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Reflectivity of LONGi Solar PV modules

LONGi Green Energy Technology Co., Ltd. (LONGi Solar) produces photovoltaic (PV) modules complying to many international standards including IEC 61215:2016 (Design qualification and type approval) and IEC 61730:2016 (Photovoltaic module safety qualification).

To optimize energy production and reduce light reflexion from the PV module, the solar glass and additionally the solar cells have been equipped with an anti-reflection layer.

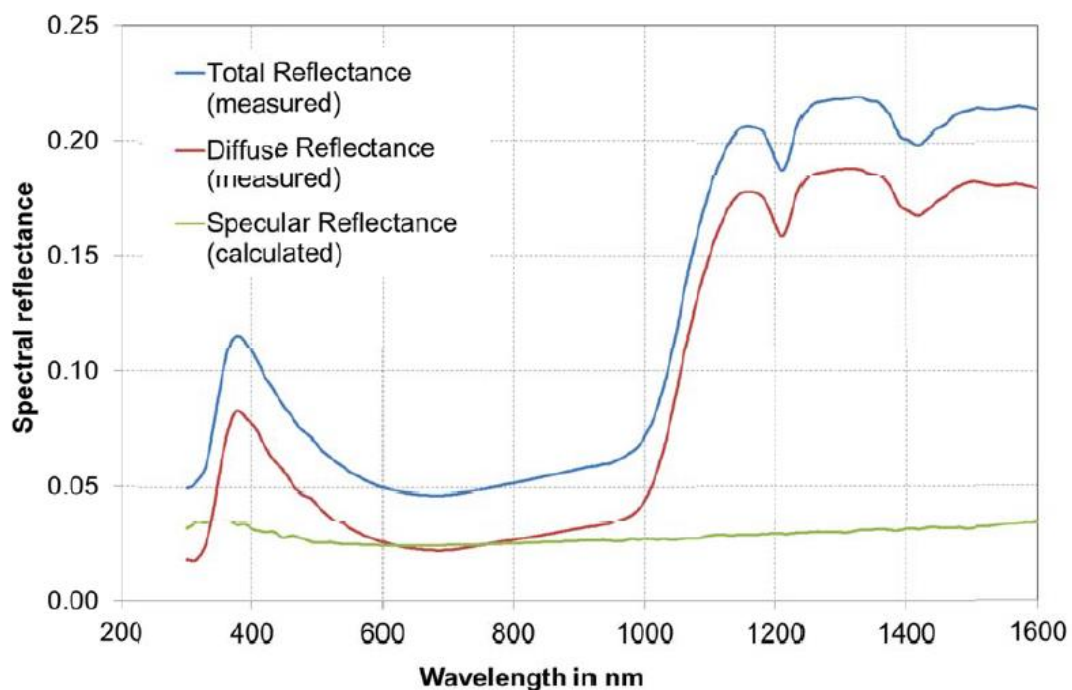


Figure 1: PV module reflectance according ISO 9050

This visible light for humans does have a wave length from 400 – 700 nanometer and ranges from ultra violet with high frequency to infrared with low frequency.

Figure 1 shows spectral reflectance measured over a wide spectrum divided into diffuse reflectance and regular reflectance over the wavelength. Figure 2 shows the visible part of the spectrum.

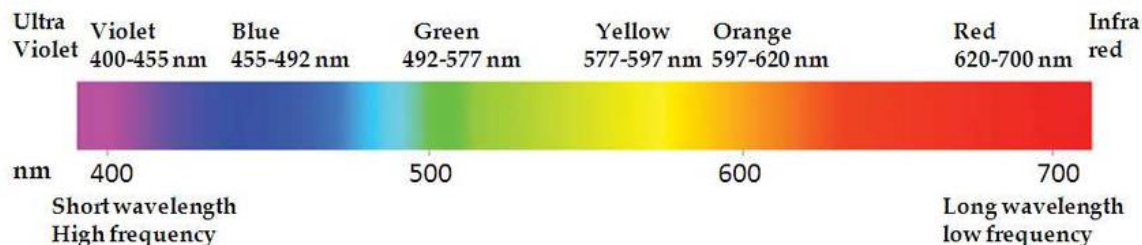


Figure 2: Visible light spectrum

The total accumulated external light reflectance can be found in figure 3:

Diffuse reflectance (measured)	<3,2 %
Regular reflectance (calculated)	<2,4 %
Total reflectance (measured)	<5,6 %

Figure 3: Reflectance of PV module according ISO 9050

The direct light reflectance (regular reflectance) of a PV module using anti-reflective (AR) solar glass and AR coating on the solar cells is below 1/40 of the incoming light.

For the simplicity of explanation, the incoming sun light has over the year a maximum of 100.000 lumen (lux/m²) light intensity, the total reflectance of the PV module at 5%, the measured light intensity in 1 meter distance from the PV module is below 20.000 cd/m².

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