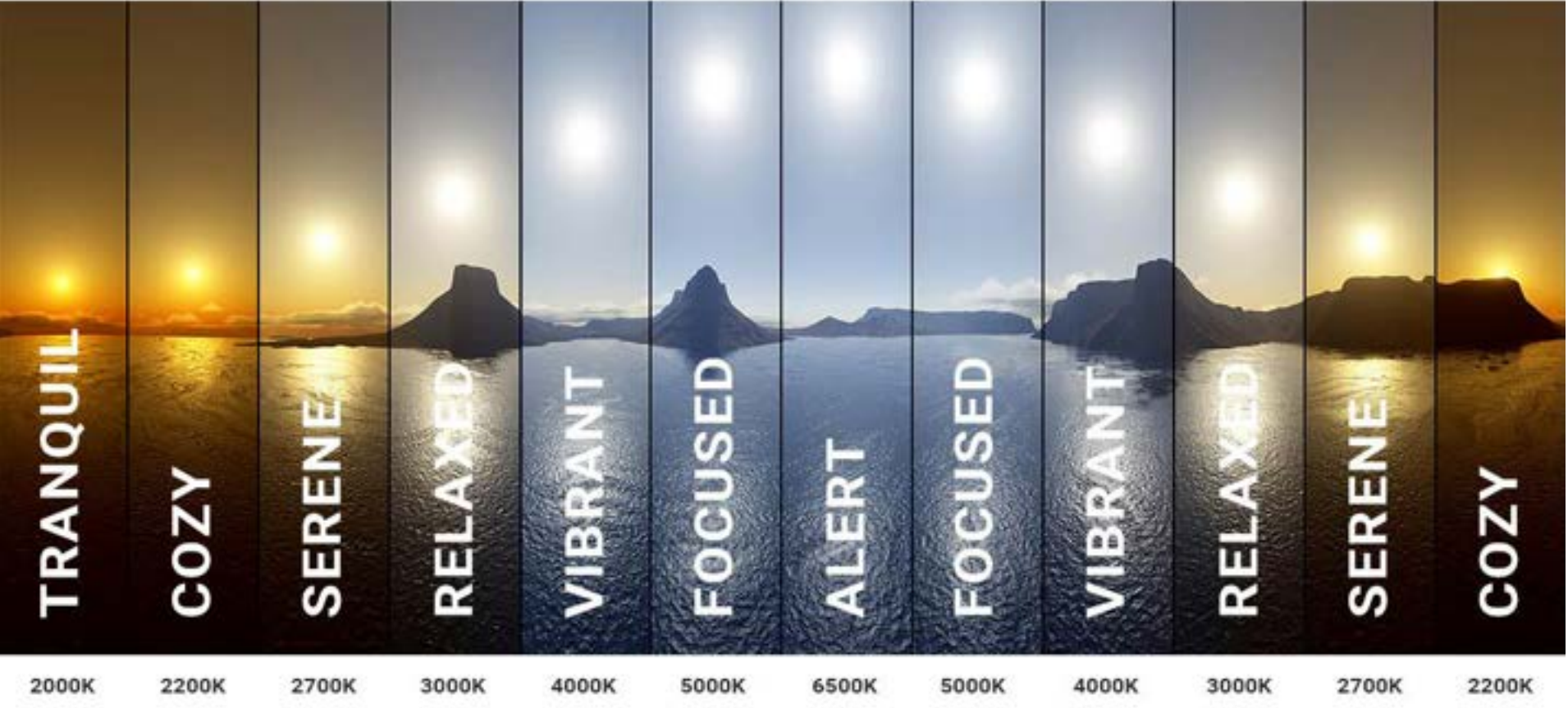
DALI stands for Digital Addressable Lighting Interface and is an automated dimming protocol. DALI is a two-way communication system that allows any system faults to be pinpointed and swiftly resolved either on site or remotely. End users can make changes to suit their own preferences without having to arrange a technician to attend their home. It is unique and different to other control systems as each driver or ballast has its own individual address. A DALI lighting system can be easily controlled by either wall switches and control panels or by an app on your smartphone.

Why DALI?

A DALI system is less expensive to install than other automation systems as it is faster for the electrician to wire and uses less costly electrical components. DALI system distribution boards require less physical space than other automation systems. DALI provides greater flexibility in creating lighting moods as any light can be either turned on individually or grouped without changing the wiring.

