Maximizing Light Blockage with Guestroom Window Treatments

Revision C | July 2022

Overview

Drapery and shade panels are used in many hospitality and residential applications such as bedrooms and hotel rooms. Often in these applications, the occupant(s) of the room will want the shades and/or drapery to block as much light as possible. This document presents the current best practices for blocking outside light. The primary objective is to block direct pathways, and create a "tortured path" for light to enter the room. This is achieved by creating as much overlap as possible and by eliminating unnecessary gaps where light can pass through. Depending on the window type, some recommendations may not apply. The best way to measure light-blocking effectiveness of a given window treatment is with a mock-up in actual site conditions.

Important notes:

- Lutron supplies only drapery track hardware and does not supply the drapery fabric. To achieve a finished solution that blocks light effectively, the track installer must coordinate closely with the workroom that will supply the drapery fabric panels.
- Lutron provides roller shades with the fabric installed on the roller. For roller shade fabric information, visit lutronfabrics.com
- For maximum light blockage, a combination of outside-mounted, side-draw drapery system and pocket or fascia (with top-back cover)-mounted blackout roller shade(s) with side channels is recommended.

Contents:

1. Blocking Light with Drapery

To block the greatest amount of light with drapery, the following configurations are recommended. Explanations and illustrations of the configurable elements listed are presented in the sections that follow.

QUICK-REFERENCE CONFIGURATION A: Outside mount, side-draw *(preferred)*

- Mounting style: Outside/overlapping window opening at least 12 in (305 mm) on all sides and top
- Draw style: Side draw
- Drapery styles: Pinchpleat or ripplefold
- Valance or fascia: 11.5 in (292 mm) wide (for dual) x 12 in (305 mm) deep (minimum)

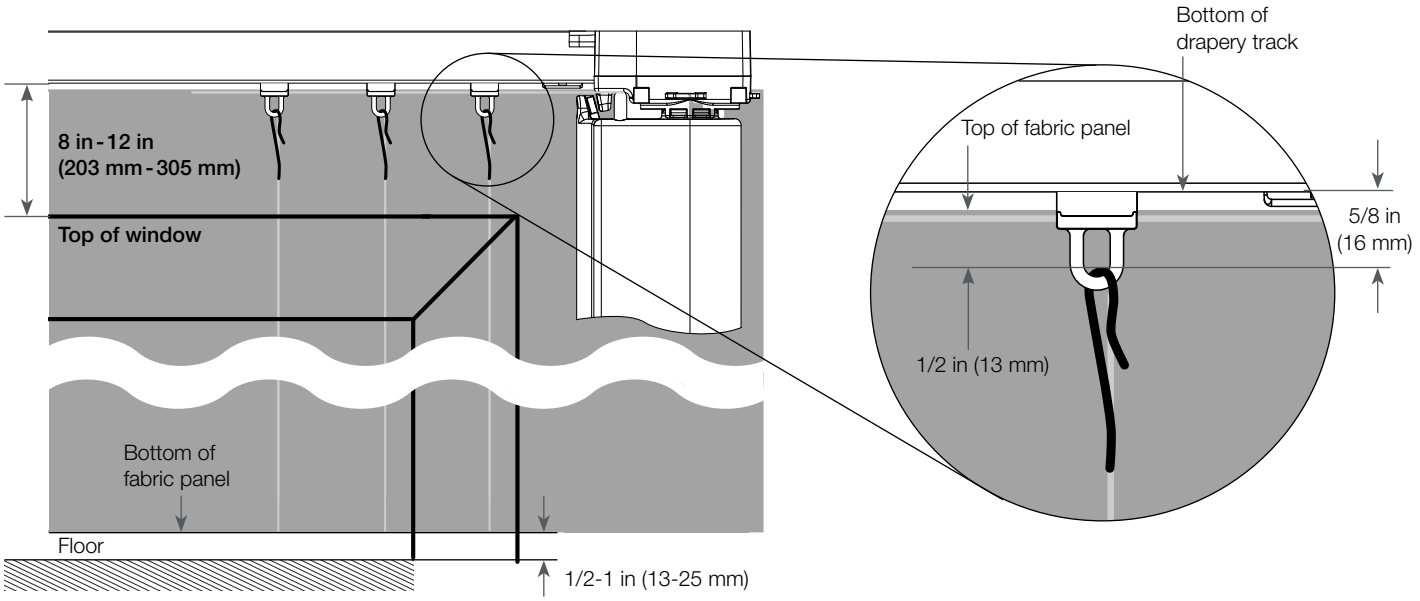
QUICK-REFERENCE CONFIGURATION B: Inside mount, center-draw

- Mounting style: Surface mount (not recessed)
- Draw style: Center draw with maximum overlap
- Drapery style: Pinchpleat recommended
- Non-moving sides of drapery attached to wall
- Pocket or fascia: 11.5 in (292 mm) wide (for dual) x 12 in (305 mm) deep (minimum)

1.1 Reducing Light Gap Along the Top

Option A: Outside Mount If the window opening does not extend all the way to the ceiling, light can be blocked by mounting the drapery track on the wall above the window. Mount the drapery track as far above the window opening as the site allows; ideally 8 to 12 inches (203 to 305 mm) or more above the top of the window, close to the ceiling. As the distance between the top of the window opening and the drapery track is increased, the amount of light blockage also increases.

Figure 1.1a Outside mount above the window (pinchpleat fabric represented)



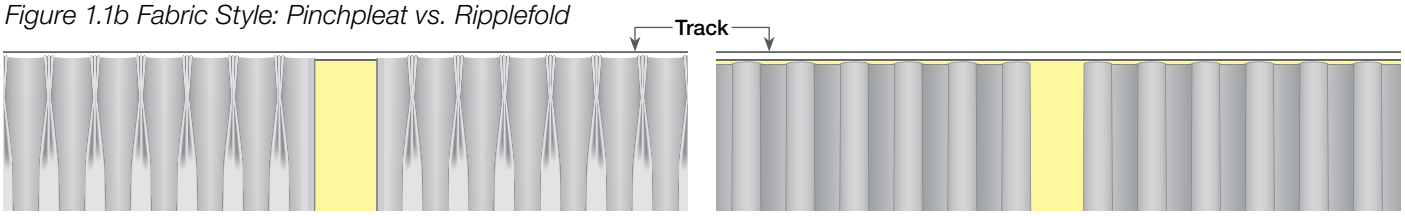
Option B: Inside Mount >

1.1 Reducing Light Gap Along the Top *(continued)*

Option B: Inside Mount With drapery mounted inside the window opening, light blockage is more challenging, and other elements of the configuration have a greater effect.

Fabric Style: Pinchpleat style drapery is recommended for light blocking in an inside-mount application because a pinchpleat panel can be hung in such a way that the top edge of the fabric *overlaps* the track extrusion. Ripplefold style, by nature of its design, must always hang *below* the drapery track, resulting in a gap that allows light to pass between the track and the fabric.

