

Lighting Technologies
& Services, Inc.
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James L Rhiner

Areas of Expertise

Mr. Rhiner is recognized as an expert on Lighting Engineering, Electrical Engineering, Lighting Product Design, Electrical & Lighting Forensic Issues, Litigation Support Issues, and Lighting & Electrical Fire Investigation & Determination.

He has an extensive background in Product Liability Failure Determination and Testing Services. He has been involved in numerous Lamp Failure determination cases including violent eruption and mechanical failure.

He has provided Litigation and Support Services in Lighting Visibility Conditions in Personal Injury Cases involving Traffic, Industrial, and Commercial, Slip and Fall, and Life Safety Support Accidents and Conditions. He has provided litigation support services in patent infringement areas.

Additionally he provides Lighting Design Services for: Roadways, Parking Areas, Sports Fields & Buildings, Retail Businesses, Commercial Office Facilities, Museums, Education Facilities, Entertainment Venues, and Security Lighting applications. He has provided design and analysis services on Fiber Optic and LED lighting applications.

**For detailed professional experience refer to addendum attached.

Education

1957 -1961 BSEE , Electrical Engineering University of Iowa Iowa City, IA
1966 The California Highway Patrol Academy, Certificate of Completion
1971 California Highway Patrol, Advanced Officer Course Certificate of Completion by the Commission On Peace Officer Standards and Training

Accreditations

Illuminating Engineering Society of N.A. Technical Knowledge Cert.

Professional Memberships

IESNA The Illuminating Engineering Society of North America

NFPA, The National Fire Protection Assoc., Electrical Section

IEEE, The Institute of Electrical & Electronics Engineers

Patents

As an Engineering Manager, he was responsible for the development of 2 different products that resulted in patents while employed at McGraw-Edison Co., Lighting Products Division. Patents were for design of HID lighting fixture reflector designs that eliminated light pollution and spill light.

Publications

"The Language Of Lighting". 320 page hardbound book of Lighting Design, Application, & Maintenance. 1983 The McGraw-Edison Company. ISBN # 0-8359-2625-7. Approx 80,000 in Circulation. Seven Films covering the main chapters of the books used for training Architects & Engineers.

"Lamps and Color", Buildings Magazine, March, 1984

"HID Moves Indoor"., CEE Magazine, March 1984

"Protective Lighting", Buildings Magazine, April 1984

"Outdoor Lighting Basics", The Construction Specifier Magazine, April 1984

"Indirect Lighting – An Enlightening Idea for CRT Stations", Electrical & Electronic Equipment Newsletter, National Safety Council. July/Aug 1983

"Street Lighting Manual" Chapter 12, "Circuits and Controls" Edison Electric Institute, ISBN # 0-921032-26-1

Research Paper presentation At the I.E.S. Annual National Conference, July 1983, Atlanta, GA. "Glare, Glare Control, and Visibility in the Electronic Workplace".

Awards received

Two of The Illuminating Engineering Society's Edwin F. Guth Memorial Lighting Design Award Of Excellence for The Green Bay, WI Prison and for The University of Wisconsin McClain Athletic Center, Madison, WI.

Professional experience

1961 – 1962 California Electric Power Co., San Bernardino. CA
Lighting and Commercial Service Engineer

1962 – 1966 Pyle-National Co., Steber Lighting Div., Los Angeles. CA
Western Regional Lighting Engineer

1966 -1973 Calif. DOT, Dept. of the California Highway Patrol
State Traffic Officer and Special Projects & Planning
Sacramento, Norwalk, Anaheim, and Santa Ana, CA

1973 -1974 MWC Lighting Inc., Santa Ana, CA
Lighting Sales & Application Engineer

1974 - 1978 Cook Sales Agency, Costa Mesa, CA
Vice- President and Lighting Application Sales Engineer

1978 - 1989 McGraw-Edison Corp./Cooper Lighting, Racine, WI
Manager, Application Engineering.
Manager, Product Development and Marketing
Director, Technical Services & Marketing, & Mgr. of Utility Sales

1989 – 1991 Lumatech Inc. Lighting, Milwaukee, WI
Founding Partner & President. Manufacturers Lighting Agency

1991–1999 LumenEssence (JR Lighting, Inc), Milwaukee, WI
Founder & President. Manufacturers Lighting Agency

