

## LIGHTING BOM – FAIRFIELD INN

D03            16.00

D03A          10.00

D26            100.00

D28            14.00

D70            10.00

D71            88.00

D73            55.00

D81            88.00

D81A          10.00

D82            10.00

D125 (HEADS)        4.00

D125 TRACK ROW (FT.)        8.00

F05            10.00

F07            41.00

F09            26.00

F19            28.00

001            2.00

R05            \_\_\_\_\_

R10            \_\_\_\_\_

R15            8.00

R16            168.00

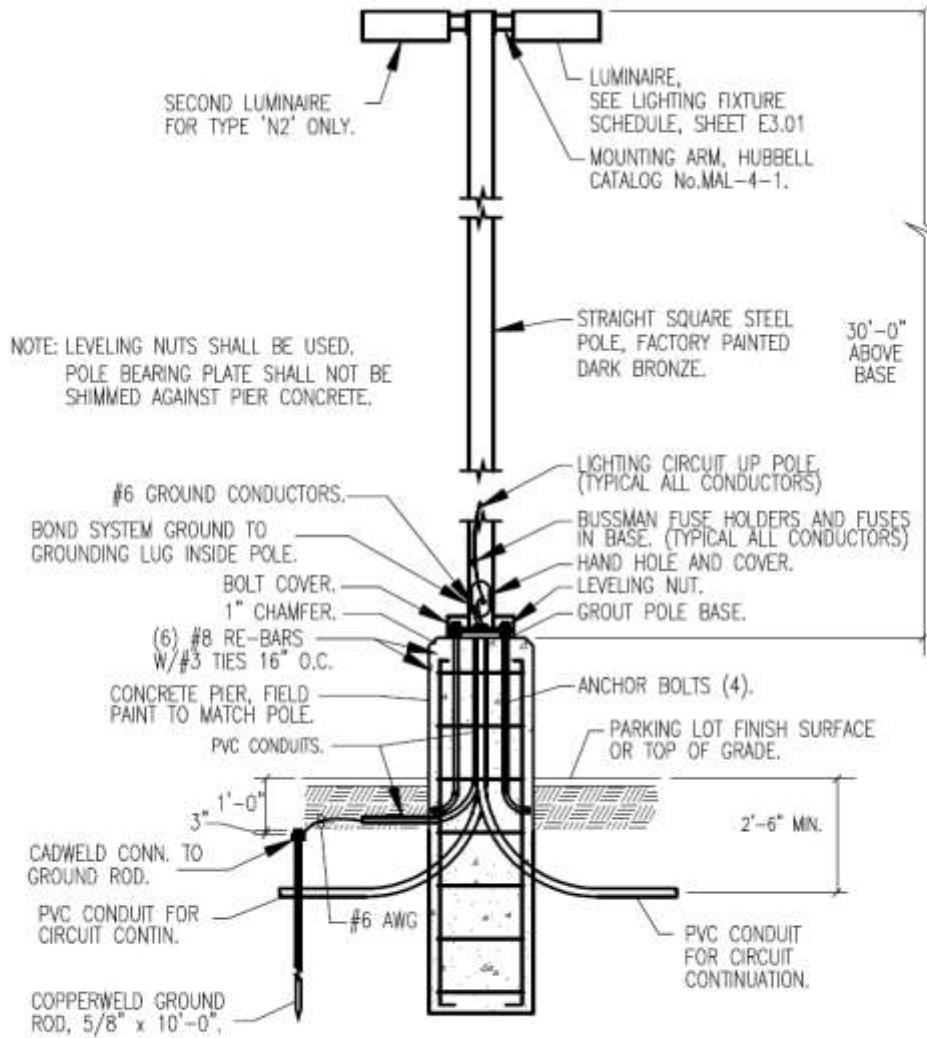
R17            6.00

R18            \_\_\_\_\_

R20            2.00

R26            62.00

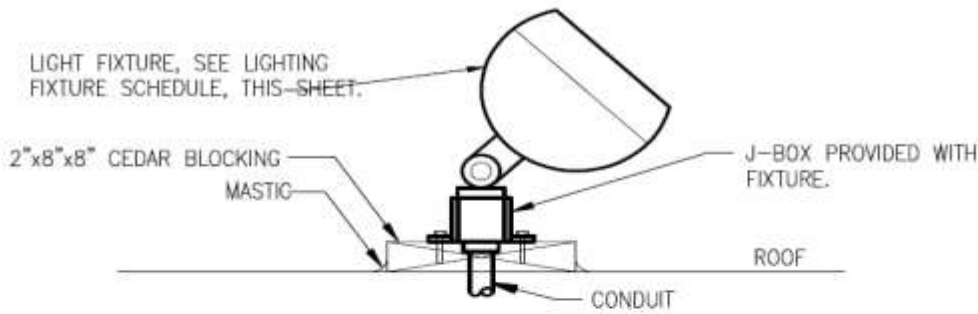
<u>R30</u>	<u>118.00</u>	
<u>X01</u>	<u>12.00</u>	
<u>X02</u>	<u>17.00</u>	
<u>X03</u>	<u>8.00</u>	
<u>Z14 POLE &amp; Z16 FIXTURE W/ 90-DEGREE ARM &amp; ADAPTER (DUAL-HEAD FIXTURE)</u>		<u>12.00</u>
<u>Z22</u>	<u>30.00</u>	
<u>Z23</u>	<u>13.00</u>	
<u>Z28</u>	<u>9.00</u>	
<u>LM-412 (FBO)</u>	<u>2.00</u>	
<u>LM-401 (FBO)</u>	<u>2.00</u>	
<u>BR-409 (FBO)</u>	<u>1.00</u>	
<u>LM-409 (FBO)</u>	<u>1.00</u>	
<u>LM-407 (FBO)</u>	<u>3.00</u>	
<u>Wall-Mounted Occ. Sensors - Single-Pole</u>		<u>3.00</u>
<u>Wall-Mounted Occ. Sensors - Three-Pole</u>		<u>2.00</u>
<u>Lighted Area of Refuge Sign - No Spec Provided - Please recommend allowance</u>		<u>4.00</u>
<u>Bollard - McGraw-Edison BSC-42-100W-MH-120V Dark Bronze Finish</u>		<u>4.00</u>
<u>Exit/Emergency Combo Light - No Spec Given</u>	<u>1.00</u>	
<u>D48 - No Info Given - Suggest \$250 Allowance</u>		<u>88.00</u>



**1** POLE BASE DETAIL - FIXTURE TYPE N1, P1 & N2

SCALE: NTS

\* FOR BASE STRUCTURAL REQUIREMENTS SEE STRUCTURAL DRAWINGS.

