



The dPS Ultimate Guide to Night Photography

a  ultimate guide

by Jim Hamel



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[Learn How to Take Amazing Photos at Night with Jim Hamel's Night Photography Course](#)

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Introduction

Night photography immediately solves a huge problem that you confront constantly in photography. That problem is being faced with ordinary scenes that just aren't very interesting. If you take a picture of a building or a standard street scene during the day, it can be sort of dull. We are all used to seeing shots taken in the middle of the day. That same scene – shot at night – can be a really interesting photograph though.



Tower Bridge, London. Exposure: shutter speed 2.6 seconds, aperture f/5.6, ISO 100.

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The actual taking of pictures at night might seem a little bit like magic if you are just getting started. Even those who have been shooting a while may wonder how to get a proper exposure and focus in the dark. Although photographing in the dark certainly has its challenges, in some ways, it is actually easier than photography during the day.

So let's take a quick look at the essentials of night photography. In particular, we'll cover the gear you need, how to expose your photos, how to focus at night, great subject matter, and some post-processing tips. Hopefully, this will help open up the world of night photography to you.

What to Bring for Night Photography



Breckenridge, Colorado – Exposure: shutter speed 15 seconds, aperture f/2.8, ISO 3200.

First, let's talk about what you will need in terms of equipment for doing night photography. The good news is that you will not need much in the way of extra gear. Besides your standard camera and lens, the only thing you will absolutely need is a tripod. The darkness means that your camera needs to use a long shutter speed to gather enough light for a proper exposure

(more about that in a second). So you need to be able to hold your camera steady and [a tripod is the best choice](#) for that.

Another helpful item for keeping the camera steady is [a remote shutter release](#). I highly recommend that you get one – and the corded ones are very cheap (under \$10). You can spend a lot on an intervalometer if the extra features will benefit you, but you don't need that for standard shooting at night.



Miami, Florida – Exposure: shutter speed 0.3 seconds, aperture f/2.8, ISO 200.

Although not necessary, here are some additional items to consider having on hand for your night photography:

- **A flashlight:** This will come in handy in a myriad of ways. It will help you with finding your camera controls if you don't know them cold. It will help you set up your tripod and deal with straps and other attachments. Finally, a flashlight will also help you find things in your camera bag. Just keep a small one (or a headlamp) handy.

- **Lens hood:** At night you will have bright lights coming at you from different directions – such as street lights and neon lights. Using a lens hood will help keep flares to a minimum.
- **Extra batteries:** The long exposures you take at night will drain your camera battery at an alarming rate. You may also be using Live View, which drains them even faster. So does cold weather. Therefore, night photography always calls for spare batteries. Don't take any chances here – a dead battery means your night is over.

If you are going to capture the night sky, you'll need to be on top of weather conditions. In addition to your standard weather apps, be sure to add an app to your phone that will help you see where the moon, constellations, and Milky Way (if visible) will be. If you don't already have apps you are using (there are several), I recommend [PhotoPills](#) and [Star Walk 2](#).

Exposures for Night Photography



Pigeon Point Lighthouse, California. Exposure: shutter speed 6 seconds, aperture f/5.6, ISO 1600.

The biggest difference between daytime and night photography is the exposure values you will need to use. The darkness changes everything. Don't worry though, once you have your camera on a tripod, it is actually not that difficult to get the proper exposure in most cases.

Let's back up and cover things that you might already know. Your camera's exposure is a

result of three controls ([the exposure triangle](#)) – shutter speed, aperture, and ISO. Because of the darkness, you need to let more light into the camera, and you can only do so by affecting one of these three controls. We'll cover how to do that for each of them now.



Toledo, Spain – Exposure: shutter speed 8 seconds, aperture f/8, ISO 200.

Shutter Speed

During the day, you will typically use [shutter speeds that are a small fraction](#) of a second. At night, however, the camera will use shutter speeds that are longer than one second – sometimes significantly longer. Think of it this way: because it is dark, the camera needs a longer period of time to gather light for a proper exposure.

The shutter will now be open for a longer period of time, so the camera needs to be held steady or the picture will move during the exposure process, causing your image to be blurry. That is why a tripod is required equipment at night. You can leave the shutter open as long as you want, [as long as the camera is steady](#) and does not move at all.



Millennium Bridge and St. Paul's Cathedral, London – Exposure: shutter speed 4 seconds, aperture f/5.6, ISO 400.

