PROTOTYPICAL DESIGNS FOR CONSTRUCTION

Kirsten Soderlund & Ashwin Ramesh
• Using BIM to optimize prototypical designs for construction

• BIM as a critical tool to deliver consistency and market share

• The “I” in BIM - Data management and informed decision making
THE defining aspect of our time will be the transformation taking place around us
THE defining aspect of our time will be the transformation taking place around us.
THE EVOLUTION OF COMMUNICATION

CAVE PAINTINGS & STONE CARVINGS 30,000 BCE
MARATHON MAN 530 BCE
COMMON ERA

CARRIER PIGEONS 776 BCE

TELEGRAPH 1840
TELEPHONE 1876

1927 TELEVISION BROADCAST

INTERNET 1969

RADIO SIGNAL 1902

FIRST DAILY NEWSPAPER 1650

WORLD WIDE WEB 1994

BLOGGING 1999

INSTANT MESSAGING 1997

FACEBOOK 2004

TWITTER 2006

#BIMForumED
Hotel of the Future

• Guest experience
• Stakeholder partnership
• Continuous evolution of built infrastructure
in order to have the product of the future, you have to have the process of the future.
01 DESIGN DEVELOPMENT
01 DESIGN DEVELOPMENT

02 BRAND MARKETING
01 DESIGN DEVELOPMENT
02 BRAND MARKETING
03 CONSTRUCTION
#BIMForumED
TOYOTA 5S

01 SORT
02 SET
03 SHINE
04 STANDARDIZE
05 SUSTAIN
TOYOTA 5S

01 SORT  →  examine existing data
02 SET  →  draft BEP
03 SHINE  →  build BIM
04 STANDARDIZE  →  ‘finalize’ BEP
05 SUSTAIN  →  workflows & best practices
Specification Integration

pendant fixture 2

LOBBY-WXYZ

AL2-LTG-402

SPECIFICATION

Description: Ball, cigar and pear shaped pendants
Grouping: (3) Pendants (1 of each shape), suspended from mounting plate
Style: Ball Pendant Medium SKU 52886
Cigar Pendant Medium SKU 52187
Pear Pendant Medium SKU 52389

Content: Shade - Plastic polymer
Frame - Steel
Finish: White

Lamp Source: (1) per fixture: Philips A-shaped dimmable LED lamp - Medium base
Product #: 42299-1 (120V Bulb #25 11-400W 2700K)

Switch Type: No switch - Hardwired

NOTES
1. Designer to verify that all lamp shades/diffusers - colors/material match when lit.
2. Manufacturer to provide all required hardware to ensure proper installation.
3. Metal grade and thickness must be commercial grade and withstand heavy hospitality usage.
4. Metal finisher to have clear anodized matte coating, rust inhibit or primer, baked enamel or powdercoat finish for protection to prevent rust and corrosion. Manufacturer to ensure materials are non-corrosive and suitable for use in high humidity and salt air locations.

5. Lamps (bulbs) not included. Property owner is responsible for the purchasing, coordination, and installation of all lamps (bulbs).
6. All images, photographs, renderings of specified items contained in this specification package are for general design intent and reference only.
7. Refer to drawings for exact locations and mounting heights of furniture, fixtures, and equipment. In the event of a discrepancy between drawing and specifications, please contact Starwood Hotels & Resorts Worldwide, Inc. immediately for written clarification.
8. Subcontractors if shop drawings, finish samples, and prototypes to MSC Design Management for review and written approval is required for any item supplied by a vendor other than the specified source.
9. Must match and apply ADA guidelines.
10. Item quantity to be based on final plans, room quantity, and final matrix.

