Vectorworks Spotlight
Light Plot Drafting Tutorial

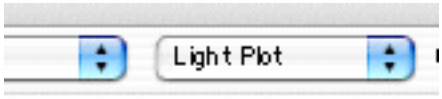
Drawing light plots can be tedious. Drawing them on a computer probably takes the same time as hand drafting, but has many advantages:

- plots are legible when printed
- handwriting errors can be avoided
- reports allow the designer to check for errors
- plots are easy to revise and update.

What follows is a very quick review of the basics of drafting light plots in Vectorworks.

The easiest way to start is with a light plot in a template. If you have a light plot for the space available, use that. If not, **File > New… > Use Template > Spotlight Imperial.** This gets you a blank page, with a simple border.

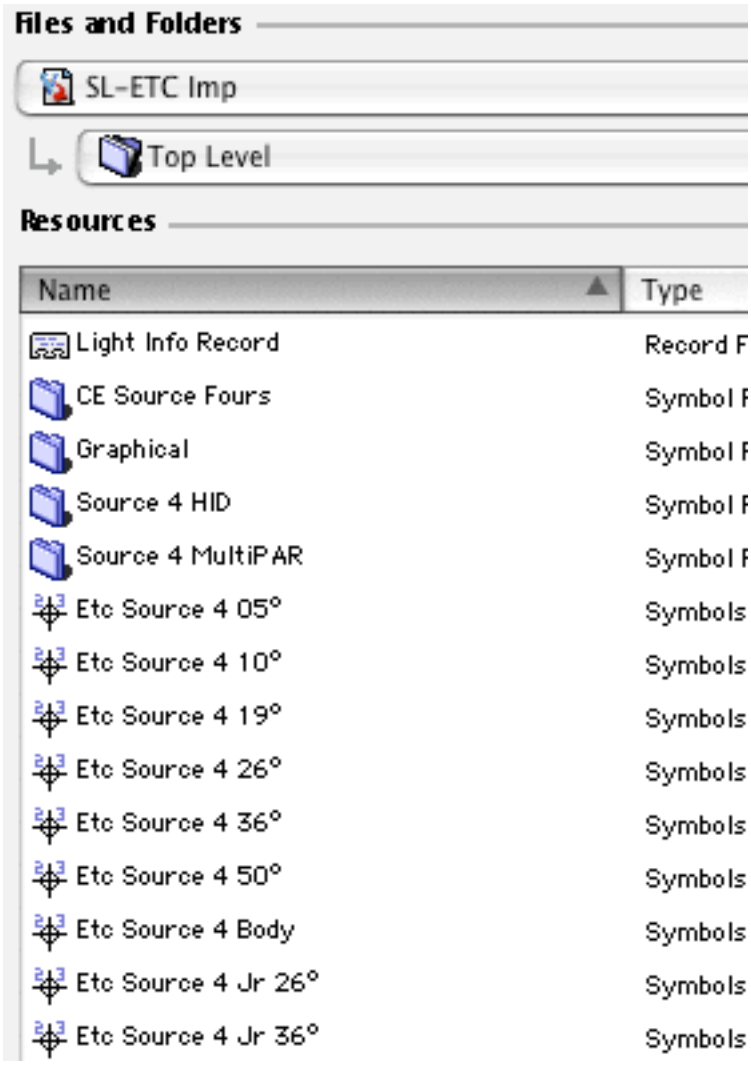
Make sure you are in the **Light Plot** layer by using the pull-down tab at the top right of the window:



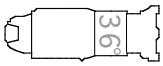
Vectorworks' Spotlight tools assume the lights you want are in the Light Plot layer. If they aren't, instrument counts and other things may be wrong. If things seem odd later on, look at the layers one at a time (use the **Layer** menu); if you see lights in the stage layer, that's probably the problem. The Spotlight template creates layers for a Title Block, Lighting Positions, Soft Goods, Scenery, and Theatre Floor Plan as well as for lights.

