INSCRIPTIFACT INTERNET DATABASE VIEWER
INSTRUCTION MANUAL

OVERVIEW

The InscriptiFact viewer is displayed after you have selected images to view (by clicking the thumbnail image on the Image Results Screen) and clicked View Images in the Page Navigation Bar at the top of the page. You will be taken to the View Images Screen. Note that there will be a 4–5 second delay before this screen appears. This screen shows high-resolution images that can be enlarged, moved around, and examined in detail. There is a Tool Box at the top of the viewer (see below). The InscriptiFact Viewer currently facilitates viewing of conventional images in .sid format (see figure 1) and Reflection Transformation Images (RTI) in .ptm (= polynomial texture mapping) or .rti formats. Images in .sid format are compressed using MrSID compression by LizardTech. RTI images allow the user to change dynamically the direction of the light source as well as other aspects of lighting (e.g., degree of contrast and/or reflectivity). Viewing tools that are relevant to RTI images only are grayed out when a SID Image has been selected on the View Image Screen. All images can be enlarged and reduced in size and panned. Hovering the mouse cursor over the buttons at the top of the viewer will give you a brief description of what they do. Images can also be downloaded onto one's own desktop by going to the Download button on the menu bar.

You can view **Cataloging** and **Dublin Core Cataloging** information for the images by clicking on those buttons to on the left below the **Welcome/Logout** heading. You can also switch between images by clicking on the image name on the image frame.

You can select for high resolution viewing the following options:
- Up to five MrSID images to view at a given time, or
- Three MrSID images and one RTI image at a given time, or
- Two RTI images and two MrSID at a given time, or
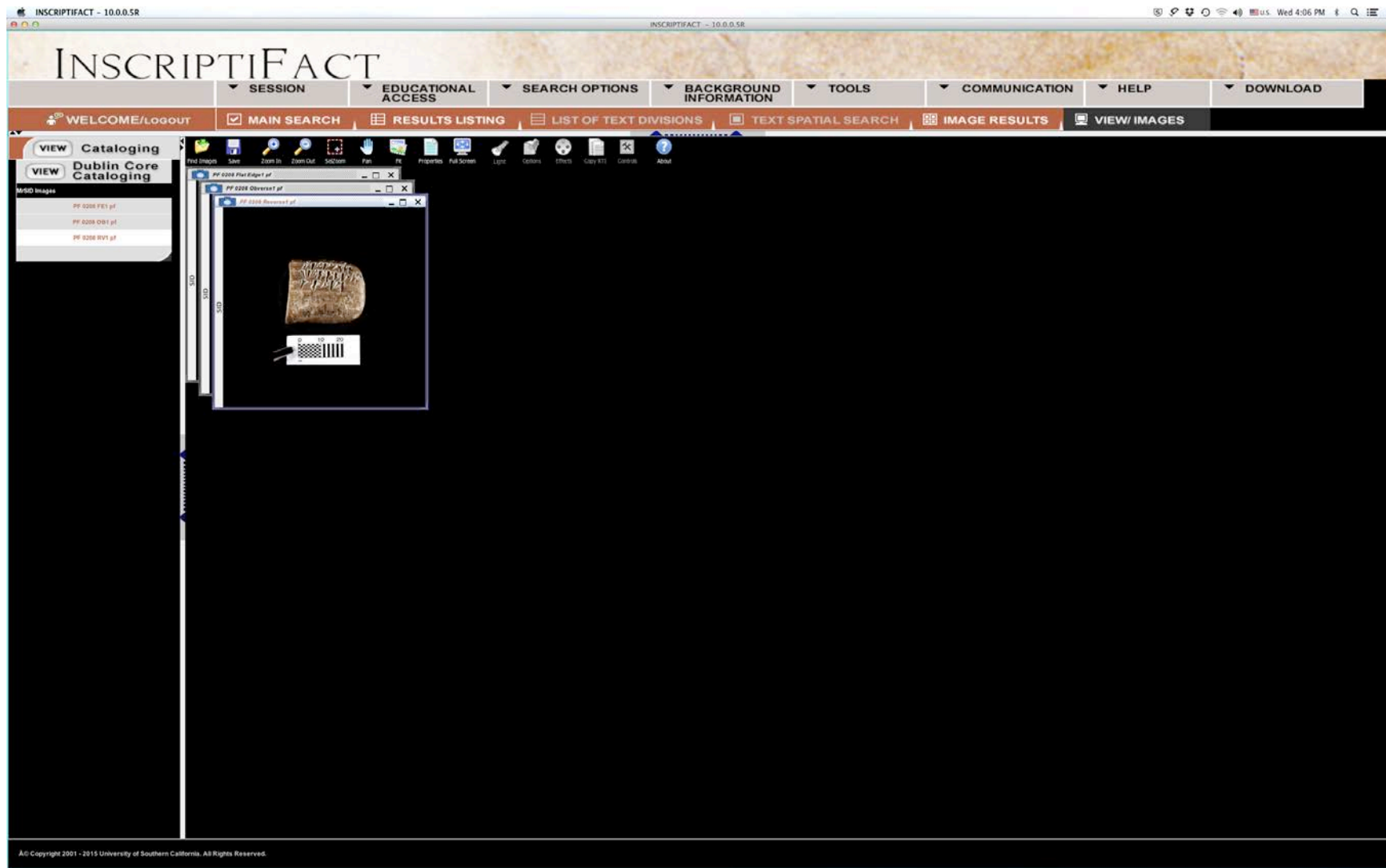- Two RTI images at a given time.

Figure 1: The **View Images Screen** with three SID images selected stacked in their initial positions.

The MrSID compression reduces the image size at a ratio of approximately 18:1 with no discernable loss of information. The data should appear quickly, even with a high-resolution image, because only the part of the file actually being viewed, adjusted to the screen resolution, is held in memory at any given time. Note you can move the frame for an image by holding down the click-button and moving the image. You can expand or contract the size of the frame by moving your cursor to any corner. When your cursor converts to a "corner symbol"

), you can click and drag it to expand or contract the frame. **Note: if you expand the frame, the SID image itself will not expand until you apply one of the zoom functions.**