Aperture

The [aperture is the opening in the lens](#) that lets light into the camera. The size of the aperture determines the amount of light being let into the camera for a given shutter speed, and it also affects the depth of field.

For the most part, there is no difference between how you will use the aperture at night versus how you use it during the day. The only difference is that the camera will struggle to get enough light for a proper exposure, so a small aperture will often require ridiculously long shutter speeds. In addition, the background is usually black, so you don't need to worry as much about achieving a wide depth of field.

Both of these factors (needing more light, and not needing a wide depth of field) tend to mitigate toward using larger apertures at night.

meaningful to them that could act as the backdrop of your photo session. From the public library to grandma's famous dahlia garden, to a family friend's lake house, you might be surprised at what they come up with!



When you are shooting a scene like this where everything is far away, you don't need a wide depth of field. Hence you can get away with a larger aperture. New York, New York – Exposure: shutter speed 0.3 seconds, aperture f/4.0, ISO 400.

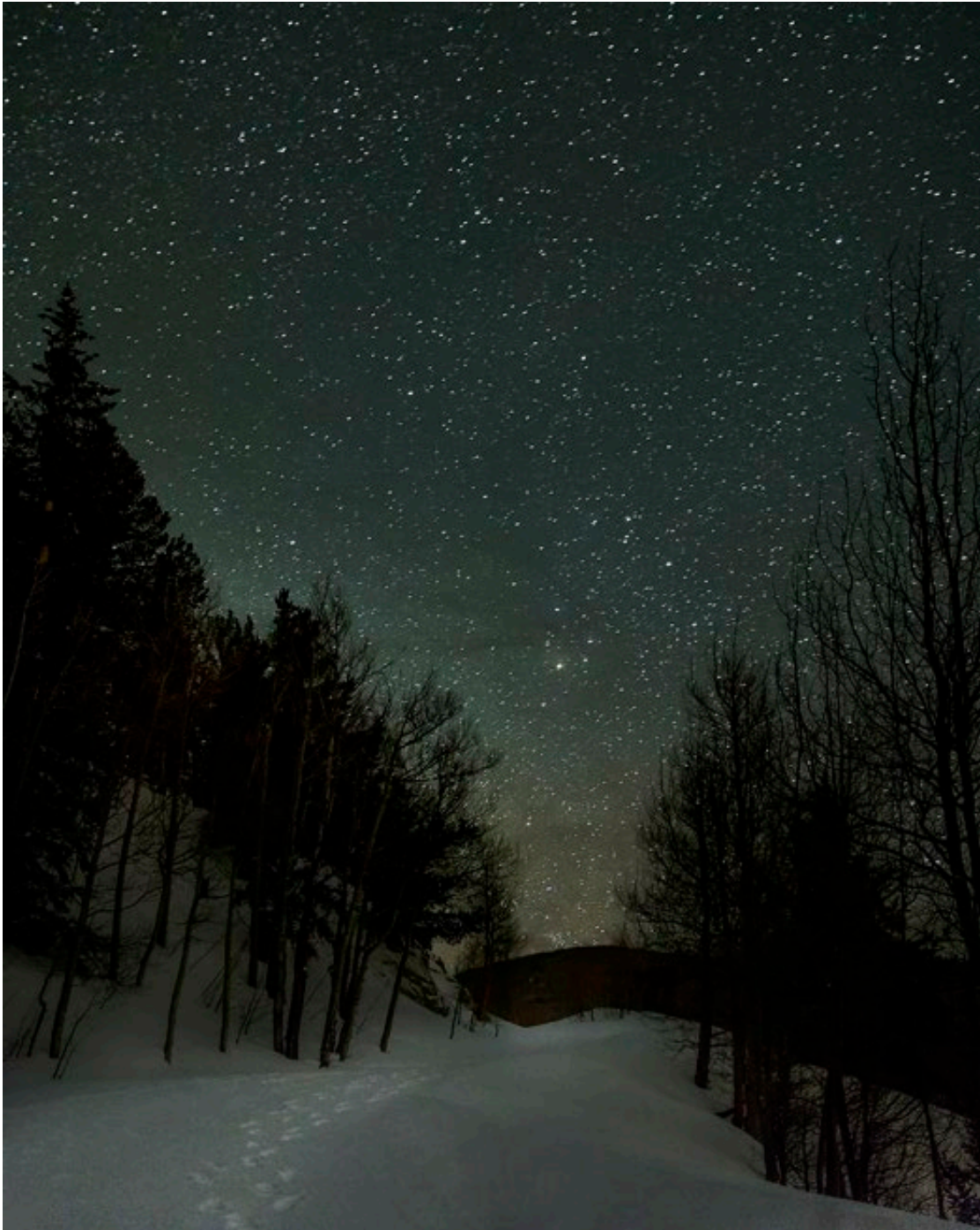
ISO

The third exposure control, [ISO, is a measurement of the sensitivity to light](#) of your digital sensor. Higher ISO values make your digital sensor more sensitive to light and thereby allow you to use a shorter shutter speed or a smaller aperture.

