



# Phosphor Information Leaflet

## GENERAL

Name	Lanthanum phosphate cerium terbium
Chemical formula	LaPO <sub>4</sub> :Ce,Tb
Application areas	Fluorescent lamps (Colour 80)
Optical transitions	Ce <sup>3+</sup> : [Xe]4f <sup>1</sup> ( <sup>2</sup> F <sub>5/2</sub> )-[Xe]5d <sup>1</sup> Tb <sup>3+</sup> : [Xe]4f <sup>8</sup> ( <sup>7</sup> F <sub>6</sub> )-[Xe]4f <sup>8</sup> ( <sup>5</sup> D <sub>4</sub> )

Excitation maxima @	280 nm (4.43 eV)
Emission maximum @ 254 nm exc.	542 nm (2.29 eV)
Centroid wavelength	566 nm (2.19 eV)
Full width @ half emission maximum	Lines
Lumen equivalent	454 lm/W <sub>opt.</sub>
CIE1931 chromaticity coordinates (x, y)	0.346, 0.589
Band edge of host lattice	150 nm (8.3 eV)
Reflection @ 254 nm	8 %

## PHYSICAL PROPERTIES

Body colour	White
Density	5.06 g/cm <sup>3</sup>
Refractive index (at λ)	n <sub>α</sub> = 1.78, n <sub>β</sub> = 1.78, n <sub>γ</sub> = 1.84 (589.3 nm)
Mineral type	Monazite
Crystal system	Monoclinic
Space group (#)	P2 <sub>1</sub> /c (14)



