



CHALICE 70 DOWNLIGHT INSTALLATION & USERS MANUAL

Preface

The document provides basic information on installation and operational instructions for a qualified, trained installer. These instructions provide information for the following product:

Chalice 70 Downlight - all versions

Additional product information can be found on our web site at www.altmanlighting.com or by scanning the QR code to the right.



Have a question regarding this manual?

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Should you have a suggestion or question regarding your Altman Lighting product, we would love to hear from you.

You can reach us at:

Altman Lighting
1400 East 66th Ave.
Denver, CO. 80229
+1 (303) 500-7072
www.altmanlighting.com
customerservice@altmanlighting.com
support@altmanlighting.com
sales@altmanlighting.com

Note: Information contained in this document may not be duplicated in full or in part by any person without prior written approval of Altman Lighting. Its sole purpose is to provide the user with conceptual information on the equipment mentioned. The use of this document for all other purposes is specifically prohibited.

Our Commitment

Altman Lighting continually engages in research related to product improvement. New materials, production methods and design refinements are introduced into existing products without notice as a routine expression of the philosophy. For this reason any current Altman Lighting product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise noted.

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Version as of: **2022 March 17**

CDX70 Luminaire Installation & User's Manual
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Important Information

Product Safety Notices

When using electrical equipment, basic safety precautions should always be followed including the following:



1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. Do not use outdoors.
3. Do not mount near gas or electric heaters.
4. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
5. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
6. Do not use this equipment for other than intended use.
7. Refer service to qualified personnel.

SAVE THESE INSTRUCTIONS.

Warnings



WARNING: You must have access to a main circuit breaker or other power disconnect device before installing any wiring. Be sure that power is disconnected by removing fuses or turning the main circuit breaker off before installation. Installing the device with power on may expose you to dangerous voltages and damage the device. A qualified electrician must perform this installation.

WARNING: Refer to National Electrical Code® and local codes for cable specifications. Failure to use proper cable can result in damage to equipment or danger to personnel.

WARNING: This equipment is intended for installation in accordance with the National Electric Code® and local regulations. It is also intended for installation in indoor applications only. Before any electrical work is performed, disconnect power at the circuit breaker or remove the fuse to avoid shock or damage to the control. It is recommended that a qualified electrician perform this installation.

WARNING: This Lighting Fixture IS NOT for residential installation or use.

WARNING: The structure where fixture(s) is to be mounted must be capable of supporting the weight of the fixture and its accessories. This fixture is for temporary, portable mounting only.

WARNING: The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.

THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.

CE PRODUIT DOIT ÊTRE INSTALLÉ SELON LE CODE D'INSTALLATION PERTINENT, PAR UNE PERSONNE.

**CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR.
CONSULTER UN ÉLECTRICIEN QUALIFIÉ POUR VOUS ASSURER QUE LES CONDUCTEURS DE LA
DÉRIVATION SONT ADÉQUATS.**

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

DMX 512 Additional Resources

For more information on installing DMX512 control systems, the following publication is available for purchase from the United States Institute for Theatre Technology (USITT), "Recommended Practice for DMX512: A Guide for Users and Installers, 2nd edition" (ISBN: 9780955703522). USITT Contact Information:

USITT
290 Elwood Davis Road, Suite 100
Liverpool, NY, 13088
Phone: 1.800.938.7488 or 1.315.463.6463
www.usitt.org

Altman Lighting Product Warranty

Warranty Terms

Altman Lighting, Inc., a subsidiary of Altman Stage Lighting Company, Inc., herein referred to as Altman, warrants each new product (except for spare parts or products Altman does not manufacture) for a period of TWO (2) years from date of shipment to correct by repair or replacement any part defect due to faulty material or workmanship. Under these same terms products with an LED light source shall be warranted for a period of FIVE (5) years and One (1) day.

Altman warrants for NINETY (90) days any spare part it manufactures. On spare parts or products Altman does not manufacture, including, but not limited to, lamps, sockets, lenses, roundels, electronics, ignitors, ballasts, etc.; Altman will grant the same warranty given Altman by its vendors. Altman assumes no responsibility for damage or faulty performance caused by misuse, improper installation, careless handling or where repairs have been attempted by others. This warranty is in lieu of all warranties or guarantees expressed or implied and no representative or person is authorized to assume Altman any other liability with the sale of Altman's products.

Altman assumes no responsibility for damage or faulty performance caused by misuse, improper installation, careless handling or where repairs have been attempted by others.

This warranty is in lieu of all warranties or guarantees expressed or implied and no representative or person is authorized to assume Altman any other liability with the sale of Altman's products.

Warranty Service

The customer must receive a Return Material Authorization (RMA) number prior to return, return shipment must be visibly marked with the RMA number and the product must be returned (shipping prepaid) to the factory at:

1400 East. 66th Avenue
Denver, CO 80229 USA
+1-303-500-7072
support@altmanlighting.com

The return must be within THIRTY (45) days of receiving the RMA from Altman. Altman warrants for NINETY (90) days any spare part it manufactures. On spare parts or products Altman does not manufacture, such as lamps, sockets, lenses, roundels, electronics, ignitors, ballasts, etc. Altman will grant the same warranty given Altman by its vendors.

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Product Overview

Pendant Versions

There are 4 versions of the Chalice 70 pendant. Available in DMX and Mains Dim



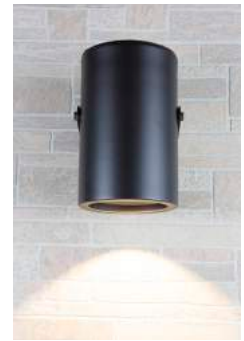
Pendant (CDP)



Aircraft Cable (CDA)



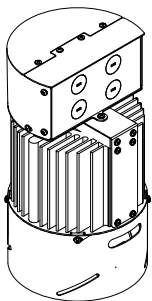
Yoke (CDY)



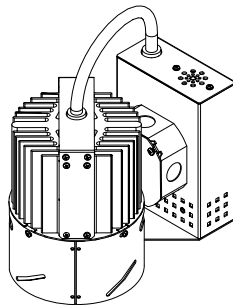
Wall (CDW)

Recessed Versions

There is 2 version of the Chalice 70 recessed. Available in DMX and Mains Dim

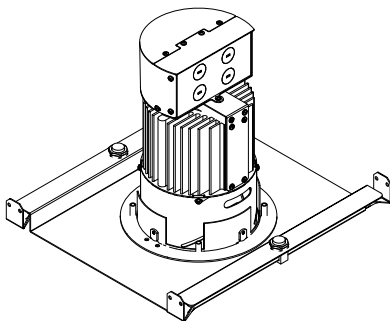


Recessed 70W
DMX

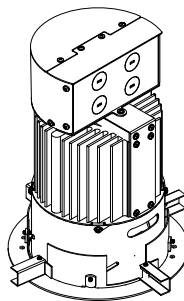


Recessed 70W
Mains Dim

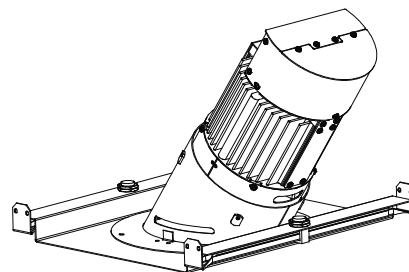
Recessed versions are available with New Construction, Remodel or sloped ceiling accessories.



New Construction



Remodel



Sloped Ceiling

Reflectors

There are 7 reflectors to fit with each application.



20 degree (19-F13379)



29 degree (19-F13380)



39 degree (19-F13325)



46 degree (19-F13381)



51 degree (19-F13401)



64 degree (19-F13402)



91 degree (19-F13838)

Trim Ring



71-2000-BK - Chalice 70W Recessed Trim Ring for DMX and Mains Dim Units



71-3335-BK - Chalice 70W Recessed that mounts to a Slope Ceiling Adaptors



71-2000-WH - Chalice 70W Recessed Trim Ring for DMX and Mains Dim Units



71-3335-WH - Chalice 70W Recessed that mounts to a Slope Ceiling Adaptors

Description

The Chalice 70 is designed specifically for the demands of theaters, churches and public venues. Chalice 70 is a 70W White LED pendant fixture that is an energy-efficient solution to general lighting needs. The Chalice 70 addresses and alleviates the typical maintenance routines of changing lamps and ballasts in difficult-to-access locations. The Chalice 70 uses a single-point source for optimal beam control, and offers a variety of reflector options for ceiling heights from 15 to 50 feet. Its powerful and clean non-pixelated output blends to seamless coverage.

