

**4 Week Online Photography Course**

# Low Light Landscape Photography

A Guide to Dawn, Dusk and Night Photography

## Lesson 1 Course Notes

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## Introduction

**H**ello, my name is Tony Worobiec. Welcome to lesson one which aims to cover the main technical problems you are likely to encounter when photographing in low light or at night.

Many inexperienced photographers think that there are many difficult technical challenges involved with this kind of photography, but as you will quickly discover, photographing at night is no more difficult than during the day.

The first thing to understand is that when photographing at night, you are able to capture the world in an entirely new way. If you are prepared to shoot at this inconvenient time of day, you will be rewarded with mysteriously beautiful images; if you have never done this kind of work before, you might wonder how to focus in the dark- it is much easier than you think.

*Tony*

# Course Curriculum

## Lesson 1 Understanding the basics.



In this module, we will consider the technical issues relating to taking photographs in low light, such as how to overcome “noise”, how to focus in the dark, and most importantly, how to get a correct exposure reading. We will also cover the equipment you may need and how using certain filters will help to address some of the problems you might encounter. Some of you may wonder whether it is possible to hand-hold your

camera at night and still be successful; we will show you how.

## Lesson 2 Photographing the Landscape at Night.



The key to successful landscape photography at night is to understand how to most effectively use the available light. Often some of the most dramatic landscape photographs can be taken shortly after the sun has gone down and before it rises in the morning. Each of these enchanting times of the day presents slightly different challenges; we will consider these. Finally, nocturnal features such as the moon or the stars can also be photographed; we will show

you how.

## Lesson 3 Photographing towns and cities at night.



There are many challenges when photographing the urban environment at night, particularly when shooting illuminated buildings and structures. This course will explain how this is done. Artificial lighting can create troublesome colour casts; we will consider how to overcome this. Our towns and cities offer us numerous exciting photographic opportunities but how do we photograph people, what happens with moving cars,

how do we best photograph interiors or industry? This course will cover all those issues and many more.

## Lesson 4 Photographing in low light and poor weather.



It is not just at night that we will experience poor light; when photographing deep inside a wood or forest, exposures of many seconds are often required. There are numerous locations both in the landscape and in cities that are poorly illuminated even in the daytime. We will alert you to these and explain how you can overcome the difficulties. Poor weather can also pose problems. Many photographers never consider taking shots in the rain, in mist or when there is a strong wind and yet these

conditions can often provide opportunities for truly creative photography.

## Low Light Landscapes: Understanding the Basics.

There will always be some area of light you can focus on and if you are still not sure, then use a small aperture which should ensure every part of your image remains in focus. Finally, if your lens has an auto-focus facility, turn it off. It will have great difficulty seeing a suitable point of focus therefore it goes into “hunt-mode”. What this means is that it cannot focus on anything.

One of the drawbacks of photographing in low light is that you can encounter noise - an increased appearance of graininess which can reduce the overall quality of the image. This can be easily overcome. Most modern DSLR cameras now offer a Noise Reduction facility.

It will be available within the camera's menu and should be selected when making exposures of one second or more. If it proves impractical to use the camera's Noise Reduction facility, this can be remedied after you have taken your photograph when using the RAW Converter. Finally, there are several image editing software packages you may wish to use which will solve this problem; the best known is Neat Image, which you can download from [www.neatimage.com](http://www.neatimage.com).

It is sometimes quite difficult seeing the horizon in low light. Some tripods have a spirit level built into the tripod head, but if yours does not, then most camera shops now sell small spirit level attachments which you can place

on the camera's hot-shoe. If it's dark, you might still have problems seeing whether your camera is level, so always have a small torch available.

As most of your photographs will require lengthy exposures, a tripod is an essential piece of equipment. I view my tripod second only in importance to my camera. With it I know I am able to choose any ISO I want together with whatever aperture I need. If you do not own a tripod, the general advice is to buy the best you can afford and the heaviest you can comfortably carry.





Some might question this last point, but as many of your shots might require exposures of five minutes or more, and if you are photographing landscape, for example, you could quite easily experience strong gusts of wind.

Your tripod should be heavy enough to withstand that. It is also worth giving consideration to the tripod head - as you will need to be able to use it with ease- I would strongly recommend getting a ball and socket type.

This is a typical example where a tripod is essential. To achieve this shot, I needed an exposure time of 142 seconds - that's nearly two and a half minutes!

