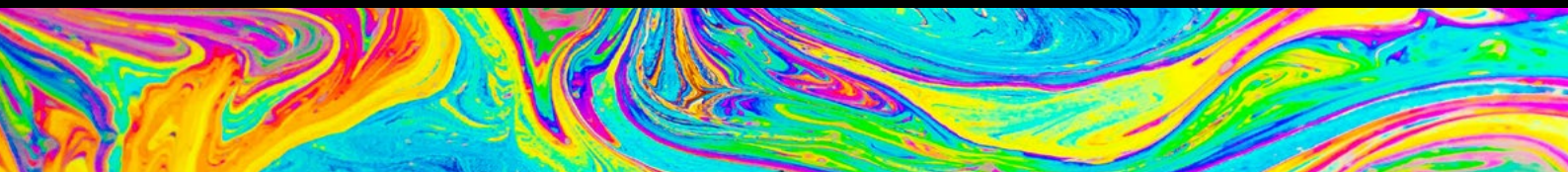


Quality Of Light



The Importance of Quality in Lighting

Lighting is a crucial aspect of interior and exterior design, not only does it enhance aesthetic appeal but lighting also creates a safe and comfortable environment for any space. Good lighting can literally make or break any design plan, it is futile to renovate or construct your home with the best architectural features and furnishings if the lighting they are paired with is not first class. There are a few major aspects involved to make sure your lighting is of the highest quality, these are: Colour Rendering Index, Colour Temperature, Colour Stability and Colour Consistency.

This document will go into detail of each of these points and really illustrate the importance of the quality of light and colour.

Contents

- 4** CRI (Colour Rendering Index)
- 6** CCT (Correlated Colour Temperature)
- 8** Colour Consistency
- 9** Colour Stability (Lifetime)
- 10** Glare Control
- 12** Product Quality
- 13** So Why Choose Faze?



CRI

Colour Rendering Index

Colour Rendering Index (CRI) is the accurate measurement of the capability of a light source to exhibit, in high grade, the true colour of various objects. The metric scale of CRI is from 1 - 100, (with 100 being the closest to natural light) therefore the higher the CRI, the better the light source is at rendering colours accurately.

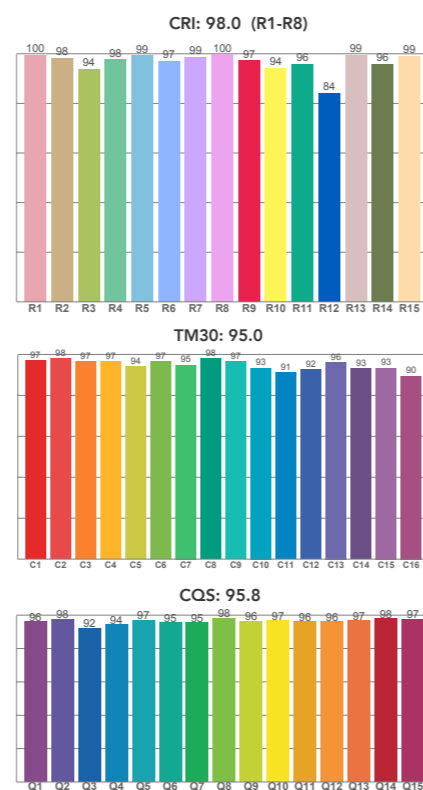


Pictured Above: A depiction of the colour difference between each CRI.

How do we compare?

A high CRI is crucial when designing any lighting plan, from residential to commercial, as it will make sure that all of the architectural features and materials in your space are enhanced exceptionally. The high CRI of all FAZE products are a perfect example of this, as they will enhance the details in stone countertops, the rich colouring of hardwood floors and everything in between.

Faze Pro



Pictured Right: Faze Pro Test Results. Recorded from our Faze Lab.

