Before beginning any DOWNLIGHT installation, disconnect electrical power at main switch or circuit breaker.

A. CAUTION
To reduce the risk of fire, electric shock, and potential damage to recessed housing assembly when electrical power is re-connected, DO NOT ATTEMPT TO CONNECT the following on branch circuit serving recessed downlight assembly:
• Motors
• Power tools
• Extension cords
• Appliances or similar electronics
Fixtures to be mounted in conditions where ambient temperatures do not exceed 40°C. Ensure AC input voltage is protected against surges & load shifts prior to power supply input.

B. SAFETY INSTRUCTIONS
1. Read installation instructions completely before attempting installation.
2. Failure to follow instructions may result in improper installation and void warranty.
3. Contact Lucifer Lighting Company with any questions or concerns before beginning any installation.
4. Ensure qualified electrician will perform all electrical procedures.
5. Disconnect electrical power circuit before attempting to install recessed downlight fitting, or if adding to or changing configuration of downlight assembly.
6. Install / mount recessed downlight fitting on structurally sound surface.
7. Recessed downlight fittings may be installed in dry / damp locations only.
8. Do not install recessed downlight assembly closer than 152mm (6.00”) from curtains, exotic veneers, or similar combustible or heat-sensitive materials.
9. **Spacing Requirements:**

Minimum **168mm (6.63”) radius** setback from combustible and non-combustible materials from fitting centerline and **19mm (0.75”)** clearance from top of fitting.

Minimum **76mm (3.00”)** clearance from surfaces of power supply, if not situated within above noted radius from fitting centerline.

Minimum additional **76mm (3.00”)** setback from insulation material with max R-Value 30 from any surface of downlight fitting assembly.

Minimum additional **152mm (6.00”)** setback from polycell spray foam insulation with max R-Value 60 from any surface of downlight fitting assembly.

Consult factory for spacing requirements for any installations exceeding R-Value of 60.
C. POWER SUPPLY INSTALLATION

1. WIRING INSTALLATION PROCESS

- Consult Safety Instructions in Section B prior to commencing wiring or servicing.
- Determine specified fitting location, ensuring that sufficient space exists to accommodate assembly components while maintaining factory-established setbacks from construction materials and insulation (see Section B).
- The downlight fitting assembly should be installed by a registered electrician and shall comply with national and local codes and ordinances.
- The installer of the downlight assembly is responsible for furnishing proper electrical equipment and materials for the installations of the downlights as intended by these installation instructions.
- Install downlight in a manner to permit access to components and splice connections which may require future service. **Customer-supplied feed wires** to power supply should be provided in minimum lengths of 203mm (8.00”) to accommodate future servicing.
- Metal conduit shall be used if required by applicable codes. The conductor insulation must feature the appropriate temperature rating as specified on the label for each Lucifer Lighting Company downlight fitting assembly.
- The ground wire at the driver wiring terminal shall be secured to a ground screw. No part of the secondary circuit shall be grounded.
- For systems that will be dimmed, consult controls manufacturer to verify control compatibility and for proper installation procedures and parameters.
- Determine specified fitting location, ensuring that sufficient space exists to accommodate assembly components while maintaining factory-established setbacks from construction materials and insulation (see Section B).

1. WIRING INSTALLATION PROCESS

Remove splice compartment cover, gaining access to wiring compartment of power supply (**Fig.1**).

Driver assembly provides integral wiring terminal and typically accepts 3 wires for connecting to the mains voltage (**Fig.1**).

Use appropriate raceway, connectors, wire and strain reliefs as required.

**Note:** Consult wiring diagrams in Section H, wiring in accordance with applicable driver.

Join structured building wires to corresponding driver wires with suitable customer-supplied wire connecting device (**Fig.2**).

**Note:** Ensure that wires are firmly joined together prior to moving to the next step.

**Important:** Verify that required minimum wire lengths exist.
2. MOUNTING / CEILING SUBSTRATE

- Recessed downlight fitting assemblies installed in accessible and non-accessible ceilings shall be supported by the structural members of the building. Do not support by lay-in ceiling tile, unless deemed suitable by national or local code authority.
- Recessed downlight fitting / power supply assemblies are thermally protected. Cycling fitting may indicate improper installation, inadequate plenum space surrounding fitting, or incompatible higher-wattage LED for specified driver. Verify that insulation spacing complies with required setbacks [see Section B] and that LED’s wattage is suitable for driver.

**Note:** See below for additional instructions regarding installation of ceiling tiles.

2.1. CEILING THICKNESS
Fittings compatible with 3.2mm (0.125”) to 32mm (1.25”) ceilings. Deep regress fittings can accommodate up to 63mm (2.50”).

