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(54) **SYSTEMS AND METHODS FOR COLOR TARGETING FOR ACCURATE WHITE COLORS AND SATURATED COLORS**

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(57) **ABSTRACT**

A method of driving a plurality of LED-based light sources to provide accurate white points and saturated color points. The method includes receiving or setting a selectable target chromaticity; determining that the selectable target chromaticity is between two vertices of the global common gamut; defining an inner region within the global common gamut; calculating a first directed distance between the selectable target chromaticity and the transition boundary of the inner region and a second directed distance between the selectable target chromaticity and a straight side of the global common gamut; and modifying the selectable target chromaticity to a modified target chromaticity within a light fixture gamut based at least in part on the calculated first and second directed distances; or generating an activation signal for driving the plurality of light sources based on the selectable target chromaticity based at least in part on the calculated first and second directed distances.

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