## PRODUCT IDENTIFICATION REFERENCE (See Page 4 for Detailed Product Specifications)

| Type | | Mount | Model | Color | Operation | Compatibility |
|---|---|---|---|---|---|---|
| Strobe (V/O) |  | Wall | 4906-6101 | Red | **Strobes:** Reverse polarity notification appliance with output selectable for 15, 30, 75, or 110 candela, and synchronized 1 Hz flash<br>**Note:** Strobes provide the polar light dispersion requirements of UL1971 and ULC-S526.<br><br>**A/V Horns:** Built-in electronic horn operating under SmartSync control<br><br>**Speakers:** Wired separately from strobes; selectable for 25 or 70.7 VRMS; selectable for ¼ W, ½ W, 1 W, or 2 W<br>***Note:** 4906-9154 is not ULC listed<br>****Note**: 4906-9157 is ULC only | **A/Vs:**<br>• IDNet NAC Extender models 4009-9201(CA) & 4009-9301<br>• SmartSync Control Module (SCM) 4905-9938<br>• Simplex Fire Alarm Control Panels (FACPs) providing SmartSync control NACs<br>**V/Os, per above and:**<br>• Strobe Synch Modules 4905-9914 & 4905-9922<br>• Simplex FACPs providing strobe synch NACs<br>**Speakers:**<br>• Listed fire alarm audio NACs |
| |  | Ceiling | 4906-6102 | Red | | |
| |  | Wall | 4906-9101 | Red | | |
| | | | 4906-9103 | White | | |
| |  | Ceiling | 4906-9102 | Red | | |
| | | | 4906-9104 | White | | |
| |  | Wall | 4906-6101 | Red | | |
| | | Ceiling | 4906-9114 | Red | | |
| | | | 4906-9115 | White | | |
| | | | 4906-9116 | Red | | |
| | | | 4906-9117 | White | | |
| Horn/ Strobe (A/V) |  | Wall | 4906-6127 | Red | | |
| |  | Ceiling | 4906-6128 | Red | | |
| |  | Wall | 4906-9127 | Red | | |
| | | | 4906-9129 | White | | |
| |  | Ceiling | 4906-9128 | Red | | |
| | | | 4906-9130 | White | | |
| |  | Wall | 4906-6127 | Red | | |
| |  | Ceiling | 4906-6128 | Red | | |
| Speaker/ Visible (S/V) |  | Wall | 4906-9151 | Red | | |
| | | | 4906-9153 | White | | |
| |  | Ceiling | 4906-9154* | White | | |
| | | | 4906-9157** | | | |

## CEILING MOUNTING REFERENCE NOTES (see Figure 1)

1. **V/O surface mounted boxes REQUIRE** either Adapter Plate 4905-9910, or optional Wire Guard 4905-9926.
2. **Before attaching strobe assembly to housing:** Select desired S/V and V/O candela and attach V/O NAC wiring.
3. For S/Vs, run strobe assembly wire leads through the housing opening and attach to the terminal block assembly; Red to POS, Black to NEG. (See Figure 5 for more detail.)
4. Strobe Assembly Mounting: After attaching the housing to the box using two supplied screws, align the mounting tabs of the strobe assembly to the housing slots and snap them into place.
5. On model 4906-9157, the gasket for acoustic performance must be temporarily pushed to the side to feed the wires through.

