



## Consolite Technology Data Sheet

**Part No: CTL-L010**

**Part name: Filter, Green LED Display**

The filter is optimised for use with a green LED display, of nominally 565-568nm peak wavelength, to provide full compliance with MIL-STD-3009. It also functions as a very efficient contrast enhancement filter as the filter spectral transmission is closely matched to the LED emissions to ensure optimum visibility of the display. Thickness is 2.7mm. An anti-reflection coating to one face is provided as standard to further enhance performance.

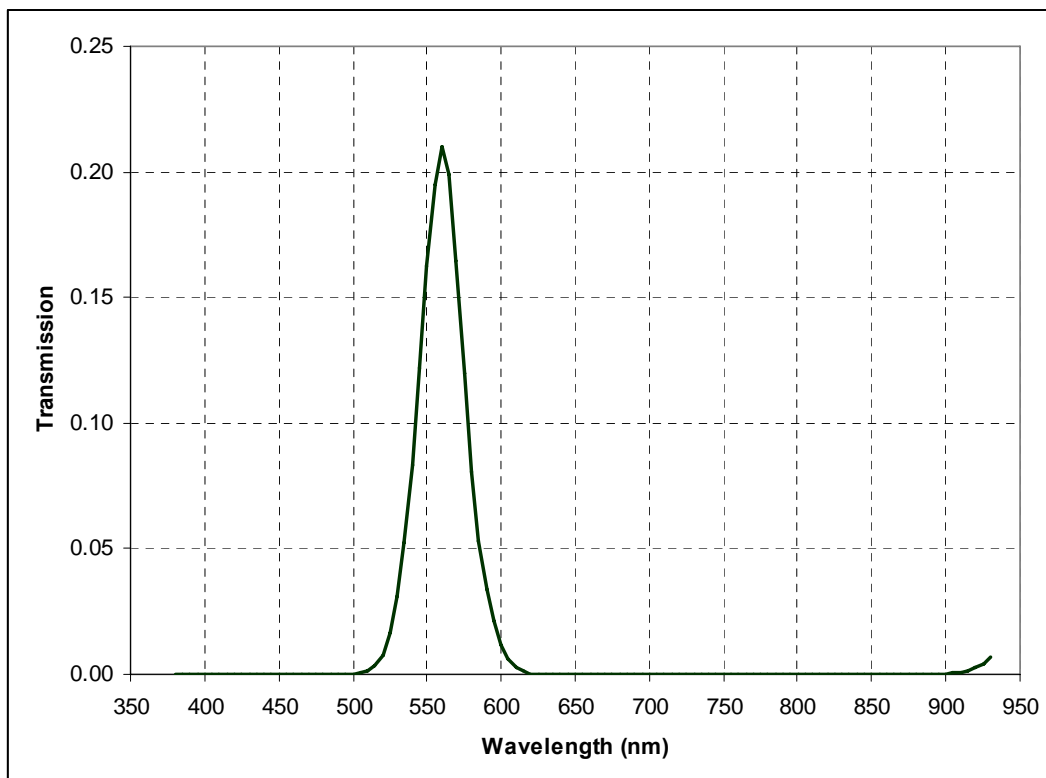
The filter is of a unique hybrid construction, comprising a three part laminate of a polymeric absorption filter with outer layers of clear glass. It combines the benefits of the consistency and versatility of the polymer material with the environmental resistance and ability to carry a coating of glass.

Typical performance figures are quoted for a 568nm peak wavelength LED alphanumeric display. Exact figures may vary.

### Typical performance

NVIS Radiance		Chromaticity		Photopic transmission
NR <sub>A</sub> @ 0.1fL	NR <sub>B</sub> @ 0.1fL	u'	v'	
7.34E-11	5.52E-12	.184	.572	13%

### Spectral Transmission



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## Environmental

The filter has been designed to withstand the following environmental tests:

MIL-STD-810B	Method 503/Proc1	Temperature Shock
MIL-STD-810B	Method 509/Proc1	Salt Fog
MIL-STD-801B	Method 510/Proc1	Dust
MIL-STD-810E/F	Method 501.3/Proc1&2	High Temperature (storage & operating)
MIL-STD-810E/F	Method 502.3/Proc1&2	Low Temperature (storage & operating)
MIL-STD-810E/F	Method 504	Fluid Contamination
MIL-STD-810E/F	Method 505.3/Proc1	Solar Radiation
MIL-STD-810E/F	Method 507.3/Proc3	Humidity
MIL-STD-810E/F	Method 508.4	Fungus
MIL-STD-810E/F	Method 520.1/Proc3	Temperature –Altitude-Humidity
MIL-C-6781B		Explosive Decompression

The filter has successfully been subjected to a range of temperature and humidity tests without catastrophic failure. These include:

### High Temperature Exposure

The laminate was exposed to 100°C continuously for ten days. The laminate remained intact and there was no evidence of cohesive failure of glass, polymer or adhesive, or of adhesive-glass failure. Furthermore there was no degradation to the spectral transmission properties of the filter.

### Humidity / Temperature Exposure

The laminate was exposed to 100%RH / 85°C for 48 hours. The laminate remained intact with no evidence of cohesive or adhesive failure. Again there was no degradation to the spectral transmission properties of the filter.

### Thermal Shock

The laminate was subjected to 1200 thermal shock cycles from +85°C to -55°C, over approximately seven weeks. The glass suffered cohesive failure after 920 cycles but the laminate remained intact.

## Coating

The anti-reflection coating has been specified to MIL-C-14806A.