

LiteLOC™ sensor-to-screen calibration

The LiteLOC sensor-to-screen calibration is performed in the factory under specific setup conditions which include the type of lens, screen, and the spectroradiometer used for measuring screen color and brightness.

Your projector's setup conditions may not match the factory setup which may result in a discrepancy in color accuracy. Upon first installation, check the accuracy of the color point and if unsatisfactory, perform this calibration. Doing this calibration captures all the variables of your setup and achieves the best results. By doing this calibration, you will not overwrite the factory calibration. Once satisfied, some scenarios may exist in which you may need to re-do the calibration in the future.

Re-doing this calibration is required if the following is replaced:

- Color sensor board

Re-doing this calibration is optional if any of the following are replaced:

- Light engine
- Lens
- Laser optical subsystem (LOS)
- Screen
- Any other optical components in the optical path between the LOS and the screen

After replacing these components, check the accuracy of the color point and if unsatisfactory, re-do this calibration.

Affected products

The following products are affected:

- Christie M RGB Series
- Griffyn 4K35-RGB
- Griffyn 4K50-RGB

Calibrating the LiteLOC™ feature

Follow this procedure to generate the calibrated data.

1. Download the LiteLOC Sensor-to-screen Calibration workbook from the Christie website.
 - a) Go to URL: <https://www.christiedigital.com/products/projectors/all-projectors/>
 - b) On the product page, select the model and switch to the **Downloads > Technical Reference** tab.

2. Make sure the projector is set up in representative ambient light and ambient temperature conditions for LiteLOC calibration (20 to 30°C/68 to 86°F).
3. Connect the projector to an applicable power source for the intended operation (220V or 110V).
Before establishing the connection to the Photon controller, the projector must be powered up and illuminating.
4. Establish a connection to the Photon controller using Kore Librarian on port 5103.
5. From the display panel, select **MENU > Admin > Service**.
6. Enter the service password.
7. Select **Light & Output Settings**.
8. Set the brightness at 70 to 80%.
The exact color and brightness are not important as this step is to help align the spectroradiometer only.
9. Enable the white test pattern by selecting **White Test Pattern > Enabled**.
10. Disable the color correction by selecting **Color Correction Mode > Max Drives**.
11. Set fan profile to standard by selecting **Fan Speed Profile > Standard**.
12. Setup a spectroradiometer, such as the CR-250, on a tripod.
Place the meter perpendicular to the screen to achieve accurate measurements. Christie recommends using a CR-250 or better.
13. Disable LiteLOC by selecting **LiteLOC disabled**.
14. The RGB setpoints should be set to the maximum accessible levels by the system and reduce two of the three the **Red Laser Setpoint**, **Green Laser Setpoint**, and **Blue Laser Setpoint** sliders as necessary to achieve the target white point
The limits on the manual sliders are not influenced by temperature or humidity factors as they are fixed limits.
15. Allow 20 minutes for the laser devices to stabilize at the new values.
16. Use the spectroradiometer to make sure the required color point has not drifted.
You may need to make minor adjustments to the red, green and blue laser setpoints. If necessary, make the adjustments using the three laser setpoint sliders. A wait period is not required after making minor adjustments.
17. In row 9 of the LiteLOC Sensor-to-screen Calibration workbook, enter the current settings from the previous step for red, green, and blue.
The drive percentages in columns A, B, C of rows 15 to 23 are calculated based on these settings. The example values in the workbook are red=73.86%, green=84.55%, and blue=60.41%.
18. To set the laser drive levels for row 15 of the workbook, in Kore Librarian run the command from column K (`RGB+MODE 1 IR IG IB`).
The example command in the workbook is (`RGB+MODE 1 6386 7455 5041`).
19. Perform the measurement using the spectroradiometer and record the returned values for x, y, and fL in columns G, H, and I of row 15 of the workbook.
The example values in the workbook are $x=0.3334$, $y=0.2885$, and $fL=510$.
20. To obtain the color sensor values for the first set of drive percentage values in row 15, run the command from column N, row 24 (`RGB+MEAS?`) in Kore Librarian.

21. Record the returned values for SX, SY, and SZ in columns D, E, and F of row 15 of the workbook.
The example values in the workbook are SX=3073532, SY=2564292, and SZ=1265818.
22. Repeat steps 16 to 19 for rows 16 to 23.
23. From row 28 of the workbook, copy the highlighted command and run it in Kore Librarian.
The example command in the workbook is (RGB+CAL2 "5137" "610" "345" "0" "534" "4490" "34" "0" "-167" "57" "1640" "0" "-125503" "-133936" "-57954" "1" "637" 10).
LiteLOC calibration is now complete.
24. From the display panel, select **MENU > Admin > Service > Light & Output Settings > LiteLOC > Enabled**.
25. Power off and restart the projector.
26. From the display panel, select **MENU > Configuration > Light & Output Settings > LiteLOC** and confirm LiteLOC is enabled.
The brightness slider and x, y controls are now available.

Technical support

Technical support for Christie Enterprise products is available at:

- North and South America: +1-800-221-8025 or Support.Americas@christiedigital.com
- Europe, Middle East, and Africa: +44 (0) 1189 778111 or Support.EMEA@christiedigital.com
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