

# BUY GREEN GUIDE

## San Francisco's New Lighting Contract (#77408)

How to buy compliant lamps, ballasts, LED fixtures, retrofit kits and drivers,  
and recycle lighting products

*October 9, 2019*

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## Discounted prices put LEDs in the spotlight

This contract offers a wide array of LED lamps, luminaires, retrofit kits and drivers that meet stringent performance and environmental requirements.

- Compared to CFLs, [LED bulbs](#) and [desk lamps](#) are more energy efficient and longer lasting, and do not contain toxic mercury.
- LEDs can *replace* less-efficient incandescent, halogen, fluorescent, and high-intensity discharge (HID) bulbs/lamps and fixtures. LED drivers can replace fluorescent and HID ballasts.

The contract also offers Limited Use fluorescent, HID, halogen and incandescent lamps, as well as fluorescent and HID ballasts, for cases when LED equipment is not yet a practical solution.

## Contract term

Contract #77408 can be used from May 2019 until April 30, 2022, with two possible one-year extensions.

## Ordinance mandates

The Environmentally Preferable Purchasing Ordinance (Environment Code, Chapt. 2), sometimes called the Buy Green Ordinance, *requires that City departments purchase only lighting that meets the specifications* in this document.

[SFAApproved.org/guide-city-staff](#) provides a comprehensive list of compliant 'green' products and services.

## Suggested, Required, Limited Use, Prohibited lighting

For your convenience, we categorize products in a hierarchy using these four categories:

### **SUGGESTED**

*Products that exceed environmental and performance specifications.* City staff are encouraged to buy these products.

### **REQUIRED**

*Products that meet environmental and performance specifications.* Required products are all LEDs; suppliers are expected to offer LEDs when possible. If LED replacements are not possible, suppliers are restricted to selling other products that meet the Limited Use specifications.

### **LIMITED USE**

*Replacement products that meet minimum specifications.* If LED replacements do not exist, suppliers may sell specific non-LED lamps as listed in the following pages.

### **PROHIBITED**

*Non compliant products.* Suppliers are not allowed to sell lighting that does not meet product category specifications in the contract proposal.

## Categories 1 & 2: **LED lamps, luminaires, retrofit kits & drivers**

(Required & Suggested products)

First look for the brand you'd like to buy in Table A. Then, click links in Tables B and C to see if the product is compliant with the contract.

Table A. Suppliers of 15 LED brands

Suppliers (Ask <a href="mailto:Gwen.Williams@sfgov.org">Gwen.Williams@sfgov.org</a> for contracted discounted prices)	Brands of lamps	Brands of luminaires, retrofit kits & drivers
<p><b>Buckles-Smith Electric</b>, 540 Martin Avenue, Santa Clara, CA 95050</p> <p>Peter Fuentes, Account Manager Tel: 408-280-7777 <a href="mailto:PFenyes@Buckles-Smith.com">PFenyes@Buckles-Smith.com</a></p>	<ul style="list-style-type: none"> <li>• <b>MaxLite</b></li> <li>• <b>Sylvania</b> (LED Exit Sign and Miniature Lamps Only)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>MaxLite</b></li> <li>• <b>RAB Lighting</b></li> <li>• <b>Astralite</b> (LED Exit Signs and Emergency Luminaires Only)</li> <li>• <b>Keystone</b> (LED Drivers Only)</li> </ul>
<p><b>Omega Pacific Electrical Supply</b>, 1555 Burke Ave., Unit B, San Francisco, CA 94124</p> <p>Paul Ibanez Tel: 415-642-2195 <a href="mailto:Paull@OmegaPacific.com">Paull@OmegaPacific.com</a></p>	<ul style="list-style-type: none"> <li>• <b>GE</b></li> <li>• <b>SATCO</b></li> <li>• <b>Ledtronics</b> (LED Exit Sign Lamps Only)</li> <li>• <b>Watt-Man LED Lighting (Miniature LED lamps only)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>GE</b></li> <li>• Acuity brands                             <ul style="list-style-type: none"> <li>• <b>American Electric Lighting</b></li> <li>• <b>Juno</b></li> <li>• <b>Lithonia</b></li> </ul> </li> </ul>
<p><b>West-Lite Supply Company</b>, 12951 166th Street, Cerritos, CA 92703</p> <p>Devin Haverland, Pricing Manager Tel: 562-802-0224 <a href="mailto:Devin.Haverland@West-Lite.com">Devin.Haverland@West-Lite.com</a></p>	<ul style="list-style-type: none"> <li>• <b>Sylvania (LEDVance)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Sylvania (LEDVance)</b></li> </ul>