But, there is no free lunch here, and using higher ISOs will result in [more digital noise](#) in your pictures. Since dark areas of your picture tend to show more digital noise than lighter areas, it is often a problem with night photos. Therefore, resist the temptation to crank up the ISO at night if you can help it.

Since you will be using a tripod, you can usually avoid the need to use a high ISO. In other

words, the tripod allows you to use a longer shutter speed, and that long exposure allows more light into the camera such that you don't need to use a high ISO. However, in those cases where you cannot use a tripod or you have a moving subject, you will need to increase the ISO.



I needed the foreground sharp in this image, so these exposure settings are brighter than the typical night sky shot, which you will learn more about shortly. Shutter speed 30 seconds, aperture f/2.8, ISO 3200.

That is certainly bad news, but the silver lining is that cameras are getting better and better at handling higher ISOs without showing much digital noise. In addition, post-processing software continues to improve at noise reduction, so you should be able to [remove the digital noise later](#).

A Starting Point for Proper Exposure

It might seem a little silly for me to even try to give you some night photography default exposure settings, but that is what I'm going to do anyway in an effort to get you started.

Let's say you are in Aperture Priority mode, which is what I find a lot of people use. If you are still using an automatic mode, give Aperture Priority a try, as it is still semi-automatic (meaning the camera will set the shutter speed for you to create a correct exposure), but you get to set the Aperture and ISO.



So, let's talk about the aperture setting first. Start by setting your aperture to $f/5.6$, which is a fairly moderate choice that lets in a healthy amount of light. It won't give you as much depth of field as you might like, but remember that you typically don't need an extremely deep depth of field since the background will be black.

Next, set your ISO. Start at about 400, which is high enough that you won't have to use an extremely long shutter speed. At the same time, most cameras can shoot at ISO 400 without digital noise becoming a problem.

After that, just see where the shutter speed ends up when you line up your shot. I'm assuming you are using a tripod for this example, by the way. You know the shutter speed is going to be long – probably a few seconds. I have tried to keep the other settings such that you won't be standing in one spot for a minute or more while the camera creates the exposure.



