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STUDY OF GLARING EFFECT FROM LIGHT EMITTING DIODES VIA LENS APPROACH

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ABSTRACT- The purpose of this study was to evaluate the glaring effect from light emitting diode (LED) streetlights using two different brands of lenses. The evaluation was performed by using DIALux 4.1.3 with 70 W LED luminaires by taking into consideration of the same road lighting designs at a pole distance of 35 m and pole height of 10 m on a 7 m wide road. Calculation was performed on a section defined by one pole on one side of the road (single row). The pole height, light overhang and boom length was 10 m, 1 m and 1.5 m, respectively. The light loss factor was 0.85. Tracepro was used to simulate the distribution of light by tracing rays. All mounted luminaries have three zones of light outputs, which were the Backlight, Uplight and Frontlight (Glare) known as BUG rating. The lower the BUG rating was, the fewer light trespass problems the fixture would cause.

Keywords: Glaring, LED streetlight, DIALux 4.1.3, Tracepro.