# 0/1 SERIES INTERNATIONAL

## RECESSED LED DOWNLIGHT HOUSINGS AND TRIMS

## INSTALLATION

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

**Housings to be mounted in ceiling / plenum conditions *where ambient temperatures do not exceed 40°C unless otherwise noted as 35°C on specification sheets*.**

**Lucifer Lighting LED housings must be used with Lucifer Lighting LED downlights.**

### 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 housing or trim, or if adding to or changing configuration of downlight housing or trim assembly.
6. Install / mount recessed downlight housing on structurally sound surface.
7. Recessed downlight housings may be installed in dry or damp locations only.
8. IC housing allows for:
   **Direct contact with** polycell spray-in foam insulation having max R-Value of 60 allowed on all sides and top of housing. No plenum setback requirements beyond fixture fitment.
9. **Consult factory for spacing requirements for any installations exceeding R-Value of 60.**

### C. WIRING - GENERAL NOTES

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 fitting assembly is responsible for furnishing proper electrical equipment and materials for the installation of the downlights as intended by these installation instructions. Install downlight fitting and supply sufficient length mains voltage wiring to permit access to components and splice connections, which may require future servicing.

Metal conduit shall be used if required by applicable codes. Must use 90°C-rated supply wire only. The conductor insulation must feature the appropriate temperature rating as specified on the label for each Lucifer Lighting Company downlight assembly. Attach protective earth grounds to driver, as apply. No part of the secondary circuit shall be grounded. For systems that will be dimmed, consult controls manufacturer to verify driver compatibility and proper installation procedures and parameters.

LUCIFER® LIGHTING COMPANY

## D. CEILING SUBSTRATE AND FINISH OUT

### 1.1 CEILING THICKNESS AND CUT-OUTS

Compatible with 0.50" (13mm) to 1.50" (39mm) ceilings. Correct size and quality of hole is critical, and are different between fixtures with integral and remote power supplies. Double check respective sizes in ***"Fig. 1"*** prior to making ceiling cut-outs.

### 1.2 GYPSUM BOARD

**Important:** Square fixture installations require final alignment. Utilize string line or laser line to obtain uniform or desired alignment between multiple fixtures or in relation to parallel planes.

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.

**Note:** For trimless drywall installations, see Sections F-1/G, and H. Trim adaptor with attached 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.

### 1.3 WOOD CEILING

Product not intended or advised for wood ceiling installations aside from Trimless Wood applications, see Section F-3.

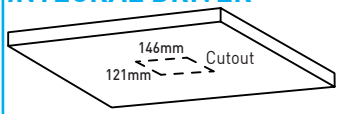
### 1.4 T-GRID LAY-IN TILE CEILING

Product not intended or advised for T-Grid installation applications.

**INTEGRAL DRIVER CUT-OUT**
**121mm x 146mm** rectangular cut-out. Housing collar is round for both round and square apertures.

**REMOTE FIXTURE CUT-OUT**
**168mm** diameter cut-out. Remodel housing is round for both round and square apertures.

**INTEGRAL DRIVER**




**REMOTE DRIVER**

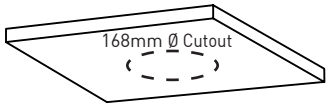



*Fig. 1*

## E. DRIVER INSTALLATION

### 1.1 GENERAL WIRING NOTES

First identify approximate fixture locations. Install appropriate conduit and wiring to each predetermined fixture location, in accordance with local code requirements, ensuring that adequate slack is provided for making connections to fixture from below finished ceiling plane.

Install finished ceiling (See Section "D. CEILING SUBSTRATE AND FINISH OUT"). For trimless and zero-sightline mud-in applications, see Section F-1, G, and H.

Determine center point of trim location, utilizing prior clean and precise cut-out ***"Fig.1".*** Be cautious to avoid cutting or nicking wires above (See Section "C. WIRING").

Locate and guide structured wiring / conduit down and through ceiling cutout ***"Fig.3".***

### 1.2 WIRE INTEGRAL POWER SUPPLY

**Note:** Removal of driver is not required

With ceiling cutout complete, access and pull wiring down through fitting aperture.

