



# Phosphor Information Leaflet

## GENERAL

Name	Lutetium phosphate bismuth
Chemical formula	$\text{LuPO}_4:\text{Bi}^{3+}$
Application areas	UV-C radiation sources
Optical transition	$[\text{Xe}]4f^{14}5d^{10}6s^2 (^1S_0) - [\text{Xe}]4f^{14}5d^{10}6s^1 6p^1 (^1P_0)$

## OPTICAL PROPERTIES

Excitation maxima @ 630 nm	155 nm (8.00 eV), 168 nm (7.38 eV)
Emission maximum @ 470 nm exc.	235 nm (5.28 eV)
Centroid wavelength	272 nm (4.56 eV)
Full width @ half emission maximum	10 nm
Lumen equivalent	-
CIE1931 chromaticity coordinates (x, y)	-
Band edge of host lattice	150 nm (8.27 eV)
Reflection @ 250 nm	80 %
Decay time $\tau_{1/e}$	~ 1 $\mu\text{s}$

## PHYSICAL PROPERTIES

Body colour	white
Density	6.5 g/cm <sup>3</sup>
Refractive index (at $\lambda$ )	1.7
Mineral type	Xenotime
Crystal system	Tetragonal
Space group (#)	I4 <sub>1</sub> /amd (141)



