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(54) **A LIGHT EMITTING DIODE, LED, BASED LIGHTING DEVICE ARRANGED FOR EMITTING A PARTICULAR EMITTED LIGHT FOLLOWING A PLANCKIAN LOCUS IN A COLOR SPACE**

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(57) **ABSTRACT**

A Light Emitting Diode, LED, based lighting device arranged for emitting a particular emitted light following a Planckian locus in a color space, the LED based lighting device comprises a first LED channel comprising a plurality of LEDs, wherein the first LED channel is tuned to emit light having a first chromaticity in the color space, a second LED channel comprising a plurality of LEDs, wherein the second LED channel is tuned to emit light having a second chromaticity in the color space, a controller for activating the first and the second LED channel such that LED based lighting device emits light having a color in between the first and the second chromaticity in the color space, wherein the LED based lighting device further comprises a third LED channel connected in between the at least two LED channels, wherein the third LED channel comprises one or more LEDs and wherein the third LED channel is tuned to emit light having a third chromaticity in the color space, wherein the third LED channel effectuates that at least one LED of the second LED channel is activated when the first channel is actuated, thereby ensuring that the emitted light follows the Planckian locus in the color space in between the first and the second chromaticity in the color space.