

## Matt's Handy Cheap Light Meter Replacement



<b>f/stops</b>											
<i>&lt;---stopping down</i>						<i>opening up---&gt;</i>					
Note that each step <--Halves or Doubles--> the amount of light allowed to reach the film.											
f/45	32	22	16	11	8	5.6	4	2.8	2	1.4	1
•	•	•	•	•	•	•	•	•	•	•	•

•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
16s	8s	4s	2s	1s	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	1/2000	1/4000
Full Seconds					Fractions of a Second											
Note that each step <--Doubles or Halves --> the amount of light allowed to reach the film.																
<b>Shutter Speeds</b>																

If you didn't have the privilege of growing up in photography with an analogue light meter then you probably aren't used to thinking of the shutter speeds and f/stops as a continuum of possible exposure combinations. Old light meters did this with their dials; new digital meters and cameras tend to present one combination only and it is easy to think of the presented combination as being somehow "right" and not one of many correct combinations.

How do you use this? Just print out this page, preferably on some stiff paper. Cut out the two rectangles above as two separate pieces of paper. Now when you get a reading from your camera or light meter which gives you one combination of shutter speed and f/stop, just match the camera's readings up on the two pieces of paper and Voila!, all the identical exposure combinations are shown!

As an example, using the scales lined up the way they are on this page (for convenience' sake), let's say my camera or light meter says 1/60th at f/2.8. I line up the paper bits so that 1/60 and f/2.8 are opposite each other, like they are above, and all the combinations are shown, from 1/500 at f/1.0 to 4 seconds at f/45. You can quickly see that if your lens only goes from f/2.8 to f/22 that there are limits on the shutter speeds you can use (1/60 to 1 second). There may be other occasions when your shutter speed range is the constraining factor.

If your camera or light meter suggested 1/60 at f/8, you would slide the upper piece of paper over so the f/8 was aligned above the 1/60 and could now read off all the valid exposure combinations that would give the same exposure. Note that this scale does not tell you what the correct exposure is; you need to take a reading to get a starting point. These scales simply give you a way of evaluating the valid combinations of f/stop and shutter speed once you know a starting correct exposure. You probably won't need these for too long; after a while, this becomes second nature and you memorize the f/stop sequence and you can dispense with this and move on, but it might be helpful in sorting this out in the meantime. Good luck!

PS In March 2004 Lee Fursse donn of England sent me a file of a rotary version of my dial above. It works much better than my sliding one. He very kindly gave me permission to add it to the site. Just go the next page on this PDF file, print it out, carefully cut out the circles, laminate them, and put them together with one of those brass two-pronged rivetty things. Voila! It's much more like my light meters of old! Lee even did a letter sized one (the next page) and an A4 sized one for the Europeans out there (the page after that).