Driver assembly provides integral wiring terminal ***(Fig.2)*** and typically accepts 3 wires for connecting to the mains voltage: Black (Line / Hot / Switching), White (Common) and Green (Protective Earth Ground).

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

**Note:** Improper polarity may cause damage to the unit and can void the warranty. Consult wiring diagrams in Section J, joining structured building wires to corresponding driver terminals ***(Fig.2)***. Carefully raise finished power supply up through fitting aperture, and rest atop ceiling. ***(Fig.3)***

**Note:** For customer-provided driver applications, see drive current information on page 10.

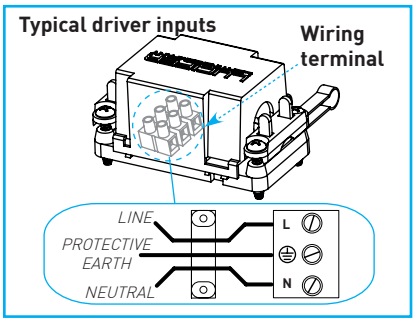


*Fig.2*

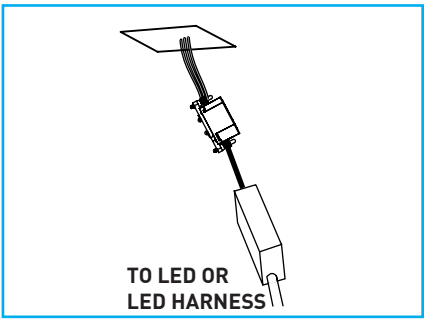


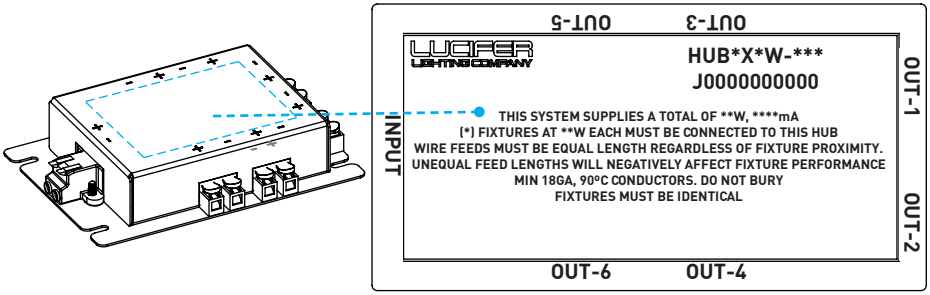
*Fig.3*

## 1.3 DISTRIBUTED POWER - HUB INSTALLATION

**HUB MUST BE INSTALLED IN ACCESSIBLE LOCATION.** Do not install in environments where ambient temperatures exceed 35°C (95°F). Determine preferred structural mounting location.  falls within allowable wire capacity distance from selected power supply (Ref. Section K). Run suitably sized two-conductor wire between remote driver and fixture location, following installation guidelines for terminating at fixture, as applies.

**Note:** Secondary wiring is polarized (+ / -) and must be terminated correctly at both ends for proper operation. It is recommended to use Red (+) and Black (-) wires to avoid confusion. Additionally, a ground wire must not accompany secondary run wires. Reference Section K - HUB Wiring Detail for recommended gauges and wiring types.

**WARNING:** Ensure all ports of supplied HUB are utilized (e.g. HUBX5 must have 5 fixtures connected). All secondary wiring lengths must be equal. Failure to do so may result in varying performance between connected fixtures. Shown as specified on label atop HUB.




**MAXIMUM ALLOWABLE TOTAL WIRING LENGTH**

| DRIVER-TO-HUB AWG | HUB-TO-FIXTURE AWG | TOTAL LENGTH (FEET/METERS) |
|---|---|---|
| 18 | 18 | 150'/ 46m |
| 16 | 16 | 200' / 61m |
| 14 | 14 | 250' / 76m |
| 12 | 18 | 400' / 22m* |
| 12 | 16 | 450' / 137m* |
| 12 | 14 | 500' / 152m* |
| *Total length requires 250'/76m 12AWG Driver-to-Hub wiring | | |

