High ISO Testing for Digital Night Photography

WHY:

Exposure times at night can range anywhere from 15 seconds to 30 minutes or more. Most light meters will not be able to deal with these long exposure times, so we need a different tool that will allow us to see if our settings are correct before we capture the image. This is where High ISO test shots come into play. They are used to determine the duration of the Native ISO long exposure and to confirm that the final image will look how you intend it to, e.g. point of focus, framing.

WHAT:

A High ISO test shot is a short exposure that is 6 stops more sensitive to light than the Native ISO final exposure. The reason for the difference of 6 stops is because there are 6 stops between 1 second and 1 minute (64 seconds really, but this is close enough to a minute for our usage.) This makes the translation between test settings and final settings simple to remember:

An exposure using High ISO, your test aperture, and shutter speed of ***X** seconds*
will result in an image with the same histogram as
An exposure using Native ISO, your final aperture, and shutter speed of ***X** minutes*

HOW:

The 6 stop difference in exposure will be achieved through changing the ISO of the camera, and if necessary, the aperture. By referring to the charts below, you will determine the High ISO settings for your camera. Select the table that corresponds to the Native ISO setting of your camera, and then find the row in that table that corresponds to the Highest ISO setting of your camera. Please circle this row for future reference.

High ISO test settings for Native ISO 100 Cameras

Highest ISO Setting	Test Aperture
6400 ISO	Same as Final aperture
3200 ISO	Final aperture + open 1 stop
1600 ISO	Final aperture + open 2 stops

High ISO test settings for Native ISO 200 Cameras

Highest ISO Setting	Test Aperture
12800 ISO	Same as Final aperture
6400 ISO	Final aperture + open 1 stop
3200 ISO	Final aperture + open 2 stops
1600 ISO	Final aperture + open 3 stops

Please note: on some cameras, you may need to activate the Highest ISO in a custom setting. Also, the Highest ISO may display as an “H” setting, e.g. “H1.0”. If this is the case, refer to your camera’s manual to figure out which numerical ISO the “H” settings correspond to.

Practical Example:

You are using a Canon camera whose Native ISO is 100 and Highest ISO is 3200. You also decide to use f/8 as a final aperture to allow for a decent depth of field. Using the charts above you find that your High ISO test settings are:

ISO 3200 (your camera’s Highest ISO)
f/5.6 (your final aperture, which is f/8, plus open 1 stop)

You then set your camera to use these settings and begin taking test exposures of various durations. For this example, assume 10 seconds resulted in a histogram indicating proper exposure for a night image. You then setup your camera for the final shot using the following settings:

ISO 100 (your camera’s Native ISO)
f/8 (your final aperture)
10 minutes *(*because the high ISO test was 10 seconds long)