

SORAA

Electrical compatibility – PAR30L & PAR38 18.5W 120V lamps - North America

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General compatibility guidelines

Scope

This document provides the basic guidelines regards electrical compatibility of SORAA 120V PAR30L & PAR38 18.5W lamps and compatibility tables.

Dimmer Compatibility

SORAA 120V PAR30L & PAR38 lamps are made to work with trailing edge (reverse phase) and leading edge (forward phase) phase cut dimmers. However, the use of trailing edge dimmers is preferred and will show in general better behavior .

Dimmer compatibility tables are on pages 3-7.

The percentages for each dimmer combination are the percentage of light output that we were able to dim down to without seeing any problems like flicker/shimmer. Anything 30% or above is considered not compatible and you will see a “NC” in a grey cell.

There might be a minimum wattage load on the dimmer. If this minimum load is not met, there might be compatibility issues.

Maximum number of lamps on a dimmer

The following need to be considered when determining the amount of lamps on a dimmer.

1. SORAA tests have been carried out with 1 lamp unless stated otherwise.
2. There is a repetitive, very brief current spike the LED lamp will see twice per cycle. This current spike has to be provided by the dimmer, and will affect the recommended lamp load on each dimmer.
3. Ultimately the dimmer manufacturer is the only one with authority to rate their product, but SORAA can give an Engineering estimate.
4. We recommend to use a 5.0 de-rating factor for incandescent/halogen dimmers loaded with our 120V lamps.

For example for a 500W dimmer it would mean $500/5 = 100W$ of LED, so an estimated maximum of 5 lamps 18.5W.

Disclaimer

Compatibility tests are conducted by Soraa only as guidance for the user.

All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site.

Results may vary due to variability in component choices and manufacturing processes by the transformer and dimmer manufacturers.

For more information on the dimmers/transformers, please find specs on the manufacturer’s website.

SORAA PAR30L & PAR38 120V 18.5W - DIMMER COMPATIBILITY LIST - North America

| Dimmer Manufacturer | Dimmer Model | Dimmer part number | Dimmer mode | Dim (%) | Comments |
|---------------------|--------------|---|-------------|---------|-------------------------------|
| Cooper | | DI06P | L | 3% | |
| Crestron | | CLS-C6 CLS-C6M CLS-C6EX CLS-C6MEX CLS-C6MRF CLS-C6RF | | 2% | Tested by dimmer manufacturer |
| Crestron | | CLS-EXP-DIM | | NC | Tested by dimmer manufacturer |
| Crestron | | CLS-EXP-DIMU | | 5% | Tested by dimmer manufacturer |
| Crestron | | CLX-1DIM4 CLX-1DIM8 CLX-2DIM2 CLX-2DIM8 | | NC | Tested by dimmer manufacturer |
| Crestron | | CLX-1DELV4 | | NC | Tested by dimmer manufacturer |
| Crestron | | DIN-1DIM4 DIN-1DIMU4 | | 5% | Tested by dimmer manufacturer |
| Crestron | | CLW-DIMEX-E CLW-DIMEX-P CLW-DIMSWEX-E CLW-DIMSWEX-P P-DIMEX | | NC | Tested by dimmer manufacturer |
| Crestron | | GLX-DIM6 GLXX-2DIM8 | | NC | Tested by dimmer manufacturer |
| Crestron | | CLW-DELVEX-E CLW-DELVEX-P | | NC | Tested by dimmer manufacturer |
| Crestron | | CLX-1DIMU4 CLX-2DIMU8 | | 1% | Tested by dimmer manufacturer |
| ETC | | CEM3 on D20, ELV10 CEM+ and Paradigm on D20 and ELV10 | L | PASS | Tested by dimmer manufacturer |
| Forbes & Lomax | | FLR603P | L | 3% | |
| Legrand | | ADTP703TU | L | 3% | |
| Leviton | | 6404 | L | 10% | |
| Leviton | | 6633-P | L | 1% | |
| Leviton | | IPL06 | L | 2% | |

SORAA PAR30L & PAR38 120V 18.5W - DIMMER COMPATIBILITY LIST - North America

| Dimmer Manufacturer | Dimmer Model | Dimmer part number | Dimmer mode | Dim (%) | Comments |
|---------------------|--|---|-------------|---------|-------------------------------|
| Leviton | | A2000 | L | 2% | Tested by dimmer manufacturer |
| Leviton | | PE400 | T | 1% | Tested by dimmer manufacturer |
| Leviton | | D4206 | L | 1% | Tested by dimmer manufacturer |
| Leviton | | I48E | L | 1% | Tested by dimmer manufacturer |
| Leviton | Lumina | DL6HD | L | 1% | Tested by dimmer manufacturer |
| Leviton | Illumatech Decora | IPI06-1LZ | L | 1% | Tested by dimmer manufacturer |
| Leviton | Renoir II | AWSMG-MBW | L | NC | Tested by dimmer manufacturer |
| Lightolier | | ZP1000 | L | 7% | |
| Lightolier | | ZP600 | L | 1% | |
| Lutron | Caseta | PD-5NE-WH | T | 4% | min 5 lamps |
| Lutron | Caseta | PD-6WCL | L | 7% | |
| Lutron | Ceana | CNLV-600P | L | 3% | |
| Lutron | Diva | DVELV-300P | T | 3% | (*) |
| Lutron | Diva | DVLV-600P | L | 19% | (*) |
| Lutron | Diva | DV-600P | L | 2% | |
| Lutron | Diva/ Skylark/ Skylark Contour/ Ariadni/ Toggler/ Lumea | C•L wall-mount dimmers (T1, T4, T5, T8) | L | 11% | Tested by dimmer manufacturer |
| Lutron | Diva/ Ariadni | 250W C•L dimmers (T5,T8) | L | 11% | Tested by dimmer manufacturer |
| Lutron | Faedra | FAELV-500M | T | 4% | |
| Lutron | Glyder | GL V48 | L | 2% | |
| Lutron | Glyder | GL-600H | L | 3% | |
| Lutron | Grafik Eye QS | QSGRJ-3PCE + PHPM | T | 1% | |
| Lutron | Grafik Eye QS | QSGRJ-3PCE | L | NC | |

