



APPLICATION GUIDANCE

High-Performance and Reduced-Wattage T8 Systems

Local site and building features as well as professional lighting design are all crucial to optimizing the energy savings potential of high-performance (HP) and reduced-wattage T8 lighting system projects. While there is no single best way to design with HP and reduced-wattage T8 systems, several organizations have provided guidance on how to capitalize on the relative strengths of these systems. This document includes links, references and guidance to support:

- HP T8 system applications
- Reduced wattage T8 system applications
- Applications relevant to both HP and reduced wattage systems

Although these resources can help explain appropriate applications for these systems, the Consortium for Energy Efficiency (CEE) recommends that all project managers seek the assistance of a certified lighting professional during lighting design. The links provided below contain information on general lighting design as well as professional certifications for lighting design.

HIGH-PERFORMANCE T8 SYSTEMS

New Buildings Institute

Advanced Lighting Guidelines

www.newbuildings.org/downloads/ALG_5-Applications.pdf

Application examples using HP T8's for private office space, (office 1 and 2) retail, and classrooms.

DesignLights Consortium

High-Performance T8 Systems

www.designlights.org/hpt8/hpt8.htm

User tips, training and marketing materials.

Lighting Resource Center

Research on HP T8s

www.lrc.rpi.edu/programs/nlpiip/publicationdetails.asp?id=906&type=2

Case study: T8s in supermarkets

www.lrc.rpi.edu/programs/delta/pdf/DELTA-I2-Supermkt.pdf

Lighting Design Lab

High-performance T8s

www.lightingdesignlab.com/ldlnews/2004_spring_ldl_high_perf.pdf

Fact sheet with information about lamp life.

Southern California Edison

SCE Classroom Lighting Guide

www.sce.com/RebatesandSavings/DesignandEngineering/SCEClassroomLightingGuide

Examples 1-3 all use HP T8 lighting.

REDUCED-WATTAGE T8 SYSTEMS

Jim Benya, Benya Lighting Design

Reduced Wattage Technology Overview

www.cee1.org/com/com-lt/benya.pdf

A presentation on the basics of reduced-wattage systems.

ESource

Reduced-Wattage Fluorescent Lamps: Not-So-Super T8s

www.esource.com/public/products/whitepaper_form.asp

Few currently available documents explore reduced-wattage system applications but this research report can be downloaded from ESource (registration required).

HP and REDUCED WATTAGE APPLICATIONS

The following links provide information on both systems.

Energy Design Resources

Design Briefs: Efficient Lighting Systems

www.energydesignresources.com/resource/15

Information on pages 10 and 14.

Lighting Design Lab

Cutting-edge fluorescent

www.lightingdesignlab.com/ldnews/cutting_edge_fluor_rs.pdf

Advances in efficacy and lamp life by fluorescents

Energy and Power Management

www.Energyandpowermanagement.com/register

After free registration users can access archived articles such as:

What's the word on T8 retrofits

Energy Efficient Lighting – a hot topic

The T8 Tango

GENERAL LIGHTING DESIGN RESOURCES

Design Lights Consortium

www.designlights.org/guides.html

Includes guides for office, retail, classroom, high- and low-bay industrial, and retail and warehouse skylighting model for designing and specifying lighting in commercial facilities.

Guides illustrate step-by-step instruction, includes recommendations for lamps, fixtures, and controls, plus full design layouts.

Energy Design Resources

www.energydesignresources.com/category/lighting

This Web site, funded by California utilities, includes design briefs for different types of lighting technologies, case studies, and a newsletter. It also features an "EDR Charette" Web tool, which allows for a visual demonstration of the effect of different technologies on a model building.

Lighting Research Center

www.lrc.rpi.edu/programs/delta/index.asp

Includes information on commercial and industrial applications, including retail. Includes case studies of different treatments, with attached resources and references. Also includes shorter "snapshots" papers on elements such as lighting controls and corridor lighting.

Lighting Design Lab

www.lightingdesignlab.com

Includes a list of links to case studies of notable lighting projects in the Northwest. Visit

www.lightingdesignlab.com/articles/toc.htm for a list of articles on lighting design, technologies and applications.

New Buildings Institute

Advanced Lighting Guidelines

www.newbuildings.org/ALG.htm

Includes a comprehensive suite of information on many applications.

Getting to Fifty

www.advancedbuildings.net/buildings.htm

Illustrates how lighting design can achieve tax deductions under EPACT. Features case studies and a searchable database.

NYSERDA PROGRAMS

www.nyscrda.org/SCLP2/index.asp

As part of its Small Commercial Lighting Program, NYSERDA posts a list of general design tools and links to case studies, technical reports, and other sites (such as CEE and DesignLights). The site features a NYSERDA publication, *The Right LightSM: A Technical Guide to Effective, Energy-Efficient Lighting*. Also included are resources especially for market sector applications, including retail, health care, and office space.

PROFESSIONAL CERTIFICATIONS and TRAINING

Association of Energy Engineers (AEE)

www.aeecenter.org

Illuminating Engineering Society of North America (IESNA)

www.iesna.org

International Association of Lighting Designers (IALD)

www.iald.org

National Council on Qualifications for the Lighting Professions (NCQLP)

www.ncqlp.org

For further information about CEE's High-Performance Commercial Lighting Initiative, contact [Susan Loucks](#) at 617-589-3949, ext. 205.