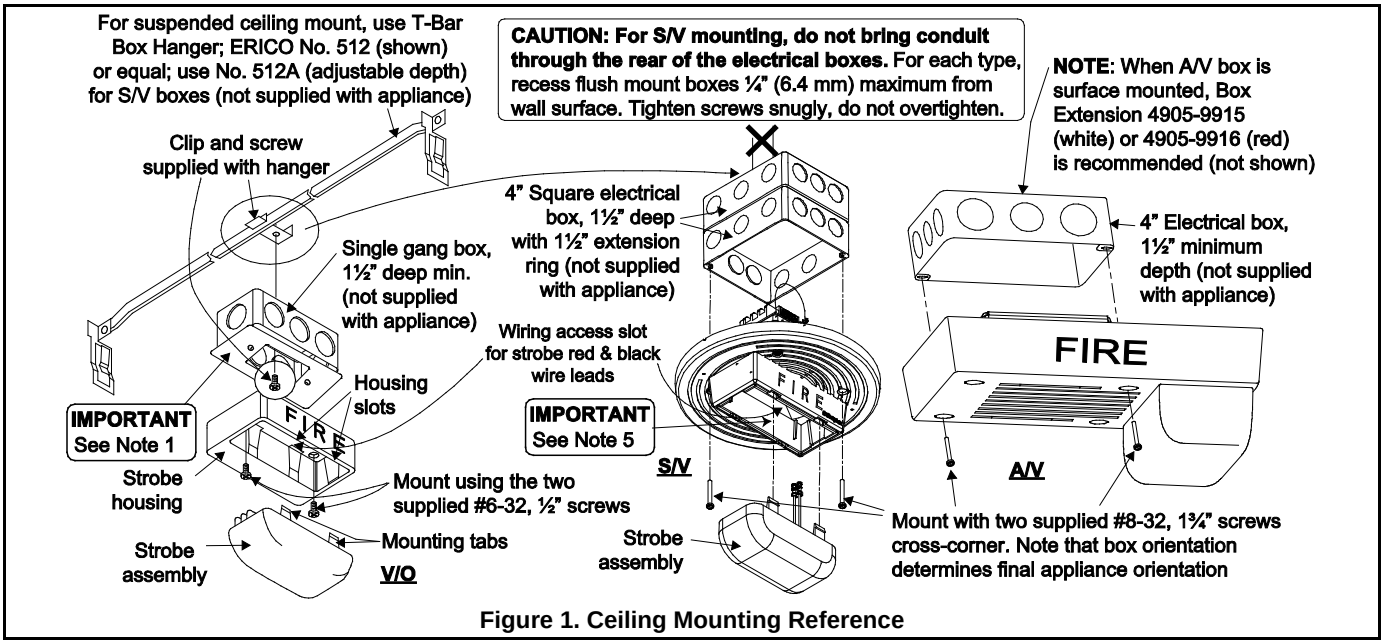



**Figure 1. Ceiling Mounting Reference**

***Location Reference.*** *Location and quantity of appliances required must conform to the applicable local standards and guidelines (the National Fire Alarm and Signaling Code (NFPA 72); ULC Standard CAN/ULC-S524, Installation of Fire Alarm Systems; the appropriate model building codes, etc.) and specific requirements of the Local Authority Having Jurisdiction (AHJ).* ***These notification appliances are not intended for installation within hazardous locations as defined by the National Electrical Code (NEC) or NFPA.***

***SAFETY.*** *Always install, maintain, and test notification appliances within their specifications. Failure to follow all safety precautions and instructions may result in loss of life and property due to non-functioning appliances. Some appliances use high voltage. To avoid electrical hazards and damage to appliances, disconnect electrical power for the notification appliance circuit at the control panel before installing, repairing, or internally adjusting any appliances. Even with electrical power removed, some appliances (such as strobes) store a high voltage charge that can cause injury resulting in death from electrical shock. Do not touch exposed circuitry.*

## WALL MOUNT REFERENCE (see Figure 2)

**NOTE:** For each type, recess flush mount boxes ¼" (6.35 mm) maximum from wall surface. Tighten screws snugly, do not overtighten.

