Dimming Compatibility Matrix with 120 Vac TRIAC, ELV and 0-10 V Dimmers

ESM050W-1200-42		Total Score:	91.1%		Driver Current (mA) with no Dimmer:		1212	Driver Light (FC) with no Dimmer:		2280		Scoring: 0 - Needs improvement; 1 - Unlikely to be noticed; 2 - No issues			
		Avg. Min. Dimming:	2.5%												
Dimmer List		Indiv. Score	Light Output (Foot Candle)		Current (mA)		Dimming Range[1]		Smooth Dimming[2]	Sag[3]	No Start Flash[4]	Flicker[5]	Shimmer[6]	Able to turn off[7]	Audible Noise[8]
Mfg.	Model	%	Max	Min	Max	Min	Max	Min		%					
Lutron	S-603PG	85.7%	1960	20	1010	15	86%	1%	2	17.0%	2	2	2	2	2
Leviton	IPI06-1LZ	92.9%	2280	10	1212	8	100%	0%	2	0.0%	2	2	2	2	2
Leviton	6631-2	85.7%	2270	10	1212	6	100%	0%	2	0.0%	2	2	2	2	1
Lutron	DVCL-153P	92.9%	2220	10	1190	6	97%	0%	2	2.0%	2	2	2	2	2
Lutron	DV600P	92.9%	2260	40	1212	22	99%	2%	2	0.0%	2	2	2	2	2
Lutron	TGCL-153P	78.6%	2270	30	1211	17	100%	1%	2	0.0%	2	2	0	2	2
Lutron	S600P	78.6%	2270	5	1211	3	100%	0%	2	0.0%	2	2	0	2	2
Leviton	VPE06	100.0%	2270	110	1210	53	100%	5%	2	0.0%	2	2	2	2	2
Lutron	DVELV303P	100.0%	2210	60	1188	30	97%	3%	2	2.0%	2	2	2	2	2
Lutron	SELV300P	92.9%	2170	60	1161	32	95%	3%	2	4.0%	2	2	2	2	2
Leviton	6683-IW	92.9%	2270	20	1212	13	100%	1%	2	0.0%	2	2	2	2	2
Leviton	6161	89.3%	2270	240	1212	108	100%	11%	2	0.0%	2	2	2	2	2
Leviton	6633-P	92.9%	2260	10	1212	7	99%	0%	2	0.0%	2	2	2	2	2
Lutron	TG-600P	85.7%	2260	170	1212	80	99%	7%	2	0.0%	2	2	2	2	1
Cooper	DLC03P	78.6%	2270	9	1212	5	100%	0%	2	0.0%	2	2	0	2	2
Lutron	LG600P	92.9%	2260	20	1212	15	99%	1%	2	0.0%	2	2	2	2	2
Lutron	CT103P	85.7%	2250	100	1212	48	99%	4%	2	0.0%	2	2	1	2	2
Cooper	SLC03P	92.9%	2260	15	1212	9	99%	1%	2	0.0%	2	2	2	2	2
Leviton	IPE04	100.0%	2260	30	1212	18	99%	1%	2	0.0%	2	2	2	2	2
Lutron	MAELV600	100.0%	2240	150	1212	70	98%	7%	2	0.0%	2	2	2	2	2
Lutron	FAELV500	100.0%	2230	150	1210	70	98%	7%	2	0.0%	2	2	2	2	2
Lightolier	ZP260QEW	92.9%	2150	50	1150	26	94%	2%	2	5.0%	2	2	2	2	2
Cooper	DAL06P	92.9%	2270	10	1211	7	100%	0%	2	0.0%	2	2	2	2	2

NOTES:

1. If light is measured, then the dimming range is based on light output. If light is not measured, then the dimming range is based on the percentage of output current.
2. While adjusting the dimming level, a smooth dimming, with no sudden jumps in light output, results in a score of 2. A small jump that is only noticeable if directly staring at the light results in a score of 1.
   A large obvious jump results in a score of 0.
3. Percentage away from 100% output current when dimmer is inserted in the circuit, at the dimmer's maximum conduction angle.
4. No flash at startup (at maximum conduction angle) results in a score of 2. A smooth, but still noticeable transition from overshoot results in a score of 1. A transition with overshoot and undershoot results in a score of 0.
5. Highly visible repeating light fluctuations. No flicker results in a score of 2. Flicker results in a score of 0. There is no "1" score.
   Flicker is measured using a stable AC source delivered by a power supply. AC line voltage instability will cause visible light fluctuations.
6. Low frequency or random variations in light output that are typically less noticeable than flicker (the light output does not turn off at any point).
   No shimmer, perfect light output, results in a score of 2. Only noticeable shimmer, if staring directly at the LEDs, results in a score of 1. Obvious shimmer, even if looking away from the LEDs, results in a score of 0.
   Like Flicker, Shimmer is measured using a stable AC source delivered by a power supply. AC line voltage instability will cause visible light fluctuations.
7. No light output when dimmer switch or button is turned off.
8. Audible noise with driver located at 3 feet and measured at 90 degree conduction angle (worst case). A strongly apparent noise resuts in a score of 0.
   A score of 1 is assigned if the noise is not very obvious, and most likely to not be noticed inside of a fixture.
9. All the dimmers are set to the widest dimming range, when the trim potentiometer is available. Testing is done with 1 dimmer per LED driver.