

The Essential Guide To Low Light Photography

Written by Nina Bailey

Especially for Canon EOS cameras



PREVIEW
EDITION

IT'S THE ROLLER

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Foreword by the author

I really enjoy shooting low light images, it's an area of photography that always produces some great looking results. Many of the subjects that we photograph in low light are very colourful. We also have the ability to slow the shutter speed right down when shooting on a tripod and can capture some great movement effects.

This is an area of photography that can be done with minimal equipment, a basic camera with its standard kit lens is all that's really essential. A good steady tripod will be needed for some of the techniques that I'm going to be looking at within this ebook.

Camera technology has changed a lot within the last 4 or 5 years, we have seen a lot of technological advances. One of the things that has really improved on all of the Canon range is the ability to shoot in low light handheld, which utilises the much wider range of ISO settings that we now have available to us.

There have also been a whole host of features introduced onto the EOS models, which now allow much better quality when shooting in low light levels handheld.

One of the problems of shooting in low light has always been capturing the range of contrast that is within the scene. However the addition of a HDR mode on to most of the recent Canon models has made this much easier to achieve.

One of the things that I've talked about in many of my ebooks, is the thought process that goes into photography. I tend to refer to it as ESP. That stands for **Evaluate** (the shot), **Set up** (the camera) and then **Produce** (the image). Low light photography is an area of photography where this thought process is absolutely vital to capturing a good result. If not there are some very fundamental pitfalls that can be encountered.

Low light photography is mainly enjoyed throughout the winter months when we have very short day lengths and therefore fills in one of the big gaps in the photographic season.

Nina.





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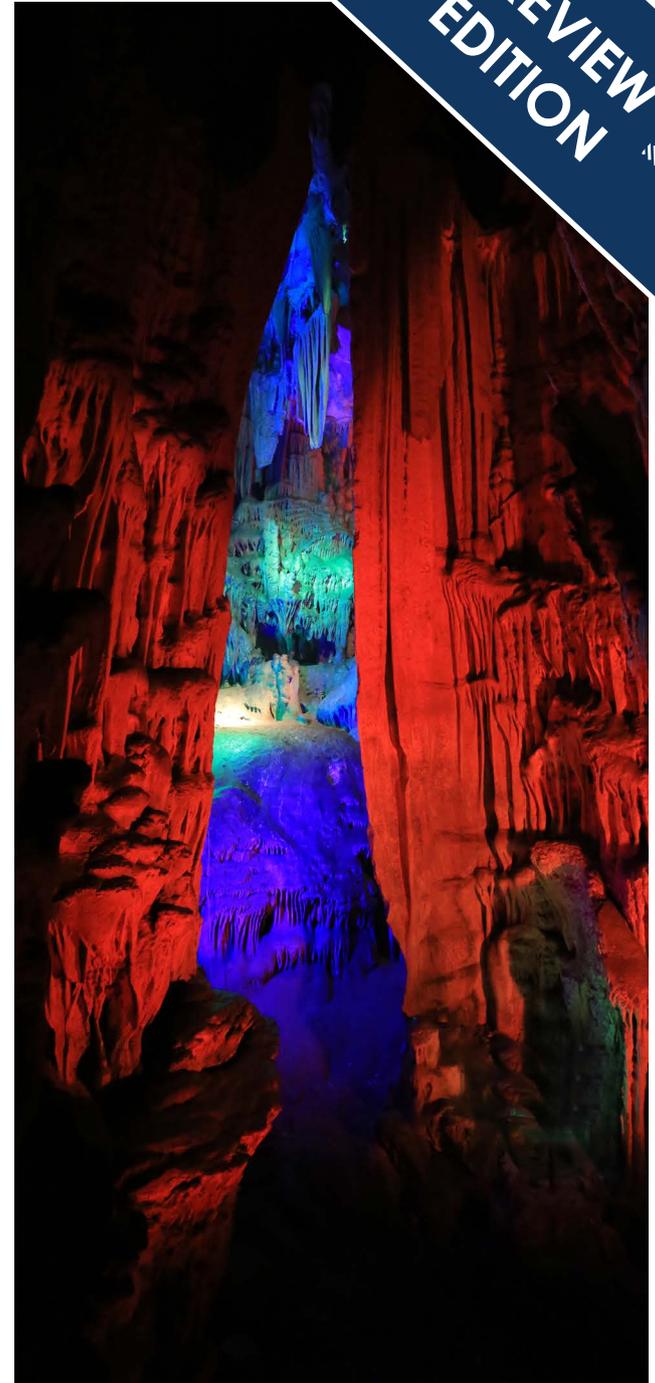
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Chapter 01