Figure 1.1b Fabric Style: Pinchpleat vs. Ripplefold

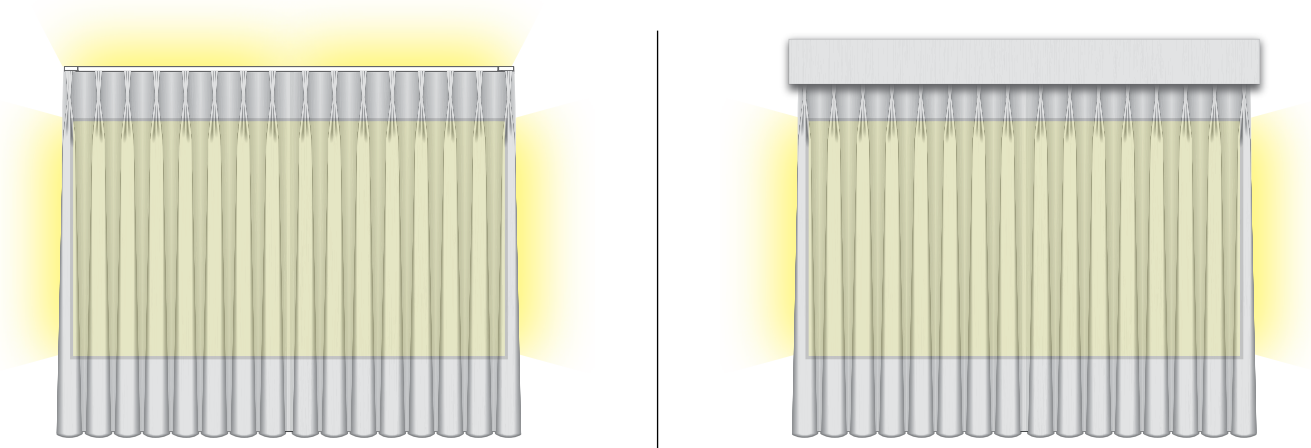


Pinchpleat overlaps the track (preferred)

Ripplefold hangs below the track

Cornice, Valance, and Pocket Applications: A cornice, valance, or pocket may be used to enclose the top of the drapery system and eliminate an indirect pathway for light leakage above the drapery system.

Figure 1.1c Eliminating light leakage above the drapery system



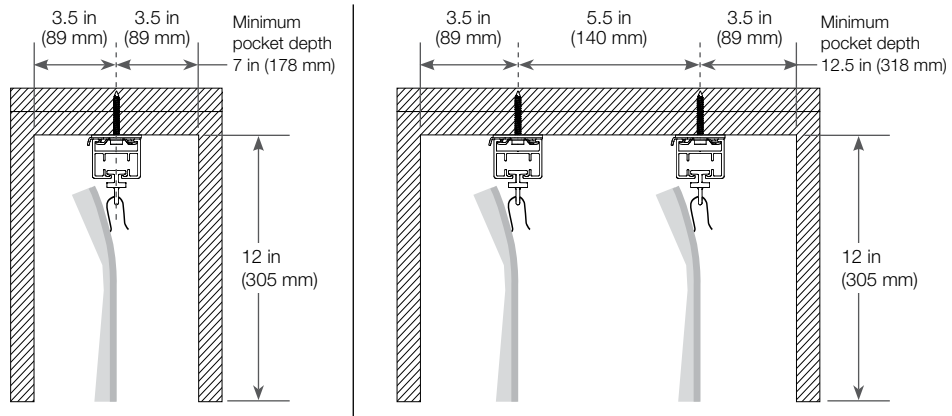
Light leakage above top-exposed drapery

Light leakage above the drapery system is eliminated

- Interior pocket height of at least 12 in (305 mm) is recommended.
- For single systems, minimum interior pocket width of 7 in (178 mm), is required for adequate stack-back clearance.*
- Dual-track systems require a minimum interior pocket width of 11.5 in (292 mm) for adequate stack-back clearance.*
- The overall size of the pocket may vary due to site conditions such as ceiling height, window height, and customer preferences.

*More about stack-back clearance >

Figure 1.1d Pocket Specifications



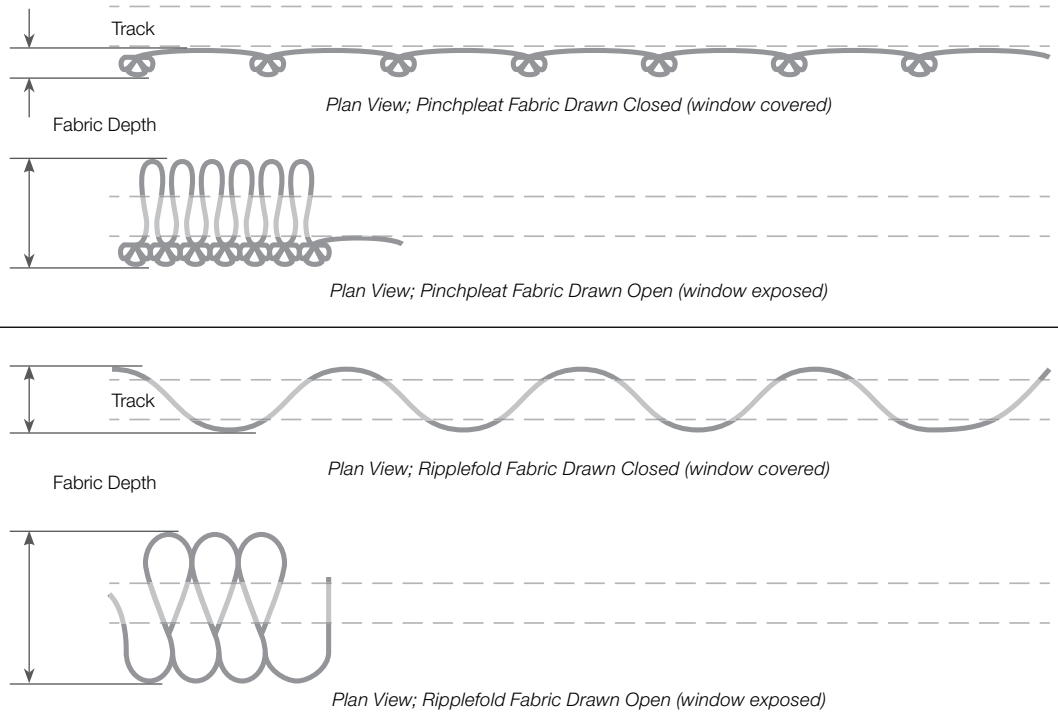
Section View; Single System

Section View; Dual-track System

1.1 Reducing Light Gap Along the Top *(continued)*

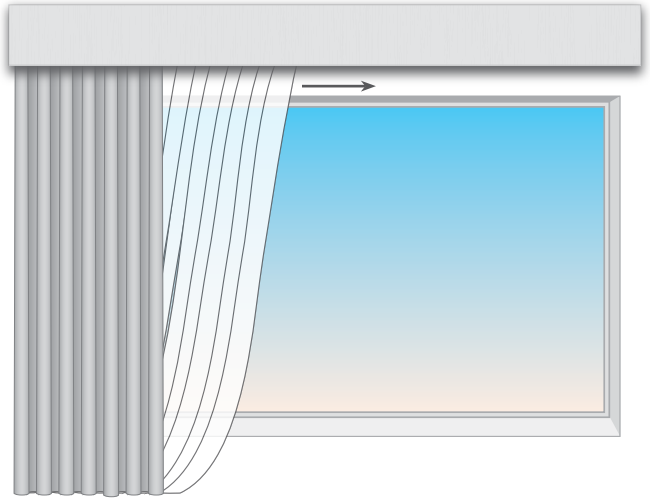
Stack-back Clearance: Installations in which the top of the drapery is enclosed within a cornice, valance, or pocket require adequate clearance for "stack-back". When the drapery is drawn open (window exposed), the fabric "stacks back" and occupies a larger space (depth), than it does when it is drawn closed (window covered).

Figure 1.1e Stack-back Examples



Stack-back clearance is especially important in dual-track installations because if the tracks are mounted too close together, one panel could interfere with free movement of the other.

