Project Title: Exploring the Impact of Camera Settings and Environmental Conditions on Photographic Sharpness: A Factorial Experiment.

Abstract

This study investigates the impact of various camera settings and environmental conditions on the sharpness of photographs, an essential quality metric in photography that influences both consumer choice and product development in the camera and smartphone industries. Conducted through a 3 factorial experiment, this research examines three primary factors: the use of flash (on or off), the environment (indoor with moderate lighting or outdoor in sunlight), and different aperture settings (specifically the standard value of 2.8, half of the standard, 1.4, and double the standard, 5.6). Using an iPhone to capture images, the experiment aims to discern the individual and combined effects of these variables on image sharpness. The results are expected to provide valuable insights that could help consumers make better-informed decisions and assist manufacturers in improving camera technology. This study's findings may also suggest ways to optimize photographic technology for enhanced image quality, potentially impacting future advancements in the field.