



Phosphor Information Leaflet

GENERAL

Name	Lutetium aluminum garnet cerium
Chemical formula	$\text{Lu}_3\text{Al}_5\text{O}_{12}:\text{Ce}^{3+}$
Application areas	Light emitting diodes, x-ray detectors Scintillator crystals for PET

OPTICAL PROPERTIES

Excitation maxima @	330 nm (3.76 eV), 450 nm (2.76 eV)
Emission maximum @ 450 nm exc.	520 nm (2.31 eV)
Centroid wavelength	544 nm (2.28 eV)
Full width @ half emission maximum	99 nm
Lumen equivalent	530 lm/W _{opt.}
CIE1931 chromaticity coordinates (x, y)	0.332, 0.581
Band edge of host lattice	160 nm (7.75 eV)
Reflection @ 450 nm	20 %
Decay time $\tau_{1/e}$	54 ns

PHYSICAL PROPERTIES

Body colour	Greenish yellow
Density	6.7 g/cm ³
Refractive index (at λ)	1.84 (589 nm)
Mineral type	Garnet
Crystal system	Cubic
Space group (#)	I a -3 d (230)

