LENSPIRATION
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Behind The Shot 5

Step By Step: How To Focus In The Dark

Watch the video online at: www.lenspiration.com/focus-dark

Have you ever had trouble focusing in the dark?

When taking photos at night, focusing correctly can be hard to do. It might seem reasonable that the first thing to do would be to switch to MF on your lens and spin the focus ring to the Infinity mark. Sometimes this does work. But what happens if your lens doesn't have an Infinity mark? You may think that spinning the focus ring, then, out toward infinity until it stops would be focused at infinity. But this isn't true. The focus ring is now actually focused "beyond infinity" and your photo will turn out very blurry.

So, in context of night photography, if you're trying to shoot the stars, I would recommend these 9 steps to focusing in the dark:

1. Switch Image Stabilizer (Vibration Reduction for Nikon) off on the lens
2. Switch to AF (Auto Focus) on the lens
3. Change the AF Area Mode to Single Point

Continued on page 11

INSIDE

What's New In SHOOT TO SERVE

View the current Shoot to Serve opportunity at www.lenspiration.com/shoottoserve

One of the many photos submitted for the "Storm Clouds" opportunity has been chosen! View which image IBLP chose at www.lenspiration.com/opportunity-storm-clouds-september-14-20

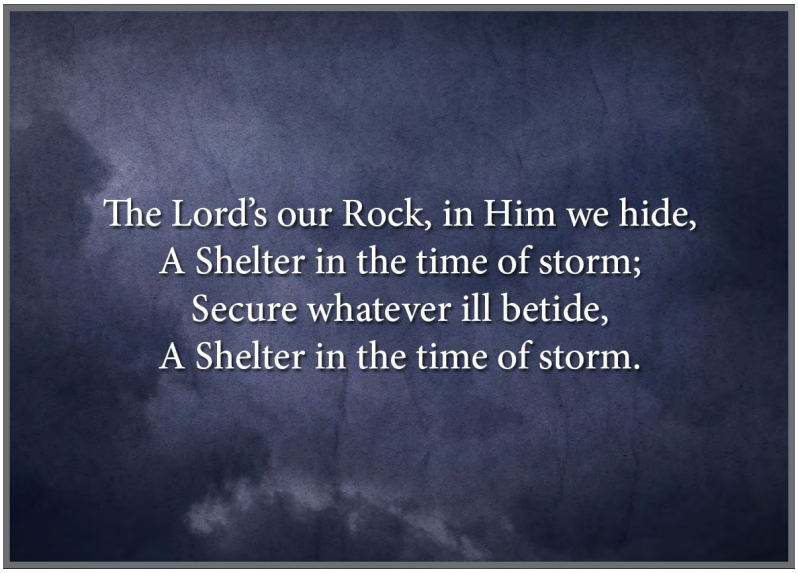


Photo by Caitlin Compton

Two longer assignments are now available:

"Woman Worshiping God" has a deadline of November 12 and lots of good brainstorming has already begun happening over at www.lenspiration.com/opportunity-woman-praising-god-september-28-november-12

"Old Schoolhouses" is now open again too, with an emphasis on photographing schoolhouses surrounded by fall foliage. It's paying $10-$50/chosen submission, and has a deadline is November 21. Learn more at www.lenspiraiton.com/ongoing-opportunity-old-schoolhouses ◆

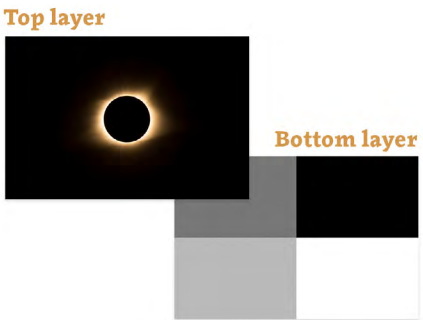
How the "Lighten" Blend Mode works in Photoshop
And the amazing things it can do for you!

