

# Tech Lighting Architectural - Dimmer Compatibility Chart

Applicable for **ENTRA, ENTRACL, ENTRACylinders, ELEMENT 4" Pro Series, Reflections** (LED ONLY)

## Test Methodology/Nomenclature:

% = light output at a given point vs. max light output when measured without a dimmer

Top = % light output at top of dimmer setting

Bottom = % light output at bottom of dimmer setting (stable, without experiencing flicker/shimmer)

Turn-on/Pop-on = % light output (initial) required for all lights to turn-on within 1 seconds

Drop-out = fixture turns off before reaching the bottom dimmer setting

F = Forward Phase (Leading Edge / Triac / Incandescent / Lutron C.L)

R = Reverse Phase (Trailing Edge / ELV)

W = Wireless Compatible

## STANDARD 120V PHASE DIMMING (Forward/Reverse)

(ESS used since January 2016)

### Compatible / Recommended

| Manufacturer | Name               | Tested Part Number | Type    | Top   | Bottom | Pop-On | Drop-Out | Notes                               |
|--------------|--------------------|--------------------|---------|-------|--------|--------|----------|-------------------------------------|
| Lutron       | RadioRa 2          | RRD-6NA            | F, R, W | 100 % | 1.5 %  | 15.6 % | --       | also MRF2-6ELV                      |
| Lutron       | Caseta ELV+        | PD-5NE             | F, R, W | 98 %  | 2.2 %  | 3.2 %  | --       | --                                  |
| Lutron       | Caseta             | PD-6WCL            | F, W    | 100 % | 2.5 %  | 9.9 %  | Yes      | trim adjustment available           |
| Lutron       | Diva Reverse Phase | DVRP-253P          | R       | 100 % | 7.2 %  | 21.9 % | --       | no trim adjustment available        |
| Lutron       | Diva               | DVCL-153P          | F       | 100 % | 2.5 %  | 12.8 % | --       | also TGCL-153P, SCL-153P, LECL-153P |
| Lutron       | Maestro            | MACL-153M          | F       | 100 % | 9.5 %  | 13.2 % | --       | --                                  |
| Leviton      | Decora             | DSL06-1LZ          | F       | 100 % | 8.1 %  | 11.3 % | --       | --                                  |
| Leviton      | Decora Smart       | DW1KD-1BZ          | F, W    | 100 % | 12.9 % | 12.9 % | --       | --                                  |
| Legrand      | Adorne             | ADTP600RMHW1       | F, R, W | 100 % | 13.7 % | 13.7 % | --       | --                                  |
| Legrand      | Adorne             | ADTH700RMTUW1      | F, R, W | 100 % | 19.0 % | 19.0 % | --       | --                                  |
| Control4     | Decora Forward     | C4-FPD120          | F       | 100 % | 13.0 % | 13.0 % | --       | --                                  |

### Advanced Controls - Contact Technical Support

|          |                     |                  |         |       |        |  |     |                           |
|----------|---------------------|------------------|---------|-------|--------|--|-----|---------------------------|
| Crestron | iLux Expansion Mod. | CLS-EXP-DIM      | F       | 100 % | 9.0 %  | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | iLux Expansion Mod. | CLS-EXP-DIMU     | F, R    | 100 % | 8.0 %  | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | 4 Channel Mod.      | CLX-1DIMU4-HP    | F, R    | 100 % | 5.0 %  | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | 8 Channel Mod.      | CLX-2DIM8        | F       | 100 % | 5.0 %  | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | 8 Channel Mod.      | CLX-2DIMU8       | F, R    | 100 % | 16.0 % | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | 4 Channel DIN Rail  | DIN-1DIM4        | F       | 100 % | 5.0 %  | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | 4 Channel DIN Rail  | DIN-1DIMU4       | F, R    | 100 % | 12.0 % | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | Cameo               | CLW-DELVEX       | R, W    | 100 % | 12.0 % | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | Green Light         | GL-EXP-DIMU-CN   | F, R    | 100 % | 11.0 % | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | Green Light         | GL-EXP-DIMU-DALI | F, R    | 100 % | 11.0 % | value is with trim set to remove pop-on/drop-out |     |                           |
| Crestron | Green Light Express | GLXX-2DIM8       | F, R    | 100 % | 5.0 %  | value is with trim set to remove pop-on/drop-out |     |                           |
| Lutron   | Din Rail            | LQSE-4A-120-D    | F, R, W | 100 % | 11.0 % | 8.0 %  | --  | --                        |
| Lutron   | HomeWorks QS        | RPM-4A-120 (-4U) | F, R, W | 100 % | 1.0 %  | 1.5 %  | Yes | trim adjustment available |
| Lutron   | HomeWorks QS        | HQRD-6NA         | F, R, W | 100 % | 1.6 %  | 12.9 %   | --  | --                        |