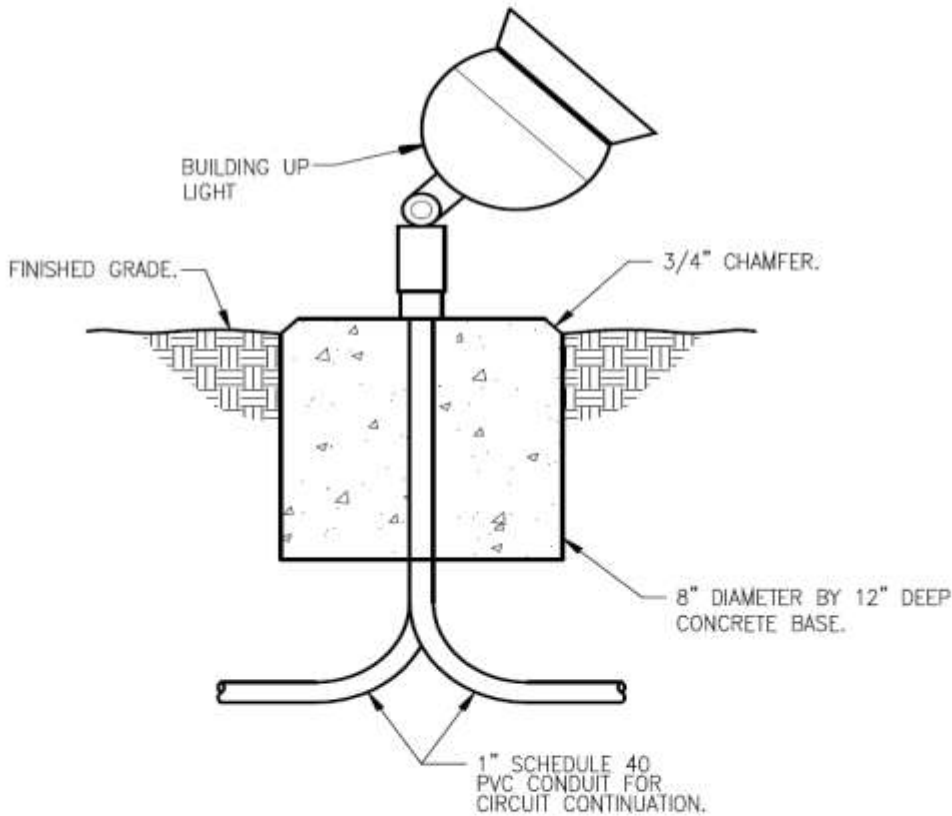


## LIGHTING FIXTURE TYPE

### 6 MOUNTING DETAIL

E21B

SCALE: N.T.S.



## LIGHTING FIXTURE

### 8 MOUNTING DETAIL

E21B

SCALE: N.T.S.

\* CONTRACTOR MUST FOLLOW MARRIOTT'S MODULE 1 AND SPECS FOR BASE.

## **SECTION 26 56 00 (16520) - EXTERIOR LIGHTING**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

**A. Section Includes:**

1. Exterior Lighting Units with Luminaires
2. Ballasts
3. Lamps
4. Luminaire Support Components
5. Accessories

**B. Related Sections:**

1. Section 03 30 00 (03300) - Cast-in-Place Concrete.
2. Section 26 05 26 (16060) - Grounding and Bonding for Electrical Systems.
3. Section 26 51 00 (16510) - Interior Lighting
4. Section 26 60 00 (16580) - Lighting Accessories: For programmable lighting control systems, time switches, additional photoelectric relays, power relays, and contactors.

#### **1.02 DEFINITIONS**

- A. Lighting Unit:** A luminaire or an assembly of luminaires complete with a common support, including pole, post, or other structure, and mounting and support accessories.
- B. Luminaire (Light Fixture):** A complete lighting device consisting of lamp(s) and ballast(s), when applicable, together with parts designed to distribute light, to position and protect lamps, and to connect lamps to power supply.

#### **1.03 SUBMITTALS**

- A. Submit "Letter of Conformance" in accordance with Section 01 33 00 (01330) indicating specified items selected for use in Project with the following supporting data:**
1. For each type of lighting unit indicated, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:
    - a. Materials and dimensions of luminaires and poles.
    - b. Certified results of laboratory tests for fixtures and lamps for photometric performance.
    - c. High-intensity-discharge luminaire ballasts.
    - d. Photometric data.
  2. Shop Drawings: Anchor-bolt templates keyed to specific poles and certified by manufacturer.
  3. Maintenance Data: For lighting units to include in maintenance manuals specified in Division 01.

#### **1.04 QUALITY ASSURANCE**

- A. Luminaires and Accessories:** Listed and labeled as defined in NFPA 70, Article 100, for their indicated use, location, and installation conditions by a testing agency acceptable to authorities having jurisdiction

- B. Comply with ANSI C2.
- C. Comply with NFPA 70.