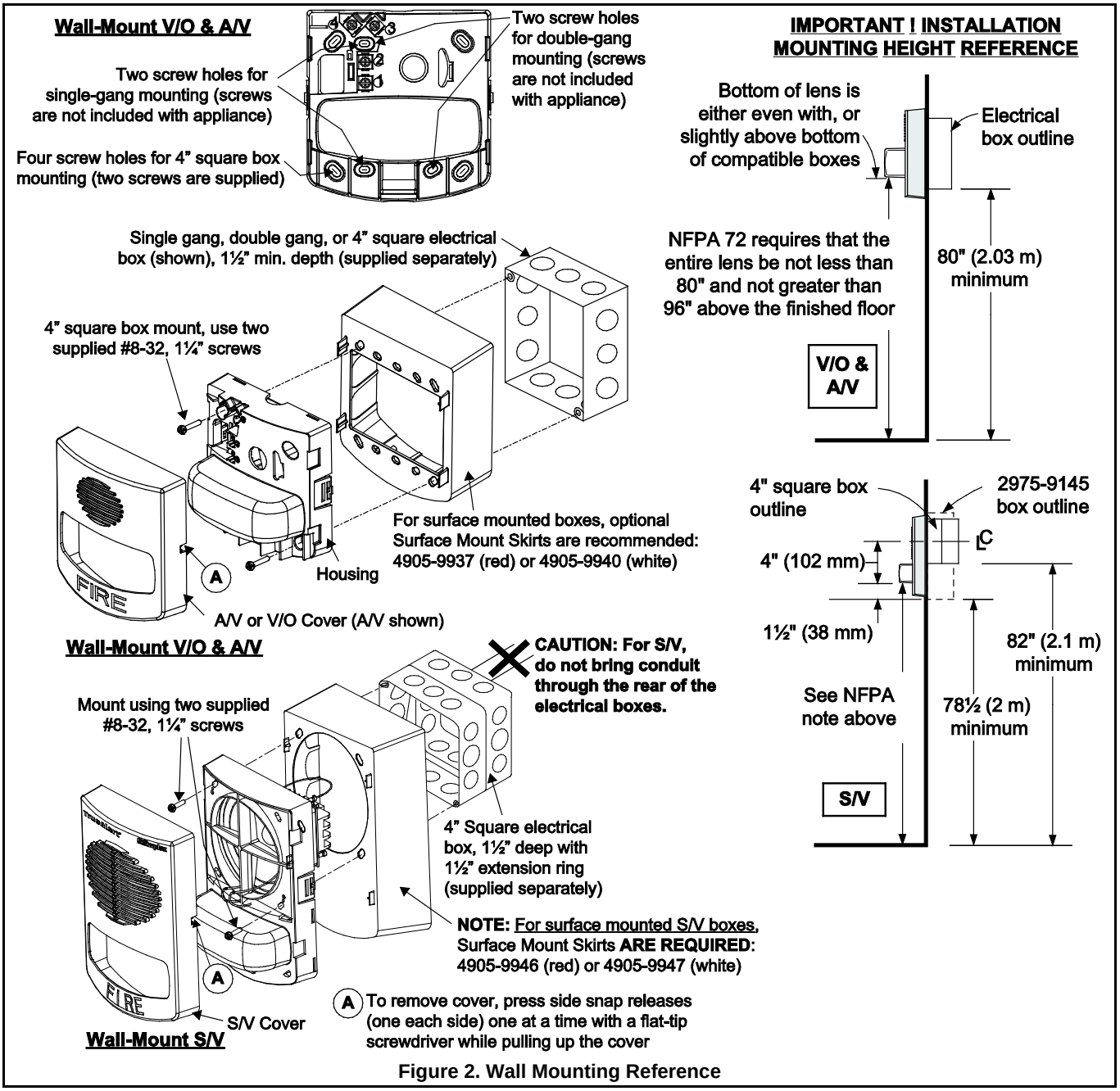



**Figure 2. Wall Mounting Reference**

## WIRING TERMINATION REFERENCE (see Figure 3)

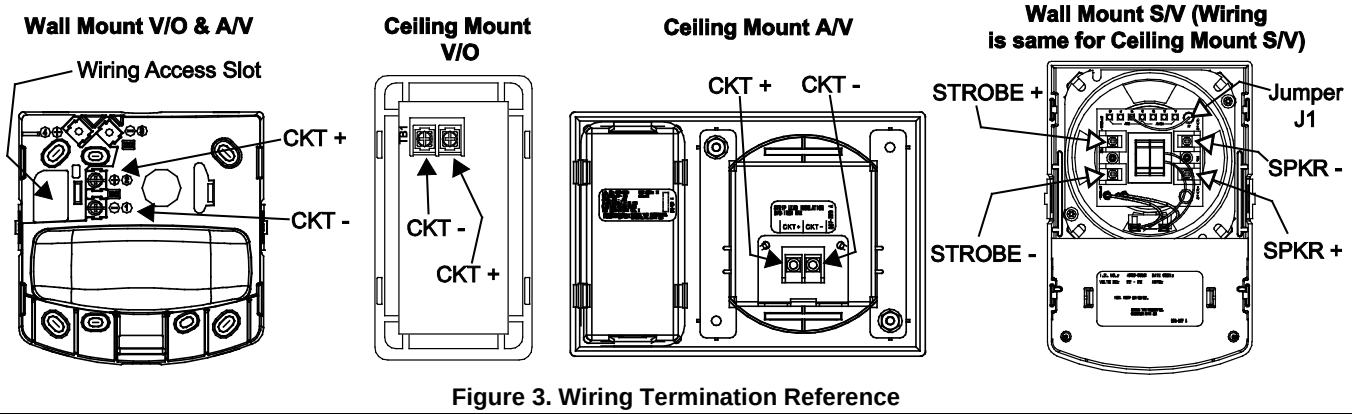



**Figure 3. Wiring Termination Reference**

## NAC WIRING INFORMATION (see Figure 4)

1. Refer to the fire alarm control panel (FACP) documentation for additional information.
2. NAC wiring connections are supervised and power-limited by the FACP.
3. Maximum of 35 appliances per circuit.
4. Maximum resistance between appliances is 30 ohms.
5. For audio/voice systems, speaker circuits are wired separately from strobe circuits.