### Not Recommended or Incompatible

|          |               |             |      |       |        |        |     |                                   |
|----------|---------------|-------------|------|-------|--------|--------|-----|-----------------------------------|
| Lutron   | Skylark       | SELV-300P   | R    | 100 % | 6.8 %  | 6.8 %  | --  | per Lutron: not UL rated for LEDs |
| Lutron   | Diva          | DVELV-300P  | R    | 100 % | 6.6 %  | 6.5 %  | --  | per Lutron: not UL rated for LEDs |
| Lutron   | Maestro       | MAELV-600P  | R    | 100 % | 1.5 %  | 22.3 % | Yes | per Lutron: not UL rated for LEDs |
| Lutron   | Glyder        | GL-600P-WH  | F    | 100 % | 8.8 %  | 21.5 % | Yes | per Lutron: not UL rated for LEDs |
| Lutron   | Skylark       | S-600P      | F    | 100 % | 9.1 %  | 13.9 % | Yes | per Lutron: not UL rated for LEDs |
| Lutron   | Ariadni       | AY-600P-WH  | F    | 100 % | 15.3 % | 15.3 % | Yes | per Lutron: not UL rated for LEDs |
| Lutron   | Rotary Dimmer | DV-600P-WH  | F    | 100 % | 1.8 %  | 30.0 % | Yes | per Lutron: not UL rated for LEDs |
| Lutron   | Diva          | DV-600P     | F    | 100 % | 9.1 %  | 13.9 % | Yes | per Lutron: not UL rated for LEDs |
| Crestron | iLux          | CLS-C6      | F    | --    | --     | --     | --  | Incompatible                      |
| Crestron | Cameo         | CLW-DIMEX-E | F, W | --    | --     | --     | --  | Incompatible                      |

### 0-10V DIMMING

(ESS used since January 2016)

#### Compatible / Recommended

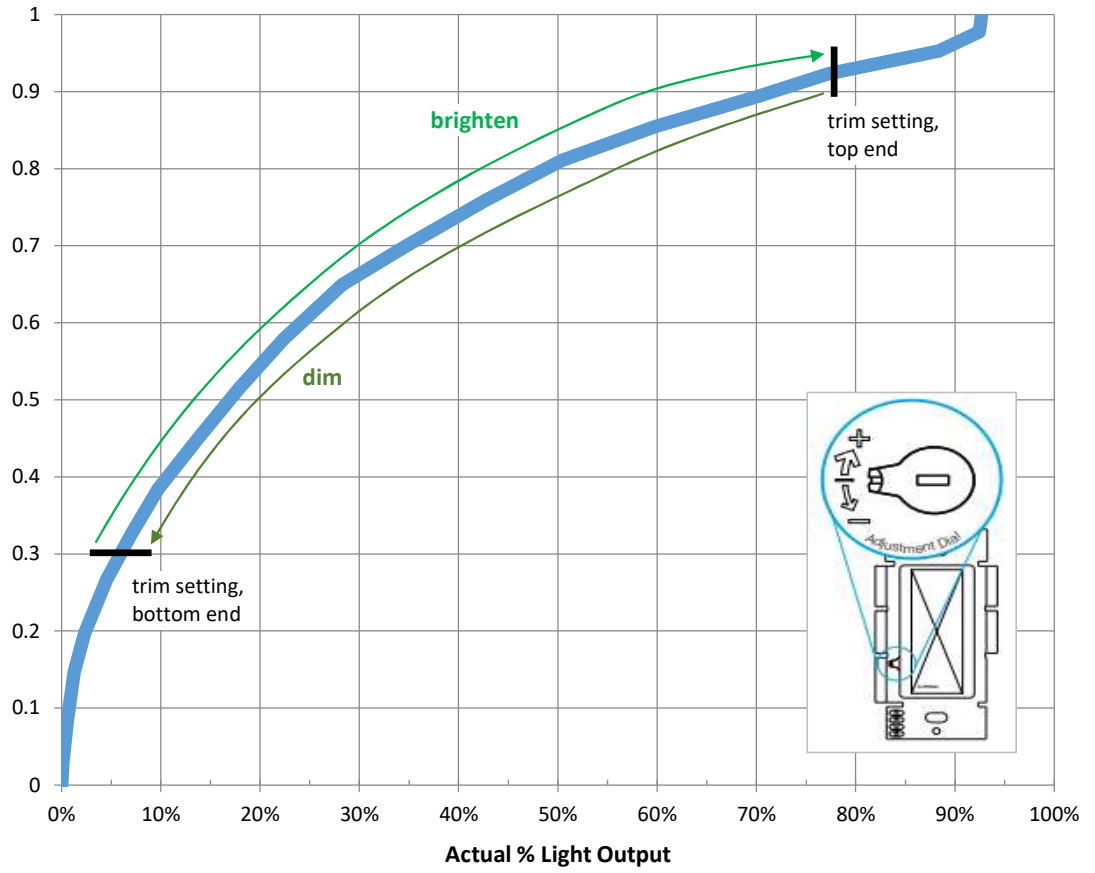
| Manufacturer | Name            | Tested Part Number | Type  | Top   | Bottom | Pop-On | Drop-Out | Notes |
|--------------|-----------------|--------------------|-------|-------|--------|--------|----------|-------|
| Lutron       | Diva            | DVSTV              | 0-10V | 100 % | 6.6 %  | 6.6 %  | --       |       |
| Control4     | Decora 0-10V    | C4-TV120277        | 0-10V | 100 % | 3.0 %  | 35.0 % | --       |       |
| Control4     | 8 Channel 0-10V | C4-DIN-8TV-E       | 0-10V | 100 % | 1.0 %  | 12.0 % | --       |       |