1.05 DELIVERY, STORAGE, AND HANDLING OF POLES

- A. Package aluminum poles for shipping according to ASTM B 660.
- B. Store poles on decay-resistant treated skids at least 12 inches above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.
- C. Handle wood poles so they will not be damaged. Do not use pointed tools that can indent surface more than 1/4 inch deep. Do not apply tools to section of poles below ground-line.
- D. Retain factory-applied pole wrappings on fiberglass poles until just before pole installation. Handle poles with web fabric straps.
- E. Retain factory-applied pole wrappings on metal poles until just before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

1.06 EXTRA MATERIALS

- A. Furnish extra materials described in section 01 78 43 (01790) "Spare Parts and Materials" that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Deliver extra materials to Owner.

**PART 2 PRODUCTS**

2.01 MANUFACTURERS

- A. Avendra, LLC Preferred Manufacturers:
  - 1. Refer to Section 26 51 00 for list of approved manufacturers.
- B. Approved Manufacturers:
  - 1. Subject to compliance with requirements, provide the products indicated for each designation in the Light Fixture Matrix attached at the end of this Section.
  - 2. Refer to Section 26 51 00 for list of approved manufacturers.

2.02 LUMINAIRES

- A. Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.
- B. Metal Parts: Free from burrs, sharp corners, and edges.
- C. Sheet Metal Components: Corrosion-resistant aluminum, unless otherwise indicated. Form and support to prevent warping and sagging.
- D. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.
- E. Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit re-lamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during re-lamping and when secured in operating position. Provide for door removal for cleaning or replacing lens. Arrange to disconnect ballast when door opens.
- F. Exposed Hardware Material: Stainless steel.
- G. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and ultraviolet radiation.
- H. Reflecting Surfaces: Minimum reflectance as follows, unless otherwise indicated:

▪ SECTION 26 56 00 (16520) - EXTERIOR LIGHTING ▪

1. White Surfaces: 85 percent.
  2. Specular Surfaces: 83 percent.
  3. Diffusing Specular Surfaces: 75 percent.
- I. Lenses and Refractors: Materials as indicated. Use heat- and aging-resistant, resilient gaskets to seal and cushion lens and refractor in luminaire doors.
- J. Photoelectric Relays: As follows:
1. Contact Relays: Single throw, arranged to fail in the on position and factory set to turn light unit on at 1.5 to 3 fc and off at 4.5 to 10 fc with 15-second minimum time delay.
  2. Relay Mounting: In luminaire housing.
- K. High-Intensity-Discharge Ballasts: Comply with ANSI C82.4. Constant wattage autotransformer or regulating high-power-factor type, unless otherwise indicated.
1. Ballast Fuses: One in each ungrounded supply conductor. Voltage and current ratings as recommended by ballast manufacturer.
  2. Single-Lamp Ballasts: Minimum starting temperature of minus 40 deg C.
  3. Open-circuit operation will not reduce average life.
  4. Noise: Uniformly quiet operation, with a noise rating of B or better.
- L. Lamps: Comply with the standard of the ANSI C78 series that is applicable to each type of lamp. Provide luminaires with indicated lamps of designated type, characteristics, and wattage. Where a lamp is not indicated for a luminaire, provide medium wattage lamp recommended by manufacturer for luminaire.
1. Metal-Halide Color Temperature and Minimum Color-Rendering Index: 3600 K and 70 CRI, unless otherwise indicated.

### 2.03 LUMINAIRE SUPPORT COMPONENTS

- A. Description: Comply with AASHTO LTS-3 for pole or other support structures, brackets, arms, appurtenances, base, and anchorage and foundation.
- B. Wind-Load Strength of Total Support Assembly: Adequate to carry support assembly plus luminaires at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of 100 mph (160 km/h) with a gust factor of 1.3. Support assembly includes pole or other support structures, brackets, arms, appurtenances, base, and anchorage and foundation.
1. Strength Analysis: For each pole type and luminaire combination, multiply the actual equivalent projected area of luminaires and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.
- C. Finish: Match finish of pole/support structure for arm, bracket, and tenon mount materials.
- D. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.
1. Materials: Will not cause galvanic action at contact points.
  2. Mountings: Correctly position luminaire to provide indicated light distribution.
  3. Anchor Bolts, Nuts, and Washers: Hot-dip galvanized after fabrication unless stainless-steel items are indicated.
  4. Anchor-Bolt Template: Plywood or steel.
- E. Pole/Support Structure Bases: Anchor type with hold-down or anchor bolts, leveling nuts, and bolt covers.

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- F. Steel Poles: Tubing complying with ASTM A 500, Grade B, carbon steel with a minimum yield of 46,000 psig (317 MPa); one-piece construction up to 40 feet in length with access handhole in pole wall.
1. Grounding Provisions for Metal Pole/Support Structure: Welded 1/2-inch threaded lug, accessible through handhole and listed for copper conductor connection.
  2. Shafts: Square, straight.
- G. Metal Pole Brackets: Match pole metal. Provide cantilever brackets without underbrace, in sizes and styles indicated, with straight tubular end section to accommodate luminaire.
- H. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.
- I. Concrete for Pole Foundations: Comply with Section 03 30 00 (03300) "Cast-in-Place Concrete."
1. Design Strength: 3000-psi, 28-day compressive strength.

#### 2.04 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Steel: Grind welds and polish surfaces to a smooth, even finish.
1. Galvanized Finish: Hot-dip galvanize after fabrication to comply with ASTM A 123.
  2. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
  3. Interior: Apply one coat of bituminous paint on interior of pole, or otherwise treat to prevent corrosion.
  4. Polyurethane Enamel: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-build polyurethane enamel.
    - a. Color: Refer to Light Fixture Matrix.

