



## Phosphor Information Leaflet

### GENERAL

Name	Lanthanum scandate manganese
Chemical formula	$\text{LaScO}_3:\text{Mn}^{4+}$
Application areas	Plant growth
Optical transition	$[\text{Ar}]3d^3 (^4A_2) - [\text{Ar}]3d^3 (^4T_2)$

### OPTICAL PROPERTIES

Excitation maxima @ 703 nm	353 nm (3.5 eV), 393 nm (3.2 eV),
Emission maximum @ 400 nm exc.	703 nm (1.8 eV)
Centroid wavelength	706 nm (1.8 eV)
Full width @ half emission maximum	21 nm
Lumen equivalent	8 lm/W <sub>VIS</sub>
CIE1931 chromaticity coordinates (x, y)	0.715, 0.284
Band edge of host lattice	6.0 eV
Reflection @ 300 nm	19 %
Decay time $\tau_{1/e}$	~5 ms

### PHYSICAL PROPERTIES

Body colour	Yellow
Density	5.8 g/cm <sup>3</sup>
Refractive index (at $\lambda$ 589 nm)	
Mineral type	Perovskite
Crystal system	Orthorhombic
Space group (#)	Pnma (62)