Introduction



Introduction

In this ebook I am going to look at low light photography, but generally, the techniques that I look at are also applicable to interior photography. However interiors can have their own unique challenges and so I am planning an ebook dedicated to shooting interior images which will expand on that topic.

The very nature of the areas that we are looking at, make them difficult to understand for many photographers, and sometimes even harder to get some great images of them.

However despite the technical difficulties, this is an area where little specialist equipment is required. The basic kit lens, the 18-55mm, will provide great low light shots. The telephoto zoom lenses such as the 55-250mm and the 75-300mm will both work well for the longer range shots.

In both these subjects there is the need to understand light in depth. For this the photographer needs to have a mastery of all the key photographic controls, and understand how to set the camera in order to get the results that they need.

The weather conditions can be very influential on how good the image is that you get, especially if shooting sunset or sunrise images.

Understanding the conditions that work and appreciating when good images can be taken, is key to getting the best results and avoiding problems with shooting.



Fireworks are a favourite of photographers but displays are relatively short and so you need the right technique to get good shots.

The conditions that the photographer works in are also challenging. Often working in lighting conditions where they will struggle to see many of the camera controls. This requires a much greater familiarity with the camera you use than most other areas of photography.

There is also a need to understand the lenses that we use and their effect on the images we take. This is also an area of photography where some

of the fixed focal length lenses offer benefits over the zoom lenses that we most commonly see in use. This is due to the brighter apertures that are found on the fixed focal length lenses.

Yet, despite the difficulty of getting a successful image, this is an area that provides some of the most stunning images that we take, due to the striking lighting conditions that the images are often taken in.

PREVIEW
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Chapter 02

Approaches to low light photography



Approaches to low light photography

There are a number of ways that low light photography can be approached.

The fact that I am looking at low light photography should give some clues that we are often going to be shooting in challenging light levels.

Which approach is appropriate is also going to depend on what you are shooting. Sunrise, sunset, and some brighter night scenes, normally have reasonably good light levels. There are other subjects with lower light levels such as northern lights and fireworks that will have to use longer shutter speeds to get a good result.

This brings differences in the way that we can shoot this type of photography. With the latest models that now have a much wider ISO range, it is now possible to shoot handheld in many situations.

The reality of this is that we may end up shooting at higher ISO settings than normal and may well have to accept a higher amount of picture noise than we are used to.

However the quality at the very highest ISO settings is often much better than many photographers perceive. We will look more at this in chapter 05.

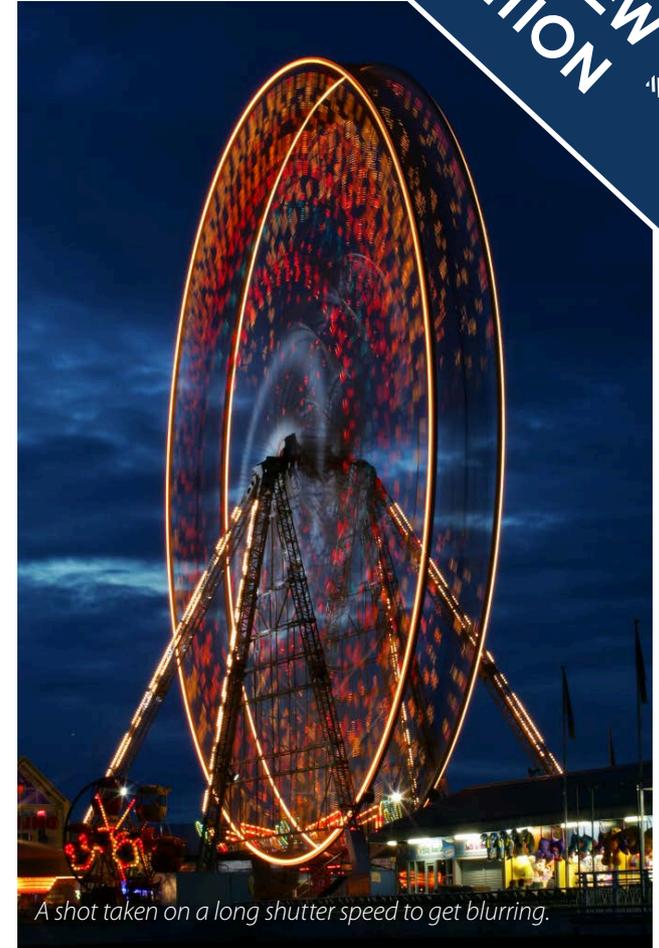
How easy it is to shoot in low light will of course be affected by the brightness of the lenses that you have. Some of the smaller zoom lenses, especially those with the very wide zoom ranges, will struggle to give enough light to get an exposure that can be safely handheld.