Extremely smooth dimming reproduces the comfortable feel of traditional incandescent sources, at a fraction of the power consumption. Either Mains Dimmer or DMX control allows each fixture to be controlled independently or in groups.

Pendant and recessed versions of Chalice 70 utilize different driver setups and thus have different output levels and also different cooling systems. Please take note of the cooling table included in the manual.

Installation

Mounting



These instructions must be followed to provide a safe and secure mounting. Chalice must be installed by a qualified professional installer.



Supporting mechanism and structure must be capable of supporting the weight of the Chalice 70.



Make sure power to the junction box is completely disconnected. Failure to do so could lead to serious injury or death.



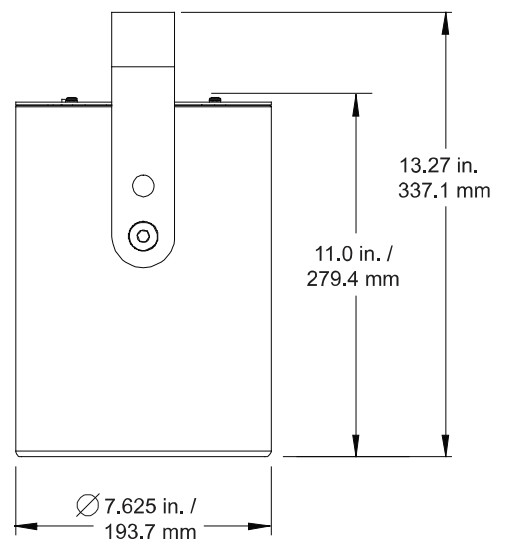
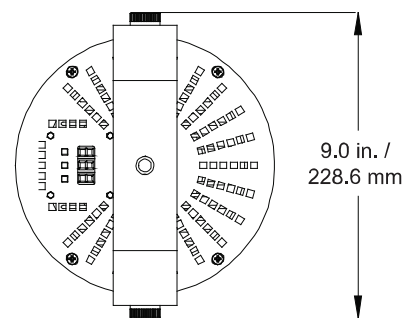
Chalice cannot be mounted directly to a canopy ceiling. A minimum of a 6-inch (153 mm) stem must be used. A minimum of 9 inches (230 mm) between a hard ceiling and the top of the luminaire must be maintained to allow proper airflow for cooling.

Yoke Mount (portable)

Portable models (units that are not intended for permanent installation) must be used according to all applicable local and national requirements and codes. Note, Chalice yoke mount luminaires are not supplied with a C-Clamp or safety cable. These items are sold separately.



The CDY70 yoke luminaire is specifically designed for portable mount purposes and should not be used for wall mount applications. For wall mount applications please use CDW70 luminaire.



INSTALLATION

Step 1. Attach hook clamp or clamp of choice to the yoke.

Step 2. Attach luminaire to structure.

Step 3. Attach safety cable if required.

Pendant with Stem



The two piece top coupler is designed for 0 to 40 degree installation. If the mounting of the Chalice 70 requires angled ceiling mounting please make sure the that angle orientation slot is parallel with the angle of the sloped ceiling.

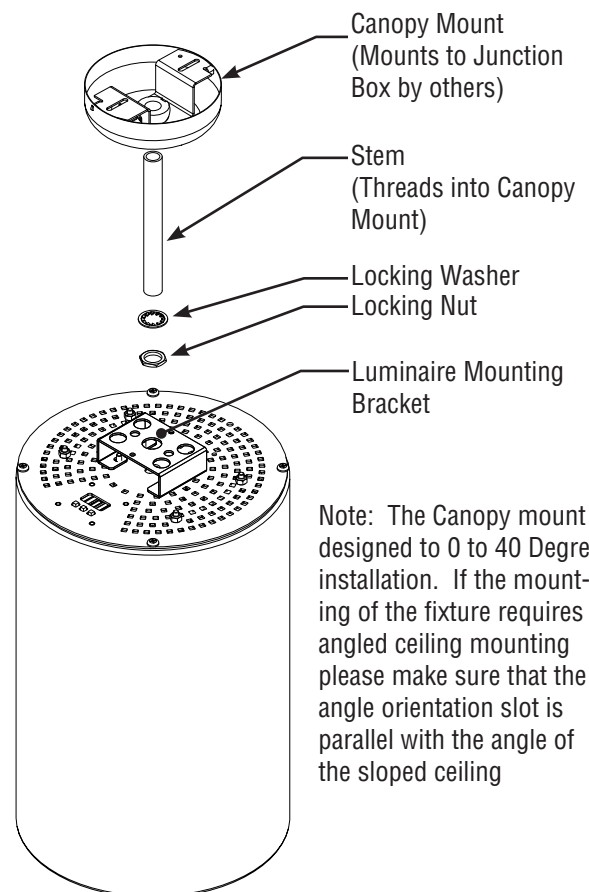
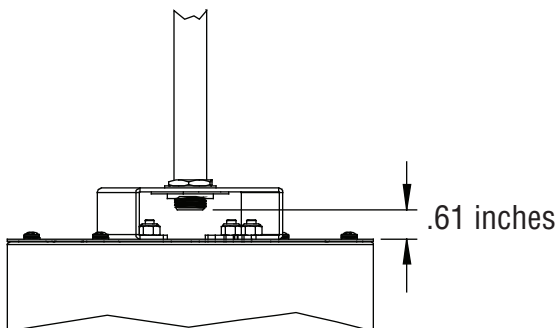
Chalice pendant with canopy are intended for permanent installation are is designed to be suspended below a ceiling installed junction box or similar mount. Mounting hardware is NOT provided with Chalice.

The unit cannot be mounted directly to the canopy. A minimum of a 6-inch (153 mm) stem must be used. A minimum of 9 inches (230 mm) between a hard ceiling and the top of the luminaire must be maintained to allow proper airflow for cooling.

INSTALLATION

- Step 1. Secure canopy mount to suitable ceiling junction box (not supplied, by others).
- Step 2. Thread stem into canopy mount.
- Step 3. While supporting luminaire, slide wiring up and through stem from fixture to ceiling junction box. Connect wiring according to model type.
- Step 4. Install locking nut and lock washer.
- Step 5. Thread stem into luminaire mounting bracket.

Maintain a minimum distance of 0.61 inches from top of luminaire to stem end to avoid pinching power and data cables.



Note: On Pendant style fixtures (with a stem mount) the Phoenix connectors must be removed prior to threading cable through the mounting stem and then reinstalled.

Pendant with Aircraft Cable



The two piece top coupler is designed for 0 to 60 degree installation. If the mounting of the Chalice 70 requires angled ceiling mounting please make sure the that angle orientation slot is parallel with the angle of the sloped ceiling.

The unit cannot be mounted directly to the canopy. A minimum of 9 inches (230 mm) between a hard ceiling and the top of the luminaire must be maintained to allow proper airflow for cooling.

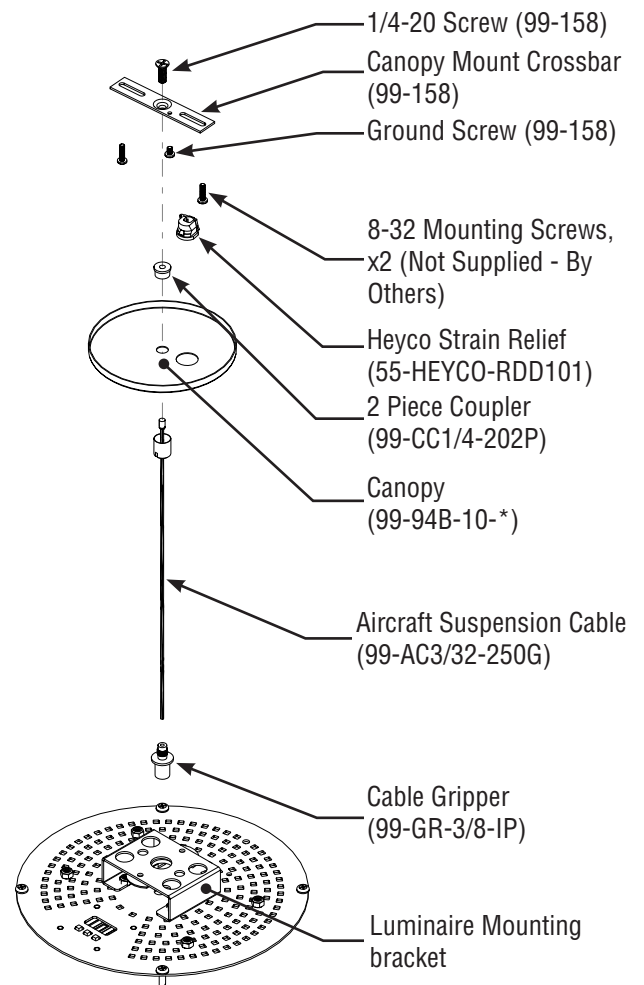
INSTALLATION

- Step 1. Thread and secure aircraft suspension cable to luminaire mounting bracket using cable gripper.
- Step 2. Secure canopy mount crossbar to suitable ceiling junction box (not supplied, by others).
- Step 3. Supporting luminaire, thread 1/4-20 screw through canopy mount crossbar into 2 piece coupler to secure aircraft suspension cable.

