

## Summary of the ENERGY STAR Solid-State Lighting (SSL) Criteria V. 1.1

### Residential

<b>Criteria Item (Residential)</b>	<b>Under-cabinet kitchen lighting</b>	<b>Portable desk task lights</b>	<b>Recessed/surface/pendant-mounted downlights</b>	<b>Ceiling-mounted luminaires with diffusers<sup>1</sup></b>	<b>Cove Lighting</b>	<b>Surface-mounted luminaires with directional heads<sup>2</sup></b>
Light Output	Measured fixture length (in)/12 x 125	200 lumens	≤ 4.5 aperture <sup>3</sup> : 345 lumens > 4.5 aperture: 575 lumens	≤ 8" max luminaire width: 375 lumens > 8" max luminaire width: 750 lumens	Measured fixture length (in)/12 x 200	200 lumens
Efficacy	24 lm/W	29 lm/W	35 lm/W	30 lm/W	45 lm/W	35 lm/W
Zonal Lumen Density	60% total lumens within 0-60° zone, 25% within 60-90° zone	85% total lumens within 0-60° zone	75% total lumens within 0-60° zone	-	35% of lumens within 120-150° zone	85% within 0-90° zone
Allowable CCTs	2700K, 3000K, 3500K	2700K, 3000K, 3500K, 4000K, 4500K, 5000K	2700K, 3000K, 3500K	2700K, 3000K, 3500K	2700K, 3000K, 3500K	2700K, 3000K, 3500K
<b>Criteria Item (Residential)</b>	<b>Outdoor wall-mounted porch lights</b>	<b>Outdoor step lights</b>	<b>Outdoor pathway lights</b>	<b>Outdoor polearm-mounted decorative luminaires</b>		
Light Output	150 lumens	50 lumens	100 lumens	300 lumens		
Efficacy	24 lm/W	20 lm/W	25 lm/W	35 lm/W		
Zonal Lumen Density	85% total lumens in 0-90° zone	85% total lumens in 0-90° zone	85% total lumens in 0-90° zone	85% total lumens in 0-90° zone. Cannot emit light above 110°.		
Allowable CCTs	2700K, 3000K, 3500K, 4000K, 4500K, 5000K, 5700 K, 6500 K					
Lumen Maintenance	25,000 hours residential, 35,000 hours commercial					
CRI	75					
Off-state Power	Products shall not draw power in the off state <sup>4</sup>					
Power Factor	0.70 residential, 0.90 commercial					
Operating Frequency	120 Hz					

## Commercial

Criteria Item (Commercial)	Under-cabinet shelf-mounted task lighting	Portable desk task lights	Recessed/surface/pendant-mounted downlights	Wall wash luminaires	Bollards
Light Output	Measured fixture length (in)/12 x 125	200 lumens	≤ 4.5 aperture <sup>3</sup> : 345 lumens > 4.5 aperture: 575 lumens	575 lumens	-
Efficacy	29 lm/W	29 lm/W	35 lm/W	40 lm/W	35 lm/W
Zonal Lumen Density	60% total lumens within 0-60° zone, 25% within 60-90° zone	85% total lumens within 0-60° zone	75% total lumens within 0-60° zone	50% of total lumens within 20-40° zone	<15% total lumens within 90-110° zone. Cannot emit light over 110. °
Allowable CCTs	2700K, 3000K, 3500K, 4000K, 4500K, 5000K				2700K, 3000K, 3500K, 4000K, 4500K, 5000K, 5700 K, 6500 K
Lumen Maintenance (L <sub>70</sub> )	25,000 hours residential, 35,000 hours commercial				
CRI	75				
Off-state Power	Products shall not draw power in the off state <sup>4</sup>				
Power Factor	0.70 residential, 0.90 commercial				
Operating Frequency	120 Hz				

Other, requirements include: color spatial uniformity, color maintenance, thermal management, electromagnetic and radio frequency interference, noise, and transient protection. There is a reduced air leakage requirement for residential recessed, surface, and pendant-mounted downlights. Products designed to replace fluorescent tubes, hi-bays, or troffers are not included in these criteria.

<sup>1</sup> Including but not limited to: flush-mounts, close-to-ceiling, and ceiling fan light kits

<sup>2</sup> Including but not limited to: ceiling fan light kits, track lights, and rail lights

<sup>3</sup> Luminaire aperture must be less than or equal to 8 inches in diameter (if circular) or on any side (rectangular).

<sup>4</sup> Exception: Products with integral occupancy, motion, photo-controls or individually addressable fixtures with external control and intelligence are exempt from this requirement. The power draw for such products shall not exceed 0.5 watts when in the off state.

## LED LIGHTING PRODUCT TYPES



**NOT accepted** – T8/T12 replacement tubes:

