



Photography Challenge: Lighting experimentation

In the ALEPH mission, controlling and optimising lighting conditions is essential for capturing clear images of plants within closed systems like payload containers. Lighting can affect not only the visibility of plant details but also the overall quality of the images. Issues such as glare on the container's surface and fogging can interfere with the clarity of the photos. This challenge focuses on experimenting with different lighting setups to optimise visibility while mitigating common issues, such as glare and condensation.



The ALEPH project is an Australian payload putting seeds and plants on the Moon.

What you'll need:

- This Instruction booklet (check!)
- Small plants or grown from seed
- Container or pot with clear lid
- Water
- Camera or smartphone
- Lighting Source – Natural light, desk lamp, ring light, coloured LED lighting or other adjustable light sources
- (Optional) Readily available materials for reflecting or diffusing light (e.g., baking paper, mirror, tin foil, etc.)
- (Optional) Anti-fogging spray or cloth to address fogging on the container lid

Caution: When using electrical lighting sources, ensure they are kept away from water. Avoid placing any electrical devices near wet surfaces to prevent shock or damage. Also be mindful that lights can get hot, so avoid touching light bulbs.



Your Objective: Experiment with different lighting setups to optimise plant photography in closed containers. Focus on reducing glare from the container roof and addressing fogging issues that may arise from the plant's environment.

Set the Scene

1. Place or grow the plants inside a transparent container on a flat surface.
2. Water the plants and close the lid.
3. Set up your lighting sources and camera/smartphone in front of/above the container so that it is positioned to capture the plant through the container lid.

Ensure your container and camera setup are stable and secure. Be cautious when adjusting lighting sources, and always place electrical items on stable surfaces to avoid spills or tipping.

Steps



1. Experiment with Lighting Conditions:

- **Natural Light:** Start by using sunlight (e.g., outdoors or near a window) to illuminate the plant. Observe how the light interacts with the container surface and whether it causes glare or uneven reflections. Consider adding materials like a mirror or tin foil to focus light on your subject
- **Artificial Light*:** Try a desk lamp or ring light from different angles. Adjust the light to see how it affects the visibility of the plant through the container. Consider adding materials like baking paper to diffuse light
- **Coloured light:** Introduce coloured lights or use coloured filters to experiment with different lighting tones. Try testing warm (yellow, red) vs. cool (blue, green) tones to see the effect on the overall image.

Address Fogging Issues:

- If the container fogs up due to humidity, wipe the container with an anti-fogging spray or a clean cloth.
- Consider experimenting with proximity of light source to the lid of the container to add heat.

2. Capture the Shot:

- Once satisfied with lighting angle, brightness and diffusion, take multiple images, adjusting the lighting conditions slightly with each shot to ensure you capture the best version.

3. Take Notes:

- Note down successful lighting strategies based on your experimentation.

*Caution: Keep lighting sources a safe distance from the container to avoid overheating or burns. Always allow lamps to cool down before handling them.

Share your results!



<https://forms.gle/1TcEVCj5fK8bxqwF9>

Share your results by uploading them via the form above or posting them on Instagram with the tag @plantsonthemoonau or hashtag #plantsonthemoon.

Disclaimer: The creators of this project have taken all reasonable measures to ensure the activities are safe and educational. However, participants are responsible for following instructions carefully and conducting all activities in a safe manner. Adult supervision is required for all participants under the age of 15, and for any use of sharp, hot, or electrical tools.