



LFX-DL-TUNC and LFXA-DL-DEMO
Tunable LED Light Fixture and
Demo Kit for Crestron® Tunable LED Lights

Product Manual
Crestron Electronics, Inc.

The original language version of this document is U.S. English.
All other languages are a translation of the original document.

Regulatory Model: M202133001

Crestron product development software is licensed to Crestron dealers and Crestron Service Providers (CSPs) under a limited nonexclusive, nontransferable Software Development Tools License Agreement. Crestron product operating system software is licensed to Crestron dealers, CSPs, and end-users under a separate End-User License Agreement. Both of these Agreements can be found on the Crestron website at www.crestron.com/legal/software_license_agreement.

The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed online at www.crestron.com/legal/patents.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

Crestron, the Crestron logo, Crestron Home, and SolarSync are either trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and/or other countries. Apple and App Store are either a trademarks or a registered trademarks of Apple, Inc. in the United States and/or other countries. IOS is either a trademark or a registered trademark of Cisco Systems, Inc. in the United States and/or other countries. Araya and Lumenetix are either trademarks or registered trademarks of ERP Power, LLC in the United States and/or other countries. Android and Google Play are either trademarks or registered trademarks of Google Inc. in the United States and/or other countries. Intertek and the Intertek logo are either trademarks or registered trademarks of Intertek Group in the United States and/or other countries. UL is either a trademark or registered trademark of Underwriters Laboratories, Inc. in the United States and/or other countries. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. Crestron is not responsible for errors in typography or photography.

©2023 Crestron Electronics, Inc.

Contents

Overview	6
Features	7
LFX-DL-TUNC Features	8
LFXA-DL-DEMO Features	13
Specifications	15
LFX-DL-TUNC Specifications	16
Product Specifications	16
Dimension Drawings	20
LFXA-DL-DEMO Specifications	52
Product Specifications	52
Installation	53
In the Box	54
Mounting	55
Wiring	59
Wiring Guidelines	59
Application Scenarios	61
Power Connections	62
DMX-C Connections	63
Test the Fixtures	65
Test the CAT5 STP Cables	65
Test the Connections	65
Verify Fixture Count and Wiring Guidelines	65
Test the Light Fixtures	66
Set All Fixtures to Neutral White	66
Cycle Intensity, CCT, Saturation, and Hue	67
Everything Off	67
Test DMX 1 Output	67
Test DMX 2 Output	67
Test All Fixtures (Varying Intensity)	68
Adjustments	69
Tilt Adjustment	69
Rotation Adjustment	70
Install Drywall	71
Trims	74
Maintenance	75
Remove Trims	75
Replace the Light Engine	76
Replace the Driver and Power Supply	79
Change the Optic	82

Change the Media	82
Operation	84
LFX-DL-TUNC	85
LFXA-DL-DEMO	86
Setup	87
DMX-C Demo App	89
Control a Demo Kit	92
Resources	96
Crestron Support and Training	96
Programmer and Developer Resources	96
Product Certificates	96
Related Documentation	96

Overview

TIP: A fully-functional lighting system utilizing the LFX-DL-TUNC fixtures requires a DIN-GWDL gateway and Crestron Home® OS control processor.

- **DIN-GWDL:** Provides the interface between the control system and the light fixtures. Refer to the [DIN-GWDL Product Page](#) and [DIN-GWDL Product Manual](#) for details.
- **Crestron Home® Control System:** Provides user interface controls and light fixture configuration. Refer to the [Crestron Home® OS Product Manual](#) for details.

This section provides the following information:

- [Features](#)

Features

This section provides the following information:

- [LFX-DL-TUNC Features](#)
- [LFXA-DL-DEMO Features](#)

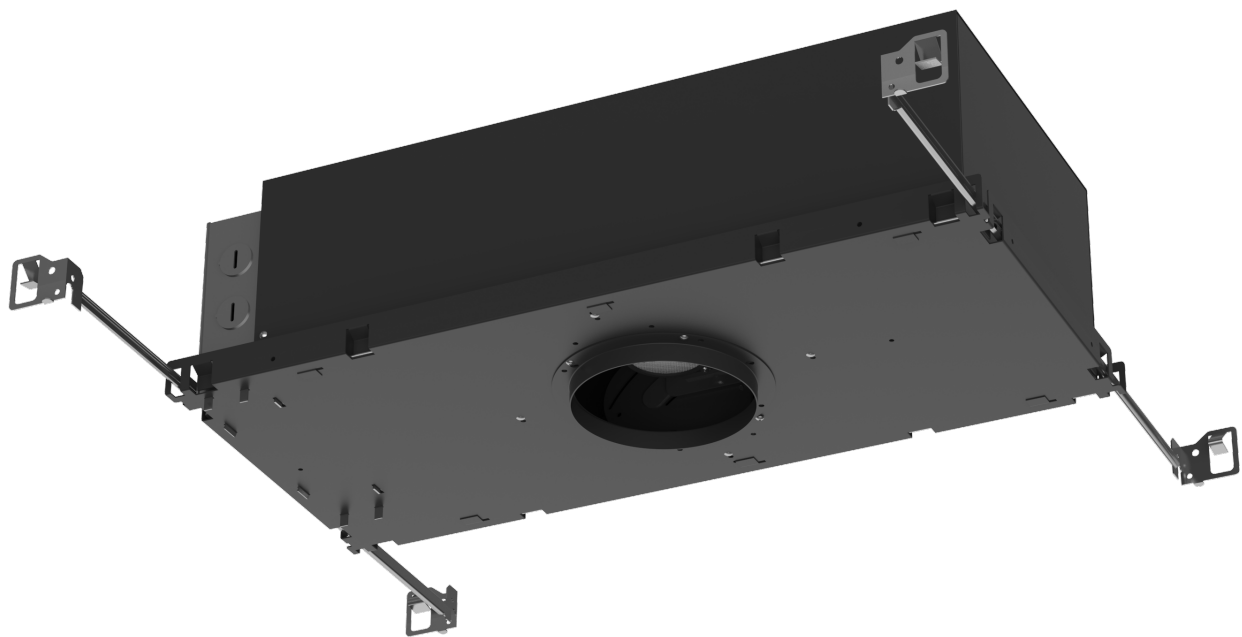
LFX-DL-TUNC Features

The LFX-DL-TUNC is a fully-tunable LED light fixture. Adjust the hue, saturation, color temperature, and light intensity to create a light color that is perfect for any space.

The LFX-DL-TUNC is fully configurable to fit any space in a new construction. Use the [Crestron Light Fixture Configuration Tool](#) to specify and order fixtures.

TIP: A fully-functional lighting system utilizing the LFX-DL-TUNC fixtures requires a DIN-GWDL gateway and Crestron Home® OS control processor.

- **DIN-GWDL:** Provides the interface between the control system and the light fixtures. Refer to the [DIN-GWDL Product Page](#) and [DIN-GWDL Product Manual](#) for details.
- **Crestron Home® Control System:** Provides user interface controls and light fixture configuration. Refer to the [Crestron Home® OS Product Manual](#) for details.



Key features include:

- Ceiling mounted tunable LED downlight fixture for indoor use
- Full-color tunable, white tunable, and warm to dim tunable
- Designed for use with Crestron Home® OS
- 35° and 55° optics are available
- Field-replaceable optic
- Dimming range from 0.1% to 100%
- 1650 to 8000K color temperature range

- CRI (Color Rendering Index) of 96
- Color accuracy <2 SDCM over the life of the product
- DMX-C control using a [DIN-GWDL](#) gateway
- Configure and order using the [Crestron Light Fixture Configuration Tool](#)
- Available in fixed, adjustable, and wall wash configurations
- Designed for new construction installations
- Adjustable fixtures allow up to 40° tilt and 360° rotation
- Round and square aluminum trims with reflector and a 3.5 in. (90 mm) aperture
- Trims available with or without a flange
- Trim options include adjustable tilt and rotation, 20° wall wash, and 2 in. (51 mm) pinhole
- Trim and reflectors available in white, black, bronze, matte silver, and matte nickel
- Optional media available for elongating, softening, honeycomb, frosted, and perimeter frosted effects
- Mounts using adjustable hanger bars
- Enclosures available for insulated, noninsulated, and Chicago plenum installations
- Utilizes Lumenetix® Araya® CTM3 LED array

DMX-C Controllable

The LFX-DL-TUNC is controlled using a [DIN-GWDL](#) (sold separately) using the DMX-C profile. DMX-C offers a reliable method of communicating with Crestron light fixtures and approved third-party fixtures.

Crestron uses shielded CAT5 cables for easy wiring. Up to 64 lighting fixtures can be connected to a DIN-GWDL. To connect up to 85 fixtures, add a [DIN-GWDL-SPLTR](#) (sold separately).

Color Tunable

The fully-tunable LED light fixtures output a wide range of white and colored light. The light output ranges from 1650K to 8000K (candle reddish to daylight), hue from 0 to 360°, and saturation from 0 to 100%. The dimming ranges from 0.1% to 100%.

Circadian Rhythm Lighting Control

Sunlight has a predictable rhythm of color temperature and intensity. Connected light fixtures can be synchronized with this natural rhythm.

Crestron Home® Color UI

The LFX-DL-TUNC is designed for use with [Crestron Home® OS](#). Use the Crestron Home® Setup app and Crestron Home® OS app to configure and control tunable lights.

Use the Crestron Home Color UI to easily control the tunable white and full color lighting loads. Adjust hue, saturation, intensity and color temperature. Create scenes to set the mood for entertaining or ensure the optimal setting for a professional conference call. Set lighting schedules or implement Circadian lighting rhythms.

SolarSync® Sensor

Match outside light using an outdoor SolarSync® Sensor ([GLS-LCCT](#), sold separately). SolarSync communicates the outside color temperature to Crestron Home® in real-time and tunes your indoor lighting accordingly.

Housing

The LFX-DL-TUNC housing is designed for new construction installations with joists spaced between 14 in. (356 mm) and 25 in. (635 mm). Enclosures are available for installation in noninsulated, insulated, and Chicago plenum ceilings and can be configured for use in wet locations.

The housing has a 3.5 in. round or square aperture for use with round or square trims.

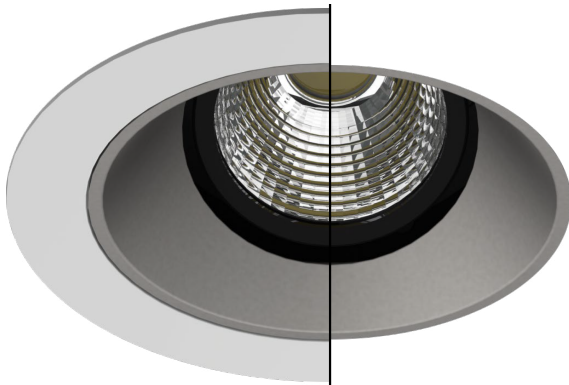
Adjustments

Adjustable fixtures are available for installation in vaulted ceilings or to highlight objects in a room. Adjustable fixtures allow the light engine to be tilted up to 40° and rotated up to 360°. Pair adjustable fixtures with adjustable or wall wash trims.

Trims

Die-cast aluminum trims provide a clean finish and are available with or without a trim flange. Round and square trims are available with options for wall wash, pinhole, and adjustable applications. For ceilings thicker than 0.75 in. (19 mm), extension clips up to 1.88 in. (48 mm) are available.

Flanged and Flangeless Trims



Fixed Trims - Round (Left) and Square (Right)



Adjustable and wall wash trims are compatible with light fixtures that have the adjustable light option. They can direct light towards a centerpiece in a room or accent a painting or photograph on a wall. Adjustable trims can rotate and tilt to match the orientation of the light fixture. Wall wash trims are set to 20° tilt.

Adjustable and Wall Wash Trims - Round (Left) and Square (Right)



Pinhole trims help direct the light to a single point of interest. Pinhole trims have a 2 in. (51 mm) aperture.

Pinhole Trims - Round (Left) and Square (Right)



For wet location installations, clear or frosted glass is added to the trim.

The trim and reflector are available in white, black, bronze, matte silver, and matte nickel.



The trim is included with the light fixture and can also be purchased separately using the [Crestron Light Fixture Configuration Tool](#). To purchase separately, refer to [LFX-DL-TRIM](#).

Beam Angle Options

Optics provide variations in the beam spread and lumen output of the light fixture. The 35° optic provides a narrower beam spread to concentrate light in a smaller area while the 55° optic provides a wider beam spread to distribute light across a larger area.

The optic is included with the light fixture and can also be purchased separately using the [Crestron Light Fixture Configuration Tool](#). To purchase separately, refer to [LFX-DL-ACCY](#).

LFXA-DL-DEMO Features

The [LFXA-DL-DEMO](#) is a demo kit for the [LFX-DL-TUNC](#) light fixture that comes in a high-quality bag with protective foam lining for ease of transport and quick setup. It is compactly sized, yet displays all features of the LFX-DL-TUNC including color tuning, brightness control, and warm to dim variations. A DMX-C controller app exclusive to the demo kit allows for controlling the light output, and for setting and recalling up to 12 individual scenes. Paint samples are included to accurately visualize all available color options.

The demo kit also contains trims, media, and optics to simulate how the light fixture can be used in different applications such as wall washing to highlight a painting, or pinhole lighting to highlight an object. To demonstrate fixture adjustability, the kit has a T-handle 9/64 hex key that enables the fixture to be tilted and rotated.

Use the [Crestron Light Fixture Configuration Tool](#) to order.



Key features include:

- Demonstrate the features available on the Crestron® Tunable LED Light Fixtures
- Demo kit is neatly packed in an easy to carry bag with a shoulder strap

- The tunable LED light is housed in a configurable tabletop display stand
- Includes five color sample ring, six trims, two optics, and an adjustment key
- Wireless control using the DMX-C Demo app
- Order using the [Crestron Light Fixture Configuration Tool](#)

Trims, Media, and Optics

Six trims are included with the LFXA-DL-DEML to show the round and square trim options. The round and square trims are demonstrated in adjustable, wallwash, and pinhole flangeless configurations in the available color options.

Optics affect the beam spread and the lumen output of the light fixture to either concentrate the light in a smaller area or distribute it across a larger area. The demo kit carries one sample each of the 35° and 55° optic.

Color Samples

Black, bronze, matte nickel, matte silver, and white color samples are included to accurately depict the color finish for the trims.

DMX-C Demo App

The Crestron DMX-C Demo app is available for iOS® devices on the Apple® App Store® online store and for Android™ devices on the Google Play™ store. The app connects to and operates the fixture in the demo kit and provides brightness control, color tuning, and warm to dim tuning. It can scan and interact with up to four demo kits at a time by providing an identification tag for each one. Hue, saturation, intensity, and color temperature can all be individually adjusted from the app, and up to 12 light output variations can be saved as individual scenes.

Specifications

This section provides the following information:

- [LFX-DL-TUNC Specifications](#)
- [LFXA-DL-DEMO Specifications](#)

LFX-DL-TUNC Specifications

Product specifications for the LFX-DL-TUNC.

Product Specifications

Performance Summary

Lumen Output	35° Fixed:	711 lm @ 20 W
	35° Adjustable:	693 lm @ 20 W
	35° Pinhole:	498 lm @ 20 W
	55° Fixed:	830 lm @ 20 W
	55° Adjustable:	800 lm @ 20 W
	55° Wall Wash:	497 lm @ 20 W
Luminous Efficacy	35° Fixed:	36 lm/W
	35° Adjustable:	35 lm/W
	35° Pinhole:	25 lm/W
	55° Fixed:	42 lm/W
	55° Adjustable:	40 lm/W
	55° Wall Wash:	25 lm/W
Color Rendering Index	35° Fixed:	96 CRI
	35° Adjustable:	96 CRI
	35° Pinhole:	96 CRI
	55° Fixed:	96 CRI
	55° Adjustable:	96 CRI
	55° Wall Wash:	97 CRI
Color Accuracy	<2 SDCM over the life of the product	
L70 Estimate	50,000 hours	
Dimming	0.1 to 100%; Tunable color	
CCT (Correlated Color Temperature)	1650 to 8000K	
Saturation	0 to 100%	
Hue	0 to 360°	

Housing and Light Engine

Enclosure Type Enclosures available for insulation contact, non-insulation contact, and Chicago plenum installation locations;

NOTE: Extension clips are available for ceilings thicker than 0.75 in. (19 mm).

Insulation Contact: For insulated ceilings where the enclosure will come in contact with insulation;

Non-Insulation Contact: For noninsulated ceilings;

Chicago Plenum: For Chicago plenum installations

Aperture 3.5 in. (89 mm);
Round or square

Adjustability Fixed, adjustable, or wall wash options available;
Adjustable fixtures provide tilt adjustments up to 40° and rotation adjustments up to 360°

Optics and Media

Beam Spreads 35° or 55°;
Field replaceable

Media Elongating, frosted, honeycomb, perimeter frosted, and softening;
Media is secured with the included media holder

Trim

Shape Round or square;
Flanged or flangeless;
Flangeless trim is available in 3 sizes to accommodate ceilings from 0.5 in. to 1.75 in. (13 mm to 45 mm)

Type Adjustable, fixed, pinhole, or wall wash

Finishes Trim and reflector are available in 5 finishes;
Available in white, black, bronze, matte silver, matte nickel

Glass Lens Clear or frosted;
Required for wet installation locations, glass is secured to the trim;
Not available with wall wash trims

Extension Clips Install in thicker ceilings by using an optional extension clip;
Extension clips are available in five sizes to accommodate ceilings from 0.75 in. to 1.88 in. (19 mm to 48 mm)

Electrical

Voltage 120VAC, 277VAC; 50/60Hz

Power Consumption 20 W

Power Factor 0.981

Inrush Current 28.48A at 277VAC;
12.29A at 120VAC

Emergency lighting No

Communications

DMX-C DMX-C communications;
Requires a [DIN-GWDL](#) for control (sold separately)

Connectors

Line (3) 16 AWG, flying leads, black (power), white (neutral), green (ground);
Connect one line in and one line out connection per junction box. Do not exceed six 12 AWG conductors in the junction box;
Use 90°C cable or greater;
Use a dedicated line cable that is home-run to the circuit breaker, do not connect to a switched line

DMX-C IN, DMX-C OUT (2) RJ-45 connector, female;
Use shielded CAT5 wire or better, do not connect drain to ground;
Daisy-chain all fixtures, do not create loops;
DMX-C IN: From [DIN-GWDL](#), [DIN-GWDL-SPLTR](#), or previous fixture in the daisy-chain;
DMX-C OUT: To next fixture in daisy-chain, the last fixture in the daisy-chain requires a termination resistor (provided with the fixture)

Environmental

Temperature **Operation:** 32° to 95°F (0° to 35°C), room temperature;
Storage: 32° to 140°F (0° to 60°C), not powered

Humidity 10% to 95% RH (noncondensing)

Location Damp or wet installation locations based on the configuration;
Damp location installation requires that water spray will never come in contact with the fixture;
Wet location installation requires the selection of a glass lens

Construction

Housing **Baseplate:** 20 ga milled aluminum;
Junction box: 18 ga galvanized steel with multiple knockouts;

Mounting (4) Hanger bars, 2 per side;
Bidirectional mounting;
Adjustable between 14 - 25 in. (356 - 635 mm), 14 - 18 in. (356 - 458 mm) is recommended

Trim Die-cast aluminum

Dimensions

Insulation Contact Housing Width: 21.12 in. (537 mm)
Height: 5.75 in. (146 mm)
Depth: 9.75 in. (248 mm)

Noninsulation Contact Housing and Chicago Plenum Housing Width: 13.44 in. (342 mm)
Height: 5.48 in. (139 mm)
Depth: 10.88 in. (276 mm)

Ceiling Hole	Round: Ø 4-1/2 in. (115 mm); Square: 3-7/8 in. (99 mm)
Trim Width	Round Flanged: Ø 4.97 in. (127 mm); Round Flangeless: Ø 3.72 in. (95 mm) Square Flanged: 4.62 in. (118 mm); Square Flangeless: 3.38 in. (86 mm)
Trim Depth	Flanged: Projects 0.07 in. (2 mm) from ceiling surface; Flangeless: Flush with the ceiling surface

Weight

7.50-9.50 lb (3.40-4.31 kg)

Compliance

Regulatory Model: M202133001

FCC Class B, CAN ICES-3 (B)/NMB-3(B). UL® Listed for US & Canada

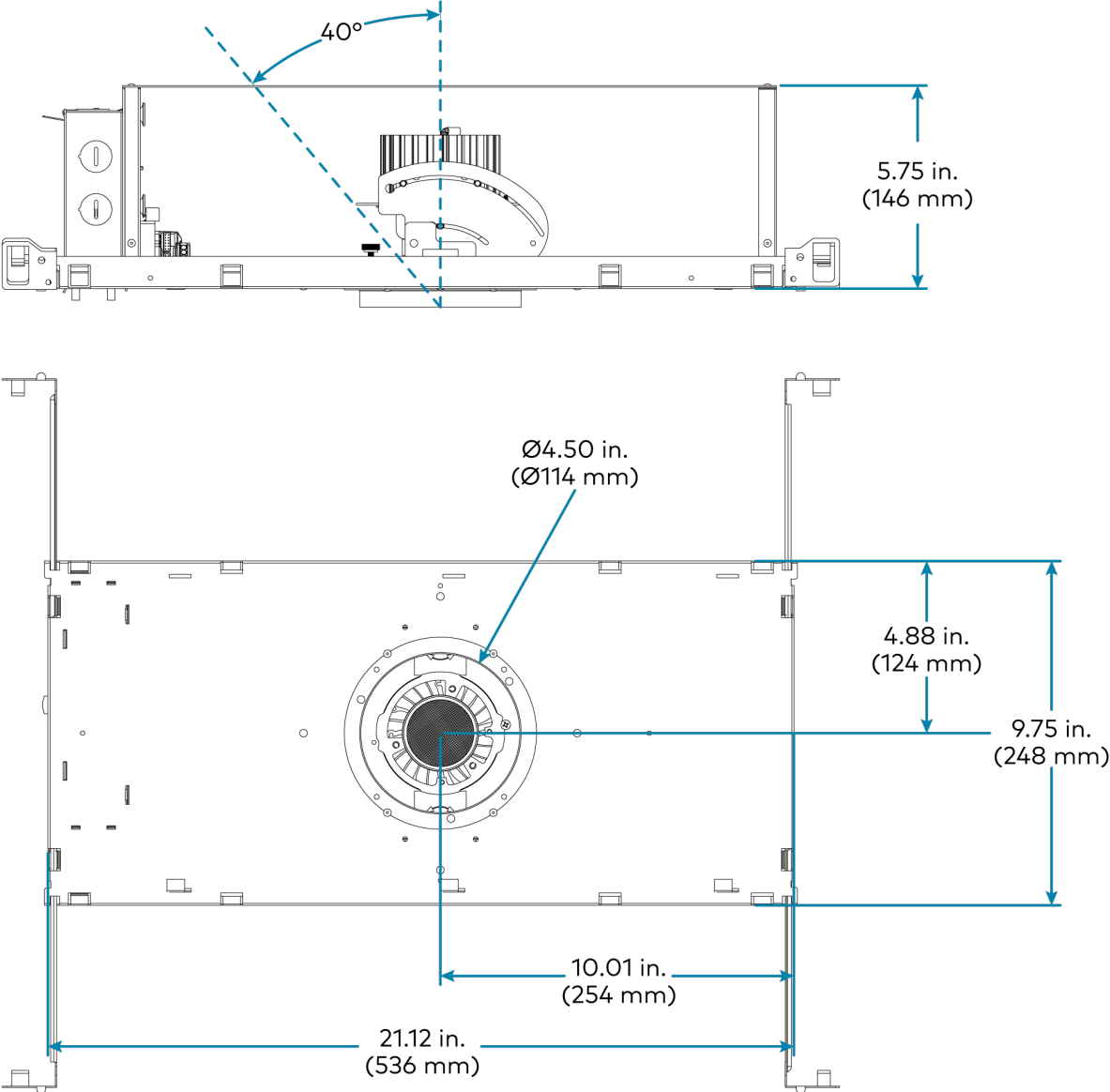
Chicago Plenum In accordance with CCEA (City of Chicago Environmental Air), Chicago electrical code section 18-27-300.22©

To search for product certificates, refer to support.crestron.com/app/certificates.