6. Strip lead insulation to ⅜" (9.5 mm) maximum.
7. Wire size is 18 to 12 AWG (0.82 $mm^2$ to 3.31 $mm^2$).
8. Class B NAC, End-of-Line Resistors. When connecting the last appliance on a NAC, connect an end-of-line resistor harness to the terminals. Refer to FACP documentation for correct value.
9. Speaker factory setting is 25 VRMS, ½ W (J1 to Tap E). Select speaker wattage setting per Figure 5.
   **Note: An incorrect tap setting may damage the speaker.**

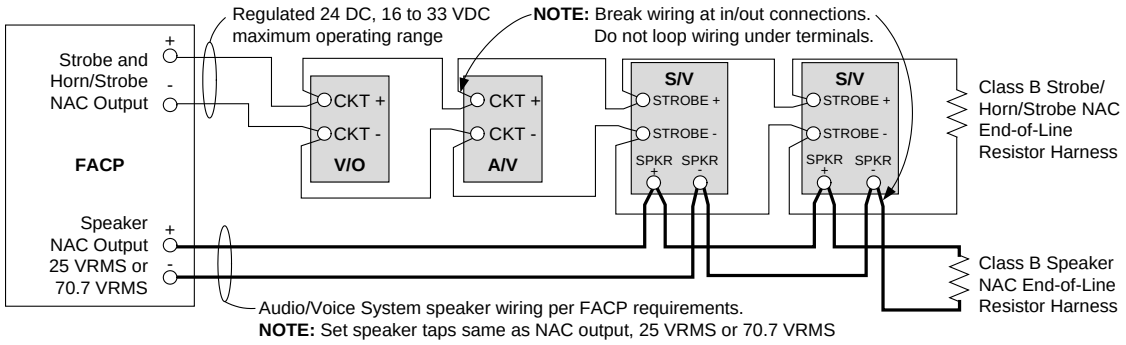
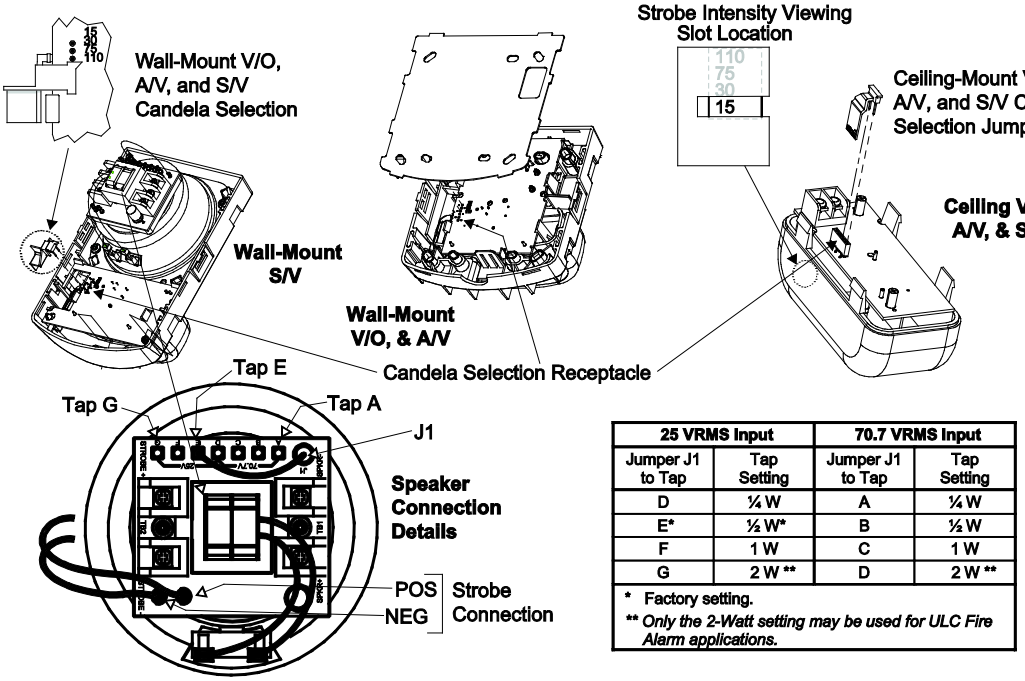



