

GRAND LIGHT

★ Lighting & Design Since 1929 ★



Museums, Parks, & Galleries
- 2026 EDITION -

★ Historic Lighting Restoration & Custom Lighting ★

RESOURCE BOOK



GRAND LIGHT

Lighting & Design Since 1929

**Lighting Restoration &
Custom Lighting Factory**

**104 Day Street
Seymour, Connecticut 06483
Telephone: 1-800-922-1469
Email: info@grandlight.com
www.grandlight.com**

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Section 1: Company Overview

Section 1.1 About Us

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Custom Fabricated Light Fixtures Installed On-Site

About Us

GRAND LIGHT
Lighting & Design Since 1929

New Grand Light, LLC - Lighting & Design

104 Day Street – Seymour, Connecticut 06483

Primary Contact – Ryan Stockman

Telephone: 800-922-1469

Email: info@grandlight.com Website: www.grandlight.com



Scan to Connect with Grand Light

Who is Grand Light?

Grand Light, located at 104 Day Street, Seymour, Connecticut, is an experienced restorer of historic lighting fixtures, a manufacturer of custom lighting fixtures, and has served the interior and exterior lighting needs of professionals for over 90 years by setting a standard of offering handcrafted, design-oriented, quality fine lighting products.



What is the Grand Light Mission?

Our mission is to continue to differentiate ourselves as the ultimate source for the highest quality lighting products and the very best professional service available. We realize our clients' complete satisfaction is the most meaningful measurement of our continued success and pride ourselves in providing unparalleled customer satisfaction in all we do.

Why Chose Grand Light?

Our lighting restoration and custom lighting capabilities include research for historic accuracy, drawings, mock-ups, metal fabrication, polishing, painting, welding, abrasive blasting, refining metal components, glass fabrication, replacing all electrical components, rewiring and testing in accordance to UL standards.

Our team of specialists is comprised of professional metal workers and glass blowers whose mission is to restore, create, or re-create lighting fixtures of the utmost quality and authenticity. Our lighting fixtures are wired in accordance with UL standards, and our team of artisans stands confidently behind their work with years of experience and dedication to quality craftsmanship.



American Artisans At Work Preserving History



Client Consultation and Photometric Demonstration

Stephen L. Stockman

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“It’s historical art, intricate, detailed. Electrical has a 100-year lifecycle, but at the end of that lifecycle they’re not just going to throw it out. That’s why we do what we do.”

- Steve Stockman



**Principle, Lighting Designer
Steve Stockman**

Steve, a forty year industry veteran, has held a variety of sales engineering, and senior management positions with General Electric Co. and Grand Light.

Steve is a graduate of Allegany College, Triangle Tech, and General Electric TMP Program, and has or currently participates in Industry Organizations such as IES, IALD, NAED, AIA, ALA, and APTNE.

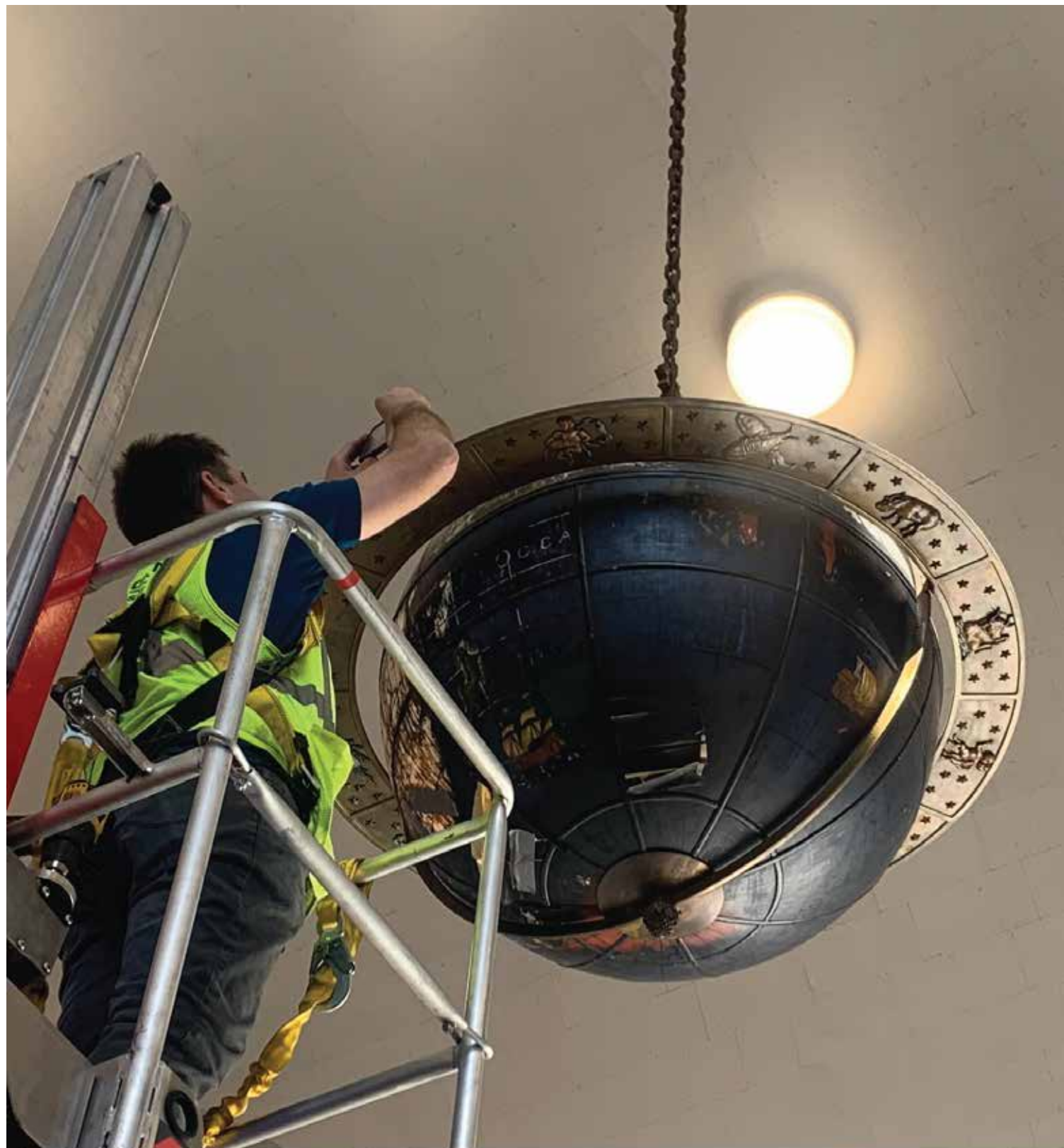
Steve is an active member of day-to-day operations providing oversight of all engineering, administration, including UL testing procedures for restoration, replication, and custom lighting products. Steve is a certified OSHA Hazard Recognition Training for the Construction Industry. Grand Light is an Underwriters Laboratories certified manufacturer for luminaires (Standard 1598).

Steve’s Participation in your Project will include:

- Develop overall project scope, timelines, manpower allocation, and vendor resources.
- Develop internal procedures consistent with achieving the project specification and delivery requirements.
- Develop project specific mechanical and/or electrical requirements.
- Develop project specific metal finishing procedures including research, recipes, testing, sampling, mockups, and production runs.
- Provide daily interaction with factory and administrative staff to ensure quality standards are upheld and the project is completed consistent with customer requirements.



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On-Site Survey & Fixture Condition Documentation

Ryan M. Stockman

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Scan to Connect with Ryan

“Those lighting fixtures existed before us and will remain long after, so it is quite an honor to have our artisans’ work immortalized”

- Ryan Stockman



**Vice President
Ryan Stockman**

Ryan Stockman, Vice President of Grand Light, is a nationally recognized lighting restoration expert. Backed by over 20 years' experience having held various sales, engineering, and manufacturing positions, he has led many of the company's award-winning restoration, replication, and custom lighting projects.

Over the past decade, he has gained experience modifying existing lighting systems with energy efficient LED retrofit kits for a variety of clients, including government, religious, educational and cultural institutions, architects, electrical contractors, and designers. His approach with LED retrofitting focuses on preserving the historic integrity of a fixture, while upgrading an existing lighting system with brighter, more efficient lighting.

Ryan's Participation in your Project will include:

- Development of all project specific administration and communication procedures
- Develop and maintain all customer relations and communications
- Provide project management and elaboration with company principal
 - A. Overall project scope, timelines, manpower allocation, and vendor resources
 - B. Internal procedures consistent with achieving the project specification and delivery requirements
 - C. Project specific mechanical and/or electrical requirements
 - D. Project specific metal finishing procedures including research, recipes, testing, sampling, mock-ups, and production runs
 - E. Provide daily interaction with factory and administrative staff to ensure quality standards are upheld and the project is completed consistent with customer requirements
- On-site supervision and management of Subcontractors and Grand Light Artisans



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Section 2: Pre-Project Planning

- Section 2.1 On-Site Survey
- Section 2.2 Historic Research
- Section 2.3 Formal Proposal



On-Site Electrical Inspection of Grand Chandelier

On-Site Survey

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Historic fixtures are individually inspected and documented during a site survey. Typically, an on-site evaluation involves a site visit to examine, identify, and document the existing condition and all mechanical, electrical, and finish deficiencies of each lighting fixture.

Site evaluations are common with large-scale restoration projects, and provide key insight into project cost projection, operation and maintenance considerations, design and construction principles, and required restoration processes.

Condition Reports

Condition reports include inventory of any damaged or missing components or glass, noticeable structural deficiencies, electrical assessment, material analysis, and finish conditions.

Reports may also include:

- Project Cost Projection
- Design & Construction Principles
- Recommended Restoration

Processes

- Operation & Maintenance Considerations
- Fixture Condition (Finish, Mechanical, Glass/Crystal, and Electrical Inspection)

Information Collected

- | | |
|---|--|
| ☒ Project Cost Projection | ☒ Operation & Maintenance Considerations |
| ☒ Design and Construction Principles | ☒ Recommended Restoration Processes |
| ☒ Type and Size of Fixture | ☒ Number of Fixtures |
| ☒ Number of Lamps per Fixture | ☒ Number of Lamps per Ballast |
| ☒ Type of Lamps and Ballasts | ☒ Fixture Condition |
| ☒ Unique Fixture Types or Features | ☒ Fixture Mounting Conditions |
| ☒ Room/Location Aesthetics and Design | ☒ Existing On-Site Conditions |



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Historical Archive Photograph Referenced for Historic Replication (Circa. 1900)

Historical Research

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Grand Light conducts thorough pre-project research, incorporating all findings, including historic archival material, to inform the decision making process. Historical photos, drawings, and documentation are meticulously reviewed to ensure our restorations and replications remain as faithful to the original as possible.



Photographs



Drawings



Documentation

Historical Research & Generating Scope of Work

To specify the scope of work required for a project, Grand Light carefully considers all provided information in addition to meticulous historical studies.

For new replications of existing and non-existing lighting, work shall include complete studies of photographs, drawings, and available historic information. This allows for concise preparation and design of engineering drawings with complete bills of materials for the fabrication of each fixture.

Our Historical Archives Include:

- ☒ Edward F. Caldwell & Co.
- ☒ J. L. Mott Iron Works
- ☒ Lincoln Manufacturing Co.
- ☒ Virden Lighting
- ☒ A. W. Reiser Co.
- ☒ Bradley & Hubbard Mfg. Co.
- ☒ Bergmann & Co.
- ☒ Markel Lighting
- ☒ H. J. Peters Co.
- ☒ McKenney & Waterbury Co.
- ☒ Joseph E. Frechie & Co.
- ☒ Ward Hendrickson & Co.
- ☒ Victor S. Pearlman & Co.



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In-Factory Client Consultation and Fixture Restoration Progress

Formal Proposal

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Our Formal Proposals provide comprehensive documentation that defines the project scope, approach, timeline, and projected cost of the restoration. The goal is to present clients with a clear and transparent plan that supports confident decision-making throughout the process.

Process	Quantity	Unit Price	Total Price
Restoration of Existing Fixtures	10	\$1,200.00	\$12,000.00
Installation of New Fixtures	5	\$800.00	\$4,000.00
Electrical Work	1	\$5,000.00	\$5,000.00
Painting	1	\$2,000.00	\$2,000.00
Transportation	1	\$1,000.00	\$1,000.00
Total			\$24,000.00

Project Proposals

Grand Light's formal project proposals include all work and recommendations generated during survey and condition report feedback. These proposals are detailed documents which outline project summary, objectives, technical approach, allotted deliveries/pickups, budgetary options, special qualifications, and terms and conditions. Our proposals are often supplemented by illustrations including photographs, drawings, diagrams, and schedules.

Grand Light provides on-call support with our dedicated project management team, consisting of project managers and support staff, to assist in any questions, concerns, reviews, and documentation. We believe in an honest line of communication and transparency enables our team to stay ahead of your project and quickly identify any potential issues that may impact budgets, schedules, and designs.