Clearly hand-holding a camera for that long is out of the question. This might be an appropriate time to discuss the Bulb setting on your camera. Most cameras have a maximum automated shutter speed of just 30 seconds; all however will also have one called Bulb or B. In order to set the shutter speed for longer than 30 seconds, select Bulb and keep the aperture open for as long as you need by using the cable release.

If your camera does not appear to have a dedicated Bulb setting, you may well find it within the camera's Manual Mode. If you are unsure, refer to your Camera manual.

One of the aspects of night photography which surprises many inexperienced photographers is how easily night can be made to look like day. While this looks as if it has been taken in normal daylight, the sun had set about 25 minutes earlier and I needed to use an exposure of 7 seconds.



If you are in doubt, look in the bottom left corner and you will see the moving headlights from several cars. I am frequently asked what ISO rating should you use when photographing at night; if you are using a tripod, use the ISO rating you are most comfortable with.

When you are photographing in the daytime, it is very easy to see whether the exposure is accurate; most of us look in the camera's monitor and we can immediately see if we have been successful. However, the monitor can appear deceptively bright at night-time which can often lead to under-exposure.

It is far better that you check the Histogram instead; All DSLR cameras will offer this facility. While it is normal in low light for the histogram to bunch slightly to the left, if this is excessive you are in danger of under-exposing. As I explained earlier, Noise will always pose a problem when photographing at night; one way of over-coming this is to make sure that you do not under-expose.

The other important technical consideration is which White Light balance to use. Thankfully, unless you are photographing artificially illuminated buildings, this need not be a problem. In 99% of cases the automated white light facility, often referred to AWB should be accurate.

When photographing at night you have other things to think about, so it does help to have the AWB facility switched on. It is worth noting that if the white light balance is wrong, this is very easily corrected in the RAW Converter.

Let's talk about filters. This might strike you as strange, but just occasionally it does help to make a picture taken in daytime look as if it has been captured at night. Hopefully one thing you will have learnt is that with long exposures, interesting things happen with the sky. In this example, with the available light I should have used a shutter speed of 1/125<sup>th</sup> second.

The result would have been boring. By using a very dense neutral density filter, the light reaching the sensor was considerably reduced therefore the exposure I needed was increased to 50 seconds. By using this filter I was able to transform day into night!

I've used the same trick here! While it was near sunset, there was still plenty of light in the sky. Without the neutral density filter, my normal shutter speed should have been 1/30<sup>th</sup> second, but as soon as I put the filter on, this was increased to 66 seconds.

What had fascinated me when I took this shot was the wonderful movement of the cloud set against the snowy mountain. By using this light-reducing filter, I was able to capture this fascinating movement.