Now you need to find some lights. Lighting symbols are stored in a folder in the Vectorworks folder called **Object Libraries.** The various manufacturers are listed with the prefix SL (for SpotLight). These are a few of the available files: each manufacturer has a metric and an Imperial (English) measurement file, and there are other things such as accessories (barn doors, etc.). Let's try **SL-ETC Imp.mcd**.

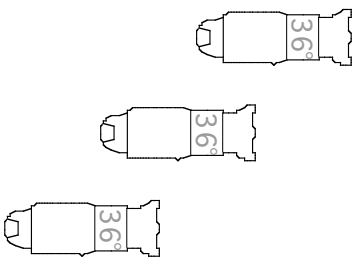
Look at the **Resource Browser** (if it isn't already open, **Window > Palettes > Resource Browser**). Here you can see every light ETC makes, including some variants you probably have never heard of (CE means European models). When you double-click on a symbol, it becomes the Active Symbol; the Insert 2D Symbol Tool will now place copies of this symbol.



Double-click on **ETC Source 4 36°**, select the Insert 2D Symbol Tool, and move the cursor onto the page. You will see an outline of a lighting symbol. The first click will establish where the light is; the second click sets which way it is pointed. So, click once to place the light, then you can rotate the symbol around until it is pointed at your stage. You will have inserted a Source 4 36:

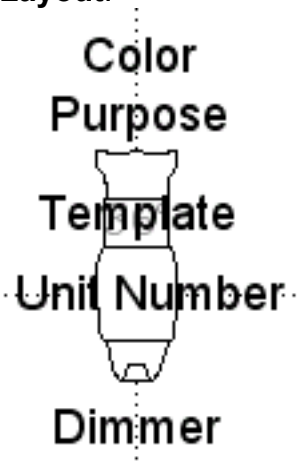


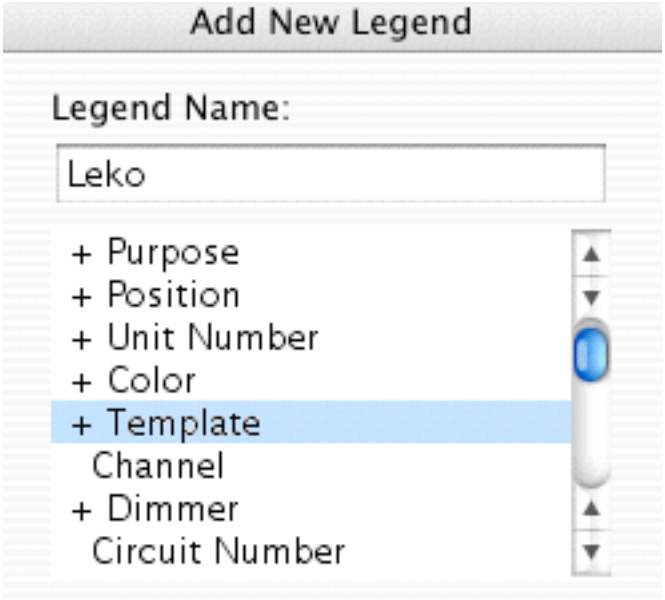
Bravo. Why not do it a few times more, so you have a set of lights.



These are now just drawing symbols. The benefit of Spotlight is that it helps you do paperwork, so we want to tell Spotlight that these are stage lights. We need to set up labels; for that select **Spotlight > Instrument Processing > Label Legend Manager** and **Add…** .Call the Symbol **Leko** just to be traditional, and select fields you want displayed by double-clicking them:

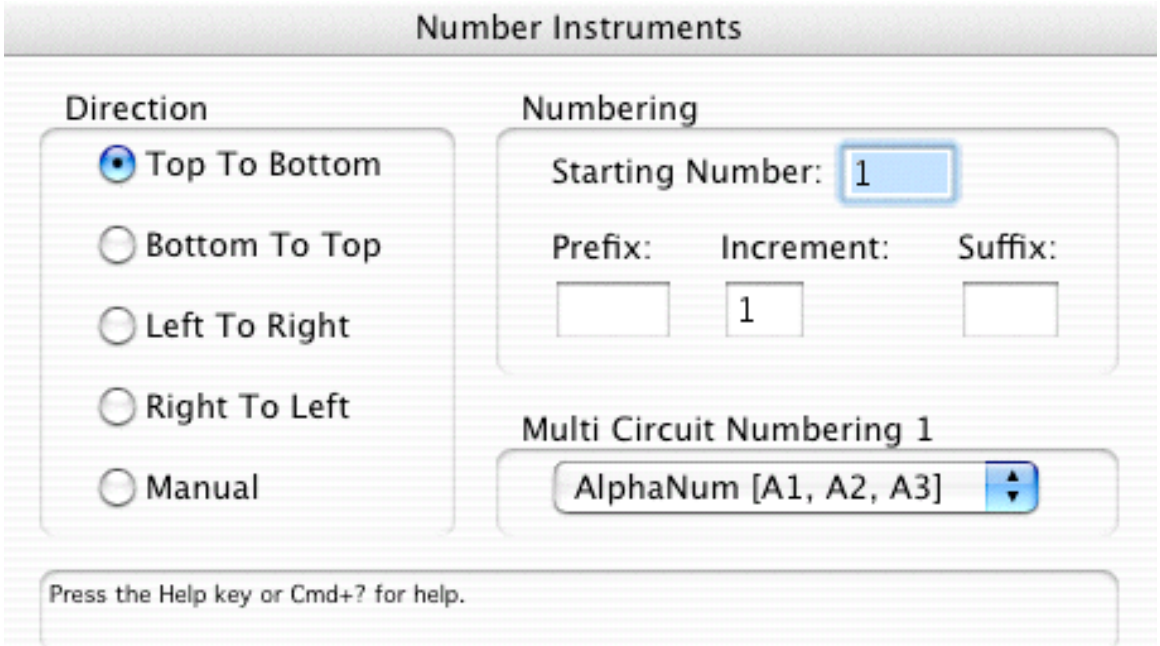
This is a legend (a set of labels) with Purpose, Position, Unit Number, Color, Template, and Dimmer selected. Actually, Position is often redundant; skip it by double-clicking it again. When you are done, click OK; then click **Edit Layout**:



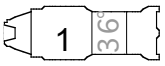


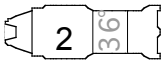
Here's the current Active Symbol, with the names of the various labels you selected. Drag them onto the symbol, and when you have it looking good, press **Exit Symbol**. You will be able to revisit this for all units, and you can always move labels around for individual units without changing the whole thing.

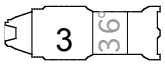
Now, you can get some benefit for all this work. Select all the instruments you have placed, either by dragging over all of them or by shift-clicking. Pick **Spotlight** > **Instrument Processing** > **Assign Legend to Instruments** and double click on the legend you have created ("Leko"). It won't seem like much has happened. Now use **Spotlight** > **Instrument Processing** > **Number Instruments**, select **Top to Bottom** and set **Starting Number** to 1:



Now the units have Unit Numbers:





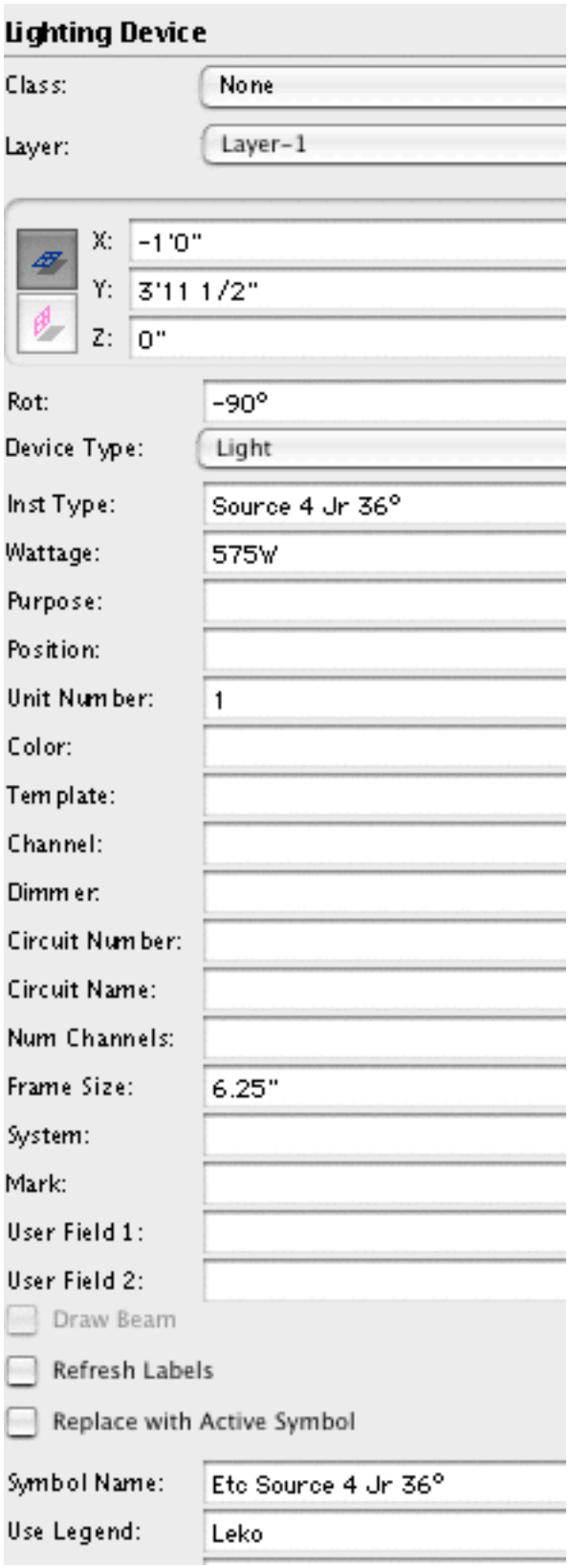


But wait, there's more.

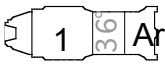
Look at the **Object Info** palette (if it isn't already open, **Window > Palettes > Object Browser**). This begins to look like something a Lighting Designer could love. You can fill in data, e.g.

Purpose	Area A
Position	1st Electric
Color	R02
Template	(a gobo number)
Channel	
Dimmer	

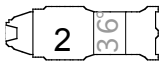
and so forth. If you had selected more than one light, any data you entered will apply to all selected lights- so you can make a whole system the same color.



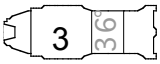
Here is an example, with some units done in a group:

3 

Area A R02

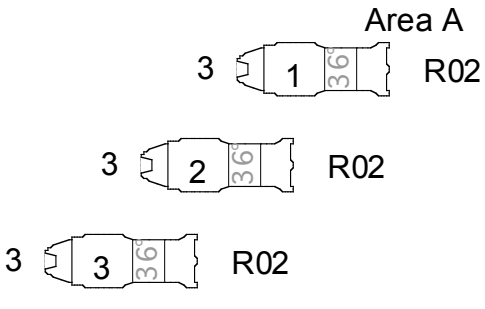
3 

R02

3 

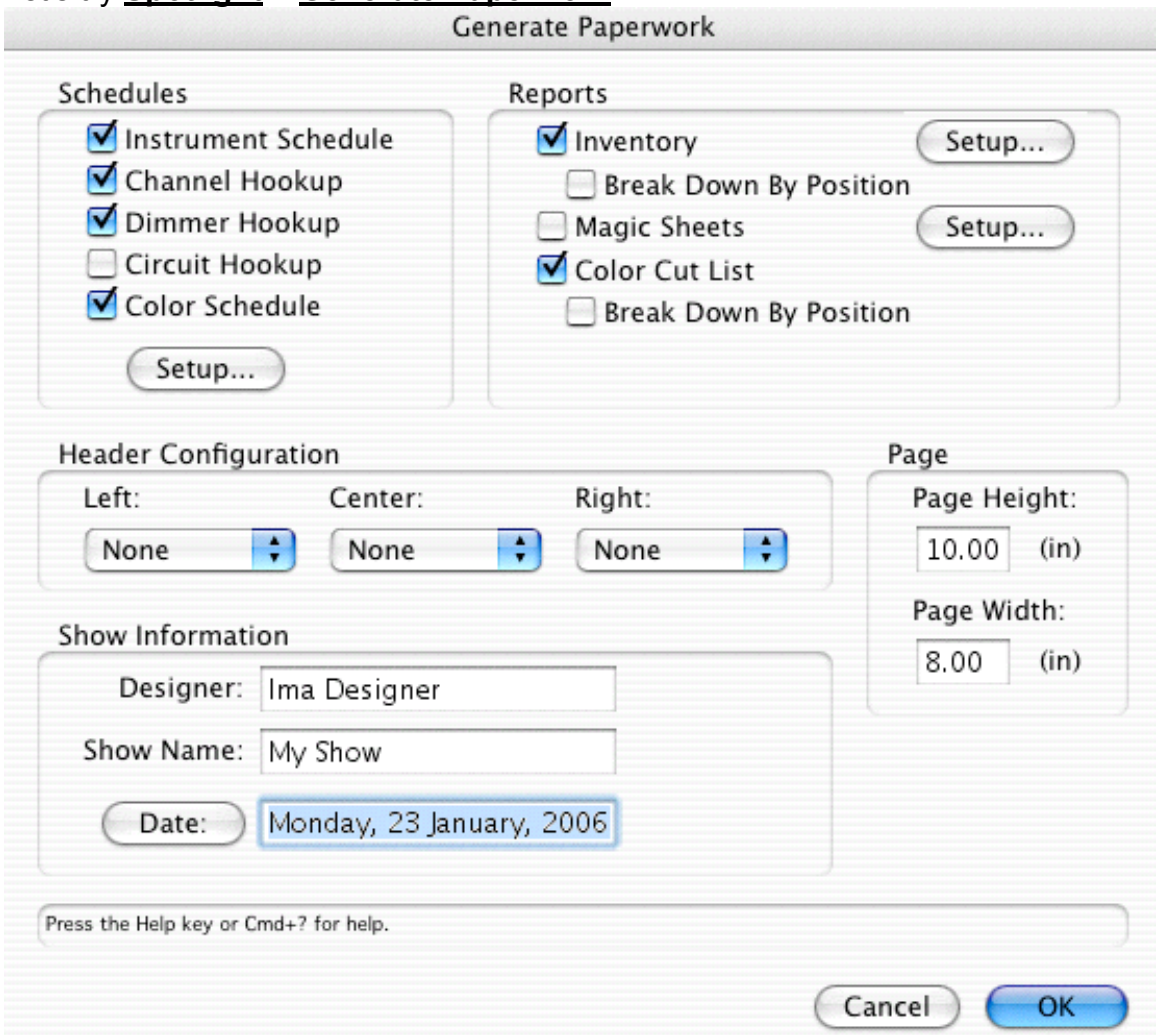
R02

Problem. The "Area A" legend overlaps our color legend. You could either fix this by going back to the Label Legend Manager and changing the way all legends work, or you could drag just the affected label. With the instrument selected, move the cursor over a label until the cursor changes to a two-headed arrow, then mouse down and drag:

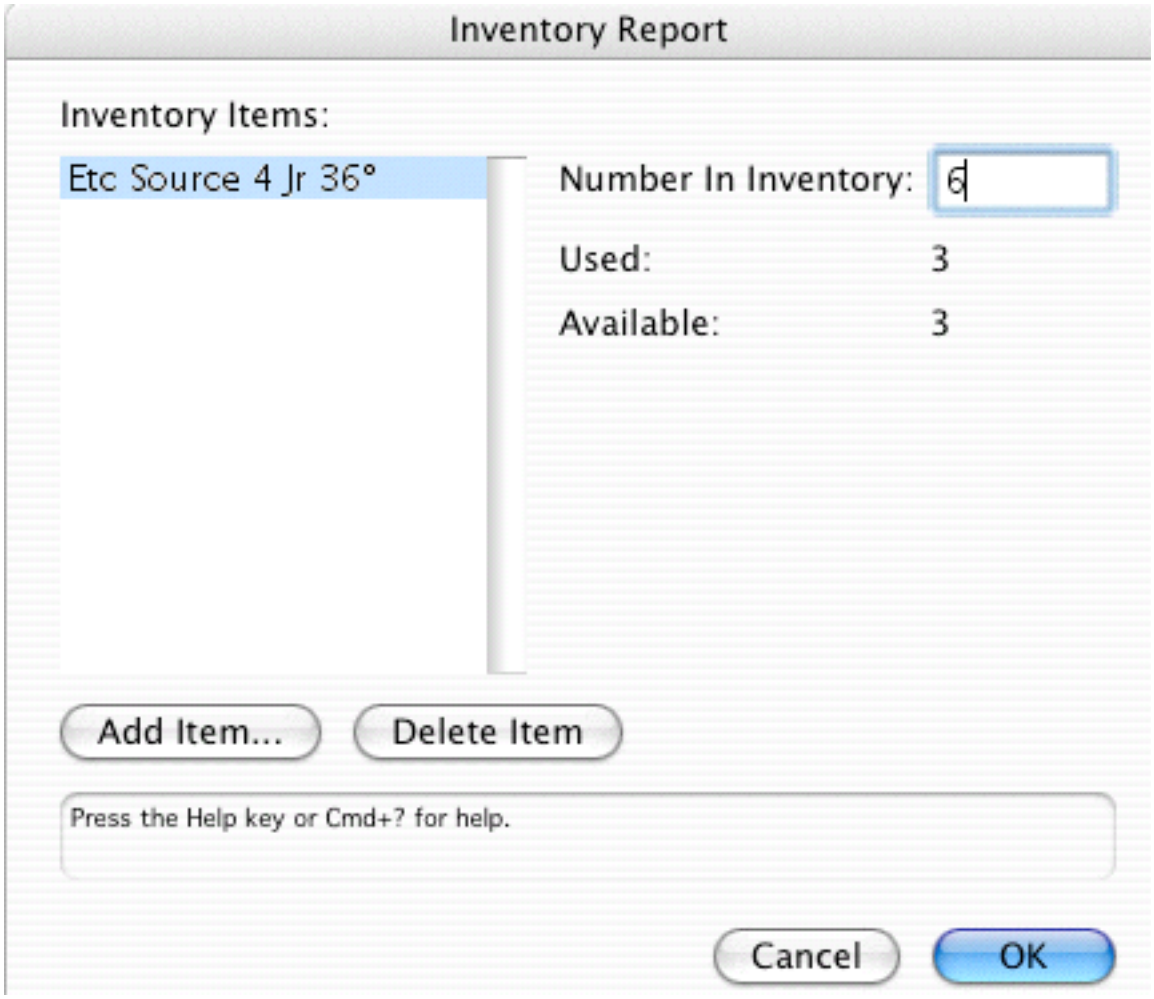


Better now.

We now have three lights on the plot, all with color, circuits, and other good stuff. Let's try **Spotlight** > **Generate Paperwork**.



