stance, it would be easier to use yellow flame cabons filtered with a YF or YF 101 filter to bring the color temperature to 3200K ± 200K. Choosing the correct tool makes the job easier.

Correcting the Fluorescent Tube

Before we get into discussing the filtering of the fluorescent, it is imperative to explain that most fluorescent tubes do not have a true color temperature but rather a *correlated* color temperature. Fluorescent tubes are often referred to as Warm White, roughly 3000K, Cool White, roughly 4800K and Daylight at 6500K. The terms *warm*, *cool* and *daylight* refer to how light appears to the adaptive eye only. CCT does not take into account how the emulsion and/or target area, both of which are non-adaptive, will react to the light. Emulsion and target will register standard fluorescent light as it really is: with a predominance of blue-green wavelength which, when viewed in a screening room or on a monitor, will be seen as green since blue registers less than green.

Fluorescent tubes are in wide use in both industrial and residential applications because they are inexpensive to purchase, easy to use, and they have a high lumen-to-watt ratio. So it is more likely that you will run into them in the course of a production on location. There are several filtering options that we can utilize depending on the predominent light source, the film emulsion or video target and whether you want to add a filter to the camera lens or use a combination of filters on the light source(s) and the lens. Let's look at a number of typical possible filter solutions to these troublesome lighting situations. The excess blue green spikes in the spectral output of a fluorescent tube can be removed by a filter on the lens. An FLD or Fluorescent Daylight Filter is a precision glass used on the camera to correct to fluorescent to a daylight balance to permit shooting as the fluorescent source was now converted to daylight. To accomodate a tungsten balance, an FLB or Fluorescent Bulb (for tungsten) will bring the light reach the emulsion or target into the range of 3200-3400K. This filter reduces light reaching the emulsion by one stop. It is important to note that good results can only be assured when only fluorescent light is used without any supplemental lighting of any kind. If supplemental sources are used, poor color rendition will result as the FL filter removes the blue green from the fluorescent source and would remove the blue green from any other supplemental source.

The results would be that the supplemental lights (windows, HMI, carbon arc or dichroic/daylight balanced sources) would produce poor color rendition if left uncorrected when shooting is taking place. The exterior looking out of the window would appear pink (remember minus the green). Supplemental tungsten sources would be red and daylight sources would be rose colored. To remedy these color rendering flaws, it would be necessary to restore the green that our Minus Green filter removed. This would be a three step operation: 1) the windows which are a daylight source would have to be covered with windowgreen (FWG—a trademark of Rosco); 2) any supplementary tungsten sources would have to be covered with Tough Plusgreen 50 (FDS) or #219 Fluorescent Correction Filter (both trademarks of Rosco Labs); 3) daylight balanced sources such as carbon arcs, HMI and dichroic sources would be filtered with Tough Plusgreen (FGP) a trademark of Rosco Labs, to reinsert the green into their spectral output to achieve correct color rendition.

There are two widely accepted methods of correcting the fluorescent tubes themselves, one for daylight or cool white balance and one for tungsten balance. Tough Minus Green (FTM—a trademark of Rosco) is a magenta-colored filter, the opposite of green; when applied to the tubes themselves it absorbs the blue-