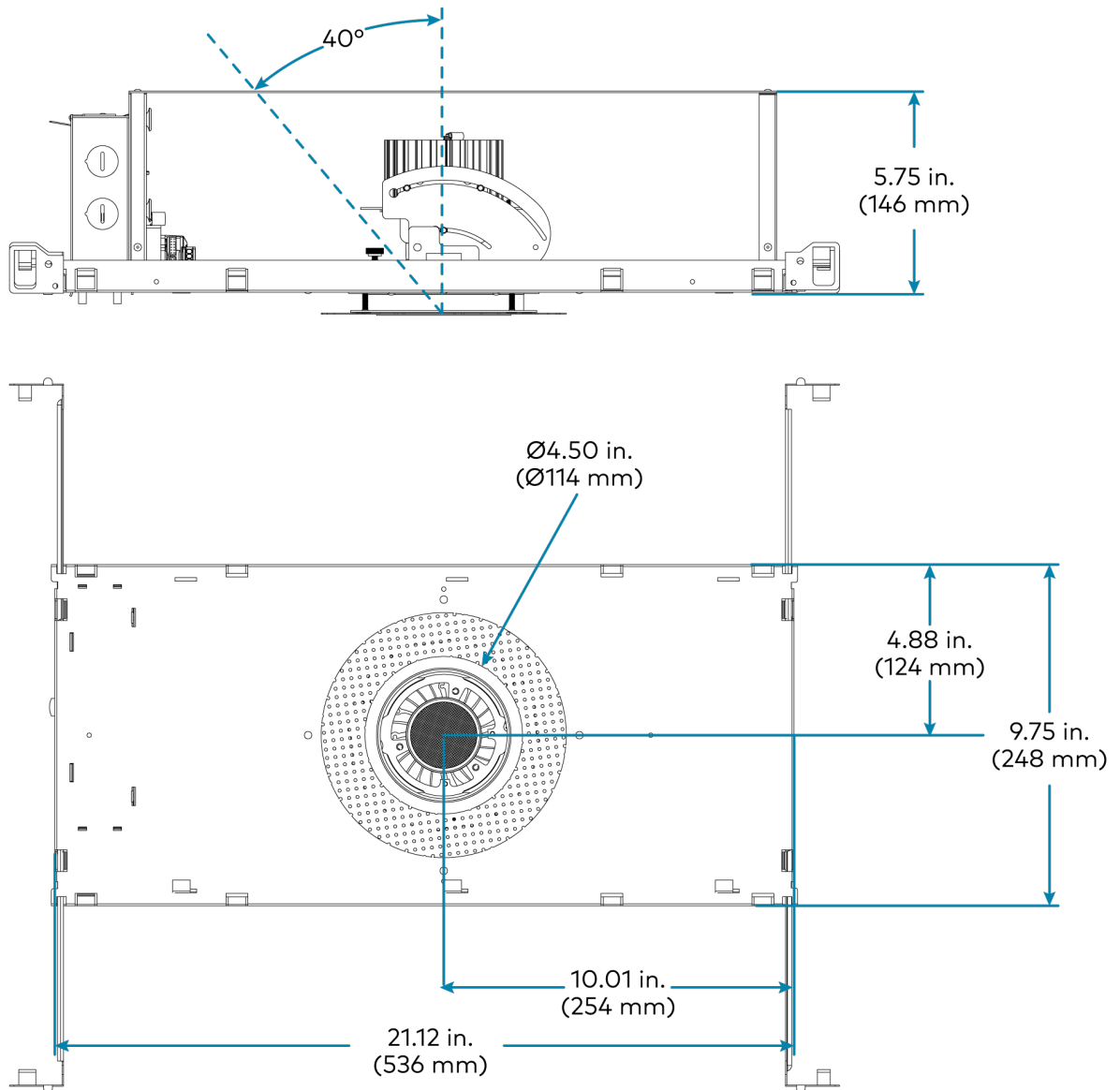
Dimension Drawings

Enclosure Dimensions

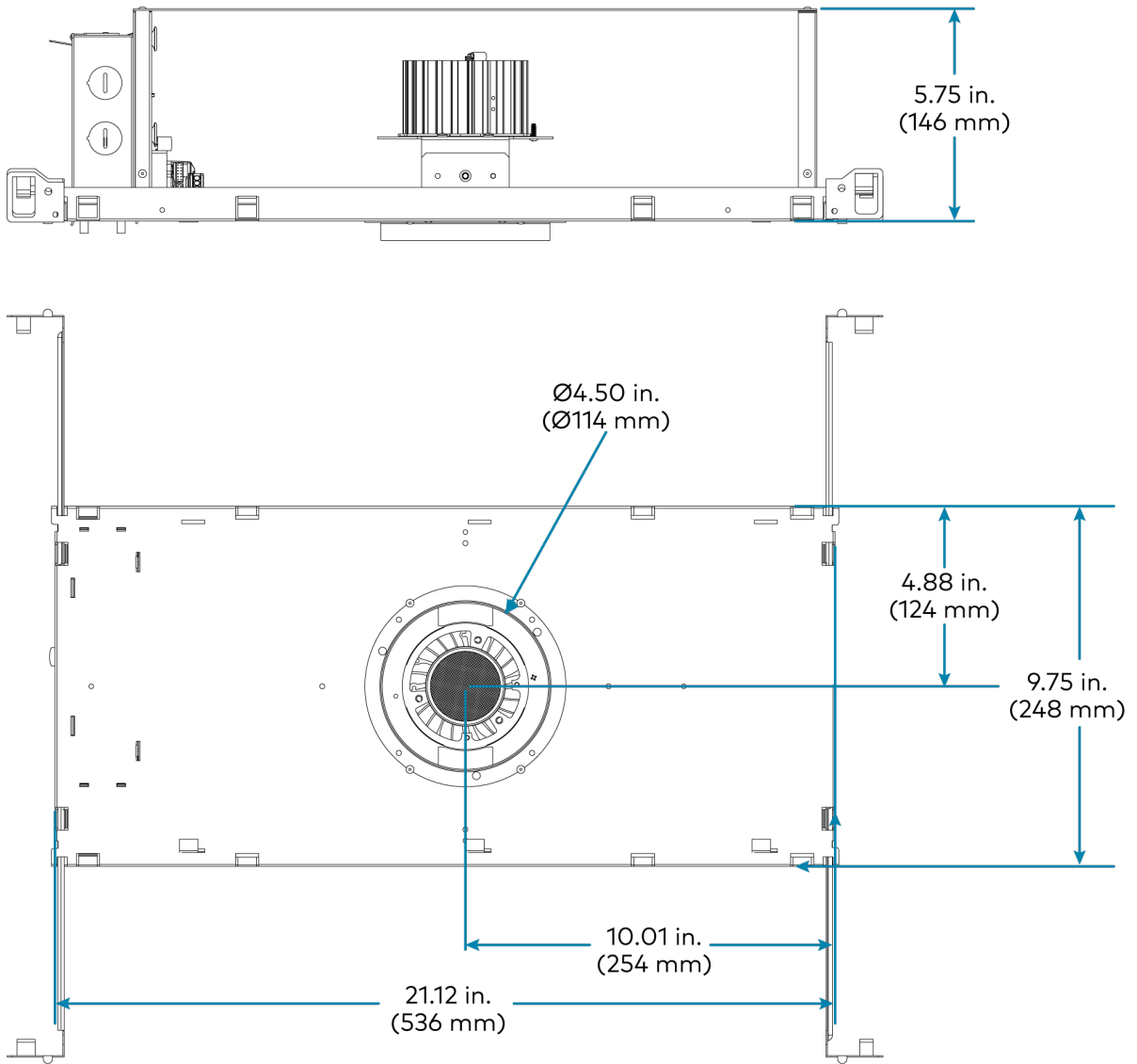
Round, Insulation Contact, Adjustable, Flanged Trim



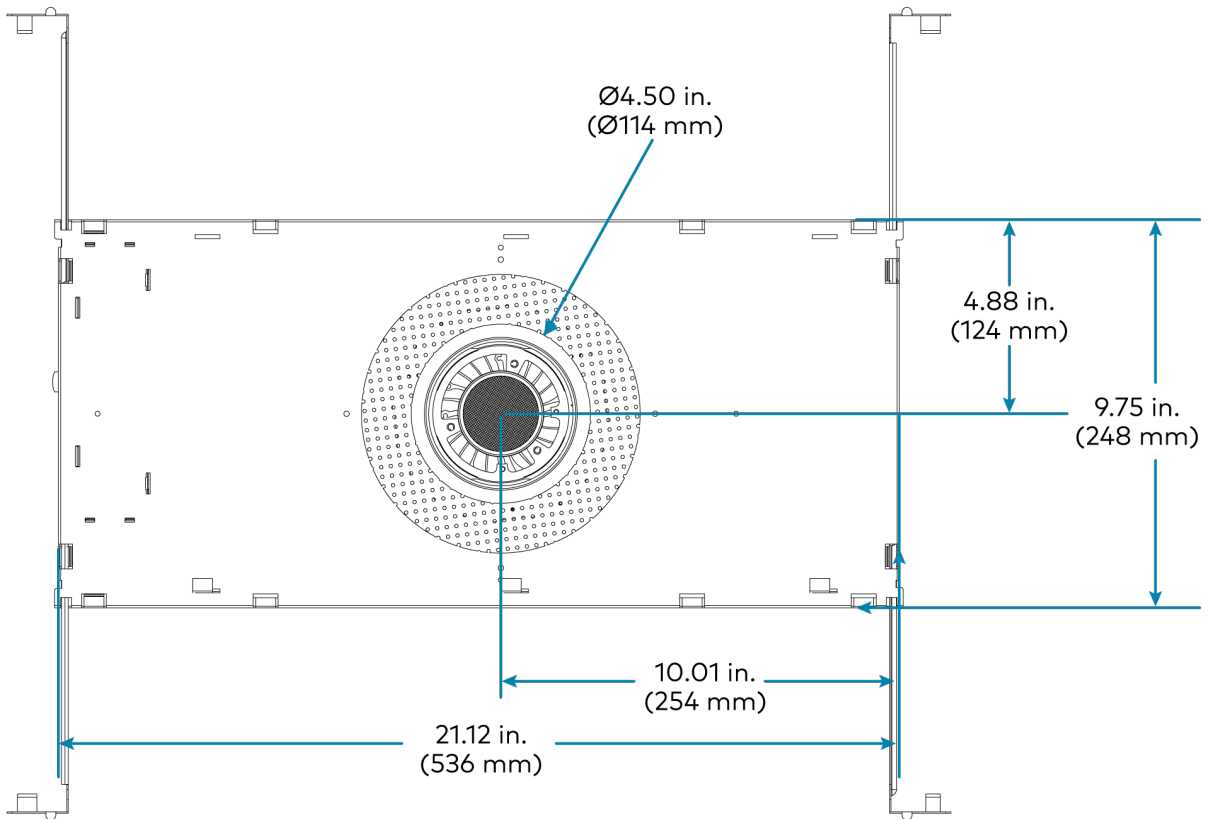
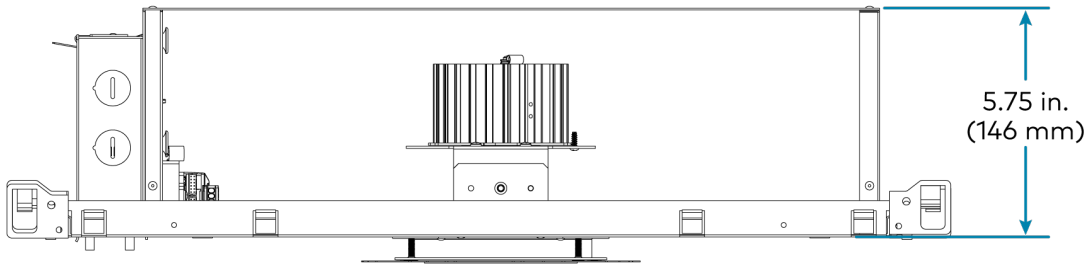
Round, Insulation Contact, Adjustable, Flangeless Trim



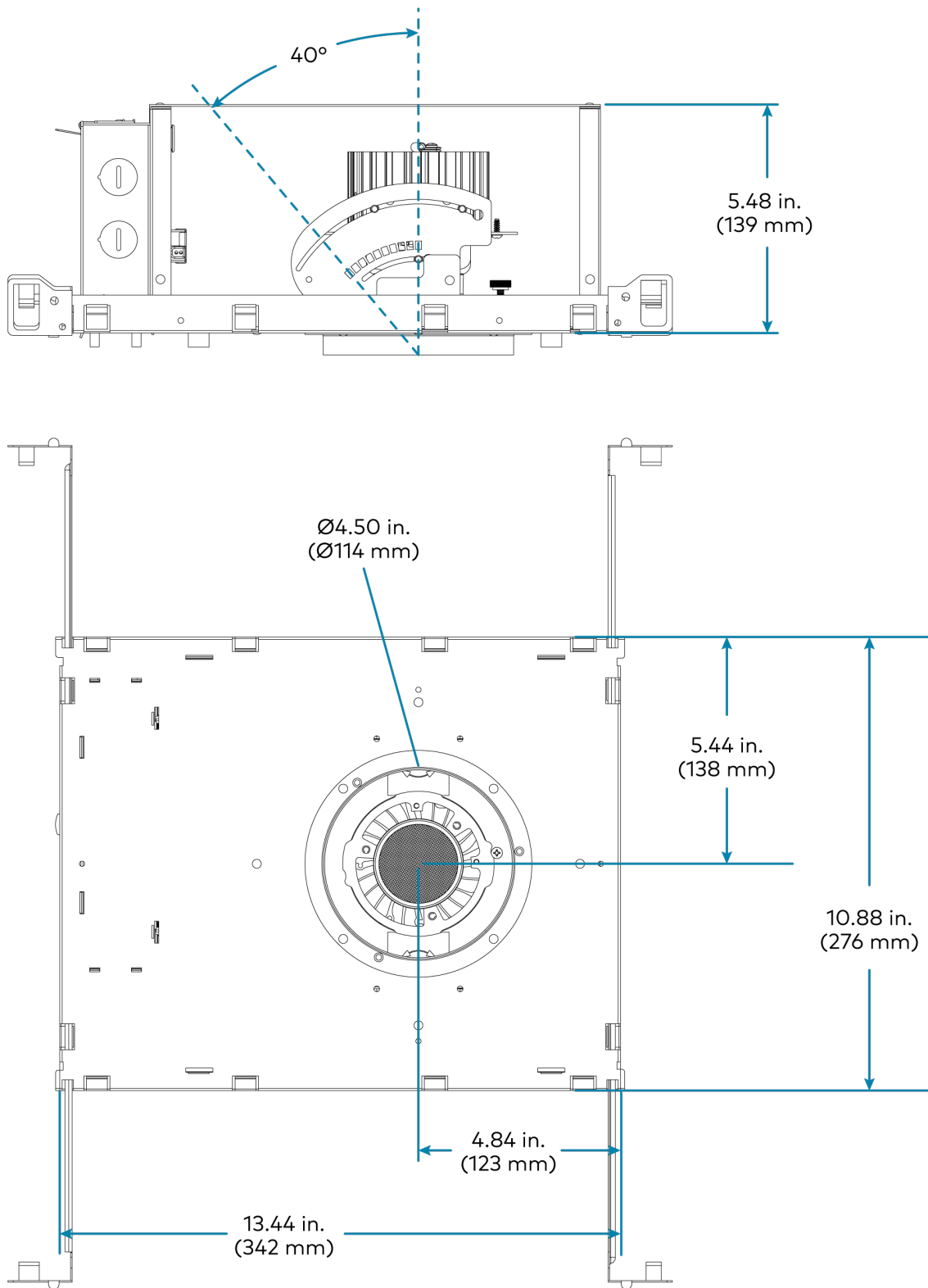
Round, Insulation Contact, Fixed, Flanged Trim



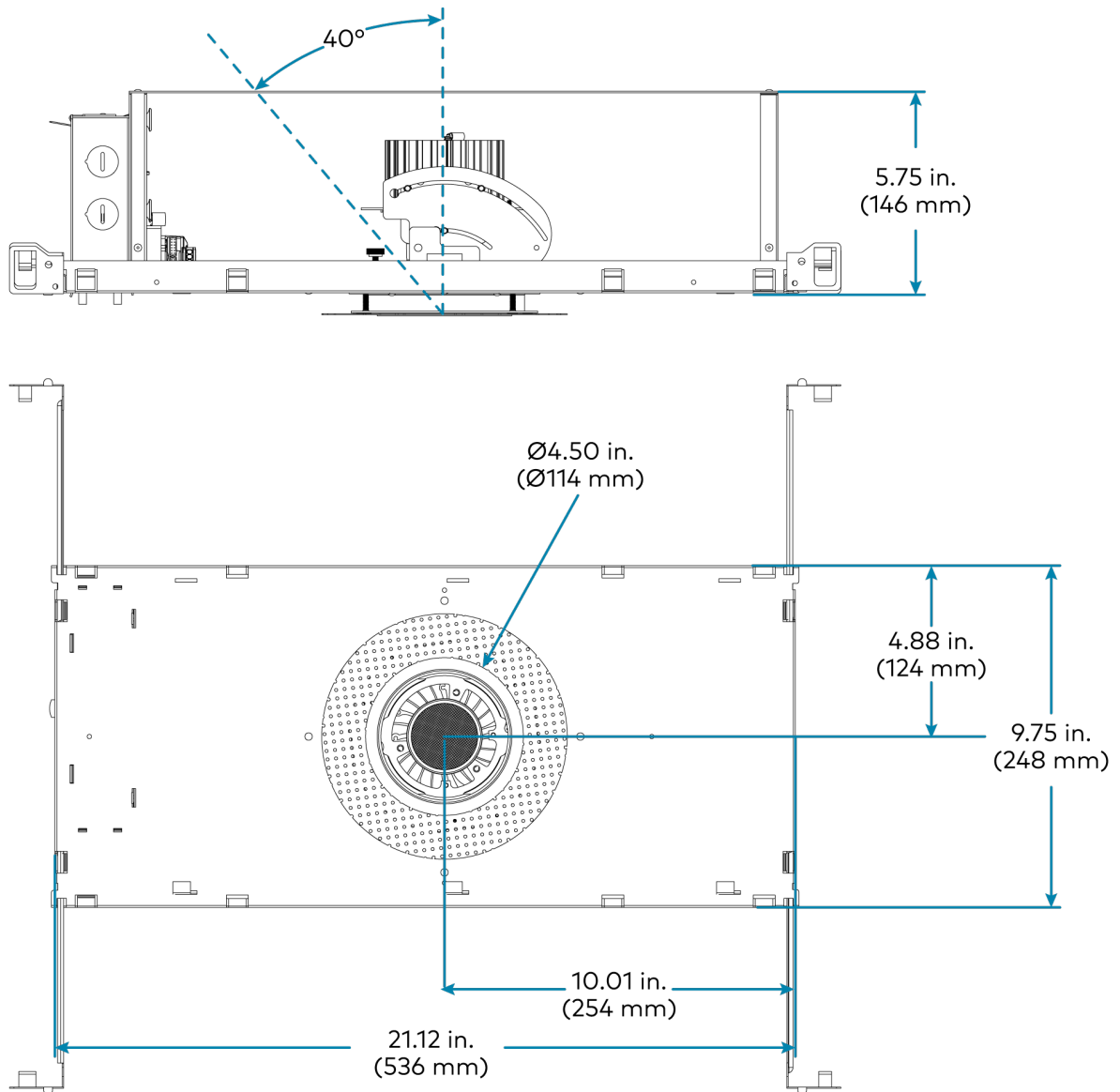
Round, Insulation Contact, Fixed, Flangeless Trim



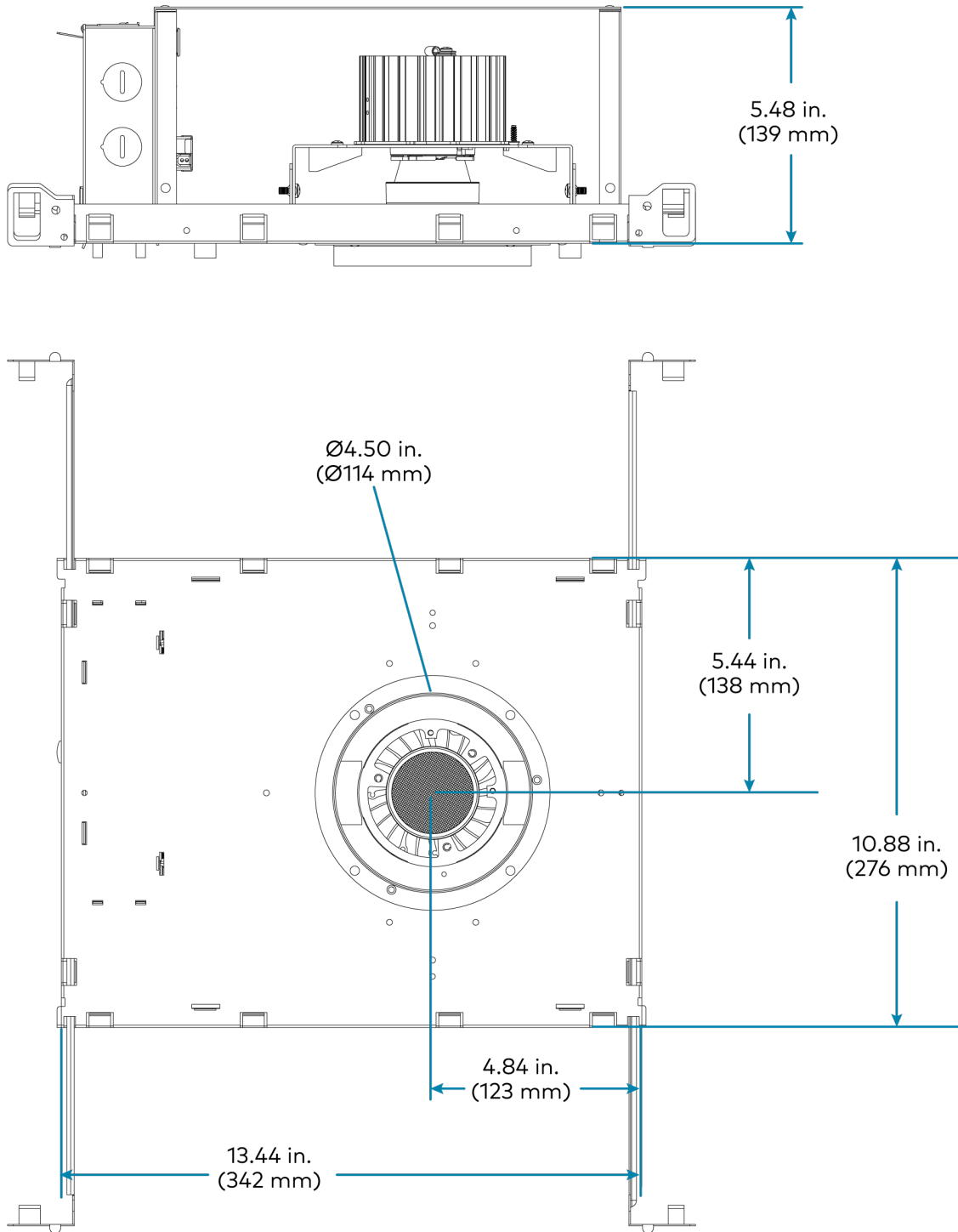
Round, Noninsulation Contact and Chicago Plenum, Adjustable, Flanged Trim



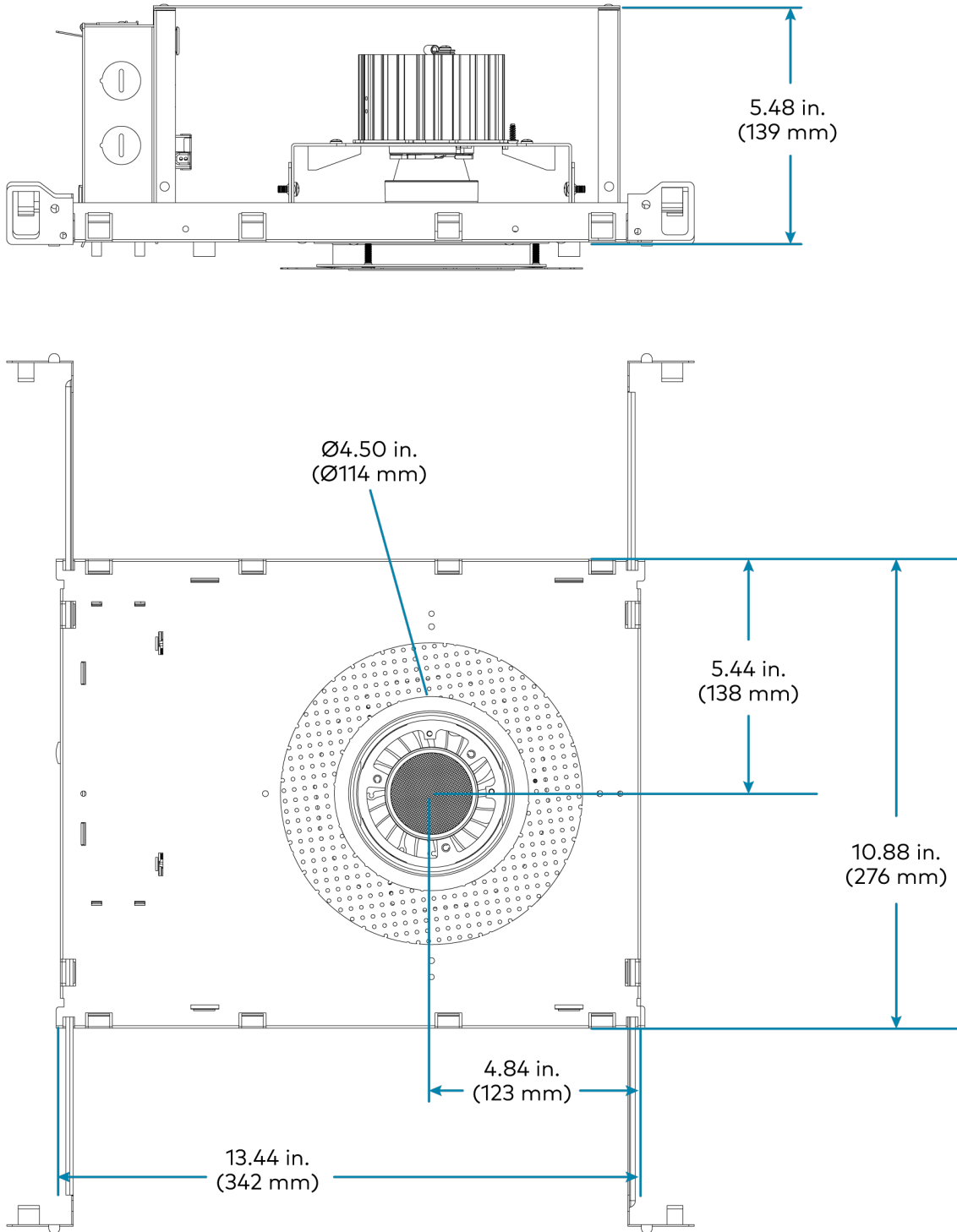
Round, Noninsulation Contact and Chicago Plenum, Adjustable, Flangeless Trim



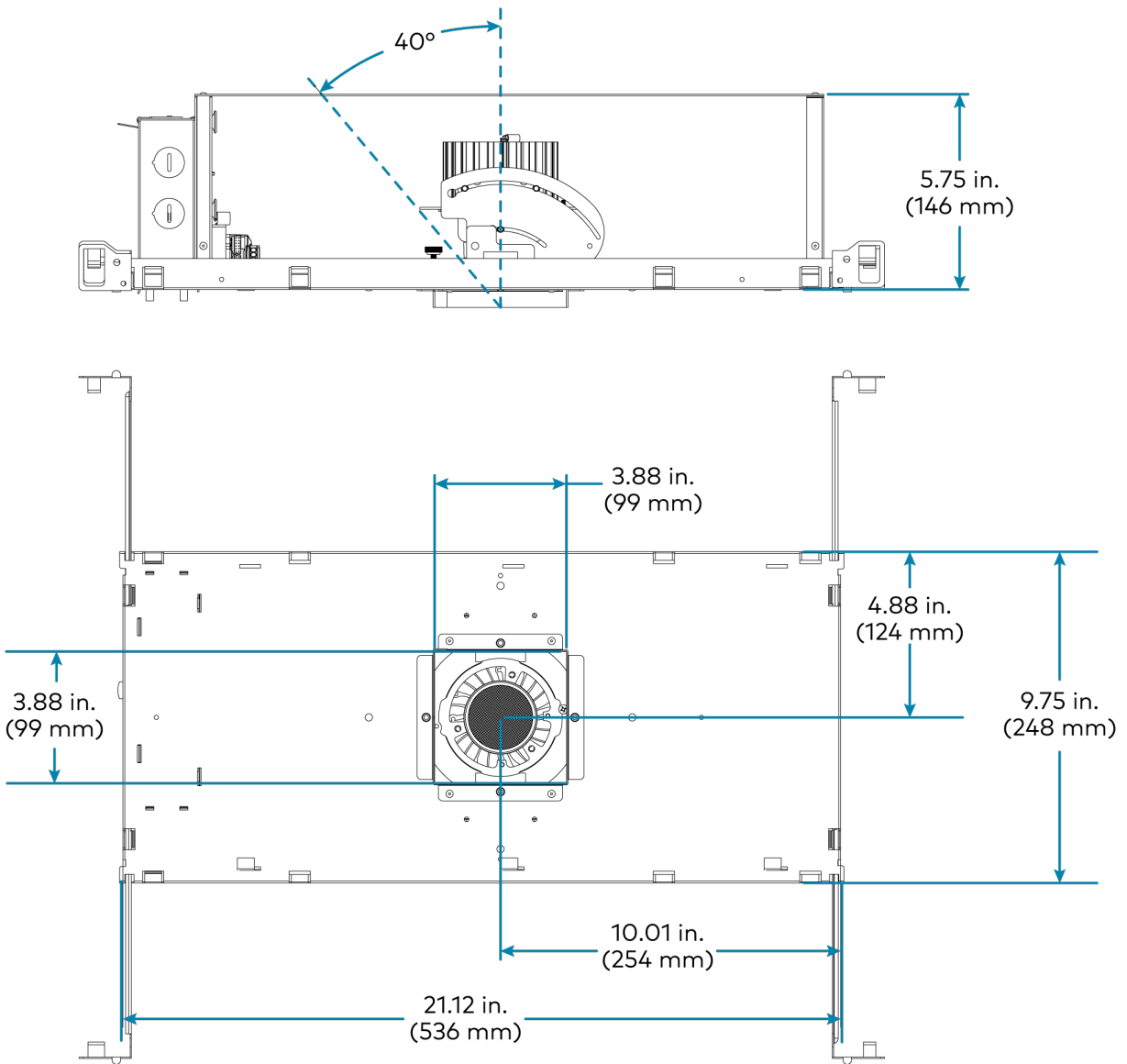
Round, Noninsulation Contact and Chicago Plenum, Fixed, Flanged Trim



