

Jeff Thompson

PBR light simulation · Iray, MDL, Omniverse, RTX, Radiance

Las Vegas, NV · relocating to Oregon

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Nine years as the technical customer for PBR engines. Specified, coordinated, and acceptance-tested lighting-analysis features that shipped in Iray+ 3.1 for 3ds Max with Siemens Lightworks.

Transformed an R&D initiative into a standardized lighting design workflow adopted by 20+ designers, then built the tools that make it fast: Iray Mapper and companion scripts save 1,000+ hours a year.

Shipping software by directing AI coding agents, including Specdex, a lighting specification SaaS now entering beta.

SOFTWARE DEVELOPMENT PARTNERSHIPS

Siemens Lightworks · Iray+ for 3ds Max Development Partner, representing HDR 2025 – Present

- Specified and acceptance-tested point-illuminance calculations and luminance false-color analysis modes for Iray+, Lightworks' integration of NVIDIA Iray into 3ds Max. Both shipped in Iray+ 3.1 (2025).
- Lead HDR's evaluation of the Iray+ SDK for custom plugin development, with a small team of in-house developers.

Solemma · ClimateStudio Development Committee 2022 – Present

- Represent HDR on the development committee for Solemma's daylighting and energy simulation plugin for Rhino.
- Built pbr2rad to bring PBR texture sets into ClimateStudio; working with Solemma's developers on material-browser previews.

SOFTWARE PROJECTS

Iray+ PBR lighting simulation workflow HDR standard operating procedure 2019 – Present

- Validated against measured results; used for design visualization and daylight and electric-light studies.

glass2mdl Live · v1 · glass2mdl.com 2026

- Turns manufacturer glazing datasheets into NVIDIA MDL (Material Definition Language) materials for Iray+ in 3ds Max, so glass in a rendering transmits and reflects what the real product does.
- Rendered in Iray+ 3.1: visible transmittance within 0.2% of datasheet for a double- and a triple-glazed unit.

Iray Mapper In production at HDR 2026

- 3ds Max tool that converts imported Rhino, SketchUp, and Revit materials into accurate Iray+ MDL materials.
- Per-model setup cut from 4–8 hours to ~15 minutes; 20+ HDR lighting designers; 1,000+ hours a year saved.

pbr2rad Live · v1 · pbr2rad.com 2026

- Converts PBR texture sets (the albedo, roughness, and metallic maps used in game and film rendering) into Radiance plastic and metal material primitives with linear-light reflectance and normal-map perturbation.

Specdex Beta with lighting designers · specdex.lighting 2026

- Lighting specification SaaS built around extraction: drop a manufacturer cutsheet (the PDF spec sheet for a light fixture) into a shared fixture library.

CyclesCIETest Personal research prototype 2025 – 2026

- Automated CIE 171:2006, the accuracy benchmark for lighting software, in Blender Cycles. All 6 electric-light test cases pass; the 6 daylight cases pass partially, with misses at opening edges.

stereoflux Proof of concept 2026

- Web app on the CyclesCIETest engine: place IES luminaires and run calculations in a browser ([demo video](#)).

EXPERIENCE

Senior Lighting Designer HDR Inc., Las Vegas, NV 2025 – Present

- Direct lighting design on 4–6 concurrent projects from concept through construction, balancing owner, architect, and engineer goals against budget and code with teams across the country.
- Business development for the West region: proposals and client relationships.
- Mentor 3–5 junior designers at a time, based on project staffing.

Lighting Designer II	HDR Inc., Las Vegas, NV	2022 – 2025
Lighting Designer I	HDR Inc., Omaha, NE	2019 – 2022
Electrical EIT / Lighting Design Intern	HDR Inc., Omaha, NE	2017 – 2019

SPEAKING & TEACHING

CEU / AIA-ACCREDITED

What Can Lighting Designers Learn from Hollywood? 2023

LightFair 2023, New York (with Riley Johnson, HDR)

- Argued that film VFX and game-graphics techniques (PBR, GPU path tracing) belong in the architectural lighting workflow, with case studies from HDR projects.

Improving Design with a Physically-Based Render Workflow recording 2020 – 2023

IALD Enlighten Americas 2020 (virtual) · IES Omaha, Kansas City, Des Moines · repeated internally at HDR through 2023

Beyond Blueprints: Collaborative Approaches to High-Performance Building Design 2025

AEI Conference 2025, Kansas City (with Tim Williams, AIA)

- Focused on accurate facade material simulation through spectral rendering in NVIDIA Iray, alongside parametric modeling.

University of Nebraska 2020 – 2024

- Created tutorials and taught Iray+ for 3ds Max as a guest lecturer for senior lighting design studio courses

SELECTED PROJECTS

Omaha Central Library Omaha, NE 2026

- Lead lighting designer; developed spectral PBR visualizations and daylight analysis that guided material selection, facade modulation, and custom exterior shading design.

OC San Headquarters Complex Fountain Valley, CA 2025

- Lead lighting designer on a hybrid mass-timber, net-zero HQ; used daylight design principles to meet its strict energy-reduction requirements · IES Illumination Award of Merit 2025

Kiewit Luminarium Omaha, NE 2023

- Lead lighting designer; ran electric and daylight simulations for a large parametric facade design and coordinated closely with third-party exhibit designers · IALD Award of Merit 2024

AWARDS

- Seven IES national Illumination Awards (2021–2026), including a 2026 Award of Excellence

EDUCATION

BS + MS, Architectural Engineering University of Nebraska, Lincoln + Omaha, NE 2014 – 2019

CREDENTIALS

Lighting Certified (LC), NCQLP 2023 – Present

Associate Member, IALD and IES 2020 – Present

HDR Associate 2026 – Present

- Firm-nominated leadership designation · ~1% of employees selected per year

SKILLS & TOOLS

Lighting Architectural lighting design · photometrics · daylight analysis · facade design · Iray+ · MDL · Radiance · 3ds Max · Rhino · Grasshopper · ClimateStudio · Revit · SketchUp

Software Shipping by directing AI coding agents (Claude Code, Codex): Python · TypeScript · C++ · React · FastAPI · Postgres · Three.js · Blender/Cycles · OpenUSD (conversion, UsdLux)