Figure 1.1f Dual-track panel interference due to inadequate clearance

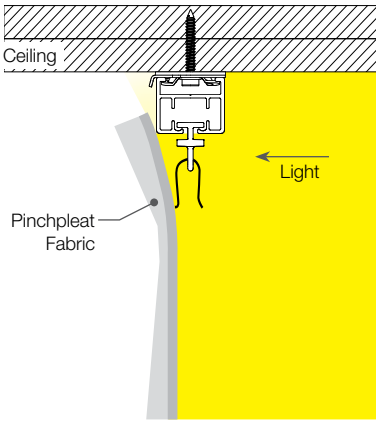


Next: Ceiling Mounting - Surface vs. Recess >

1.1 Reducing Light Gap Along the Top *(continued)*

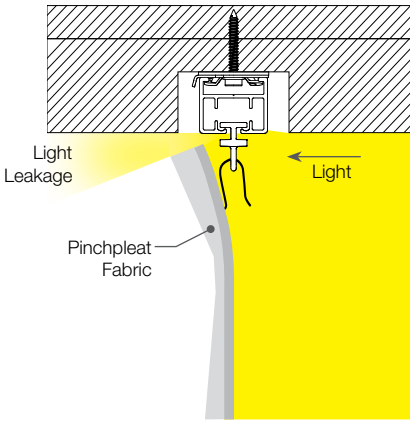
Ceiling Mounting; Surface vs. Recess: For locations where cornice, valance, or pocket options are not suitable, ceiling mounting may be possible. To maximize light blockage along the top of a ceiling mounted system, surface mount and pinchpleat fabric are preferred.

Figure 1.1g Ceiling Mounting



Section View; Surface Mounted Track with Pinchpleat Fabric (preferred)

Placing the pins lower on the fabric panel raises the top edge of the fabric to produce an overlap with the track, preventing direct light leakage between the track and the fabric.



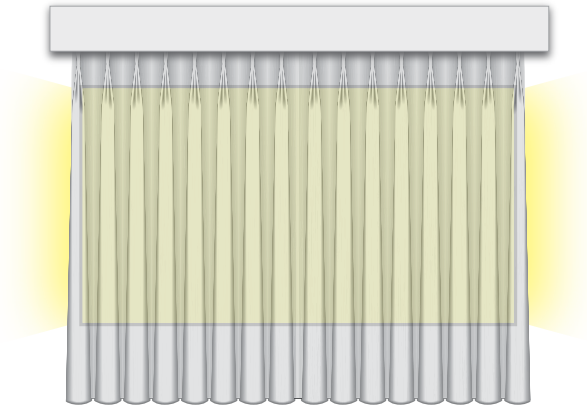
Section View; Recess Mounted Track with Pinchpleat Fabric

Placing the pins lower on the fabric panel to produce an overlap with the track is not possible with recess mount, resulting in unavoidable direct light leakage between the track and the fabric.

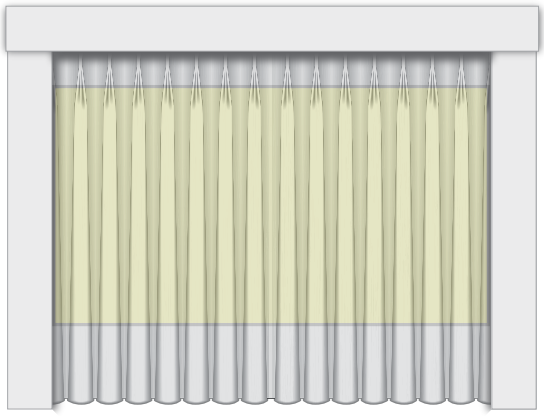
1.2 Reducing Light Gap Along the Sides

Option A: Side Pocket or Overlap Wall A pocket or wall overlap can be used along the sides of the drapery opening to reduce light leakage at the sides of the drapery panel(s). As with the top pocket, the larger the pockets (or overlap), the more the light leakage will be reduced. A minimum 12 in (305 mm) is recommended for the depth of side pockets or overlap. The viability of either option depends greatly on the window, wall, and surrounding conditions.

Figure 1.2a Side Pockets



Light leakage along the sides of drapery



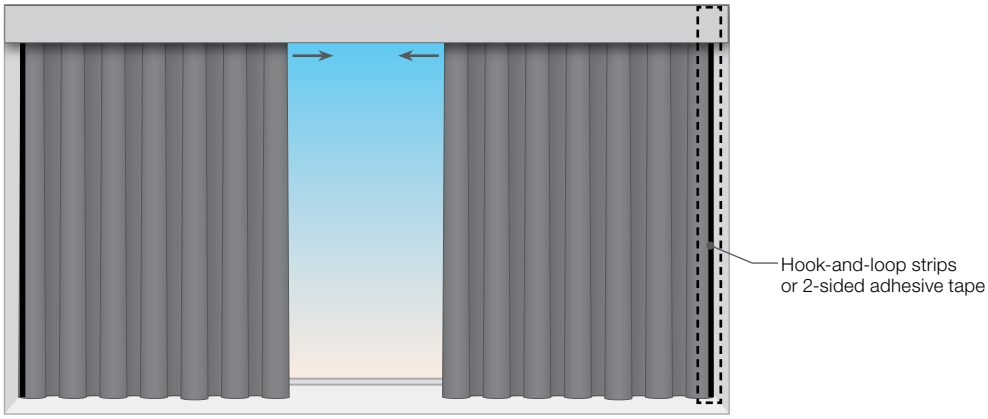
Light leakage along the sides is eliminated

Option B: Attach Stationary End(s) to the Wall >

1.2 Reducing Light Gap Along the Sides *(continued)*

Option B: Attach Stationary End(s) to the Wall For an inside-mounted system, the stationary end(s) of the drapery panel(s) may be attached to the jamb surface with hook-and-loop strips or 2-sided adhesive tape. This will ensure that the drapery is tight to the jamb from top to bottom, preventing direct light leakage. This solution requires close coordination between the drapery workroom and the installer.

Figure 1.2b Inside Mount with Fabric Ends Attached



Inside-mounted, center-draw system with fabric attached to the window jambs

1.3 Reducing Light Gap Between Center-Draw panels

Single-panel, side-draw systems are best for maximum light blocking, but center-draw draperies offer advantages in the way of shorter open/close time, smaller stackback, and easier installation. Where the two panels meet in the center, however, there is potential for direct light leakage, so maximizing overlap is a key factor when room darkening is the objective.

For maximum light blocking characteristics, Lutron recommends a **center-draw** track with pinchpleat fabric and **extended hanger bars.** Tandem-draw tracks are also available from Lutron. In tandem systems, the idler ends limit how far the master carriers can travel.

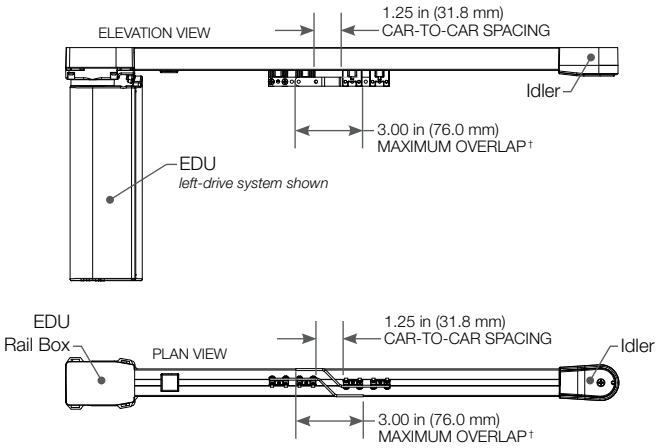
Extended Hanger Bars for increased overlap in center-draw and tandem-draw pinchpleat systems
Important Notes:

1. Extended hanger bars are a custom request. Please contact commercialshadeest@lutron.com for a quotation.
2. Overlap distances vary between the Alena and Sivoia QS drapery product lines. The drawings on the following pages show overlap dimensions for both product lines with standard and extended hanger bars. Notes a. through e. below apply to the drawings provided:
   a. The overlap dimension shown is the overlap of the hanger bars and does not include any drapery fabric that may extend past the end of the hanger bar. The overlap dimensions shown are maximum. If less overlap is required, the close limits of the Electronic Drive Unit (EDU) may be adjusted to achieve the desired amount of overlap.
   b. Drapery fabric panels and auxiliary carriers are omitted for clarity.
   c. Drapery track mounting hardware is omitted for clarity. Wall, ceiling, or recessed hardware may be used.
   d. Maximum weight of drapery panel depends on system configuration. This value will be reported on the quotation.
   e. Drawings are provided for conceptual purposes only and are not intended for construction. Exact equipment requirements, including locations and quantities, should be verified in accordance with the most up-to-date lighting/electrical reflected ceiling plans, lighting fixture schedules, control intent, and specifications. Shade equipment should be verified in accordance with architectural plans, specifications, and window schedules/details.

