

# Curriculum Vitae

## **THOMAS M. LEMONS, PE, FIES**

TLA-Lighting Consultants  
202 Brook Village Drive, Unit 432  
Peabody, Massachusetts 01960

## **EDUCATION**

Purdue University, Electrical Engineering, BS 1956

## **APPOINTMENTS**

2013-Present: Consultant, TLA-Lighting Consultants  
1970-2013: President and Consultant, TLA-Lighting Consultants, Inc.  
1979-2001: Co-founder and President, ARC Sales, Inc.  
1956-1970: Applications and Development Engineer, Sylvania Lighting Products  
Registered Professional Engineer in the Commonwealth of Massachusetts

## **EXAMPLE PROJECT CREDITS AS A LIGHTING CONSULTANT:**

1. Major Sports Lighting Projects such as:
  - Boston's Fenway Park
  - New York's Yankee Stadium
  - Philadelphia's Spectrum Arena
2. Office Lighting Designs for:
  - Haworth Center in Holland, Michigan
  - PG&E Diablo Canyon Power Plant in California
  - Clark Equipment Company in South Bend, Indiana
3. Exhibit Lighting Designs for:
  - Haworth Showrooms
  - The MSPCA Macomber Farm in Framingham, Massachusetts
  - The Museum of Fine Arts in Portland, Maine
4. Optical Design Work for Companies, including:
  - Lam Lighting
  - The 3M Company
  - Haworth, Inc.
  - The Macbeth Division of Kollmorgen Corporation
  - Black and Decker
  - Altman Stage Lighting Company

## **PATENTS**

1. Asymmetric Sport Lighting Luminaire: CA2079402C; U.S. Pat. No. 5,313,379
2. Emergency Strobe Light: U.S. Pat. No. 5,865,527; U.S. Pat. No. 5,622,427
3. Glare Control Sports Lighting Luminaire: CA2205158C; U.S. Pat. No. 5,730,521
4. High Intensity Indirect Lighting Fixture: U.S. Pat. No. 3,950,638
5. High Intensity Spotlight: U.S. Pat. No. 3,940,606; USRE31003E
6. Interior Indirect Lighting: U.S. Pat. No. 4,569,003
7. LED Inspection Lamp: U.S. Pat. No. 6,979,104
8. LED Inspection Lamp and LED Spot Light: CA2460205C; U.S. Pat. No. 7,204,606; U.S. Pat. No. 7,568,816
9. LED Lighting System: U.S. Pat. No. 7,863,829
10. Medical Device for Lighting a Treatment Field: DE69227687T2; DE69233627T2; EP0591386B1; EP0856699B1; U.S. Pat. No. 5,485,319
11. Method and Apparatus for Leak Detection and Non-Destructive Testing: U.S. Pat. No. 6,177,678
12. Modulated Optical Energy Source: U.S. Pat. No. 4,668,869
13. Outdoor Lighting System: U.S. Pat. No. 4,864,476; CA1321179C
14. Replaceable Light Source Assembly: U.S. Pat. No. 4,536,832
15. Sky Projector: U.S. Pat. No. 3,762,083
16. Spotlight Lamp: U.S. Pat. No. 3,428,800
17. Task Light: U.S. Pat. No. 5,036,436
18. Visual Signaling Device: U.S. Pat. No. 5,390,095

## **PROFESSIONAL SERVICES**

1. Professional Activities (Last Five Years):
  - United States' Member of Division 5 (Outdoor and Specialty Lighting) of the International Commission on Illumination (CIE)
  - Illuminating Engineering Society of North America (IESNA)
  - Member of USNC-CIE
  - United States Institute for Theatre Technology (USITT)
2. Past Professional Activities:
  - Fellow of the IESNA and USITT

- IESNA Regional Vice President and the Vice President of Administration and Operations
  - President and Secretary of the United States National Committee of the CIE
  - IESNA and CIE technical committees including:
    - Light Control and Luminaire Design committee
    - Sports Lighting committee
    - Institutions Lighting committee
    - Theatre, TV and Film Lighting committee
    - Library Lighting committee
3. Editorial Services:
- Preparation of energy standards for new buildings (ASHRAE 90-75) and for existing places of public assembly (ASHRAE/IES 100.6-1981)
  - Assisted in writing a manual of accepted practice for ASHRAE 90-75
  - Technical Review Committee for IESNA (3 occasions in last 30 years)

## **TEACHING**

1. Course on Light Sources at The New School, New York, New York
2. Course on Lighting Design at Chamberlain Junior College, Boston, Massachusetts
3. Conducted an annual seminar on the Optical Design of Reflectors 1980 - 1995