### PART 3 EXECUTION

#### 3.01 INSTALLATION

- A. Concrete Foundations: Construct according to Section 03 30 00 (03300) "Cast-in-Place Concrete."
1. Comply with details for reinforcement and for anchor bolts, nuts, and washers. Verify anchor-bolt templates by comparing with actual pole bases furnished.
  2. Finish for Parts Exposed to View: Trowel and rub smooth. Comply with Section 03 30 00 (03300) - "Cast-in-Place Concrete" for exposed finish.
- B. Embedded Poles: Set poles to indicated depth, but not less than one-sixth of pole length below finish grade. Dig holes large enough to permit use of tampers the full depth of hole. Backfill in 6-inch layers and thoroughly tamp each layer so compaction of backfill is equal to or greater than that of undisturbed earth.
- C. Install poles as follows:
1. Use web fabric slings (not chain or cable) to raise and set poles.

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2. Mount pole to foundation with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.
3. Secure poles level, plumb, and square.
4. Grout void between pole base and foundation. Use non-shrinking or expanding concrete grout firmly packed in entire void space.
5. Use a short piece of 1/2-inch diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.

D. Luminaire Attachment: Fasten to indicated structural supports.

E. Luminaire Attachment with Adjustable Features or Aiming: Attach luminaires and supports to allow aiming for indicated light distribution.

F. Lamp luminaires with indicated lamps according to manufacturer's written instructions. Replace malfunctioning lamps.

### 3.02 CONNECTIONS

A. Ground equipment.

1. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

B. Ground metal poles/support structures according to Section 26 05 26 (16060) - "Grounding and Bonding for Electrical Systems."

1. Nonmetallic Poles: Ground metallic components of lighting units and foundations. Connect luminaires to grounding system with No. 6 AWG conductor.

### 3.03 FIELD QUALITY CONTROL

A. Inspect each installed unit for damage. Replace damaged units.

B. Advance Notice: Give dates and times for field tests.

C. Provide instruments to make and record test results.

D. Tests and Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source, and as follows:

1. Measure light intensities at night if specific illumination performance is indicated. Use photometers with calibration referenced to NIST standards.
2. Check intensity and uniformity of illumination.
3. Check excessively noisy ballasts.

E. Prepare a written report of tests, inspections, observations and verifications indicating and interpreting results.

F. Malfunctioning Fixtures and Components: Replace or repair, then retest. Repeat procedure until units operate properly.

### 3.04 CLEANING AND ADJUSTING

A. Clean units after installation. Use methods and materials recommended by manufacturer.

B. Adjust aimable luminaires and luminaires with adjustable lamp position to provide required light distributions and intensities.

## END OF SECTION

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## SECTION 26 51 00 (16510) - INTERIOR LIGHTING

### PART 1 GENERAL

#### 1.01 SUMMARY

##### A. Section Includes:

1. Interior Lighting Fixtures
2. Lamps
3. Ballasts
4. Exit Signs
5. Emergency Lighting Units
6. Accessories

##### B. Related Sections:

1. Section 09 51 23 (09512) -Acoustical Tile Ceilings
2. Section 26 05 00 (16050) - Common Work Results For Electrical.
3. Section 26 56 00 (16520) - Exterior Lighting
4. Section 26 60 00 (16580) - Lighting Accessories: For programmable lighting control systems, time switches, additional photoelectric relays, power relays, and contactors.

#### 1.02 SUBMITTALS

##### A. Submit "Letter of Conformance" in accordance with Section 01 33 00 (01330) indicating specified items selected for use in Project with the following supporting data:

1. For each type of lighting fixture indicated, arranged in order of fixture designation. Include data on features, accessories, and the following:
  - a. Dimensions of fixtures.
  - b. Certified results of laboratory tests for fixtures and lamps for photometric performance.
  - c. Emergency lighting unit battery and charger.
  - d. Fluorescent and high-intensity-discharge ballasts.
  - e. Types of lamps.
  - f. Photometric data.
2. Dimming Ballast Compatibility Certificates: Signed by manufacturer of ballast certifying that ballasts are compatible with dimming systems and equipment with which they are used.
3. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.
4. Maintenance Data: For lighting fixtures to include in maintenance manuals specified in Division 01.

#### 1.03 QUALITY ASSURANCE

##### A. Fixtures, Emergency Lighting Units, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

##### B. Comply with NFPA 70.

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C. NFPA 101 Compliance: Comply with visibility and luminance requirements for exit signs.

1.04 COORDINATION

A. Fixtures, Mounting Hardware, and Trim: Coordinate layout and installation of lighting fixtures with ceiling system and other construction.

1.05 EXTRA MATERIALS

A. Furnish extra materials described in Section 01 78 43 (01790) "Spare Parts and Materials" that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

**PART 2 PRODUCTS**

2.01 MANUFACTURERS

A. Avendra, LLC Preferred Manufacturers:

1. Subject to compliance with requirements, provide the products indicated for each designation in the Light Fixture Matrix attached at the end of this Section.
2. [General Electric Lighting Company](#) (800-435-4448)
3. [Philips Lighting Company](#) (800.555.0050)
4. [TCP, Inc.](#) (800-324-1496)
  - a. Contact: Kip Sherwood (330-995-1359)

B. Approved Manufacturers:

1. Subject to compliance with requirements, provide the products indicated for each designation in the Light Fixture Matrix attached at the end of this Section.
2. [2<sup>nd</sup> Avenue Design](#) (800-843-1602)
  - a. Contact: Jan Zanger (800-544-4879)
3. [Ashley Lighting Inc.](#) (870-483-6184)
  - a. Contact: David Burn (703-461-4780)
4. [Challenger Lighting Company](#) (847-717-4700)
  - a. Contact: Peggy Hart (301-260-2161 x 13)
5. [ExceLine](#), a [Genlyte Group Company](#) (800-334-2212)
  - a. Contact: Anne Murch (703-924-8785)
6. [Forecast](#), a [Genlyte Group Company](#) (847-622-0416)
  - a. Contact: Anne Murch (703-924-8785)
7. [Hadco](#), a [Genlyte Group Company](#) (800-331-4185)
  - a. Contact: Anne Murch (703-924-8785)
8. [Insight Lighting Inc.](#) (262.524.2010)
  - a. Contact: Jerry Schneider (301-470-3282)
9. [Kichler Lighting](#) (866-558-5706)
  - a. Contact: Peggy Hart (301-260-2161 x 13)
10. [LBL Lighting](#), a Generation Brands Company (847-626-6304)