Your Formal Proposal Includes:

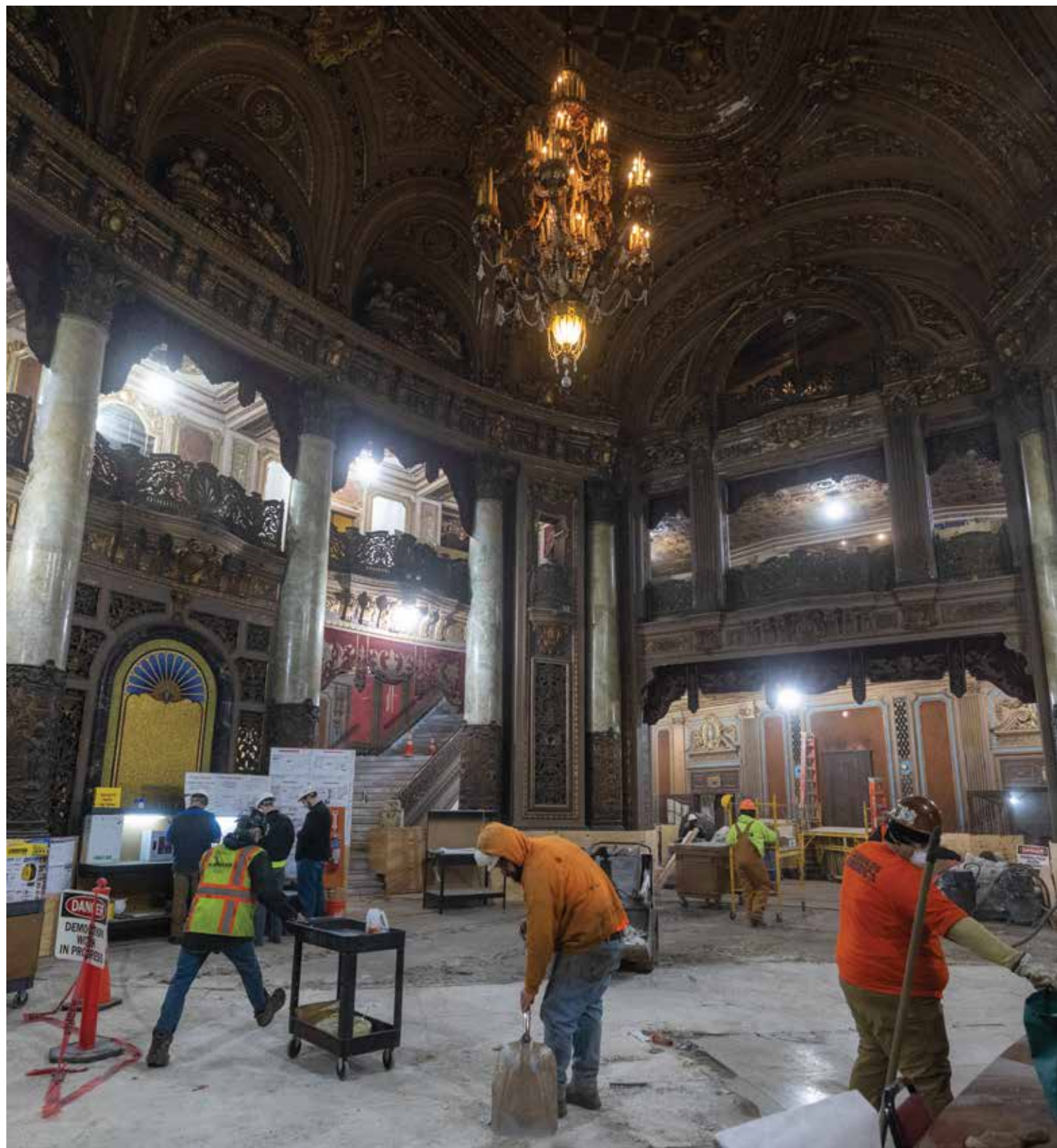
- ☒ Recommended Restoration Processes
- ☒ Budgetary Revisions with Alternative Options
- ☒ Projected Cost
- ☒ Terms and Conditions
- ☒ Delivery, Pickup, and Transportation
- ☒ Project Specific/Special Qualifications
- ☒ On-Call Project Managers for Review and Questions



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Section 3: On-Site Capabilities



On-Site Removal of Historic Theatre Light Fixtures

On-Site Capabilities

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Cleaning



Removal



Packing



Crating



Transportation



Installation

Grand Light's on-site capabilities are often an essential part of the restoration & custom lighting process. Grand Light specialists strive to ensure historic lighting fixtures are removed, cleaned, repaired, packed, transported, and installed in the safest and most conscientious methods possible. Our approach puts our customer first, with flexible on-site service scheduling offered at the client's convenience and without causing any disruption to daily activities. Work areas are left in the same manner it was found prior to leaving a site.



On-Site Equipment and Services

- Rigging, Lifts, Cranes
- Crystal Dressing/Removal
- Temporary Fixture Installation
- Packing & Crating
- Removal & Installation
- Transportation
- HSMI Cleaner
- Supervision & Instruction



Commercial Cleaning Services

Grand Light's on-site cleaning specialists utilize leading technology, decades of experience, and an unwavering commitment to providing superior historic lighting restoration results to our clients. Our specialists have a thorough understanding and extensive experience in cleaning a variety of surfaces including metal, wood, marble, plaster, and crystal using our proprietary cleaning solutions. These include our Hydrosonic Molecular Impact System (HSMI) and advanced ultrasonic technology.



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Section 4: Transportation & Storage

Section 4.1 Transportation Solutions

Section 4.2 Storage Solutions



On-Site Removal & Transportation of Historic Light Fixtures in the U.S. Capitol

Transportation Solutions

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Tractors



Trailers



Flatbeds



Box Trucks



Pickup Trucks

Grand Light possesses a fleet of specialized trucks, trailers, flatbeds, and tractors purpose-built for the safe and precise transportation of historic light fixtures. Each vehicle is configured to accommodate fragile and irreplaceable pieces, ensuring secure handling at every stage of transit. Our box trucks and trailers are fitted with custom engineered mounting, supporting, and bracing systems that provide the highest standard of protection in transit.

Our Transportation Fleet Includes:

- Specialized Box Trucks
- Specialized Trailers
- Flatbed Trailers
- Mahindra Tractor
- Pickup Trucks



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Historic Light Fixtures Stored in our Secured, Climate Controlled Warehouse

Storage Solutions

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Climate-Controlled



24/7 Professional Monitoring



State-of-the-Art Security System



Fully Insured

Utilizing our newly built, climate-controlled, and fully secured warehouse, Grand Light offers both short-term and long-term storage solutions to all luminaires, providing a safe, convenient, and secure location.

Our storage facilities are equipped with our 24/7 sophisticated and professionally monitored security system. Insurance options are offered to all fixtures for the duration of the storage time.

*Luminaire condition reports are offered to all stored luminaires and may include an inventory of any damaged or missing components or glass, noticeable structural deficiencies, electrical assessment, material analysis, and finish conditions.



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Section 5: Submittals

- Section 5.1** Submittals
- Section 5.2** Client Consultation
- Section 5.3** Computer Aided Design
- Section 5.4** LED Advantage



**Vice President Ryan Stockman Giving In-Factory Lighting Presentation:
“Adapting the Past to an LED Future”**

Submittals

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Submittals

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Project Submittals

Grand Light refers to contract bid documents and survey condition reports in addition to shop drawings, product data, samples, and submission procedures in generating a comprehensive submittal package. Our submittals include work scope supplemented with in-depth analysis of existing pre-restoration conditions, computer models/renderings, lighting control design/programming, and mechanical, electric, finish, and crystal/glass/acrylic component analysis.

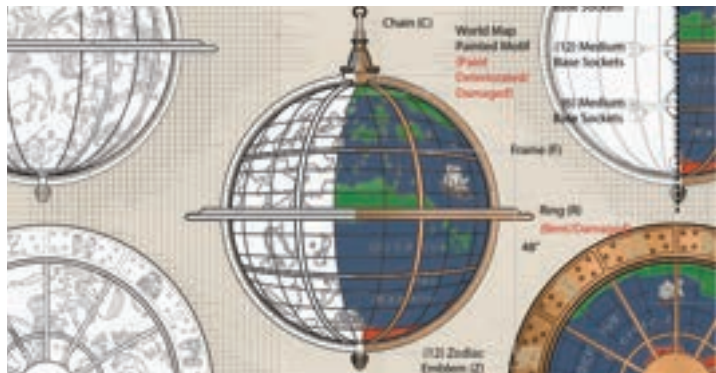
During this evaluation, Grand Light can go through each fixture type and sample the material to determine the process for cleaning and wiring, as well as identifying any component replications, repairs, or modifications. This information, including all on-site information, will be compiled in a submittal and sent along for design team review. Once this submittal is sent, we can schedule a time for the design team to come down to our factory to review the submittals along with each fixture and any mock-ups we put together during this process.

Grand Light can also provide shop drawings for both existing and custom fixtures that can depict critical information for mechanical and electrical construction, structural modifications, manufacturer, materials, finishes, lamping, voltage, ballast information and mounting details.

Samples of shades, glass diffuser material, metals and metal finish samples are submitted for approval prior to proceeding with mock-ups, fabrication, or restoration processes.

Your Project Submittal Includes:

- ☒ Work Scope
- ☒ Factory Evaluation & Analysis
- ☒ Pre-Restoration Condition Report
- ☒ Drawings
- ☒ Computer Models/Renderings
- ☒ Lighting Control Design/Programming



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In-Factory Client Restoration Progress Tour

Client Consultation

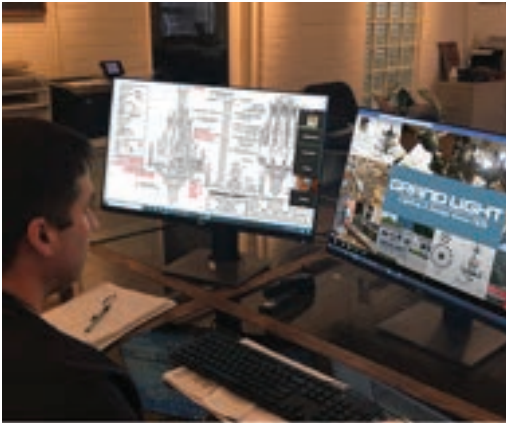
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At Grand Light, we believe in delivering the highest quality of professional service to our clients. On-demand consultations are available to clients at any stage of the restoration/fabrication, ensuring that the planning and action phases are collaborative and comprehensive. Mock-up fixture designs are provided to effectively convert concept into reality.

Communication & Consultation

Grand Light offers on-demand video conferences, phone calls, and in-person consultations to help our collaborators make informed, confident decisions at every stage of the restoration process. Whether at the initial planning stage or mid-project, our team is readily available to collaborate in real time. We use consultations to present concepts, explore design options, and reach decisions that best meet the needs of our partners.

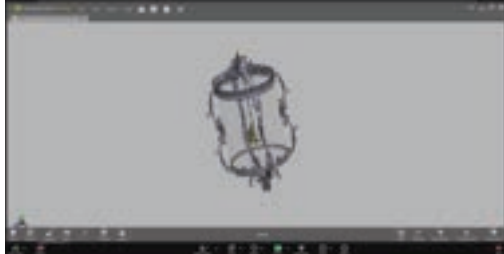
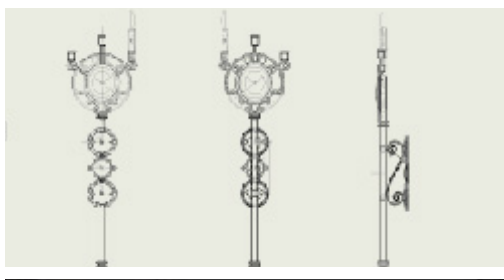
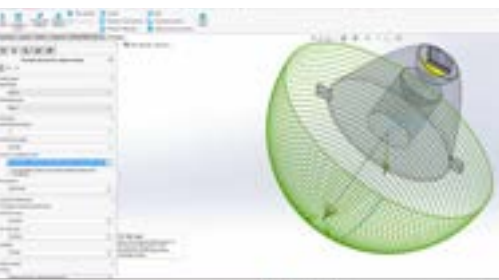
Given the unpredictable nature of historic restorations, responsive communication is essential. We maintain consistent, direct communication with our clients, allowing us to quickly identify and react to changing circumstances that may impact budgets, schedules, and designs.



Mock-Ups

When working on one-of-a-kind historic fixtures, it is crucial to develop a comprehensive restoration strategy before proceeding. Mock-ups serve as a bridge between concept and final product, allowing key decisions to be evaluated and refined in advance.

Depending on project needs, we create 2D architectural drawings and fully realized 3D models using advanced CAD software. These designs can be supplemented with finish samples, photorealistic renderings, photometric data, and to-scale 3D printed prototypes. Together, these tools allow our clients to clearly visualize the designs and make informed decisions.



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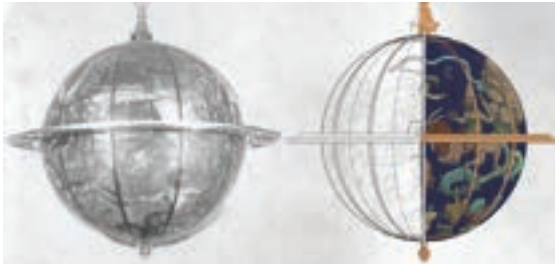
Photometric Data Simulation

Computer Aided Design

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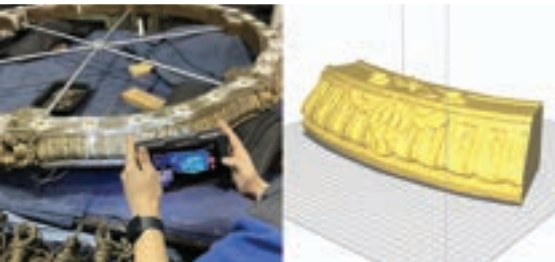
COMPUTER AIDED DESIGN PROCESSES

Grand Light utilizes advanced computer-aided design software to support our comprehensive lighting design process. Our engineering team is capable of producing precise drawings, renders, simulations, and prototypes with our state-of-the-art design technology.