2.2. CEILING CUTOUTS
*Factory recommends use of properly sized hole saw for cut-outs. Correct size and quality of hole is critical for installation.*
Make proper hole cut-out, referencing measurements from adjacent walls to aperture centerline.

**CEILING CUT-OUT:**
- 114mm (4.50”) diameter for round fittings
- 114mm (4.50”) Sq. for square fittings

2.3. GYPSUM BOARD
Install drywall in typical fashion. Oversized hole cut-outs must be filled in with mud or plaster, utilizing appropriate tape in accordance with industry standards. *Trimless installs refer to Section E.*

**Important:** If trimless, appliqué must be installed prior to mudding or finishing of ceiling. Failure to follow these instructions will lead to failed expectations and added expense. Sand, prime, and apply finish coat to ceiling.

2.4. WOOD CEILING
Install wood in accordance with local and national building codes, employing suitable fire barriers as required. Hole cut-outs should be clean and precise. Sand, stain, and apply finish seal coat prior to installing fitting.

**Important:** Trimless installations are not compatible with wood ceiling applications.

2.5. T-GRID LAY-IN TILE CEILING
Install tiles in accordance with manufacturer’s recommendations, ensuring panels are suitable for supporting weight of downlight fitting assembly.

**Important:** Trimless installations are not compatible with lay-In tile ceiling applications.
D. FITTING INSTALLATION

1. POWER SUPPLY
If not already in place, insert wired driver assembly up through ceiling cutout (Fig.3) and rest atop ceiling substrate in compliance with spacing requirements stated on pages 2.

2. FITTING
The following instructions are for Standard Flange and MicroFlange fittings, assuming the proper ceiling cut-out has been made ready to accept fitting. For Trimless fitting installations, see Section F.

Ensure baffle is removed from fitting, see Section G for baffle removal instructions.

**Important:** Before final installation in ceiling, ensure that LED engine assembly is secure and properly affixed to downlight fitting (Fig.4). See Section G for LED engine installation.

For ceiling thickness of 13mm (0.50”) and below, employ plastic spacers (Fig.5).

Join fitting connector to connector of power supply. Raise fitting into ceiling cut-out, making sure that the fitting’s locking tabs are retracted into aperture. Once seated in ceiling, extend locking tabs to hold fitting in place. Gently tighten locking tab screws until fitting is snug (Fig.6).

**Important:** Square fittings require final alignment. Utilize string line or laser level to obtain uniform or desired alignment between fittings or in relation to parallel planes.

Tighten locking tab screws until fitting is firmly held in place (Fig.6).

**WARNING:** Locking tab screws must be hand tightened.
3. OPTIC INSTALLATION
Secure optic to LED module by aligning two locking tabs and twisting clockwise ([Fig.7]).

4. BAFFLE INSTALLATION
Raise baffle into fitting aperture and press firmly until baffle snaps into place.

**Important:** Wallwash fittings require alignment ([Fig.8]). To achieve proper wallwashing, ensure that the baffle and fitting are oriented to direct light perpendicular to the washed wall ([Fig.9]).

For examples of proper and improper orientations of the baffle, see [Fig.10].
E. TRIMLESS
The following instructions assume the proper ceiling cut-out has been made ready to accept fitting with attached appliqué.

Ensure baffle is removed from fitting, see Section G for baffle removal instructions.

Raise fitting mechanism with attached appliqué and with baffle removed into ceiling cut-out, making sure that fitting’s locking tabs are retracted into aperture. Once seated in ceiling, extend locking tabs and tighten locking tab screws until appliqué is fully seated against ceiling surface [Fig.11].

Important: For square fitting installations, utilize string line or laser level to obtain uniform or desired alignment between multiple fittings or in relation to parallel planes [Fig.12]. Tighten locking tab screws.

Warning: Locking tab screws must be hand tightened.

After fitting is secured, install plaster plug [Fig.13]. Apply tape over finger pull to protect optic and LED. Do not remove plug until all plaster and paint work is complete.

Use floating knife to apply first pass of drywall compound and float area up to slightly below edge of appliqué plaster stop. Float out as far as necessary to hide perforated appliqué and allow first pass of joint compound to dry [Fig.14].
Apply second coat of drywall compound level with screed edge, feathering compound as you move away from appliqué to give appearance of a perfectly flat ceiling (Fig. 15). Allow drywall compound to dry fully and cure.

Gently use block sanding screen to sand surface (Fig. 16) until desired level of smoothness is achieved.