HEIGHT ADJUSTMENT

- Step 1. Loosen thumb screw.
- Step 2. Depress the top of the gripper. Note, the cable gripper will only allow the cable to move in one direction through its housing unless the top of the gripper is depressed.
- Step 3. Thread desired length of cable though the gripper.
- Step 4. Tighten thumb screw.

IMPORTANT! Do NOT thread the excess aircraft cable into the luminaire. The interior housing of the luminaire contains live power.



70-3981-*

Canopy Suspension Cable & Feed

Note: * Specify color at time of ordering by adding the following code for color: BK = Black or WH = White.

Wall Mount

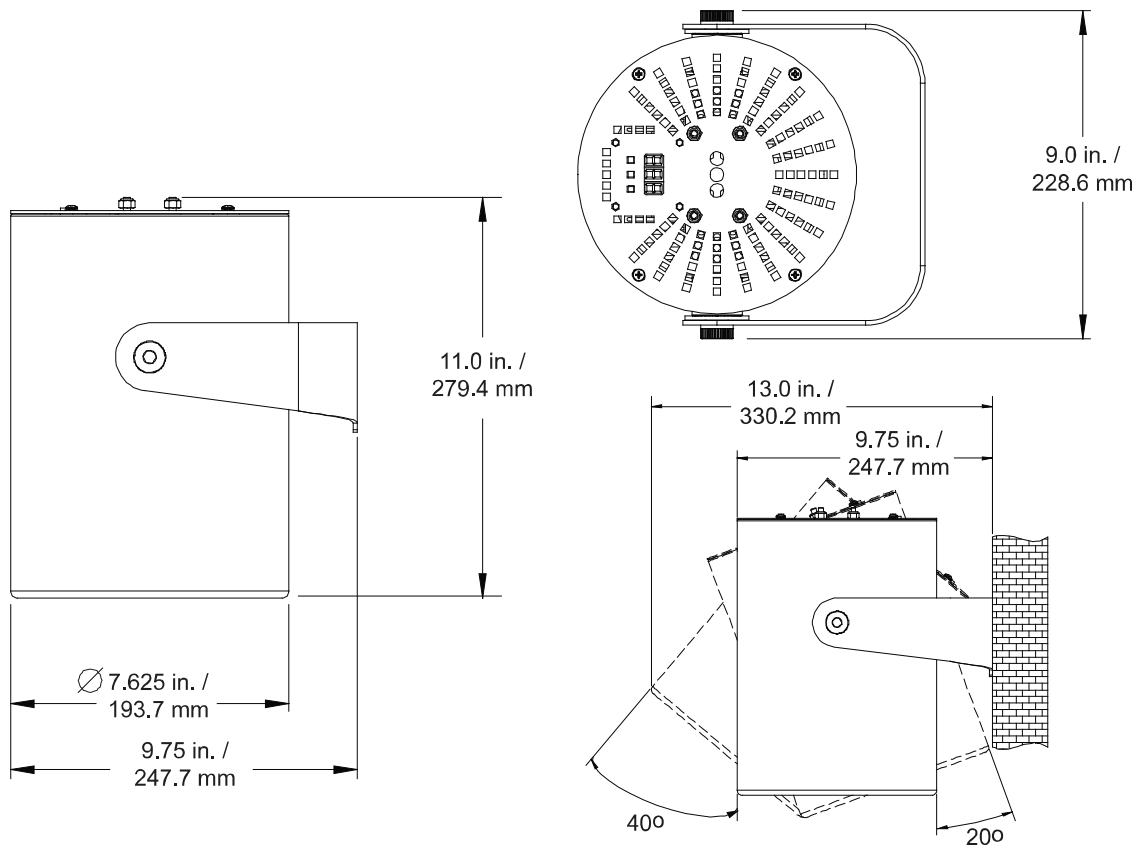
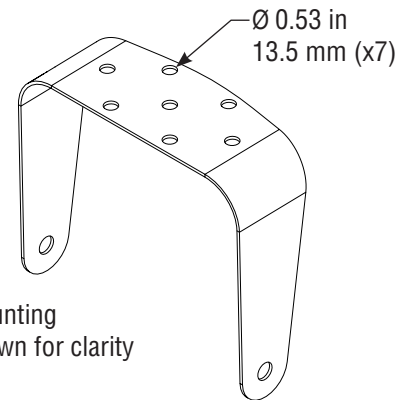
Wall Mount models (units that are intended for permanent installation) must be installed according to all applicable local and national requirements and codes by qualified installers. Installation hardware (i.e., wall anchors, etc.) are NOT supplied and are by others.

INSTALLATION

Step 1. Attach wall bracket to structure using suitable hardware.

Step 2. Attach luminaire to bracket using supplied hardware.

Step 3. Connect data and power wiring.



Recessed Mount - New Construction



Make sure power to the junction box is completely disconnected. Failure to do so could lead to serious injury or death.



All CDR70 recessed luminaires are NON-IC rated - the fixture cannot be surrounded by or be in contact with insulation. If insulation is present in an application area where a NON-IC rated fixture is used, a minimum 3-inch (76 mm) clearance must exist on all sides of the fixture, and no insulation may be present across the top of the installed fixture. The unit must be installed where adjacent building structures are a minimum of 6 inches (153 mm) from the fixture.



On installations other than 120VAC, the black thermal switch in the Junction Box (if present) **MUST** be bypassed. It cannot be connected to any input voltage greater than 120VAC.



For certain drop ceilings, you may be required flip (invert) the mounting rails. This can be achieved by unscrewing the rail mount from the tray and reinstall with the rails sitting on top of the tray.

INSTALLATION

Step 1. Set CDR70 in new construction tray as show.

Step 2. Secure in place using supplied screws.

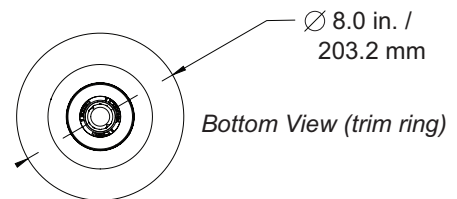
Step 3. Set new construction mounting tray in place with joist work. Extend runners to joists and secure runners to joists with suitable hardware.

Step 4. Secure runners by tightening central bolt.

Step 5. Connect data and power wiring. (See sections below)

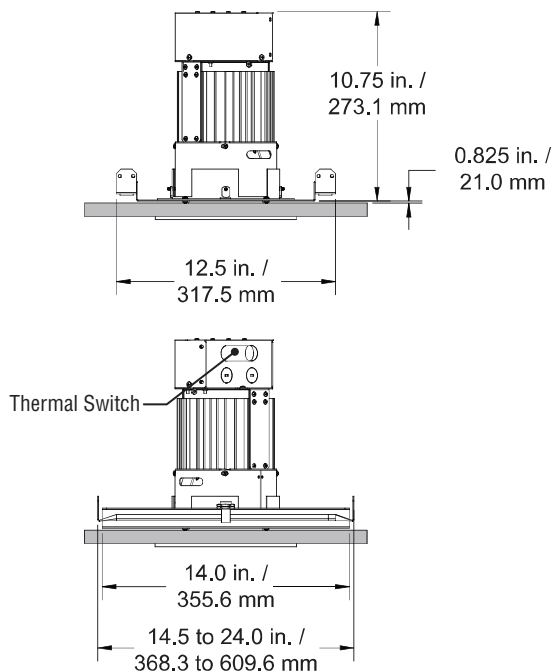
Step 6. Install luminaire reflector. Reflector attaches to LED holder with a 1/4 turn.

