In this study, the effects of different wavelengths on the growth rate of *Chlorella vulgaris* using fluorescent and monochromatic LEDs (red, blue, green, orange, daylight and white colour groups) at the same light intensity (125 μmol.m⁻².s⁻¹) measuring the growth rate under laboratory conditions. *C. vulgaris* cultures were grown in Bold medium and kept at the constant room temperature at 26 ± 2°C, lamps illuminated with fluorescent and monochromatic LEDs with photoperiod 16:8 (L:D). Results of the study showed that the highest growth rate were recorded from the culture treated with blue color and the control group and red color with % 13.3 and % 12.5 respectively.