The RTI images generally take longer to completely appear in the viewer (typically, 30 seconds to a minute). This is because they are very large, interactive images, and much more data must be sent over the Internet so they can be used properly. Each image will show a white and red activity bar as the image is loading. There will also be a cyan progress bar at the bottom of the screen, showing the progress for all of the images being loaded (figure 2). You can move, expand or contract the frame of an RTI image in the same fashion as is done for a SID image. However, it is better not to try to alter the position or change the dimension of any RTI image while it is loading. Note: When you expand the frame of an RTI image, the image itself will *also* expand to fill the frame. Further magnification can be activated by using the zoom functions.
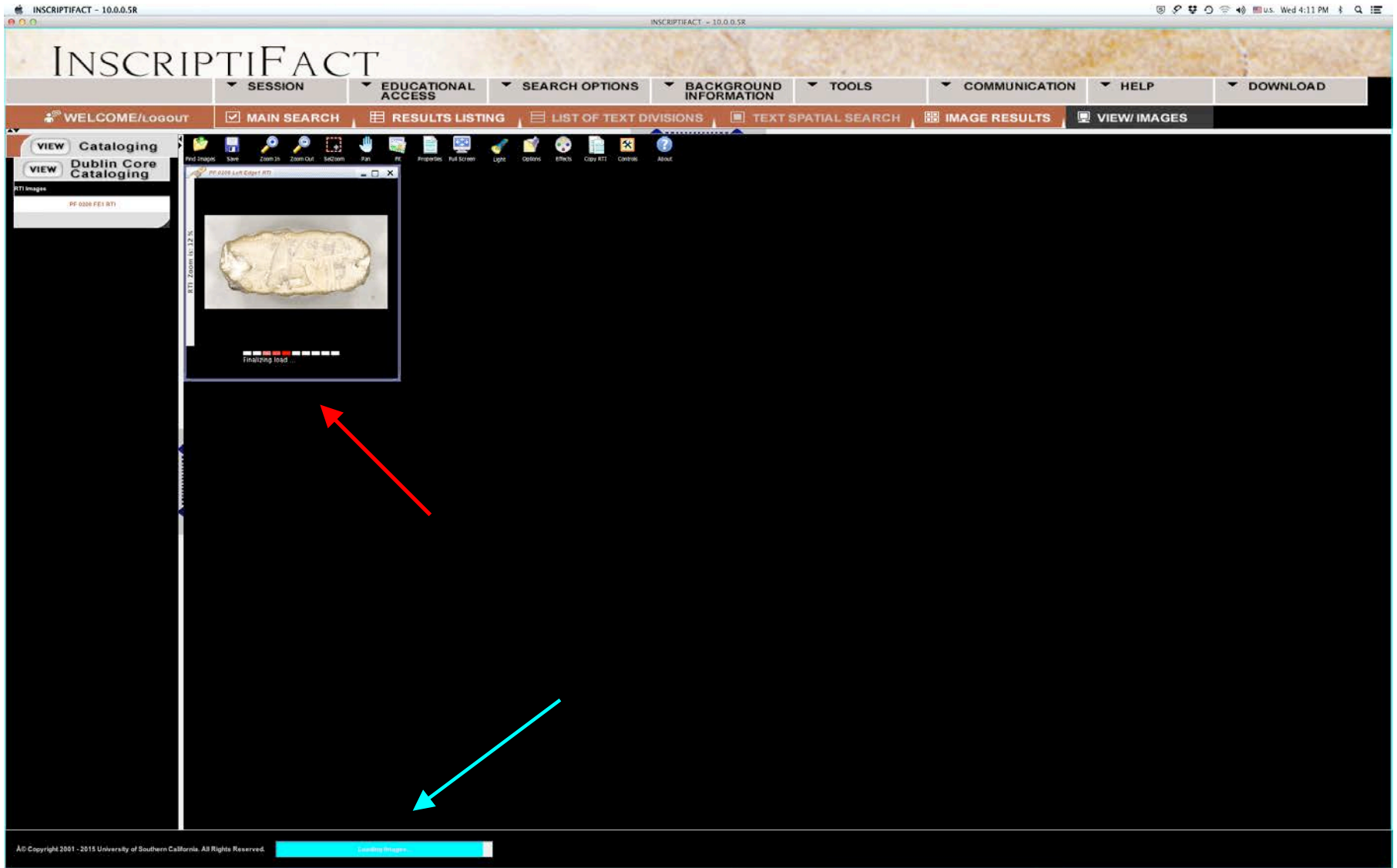
Figure 2: While an RTI image is loading, a red and white activity bar (see red arrow) will appear in the individual image. A cyan progress bar (see cyan arrow) at the bottom of the screen will update the user as to the overall progress being made in loading all images.

THE VIEWER'S TOOLBOX

At the top of the viewing area is the **Viewer's Toolbox which has the following functions** (figure 3):

Figure 3: The **Viewer's Toolbox**.

• Single-click on the [Zoom In] **Zoom-In** icon (or **Alt-Z** on PC; **Opt-Z** on Mac) to activate the **Zoom-In** function. Once **Zoom-In** is active you can magnify an image at a preset rate with the center of the zoom at the point where you have placed your cursor.

• Single-click on the [Zoom Out] **Zoom-Out** icon (or **Alt-Z** on PC; **Opt-Z** on Mac) to activate the **Zoom-Out** function. Once **Zoom-Out** is active you can reduce the image at a preset rate with center of the zoom at the point you have placed your cursor.

Note: The key strokes—Alt-Z on PC; Opt-Z on Mac—allow you to toggle between zoom-in and zoom-out functions.

• Single-click on the [SelZoom] **SelZoom** icon (or **Alt-S** on PC; **Opt-S** on Mac) symbol to activate the **Select-and-Zoom** function. Once **Select-and-Zoom** is active you can hold down your click-button to draw and drag a box around a particular area of an image for enlargement. When you release the button, the image will expand approximately to the dimensions of that box.

• Single-click on the [Pan] **Hand** icon (or use the **Space-Bar**) to activate the **Pan** function. Once **Pan** is active you can hold down the click-button and pan around within an image by moving the hand symbol.

Note: Just as is the case in Photoshop, pressing the space bar automatically toggles between any other move-function and pan. When you release the space bar, you are returned to the move tool you were previously employing. Because the files are compressed, pan is not smooth but rather initially shows what appears to be successively "stacked" images (like the cards in a deck fanned out). Once the program catches up (usually no more than a few seconds), then the area you have panned to will be fully displayed.

• Single-click on the **Fit** icon (or **Alt-O** on PC; **Opt-O** on Mac) to return the image to the size when you first viewed it.

Note: This function is particularly useful to employ when you have over magnified or otherwise gotten lost in a given image. By activating this icon you can return to your original image size and begin again.

• Single-click on the **Properties** symbol to activate the **Properties** box which lists data on the image (e.g., main title, dimensions of original scanned image in pixels, total pixels of original scanned image, number of pixels being displayed at the time you clicked the Properties button, etc.). The box is deactivated by single-clicking **OK**.