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- a. Contact: Joe Krause (301-537-5808)
- 11. [Lightolier, a Genlyte Group Company](#) (508-679-8131)
  - a. Contact: Anne Murch (703-924-8785)
- 12. [Lyte Poles Incorporated](#) (586-774-5650)
  - a. Contact: Anne Murch (703-924-8785)
- 13. [Lumark Lighting](#), Division of Cooper Industries Company (770-486-4800)
  - a. Contact: Mike Larkin
- 14. [Luminis Inc.](#) (954-717-4155)
- 15. [MP Lighting](#) (604-708-1184)
  - a. Contact: New Design Light (410-712-0239)
- 16. [Pacific Coast Lighting](#) (800-709-9004)
  - a. Contact: Bruce Wowk (301-916-5588)
- 17. [Panasonic](#) (866-292-7292)
- 18. [Progress Lighting](#) (864.599.6000)
  - a. Contact: JasonBak (864-599-6133)
- 19. [Scott Lamp Company](#) (707-864-2066)
  - a. Contact: Bruce Wowk (301-916-5588)
- 20. [Stonco Lighting, a Genlyte Group Company](#) (800-334-2212)
  - a. Contact: Anne Murch (703-924-8785)
- 21. [Translite Sonoma, a Genlyte Group Company](#) (707-996-6906)
  - a. Contact: Anne Murch (703-924-8785)
- 22. [Trend Lighting, a McFadden Lighting Company](#) (314 773-1340)
  - a. Contact: Rob Bruck (626-480-8880)
- 23. [Trinity Lighting Inc.](#) (870-972-1177)
  - a. Contact: Heather McCarty (301-788-1290)
- 24. [Unilight](#) (800-361-0472)
  - a. Contact: Kim Fontan (301-523-0070)
- 25. [Wide-Lite, a Genlyte Group Company](#) (512.392.5821)
  - a. Contact: Anne Murch (703-924-8785)
- 26. [Wilshire Manufacturing Company, USA](#) (508-824-1970)
- 27. Approved Substitution.

## 2.02 FIXTURES AND FIXTURE COMPONENTS, GENERAL

- A. Metal Parts: Free from burrs, sharp corners, and edges.
- B. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.

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- C. Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit re-lamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during re-lamping and when secured in operating position.
- D. Reflecting Surfaces: Minimum reflectance as follows, unless otherwise indicated:
  - 1. White Surfaces: 85 percent.
  - 2. Specular Surfaces: 83 percent.
  - 3. Diffusing Specular Surfaces: 75 percent.
  - 4. Laminated Silver Metallized Film: 90 percent.
- E. Lenses, Diffusers, Covers, and Globes: 100 percent virgin acrylic plastic or annealed crystal glass, unless otherwise indicated.
  - 1. Plastic: High resistance to yellowing and other changes due to aging, exposure to heat, and ultraviolet radiation.
  - 2. Lens Thickness: 0.125 inch minimum, unless greater thickness is indicated.

### 2.03 FLUORESCENT LAMP BALLASTS

- A. General Requirements: Unless otherwise indicated, features include the following:
  - 1. Designed for type and quantity of lamps indicated at full light output.
  - 2. Total Harmonic Distortion Rating: Less than 20 percent.
  - 3. Sound Rating: A.
- B. Electronic Ballasts for Linear Lamps: Unless otherwise indicated, features include the following, besides those in "General Requirements" Paragraph above:
  - 1. Certified Ballast Manufacturer Certification: Indicated by label.
  - 2. Encapsulation: Without voids in potting compound.
  - 3. Parallel Lamp Circuits: Multiple lamp ballasts connected to maintain full light output on surviving lamps if one or more lamps fail.
- C. Ballasts for Compact Lamps in Recessed Fixtures: Unless otherwise indicated, additional features include the following:
  - 1. Type: Electronic fully encapsulated in potting compound.
  - 2. Power Factor: 90 percent, minimum.
  - 3. Operating Frequency: 20 kHz or higher.
  - 4. Flicker: Less than 5 percent.
  - 5. Lamp Current Crest Factor: Less than 1.7.
  - 6. Transient Protection: Comply with IEEE C62.41 for Category A1 locations.
- D. Ballasts for Dimmer-Controlled Fixtures: Comply with general and fixture-related requirements above for electronic ballasts.
  - 1. Compatibility: Certified by manufacturer for use with specific dimming system indicated for use with each dimming ballast.
- E. Ballasts for Low-Temperature Environments: As follows:
  - 1. Temperatures 0 Deg F Above: Electronic or electromagnetic type rated for 0 deg F starting temperature.

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2. Temperatures Minus 20 Deg F and Above: Electromagnetic type designed for use with high-output lamps.

#### 2.04 HIGH-INTENSITY-DISCHARGE LAMP BALLASTS

- A. General: Comply with ANSI C82.4. Unless otherwise indicated, features include the following:
  1. Type: Constant wattage autotransformer or regulating high-power-factor type, unless otherwise indicated.
  2. Operating Voltage: Match system voltage.
  3. Minimum Starting Temperature: Minus 22 deg F for single lamp ballasts.
  4. Normal Ambient Operating Temperature: 104 deg F
  5. Open-circuit operation that will not reduce average life.
  6. Auxiliary, Instant-on, Quartz System: Automatically switches quartz lamp on when fixture is initially energized and when momentary power outages occur. Automatically turns quartz lamp off when high-intensity-discharge lamp reaches approximately 60 percent light output.