Step 7. Install Trim Ring. See Page 16 for [Trim Ring Installation](#).

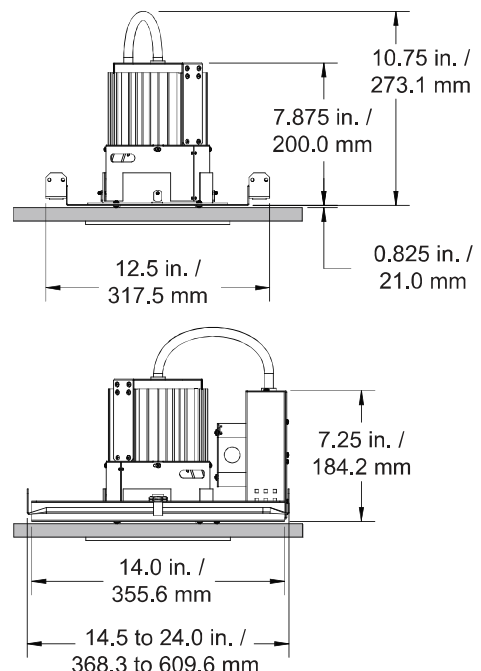


Note: Ceiling thickness range 0.5 to 1.5in (13 to 38mm). Ceiling material must be sturdy enough to support weight of luminaires.

Installation hole opening needs to be a minimum of 7in (178mm) but no larger than 7.75in (197mm) in diameter.



Chalice 70 Recessed New Construction - DMX Models



Chalice 70 Recessed New Construction - Mains Dim Models

Recessed Mount - Remodel



Make sure power to the junction box is completely disconnected. Failure to do so could lead to serious injury or death.



On installations other than 120VAC, the black thermal switch in the Junction Box (if present) **MUST** be bypassed. It cannot be connected to any input voltage greater than 120VAC.



CDR70 remodeler models are not designed to be installed in acoustic tile / drop ceilings. For drop ceilings, only new construction models can be used.

INSTALLATION

Step 1. Ensure desired mounting location will support the weight of luminaire.

Step 2. Make a hole in mounting location adhering to hole size information found on page 13.

Step 3. Position remodeler mounting ring through hole and turn screws so fly-out tabs swing away from ring. Tighten each tab until the remodeler mounting ring is secured to ceiling.

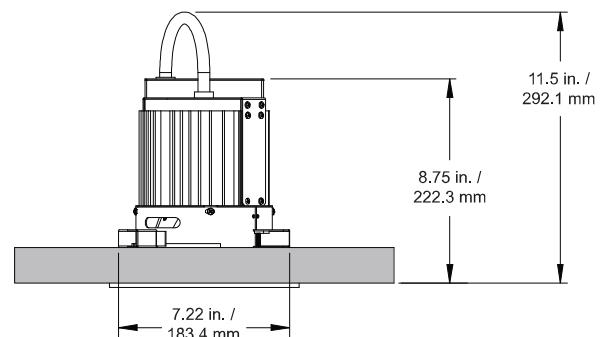
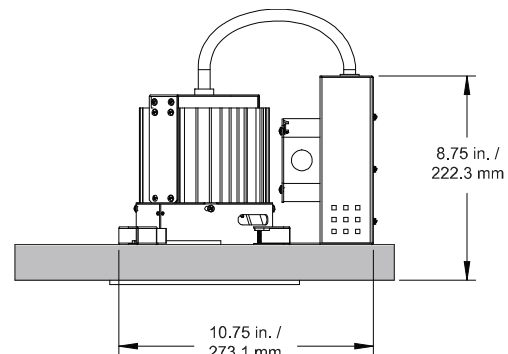
Step 4. Connect wiring following information below.

Step 5. Mount luminaire assembly into remodeler mounting ring using supplied thumb screws.

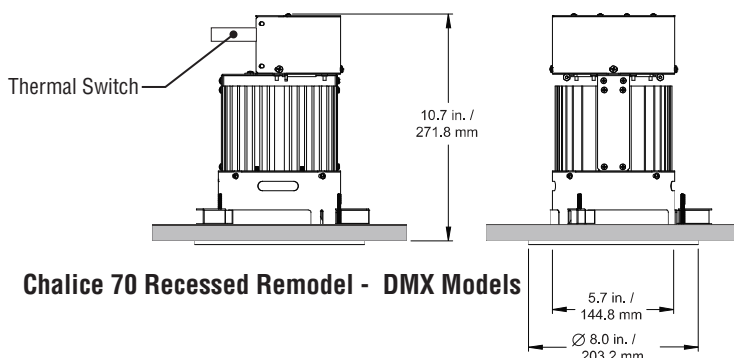
Step 6. Adjust luminaire height for ceiling thickness, aligning underside of ceiling with bottom of luminaire.

Step 7. Install luminaire reflector. Reflector attaches to LED holder with a 1/4 turn.

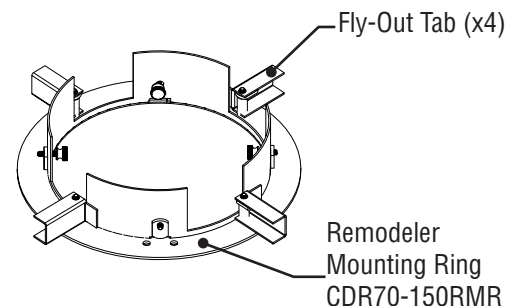
Step 8. Install Trim Ring. See Page 16 for [Trim Ring Installation](#).



Chalice 70 Recessed Remodel - Mains Dim Models



Chalice 70 Recessed Remodel - DMX Models



When installing the trim ring the proximity of the display panel buttons makes them easy to depress. In order to avoid any unwanted settings, please either remove power from the luminaire or lock out the display prior to trim ring installation. See "Locked State" for more information.

Sloped Ceiling Adapter

The Sloped Ceiling Adapters are designed for new construction projects only and should be located where proper support is provided to hold the weight of the adapter with its luminaire installed. The Sloped Ceiling Adapters are for Altman Lighting CDR70 and CDR150 recessed fixtures only.



On installations other than 120VAC, the black thermal switch in the Junction Box (if present) **MUST** be bypassed. It cannot be connected to any input voltage greater than 120VAC.



When installing the long side of the Sloped Ceiling Adapter oval must be parallel to the angle of the ceiling.

INSTALLATION

- Step 1. Using base of sloped ceiling adapter as a template, line up the base tray with the desired location for adapter installation. Use adapter tray as a template to draw out oval needed. Note, once installation is complete, the trim ring will completely cover the cut out.
- Step 2. Secure adapter to the joist work of structure using extension hanger arms (included with adapter tray). Ceiling or ceiling tiles are NOT to be used for support. Do not install luminaire into adapter at this time.
- Step 3. Connect wiring following information contained in “Connecting Power”.
- Step 4. After adapter tray is properly secured to structure and luminaire is wired, install luminaire into adapter tray using provided thumb screws (4 each). Do not completely tighten thumb screws at this time.
- Step 5. To adjust the height of luminaire (for ceiling thickness), rotate luminaire left or right. Once desired height is set, tighten thumb screws completely.
- Step 6. Install Trim Ring. See Page 16 for [Trim Ring Installation](#).

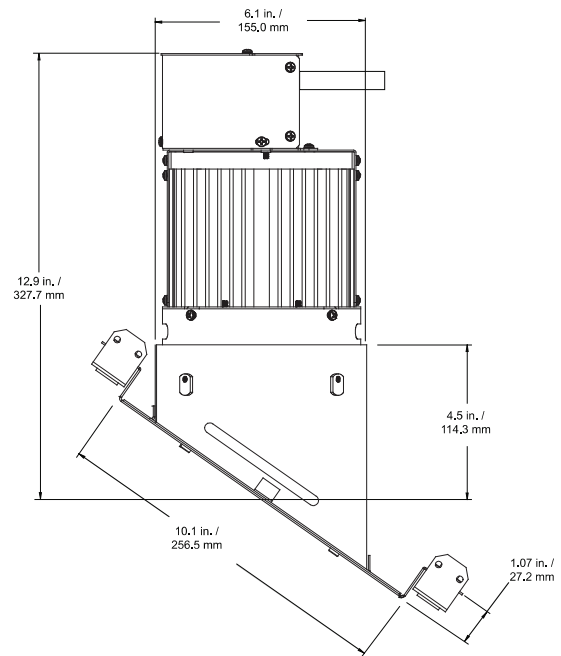


Before installing luminaire into adapter, be careful to avoid contact with the luminaire's LED while holding the unit in place. Damage during installation is not covered under the luminaire's warranty.

