

View Single Post

Thread: Focusing Questions

27th of February 2007 (Tue),
01:21

#39


zilch0md

Member

Join Date: Apr 2002
Posts: 150

Re: Focusing Questions

Quote:

Originally Posted by **Littlefield** 
What I do not understand about DOF charts and etc is how do you tell the distance in the field . Do y'all have a rangefinder as well ? The link that says you focus on infinity has worked for me so far.

You don't have to use a laser rangefinder unless you want to get every last bit of available shutter speed out of a system - which is a nice thing to have when shooting landscapes that aren't holding absolutely still (which is most of the time). If you can afford to make longer exposures, you can compensate any slop caused by errors in reading Near and Far distances from your lens barrel and that caused by errors in setting a calculated focus distance - by just stopping down a bit further. Over time, a disciplined adherence to a given DoF table or calculator may reveal the need to calculate a new set of tables (or adjust the CoC variable in your calculator) to produce smaller circles of confusion at the Near and Far sharps of the subject space - instead of "just stopping down a bit further" with your existing DoF tables/calculator.

If you have the patience to use a laser rangefinder, both for measuring your Near and Far Sharp distances and for finding a target on which to focus that resides at a calculated focus distance, you won't have to "stop down a bit further" to compensate distance-related errors. I recommend you get the Stanley TLM-100 (available at <http://laserstreet.com/stanley-tlm100.htm> and other retailers). It will give you 1/4-inch accuracy from 2 feet out to about 60 feet in bright sunlight (or about 90 feet in dim light on light-colored targets). It sells for about \$99.00 and will do a great job with determining the distance to your Near Sharp and helping you find a subject that resides at a calculated focus distance. Far Sharps that reside beyond 60 feet can be "guess-timated" by looking at the distance scale on your lens barrel without much impact on the final results. If you really want to know the exact distance to Far Sharps that reside beyond the range of distances covered by the Stanley TLM-100 (out to 400 yards), I recommend the Opti-Logic 400XL Laser Rangefinder (available at <http://www.cspoutdoors.com/op40lasran.html> and other retailers) - forget about Bushnell's laser rangefinders - but keep in mind that the Opti-Logic 400XL has a minimum working distance of about 12 feet - not close enough to handle your Nears. (The minimum working distance is limited by the speed of a rangefinder's processor - the shorter the distance to be measured, the less time it takes for the modulated laser light to travel to the target and back.)

Remember, I started by recommending you get only the 2-to-60-foot Stanley TLM100. This will satisfy most landscape photographer's needs, because the Far Sharp distances aren't as critical as the Near Sharp and Focus distances, when they lie at 200 feet or more. It's when the Fars lie at relatively close distances beyond 60 feet, but less than 200 feet, that you might wish you had a "long-distance" rangefinder.

If you want to be totally on top of this, and don't like the idea of carrying two rangefinders, you can go for an instrument like the Stanley TLM-300 (available at <http://laserstreet.com/stanley-tlm300.htm> and other retailers) - it will give you 3/32-inch accuracy from 2 inches all the way out to 650 feet, according to the manufacturer's specifications (probably more like 2 inches to 500 feet in bright sunlight on less than ideal targets, but that's more than sufficient for our purposes).

So how does one use all this when shooting landscapes in the field? Here it is, step-by-step:

- 1) Choose your focal length and point-of-view as you normally would, then erect your tripod underneath the camera.
- 2) Measure the distance from the camera back to the nearest subject in the frame.

That's your Near Sharp distance.

3) Measure the distance from the camera back to the farthest subject in the frame. This is your Far Sharp distance. (Assume 10,000 feet for subjects that reside at Infinity.)

4) Input the Near and Far Sharp distances into your choice of Depth of Field calculator that has been optimized to deliver a circle of confusion that will support your desired print resolution at the anticipated enlargement factor and viewing distance (see my first post, this thread.)

5) The DoF calculator will provide a Focus Distance and the smallest f-Number necessary to support the desired print resolution.

6) Ask yourself if the calculated f-Number is both available on your lens -AND- equal to or smaller than the f-Number at which diffraction would inhibit the desired print resolution (see my first post, this thread). Then ask yourself if the corresponding shutter speed required for correct exposure (given the available light and the current ISO setting) is sufficient to arrest all subject motion.

If you can't use the DoF calculator's recommended f-Number (because your lens doesn't offer it, or it would induce visible diffraction, or the corresponding shutter speed would be too slow to arrest subject motion), you'll have to back away from the nearest subject (to increase your Near Sharp distance) and start over at Step 1, or leave the camera where it is, but use a shorter focal length (go wider) and start over at Step 4.)

This stuff becomes second nature - don't get spooked. It's harder to put it in writing than it is to practice.

7) With your f-Number set as indicated by your DoF calculator, use your rangefinder to locate a good target on which to focus that resides at the calculated Focus Distance. That target does not have to be within the intended image frame. You can swing your camera around on the tripod, 180-degrees if necessary, to focus the lens on anything that's at the calculated distance - use the rangefinder to find any target anywhere that's at the right distance, then re-establish your intended composition to make the exposure, leaving the focus setting alone.

That's it. If you want to bracket exposures, do so by changing your shutter speed, not your aperture (think "aperture-priority mode").

Any questions?



Mike Davis
<http://www.accessz.com>

Last edited by zilch0md : 27th of February 2007 (Tue) at 04:52. Reason: Stuff the spell checker didn't catch. Arrgh! I need to slow down...



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