UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

January 20, 2006

Jason Chen
VIVA Company Limited
5F-3000-7 Longdong Avenue
Pudong, Shanghai 201203
China

Dear Jason:

EPA has reviewed the Testing Documentation submitted by VIVA for the following lamp/ballast combination, and determined that it meets the Version 4.0 Residential Light Fixture (RLF) specifications indicated below. VIVA may provide this Letter of Qualification to other manufacturers interested in qualifying the same lamp/ballast combination for ENERGY STAR. Those manufacturers may, in turn, submit a copy of this Letter in lieu of lab testing reports for the given performance characteristics. Please note that this Letter of Qualification only covers the performance requirements in the table below.

Components:	Ballast(s)	Manufacturer	VIVA	Model # FL18
	Lamp(s)	Manufacturer	VIVA	Model # PLS18W/3000K

# of Lamps: 1	Indiv. Listed Lamp Wattage: 18	Lamp Type: CFL	Lamp Size: T3	Ballast Type: Electronic

Performance Characteristic	Test Result		Meets ENERGY STAR Specification? (Yes/No)
Combined Lamp & Ballast Requirements:			
System Efficacy	1354.99	Total Lumen Output	Yes
	20.2	Input Power (watts)	Yes
	67.02	Lumens Per Watt	Yes
Lamp Requirements:			
Lamp Life	10,000	Average Rated Hours	Yes
Lumen Maintenance	82.7	% of initial lumens at 40% rated lamp life (4,000 hour minimum)	Yes
Color Rendering Index	81.86	CRI	Yes
Lamp Correlated Color Temp.	3000	Target CCT (degrees Kelvin)	Yes
	100	% of samples fall within 7-step Mac Adam ellipse	
Lamp/Lampholder Compatibility	G24q-2	ANSI-IEC Designated **Lamp Base Type**	Yes
	Yes OR No	ANSI-IEC Standardized **Lamp**	Yes
	N/A	ANSI-IEC **Lamp** Standard Data Sheet Number	
Lamp Labeling Requirement	☒	Lamp labeling requirement is met	Yes

Ballast Requirements:			
Lamp Start Time	157	Milliseconds	Yes
Power Factor	0.55		Yes
Lamp Current Crest Factor	1.380		Yes
Maximum Recommended Ballast Case Temperature During Normal Operation Inside a Fixture	75	Degrees Celsius	Yes
Electromagnetic and Radio Frequency Interference	☒	Ballast meets FCC requirements for consumer use	Yes
Ballast Frequency	43.67	kHz	Yes
Transient Protection	☒	Ballast meets transient protection requirements	Yes
End of Life Protection (Only required for ballasts with lamps sized T5 & smaller)	Yes OR N/A	Testing requirements are met	Yes
	1	Maximum number of lamps shut down when lamp end of life occurs	
Dimming	☐	3-Way Switching	Yes
	☐	Continuous Dimming	
Safety – Ballasts and "Non Edison base Fluorescent Adapters"	Yes OR N/A	Listed for Safety	RLF or ceiling fan partner using this form in lieu of testing documentation must submit appropriate safety report for portable or hardwired fixtures.
Line Voltage Socket (LVS) Standard Design	This platform **does not** use the twist-and-lock LVS standard Design		Yes
Line Voltage Socket (LVS) Standard Design with Self-Ballasted Pin-Based Lamp	This platform **does not** ship with self-ballasted pin-based lamps (i.e., integrated lamp and ballast) that use the twist-and-lock LVS standard design		Yes

As a reminder, the approved lamp/ballast combination does not receive the ENERGY STAR label and can not be promoted as an ENERGY STAR approved product and can not carry the ENERGY STAR logo. Rather, you may promote this approved platform as an acceptable alternate to providing test reports with Residential Light Fixture submittals for ENERGY STAR qualification.

Any RLF or ceiling fan partner submitting this Letter of Qualification in lieu of laboratory testing reports is still responsible for completing and signing a Qualified Product Information (QPI) form for the applicable lamp/ballast combination, and submitting any required test data not covered by this Letter.

Please contact Nick Germana at (703) 218-2535, or myself at (202) 343-9397 with any questions. Thank you for your continued support.

Sincerely,

David Shiller, Product Manager
ENERGY STAR for Residential Light Fixtures