#### 2.05 EXIT SIGNS

- A. General Requirements: Comply with UL 924 and the following:
  1. Sign Colors and Lettering Size: Comply with authorities having jurisdiction.
- B. Internally Lighted Signs: As follows:
  1. Lamps for AC Operation: Light-emitting diodes, 70,000 hours minimum rated lamp life.
- C. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.
  1. Battery: Sealed, maintenance-free, nickel-cadmium type with special warranty.
  2. Charger: Fully automatic, solid-state type with sealed transfer relay.
  3. Operation: Relay automatically energizes lamp from unit when circuit voltage drops to 80 percent of nominal or below. When normal voltage is restored, relay disconnects lamps, and battery is automatically recharged and floated on charger.

#### 2.06 EMERGENCY LIGHTING UNITS

- A. General Requirements: Self-contained units. Comply with UL 924. Units include the following features:
  1. Battery: Sealed, maintenance-free, lead-acid type with minimum 10-year nominal life and special warranty.
  2. Charger: Fully automatic, solid-state type with sealed transfer relay.
  3. Operation: Relay automatically turns lamp on when supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps, and battery is automatically recharged and floated on charger.
  4. Integral Time-Delay Relay: Arranged to hold unit on for fixed interval after restoring power after an outage. Provides adequate time delay to permit high-intensity-discharge lamps to restrike and develop adequate output.

## 2.07 LAMPS

- A. Fluorescent Color Temperature and Minimum Color-Rendering Index: 3500 K and 85 CRI, unless otherwise indicated.
- B. Non-compact Fluorescent Lamp Life: Rated average is 20,000 hours at 3 hours per start when used on rapid-start circuits.
- C. Metal-Halide Color Temperature and Minimum Color-Rendering Index: 3600 K and 70 CRI, unless otherwise indicated.

## 2.08 FIXTURE SUPPORT COMPONENTS

- A. Comply with Section 26/27 05 00 (16050) "Basic Electrical Materials and Methods," for channel- and angle-iron supports and nonmetallic channel and angle supports.
- B. Single-Stem Hangers: 1/2-inch steel tubing with swivel ball fitting and ceiling canopy. Finish same as fixture.
- C. Twin-Stem Hangers: Two, 1/2-inch steel tubes with single canopy arranged to mount a single fixture. Finish same as fixture.
- D. Rod Hangers: 3/16-inch- minimum diameter, cadmium-plated, threaded steel rod.
- E. Hook Hangers: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.
- F. Aircraft Cable Support: Use cable, anchorages, and intermediate supports recommended by fixture manufacturer.

## 2.09 FINISHES

- A. Fixtures: Manufacturer's standard, unless otherwise indicated.
  - 1. Paint Finish: Applied over corrosion-resistant treatment or primer, free of defects.
  - 2. Metallic Finish: Corrosion resistant.
  - 3. Colors as indicated in Light Fixture Matrix.

# PART 3 EXECUTION

## 3.01 INSTALLATION

- A. Fixtures: Set level, plumb, and square with ceiling and walls, and secure according to manufacturer's written instructions and approved submittal materials. Install lamps in each fixture.
- B. Support for Fixtures in or on Grid-Type Suspended Ceilings:
  - 1. Recessed lighting fixtures shall be supported independently from the suspended ceiling system. Number 8 gauge galvanized steel wire or approved type hangers from the overhead building structures shall be provided for fixture support.
- C. Suspended Fixture Support: As follows:
  - 1. Pendants and Rods: Where longer than 48 inches brace to limit swinging.
  - 2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
  - 3. Continuous Rows: Suspend from cable installed according to fixture manufacturer's written instructions and details on Drawings.

## 3.02 CONNECTIONS

- A. Ground Equipment.

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1. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

### 3.03 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damaged fixtures and components.
- B. Advance Notice: Give dates and times for field tests.
- C. Provide instruments to make and record test results.
- D. Tests: As follows:
  1. Verify normal operation of each fixture after installation.
  2. Emergency Lighting: Interrupt electrical supply to demonstrate proper operation.
  3. Verify normal transfer to battery source and retransfer to normal.
  4. Report results in writing.
- E. Malfunctioning Fixtures and Components: Replace or repair, then retest. Repeat procedure until units operate properly.
- F. Corrosive Fixtures: Replace during warranty period.

### 3.04 CLEANING AND ADJUSTING

- A. Clean fixtures internally and externally after installation. Use methods and materials recommended by manufacturer.
- B. Adjust aimable fixtures to provide required light intensities.