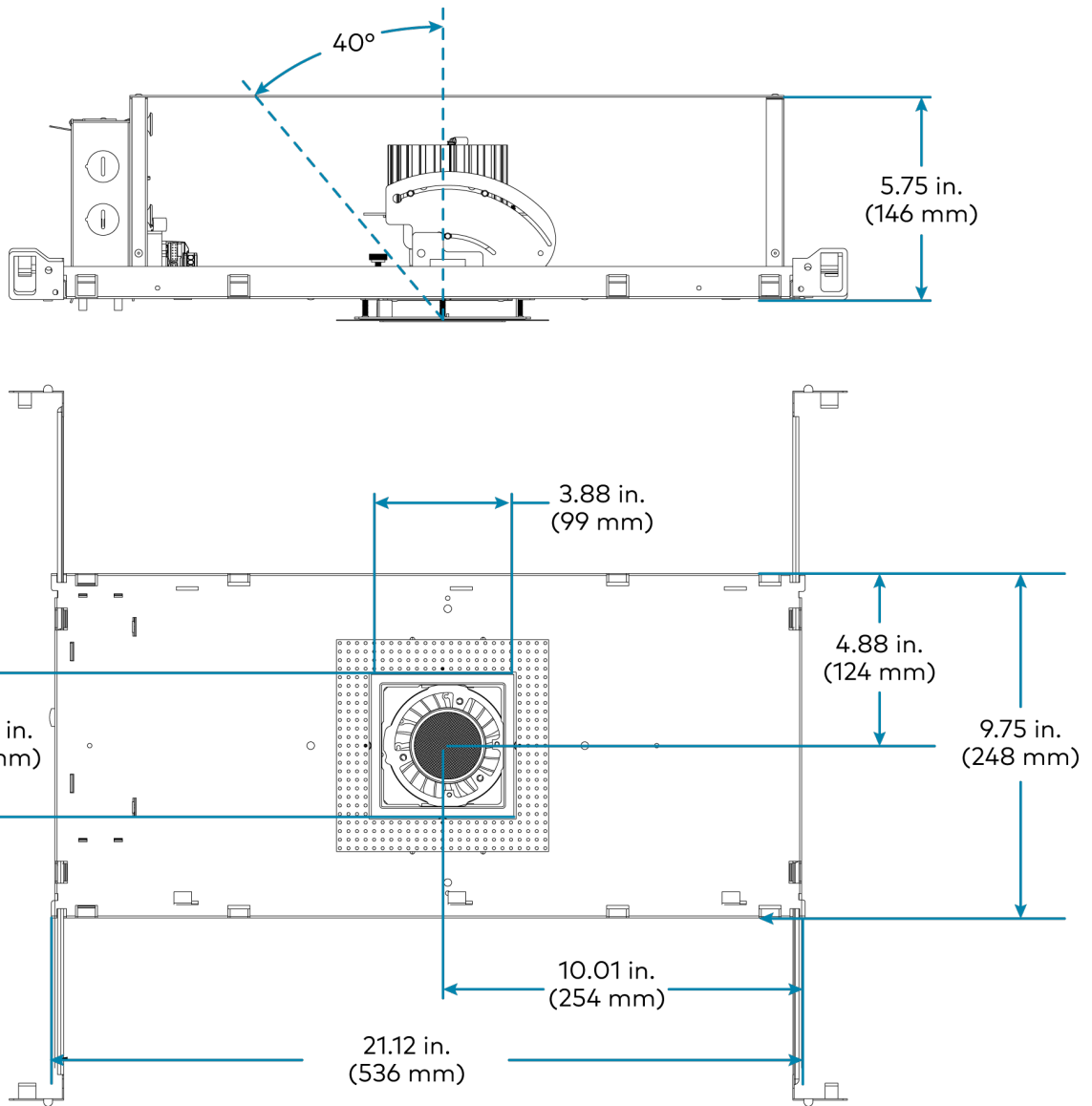
Round, Noninsulation Contact and Chicago Plenum, Fixed, Flangeless Trim



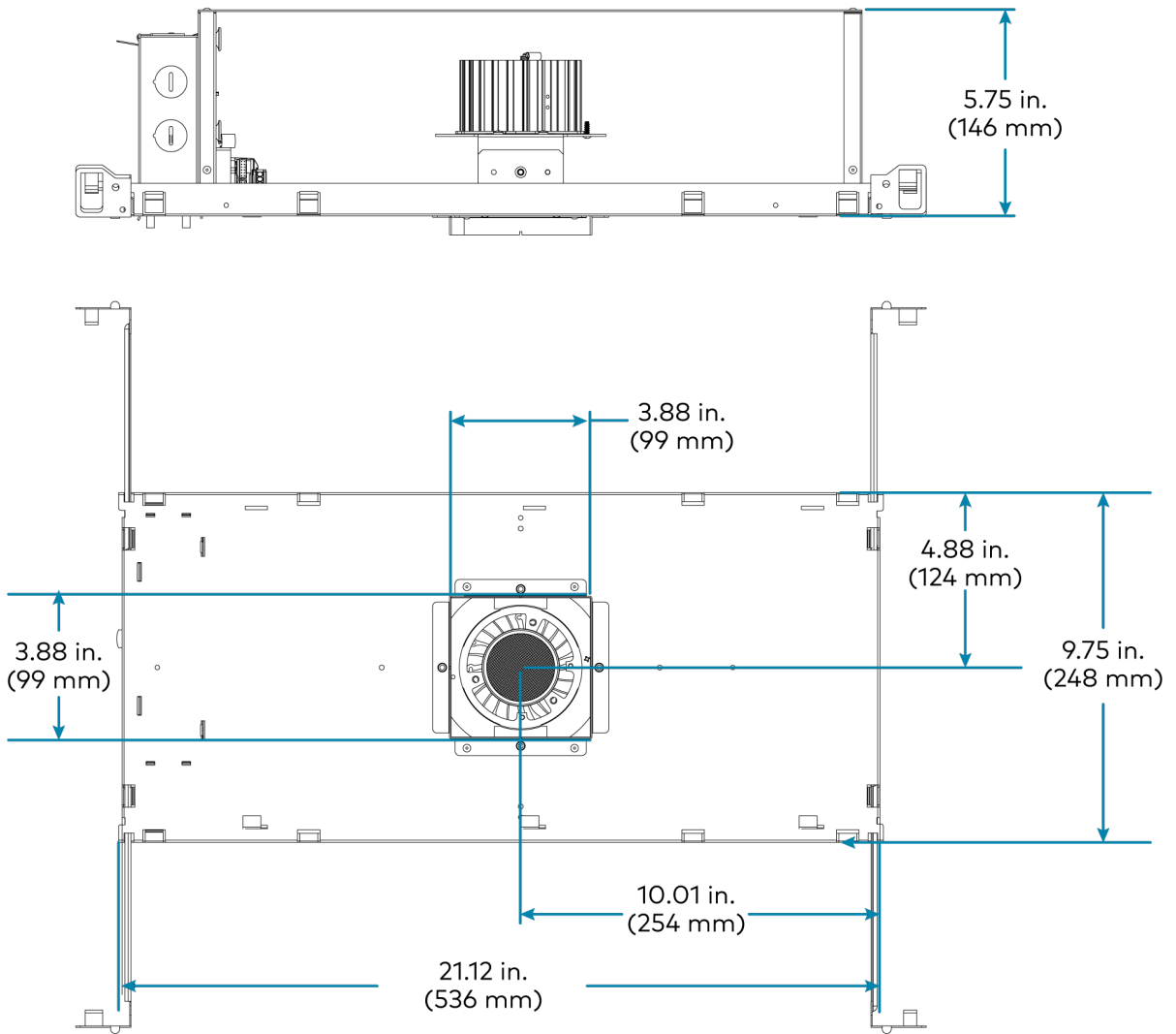
Square, Insulation Contact, Adjustable, Flanged Trim



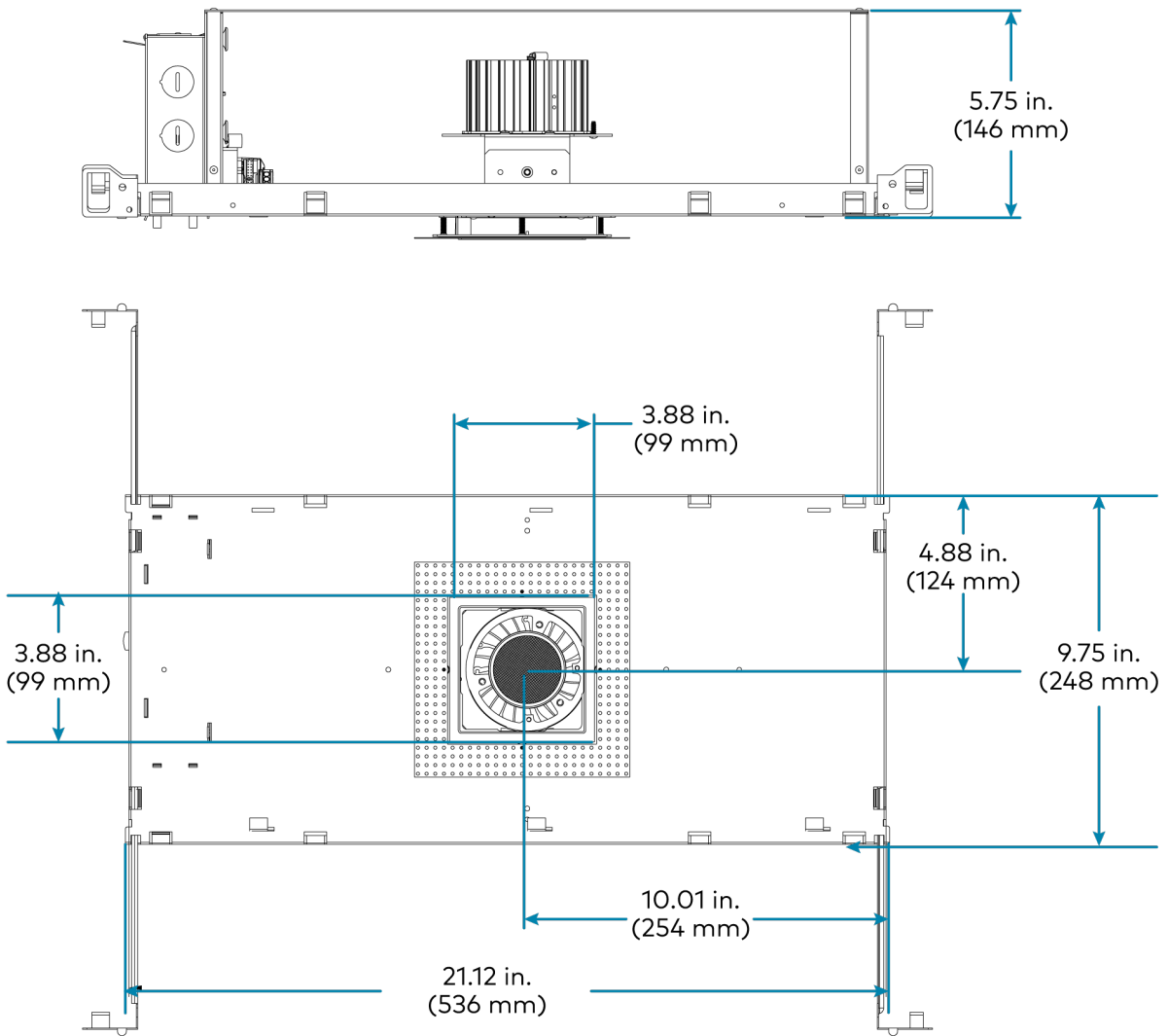
Square, Insulation Contact, Adjustable, Flangeless Trim



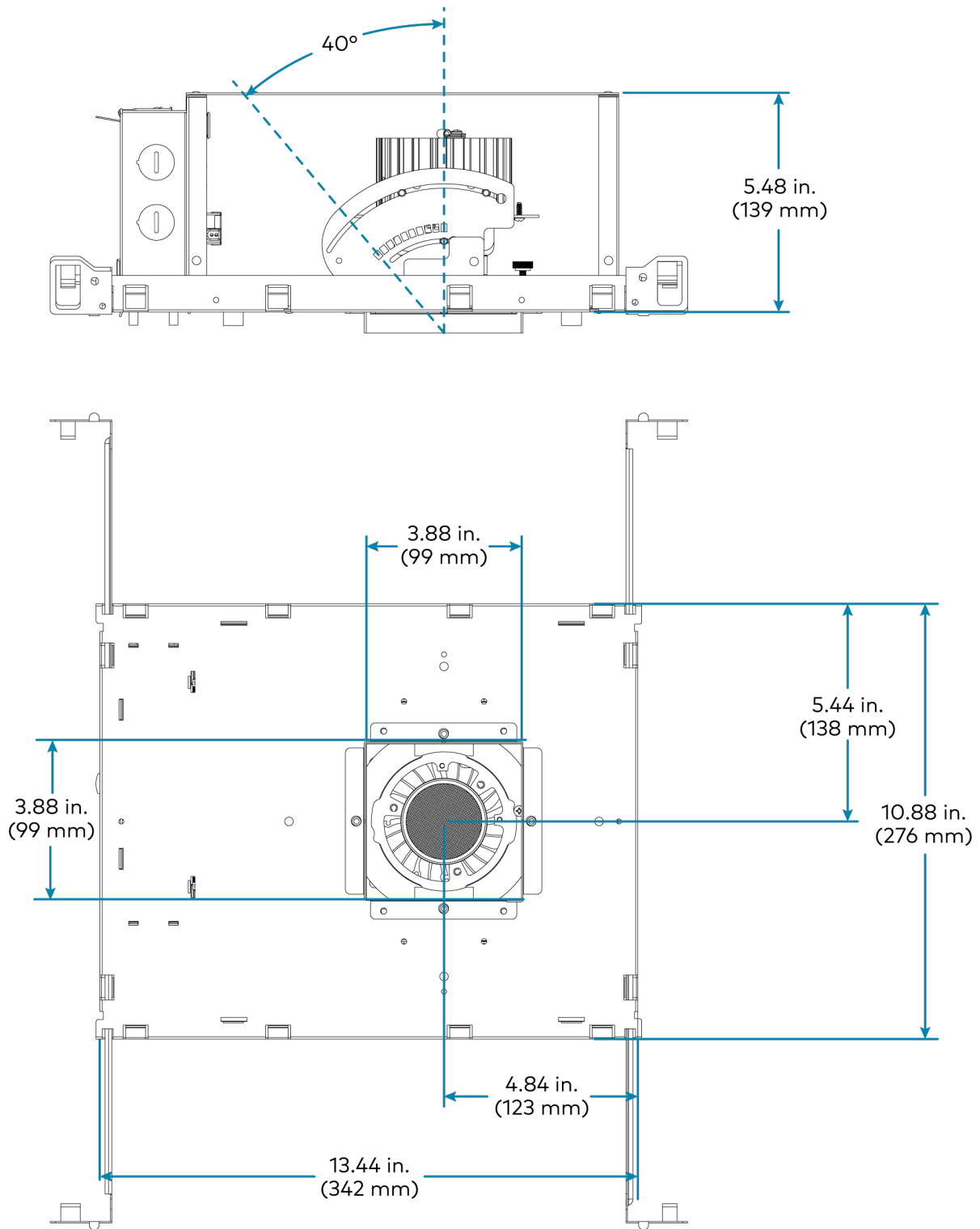
Square, Insulation Contact, Fixed, Flanged Trim



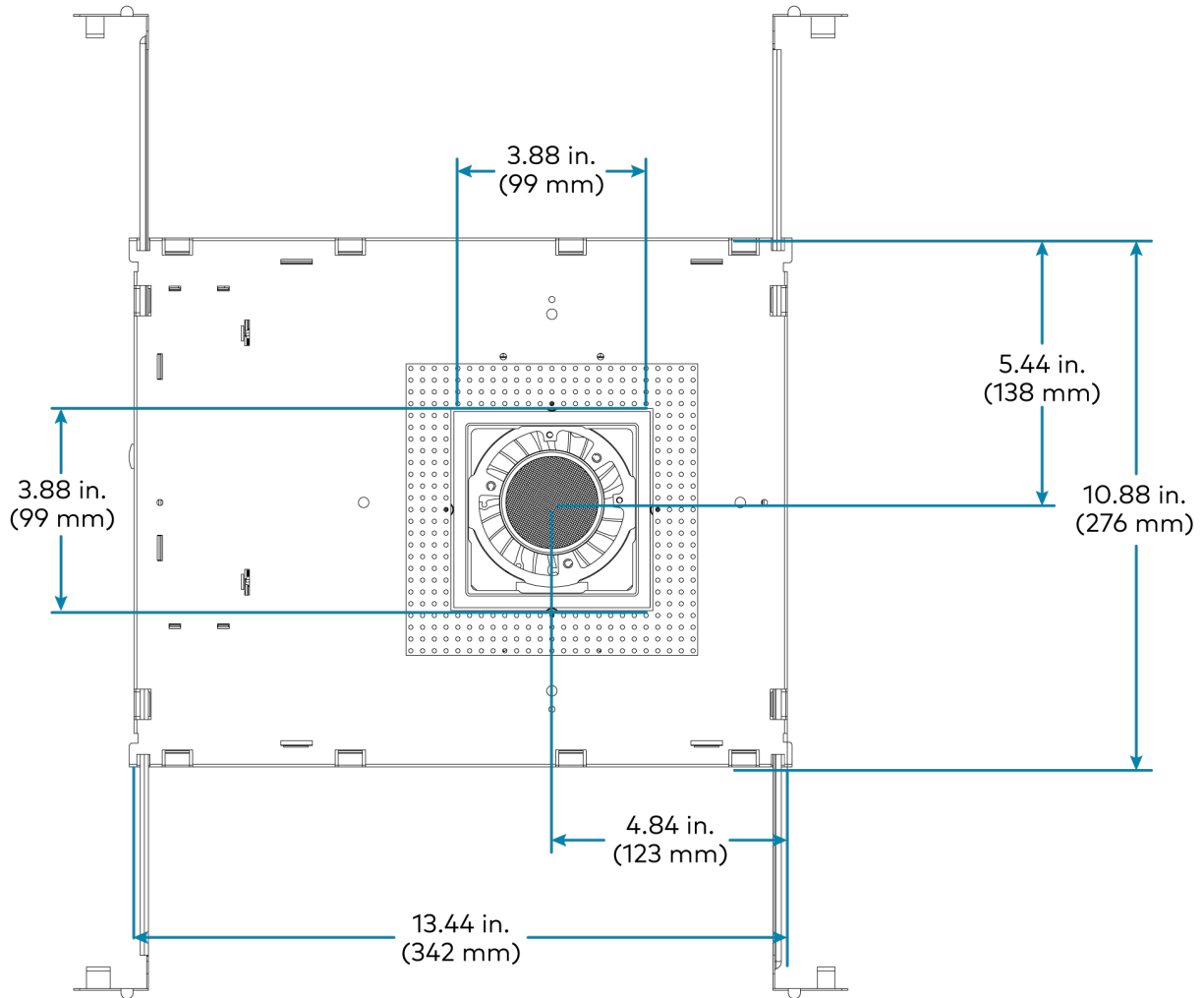
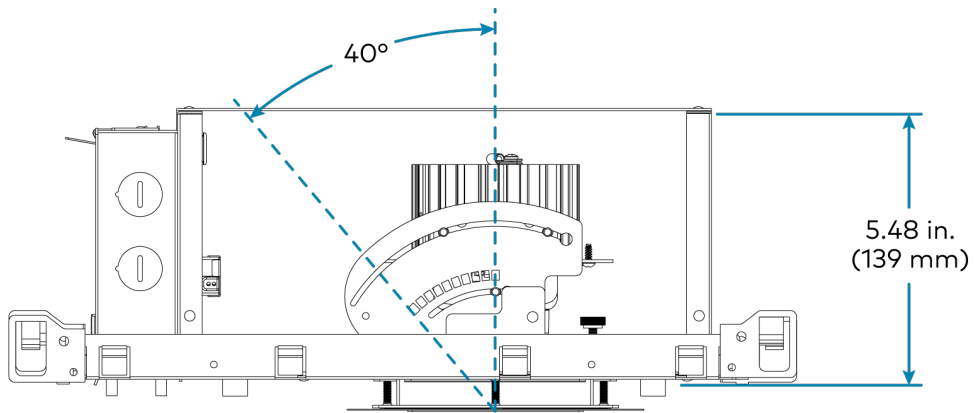
Square, Insulation Contact, Fixed, Flangeless Trim



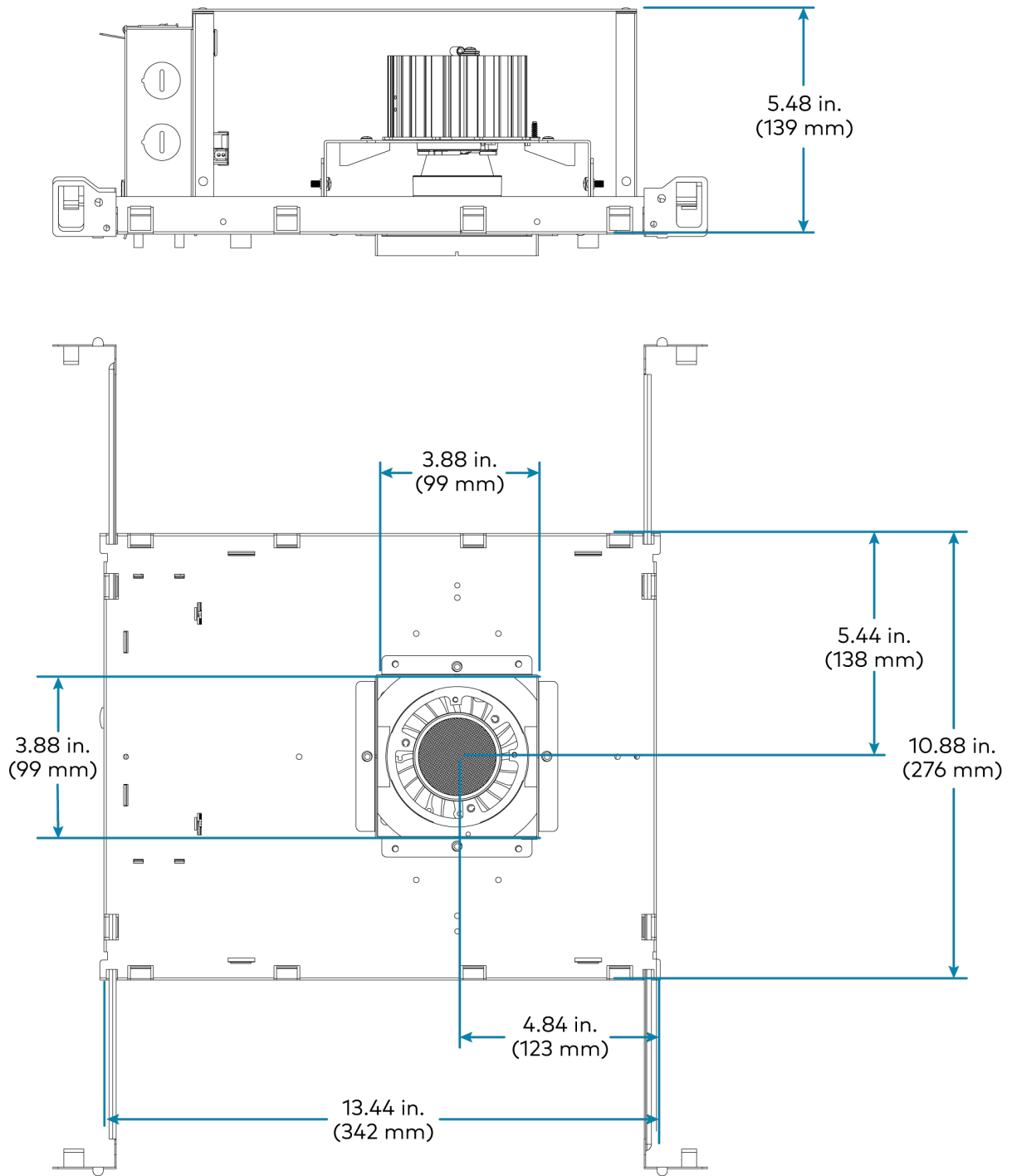
Square, Noninsulation Contact and Chicago Plenum, Adjustable, Flanged Trim