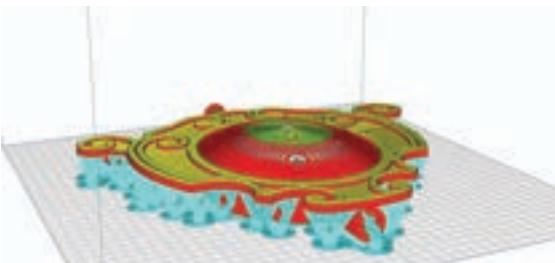
2D Drawings

During our on-site survey, each fixture is thoroughly photographed and documented. Based off of these findings, as well as all available historical documentation, Grand Light creates hand-drawn or computer-aided line drawings to serve as blueprints throughout the production process.



3D Scanning

Grand Light possesses a cutting-edge 3D laser scanner that allows our team to generate high-resolution models of individual components or entire fixtures. This portable technology enables us to quickly and precisely capture scans of intricate details in-shop or during on-site surveys.



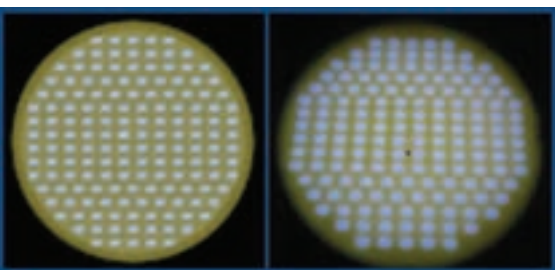
3D Modeling

CAD software such as SolidWorks, along with scanning technology, allows our team to produce highly accurate digital models of fixtures. Models are used to define dimensions, highlight the scope of work, and allow for a 360° visualization of the design so our collaborators make informed, confident decisions.



3D Printing

Our in-house 3D printer is used to fabricate to-scale physical prototypes of components or whole fixtures. 3D printed models are an efficient and cost-effective way to mock-up fixture modifications, replica parts, and verify the accuracy of dimensions.



Photometric Analysis

Using Photopia, a photometric analysis software, Grand Light is able to test how a light fixture will perform in a given environment. Photometric simulations help maximize illumination from a given energy input, confirm expected performance, and custom tailor optics to meet project-specifications.



National World War I Memorial After LED Retrofitting



Integrated/Dedicated LED



Screw-In LED



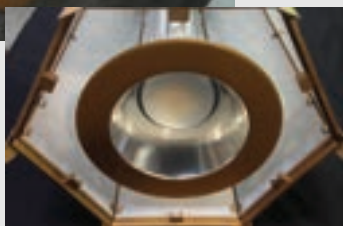
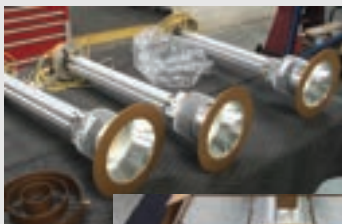
CFL to LED

Grand Light has over a decade of experience modifying existing lighting systems with energy efficient LED retrofit kits for a variety of clients, including government, religious, educational and cultural institutions, architects, electrical contractors, and designers. We pride ourselves on preserving the historic integrity of a fixture, while upgrading an existing lighting system with brighter, more efficient LED lighting.

Retrofitting your existing fixtures can be a cost effective way to improve the performance of a luminaire without the costs of replacing it. In general, having historic lighting fixtures retrofitted can drastically decrease electric bills, energy consumption, and increase the overall brightness of a room. When incandescent lamps are upgraded with an LED retrofit, the result is a room that is up to (3) times brighter, savings up to 80% in recurring energy costs, and extended operational lifespan.

LED ADVANTAGE

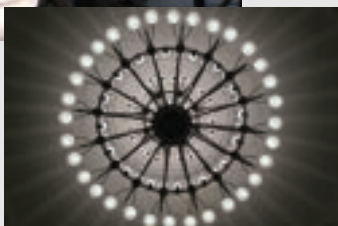
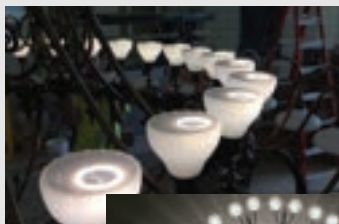
*Integrated/Dedicated
LED Retrofit Solutions*



- Customizable high output retrofit system incorporated into fixture's existing housing
- Utilizes specific chips and remote drivers built to last 20-25 years without maintenance
- High output, dimmable
 - Cons: Higher cost, difficult replacement, modification required

LED ADVANTAGE

*Screw-In LED
Retrofit Solutions*



- Utilizes established tried-and-true sockets
- Easy installation, no modification, easy replacement, no external drivers
- Variety of adjustable color temperatures and beam angles
- Reduced energy consumption
 - Con: Limited Dimming Options

LED ADVANTAGE

*CFL To LED
Retrofit Solutions*



- Designed to replace outdated CFL technology for pin lamps, reduce energy consumption and cost
- Easy installation, easy replacement, compact design
 - Con: LED System must be tailored to use a specific lamp/driver



Custom Dedicated LED Retrofit Modules

LED ADVANTAGE

Integrated/Dedicated LED Retrofit Solutions

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The **LED ADVANTAGE**

Custom designed LED retrofit kits made specifically to suit any luminaire and tested through photometric research, converting incandescent light fixtures to be fully compatible with classic UL 1598C Certified LED sockets.

- All-in-one energy-efficient design utilizing established tried-and-true sockets
- Easy installation: Conveniently replace old bulbs and trims in existing housing without requiring new wiring
- No extraneous modification needed
- Easy replacement
- No external drivers
- 50,000+ hour lifespans due to built-in LED diodes and drivers
- Dimmable
- Color Options: Amber, 2200K-5000K, Dim-to-Warm, RGBW, Tunable White 1800K-6500K
- UL 1598C Listed

System Spotlight: Adapting St. Peter's Church To An LED Future

Grand Light modified numerous historic pendant lights from an 1853 chartered church for an energy efficient lighting project. After significant product tests, calculations, and mock-ups; a custom integrated LED module was designed for installation in the existing fixtures, including a custom driver with diodes, and a downlight optic assembly for controlled lumen output. These enhanced the performance of the fixture while significantly decreasing each fixture's energy consumption via and required maintenance.

LED ADVANTAGE: "Beacon" System

- LED Boards implemented for even illumination for abnormally shaped diffusers arrangement
- Replacement for internal incandescent/fluorescent lamps
- Additional Optic assembly installed at the base of the system allowing for controlled downlight lumen output
- State-of-the-art heat sinks and airflow for regulation



3000K
1,200 Hours
60w Lamp

> 2700K
50,000 Hours
42w Downlight, 10w Strips

Exterior Kits

- Dimmable LED solutions specifically made for interior or exterior fixtures
- Custom design, layout, and easy drop in or mounting to accommodate fixture needs
- Metal parts fabricated for convenient driver implementation or mounting
- Easy installation and modifiable colors

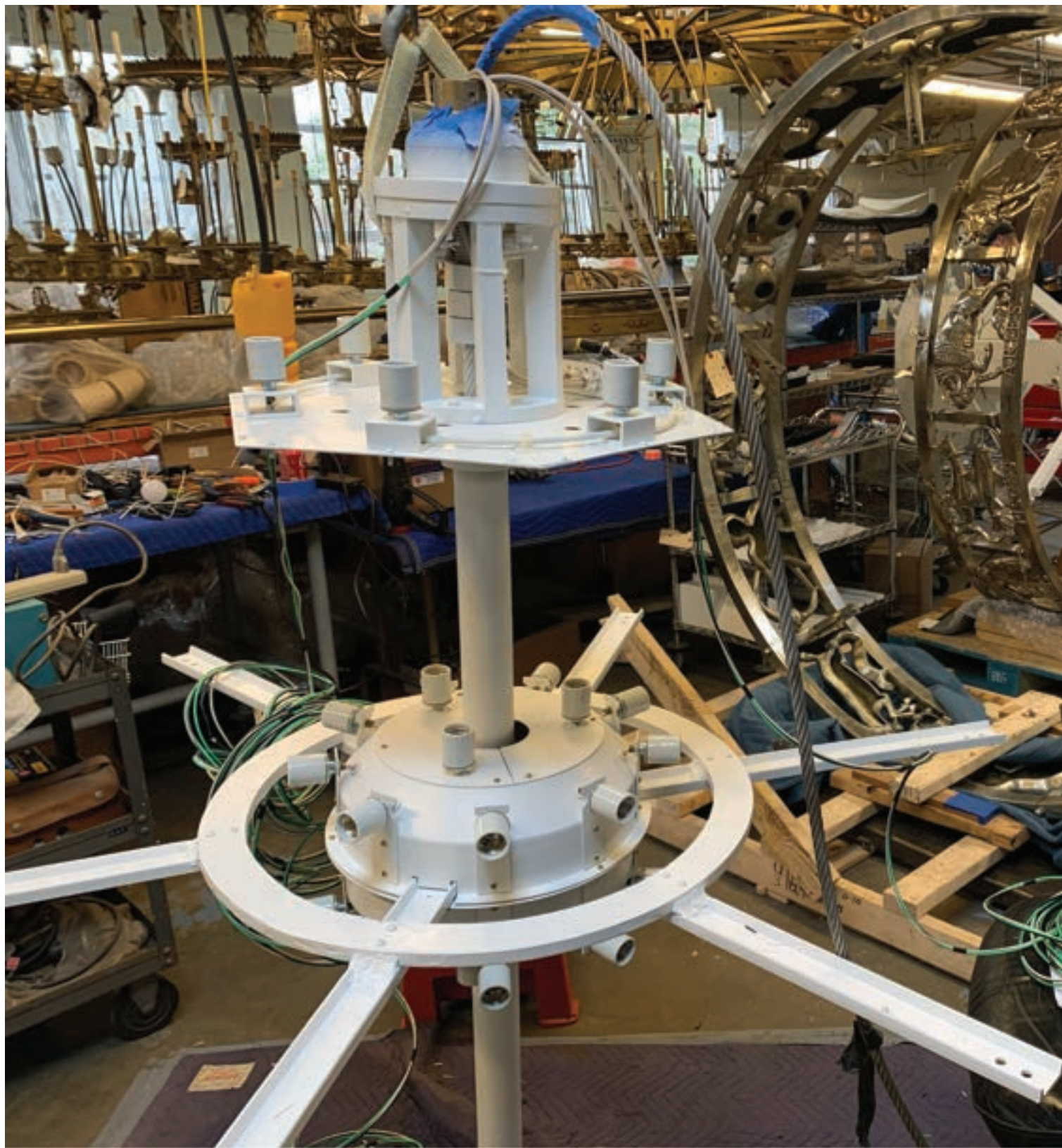
Interior Kits

- Multipurpose custom kits for extended linear distribution of light
- Highly adaptable to long or tall fixture designs
- Uplight & Downlight Compatible

Theatrical Kits

- Highly theatrical modifiable color with temperatures ranging from 1900K-10000K
- Wireless DMX decoding, allowing for convenient remote control
- Subtle, sleek, adaptive designs

Adapting The Past to The Future



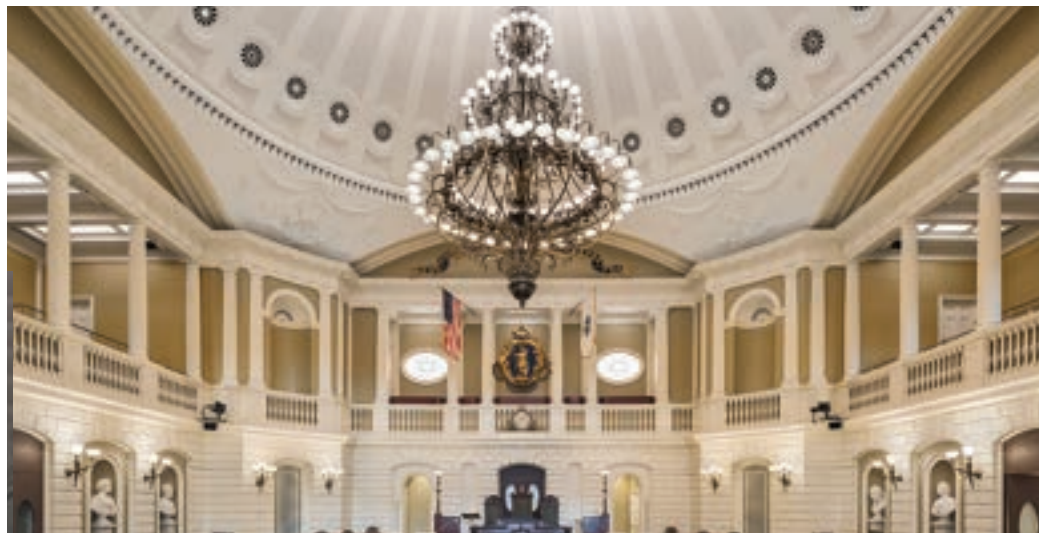
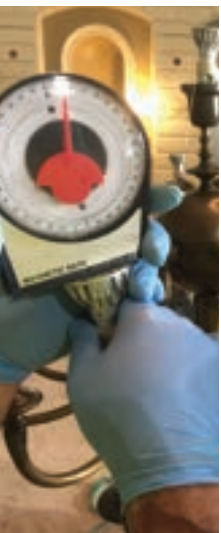
Custom LED Screw-In Retrofit Assembly

LED ADVANTAGE

Screw-In LED Retrofit Solutions

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The **LED ADVANTAGE**

Utilizing established tried-and-true sockets and making great technological strides in recent years, upgrading Incandescent to an LED System has never been easier.