Table B. Specifications for LED lamps

Most Required and Suggested LEDs must have at least one of these logos:



Category	Product types	Environmental specifications
<p><b>1A: LED Compact Lamps</b> with an Integrated Driver (except LED Filament Lamps)</p>	<p>Most have either a medium screw base or a 2-pin GU24 base.</p> <ul style="list-style-type: none"> <li>• <b>Omni-directional LED Lamps</b> (e.g., A19 standard incandescent size, A21, and A15 appliance size)</li> <li>• <b>Directional/Flood LED Lamps</b> (e.g., reflector flood lamps, PAR lamps, MR16s)</li> <li>• <b>Decorative LED Lamps</b> (e.g., globe, candle and bullet lamps)</li> </ul>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Energy Star-certified</a> OR on <a href="#">DesignLights Consortium (DLC) Qualified Product List (QPL)</a> AND</li> <li>• <a href="#">CA Title 20-compliant</a></li> </ul> <p><b>Suggested products</b> must meet requirements above and be Title 24/JA8-compliant, DLC Premium Listed and/or RoHS-compliant<sup>iv</sup>.</p>
<p><b>1B: LED Compact Filament Lamps</b> (with integrated driver)</p>	<p>Shapes:</p> <ul style="list-style-type: none"> <li>• A19 (standard incandescent bulb shape)</li> <li>• Globes</li> <li>• Candles</li> </ul> <p>They're clear, yellow (vintage models) or frosted with a visible filament.</p>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Energy Star-certified</a> OR <a href="#">CA Title 20-compliant</a></li> </ul> <p><b>Suggested products</b> must meet requirements above and be Title 24/JA8-compliant, RoHS-compliant<sup>iv</sup>, and/or have a rated life &gt;15,000 hours.</p>
<p><b>1C: LED Tube Lamps</b></p>	<p>Shapes:</p> <ul style="list-style-type: none"> <li>• Linear: T8s, T5s and T12s</li> <li>• U-shaped: T8s and T12s</li> <li>• Circular: T5s and T9s</li> </ul>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Energy Star-certified</a> OR on <a href="#">DLC QPL</a> AND</li> <li>• Minimum 50,000 hours rated life</li> </ul>

Category	Product types	Environmental specifications
		<b>Suggested products</b> must meet requirements above and be Title 24/JA8-compliant, DLC Premium Listed and/or RoHS-compliant <sup>iv</sup> .
<b>1D. LED Pin-based Compact Lamps</b> (with an external power source (e.g., driver))	<p><b>These LEDs replace 4-pin and 2-pin compact fluorescent lamps (CFLs)</b> and have an external power source (e.g., driver or ballast).</p> <p>LED replacement lamps for 2-pin CFLs that lack an integrated driver are not covered under DLC or ENERGY STAR.</p>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li>On <a href="#">DLC QPL</a> (for 4-pin LED (compact lamps ONLY) AND</li> <li>Minimum 50,000 hours rated life</li> </ul> <p><b>Suggested products</b> must meet requirements above and be DLC Premium Listed, and/or RoHS-compliant<sup>iv</sup>.</p>
<b>1E: LED Miniature Lamps</b>	<p><b>Indicator lights and other very small LED lamps</b> (e.g., C7 bulbs).</p> <p>Many of these products have either a miniature candelabra or bayonet base.</p>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li>Minimum 15,000 hours rated life</li> </ul> <p><b>Suggested products</b> must meet requirements above and be <a href="#">Energy Star-certified</a>, RoHS-compliant<sup>iv</sup> and/or have a rated life &gt;15,000 hours.</p>
<b>1F: LED Exit Sign Lamps and Retrofit Kits</b>	<ul style="list-style-type: none"> <li>Clear, red and green LED exit sign lamp</li> <li>LED exit sign retrofit kits with base adapters.</li> </ul>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li>Meet NFPA 101, NEC and OSHA Illumination Standards</li> <li>LED exit sign retrofit kits must use 5 watts per face or less.</li> </ul> <p><b>Suggested products</b> must meet requirements above and be RoHS-compliant<sup>iv</sup>.</p>