Integration with a wide range of other control systems is possible e.g., Control4, Philips Dynalite, KNX, Clipsal C-Bus, Crestron Home, Lutron and so much more...





Colours

Colour tuning or tunable white lighting refers to a specific kind of LED technology where the hue of white light can be changed to appear warmer (more yellow) or cooler (bluer) over a period of time. Colour tuning technology is often advertised as a way of simulating the colour of daylight from sunrise through the day to sunset.

Color tuning allows users to control the color (or hue) of their white light – from warm white (more yellow), neutral white, all the way to cool white (bluer) – and for each different hue, users can also adjust the light intensity. These dynamic lighting systems offer environmental ambiance and may have other psychological benefits, but they fail to target how our bodies respond to light biologically.

The reason color tuning fails to meet our biological needs is that virtually all color tuning systems use white LEDs that were designed specifically for vision only. This means that while color tuning allows users to adjust light intensity and hue, the LEDs were not designed to target the circadian system. Because traditional white LEDs were designed for vision and energy efficiency, they do not deliver the key sky-blue wavelengths of light our brains need to effectively stimulate the circadian system.

True and effective circadian lighting includes a specific part of the light spectrum (490nm), that helps regulate our circadian rhythms – this sky-blue signal is not found in traditional LEDs. This important part of the light spectrum sends the strongest circadian signal to our brains which ultimately provide benefits that could help reduce chronic health conditions related to our perpetual “indoor lifestyle” by improving mood, sleep, and overall sense of well-being.

Tunable White

The Circadian Rhythm can be maintained by using light that can be adjusted to mimic the colour temperature of the sun between sunrise and sunset. Circadian Rhythm refers to your body's natural internal 24hr body clock that is running in the background of your brain and cycles between sleepiness and alertness at regular intervals. It's also known as your sleep/wake cycle.

For most adults, the biggest dip in energy happens in the middle of the night (somewhere between 2:00am and 4:00am, when they're usually fast asleep) and just after lunchtime (around 1:00pm to 3:00pm, when they tend to crave a post-lunch nap). Those times can be different if you're naturally a night owl or a morning person.

Being able to use lighting to emulate your natural circadian rhythm will be extremely beneficial for your productivity throughout the day and restoring your body's natural sleep cycle for a better night's sleep. As well as being versatile in that you can change the colour temperature or dimming settings at anytime of the day, Tuneable White is adaptable to your own personal needs for example you can prepare & cook your dinner in your kitchen area at a bright 4000k & then enjoy your food while relaxing with a nice warm light temperature of 2500K.



Lighting Tips

The colour temperature of your light should be chosen based on where and why you need it. This can be determined during the lighting design process.

For example, warm light at around 2700 to 3000k is ideal for your home. The almost yellow glow helps to create a warm, cosy, and friendly atmosphere for you and your family to relax in. However, this is not the optimal lighting choice for productivity. Warm light creates a lot of contrast, meaning your eyes must work to adapt, which becomes tiring. Therefore, for an office or other working environments, we recommend using cooler lighting between 3500 and 5500k.

Here's a breakdown of typical light bulb colour temperatures and their source:

1800k - Candle Flame, sunset/sunrise

2400k – Standard incandescent lamps

2550k – Soft white incandescent lamps

2700k – Soft white compact fluorescent and LED lamps

3000k – Warm white compact fluorescent and LED lamps

3200k – Studio lamps / photofloods

5000k – Cool white / daylight compact fluorescent lamps

5500-6500k – Daylight, overcast, electronic flash

6500-9500k – LCD or CRT screen

15,000-27,000k – Clear blue poleward sky



MICRO LED INSTALLED IN OFFICE JOINERIES TO HIGHLIGHT BOOKS AND FEATURES



LED INSTALLED UNDER MASSAGE ROOM VANITY COLOUR CHANGING DOWNLIGHTS FOR SOFT TASK LIGHTING



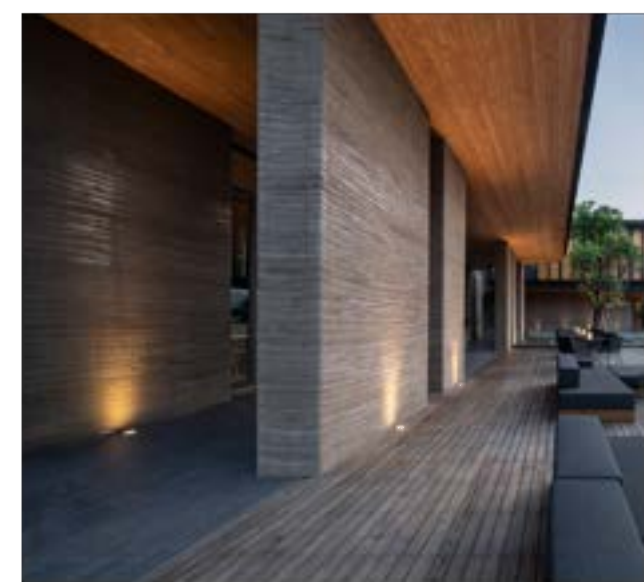
COLOUR CHANGING DOWNLIGHT INSTALLED TO SOFTLY HIGHLIGHT CEILING SURFACE MOUNTED SPOUT AND CCT LED INSTALLED IN CEILING TO SOFTLY FRONTLIGHT FEATURE TEXTURED WALL



COLOUR CHANGING LED INSTALLED UNDER SAUNA SEATINGS TO CREATE A SOFT FLOAT EFFECT



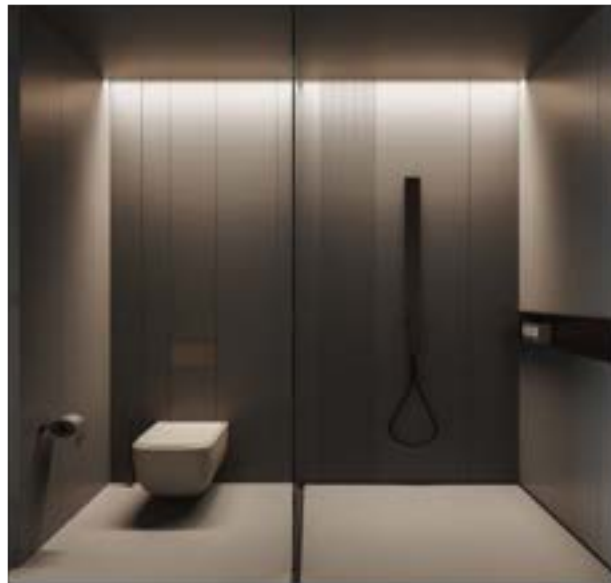
LED INSTALLED UNDER EXTERNAL STAIRS TO CREATE A FLOAT EFFECT
PIN LIGHTS INSTALLED AS LOW LEVEL LIGHTS TO SOFTLY WASH ACROSS EXTERNAL PATHWAYS



PIN LIGHTS INSTALLED AS INGROUND UPLIGHTS TO WASH UP AND HIGHLIGHT FEATURE STONE WALLS



FLEXIBLE LED INSTALLED IN CEILING TO SOFTLY WASH ONTO FUTURE LOBBY WALLS



LED INSTALLED IN SHOWER CEILINGS TO SOFTLY WASH ONTO WALLS



LED INSTALLED UNDER BATHROOM VANITIES TO CREATE A SOFT FLOAT EFFECT



DECORATIVE WALL LIGHTS FOR AMBIENT LIGHTING IN HALLWAYS



LANDSCAPE LIGHTING AMBIENCE



PIN LIGHTS INSTALLED AS LOW LEVEL LIGHTS TO SOFTLY WASH ACROSS INTERNAL HALLWAYS

Lighting Architects

Our Technology Designers in collaboration with Lighting Architects from La Lounge work with clients and their contractors to design and transform the way they use smart lighting in their home. The team from La Lounge will provide advice, insight, and creative solutions for homeowners, electricians, builders, architects, landscapers, renovators and businesses. Every project we deliver offers first class client experiences with an equal balance of luxury and functionality so that clients can enjoy the pinnacle of smarter living. We're able to personalise indoor and outdoor living environments through integration of all the services clients rely upon and according to their lifestyle with total simplicity – all beautifully incorporated into the interior and exterior design.

