Low Carbon Technology
(Technology for Lighting Energy Saving: Reflectors and Diffusers, etc.)

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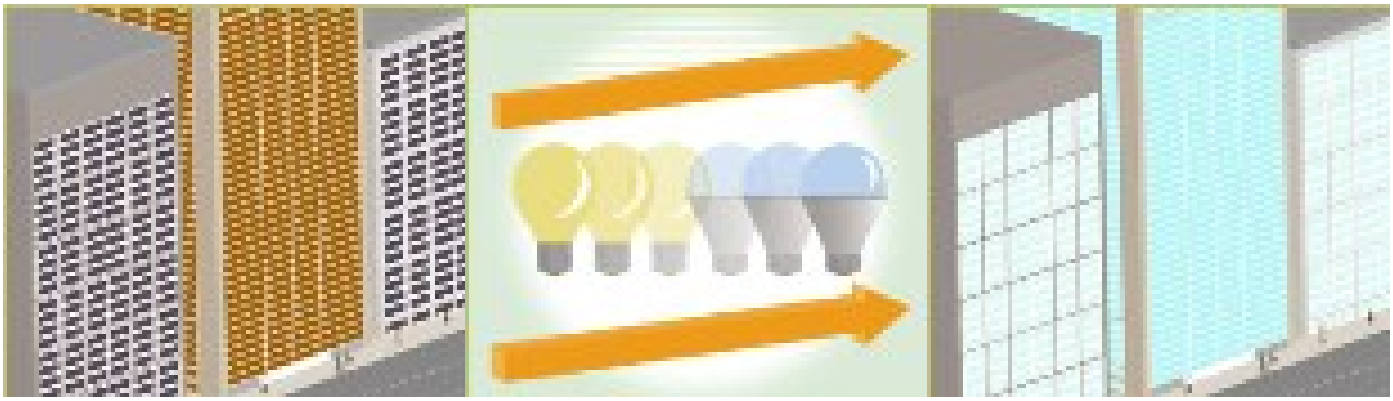


CO2 emissions originating from energy consumption in residential secotr and non-residential sector accounts for about one thirds of Japan's total CO2 emissions. More over, the reduction of electricity consumption in these sectors are an urgent agenda as part of counter-measures against tight electricity power supply in the aftermath of the Great Earthquake in East Japan.

Among other things, measures for lighting energy reduction in houses and buildings are important and have major positive effects. This is because the consumption of electricity in lighting represents a large part of the total electricity consumption of buildings and the reduction of electricity consumption in lighting with suppression of its heat generation leads to reduction of electricity consumption for air-conditioning. Viewed in this light, it can be rightly said that comprehensive measures is necessary for reduction of lighting electricity consumption by means of an innovative and imaginative system covering light source, peripheral devices & equipment and lighting method

Especially, to enhance efficiency of lighting by way of using reflectors and diffusers is an inexpensive measure that can be relatively easily implemented and can be widely introduced in buildings and houses.

For these reasons, a verification project is being implemented with technology for lighting energy saving(reflectors and diffusers, etc.), one of the fields for Low carbon technology as a target technology field for verification

Low Carbon Technology (Technology for Lighting Energy Saving: Reflectors and Diffusers, etc.)

The target technologies for verification shall have the objective of "reduction of energy consumption required for materializing the lighting environment to be sought in daily

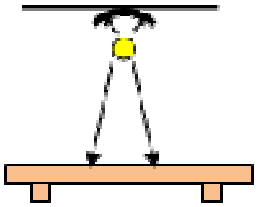
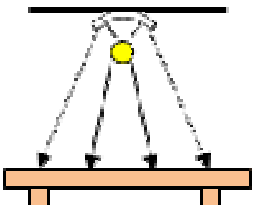
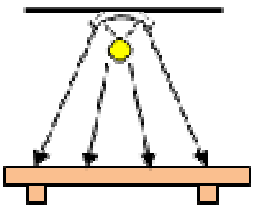
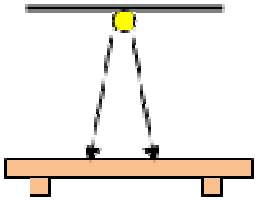
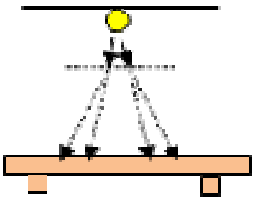
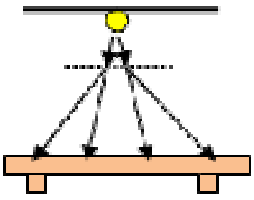
operations or daily life ” , which are the following technologies:

- Reflectors…

  Technology installed around light source, which enables the ratio of the light flux reaching the object of lighting from the light source to be increased or enables illuminance distribution to be adjusted, by enabling the light flux to be effectively and efficiently reflected.
- Diffusers…

  Technology installed around the light source, which enables illuminance distribution to be adjusted, by enabling the light flux to from the light source be effectively and efficiently diffused.

Table: Target technology for verification and technology to be compared

Technology	Reference	Technology to be compared (Before)	Target technology for verification (After)
Reflector (mainly fluorescent light conceived as light source)	 Light source (the downward light flux alone measured by ensuring the condition of a reflection rate of 0%[1])	 light source+conventional type reflector	 light source+high efficiency reflector
Diffuser (mainly LED conceived as light source)	 light source (no diffuser installed and only the downward light flux measured)	 light source+ conventional type diffuser	 light source +high efficiency diffuser

[1] The reflection rate of the reflector shall be reduced close to 0% by way of covering it with absorbers, etc.

Click here to see the list of technologies verified in the past

Verification data of technologies verified so far in Environmental Technology Verification Project (Verification in this Project do not mean guarantee, certification or authorization, etc of the technologies verified)

As regards product information from applicants, please refer to the last page of the outline of verification test results