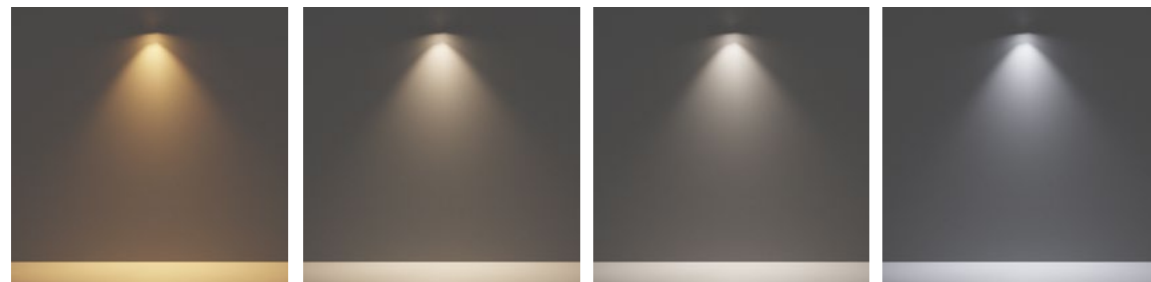
Pictured Far Right: A comparison between low and high CRI ratings.



CCT

Correlated Colour Temperature

Correlated Colour Temperature (CCT) is a number, expressed in degrees Kelvin, which represents the colour of a light source. It is measured on a scale of 1,000K to 10,000K and indicates the warmth or coolness of the light. Light sources with low CCT provide light that appears warm, while light sources with high CCT values provide light that appears cool.



2700K

3000K

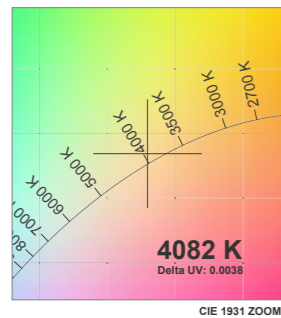
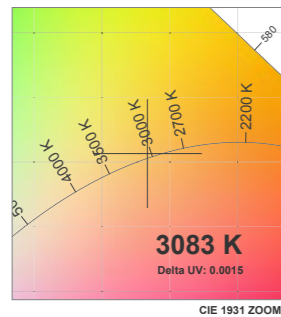
4000K

6500K

Pictured Above: Colour Temperature variations, depicted using the Faze Vita IES, colours manually adjusted for depiction.

Pictured Below: Test results for the Faze Pro 13W in 3000K and 4000K, displaying their CCT rating.

Faze Pro



How do we compare?

Unlike CRI, there isn't a right or wrong when choosing your CCT, it is more about personal preference.

However, it is worthwhile noting that warm lighting is not always suitable for rooms where you would like to be calm and have a relaxing glow, whereas cool lighting is perfect for task lighting and rooms where you would like to enhance concentration.

All of our FAZE products come with a colour temperature of either 3000K or 4000K, as well as 2700K for some fittings, the choice is all yours!

Pictured Right Above: 3000K Lighting

Pictured Right Below: 4000K Lighting



Colour Consistency

Colour quality in numbers

Colour consistency refers to the average amount of variation in the quality of colour among a batch of identical lighting products. Put simply, if you were to install 4x downlights of exactly the same kind in a living room, you would expect them to produce exactly the same light, right? However, colour consistency can vary based on the product, the manufacturing and the standards for quality processes that the manufacturer follows. Colour Consistency is measured in a metric of steps with Step 1 being the best. The lower the Step (or SDCM) the harder it is to perceive the difference in colours. A SDCM of 3 or lower is not visible to the human eye.

Pictured Right: 2 Diagrams explaining the SDCM measurement.

In the upper right diagram is an example of a 3200K target colour range.

In the below right diagram is that ellipse closest to the 3200K target with examples of luminaires attempting to match that target value.