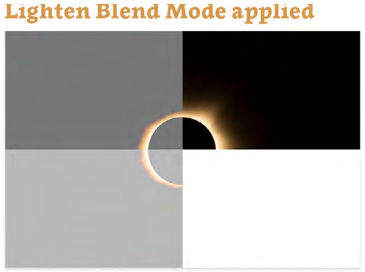
Watch the video online at www.lenspiration.com/lighten-blend-mode

Are you familiar with the Lighten Blend Mode in Photoshop? Are you familiar with how it works? Lighten Blend Mode is a tool that I personally have found very helpful to use when creating photo collages and stacking photos. In this article, I want to present to you how to effectively use this amazing tool.

How It Works

Lighten Blend Mode is used for merging multiple layers of photos. Let's say we have two layers, one on top of the other. When you select the top layer and set it to "Lighten", any pixels on the top layer that are lighter than the pixels on the layers below, then those pixels will remain visible. Basically, all the dark pixels on the top layer will disappear. Like this:





Only the lighter pixels from top layer are visible; all the darker pixels have disappeared.

Notice how the lighter pixels (the ring of fire) in the top layer are the only pixels that are visible when the Lighten Blend Mode is applied? When the Lighten Blend Mode is applied, lighter pixels triumph. Darker pixels disappear.

Here's another example. The top layer is the same, but I am using a different bottom layer this time:

Only the lighter pixels from top layer are visible; all the darker pixels have disappeared.

Just like before, when Lighten Blend Mode is applied to the top layer, lighter pixels triumph. All the darker pixels disappear, and only the pixels that are lighter than the bottom layer are visible.

What It Can Do For You

Lighten Blend Mode makes stacking star trail photos super easy.

After you've shot a series of 100 or so 30-second exposures of the night sky on a tripod, here's how I would merge them together using Lightroom and Photoshop:

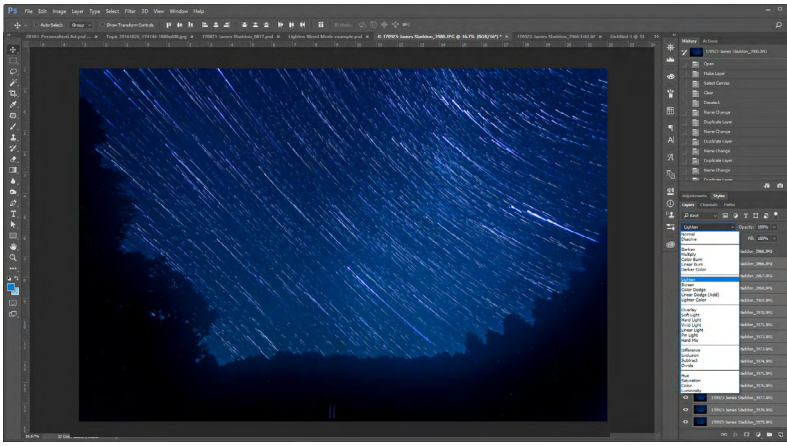
1. Import the photos into Lightroom
2. Edit the first shot to perfection
3. Synchronize the edits across all the photos
4. Select all the pictures, right click on one of them and choose "Open as Layers in Photoshop"
5. Once they are all finished opening in Photoshop, select all the layers except for the bottom one
6. Set the Blend Mode to Lighten

And voila! Your star trail photo will appear before your very eyes!

Forgive the incredibly ugly example below. It was frankly my first try at shooting star trails using the stacking method.

Stacking star trails is only one application of many unique things you can do with the Lighten Blend Modes. Now that you know how it works, have fun with the endless creative possibilities, and share them with us on the Lighten Blending Mode topic at www.lenspiration.com/star-trails! ◆

This article was taken from Photography Q&A webinar #20. Watch the entire webinar online at www.lenspiration.com/webinar091617



I am not able to fully pursue photography and cinematography as much as I desire to, but it's always fun to learn different techniques and aspects of the field! Thank you so much for all the [Lenspiration material] I've been able to download and check out as I have the time.

—Megan

EXPLORE:
Big Badlands Overlook, SD

View this pin on the Scouting Guide at www.lenspiration.com/map

GPS: 43.785899, -101.901901
Rating: 4 of 5 stars

Description: Fascinating rock formations and colors offer unique photo opportunities.

Accessibility: Easy access just a few miles off I-90. A well maintained 30-mile paved road loops through the park. Great photo opportunities abound near easily accessible overlooks. I had good cell phone service throughout the park with AT&T.