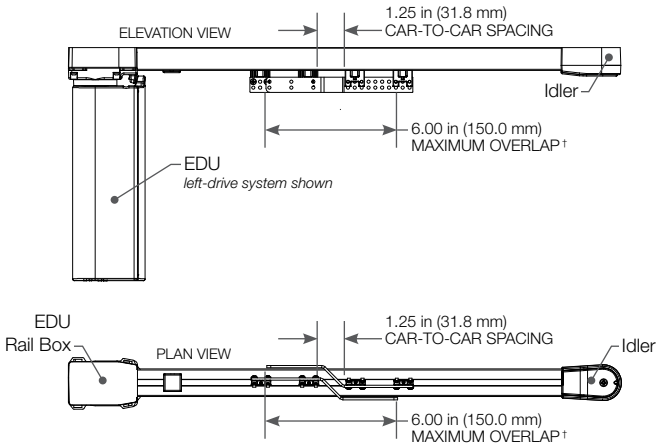
Alena Center-Draw & Tandem-Draw Pinchpleat Systems >

1.3 Reducing Light Gap Between Center-Draw panels *(continued)*

Figure 1.3a Alena Center-Draw Pinchpleat Systems†



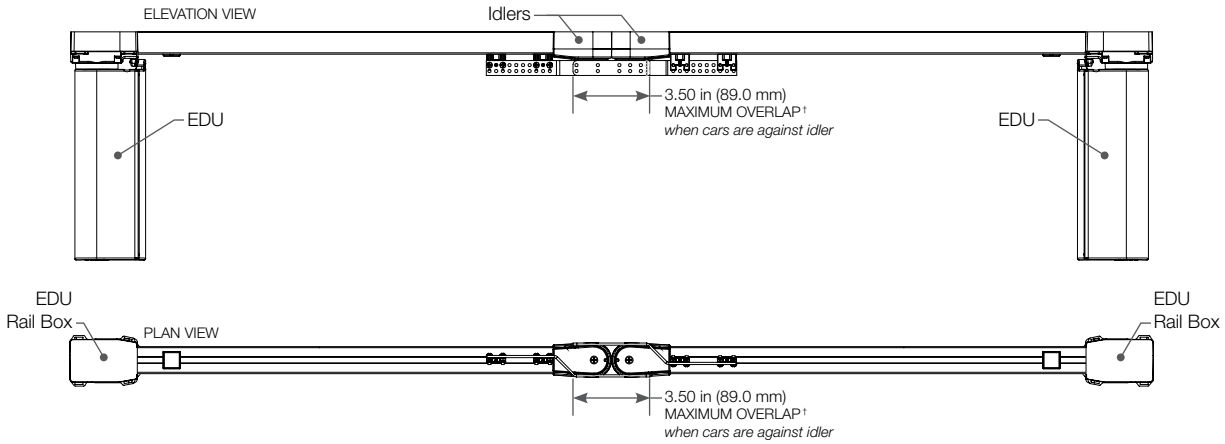
Alena Center-Draw System with Standard Hanger Bars



Alena Center-Draw System with Extended Hanger Bars

†Please see **important notes** on page 6.

Figure 1.3b Alena Tandem-Draw Pinchpleat Systems†



Alena Tandem-Draw System with Extended Hanger Bars

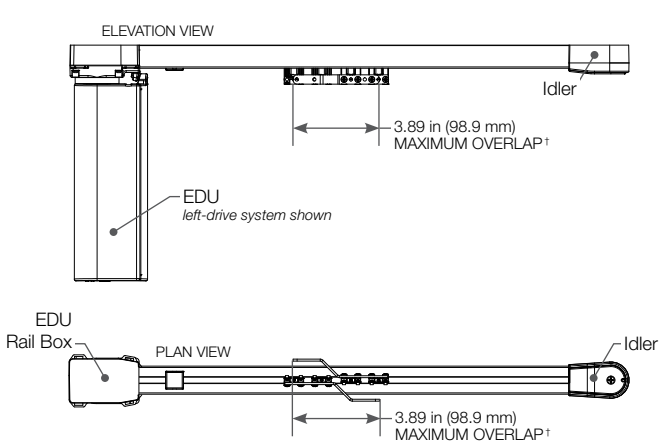
NOTE: Alena "tandem" systems consist of separate left-draw and right-draw tracks. The Alena pull-to-start feature works independently on each track.

†Please see **important notes** on page 6.

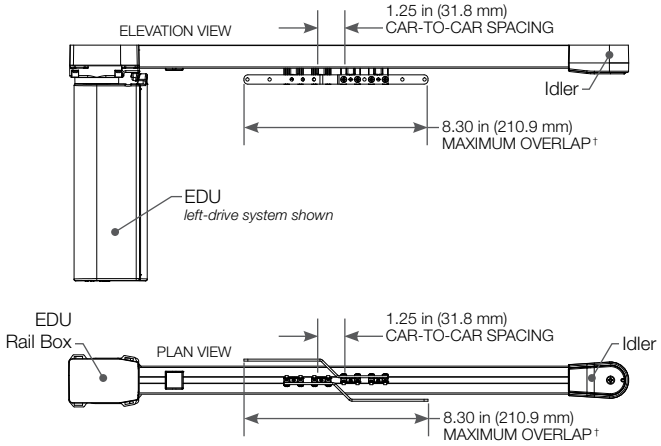
Sivoia QS Center-Draw & Tandem-Draw Pinchpleat Systems >

1.3 Reducing Light Gap Between Center-Draw panels *(continued)*

Figure 1.3c Sivoia QS Center-Draw Pinchpleat Systems†



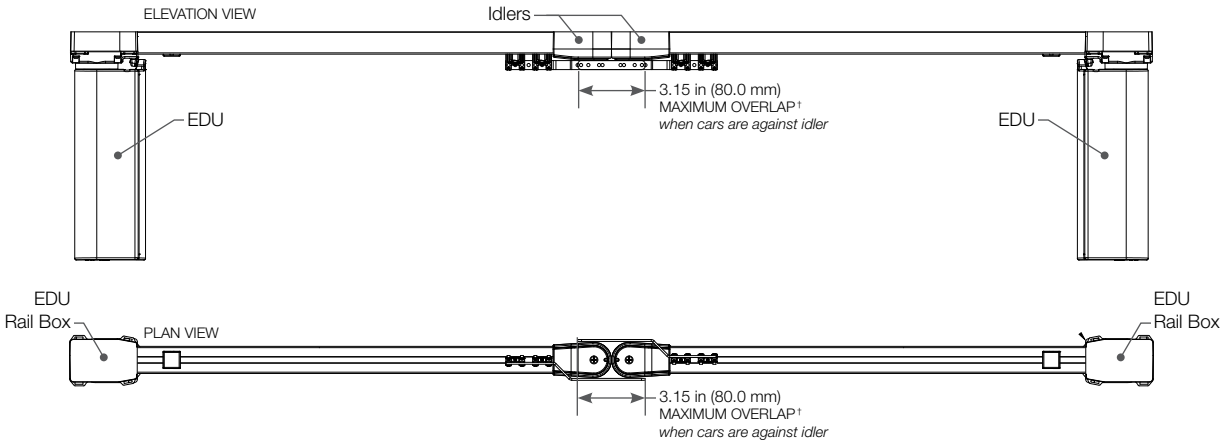
Sivoia QS Center-Draw System with Standard Hanger Bars



Sivoia QS Center-Draw System with Extended Hanger Bars

†Please see **important notes** on page 6.