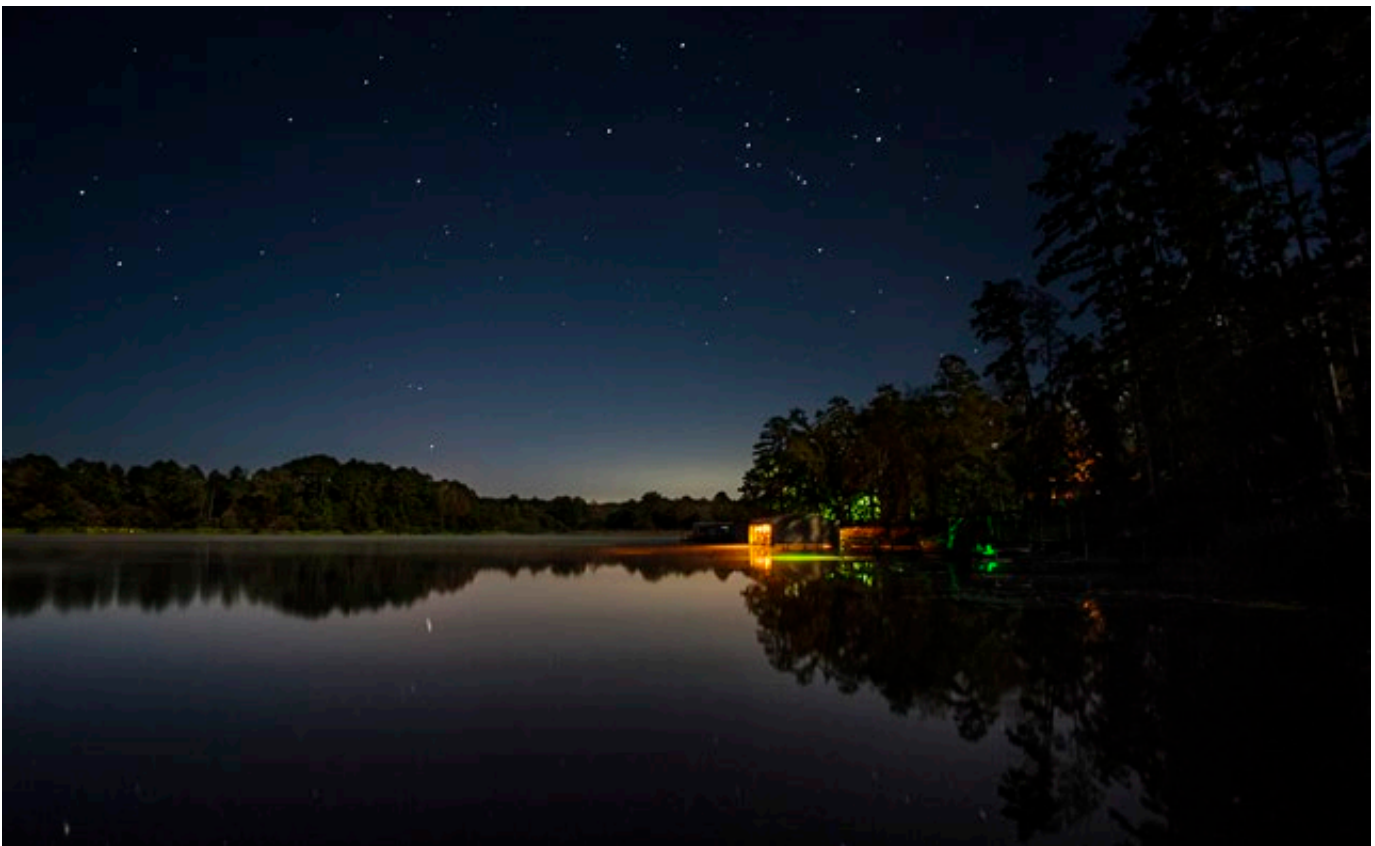
Chicago River – Exposure: shutter speed 30 seconds, aperture $f/13$, ISO 200.

That's not to say you should never do that. Depending on the scene and subject, you might want your shutter speed to be measured in minutes – but it is not the norm.

If you don't have a tripod, your options are limited. In fact, there is only one option, and that is to open up the aperture all the way, crank up the ISO to at least 1600 (probably 3200 or 6400), and then use whatever shutter speed the camera sets.

Even with a wide aperture and high ISO, the shutter speed is likely to be long enough that camera shake will still be an issue.

Exposing the Night Sky Photo



There is one specific exposure setting I can tell you right now because it is often the same. It is the exposure settings for photographing the night sky. Your exposure settings will be:

- Shutter speed: 15 seconds.
- Aperture: f/2.8
- ISO: 6400

This is not set in stone, and you'll notice that my night sky photos add a little exposure to these settings, but it is a good starting point. But what if your lens doesn't open up to $f/2.8$? Then you have to just increase the ISO or the shutter speed by the corresponding amount.

For example, if your lens's maximum aperture is $f/3.5$ – which is the case with many kit lenses – you'll need to find another $2/3$ of a stop of light. Either add that to the ISO, the shutter speed or just increase both by one click (remember one click of your dials is $1/3$ of a stop).



Big Bend National Park, Texas. Okay, the exposure settings don't have to be exactly the same. I wanted this brighter to accentuate the Milky Way. Shutter speed was 13 seconds, aperture $f/2.8$, ISO 6400.

You might be tempted to lengthen your shutter speed a lot on the premise that you are using a tripod. After all, that would seem like a good way to reduce your ISO to control digital noise and also to use a smaller aperture so you don't have such a narrow depth of field. Don't do it!

The stars in the sky are moving (okay, it is really the earth's rotation, but they appear to be moving across the sky). If you lengthen your shutter speed too much, the stars will have little trails which appear as a blur in your shot. You may not see it until you get the pictures home and look at them on the computer screen, but it will be there and will ruin the shot



Big Bend National Park, Texas. Look closely at this picture and you will see little star trails. This was the result of using a longer shutter speed than I mentioned above. Shutter speed 165 seconds, aperture: f/4.0, ISO 1600.