## **LITIGATION SUPPORT EXPERIENCE**

### Previous Four Years

1. Date: 2011  
*Estate of Roberto Fuentes v. Nu-Way Live Oak Reclamation, Inc., et al.*  
 Testimony by deposition  
 Inactive
2. Date: 2010-2011  
*S.C. Diamond Associates, L.P. v. Allied Technology Group, Inc., et al.*  
 Testimony at trial  
 Inactive
3. Date: 2010  
*Teresa A. Carlson and Aaron C. Carlson v. Jon W. Howarth and Brinker Restaurant Corporation*  
 Inactive

### Additional Litigation Support Experience

4. Date: 2009  
*Kimberly Augeri, Administratrix of the Estate of Robert C. Augeri v. Louis Maynard Trucking, Inc., et al.*  
 Inactive

5. Date: 2009  
*Coreen E. Freedman, Individually and as Executrix of the Estate of Marvin I. Freedman v. Jason Thomas, et al.*  
Inactive
6. Date: 2008  
*Transystems Corporation v. Clark Engineers, Inc., et al.*  
Inactive
7. Date: 2006  
*Kenall Manufacturing Company v. Genlyte Thomas Group, LLC*  
Inactive
8. Date: 2006  
*Genlyte Thomas Group, LLC v. Architectural Lighting Systems*  
Inactive
9. Date: 2006  
*Tele-Cons, Inc., et al. v. Harmony Lighting, Inc., et al.*  
Technical Expert for Judge Reginald C. Lindsay  
Inactive
10. Date: 2006  
*Sportlite, Inc. v. Genlyte Thomas Group, LLC*  
Inactive
11. Date: 2004-2005  
*Henry Boyer and Kathleen Boyer v. Fleet National Group Inc., et al.*  
Inactive
12. Date: 2004  
*Ferrel Rimer v. Regal Cinemas, Inc.*  
Inactive
13. Date: 2002-2003  
*Genlyte Thomas Group, LLC v. National Service Industries, Inc., et al.*  
Inactive
14. Date: 2001  
*L.S.I., Inc. v. Spaulding Lighting Corp.*  
Inactive

## **PUBLICATIONS**

~83 total (listed on following pages)

## PUBLICATIONS

- [1] *Laboratory Testing of Pancake Lights*, by Lemons, T. M., Presented at an Aviation Lighting Conference, Atlantic City, NJ, June, 1962
- [2] *Quartz-Iodine Lamp Limitations Lead to New Designs*, by Lemons, T. M., & Meyer, E. R., IE, Vol. LIX, No. 11, Nov. 1964, p. 723
- [3] *New Light Sources and Associated Optical Systems for Theatre, and Television*, by Lemons, T. M., & Levin, R. E., IE, Vol. LX, No. 11, Nov. 1965, p 637
- [4] *Metallic Vapor Lamps in Critical Color Applications*, by Lemons, T. M., Presented at IES Annual Conference, Minneapolis, MN, August, 1966
- [5] *Interior Lighting for Sports and Recreational Activities*, by Lemons, T. M., Presented at Congress for Recreation and Parks, Miami, FL, Dec. 1967
- [6] *Television and Film Applications of Tungsten-Halogen Lamps*, by Levin, R. E., & Lemons, T. M., J of SMPTE, Vol. 77, No. 2, 1968
- [7] *Characteristics of Theatrical Lighting Equipment Using Tungsten-Halogen Lamps*, by Lemons, T. M., & Levin, R. E., Theatre Design and Technology, May, 1968
- [8] *New Tungsten-Halogen High-Wattage Lamps*, by Lemons, T. M., American Cinematographer, May, 1968
- [9] *Studio and Television Luminaire Performance Using Tungsten Halogen Lamps*, by Levin, R. E., & Lemons, T. M., IE, Vol. LXIII, No. 7, July, 1968
- [10] *An Interim Report on High-Wattage Tungsten-Halogen*, by Lemons, T. M. American Cinematographer, Sept., 1968
- [11] *Tungsten-Halogen Replacement Lamps for Standard Incandescent Types*, by Lemons, T. M., & Levin R.E., J of SMPTE, Vol. 77, No. 11, Nov. 1968
- [12] *The Rating Problem – Lamps in Luminaires*, by Lemons, T. M., & Levin, R. E., Presented at SMPTE Conference, Nov. 1968
- [13] *Fixtures – New Concepts and Their Expanding Markets*, by Lemons, T. M. 1968
- [14] *Application of Tungsten Halogen Lamps in Theatrical Luminaires*, by Levin, R. E. & Lemons, T. M., IE, Vol. 64, Jan, 1968
- [15] *Lighting for Color Television*, by Neenan, C. J., & Lemons, T. M., IE, Vol. 64, No. 3, 1969
- [16] *A Conclusive Report on High-Wattage Tungsten-Halogen Lamps*, by Lemons, T. M., American Cinematographer, April, 1969
- [17] *Know Your Lights – but Don't Forget your Shadows*, by Lemons, T. M., PMI, Aug. 1969
- [18] *Tungsten Halogen Lamps*, by Levin, R. E. & Lemons, T. M., Presented at SPSE Conference, May, 1969
- [19] *Survey of Remote Lighting Systems for Color Television*, by Lemons, T. M., & Neenan, C. J., IE, Vol. 65, No. 2, 1970
- [20] *High Intensity Discharge Lamps and Their Environment*, by Levin, R. E., & Lemons, T. M., Presented at the SPIE Conference, 1970
- [21] *Lights... Camera...Action...!*, by Lemons, T. M. & Neenan, C. J., Industrial Photography, Nov. 1970