Figure 1.3d Sivoia QS Tandem-Draw Pinchpleat Systems†



Sivoia QS Tandem-Draw System with Extended Hanger Bars

†Please see **important notes** on page 6.

Overlap Hanger Bars for Ripplefold Systems >

1.3 Reducing Light Gap Between Center-Draw panels *(continued)*

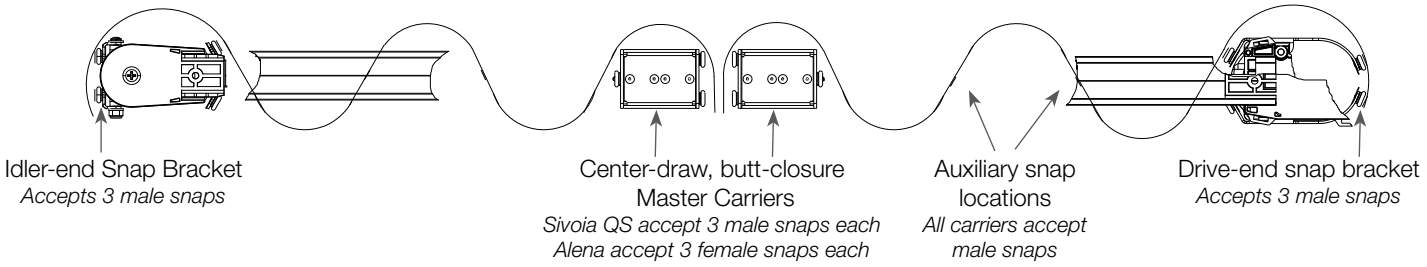
Overlap Hanger Bars for Ripplefold Systems

- For maximum light blocking, Lutron recommends a center-draw track with **overlap hanger bars**.
  - On **Sivoia QS** ripplefold systems, the standard configuration for center-draw tracks is the **butt-closure** style. Overlap hanger bars for ripplefold systems are a custom request. Please contact commercialshadeest@lutron.com to request a quotation.
  - On **Alena** ripplefold systems, **overlap** hanger bars are standard. The butt-closure style is a custom request. Please contact commercialshadeest@lutron.com to request a quotation.

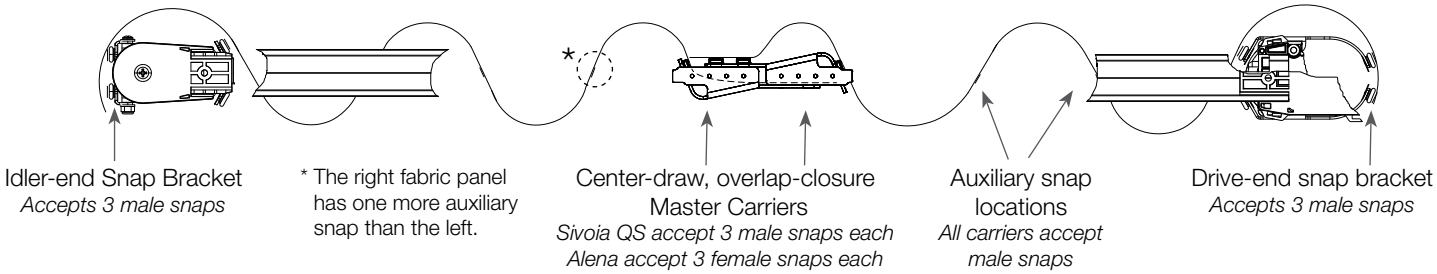
Note that Alena Master Carriers require female snaps.

Figure 1.3e Center-Draw Ripplefold Systems; closure options

Butt-closure (standard on Sivoia QS, custom on Alena)



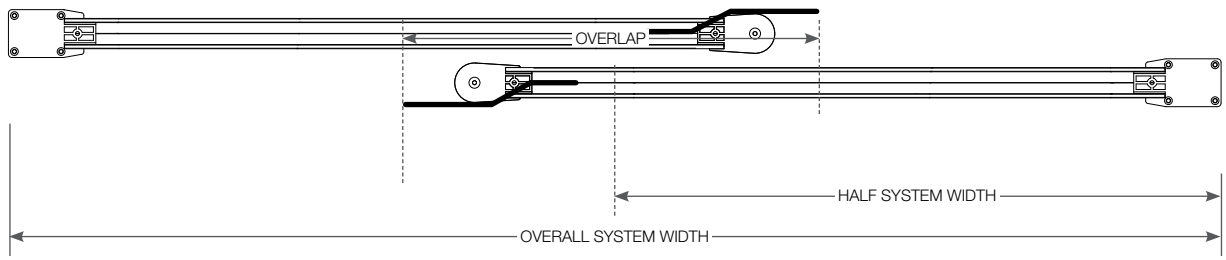
Overlap-closure (custom on Sivoia QS, standard on Alena)



For even more overlap: Individual Side Tracks

Using an individual track for each side that is longer than half the required system width, it is possible to create any desired amount of overlap at the center. This solution requires two separate tracks of total length longer than required for the window, along with larger drapery panels, so the added cost is a consideration.

Figure 1.3f Individual Side Tracks



Creating extra overlap with individual side tracks

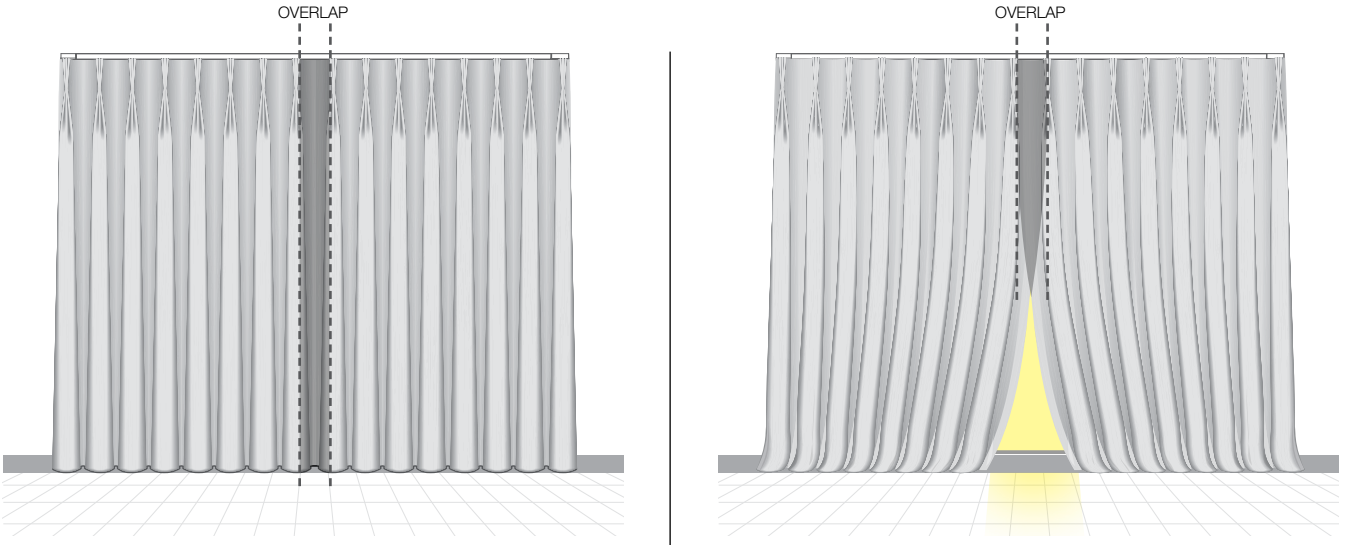
1.4 Reducing Light Gap Along the Bottom >

1.4 Reducing Light Gap Along the Bottom

Lutron recommends a minimum clearance of 0.5 in (12 mm) from the bottom of the drapery to the floor. With the drapery fabric hanging free, maximum effect of overlap is ensured.