Surroundings: The main attraction of the park is the geological formations of layered rock. There are also areas of prairie land. Expect to see plenty of people but not excessive crowds. In addition to the fascinating geological formations, there are opportunities to photograph wildlife including Bighorn Sheep and Bison.

Time of Day: Sunrise and sunset are excellent times as the sun casts it's golden light and brings out the varied colors of the layered rock formations.

Time of Year: Any time of year has potential. In late Spring and early Summer the surrounding prairies are lush with wildflowers and with more thunderstorms, the potential for dramatic skies and dynamic sunsets is greatest at this time of year.

Pros: Great scenery that is unique and easily accessible.

Cons: There really are none unless it's the fact that there are so many great locations that it's hard to decide where to spend your time!

Restrictions: There is a $20 per vehicle fee to enter the park.

Other Notes: https://www.nps.gov/badl/index.htm, https://luminous-landscape.com/badlands-national-park-a-quick-guide-to-photography/

Scouted By: Dan Cope

Submit Your Own Location Here!

Behind The Shot: Handiwork of God

By James Staddon

It was surprisingly warm for a late-September evening as I lay there gazing up at the stars. My brother and I had dragged out our cots and sleeping bags onto the driveway, and oh! it was worth the effort just to be able to gaze up into that incredibly clear sky! There wasn't a cloud to be seen, there was no mist in the valley around us, and the milky way brandished the sky in a swath of bewildering clarity.

According to my Light Pollution app, we were still 4 zones away from "complete" darkness, but just knowing that the skies over West Virginia boast some of the darkest you'll find in the eastern United States made it feel like the stars were brighter than ever!

"I meditate on all Thy works; I muse on the work of Thy hands." Psalm 143:5b

The stars. The heavens. Are they not marvels worth musing on?

Don't forget to stop and meditate on the many wonderful works of our Creator the next time you step outside on a clear, starlit night!

Going Deeper

I experimented a lot with photographing the stars that night. Up to that point, there were a lot of questions swirling around in my mind about basic astrophotography, and it had always been hit and miss for me. I never knew if my night shots were actually going to turn out.

But I'm learning. And the experiments I made that night (based on applying the information I had studied in this article), has helped me connect the dots to the point where I am now confident and much more excited about shooting at night.

As I see it, here are the **10 steps behind a successful astrophotography shoot.** Please feel free to comment at the end to add what you know that I don't!

1. Plan the right time

- **The days leading up to a new moon.** While the moon is waning, you might have some completely dark skies in the late evening after sunset and before the moon rises.
- **The new moon.** The stars are brightest when there is no moon in the sky or on the horizon. I use The Phases of the Moon ap to help me know exactly which day the next new moon will be.
- **The days after the new moon.** While the moon is waxing, you might have some completely dark skies in the early morning before sunrise and after the moon sets. This is a little more inconvenient since it's easier to stay up late than it is to get up early. :)
- **Cloud cover.** Check the weather to make sure you'll have at least *some* visible sky!
- **Dew point.** I don't understand all this yet, but I know from experience that I can't take long exposures and expect the image to turn out sharp if my lens is all fogged over with dew. A night with no fog and no dew is going to be ideal. How to know that remains a mystery with me at the moment.

2. Plan the right location

- **Zones of darkness.** I use the Light Pollution Map ap to help me figure out exactly where the darkest skies will be near where I want to take my photos. For *Handiwork of God* I was in the Light Green zone. The milky way is not always visible, but it is visible for sure on nice clear nights.

- **Make sure you're legal.** Most parks close at dusk. I've been cited for being in a park after dark and I don't ever want it to happen again. If camping is allowed in a park, then you probably have to pay for a campsite in order to spend the night. Even in cemetaries it's best not to stay after dark, especially if it's posted. Go places where you *know* you have permission to be late at night.
- **Consider the foreground.** Consider what you want to use in your foreground: a mountain, valley, a building or a tree? You'll want to plan that out beforehand if you can. After one or two nights of just blank sky, you'll want something to add more interest to your night sky photos.

