

Sign Lighting Fixture Specifications (903.3.6.1)

903.3.6.1 Sign Lighting Fixture. Sign lighting fixtures shall be designed for use with lamps burning in a **horizontal position** and for the type of circuit specified. The luminaire shall have an aluminum housing with two 2-inch (50 mm) slipfitters or one 4-bolt slipfitter, and an internal ballast kit designed for that fixture. The housing shall have a natural aluminum finish or gray baked enamel finish. Reflectors shall have an alzak aluminum finish. The refractor shall consist of prismatic heat resistant glass in a cast aluminum holder. Plastic refractors shall not be used. The refractor shall be shielded on the end facing traffic. The holder shall be secured to the luminaire by means of a hinge and an automatic latch. A silicone rubber or other approved gasket shall be used to form a seal between the refractor and housing. The door and refractor assembly shall be completely sealed so that water cannot enter the housing. All metal parts, such as springs on the latches and hinges, U-bolts and screws, shall be made from non-ferrous metal or stainless steel. Wiring inside the luminaire housing shall be protected by suitable heat resistant insulating material. The reflector-refractor optical assembly and the ballast shall form a single unit. The optical unit shall be sealed at the socket entry. Transformer and capacitor compartments of the ballast shall be separated by either a heat barrier or an air gap for lower capacitor operating temperatures. A pipe stop and bracket for 4-bolt mounting shall be included in the assembly to properly locate the luminaire on the aluminum tracking to provide proper placement and illumination as shown on the plans.

903.3.6.1.1 Lamps shall be mercury vapor or metal halide. Lamp size and type shall be as specified in the contract. The mercury vapor lamp shall have a rated lamp life of not less than 24,000 hours based on a minimum of 10 hours burning time per day. The metal halide lamp shall have a rated lamp life of not less than 10,000 hours based on a minimum of 10 hours burning time per day. The ballast shall be designed for the type of lamp used. The ballasts shall be pre-wired to the lamp socket and to a terminal board so that only the connection of the supply leads to the ballast primary terminals is necessary. Ballasts shall be of the constant supply wattage type for mercury vapor lamps and shall be peak lead auto transformer type for metal halide lamps. Ballasts shall operate satisfactorily over a voltage range of plus or minus 13 percent of its nominal primary voltage rating. The change in lamp wattage over this range shall not exceed 3 percent for mercury vapor and 8 percent for metal halide. The ballast shall start and operate the lamp satisfactorily over a temperature range of -20 F (-29 C) to 105 F (40 C). Ballast efficiency shall not be less than 86 percent. The ballast shall have a power factor of not less than 90 percent. It shall be able to withstand, for at least one minute, twice the rated primary voltage plus 1000 volts at 60 hertz from primary to core, from secondary to core and from primary to secondary.