

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Solid-State Dimming Controls, UL 1472, are being proposed:

1. Addition of 347 VAC Synthetic Load Characteristics to Represent Electronic Ballasts and Self-Ballasted Lamps

2. Addition of Requirements for CFL and LED – Recovery Time

3. Editorial Correction of Clause 5.10.2 to Correct Figure Number Reference and Re-naming of Figure 4

4. Clarification of Lamp Compatibility Information Provided in Clause 7.1.8

5. Addition of Abbreviation “EFL” Denoting “Electronic Fluorescent Ballast” Light Load to Table 15

STP BALLOTS AND ALL COMMENTS DUE: June 12, 2017

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Addition of 347 VAC Synthetic Load Characteristics to Represent Electronic Ballasts and Self-Ballasted Lamps

RATIONALE

Proposal submitted by: Frank Tse, Leviton Mfg. Co., Inc.

The current UL 1472/CSA C22.2 No. 184.1 contains specifications for 120 VAC and 277 VAC synthetic loads, as testing options, to represent electronic ballast and self-ballasted lamp loads. This proposal expands the current specifications to include 347 VAC synthetic loads. The proposal is based on the recently updated NEMA 410 standard, that the current specifications had been based on.

It is the proposal submitter's opinion that this proposal represents a test requirement revision or clarification.

PROPOSAL

5.2.3.2 Based on the current and voltage rating of the dimmer, a synthetic test load circuit, shown in Figure 6, shall provide the steady state and inrush current characteristics meeting or exceeding those characteristics shown in Tables 13 and 14.

5.2.3.3 The series coil values shall be adjusted based on the input line characteristics to achieve the peak current shown in Tables 7 13 and 14. The series coil shall be sized such that it does not saturate during testing and shall be able to handle the resulting power dissipation with less than 10°C temperature rise. Peak current and pulse width are shown in Figure 7.

Table 13 – Overload test - peak current requirements

(See Clause 5.2.3.3 5.2.3.2 and 5.3.3.1 5.2.3.3)

Dimmer Switches Rated 120 VAC				
Steady state current (A), I_s	Overload Test Current 150% of Steady State Current (A)@ 120 V AC	Peak current (A), 120 VAC	Pulse Width 120 VAC (mS)	I2t (A2 sec) 120 VAC See Note 1
0.5	0.75	96	0.42	18
1	1.5	130	0.60	34
2	3	166	0.89	51 <u>55</u>
3	4.5	185	1.06	68
5	7.5	210	1.24	88
8	12	235	1.80	110
10	15	239	2.00	114
12	18	254	2.15	129
15	22.5	265	2.41	140
16	24	268	2.49	143

Note 1 – The values used to calculate I2t are the peak current shown in the table above and pulse duration of 2 mS (t).

Dimmer Switches Rated 277 VAC				
Steady state current (A), I_s	Overload Test Current 150% of Steady State Current (A)@ 277 V AC	Peak current (A), 277 VAC	Pulse Width 277 VAC (mS)	I2t (A2 sec) 277 VAC See Note 1
0.5	0.75	98	0.73	19
1	1.5	182	0.80	66
2	3	258	0.98	111
3	4.5	315	1.06	199
5	7.5	362	1.24	262
8	12	440	1.80	387
10	15	458	2.00	420
12	18	483	2.27	467
15	22.5	510	2.67	521
16	24	518	2.80	537

Note 1 – The values used to calculate I2t are the peak current shown in the table above and pulse duration of 2 mS (t).

Dimmer Switches Rated 347 VAC				
Steady state current (A), I_s	Overload Test Current 150% of Steady State Current (A)@ 347 V AC	Peak current (A), 347 VAC	Pulse Width 347 VAC (mS)	I2t (A2 sec) 347 VAC See Note 1
0.5	0.75	246	0.41	143
1	1.5	317	0.60	237
2	3	396	0.86	369
3	4.5	430	1.08	434
5	7.5	482	1.42	546
8	12	529	1.86	658
10	15	550	2.05	711
12	18	572	2.28	768
15	22.5	595	2.57	831
16	24	601	2.66	849

Note 1 – The values used to calculate I2t are the peak current shown in the table above and pulse duration of 2.35 mS (t).

Table 14 – Endurance test - peak current requirements

(See Clause 5.2.3.3 5.2.3.2 and 5.3.3.1 5.2.3.3)

Dimmer Switches Rated 120 VAC			
Steady state current (A), I_s	Peak current (A), 120 VAC	Pulse Width 120 VAC (mS)	I2t (A2 sec) 120 VAC See Note 1
0.5	75	0.34	11
1	107	0.48	24
2	144	0.70	41
3	166	0.89	51
5	192	1.20	74
8	221	1.25	98
10	230	1.50	106
12	235	1.80	110
15	239	2.00	114
16	242	2.10	117

Note 1 – The values used to calculate I2t are the peak current shown in the table above and pulse duration of 2 mS (t).