NOTES

For sloped ceiling models, one (1) sloped ceiling adapter is included with each unit ordered. Specify sloped ceiling adapter at time of ordering.

Up to 25% beam clipping will occur, with the use of medium 51°, 64°, and 90° angle reflectors on the long axis of a sloped ceiling adapter. Please allow for standard 20% to 30% beam overlap when using the Sloped Ceiling Adapter accessory and these reflectors. For best performance in sloped ceiling applications and masking of beam, one of the following reflectors should be used: 20, 29, or 46 degree reflectors.



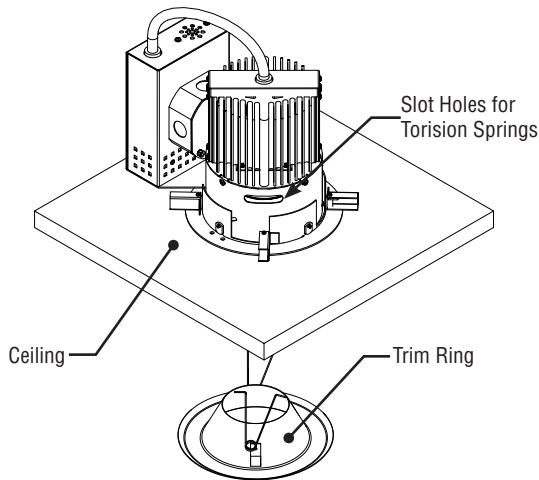
Trim Ring Installation

INSTALLATION

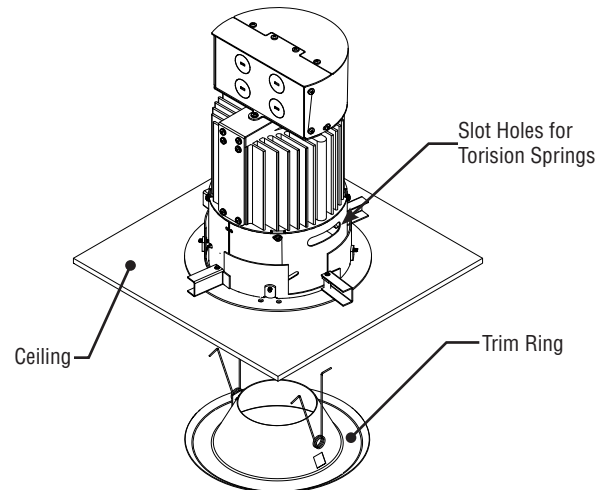
Step 1. Compress the Torsion Springs together

Step 2. Slide the Torsion Springs into the Slot Holes on the fixture.

Step 3. Push Trim Ring up until it is flush with the Ceiling



Chalice 70W Recessed Mains Dim Fixture



Chalice 70W Recessed DMX Fixture

Trim Ring with Slope Ceiling Adaptor Installation



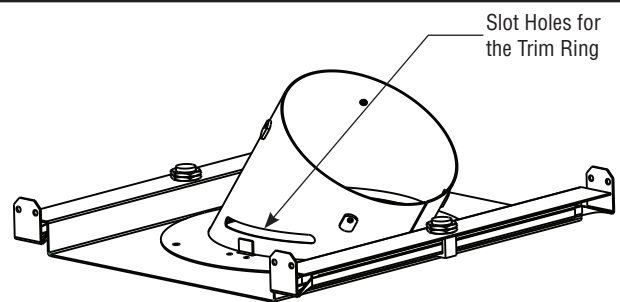
The 71-3335-* Trim Ring will only work with the Slope Ceiling Adaptor. If you use the other trim ring the reflector will not attach properly

INSTALLATION

Step 1. Compress the Torsion Springs together

Step 2. Slide the Torsion Springs into the Slope Ceiling Adaptor slot holes.

Step 3. Push Trim Ring up until it is flush with the Ceiling



Power Requirements



Chalice must be connected and properly grounded to an viable earth ground.



Chalice DMX must be connected to a constant circuit or a relay device. Only Chalice Mains Dim is designed to be powered via a dimmer or circuit controlled by a dimmer. DO NOT daisy chain both MAINS DIMMABLE Luminaires with Luminaires that require CONSTANT POWER. Failing to follow these guidelines will result in unwanted dimming performance and damage to the luminaires.



Chalice Mains Dim Voltage range is 120VAC - 240VAC. DO NOT CONNECT TO 277VAC.



On installations other than 120VAC or 277VAC (North American Markets - depends on model purchased), you MUST bypass the black thermal switch in the Junction Box (if present). It cannot be connected to any input voltage greater than 120VAC or 277VAC (depending on model).

Chalice 70 Power Characteristics are as follows:

	DMX Version	Mains Dim Version
Input Voltage:	100-277 VAC 50/60Hz	100-240 VAC 50/60Hz
Current:	0.58A @ 120VAC; 0.32A @ 220VAC; 0.25A @ 277VAC	1.01VAC@120VAC, .5A@240VAC
Current Inrush:		15A Max. 1/2 cycle @230VAC
Power Factor:		> .92 full load
Quiescent Load:	3.1 Watts	

Connecting Power

Units are powered in one of two ways depending on the model(s) purchased.

- Direct connection to a AC power source via their AC input cable and plug (Portable models that are mounted with a C-Clamp).
- Direct connection to the powered circuit (Recessed Ceiling / Pendant Models / Wall Mount) Field wiring of the fixture is straight forward. A total of three wires/conductors need to be brought to the unit. The following wiring scheme, as shown in Table 1, is required for direct connection models.

WIRE COLOR		PURPOSE
Black (120VAC)	Brown (240VAC)	Hot / Live / Main / Line
White (120VAC)	Blue (240VAC)	Common / Neutral
Green (120VAC)	Green/Yellow (240VAC)	Ground / Earth

Mains (Phase) Dim Versions

Chalice Luminaires are available in a 120VAC or 220VAC Mains Dim versions. Mains Dim models should be connected to a Phase cut dimmer either forward or reverse phase. Typical Phase Cut dimmers include SCR's (Silicon Controlled Rectifiers), IGBT's (Insulated Gate Bipolar Transistors), and TRIAC dimmers. Each Luminaire operates on 100 to 240 volts AC (+/- 10%, auto-ranging).

Depending on supply voltage, each luminaire can draw up to 145 Watts. Each mains dimmable version is shipped preset for your dimming voltage either 115VAC or 230VAC. The unit is preset for 115VAC for 120VAC Models and 220VAC for 230VAC models.



For fixtures that are mains dim controlled, do not connect more than four (4) luminaires to the same dimmer. Connecting more that four luminaires to the same dimmer will result in undesired low-end dimmer response.

DMX Versions

DO NOT connect DMX Chalice to a dimmer. The Chalice 70 Luminaire should be connected to either a constant circuit or relay device. Note: Altman Lighting recommends that all Non-Dim circuits powering solid state luminaires are routinely powered down to both conserve energy and maximize luminaire performance.

Connecting Data (DMX Models)

DMX controlled models offer either a connection block inside the luminaire's canopy or via cable mounted DMX 5-Pin connections for portable units (refer to "RJ45 / XLR Connectors").

Basic DMX512 installation consists of connecting multiple DMX controlled CDR70 LED Luminaires together (up to 32 Total devices per DMX string) in "daisy-chain" fashion. A cable runs from the DMX512 control source to the DMX INPUT connection on the first luminaire.

From the DMX OUTPUT of the luminaire another cable runs to the DMX IN connection on the next luminaire or other DMX512 device to be controlled.



At the end of each DMX Daisy chain, it is highly recommended that a DMX TERMINATOR (Altman Lighting part number DMX-MPHX-TERM for the connectors shown in Table 2) is utilized on the last luminaire (or device) in the chain.



All units excluding portable units will come pre-wired from the factory with the Phoenix connector installed and there is a spare set sent for Customer Wiring. **On Pendant style fixtures (with a stem mount) this connector must be removed prior to threading cable through the mounting stem and then reinstalled.** These connectors are multi-use and highly recommended for DMX wiring use.

