

**INFRARED FILM FOCUSING TEST**

*Independent report and analysis by Jules Alexander*

**General notes:**

This test was carried out to determine whether the IR focusing point found on most lenses (usually represented by a red dot or red line) would yield a sharper image in combination with Rollei IR400.

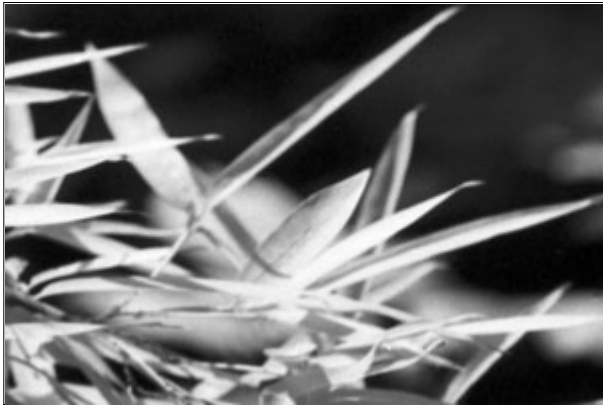
In this test I used the Mamiya 645 AFD, and my trusty 80mm manual focus lens. The aperture is wide open F2.8, has more than less of a flat image. Shot in full sun with a few interfering clouds, as can be slightly detected in the girl's pics. I bracketed 1/125, 1/60th, 1/30th, 1/15th. Shutter speed selected for these shots was 1/60th sec using an R72 filter. Method was to focus, screw on the filter a few threads, then shoot. All exposures were acceptable, depending on what effect the photographer wants. The shots were all ASA 25, developed in Winberley Pyro WD2D. Scanned on an Epson 4870 at 3200DPI. No sharpening whatsoever is applied in the scan or in PS afterwards, no curves or levels adjustment used, no contrast or toning applied. Negative spotting (cloning) was used for dust/hair/scratch removal on a few pics.



#1 Full frame, Visual focus



#1 Full frame, IR focus



#1 Enlarged crop, Visual focus



#1 Enlarged crop, IR focus

If the difference between IR focus and Visual focus seems a bit dramatic, it's because it is. Of course it's dependent on the lens, the aperture, and the edge of the image as opposed to the center.



#2 Full frame, Visual focus



#2 Full frame, IR focus



#2 Enlarged crop, Visual focus



#2 Enlarged crop, IR focus

I used a reflector in this one for some fill light. Clouds snuck in front of the sun as I shot giving a somewhat less contrasty image to the IR focus set of the girl's shots. As mentioned, these were all shot wide open. At a smaller aperture the focus differences are not as noticeable but of course the DOF and bokeh are affected.

**Conclusion:**

The results offer clear evidence that, as is the case with all other true infrared films, IR400 will produce the sharpest results if normal IR focusing practices are used and visual focus is shifted to the IR marking on the lens.

Note: All results have been provided by independent testers. Scans and images have NOT been manipulated.

## INFRARED FILM TEST

*Independent report and analysis by Jules Alexander*

### General notes:

The first three images below were shot on two rolls of Rollei IR400 Infrared film with a Hoya R72 filter, Mamiya 645AFD body, and older Mamiya-Sekor 80mm 2.8 manual lens. One roll was processed in Wimberley Pyro and one in Acufine (both truly fine grain developers). I am pleased to say the results were from both developers were good to excellent, showing little graininess unless overexposed.. Both rolls shot the same scene, outdoors, late afternoon sunlight. NOTE: In these tests I did not use the IT focus red dot on the focus scale.



Rollei IR400, 1/4 sec, f.8, Acufine, 68°F/20°C, 5.5 mins.

Acufine seems a bit more contrasty without any manipulation.



Rollei IR400, 1/4 sec, f.8, Wimberley WD2D Pyro, 68°F/20°C, 10 mins.

Pyro tends to have an ounce or two of magic in the bottles and the shadow detail and is simply like no other developer I have ever used.



Rollei IR400, 1/2 sec, f.8, Wimberley WD2D Pyro, 68°F/20°C, 10 mins.

Rollei claims that overexposing the film can achieve an "HIE" look. They are right. This shot was exposed down one speed: 1/2 sec., at F8. Larger aperture will probably give more of the HIE look.

