The Solatube® daylight dimmer can be controlled by a DPDT (Double-pole, Double-throw) switch. A QSE-IO can be used to mimic a DPDT switch through programming in the Quantum® system.

It is important to keep in mind this requires additional database programming in the Quantum® system. The Lutron Quantum® system is to be programmed such that the QSE-IO relays return to their normally open connections for just a moment before reversing the orientation of power applied to the Solatube® relay. This follows the guidelines established in the Solatube® Daylight Dimmer Integration Guide, DAYLIGHT DIMMER APPLICATION SCHEMATIC Rev 05.

The diagram on page 2 shows the connections from one or more Solatube® daylight dimmer to a QSE-IO.

**Programming Instructions:**

To Open a Solatube® Daylight Dimmer:
1. Open all CCOs and delay one second. The delay ensures the +5 V from the Solatube® daylight dimmer is not being connected directly to common.
2. Close CCO2 and CCO3. Maintain at least 20 seconds; this applies 5 V from black to red.

To Close a Solatube® Daylight Dimmer:
3. Open all CCOs and delay one second. The delay ensures the +5 V from the Solatube® daylight dimmer is not being connected directly to common.
4. Close CCO1 and CCO4. Maintain at least 20 seconds; this applies 5 V from red to black.

<table>
<thead>
<tr>
<th>Relay Side A (Black)</th>
<th>Relay Side B (Red)</th>
<th>Solatube Dimmer Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>+5 V</td>
<td>Common</td>
<td>Open</td>
</tr>
<tr>
<td>Common</td>
<td>+5 V</td>
<td>Close</td>
</tr>
</tbody>
</table>

1 Any version of the Solatube® that is not controllable with a DPDT switch would require a different solution than the one presented in this app note. Contact Lutron for assistance.
Wiring Details

QS Data Link (to control units, window treatments, and wallstations)

CCI and CCO terminals each hold one 28-16 AWG (0.08-1.5 mm²) wire

One QSE-Io required per control group of Solatubes. (Each control group requires four Normally Open (NO) terminals.)

Solatube® Daylight Dimmer Detail

To additional Solatube® daylight dimmers (10 max)
IMPORTANT DESIGN CONSIDERATIONS:

1. Each QSE-IO can control one control group of up to 10 Solatube® daylight dimmers.
2. Only ONE Solatube® daylight dimmer in a control group should have the green and white wires connected to the QSE-IO. The green and white wires are connected to the power supply inside the Solatube® daylight dimmer.
3. The QSE-IO functionality described in the application note is ONLY possible in a Quantum® system.