How We Tested

We checked each flashlight on the test bench and in the field, measuring both an incident light reading and a reflected light value. The following qualities are recorded in the Value Guide on the facing page:

1. Spot: Quality of the long distance focused beam based on a navigation aid field test.

2. Beam: Cross sectional evenness of each light when shined on a grayscale screen located 12 feet away.

3. Meter 1: Taken with an incident light meter one inch from the lens and directly aligned with the central axis of each reflector. The light was pivoted up to 5 degrees to achieve a maximum reading. Output was recorded as ISO 100 exposure values (EV) units ($Lux = 2.5 \times 2^{EV}$).

4. Meter 2: A spot meter with a 2 degree beam angle was used to measure reflected light from the grayscale screen 12 feet away from the light. Same EV scale.

5. Bright: The sum of both Meter 1 and Meter 2 readings.

It is worth pointing out that the bench tests directly correlated with the Spot Test in the field, signifying that brightness is the key factor determining a flashlight's value as a spotlight. However, it is also important to note that beam quality is also key. For example, Pelican Recoil 2410 garnered second place in the navmark illumination test, even though it ranked fifth in light-meter brightness testing. This was specifically due to its ability to tightly focus its light beam over a long distance rather than let it radiate into surrounding space.

The type of lens and reflector has a key effect on performance. In this group, the Inova X0 provided the best defined and most powerful spot beam.