#### **Conclusion:**

My initial tests show the film to have very fine grain capability, moderate to long range (bracket bracket, bracket) and good detail.

When using the 35mm film with #25 and #29 filters there was a lack of Wood effect. This wasn't much of a surprise, although I'd hoped for a little more of the effect. It's similar, in that aspect, to Konica750 or Ilford SX200 although a finer grain neg is possible (using fine grain developers) than either Konica or Ilford IMO.

The other more important issue was that I tried using an 820nm filter on a previous roll, but this didn't work as the film has no sensitivity past about 760-780nm therefore I got no images on the film no matter the aperture or speed. Sometimes Mfg. specs tend to be somewhat conservative or downright wrong about the sensitivity of any given film. In this case the Mfg. was right. I recommend using nothing beyond an R72 (720nm filter) on this film.



Rollei IR400, 1/1000 sec, f.22, No filter

I haven't experimented much with the following but it may be that the Rollei is an excellent fine grain "normal" 35mm B&W ASA400 film which may mean a it could be a competitor to TRI-X. I was able to shoot at 1000th at F22 as seen in the image of Lillypads (above). This could be pretty serious and take the film beyond of the "HIE" competitor area. I mean imagine that, a fine grain ASA400 35mm film? I feel that this deserves more experimentation along those lines and recommend it for testing as such.

Note: All results have been provided by independent testers. Scans and images have NOT been manipulated.

## INFRARED FILM

*Independent report and analysis by Russ Rosener*

### General notes:

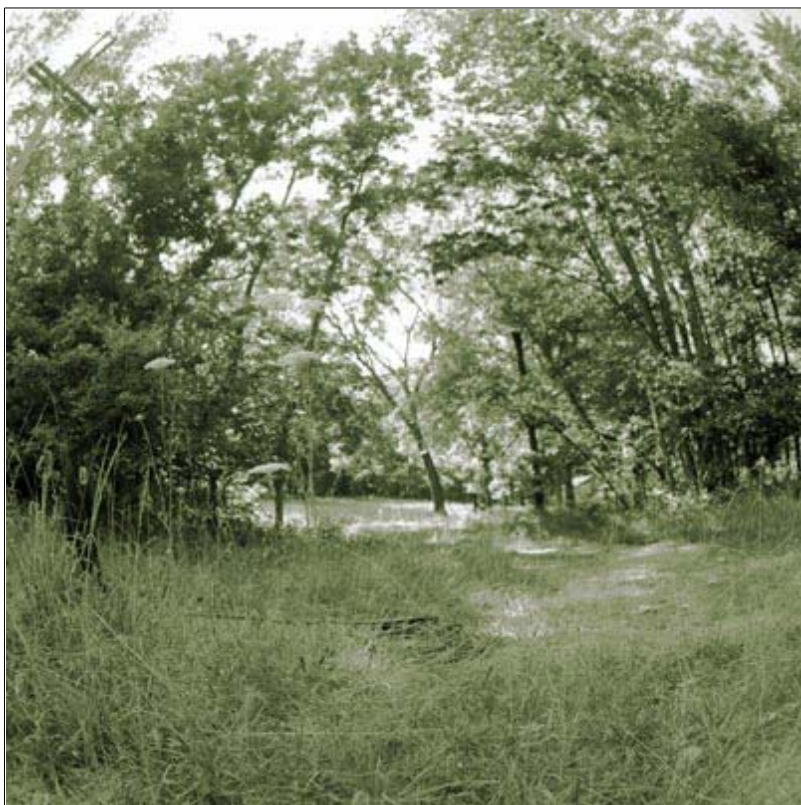
- Rollei IR400, 120 format, ISO 100.
- B+W wratten #29 filter on lens, and Kiev Orange Filter
- Metering handled w/ Luna Pro Digital
- OK Results. A bit underexposed. #29 Red more underexposed, about one stop.
- Printable. Moderate discernible IR radiation effect.
- Toning was a mix of black or green tea.



Rollei IR400, 120 format, ISO 100. Clayton F76+, 8 min @ 68°F/20°C.



Rollei IR400, 120 format, ISO 100. Clayton F76+, 8 min @ 68°F/20°C.  
Toned with black tea.



Rollei IR400, 120 format, ISO 100. Clayton F76+, 8 min @ 68°F/20°C.  
Toned with green tea.