While it may block more light at the floor level, do not allow a pool of drapery fabric on the floor. The fabric dragging on the floor distorts aesthetics and can prevent the panels from overlapping properly.

Figure 1.4a Fabric-to-Floor Clearance



Proper 0.5 in (12 mm) fabric-to-floor clearance allows effective overlap

Fabric dragging on the floor degrades appearance and results in light leakage

2. Blocking Light with Roller Shades

To block the greatest amount of light with a roller shade, the following configuration is recommended. Explanations and illustrations of the configurable elements listed are presented in the sections that follow.

QUICK-REFERENCE CONFIGURATION:

- Roller 100 shade (or Roller 225, when shade panel size requirements exceed Roller 100 specifications)
- Mounting style: Pocket or Fascia Mount
- Fabric: Blackout
- Side Channels
- Exposed hembar with black wool pile
- Sill Angle

2.1 Roller 100 vs. Roller 225

For most windows, a Roller 100 shade is the appropriate choice. When the size of the shade panel must be larger than 15 ft (4.57 m) wide and/or 10 ft (3.05 m) tall, a Roller 225 shade may be required. Note that the Roller 225 sub-bracket and roll direction are reversed (compared to Roller 100). For more information, see the specification documents:

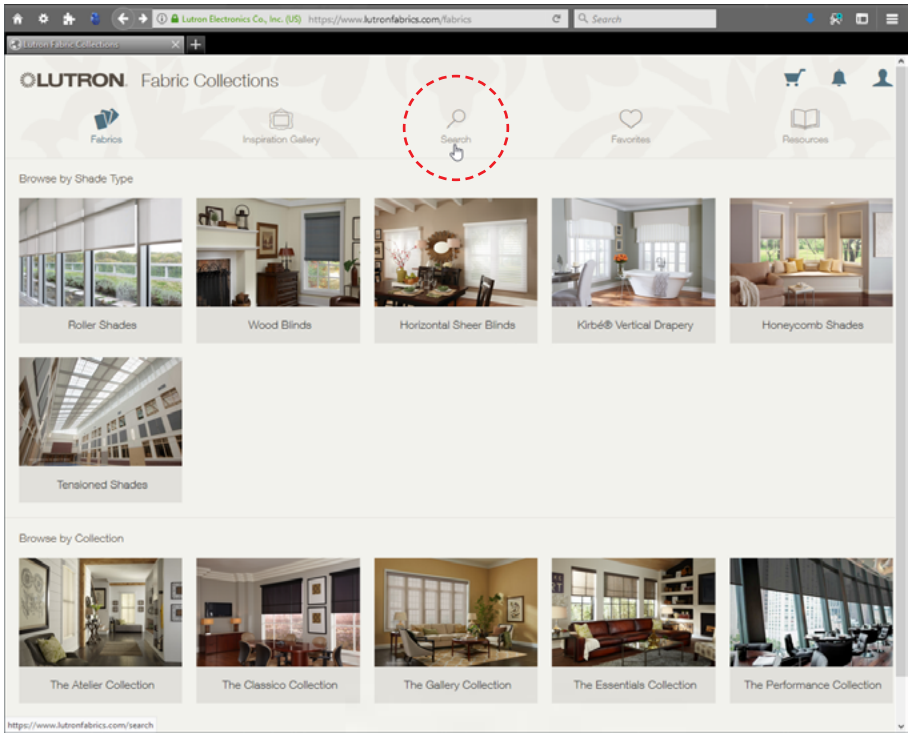
- Roller 100: lutron.com/TechnicalDocumentLibrary/086106.pdf
- Roller 225: lutron.com/TechnicalDocumentLibrary/086105.pdf

For assistance with shade selection, contact commercialshadeest@lutron.com

2.2 Selecting Fabric Type >

2.2 Selecting a Fabric

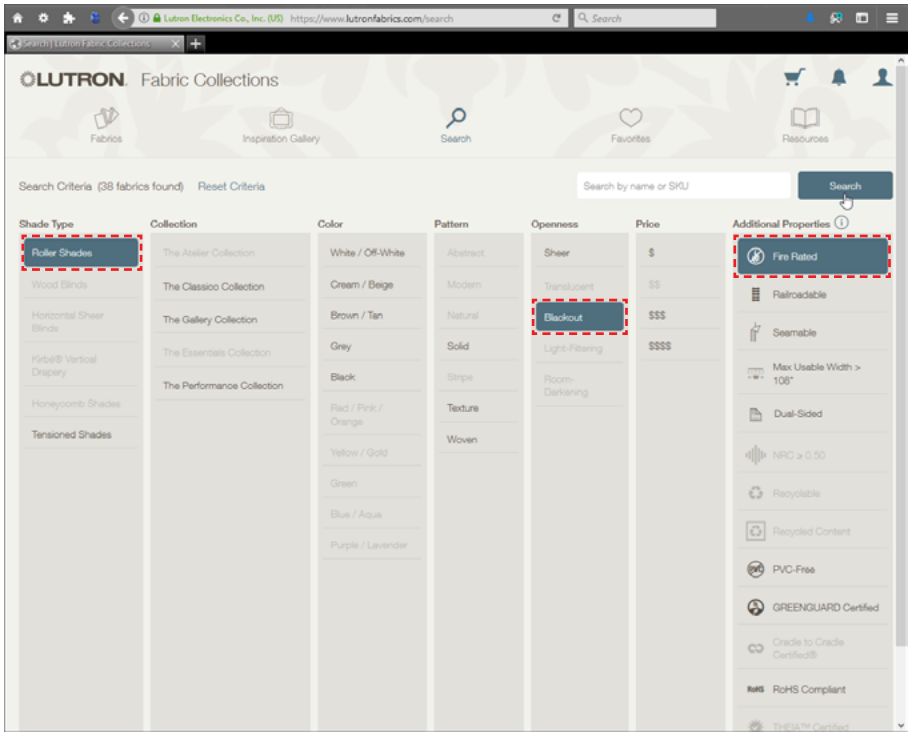
To choose a suitable roller shade blackout fabric, visit lutronfabrics.com and click **Search** at the top-center of the page.



On the Search page, first click to select:

- **Shade Type** > **Roller Shades**
- **Openness** > **Blackout**
- **Additional Properties** > **Fire Rated***
- Then optionally, click to choose any of the remaining available options under any or all:
- **Collection**
- **Color**
- **Pattern**
- **Price**

To find and browse fabrics that meet the selected criteria, click the **Search** button:



* Choose fabrics that comply with all national and local codes in effect at the installation site. For all window covering installations, consult local and national safety codes for proper installation.