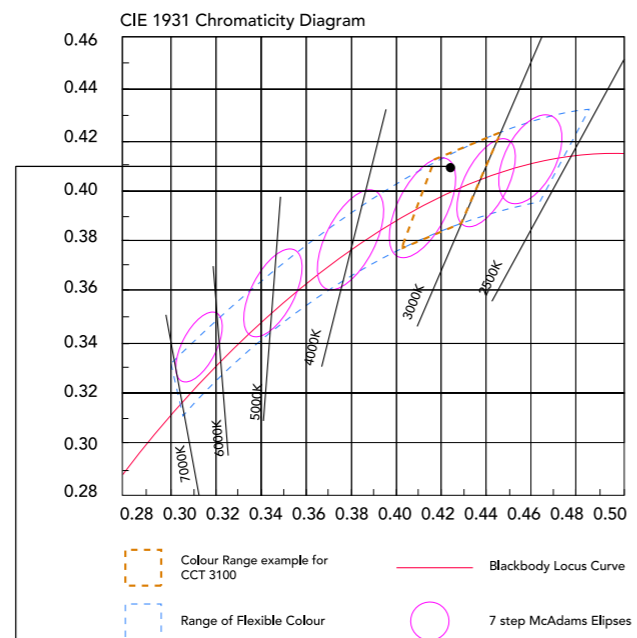
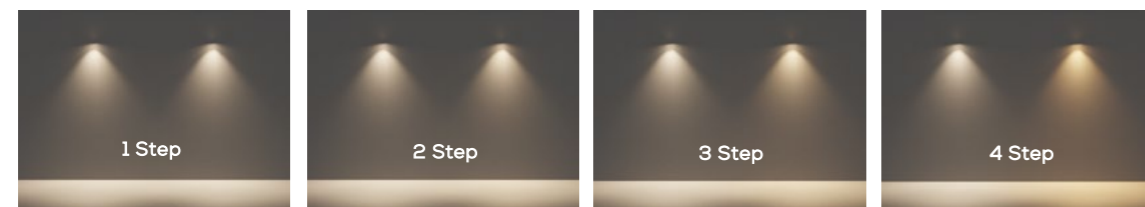
Note: In this example A and B are each 1 Step from the Target Value, but 2 Steps from each other.

C and D are each 2 Steps from the Target Value, but 4 Steps from each other.

How do we compare?

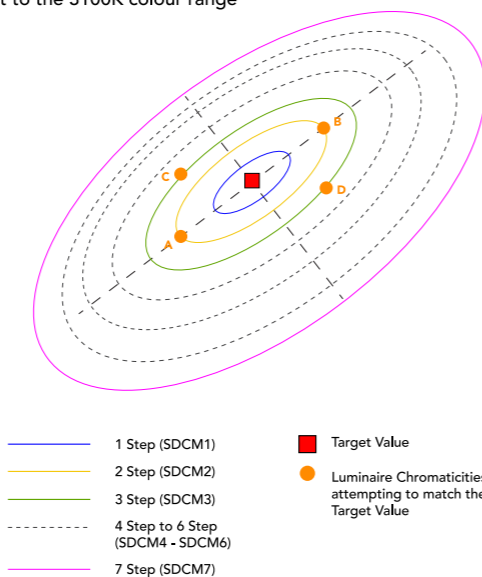
The majority of our FAZE downlights have an SDCM rating of 1.5, making them some of the best rated in the lighting industry.

Pictured Below: The various colour changes in lights based on their Step measurement. By Step 4 the colour change is highly noticeable.



A 7 Step McAdams Ellipse, with Steps 1, 2 and 3 Highlighted.

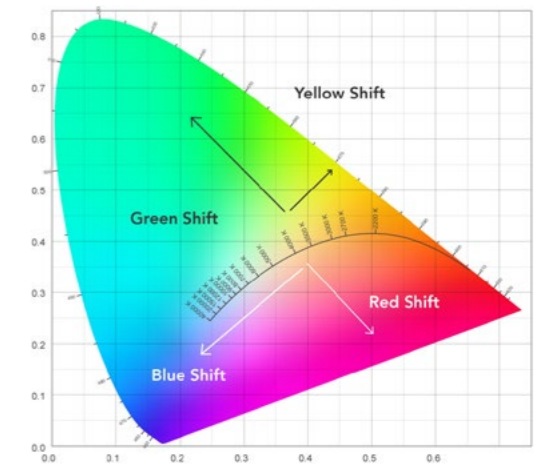
The McAdams Ellipse closest to the 3100K colour range



