

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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LOWE'S COMPANIES, INC.,  
LOWE'S HOME CENTERS, LLC AND L G SOURCING, INC,

Petitioners

v.

NICHIA CORPORATION,

Patent Owner

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U.S. Patent No. 7,915,631

“Light Emitting Device and Display”

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**DECLARATION OF DR. ERIC BRETSCHNEIDER  
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S.  
PATENT NO. 7,915,631**

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I, Eric Bretschneider, do hereby declare and state as follows:

## **I. BACKGROUND AND QUALIFICATIONS**

1. I have over 25 years of experience with lighting and LEDs, including a comprehensive background on the full range of LED production technologies, including MOCVD hardware/process, fabrication, LED chip and package testing and reliability, optical design, thermal management, color conversion, and SSL fixture/lamp design, integration, and reliability.

2. I am currently the Chief Technology Officer at EB Designs & Technology. In that capacity, I am (among other things) responsible for the design of solid-state lighting technologies for clients ranging from startups to Fortune 100 companies.

3. I am also currently a member of the University of Florida Department of Chemical Engineering Advisory Board. And I have been a Conference Chair for LED Measurement and Standards. I am also a member of a number of professional societies, including SPIE, Materials Research Society, Illuminating Engineering Society (I am a member of the Science Advisory Panel as well as a member of numerous committees, most notably the IES Test Procedures Committee where I chair the Solid-State Lighting subcommittee).

4. Prior to my position at EB Designs & Technology, I served as the Director of Engineering at HeathCo, LLC. In that capacity, I was responsible for advanced technology/product development related to solid state lighting, sensors,

notifications and control products.

5. Prior to my position as Director of Engineering at HeathCo, I was positioned at the Elec-Tech International Co., Ltd., where I held the positions of Chief Engineer, ETi Lighting Research Institute and VP of Research and Development, ETi Solid State Lighting. In that capacity, my responsibilities included developing all technology and product roadmaps for markets in North America, China, Europe, and Japan.

6. Between 2008 and 2011, I was positioned at Lighting Science Group Corp., first as a product development manager, and my responsibilities included developing solid state lighting products, then as VP of Research, and my responsibilities included developing advanced LED models for product development and production control.

7. Between 2004 and 2008, I was positioned at Toyoda Gosei North America, where I was a sales manager, and my responsibilities included managing and developing LED die and package sales accounts from the eastern region of North America.

8. Between 2003 and 2004, I was positioned at Beeman Lighting, where I was Director of Solid State Lighting Engineering, and my responsibilities included leading development of solid state lighting systems and materials.

9. I have also authored and presented more than a total of 30 publications,

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