• If you single click on the **Full-Screen** icon (or Alt-F on PC; Opt-F on Mac) symbol you will be able to use your full screen to view images (figure 4). This is particularly useful when viewing multiple images on a smaller screen such as the screen of a laptop. In the Full-Screen mode, the menus at the top and on the side are eliminated. In order to reactivate these options, single-click on the **Full-Screen** icon a second time (or Alt-F on PC; Opt-F on Mac) to toggle back to the original viewing screen.
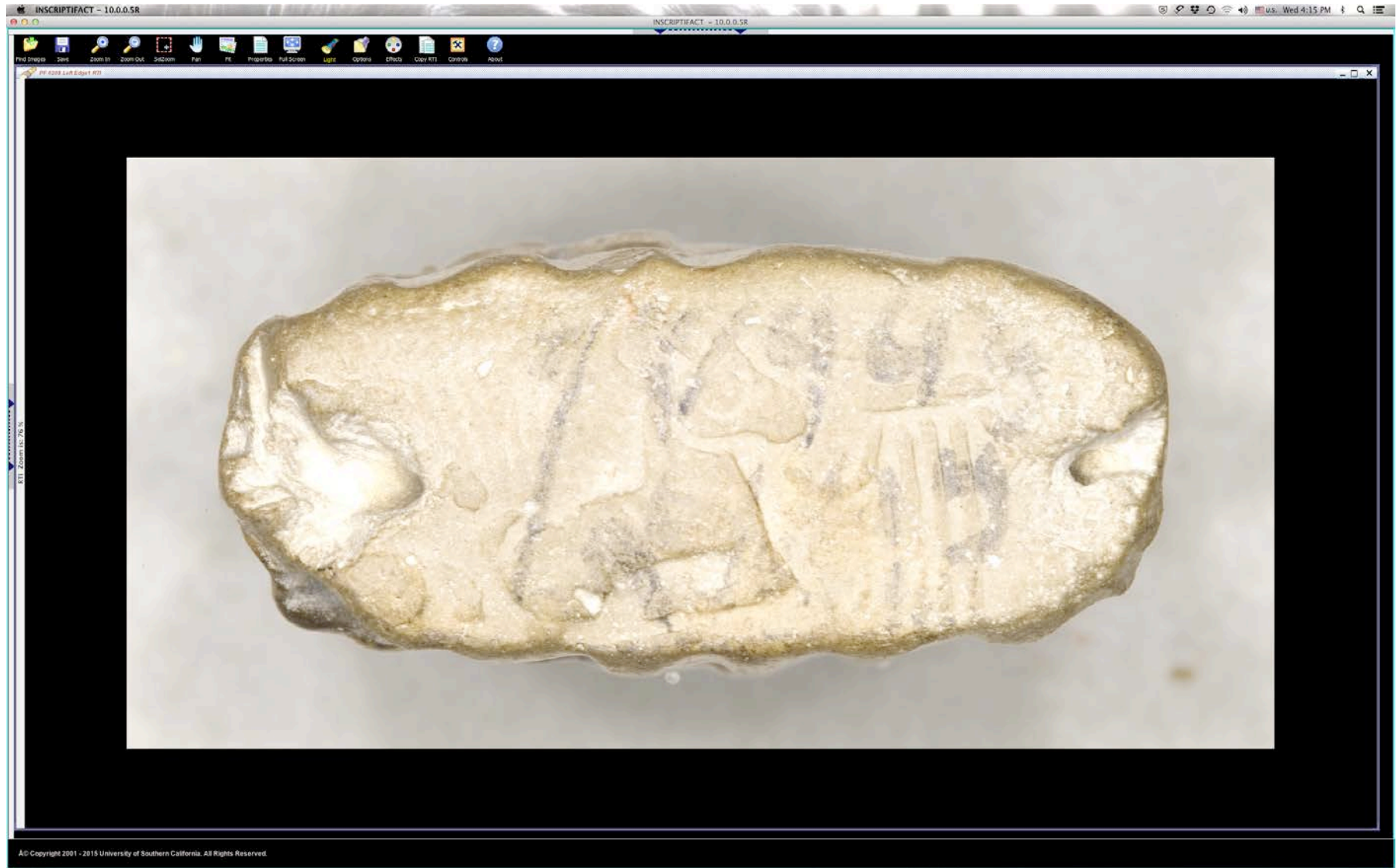
Figure 4: Full Screen view of an RTI image without the menus at the top and side.

Note: you can expand the screen *only* horizontally by clicking on the bracket symbol () at the edge of the frame. Click on it again to return to its original position. Similarly you can click on the bracket symbol (▬▬▲·············▲▬▬) at the top of the screen to

expand the screen *only* vertically. Click on it again to return to the original position.
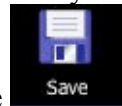
• If you single click on the **Disk** icon, you can **Save** the image on the screen. The image will be saved as a JPEG in full resolution. This can be useful for the purpose of making various types of comparisons within an image or between images. To find the image that has been saved, click on the **Find Images** icon. To download an image at full resolution, see below, **Downloading a High Resolution Image**.

The remaining tools on the tool bar are grayed out for conventional SID images, and become activated *only* for interactive light images, called RTI (Reflectance Transformation Imaging) images. Their functions are as follows:

• When the **Light** icon is chosen, you can move your cursor around the image and view the object from any light angle. If you load an RTI image, this button will automatically be activated (see figure 7a and 7b, below).

Note: You can use the directional light in combination with the zoom control even when the position of the light is outside the frame of the zoomed-in image (e.g., off to the side for a low, raking light). In that case, click on the "Controls" icon (not to be confused with the Control-Key on your keyboard) button (see below p. 21) to activate a thumbnail version of the image. When you place and click on your cursor within the thumbnail, the light will move in the main image in synchronization to its movement in the thumbnail.
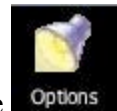
• Click on the **Options** button to choose different kinds of lighting: **Directional** is the default lighting; it allows you to view shadow detail from any single light angle based on the placement of the flashlight; **Local Light** is a narrower single light that highlights selected portions of the object (figure 8, below); **Spot Light** is a very narrow single light that only illuminates a small portion of the object (figure 9, below); (Note that you can change the narrowness of the light beam in Spot Light or Local Light by clicking the "Control" button and changing the slider bar setting for "Distance.") **Dual Lights** allows you to work with two light directions (demarcated, respectively, with green and red dots) at the same time in the same image (figures 10 and 11, below).

Note: as was the case for directional light, you can control the movement of the light in a thumbnail in synchronization with the main image and thus can move a light that is out of frame because the image is zoomed-in.

In the case of the "Dual Light" mode, as noted, the lights are designated respectively by green and red dots. The default light is the green-dot, whose default position is on the upper left. To move the light, click on the green dot with your cursor and move it accordingly, either in the main image or on the thumbnail. To switch to the red-dot, whose default position is on the lower right, move your cursor on to the red dot (either in the main image or the thumbnail) and activate it by clicking it on. You can also switch lights by clicking the appropriate buttons on the control panel.

• Click on the **Effects** button to choose various enhancements: **No Effects** is the default position; **Specular** makes the object look highly reflective, as though it has been dipped in silver—this is especially effective for hard-to-read seal impressions (figure 12, below) and other situations where minute variations in texture need to be distinguished; **Diffuse Gain** essentially enhances contrast and can be useful for sharpening an image; **Visualize Normals** assigns false color values to more clearly show how the light is reflecting off of the surface of the object (figure 13, below).

• The **Copy RTI** icon will quickly create a duplicate RTI image for side-by-side comparison using different **Options** and **Effects** (figure 14, below). Note: Unlike the download of an initial RTI image, a copy image should download very quickly because it draws upon previously cached image data from the first image.

• To modify factors such as light intensity and light spread, click on the **Controls** button. These controls will bring up Navigation Boxes with sliding scales and thumbnails for finer adjustment of the viewing features for RTI images (figure 5). Note