For more in night photography exposure, please read [Tips for Getting Proper Exposure for Night Photography](#).

Picking a Subject for Night Photography



Now that you have the right gear and know how to expose your photos at night, you have to pick a good subject for night photography. For the most part, that is no different than what you do during the day. A good subject is a good subject. Still, things will look different at night.

Let me introduce you to [some of the things I like to photograph at night](#). Hopefully, these will give you some ideas, which you can take in your own directions.

The Night Sky

If you are out in the countryside, you need nothing more than a clear night to get a great photo. Moonless, clear nights are the best. If you can happen to catch the Milky Way (usually possible from March through October, and best from May to September), all the better.

Check out [an app called Star Walk 2](#) to help you get a handle on the timing for these things. If you can add an interesting foreground to the shot, even better.

Museums and Public Buildings



The Louvre, Paris. I was forced to hand-hold this shot (it was taken from inside the Louvre), so I really had to crank the ISO and open up the aperture. Shutter speed 1/8th of a second, aperture f/4.0, ISO 3200.

Well-lit buildings are an obvious choice for a nighttime subject. You almost can't go wrong here. Although the concept is obvious, when executed well the result can still be great. You can also use this as a starting point for your night photography. You will have additional ideas as you stand there waiting for your pictures to expose.

Fountains

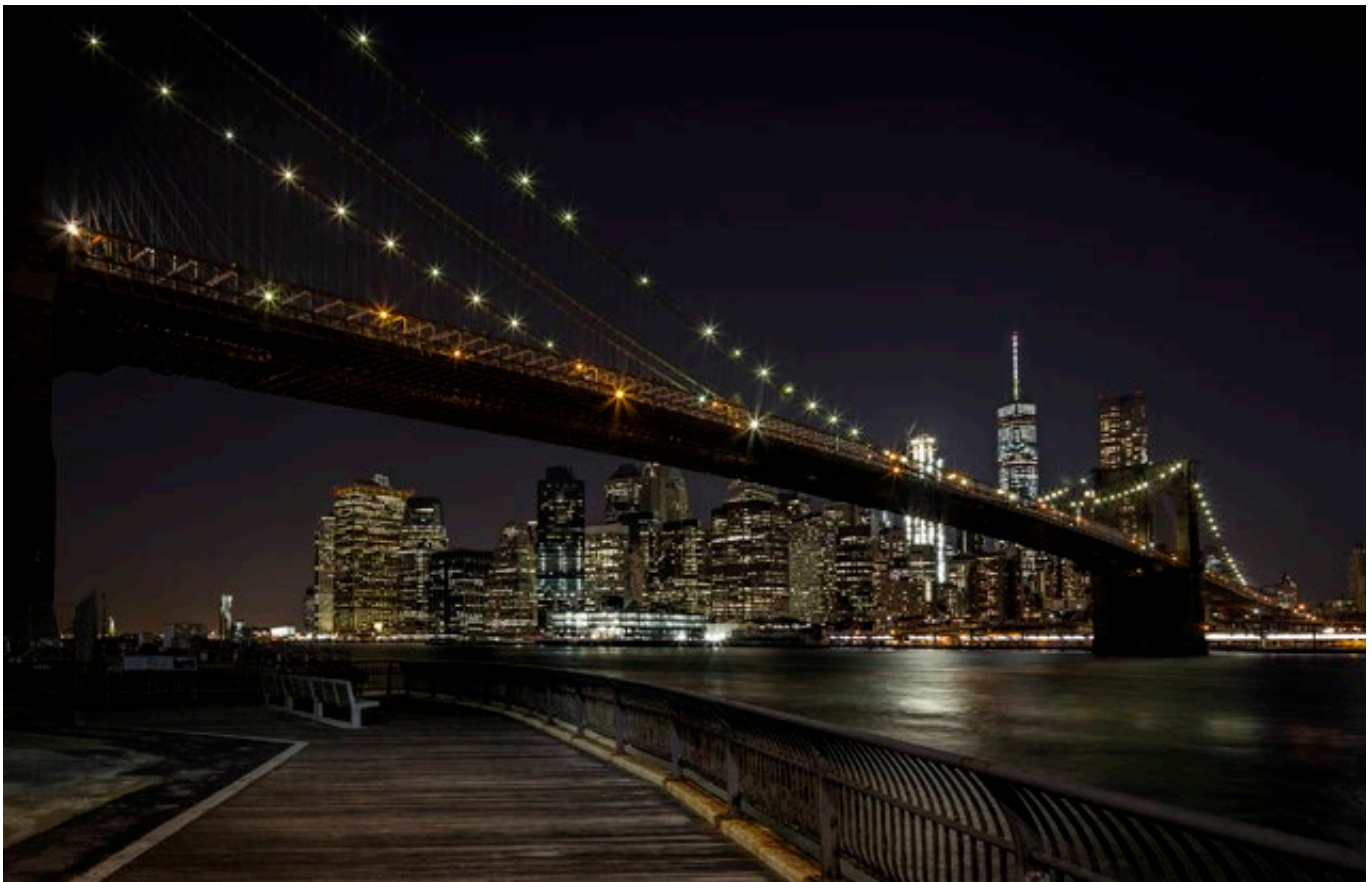


Buckingham Fountain, Chicago – Exposure: shutter speed 10 seconds, aperture f/18, ISO 100.

Perhaps my favorite nighttime subjects are fountains. Many times they are lit with different colors as well, adding additional interest. The long shutter speeds you use at night make the fountain appear to be flowing.

Bridges

It seems like every city or town has a bridge. It may not be the Golden Gate Bridge, but there will likely be a bridge and it will be well lit at night, which makes it an interesting subject. Plus the long exposure time you use for night photography will cause the water under the bridge to blur, and the traffic to appear as streaking lights.



Brooklyn Bridge, New York – Exposure: shutter speed 15 seconds, aperture f/11, ISO 200.

Streetlights

Pay close attention to streetlights when you are doing night photography. They can be useful in a lot of different contexts. They can add a point of interest to an otherwise blank area of the picture. If there are multiple lights, they can create a nice leading line into your picture.



Washington, D.C. For this shot, I wanted the twinkle or starburst effect from the streetlights, so I used a smaller aperture.
Exposure: shutter speed 8 seconds, aperture f/16, ISO 800.

Car Light Trails

