DPM2000: Using the Densitometer to read Plate Material : TN #30

Xrite 408 Densitometer

1. **Calibrate** the 408 according to the Xrite directions included with the densitometer.
2. **Set** the **N-Factor** to the highest setting(5.00). To do this press the two buttons indicated for calibrating the device. When it asks to do a calibration, press the button for No. When it asks for mode, press the button for Yes. Step through the functions till you get to N =. To move the number up press the zero button and then the other red button. To move the number down press the zero button and then the other blue button.
3. **Output** an **uncalibrated target** on the DPM.
4. Using the N-Factor scale, **determine** which patch truly represents **50%.** You may need a loop or some kind of magnification device to determine this.
5. Set the densitometer to read **Dot Area** (using black [v] as the color).
6. When the densitometer asks for **paper**, read the **100%** patch on the calibration target. If you get a question mark, press the zero button with the densitometer still in the depressed mode.
7. When the densitometer asks for **solid**, read the **background density of the plate**. Again if you get a question mark, press the zero button.
8. Now **read the 50% patch** you picked in step 4. If it does not read 50% reduce the N-Factor by .10. Repeat steps 5 through 8 till 50% = 50%.
9. Now **read and record each patch** of the calibration target. As you read the values you will see that 100% = 0, 90% = 10% and so on. When you get to the highlight portion of the scale the densitometer may give you density readings instead of % dot. With the densitometer still depressed, press the zero button to continue reading % dot.
10. At the DPM, set up a **new calibration set**. Be sure to **check negative media**.
11. **Enter the values** and then output a calibrated target. **Reread the values**.
12. If the target is still off (the numbers should be within 1) use **Edit Calibrated Target** to enter new values.

Xrite DTP12 or DTP32R/TR Densitometer

1. **Calibrate** the densitometer according to the Xrite directions. Press the left key to P2, then Cal, then den. The densitometer will ask for the calibration strip.
2. Figure the **nFactor**. Press the left key to **P2**. Select **Utility** then **nP**. When it asks for paper measure the 100% patch. When it asks for 50% use the patch you looked at for 50% in the nFactor scale [the scale on the calibration plate numbered 1-23 and marked nFactor]. When it asks for solid measure the background of the plate.
3. Once you have determined the nFactor, you are now ready to set up a **program** in the densitometer that will be available for reading plate material. Press the left key to **P3**, then go to **edit**. Press **pap**. You may need to scroll, by pressing other, through the programs available in the densitometer. Pick one, by pressing **go**, that is not used for another application. Here is an example of how the program should be set:

   Name: 23 Plate

   # passes: 1

   Options: nFactor (enter the number you recorded from step #2, example: 1.96).

   Output order: rev

   Min/Max: default

   Minus Paper: off

   Extra Steps: off

Pass 1 name: Plt
Measure dot: -dot
Color: gray
Steps/pass: 23
Stop location: 10
Save

4. Now you're ready to **read** the **target**. Press the left key to **P1**, then select **pap** and **23 Plat Plt**. Insert the target with the patches 100 - 0% and read the values.

IHara 720 Color Reflection Densitometer

1. **Calibrate the densitometer** according to the IHara directions. You should have an IHara calibration target to work with.
2. Push the **menu** button and select **Dot Area**. The densitometer will ask you to **measure paper**. Measure the **100%** patch. Then it will ask you to measure **Solid**. Measure the **black background of the plate**. You will need to look at the N-Factor Scale (#1-23) with a loop and determine which patch is truly 50%. When the densitometer asks for the %patch, you should measure your chosen patch.
3. If the densitometer gives you a value other than 50%, you will need to determine the **N-factor** of the plate. To do this, press the **Setup** button. Then select **N Value** and **Enter**. This will display N and a number. If you adjust the number to a higher value, it will lower the % value. For example: if the number is 1.98 and the % value is 47, by adjusting the number up, such as, 2.32 it should change the % value to 49. You should make your adjustments in small increments and check the % value. Continue to adjust the number till it equals 50%. If you need a higher % value adjust the N number lower, till you get 50%.
4. Now measure and record each value for each patch 100% - 0%. The numbers you record will look something like this: *100% = 0, 80% = 20, 40% = 60, 10% = 90, 0% = 100*. Record your values as they are measured. Now subtract each number from 100. For example: if at patch 80 it measures 18, subtract 18 from 100 = 82.
5. Now you are ready to enter the converted numbers into the **calibration set** on the **DPM**.

Xrite 500 Series Densitometer

1. At the **Main Menu** select the **Configuration Menu**. Scroll down to **Patch Smarts**. Set it to **Off**. **Exit** the **Configuration Menu**.
2. At the **Main Menu** select **Density**. Select the **Options** menu. Set **Color** to **All**. **Exit** back to the Main menu.
3. At the **Main Menu** select **Dot**. Select the **Options** menu. Set the **color** to **Visual**. Select the **50% Calibration**. When it asks for **paper** measure the **100% patch**. When it asks for **solid**, measure the **background of the plate**. When it asks for **50%**, measure the patch that best represents **50%**. The densitometer will now compute the nfactor. Select **Save n**. This will save the nfactor. **Exit** the 50% calibration and the Dot Options.
4. Now that the densitometer is set, you will again be asked to **read paper and solid** before measuring the dot area.
   A. You can select the black background of the plate for paper and the 100% patch for solid. If you set it up this way the scale will read 0=100, 30=70 and 80=20%.

   OR

   B. You can read the 100% patch as paper and the background of the plate as solid. This will produce a scale that is 0=0, 30=30 and 80=80.
5. When you want to read printed paper and/or printed four color, you will need to reset the densitometer to the origianl settings in steps 2 and 1.