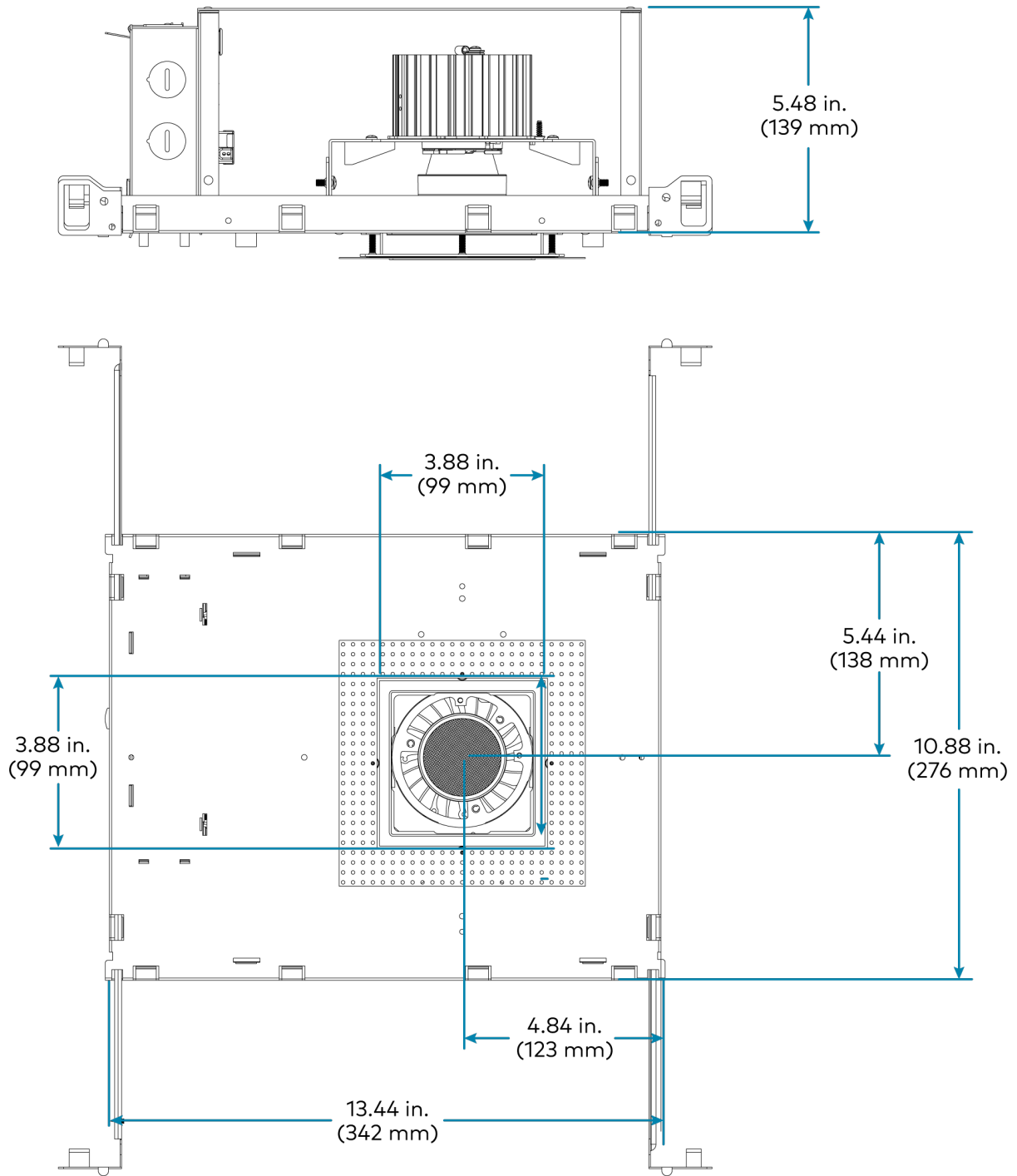
Square, Noninsulation Contact and Chicago Plenum, Adjustable, Flangeless Trim



Square, Noninsulation Contact and Chicago Plenum, Fixed, Flanged Trim

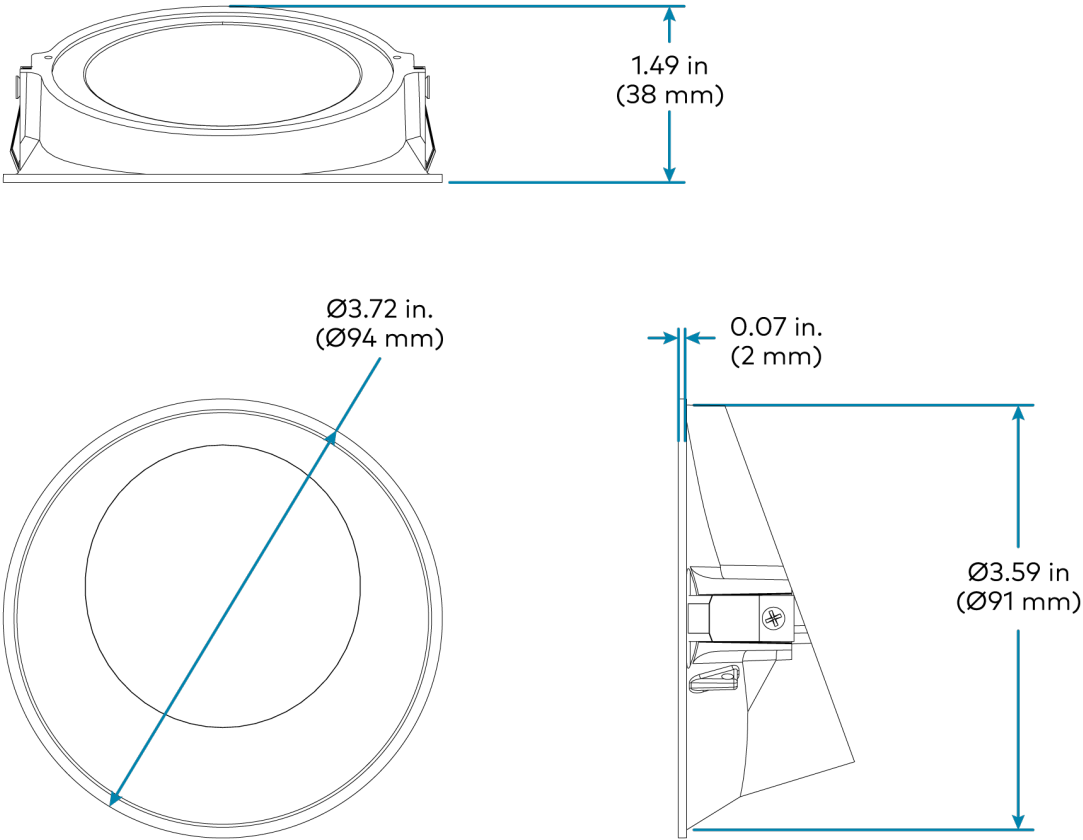


Square, Noninsulation Contact and Chicago Plenum, Fixed, Flangeless Trim

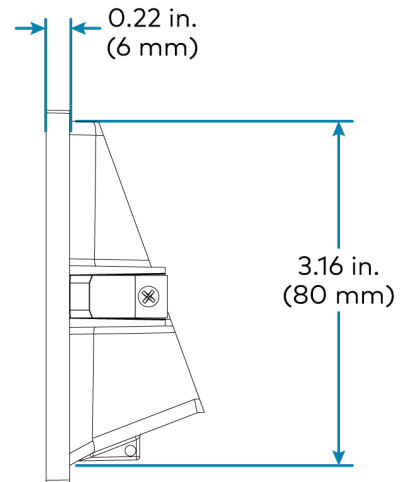
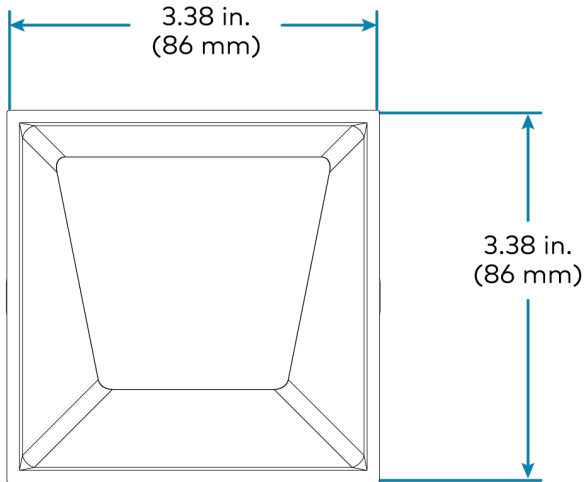
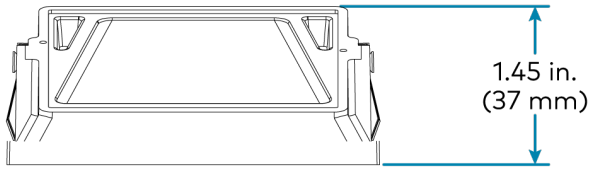


Trim Dimensions

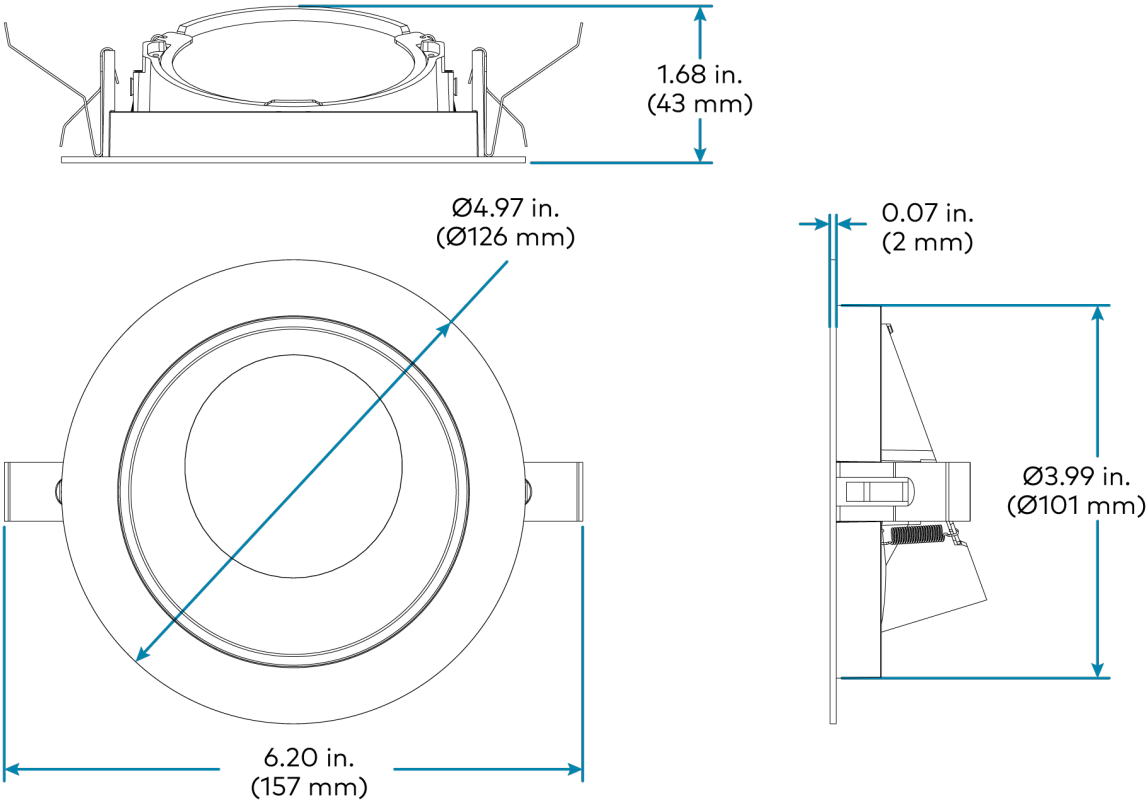
Round, Adjustable, Flangeless



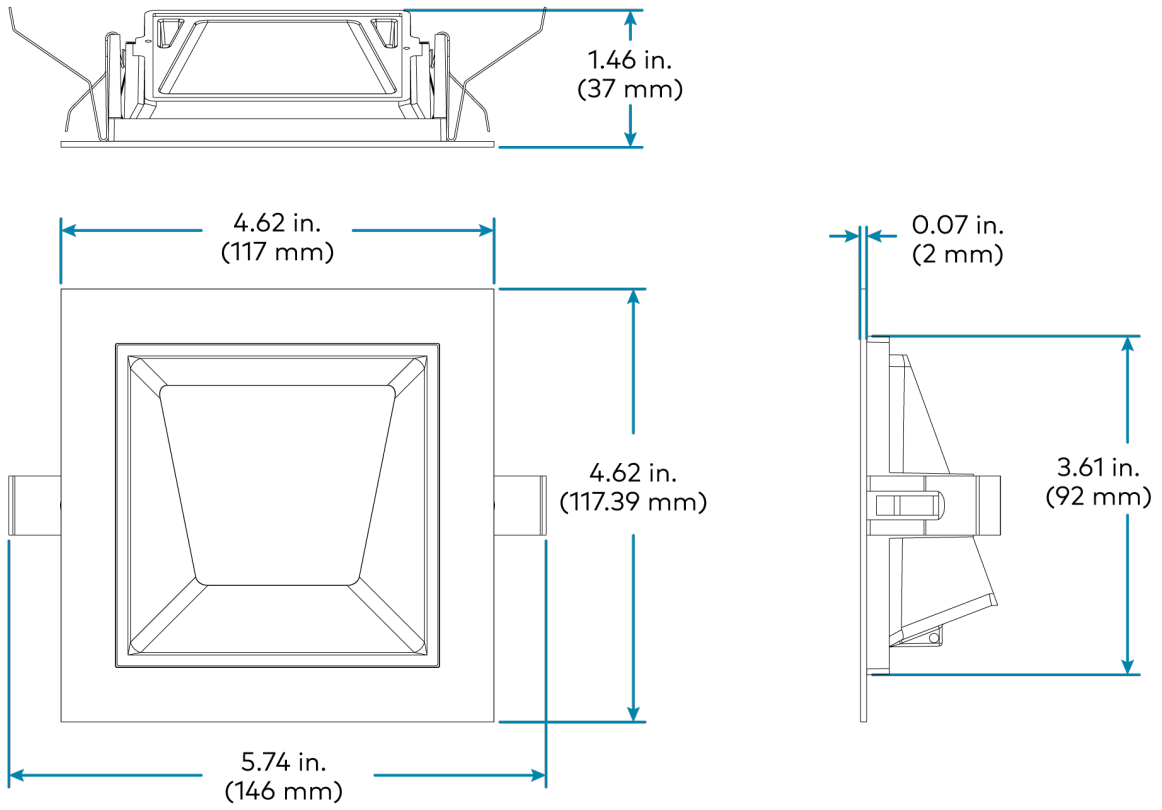
Square, Adjustable, Flangeless



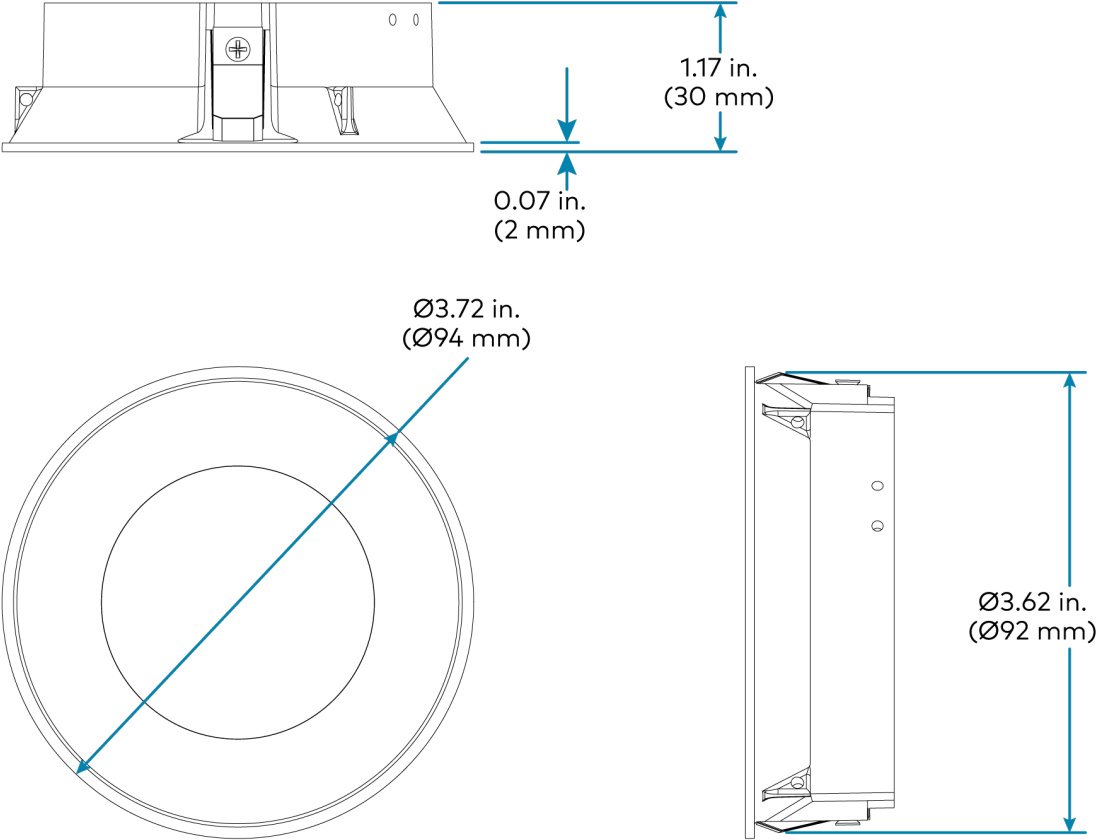
Round, Adjustable, Flanged



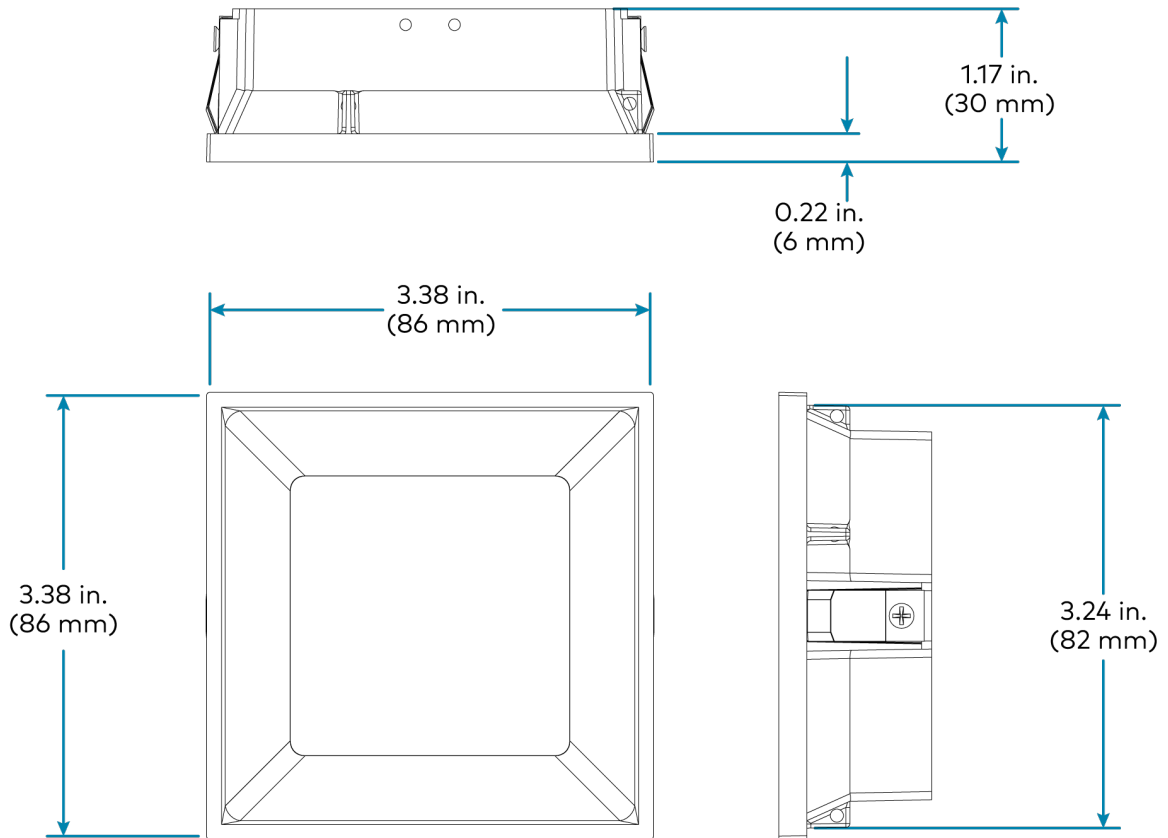
Square, Adjustable, Flanged



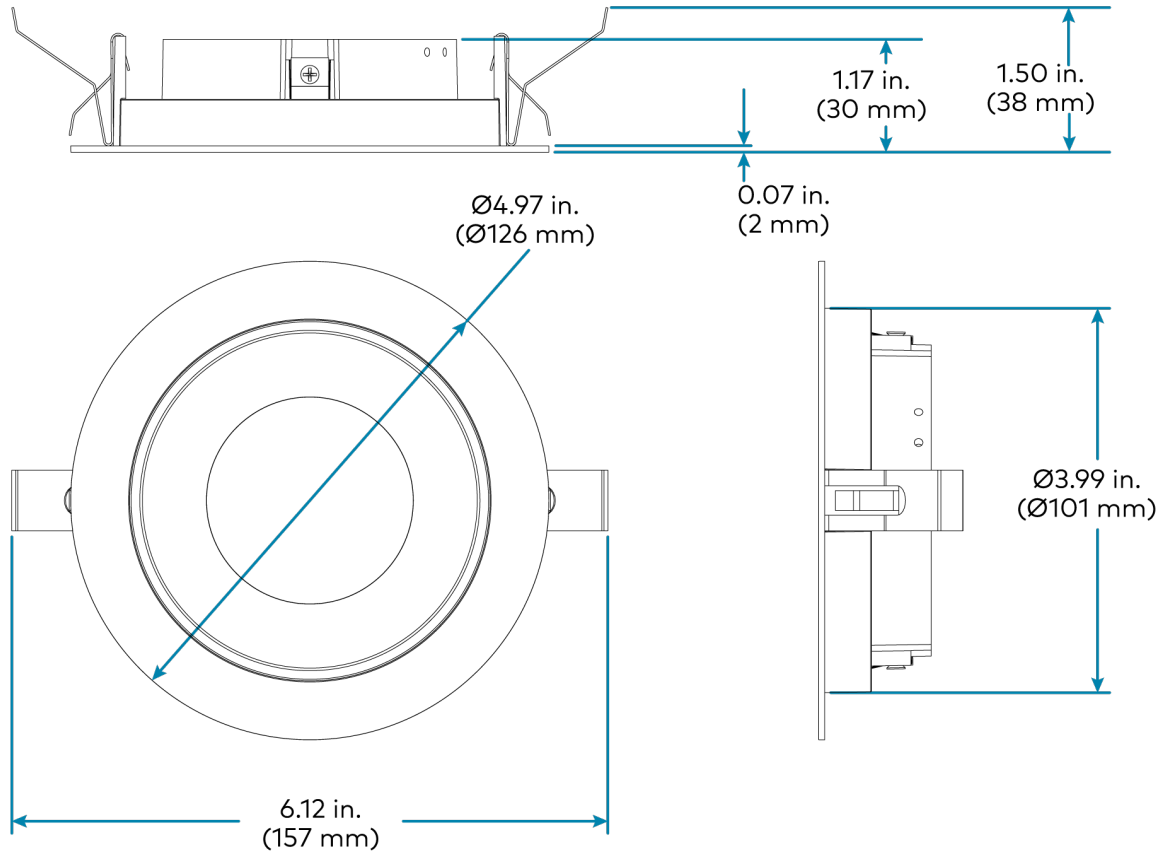
Round, Fixed, Flangeless



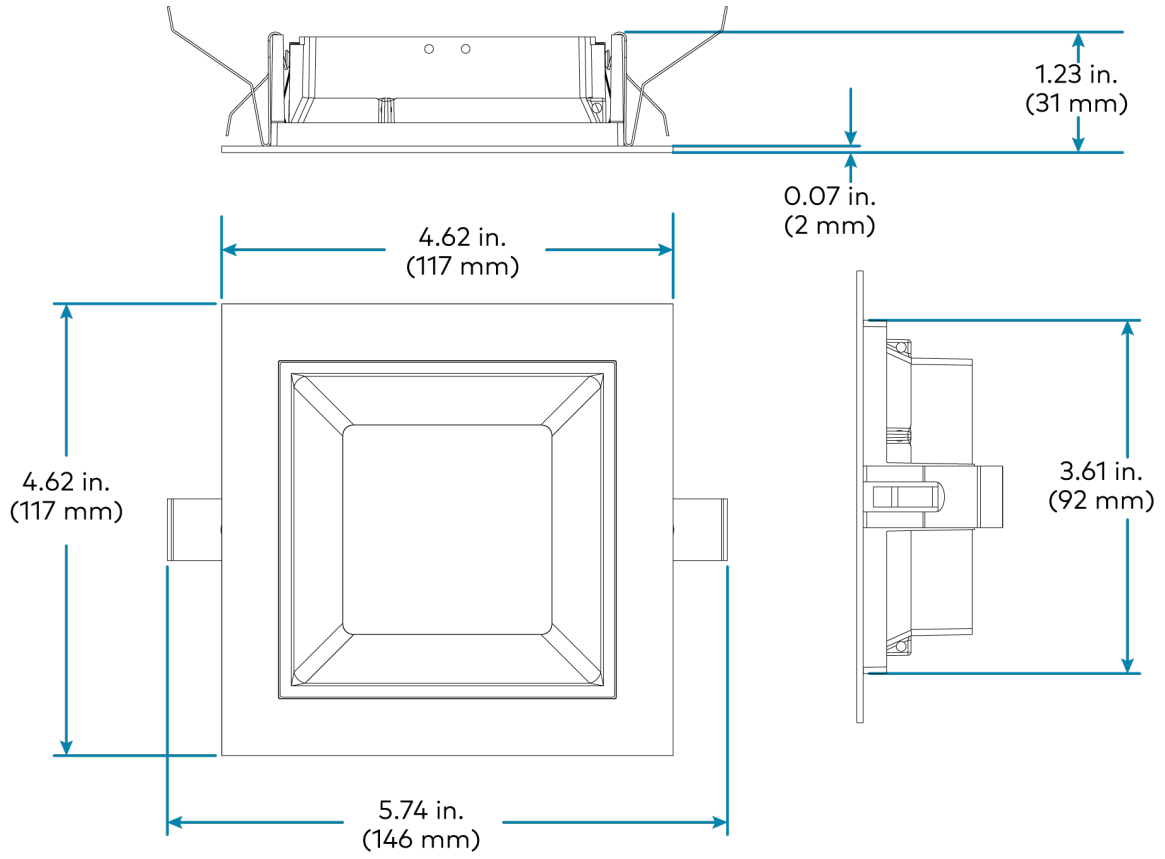
Square, Fixed, Flangeless



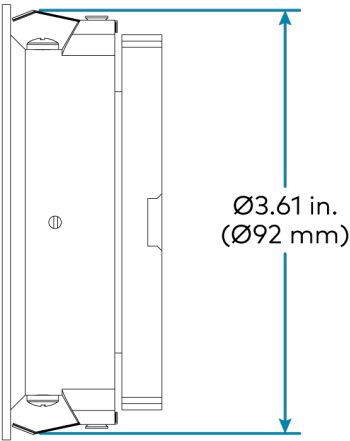
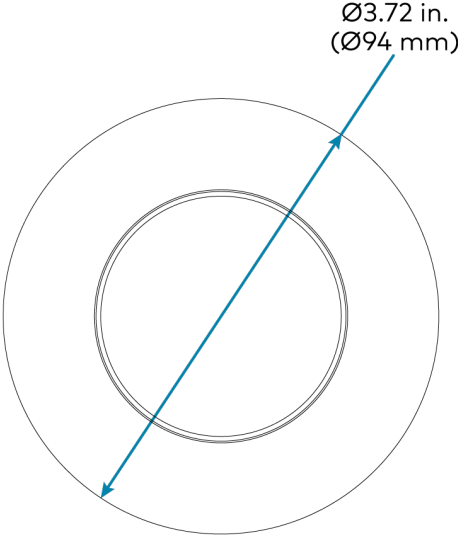
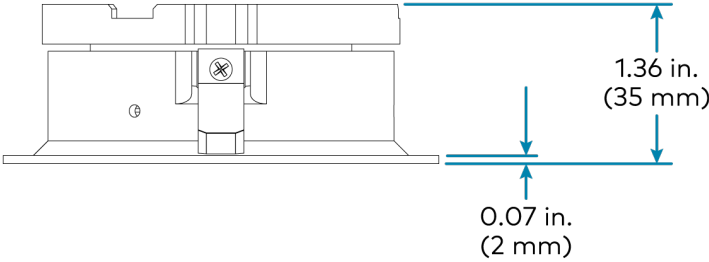
Round, Fixed, Flanged