A really fun thing to include in your night photos is streaking light trails from moving cars. These are created when a car or other vehicle drives through the frame while you have the shutter open. The camera picks up the lights, but since the car has gone all the way through the frame while you had the shutter open, it shows up in your picture as streaks of lights.

Try to time your pictures so that vehicles move all the way across the frame while you have the shutter open. Read: [How to Create Dynamic Photos of Car Light Trails](#) for more tips on this technique.



Washington, D.C. For this shot, I wanted the twinkle or starburst effect from the streetlights, so I used a smaller aperture.
Exposure: shutter speed 8 seconds, aperture f/16, ISO 800.

Reflections

A benefit of the longer shutter speeds you will be using at night is that reflections show up better on the surfaces of water. This is obviously true on ponds and lakes. But it is also true for puddles. After a rain can be a great time for night photography.



Reflections in London, U.K. – Exposure: shutter speed 1.3 seconds, aperture f/8, ISO 200.

Overlooks and Vistas

Let's end with overlooks and vistas. Some of the best night photography I have ever seen are nighttime views of cities. You can often get great skyline shots. Be careful though – a great view often does not translate into a great picture. Make sure you have an interesting foreground and/or a strong center of interest in the picture.

When picking subjects for night photography, it is important to note that things will not look the same to the camera as they do to you. Take some test shots whenever possible. If the idea of a long exposure test shot seems tedious due to the wait time, crank up the ISO for purposes of your tests which will allow you to use a short shutter speed. When you go to take the final picture you can reduce the ISO and increase the shutter speed by a corresponding amount.

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New York City from the Manhattan Bridge – Exposure: shutter speed 10 seconds, aperture f/8, ISO 200.



Nashville via drone – Exposure: shutter speed ½ a second, aperture f/5.6, ISO 310.

Focusing

One final difficulty you will face in night photography is that it is often tricky to focus your camera. That is because most cameras focus by detecting contrast. If the scene is too dark, there is no contrast for the camera to pick up. There are a few things you can do to get your camera to focus though.



U.S. Capitol, Washington D.C. – Exposure: shutter speed 30 seconds, aperture f/16, ISO 400.

The first is to focus on a bright light in the picture. A streetlight works well for this. Try focusing on the edge of the light (between the bright part and the black background), which will give you the necessary contrast. Be sure you are focusing the same distance away as where you want your final picture to be focused. Once you have the focus set, recompose your picture and press the shutter button to take the picture.