## F. HOUSING INSTALLATION - TETHERED DRIVER

### 1.HOUSING AND APPLIQUE INSTALLATION

The following instructions assume remodel power supplies have been connected and installed and/or proper ceiling cut-out has been made ***(Fig.1)*** and ready to accept housing and appliqué. ***(Fig.4)***

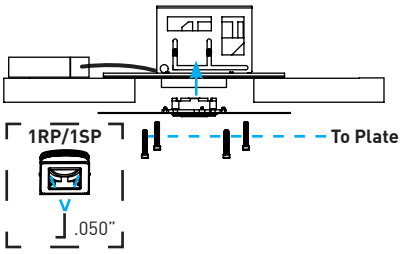
After confirming accurate cutout size, carefully raise housing assembly into ceiling, positioning housing where base screw holes are visible. Attach appliqué using screws to housing collar, referencing ***"Fig.4"*** for correct collar screw length. Ensure all mounting screws are securely tightened, alternating tightening order to ensure flush installation. **DO NOT OVERTIGHTEN.**

**Important :** 1" Round and Square pinhole baffles (1RP/1SP) feature additional locking screws. Tighten using 0.50" allen key prior to plug installation ***(Fig.4)***.

**Important:** Square fixture installations require final alignment. Utilize string line or laser line to obtain uniform or desired alignment between multiple fixtures or in relation to parallel planes ***(Fig.5)***. Verify correct housing aperture position using laser or string line, referencing edges of housing ***(Fig.6)***.

**WARNING:** *LED module must be installed prior to taping and floating. See Section F-2 for LED installation steps.*

After fixture is secured, ensure baffle is removed and install plaster plug ***(Fig.7)***. Apply tape over finger pull to protect optic and LED. Do not remove plug until all plaster and paint work is complete.




| Ceiling | Screw | Part # |
|---|---|---|
| 0.5"- 0.625" (13-16mm) | 0.375" (10mm) | PH01-233 |
| 0.75" (19mm) | 0.5" (13mm) | PH01-102 |
| 1" (25mm) | 0.75" (19mm) | PH01-128 |
| 1.25" (32mm) | 1.125" (29mm) | PH01-236 |
| 1.5" (38mm) | 1.25" (32mm) | PH01-232 |

*Fig.4*

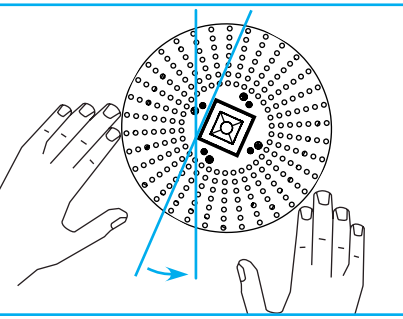


*Fig.5*

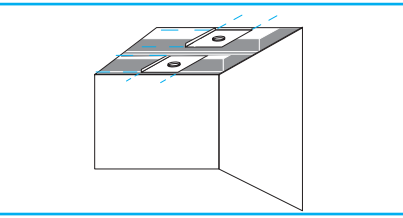


*Fig.6*

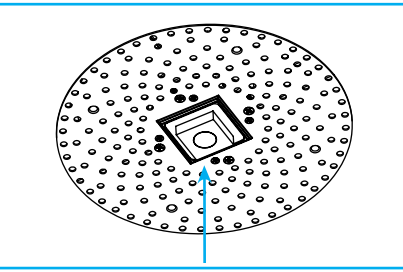


*Fig.7*

## 2. LED INSTALLATION (HOUSING-BASED)

These instructions pertain to LED installation for integral driver housing-based fixtures only; remote driver fixtures will have LED modules installed before shipment.

Remove disposable foam plug when used (zero-sightline applications).

**WARNING:** *Do not energize housing before removing disposable foam plug.*

Insert LED tool into assembly, rotating clockwise to first engage snap collar tabs, then further rotating clockwise to engage LED module with heat sink retention tabs. ***(Fig.8)***

**Note** LED module will not rotate further, nor move loosely, once properly engaged with retention tabs ***(Fig.9)***.

**WARNING:** *Do not overtighten.*

Remove LED installation tool once module is properly engaged. Using hands, carefully press LED assembly into either applique collar (trimless drywall installations) or millwork collar (trimless millwork applications) until snap collar tabs engage ***(Fig.10)***, taking caution not to mar surface of LED when pressing.