2.3 Reducing Light Gap Along the Top >

2.3 Reducing Light Gap Along the Top

Shade Mount with Pocket or Facia (preferred): Mount the shade in a pocket or with fascia and top back cover to make a "tortured path" for potential light entering above the shade. The maximum size of your pocket may vary due to site conditions such as ceiling height, window height, and customer preferences. The minimum size is dictated by the shade/bracket model and rollup dimensions. For optimum light-blocking, the pocket interior should be painted with a dark, non-reflective color. Be certain when choosing mounting options to account for potential obstacles that could obstruct free shade travel, such as window locks and balcony door handles.

Figure 2.3a Roller100 Fascia Mount

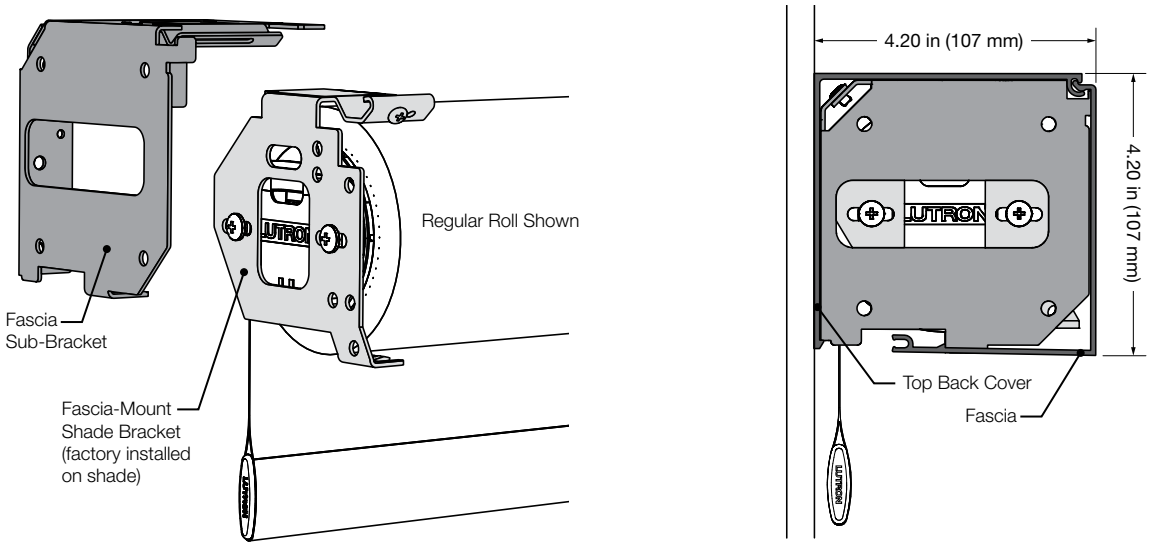
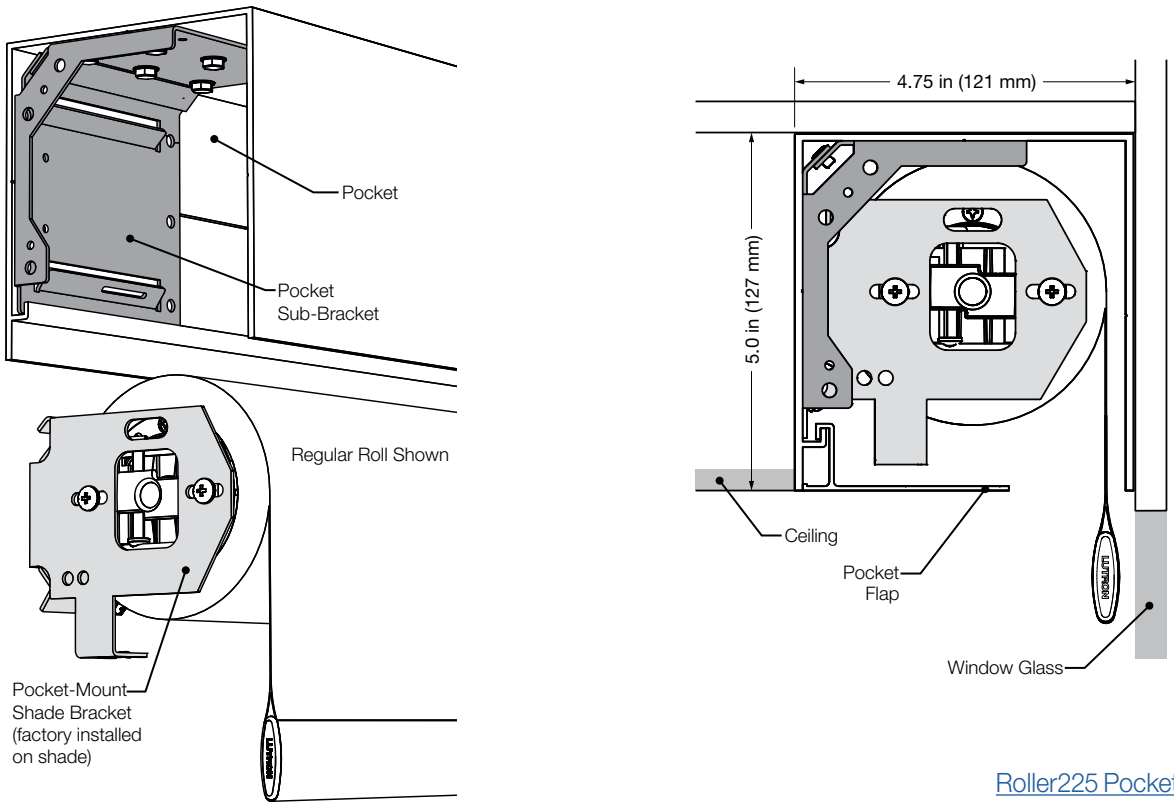