**END OF SECTION**

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# Light Fixture Matrix

## Gen 3 - New Build - Green Tea

## Fairfield Inn

Universal Mark	ID - X-Rat	Product	Manufacturer	Model No.	Size	Fixture Description	Lens	Mount	Lamp Type	Qty.	Lamp Config	Volts	Watts	Gen/Decor Scheme	Area	Location
D03		Lantern	Lightoller - A Philips Group	6731 WH-2134N1	14" Round	White	acrylic	wall	fluorescent	2	13w twin tube	120	26	Gen 3 Green Tea	Public	Exit Stairs
D03A		EM Pakk	Lightoller - A Philips Group	FBPP/UCOAPS		Optional Remotes Mounting for D03 for emergency ballasts		Must be mounted within 6' of D03 w/access provided						Gen 3 Green Tea	Public	Exit Stairs
D06	X406	Dome	Technoal Consumer Products	11730 / 32WH-HP	14" Round	White Ring	smooth white	ceiling	fluorescent	1	32w cordless (pn 32032)	120	32	Gen 3 Green Tea	Guestroom	Bathroom
D28		Source	Height Lighting	MANDL 1650N/TXW/TW/WP/VS (WT-527-1BB-1-TW-WP/VS)	11.75"D x 11.5"W x 5"H	Tinted/White / Perforated Curf Visor	Tempered Glass	wall	Metal Halide	1	T-6 G12 (CDM150/79/830)	120	150	Gen 3 Green Tea	Public	Pool - Indoor
D70	X401	Vanity Source	Van'Traal Lighting	VT-2357	4"D x 25"W x 4"H	Polished Nickel		wall	fluorescent	2	T8 17W	120	32	Gen 3 Green Tea	Guestroom	Vanity - Accessible
D71	X408	Vanity Source	Van'Traal Lighting	VT-2378	4"D x 48.5"W x 4"H	Polished Nickel		wall	fluorescent	2	T8 32W	120	32	Gen 3 Green Tea	Guestroom	Vanity
D72	LM407/ BR407	Source	Pacific Coast Lighting	88-6088-98	47" D x 18" W x 9"H	Light Faux wood finish & Brushed nickel shoe plate	alabaster acrylic lens, frosted white	wall	fluorescent	2	4-Pin PL-13	120	26	Gen 3 Green Tea	Public	Lobby at Side Heart / Breakfast Area
D73	PG407	Source	Pacific Coast Lighting	88-6033-F7	4"D x 20"W x 10.5"H	Powder Coat Off White	linen wrapped acrylic lens	wall	fluorescent	1	13W Quad	120	13	Gen 3 Green Tea	Public	Typical Floor Corridor
D74	BL400	Pendant	Pacific Coast Lighting	84-60629-99	5.5" D x 6" H (adjusts up to 5')	Pendant w/Brushed Nickel banding finish & frosted blue glass. Includes monopt canopy and 5' of ad. cable		ceiling	incandescent	1	26 watt, 4-Pin GU24	120	26	Gen 3 Green Tea	Public	Business Library
D78	LM409/ BR409	Pendant	Scott Lamp Company, Inc.	285448	42"W x 24"H	Brushed Nickel Pendant w/teard ivory silk shades and acrylic diffuser at bottom	acrylic diffuser	ceiling	compact fluorescent	5	4-Pin GU24-Q3 Socket 13w Max	120	104	Gen 3 Green Tea	Public	Lobby / Breakfast Area
D80	LM412	Pendant - Flush Mounted	Ulamost Lighting	CON22218	21.5" Diam x 8" H	Round drum hardware shades in wood tone w/satin metal trim		ceiling	incandescent	2	Type A, E27 Socket	120	60	Gen 3 Green Tea	Public	Elevator Lobby
D81	X404	Source	Van'Traal Lighting	VT-2118	5"D x 4"W x 13"H	Brushed Steel w/frosted white glass shade w/rocker switch in base	frosted white glass	wall	incandescent	1	26 watt, 2-Pin GU24-Q3	120	26	Gen 3 Green Tea	Guestroom	Next to Credenza
D81A	X404A	Source	Van'Traal Lighting	VT-2221	5"D x 4"W x 13"H	Brushed Steel w/frosted white glass shade w/rocker switch in base	frosted white glass	wall	incandescent	1	26 watt, 2-Pin GU24-Q3	120	26	Gen 3 Green Tea	Guestroom - Accessible	Next to Credenza

NOTE: Items with an ID X-Rat # are items purchased through Marriott's Procurement Division as FFE Items (Furniture, Fixture, Equipment) if this service is selected by Owner. Confirm with Owner whether to include these "decorative" but hardwired lighting fixtures in the scope of the General Contractor, or whether to remove if they are provided by Marriott Procurement Services.

Issued: March 25, 2009

Fairfield Inn (28-255100b-F-Light Fixture Matrix)

