San Francisco’s specifications for LED lamps
(Required & Suggested products)

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| 1A: LED Compact Lamps with Integrated Driver (except LED Filament Lamps) | Most have either a medium screw base or a 2-pin GU24 base. • Omni-directional LED Lamps (e.g., A19 standard incandescent size, A21, and A15 appliance size) • Directional/Flood LED Lamps (e.g., reflector flood lamps, PAR lamps, MR16s) • Decorative LED Lamps (e.g., globe, candle and bullet lamps) | Required products: • Energy Star-certified OR on DesignLights Consortium (DLC) Qualified Product List (QPL) AND • CA Title 20-compliant<br>Suggested products must meet requirements above and be Title 24/JA8-compliant, DLC Premium Listed and/or RoHS-compliant.

1B: LED Compact Filament Lamps (with integrated driver) | Shapes: • A19 (standard incandescent bulb shape) • Globes • Candles They’re clear, yellow (vintage models) or frosted with a visible filament. | Required products: • Energy Star-certified OR CA Title 20-compliant<br>Suggested products must meet requirements above and be Title 24/JA8-compliant, RoHS-compliant, and/or have a rated life >15,000 hours.

1C: LED Tube Lamps | Shapes: • Linear: T8s, T5s and T12s • U-shaped: T8s and T12s • Circular: T5s and T9s | Required products: • Energy Star-certified OR on DLC QPL AND • Minimum 50,000 hours rated life<br>Suggested products must meet requirements above and be Title 24/JA8-compliant, DLC Premium Listed and/or RoHS-compliant.

1D. LED Pin-based Compact Lamps (with an external power source (e.g., driver)) | These LEDs replace 4-pin and 2-pin compact fluorescent lamps (CFLs) and have an external power source (e.g., driver or ballast). LED replacement lamps for 2-pin CFLs that lack an integrated driver are not covered under DLC or ENERGY STAR. | Required products: • On DLC QPL (for 4-pin LED (compact lamps ONLY) AND • Minimum 50,000 hours rated life<br>Suggested products must meet requirements above and be DLC Premium Listed, and/or RoHS-compliant.

1E: LED Miniature Lamps | Indicator lights and other very small LED lamps (e.g., C7 bulbs). Many of these products have either a miniature candelabra or bayonet base. | Required products: • Minimum 15,000 hours rated life<br>Suggested products must meet requirements above and be Energy Star-certified, RoHS-compliant and/or have a rated life >15,000 hours.

1F: LED Exit Sign Lamps and Retrofit Kits | • Clear, red and green LED exit sign lamp • LED exit sign retrofit kits with base adapters. | Required products: • Meet NFPA 101, NEC and OSHA Illumination Standards • LED exit sign retrofit kits must use 5 watts per face or less.<br>Suggested products must meet requirements above and be RoHS-compliant.

Prohibited: All other LED lamps
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.