that any such adjustments in light intensity will *not* be seen in the thumbnail but only on the main image. The illumination on the thumbnail will remain fixed.
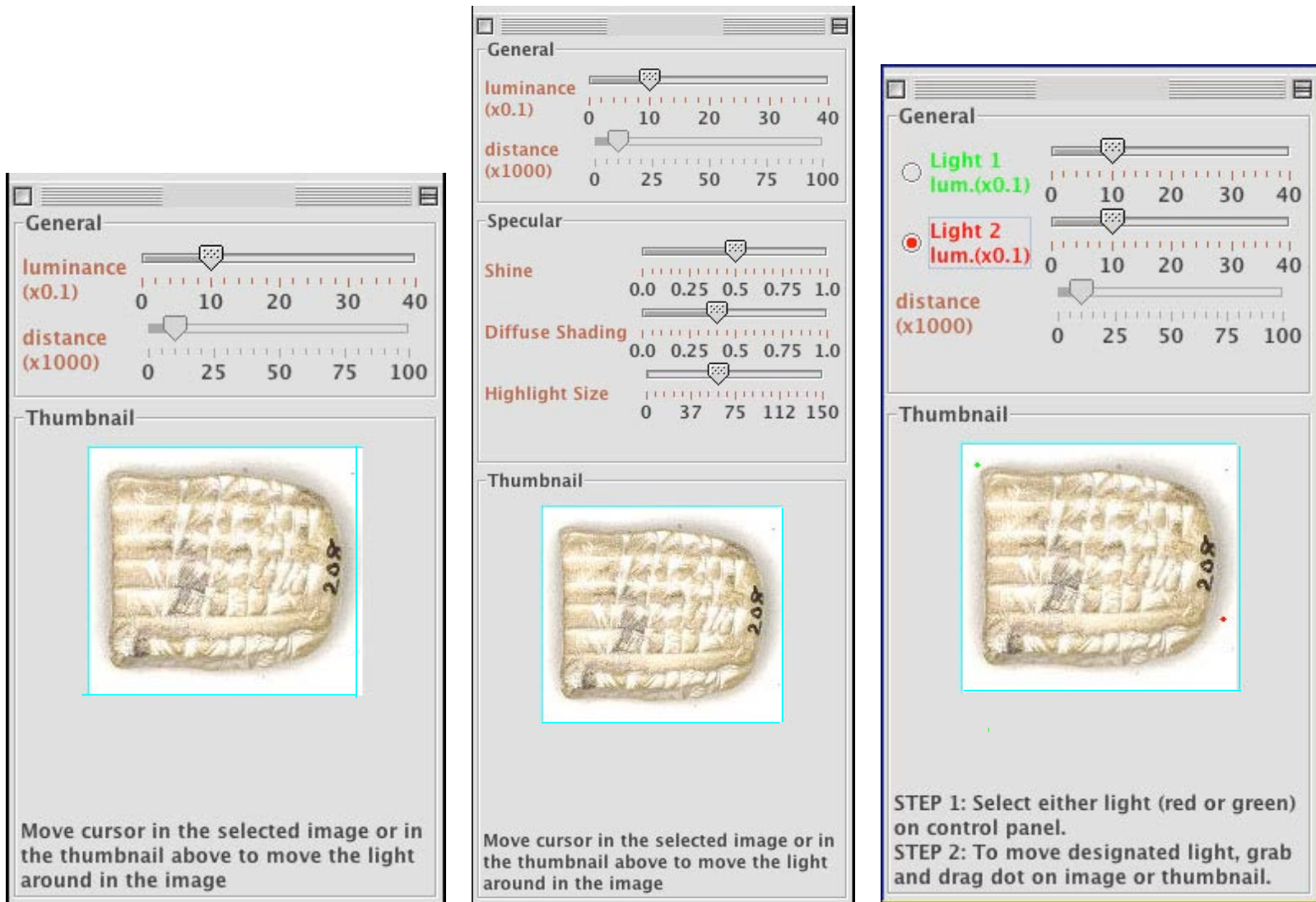

Figure 5: Controls and Navigation Box for **Normal Light**   Controls and Navigation Box for **Specular**   Controls and Navigation Box for **Dual Lights**

• The **About** icon gives copyright information for RTI images (figure 6). The information box is deactivated by clicking on the **OK** button.
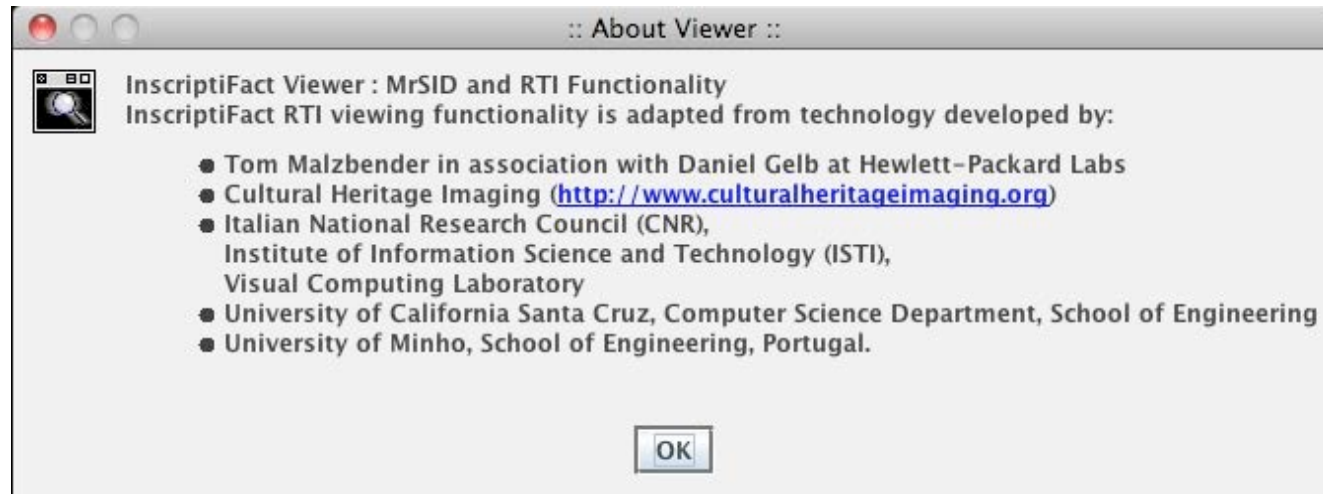

Figure 6: Credits for the RTI viewer.

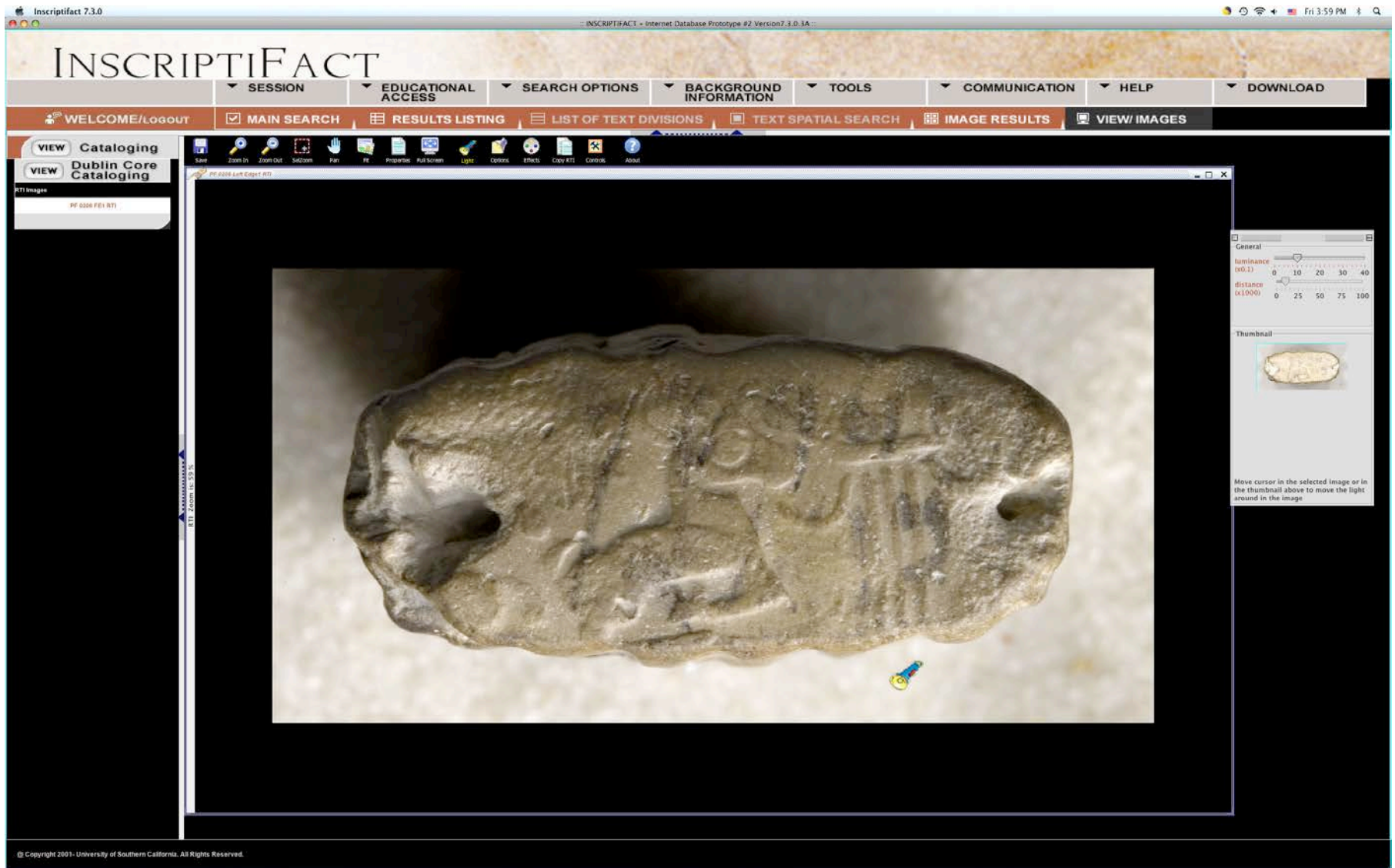Figure 7a: See caption for 7b directly below.

