

**R. EDWARD ENGLISH JR.**  
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**Senior Optical System Engineer / Optical Technology Manager** with extensive experience in optical systems that employ advanced technology to achieve state-of-the-art performance. Broad background in optical principles and their practical application to real products and systems. Leadership experiences include small project teams and large technical organizations, integrating one-on-one coaching with small group teaching opportunities to help individuals and team members grow and meet project challenges and advance in their careers. Inquisitive thinker with the philosophy that one should combine data and knowledge with a logical approach to obtain a true understanding of the technical solutions.

**Optical System Design • Illumination System Design • Diffraction Theory  
System Requirements • Error Budgets • Tolerance Analysis  
Projection Displays • High Power Lasers • Optical Sensors & Controls • LED Illumination  
Project & Program Management • New Product Introduction • Experiment Planning & Testing**

#### EDUCATION

**Ph.D., Optical Engineering**, University of Rochester, Rochester, New York  
**B.S., Honors Physics & Mathematics**, Purdue University, West Lafayette, Indiana

#### PROFESSIONAL EXPERIENCE

**REE Optical Systems, LLC**, Cincinnati, Ohio **2008 - Present**  
*Privately held optical design, engineering, and consulting firm.*

##### **Principal and Chief Optical Engineer**

Performed optical system analysis, assisted in determining design requirements, conceived optical design solutions, analyzed design performance and manufacturability, assessed technology and IP, and conducted technical program reviews for clients across diverse optical applications (consumer, military, research, new product development).

**3M PRECISION OPTICS, INC.**, Cincinnati, Ohio **2002 - 2008**  
*Wholly-owned subsidiary of 3M; developer and manufacturer of optical components and systems for projection display market; acquired from Corning, Inc. in December, 2002.*

##### **Senior Laboratory Manager (R&D)**

Led 55 person, multi-location technical organization. Handled product development, applied technology advancement, intellectual property, competitive analysis, compliance, laboratory safety. Provided insight and foresight as technical member of strategic business development team.

- Championed numerous technical programs to achieve world-class optical performance with rapid response to customer and market needs.
  - Commercialized durable polarizers for front projector market (\$3 million first year sales).
  - Validated superior light management approach for LCOS rear projection television.
  - Demonstrated world's first 50" projection display with full brightness using LED illumination.
  - Reduced lens prototype time (from design to customer sample) from 3 months to 2 weeks.

- Guided organization through major business transition resulting from dramatic technology shift.
  - Transformed the product development portfolio from multiple line-extension product efforts in one technology platform to a diverse portfolio of multiple new product categories employing several technology platforms over an 18 month period.
  - Redesigned the organization to align with this new business direction, sustaining high employee morale and engagement with little R&D attrition despite multiple restructurings across the site.

**U.S. PRECISION LENS, INC. (USPL), Cincinnati, Ohio 2000 - 2002**

*Wholly-owned subsidiary of Corning, Inc.; US-based high volume manufacturer of projection lenses for rear projection TVs made by every major consumer electronics company; divested in December, 2002.*

**Chief Optical Scientist**

Established product development portfolio as chief technical leader to meet high volume needs of rear projection TV market (10 million lens assemblies per year). Negotiated technical requirements with all major customers, which included Sony, Toshiba, Hitachi, Samsung, among others, mostly in Asia.

- Represented USPL as chief technology member of divestiture team and ensured an effective integration into the new company (3M).
- Conceived and launched new lens systems suitable for high definition rear projection television.
  - Achieved full product line change-over to high-performing 4-element lens assembly that increased annual sales to over \$200 million.
  - Initiated high-end color-corrected lens program with 9 month conception-to-launch timeline that achieved \$10 million annual sales.
  - Uncovered market need for short focal length lens to reduce cabinet sizes, leading to product category with \$10+ million annual sales.

**NATIONAL IGNITION FACILITY (NIF)****LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL), Livermore, CA 1995 – 2000**

*NIF is a high-energy, high-power laser facility (1.8 MJ, 192 beams) located at LLNL, which is a Department of Energy, premier applied science laboratory focused on national security.*

**Associate Project Manager, Laser/Optical Systems (1999 – 2000)**

- Directed 250+ person technical organization with \$60+ million annual expenditure.

**Opto-Mechanical Systems Manager (1997 – 1999)**

- Validated large aperture (>40 cm) lens and mirror opto-mechanical mounts, demonstrating performance to requirements for vacuum compatibility, cleanliness, and serviceability.

**Optical System Engineer (1995 – 1997)**

- Completed Title I/II design that included the entire optical system layout, specifications for all large optics (7,000+ meter-scale optical components), and system requirements.

**PROFESSIONAL AFFILIATIONS**

Chairman, SID Projection Subcommittee, 2007-2009  
Division Chair, OSA Optical Design and Instrumentation Division (2003-2004)  
Member OSA, SPIE, IEEE, SID

**PUBLICATIONS, PATENTS**

5 Refereed Journal Publications • Numerous proceedings papers • 11 Patents