**Figure 4. NAC Wiring Reference**

## SETTING STROBE CANDELA & SPEAKER TAP (see Figure 5)

**NOTE: Strobe intensity is factory set for 15 cd, select higher intensity by jumper position (30, 75, or 110 cd)**




| 25 VRMS Input | | 70.7 VRMS Input | |
|---|---|---|---|
| Jumper J1 to Tap | Tap Setting | Jumper J1 to Tap | Tap Setting |
| D | ¼ W | A | ¼ W |
| E* | ½ W* | B | ½ W |
| F | 1 W | C | 1 W |
| G | 2 W ** | D | 2 W ** |

* Factory setting.
*** Only the 2-Watt setting may be used for ULC Fire Alarm applications.*

**Figure 5. Strobe Candela and Speaker Tap Reference**

## STI GUARDS, UL LISTED COMPATIBILITY REFERENCE

| Model | STI Guard (Mounting Type) | Light Loss | Sound Loss, A/V or S/V | Required Surface Mount Skirt (See Instructions 574-790) |
|---|---|---|---|---|
| **Wall V/O:** 4906-9101 & 4906-9103<br>**Wall A/V:** 4906-9127 & 4906-9129 | STI-1210D (Surface) | 41.7% | -3.7 dBA | 4905-9937 (red) or 4905-9940 (white) |
| | STI-1210E (Flush) | 31% | -4.9 dBA | |
| | STI-1215 (Flush) | 33.3% | -5.7 dBA | |
| | STI-1217 (Surface) **See Note 3** | 30.7% | -6.3 dBA | |
| **Ceiling V/O:** 4906-9102 & 4906-9104 | STI-1217 (Surface) | 21.5% | NA | None |
| | STI-1217 (Flush) | 39.4% | NA | |
| **Wall S/V:** 4906-9151 & 4906-9153 | STI-1210D (Surface) | 34.3% | -1.5 dBA | 4905-9946 (red) or 4905-9947 (white) |
| | STI-1210E (Flush) | 31% | -3.3 dBA | |
| **Ceiling S/V:** 4906-9154 | STI-1217 (Flush) | 23.6% | -1.4 dBA | None |