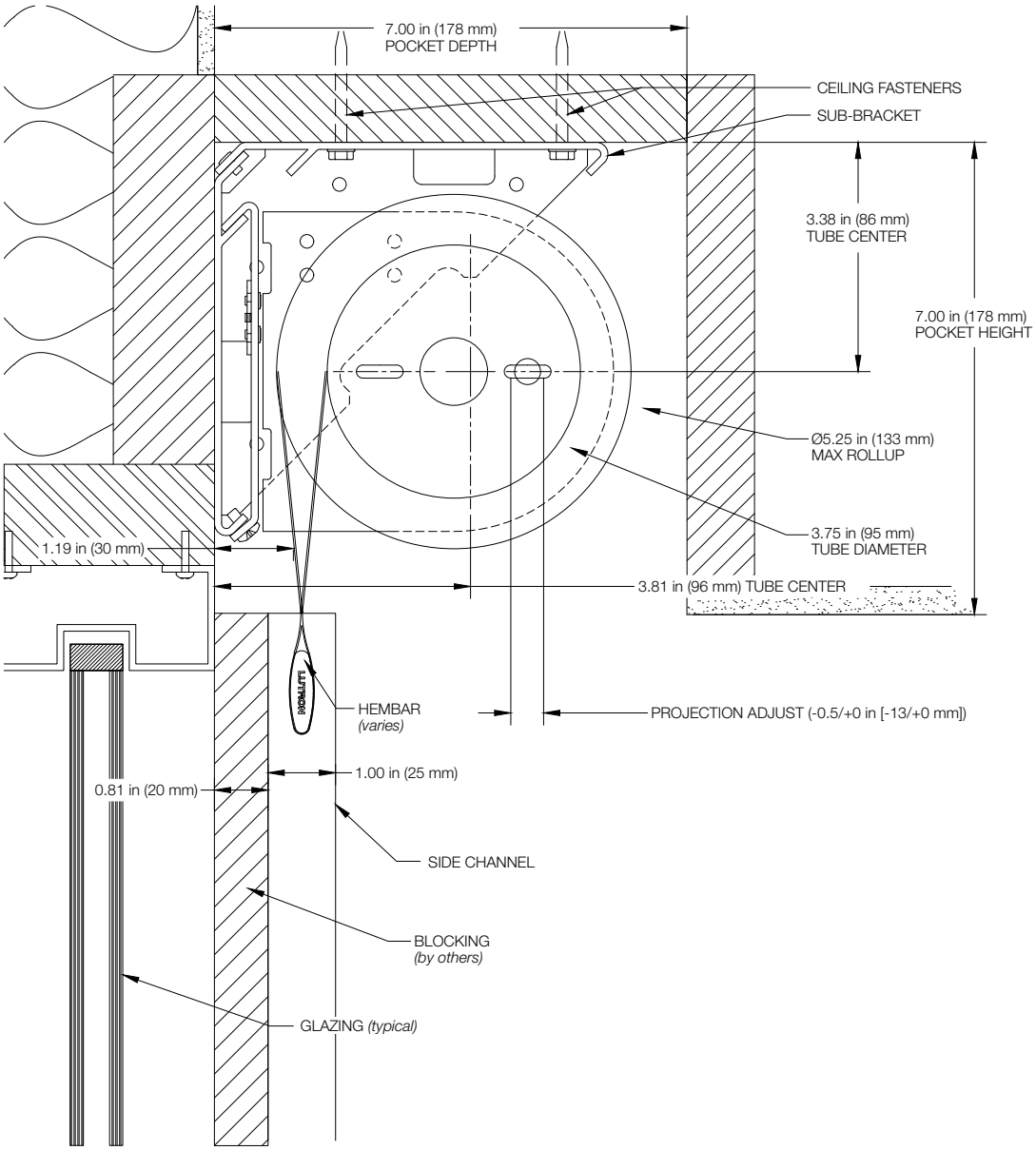
Figure 2.3b Roller100 Pocket Mount



Roller225 Pocket Mount >

2.3 Reducing Light Gap Along the Top *(continued)*

Figure 2.3c Roller225 Pocket Mount

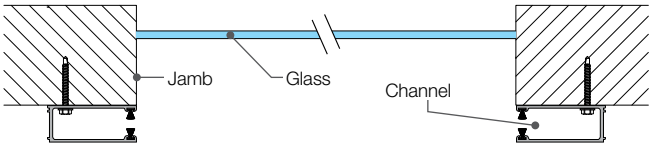


2.4 Reducing Light Gap Along the Sides >

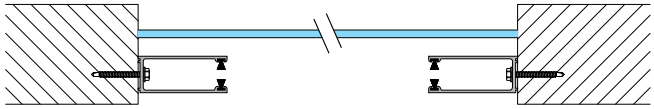
2.4 Reducing Light Gap Along the Sides

Eliminate light gaps along the sides of a roller shade panel using Lutron 2.5 in (63.5 mm) side channels with interior black wool pile.

Figure 2.4a Side Channel Options



Plan View: Outside-mounted side channels



Plan View: Inside-mounted side channels

Important notes:

- *Alignment:* Side channel alignment with the fabric drop is crucial to ensuring smooth movement throughout the shade's range of travel. Be aware that the location of the fabric drop drifts toward the shade tube (the rollup gets smaller), as the shade is lowered, and away from the shade tube (the rollup gets larger), as the shade is raised. Optimal side channel mounting location should be determined in mockup prior to installing in multiple guestrooms.
- *Misalignment/obstacles:* Binding, buckling, or obstacles encountered during shade movement through side channels may cause telescoping, pull-out, and/or damage of the fabric. Contact the shade installer for correction and replacement, if necessary.
- *Tall shades:* Lutron recommends adding battens spaced every 5 ft (1.53 m) to any shade that is 10 ft (3.05 m) tall or taller.
- *Cable-guided shades:* Do not specify side channels and cable guides for the same shade; the two configurations are not compatible.
- *Inclined shades:* Side channels are not compatible with inclined shades that are more than 5° from vertical.
- *Battery-powered shades:* Side channels are not compatible with battery-powered shades. Side channels are offered for use with shades that are powered by a power supply, such as Sivoia QS.
- *Sheer fabric:* Side channels are intended for applications in which maximum blackout is desired. Adding side channels to sheer roller shades will not achieve full blackout.
- *Corner solutions:* If the room contains windows that meet in a corner, contact commercialshadeest@lutron.com for assistance with potential solutions.

2.5 Reducing Light Gap Along the Bottom

Reduce light leakage at the bottom of the shade using one or both of these options:

Figure 2.5a Exposed hembar with black wool pile

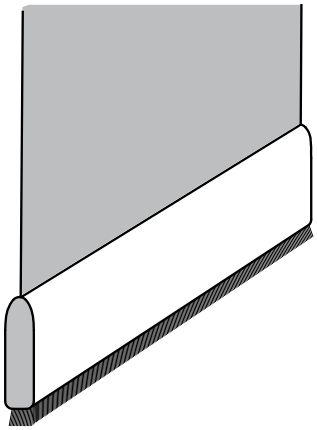
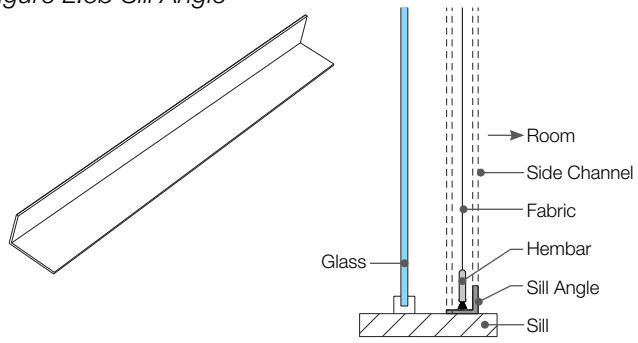


Figure 2.5b Sill Angle



NOTE: To prevent a trip hazard, a Sill Angle should not be used at a point of egress. For more information, refer to the Sill Angle Specification Submittal.

Summary: Full Blackout with a Roller Shade >

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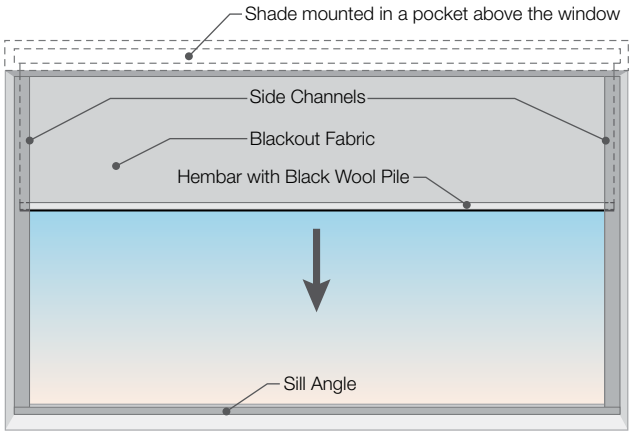
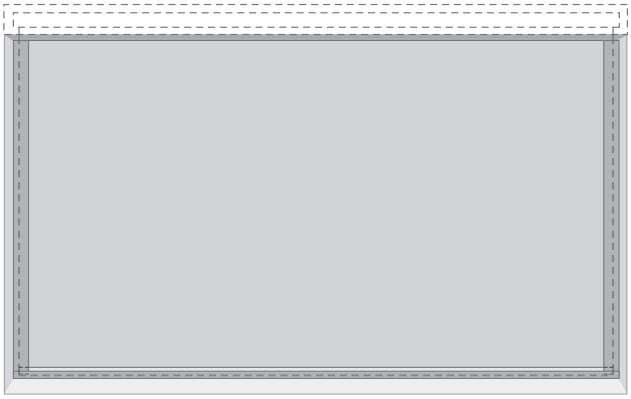


Blackout System Components



Shade Fully Lowered; All Light Gaps Eliminated