Figure 7b: **Directional Light**. The position of the cursor (the **Flashlight**) determines the direction from which the light appears to come: if the cursor is in the center of the object, the light direction is directly overhead; if the cursor is off to the side, the light will be low and raking from that position. Above are two different views, one with the light from the upper left (7a), the second with light from the lower right (7b); note the relative positions of the shadows for reference). Note the controls (see fig. 5) in the **Navigation Box** (upper right) that allow one to adjust the light, and to move the light around within the thumbnail image.
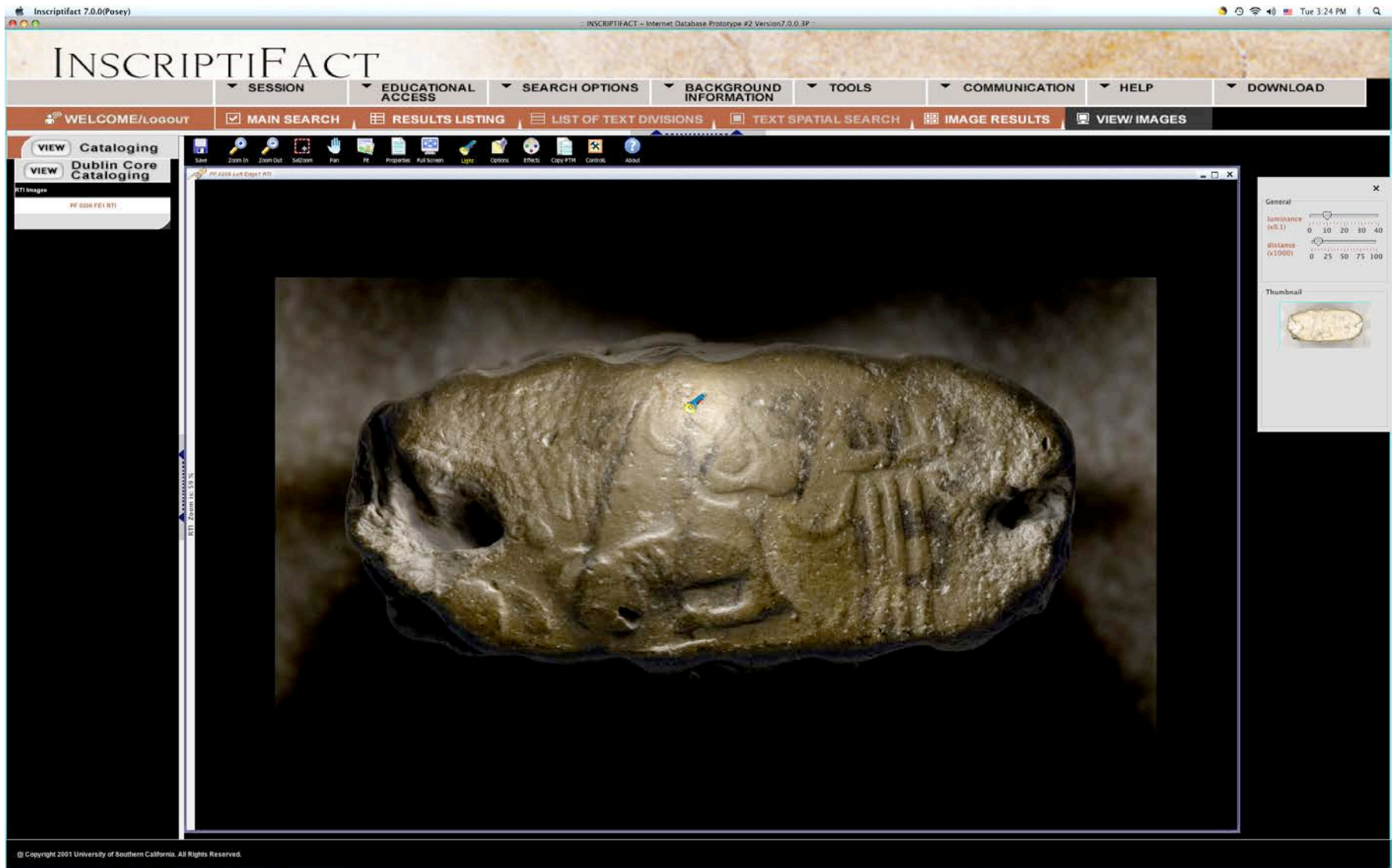
Figure 8: **Local Light**. Notice that the light is brighter over the portion of the object where the **Flashlight** icon is placed.
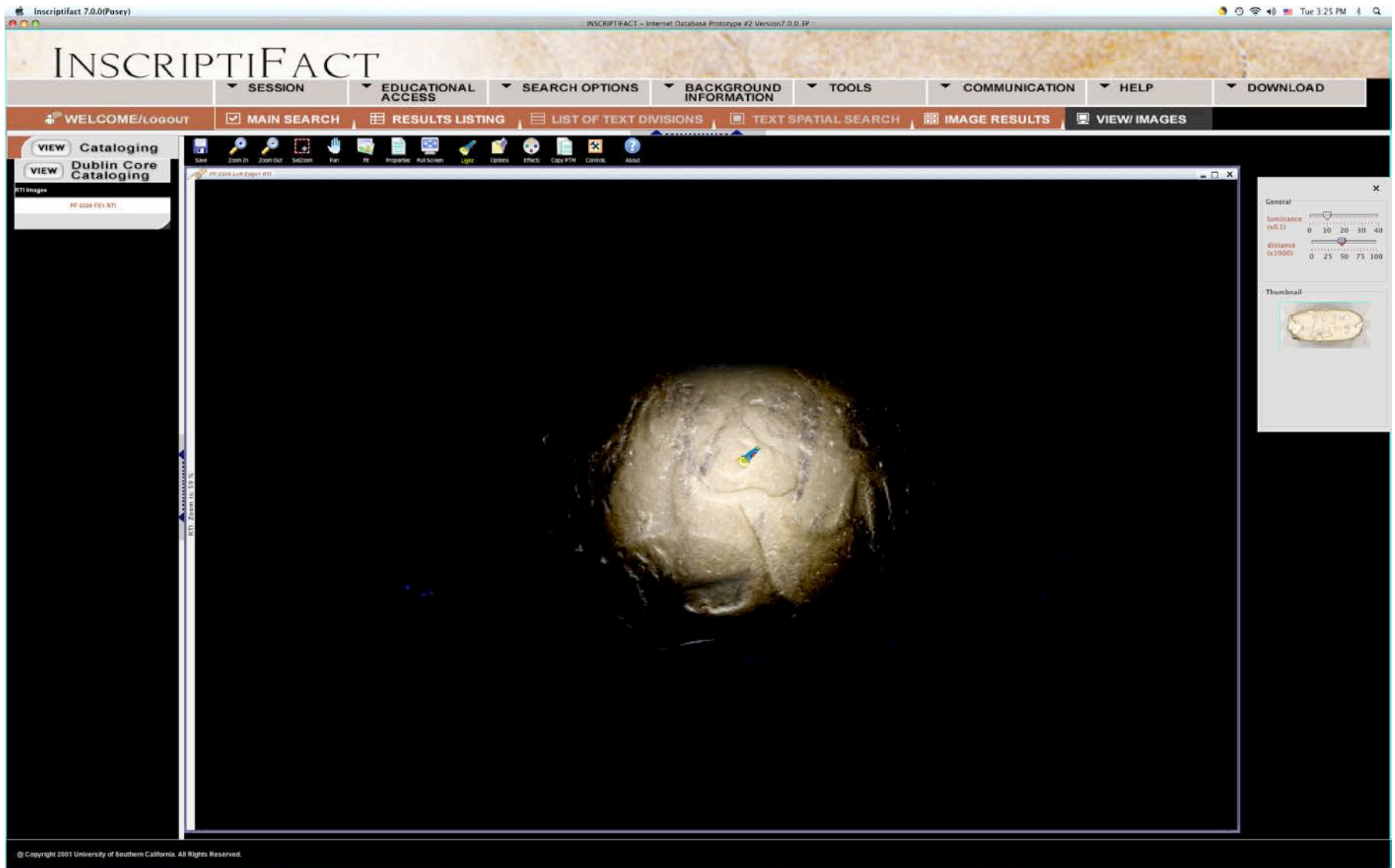For a closer look at the **Navigation Box** (upper right) for this image, see figure 5.