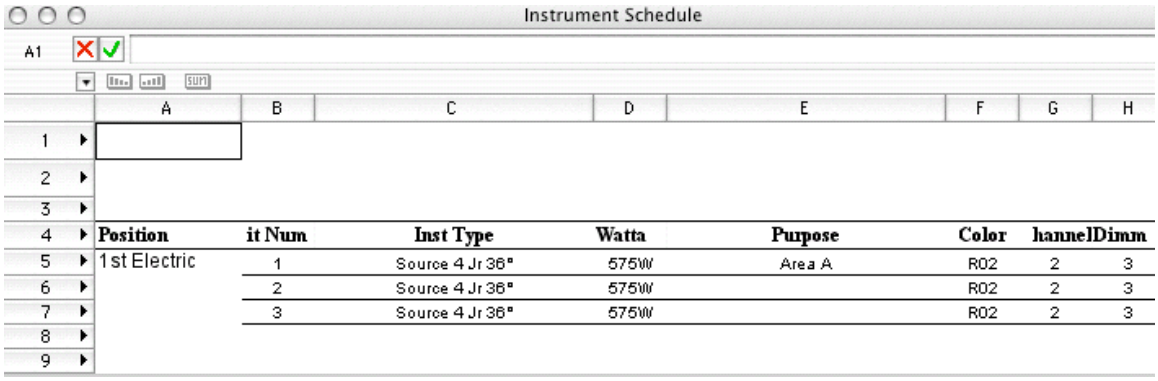
If this is the first time you have used Generate Paperwork, you will probably be asked how many lights you have in inventory:



There is only one type of light in our mini-plot; let's tell it we have 6 of them.

Now we can generate many different reports. The reports are found under **Window** > **Worksheets**. There is sort of a trick to this: only the reports you selected under Generate Paperwork appear, and they only get updated when you run Generate Paperwork. So, you need to refresh the reports when you run them. They also aren't super-good about keeping formatting. A good tactic is to run the reports and use them as working tools; when you have the plot pretty much done, make them look pretty.

Here is an Instrument Schedule:


Instrument Schedule

Position	it Num	Inst Type	Watta	Purpose	Color	hannel	Dimm
1st Electric	1	Source 4 Jr 36°	575W	Area A	R02	2	3
	2	Source 4 Jr 36°	575W		R02	2	3
	3	Source 4 Jr 36°	575W		R02	2	3

Instrument schedules get sorted by position, and the example shows the default columns. Most of this can be changed under Generate Paperwork.

Reports are their own little world in Vectorworks. In general, they are a lot like Excel spreadsheets, with many of the same mathematical and formatting tools. Vectorworks creates are report for you, and puts it in a separate window. You can mess around with it anyway you want. Reports have their own utility menu, which is not the same as the main drawing window – you access the menu with the pull-down arrow under the red X. To print a report, use this menu, NOT the normal print routine. This can take a bit of getting used to.

However, reports are where the value of doing a plot in Vectorworks really shows. Run several different reports. When you do a dimmer schedule, the dimmer with 23 circuits plugged in will be very obvious. In the instrument schedule, overlapping unit numbers will show up. Look at Purpose- are your lights spread out across the stage the way you wanted? Use Inventory Report to see how many units you have left; if you are renting leave the inventory at zero, and everything will show up as needing to be rented. Just a few minutes running and comparing reports will catch many common errors and save a lot of grief at load-in.

To print a whole plot, you want to use the normal **Page Setup** menu. Also, you may wish to use **Page > Set Print Area** to specify how many pages to print. In **Page Setup** you can use a scale factor. Traditionally, theatre light plots are drawn at 1/2" = 1'-0" scale on very large paper; because the artwork is drawn by a computer, many college designers print plots at much reduced scale to fit on smaller paper. A plot in 1/8" scale would fail the professional exam, but may work very well for a small venue.

Please save your work early and often. The default Vectorworks settings will prompt you to save every 15 minutes. That's good. Vectorworks usually allows up to 100 Undos, so you can back up. Have fun!