1999 - 2003 Point Source Lighting, Menomonee Falls, WI
Contract Consultant for Technical & Specification Sales

2003 – 2004 Enterprise Lighting, Brookfield, WI
Contract Consultant for Technical & Specification Sales

Concurrent 1991 to present

J R Lighting Inc. & Lighting Technologies & Services, Inc., Franklin, WI
Consulting & Forensic Services on Illumination & Electrical Engineering Issues

Other Notable Experience

The Illuminating Engineering Society of N.A. Milwaukee Section: 1981 Secretary, 1982 Treasurer, 1984 President. Member of The IES National Education Committee, 1984/85.

Instructor of the I.E.S. Milwaukee Section, Basic and Advance Lighting Courses. 1981-1989.

The McGraw-Edison 1982 Energy Conference, Key Speaker Tokyo, Japan; Hong Kong, China; Singapore and Sidney, Australia.

Commissioned by The Vatican, Rome, 1982, to provide lighting design for St. Peter's Basilica, The Sistine Chapel, The Papal, Apostolic, & Vatican Libraries, and The Vatican Museum including the Hall of Constantine.

Fiber Optic Lighting Projects: Milwaukee Calitrava Art Museum Cudahy Gardens 500' moving wall of water fountain. 5.5 miles of fiber optic and 400 light points. The Field Museum, Chicago Jade Room gem displays. Federal Office Building Seattle Washington, Water Feature. Miller Brewing Co. Presidents reception/historical display, Milwaukee and Visitors Center @ Fort Worth Texas Brewery. University of Wisconsin, Milwaukee Campus Student Union Theatre.

Numerous other major lighting projects including: The Rose Bowl, Pasadena, CA, Anaheim Convention Center and Anaheim Stadium, Anaheim, CA, NORAD Command Center U S Government, Colorado Springs, CO, Pennsylvania Ave. Re-lighting, Washington, D.C., Static Test Stand Lighting, NASA Saturn Rocket China Lake Test Station, China Lake, CA. Numerous other Commercial, Industrial, Retail, Institutional, Transportation, and Sports lighting facilities.

Volunteer Experience

Commissioner, Community Development Authority City of Franklin, WI. 1985 to 2009

Commissioner, Economic Development Commission, City of Franklin, WI. 1982 to 2009 **Member** of 27th Street Steering Committee redevelopment.

Advisory Board to the University of Wisconsin and Mount mary College Interior Design Departments. 1987-1990

James L. Rhiner

Curriculum Vitae Addendum

Professional Experience:

1978-1989 In Product Development and Technical Services Management positions at McGraw-Edison Corporation Area Lighting Division and Halo Lighting Division, Mr. Rhiner was in charge of product development and design of all HID lighting fixtures. Additionally, he was responsible for the laboratory testing of all fixtures and lamps for U.L. certification.

He was a lead of the product development team that designed and brought to production 167 different architectural down-lighting, up-lighting, wall sconces, task lighting, and track lighting products in one major marketing introduction. Additionally, he was responsible for the development, design, testing and marketing of over 40 outdoor lighting products for Roadway, Flood Lighting, Area Lighting, Industrial High Mast and Building Security Lighting.

Metal Halide lamp catastrophic failure complaints began to occur frequently and as a result Mr. Rhiner instituted a testing program to determine the causes of the failures. It was determined that the arc tube failures were caused by chemical reactions within the arc tube that accelerated the failure mode. Testing was then conducted on how the fractured arc tube quartz glass could be contained within the lighting fixtures. This was particularly salient for the Halo down lighting and SPI up lighting products that were used in all types of industrial, commercial and retail buildings and facilities. An electrical test procedure was installed that would cause the quartz arc tube to violently erupt. This procedure was used to test several different types of shielding media to determine suitability for use in enclosing the lamp compartment for all down light and up lighting products. The material selected for all products was thermal shock and impact resistant tempered glass.

1991 to present As President of JR Lighting Inc. and Vice President of Lighting Technologies and Services, Inc. Mr. Rhiner is hired as a consultant for lighting fixture design, lighting fixture testing and lighting application and design services. Additionally, he is hired as an expert in electrical equipment and lighting fixture failure analysis and conducts reverse engineering services to determine the cause(s) of failure.