Figure 9: **Spotlight**. Notice that only the area where the **Flashlight** icon is located has been lit.
For a closer look at the **Navigation Box** (upper right) for this image, see figure 5.
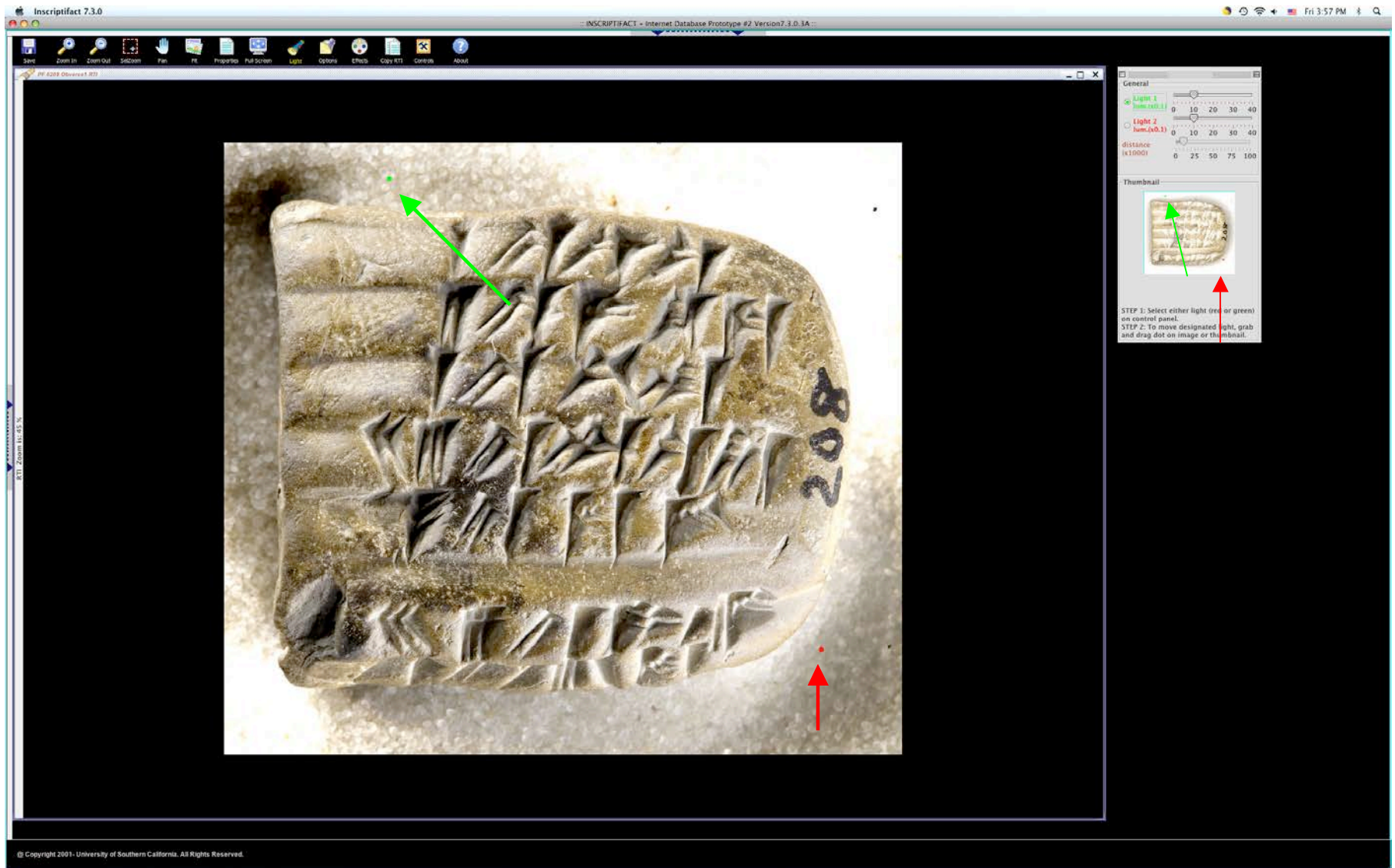
Figure 10: **Dual Lights**. Note the green and red dots on the image. These indicate the position of two different light directions—one on the upper left (note green arrow) and the other on the lower right (note red arrow). Each light can be moved around separately, and the intensity of each controlled using the sliding bars in the **Navigation Box** at the upper right of the screen. For a closer look at the **Navigation Box**, see figure 5.

Figure 11: **Dual Lights**, detail. If one wishes to zoom in on a particular part of the object, the red and green dots may disappear (since they are usually off to the side). However, the lights can still be controlled on the thumbnail image in the **Navigation Box** on the upper right of the screen. See figure 5 for a larger image of the **Navigation Box**, which shows the relationship of the light angles (see green and red arrows) to the main image.