- [22] *Design Parameters for Tungsten-Halogen Lamp Luminaires*, by Lemons, T. M. & Butterfield, G. E., Presented at IES Conference, Sept., 1970
- [23] *A Sequel to the Ballast Story*, by Lemons, T. M., I.A.E.I. News Report, April, 1971
- [24] *A Challenge to the Lighting Industry...*, by Lemons, T. M., LD+A, Sept., 1971
- [25] *Scale Models Used in Lighting System Design and Evaluation*, by Lemons, T. M. & MacLeod, R. B., LD+A, Feb. 1972
- [26] *Effective Use of ESI*, by Lemons, T. M., LD+A, Jan. 1973
- [27] *Current Sources for Stadium Lighting*, by Lemons, T. M., LD+A, Feb., 1973
- [28] *A Landmark Corporate Symbol*, by Neenan, C. J. & Lemons, T. M., LD+A, April, 1973
- [29] *Models and Contract Rendition Factor*, by Lemons, T. M. & MacLeod, R. B., LD+A, June 1973
- [30] *A Complete Guide to Lighting Concepts*, by Lemons, T. M., Tennis Industry, Aug., Sept. & Oct., 1973
- [31] *Needed: HID Ballast Certification Data*, By Lemons, T. M., LD+A, Dec. 1973
- [32] *Optimizing Outdoor Recreational Lighting Design*, by Lemons, T. M., LD+A, April, 1974
- [33] *A New Daylight Light Source*, by Block, W., McGovern, M. J. & Lemons, T. M., J of SMPTE, Sept., 1974
- [34] *More About HMI Lighting at Photokina '74*, by Lemons, T. M., American Cinematographer, Dec. 1974
- [35] *HID Lamp Flicker Problems*, by Lemons, T. M., LD+A, Feb., 1975
- [36] *Intent and Extent – the Energy Tradeoffs*, by Lemons, T. M., LD+A, April, 1975
- [37] *Television News Applications of HMI Lamps*, by Fiat, G., McGovern, M. J. & Lemons, T. M., J of SMPTE, June, 1975
- [38] *Scale Models to Demonstrate ESI Performance Differences*, by Lemons, T. M. & MacLeod, R. B., LD+A, Sept., 1975
- [39] *A New HID Ballast Concept*, by Lemons, T. M., Obolensky, G. & McGovern, M. J., Presented at IES Conference, Sept., 1975
- [40] *New Concepts in News Film and TV Remote Lighting*, by Lemons, T. M. & Fiat, G., Presented at SMPTE Conference, Sept., 1975
- [41] *The Complexities of Lighting Design*, by Lemons, T. M., New England Electric News, March, 1976
- [42] *Lighting: A State of the Art Review*, by Lemons, T. M., Presented at a Photonics and Applied Imaging Seminar at the University of Wisconsin, Madison, WI, Oct. 1977
- [43] *Scale Models Used to Investigate Office Task Lit Systems Furniture*, by Lemons, T. M. & Cole, J. M., LD+A, Oct. 1977
- [44] *Improved Operation of HID Lamps*, by Lemons, T. M. & Obolensky, G., LD+A, Jan. 1978
- [45] *Can Visual Clarity Be Illustrated?*, by Lemons, T. M. & Wyckoff, C. W., Presented at IES Conference, Aug. 1978
- [46] *HMI Lamps*, by Lemons, T. M., LD+A, Aug. 1978
- [47] *Lighting: A Review*, by Lemons, T. M., Presented at a Professional Development Seminar, University of Wisconsin, Madison, WI, Oct. 1978