**Note:** Reinstall disposable foam plug if removed for LED module adjustment to accommodate rough-in construction, prior to final baffle installation.

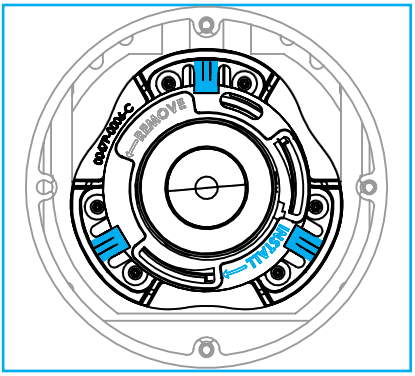



*Fig.8*

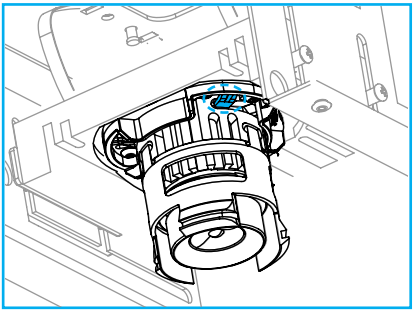


*Fig.9*

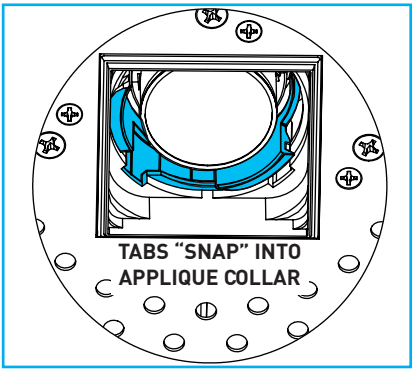



*Fig.10*

## G. HOUSING INSTALLATION - REMODEL

Ensure ceiling is finished before beginning fitting installation.

Once steps have been completed from Sections D and E, insert remodel mounting plate ***(Fig. 11)*** followed by remodel housing assembly with applique attached into ceiling cutout ***(Fig. 12)***, aligning mounting screws with respective holes on remodel mounting plate. Ensure applique sits flush to ceiling, avoiding overtightening on mounting screws. Attach LED wiring to the respective connector end.

**Note:** Ensure remodel mounting plate flanges face upward at time of ceiling insertion.

**Important:** Use factory-provided #6 screw size closest to ceiling depth. Gypsum screws are customer-provided and must be no longer than ceiling depth. Alternate tightening screws to ensure mounting plate remains flush as applique screws are tightened. **DO NOT OVERTIGHTEN.**

**Important:** Square appliqués require alignment. Use string line or laser level to obtain uniform or desired alignment between multiple fixtures or adjacent wall planes. Hand-tighten retaining screws when complete ***(Fig.13)***.

**Note:** Fixture functionality test is advised prior to mud-in ***(Section H)***.

After fixture is secured, ensure plaster plug is installed ***"Fig.14"***. Apply tape over finger pull to protect optic and LED. Do not remove plug until all plaster and paint work is complete.

