

L-290(5) lamps and bulbs: various types and applications

Product specifications

Responses will only be considered if makes, models, or brands proposed meet or exceed these specifications.

All products offered must meet all specifications and all federal and State safety codes and requirements. The Vendor's submission certifies that any offer submitted is for products that meet the specifications as required.

Product restrictions

Mercury content and presence of lead in solder or glass must be disclosed using the Price Schedule provided.

ÿ Disclosure is only required for products with lead intentionally added in solder or glass or intentionally added mercury.

ÿ For all mercury-added products offered, Responders must disclose and report the maximum mercury content in milligrams. If reporting a range, Responders must disclose the top of the range.

1.0 Tubular fluorescent lamps

1.1 Prohibited tubular fluorescent lamps

- 1.1.1 All T12, T10 and T9 fluorescent lamps (including linear, u-bent and circular models)
- 1.1.2 Preheat T8 lamps
- 1.1.3 Preheat T5 lamps
- 1.1.4 Circular T5 lamps
- 1.1.5 Fluorescent lamps that do not meet listed specifications

All tubular fluorescent lamps sold on this contract must meet the environmental specifications detailed below.

1.2 T8 Lamps T8 Lamp Types	Minimum Color Rendering Index (CRI)	Minimum Rated Lamp Life (hours)*	Minimum Warranty (yrs.)	Maximum Mercury Content (mg)	TCLP Compliant
48 inch linear (including 32-watt and lower-wattage 'energy saving' models)	80	24,000 hrs.	3 yrs.	3.5 mg.	Required
Shorter than 48 inch linear	80	18,000 hrs.	3 yrs.	3.5 mg.	Required
Longer than 48 inch linear, and all u-bend	80	18,000 hrs.	2 yrs.	TCLP compliant	Required

* Minimum rated lamp life is based on 3 hr/start cycle testing with a 0.9 electronic instant start ballast.

1.3 T5 Lamps T5 Lamp Types	Minimum Color Rendering Index (CRI)	Minimum Rated Lamp Life (hours)*	Minimum Warranty (yrs.)	Maximum Mercury Content (mg)	TCLP Compliant
Standard linear	85	25,000 hrs.	2 yrs.	3 mg.	Required
High Output Linear	85	30,000 hrs.	2 yrs.	3 mg.	Required

2.0 Compact fluorescent lamps (CFLs)

Vendors are encouraged to offer LED-replacements for pin-based CFLs, whenever feasible. However, if pin-based CFLs are needed, they shall meet the specifications in the table below. Pin-based CFLs that use amalgam technology are preferred because they have a longer rated life and use a safer mercury dosing method than non-amalgam CFLs.

2.1 Prohibited compact fluorescent lamps

2.1.1 All self-ballasted, screw-based compact fluorescent lamps (CFLs)

All compact fluorescent lamps sold on this contract must meet the following environmental specifications as detailed below.

2.2 Compact fluorescent, pin-based lamps (CFL) without integrated driver

CFL Lamp Type	Minimum Color Rendering Index (CRI)	Minimum Rated Lamp Life (hours)	Minimum Warranty (yrs.)	Maximum Mercury Content (mg)	TCLP Compliant
4-pin	82	12,000 hrs.	1 yr.	3.5	Required (when available)
2-pin	80	10,000 hrs.	1 yr.	2.5	Not Required

3.0 Electrodeless fluorescents

All electrodeless fluorescent lamps sold on this contract must meet the environmental specifications detailed below.

3.1 Cold cathode compact fluorescents (CC CFL) and induction lamps

Electrodeless Lamp Type	Minimum Color Rendering Index(CRI)	Minimum Rated Lamp Life (hours)	Maximum Mercury Content (mg)
Self-Ballasted CC CFL	85	15,000	5
Induction	85	100,000	18

4.0 High-intensity discharge lamps

4.1 Prohibited HID lamps

The following HID lamps are prohibited from this contract:

- 4.1.1 Mercury vapor
- 4.1.2 Probe-start metal halides
- 4.1.3 Low pressure sodium

All high-intensity discharge (HID) lamps sold on this contract must meet the following environmental specifications as detailed below.

4.2 High pressure sodium (HPS) lamps

HPS Lamp Type	Minimum Rated Lamp Life (hours)	Minimum Warranty (yrs.)	Maximum Mercury Content (mg)	TCLP Compliant
Mogul Base, non-cycling, up to 1,000 watts	30,000	2 yrs.	10	Required
Mogul Base, cycling, up to 1,000 watts	24,000	1 yrs.	15	Required

4.3 Metal halide

	Minimum Rated Lamp Life (hours)	Minimum Warranty (yrs.)	Maximum Mercury Content (mg)	TCLP Compliant
All Metal Halide lamps	No minimum specified	1	No maximum specified	Required when available

5.0 Halogen and other incandescent lamps

All incandescent lamps sold on this contract must meet the environmental specifications detailed below.

5.1 Halogen and incandescent lamps

Halogen and other incandescent lamps are prohibited from this contract. Responders are asked to promote more energy-efficient and long-lasting replacements for halogen and other incandescent lamps.

Allowed halogen and incandescent lamps:

- Specialty lamps (i.e. rough service, appliance lamps, fan lamps, miniature, and light bulbs needed for historic fixtures, etc.) are not prohibited from the contract.

6.0 Light-emitting diode (LED)

6.1 Light-emitting diode (LED) bulbs (including exit sign lamps), fixtures, drivers, luminaires, retrofit kits, and exit signs

All LED lamps shall be UL or ETL-rated and have a Color Rendering Index (CRI) of 80 or higher.

Contractors shall offer LED lamps that are compliant with the European Union's Restriction of Hazardous Substances (RoHS) Directive, which restricts content of lead, cadmium, hexavalent chromium, mercury and certain brominated flame retardants.

All exterior LED luminaires shall be fully shielded to minimize light pollution. Products that are approved by the International Dark Sky Association (IDA) are preferred. A list of IDA-approved products can be found at <http://www.darksky.org/fsa/fsa-products/>.

Exit sign LED retrofit kits must have a maximum output of 5 watts and a minimum warranty of 5 years. Individual LED exit sign replacement lamps must have maximum output of 2 watts.

In addition, all LED lamps offered on this contract shall meet the technical specifications for their sub- category in the table below.

Lamp Type	Minimum Rated Life (Hours)*	Minimum Warranty (Years)	Required Certifications	Other
LED Compact Lamps with an Integrated Driver (all models except filament lamps)	Per ENERGY STAR	3**	ENERGY STAR or DesignLights Consortium (DLC)	
LED Compact Filament Lamps	15,000	2	None required; A+ Energy Efficiency Rating; (ENERGY STAR Preferred)	
LED Tube Lamps (including models with and without an integrated driver)	50,000	3	DesignLights Consortium (DLC) Or ENERGY STAR Or Consortium for Energy Efficiency (CEE)	
Pin-based Compact LED Lamps (including 2-pin and 4-pin models)	50,000	3	DesignLights Consortium (DLC) Or ENERGY STAR	
LED Miniature Lamps	15,000	2	UL or ETL Rated	
LED Exit Sign Lamps	50,000	2	UL 924 or ETL Rated; Shall meet current NFPA 101, NEC, and OSHA illumination standards	Vendors must offer clear, green, and red LED exit sign lamps from at least one manufacturer.

*Based on Lumen Maintenance of 70%

** All LED lamps with an integrated driver shall have a minimum three (3) year manufacturer's warranty, consistent with ENERGY STAR requirements; see http://www.energystar.gov/ia/partners/product_specs/program_reqs/Solid-State_Lighting_Program_Requirements.pdf.