Colour Stability

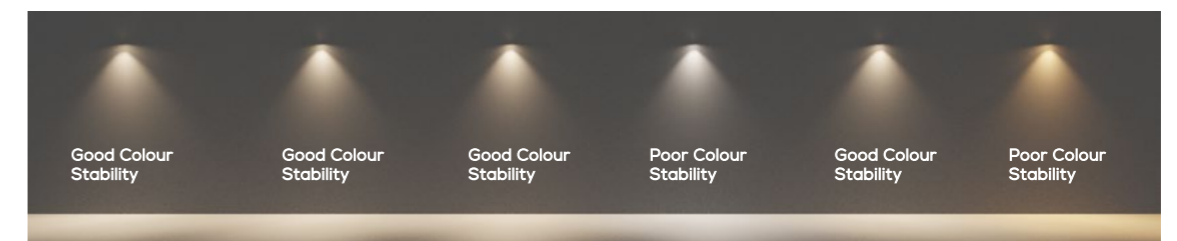
Lifetime

It is possible for the colour output of luminaires to change during their lifetime, even if they are all the same colour temperature. Colour stability is the power to maintain the original colour output over time. Colour shift is the opposite, this is when there is an obvious change in the colour output of a light source, resulting in a change in the temperature and colour rendering properties. Colour shifts can occur due to things like the construction of the product, quality of materials and the application (i.e. where it has been installed and the environmental factors). The primary factor that contributes to LED colour performance is the operating temperature; superior thermal management significantly slows down the degradation of LEDs, which in turn means that the intensity and colour properties remain stable and consistent over time.



Pictured Above: The colour shift directions for LEDs.

Pictured Below: An example of poor colour stability in a series of lights.

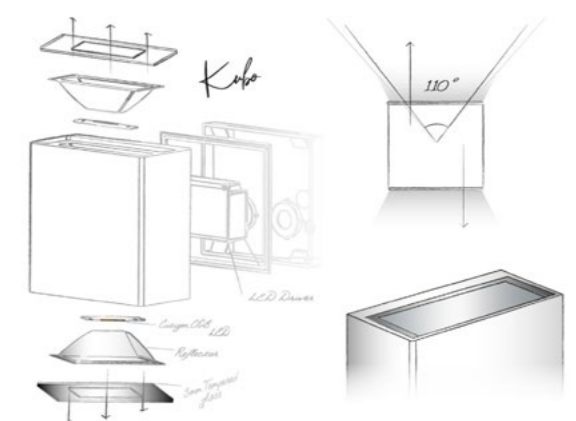


How do we compare?

Our FAZE luminaires are all created with high quality LEDs and materials. Every FAZE luminaire is manufactured with the upmost care.

Our class leading heat dissipation results in longer lifetimes and colour stability across the board.

Pictured Right: The Faze Kubo design process, showing the components and ideas for functionality.



Glare Control

Glare is caused by excessive or uncontrolled light. Glare can cause a lot of discomfort as well as causing long-term health problems such as eye strain and headaches. Controlling glare is particularly important in spaces such as offices and homes, where people will spend the majority of their time.

How do we compare?

We ensure that our luminaires produce the least amount of glare possible, by carefully selecting our materials and using both design and construction techniques to avoid glare production.

UGR

Unified Glare Rating (UGR) refers to the amount of glare emitted in a space. When it comes to UGR, there are certain parameters and standards set in place to ensure that it is accurate. Our Faze luminaires go through vigorous testing, this includes the UGR table (CIE 117-1995 tabular method) as part of our IES test reports. By doing this we can ensure each fitting meets the Australian standards (AS/NZS) recommended UGR for each space.