**Prohibited:** All other LED lamps

Table C. Specifications for LED luminaires, retrofit kits & drivers

Category	Product types	Environmental specifications
<b>2A. Interior LED Luminaires</b>	<ul style="list-style-type: none"> <li><b>Ceiling-mounted for ambient</b> lighting of interior commercial spaces (including models with 4-foot, 8-foot, 2-foot and u-bent lamps)</li> <li><b>Recessed</b> can</li> <li><b>Track</b> light</li> <li><b>High-bay</b></li> </ul>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li><a href="#">Energy Star-certified</a> OR on <a href="#">DLC QPL</a> AND</li> <li>Class A Sound Rating AND</li> <li>Class A FCC Electromagnetic Compliance Rating</li> </ul> <p><b>Suggested products</b> must meet requirements above and be DLC Premium Listed and/or labeled RoHS-compliant<sup>iv</sup>.</p>
<b>2B. LED Exit Signs and Other Emergency Luminaires</b>	<ul style="list-style-type: none"> <li>Thermoplastic and metal exit signs with red or green lights</li> <li>Edge-lit exit signs</li> <li>Emergency luminaires</li> </ul>	<p><b>Required products:</b></p> <ul style="list-style-type: none"> <li>Maximum 5 watts per face (for exit signs) AND</li> <li>Minimum rated life of 50,000 hours AND</li> <li>Meet NFPA 101, NEC and OSHA Illumination Standards</li> </ul> <p><b>Suggested products</b> must meet requirements above and be RoHS-compliant<sup>iv</sup>.</p>

Category	Product types	Environmental specifications
<b>2C. Exterior (Outdoor) LED Luminaires</b>	<ul style="list-style-type: none"> <li>• <b>Outdoor</b> wall- and pole-mounted area luminaires (including security lighting)</li> <li>• <b>Parking garage/lot</b> luminaires</li> </ul>	<b>Required products:</b> <ul style="list-style-type: none"> <li>• <a href="#">Energy Star-certified</a> OR on <a href="#">DLC QPL</a> AND</li> <li>• Class A Sound Rating AND</li> <li>• Class A FCC Electromagnetic Compliance Rating AND</li> <li>• Fully shielded to minimize light pollution</li> </ul> <b>Suggested products</b> must meet requirements above and be RoHS-compliant <sup>iv</sup> , approved by the International Dark-Sky Association (IDA) <sup>v</sup> , and/or DLC Premium Listed.
<b>2D. LED Retrofit Kits (for interior &amp; exterior luminaires)</b>  They replace all reflectors and optical systems of an existing luminaire, creating a new luminaire within an existing fixture.	<ul style="list-style-type: none"> <li>• For <b>ambient</b> lighting of interior commercial spaces</li> <li>• For <b>recessed</b> cans</li> <li>• Retrofit kits for high-bay luminaires for commercial buildings</li> <li>• For <b>outdoor</b> wall- and pole-mounted luminaires</li> <li>• For <b>parking</b> garage/lot luminaires</li> </ul>	<b>Required products:</b> <ul style="list-style-type: none"> <li>• <a href="#">Energy Star-certified</a> OR on <a href="#">DLC QPL</a> AND</li> <li>• Class A Sound Rating AND</li> <li>• Class A FCC Electromagnetic Compliance Rating</li> </ul> LED retrofit kits for recessed cans must also meet CA 2016 Title 20 Appliance Efficiency standards.  <b>Suggested products</b> must meet requirements above and be RoHS-compliant <sup>iv</sup> and/or DLC Premium Listed.
<b>2E. LED Drivers</b>	<ul style="list-style-type: none"> <li>• For <b>4-foot, 2-foot and 8-foot linear</b> LED lamps</li> <li>• For u-bent and circular LED lamps</li> <li>• For <b>4-pin and 2-pin</b> LED compact lamps</li> </ul>	<b>Required products:</b> <ul style="list-style-type: none"> <li>• Minimum rated life of 50,000 hours AND</li> <li>• Class A Sound Rating AND</li> <li>• Class A FCC Electromagnetic Compliance Rating</li> <li>•</li> </ul> <b>Suggested products</b> must also be RoHS-compliant <sup>iv</sup> .