**Notes:**

|  |   |
|--|---|
| Performance Variation                        | 1) Results may vary for a number of reasons including the following: <ul style="list-style-type: none"><li>- job site line voltage fluctation</li><li>- fixture to dimmer distance</li><li>- number of fixtures per dimmer, i.e. dimmer load</li><li>- dimmer tolerances</li><li>- driver/COB manufacturing tolerances</li></ul>  |
| Tested Conditions                            | 2) Test results reflect: 150W load, dimmers trimmed to their lowest level. Crestron and Control4 tested with 75W load.  |
| Unlisted Dimmers                             | 3) For additional compatibility, please submit specific request to factory  |
| Trim Settings                                | 4) Most modern dimmers and control systems allow bottom and top end levels to be trimmed, limiting the usable dim range in order to suit the lighting designer or end user's preferences. See Image 1.<br>5) Adjustment of the trim settings may be preferred for a number or reasons, including: <ul style="list-style-type: none"><li>- limiting the brightness of the fixture at full-on</li><li>- reducing "popcorn" affect if multiple fixtures come on at different times</li><li>- reducing "pop-on time" if there is an undesirable delay at turn-on from the off-state</li><li>- eliminating "pop-on" if the fixture does not turn on at the lowest dimmer setting</li><li>- eliminating "drop-out" if the fixture turns off prior to reaching the lowest dimmer setting</li><li>- eliminating low-end flicker or shimmer or buzzing, if present</li></ul> |
| Programming                                  | 6) Modern control systems (Homeworks, RadioRa, Control 4, etc.) can be programmed in a number of ways including to turn on at a higher level then immediately dim lower after a short/settable time interval. For example, to reduce pop-on time, popcorning effect, or low-end flicker/shimmer, the control system can be programmed to turn-on at 5% then dim down to 0.8% after 0.5 seconds, thus allowing the full dimming range to be available once the fixture is in the on-state. See Image 2.  |
| Digital System Input vs. Actual Light Output | 7) Modern control systems (Homeworks, RadioRa, Control 4, etc.) can be programmed to adjust light levels. However, there is non-linear correlation between the light level selection values and the actual light output of the fixture. For example, a program setting of "50%" on the control system may correlate to 17% actual light output, a program setting of "20%" may correlate to 2% actual light output. See Image 3.  |
| Slider Position vs. Actual Light Output      | 8) Like modern control systems, slider dimmers have a non-linear correlation between the slider position and the actual light output of the fixture. For example, a slider position of ~75% on the dimmer may correlate to 40% actual light output and a slider position of ~25% on the dimmer may correlate to 4% actual light output. See Image 3.  |
| Eye Perception vs. Actual Light Output       | 9) The human eye responds to low light levels by enlarging the pupil, allowing more light to enter the eye. This response results in a difference between measured (actual) and perceived light levels. The dilation of the pupil allows more light to enter the eye so that a fixture dimmed to 10% of its maximum measured light output is perceived as being dimmed to only 32%. Likewise, a fixture dimmed to 1% is perceived to be at 10%. See Image 3.  |

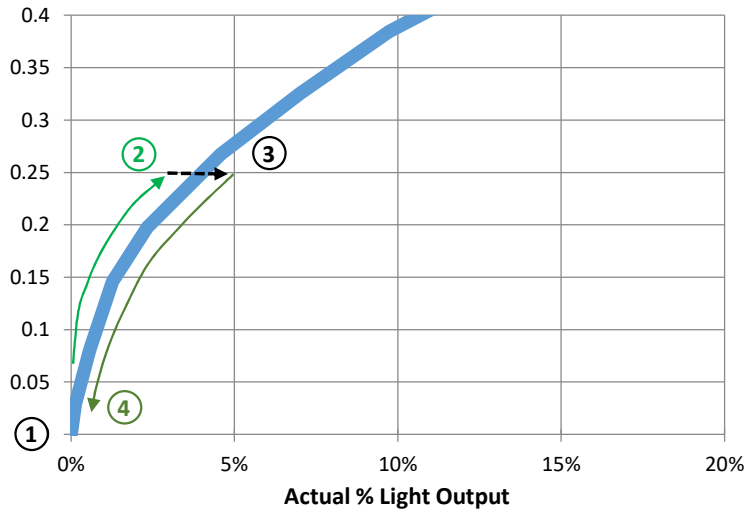
**Image 1**

**System/Dimmer  
Input**



**Image 2**

**System/Dimmer Input**



- ① off-state
- ② on, starting at 5%
- ③ split second time delay
- ④ dim to lower level (via program or slider)

**Image 3**

**System/Dimmer Input and Perceived Light Output**