SORAA PAR30L & PAR38 120V 18.5W - DIMMER COMPATIBILITY LIST - North America

| Dimmer Manufacturer | Dimmer Model | Dimmer part number | Dimmer mode | Dim (%) | Comments |
|---------------------|------------------------|---|-------------|---|-------------------------------|
| Lutron | Grafik T | GT-150 (T6) without neutral | L | 1 lamp: NC >1 lamp= 17% | Tested by dimmer manufacturer |
| Lutron | Grafik T | GTJ-150 (M6) without neutral | L | 1 lamp: NC >1 lamp= 17% | Tested by dimmer manufacturer |
| Lutron | Grafik T | GTJ-250M (M6) GT-250M (T7) without neutral | L | 1 lamp: NC >1 lamp= 17% | Tested by dimmer manufacturer |
| Lutron | HomeWorksQS/ myRoom | LQSE-4A1-D/ MQSE-4A1-D/ MQSE-3A1/ MQSE-2A1-D, 120V | L | 10% | Tested by dimmer manufacturer |
| Lutron | HomeWorks QS | HQRD-6ND | L | 14% | Tested by dimmer manufacturer |
| Lutron | HomeWorks QS | HQRD-10ND | L | 14% | Tested by dimmer manufacturer |
| Lutron | HomeWorks QS | HQRT-G25LW (H2) without neutral | L | 1 lamp: NC >1 lamp= 17% | Tested by dimmer manufacturer |
| Lutron | Maestro | MA-600 | L | NC | |
| Lutron | Maestro | MACL-153M | L | 23% | (*) |
| Lutron | Maestro | MAELV-600 | T | 13% | |
| Lutron | Maestro | MALV-600 | L | NC | |
| Lutron | Maestro | MAW-600 | L | NC | |
| Lutron | Maestro Wireless | MRF2-6ND | L | 14% | Tested by dimmer manufacturer |
| Lutron | Nova | NTELV-300 | T | 10% | |
| Lutron | Nova | NTLV-600 | L | 14% | |
| Lutron | Nova | N-1500 | L | 1-3 lamps: NC 4-5 lamps: 28% 6 lamps: 10% | |
| Lutron | Nova T | NTCL-250 (T8) | L | 11% | Tested by dimmer manufacturer |
| Lutron | Panel Module | HW/LP-RPM-4A-120 | T | 12% | Tested by dimmer manufacturer |
| Lutron | Panel Module | HW/LP-RPM-4U-120 | L | 12% | Tested by dimmer manufacturer |
| Lutron | Panel Module | GP (Harrier) Card (Use load type 2-1.) | L | 14% | Tested by dimmer manufacturer |

SORAA PAR30L & PAR38 120V 18.5W - DIMMER COMPATIBILITY LIST - North America

| Dimmer Manufacturer | Dimmer Model | Dimmer part number | Dimmer mode | Dim (%) | Comments |
|---------------------|--------------|--------------------------------|-------------|----------------------------|-------------------------------|
| Lutron | RadioRA 2 | RRD-10ND | L | 14% | Tested by dimmer manufacturer |
| Lutron | RadioRA 2 | RRT-G25LW (R3) without neutral | L | 1 lamp: NC >1 lamp= 17% | Tested by dimmer manufacturer |
| Lutron | RadioRA 2 | RRD-6NA | T | NC | (*) |
| Lutron | Rotary | D-603PGH | L | 0% | |
| Lutron | Skylark | CT-603PG | L | 3% | |
| Lutron | Skylark | CTELV-303P | T | 2% | |
| Lutron | Skylark | S-600 | L | 2% | |
| Lutron | Skylark | S-600P | L | 2% | |
| Lutron | Skylark | S-603PG | L | 2% | |
| Lutron | Skylark | SELV-300P | T | 3% | |
| Lutron | Skylark | SLV-600P | L | 6% | |
| Lutron | Spacer | SPSELV-600 | T | 16% | |
| Lutron | Toggler | 6B38 | L | 4% | |
| Lutron | Toggler | TG-600PR | L | 4% | |
| Marlin | | SMP ELV | T | PASS | Tested by dimmer manufacturer |
| Marlin | | Stellar ELV | T | PASS | Tested by dimmer manufacturer |

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Notes:

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All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site

Results may vary due to variability in component choices and manufacturing processes by the dimmer manufacturer

Regards compatibility tests conducted by dimmer manufacturer, please contact the dimmer manufacturer or Soraa for more details and/or reports.

(*) Test results with this dimmer added to the compatibility list as of this Revision

| | |
|------------|---|
| --% | Dims to < 20% (of the measured light output) |
| --% | Dims to 20-30% (of the measured light output) |
| NC | Not compatible (or dims to >30%) |
| Blank cell | Not tested |