**Prohibited:** Other LED luminaires, retrofit kits & drivers

## Category 3: **Fluorescent lamps** (**Limited Use** & **Prohibited** products)

Table D. Specifications for T8 fluorescent lamps (high-efficiency linear & U-bent)

**Limited Use:**

If LED replacements do not exist, suppliers may only sell products meeting the specifications below.

Sub-category	Product types	Environmental specifications			
		Minimum rated life (hours)*	Minimum warranty (years)	Minimum color rendering index (CRI)	Maximum mercury content (mg)
<b>3A1</b>	Linear T8s, 48 inches	24,000	3	80	3.5
<b>3A2</b>	Linear T8s, <48 inches	18,000	2	80	3.5
<b>3A3</b>	Linear T8s, >48 inches and U-bent T8s	18,000	2	80	TCLP-compliant**

\*Minimum rated life is based on 3-hour/start cycle testing on an electronic instant start ballast

\*\* TCLP-compliant lamps have reduced mercury content and often are labeled "ECO".

## Table E. Specifications for T5 fluorescent lamps (high-efficiency linear)

### Limited Use:

If LED replacements do not exist, suppliers may only sell products meeting the specifications below.

Sub-category	Product types	Environmental specifications			
		Minimum rated life (hours)*	Minimum warranty (years)	Minimum color rendering index (CRI)	Maximum mercury content (mg)
<b>3B1</b>	Standard linear T5s	24,000	2	85	3.0
<b>3B2</b>	High-output linear T5s (T5HOs)	30,000	2	85	3.0

\*Minimum rated life is based on 3-hour/start cycle testing on an electronic program start ballast

## Table F. Specifications for pin-based compact fluorescent lamps (not self-ballasted)

### Limited Use:

If LED replacements do not exist, suppliers are only allowed to sell products meeting the specifications below.

Sub-category	Product types	Environmental specifications			
		Minimum rated life (hours)	Minimum warranty (years)	Minimum color rendering index (CRI)	Maximum mercury content (mg)
<b>3C1</b>	4-Pin CFLs	12,000	1	82	3.5
<b>3C2</b>	2-Pin CFLs	10,000	1	80	2.5

### Prohibited: all other fluorescent lamps including:

- All general service (not specialty) T12, T10 and T9 fluorescent lamps (including linear, u-bent and circular models);
- All general service self-ballasted compact fluorescent lamps (CFLs);
- Preheat T8s and T5 fluorescent lamps; and
- Circular T5 fluorescent lamps.

## Category 4: High-intensity discharge (HID) lamps

(Limited Use & Prohibited products)

## Table G. Specifications for high-pressure sodium (HPS) lamps

### Limited Use

If LED replacements do not exist, suppliers may only sell products meeting specifications below.

Sub-category	Product types	Environmental specifications		
		Minimum rated life (hours)	Minimum warranty (years)	Maximum mercury content (mg)
<b>4A1</b>	HPS lamps, non-cycling, with a mogul (E39) base, up to 1000 watts	30,000	2	10 maximum; TCLP-compliant* required
<b>4A2</b>	HPS lamps, cycling, with a mogul (E39) base, up to 1000 watts	24,000	1	No maximum; TCLP-compliant* required
<b>4A3</b>	Other HPS lamps (including medium base, standby models, and other types)	No minimum	1	No maximum; TCLP-compliant preferred*

\* TCLP-compliant lamps have reduced mercury content and often are labeled "ECO".

## Table H. Specifications for metal halide lamps

### Limited Use

If LED replacements do not exist, suppliers may only sell products meeting specifications below.

Sub-category	Product types	Environmental specifications		
		Minimum rated life (hours)	Minimum warranty (years)	Maximum mercury content (mg)
<b>4B1</b>	Ceramic and other "pulse start" metal halide lamps	No minimum	1	No maximum; TCLP-compliant* preferred
<b>4B2</b>	Probe-start metal halide lamps >400 watts	No minimum	1	No maximum; TCLP-compliant preferred

\* TCLP-compliant lamps have reduced mercury content and often are labeled "ECO".

### Prohibited HID lamps

- Mercury vapor lamps;
- Low-pressure sodium lamps; and
- Probe start metal halide HID lamps (except models >400 watts).