Incandescent to LED Screw-In Retrofit Kits:

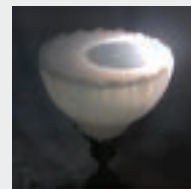
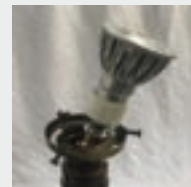
- Utilizes Classic Screw-In Sockets
- No modification to existing fixture housing
- Low maintenance
- Easy replacement
- Significantly reduced energy usage
- Significantly longer lifespan
- Reduced costs over time
- Variety of Adjustable Color Temperatures before final installation (2200k-5000k)
- Improved Safety
- UL 1598C Listed

System Spotlight: Breathing New “Light” Into Beacon Hill

The renowned Massachusetts State House Senate Chamber renovation project required the development of adjustable screw-in LED uplights that highlighted the dome of the Senate Chamber. A custom shade was designed and replicated from the historic original, while incorporating an acrylic lens to reflect light downward without interfering with the precise optics of the GU10 lamp. The retrofit solution resulted in the Senate Chamber dome being properly illuminated in addition to the remainder of the room.

LED ADVANTAGE: “Photon” Kit

- (80) GU10 Uplights
- 2700K Color Temperature
- 7.5W (390 lm)
- 25,000 Hour Lifespan
- Adjustable Beam Angle
- Precision Ambient Illumination
- Dimmable



50W
~ 16 lm/W
v
7.5W
52 lm/W



Integrated Screw-In Assembly

- 2200K - 5000K Color Temperature
- Up to 120W, 14,400lm
- Directional Lighting Options
- 0 - 10V Dimming



LED Screw-In Lamps

- 2200K - 5000K Color Temperature
- Safe for Enclosed Fixtures & Damp Environments
- Dimmable



Directional GU10 Lamp

- 2700K - 4000K Color Temperature
- Dimmable
- 7.5W - 9W, 390lm - 490lm
- Beam angles: 10°, 25°, 36°, 60°

Adapting The Past to The Future



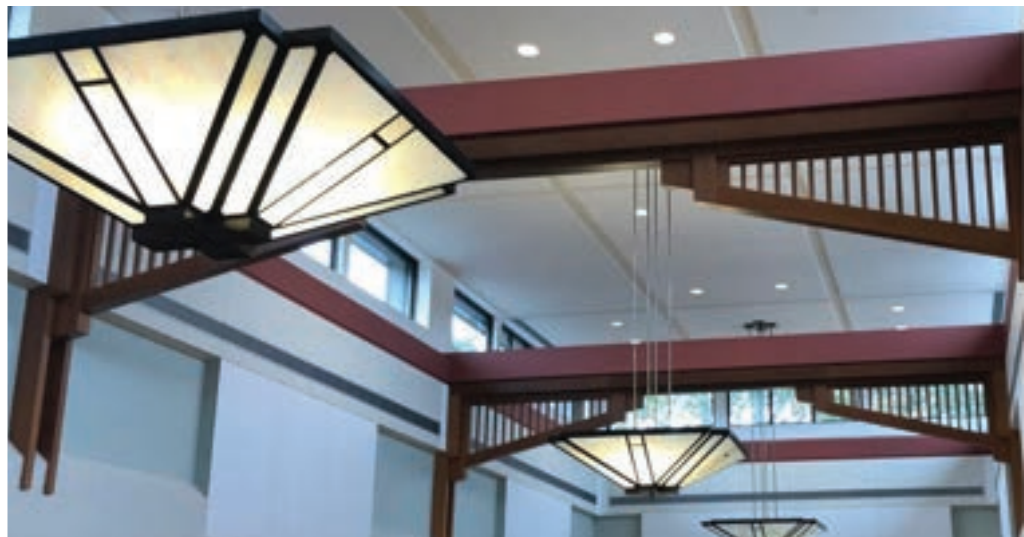
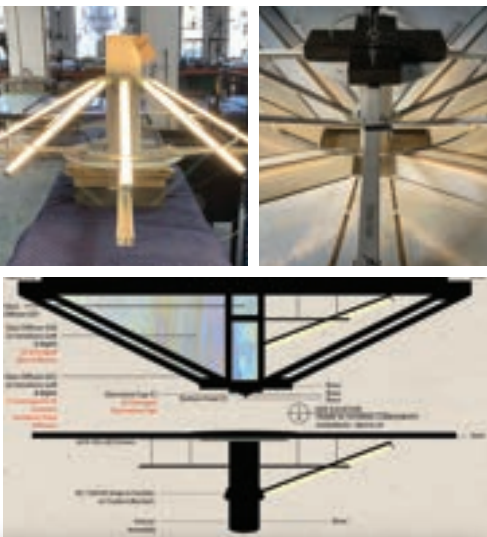
Custom Pin-Base LED Retrofit Module Wiring

LED ADVANTAGE

CFL To LED Retrofit Solutions

GRAND LIGHT

Lighting & Design Since 1929



The **LED ADVANTAGE**

Designed specifically to replace outdated CFL technology for pin lamps, Grand Light's exclusive LED conversions can offer significant reduction in energy consumption and costs by more than half per lamp.

Pin Based Retrofit Kits include:

- Increased Energy Efficiency & Safety
- Longer Lighting Lifespan
- Reduced costs over time
- Compact Design
- Variety of Color Temperatures, Dimmable
- Instant brightness with no warmup time
- 50,000-100,000 Hour Lifespan, No Maintenance Required
- Easy Installation and Replacement
- UL 1598C Listed

System Spotlight: Fairfield University's DiMenna-Nyselius Library

Grand Light retrofitted numerous, large pendant lights for this renowned University for an energy efficient lighting project. Grand Light's LED retrofit solution utilized (8) PLL 2G11 Base, 3000k LED Kits reducing the total energy consumption of the entire configuration to 50W per lamp, while increasing the maximum output to 5,000lm and a 50,000 hours lifespan. The custom retrofit systems were seamlessly integrated without additional modification to the fixtures, preserving their historical value.

LED ADVANTAGE: "Saber" Kit

- (8) PLL 2G11 Base Lamps
- 3000K Color Temperature
- 50W (5,000 lm)
- 50,000 Hour Lifespan
- (4) 32W LED Drivers
- Lutron Controller
- 0 - 10V Dimming



32W LED Driver



PLL 2G11 Base, 3000K LED Lamp



55w Fluorescent
4,128 Lumens

> 50w LED
5,000 Lumens



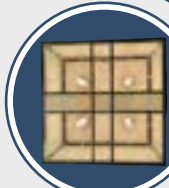
T5 & T8 Retrofits

- 3000K - 5000K Color Temperature
- Dimmable Controller Compatibility
- Simplified Installation & Maintenance
- Up To 50 - 70% Energy Savings
- 50,000 - 100,000 Hour Lifespan



2 & 4 Pin Retrofits

- 2700K - 5000K Color Temperature
- Dimmable Controller Compatibility
- Adjustable CCT & Lighting Direction
- Compact Design
- 25,000 - 50,000 Hour Lifespan



PLL Retrofits

- 3000K - 6500K Color Temperature
- Dimmable Controller Compatibility
- Ballast Bypass Options
- Adjustable CCT
- Up To 50,000 Hour Lifespan

Adapting The Past to The Future



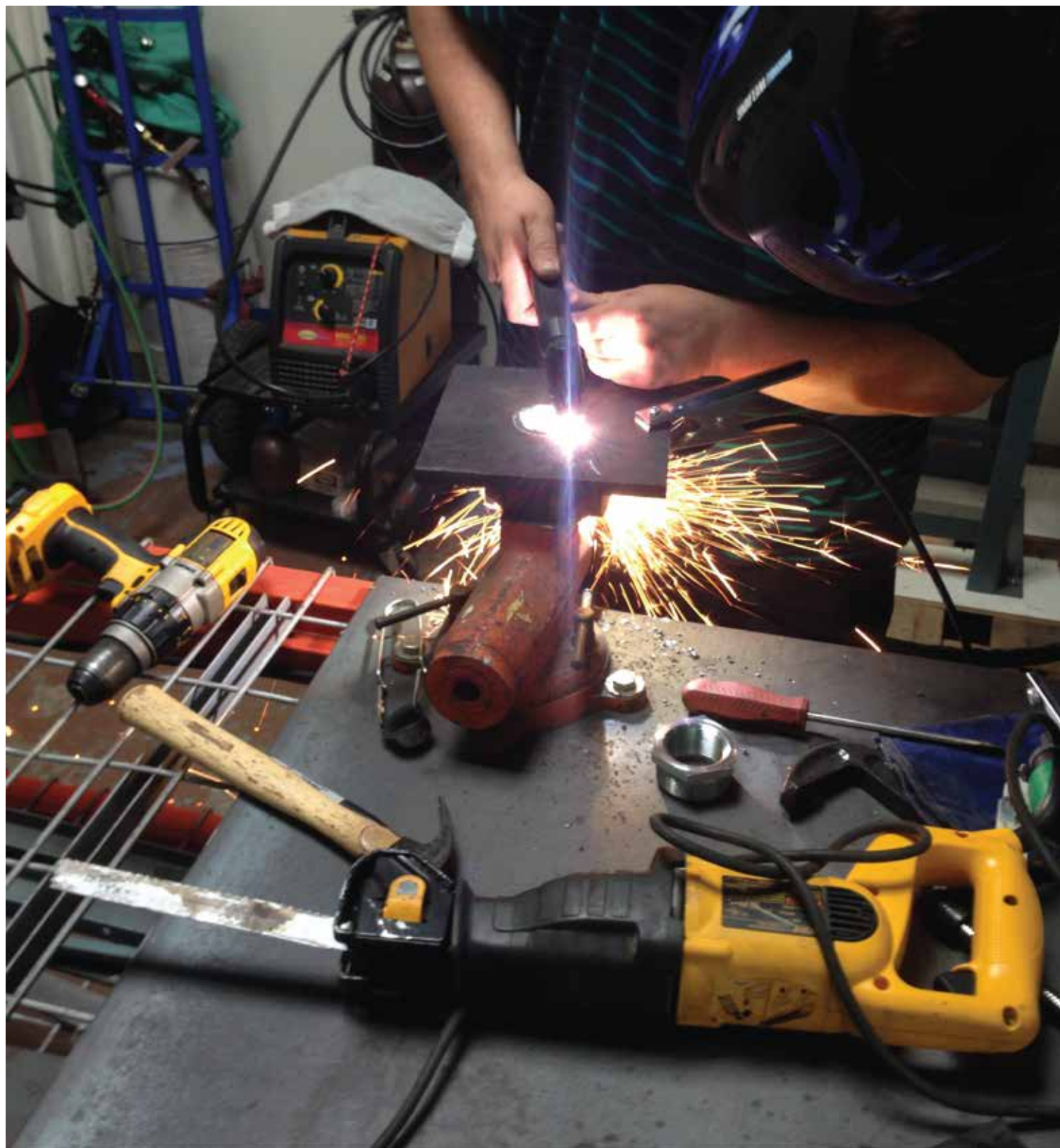
Section 6: In-Factory Capabilities

Section 6.1 Mechanical Capabilities

Section 6.2 Finishing Processes

Section 6.3 Electrical Capabilities

Section 6.4 Crystal, Glass, & Acrylic



Welding Repair of Historic Light Fixture Base

Mechanical Capabilities

GRAND LIGHT

Lighting & Design Since 1929



Inspection & Documentation



Repair



Modification



Fabrication

Grand Light's mechanical capabilities are an essential part of the restoration and custom lighting process. Utilizing only the best material, Grand Light strives to ensure only the highest quality of standards go into crafting each lighting fixture; from minor components to the complete fabrication of full sized luminaires.

Using the explicit instructions provided by custom drawings, our factory staff then transforms concepts into finished products incorporating the highest regard for accuracy.

Grand Light's technicians inspect and document any mechanical flaws or damage on every lighting fixture prior to any mechanical repair, replacement, or modification.

