

## ELECTRICAL COMPATIBILITY VIVID 120V MR16-GU10 7.5W LAMPS INTERNATIONAL

### GENERAL COMPATIBILITY GUIDELINES

#### SCOPE

This document provides the basic guidelines regards electrical compatibility of SORAA VIVID 120V MR16 GU10 7.5W lamps and compatibility tables.

#### DIMMER COMPATIBILITY

SORAA Brilliant HL 120V MR16 GU10 lamps are made to work with reverse phase and forward phase phase-cut dimmers. However, the use of reverse phase dimmers is preferred and will show in general better behavior. Dimmer compatibility tables are available on this document. 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.

The "number of lamps per dimmer tested" is not necessarily the maximum amount of lamps the dimmer can handle, it is just what it was tested at our lab. There might be a minimum wattage load on the dimmer. If this minimum load is not met, there might be compatibility issues.

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#### 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 13 lamps 7.5W.**

#### 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.

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Dimmer Manufacturer	Dimmer Family	Dimmer Model	Dimming Phase	Number of Lamps Per Dimmer Tested	Dim (%)	Comments
<b>Ecosense Lighting</b>	Control 0-10V to ELV	LDCM	Reverse	1, 10	0%	
<b>ETC</b>		Sensor 3 with D20 Module	N/A	5 (estimated 312 max)	0.16%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		Sensor 3 with ELV10-S Module	Reverse	5 (estimated 156 max)	0.04%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		Sensor 3 with LED10 Module (PhaseAdept)	Reverse	5 (estimated 156 max)	0.09%	(*)Tested by dimmer manufacturer, report available
<b>ETC</b>		Unison DRd with D20 Module	Forward	5 (estimated 312 max)	0.24%	(*) Tested by dimmer manufacturer. report available
<b>ETC</b>		Unison DRd with ELV10 Module	Reverse	5 (estimated 156 max)	3.04%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		Unison DRd with LED10 (PhaseAdept)	Reverse	5 (estimated 156 max)	0.09%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		Unison Legacy DR with D20 Module	Forward	5 (estimated 312 max)	14.90%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		Unison Legacy DR with LED10 (Phase-Adept)	Reverse	5 (estimated 156 max)	44.00%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		ERP 300W Dimmer	Reverse	5 (estimated 39 max)	0.02	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		Echo ELVD G-2 600W Dimmer	N/A	5 (estimated 78 max)	0.05%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>		Unison Foundry 600W Dimmer	N/A	5 (estimated 78 max)	0.04%	(*) Tested by dimmer manufacturer, report available

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<b>Lutron</b>	Diva	DVCL-153P	Forward	10	0.7%	
<b>Lutron</b>	Diva	DVELV-300P	Reverse	1	0%	
<b>Lutron</b>	Diva	DVLV-600P	Forward	5,10	3%	
<b>Lutron</b>	Interface	PHPM with Grafik Eye QS	Reverse	1	0%	
<b>Lutron</b>	Maestro PRO	MA-PRO	Reverse	10	0%	Wired with neutral
<b>Lutron</b>	Radio Ra2	RRD-6NA	Adaptive (Reverse)	1	0%	
<b>Lutron</b>	Skylark	SELV-300P	Reverse	1	0%	
<b>Marlin</b>	SMP ELV Dimmer	600-10-001-00-4	Reverse	1	0%	
<b>Vantage</b>		SDM12-EM	Forward	5	2%	(*) Tested by dimmer manufacturer, report available
<b>Vantage</b>		ScenePoint	Forward	5	2%	(*) Tested by dimmer manufacturer, report available
<b>Vantage</b>		UDM-FWD	Forward	5	2%	(*) Tested by dimmer manufacturer, report available
<b>Vantage</b>		UDM-REV	Reverse	5	2%	(*) Tested by dimmer manufacturer, report available
<b>Vantage</b>		UDS-F	Forward	5	2%	(*) Tested by dimmer manufacturer, report available
<b>Vantage</b>		UDS-R	Reverse	5	2%	(*) Tested by dimmer manufacturer, report available

### NOTES:

- Compatibility tests are conducted by Soraa (unless stated otherwise) 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 dimmer manufacturer.
- Regards compatibility tests conducted by dimmer manufacturer, please contact Soraa or the manufacturer for more details and/or reports.
- (\*) Test results with this dimmer added to the compatibility list as of this Revision.

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