**WARNING:** *Do not energize housing with plaster plug installed.*

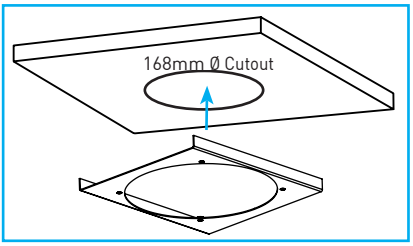



*Fig.11*

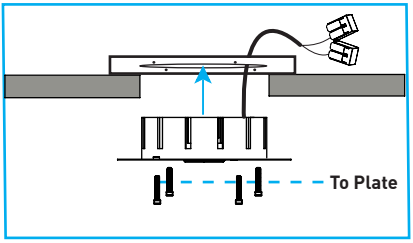



*Fig.12*

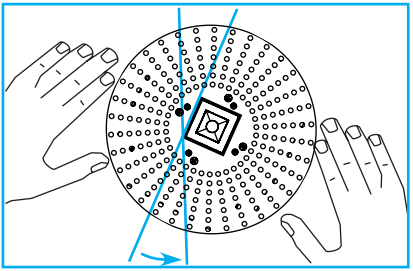


*Fig.13*

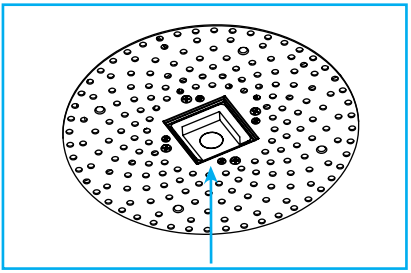


*Fig.14*

## H. TRIMLESS DRYWALL - ALL APPLICATIONS

**Note:** 0.5" and 1.0" trimless baffles and respective plugs must be installed prior to mud-in. *(Fig.15)* Baffle profiles after mud-in provided for reference in *"Fig. 19".*

Use floating knife to apply first pass of drywall compound from beyond outer edge of appliqué to inner 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.16)*.

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.17)*. Allow drywall compound to dry fully and cure.

Gently use block sanding screen to sand surface *(Fig.18)* until desired level of smoothness is achieved.

**WARNING:** *An 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.

**Important:** Apply pressure to baffle when removing mud plug to avoid inadvertent drywall break.

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 baffle installation and satisfactory trimless appearance.

As applicable, raise baffle with attached lens / film into trim aperture, pushing baffle up until flush with finished ceiling plane.

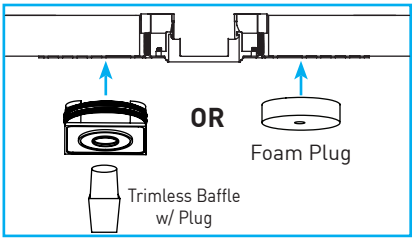


*Fig.15*

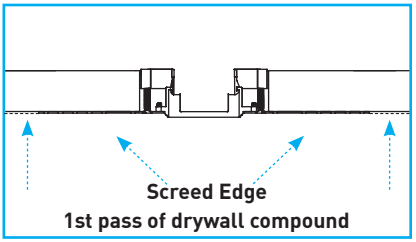


*Fig.16*

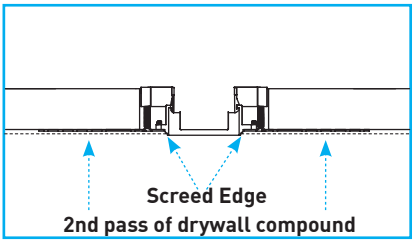


*Fig.17*

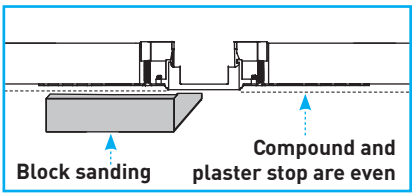


*Fig.18*

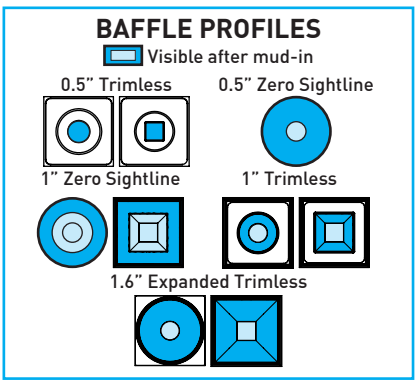


*Fig.19*

## I. SERVICING FIXTURE

**Important:** Before servicing or maintaining fixture, 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. Using baffle removal tool, carefully place edge of tool on inner most aperture rim and gently pull down until baffle is released from housing. ***(Fig.20)***

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. Lens is not serviceable on wet rated baffle assemblies; entire baffle assembly must be replaced by first removing existing baffle, outlined in step A.

D. Reinsert baffle to locked position by pushing up into trim aperture.

**Note:** Trimless 0.5" and 1" apertures require a 1.7" square ceiling break to service baffle, optic, LED, and driver ***(Fig.21)***.

