Definition: LUT=Look Up Table
Calibration: change the device. Reprogram LUT, change voltages
Characterization = set ICC color profile for device

Software: Color Eyes is best for display calibration. 10 day trial for free, full price = $175
Displays (LCD, LED?) emit POLARIZED light
Eye 1 (photonspectrometer) must be oriented to screen.

New MacBooks don’t provide sufficient power to USB to drive Eye 1. Need a powered USB hub (~$25)

Software to make color space displays: Color Think Pro ($350)
Mac stores profiles in Local/Users/library/colorsync/profiles
To set profiles on Mac: System Preferences/Display/color (tab)/, unclick ‘show profiles for this display only.
Use ‘extend display’ to calibrate projector. Mac should keep track of projector vs monitor profiles
PC stores in C:\Windows\System32\spool\drivers\color
To set monitor profile on PC: Control Panel/Appearance/Display/Change Display Settings/advanced/color management
After getting a projector calibration, may have to choose it as monitor default to get Windows to use it.

Color Eyes will create profile and set as monitor default automatically.

Calibration:

First, use hardware buttons to set overall brightness of monitor
Choose instrument: Eye1.
Choose D65 for white point.
All other settings default is OK
Color Eyes sets LUT to 45 degrees, then reads various brightness levels via Eye 1. Then it designs a profile so a given number makes the desired color. Results in a curve for each LUT: R, G and B. This becomes the monitor profile.
Color Eyes will test profile accuracy at the end. Deltas of less than 1 are good, more than 3 are bad.