**WARNING:** Unsatisfactory installation will occur if drywall compound is not sufficiently sanded and the flange / plaster stop is at all receded into the ceiling plane.

Once cured, the ceiling may be painted. After paint is dry, remove plaster plug.

Check for any drywall compound or paint that may have seeped beneath plug and carefully scrape if necessary.

**Important:** Any foreign material left in or on recessed appliqué surface may prevent proper fixture installation and satisfactory trimless appearance.

**F. ADJUSTABLE FIXTURES**
Hot-aimable tilt and rotation adjustment is accessed by removing fittings baffle, revealing adjustment mechanisms (Fig. 17).

With baffle removed, locate tilt adjustment screw and rotation lock screw. Adjustments to fixture tilt and rotation are most effective when made after installing fitting into ceiling.

**WARNING:** Locking tab screws must be hand tightened.
1. TILT
To adjust, use standard #2 Phillips-head or Flat-head screwdriver engaged with black crossed-slot screw and rotate counter-clockwise to increase tilt angle (up to 40° max), or clockwise to decrease tilt angle (Fig.18).

**WARNING:** Do not turn screw past limits of adjustment. May result in damage to mechanism.

2. ROTATION
To adjust, locate silver lock screw and loosen with standard #2 Phillips-head or Flat-head screwdriver. Set desired position by hand with gentle outward force of fingers in fitting aperture, turning to desired orientation. Tighten lock screw to secure (Fig.19).

**WARNING:** Do not over-tighten.

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**G. SERVICING FIXTURE**

**Important:** Before servicing or maintaining fitting, disconnect electrical power at main switch or circuit breaker. Additionally, review notes in Sections A and B and refer to figures in main installation instructions when necessary.

1. EXCHANGING OPTIC / EFFECTS DEVICES
A. To begin installing, changing, or rearranging optic or effects devices, remove baffle by pulling down from mounting plane. Employ suction cup tool F4-TOOL-SUCTION when lens sealed in place.

B. To change optic, carefully grab and twist counter-clockwise to remove and clockwise to secure. Ensure that both feet of optic properly engage LED base.

C. To change lens / film, remove lens retainer by loosening and removing screws. Insert preferred lens / film in proper orientation, securing with lens retainer and replacing and tightening screws.

D. Reinsert baffle to locked position by pushing up into fitting aperture.
2. REPLACING LED ENGINE ASSEMBLY
A. Remove engine from ceiling using following techniques for the respective fitting type:

1. **Standard Flange / MicroFlange Fittings**
   - Grasp baffle using soft gloves or with clean soft cloth and remove by pulling down from mounting plane. Employ suction cup tool **F4-TOOL-SUCTION** when lens sealed in place.
   - Using standard Phillips-head screwdriver, loosen black locking screws from locking tabs within fitting aperture.
   - Applying upward pressure to support weight of fitting, slide locking tabs so that they are entirely retracted within trim aperture. This process made easier with use of sharp or pointed tool to hook locking tabs (Fig.20).
   - Entire fitting should slide out from ceiling plane.
   - With fitting removed, release optic by twisting counter-clockwise.
   - Using standard Phillips-head screwdriver, remove 2 silver screws from black heat sink to detach LED engine from fitting.

2. **Trimless**
   - Grasp baffle using soft gloves or with clean soft cloth, and remove by pulling down from mounting plane. Employ suction cup tool **F4-TOOL-SUCTION** when lens sealed in place.
   - Remove optic by twisting counter-clockwise.
   - Applying upward pressure to support weight of LED engine, use standard Phillips-head screwdriver to remove 2 silver screws from black heat sink.
   - LED engine should slide out from fitting aperture.

B. Release engine from wiring harness, separating male / female connectors by pulling apart.

C. Replace with new OEM LED engine assembly sourced through Lucifer Lighting, reversing order of preceding steps.

D. Reattach optic and reinsert baffle.

3. FIELD PAINTING OF FITTING
Though we strongly recommend custom paint be applied by factory during manufacturing, fittings may be field-painted without impacting factory mechanical warranty using following guidelines:

- Recommend specifying **RMP-F4R** (round) or **RMP-F4S** (square) aperture plug.
- Select paint suitable for application and location of fitting, recognizing that Lucifer Lighting Company fittings are tested not to exceed temperatures of 90° Celsius. Typical operating temperature of faceplate is 46° Celsius nominal.
- Fitting plate surface must be properly prepped in accordance with paint manufacturer’s instructions, furnished by customer.