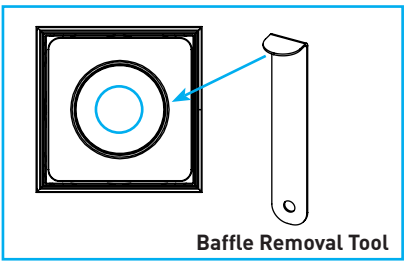



*Fig.20*

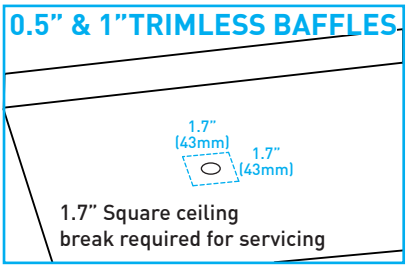



*Fig.21*

### 2. REPLACING LED ASSEMBLY

A. Remove LED assembly:

1. Remove baffle using steps outlined above in Section I-1. Grasp baffle using soft gloves or with clean soft cloth and remove by pulling down with baffle removal tool.
2. Remove optic from LED assembly by twisting counter-clockwise.
3. **Integral Based**: Attach LED installation tool by first inserting and twisting clockwise to engage tool with LED module, then counter clockwise to ***REMOVE*** module from housing. Carefully pull down to completely remove LED module. ***(Fig.22)*** **Remote:** Using a 1/16" allen key, loosen **(do not remove)** LED screws, rotating LED module counter-clockwise to remove from remodel housing. ***(Fig.23)***

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

C. Replace with new OEM LED assembly sourced through Lucifer Lighting, reversing order of preceding steps positioning LED in same orientation, referencing steps in Section F-2 as needed.

D. Reinstall optic and baffle.

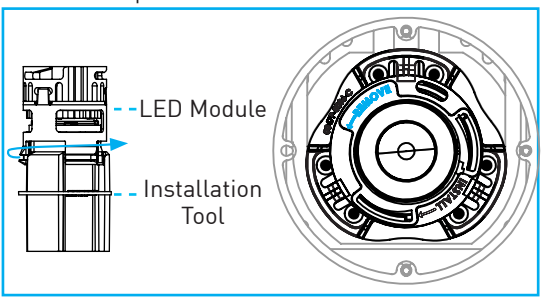



*Fig.22*

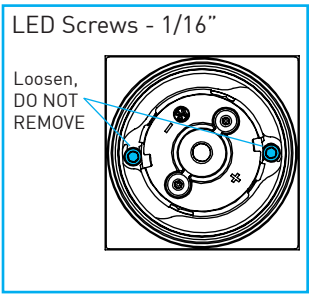



*Fig.23*

## 3. DRIVER REPLACEMENT

A. Remove baffle by inserting baffle removal tool referenced in Section I-1 and carefully prying down ***(Fig.24).*** Remove optic from LED module by by twisting counter clockwise.
B. Remove LED module using steps outlined in Section I-2.
C. Gently push assembly along heat sink rail, away from driver assmbly, to provide sufficient clearance. ***(Fig.24).***
D. Release driver wiring from push-in connectors to LED assembly.
E. Carefully pull on driver wiring harness to release the driver from the spring tab. Remove driver through housing aperture. ***(Fig.24).***
F. Replace with OEM driver sourced through Lucifer Lighting referencing the wiring instructions in Section E. Reverse preceding steps to reinstall driver.
G. Reinstall optic and baffle.

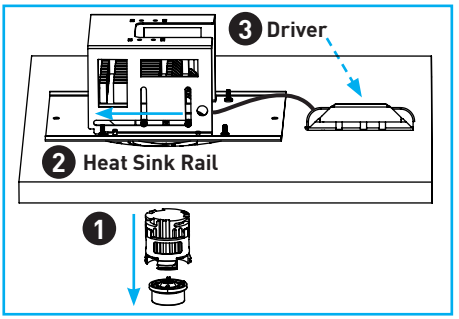
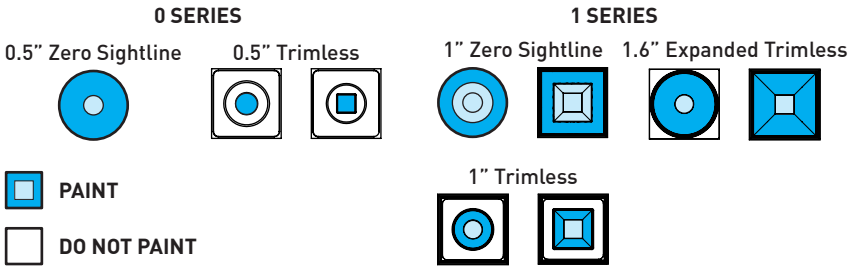



