

# The Moon The Mist

AND LOOK AT THIS!

## An expert's advice for photographing the Cumberland Falls Moonbow

By Charlie Baglan



Cumberland Falls Moonbow  
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When we see it, we stop. Yes, there's something about a full moon that commands our full attention. In Kentucky, the moon does more than inspire love songs, it leaves late-night travelers mesmerized. I know, it still happens to me. I photograph it. Not the moon per se, but something it creates - the Cumberland Falls Moonbow.

At first glance, you may presume these photos to be rainbows on a sunny day. Oddly, they were shot in the deep dark of night.

Each year, thousands visit Cumberland Falls State Resort Park near Corbin to see the so-called *Niagara of the South*, yet few plan their trip to coincide with the moonbow. Those who do hardly believe their eyes. Naturally, they reach for their phone to snap a pic but photographing the moonbow is tricky. However, by following a few steps with the proper equipment, this nighttime rainbow can be suitable for framing.

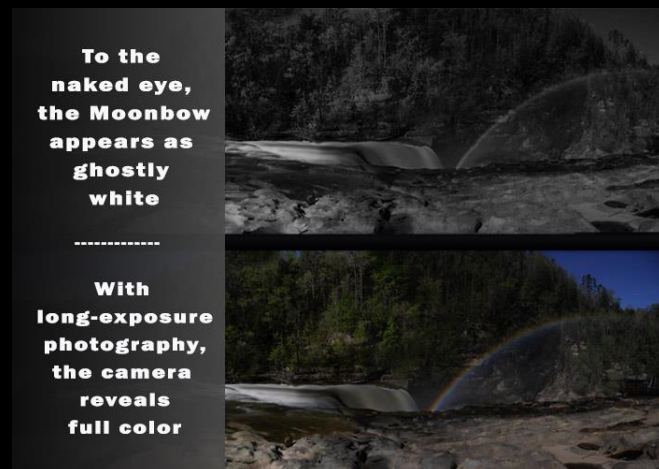


So, define “proper equipment.” Smartphone cameras render breath-taking imagery. And, yes, you can likely capture the moonbow to some degree with yours. This article, however, goes beyond just tapping a shutter button - it’s written to tap your sense of photo craft. Using a digital single lens reflex (DSLR) or mirrorless camera, we’ll examine the resolution, exposure, aperture, ISO sensitivity and other nuts-n-bolts then how to manipulate each to strike gold.



**WHAT IS A MOONBOW, ANYWAY?** It’s not an amusement created by flipping a switch. As rainbows form by sunlight on water droplets, a moonbow is moonlight refracted in the mist of the falls during a full moon. To the casual observer, it’s white. To a camera, it radiates the true colors of the rainbow: red, orange, yellow, green, blue, indigo and violet.

Unencumbered by light pollution, Cumberland Falls is the only lunar rainbow in the western hemisphere with year-round monthly predictability. It’s one of a few locations globally where this natural phenomenon occurs, and people travel from around the world to witness it.



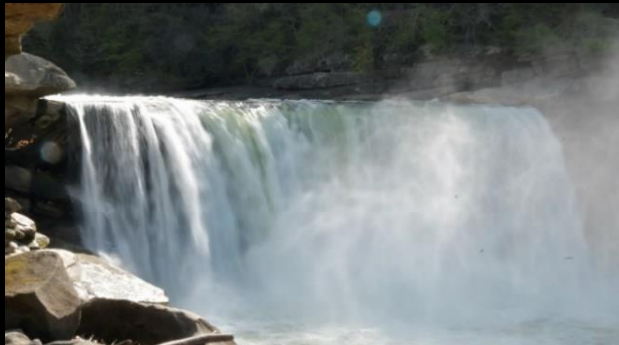
**IT’S WEATHER-DEPENDENT** What’s needed are a full moon, a clear night and mist created by the falls. Because the moon follows an elliptical orbit around Earth, viewing times vary widely from night to night. With a clear sky, visitors can usually enjoy a two-hour viewing window. This begins when the moon first clears the hillside behind you and ends as the moon rises above the 42-degree mark in the sky. It is also viewable a couple of nights on either side of peak illumination.

Initially, the bow appears in the high mist above the falls but drops as the moon rises. Moonbows, like rainbows, appear when the light source is behind you with water droplets in the air in front of you. Like a kid spraying a water hose, the bow is unique to each viewer. As if on a leash, it follows you as you walk upstream or downstream. The top of the arch appears directly in front of you and the inside will appear brighter than the outside of the bow. If haze, fog, clouds or rain are forecast, opt for a more suitable night. Check with the park desk for optimal viewing times (606/528-4121) or look online at [parks.ky.gov](http://parks.ky.gov).

**COURTESY AND POSITIONING** The overlook at the precipice of the falls (*as seen above*) and the first lower observation deck (*seen to the right*) are optimum for seeing the moonbow. The moon, mist and your eyes must all align. It's not seen from area trails, from a kayak on the river or from the opposite bank. Do others a favor by keeping lights off. Smartphone screens, flashes, flashlights, lasers or any other stray lights ruin the experience for everyone – as well as the photo someone may be taking.



