

BIRNS Technical Specifications

Emergency Lighting Fixture Model 4701

I. Physical

A. Dimensions

1. Height: 53cm (21 inches)
2. Width: 41 cm (16 inches)
3. Depth: 10 cm (4 inches)
4. Weight: 21.4 kg (47 pounds)

B. Mounting

1. Method: Wall Mounting Type
2. Knockouts: 7 total
 - a. Left side: 2
 - b. Right side: 2
 - c. Bottom: 2
 - d. Back: 1

C. Materials (excluding batteries)

- a. Housing: 300-series stainless steel
- b. Cover: 300-series stainless steel
- c. Single bracket: 300-series stainless steel
- d. Dual bracket: 300-series stainless steel
- e. All hardware (screws, washers, etc): 300-series stainless steel
- f. All labels: adhesive Mylar tape
- g. Lamp heads: chrome-plated brass
- h. PCB assembly: fiberglass, clad with tin-plated copper; 300-series stainless steel bracket/heat sink
- i. Primary wire insulation: Hypalon (CSPE)

D. Battery Materials

- a. Electrode plates: lead-calcium alloy, antimony-free
- b. Plate separators: woven glass fiber cloth
- c. Electrolyte: immobilized (gelled) dilute inorganic sulphuric acid
- d. Container: ABS (acrylonitrile butadiene styrene copolymer)
- e. Terminals: tin-plated brass
- f. Relief valve seal: neoprene rubber
- g. Container seal: polyurethane

E. Battery General Notes

- a. During discharging, the Negative battery plate is lead, and the Positive plate is lead dioxide, both becoming lead sulfate. The alloying of both plates with small amounts of calcium gives strength to the plate and helps inhibit corrosion.
- b. The one-way battery valve ensures that no air can enter the battery; thereby it obviates the possibility of oxygen reaction with the plates. The vent release pressure is 2 to 6 PSI.

II. Electrical

- A. AC Supply Voltage: 120 VAC, 220 VAC, or 240 VAC
- B. Supply Frequency: 50 or 60 Hz
- C. Maximum Emergency Loads:

1. For 1.5 hours: 170w
2. For 8.0 hours: 45w

D. Battery Information

1. Type of battery: Sealed flat-plate gelled-electrolyte lead-acid
2. Number of cells: 6 (3 cells per battery)
3. Nominal voltage: 12 VDC (6VDC per battery)
4. Discharge operation time: 8 hours (minimum) to 87.5% battery voltage at rated wattage of lamps
5. Maximum storage period without charging and temperature limitations: 24 hours
6. Total Battery Capacity: 33 amp-hours

III. Lighting/Photometric

A. Lamp Information

1. Number of lamps: 2
2. Lamp type: Tungsten-Halogen
3. Bulb type: Sealed Beam, PAR 36 (Parabolic Aluminized Reflector, 11.4 cm (4.5 inches) diameter)
4. Rated voltage of lamps: 12.8 volts
5. Rated wattage of each lamp: 18 watts
6. Rated lamp lifetime: 300 hours

B. Photometric Information

1. Light output per lamp: 1500 CBCP/lamp
2. Beam spread to 10% of maximum CP:
 - i. Horizontal: 50 degrees
 - ii. Vertical: 25 degrees