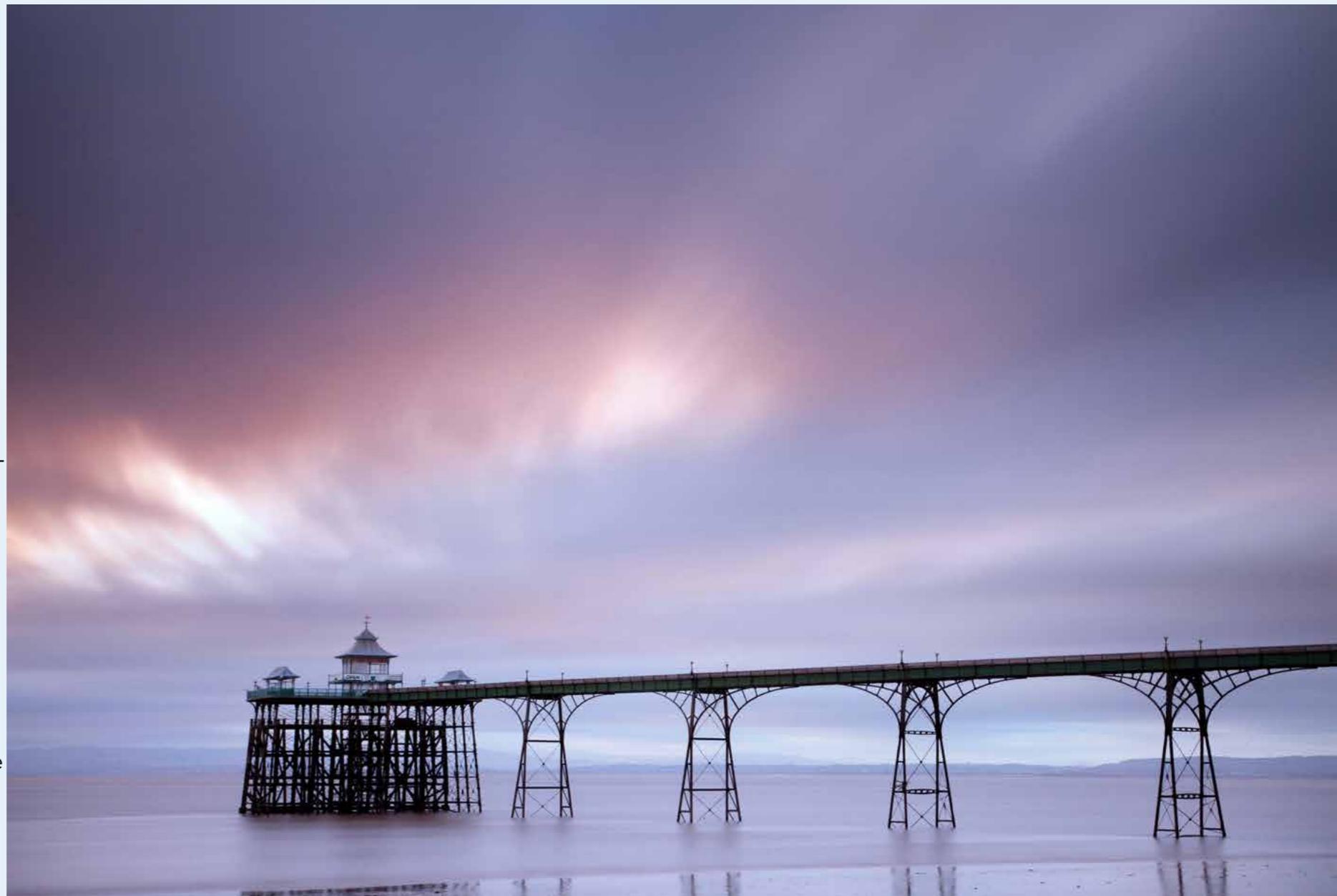
What do these filters look like! They are most commonly made as screw-on filters and act like a pair of sunglasses. A neutral density filter is used to reduce the amount of light reaching the sensor by absorbing the same amount of all the wave-lengths, therefore it should not alter the colour in any way.

These filters come in different strengths. A Neutral Density 2 filter allows 50% of the light to reach your sensor, while at the other extreme the 8 filter allows only twelve and half %. When using one of these stronger filters, you will not be able to see through it, so you should focus your picture first, then add the filter. The results can be awesome!

Another filter you may wish to use, particularly when photographing landscape, is a graduated neutral density filter. This filter is similar to the neutral density filters we have just been discussing, except that it is half grey and half clear; by making sure that the darker part filters the lighter part of the scene, exposure balance is restored.

Often, even at night, the sky is much lighter than the foreground. By using a graduated filter, it is possible to balance the exposure of the sky with the foreground and therefore capture detail throughout the picture. These filters can be soft or hard graduated, depending on the task in hand. In this example, I have used a soft filter.

It is possible to buy screw-on graduated filters, but they more commonly part of a modular system. Graduated filters come in different strengths. You can have a "3" - which equates to a one stop reduction in light- a "6" which equates to two stops and finally a "9" which equates to three stops. They are unquestionably very useful filters.



Our towns and cities are wonderful places to take low light photographs, but they are best taken in what is known as cross-over lighting. This is when the lighting off the building matches that from the sky. As a simple example, when you meter the light off the building you find that the exposure shows 15 seconds at f16. When you meter the sky, it shows a reading of just 1 second when using the same aperture.

Obviously if you take the photograph, the sky will appear too bright. But, as the building is illuminated, the exposure will remain constant; the sky on the other hand will continue to get darker as evening turns to night. Keep taking light readings off the sky, and once it reads 15 seconds at f16 take your photograph as the two exposures will then be in harmony. That's cross-over lighting.



Don't forget to go inside the building as further interesting photographs can be had. You might have problems with selecting the correct white light balance, but as I have already explained, this can be easily corrected in the RAW converter.

When photographing towns and cities at night don't always photograph the obvious. The neon lights can often create interesting results in the most unlikely places. While I had been tempted to photograph this motel from the front, I decided instead to investigate areas to the side. The lurid pink on the breezeblock walls creates its own strange beauty.

Notice also how the wind has created movement in the tree. Calculating exposure can be very difficult at night, as it can sometimes be outside the range of your metering system. To do this, fool your camera. For example, set the ISO rating to 3200 ISO, even if you intend to use just 100.