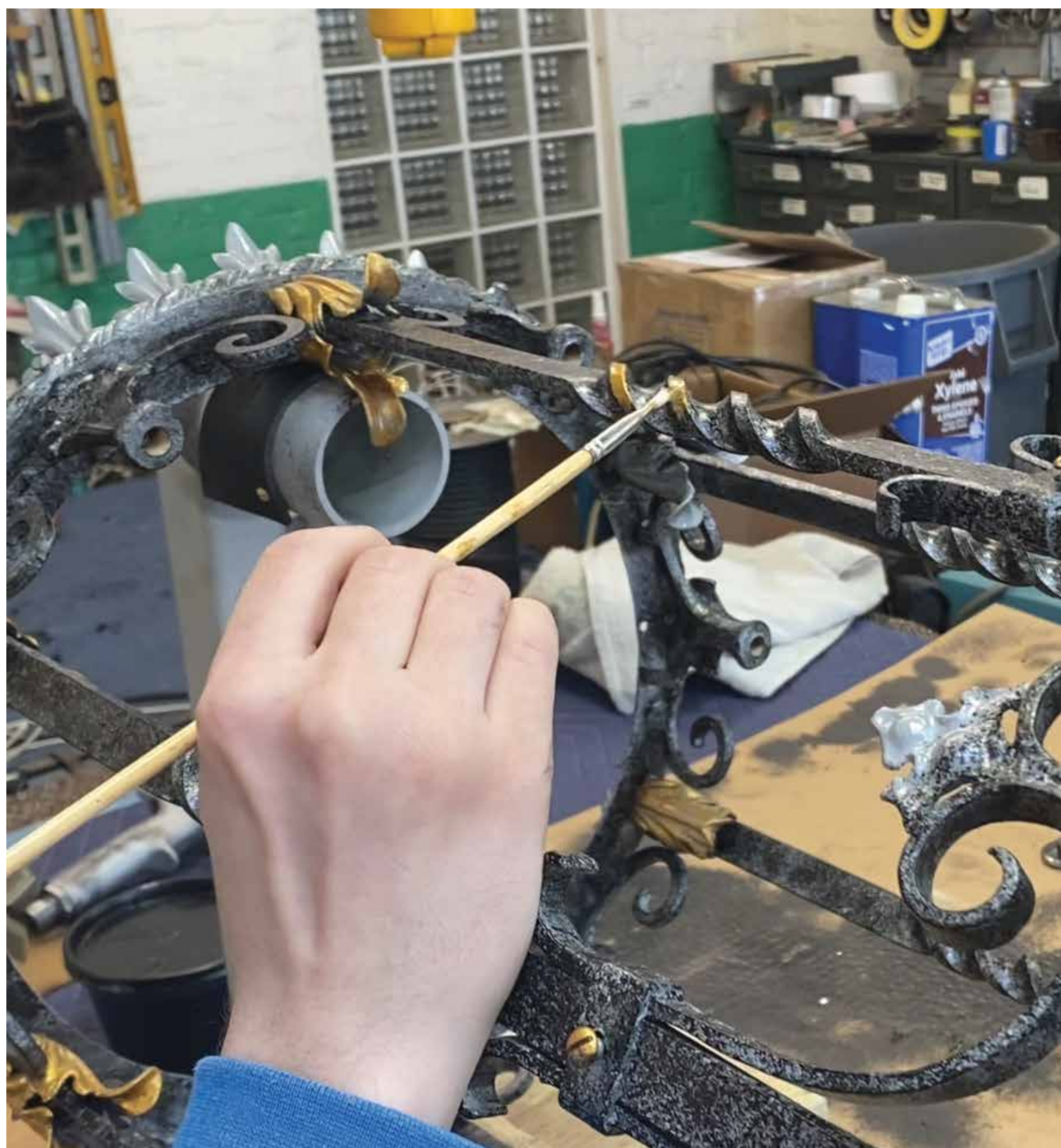
Project documentation, submittals, and reports are made available to clients for approval including work scope, schedule, record of materials, special provisions, and evaluation recommendations based on a lighting fixture's mechanical integrity.

Our Mechanical capabilities include:

- **Inspection & Documentation**
- **Metal Fabrication**
- **Glass & Acrylic Fabrication**
- **Welding**
- **Lost-Wax Casting**
- **Sodium Silicate & Resin Sand Casting**
- **Custom Tooling & Components**
- **Spinning, Stamping, & Hydroforming**
- **Metal Forming & Forging**



American Artisans At Work Preserving History



Hand Painting Intricate Finish Detail

Finishing Processes

GRAND LIGHT
Lighting & Design Since 1929



Cleaning



Surface Preparation



Painting



Polishing/Buffing



Patina Application



Protective Coatings

As a part of the restoration process, our artisans explore the intricate details of preserving the historic integrity of lighting fixtures including color matching and sheen of the original finish.

Custom lighting finishes are available in custom painted colors, sheen, and textures, as well as custom patina colors on bronze, copper, and brass components.

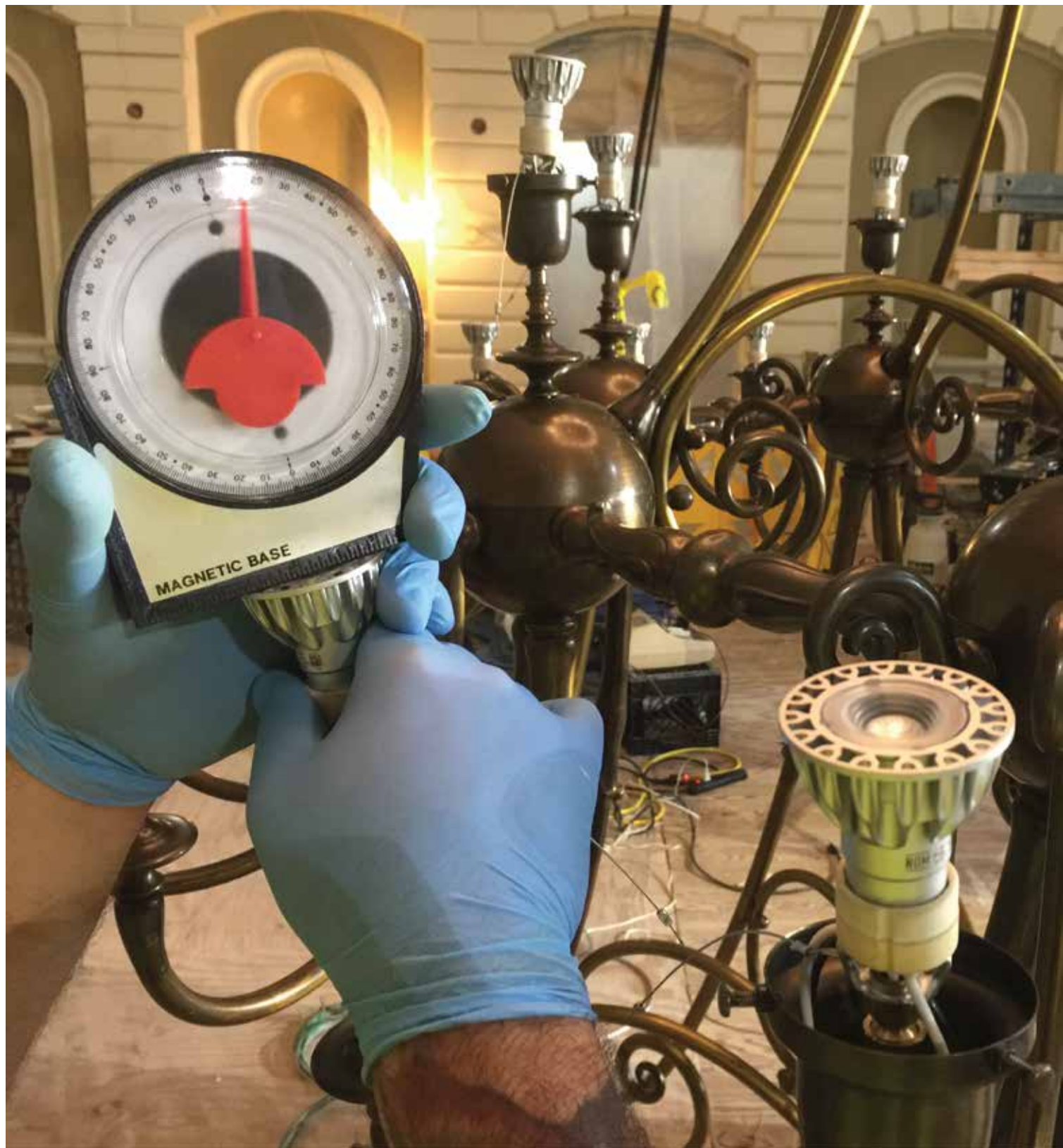
Each surface is cleaned and inspected to determine the optimal surface profile to achieve the desired finish. To alter the surface of an existing luminaire, our processes involve a wide range of capabilities including metal polishing as well as media blasting to remove old finishes and foreign material in preparation for a refinish.

Our artisans can match any color or finish utilizing a variety of processes involving powder coat, spray, hot or cold patina custom recipes and color blending an existing finish.

Grand Light exercises meticulous techniques that are unparalleled in the application of protective coatings including UV resistant lacquer with various customized sheens and tints. Finishes requiring a protective wax are hand buffed with multiple coats of our museum grade clear and tinted waxes.



American Artisans At Work Preserving History



On-Site Positioning of Adjustable Screw-In LED Uplights

Electrical Capabilities

GRAND LIGHT

Lighting & Design Since 1929



Inspection & Documentation



Retrofitting



Wiring



UL Testing

Grand Light's electrical capabilities are often an essential part of the restoration and custom lighting process. Utilizing only UL listed products, Grand Light strives to meet the highest quality of standards in finalizing each lighting fixture; from rewiring, to LED retrofitting, and the conversion of gas powered fixtures to electric.

Using the explicit instructions provided by custom specifications, our technicians transform concepts into finished products incorporating the highest regard for accuracy. Grand Light technicians inspect and document any electrical deficiencies on every lighting fixture prior to the replacement and rewiring of electrical components.



Our Electrical capabilities include:

- **Inspection & Documentation**
- **Wiring Methods**
- **UL Testing**
- **LED Retrofits**
 - **Integrated/Dedicated LED**
 - **Screw-In LED**
 - **CFL to LED**
 - **DMX Controlled RGBW LED**

LED *ADVANTAGE*

Energy efficient retrofitting increases the lighting quality of an area while minimizing total energy consumption. Retrofitting consists of updating the lighting element, wiring, and components, with the intent of improving energy consumption and reducing maintenance costs. When incandescent lamps are upgraded with an LED retrofit, the result is a room that is up to (3) times brighter, savings up to 80% in recurring energy costs, and extended operational lifespan.

Savings can also be achieved through the implementation of energy efficient lamps, photocells, motion detectors, and light lifts. All of these, often in combination, can significantly reduce operating costs and provide long term return on investment.



American Artisans At Work Preserving History



Fabrication of Custom Prismatic Soda Lime Glass Diffuser for Exterior Mounted Lantern

Crystal, Glass, & Acrylic

GRAND LIGHT

Lighting & Design Since 1929



Cleaning



Fabrication



Modification



Surface Treatment



Reproduction



Pinning & Dressing

Grand Light specializes in the cleaning, repair, fitting, custom fabrication, replacement and replication of crystal, glass, and acrylic components of varying types, sizes, and color.

Grand Light offers a wide variety of custom, high quality architectural light diffusers, available in an array of styles, types, and sizes. Our glass and acrylic capabilities offer you the flexibility to customize your own design or replicate existing designs.

These quality diffusers are available by custom order, and exclusively made to your unique specifications.

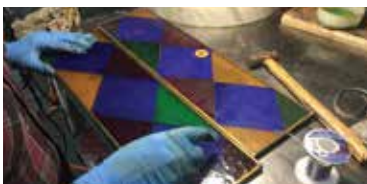
Our artisans also have countless years of experience pinning, stringing, and dressing crystal components of historic luminaires.



Our Crystal, Glass, & Acrylic restoration services include:

- **Ultrasonic & Acid Treatment Cleaning**
- **Casting, Blowing, & Cutting**
- **Etching, Frosting, & Pattern**
- **Staining, Tint, & Color**
- **Slumping**
- **Repair**
- **Pinning & Dressing**
- **Modification**
- **Replacement & Replication**

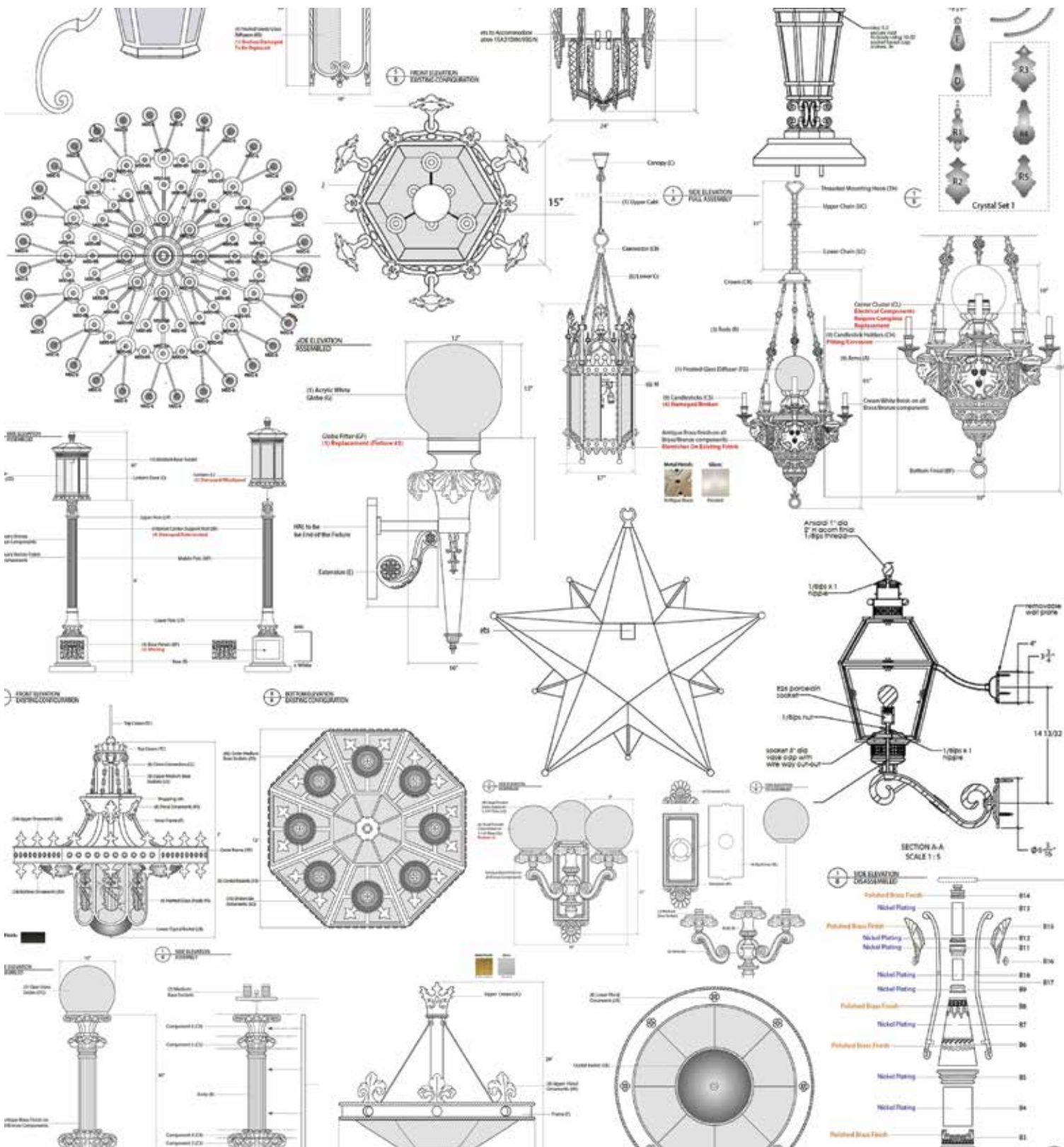
Grand Light artisans specialize in the cleaning of crystal, glass, and acrylic components. Using our advanced ultrasonic cleaning technology combined with our proprietary HSMI Cleaner, we provide a deeper, more efficient clean that enhances each piece.



