



# Phosphor Information Leaflet

## GENERAL

Name	Calcium aluminum silicon nitride europium
Chemical formula	$\text{CaAlSiN}_3:\text{Eu}^{2+}$
Application areas	Light emitting diodes (warm-white CCT)
Optical transition	$[\text{Xe}]4f^7 ({}^8\text{S}_{7/2}) - [\text{Xe}]4f^65d^1$

## OPTICAL PROPERTIES

Excitation maxima @	450 nm (2.75 eV)
Emission maximum @ 405 nm exc.	650 nm (1.91 eV)
Centroid wavelength	664 nm (1.86 eV)
Full width @ half emission maximum	92 nm
Lumen equivalent	108 lm/W <sub>VIS</sub>
CIE1931 chromaticity coordinates (x, y)	0.663, 0.336
Band edge of host lattice	5.2 eV
Reflection @ 254 nm	37 %
Decay time $\tau_{1/e}$	~ 1 $\mu\text{s}$ ( $\text{Eu}^{2+}$ )

## PHYSICAL PROPERTIES

Body colour	Orange
Density	3.23 g/cm <sup>3</sup>
Refractive index (at $\lambda$ )	-
Mineral type	-
Crystal system	Orthorhombic
Space group (#)	$\text{Cmc}2_1$ (36)