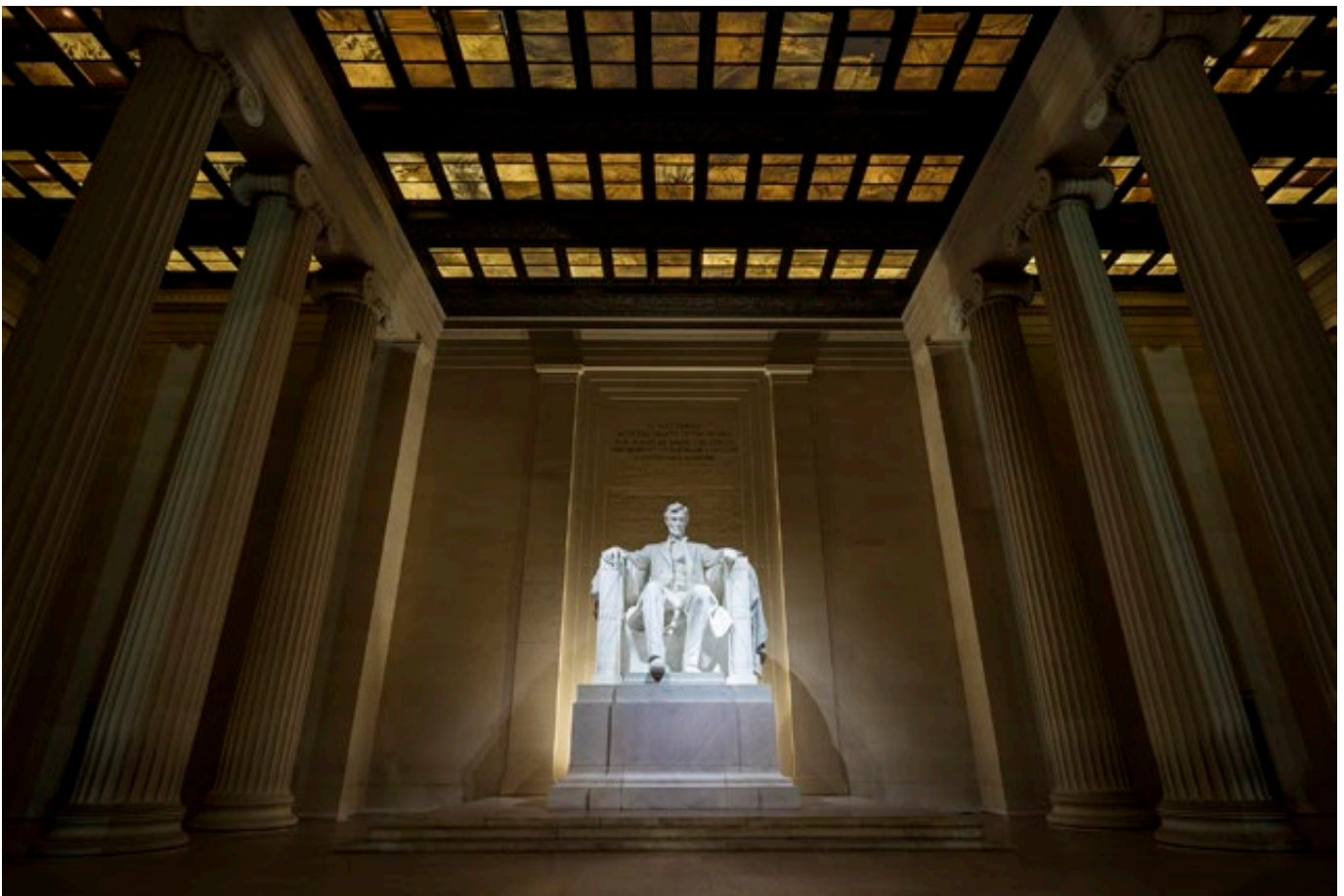
Another trick to allow you to use your autofocus is to break out the flashlight and shine it on the thing that you want your camera to focus on. If it is close enough, the flashlight should provide sufficient light for your camera to focus.

Finally, if none of that works, you will need to manually focus your lens. Just put the camera in [Live View and look at the LCD as you compose the picture](#) (zooming in if possible) to see if your picture is in focus.



Henry Street, New York – Exposure: shutter speed 1/13th second, aperture f/5.6, ISO 3200.

Processing Your Night Photos



Lincoln Memorial, Washington, D.C. Another benefit of night photography is that you get to take pictures of memorials without any people in your shot. Exposure: shutter speed 6 seconds, aperture f/11, ISO 200.