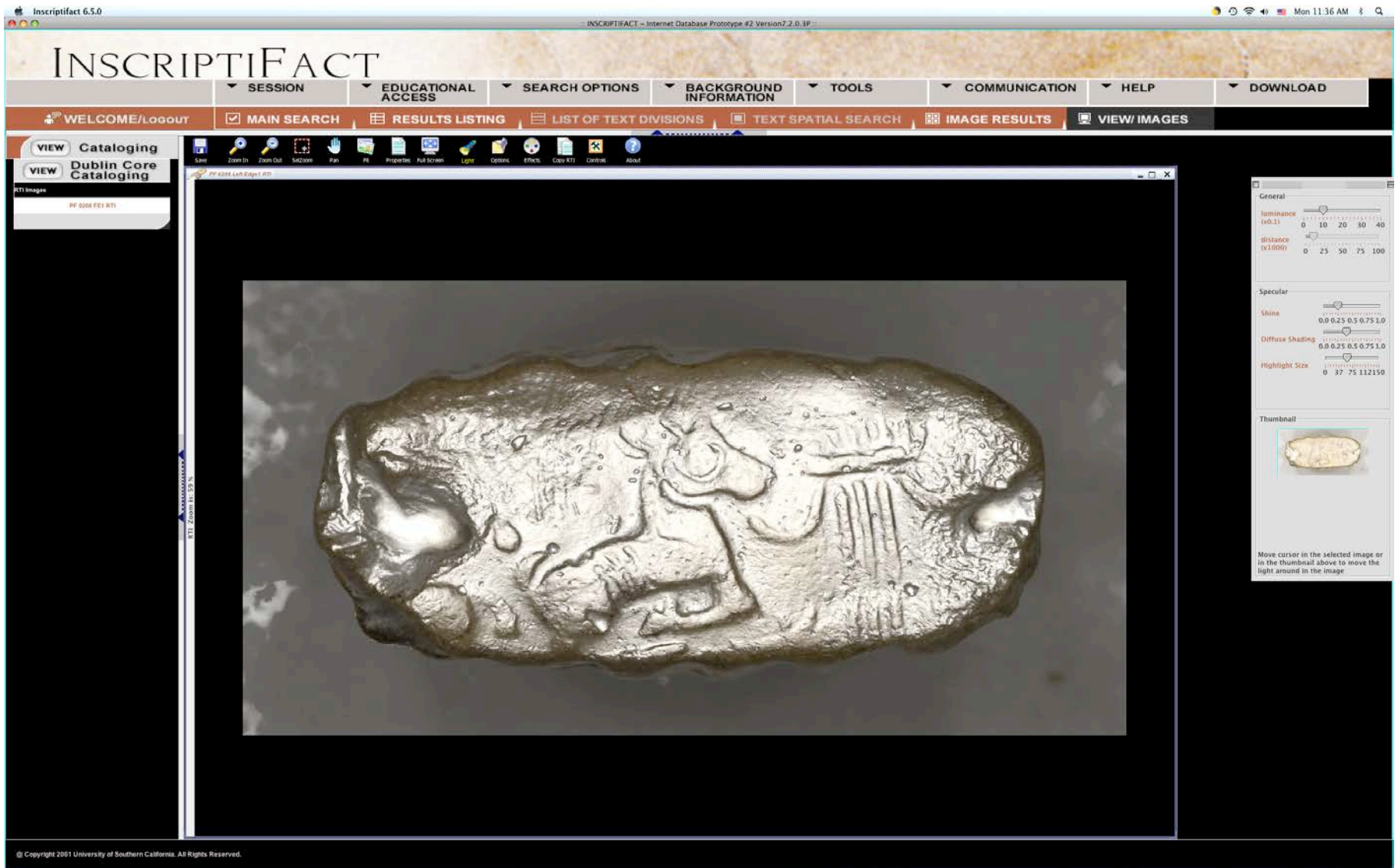Figure 12: **Specular Enhancement**. Note that the slider bars allow you to control both the spread and intensity of the light.
For close up of the controls in the **Navigation Box** (upper right), see figure 5 above.
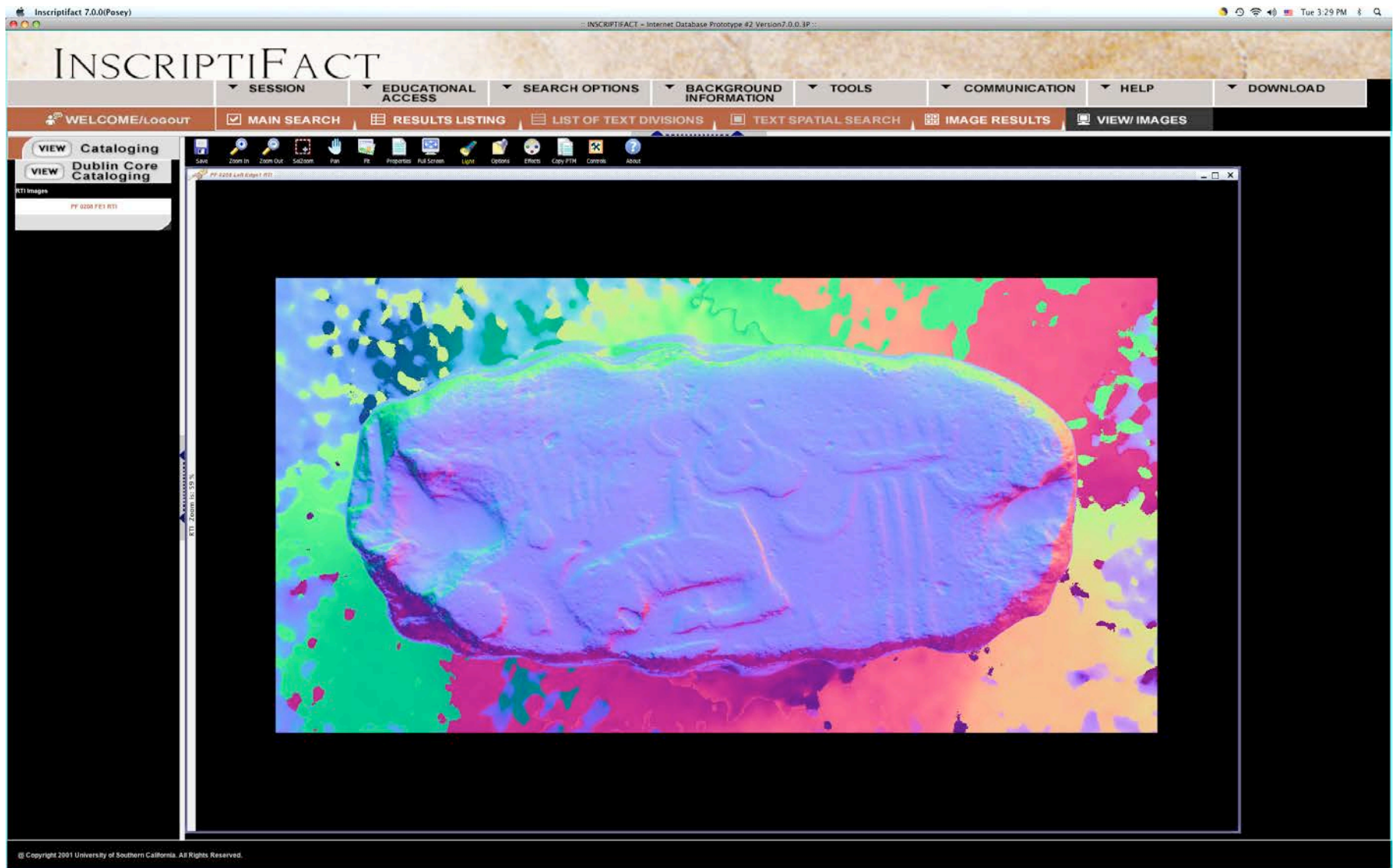
Figure 13: **Visualize Normals**. Each color represents an angle at which light is being reflected off of the surface of the object, giving one real information about the surface texture.
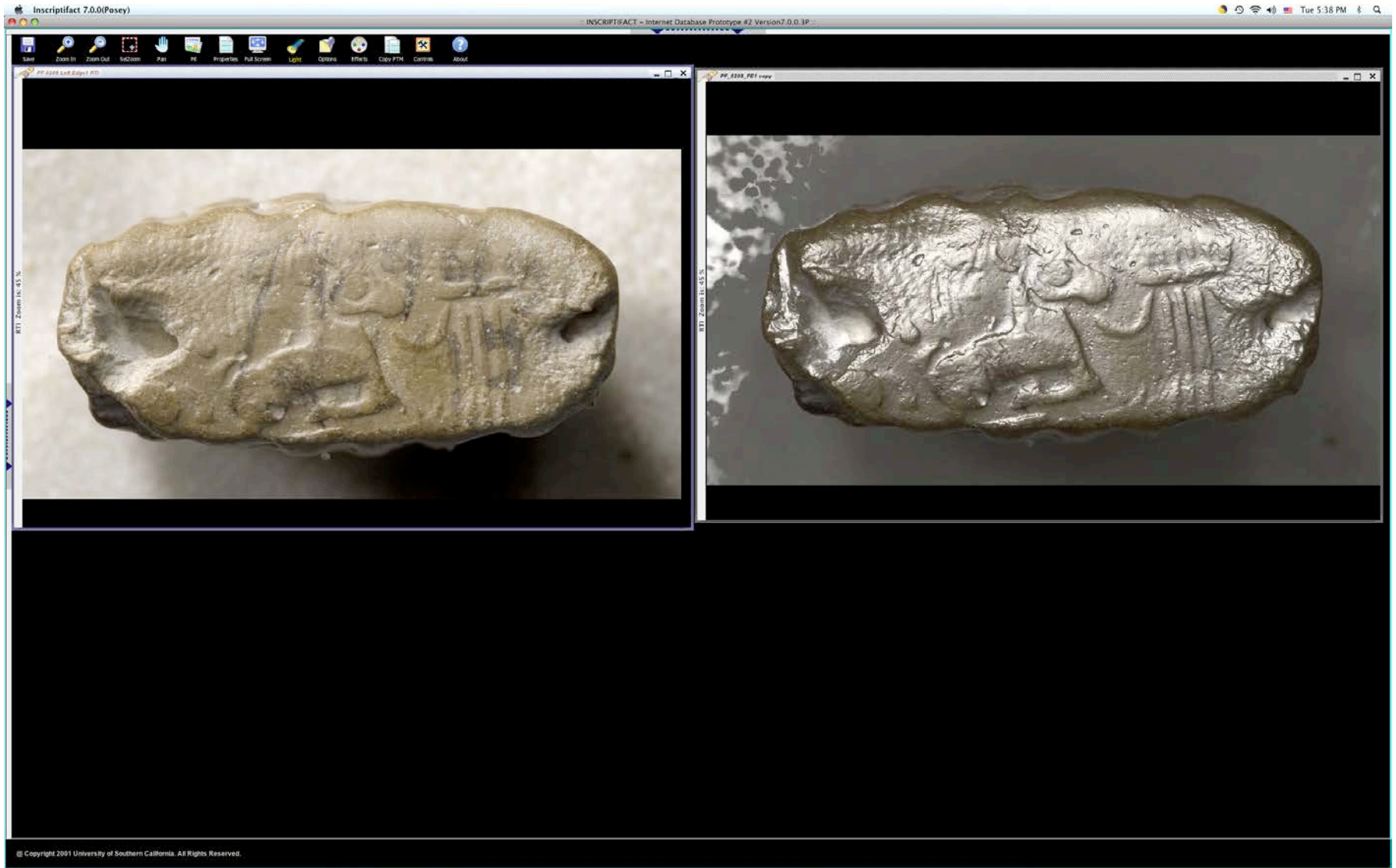
Figure 14: **Copy RTI**. One can quickly make one or more duplicate RTI images so that in each image frame one can choose a different light or effect in order to do side-by-side comparisons.

