

## The Moon, the Mist and *Look at this!* *An expert's advice on Cumberland Falls Moonbow photography*

By Charlie Baglan

Kentucky is blessed with photo opportunities including one that shines at night - the Cumberland Fall Moonbow.

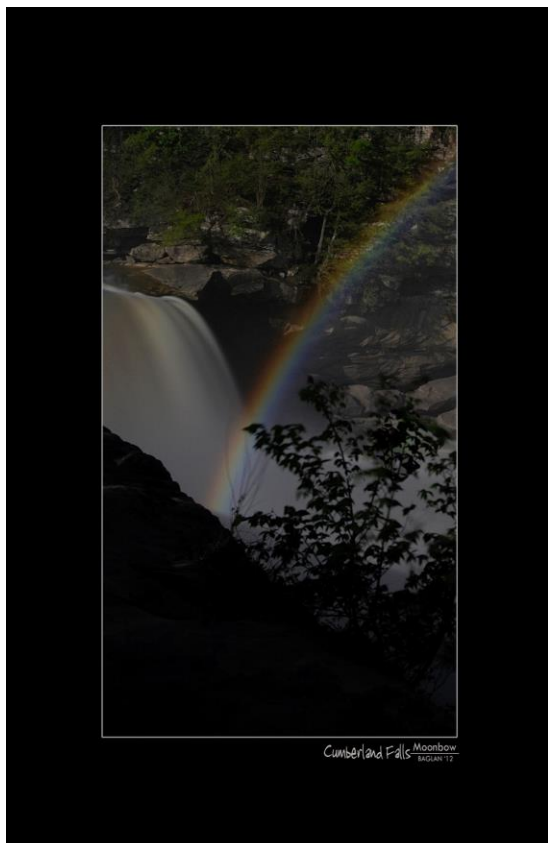
Each year, thousands visit Cumberland Falls State Resort Park to observe what is nicknamed the *Niagara of the South*, but few plan their day so they can stay to see another dazzling attraction. Those who do, hardly believe their eyes. Of course, cell phones are in-hand with cameras clicking and flashes blazing. But it's a good thing it's dark to hide the disappointment from the lousy pics. Photographing the glow of the moonbow is tricky. If you follow a few steps, however, with the proper equipment, this rainbow at night can be suitable for framing.

First, understand exactly what you are shooting and what can interfere. The moonbow is moonlight refracted in the mist of the falls. You're not shooting an object like at a birthday cake, you're shooting light similar to rays of sun through morning trees. Better still, think of a movie screen in a dark theater. The moon is the projector and the mist is the screen. When lights come on, it dulls the whole experience. So, to properly capture this image, we use natural light.

Cumberland Falls is the only place you can see a moonbow in North America with predictable monthly regularity. As for some of the other picturesque falls in the country, light pollution from streetlamps and city lights often obliterates any bow that would otherwise appear.

A full moon is best, but it is also viewable a couple of nights on either side of the full moon. It helps to watch the forecast for the clearest night when the moon is full. You can check with the park desk for optimal viewing times or find them [online](#). Because the moon follows an elliptical orbit around Earth, viewing times will vary night to night, but with a clear sky, there is usually a 2-hour viewing window.

The first observation overlook just down from the gift shop, is the only place the moonbow is visible. It's not seen downstream, not from area trails, not from a kayak on the river nor from the opposite bank. Your eyes, the mist and the moonlight must all align. While at the overlook, do others a



favor by keeping lights off. Smartphone and tablet screens, camera flashes, flashlights, lasers, camp lanterns and any other stray light ruin the view for everyone – as well as the photo someone may be in the midst of taking. Once your eyes “dark adapt” you’ll realize how darkness makes the show.

So let’s shoot.

What appears as a ghostly arch of white light beginning at the base of the falls and trailing downstream in the spray is actually alive with colors – (Yes. I said, “colors.”) You’ll want to shoot with a digital single lens reflex camera (DSLR). These are the higher-end cameras with interchangeable lenses and variable settings. Some of the newer point-and-shoot models may suffice IF they provide long shutter speeds. Determine its capabilities at home before you leave. Because the exposure is prolonged – perhaps 45 seconds or more – your camera MUST be on a sturdy tripod.

## SETTINGS

Cats and owls see well at night but not you and me. We cannot finely discern differences of the moon’s radiance from night to night, but cameras can. Thus, exposure settings will vary with the clarity of the sky, the amount of mist generated in the plunge basin of the falls and fullness of the moon. Therefore, we must rely on some trial and error with our camera settings. A good place to start is:

- ISO: 400
- Aperture: f-8
- Shutter speed: 45 seconds - timed manually using the Bulb setting in manual mode.
- Focal length: Infinity
- Format: RAW or at least large/fine jpeg.

Unless your camera has options for these lengthy shutter speeds, the likelihood is that you will need to hold the shutter open manually (with a cable release) as you watch a timer. Some cameras have a time counter on the back screen, others do not. You may rely on your watch or timer on your phone (with the screen dimmed to a low setting) – but do not shine a flashlight on your watch. It will ruin the shot. You can always count to yourself. Another option is using the camera’s timer for self-portraits to initiate the shutter.

Anything that moves will blur. The flowing water will appear as cotton, rustling leaves on trees will soften, but they are offset by the tack-sharp boulders on the hillside and the vivid colors of the bow.

Don't be in a hurry. The processing time for the camera to render the photo is generally equal to the shutter speed. Thus, a 45-second exposure equals an additional 45-seconds to show on your viewing screen. In other words, a full minute and a half from start to finish. So, when the camera doesn't immediately reveal the shot, nothing's wrong. Don't turn the camera off while it's processing. Be patient.



Adjust from there for under or overexposure. Typically, shortening or lengthening the shutter speed in increments of 10 seconds will land you on a properly exposed photo. The more comfortable you are with your camera, the more tedious adjustments you can make. I've found by maintaining a constant 400 ISO (how sensitive the camera is to light) will reduce noise artifacts in the exposure. Also, by keeping the f-8 constant allows for a bit of added sharpness and depth-of-field to help colors and rocks in the background pop.

After you hit on the correct exposure, that feeling is like no other. You will be stunned at what you see. While a white arch appears before you in the night air, your camera reveals colors of a rainbow, shadows in the rocks and a blue sky depending on your picture area. It's not a trick. The prolonged exposure lets the camera capture what human eyes cannot. In addition, it is a nice pat on the back from other folks gathered as they, too, oooh and aaaaah over your photos in similar disbelief. Should you see a postcard of the moonbow that actually looks like a daytime rainbow, now you know why.

On your *Don't Forget* list, include a soft cloth for when mist collects on your lens and camera body. Also, grab a campstool, hand warmers and a jacket, depending on the time of year you visit. Lastly, your tripod is the most vital piece of equipment. All the patience and planning are useless if it's blurred. And it will be if you think you can hold the camera steady in your hands.

Once back home, you might try some minor tweaks in your photo software for cropping, color and contrast. But as-shot, the image is very real and very much a Kentucky scene that so few have ever seen. There is no better way to spend a night on the bank of Cumberland River far from home. Thank goodness for the park campground, cozy cabins and DuPont Lodge.

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