UGR		Glare Evaluation According to UGR															
		Viewing direction at right angles to lamp axis								Viewing direction parallel to lamp axis							
Room class	UGR	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	
a) Ceiling	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
b) Walls	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
c) Floor	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
2nd	2nd	20	14.3	14.8	14.8	15.2	15.4	15.6	15.2	14.8	14.4	14.4	14.4	14.4	14.4	14.4	
	3rd	14.3	14.8	14.8	15.2	15.4	15.6	15.4	15.2	14.8	14.4	14.4	14.4	14.4	14.4	14.4	
	4th	14.3	14.8	14.8	15.1	15.4	15.3	15.4	15.3	14.8	14.6	14.5	14.5	14.5	14.5	14.5	
	5th	14.2	14.7	14.5	15.0	15.3	15.2	15.4	15.2	14.8	14.6	14.5	14.5	14.5	14.5	14.5	
4th	2nd	14.1	14.6	14.6	15.0	15.3	15.4	15.6	15.2	14.8	14.4	14.4	14.4	14.4	14.4	14.4	
	3rd	14.1	14.5	14.5	15.1	15.4	15.3	15.4	15.3	14.8	14.6	14.5	14.5	14.5	14.5	14.5	
	4th	14.1	14.5	14.6	15.2	15.2	15.1	15.5	15.4	15.3	14.8	14.6	14.5	14.5	14.5	14.5	
	5th	14.0	14.3	14.4	14.7	15.1	15.0	15.4	15.4	15.3	14.8	14.6	14.5	14.5	14.5	14.5	
6th	2nd	13.9	14.2	14.4	14.6	15.0	14.9	15.2	14.6	14.4	14.3	14.3	14.3	14.3	14.3	14.3	
	3rd	13.9	14.2	14.4	14.6	15.0	14.9	15.2	14.6	14.4	14.3	14.3	14.3	14.3	14.3	14.3	
	4th	14.0	14.3	14.4	14.7	15.1	15.0	15.4	15.3	14.8	14.6	14.5	14.5	14.5	14.5	14.5	
	5th	13.9	14.1	14.2	14.5	14.9	14.8	15.1	15.0	14.6	14.4	14.3	14.3	14.3	14.3	14.3	
10th	2nd	13.8	14.0	14.3	14.6	15.0	14.9	15.3	14.4	14.3	14.3	14.3	14.3	14.3	14.3	14.3	
	3rd	13.8	14.0	14.3	14.6	15.0	14.9	15.3	14.4	14.3	14.3	14.3	14.3	14.3	14.3	14.3	
	4th	13.8	13.9	14.3	14.4	14.9	14.8	15.0	14.6	14.4	14.3	14.3	14.3	14.3	14.3	14.3	
	5th	13.9	14.2	14.4	14.6	15.0	14.9	15.2	14.6	14.4	14.3	14.3	14.3	14.3	14.3	14.3	

Dimmable Lighting

The vast majority of our luminaires use dimmable drivers. By providing an option to reduce the amount of light distributed, glare can be controlled and drastically reduced.

Diffuse Lenses

For fittings such as our LED strip, we provide profile options which include a diffuse lens, this provides design continuity and helps reduce glare by diffusing the light.

The Faze collection now features our Nero profile series, an all black profile and diffuser finish, which significantly reduces glare and provides a darker design alternative to the standard aluminium and opal diffuser combination.

Deep Set LEDs

One of the ways we ensure low glare is by designing and constructing our luminaires with deep set LEDs. This significantly reduces glare, gains control over the light being emitted and creates a much more comfortable atmosphere.

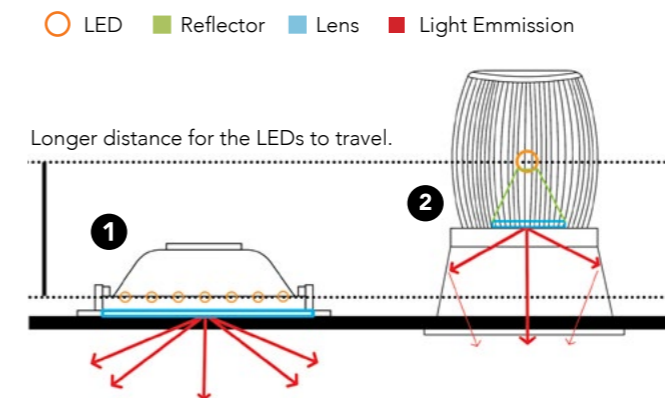
This design philosophy has been applied to a vast range of our luminaires, including our downlights, linear and ceiling lights collections.

Our Faze Edge series, featuring deep set LEDs.



Diagram demonstrating the benefits of deep set LEDs.

Using the diagram below you can see that a luminaire with a deep set LED has much more control over the light distribution.



