

Sconce Enclosure Design

Similar to coves, customer supplied sconce enclosures must be designed to conceal brightness from normal viewing angles, without obstructing light intended for the target surface. Sconce enclosures are typically designed to provide a horizontal line of fixture concealment. Thus the luminaire will be hidden from view as long as there are no viewing positions above the top of the enclosure.

The example below walks you through the design of a customer supplied sconce enclosure. For additional assistance, contact **elliptipar** Applications Engineering.

Example

A space is 40' long x 18' wide, with a flat ceiling at 11' above the finished floor. Customer supplied sconce enclosures will be used to house **elliptipar** Style 404 Enscence® base units with metal halide lamps. Luminaires will be mounted along both 40' walls.

Let us assume that we have determined (by hand calculation, computer model or similar procedure) that 10 units, each with one 250W lamp, are required to achieve the desired illuminance level at the work plane.

Step 1 Tentatively locate the luminaires in plan. Mounting on both 40' long walls, 10 units can be distributed 5 units per side, with an on-center spacing (**Y**) of 8'. Note: these locations may be revised based on factors considered in later steps.

Step 2 Determine the throw distance (**D**) across the target surface. Since the space is 18' wide with luminaires on both sides, each unit must throw light across an effective target surface of 9'.

Step 3 Determine the proper luminaire setback (**X**). For point source luminaires, the setback should be at least 1/4 of the throw distance ($1/4 \times 9' = 27"$), but not less than 30". The larger dimension governs, so the *minimum* recommended setback is 30".

In Step 1 we tentatively chose an on-center spacing of 8'. For good lateral uniformity, spacing should be no more than 1-3/4 to 2 times the setback. To meet this recommendation using an 8' spacing, our chosen setback must increase to between 48" and 55". Let us assume that a 48" setback is appropriate for this application.

Step 4 Determine the aiming angle for the maximum candlepower of the luminaires. Using a room section, draw a line from the lamp center to the far edge of the target surface. (In this case, this is the center of the ceiling.) This approximates the lowest angle of maximum candlepower. In this example, the aiming angle is measured as 24° above horizontal.

Step 5 Measure the necessary height and projection of the enclosure. The top of the enclosure should be slightly higher than the top of the base unit to ensure horizontal visual cutoff of the fixture. The front lip should be placed out far enough not to obstruct the maximum candlepower. In this case, the enclosure height is measured to be approximately 9" and the projection from the wall approximately 16-1/2".

Figure 3: Room Section

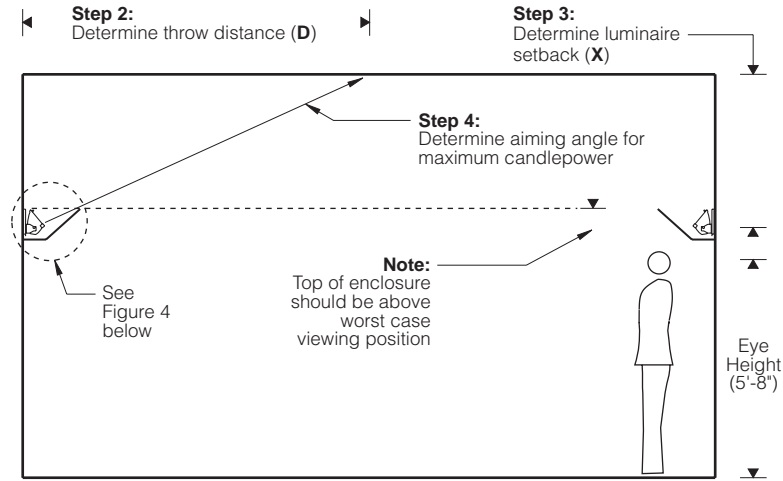
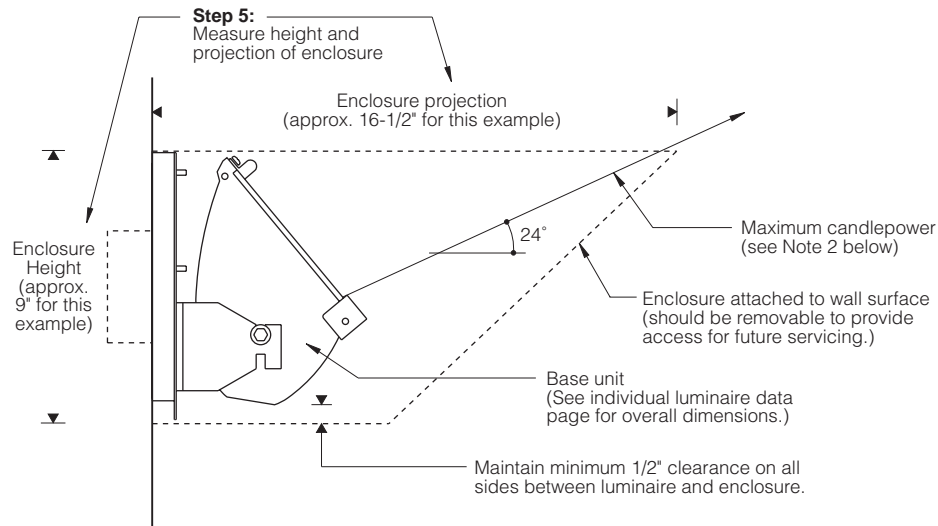


Figure 4: Enclosure Detail



Notes

1. Enclosure shall be constructed from non-combustible materials.
2. Refer to appropriate luminaire photometric report on our Website at www.elliptipar.com to determine location of maximum candlepower with respect to reflector.

