

# Light Reflectance

This is the first in a series of documents and relates to contract or commercial carpet installed in multi person office accommodation where the carpet colourways tend to be medium to darker shades.

The selection of carpet shade is influenced by a range of factors that include cleaning maintenance and appearance retention properties as well as the comfort and safety of building occupants.

It has become important to understand the light reflectance of fit-out materials, including carpets, installed in commercial buildings in order to efficiently plan lighting and provide visual contrast where required.

Light Reflectance Value or LRV is a measurement commonly used in interior decorating and design. In the past there has been confusion surrounding the Light Reflectance Value, its measurement and relationship to major fit-out materials.<sup>1</sup>

In the absence of an Australian or International Standards Organization (ISO) test method, CIAL determined that British Standard BS 8493:2008 *Light Reflectance Value (LRV) of a Surface – Method of Test* is the most appropriate Standard - for determining the spectral reflectance of carpets using a spectrophotometer.

BS 8493:2008 measures the LRV of the specimen using CIE<sup>2</sup> Tristimulus Y10<sup>3</sup>, Illuminant D65<sup>4</sup> and the 10° colorimetric observer.<sup>5</sup>

## Footnotes

- 1 Light reflectance denotes the percentage of visible light reflected by a surface, weighted for the sensitivity to light of the human eye. Light reflectance values range from 0 (no reflectance) to 100 (absolute reflectance). For example, a LRV of 10 means the surface in question reflects 10% of the light striking it.
- 2 Commission Internationale de l'Eclairage or International Commission on Illumination is the world peak body for light and lighting, colour and vision.
- 3 The tristimulus values of a color are the amounts of three primary colors in a three-component color model. The measured light reflectance is defined by the tristimulus value Y.
- 4 The D series of illuminants portray standard illumination conditions at open-air in different parts of the world. D65 is the standard daylight illuminant.
- 5 Standard observation angle.

## Further Information

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## About the Carpet Institute of Australia

The Carpet Institute of Australia Limited (CIAL) is the lead industry association for Australia's \$1.6 billion carpet industry. CIAL represents carpet manufacturers accounting for 95% of Australian carpet production, as well as retailers and suppliers of goods and services to the industry.

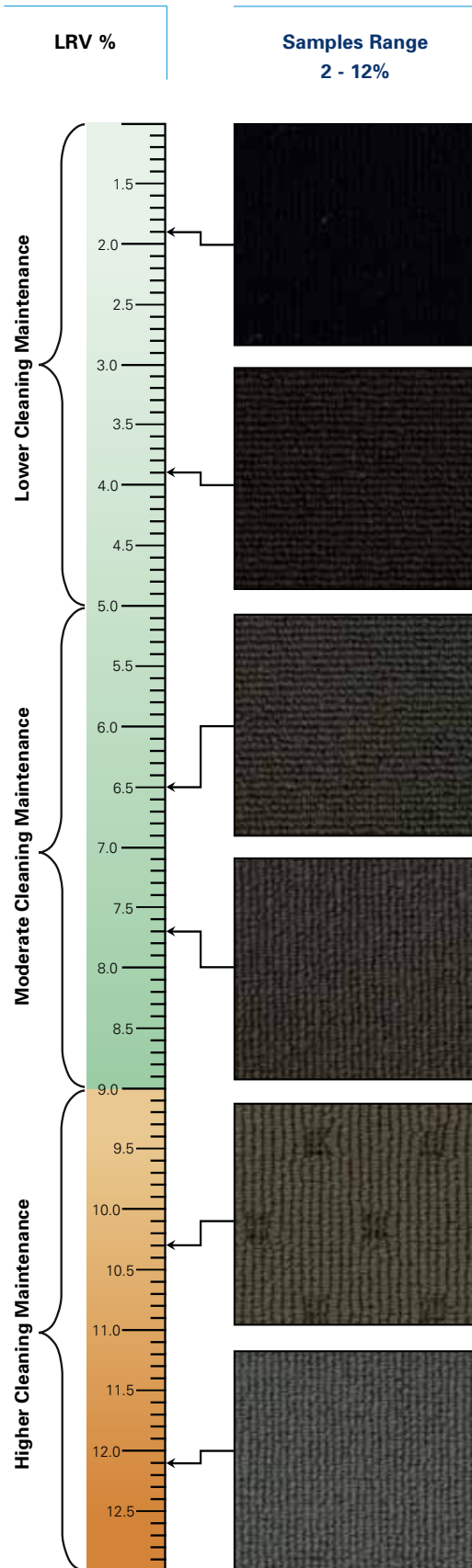
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# Commonly available carpet types and colourways have been tested to determine LRV.

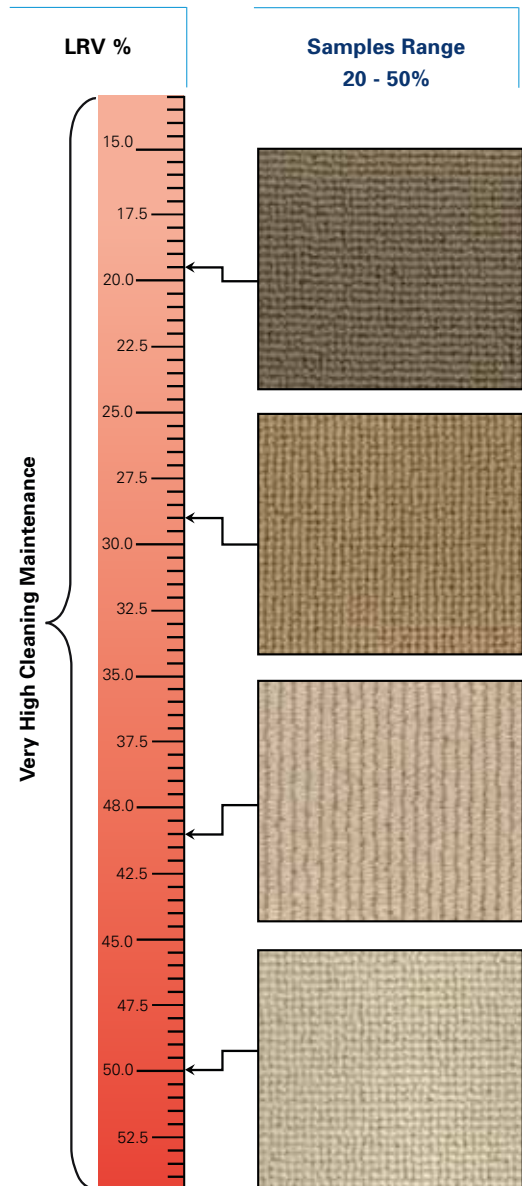
## Guide to LRV for Textile Floor Covering Installations



The installation environment is a multi-person commercial or contract office typically requiring a minimum Australian Carpet Classification Scheme (ACCS) grading of Contract Heavy Duty.

While an LRV range of 1% to 12% may be considered acceptable during the fit-out concept stage, caution must be exercised in the choice of carpet shades that have a measured LRV of 8% to 12% as a higher level of cleaning maintenance will be required to retain an acceptable level of appearance retention over the life of the carpet.

Carpets with LRV results greater than 13% will need a correspondingly very high level of cleaning maintenance in a commercial/contract environment.



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