

**5.6.9 Typical Efficacies and Lifetimes of Lamps (1)**

<u>Current Technology</u>	<u>Efficacy (lumens/Watt)</u>	<u>Typical Rated Lifetime (hours)</u>	<u>CRI (2)</u>
Incandescent	10 - 19	750 - 2,500	97
Halogen	14 - 20	2,000 - 3,500	99
Fluorescent - T5	25 - 55	6,000 - 7,500	52 - 75
Fluorescent - T8	35 - 87	7,500 - 20,000	52 - 90
Fluorescent - T12	35 - 92	7,500 - 20,000	50 - 92
Compact Fluorescent	40 - 70	10,000	82
Mercury Vapor	25 - 50	29,000	15 - 50
Metal Halide	50 - 115	3,000 - 20,000	65 - 70
High-Pressure Sodium	50 - 124	29,000	22
Low-Pressure Sodium	18 - 180	18,000	0
Solid State Lighting	20 - 100	15,000 - 50,000	33-97

Note(s): 1) Theoretical maximum luminous efficacy of white light is 220 lumens/Watt. 2) CRI = Color Rendering Index, which indicates a lamp's ability to show natural colors. 3) The DOE Solid State Lighting program has set an efficacy goal twice that of fluorescent lights (160 lumen per Watt).

Source(s): DOE, EERE, Building Technology Program/Navigant Consulting, U.S. Lighting Market Characterization, Volume I: National Lighting Inventory and Energy Consumption Estimate, Sept. 2002, Appendix A, p. 74; DOE/Navigant Consulting, Solid State Lighting Research and Development Portfolio, Mar. 2006, p 55; ENERGY STAR LED Light Bulb Program, Qualified Product List, Accessed 3/15/2011; LightingFacts.com Product List, accessed March 15, 2011.