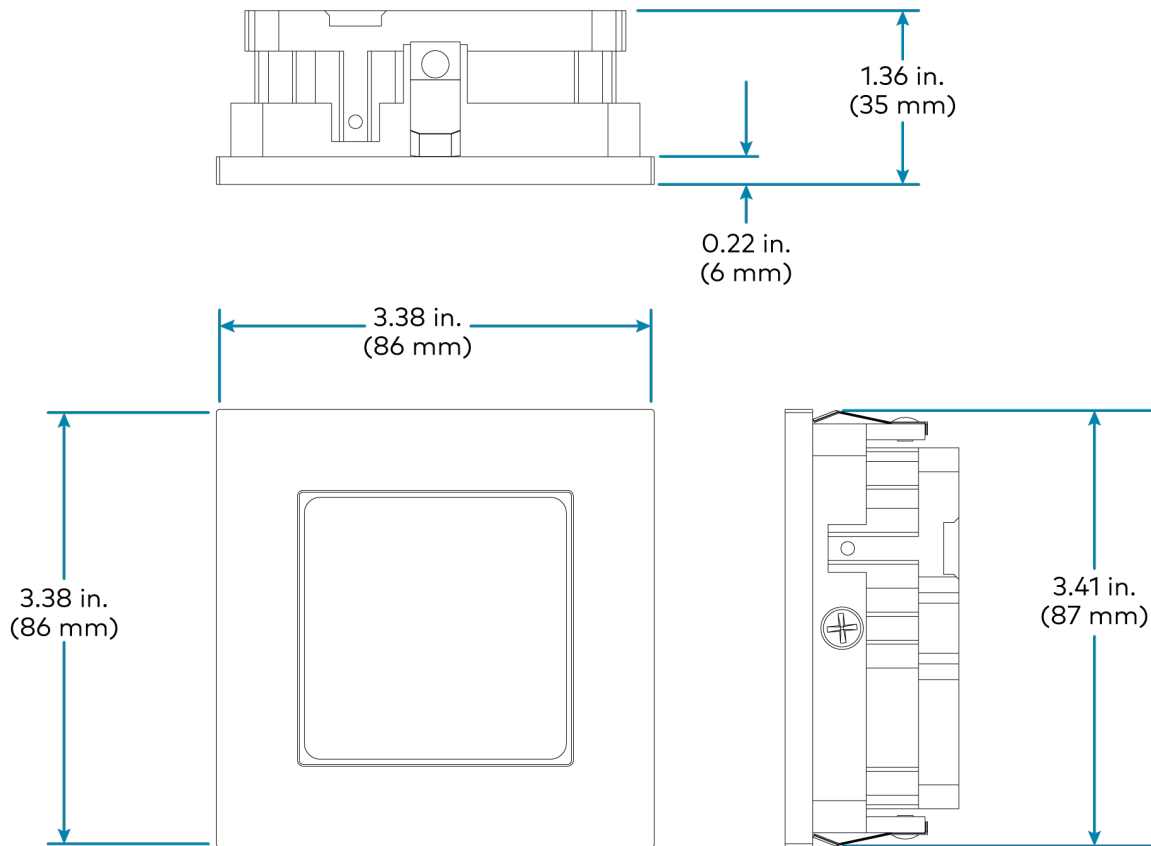
Square, Fixed, Flanged



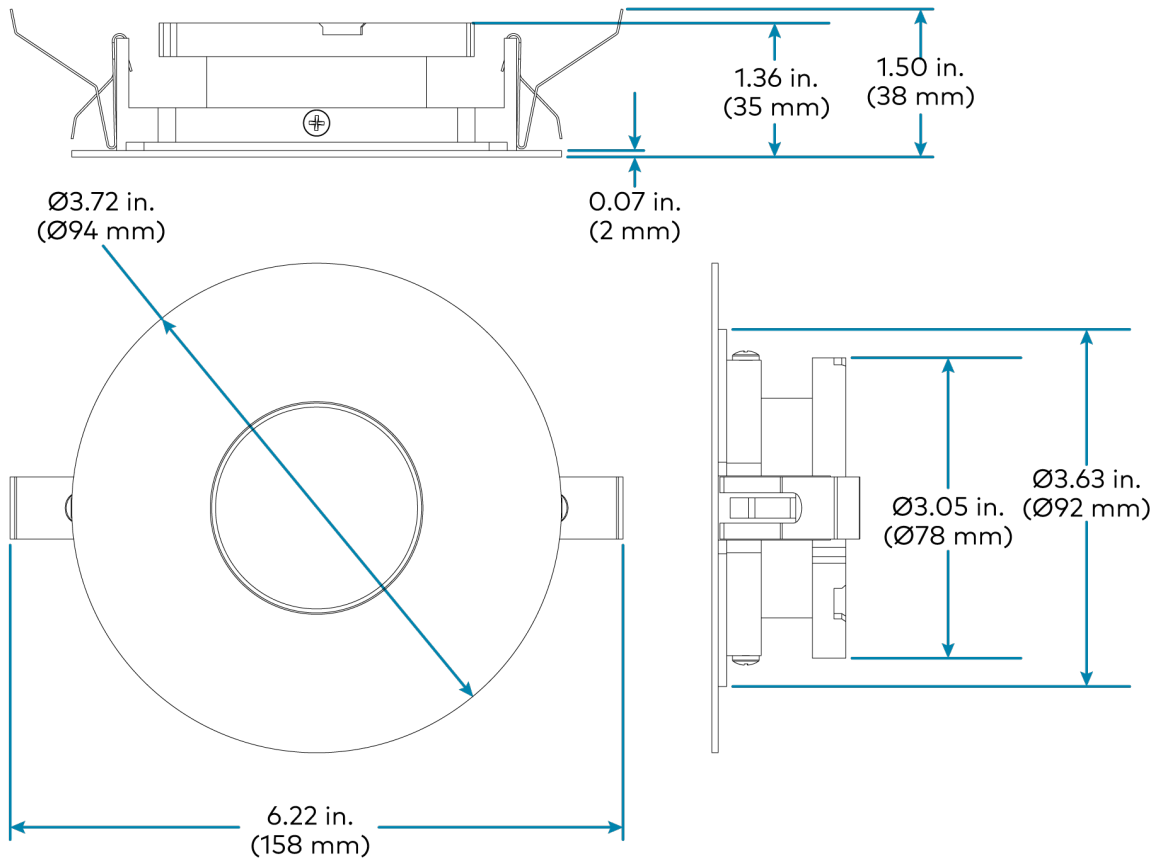
Round, Pinhole, Flangeless



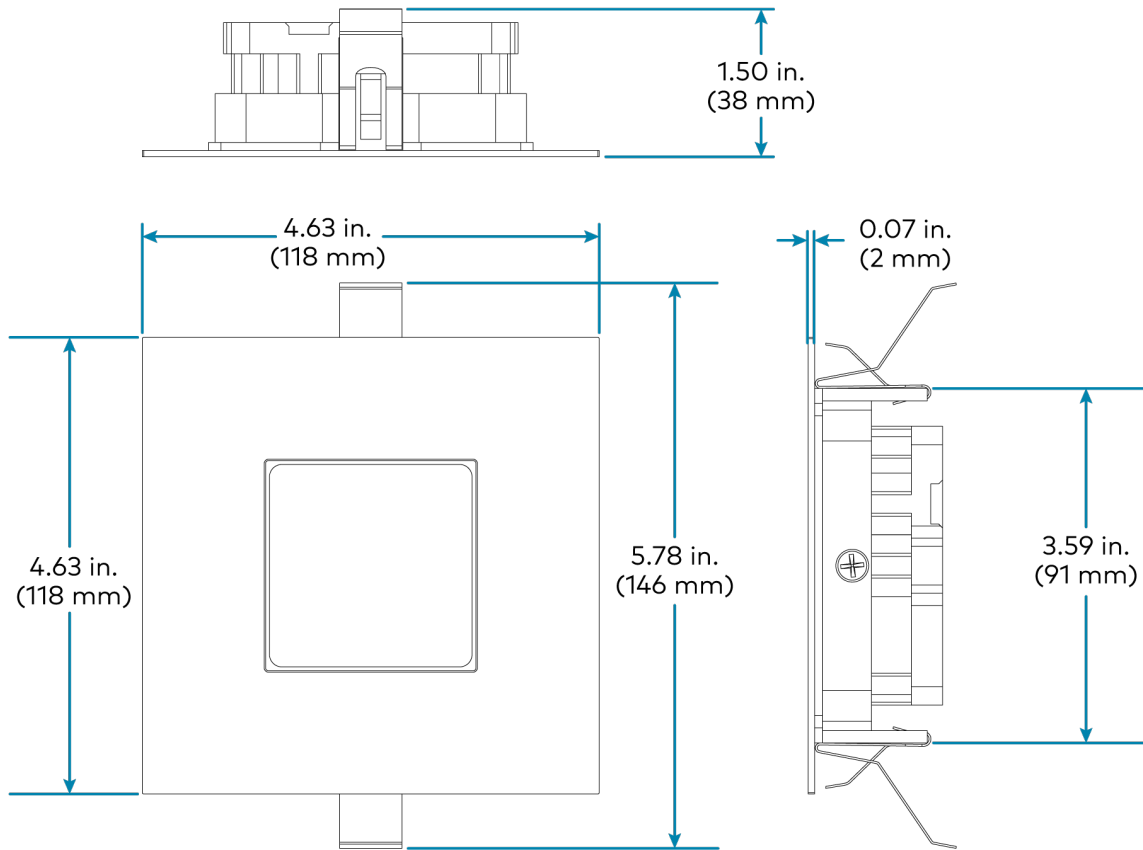
Square, Pinhole, Flangeless



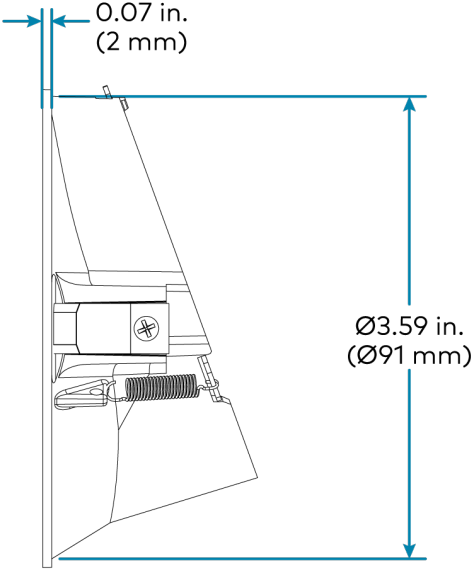
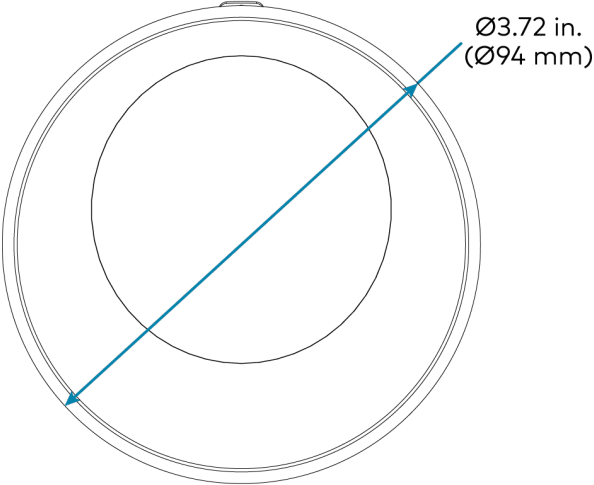
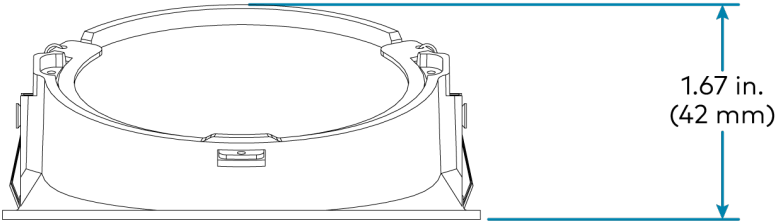
Round, Pinhole, Flanged



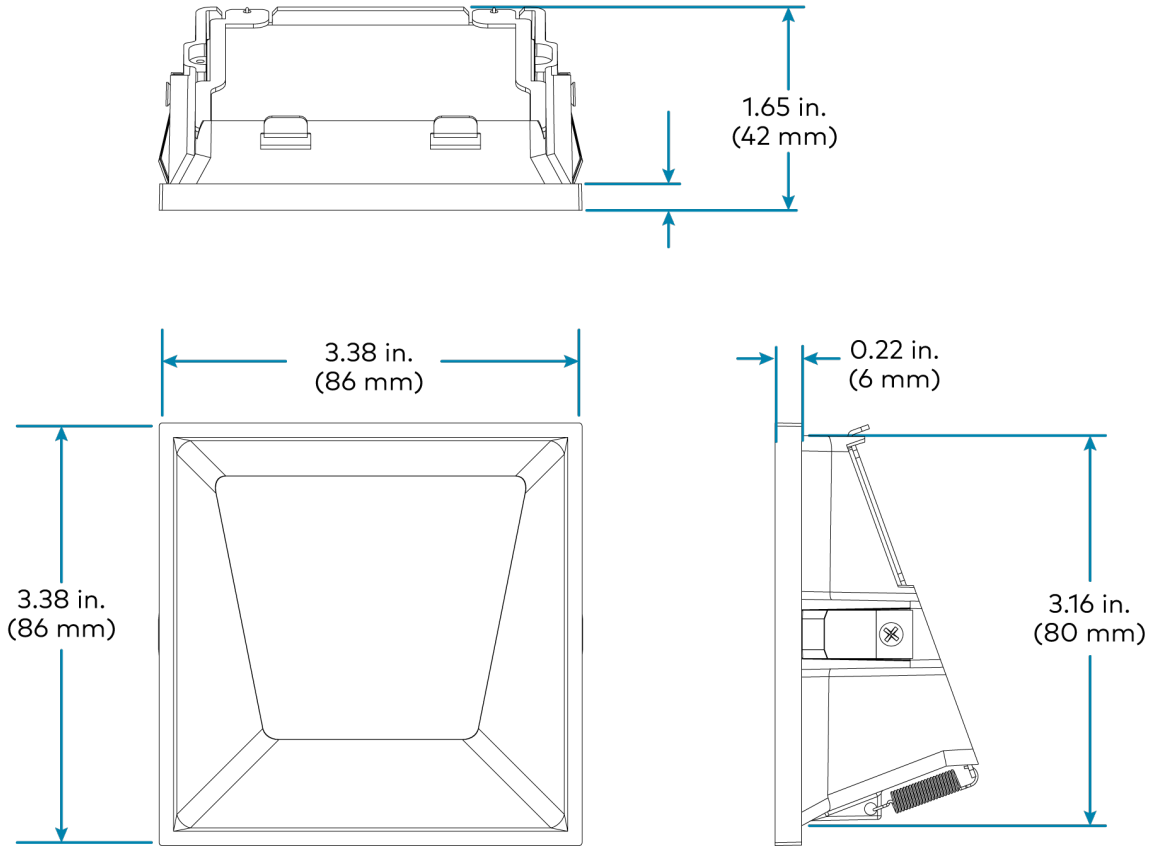
Square, Pinhole, Flanged



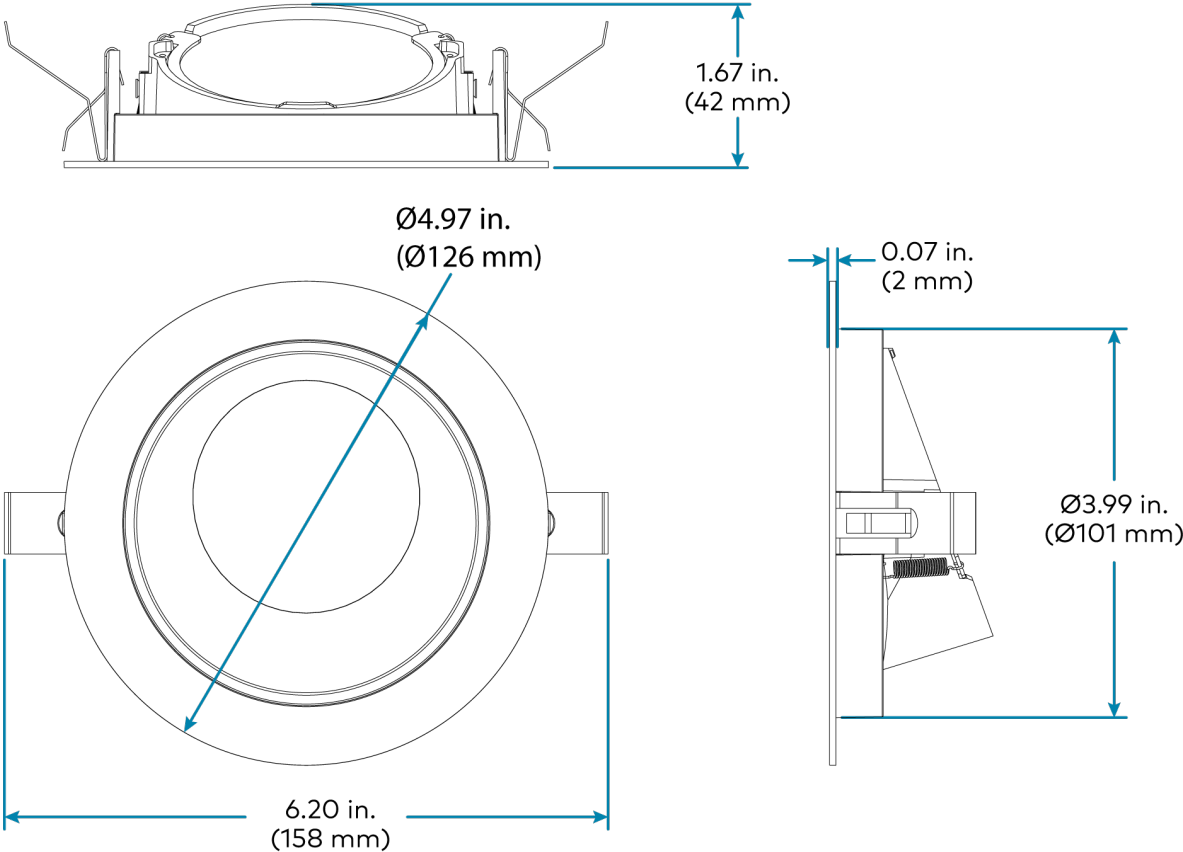
Round, Wallwash, Flangeless



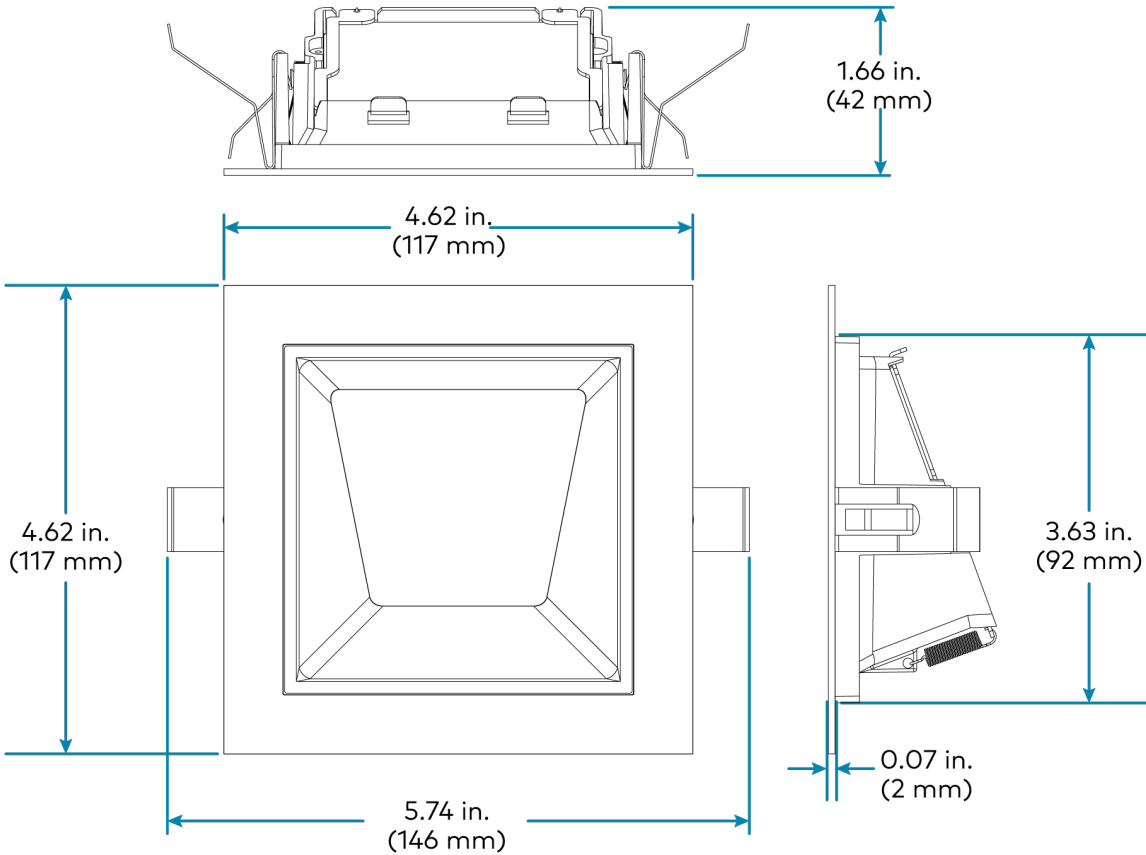
Square, Wallwash, Flangeless



Round, Wallwash, Flanged



Square, Wallwash, Flanged



LFXA-DL-DEMO Specifications

Product specifications for the LFXA-DL-DEMO.

Product Specifications

Electrical

Voltage	120VAC, 277VAC; 50/60Hz
Power Consumption	20 W
Power Factor	0.981
Inrush Current	28.48A at 277VAC; 12.29A at 120VAC

Communications

DMX-C Demo App	Wireless via Bluetooth 4.0 or higher
----------------	--------------------------------------

Environmental

Temperature	Operation: 32° to 95°F (0° to 35°C), room temperature; Storage: 32° to 140°F (0° to 60°C), not powered
Humidity	10% to 95% RH (noncondensing)

Construction

Material	Soft cloth bag with foam lining
----------	---------------------------------

Weight

6.08 lb (2.76 kg)

Installation

This section is applicable to the LFX-DL-TUNC only.

TIP: A fully-functional lighting system utilizing the LFX-DL-TUNC fixtures requires a DIN-GWDL gateway and Crestron Home® OS control processor.

- **DIN-GWDL:** Provides the interface between the control system and the light fixtures. Refer to the [DIN-GWDL Product Page](#) and [DIN-GWDL Product Manual](#) for details.
- **Crestron Home® Control System:** Provides user interface controls and light fixture configuration. Refer to the [Crestron Home® OS Product Manual](#) for details.

This section provides the following information:

- [In the Box](#)
- [Mounting](#)
- [Wiring](#)
- [Test the Fixtures](#)
- [Adjustments](#)
- [Install Drywall](#)
- [Trims](#)
- [Maintenance](#)

In the Box

Qty.	Description
1	<p>LFX-DL-TUNC, Tunable LED Light Fixture;</p> <p>Fixture is assembled per the fixture order, included parts may vary; Includes these assembled parts: Light engine assembly (driver, power supply, heat sink, LED array, TIR optic, media holder), aperture protector, termination resistor. Also includes trim which is shipped separately.</p>
1	<p>Trim;</p> <p>Trim is provided per the order and ships separately from the fixture;</p> <p>Trimless fixtures include (1) trim collar frame, (3 or 4) #8-32 x 1 in. mounting screws, and (1) mud ring</p>
4	Hanger Bars
4	Hanger Bar Set Screws, #8 x 1/4 in.hex, slotted head
Optional Items	
1	<p>Extension Ring;</p> <p>Trimmed fixtures: Extension ring is mounted to the trim prior to shipping.</p> <p>Trimless fixtures: Extension ring is mounted to the fixture</p>
Adjustable LFX-DL-TUNC Fixtures Only	
1	<p>Allen key</p> <p>NOTE: Orders that contain adjustable fixtures will include one or more allen keys. Orders with more than 10 adjustable fixtures include one allen key for every 10 fixtures. Orders with less than 10 adjustable fixtures include one allen key.</p>

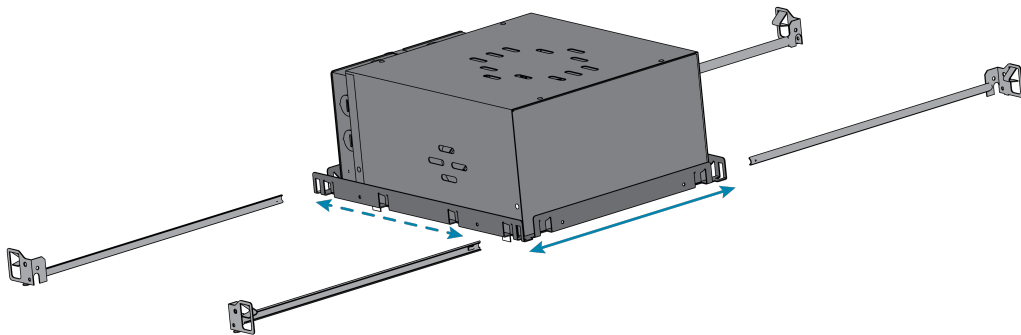
Mounting

WARNING: To avoid fire, shock, or death, turn off the power at the circuit breaker or fuse and test that the power is off before wiring!

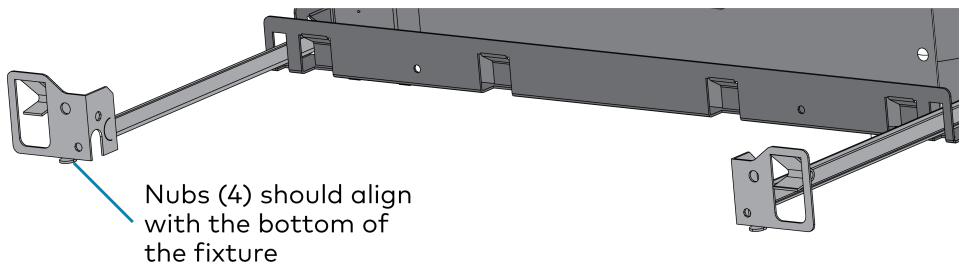
To mount the fixture:

1. Insert the hanger bars into the fixture. The hanger bars must be installed parallel to each other. Make sure that the nub on the end of each hanger bar faces the floor when the assembly is mounted. The hanger bars can be installed in either side of the fixture.

Insert Hanger Bars

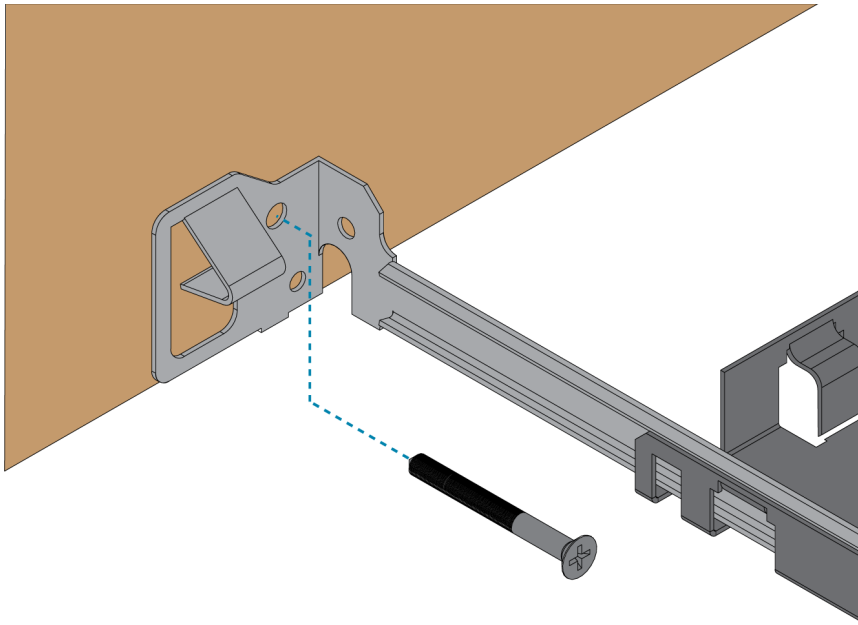


Hanger Bar Orientation



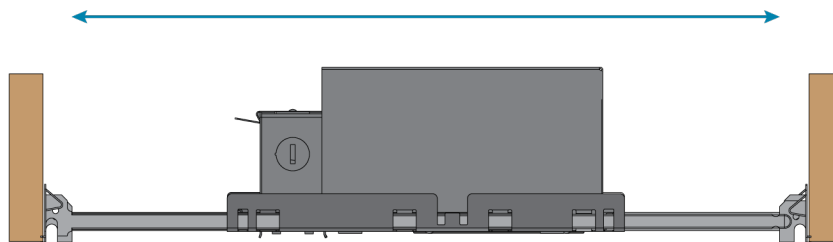
2. Align each hanger bar with the side and bottom of the joist. The end of each hanger bar must be flat against the face of the joist and the nub must be flat against the bottom of the joist.
3. Hammer down the prongs in all four hanger bars into the stud to temporarily secure the fixture in place.

4. Secure each hanger bar with screws (not supplied).

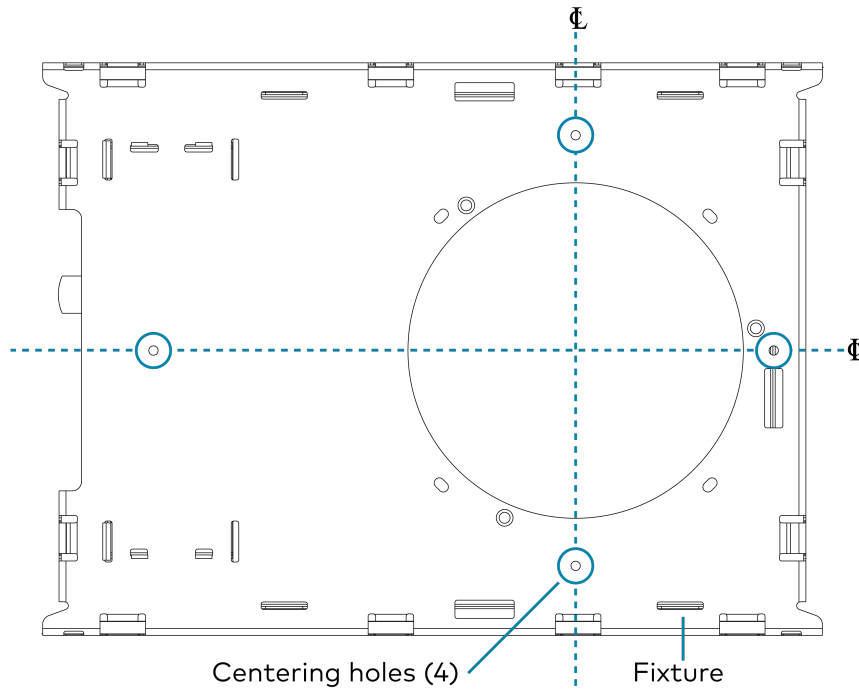


5. Align the fixtures.

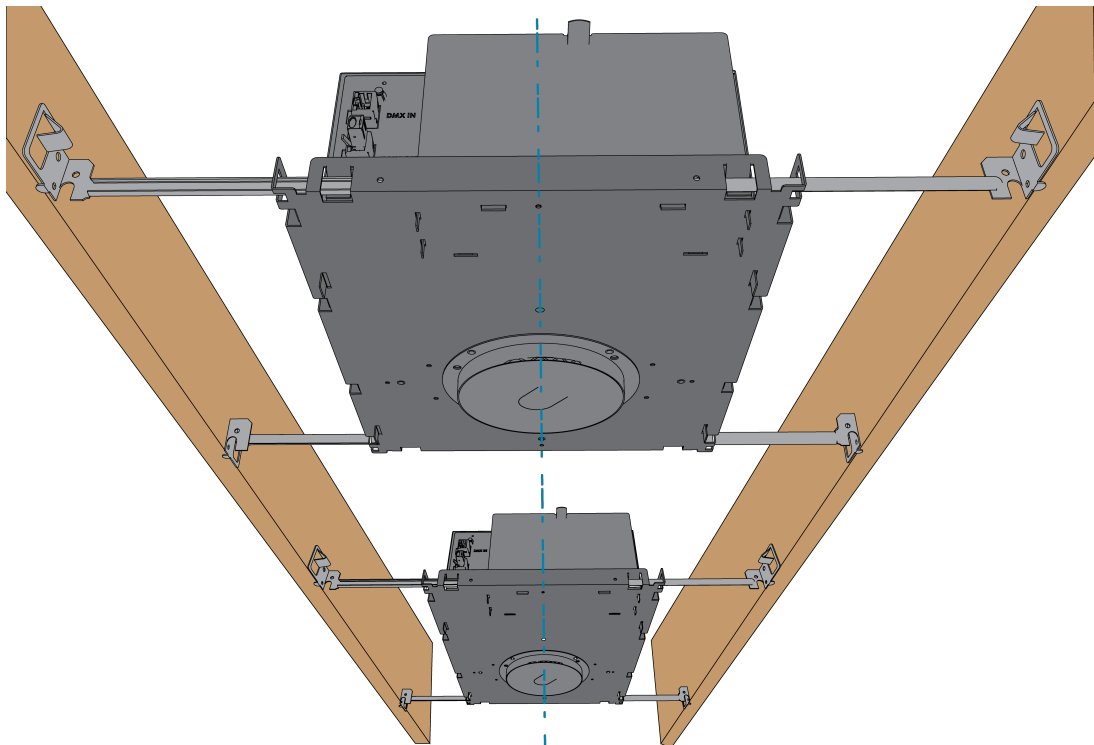
- Position the fixture so that the trim hole is in the desired position. The fixture slides along the hanger bars.



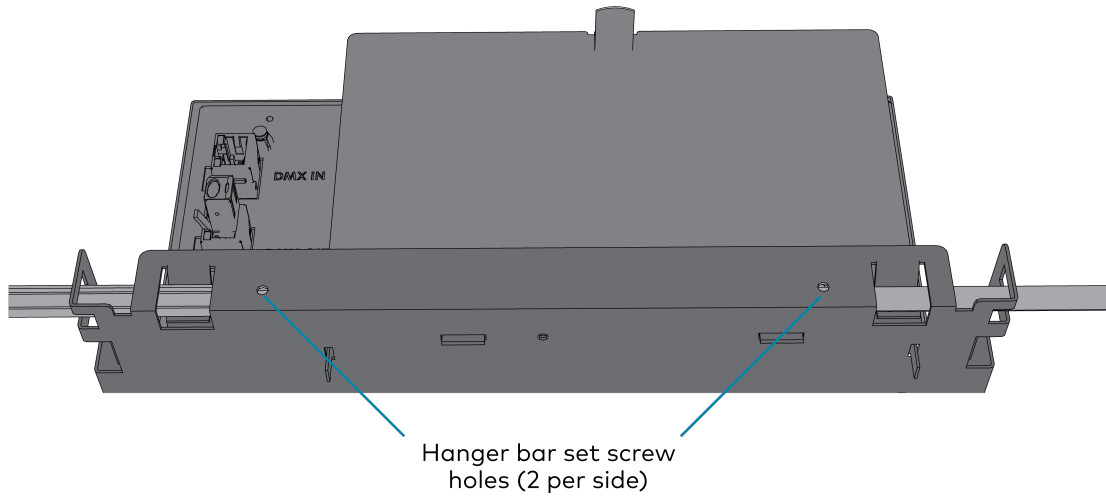
- Use the centering holes on either side of the housing baseplate to line up the fixtures. For the best alignment, use a laser level that is suitable for vertical applications.



- Make sure that all fixtures are aligned with each other.



6. To prevent the fixture from moving, tighten the four #8 x 1/4 in. hex hanger bar set screws.



7. Make the power and DMX-C connections. For details, refer to the [Wiring on page 59](#) section.

Wiring

WARNING: To avoid fire, shock, or death, turn off the power at the circuit breaker or fuse and test that the power is off before wiring!

NOTE: A 6 in. (153 mm) service loop should be created for all connections to the fixture.

TIP: A fully-functional lighting system utilizing the LFX-DL-TUNC fixtures requires a DIN-GWDL gateway and Crestron Home® OS control processor.

- **DIN-GWDL:** Provides the interface between the control system and the light fixtures. Refer to the [DIN-GWDL Product Page](#) and [DIN-GWDL Product Manual](#) for details.
- **Crestron Home® Control System:** Provides user interface controls and light fixture configuration. Refer to the [Crestron Home® OS Product Manual](#) for details.

Wiring Guidelines

Maximum Fixture Count

Consider the following:

DIN-GWDL Maximum Light Fixtures: Up to 85

- The DIN-GWDL supports up to 64 directly connected fixtures. DMX 1-2 outputs each support up to 32 directly connected fixtures.
- The DIN-GWDL with DIN-GWDL-SPLTRs support up to 85 fixtures. OUT 1-4 outputs on the DIN-GWDL-SPLTR each support up to 32 directly connected fixtures.

Wiring Guidelines

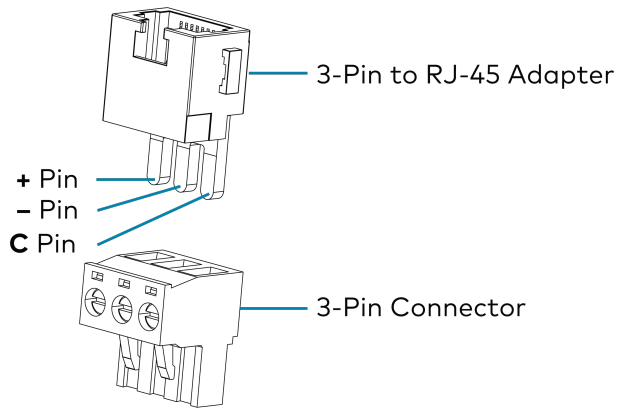
- Use shielded CAT5 wire or better with a shielded connector.
- DIN-GWDL connections:
 - Connect a light fixture daisy-chain or a DIN-GWDL-SPLTR to **DMX 1** or **DMX 2**.
 - When using a DIN-GWDL-SPLTR, connect the DIN-GWDL-SPLTR directly to **DMX 1** or **DMX 2** on the DIN-GWDL.
- DIN-GWDL-SPLTR connections:
 - Connect a light fixture daisy-chain to **OUT 1, 2, 3, or 4**.
 - Add the included 120Ω termination resistor to the DMX IN connector. The termination resistor is preinstalled in an included terminal block.
 - Cascading DIN-GWDL-SPLTRs is not recommended.

- Do not use more than 1,000 ft (305 m) of cable between a DIN-GWDL or DIN-GWDL-SPLTR and the last light fixture in a daisy-chain. Do not use more than 1,000 ft (305 m) of cable between a DIN-GWDL and a DIN-GWDL-SPLTR.
- A light fixture daisy-chain must be terminated at end of the run. A termination is included with each Crestron light fixture.

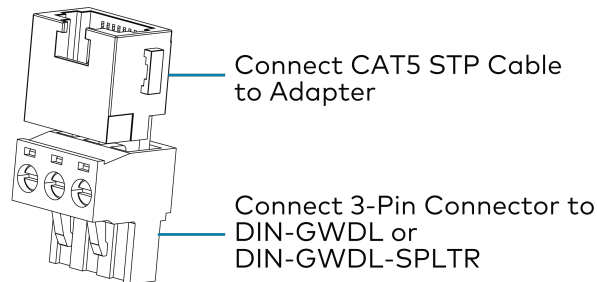
RJ-45 to 3-Pin Adapter

Use the RJ-45 to 3-pin adapter to connect the CAT5 STP cable to the DIN-GWDL and DIN-GWDL-SPLTR.

Adapter 3-Pin Pinout



Adapter Connections



RJ-45 Pinout for DMX-C

Use the pinout shown below when terminating CAT5 STP cable.

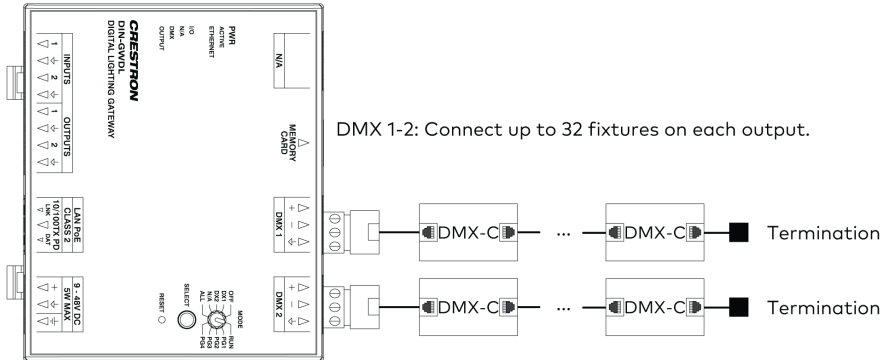
RJ-45 Pinout for DMX-C Connections and RJ-45 Adapters



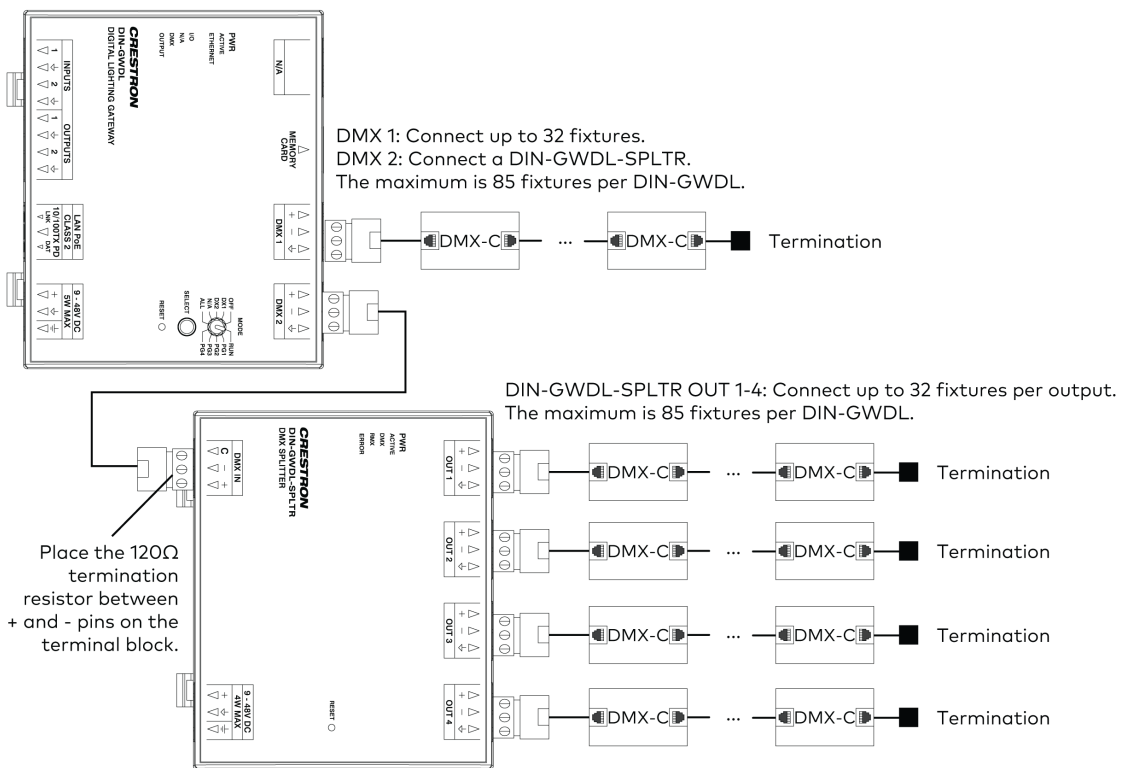
Application Scenarios

Using the included RJ-45 adapters, daisy-chain light fixtures to **DMX 1**, **DMX 2**, and **OUT 1-4** as shown below.

DIN-GWDL Gateway Connected to Crestron Light Fixtures



DIN-GWDL and DIN-GWDL-SPLTR Connected to Crestron Light Fixtures

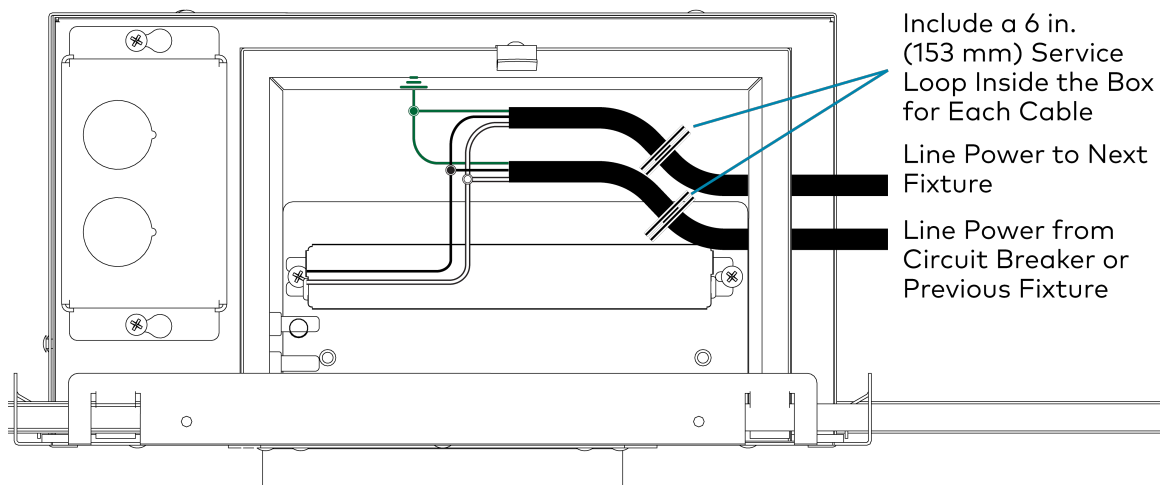


Power Connections

Power to the fixtures should be supplied by a dedicated branch circuit. Do not use manual controls, such as dimmers or switches, to operate the fixtures.

To make the power connections:

1. Open the cover to access the power wires.
2. Make the Line (black), neutral (white), and ground (green) power connections. When making connections, consider the following:
 - Use cable with 14 or 12 AWG wire.
 - Include a 6 in. (153 mm) service loop for each cable in the box.
 - Daisy-chain additional fixtures. It is not recommended to power other devices from the same circuit.
 - Do not connect more than two power connections in the same box.



3. Close the cover.

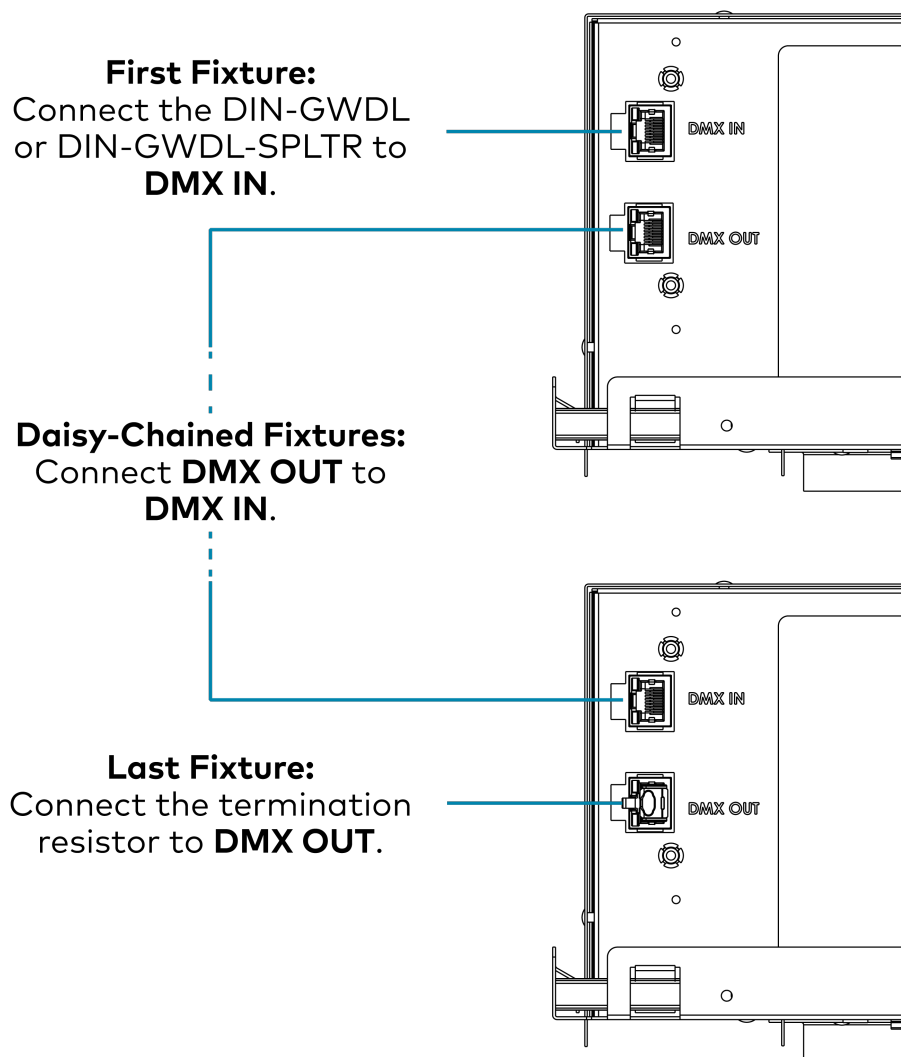
DMX-C Connections

The LFX-DL-TUNC fixtures are controlled using a Digital Lighting Gateway ([DIN-GWDL](#), sold separately). The gateway uses DMX-C to communicate with the light fixtures.

NOTES:

- Before making DMX-C connections, use a network cable tester to make sure that the CAT5 STP cable is functioning and that the RJ-45 connector is properly terminated.
- The DIN-GWDL and, if necessary, DIN-GWDL-SPLTR must be properly installed and wired. For details, refer to the [DIN-GWDL and DIN-GWDL-SPLTR](#) product manual.

LFX-DL-TUNC Fixtures DMX-C Connection Overview

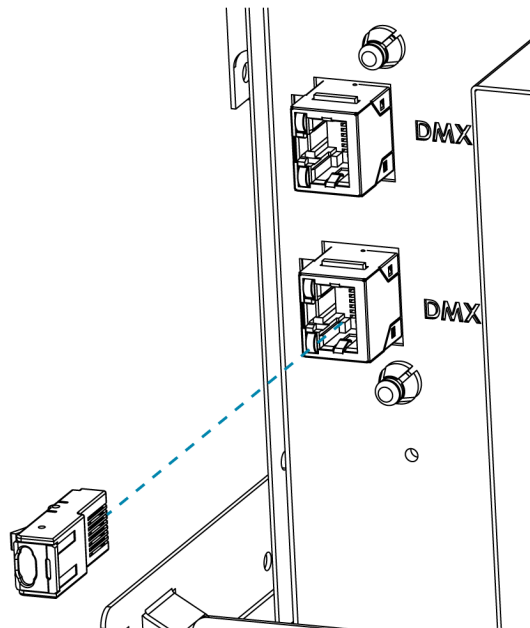


To connect the light fixtures:

Note: For each **DMX IN** and **DMX OUT** connection at the light fixture, add 6 in. (135 mm) of extra CAT5 STP cable. Leave slack so that the cable can be pulled through the fixture for service.

1. Make the DMX-C connections on the DIN-GWDL and DIN_GWDL-SPLTR. For details, refer to the [DIN-GWDL and DIN-GWDL-SPLTR](#) product manual.
2. Connect the first LFX-DL-TUNC light fixture:
 - a. **DMX IN** port: Connect the CAT5 STP cable from the DIN-GWDL or DIN-GWDL-SPLTR.
 - b. **DMX OUT** port: Connect the CAT5 STP cable that will connect to the next fixture.
3. Connect daisy-chained fixtures:
 - a. **DMX IN** port: Connect the CAT5 STP cable that is connected to the previous light fixture.
 - b. **DMX OUT** port: Connect the CAT5 STP cable that will connect to the next fixture.
4. Connect the last fixture:
 - a. **DMX IN** port: Connect the CAT5 STP cable that is connected to the previous light fixture.
 - b. **DMX OUT** port: Connect the termination resistor. The termination resistor is required for the last fixture in the daisy chain.

Termination Resistor for DMX OUT Port



Test the Fixtures

Test the light fixtures to make sure that they are connected properly and that they function as intended prior to finishing the ceiling.

Test the CAT5 STP Cables

Before making DMX-C connections, use a network cable tester to make sure that the CAT5 STP cable is functioning and that the RJ-45 connector is properly terminated.

Test the Connections

Verify that all connections are properly made and that the termination resistors are properly installed.

Termination Resistor

Verify that the last fixture in each light-fixture daisy chain has a termination resistor placed in the **DMX OUT** port and that it is installed securely.

DIN-GWDL-SPLTR Resistor

Verify that the termination resistor is installed between the + and - pins on the **DMX IN** port on the DIN-GWDL-SPLTR.

Verify Fixture Count and Wiring Guidelines

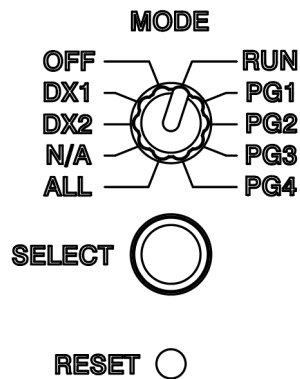
Verify that the system follows the recommended fixture count and wiring guidelines. For details, refer to [Wiring Guidelines on page 59](#).

Test the Light Fixtures

Use the DIN-GWDL to test the lights in the system. For details, refer to the [DIN-GWDL and DIN-GWDL-SPLTR](#) product manuals

Test and control connected light fixtures without a control processor to verify the system. Use the **MODE** rotary dial and **SELECT** to change the local test modes of the DIN-GWDL.

Mode Dial with Select and Reset Buttons



NOTE: PG3 and PG4 are reserved for future use. N/A has no function.

Set All Fixtures to Neutral White

To provide light control prior to control system installation, use **PG1** to turn all lights on (at neutral white) and off. **PG1** stops the program, ignores any network commands, and sets all fixtures to neutral white at 100% intensity.

NOTE: This requires all DMX-C fixtures to be new from the factory or to have been previously addressed by Crestron Home.

- Tap **SELECT** to turn all fixtures on and off.
- Hold **SELECT** to dim all fixtures up and down.

Cycle Intensity, CCT, Saturation, and Hue

NOTE: This requires all DMX-C fixtures to be new from the factory or to have been previously addressed by Crestron Home.

Use **PG2** to continuously cycle through intensity, CCT, saturation, and hue settings on all connected fixtures. This mode can be used to test system wiring and verify that there are no defects with connected light fixtures. **PG2** stops the program, ignores any network commands, and turns off all addresses on the DALI output. The intensity, CCT, saturation, and hue are set to 0 for all connected fixtures.

- Each value individually ramps over 10 seconds, in this order:
 - Intensity: 0%-100%
 - CCT: 1650K-8000K
 - Saturation: white to red
 - Hue: all colors
 - Intensity: 100%-0%
- Press **SELECT** to pause or resume the sequence.

Everything Off

Use **OFF** to turn off all connected lighting fixtures. **OFF** also stops the program and ignores any network commands.

Test DMX 1 Output

Use **DMX 1** to test all light fixtures connected to the **DMX 1** output. **DMX 1** stops the program, ignores any network commands, and turns off all fixtures connected to the **DMX 2** output by setting all **DMX 2** channels to 0. This also turns on (red) all fixtures connected to the **DMX 1** output by setting all **DMX 1** channels to 255.

- Tap **SELECT** to set all channels on **DMX 1** to 0 or 255 (off or red).
- Hold **SELECT** to ramp all **DMX 1** channels up or down.

Test DMX 2 Output

Use **DMX 2** to test all light fixtures connected to the **DMX 2** output. **DMX 2** stops the program, ignores any network commands, and turns off all fixtures connected to the **DMX 1** output by setting all **DMX 1** channels to 0. This also turns on (red) all fixtures connected to the **DMX 2** output by setting all **DMX 2** channels to 255.

- Tap **SELECT** to set all channels on **DMX 2** to 0 or 255 (off or red).
- Hold **SELECT** to ramp all **DMX 2** channels up or down.

Test All Fixtures (Varying Intensity)

Use **ALL** to test all connected light fixtures with varying intensity. **ALL** stops the program, ignores any network commands, and turns on all connected fixtures.

- Press and hold the **SELECT** button to reduce intensity at a rate of 20% per second (to a minimum of 1%).
- Press and hold the **SELECT** button again to increase intensity at a rate of 20% per second (to a maximum of 100%).
- Tap **SELECT** to turn all fixtures on and off.

Adjustments

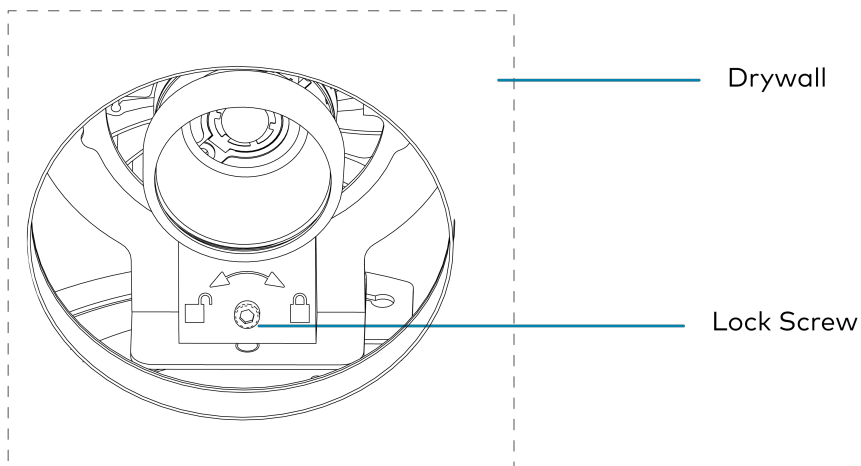
For LFX-DL-TUNC fixtures with an adjustable light engine, set the desired tilt and rotation.

Tilt Adjustment

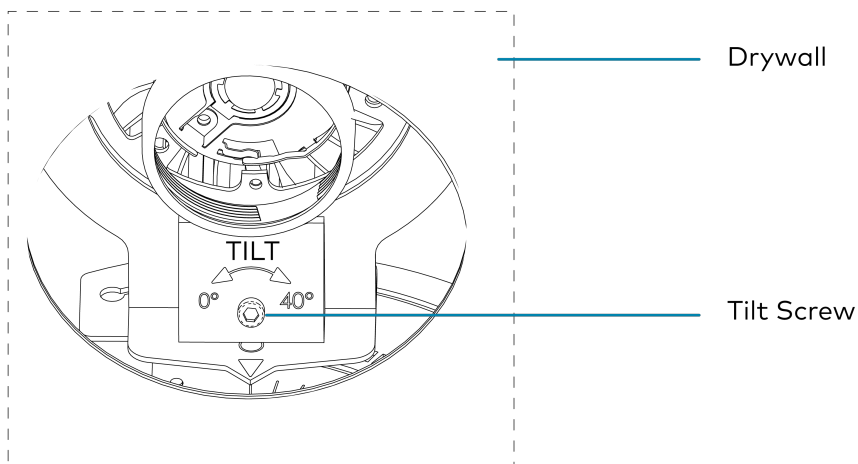
To adjust the tilt:

Note: Use the 9/64 in. t-handle hex key to make adjustments to the tilt.

1. Turn the **LOCK** screw counterclockwise to unlock the tilt adjustment.



2. Rotate the **TILT** screw to set the tilt angle. Use the markings to set the angle. For wall wash applications, use the **WW** (wall wash) setting.

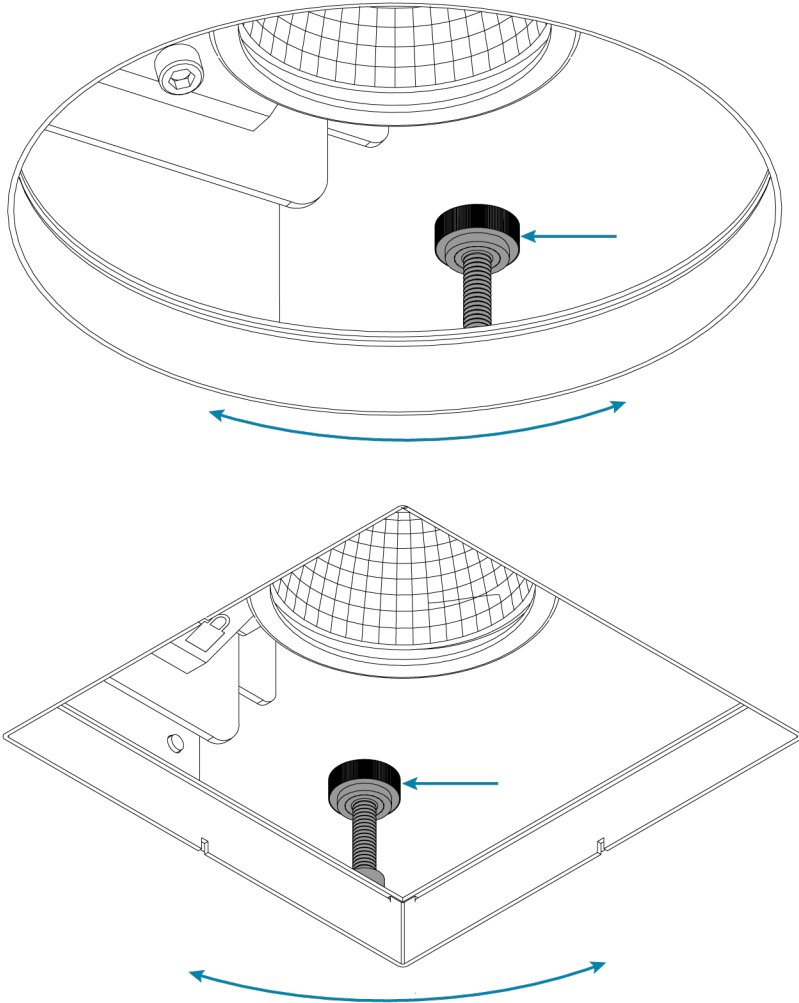


3. Turn the **LOCK** screw clockwise to lock the tilt adjustment.

Rotation Adjustment

To adjust the rotation:

1. Turn the thumbscrew counterclockwise to unlock the rotation adjustment.



NOTE: The thumbscrew will come loose if turned excessively.

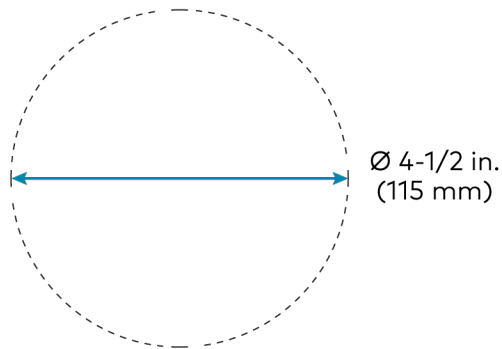
2. Rotate the light engine to the desired angle.
3. Turn the thumbscrew clockwise to lock the rotation adjustment.

Install Drywall

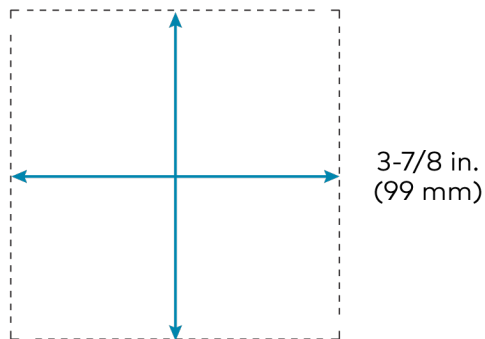
NOTE: Test all wiring prior to installing drywall.

To install drywall:

1. Make sure that the cardboard insert is placed in the aperture of the fixture to protect the fixture from dust and debris.
2. Make a cutout in the drywall to fit the aperture of the fixture.
 - **Round trimmed and trimless:** Ø 4-1/2 in. (115 mm)



- **Square trimmed, trimless:** Ø 3-7/8 in. (99 mm)

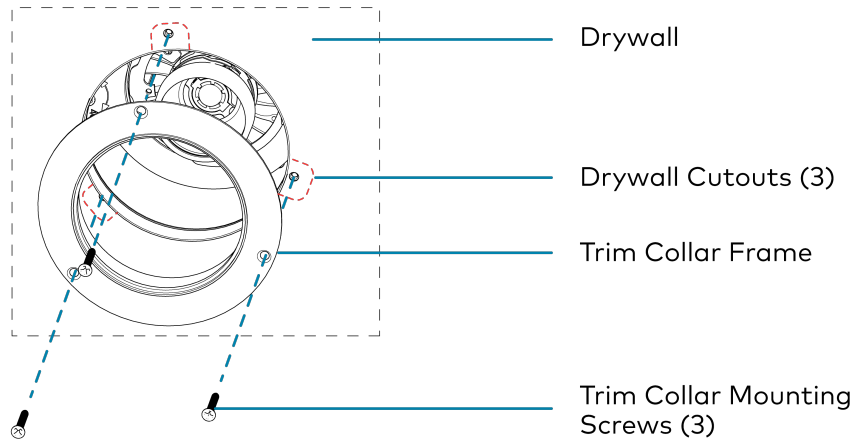


3. Align the drywall with the fixture and install the drywall.

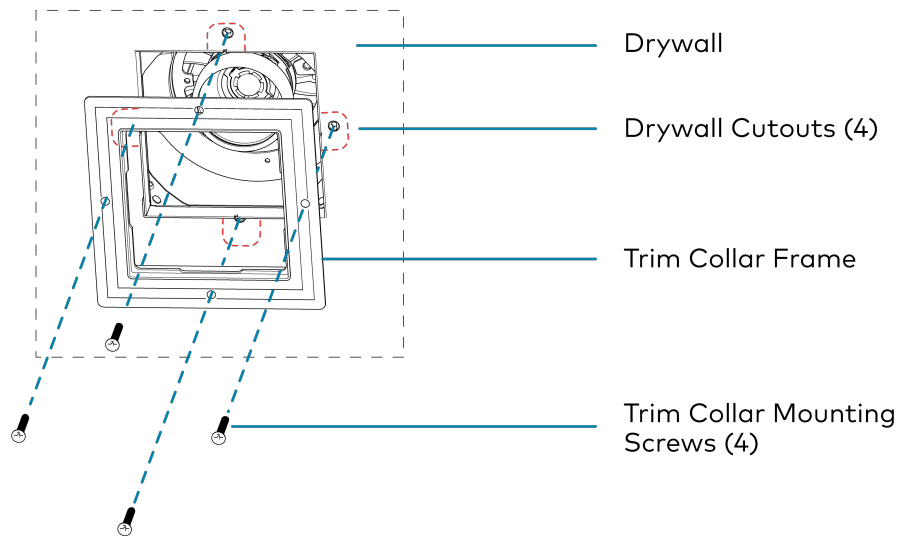
4. For flangeless trims:

- a. Make three notches in the drywall to create space for the trim collar frame mounting screws. The screw location can be determined by feeling inside the opening of the fixture.
- b. Install the trim collar frame using the screws provided.

Round Trim Collar Frame Installation

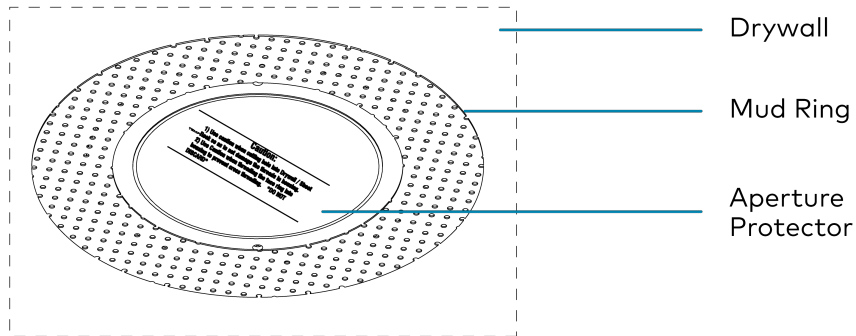


Square Trim Collar Frame Installation

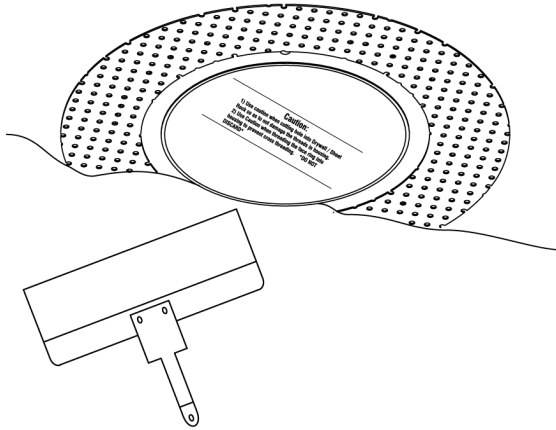


- c. Insert the factory supplied fiber mesh over the trim collar frame and line it up with the opening.

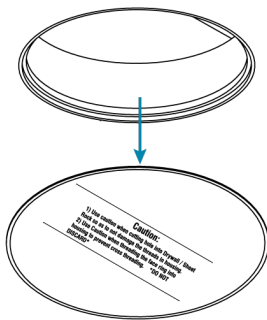
- d. Insert the cardboard cover into the opening. The cover protects the opening while finishing the ceiling.



- e. Apply a thin coat of plaster to finish the ceiling. Feather the plaster as needed to ensure a smooth and even surface.



- f. Remove the cardboard cover using a screwdriver. If necessary, clean the plaster from the inside of the trim.



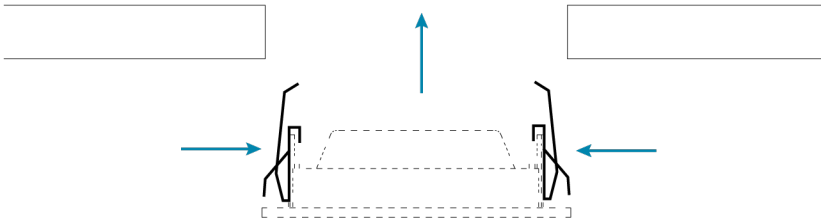
- g. Paint the ceiling.

NOTE: Excess paint on the inside edge of the ring might prevent the trim from sitting flush with the ceiling.

Trims

To install a trim with a flange:

1. Press the trim clips toward the trim and slide the trim into the ceiling cutout.

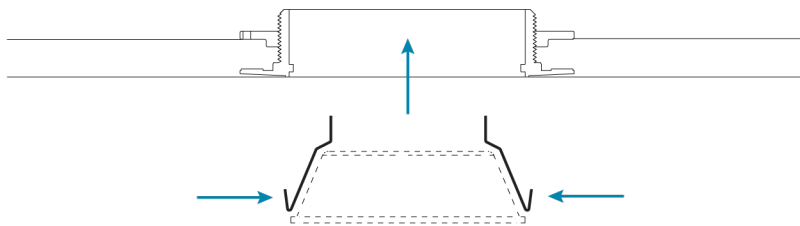


2. Gently push the trim until the clips expand and lock the trim into place.

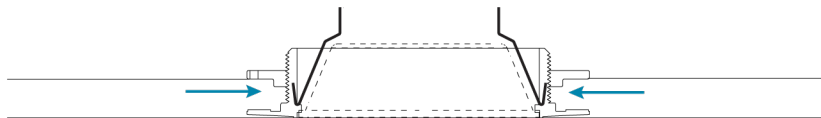


To install a trim without a flange:

1. Slide the trim into the ceiling cutout.



2. Gently push the trim until the clips expand and lock the trim into place.



Maintenance

LFX-DL-TUNC fixtures are fully assembled products but the components can be replaced or serviced.

WARNING: To avoid fire, shock, or death, turn off the power at the circuit breaker or fuse and test that the power is off before wiring!

To replace or service the components of a fixture:

Remove Trims

To remove the trim on a trimmed fixture:

1. Gently pull on the trim edges until the trim is loose.
2. Pull down the trim to remove it.

Replace the Light Engine

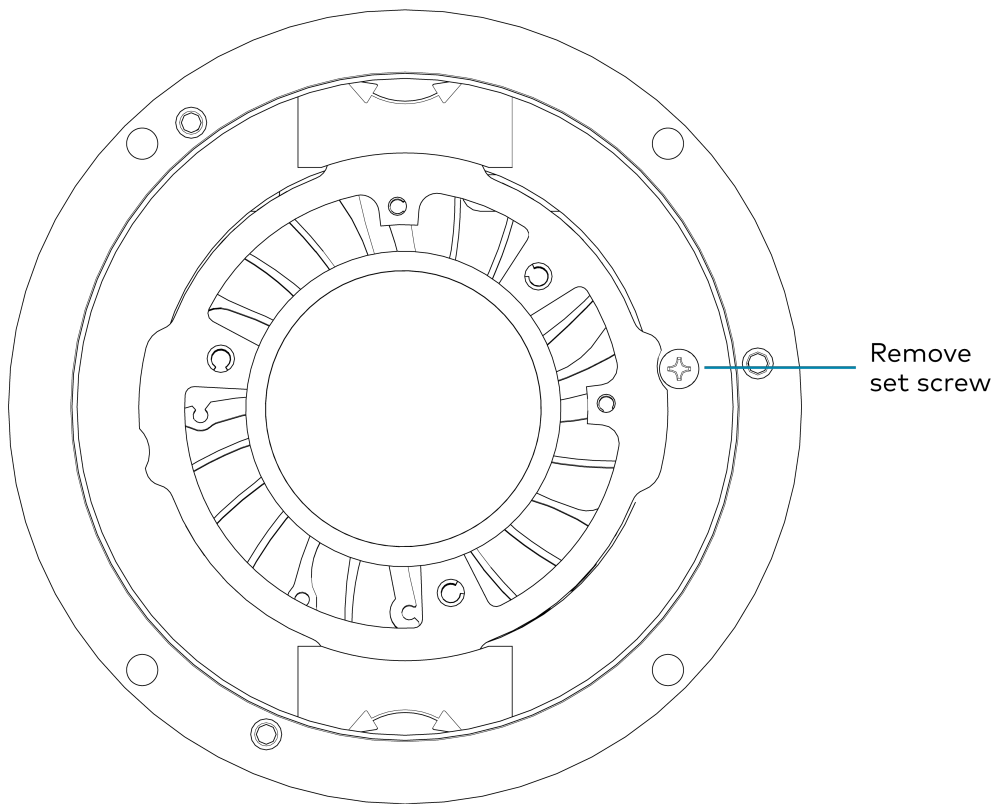
The light engine (heat sink and array) is attached to a bracket inside the light fixture. The light engine twists to engage with the bracket and uses a Phillips screw to lock it into place.

TIP: Prior to removing the light engine:

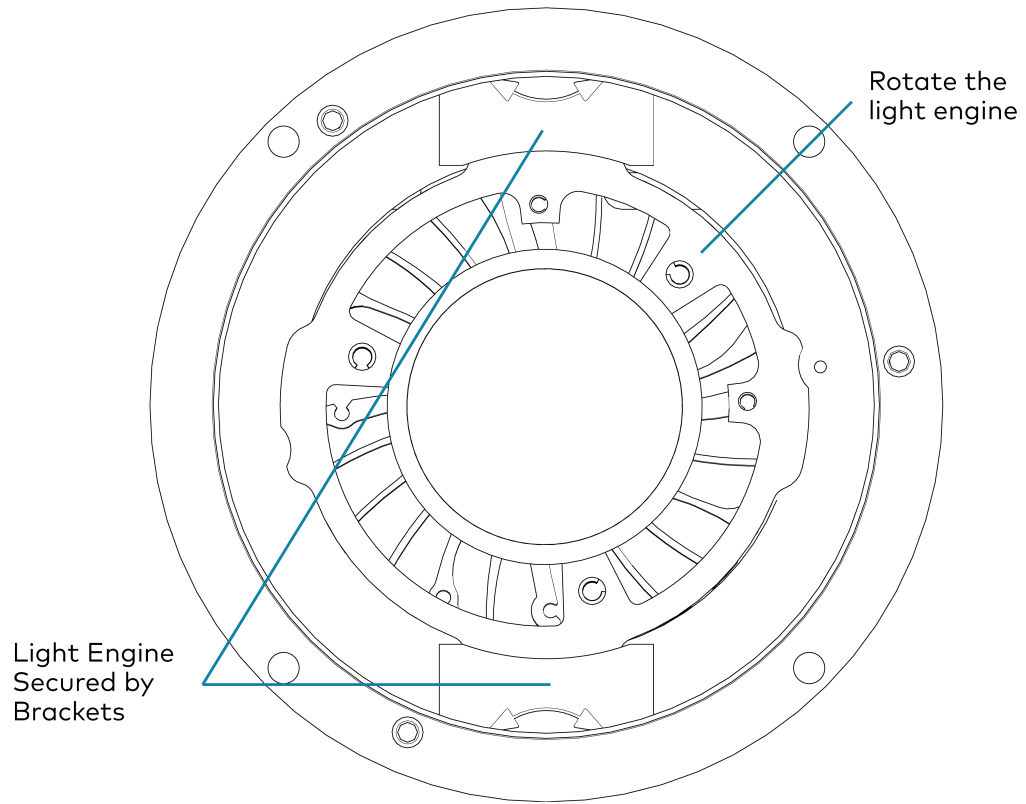
- Turn off power to the light fixture.
- Remove the decorative trim.
- Remove the media holder, media, and optic.

To replace the light engine:

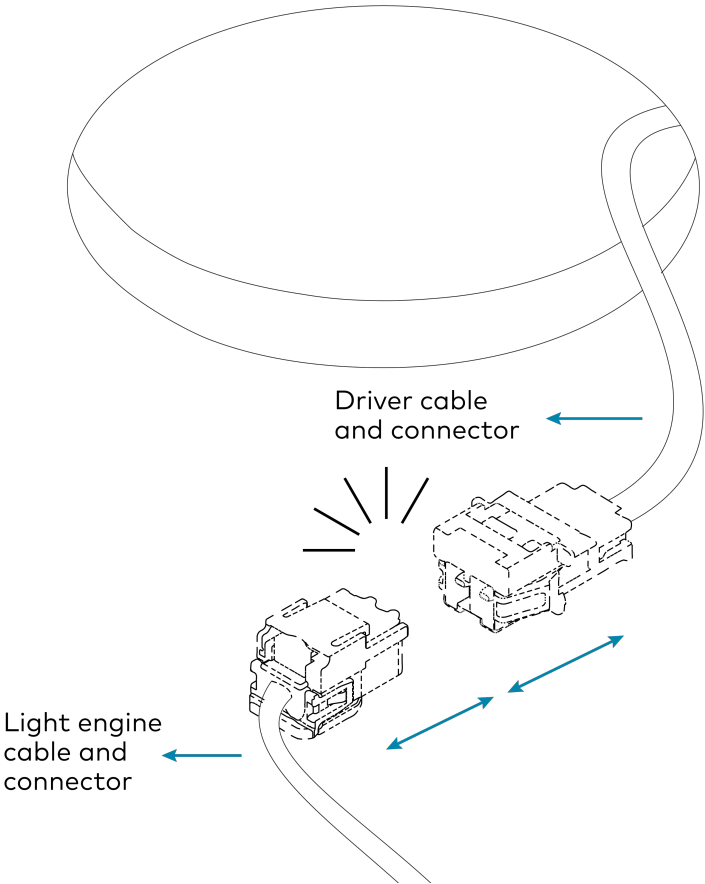
1. Use a Phillips tip screwdriver to remove the set screw.



