Doremus Scudder

photographer

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Zone Rulers (1-stop increments) Test Exposure Procedure for Sheet Film

Determine exposure. Use E.I. for the development to be tested as already determined. Make sure that the aperture/shutter speed combinations allow for the necessary 8-zone spread. (Choosing surface and reflectance may be difficult) **Place subject in Zone I as indicated by the meter.**

Exposure number:

1. (Zone I on the meter and on the film.) **Place subject in Zone I as indicated by the meter.** Insert the dark slide **1/5** of the way and make the initial exposure. (It helps to have a dark slide that is marked in 1/5 sheet increments.) Note that the first stripe is covered during the exposure, therefore unexposed FB+Fog, i.e., Zone 0.)

2. (Zone I on the meter, Zone II on the film.) Insert the dark slide another 1/5 (2/5 total); make the second exposure with the **same aperture/shutter speed combination**.

3. (Zone II on the meter, Zone III on the film.) Insert the dark slide another 1/5 (3/5 total), **open one stop** and make the third exposure.

4. (Zone III on the meter, Zone IV on the film.) Insert the dark slide 1/5 (4/5 total), **open one stop** and make the fourth exposure.

5. (Zone V on the film.) Insert dark slide completely, pull the film holder, turn, insert into the camera and pull the dark slide **completely**. Make the fifth exposure **placing the subject in Zone V as indicated by the meter**.

6. (Zone V on the meter, Zone VI on the film.) Insert the dark slide 1/5 and make the sixth exposure with the **same aperture/shutter speed combination**.

7. (Zone VI on the meter, Zone VII on the film.) Insert the dark slide 1/5 (2/5 total), **open one stop** and make the seventh exposure.

8. (Zone VII on the meter, Zone VIII on the film.) Insert the dark slide 1/5 (3/5 total), **open one stop** and make the eighth exposure.

9. (Zone VIII on the meter, Zone IX on the film.) Insert the dark slide 1/5 (4/5 total), **open one stop** and make the ninth exposure.

Insert the dark slide completely and pull the holder. A third sheet of film can be used starting with Zone X and following the same procedure for N- zone rulers.

Example:

		Exp. units	Zone
No exposure	Exp. units 0	**0**	**0**
Exp. 1 (Zone I, meter)	1	**1**	**I**
Exp. 2 (Zone I, meter)	1+1=	**2**	**II**
Exp. 3 (Zone II, meter)	1+1+2=	**4**	**III**
Exp. 4 (Zone III, meter)	1+1+2+4=	**8**	**IV**

(sheet 1)

		Exp. units	Zone
Exp. 5 (Zone V, meter)	Exp. units 16	**16**	**V**
Exp. 6 (Zone V, meter)	16+16=	**32**	**VI**
Exp. 7 (Zone VI, meter)	16+16+32=	**64**	**VII**
Exp. 8 (Zone VII meter)	16+16+32+64=	**128**	**VIII**
Exp. 9 (Zone VIII meter)	16+16+32 +64+128=	**256**	**IX**

(sheet 2)

The shaded portion of table above is a graphic representation of the actual sheet of film and the Zone Values and Exposure Units for each stripe. The text on the left is a summary of the directions given above.

For determining developing times for N, N+1, etc., I find it useful to make five or six sets of these negative pairs.

Develop the first pair at an estimated Normal developing time and then contact print these films at the "proper proofing time" determined above. If your developing time is correct for Normal, then Zone VIII should be a shade of grey just slightly darker than pure paper white (Zone IX). If not, then repeat the procedure developing the next film pair slightly more or less as needed (more if your initial Zone VIII was too dark, less if it was too light).

After you zero in on N development time, you can use the remaining film pairs to determing N+ and N- developments. Adjust developing time to place desired exposure zones at Zone VIII density (e.g. Zone VII → Zone VIII for N+1; IX → VIII for N-1 etc.).

Fine tune film speed and developing time for each different development time by repeating the film speed test and the Zone Ruler test for N+ and N- development times.

If more Zones are necessary, for example when testing extreme contractions, continue the above procedure on a third sheet starting with a Zone X exposure. The next stripe should also get a Zone X exposure to place it on Zone XI. Continue the process, adding one stop each time if more Zones are required.

To get a better idea of just how your film/developer combination renders the intermediate zones for each determined development time, make Zone Rulers for each of your film/development/paper combinations by printing the appropriate film pairs on one piece of paper at the proper proofing time, and trimming the print to make a "ruler" with all the different Zones. Zone Rulers developed to N- times will have longer scales while Zone Rulers developed to N+ times will have shorter scales. These rulers can be a useful visualization aid in the field.