

the actual shaded portion.

- The minimum % shading requirements should be applied to the total area to be shaded, including where this is formed of individual elements.
- Where natural shade is provided (e.g. trees), an Interim Shade Provision % must be met prior to the Final Shade Provision %.
- Plant shape and expected size at 5 years growth must be based upon a 4% growth rate. Maturity sizes must be based upon those given in the PRDM Plant List.
- All trees included within the shading calculation must be of a sufficient size when planted, with a minimum trunk circumference of 14cm (measured at 1.2m from the ground) when planted.

SRI values for the outer surface of structural shade elements can be calculated based on solar reflectance and emittance numbers as defined in ASTM E1980-01.

Alternatively, manufacturer's data can be supplied where the testing is in accordance with the relevant ASTM Standard.

References

- UPC (2010) *Urban Street Design Manual (USDMA)*. Abu Dhabi, UAE.
- UPC (2016) *Public Realm Design Manual (PRDM)*. Abu Dhabi, UAE.
- DOT (2012) *Walking and Cycling Master plan*. Abu Dhabi, UAE.
- ASTM (2001) *E1980-01 Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-sloped Opaque Surfaces*. Pennsylvania, US: American Society for Testing and Materials.
- ASTM (2009) *C1549-09 Standard Test Method for Determination of Solar Reflectance near Ambient Temperature Using a Portable Solar Reflectometer*. Pennsylvania, US: American Society for Testing and Materials.
- ASTM (2013) *E 408-71 Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques*. Pennsylvania, US: American Society for Testing and Materials.
- ASTM (2015) *C1371-15, Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers*. Pennsylvania, US.