Phoenix Connector Installation



(A) Insert and Hold small, flat screwdriver into slot to open wire way

(B) Insert CAT 5 DMX Cable into Wire way. Strip wire to 0.25-in / 6.5 mm.

RJ45 / XLR Connector Wiring

For information on RJ45 connectors for DMX Input / Output, refer to Table 3 on page 13 for RJ45 and XLR connector wiring.

DMX Connections - RJ45 and XLR Connectors		
DMX Signal	RJ45 Connector	XLR Connector
Common (Drain)	Pin 7	Pin 1
DMX -	Pin 2	Pin 2
DMX +	Pin 1	Pin 3

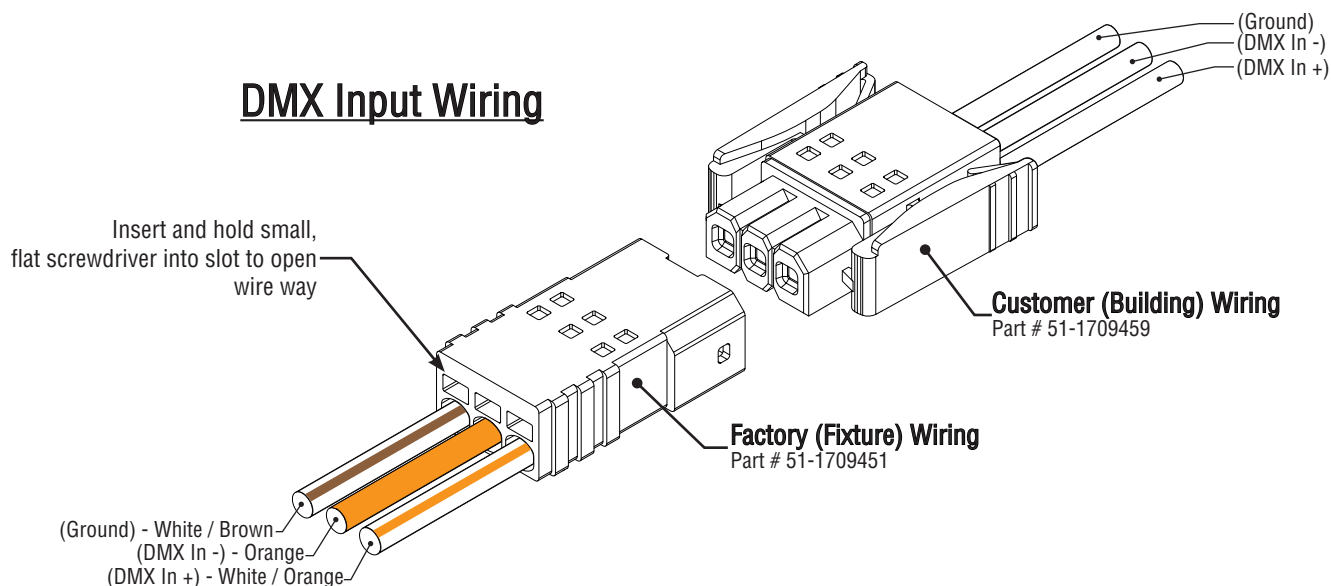
Only those pins shown are used. Remaining pins on RJ45 and XLR connectors are not used.

Terminal Block (Phoenix Connector) Wiring

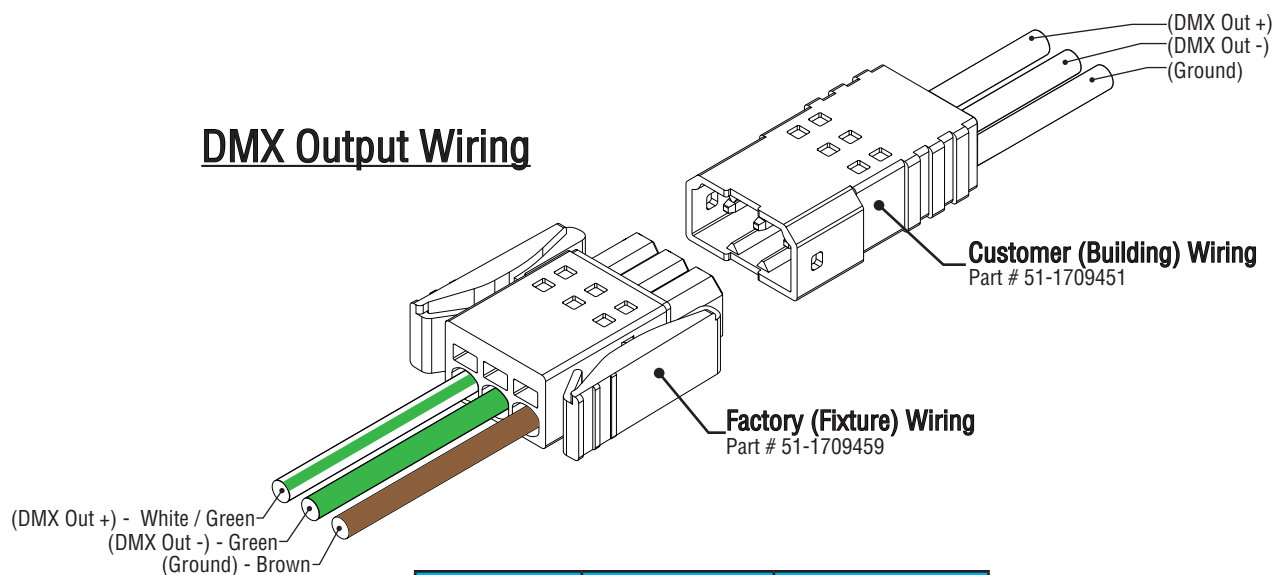


- All pin information is read from left to right from the back of the connector (looking at wiring inlet).
- (DMX Version Ceiling mount) One (1) piece of Category 5 Belden 1592A cable for all data connectivity. Three (3) of the conductors are used for data input and three (3) conductors for data output. Note, the White/Blue & Blue conductors are not used. Both Data Input and Output utilize a Phoenix Contact 3 position terminal block for use with 20-24 AWG.

DMX Input Wiring



DMX Output Wiring

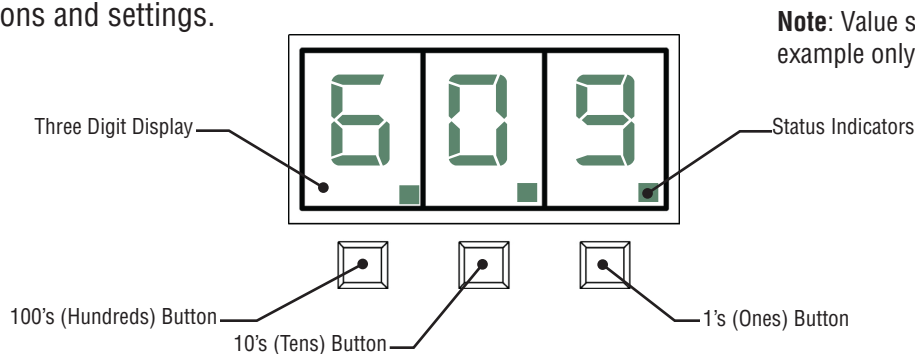


DMX Connection	Wire Color	Signal
DMX Input	White / Brown	Common / Ground
	Orange	Data In (-)
	White / Orange	Data In (+)
DMX Output	White / Green	Data Out (+)
	Green	Data Out (-)
	Brown	Common / Ground

Operation

DMX Operation

The Chalice 70 has a three digit control system provides set up and local control for accessing all of the luminaires menu options and settings.



All settings will be shown during start-up / power on. Upon start-up, the settings are displayed in the following sequence:

1. Firmware Version: (vXX) where XX = Version number Displays for 2 seconds
2. Absence of DMX: (oFF, HLd, PrE, FuL) [Default: oFF] Displays for 2 seconds
3. Preset Level(L01 ~ L99) [Default: L99] Displays for 2 seconds
4. Locked State (Loc, unL) [Default: unL] Displays for 2 seconds
5. Control / ReceiveState (Con , rEC) [Default: rEC] Displays for 2 seconds
6. DMX Termination: (I--I or ----)
 - I--I = Termination on 120ohm resistor active for DMX end of line termination
 - = DMX Termination OFF [Default: ----]
 - (Setting 999 = Termination OFF, 998 = Termination ON)
7. Pxx Set: Personality (dimming curve)
 - 601 = Linear
 - 602 = Incandescent fade 1 (500 watt replication)
 - 603 = Incandescent fade 2 (1000 watt replication)

The following button sequence will initiate the Info Display sequence:

Wait a few seconds until the display goes blank,

1. Press and hold the [TENS] button,
2. Press and hold the [HUNDREDS] button,
3. Release the [TENS] button,
4. Release the [HUNDREDS] button.