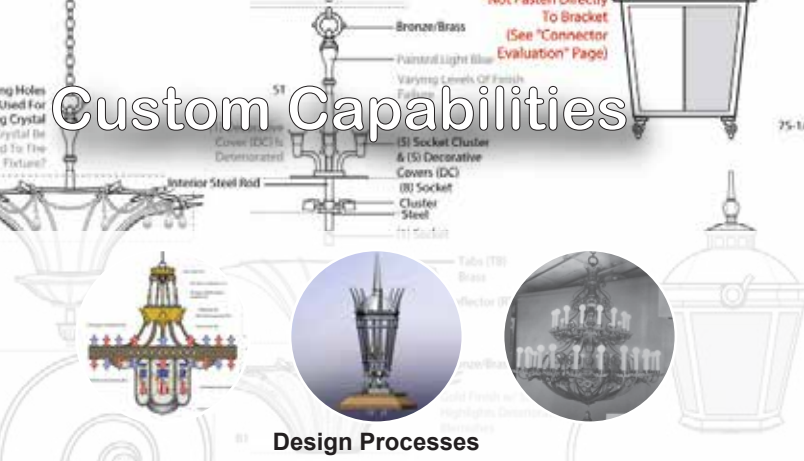
American Artisans At Work Preserving History



Section 7: Custom Capabilities



2D Light Fixture Line Drawings Used in Submittal Reports



Custom Capabilities

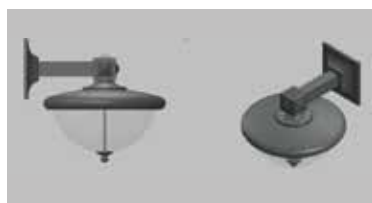
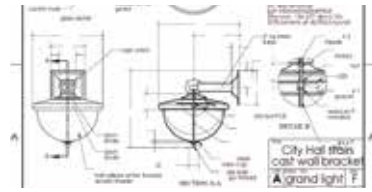
Design Processes



Manufacturing and Fabrication

With decades of restoration experience, Grand Light has developed an extensive collection of historic light fixture designs. Our design database includes 2D drawings, 3D models, photographs, and historic archival materials from past restoration projects.

Referencing existing fixtures, historical photographs, and archival documentation, Grand Light provides made-to-order fabrications of individual components or complete light fixtures.



Grand Light provides a diverse set of custom manufacturing capabilities, enabling us to reproduce just about any type of light fixture design.

Our engineers create precise 2D drawings and 3D models that inform each stage of fabrication. These designs are brought to life in our manufacturing process, resulting in seamless reproductions that capture the historic aesthetic and character of the original piece.

- Our Manufacturing Capabilities Include:**
- Metal Fabrication
 - Glass & Acrylic Fabrication
 - Welding
 - Lost-Wax, Sodium Silicate, & Resin Sand Casting
 - Custom Tooling & Components
 - Metal Spinning, Stamping, & Hydroforming
 - Metal Forming & Forging





Section 8: Project Portfolio

Wadsworth Atheneum Museum of Art

Property History

Founded in 1842 by Daniel Wadsworth, the Wadsworth Atheneum Museum of Art is one of the oldest public art museums in the United States. Construction began in 1842 on the site of the family home of Daniel Wadsworth in downtown Hartford, Connecticut. The museum houses nearly 50,000 works of art from the spanning from around the world from the last 5,000 years.

Project Description

Grand Light restored eight original luminaires from the Wadsworth Atheneum. The restoration of these historic fixtures included cleaning all dust and surface corrosion, lightly burnishing the existing finish and blend to existing patina, and the application of museum grade wax. There was a crystal chandelier that required the fabrication of a custom replica arm to replace one with several fractures, as well as the fabrication of custom shades to match an original photograph.

Additionally, there are (2) E.F. Caldwell custom bronze torchieres originally commissioned for the J.P. Morgan Library, New York, NY (1905) and gifted to the Wadsworth Atheneum Museum in 1910. The existing finish of each torchiere was cleaned, touched up, and blended with gilded gold bronze finish by Grand Light artisans to guarantee a uniformed look and finish. An application of a protective top coat was applied to the surfaces of both fixtures.

All fixtures were rewired with UL listed components and HIPOT tested in accordance with UL standard 1598.

Grand Light also fabricated replications of a historic wall sconce based on a 1910 photograph. The replication process included the fabrication of custom molds for each component and an application of patina to closely match original luminaire finish.

Client

Wadsworth Atheneum Museum of Art

Client Project Managers

Cecil Adams, Director of Museum Services, Wadsworth Atheneum
George Sexton III, I.E.S., I.A.L.D., George Sexton Associates

Date Awarded

2014

Completion Date

2015

Project Webpage

<https://grandlight.com/portfolio/wadsworth-atheneum-restoration/>

Awards

Connecticut Preservation Merit Award 2016

Hartford Preservation Alliance Preservation Award 2016



Property History

Founded in 1842 by Daniel Wadsworth, the Wadsworth Atheneum Museum of Art is one of the oldest public art museums in the United States. Construction began in 1842 on the site of the family home of Daniel Wadsworth in downtown Hartford, Connecticut. The museum houses nearly 50,000 works of art from the spanning from around the world from the last 5,000 years.

Project Description

The project scope required Grand Light use the lost wax casting method to fabricate six bronze replications of a historic E.F Caldwell bronze wall sconce based on a 1910 photograph.

A spiral arm pattern was sculpted in clay while the bobesche and back-plate patterns were carved out of wood. Each pattern then lays in a rigid outer mold while being soaked in a softer inner mold that forms around the pattern. These molds are then encompassed in a layer of wax to create a ceramic shell around the mold.

Once the ceramic shell has been allowed enough time to harden, each shell is heated until the wax mold inside melts and seeps out leaving the ceramic shell hollow. Melted bronze is then poured into each shell to create a casting for each replicated component. The shells are then cooled as the metal phases from liquid to solid before removal. All excess metal parts are removed and any pits or stubs in the metal are meticulously filed down and polished leaving a smooth, consistent surface.

A statuary bronze hot patina finish was applied to all components using a custom recipe developed by Grand Light artisans. Each component was heated while a brush is used to first apply a weaker base coat followed by an application of a stronger base patina. Each component received multiple layers of a museum grade bronze metal wax.

All fixtures were wired with UL listed components and HIPOT tested in accordance with UL standard 1598.

Client

Wadsworth Antheneum Museum of Art

Client Project Managers

Cecil Adams, Director of Museum Services, Wadsworth Antheneum
George Sexton III, I.E.S., I.A.L.D., George Sexton Associates

Date Awarded

2014

Completion Date

2015

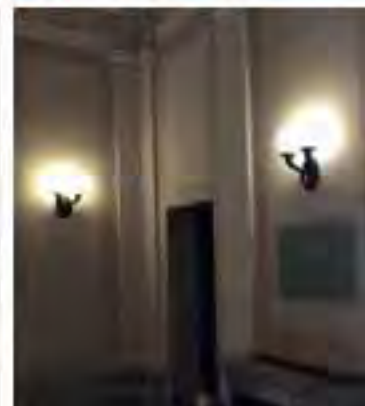
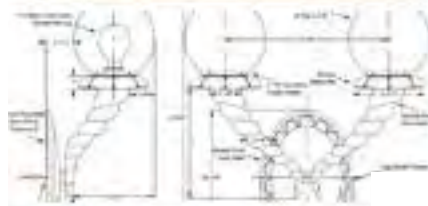
Project Webpage

<https://grandlight.com/portfolio/wadsworth-atheneum/>

Awards

Connecticut Preservation Merit Award 2016

Hartford Preservation Alliance Preservation Award 2016



Mary Baker Eddy Historic House

Property History

The landmark Mary Baker Eddy Historic House was built circa 1880 at 400 Beacon Street in Chestnut Hill, Massachusetts. The prestigious Boston firm Peabody and Stearns designed the building. In 1907, Mary Baker Eddy, founder of Christian Science, purchased the property and oversaw extensive remodeling under the supervision of Chicago architect Solon S. Beman. On September 4, 1986, officials added the property to the National Register of Historic Places.

Project Description

As part of an extensive restoration of the property, the owners commissioned Grand Light to restore nearly 200 vintage wall sconces, chandeliers, pendants, and other fixtures. Additionally, Grand Light manufactured historically accurate replicas based on archived photos to replace missing fixtures.

Many of the historic fixtures in the Mary Baker Eddy Home originally operated on gas before being decommissioned, necessitating the conversion to electric power. Grand Light electrified each gas fixture without compromising the original design or mechanics of the luminaires. Grand Light also fully rewired the existing electric fixtures using new UL-listed components.

The renovation team spent nearly a decade restoring 400 Beacon Street to its historically accurate condition, relying on hundreds of period photographs, blueprints, and other records. As the house reopens to the public, Grand Light proudly celebrates its work restoring the historic lighting fixtures and manufacturing new period-appropriate lighting and replicas.

Client

Longyear Museum

Client Project Managers

Milford & Ford Associates

Lam Partners

Consigli Construction

Date Awarded

2020

Completion Date

2021

Website

<https://grandlight.com/portfolio/mary-baker-eddy-historic-house/>



American Artisans At Work Preserving History

Property History

The Isham-Terry House, a Connecticut Landmark located in Hartford, was built in 1854. This Italianate Villa was bought by Dr. Oliver Isham in 1896 to be used as a physician's office and home where he lived with his two sisters, Julia and Charlotte. After Dr. Oliver Isham's passing, the home was inherited by both sisters whom made very few changes and modernizations to preserve its historic and family significance. In the interest of preserving the ornate and historic family home and objects within, the Isham-Terry house was donated to the Antiquarian and Landmarks Society in 1980.

Today the Isham-Terry fifteen-room mansion remains largely unchanged, providing a rare glimpse into a turn-of-the-century New England lifestyle. The house is home to a collection of antique gas fixtures, custom made Terry clocks, historic photos, automobile memorabilia, and even surgical instruments and medicines from Dr. Isham's office.

Project Description

Grand Light restored all of the historic lighting fixtures in the house ranging from wall sconces, chandeliers, and table lamps. The restoration of these historic fixtures included cleaning, repairing mechanical flaws, the addition of custom code compliant escutcheons to the wall sconces, and the light burnishing of existing patina to achieve desired finish.

Crystal components adorning the three large chandeliers totaled approximately 450 pieces, which were individually hand cleaned and polished by Grand Light artisans before being re-pinned on-site during installation.

In addition to restoration, Grand Light technicians modified the original gas piping to accommodate electrical wiring to run through the entirety of each fixture to allow for modern electric lamp technology.

Client

Connecticut Landmarks

Client Project Managers

Sheryl Hack, Executive Director, Connecticut Landmarks

Date Awarded

2015

Completion Date

2015

Project Webpage

<https://grandlight.com/portfolio/isham-terry-house/>



Sturbridge Town Common

Property History

Located in Sturbridge, Massachusetts, the Sturbridge Town Common is a community gathering place in the heart of the town. Visitors can go to the charming park to enjoy the town's historical atmosphere and public events such as live music, festivals, and farmers markets.

Project Description

Grand Light was brought in to restore 9 historic outdoor lanterns and to fabricate one additional replica. This included the fabrication of ten new 9' wooden poles for the lanterns to be mounted upon. First, each lantern was disassembled and cleaned/walnut blasted to preserve the verde green and satin black finishes. Next, the outer frames were completely refinished with the addition of a UV resistant protective museum grade top coating to preserve the quality of the finish long term. Additionally, two of the lanterns had warped and damaged mechanical components that required repair or replication. The existing clear glass diffusers were ultrasonically and hand cleaned, and each had a custom new internal decorative glass chimney added. Reflectors were added to the top of the lanterns to project light downward, and the internal neck was modified to accommodate the new glass chimneys. Finally, each fixture had all of their electrical components replaced and rewired with UL listed products.

The 9 foot wooden poles were replicated, meticulously wired, drilling precise holes for each conduit, electrical box, and internal circuit. Once the lanterns were complete, they were connected and wired to the wooden poles, and with new mounting anchors added, they were ready to return to the Sturbridge Town Common for years to come.

Client

Universal Electric Co., Inc.