Once you have a reading, in this example the exposure needs to be increased by 5 stops. So, if at 3200 ISO you have calculated that the shutter speed should be half a second, at 100 ISO it should be 16 seconds. Using a hand-held meter makes this task much easier.

When photographing at night you may also need to learn other skills and particularly HDR. If you are not familiar with what HDR is, it is a technique which is designed to overcome the problems of excessive contrast. In this example, it would have been impossible to capture the detail underneath this pier and still capture detail in the sky.





The exposure differences were too great. With the camera on a tripod, the solution was to take several shots from the same spot, but making several different exposures. These files were then merged together in Photoshop.

The process is called “tone-mapping”. If your version of Photoshop does not have this facility, an excellent piece of software called Photomatix can be downloaded from the internet by going to [www.hdrsoft.com](http://www.hdrsoft.com).

In the daytime, the colour of the landscape is determined by the sun; it produces a white light resulting in the colours we are used to seeing. At night-time, the sky be-

comes the main source of light therefore the land will reflect the colours in the sky. This can often create beautiful visual effects.

This phenomenon is colourfully illustrated in this example. While it is most obvious over water, it does affect the land in precisely the same way...and the effects can change so rapidly.

As the sun dropped further below the horizon, it sends warm rays of light which are reflected off the clouds in the sky which then illuminates the entire landscape. When I first started taking photographs in low light, one lesson I learnt was not be in a hurry to pack your camera gear. Wait and see what happens. Often you will be pleasantly surprised.

So let’s turn our attention to using flash. One way of adding drama to our night photography is to use a flash-gun to illuminate parts of the foreground. In this example, with the camera attached to a tripod, I set a shutter speed which would capture the detail in the sky, but would leave the foreground under-exposed.

During this 7 minute exposure, I used my flash gun off camera so that it illuminated the wooden structure in the foreground from left to right. If I had flashed it directly from the camera, the lighting would have appeared flat and uninteresting.

Using flash off camera certainly offers more creative opportunities. In order to illuminate this observation tower, I needed to apply 5 separate bursts of light. With the camera attached to the tripod, I needed to give this image an overall exposure of 184 seconds.



This allowed me to walk up to the tower without being seen in frame, providing I kept moving. When using this technique, it is important to keep the flash gun shielded from the camera. As I was wearing a dark jacket, I used this to make sure that the flash could not be seen by the camera. If you are in doubt about the length of this exposure, look at the moon in the sky which has been distorted by the rotation of the earth.

A similar technique has been applied here. I waited until it was dark enough to allow me a minimum of a two minute exposure. With the camera attached to a tripod, using a locking cable release and the camera set to Bulb, I was able to walk to each stone separately and fire off the flash-gun. By shielding the flash from the camera, and by continually moving, there is no evidence of my presence.

Sometimes it is worth using less conventional methods for lighting the subject. In this example I used a powerful hand-torch. Once again, with the camera attached to a tripod, with the diminishing light I needed to make a 5 minute exposure.



This gave me plenty of time to walk over to the tower, which was to the right of the camera and carefully paint in the light working from the top downwards. As a torch normally shines a white light, there are no problems with selecting a different white light balance.

The same technique has been applied here. This natural arch is really quite large and I needed at least 8 minutes to make sure that I could paint in all the detail with my torch.

It was simply a matter of waiting for the sky to get dark enough which would allow me an 8 minute exposure. When doing these very long exposures, I do find using a hand-held light meter far more useful, rather than rely on the cameras metering system. This next technique was discovered by accident. After taking some shots beyond the lighthouse, with all my camera equipment packed away, I returned to my car, switched on the headlights but quickly realized that I could continue to take further photographs.



The beam from the car headlights illuminated the foreground which helped to balance the illuminated light-house in the distance. In order to prevent your shadow appearing in the picture, it is important that you place your tripod somewhere behind the car headlights. What this accident taught me is that you can be very flexible when photographing at night.

A very similar technique has been used here. I spotted this abandoned old vehicle while driving through the desert, so I parked my car so that the headlights lit the old vehicle from the side. The red streak in the distance is another car passing by.

Exposing for this kind of work is always quite difficult. I made an exposure for the landscape and sky and then turned on my headlights which remained on for the full exposure. I then checked the monitor. If the old vehicle had been over-exposed, then I would have done another exposure, but turned off the headlights much earlier. Sometimes you do need to experiment.