1

Panel Light

The light distribution is scattered and uncontrolled.

There is light being wasted as it has no guiding body.

2

Deep set LED downlight

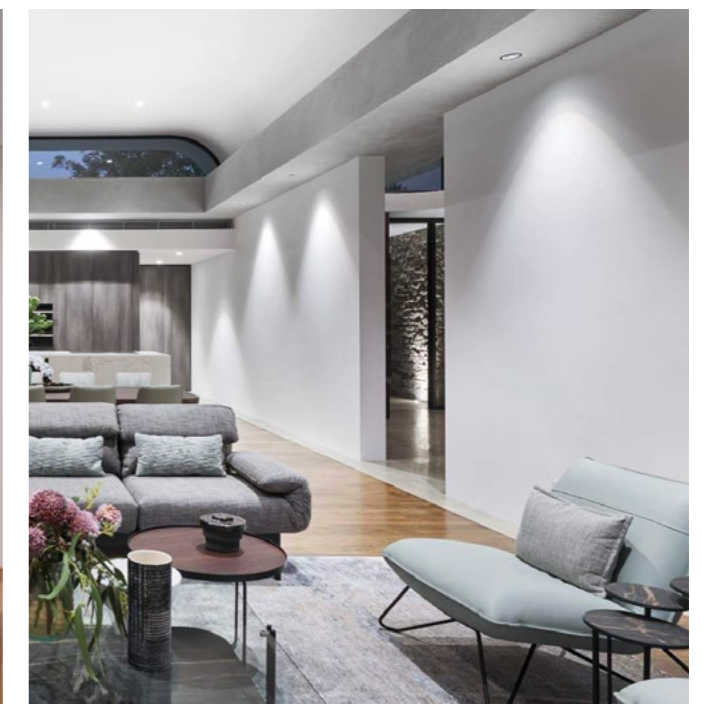
The light distribution is controlled.

There is no light wasted. This is due to the light being forced by the fitting's reflector, lens and body to emit to the desired location.

A comparison between two living rooms, one using a panel light and the other using a deep set LED downlight.



Panel Light



Deep set LED downlight

Product Quality

Pictured Below: A breakdown of the Faze Lite, depicting each component and the relevant overview.



Downlights with lifetimes of up to >100,000Hrs



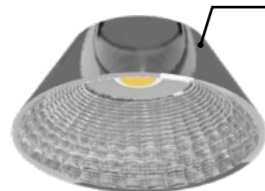
High Quality Drivers

Our drivers are especially designed to provide the best power source for each light fitting. With Flicker Free drivers and Casambi Bluetooth drivers available, the FAZE range provides quality and reliable light.



Aluminium Heatsinks

Our heatsinks are made of special heatsink aluminium and are uniquely designed for each fitting. Each unique design ensures that the fittings' heat is dissipated safely and that the maximum heat reduction is provided to keep the LEDs cool and ensure long lasting light.



High Quality Reflectors and LEDs

Our reflectors and LED chips are made from the best materials available, every reflector and chip is chosen specific to its' fitting, to maximise each light emission. Our LED chips are some of the best available in the lighting industry.



High Quality Lens

Whether it be a diffuser or standard lens, we put every bit of consideration into the quality of our lens. We ensure that each fitting has the best suited lens for its light output.



Aluminium Fascias

All of our downlights have Aluminium Fascias which are powdercoated, ensuring durability and longevity.

Our other fitting types such as wall mounted and surface mounted fittings are all made out of the best materials available. This includes aluminium bodies, various polycarbonate parts and superior LED chips.



Pictured Right: The Faze Vita, part of the Faze surface mounted collection.

So Why Choose FAZE?

The importance of good lighting cannot be stressed enough, therefore each of these aspects discussed have to be front of mind when choosing luminaires for any space. At Faze, we make sure that not only the highest quality components are used, but the research and design behind each and every product is extensive; ensuring that the end result for every project is of the highest calibre both at the time of installation and for years to come.



Designed To Last



QUALITY OF LIGHT

Radiant Lighting

10 Gibberd Road
Balcatta W.A 6021

1300 438 609

sales@radiantlighting.com.au

www.faze.com.au

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