Client Project Manager

Cormac Kennedy

Date Awarded

2024

Completion Date

2024

Project Webpage

<https://grandlight.com/portfolio/sturbridge-town-common/>



Property History

Sagamore Hill was the home of Theodore Roosevelt, 26th President of the United States, from 1885 until his death in 1919. During Roosevelt's time in office, his "Summer White House" was the focus of international attention. The most significant events took place at Sagamore Hill during the seven summers it served as Theodore Roosevelt's Summer White House, from 1902 until 1908. During that time, Roosevelt used his home to host luminaries from around the country and around the world.

Project Description

There are several different types of fixtures including pendants, wall sconces, ceiling mounted fixtures and chandeliers. There is a total of fifty-six original fixtures that were restored by the Grand Light artisans.

Mechanical restoration consisted of the repair or replacement of any parts that were missing, broken, or damaged. Replacement matched the original parts in strength and appearance, including degree of detail. Additionally, numerous fixtures received a custom code compliant wall escutcheon that was made using the historical escutcheon and a custom made escutcheon.

All components were cleaned to remove any excess corrosion to prepare the surface for custom finish applications required to blend to the existing finish. Glass shades were also cleaned to remove any foreign surface residue and all damaged or missing shades were carefully repaired or replaced by Grand Light artisans.

All fixtures were rewired with UL listed components and HIPOT tested in accordance with UL standard 1598.

Client

U.S. National Park Service

Client Project Managers

Susan Sarna, Museum Curator, Sagamore Hill National Historic Site

Date Awarded

2013

Completion Date

2014

Webpage

<https://grandlight.com/portfolio/sagamore-hill-national-historic-site/>



National Geographic Society Base Camp

Property History

Since 1888, the National Geographic Society headquarters in Washington, DC have been the home of explorers and center of operations. In the most significant expansion in the organizations history, the headquarters is transforming into a hub that connects the Society headquarters, an expanded museum, and new public spaces. The reimagined Base Camp will be an experience that attracts and engages visitors of all backgrounds and unleashes the explorer in everyone.

Project Description

Grand Light was commissioned for the restoration of two historic exterior lighting fixtures at the National Geographic Society Base Camp. After years of being exposed to the elements, the two bronze lanterns needed restorative treatment done on the corroded finish and dirtied glass. The aged electrical components were also due to be replaced and modernized.

Once in the factory, initial documentation was finalized, including the pre-project submittal and adjustable 3D models made in house to properly label and identify issues on each luminaire. To begin the restoration, the fixtures were disassembled and cleaned to restore the original finish, and treated with UV resistant top coating to preserve it into the future. A missing lower finial was replaced with a similar in kind component. Frosted glass diffusers were ultrasonically and hand cleaned, and one that was damaged was replaced with a new panel. The electrical components were fully removed and retrofitted with UL products to meet modern safety standards.

Client

Wiedenbach Brown

Client Project Manager

Howard Weitz

Date Awarded

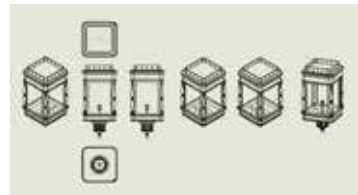
2024

Completion Date

2025

Project Webpage

<https://grandlight.com/portfolio/national-geographic-society-base-camp>



American Artisans At Work Preserving History

Property History

Established in 1862 as the New Haven Colony Historical Society, the New Haven Museum is the second oldest historical organization in Connecticut. The founders were important civic figures in New Haven, including Roger Sherman Baldwin, John Warner Barber, Charles English, Thomas Trowbridge, Charles Ingersoll, and Henry Pardee. In 1929, the Historical Society hired the noted architect and architectural historian, Frederick Kelly, to create its current building, a masterpiece of the Colonial Revival Style that remains largely in its original condition.

Project Description

Grand Light restored two large Bohemian crystal chandeliers from the New Haven Museum and Historical Society. The two 16-light custom chandeliers were manufactured in the country formerly known as Czechoslovakia and were installed when the building was built. The chandeliers' frames were silver plated, and in need of hand polishing. The crystal arms had experienced significant deterioration of the compound in the ferrules supporting the arms to the frame.

All metal surfaces of the chandeliers were polished and a UV resistant protective top coat was applied. All mechanical components were inspected and repaired as required, and all existing electrical components were replaced with UL listed products, rewired, and hi-pot tested. Crystals were replaced as appropriate. Missing components were fabricated to closely match the originals, while arms and ferrules were repotted as required.

A temporary chandelier was supplied by Grand Light so that the museum's events would not be interrupted during the course of restoration.

Client

New Haven Museum

Client Project Managers

Christine Schloss, Ph.D., New Haven Museum

Date Awarded

2009

Completion Date

2009

Project Webpage

<https://grandlight.com/portfolio/new-haven-museum/>



Property History

Presented to the university by Paul Mellon (Yale College Class of 1929), the Yale Center for British Art houses the largest and most comprehensive collection of British art outside the United Kingdom. The collections re-flect the development of British art, life, and thought from the Elizabethan period onward. The Center offers a year-round schedule of exhibitions and educational programs, as well as numerous academic resources. The Yale Center for British Art is designed by the internationally acclaimed American architect Louis I. Kahn. Located across the street from his first major commission, the Yale University Art Gallery (1953), the Center was Kahn's final work and was completed in 1977, three years after his death. In 2005 the Center received the prestigious Twenty-five Year Award of the American Institute of Architects which each year honors a single architectural landmark, completed twenty-five to thirty-five years prior, which has withstood the test of time.

Project Description

Grand Light replicated one of the existing historic pendant light fixtures original to the architecture of the building. The pendant is a spun, tapered aluminum, shade which was anodized further enhancing the characteristics to the hand spun part. Each component for the fixture was custom made to assure complete historical accuracy to the ones that had been originally made.

In addition to historic pendant replications, Grand Light designed and fabricated custom aluminum LED exit sign replications of existing historic exit signs while also retrofitting those exit signs original to the architecture of the building. Each exit sign has LED circuit boards installed inside the frame along the sides and top and a separate LED downlight board, creating a consistent illuminated face plate and a uniform downlight. Custom glass face-plates, using a specific frame size, stencils, and chevrons, were fabricated to meet UL 925 Standards.

By installing these custom exit signs, the Center maintains its historical architectural accuracy while still upgrading to modern LED lighting technology with improved light levels and efficient energy savings that both employees and visitors can appreciate.

Client

Yale University

Client Project Managers

Daphne Kalomiris, Knight Architecture LLC

Date Awarded

2013

Completion Date

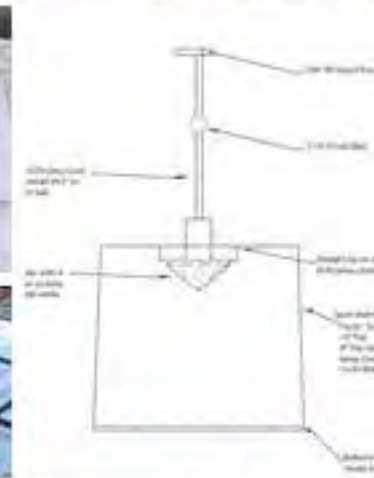
2015

Project Webpage

<https://grandlight.com/portfolio/yale-center-for-british-art/>

Awards

CT Trust For Historic Preservation Merit Award 2017



Property History

Located in Roanoke, Virginia, the Center of the Square building is the result of a 1976 revitalization project called Design '79. Over \$4 million in pledges were obtained from the private sector to purchase and remodel an old five-story warehouse. Center in the Square opened its doors on December 9, 1983, welcoming 40,000 visitors the first weekend, fulfilling a community dream to revitalize a decaying downtown and bolstering the arts through a downtown cultural center.

Today, Center in the Square is the unique home for regional arts & cultural organizations, creating and driving opportunities that enhance education, economic development and quality of life. Housed within this signature building are six cultural arts and science non-profit organizations including the Harrison Museum of African American Culture, History Museum of Western Virginia, Mill Mountain Theatre, Roanoke Pinball Museum, Science Museum of Western Virginia, and Kids Square.

Project Description

Grand Light was contracted to create custom made acrylic chandeliers as well as Moravian star Tiffany-style pendant fixtures. The five acrylic chandeliers and six Tiffany-style Moravian Star Pendants were fabricated to hang in sync with each other in the main lobby.

Client

Western Virginia Foundation for the Arts and Sciences

Client Project Managers

Julian Ferguson & Associates

Date Awarded

2011

Completion Date

2012

Project Webpage

<https://grandlight.com/portfolio/center-in-the-square/>





Section 9: Historic Restoration Guidelines

Historic Lighting Restoration Guidelines

PART 1 – GENERAL

The purpose of this document is to specify the scope of work required for the restoration of existing historic lighting fixtures and the replication of others.

1.1 RELATED DOCUMENTS

A. The provisions of the Contract Documents, Drawings & Instructions to Bidders, General Conditions, Supplementary Conditions, Alternates and Addendas apply to this Specification.

1.2 DESCRIPTION OF WORK

A. Provide lighting fixtures as shown on the Drawings and identified as “historic lighting” and herein specified or scheduled.

B. The work to be performed on this project shall include the restoration of existing historic fixtures and the replication of luminaires from both existing fixtures and from photographs, drawings, and historic information available, where actual luminaires do not exist.

C. For new replications of existing and non-existing lighting, work shall include complete studies of photographs, drawings, and available historic information allowing concise preparation and design of engineering drawings with complete bills of materials for the fabrication of each fixture. All ornamental design, structural elements and component parts shall be fully detailed in addition to all anchoring support, wireway, and joinery conditions.

D. Completed fixtures shall meet all applicable codes regarding materials and methods. All NEC guidelines and UL procedures shall be followed.

E. Electrical contractor shall be responsible for verifying existing conditions and coordinate the mounting hardware with Grand Light. It is the responsibility of the fixture manufacturer to ensure that all structural, mechanical, electrical, design, construction and fabrication of fixtures meet all applicable codes as related to public safety concerns. It is the responsibility of the electrical contractor to ensure that fixtures are safely installed with careful attention to fixture weight and mounting, lift and lowering devices and safety/seismic cables, where applicable.

1.3 QUALITY ASSURANCE

A. New and restored historic light fixtures and assembled components shall be wired and tested in accordance with UL standards.

B. Work on historic lighting shall be performed by a qualified Restoration and Replication Manufacturer (Grand Light) with no less than ten years successful experience in comparable restoration and replication projects and employing personnel skilled in the restoration and replication processes and operations indicated. Upon Request, Grand Light shall provide proof of qualification.

C. Qualification Data:

Grand Light shall submit qualification data as listed below, in their response to the request for bids, along with their price quotation. Data shall demonstrate Grand Light's capabilities, experience and financial stability. It shall include a history of the firm, number of years the firm has restored and replicated historic lighting. Qualification data should include five projects within the last five years of similar scope and magnitude, photo documentation of completed work and project references.

1.4 SUBMITTALS

A. Grand Light shall refer to contract bid documents regarding shop drawings, product data, and samples, submission procedures.

B. For custom replicated luminaires, submit shop drawings indicating all details of mechanical and electrical construction (including circuitry, lamping, ballasts, transformers, wireways, lampholders, etc.), diffuser assembly, mounting accessories and hardware, finishes and list of materials.

C. For existing luminaires; Provide shop drawings for structural modifications only indicating the project name, manufacturer, all materials, finishes, lamping, voltage, ballast information and mounting details.

D. Finish Samples: Samples of shades, glass diffuser material, metals and metal finish samples shall be submitted for approval prior to the notice to proceed with mock-ups.

1.5 MANUFACTURERS MOCK-UPS

A. Grand Light shall provide, access to the manufacturing plant for the project architect/engineer and owner project manager to review work in progress. The project architect/engineer and owner will coordinate these trips for timely review of work in progress.

1.6 PRODUCT HANDLING – REMOVAL THROUGH INSTALLATION

A. All costs for removing historic fixtures from existing locations, disassembly, packing, crating, insurance and freight for luminaires from the job site to Grand Light shall be the responsibility of the Electrical Contractor. The Electrical Contractor shall coordinate the removal and re-installation with other project contractors to insure convenience for all concerned. Packaging, crating, insurance and shipping of restored and replicated fixtures to the Electrical Contractor for re-installation shall be the responsibility of Grand Light. The Electrical contractor shall be responsible for receiving, assembly and installation of both restored and replicated fixtures.

Historic Lighting Restoration Guidelines

B. The Electrical contractor shall be responsible for final lamping adjustment, luminaire adjustment and cleaning. Grand Light shall be on-site during fixture removal to assist with the photo-documentation of the existing condition, location, tagging and supervising the proper handling, disassembly, packing and crating of the historic lighting fixtures. When fixtures are re-installed, Grand Light shall again be on-site to supervise the proper handling, uncrating and assembly of the fixtures prior to their being installed by the Electrical Contractor.

1.7 GUARANTEE

A. Grand Light shall furnish to the owner a written guarantee for luminaries against all defects in materials and workmanship, including without limitation, against failure to function, for two (2) years from date of acceptance.

PRODUCTS Lamps, ballasts, transformers, lampholders, as specified.

1.8 MATERIALS

General:

Utilize materials to match the original or with matching equivalent physical characteristics of strength, finish, resistance to corrosion, etc. Utilize gauges and thickness required to provide the appropriate structural performance and durability.

The restoration of existing luminaires shall consist of, electrical rewiring, new glass globes, cleaning and refinishing. Physical restoration shall consist of the repair or replacement of any parts that are missing, broken, or damaged. Replacement shall match the original parts in strength and appearance, including degree of detail.

Electrical restoration shall consist of the replacement of all electrical components and wiring. Luminaires shall be wired with UL listed components and tested in accordance with UL standards.