## Category 5: Halogen & incandescent lamps

(Limited Use & Prohibited products)

### Limited Use

If LED replacements do not exist, suppliers may only sell:

- Specialty incandescent and halogen lamps (e.g., appliance, black light, bug, colored, infrared, plant, projector, stage and studio, traffic signal, etc.);
- Miniature incandescent lamps; and
- Other halogen and incandescent lamps that are listed in California's Title 20 Appliance Efficiency Database.

### Prohibited

- General service halogen and incandescent lamps with a medium screw base or GU24 2-pin base, including both omnidirectional light bulbs (e.g., A19 and A21 standard shape lamps) and directional light bulbs (e.g., reflector flood and PAR lamps);
- Decorative halogen and incandescent lamps (e.g., globe-, candle-, bullet-shaped lamps, including filament lamps); and
- Small diameter directional lamps (e.g., MR16 flood lights) with a pin base.

Most omnidirectional, non-directional (flood), and decorative incandescent and halogen lamps (except colored models) are now banned under California's Title 20 Appliance Efficiency Regulations.

## Category 6: Ballasts (Limited Use & Prohibited products)

### Limited Use

If LED replacements do not exist, suppliers may only sell:

- Electronic fluorescent ballasts for T8 and T5 fluorescent tube lamps as well as 4-pin compact fluorescent lamps (CFLs). These products must have a 5-year warranty and be listed in [California's Title 20 Appliance Efficiency Database](#); and
- Electronic and magnetic ballasts for pulse start metal halide and high-pressure sodium HID lamps. They must have a 2-year warranty.
- If available, seek ballasts that are also RoHS-compliant<sup>iv</sup>.

## Prohibited

- Magnetic fluorescent ballasts (including magnetic ballasts for 2-pin CFLs, T12 linear fluorescent lamps, T9 circular fluorescent lamps, and preheat fluorescent lamps);
- Fluorescent ballasts that are not in the [California Title 20 Appliance Efficiency Database](#);
- Fluorescent electronic ballasts that do not have at least a 5-year manufacturer's warranty;
- Mercury vapor ballasts;
- Low-pressure sodium ballasts;
- Ballasts for  $\leq$  400-watt probe-start metal halide lamps;
- HID ballasts that do not have at least a 2-year manufacturer's warranty;
- Electronic ballasts that do not have a Class A sound rating; and
- Ballasts that do not have a Class A FCC Electromagnetic Compliance rating.

## Compliance with recycling/disposal regulations

Lamps, luminaires, ballasts, LED bulbs and drivers must be safely recycled or disposed. For contracted recycling or disposal services, contact one of these suppliers:

- [Buckles-Smith Electric](#)
- [Omega Pacific Electrical Supply](#)
- [West-Lite Supply Company](#)

## Questions about the contract?

Contact SF Office of Contract Administration (OCA): [Gwen.Williams@sfgov.org](mailto:Gwen.Williams@sfgov.org), 650-821-2853.

## Questions about [SFApproved.org](#)?

Contact SF Department of the Environment (SFE): [Jessian.Choy@sfgov.org](mailto:Jessian.Choy@sfgov.org), 415-355-3776.

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<sup>i</sup> **Energy Star** products meet stringent energy-efficiency and performance standards (including compliance with the EU's RoHS Directive).

<sup>ii</sup> **Design Lights Consortium** promotes high-quality, energy-efficient commercial lighting.

<sup>iii</sup> **California's 2016 Title 20 Appliance Efficiency Requirements**: Only product categories in the [Title 20 database](#) are allowed for sale in California.

<sup>iv</sup> **RoHS**: The [European Union's Restriction of Hazardous Substances Directive](#) prohibits electrical equipment – including lighting products – that contain lead, cadmium, chromium VI, mercury and certain types of flame retardants (above certain amounts) from being sold in Europe. While there is no list of RoHS-compliant products, many manufacturers label their RoHS-compliant products on their technical data sheets, catalogs, website, and product. Lighting with a CE label also indicate that the product is RoHS compliant as well as other EU environmental directives.

<sup>v</sup> **International Dark-Sky Association (IDA)** certifies outdoor luminaires that minimize glare and doesn't pollute the night sky.