

TEST RECORD NO. 2

SAMPLES:

Samples of the Component LED Drivers as indicated below and constructed as described within this report, were submitted for examination and test.

Current Model Designation	Alternate Designation
MU030A105AQI0	SL0360B1
MU030A105AQI3	SL0361B1
MU030A105AQI02	SL0360S1
MU030A105AQI32	SL0361S1
MU030E105AQI0	ECODrive360B1
MU030E105AQI3	ECODrive361B1
MU030E105AQI02	ECODrive360S1
MU030E105AQI32	ECODrive361S1

GENERAL:

Test results relate only to the items tested.

Due the identical construction except for designations, no additional testing is considered necessary. In addition, the completion of the construction review was not considered necessary.

TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standards noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Ed.	Rev - Date
UL 8750	LED Light Sources for use in Lighting	1 st	2014-05-22
CSA C22.2 NO. 250.13-12	LED EQUIPMENT FOR LIGHTING APPLICATIONS	1st	2012-01-01

Test Record by:
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DESCRIPTION

PRODUCT COVERED:

*USR - Component LED Driver with UL1310 Isolated, Class 2 output Models:

PU030A105AQI0, SL0360A1
PU030A105AQI3, SL0361A1
PU030E105AQI0, ECODrive360A1
PU030E105AQI3, ECODrive361A1

*CNR - Component LED Driver with Isolated "LED Driver Class 2" output, Models:

PU030A105AQI0, SL0360A1
PU030A105AQI3, SL0361A1
PU030E105AQI0, ECODrive360A1
PU030E105AQI3, ECODrive361A1

ELECTRICAL RATINGS:

Model	Input / 50/60 Hz			Maximum Output Ratings, DC		
	V AC	A	W	V	A	W
PU030A105AQI0, SL0360A1	100-277	0.4	--	57	0.2-1.05	30
PU030A105AQI3, SL0361A1	100-277	0.4	--	57	0.2-1.05	30
PU030E105AQI0, ECODrive360A1	100-277	0.4	40	57	0.2-1.05	30
PU030E105AQI3, ECODrive361A1	100-277	0.4	40	57	0.2-1.05	30

Conditions of Acceptability -

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.

1. The drivers shall be used within the recognized electrical ratings. And, the drivers were found suitable with a maximum output current rating of a 1050 mA DC as specified under the Electrical Ratings. However, the output current may be set at the factory during production to any current setting between 200 - 1050 mA DC
2. These LED drivers were tested and were found suitable for use in the elevated operating ambient specified in the following table. Therefore, when the drivers are installed in end-use application, the maximum measured external driver housing surface temperature shall not exceed the temperature limits specified in the following table. Refer to Illustration #1 for location:

TEST Voltage		100 V AC	277 VAC
Maximum Ambient, °C		45	50
Location		Maximum Allowable, °C	
Near "Q3" Heat Sink	Refer to ILL #1	77	74
Top above "T1"/"D7"/"Tc"	Refer to ILL #1	66	67
Side Near "D7"	Refer to ILL #1	61	63
Side Near "T1" Core	Refer to ILL #1	71	73

3. The maximum available output parameters of these drivers were within the maximum allowable limits for Class 2, Inherently Limited specified in the UL1310 standard. The output is to be considered "CLASS 2 NOT WET, CLASS 3 WET" as specified in the UL1310 standard for Class 2 Power Units.

The maximum output voltage of the drivers exceed the specified voltage limit of 42.4 VDC/peak in the Canadian Standard for Power Supplies with Extra-Low-Voltage Class 2 Outputs, CSA C22.2 No. 223-M91. Also, for the CNR evaluation, the output is considered Isolated, non-Class 2. Therefore, the outputs and circuits associated with the output should not be "User Accessible" in the end-use application. However, based on maximum voltage restrictions for Class 2 circuits in the Canadian Electrical Code, Class 2 wiring may be used for the connection of the outputs and the circuits associated with outputs of these drivers.

4. The drivers are intended for to a branch circuit with a maximum 20-Ampere branch protection.
5. The drivers were found suitable for use in a "DRY" and "DAMP" locations
6. The terminal blocks for the input, dimming and output are R/C (XCFR2/XCFR8), rated 300 V, 5 A, and are suitable for Field and factory wiring. The suitability for the application and use shall be determined in the end-use application.

Conditions of Acceptability - Cont.:

7. If the Leakage current measurements test is required in the end-use application, the test shall be performed on the combination of the LED driver and the end-use product. The Leakage Current Measurements test method shall be performed in accordance and as specified in the UL1310 standard.
8. Driver model PU030A105AQI0 **PU030E105AQI0** are dimmable and are provided with an isolated "DALI" dimming interface circuit. The "DALI" circuit is isolated from the primary and secondary circuit (Terminals DA+, DA-).
9. Driver model PU030A105AQI3 **PU030E105AQI3** are dimmable and are provided with an isolated "0-10" dimming interface circuit (Terminals designated "0-10+" and "0-10-"). And, the maximum available parameters from the dimming circuit terminals meet the limits for a Class 2, inherently limited source
10. The identification of the input/output/dimming terminals is as follows:

Terminal Blocks	Connection
L	Supply line
N	Supply Neutral
LED1+,LED1-	Channel 1: Output Positive, Negative
LED code+ / LED code-	Factory current setting terminals (*)
0-10V+ / 0-10V-	"0-10" Dimming connections
DA-, DA+,	"DALI" Dimming connections
(*) - The output current may be set at the factory during production to any current setting between 200-1050 mA DC	

11. The housing of the drivers was not evaluated as a suitable enclosure. The materials for the housing and the Terminal Block Covers are R/C (QMFZ2/QMFZ8). Refer to Illustration #2 for dimensions. The polymeric material is as follows:
 - a. By Bayer Material Science (E41613) (QMFZ2/QMFZ8), Type 6485, All Color, 1.5 mm minimum thickness, rated V-0, 125°C, or
 - b. By SABIC Innovative Plastics BV (E45329) (QMFZ2), Type 945(GG), All Color, 1.0 mm minimum thickness, rated V-0, 130°C
 - c. By SABIC Innovative Plastics BV (E45329) (QMFZ2), Type 9945A, All Color, 1.8 mm minimum thickness, rated V-0, 130°C, or
 - d. Chi Mei Corporation (E56070) (QMFZ2/QMFZ8), Type PC-6610 or PC-PC-110N, All Color, 1.5 mm minimum thickness, rated V-0, 130°C