**Important:** Paint to be applied to fitting flange only. Any disassembly or modification to fitting or mechanism voids factory warranty and may represent an unsafe operating condition. Minimal tolerance exists between baffle and flange. Excess paint buildup may interfere with baffle installation.
H. DRIVER WIRING DETAIL

WIRING DIAGRAM FOR ANALOG CONTROL

0-10 Volt Dimmer
Consult Approved Dimmer List to Ensure Compatibility.

Install in accordance with dimmer manufacturer’s installation guidelines.

NOTE: Control must switch primary for full off.

WIRING DIAGRAM FOR DMX CONTROL

WIRING DIAGRAM FOR DIGITAL CONTROL

WIRING DIAGRAM FOR TUNABLE WHITE DALI CONTROL
LUCIFER LIGHTING COMPANY (Seller) warrants that for a period of one (1) year from date of sale to the first non-retail purchaser, Seller will repair or replace, at the Seller's sole option, free of charge, any defective products purchased from Seller provided that prior authorization is obtained from the Seller and the products are sent prepaid to the Seller’s manufacturing facility. Lamps are not warranted or guaranteed in any manner for any length of time, except LED lamp modules and power supplies used in Seller’s recessed, surface mount and exterior lighting fixtures, are warranted to operate with 70% lumen maintenance from the date of sale by Seller for five (5) years. LED MR-16 style lamps supplied by Seller are only warranted as provided by their original maker. Please refer to the following limiting conditions.

1. The Citizen, Bridgelux, Xicato, Sharp and Lumenetix LED lamp modules provided by Seller are only suitable for use in ceiling or plenum conditions where the maximum operating temperature of the module does not exceed 90°C (194°F) and/or the ambient temperature does not exceed 40°C (104°F) or lower threshold as featured on Seller’s product specification literature.

2. These terms only cover the power supply (if purchased from Seller) and Citizen, Bridgelux, Xicato, Sharp, and Lumenetix LED modules.

3. If installed outdoors, the power supply must always be shielded from direct sunlight. The power supply cannot be installed in areas where liquids may pool.

4. The end user must ensure that the AC input voltage has measures in place to prevent lightning strike surges and that large load shift surges are reduced or eliminated prior to the input of the power supply. Power supplies returned with this type of damage are not covered under Seller’s Limited Warranty.

5. Seller reserves the right to physically evaluate the LED module and driver supplied by Seller for compliance with these conditions. An end user’s refusal to return such fixture articles shall void Seller’s Limited Warranty.

6. The LED module will be considered in working condition and therefore not warrantable if it meets or exceeds 70% of its original flux and remains within a range of 3 duv.

7. The color temperature of the Citizen, Bridgelux, Xicato, Sharp and Lumenetix LED module is guaranteed to remain within a range of 3 duv for a period of five (5) years from date of sale by Seller.

8. Any tampering or disassembly of the LED module or LED heat-sink assembly without Seller’s prior written consent will immediately void the warranty.

Where Seller’s fixtures are used in conjunction with drivers/power supplies sourced by others and/or where POE (power over ethernet) systems are present, Seller’s warranty will only apply to the Seller supplied lighting fixtures. In all instances where drivers/power supplies and/or POE are by others, the responsibility to confirm the selected power supply(s) conforms to operating parameters of Seller’s fixtures shall be the responsibility of others. Approved parameters (including voltage, current, and power quality for the selected fixtures and outputs) will be provided by Seller upon request, however the parameters should not be considered exhaustive for the purpose of the warranty and represents a good faith effort by Seller to support its customers. All warranty claims are subject to Seller’s review and if Seller determines the root cause of the issue involves supplied power supply(s) by others, Seller’s warranty shall not be applicable. Further, in such events of supplied power supply(s) by others, Seller makes no guarantee as to fixture operating performance (startup time, flicker, shimmer, pop-on/pop-off, dimming, etc.). In no event shall Seller’s obligations under this warranty extend beyond the initial cost of the products and, accordingly, consequential damages arising out of any claimed product defect are expressly excluded. This Warranty does not cover the costs, if any, in re-installation of products serviced under this Warranty. This Warranty does not cover damage or failure caused by abnormal spikes in power, dirty power, and light fixtures used with power supplies or other products not supplied by Seller, nor shall it apply to defects for which written notice thereof is not received by Seller.

In the event that any of the terms of this Warranty are in conflict with any rule of law or statutory provision or otherwise unenforceable under the laws or regulations of any government or subdivision thereof, such terms shall be deemed stricken from this Warranty, but such invalidity or unenforceability shall not invalidate any of the other terms of this Warranty and this Warranty shall continue in force.