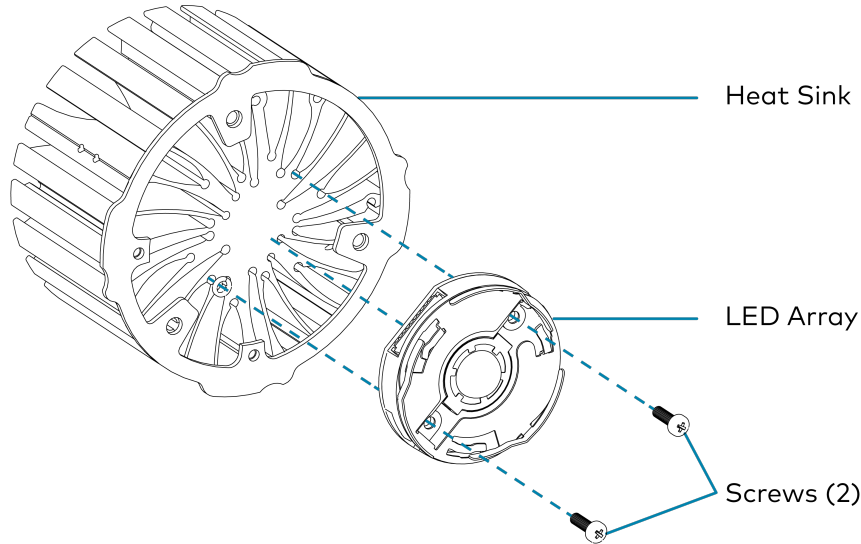
2. Remove the old light engine:
 - a. Turn the light engine counterclockwise until it is no longer engaged with the bracket and then remove the light engine .



b. Disconnect the cable between the old light engine and the driver.



3. Replace the LED array.
 - a. Remove the cable that is connected to the LED Array.
 - b. Remove the LED array from the heat sink and then install the new LED array to the heatsink. Use a Phillips tip screwdriver to remove the screws.



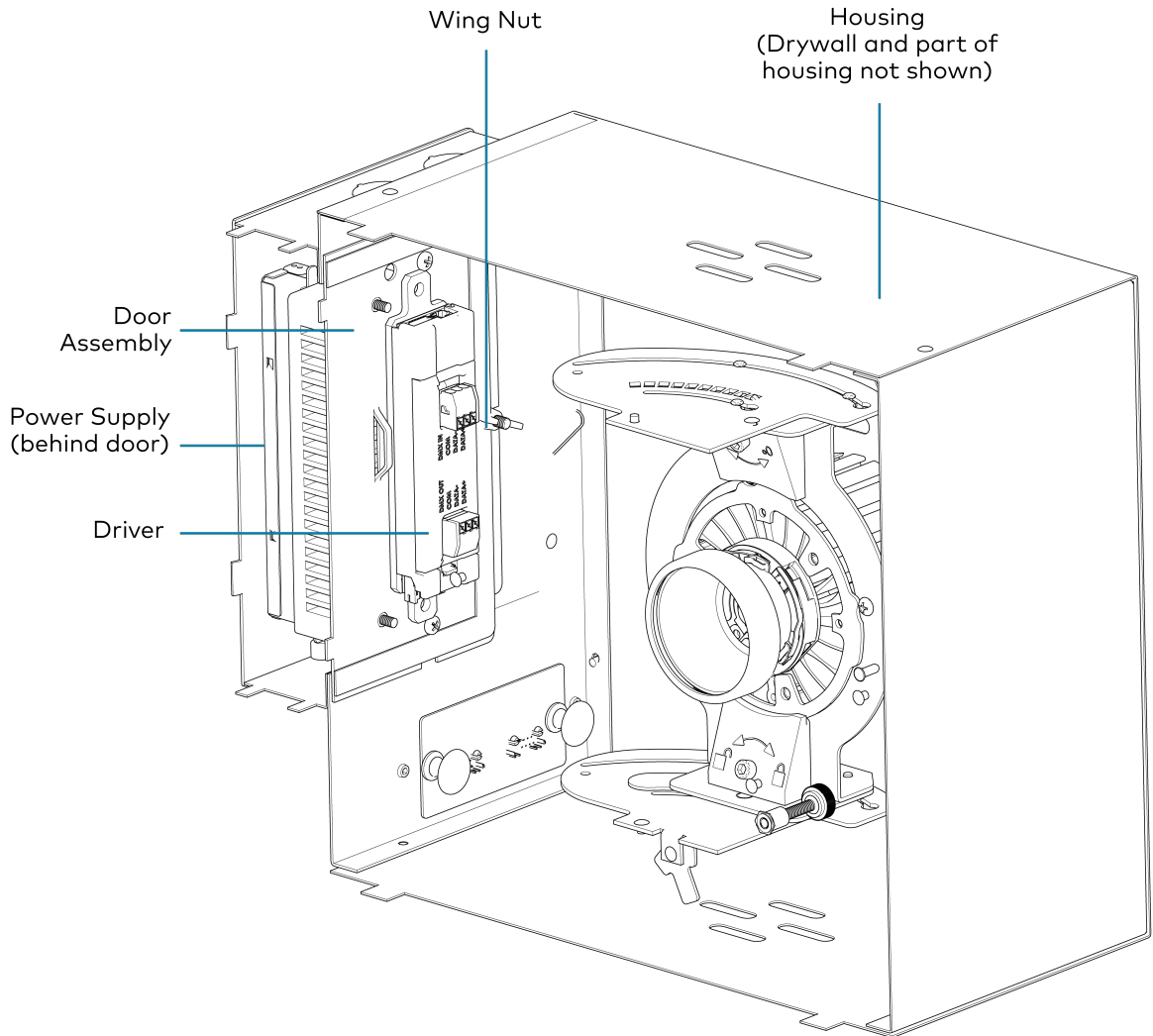
- c. Install the new LED array and reconnect the cable. Use a Phillips tip screwdriver to remove the screws. Assembly is the opposite of removal.
4. Install the new light engine into the enclosure. Installation is the opposite of removal.
5. Use a Phillips tip screwdriver to replace the set screw.
6. Reinstall the optic, media, and media holder and turn on the power to the fixture. For details, refer to [Change the Optic on page 82](#) and [Change the Media on page 82](#).

Replace the Driver and Power Supply

To replace the driver and power supply:

1. To access the driver, the light engine must be removed or tilted.
 - **Fixed light engine:** Remove the light engine. For details, see [Replace the Light Engine on page 76](#).
 - **Adjustable light engine:** Tilt the light engine 40° to allow access to the driver. For details, see [Adjustments on page 69](#).

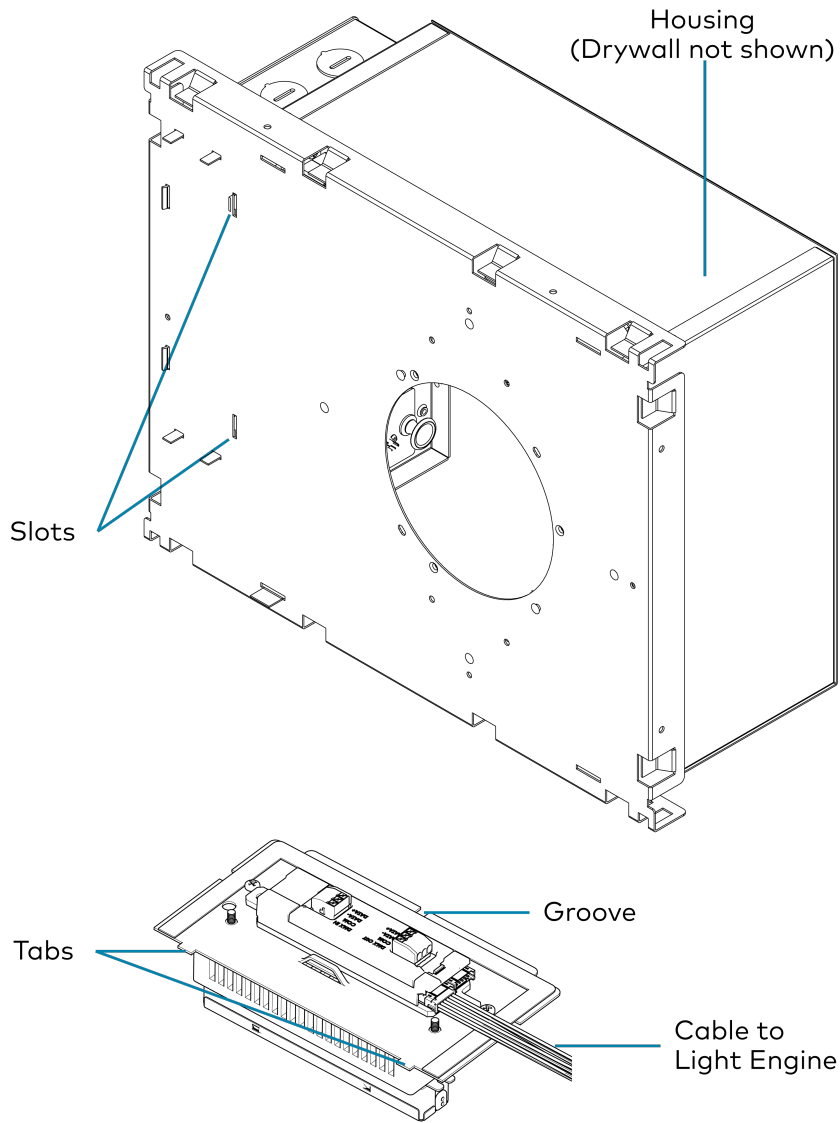
2. Remove the wing nut that secures the door assembly to the housing.



TIP: Note the position of the light engine before beginning the procedure.

3. Remove the door assembly through the aperture of the fixture. The inside of the power junction box will be exposed. The driver and power supply are attached to the door assembly.
4. Disconnect the power wires that connect to the power supply. For details, refer to [Wiring on page 59](#).
5. Remove the driver and power supply from the door assembly and replace them with the new driver and power supply.
6. Reconnect the cable between the light engine and driver.
7. Reconnect the power wires. For details, refer to [Wiring on page 59](#).

8. Insert the door assembly through the aperture of the fixture and place it in front of the power junction box. Align the tabs on the door assembly with the slots in the enclosure.

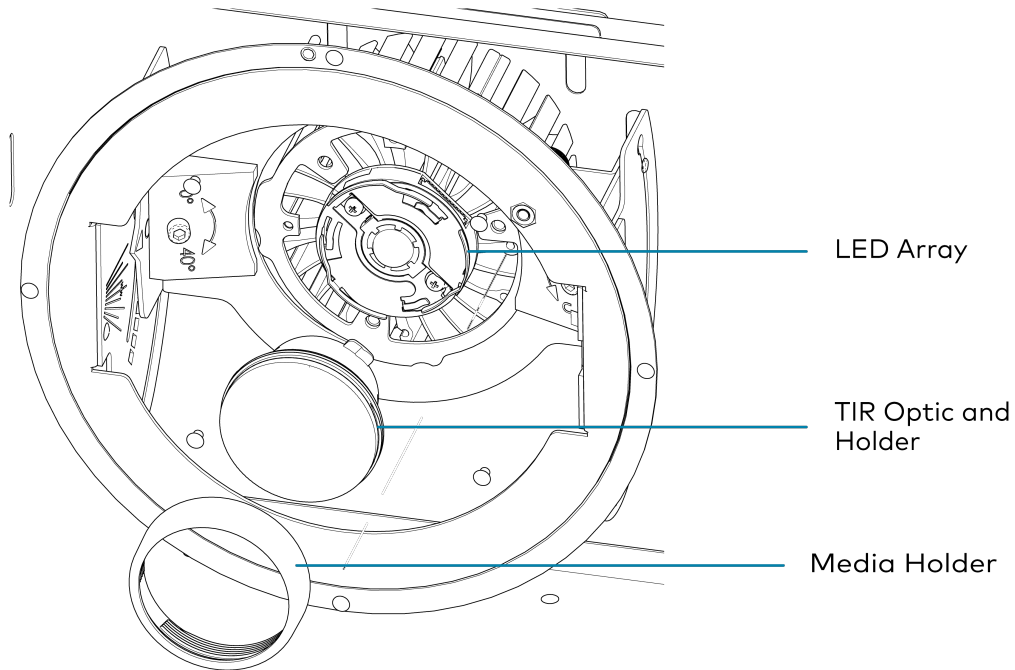


9. Secure the door assembly using the wing nut removed previously.
10. Reinstall the light engine or set the tilt to the original position.

Change the Optic

To change the optic:

1. Remove the media holder and media. For details, refer to [Change the Media on page 82](#).
2. Turn the optic counterclockwise to separate it from the LED array and then remove the optic.



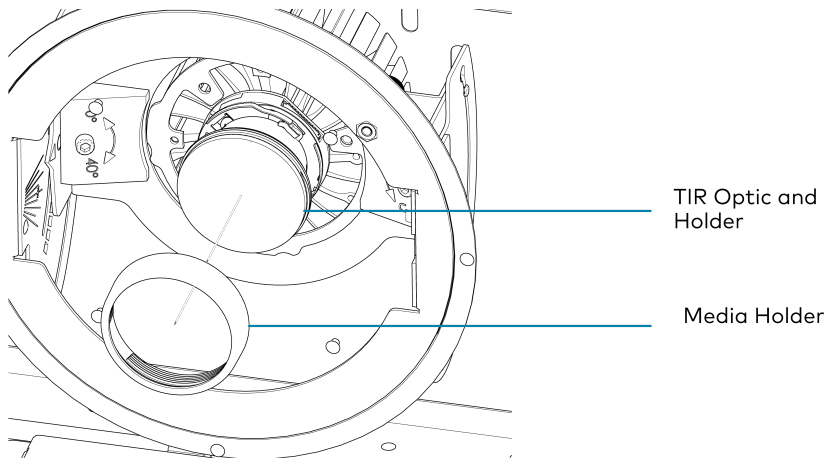
3. Place new optic on the LED array and turn the optic clockwise to secure it to the array. The optic snaps into place.
4. Replace the media holder and media. Installation is the opposite of removal.

Change the Media

To change the media:

1. Remove the media holder. The media holder has internal threads that are used to mate with the light engine. Turn the media holder counterclockwise until it is removed.
2. Place the appropriate media in the media holder. The media holder accepts up to two pieces of media.

3. Reinstall the media holder. Turn the media holder clockwise until it is secured. The media holder should be finger-tight.



Operation

This section provides the following information:

- [LFX-DL-TUNC](#)
- [LFXA-DL-DEMO](#)

LFX-DL-TUNC

The LFX-DL-TUNC is controlled using the Crestron Home Setup app. Refer to the [Crestron Home® OS Product Manual](#) for details.

LFXA-DL-DEMO

This section applies to the LFX-DL-TUNC only. Available operations for a demo kit are detailed below.

This section applies to the LFXA-DL-DEMO only. Proper configuration connects a demo kit to the controller app on an iOS or an Android device and allows the device to control the demo kit instantly. A demo kit needs to be discovered only once.



Item	Description	Item	Description
1	Product Information Document	8	Round Trim, Adjustable
2	T-Handle Hex Key 9/64 in.	9	Power Supply and Cable

Item	Description	Item	Description
3	Color Samples Includes black, bronze, matte nickel, matte silver, and white	10	Square Trim, Pinhole, Flangeless
4	35° TIR optic	11	Square Trim, Wall Wash
5	55° TIR optic	12	Square Trim, Adjustable
6	Round Trim, Wall Wash	13	Tabletop Display Stand with LED light Includes 55° TIR optic, media holder, and round adjustable trim preinstalled
7	Round Trim, Pinhole, Flangeless		

Setup

Assemble the Demo Kit

To set up the LFXA-DL-DEMO:

1. Remove the Tabletop Display stand and Power Supply from the bag.
2. Plug one end of the power cord into the Power Supply and the other end into a power receptacle.

Adjustment the Tilt and Angle

To adjust the tilt:

Note: Use the 9/64 in. t-handle hex key to make adjustments to the tilt.

1. Turn the **LOCK** screw counterclockwise to unlock the tilt adjustment.
2. Rotate the **TILT** screw to set the tilt angle. Use the markings to set the angle. For wall wash applications, use the **WW** (wall wash) setting.
3. Turn the **LOCK** screw clockwise to lock the tilt adjustment.

To adjust the rotation:

1. Turn the thumbscrew counterclockwise to unlock the rotation adjustment.

NOTE: The thumbscrew will come loose if turned excessively.

2. Rotate the light engine to the desired angle.
3. Turn the thumbscrew clockwise to lock the rotation adjustment.

Change the Optic

To change the optic:

1. Remove the media holder and media.
2. Turn the optic counterclockwise to separate it from the LED array and then remove the optic.
3. Place new optic on the LED array and turn the optic clockwise to secure it to the array. The optic snaps into place.
4. Replace the media holder and media. Installation is the opposite of removal.

Change the Trim

To remove the trim:

1. Gently pull on the trim edges until the trim is loose.
2. Pull the trim to remove it.

To install a trim with a flange:

1. Press the trim clips toward the trim and slide the trim into the cutout.
2. Gently push the trim until the clips expand and lock the trim into place.

To install a trim without a flange:

1. Slide the trim into the cutout.
2. Gently push the trim until the clips expand and lock the trim into place.

DMX-C Demo App

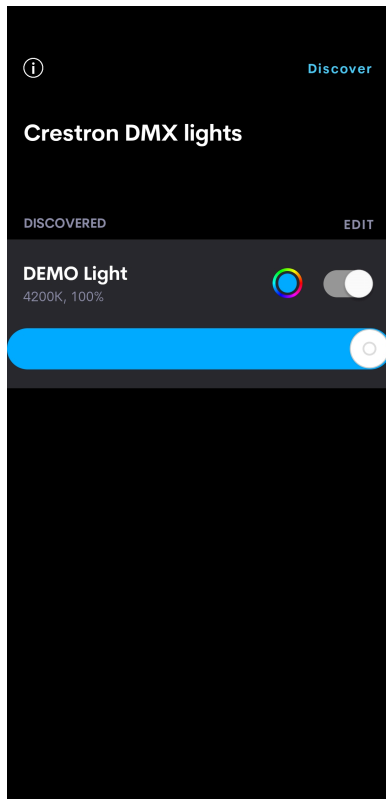
Use the DMX-C Demo app to discover and save the demo kit. The demo kit can be controlled after it is discovered by the DMX-C Demo app. Up to four demo kits can be saved to the app.

A demo kit needs to be configured only once.

NOTE: Before starting configuration:

- The demo kit must be powered on.
- Download the Crestron DMX-C Demo app. The app is available for iOS® devices on the Apple® App Store® online store and for Android™ devices on the Google Play™ store.

When the DMX-C Demo app is opened, an example DEMO Light is displayed and the app searches for demo kits. The DEMO Light demonstrates the features available in the app but cannot be used to control a demo kit.

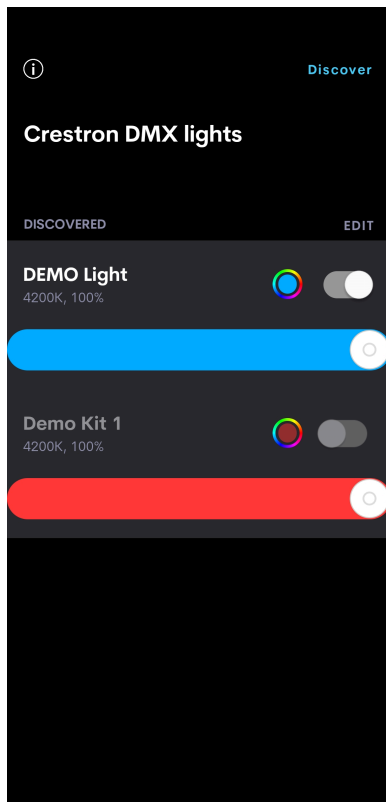


Discover a Demo Kit

The DMX-C Demo app searches for LFXA-DL-DEMO devices when it is opened. To manually search for devices, select **Discover**.

NOTE: A maximum of four demo kits can be connected and configured on a device.

When a demo kit is discovered, it is displayed in the **Discovered** list.

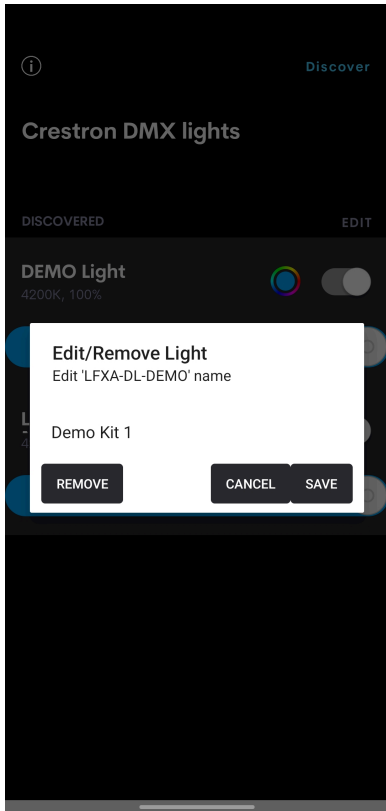


Rename a Demo Kit

To rename a demo kit:

1. Select and hold the name of the demo kit for two seconds. The **Edit/Remove Light** dialog will display.

2. Enter a name for the light.

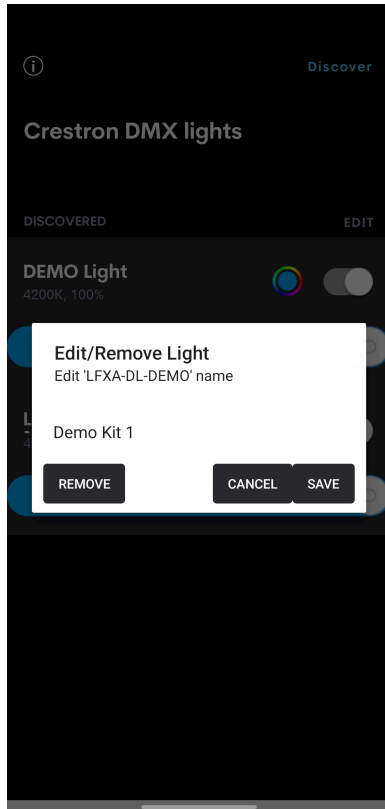


3. Select **Save**.

Remove a Demo Kit

To remove a demo kit:

1. Select and hold the name of the demo kit for two seconds. The **Edit/Remove Light** dialog will display.



2. Select **Remove**.

Control a Demo Kit

Available operations for a demo kit are detailed below.

Turn Light On or Off

To turn on or off a light, select the power toggle switch. When turned on, the demo kit returns to the last brightness level set before it was turned off.

Brightness Control

To change the brightness of a light, set the slider to the desired intensity.

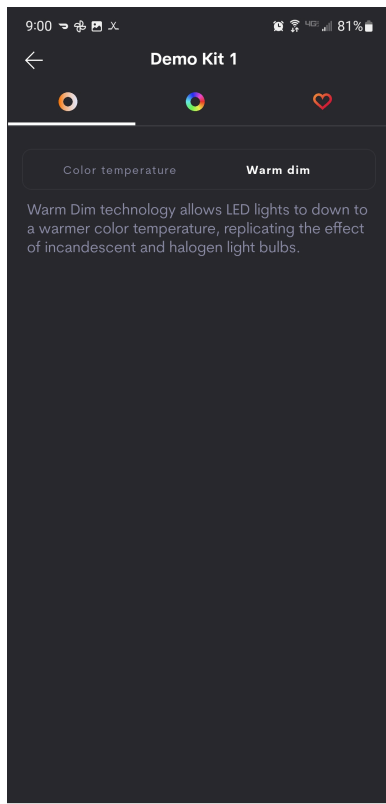
Light Tuning

Select a color tuning swatch to enter the light tuning screen for the demo kit.

NOTE: To save the light color in the **Favorites** tab, select  **Save Favorite**. For details, refer to [Favorites on page 95](#).

White Tuning

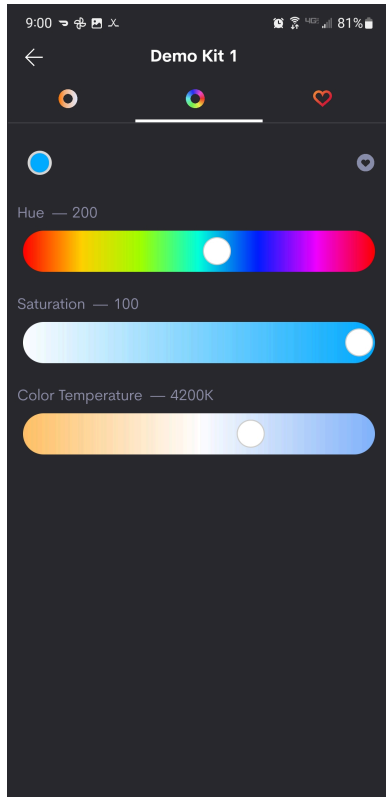
Select the **White Tuning** tab to configure the white light. Select the **Color Temperature** tab to set the correlated color temperature (CCT) of the light or **Warm Dim** to control the CCT based on the intensity of the light. When set to **Warm Dim**, the light replicates a traditional incandescent bulb that has a warmer look at lower intensity and a cooler look at higher intensity.



Color Tuning

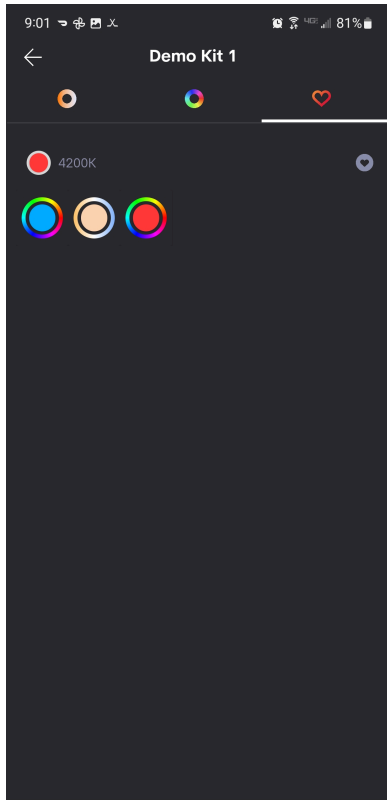
Select the **Color Tuning** tab to configure the color of the light. Set the **Hue**, **Saturation**, and **Color Temperature** sliders to change the color of the light.

Note: The **Color Temperature** will not change the look of the light when the **Saturation** is set to **100**.



Favorites

Select the **Favorites** tab to view and recall saved light settings or to save the current light setting as a favorite. The current light setting is displayed in a color switch along with the CCT value.



To save the current light color in the **Favorites** tab, select  **Save Favorite**.

To recall a favorite, select the saved color swatch. The light on the demo kit will update to show the settings for the favorite.

To delete a favorite, select and hold the color swatch until the **Delete Favorite** dialog is displayed and then select **Yes** to confirm.

Resources

The following resources are provided for the LFX-DL-TUNC.

NOTE: You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

Crestron Support and Training

- [Crestron True Blue Support](#)
- [Crestron Resource Library](#)
- [Crestron Online Help \(OLH\)](#)
- [Crestron Training Institute \(CTI\) Portal](#)

Programmer and Developer Resources

- help.crestron.com: Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- developer.crestron.com: Provides developer documentation for Crestron APIs, SDKs, and other development tools

Product Certificates

To search for product certificates, refer to support.crestron.com/app/certificates.

Related Documentation

- [Crestron Home® OS](#) Product Manual
- [DIN-GWDL and DIN-GWDL-SPLTR](#) Product Manual