# Light Fixture Matrix

# Fairfield Inn

## Gen 3 - New Build - Green Tea

Universal Mark	ID X-Ref	Product	Manufacturer	Model No.	Size	Fixture Description	Lens	Mount	Lamp Type	Qty.	Lamp Config	Volts	Watts	Gen/Decor Scheme	Area	Location
D02	X407	Welcome	Technical Consumer Products	148408S	13" Diameter	Brushed Steel	Mean Glass Dome	ceiling	fluorescent	1	40w circdome	120	32	Gen 3 Green Tea	Guestroom / Public	Entry / Original Meeting Room
D04	UMA01	Vanity	Pacific Coast Lighting	86-4871E-28P	7"D x 27"W x 9.95"H	Metals and acrylic w/Polished Chrome		wall	fluorescent	3	18 watt 2-Pin GU24	120	54	Gen 3 Green Tea	Public	Restroom Vanity
D125		Track	Lightolier - A Philips Group	(3) 8120AL 6000KVAL 6002AL	6" Track with 3 Heads	MRI MH Lamp for this fixture has a 12000 hour lamp life		ceiling	CMH	3	GE CMH85TCU943/GR 5	120	39	Gen 3 Green Tea	Public	The Market
D139	X409	Wall Sconce	Trinity Lighting Inc.	66072A-8NICK	7"W x 18" H x 4" D	Brushed nickel color base with light shade		wall	incandescent	1	13W-GUZY QUAD PL LAMP-33113C-8L-PIN	120	13	Gen 3 Green Tea	Guestroom Stairs	Living Room Area
F05		Box	Lightolier - A Philips Group	DPA 2G 9L P3PT - 120 - X3	2"W x 2L	White (Accommodates Teglar Ceiling)	parabolic	recessed	fluorescent	3	40W T5	120	117	Gen 3 Green Tea	Public	Entry / Exercise Room / Original Meeting Room
F07		Strip	Lightolier - A Philips Group	J54 C232 120 - S0	6.75"W x 4L	Wrap around lensed fluorescent	acrylic	surface	fluorescent	2	F032T8	120	70	Gen 3 Green Tea	Public / Stairs	Public / Stairs
F09		Lensed Box	Lightolier - A Philips Group	SPS 2G FSVA 422-120-04	2"W x 4L	White	acrylic	recessed	fluorescent	4	32W T8	120	110	Gen 3 Green Tea	Box of House	Box of House Office / Work Area / Laundry
F19		Strip	Lightolier - A Philips Group	TSLP 0113 W BPR	21" L		acrylic	Under-counter	fluorescent	1	13Pin Warm	120	13	Gen 3 Green Tea	Guestroom Stairs	Guestroom Party
O01		Jelly Jar	Sirona - A Philips Group	VMXL - 11 - GC	7"W x 9"	aluminum	glass	wall	incandescent	1	100 A19	120	100	Gen 3 Green Tea	Public	Elevator Pt
O01 (ALT)		Jelly Jar	Excalibur - A Philips Group	RLW-100-N-CG-C	7"W x 9"	aluminum	clear glass wedge	wall	incandescent	1	100 A19	120	100	Gen 3 Green Tea	Public	Elevator Pt
O03		Pod Light	Provided by Pod Manufacturer			underwater pool light		wall	incandescent			120		Gen 3 Green Tea	Public	Pool (underwater)
R05		Down	Lightolier - A Philips Group	C770MHU/CTE17P/LWHW	7" diameter	Specular Clear Aztek		recessed	Metal Halide	1	70W Coated Ceramic MH	120	70	Gen 3 Green Tea	Exterior	Pots Containers
R10		Down	Lightolier - A Philips Group	1102 T 13 U / 1126T	6" diameter	aluminum / white shadow frame in Kl	Clear Fresnel	recessed	compact fluorescent	2	13W Quad CFL 4-Pin	120/27	13	Gen 3 Green Tea	Guestroom	Whirlpool
R15		Down				Refer to R05								Gen 3 Green Tea	Exterior	Pots Containers
R16		Recessed	Lightolier - A Philips Group	1101F2042U/1101CL	6.75" diameter	Specular Clear Aztek		ceiling	compact fluorescent	1	32w triple size	120/27	32	Gen 3 Green Tea	Public	Guest Corridor / Lobby / Breakfast / Meeting Room
R17		Recessed	Lightolier - A Philips Group	1101F2042U/1101CLSW	6" aperture	wall washer		ceiling	fluorescent	1	32w TTT 30K CR1804	120	32	Gen 3 Green Tea	Public	Lobby Corridor / Front Desk / Fridge/area
R18		Down	Lightolier - A Philips Group	2000 LV - 2013		wall washer		ceiling	Halogen	1	50w WMR 16 FL	120	50	Gen 3 Green Tea	Guestroom Stairs / Public	Headboard Sofa / Original Meeting Room
R18a (ALT)		Dimmer	Lightolier - A Philips Group	V 1000 LV 4		Vertical Slide Dimmer for R18 - lobby		n/a	n/a	n/a		120		Gen 3 Green Tea	Guestroom	Close Side Wall
R20		Down	Lightolier - A Philips Group	2000 LV / 2011	3-3/4"	wire pinhole		recessed	Halogen	1	MR 16	120	50	Gen 3 Green Tea	Public	Lobby - Niche next to Fridge/area

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 Issued: March 25, 2009  
 Fairfield Inn (25-265100b-FLight Fixture Matrix)  
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# Light Fixture Matrix

# Fairfield Inn

## Gen 3 - New Build - Green Tea

Universal ID	Product	Manufacturer	Model No.	Size	Fixture Description	Lens	Mount	Lamp Type	Qty.	Lamp Config	Volts	Watts	Gen/Decor Scheme	Area	Location
R26	Down	Lighthouse - A Philips Group	2000 P1-20/29 CL	4" Aperture	Adjustable - Special Clear Aztek		recessed	incandescent	1	50W PAR20 flood	120	50	Gen 3 Green Tea	Guestroom Suites	Headboard Sofa
R26a	Dimmer	Lighthouse - A Philips Group	V 6000 1		Vertical Slide Dimmer for R26 - NOVY		wall	n/a	n/a	n/a	120		Gen 3 Green Tea	Guestroom	Close Side Wall
R30	Down	Lighthouse - A Philips Group	2001-F18U/2001 CL	3.314" diameter	clear aztek		ceiling	compact fluorescent	1	18W	120	18	Gen 3 Green Tea	Public	Guestroom Door Pocket @ Corridor
T03	Excess Fan/Light	Parasonic	FV-08VCL4	9-1/8" sq mounting opening / 12-1/2" sq Galle / 4" Diam Duct / 70 CFM	White	Acrylic	ceiling	compact fluorescent	1	26 watt	120	26	Gen 3 Green Tea	Guestroom	Bath
X01	Exit	Lighthouse - A Philips Group	LD5NU (R or G) - W (with Battery)	n/a	Universal arrows / Single-Sided (R-Rod Lateral Color / Green Letter Color)		universal	LED		LED comes w/ fixture	120	2	Gen 3 Green Tea	Public	Exit
X03	Emergency	Lighthouse - A Philips Group	E3 1 18L2 S9 W	n/a	emergency/battery - White		wall	low voltage	2	9 watt	120	18	Gen 3 Green Tea	Public	Exit
Z14	Pole	Lysolabs	101 - 6011 - 30 - DB	30 Pole	Pole, Dark Bronze Finish		Comp. Pad	n/a	n/a	n/a	n/a	n/a	Gen 3 Green Tea	Site	Parking
Z16	Site	Wide-Lite - A Philips Group	Mar EALM-1000-4V-1-wt1-S-DB		Premium cut off / Dark Bronze		pole Z14	Metal Halide	1	1000 MH	120	1000	Gen 3 Green Tea	Exterior	Parking
Z22	Uplight	Lumens by Cooper Lighting	MHWLR - 65 - S - 250 - xx	13" x 16" x 7"	Site - Bronze slighter		Ground	Metal Halide	1	250W MH	120	250	Gen 3 Green Tea	Exterior	Ground Uplight
Z23	Scorena	Lighthouse - A Philips Group	6561 B2				wall	incandescent	1	A19	120	75	Gen 3 Green Tea	Exterior	Porta Coilers / Rear of Bldg
Z28	Emergency	Lighthouse - A Philips Group	1101 F2642UEN / 1101 C	6.314" x 7.314"	Exterior	Spun Aluminum d	Recessed	incandescent	1		120	32	Gen 3 Green Tea	Exterior	Side Entrances

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