

# How to Build and Use the Zone Ruler

## Visualization can be learned, but it takes practice

The ability to visualize a scene, and later accurately expose and develop the negative accordingly, is one of the great benefits of the Zone System. Being able to direct any subject brightness to a desired print zone on the final print gives great confidence and enables the photographer to combine creativity with predictable technical excellence. However, visualization of the final print zone densities takes practice and remains a highly subjective procedure. Many disappointing prints are the result of underestimating how dark Zone VII really is, or realizing the sobering fact that Zone III does not always reveal as much detail as anticipated.

I often ask students of my Zone System classes to identify their preferred print zones for the shadows and highlights of a sample scene. The typical answers for any particular subject area are spread relatively widely over two zones. This is not necessarily a problem, as long as it is due to individual artistic interpretation of the scene. However, the students are in much closer agreement when asked to point out the intended print density on an unmarked step tablet. This indicates that accurate visualization of print densities requires some experience,

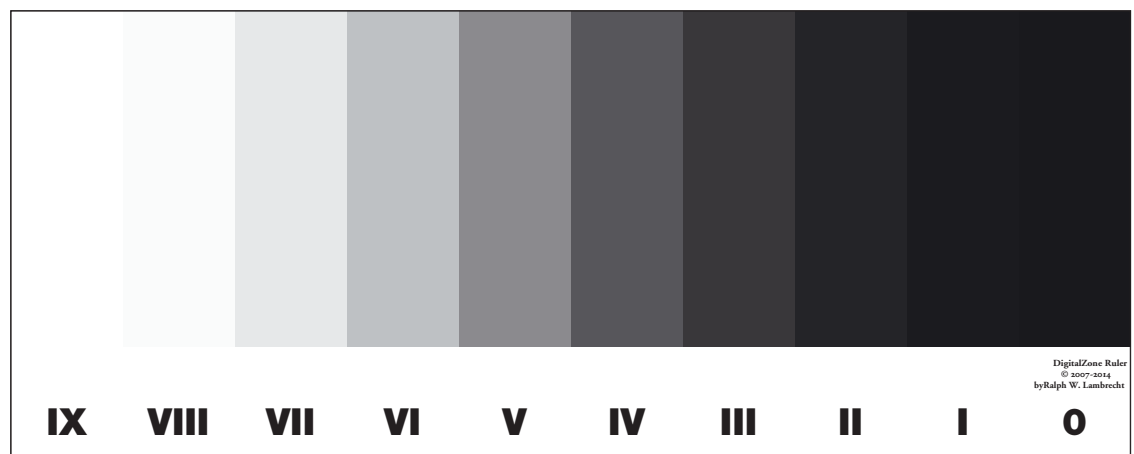
and a sample step tablet, as in fig.1, can be a valuable training aid.

### How to Make Your Own

With the help of a decent inkjet printer, a densitometer and the data from 'The Digital Zone System', you can make an extremely accurate Zone Ruler. However, this level of precision is hardly necessary for a tool intended to aid in the subjective evaluation of subject brightness. Let's look at a much faster approach, which allows you to make your own Zone Ruler with ease and appropriate accuracy.

Use Adobe Illustrator or a similar software tool to draw a step wedge as shown in fig.1. Use the data in fig.2 to fill the wedges with increasing amounts of black ink and print it, using your inkjet printer, onto a photo paper with a pearl or preferably glossy surface.

fig.1 (right) The Zone Ruler provides a handy reference to the representation of subject brightness in the final print.



Develop and process the print normally and label the zones as shown in fig.1. Cut the print to size and glue it to a piece of mounting board, which gives your Zone Ruler more stiffness and increases its durability. My ruler has found a permanent place in the camera bag. I do not recommend any surface protection for the ruler. It just adds the risk of potential flare and alters the surface appearance to a point where it may not be representative of the final print surface anymore.