APPROVED MANUFACTURER(S)

Design Within Reach
711 Canal Street
Stamford, CT 06902
www.dwdr.com

CONTACT/REP

Kevin Clay
203-733-0400 Cell
203-614-0787 Office
203-614-0788 Fax
kclay@dwdr.com Email

ISSUE DATE: 01-15-2013

ALEFT PUBLIC SPACE GENERATION NO. 2

#BIMForumED
# Pendant Fixture 2

**Specification**

- **Description:** Ball, cigar and pear shaped pendants
- **Grouping:** (3) pendants (1 of each shape); suspended from metal plate
- **Style:** Ball Pendant Medium SKU 32366
- **Color:** Steel, Finish: Smooth Steel Medium SKU 32367
- **Content:** Shade: Glass, Finish: Steel Frame: Steel, Finish: Varnish
- **Lamp Source:** 120V, E26, 60W, Incandescent Socket: Medium Base, Product: 42349-1 (120V Bulb End 11-60W 2700K)
- **Switch Type:** No switch - hardwired
- **Switch Location:** Remote switch required
- **Cord:** 72" Long
- **Junction Box:** Architect/Designer and GC to coordinate location of junction box.
- **Mounting Plate:** Solid Steel - 48" W x 5" D x 1.5" H custom metal plate box, powder coated, and pre-assembled: as required for 3 pendants.
- **Ratings:** UL Listed and Listed, Listed and Standardised
- **Lead Time:** 4 - 6 weeks (if not in stock) upon receipt of purchase order and at time of order, quantities are typical and should be confirmed by the manufacturer.
- **Eco Feature:** High efficiency lighting via LED, light bulb, Cool Light Source.

**Notes:**

1. Designer to verify that all lamp shades/diffusers - colors/materials match when lit.
2. Manufacturer to provide all required hardware to ensure proper installation.
3. Metal grade and thickness must be commercial grade and withstand heavy hospitality usage.
4. Metal finishes to have a clear, anodized matte coating, rust inhibit, or primer, ballyed, or powder coat finish for protection against rust and corrosion. Manufacturer to ensure materials are non-corrosive and suitable for use in high humidity and salt air locations.
5. Lamps (Bulbs) not included. Property owner is responsible for the purchasing, coordination, and installation of all lamps (bulbs).
6. All images, photographs, renderings of specified items contained in this specification package are for general design intent and reference only.
7. Refer to drawings for exact locations and/or mounting heights of fixtures, fittings, and equipment. In the event of a discrepancy between drawings and specifications, please contact Starwood Hotels & Resorts Worldwide, Inc. immediately for written clarification.
8. Submittal of shop drawings, finish samples, and/or prototypes to ABC Design Management for review and written approval is required for any item supplied by a vendor other than the specified vendor.
9. Must meet applicable ADA guidelines.
10. Item quantity to be based on final plans, room quantity, and final matrix.

**Approved Manufacturer(s):**

- **Design Whitney Reach**
- **711 Canal Street**
- **Stamford, CT 06902**
- **www.dw.com**

**Contact/Rep:**

- **Kev’n Clearly**
- **203-733-9428**
- **203-614-0757**
- **Email: kcurrently@dw.com**

**Issue Date:** 08-35-2013

**AIA Project Space Generation No. 2**

---

# BIMForumED
# Pendant Fixture 2

## LOBBY-WXYZ

### Eco-Friendly Spec

#### AL2-LTG-402

**SPECIFICATION**

- **Description:** Ball, cigar and pear shaped pendants
- **Grouping:** (3) Pendants (1 of each shape), suspended from mounting plate
- **Style:** Ball Pendant Medium SKU 32328
  - Cigar Pendant Medium SKU 32367
  - Pear Pendant Medium SKU 32358
- **Content:** Shade - Plastic Diffuser
  - Frame - Steel
- **Finish:** White
- **Lamp Source:** 120v 60w E26 standard base incandescent bulb, fixture comes with: 120v 60w 2700k product # #40-4084 (120v bulb E41 11-40W 2709k)
- **Switch Type:** No switch - hardwired
- **Switch Location:** Remote switch required
- **Cond.:** 72" L cord
- **Junction Box:** Architect, Designer and GC to coordinate location of junction box.
- **Mounting Plate:** Solid brass - 9" H x 5" W x 1 3/4" D; 1/2" N custom metal plate box.
- **Ratings:** UL Listed, Labeled and Stamped
- **Lead Time:** Standard lead times are 4 - 6 weeks. (If not in stock) upon receipt of purchase order from hotel. Lead times are typical and should be verified by the manufacturer.
- **Eco-Feature(s):** High efficiency lighting via LED light bulb. Cool light source.