If you are willing to be imaginative, you can do wonderful things with your flash gun. Here I have placed a red correction filter on the flash gun so that the light it produces is red. This allows you to paint in colours of your choosing. If you do not have colour correction filters for your flash gun, it is easy to improvise by placing theatre colour gels in front of your flash-gun. As many of your exposures will last for several minutes, you have plenty of time to organize this sort of thing.

Similar to the last image, except here I have applied two separate bursts of light with the flash, one using the red filter and a second using a green one.

Once you understand this technique and have some experience of using it, it should be possible to make numerous separate flashes using different colour gels. Interesting effects can be achieved by getting into a small building and setting off some of the flashes from inside.

Portraiture can be made to look far more dramatic when using fill-in flash in low light. While the light was falling quite quickly, I deliberately set the exposure on the camera to under expose by half a stop, while setting the flash gun to expose correctly. This has had the effect of making the background appear slightly darker, while the portrait remains correctly exposed. With the flash gun attached to the camera, there was no need to use a tripod.

A similar technique has been applied here. While the ambient light was low, I deliberately set the camera to under-expose by half a stop. This time, with the camera attached to a tripod and with a long lead attaching the flashgun to the camera, I was able to apply the flash across the model from left to right, so that it appears as if it has been created by the last rays of sunlight. The flash-gun was programmed to give a correct exposure.



Precisely the same technique has been applied here. While the sky was dark and broody, by deliberately underexposing this image but by using flash to light the foreground, an added sense of drama has been introduced. It has often been remarked that night and low light introduces a theatrical quality to photography and this is particularly evident when using fill-in flash.

There are occasions when you wish to photograph figures without that theatrical quality. Here for example I simply wanted to capture the interior of this barber shop. In order to illuminate it, I bounced the light from the flash-gun directly off the ceiling, which then reflects a much softer light back onto the two subjects. A similar effect can be achieved by bouncing the flash off a nearby wall, providing the wall is not too dark. In order to do this, you will need a flash-gun with a swivel head.





Not all night photography requires that you use a flash-gun, or even a tripod. With a little care, it is possible just to use your camera. This portrait was taken at night while walking by our local town centre. I asked the model to face a brightly lit shopping area and used the available light to light the subject. In these circumstances, it was possible to hand-hold the camera.

Often when photographing our towns and cities at night, it just isn't practical to use either a tripod or flash-gun. I wanted to photograph this take-away without the occupants being aware of me.

Modern DSLRs are improving all the time and you should be able to use a high ISO rating without visible grain, particularly if you are using a full-frame camera. In this example, I was able to hand-hold my camera using a shutter speed of 1/160<sup>th</sup> second and an ISO rating of 1000.

This was also hand-held at night. Using a relatively wide aperture of f7.1 and an ISO rating of 2500, I was still required to use a shutter speed of just 1/40<sup>th</sup>, but with the lens stabilizer switched on, the result is acceptably sharp. It really is worth your while trying to see what you can photograph walking through your local town or city and see what you can achieve when hand-holding your camera; you will be pleasantly surprised.

Star-trails really are fascinating. While the sky might appear black, if you leave your shutter open for long enough, it begins to look blue. This required an exposure of 45 minutes and while the palm tree appeared completely dark with the naked eye, it was illuminated by a full moon and over the 45 minute exposure now appears very bright. If you want to photographing star-trails, you need to get as far away as you can from any street lighting. You also need a clear night and ideally one which is wind free.



**T**aken in a deserted part of the city where there was no street lighting anywhere near by. Clearly, for this kind of photography you must use a tripod. It also helps to place it in a sheltered position away from the wind.

A firework display offers a great opportunity for night photography. In order to build up a rich display, select Bulb, leave your shutter open but place a piece of black card in front of the lens.

As the fireworks burst into life remove the black card, but place it back over the lens when the sky is empty. In this way you can capture an accumulation of fireworks. A further hint that might also help you; with most firework displays, the crescendo almost always comes at the end.

Finally, while I have tended to concentrate on photographic projects in the evening and in night light, there are many occasions in the daytime when we are required to make lengthy exposures.

Consider this abandoned interior for example. Once I got inside, the available light was considerably reduced but because I was prepared to use a tripod and a long exposure, the problem was easily overcome.

I hope that these images have whetted your appetite and that you feel inspired to take photographs at night or in low light. If you have not tried anything like this before, you will be surprised by how many new photographic opportunities you will discover.



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