A handheld shot taken at a high ISO setting.

The brighter f4 and f2.8 lenses will be better and allow handholding more often. The prime or fixed focal length lenses offer even brighter apertures, with f1.8, f1.4 and even f1.2 being found within the range.

When shooting handheld in low light we always need to check the shutter speed that we are shooting at and ensure that it is high enough



A shot taken on a long shutter speed to get blurring.

for the lens that we are using. There is a much greater risk of getting shutter speeds that will give camera shake, than almost any other area of photography.

However the wider range of ISO settings now available, especially on the high end models such as the EOS 5D Mark III and 1DX now allow us to shoot virtually any subject we like handheld.

Approaches to low light photography

The other approach to coping with the low light levels is to shoot on a tripod and then use longer shutter speeds to cope with the low light levels. This allows much more basic equipment to be used and still get excellent results.

Shooting on a tripod does make life easier when it comes to getting the exposure correct for the lower light levels. We can use shutter speeds down to 30 seconds or even longer on the bulb mode to ensure that we get the right amount of light for the image that we are taking.

However, with all the benefits that using a tripod can offer there are also a fair number of problems.

The first is carrying the tripod. For a tripod to be worth using, it's not going to be very small, very light or very compact. Therefore you are going to notice carrying it around. I find for a lot of the low light photography that I do, it is not a great issue as I can often park close to where I am shooting. However, if hiking up a hill for a good sunrise or sunset, the appeal of using a tripod vanishes quickly.

There is also the fact that not all locations allow tripods to be used. Providing you are in a public place and not causing an obstruction there really is no reason why you cannot use one.

However many places are privately owned, but have public access, where they are often not allowed for a variety of reasons. A security threat or health and safety are the two you will most often get quoted.



If a tripod can be used then there are obvious advantages, the quality obtainable is much better, as we can shoot at much lower ISO levels. In addition, it effectively eliminates the risk of camera shake, a problem that we see occur so often in this type of photography.

The lower ISO settings are also advantageous as they cope better with some of the contrast that we experience in this area.

There are also some images such as the one

above when we may be looking to use a longer shutter speed to get some movement effect or light trails captured in the image that we are shooting.

The image above can only be taken if shooting on a long shutter speed, in this instance 8 seconds, to capture the light trails of the traffic going past. This is far too slow to handhold and so a tripod was essential for this image.

Approaches to low light photography



This is also an area of photography where there are different approaches to the way we capture the image we are taking.

For some subjects, such as night scenes we often need to record the image as close as we can to what we are seeing with our eyes. Although this often produces a very simple looking image, technically it can be a very challenging way to shoot. The



centre image and the image above right, represent as close as possible to what I was seeing at the time of taking them.

Much of the art of shooting images like this is actually in the timing of the shooting, rather than just having the correct settings on the camera. We will look at how this affects images in later chapters.



At other times we may not be interested in getting a factual representation of what we are seeing. The image to the left is a good example of this as I could see a lot more detail in the building than is evident in the final result. However to get the sky to be this great colour, the building needed to be captured as a silhouette.