3. Prepare for the shoot

- **Batteries.** Are they all charged up?
- **Memory cards.** Are they all clear?
- **Lenses.** First, choose the lens that has the widest aperture possible. I can't stress this enough. The wider the aperture the higher the quality photos you'll be able to shoot. Second, you'll probably want to go as wide angle as possible. My 50mm f/1.8 is going to get me higher quality shots than my 17mm f/4.0, of course, but the 50mm isn't going to let me include a vast swath of sky like the 17mm. You'll be able to weigh the pros and cons more accurately after you've been out in the field doing this a few times.
- **Photography-related items.** The most important things you'll need is your camera, a lens and a tripod. I suggest you also pack in a remote shutter release.
- **Non-photography-related items.** Don't forget to pack up a headlamp, jacket, something to sit on, water, some snacks....do you get hungry at night too? :)

4. Set up the camera

- **Arrive early.** I haven't ever actually done this on any of my astrophotography shoots simply because I tend to be late for everything! But I bet it would be really helpful in getting a better vantage point and setting up better compositions if I arrived before dark.

CRITIQUE HIGHLIGHTS: Barn Reflection

Watch the full critique online at www.lenspiration.com/webinar92617

Photo by @hannah

- ☐ Beautiful location for a photograph!
- ☐ Calculate and focus at the hyperfocal distance to potentially bring your aperture lower for a lower ISO, resulting in a higher quality image while still being tack sharp.
- ☐ Reposition so that the barn reflection is unobstructed.
- ☐ Each element in the scene is interesting (the geese, the lake, the barn, the sky, and even the three on the right as a framing element), but they need to fill the frame and fit together better like a puzzle. Do this by stepping in closer or zooming in and intentionally placing each element. ◆

- **Find Polaris.** If you're in the northern hemisphere, this is the star that many stars will appear to be spinning around. It's helpful for composing a shot if you're going to be doing star trails (which I'll talk about a little later).
- **General camera settings:**
  - I suggest setting the **Image Quality** to RAW for single shots. (Later on, for compositing star trails, I will recommend JPG.)
  - If you don't want to deal with RAW, then JPG is fine. Just make sure to turn on **High ISO Noise Reduction.**
  - If you shoot JPG, make sure to turn on **Long Exposure Noise Reduction** too. (Later on, for compositing star trails, I will recommend you turn this off.)
  - Set your **Metering Mode** to Evaluative.
  - Set **White Balance** to "K" (Kelvin), and choose the lowest number possible (like 2500). If you don't have "K" as an option, then just set it to "Tungsten."
  - Set your **Autofocus modes or AF points** to whatever settings allow you to use a single point to focus dead center in the frame.
  - If the lens has **Image Stabilizer**, switch it off.
- **Stabilize the camera.** Using a tripod is always easiest. It allows me to set up a shot exactly how I want it, and still keep that composition even if I want to take the camera off the tripod to examine it closer, or show it to other people, or replace the battery or whatever.
- **Compose the shot.** Turn off the camera, take off the lens cap, point the camera up toward the sky and take a look through the viewfinder. Even in the darkness of a starry night, you should be able to make out the edges of the frame against the sky well enough to get your camera pointed in the general direction for a pleasing composition. We'll tweak the composition to perfection here in a minute.

5. Focus in the dark

If you have read the main article in this Report, you should already know how to focus in the dark! Read How to Focus in the Dark on page 1.

6. Create a Test Exposure

1. Plug in the **remote shutter release.**
2. Set the **mode dial** to Full Manual (M).
3. Set **shutter speed** to 1″ (one second).
4. Set **aperture** to as wide as possible (the lowest number possible).

TREND WATCH

The Inside scoop on what's popular today in stock photography!

Buyers are currently looking for lifestyle images that break idealized minorities, especially among women, and instead highlight self acceptance and authentic, positive personality of plus size individuals and people of varied, non-stereotype body types.

5. Set **ISO** to 6400.
6. Take a picture. I don't know what the result will be on your camera. It will all depend on how wide your aperture is able to go. Most likely, your shot will be very dark.
7. Adjust the ISO higher or lower until you get a **properly exposed image.** At night, what is properly exposed is relative. It will probably be around -1 or -2 on the Exposure Compensation Indicator.

You have just created a *Test Exposure*. Regardless of what ISO you are using, the Test Exposure should be the **same brightness** that you want your *Final Exposure* to be.