**Notes: 1.** Guards are not listed for ULC applications. **2.** Refer to STI Installation Manuals packed with each guard for mounting and maintenance instructions. **3. STI adhesive backed spacer to mounting surface gasket required**; cover to spacer gasket is not used

## Table 1. PRODUCT SPECIFICATIONS

**Rated Strobe and A/V Current; Maximum Operating Current @ 16 VDC**
(*A/V current below is with horn steady on)

| Candela Rating | Wall Mount V/O & S/V | Wall Mount A/V* | Ceiling Mount A/V* | Ceiling Mount V/O & S/V |
|---|---|---|---|---|
| 15 cd | 60 mA | 75 mA | 86 mA | 75 mA |
| 30 cd | 94 mA | 116 mA | 132 mA | 125 mA |
| 75 cd | 186 mA | 221 mA | 250 mA | 233 mA |
| 110 cd | 252 mA | 285 mA | 320 mA | 316 mA |

**A/V Horn Sound Pressure Level Measurements**
(UL464 Reverberant Room Testing; ULC-S525 Anechoic Room Testing)

| Horn Mode | ULC-S525 at 3 m | | UL464 at 10 ft | |
|---|---|---|---|---|
| | Wall A/V | Ceiling A/V | Wall A/V | Ceiling A/V |
| Steady | 88 dBA | 90 dBA | 86 dBA | 87 dBA |
| Coded | 94 dBA | 98 dBA | 82 dBA | 83 dBA |

**Horn Dispersion:** SPL decreases by 3 dB at an angular displacement of 40° and by 6 dB at an angular displacement of 50° both horizontally and vertically. With the 4905-9838 Sound Damper installed, measurements decrease 5 to 6 dB.

**General Specifications**

| | |
|---|---|
| Rated Voltage Range | Regulated 24 DC, 16 to 33 VDC |
| Strobe Flash Rate | 1 Hz |
| NAC Loading | 35 synchronized strobes maximum per NAC |
| Temperature Range | 32° to 120° F (0° to 49°C) |
| Humidity Range | 10% to 93%, non-condensing at 100 °F (38° C) |
| Connections; two wires per terminal for in/out wiring | Terminal blocks for 18 AWG to 12 AWG (0.82 $mm^2$ to 3.3 $mm^2$) |

**Speaker Output Ratings**
(UL1480 Reverberant Room Testing; ULC-S541 Anechoic Room Testing)

| Voltage | Jumper J1 to Tap | Tap Setting In Watts | UL1480 at 10 ft | | ULC-S541 at 3 m | |
|---|---|---|---|---|---|---|
| | | | Wall-S/V all models | 4906-9254, 4906-9255, 4906-9256 Ceiling S/V | Wall S/V All models | 4906-9157 Ceiling s/v for ULC |
| 70.7 VRMS | A | ¼ W | 76 dBA | 76 dBA | 77 dBA | 80.9 dBA |
| | B | ½ W | 79 dBA | 79 dBA | 80 dBA | 84.1 dBA |
| | C | 1 W | 82 dBA | 82 dBA | 83 dBA | 87.3 * dBA |
| | D | 2 W | 85 dBA | 85 dBA | 86 dBA * | 90.2 * dBA |
| 25 VRMS | D | ¼ W | 76 dBA | 76 dBA | 77 dBA | 81.6 dBA |
| | E | ½ W | 79 dBA | 79 dBA | 80 dBA | 84.3 dBA |
| | F | 1 W | 82 dBA | 82 dBA | 83 dBA | 87.1 * dBA |
| | G | 2 W | 85 dBA | 85 dBA | 86 dBA * | 89.7 * dBA |

* Only marked settings may be used for ULC fire alarm applications.
**Speaker Dispersion:** SPL decreases by 3 dB at an angular displacement of 30° and by 6 dB at an angular displacement of 55°.