Understanding how lighting affects low light images

In low light photography, lighting effects play a very big part in the images that we capture. When shooting sunsets, sunrise, dusk and dawn images, we may be far more concerned with capturing the lighting itself, rather than seeing details in the main subject in the image.

This is often defined by the direction of the light. If we are shooting backlit, into the light source itself, then it is generally the lighting effect that we are after.

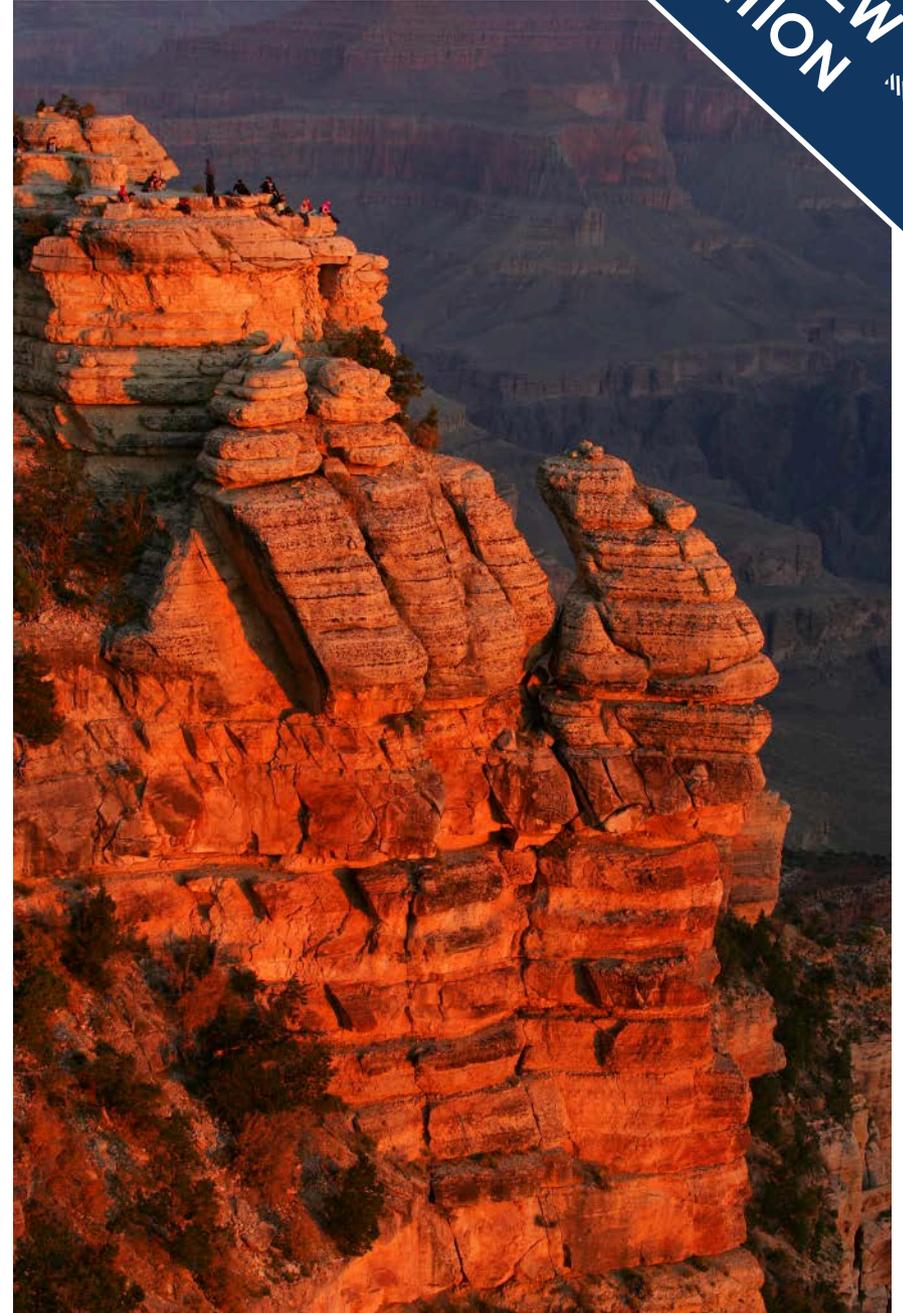
If we are shooting front or side lit, then we normally require detail in the main subject that we are shooting. This makes it essential to understand the metering on the camera and how it is going to respond to the image that you are taking and what, if any, overrides are going to be needed.

