



Phosphor Information Leaflet

GENERAL

Name	Lanthanum oxyfluoride praseodymium
Chemical formula	LaOF:Pr ³⁺
Application areas	Optical marker
Optical transition	Pr ³⁺ : [Xe]4f ² (³ H _J) – [Xe]4f ² (³ P _J , ¹ D ₂)

OPTICAL PROPERTIES

Excitation maxima @ 630 nm	198 nm (6.3 eV), 245 nm (5.1 eV)
Emission maximum @ 470 nm exc.	493 nm (2.5 eV), 657 nm (1.9 eV)
Centroid wavelength	628 nm (2.0 eV)
Full width @ half emission maximum	lines
Lumen equivalent	124 lm/W _{VIS}
CIE1931 chromaticity coordinates (x, y)	0.345, 0.372
Band edge of host lattice	~ 5.0 eV
Reflection @ 250 nm	65 %
Decay time $\tau_{1/e}$	~ 100 μ s

PHYSICAL PROPERTIES

Body colour	White
Density	6.0 g/cm ³
Refractive index (at λ)	~1.7 (589 nm)
Mineral type	Fluorite related structure
Crystal system	Tetragonal
Space group (#)	P4/nmm (129)



