

Standards vs Standardization

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Definitions and Direction

Merriam-Webster

- **Standard: something established by authority, customer, or general consent as a model or example**
- **Standardize: to bring into conformity with a standard**

Motive

- **promote adoption of LED products in market place**
- **through positive customers experience**
- **because products work well together, interoperably**
- **because products conform to a standard**

Who's Working on Standards?

- **U.S. DoE EERE**
 - **Solid-State Lighting**
 - Standards Development
- **U.S. EPA Energy Star**
 - **Integral LED Lamps Eligibility Criteria**

Standards Development for Solid-State Lighting

To accelerate the development and implementation of needed standards for solid-state lighting products, DOE works closely with a network of standards-setting organizations and offers technical assistance and support.

Since 2006, DOE has hosted ongoing workshops to convene the key standards organizations and foster greater coordination and collaboration among related efforts. Attendees provide updates on progress as well as input on potential additional standards needed. Combined ANSI/IES meetings and working group conference calls have resulted in significant progress.

New Standards Released in 2008
ANSI C78.377-2008, Specifications for the Chromaticity of Solid-State Lighting Products
 Specifies recommended chromaticity (color) ranges for white LEDs with various correlated color temperatures (CCTs). Available free as an [electronic download](#). Hard copies can be purchased from the [ANSI](#) and [NEMA](#) websites.



<p>Dimming</p> <p>NOTE: DOE is working with NEMA to develop a dimming standard for LED lamps and luminaires.</p>	<p>Lamps may be dimmable or non-dimmable. Product packaging must clearly indicate whether the lamp is dimmable or not dimmable.</p> <p>Manufacturers qualifying dimmable products must maintain a Web page providing dimmer compatibility information.</p> <p>Minimum efficacy, light output, CCT, CRI, and power factor of dimmable lamps will be confirmed with the lamp operated at full power.</p>
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<http://www1.eere.energy.gov/buildings/ssl/standards.html>

http://www.energystar.gov/index.cfm?c=new_specs.integral_leds

National Electrical Manufacturers Association

**Sections of Lighting System Division:
Luminaire, Lamp, Ballast, Controls, SSL**



We
are
here
now



Often:

- 1. NEMA task force writes white paper, lays out issues, develops industry consensus, which...**
- 2. ...leads to NEMA voluntary standard, which is...**
- 3. ...considered by ANSLG, proposed for ANSI standard, and then...**
- 4. ...proposed by USTAG for IEC standard**

National Electrical Manufacturers Association

- **Task Force on Solid State Lighting Dimming**

Stage	Dimming Standard for Self-Ballasted LED Lamps	Next LED Dimming Topic?
1. NEMA Whitepaper	Draft out Oct 2009	
2. NEMA Standard	Draft Dec 2009	
	Publish Q2 2010	
3. ANSI Standard	2011?	