**Conclusion:**

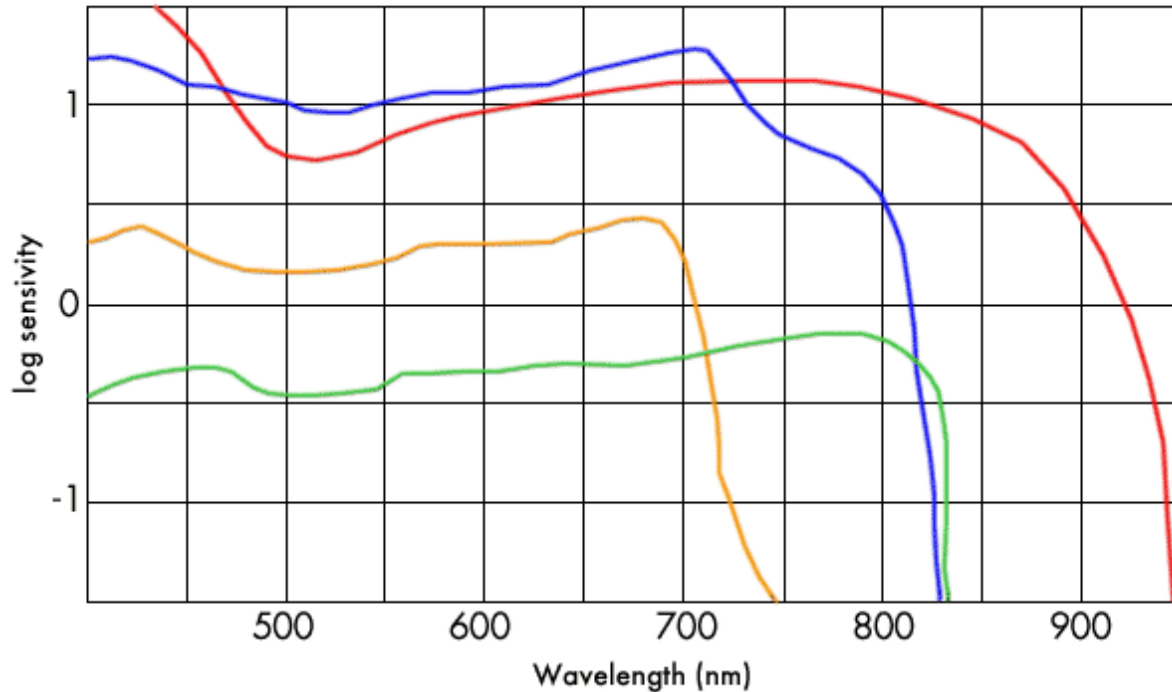
Film needs more exposure and ISO 100 was too high a setting for use with this level of filtration, although development appears to be good. Using an R72 filter and/or increasing the length of exposure would be required for stronger IR radiation effect.

Note: All results have been provided by independent testers. Scans and images have NOT been manipulated.

## INFRARED FILM SPECTRAL SENSITIVITY

## General notes:

The diagram below is for illustrative purposes only and is based solely on manufacturer's published data.



- Kodak HIE
- Efke IR820
- Rollei IR400
- Ilford SFX200

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- Kodak HIE is unique in being sensitive to over 900nm and is capable of producing IR effects with minimal filtration
- Although both Efke IR820 and Rollei IR400 are sensitive to 820nm, the Efke film is more responsive to the infrared wavelength because its gradient within the 750m - 820nm wavelengths is less steep than the Rollei film.
- SFX is not sensitive to infrared light and has a peak red sensitivity at 720nm, and extended red sensitivity up to 740nm. Nonetheless, this film is capable of producing nice IR-type effects with an IR filter
- The log sensitivity is a reflection of film speed and the position of each film on this axis is primarily indicative of film speed and is not an indicator of IR sensitivity.
- Grain, contrast and tonality are not represented in this chart

## Conclusion:

All four of the films illustrated here are capable of producing IR-type effects, and each one has its own strengths and weaknesses. Kodak HIE is clearly much more sensitive to the infrared end of the spectrum than any other film; however both HIE and Efke IR820 tend to produce strong IR effects at the expense of considerable grain. Rollei IR400 and Ilford SFX200 are much finer grained films, but have a less pronounced Wood effect. We recommend conducting your own tests to find out which film is best suited to your requirements.