- [48] *The Development of an Energy Performance Standard*, by Lemons, T. M. & Robinson, A. V., LD+A, Nov., 1978
- [49] *Trends in Optical Technology: Light Sources*, by Lemons, T. M., Optical Spectra, Jan., 1979
- [50] *A Guide for the Lighting Design of Open Plan Offices*, by Robinson, A. V. & Lemons, T. M., Presented at NEOCON, June, 1979
- [51] *Exploring Indirect Lighting*, by Lemons, T. M. & Robinson, A. V., LD+A, Dec., 1979
- [52] *Design Factors for Reflectors*, by Lemons, T. M., The Optical Industry and Systems – Purchasing Directory, 1980
- [53] *Open Plan Lighting*, by Lemons, T. M. & Robinson, A. V., Lifescape, Tokyo, Japan, Feb., 1980
- [54] *Visual Needs, Relationship of Light - Set Procedure for Open Plan Lighting*, by Robinson, A. V. & Lemons, T. M., Contract, July, 1980
- [55] *Lighting and Energy Conservation*, by Lemons, T. M., Presented at The Working Environment Institute's Seminar, Oct., 1980
- [56] *Lighting Developments Exhibited at Photokina 1980*, by Lemons, T. M., American Cinematographer, 1980
- [57] *Selecting Lighting Systems*, by Lemons, T. M., Presented at Lighting World International Seminar, Dec., 1980
- [58] *Energy Saving Lighting System Design*, by Lemons, T. M., Presented at Electrical Construction Exposition, June, 1982
- [59] *Evaluation of Flicker in Interior Illumination*, by Lemons, T. M., Presented at IES Conference, Sept., 1982
- [60] *Sources of Discomfort/Annoyance*, by Lemons, T. M., Presented at State College of Optometry, State University of NY, Seminar, Oct., 1982
- [61] *Lenses Which Improve Skylight Performance*, by Lemons, T. M., Presented at International Daylighting Conference, Phoenix, AZ, Feb., 1983
- [62] *Incoherent Sources*, by Lemons, T. M., The Optical Industry and System – Purchasing Directory, 1984
- [63] *Lighting and CRTs*, by Lemons, T. M., Haworth's Dealer Dialog, Sept., 1984
- [64] *Flicker in Light Sources Can Be a Problem*, by Lemons, T. M., EC&M, Nov. 1984
- [65] *Task Lights or Niche Lights?*, by Lemons, T. M., Haworth's Dealer Dialog, Dec. 1984
- [66] *Selected Lamps*, by Lemons, T. M., Haworth's Dealer Dialog, March, 1985
- [67] *Update on Fluorescents*, by Lemons, T. M., Interiors, April, 1985
- [68] *TriAmbient Lighting Versus Ceiling Lighting*, by Lemons, T. M., Haworth's Dealer Dialog, Sept., 1985
- [69] *HID Lamp Starters and Ignitors*, by Lemons, T. M., Zweifel, J. and Plank, G. M., LD+A, Nov. 1985
- [70] *Indirect Rim Lighting for Building interiors*, by Elmer, W. B. & lemons, T. M., LD+A, July 1987

- [71] *Spectral and Temporal Characteristics of Light Sources*, by Lemons, T. M., SPIE Proceedings, June, 1988
- [72] *Surgical Lighting Overview*, by Lemons, T. M., Presented at ALM Meeting, March, 1990
- [73] *Continuous Lighting for High-Speed Photography*, by Lemons, T. M., Presented at MIT Seminar on High Speed Photography, June, 1991
- [74] *Energy Efficiency Lighting Options*, by Lemons, T. M., Presented at IES Section meeting, Edmonton, Alberta, Canada, May, 1992
- [75] *Surgical Lights*, by Lemons, T. M., Prepared for ALM Technical Publication, 1992
- [76] *Ellipsoidal Variability in Lamps*, by Lemons, T. M., LDI Seminar presentation, Nov., 1993
- [77] *Polarized Lighting – Basic Concepts*, by Lemons, T. M., Presented at IES Conference, 1994
- [78] *Façade Lighting to Enhance Architecture*, by Lemons, T. M., Presented at IES Tarheel Section Meeting, April, 1995
- [79] *Novel Lighting Industry Coating Applications*, by Lemons, T. M., Presented at Optical Society of America's Seminar on Optical Interference Coatings, June, 1995
- [80] *Outdoor Sports Lighting Luminaire Positions*, by Lemons, T. M. & Spink, K., Presented at IES Conference, 1995
- [81] *Modeling for Sports Lighting*, by Lemons, T. M., CIE Publication #X017, Vienna, Austria, 2000
- [82] *Sports Luminaire Performance & MH Lamp Tilt Factor*, by Lemons, T. M., Presented at IES Conference, 2008
- [83] *Sports Lighting Installation Designs*, by Lemons, T. M. & Houser, K. W., Presented at IES Conference, 2010