*Fig.24*

## 4. FIELD PAINTING OF TRIM

Though we strongly recommend custom paint be applied by factory during manufacturing, trim and baffle may be field painted without impacting factory mechanical warranty using following guidelines:

- Select paint suitable for application and location of trim, recognizing that Lucifer Lighting Company fixtures are tested not to exceed temperatures of 90° Celsius. Typical operating temperature of faceplate is 46° Celsius nominal.
- Trim plate surface must be properly prepped in accordance with paint manufacturer's instructions. Paint supplied and furnished by customer.
- Apply paint to exterior baffle and interior of baffle only, do not apply paint to lens. Minimal tolerance exists between baffle and flange. Excess paint buildup may interfere with baffle installation.

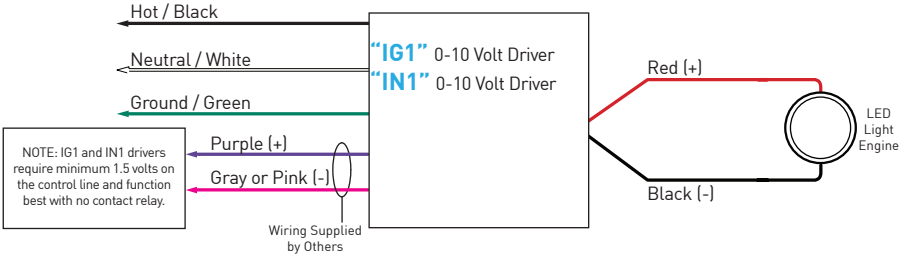


# J. DRIVER WIRING DETAIL

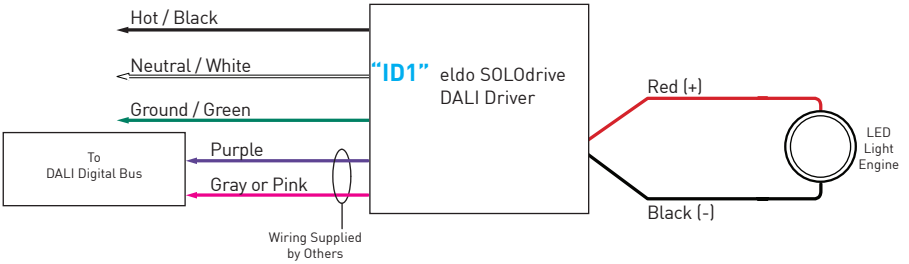
## GENERAL WIRING NOTES

1. Consult approved dimmer list to ensure compatibility.
2. Install in accordance with manufacturer's dimmer installation guidelines.
3. Secondary and 0-10V connections are polarity sensitive.

## WIRING DIAGRAM FOR ANALOG CONTROL




## WIRING DIAGRAM FOR ECOSYSTEM AND DIGITAL CONTROL




## REMOTE DRIVER WIRING DISTANCE

**Drivers: "IG1", "IN1","ID1"**

| AWG Value | 20 | 18 | 16 |
|---|---|---|---|
| Distance (ft) | 46 | 72 | 118 |
| Distance (m) | 14 | 22 | 36 |