At shutter speed 1″, it won't take long to take a few more shots to **tweak your composition** and get things framed up exactly how you want your Final Exposure to be.

This would also be a good time to **check your focus** to make sure the image is sharp. ISO grain levels are going to be very high, thus making your picture not look tack sharp, but you should be able to get a feel for whether or not your shot is *out of focus*.

This was my first shot, before adjusting the ISO to get a properly exposed Test Exposure:

This is my properly exposed Test Exposure:

7. Calculate a Final Exposure (if you understand this step, the rest is easy!)

The high ISO is to blame for the lack of sharpness, discoloration, and lack of quality you see in your properly exposed Test Exposure.

To increase the quality of your shot, you will need to reduce ISO to a much lower number. Like 200, or even lower if possible.

Problem is, image quality is not the only thing that changes when you change the ISO. **ISO is directly linked to light sensitivity.** So if you decrease ISO without compensating for it in some way, than the result is simply a darker picture. As you make the picture darker by decreasing the ISO, you'll need to make the picture brighter again by letting in more light with the aperture or the shutter speed.

It's like a balancing act.

Now, can I balance out the decrease of brightness (from the ISO) by letting more light in through the aperture? Try it.

No. Why? because you have already set the aperture to as wide as possible already. It can't get any wider. It can't let more light in than it already is.

Can I balance out the decrease in brightness (from the ISO) by letting more light in using the shutter speed? Try it.

Yes, you can! Why? because the camera allows you to take pictures with a shutter speed of slower than 1″.

"This is why they created these things called 'stops' of light."

So, as we change the ISO to make the picture darker (and correspondingly, higher in quality too!), we can change the shutter speed to make the picture lighter again, bringing the picture back to its proper brightness.

We've simply conducted the balancing act.

Now, there's another problem.

How do we know *how much* ISO is equal to *how much shutter speed?*

Decreasing ISO from 6400 to 200 (to make the picture higher in quality) results in making the picture darker, yes, but how much do I need to increase the *shutter speed* to balance it out evenly?

This is why they created these things called **"stops" of light.** A "stop" measures the increase or decrease in the amount of available light.

If I *decrease* ISO by 1 stop, then *increasing* the shutter speed by 1 stop will balance it out. It follows, now, that if I *decrease* ISO by 2, or 3 or 4 stops, then all you have to do to balance it out is to *increase* the shutter speed by 2 or 3 or 4 stops!

So, how much exactly is "1 stop"?

A "stop" is a doubling or a halving of the amount of light.

So, applied to ISO, what is half of 6400? Make a guess.

3200, right? Changing ISO from 6400 to 3200 halves the amount of light, and is thus 1 stop.

For shutter speed, what is double of 1″? Guess.

2″, right? Changing shutter speed from 1″ to 2″ doubles the amount of light and is thus 1 stop.

So, if our Test Exposure was the proper brightness at ISO 6400, shutter speed 1″, then would it be the same proper brightness if I used ISO 3200, shutter speed 2″?

Yes. I've simply conducted the balancing act.

Now, one more thing. ISO 3200 is still not very high quality. I want to get it down to 200, right? or lower if possible.

So let's continue the balancing act: ISO 3200 is 4 stops away from ISO 200. And a shutter speed of 2″ is 4 stops away from 30″. So now I'm shooting this photo using ISO 200, shutter speed 30″, and while the **brightness of the shot is exactly the same as it was before, the quality is much higher!**

I have conducted the balancing act. I have calculated the high-quality version of the Test Exposure, and I just like to call it the **Final Exposure.**

This is my unedited Final Exposure, as high quality as I could get the ISO before maxing out the shutter speed at 30″.

Almost there....only three more steps to go! But since this article was so long, I couldn't fit it in this Report! Finish reading this article online at www.lenspiration.com/bts-handiwork-god ◆

Foundations Course

Section 3 of 5

How the Camera Controls **Affect Your Photos**

If you've gone through the first 2 sections of this course and now know the basic camera controls, than we can start focusing on the *results* that those controls have on your photos. They all work together to influence exposure, depth of field, image sharpness, image quality and many other things we'll talk about in this lesson!

This is where photography really gets fun! Check out the 6 lessons in Section 3 of the Foundations of Photography Course at www.lenspiration.com/modules/3-how-the-controls-affect-your-photos.