1.9 STRUCTURAL MEMBERS

A. All visible structural members shall be fabricated in the material used in the original or, in the case of luminaires based on photographs or drawings of the original, the material that would have been used in a quality luminaire at the time. Thickness and gauges shall be as required for structural integrity.

B. All castings shall be free of pits, scratches, blemishes, parting lines, burrs and internal flaws.

C. Assemblies of structural elements joined by soldering, brazing, or welding shall exhibit no external discoloration at the seams. External fasteners shall be finished to match the parts in which they are installed.

2.0 ORNAMENTAL MEMBERS

- A. Applied ornamental pieces (cast, spun, stamped or hand wrought) shall be of the material to which they were attached unless otherwise indicated by the originals or in the specifications.
- B. Applied ornamentation shall be attached using fasteners in discreet locations. Visible fasteners shall be finished to match the material into which they are set.

2.1 NEW FINISHES (New Luminaires)

- A. It shall be the responsibility of Grand Light to research and propose the finish or combination of finishes to be employed on the luminaires. Finish shall be uniform, free of runs, specs, smudges, “checking”, “rainbowing” or milkiess caused by humid environments. Manufacturer shall provide samples for approval of all finishes and materials to be used with the Shop Drawing Submittal.

2.1A CLEANING FINISHES (EXISTING LUMINAIRES)

- A. Existing luminaires shall be cleaned only and the existing patina appearance shall be retained were specified.
- B. Restoration/Conservation includes cleaning, repair, patination, painting, and application of protective coatings. Multiple coats of museum grade waxes or lacquer as required.

2.2 DIFFUSERS - GLASS

- A. Match the original diffuser-glass as shown in historic photos. It shall be the responsibility of Grand Light to research and propose the diffuser. Grand Light shall provide samples for approval of all finishes and materials to be used with the Shop Drawing Submittal.
- B. Match the existing in all aspects: size, thickness, material, color, surface texture design, etc. Shelf Stock: furnish additional diffusers for each fixture type, as specified.
- C. Replace the diffusers-glass on the existing luminaires to match the diffusers on the new luminaires.

2.3 REPLICATION LUMINAIRES

- A. The contract documents define the required visual appearance and performance characteristics, which must be achieved in the existing replications. Variances will be considered only, if in the opinion of the architects, their consultants, and the project historians, they will achieve the desired appearance, quality of construction and performance.

B. Lamp holders shall hold lamps securely against vibrations and maintenance handling. For enclosed incandescent standard base lampholders, provide glazed porcelain, nickel-plated brass screw shell type lampholders. Other lampholders shall match the original or as specified. Decorative sleeves over lampholders should match the original.

C. Wiring: Shall meet the applicable U.L. Standard and all local codes and the National Electrical Code. Exposed wire shall be of similar color to existing finish and be installed in such a manner as to be as invisible as possible. Wires through the chain shall be in such a manner that chains hang plumb and straight without crimping the wire at any point. Grand Light shall coordinate with Electrical Contractor for any special wiring or attachment considerations (plugs, quick disconnects, extra length, sleeving, etc.)

D. Lamps: Shall be provided by others.

2.4 FABRICATION

A. Luminaires shall be free of light leaks and shall be designed to provide sufficient ventilation of lamps and ballasts, including vent holes where required.

B. Lamps shall be oriented to provide the best light distribution, free of shadows or “hot” spots.

C. Sheet metal work shall be free from tool marks and dents and shall have accurate angles bent as sharp as compatible with the gauges of the required metal. Intersections and joints shall be formed true and of adequate strength and structural rigidity to prevent any distortion after assembly. Sheet metal shall be free of light leaks. Edges shall be finished so there are no sharp edges exposed. Sheet metal work shall be properly fabricated and supported so that planes will not deform (i.e. become concave or convex, due to normal expected ambient and operating conditions).

Need More Information, Browse Our Additional Resources At GrandLight.com

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Packaging Instructions - Form 10404

Glass Packaging Recommendations

- 1) All glass should be removed from the fixtures and wrapped in 1/2" thick bubble wrap... Secure the bubble wrap with clear carbon sealing tape. "Do Not Allow Tape To Come In Contact With Glass"
- 2) Place bubble wrapped glass in a box with bottom lined bubble wrap and fill box with packing peanuts. Allow 3" of packing on all sides, top and bottom of the box... Secure with clear carbon sealing tape and label with contents (1 x qty (1) glass Type A)
- 3) Cracked Glass...Place painters tape on both sides of any cracked glass

Broken Glass...Place all broken glass on a flat cardboard...Secure with painters tape...Bubble wrap and tape with clear carbon sealing tape.

Fixture Packaging Recommendations

- 1) All fixtures and loose fixture components (chain, canopy etc.) should be wrapped with 1/2" bubble wrap and secured with clear carbon sealing tape. "Do Not Allow Tape To Come In Contact With Metal Finishes"
- 2) Place bubble wrapped fixture or fixtures (depending on size) in a box with bottom lined bubble wrap and fill box with packing peanuts. Allow 3" of packing on all sides, top and bottom of the box. Secure with clear carbon sealing tape and label with contents (1 x qty (1) fixture Type A)

General Notes:

- Do not mix fixture frames and glass within the same box. Do not use duct or electrical tape.
- Do not allow loose components to rattle inside the bubble wrapped fixture.
- Select boxes to fit and support the contents size and weight.
- Separate multiple fixtures or glass within a box with cardboard separators.

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Maintenance Instructions - Form 10403

Maintenance Overview

Lightly clean the surface every six months or as needed with a non-abrasive soap like Ivory Soap. Dry completely and reapply a new layer of wax with a brush when dry. If the wax is maintained regularly there is a good chance the clear sealant will last a long time.

Cleaning and Care of Lighting Fixtures

Required Materials:

- (2) terrycloth or similarly durable soft cloth
- Non-abrasive soap like Ivory Soap (liquid)
- Scrubby Nonwoven Wipe
- Vacuum (optional or with hose attachment)

Directions:

- Using the vacuum, gently remove any surface dust from the fixture. Keep the edge of the vacuum or hose attachment from touching the fixture as this may damage the finish. Removing the dust prevents it from becoming an abrasive that will damage the fixture when wiping it down.
- Spray a small amount of the soap solution onto the terrycloth and gently wipe down the surface of the fixture. Remove any discoloration or fingerprints. Wipe dry with second terrycloth.
- Apply the wax to a warm or cold surface. Stopping with a brush may be the preferred method of application or as to not create streaking on the surface. Then apply a smooth line of wax to the surface. Try not to let the clear wax fill up in the recessed areas as it may turn white. Use a soft brush to remove the excess wax from these areas. Use a cloth to remove any ridges or lumps during the set up time. When ready, buff with a terry cloth dry rag. When using the compound where toothbrush or the build up in the recessed areas is desirable. If you are waxing on a cold surface with the clear wax buff after one hour. Let the colored wax sit longer, up to an hour of two and then buff. The colored wax takes much longer to dry if you are applying the wax to a hot surface. Let the surface cool down, then buff. Do not apply the wax to extremely hot surfaces; let the surface cool down somewhat. A good rule of thumb is when to buff is if it was once off, when you rub your finger over the surface, it is too early to buff. Do not buff longer than three times to buff in most any circumstance as the wax layer dries very hard. To apply multiple layers of wax repeat the application and buffing process let each layer harden for a few hours before applying the next.

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Cleaning Crystal - Form 10405

Overview

The most important factors that contribute to the frequency of cleaning your crystal chandelier are the location, type of crystals, and the shape of the crystals. A crystal chandelier hanging in a foyer (roomed with Everwood) Stress crystals, which are finished with an optical coating that repels dust and other airborne particles, is both easier to clean and would be done less frequently, while a crystal chandelier trimmed with hand cut crystal pendants in the same location will show more dust and require frequent cleanings.

To determine if your crystals need to be cleaned, look at your light fixture and if the crystals seem to be dull or have a layer of dust coating on them, refer to the cleaning techniques below.

Note: Prior to using any crystal cleaning techniques listed below, unplug and turn off the power source to your crystal light fixture and allow all bulbs to cool.

Cleaning Techniques

Grand Light has been the leading source of crystal light fixtures for over 70 years, and in that time, we have perfected the art of cleaning and maintaining crystals. Here's how we recommend you do it.

- Likes Glass Method:** This technique is best used when particle and dust coating is minimal and does not require the crystals to be removed.

Start off by preparing a solution consisting of one part isopropyl alcohol to three parts distilled water in a spray bottle. Stand while wearing latex gloves, spray the solution onto a soft-free cleaning cloth. Do not spray the crystals directly to reduce the chance of cracking. To ensure proper cleaning, each crystal should be done one at a time.

- Crystal Removal Method:** This technique is best used to remove the dust that has been building up over the years and requires a bit more effort to clean away.

Begin by placing a soft towel or blanket down on a level, safe location. Next, remove all trim and finish pieces that will prevent you from removing the crystals. Once this is completed, remove the crystals and place them on the towel or blanket. Upon removal of the crystal, hand wash them in mild dish soap and lukewarm water. Rinse the crystals in warm water and allow them to dry. Remember to wear gloves when placing them back on your crystal chandelier or any other crystal light fixture to reduce fingerprints and other grime.

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Packaging Instructions

Maintenance Instructions

Crystal Cleaning Instructions

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Initial Restoration Checklist

Project _____ SOR _____ Fixture Type _____ QTY _____

Description ☐ Indoor ☐ Outdoor ☐ Sconce ☐ Pendant
☐ Chandelier ☐ Lantern ☐ Post Top ☐

Construction ☐ Iron ☐ Brass ☐ Copper ☐ Bronze
☐ Glass Panels ☐ Glass Bowl ☐ Crystal ☐

Existing Lamp #Sockets _____ Wattage _____ Voltage _____
☐ Edison ☐ Mogul ☐ Candlebase ☐ CFL ☐ HID

Existing Finish Color _____
☐ Polite ☐ Paint ☐ Powder Coat ☐ Polished ☐

Condition ☐ Poor ☐ Fair ☐ Good ☐ Excellent

Finish ☐ ☐ ☐ ☐ ☐ ☐
Mechanical ☐ ☐ ☐ ☐ ☐ ☐
Wiring ☐ ☐ ☐ ☐ ☐ ☐
Glass ☐ ☐ ☐ ☐ ☐ ☐
Overall ☐ ☐ ☐ ☐ ☐ ☐

Finish Comments _____

Mechanical Comments _____

Wiring Comments _____

Glass Comments _____

General Comments _____

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Initial Restoration Checklist

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New Grand Light LLC (Grand Light) Limited Warranty - Form 10402

Grand Light warrants all its Products (fixture, replacement, and restoration) to be free from defects in material and workmanship, subject to certain conditions and exclusions, for the following time periods from the date the Product was shipped to the original end user purchaser:

Indoor Lighting Fixtures	
Electrical Wiring and Sockets	3 Years
Finish	3 Years
Mechanical	2 Years

Outdoor Lighting Fixtures	
Electrical Wiring and Sockets	2 Years
Finish	2 Years
Mechanical	2 Years

OEM Components, Incandescent, Fluorescent, HID and LED components furnished by Grand Light for incorporation into Grand Light products shall be subject to the manufacturer's warranty (copies of which will be furnished upon request) or customary practice, the lesser or replacement of goods that may prove defective in material or workmanship. The foregoing shall constitute the exclusive remedy of the buyer and the sole obligation of Grand Light. Assistance with warranty claims for any such component may be obtained from a customer service representative.

Grand Light will, at its election, repair, replace or make appropriate adjustment where Grand Light inspection discloses any such defects occurring in normal usage within the applicable time period above, subject to the following conditions and exclusions.

The following costs, expenses and damages are not covered by the provisions of this limited warranty: (i) labor costs including, but not limited to, such costs as the removal and reinstallation of Product; (ii) shipping and freight expenses required to return Product to Grand Light.

All warranties only apply to the original end user purchaser and original installation of Products. This warranty is not transferable.

The provisions of this warranty do not apply to Products: (i) used for purposes for which they are not designed or intended; (ii) which have been subjected to alteration, abuse, misuse, negligence, accident; (iii) which have been improperly stored, installed, maintained or operated; (iv) which have been used in violation of written instructions provided by Grand Light; (v) which have been subjected to improper temperature, humidity or other environmental conditions; or (vi) which, based on Grand Light's examination, do not disclose to Grand Light's satisfaction non-conformance to the warranty.

American Artisans At Work Preserving History

Limited Warranty



Section 10: The **GRAND LIGHT** Difference



In-Factory Staging of a Restored Crystal Basket Fixture

Why Choose Grand Light

- Long Standing History of Successful, Award Winning Projects
- Dedicated, Full-Time Project Management & Engineering Team
- Artisans and Specialists with Decades of Experience
- Extensive Background in Restoration, Manufacturing, and Design
- Understanding of Large and Small Projects
- Exceptional Client Communication and Customer Service
- Committed to Safety Without Compromise

The Grand Light Difference extends beyond the restoration and manufacturing process. Our word is our commitment, and we strive to earn your trust. While challenges are inevitable, we will never waiver from a commitment we make and work hard to exceed your expectations.

Repeat business from satisfied clients is critical to our success. Our goal is to ensure our clients receive more value than expected in Quality Assurance, Cost, Scheduling, Performance, Communication, and Safety. We have never failed to complete a project on-time and commit ourselves to delivering the highest quality products and service possible.

Thank you for reviewing our team's qualifications, please do not hesitate to contact us with questions or for additional information needed for your assessment of our company.

Regards,



Steve Stockman
Principal



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