

Lighting Answers: High-wattage Compact Fluorescent Lamps

High-wattage compact fluorescent lamps (HW-CFL) are a larger version of compact fluorescent lamps commonly used in residential and office applications. HW-CFLs range from 55 to 200 watts (W) in power.

Lighting Answers: High-wattage Compact Fluorescent Lamps, produced by the National Lighting Product Information Program (NLPIP), introduces lighting specifiers to this new lamp type.

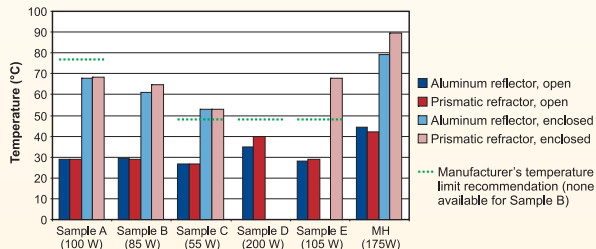
Focusing on HW-CFLs used in high-ceiling retrofit applications, the report examines light output, luminous efficacy, lamp life, color properties, thermal behavior, performance at different lamp orientations, starting profiles, and retrofit limitations.

It also compares these characteristics to those of other common lamp types and lists HW-CFL products available on the North American market.



The report provides answers to questions about high-wattage CFLs such as:

- What are their intended applications?
- How does their light output compare to other light sources?
- How does their efficacy compare to other light sources?
- How does their lamp life compare to other light sources?
- What are their color properties?
- How is performance affected by ambient temperature?
- How does lamp orientation affect performance?
- What are their starting profiles?
- What are the considerations when retrofitting them into high-intensity discharge luminaires?
- What maintenance issues should be considered?
- What are their benefits and drawbacks?
- What products are available?



Temperature of HW-CFL samples in several enclosure conditions

Overall benefits of HW-CFLs:

- Offer a high color rendering index (CRI)
- Many color temperatures available
- Capable of instant restrike.
- Screw-bases provide retrofit convenience
- Competitive on life and light output with incandescent, metal halide, and enhanced high-pressure sodium

Drawbacks and concerns:

- Better for diffuse illumination than for directional lighting
- Enclosed luminaires may overheat the ballasts
- May not be suitable for frequent switching
- Large size may not fit within some luminaires
- Complex shapes and difficult-to-clean surfaces
- Fragile lamps...relamping may be awkward

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