



Phosphor Information Leaflet

GENERAL

Name	Yttrium aluminium garnet cerium
Chemical formula	$Y_3Al_5O_{12}:Ce^{3+}$
Application areas	Light emitting diodes, Fluorescent lamps with high CRI
Optical transition	$[Xe]4f^1(^2F_{5/2})-[Xe]5d^1$

OPTICAL PROPERTIES

Excitation maxima @	340 nm (3.65 eV), 460 nm (2.70 eV)
Emission maximum @ 460 nm exc.	560 nm (2.21 eV)
Centroid wavelength	588 nm (2.11 eV)
Full width @ half emission maximum	115 nm
Lumen equivalent	433 lm/W _{opt.}
CIE1931 chromaticity coordinates (x, y)	0.447, 0.534
Band edge of host lattice	178 nm (6.98 eV)
Reflectance @ 460 nm	18 %
Decay time $\tau_{1/e}$	65 ns

PHYSICAL PROPERTIES

Body colour	Yellow
Density	4.55 g/cm ³
Refractive index (at λ)	1.80 (589.3 nm)
Mineral type	Garnet
Crystal system	Cubic
Space group (#)	Ia-3d (230)