You can make your night photos look a lot better with a minor amount of post-processing. Of course, given all the different types of night shots you may face, giving specific editing advice here is difficult. Still, there are a few general things you might want to consider.

Highlights

The first thing to consider is how to handle the highlights. Given the nature of night photography, you are doing to be dealing with some really dark areas, and some really bright areas. Many times those highlights will be slightly blown out. Even if they aren't completely blown out, they are still bright enough that they would look better toned down a bit.



Westminster Bridge, London. Here I used a 5-second exposure to capture the lights of the bus passing by. Shutter speed 5 seconds, aperture f/8, ISO 200.

It wasn't too long ago that this might have required using [HDR \(high dynamic range\) software](#), but not anymore. Most RAW editors can bring back the highlights a bit (assuming you've shot in RAW format).

If you use Lightroom or Photoshop (Adobe Camera Raw or ACR), all you need to do is find the Highlights slider and pull it to the left a bit. That will decrease those highlights. As an added benefit, it will often make those same highlights appear a bit more colorful.

Shadows and Blacks

Now you have to deal with the dark areas of your photo. There will be parts you want to brighten, but at the same time, you should allow the darkest parts of the photo to go pure black. There is no point in attempting to preserve detail in a black sky.

To accomplish both of these goals, I have another quick move for you. Pull up on the Shadows slider, and then pull down on the Blacks slider. Areas of detail you want brighter will benefit from the increase in the Shadows, but you will maintain contrast by pushing down the Blacks.



Salt Lake City, Utah. In this shot, I needed a wide depth of field to keep both the fountain in the foreground and the Tabernacle building in the background sharp. I used a long exposure, which also created a flowing effect to the water, but I still had to raise the ISO a bit. Shutter speed 6 seconds, aperture f/16, ISO 400.

Sharpening

Sharpen your night photos the same as you would any others, but you will likely need to deal with digital noise more than you are used to. If the whole picture is noisy, then give it a global noise reduction. In Lightroom and ACR, there is a [Noise Reduction section in the Detail panel](#), and you just pull up on the Luminance slider to the right.

You might just need to reduce noise in specific sections of your photo though. Noise often manifests itself in the darkest areas of your image. In that case, apply a local adjustment. If you are using Lightroom or ACR, use the Adjustment Brush, paint where you want the noise decreased, and increase the Noise slider. That should take care of it.



The Golden Gate Bridge from the Sausalito side – Exposure: shutter speed 30 seconds, aperture f/6.3, ISO 200.

You have to watch noise reduction though. Applying too much of it will reduce detail in your photo. That's why you don't want to apply a global adjustment if you don't have to. If you have a serious noise problem and want to fix it without sacrificing detail, there are some plug-ins that are truly wonderful. I use Noiseware and I am often shocked at what a good job it does of reducing noise but preserving detail. Other good products are Noise Ninja and Dfine by Nik.

Read more on noise reduction in my article here: [Good, Better, and Best Noise Reduction Techniques](#)

Getting Started with Night Photography

Night photography is a great way to get really interesting and unusual pictures. It is also a great time to go shoot since it is not during business hours (you'll be off work) and others will be asleep (notably spouses and children).



Hopefully, this guide will help you get started with night photography. As you get ready for your next outing, just remember a few things:

- The only additional items that are necessary for night photography are a tripod and remote shutter release. Some other helpful items are a flashlight, a lens hood, and an extra battery.
- For exposure, start with moderate ISO (around 400) and aperture (around f/5.6-8) and see where that puts your shutter speed. Adjust from there with an eye toward getting the shutter speed (exposure time) you want.
- Pick a subject that lends itself to night photography. Remember that things look very different at night, so take some test shots.
- Focus your camera by finding or creating areas of contrast and setting the autofocus on those areas. When necessary, switch to manual focus.
- When you get home, edit your images as you wish, but you might try decreasing the Highlights, increasing the Shadows, and pulling down the Blacks slightly.

If you have these things straight, you should end up with some impressive night photos. Good luck!



About the author

[Jim Hamel](#) shows aspiring photographers simple, practical steps for improving their photos. Check out his free photography guides and photography tutorials at [Outdoor Photo Academy](#). The free tips, explanations, and video tutorials he provides are sure to take your photography to the next level. In addition, check out his book [Getting Started with Photography](#).



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