**NOTES**

1. Designer to verify that all lamp shades/diffusers - color/materials match when lit.
2. Manufacturer to provide all required hardware to ensure proper installation.
3. Metal grade and thickness must be commercial grade and withstand heavy hospitality usage.
4. Metal finishes to have clear external matte coating, rust inhibitor or primer, baked enamel or powdercoat finish for protection to prevent rust and corrosion. Manufacturer to ensure materials are non-corrosive and suitable for use in high humidity and salt air locations.
5. Lamps (bulbs) not included. Property owner is responsible for the purchasing, coordination, and installation of all lamps (bulbs).
6. All images, photographs, renderings of specified items contained in this specification package are for general design intent and reference only.
7. Refer to drawings for exact locations and mounting heights of furniture, fixtures, and equipment. In the event of a discrepancy between drawings and specifications, please contact Starwood Hotels & Resorts Worldwide, Inc. immediately for written clarification.
8. Submit all shop drawings, finish samples, and/or prototype to A&C Design Management for review and written approval is required for any item supplied by a vendor other than the specified vendor.
9. Must meet applicable AIA guidelines.

**APPROVED MANUFACTURER(S)**

Design Within Reach
711 Canal Street
Stamford, CT 06902
www.dwr.com

**CONTACT/REP**

Karen Oglesby
203-733-9400 Cell
203-614-0707 Office
203-614-0708 Fax
koglesby@dwr.com Email

**ISSUE DATE:** 01-15-2013

**ADOPT PUBLIC SPACE GENERATION NO:** 2

---

# BIMForumED
#BIMForumED
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>Type</td>
<td>Manufacturer</td>
<td>Model</td>
<td>Provided By</td>
<td>Replacement Freq</td>
</tr>
<tr>
<td>AL2-LTG</td>
<td>AL2-LTG-200</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>AL2-LTG</td>
<td>AL2-LTG-201</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>AL2-LTG</td>
<td>AL2-LTG-300</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>AL2-LTG-400,2</td>
<td>Family7</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>AL2-LTG-401</td>
<td>AL2-LTG-401</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>AL2-LTG-402</td>
<td>AL2-LTG-402</td>
<td>Design Within Reach</td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>AL2-LTG-404</td>
<td>AL2-LTG-404</td>
<td>Design Within Reach</td>
<td>Ball Pendant Medium SKU 32386</td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>Aisle Exit Sign</td>
<td>EXIT SIGN 2-OHES-1</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>Ceiling Light - Flat Round</td>
<td>BA</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>jd1</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>RCP-1x6</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>RCP-1x8</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>RCP-6&quot; x4-SM</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>SM</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>SM 2</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>TA</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>TA 4&quot;</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>TA 6&quot;</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>TA - 10&quot;</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>TA - 11&quot;</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>UNIT</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Rect</td>
<td>UNIT 2</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Round</td>
<td>BA</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Round</td>
<td>BE</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Round</td>
<td>BH</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>ELEC_LF_Round</td>
<td>JA</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
<tr>
<td>QA - Exterior</td>
<td>QA Blue</td>
<td></td>
<td></td>
<td>Starwood</td>
<td>12</td>
</tr>
</tbody>
</table>
Scope Clarification

1. Public Space - Provided By Stanwood
2. Public Space - Provided By Owner
Lifecycle Cost Analysis

#BIMForumED
Digital Mockup
Design Options

- Option 1 (primary)
- Main Model
- Option Set 1
- Option 1 (primary)
- Option 2
FF&E Library
Target Value Design

- Structure
- Corridor Finishes
- Millwork
- Façade Materials
- Guest Room FF&E
Walk Through
Thank you.