Pressing any button in any mode activates display if it is blank, and shows appropriate display for the Operating mode.

Modes of Operation

There are several modes of operation:

DMX MODE

In DMX mode the dimming level is set via a DMX controller. This controller controls the luminaire via DMX512A. This address can be from 001 - 512.

If the display is blank pressing any button in any mode activates display and shows appropriate display information for the current operating mode.

In DMX mode the dimming level is set via a DMX controller. This controller controls the luminaire via DMX 512A. This address can be from 001 - 512. To program a different DMX address:

1. Press the Hundreds, Tens, and Ones, selection buttons to the desired DMX address number (001 to 512).
2. The display goes blank and comes back again, confirming the new DMX address, display will be active for 4 seconds, then display goes blank [Default DMX address 001].



When valid DMX is present the “Ones” decimal point will remain illuminated.

STANDALONE MODE

When in Standalone mode, the luminaire can be set at an intensity level locally at the fixture. The luminaire will not require a DMX control signal.

To enter Standalone mode (or exit back to DMX mode):

1. Wait a few seconds until the display goes blank, then do the following button sequence:
2. Press and hold the [ONES] button,
3. Press and hold the [TENS] button,
4. Release the [ONES] button,
5. Release the [TENS] button. When in Standalone mode the unit will ignore DMX input, once in Standalone mode the ONES and TENS indicator will remain lit.
6. Unit Preset level is set (0 to 100%) using [TENS] and [ONES] buttons: (00 to 99) (L00=0%), (L99=100% full).



Luminaire must be in Control State (below) in order for above output to take effect.

Control / Receive State (toggle function)

When in Standalone Mode the CDR70 and CDP70 luminaires can also enter into a Control State. The luminaire will transmit its preset level on DMX channel 1, so it acts like a console to control the other units that are connected via DMX cable. If unit is in DMX Mode, Control State will do nothing.



Only one unit per DMX string should be set to Control State to avoid data conflict. When Units are set to standalone mode a DMX signal from a control console or architectural station will cause a DMX conflict. Do not set units to stand alone when connected to another DMX source.

When in Receive State, the unit only receives DMX, and if set to DMX channel 1, it will imitate the other unit that is set to Control State, if connected.

To Toggle between Control and Receive state, perform the following button sequence:

1. Wait a few seconds until the display goes blank,
2. Press and hold the [HUNDREDS] button,
3. Press and hold the [ONES] button,
4. Release the [HUNDREDS] button,
5. Release the [ONES] button;
6. Once in Control State the ONES, TENS, and HUNDREDS indicators will remain illuminated.
7. Display will blink and show Con (or rEC) for 4 seconds and then go to current mode display. [Default is Receive State]

Absence of DMX Behavior

When connected to a DMX network, if there is a loss of signal, the following settings will affect the behavior of the luminaire upon signal loss. This mode can be programmed by entering a number greater than 900. There are four (4) different options upon the loss of signal.

Address Setting	RDM	Display	Description
901	00	oFF	Off, dimmed to 0% [default setting]
902	01	HLd	Hold Last Look, retains last DMX level
903	02	PrE	Preset, Standalone preset level
904	03	FuL	Full on (100%)

Upon loss of valid DMX setting 904 will initiate an instant change in the light output from the DMX setting to FULL ON (100%) When this is done, after 2 sec, the display will change the [HUNDREDS] digit to [P], asking for confirmation of personality change. This is confirmed with a press of [ONES] button. Pressing any other button reverts back to 90X series display so that modification can be made.

Once confirmation is made, the display blinks and shows new Absence of DMX setting (oFF, HLd, PrE, FuL) for 4 sec, then goes to current mode display.

DMX Termination

The CDP70 DMX Model is supplied with a programmable DMX terminator built into the luminaire. In a DMX system it is recommended that the luminaire that is at the end of the DMX Daisy-chain is terminated using a 120 OHM resistor which the CDP70 offers in the settings below.

Setting	RDM	Display	Description
998	0	---	Termination On
999	1	----	Termination Off

To Toggle termination On or Off, perform the following button sequence:

1. Wait for Display to go blank (decimal points may still be active depending upon termination and DMX presence).
2. Using the programming buttons set the desired DMX TERMINATION setting.
3. Wait 2 seconds, the display will then will change the [HUNDREDS] digit to a [P], asking for confirmation of personality change.
4. Depress the [ONES] button to confirm personality change Pressing any other button reverts back to 90X series display so that modification can be made.
5. Depress the [ONES] button a second time to return out of programming mode.

Lock & Unlock

When in Locked State, Buttons will have no effect until they are unlocked. The following sequence will lock (or unlock) the buttons:

Wait 3 seconds until the display goes blank,

1. Press and hold the [ONES] button,
2. Press and hold the [HUNDREDS] button,
3. Release the [ONES] button,
4. Release the [HUNDREDS] button.

Display will blink and show Loc (or unL) for 4 sec and then go to current mode display. [Default is unlocked]

The display will go completely blank after 4 seconds, except :

1. If in DMX Mode and DMX signal is detected; then: [ONES] decimal point will stay lit
2. If in Standalone Mode, and Receive State; then: [TENS] and [ONES] decimal point will stay lit
3. If in Standalone Mode, and Control State; then: [HUNDREDS], [TENS] and [ONES] decimal point will stay lit.

High End & Low End Trim

Setting a High End Trim and Low End Trim settings will establish a fixture's maximum output (High End Trim) and minimum output levels (Low End Trim). These settings may be needed in instances where uniform output is needed to light a space but the fixtures are installed at different heights from the floor and are controlled by the same control zone or channel.

Display Current High / Low End Trim Settings

To see the Trim setting values, press and hold the 1's button anytime after the parameter sequence is started. The trim settings will be displayed after the Personality parameter.

Return High / Low End Trim Settings to Default

The High End and Low End Trim Settings can be set to default by powering up the fixture with the [TENS] and [ONES] buttons held down (after their release the fixture will display all power up settings).

Set High / Low End Trim

The luminaire works off a 60-second timer when the luminaire's DMX address is set to 513. Therefore, settings must be completed within 60 seconds of entering the programming state (Steps 2 through 5 as described below). This timer is set up to ensure that the high and low trims cannot be set inadvertently during product set up.

SETTING HIGH END TRIM

1. Set the DMX address to "513". See "DMX Mode - Addressing" on page 23.
2. Press and hold the [HUNDREDS] button.
3. Press and hold the [TENS] button.
4. Release the [HUNDREDS] button.
5. Release and hold the [TENS] button.
6. Set the High End Trim. The value must be between 30 to 99. High End Trim 'scales' the input DMX Level. It also applies to the Preset Level and Loss of DMX (Preset)
7. After setting High End Trim setting, let unit stand for approximately one minute - after last button press, to save setting.

SETTING LOW END TRIM

1. Set the DMX address to "513". See "DMX Mode - Addressing" on page 13.
2. Press and hold the [TENS] button.
3. Press and hold the [ONES] button.
4. Release the [TENS] button.
5. Release and hold the [ONES] button.
6. Set the High End Trim. The value must be between 0 to 29. High End Trim 'scales' the input DMX Level. It also applies to the Preset Level and Loss of DMX (Preset)
7. After setting High End Trim setting, let unit stand for approximately one minute - after last button press, to save setting.

Dimmer Curve

Chalice can replicate one of three programmed dimming curves, replicating linear and incandescent dimming.

Address Setting	RDM	Display	Description
601	0	P01	Linear
602	1	P02	Incandescent Fade 1 (500W emulation)
603	2	P03	Incandescent Fade 2 (1000W emulation)

Sequence to set dimmer curve:

1. Wait for Display to go blank (decimal points may still be active depending upon termination and DMX presence).
2. Using the programming buttons set the desired DIMMING CURVE setting
3. Wait 2 seconds, the display will then will change the [HUNDREDS] digit to a [P], asking for confirmation of personality change.
4. Depress the [ONES] button to confirm personality change Pressing any other button reverts back to 60X series display so that modification can be made.
5. Depress the [ONES] button a second time to return out of programming mode.