All this requires us to think much more about the images that we are taking and what we want to achieve, than with many areas of photography that we tackle. The low light levels often complicate this by making it harder to get the results that we want, especially if having to handhold the shots, requiring the ISO to be changed a lot more than when shooting in normal daylight conditions.

If we are aiming for a very factual reproduction, other things will need to be considered. Low light photography sees us shooting with many different types of light, with very different colours than what we are used to dealing with than when shooting in daylight. This may need to be corrected for, to give a more factual result. However with more creative photography we often enhance the colour of light, to make subjects such as sunsets look more colourful. Therefore, we will be looking at the white balance settings in depth in chapter 5.

As always the lenses you use will have an effect on the images you take. Remember that the lens controls many things about the image ranging from the area in the image, the depth of field, perspective and how much background is in the shot. It changes how spaces look within the image.

They also control the handholding speeds that we need and so the longer the focal length of the lens that you are using, the harder it becomes to still shoot handheld. It can also make a difference when shooting on a tripod, as many tripod heads can struggle with the weight of the longer and heavier telephoto zooms.

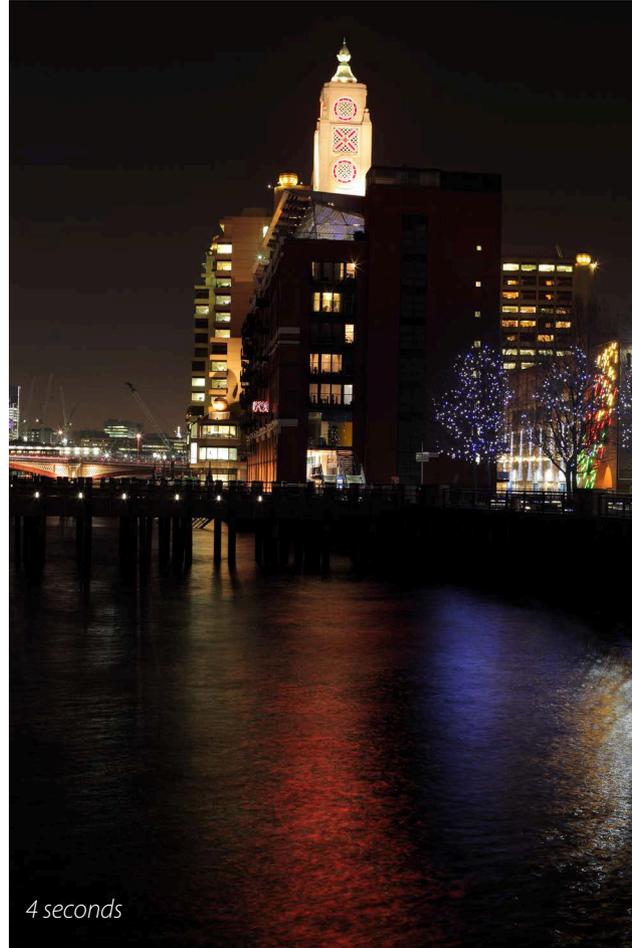


How settings can affect low light images



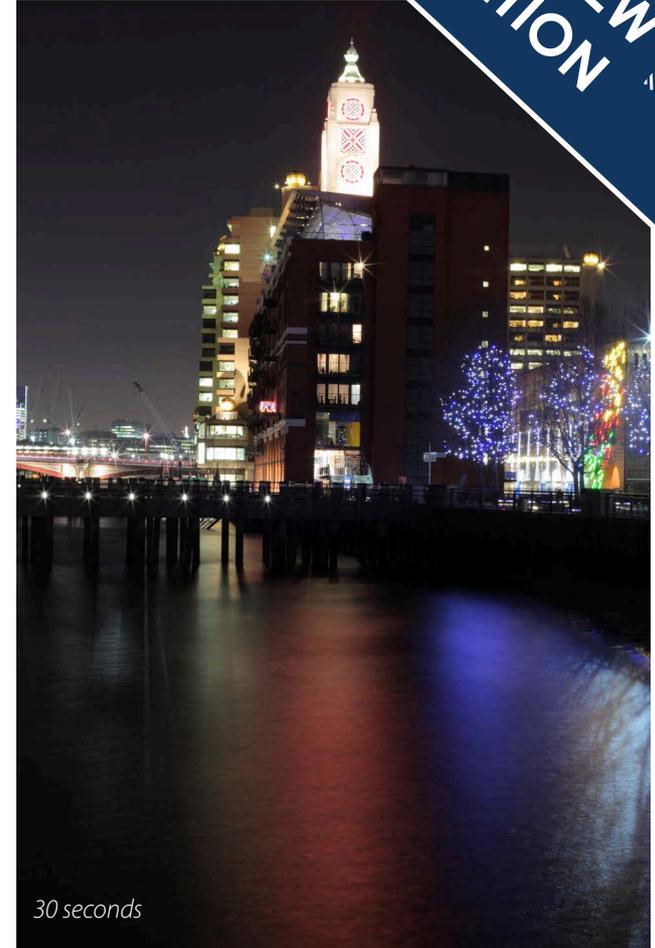
Even the shutter speeds we choose can have a pronounced effect on how the subject looks. The images above show the effects of using longer shutter speeds, when shooting an image with water in at night.

The longer the shutter speed is, the smoother the water becomes in the final image and the better the reflections appear.



Long shutter speeds also enables effects such as light trails to be reproduced, people in images to disappear and special effects to be generated within the exposures.

This type of photography challenges most photographer, as it gives choices that do not have to make in many areas of photography.



We can factually reproduce the subject or be very creative. Where, when and how we shoot can give radically different images.

Yet it produces striking, original and dramatic images when we understand what is required and get all the settings correct.

PREVIEW
