Title (en)

MULTI-PRIMARY LED COLLIMATION OPTIC ASSEMBLIES

Title (de)

OPTISCHE ANORDNUNGEN VON MULTIPRIMÄRER LED-BÜNDELUNG

Title (fr)

ENSEMBLES OPTIQUES DE COLLIMATION A DIODES ELECTROLUMINESCENTES PRIMAIRES MULTIPLES

Publication

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Application

EP 07869896 A 20071226

Priority

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Abstract (en)

[origin: WO2008080165A2] The present invention relates to an optical assembly which improves color uniformity and improved collimation of light produced by multiple LED light sources in a light engine. The optical assembly is specifically tailored to match the placement of the solid-state emitters making up the light engine or light producing element. Specifically, a shaped free-form spline patch inner collimation lens having an optimized cross-sectional shape and micro-ridges is used to disperse light; multi-lobe TIR collimation lens having an optimized cross-sectional shape and micro-ridges is used to disperse and redistribute phase as well as provide collimation; primary mixing lenslet array having an optimized surface is used to disperse light from the light emitter; a spline profile reflector further mixes and collimates the light; a secondary lenslet array further mixes the light; and a secondary collimation lens further collimates the light.

IPC 8 full level

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