DOWNLOADING A HIGH RESOLUTION CONVENTIONAL (NON-RTI) IMAGE

• You can download a full, high-resolution conventional image or an RTI image by selecting the **Download** button on the far right of the **General Menu**, which is found at the top of your screen (figure 15). When you single-click **Download**, a drop-down menu appears with three categories: **Images, Cataloging** (which is grayed-out and currently inactive) and **Images and Cataloging** (which is also grayed-out and currently inactive). Note: you can still get cataloguing information by instituting a screen-save command while this information is displayed.

Note: You can *only* download images when it is activated and highlighted on the View Images Screen.

Figure 15: The Download menu.

• When you choose to download a JP2 image, a window will be displayed with the following message: **You have requested to download a JPEG2000 image. The jp2 image will be downloaded to /Users/yourname/Desktop/InscriptiFact_Images folder.**
• When you choose to download an RTI, a window will be displayed with the following message: **You have requested to download an RTI. The rti will be downloaded to /Users/yourname/Desktop/InscriptiFact_Images folder.**

Note: you can download as many as five JP2 images, or two RTI images at a time and they will be sent in JPEG 2000 or RTI/PTM format (as applicable). However, you must choose each image separately using the drop-down menu.

Important Note: If you have downloaded an RTI image, you will also need to download the InscriptiFact Standalone Viewer.

 A link to the InscriptiFact Standalone Viewer is located at: http://www.inscriptifact.com. The InscriptiFact Standalone Viewer provides the same general functionality, commands and controls for viewing RTI images that is offered by the InscriptiFact online viewer. But

you do not need to be connected to InscriptiFact to use RTI images that have been downloaded.

Resources for JPEG2000

Important Note: JPEG 2000 is a very high resolution image that can be read immediately in some computer formats (see below); however, in order to read it in early versions of Photoshop or After Effects, you must obtain a special program or "plug-in." Instructions for obtaining this plug-in are noted immediately below.

Photoshop Plug-In

A plug-in that allows one to view JPEG 2000 images in a Photoshop and/or After Effects environment can be obtained at no charge from http://www.fnordware.com.

> • At http://www.fnordware.com click on "j2k."

> • You will be taken to http://www.fnordware.com/j2k/. Enter your name and email address, choose your operating system and click "Download j2k."

For Macintosh

> • When you download, a file called "j2k.sit" will appear on your computer. If the file does not open automatically, open the file with a decompression program such as Stuffit Expander. The j2k folder "In Here" contains various versions of the j2k plug-in. Read the text "j2k notes.txt" to find which plug-in is best and place the plug-in in the "Plug-Ins" Folder in your application (Photoshop or After Effects).

Note: The plug-in for the Hybrid (Photoshop) folder will work in all versions of Photoshop. The plug-ins in the Carbon and Classic folders will work with After Effects 5.5 and 5.0.

For PC

> • On a PC, you will be asked whether you want to Save or Open the downloaded file. If you open it, j2k.zip will be downloaded to your computer and opened with WinZip or Aladdin Expander. If you save the file, it will be downloaded to your Programs folder and you can then open it yourself with WinZip or Aladdin Expander. In the j2k folder you will find a plug-in called j2k.8bi. Place it in Adobe/Photoshop X/Plug-Ins/File Formats or in the equivalent folder in the After Effects Application.

Other Ways of Opening JPEG2000 images.

Mac users can use **Preview** to open JPEG2000 files. Using the Export command, JPEG2000 images can then be saved in other formats, such as Photoshop, TIFF or JPEG.

PC users can download viewers from Irfanview, and Lizardtech (GeoViewer 5.5)
The application can then be installed for reading JPEG2000 images.

JPEG 2000 images in Web Browsers

Mac users can also view JPEG2000 images using **Safari**.

Windows users can download a plug-in from http://www.lizardtech.com/download/dl_options.php?page=plugins (ExpressView Browser Plug-in [MrSID]) that will enable them to view JPEG2000 images in **Internet Explorer** and **Firefox**. Follow the instructions on the site and the plug-in will be installed on your computer. System requirements are:

      Microsoft Windows XP/2003/Vista/Windows 7/Windows 8
      200MHz PC processor
      Minimum of 64 MB RAM
      Internet Explorer 8, 9, 10, Chrome 27 or Firefox 21