Troubleshooting

DMX Troubleshooting

DMX512A (DIGITAL MULTIPLEX) is a standard for digital communication networks that are commonly used to control architectural and stage lighting. The ANSI standard of E1.11 employs a differential signal at its physical layer in conjunction with a variable size packet based communication protocol. The DMX512 standard requirements are:

- Maximum length: 1000 feet
- Wiring type recommended: Belden 9842, 9729, 9829, Proplex, Cat5 UTP/STP as noted earlier in this install guide. A DMX network is only as good as its cable.
- Maximum units per bus: 32 (20 RDM devices) - breaking your DMX512 network links and units per data link into smaller segments is always more desirable.
- 120 ohm termination at the end of each run, if a DMX512 network is not terminated, the DMX signal arrives at the far end of the chain and is “reflected” back up the line to the transmitter, also note that “over terminating” a DMX512 network is just as bad as this will overload the driver circuit. or recommended termination guidelines.
- All Devices in a DMX512 system must be connected in a “daisy chain” fashion and should never be run in a “WYE/2-fer” fashion. Utilization of DMX splitters and networked devices is always recommended when long runs or multiple DMX LANs are needed for one or more DMX networks. DMX splitters Permit a star layout without breaking the rules. Each output of the splitter is driving a new DMX512 link on the network. These generally have one (1) DMX input and multiple outputs. Please know that a repeater will be needed for each DMX universe.

Common Data Issues with DMX Networks:

- Too many devices on the line (Maximum units per bus: 32 DMX or 20 RDM devices)
- Improper termination on the line.
- DMX can “sometimes work” with the Data - (minus) missing.
- If a DMX splitter “cleans up” an issue check the system for ground loops.

General Troubleshooting

Description	Symptom	Possible Cause / Remedy
No Light Output- DMX MODEL	Fixture will not produce Light output but has power. Display is illuminated or internal LED is illuminated.	<ul style="list-style-type: none"> Unit Setting is at 0% Local control Unit Setting is at 0% DMX control Set Level above 0% or adjust to a higher intensity.
No Power at Luminaire - DMX / MAINS MODEL	Luminaire does not power up.	<ul style="list-style-type: none"> Circuit is not energized, Verify circuit power and circuit breaker has been turned on. Not Plugged in, ensure viable power source and unit is plugged in. Verify power cabling is wired correctly. See CONNECTING POWER for details.
DMX Data Control - DMX MODEL	Fixture will not respond to DMX Commands.	<ul style="list-style-type: none"> Not detecting DMX data, Disconnect and reconnect DMX input cable. Unit is set in Stand Alone mode. DMX Connection not wired properly see CONNECTING DATA for details. DMX address is different than that of the DMX controller.
LED is not Responding -DMX - MAINS MODEL	Fixture is powered but no light output.	<ul style="list-style-type: none"> Luminaire is in an Over temperature condition. Remove power from the luminaire and allow unit to cool before re-energerization.
Luminaire not coming to full intensity - MAINS MODEL	When the Dimmer is at full unit only shows 1/2 intensity.	<ul style="list-style-type: none"> 120/230 VAC jumper is in the wrong location. Move jumper to proper jumper location for appropriate dimming voltages. See page 19 for details
Local Programming - DMX MODEL	Unit will not allow programming changes	<ul style="list-style-type: none"> See DMX OPERATION for step by step on setting up DMX and stand alone control.

Cleaning And Care



All cleaning should be performed with power completely removed from the luminaire. Never remove protective covers when luminaire is powered. Wear appropriate protective eye wear and gloves when cleaning the fixture. All service and maintenance, other than described herein, should be performed by a qualified technician or Authorized Service Center.

Being a solid-state fixture, and unlike most fixtures, the Chalice 70 Luminaire requires very little routine maintenance by the user. This section covers portions of the luminaire that can be removed for cleaning. The Chalice 70 Luminaire requires special care when it comes to cleaning the front reflector assembly. Additional care needs to be taken with the plastic components because they are much easier to scratch or damage than glass.

The following is a list of cleaning materials required to care for your Chalice 70 Luminaire:

- Lint free lens tissue
- Lint or powder free gloves
- Reagent grade isopropyl alcohol*
- A mild soap solution.



Reagent grade isopropyl alcohol is good to use on the Chalice 70 Luminaire plastic optics with anti-reflection coatings.

If the lens is still dirty after using isopropyl alcohol, for instance if fingerprints or oil is just redistributed and not cleaned off the optic, then a mild soap and water solution can be used to gently wash the lens. Repeat the cleaning with isopropyl alcohol to eliminate streaks and soap residue.



Under no circumstances should ammonia-based cleaners, acetone, or other harsh solvents be used on or near the Chalice 70. These types of cleaners or solvents can permanently damage the optics or housings of the fixture. If you have any questions regarding the use or care of your Chalice 70 LED Luminaire, please contact Altman Lighting technical support or your local Authorized Dealer.

Front Lens / Reflector Cleaning

To clean the front lens and reflector:

- Step 1. Turn off luminaire and allow to cool completely.
- Step 2. Apply a small amount of reagent grade isopropyl alcohol to lint-free lens tissue.
- Step 3. Wipe all debris, dirt, fingerprints, etc. from lens and reflector.
- Step 4. Using a second lint-free lens tissue, wipe off any alcohol residue.

For all other service and maintenance issues, please contact your local Altman Lighting offices or an Authorized Service Center.

Technical Specifications

Materials:	Corrosion-resistant materials and hardware
Control:	Mains dimmable or DMX/RDM
Light Engine:	70W LED Array - Available in 2700K, 3000K, 4000K, or 5000K
Lumens:	Maximum 7076 (CDR - 7016)
Rated LED Life:	Array rating >50,000 hours to L70
Input Voltage:	DMX Models: 100-277 VAC 50/60 Hz Mains Dimmable Models: 100-240 VAC 50/60 Hz
Watts:	70
Current Draw:	DMX Models: .58A @ 120VAC / .3A @ 230VAC / 0.25A @ 277VAC Mains Dimmable Models: .58A @ 120VAC / 0.29A @ 240VAC
Power Factor	> 0.92 @ Full Load (Mains Dimmable Models)
Current Inrush	15Apk Max 1/2 cycle @ 230VAC
Quiescent Load	3.1 Watts (DMX Models Only)
LED Engine Cooling:	See chart below
Environment:	0 - 40°C (32 - 104°F) with humidity of 5-95% non-condensing)
Weight:	CDR - 9 lbs. (2.95 kgs.) CDP - 11 lbs. (4.98 kgs.)
Compliance:	cETLus listed for indoor use
Warranty:	Five (5) years and One (1) day
Support:	Supported Forever - free phone and online tech support for the life of your product.

NOTES:

Noise levels on mains dim luminaires are subject to the dimming/switching systems in which they are wired. Electrical systems displaying harmonics may increase the dB Noise output of the luminaire.

Do not connect more than four (4) mains dim luminaires to the same dimmer. Connecting more than four luminaires to the same dimmer will result in undesired low-end dimmer response. Dimmer must be sized appropriately to handle luminaire load.

Maximum number of DMX controlled fixtures is as per installed breaker current breaking capacity and inrush current capacity.

One (1) sloped ceiling adapter is included with each sloped unit ordered. Specify sloped ceiling adapter at time of ordering.

Up to 25% beam clipping will occur, with the use of 51°, 64°, and 90° angle reflectors on the long axis of a sloped ceiling adapter. Please allow for standard 20% to 30% beam overlap when using the sloped ceiling adapter accessory and these reflectors.

For best performance in sloped ceiling applications and masking of beam, 20, 29, or 46 degree reflectors should be used.

PART NUMBER	MODEL	COOLING
CDP70-*_*_*_*_*_*	Chalice 70 Pendant	DMX - Convection Mains dim - driver fan.
CDA70-*_*_*_*_*_*	Chalice 70 Aircraft Cable	DMX - Convection Mains dim - driver fan.
CDW70-*_*_*_*_*_*	Chalice 70 Wall	DMX - Convection Mains dim - driver fan.
CDY70-*_*_*_*_*_*	Chalice 70 Yoke	DMX - Convection Mains dim - driver fan.
CDR70-*_*_*_*_*_*	Chalice 70 Recessed	Fan Cooled