To ensure your lighting project goes as smoothly as possible, we recommend booking a consultation at our Home & Lifestyle Experience Centre (located in Glen Huntly VIC), there we'll make the introduction to our partners over at La Lounge, who are Award-Winning Lighting Architects. La Lounge have over 15+ years of experience supplying superior lighting design schemes for residential and luxury projects. They understand the science and art behind lighting and can source any fixture required to enhance the look of your space.

(03) 9813 8657
1174 Glen Huntly Road,
Glen Huntly Melbourne VIC





FLEXIBLE LED TO WASH FEATURE CURVED WALLS IN HALLWAYS AND THROUGHOUT



VERTICAL LED IN MIRROR FOR TASK AND GENERAL LIGHTING



LIGHTING INSPIRATION FOR LOUNGE AREA



CURVED LED LIGHTNG INSPIRATION



LED INSTALLED UNDER OVERHEAD KITCHEN AND PANTRY CABINETS



FLEXIBLE LED INSTALLED IN PELMET TO WASH DOWN ONTO CURTAINS



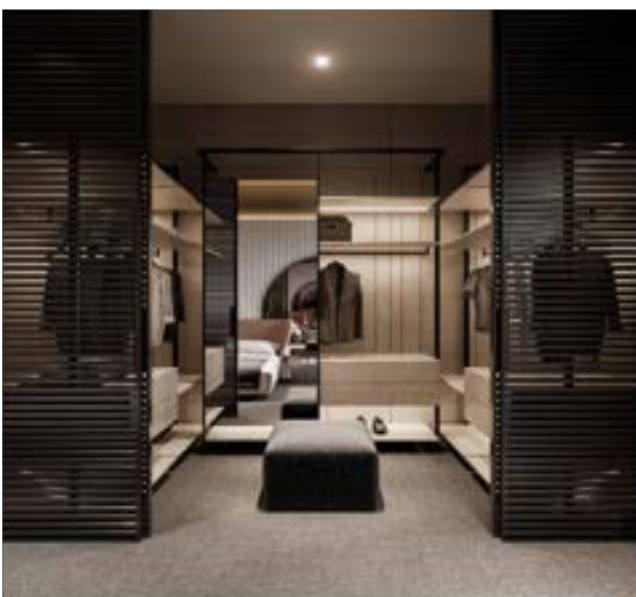
LED INSTALLED UNDER SAUNA SEATS TO SOFTLY WASH DOWN AND CREAT AMBIENCE



LOW LEVEL PLASTER LIGHTS INSTALLED FOR PATHWAY LIGHTING AT NIGHT



STAIR LED INSPIRATION



45 DEGREE PROFILE AND LED INSTALLED IN WARDROBE JOINERY TO SOFTLY LIGHT CLOTHING



LED INSTALLED UNDER BATHROOM VANITIES TO CREATE A FLOAT EFFECT



EXTERNAL LED INSPIRATION





Transform Your Home

When choosing the colour temperature for your space, you need to consider the finishes and colour palette used with your interior design. Reds, oranges and yellows look stunning when illuminated with warm white light (3000k). Whereas blues and greys can look clean and crisp under cool white light (4000k). For kitchen and bathroom areas, practicality is important. This can be achieved with plenty of cool light available to mimic natural daylight. On top of this, kitchens and bathrooms are generally white, and with the use of cool light a clean and sterile feel can be created. Once you've decided on the look and feel you're going to create, our Lighting Design Consultatns will help you transform your home.

Controlling your lights in your home is all relatively easy now with smart devices and smart devices / apps. Control your home when you're in bed or on holidays is all easy with the right home lighting automation system that suits you and your home. GreenStar Technologies and the team at La Lounge are here to help you bring your dream smart home to life.

(03) 9813 8657 / Info@greenstartech.com.au

**Home & Lifestyle Experience Centre
1174 Glen Huntly Road,
Glen Huntly Melbourne VIC**

**Viewing by appointment only*

Want to know more?

Come and see our Home
& Lifestyle Experience Centre.

Experience an up-close-and-personal look at the most intuitive and innovative technologies when you visit our fully immersive Melbourne showroom. There you can see and experience the most popular smart home user experiences and solutions all in one space. Discover first-hand smart home automation solutions where you can touch, experience and play. Bring your plans and workshop ideas and we'll bring your dream smart home to life. Start your smart home discovery now.



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