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This was shot handheld in a changing room of a theatre in China. The light level was very low, needing 12800 ISO to be used. The camera used was an EOS 5D Mark III with an EF 70-300mm f4-5.6L IS USM lens. The shutter speed was 1/320th second and the aperture f6.3 and was shot on program mode. The focal length used was 188mm which has given the good background blur. The image was taken by shooting into a mirror and capturing the reflection.



PREVIEW
EDITION

This was taken in the Reed Flute Caves in China. Although tripods were allowed they were difficult to use with the volume of visitors and so I decided to shoot handheld.

This was taken on an EOS 5D Mark III fitted with an EF 17-40mm f4L USM lens. The shot was taken at 10000 ISO and the settings used were 1/25th f4 on a 29mm focal length. The exposure mode used was program.

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This image was taken on a water bus station in Venice, these stations are floating and therefore move a lot and so using a tripod is pointless. When I took this image there was a photographer who was stood just a few meters away from me doing long time exposures on this floating platform, which shows there is no thought being put into the requirements of the image. This image was taken on an EOS 5D Mark II, on program mode at 1/25th f4 with a focal length of 65mm on a lens fitted with image stabilisation. This allowed a slightly lower shutter speed to be used than is normal for handholding that lens. The ISO was set to 3200 ISO as this camera did not give such a good high ISO capability as the later models I now use.

Although I am including sunsets in this series, they are not as low as many of the other subjects I am including, and they are easy to handhold.

However they do require the exposure to be taken from a certain part of the scene for the image to come out correctly, in this instance the exposure was locked on the sky using the AE Lock feature on the camera.

This was taken on 400 ISO on a 95mm focal length. The exposure was 1000th f14 and the camera was set to program mode.



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This was taken at a Muslim food market in Xian, China at night. It was shoot with a 84mm setting on the lens and the camera was being used on the Program mode. The ISO was set to 3200 ISO and the settings used by the camera were 1/250th f7.1. In situations such as this, it is not only the handholding that you need to think about but also freezing any movement in the scene.

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Chapter 03

Understanding the challenges



eBooks for your EOS photography

You've just read a **free 20-page preview** of this eBook, part of a comprehensive series of Canon EOS camera eBooks that I've produced, based on years of experience training Canon EOS photographers like you. Thanks for downloading it.

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