

Abstract**SYSTEM AND METHOD FOR DETECTING DEFECTS USING IR WAVELENGTH FOR
DRY OPHTHALMIC LENSES**

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A system to inspect Dry Cosmetic contact lenses for defects such as imperfect structures, improper pattern prints, print smears, wrong colour, embedded foreign material or contaminants, wherein the said lens is printed with multilayers of ink on the anterior surface
10 using at least one colourant and a binding polymer comprising: a) a Top camera to capture an image of the cosmetic lens; b) a Top illumination designed using IR wavelength LEDs positioned at an acute angle to the vertical axis and integrated with a lens system to produce a parallel and collimated illumination field; c) a bottom illumination designed using IR wavelength LEDs to illuminate the lens posterior; d) an optically transparent glass plate to
15 accurately locate the lens at a predetermined position and also to diffuse the illumination; e) a contact lens under inspection placed on the transparent glass plate with its anterior surface facing the Camera and Top illumination; f) the Top and Bottom illumination designed using segmented LEDs arrangement, to provide programmable triggering of LED segments for intensity and trigger duration, dynamically.

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Figure 1