



# Phosphor Information Leaflet

## GENERAL

Name	Calcium scandium silicium garnet cer
Chemical formula	$\text{Ca}_3\text{Sc}_2\text{Si}_3\text{O}_{12}:\text{Ce}^{3+}$
Application areas	Phosphor converted LED, optical marker
Optical transition	$[\text{Xe}]4f^1 ({}^2F_{5/2}) - [\text{Xe}]5d^1$

## OPTICAL PROPERTIES

Excitation maxima @ 630 nm	450 nm (2,76 eV)
Emission maximum @ 470 nm exc.	505 nm (2,46 eV)
Centroid wavelength	549 nm (2.26 eV)
Full width @ half emission maximum	105
Lumen equivalent	453 lm/W <sub>opt.</sub>
CIE1931 chromaticity coordinates (x, y)	0.319, 0.579
Band edge of host lattice	-
Reflection @ 450 nm	32 %
Decay time $\tau_{1/e}$	~ 50 ns

## PHYSICAL PROPERTIES

Body colour	
Density	3.5 g/cm <sup>3</sup>
Refractive index (at $\lambda$ )	~ 1.9
Mineral type	Garnet
Crystal system	Cubic
Space group (#)	Ia-3d (230)