**NOW, THE TECH STUFF** *It seems easy. It's dark, so just use a flash. Right?* No. No. You're shooting light itself; a flash would only wash out the experience. Like in a movie theater, the darkness is revealing. Again, a camera that allows manual settings such as a DSLR or a



Note the mist billowing from the base of the falls. Depending on waterflow, the higher up and downstream the spray extends, the greater the likelihood for vivid rainbows and the monthly moonbows.

mirrorless camera is recommended for low light. These are the higher-end pro models with interchangeable lenses. Point-and-shoot cameras are also questionable due to their limited manual control. Determine your camera's capabilities before you venture out. Because exposure is prolonged, perhaps 30 seconds or more, your camera **MUST** be on a sturdy tripod to avoid shake.

**EXPOSURE SETTINGS** will vary by 1. Clarity of the sky, 2. Amount of mist generated in the plunge basin of the falls and 3. Fullness/radiance of the moon. Therefore, we must rely on trial and error with our settings. First, for color accuracy of the bow, Auto white balance is my trusted setting. You can also opt for Daylight given the moon is reflecting sunlight.

#### **Manual Settings**

White balance: Auto or Daylight

ISO: 1600

Picture Control: Vivid

Noise reduction: Activated

Focus: Infinity ∞

Aperture: f-8 to enhance focal sharpness.

Focal length: 16 – 35mm

Shutter speed: 30 seconds

Format: RAW or jpeg large/fine.

**NO FLASH**

Sturdy Tripod

Cable or Remote Shutter Release



Newer DSLRs and mirrorless cameras feature a high-sensitivity image sensor that allows you to quicken exposure time by upping the ISO. Typically, the lower the ISO, the sharper (less grainy) the image. Setting the option for noise reduction is wise. Double check your camera's capabilities at home; a dark riverbank is not the place. Unless your camera has options for lengthy shutter speeds, you will need to hold the shutter open manually using the Bulb setting with a cable release as you watch a timer. A hand-held shot WILL blur as will physically holding the shutter open with your finger. Depend on your tripod and remote shutter release.

You may not be able to see the falls through your viewfinder, so begin with a wide shot on your tripod. Set focus to infinity, give yourself a bit of depth-of-field insurance with mid-level f-stop. Anything in the frame that moves will blur. Flowing water will appear as cotton, rustling leaves on trees will soften, but they are offset by the tack-sharp boulders on the bank and the vivid color bands within the bow.

**Patience Please!** Depending on your camera, the processing time to render the photo can often be equal to the shutter speed. Thus, a 30-second exposure may require an additional 30 seconds to appear on your screen. That's a full minute from start to finish. So, when the camera doesn't immediately reveal the shot, nothing's wrong. Do Not turn the camera off while it's processing. Quality takes time...and extra batteries.



**ADJUST FOR UNDER OR OVEREXPOSURE.** Using the Bulb feature, shortening or lengthening the shutter speed in increments of three seconds will land you on a properly exposed image. If you prefer a fixed shutter speed, adjust by clicking your f-stop up or down. Remember, you risk sacrificing sharp focus by opening your f-stop beyond f-8 and increasing ISO can lead to a noisy photo. You're learning to strike a balance. Low light photography asks a lot from any camera. Now might be the time to re-frame the shot and adjust focal length among any other tweaks.

Caution: A fast lens (f 2.8 or under) isn't always your ally because of your inability to tightly focus. A mid-range or greater f-stop boosts your depth of field and the brilliance of the image.

**CONGRATULATIONS!** You are now a night owl. You've trained your camera to do what human eyes cannot – to see color at night. Mastering focus, framing and exposure in the dark is tedious. After some careful effort, grayscale/white arch appears the radiance of the rainbow, blue sky. In addition, it is a nice gathered as they *ooh* and *aah* over no "one" magic setting but I'm dependable formula to share with you here. In fact, it's never failed me.

*The image is very real and very much a Kentucky scene that many have only heard about.*

Meanwhile, you've made the journey. For ISO and shutter speed, my best advice is *start low, start slow*. The tripod and the remote shutter release are your two best friends.



Once home, try minor adjustments in your photo software for cropping, color and contrast. But as-shot, the image is very real and very much a Kentucky scene that many have only heard about. Seeing it is never guaranteed and it's a privilege when you do. This is one of only a few places on Earth where these elements of nature come together to display something as wondrous. Thank goodness for Cumberland Falls State Resort Park's DuPont Lodge, cozy cabins and campground because it will be late when you finish, at which point, you'll find yourself secretly making plans to bring friends and come again. ▲



Charlie Baglan is a lifelong Kentucky photographer whose moonbow tips have appeared on KET-Kentucky Educational Television, FOX 17 News - Nashville TN, FRANK. Magazine, Kentucky Afield Radio, and Kentucky Parks and Tourism websites.