PRO members receive 50% off automatically!
Simply go to http://www.lenspiration.com/foundations and click Get Started Now!

Continued from page 1

4. Set the Single Focus Point to dead center
5. Frame up a shot so you can determine the focal length you'll be shooting at
6. Point the camera to a light source that's as far away as possible (such as a bright star, the moon, the edge of the horizon, distant street lights) and try to focus on it
7. If the focus "latches on" to something, that's great! Now switch to MF (Manual Focus) on the lens
8. As long as you don't bump the focus ring, your camera will stay focused
9. Shoot a test shot to make sure that your photo is actually in focus

If you are having trouble focusing on anything in step 6 above, then try focusing manually instead:

1. Switch off Image Stabilizer (like before)
2. Switch the lens to MF
3. Frame up a shot to determine a focal length (like before)
4. Point the camera toward the lightest thing that's farthest away from you
5. At this point (if your camera doesn't have an Infinity mark) it's fairly hit and miss; here are a few things to try:

- It's worth a try to see if Live View, zoomed in to 10x over the bright area, will allow you to see enough light to adjust the focus ring until the frame appears to be in focus
- Try turning off the camera (so there will be no lights glowing in the viewfinder) and try manually focusing while looking through the viewfinder
- Try using a powerful flashlight or laser pointer to illuminate a distant object so you can manually focus on it

6. Take a test shot, see if it's in focus or not, adjust the focus ring, take another test shot, and so on until your picture is sharp
7. Don't bump your focus ring!!

Manually focusing is a whole lot more difficult, but it may be the only option you have on a dark, starry night away from city lights.

If all else fails, you can always experiment while it's light, focusing on "infinity" (the far distant horizon) at various focal lengths, and marking your focus ring to come up with your own Infinity mark. I've never had need to do this, but I wonder if it would really work.

Next time you're out shooting in the dark, let me know if any of these tips were helpful or if you have any other creative ideas to add! Leave a comment at www.lenspiration.com/focusing-in-the-dark ◆

This article was taken from Photography Q&A webinar #20. Watch the entire webinar online at www.lenspiration.com/webinar091617

More from the webinar!

Stock Photography Q&A

Learn why I sell my pictures through Adobe Stock, my suggestions on how to find out what's trending in stock photography, and some thoughts on when to submit new photos for stock and what restrictions you need to abide by! Watch the video at www.lenspiration.com/stock-series

A Precise Explanation of Exposure Compensation

Sometimes it takes looking at a concept from multiple perspectives before you can confidently understand it....perhaps this more technical explanation of Exposure Compensation will be what you need to finally grasp this integral aspect of modern-day digital photography. Watch the video now at www.lenspiration.com/exposure-compensation

Where I'm Learning And Growing

I hope these articles and tutorials are as helpful for you as they were for me during my regular, recent research on the web:

1. Guide to Image Sharpening by Cambridge in Colour — Sharpening is such an integral part of photo editing. This article does a great job starting from the beginning and drawing conclusions that you can implement on a regular basis.

2. Star Trail Photography by Australian Geographic — Much of what I published in this PRO Report was inspired when putting into practice what I read in this article.

3. I Shot a Hurricane Irma Photo That Went Viral, and I Wasn't Paid a Dime by PetaPixel — I thought this article was very interesting. Lots to be learned from this, especially for beginning or amature photographers.

Keep Making The Most Of PRO!

You are working hard to become a better photographer. It'll be worth it, one of these days! All the little baby steps you've taken in the last month (watching Lenspiration training videos, shooting for Shoot to Serve assignments, taking note of tips from the Photo Critique webinar, and browsing around all the other Lenspiration PRO features) they all equate to one, big, giant step forward toward professionalism. It may not feel like you've grown much, but think back to before you joined PRO. You are moving forward!

And thankfully, photography is such a vast topic that there's so much more to move forward into! Take some time to check out the latest Shoot to Serve opportunities to get an idea of what on the plate for next month!

And of course, don't forget to slow down sometimes and just enjoy taking pictures. :)

View the next assignment

lenspiration.com/shoottoserve

Browse your PRO perks

lenspiration.com/promember