



## Phosphor Information Leaflet

### GENERAL

Name	Rubidium germanate manganese
Chemical formula	$\text{Rb}_2\text{Ge}_4\text{O}_9:\text{Mn}^{4+}$
Application areas	pcLEDs for horticulture lighting
Optical transition	$[\text{Ar}]3d^3 (^4A_2) - [\text{Ar}]3d^3 (^4T_2)$

### OPTICAL PROPERTIES

Excitation maxima @ 272 nm	300 nm (4.1 eV), 330 nm (3.8 eV), 480 nm (2.6 eV)
Emission maximum @ 160 nm exc.	667 nm (1.9 eV)
Centroid wavelength	667 nm (1.9 eV)
Full width @ half emission maximum	25 nm (0.07 eV)
Lumen equivalent	39 lm/W <sub>VIS</sub>
CIE1931 chromaticity coordinates (x, y)	0.73, 0.27
Band edge of host lattice	
Decay time $\tau_{1/e}$	0.7 ms

### PHYSICAL PROPERTIES

Body colour	light yellow
Density	4.83 g/cm <sup>3</sup>
Refractive index (at $\lambda$ )	
Mineral type	Wadeite
Crystal system	Trigonal
Space group (#)	$P-3c1$ (165)