**Speaker Specifications**

| | |
|---|---|
| Input Voltage | 25 or 70.7 VRMS; for connection to conventional fire alarm audio circuits |
| Power Taps | ¼, ½, 1, and 2 W |
| **Speaker Frequency Response** | |
| Fire Alarm | 400 to 4000 Hz |
| General Signaling | 125 to 12 kHz |

## Table 2. STROBE POLAR OUTPUT (ref. UL 1971 and ULC-S526 room temperature test results)

| Wall Mount Light Output at any Candela Setting | | | | | | Ceiling Mount Light Output at any Candela Setting | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vertical Dispersion | | | Horizontal Dispersion | | | Vertical Dispersion | | | Horizontal Dispersion | | |
| X-Angle | UL Min. | Typical | Y-Plane | UL Min. | Typical | X-Angle | UL Min. | Typical | Y-Plane | UL Min. | Typical |
| 0 | 100% | 322% | 0 | 100% | 320% | 0 | 100% | 327% | 0 | 100% | 343% |
| 5 | 90% | 217% | ±5 | 90% | 214% | ±5 | 90% | 293% | ±5 | 90% | 160% |
| 10 | 90% | 168% | ±10 | 90% | 177% | ±10 | 90% | 281% | ±10 | 90% | 175% |
| 15 | 90% | 179% | ±15 | 90% | 175% | ±15 | 90% | 197% | ±15 | 90% | 129% |
| 20 | 90% | 210% | ±20 | 90% | 174% | ±20 | 90% | 168% | ±20 | 90% | 145% |
| 25 | 90% | 184% | ±25 | 90% | 170% | ±25 | 90% | 142% | ±25 | 90% | 165% |
| 30 | 90% | 149% | ±30 | 75% | 169% | ±30 | 75% | 143% | ±30 | 75% | 152% |
| 35 | 65% | 172% | ±35 | 75% | 157% | ±35 | 75% | 155% | ±35 | 75% | 144% |
| 40 | 46% | 189% | ±40 | 75% | 151% | ±40 | 75% | 156% | ±40 | 75% | 139% |
| 45 | 34% | 203% | ±45 | 75% | 138% | ±45 | 75% | 134% | ±45 | 75% | 129% |
| 50 | 27% | 152% | ±50 | 55% | 130% | ±50 | 55% | 115% | ±50 | 55% | 129% |
| 55 | 22% | 166% | ±55 | 45% | 121% | ±55 | 45% | 104% | ±55 | 45% | 123% |
| 60 | 18% | 166% | ±60 | 40% | 117% | ±60 | 40% | 103% | ±60 | 40% | 111% |
| 65 | 16% | 164% | ±65 | 35% | 109% | ±65 | 35% | 98% | ±65 | 35% | 120% |
| 70 | 15% | 163% | ±70 | 35% | 105% | ±70 | 35% | 87% | ±70 | 35% | 103% |
| 75 | 13% | 159% | ±75 | 30% | 98% | ±75 | 30% | 90% | ±75 | 30% | 75% |
| 80 | 12% | 138% | ±80 | 30% | 90% | ±80 | 30% | 96% | ±80 | 30% | 83% |
| 85 | 12% | 113% | ±85 | 25% | 78% | ±85 | 25% | 96% | ±85 | 25% | 70% |
| 90 | 12% | 88% | ±90 | 25% | 67% | ±90 | 25% | 83% | ±90 | 25% | 47% |

**Limitations: Notification Appliances do not provide their own power.** They receive power from the Fire Alarm System. If power is not supplied to the notification appliances (for whatever reason), the notification appliances will not provide a visible and/or audible warning. THEREFORE, BACK-UP POWER SUPPLIES, OR OTHER BACK-UP POWER SOURCES, ARE REQUIRED FOR THE FIRE ALARM SYSTEM. Visible notification appliances provide a specific rated output light level and must meet the requirements of the intended protected area(s). Although these strobe equipped appliances meet the current UL and ULC-S526 standards for light intensity, the protected area(s) may have walls, doors, carpeting, furniture, insulation, or other obstacles that reduce or even block the light. For all applications, the light output must provide enough intensity to alert occupants of the protected area(s) including those occupants that are sleeping. If these occupants cannot see the effect of the notification appliances within the protected area(s), you must increase the intensity of the light output or add additional notification appliances so that the occupants can see the effect of the notification appliances when activated.