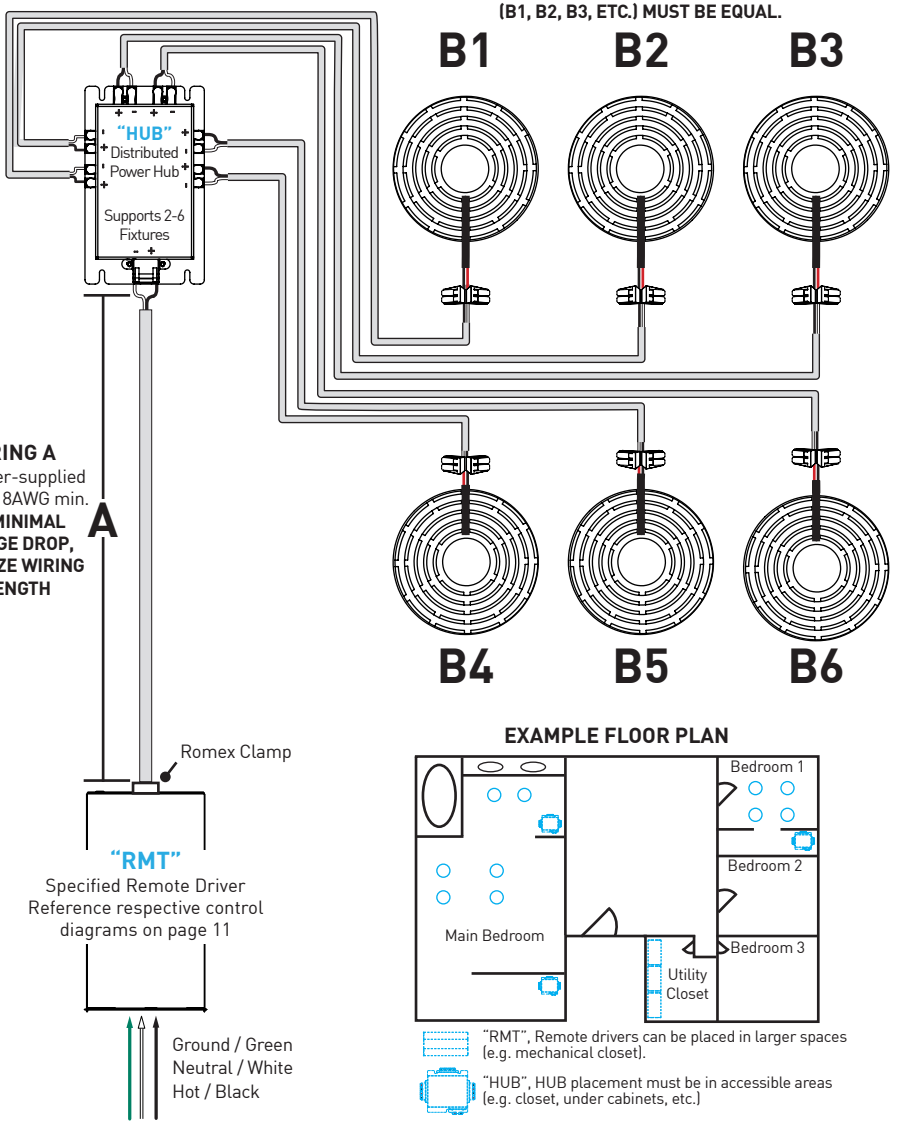
## DRIVE CURRENT INFORMATION

| | 80S/90S/95S | | | 90L | |
|---|---|---|---|---|---|
| | 06C | 11C | 15C | 11D | 15D |
| Min. Vf | 30.5 | 30.5 | 30.5 | 30.5 | 30.5 |
| Max. Vf | 39 | 39 | 39 | 39 | 39 |
| Current mA | 150 | 250 | 350 | 250 | 350 |
| Wattage W | 5.7 | 8.8 | 12.4 | 8.8 | 12.4 |

## K. HUB WIRING DETAIL

WIRING DIAGRAM FOR HUB

**WIRING B**
2 Conductor Wire, 18AWG minimum.
Provided by others (e.g. 18/2 HVAC).
**ALL SECONDARY WIRING B LENGTHS (B1, B2, B3, ETC.) MUST BE EQUAL.**




**WIRING A**
Customer-supplied
Romex, 18AWG min.
**FOR MINIMAL VOLTAGE DROP, MAXIMIZE WIRING A LENGTH**

**A**

**EXAMPLE FLOOR PLAN**




"RMT", Remote drivers can be placed in larger spaces (e.g. mechanical closet).

"HUB", HUB placement must be in accessible areas (e.g. closet, under cabinets, etc.)

0/1 Series fixture, connected to HUB

Please consult website for full warranty terms and conditions:
www.luciferlighting.com/warranty

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