## How to Use It

The Zone Ruler is used as a comparative scale. Hold it up at arm's length, as shown in fig.3, to compare the brightness of any portion of the scene with the steps on the ruler. This enables you to distribute the entire subject brightness range over the available print zone densities.

Here are a few tips on how to use the ruler successfully and how to avoid a few pitfalls. Always try to hold the ruler so the light falls on the ruler the same way it falls on the subject area in question. In fig.3, the sun has just lost the right garage door to the shade, and the ruler is held in a very similar position. Finally, avoid light reflections on the ruler, because they may get in the way of a realistic comparison.

Don't allow the Zone Ruler to interfere with your creative visualization process. It is a useful tool, however, to make you aware of the available print zone densities. Use it wherever an accurate and lifelike tonal interpretation is required. Nevertheless, a realistic representation of the subject tonality is not always in the best interest of creative fine-art photography. You, the artist, are still in charge of the image. You decide which subject tones are to be represented as shadow or highlight zones and give the image the appropriate

impact. Use the ruler as recommended, but don't let it stifle your creativity.

The Zone Ruler is a quick reference guide to the available print zones. It is a valuable tool to have, and easy to make. Students of the Zone System, who use the ruler, can accurately translate subject tones into realistic print zones with much more consistency than without it. Remember, however, that artful visualization is successfully performed only by the human mind.

fig.2 (right) The individual zone patch amount of black ink in K%. These values are from my Epson 3880 with K3 inks on glossy photo paper. Your values may vary and only a rest print of a standard test step wedge such as you can find on my website at [www.rlambrec.com](http://www.rlambrec.com), printed on your printer and paper will give you more accurate values.

| Zone        | Negative    | Print       | Monitor     |
|-------------|-------------|-------------|-------------|
| <b>0</b>    | <b>0.00</b> | <b>2.10</b> | <b>100%</b> |
| •           | 0.03        | 2.09        |             |
| ••          | 0.07        | 2.06        |             |
| <b>I</b>    | <b>0.10</b> | <b>2.04</b> | <b>99</b>   |
| •           | 0.14        | 2.00        | 98          |
| ••          | 0.19        | 1.95        | 97          |
| <b>II</b>   | <b>0.24</b> | <b>1.89</b> | <b>96</b>   |
| •           | 0.28        | 1.81        | 95          |
| ••          | 0.33        | 1.72        | 93          |
| <b>III</b>  | <b>0.38</b> | <b>1.61</b> | <b>90</b>   |
| •           | 0.43        | 1.48        | 86          |
| ••          | 0.49        | 1.34        | 82          |
| <b>IV</b>   | <b>0.54</b> | <b>1.19</b> | <b>77</b>   |
| •           | 0.60        | 1.04        | 71          |
| ••          | 0.66        | 0.89        | 64          |
| <b>V</b>    | <b>0.72</b> | <b>0.75</b> | <b>56</b>   |
| •           | 0.78        | 0.62        | 48          |
| ••          | 0.84        | 0.50        | 40          |
| <b>VI</b>   | <b>0.90</b> | <b>0.40</b> | <b>32</b>   |
| •           | 0.97        | 0.32        | 25          |
| ••          | 1.03        | 0.25        | 19          |
| <b>VII</b>  | <b>1.10</b> | <b>0.19</b> | <b>14</b>   |
| •           | 1.16        | 0.15        | 10          |
| ••          | 1.22        | 0.12        | 6           |
| <b>VIII</b> | <b>1.29</b> | <b>0.09</b> | <b>4</b>    |
| •           | 1.35        | 0.08        | 3           |



fig.3(left) The Zone Ruler is held at arm's length to compare the subject area in question with the print zone densities. Care must be taken that ruler and subject area are illuminated similarly, and that no reflection interferes with the evaluation. This is a handy support tool in the visualization process and has found a permanent place in the author's camera bag. However, artful visualization is successfully performed only by the human mind. Do not let the ruler stifle your creativity. You, the artist, are still in charge of the image.