# FABRILUM

COOLEDGE™

INSTALLATION GUIDE

Cooledge FABRILum delivers immersive illumination and meaningful acoustic performance in a single solution. These large-scale architectural luminaires bring the feeling of the outdoors inside by providing a canopy of light that is available in a variety of sizes with removable fabric diffusers, high sound absorption values, and the exceptional quality of illumination Cooledge is known for.

1. COMPONENTS

Suspension cables (suspended mount only)

Power supply

Control module

Mounting rails

LED panels

CE

c (UL) us LISTED

RoHS

ENERG⚡
THIS PRODUCT CONTAINS A LIGHT SOURCE OF EVERGY EFFICIENCY CLASS D OR E

5

5 Year Limited Warranty:
Parts and workmanship

2. TOOLS

⚠️ WARNING: Wear clean cotton or latex gloves when handling FABRILum Luminaires.

Gloves	Measuring Tape	4mm hex key
Cable Cutters	#2 Phillips Screwdriver	Drywall saw (recessed mount only)
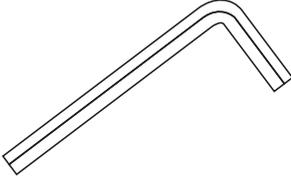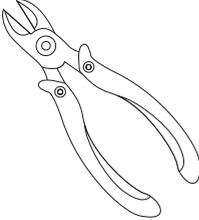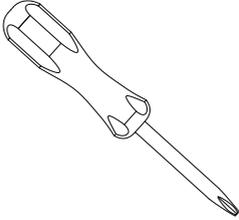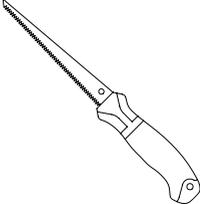
👥 CAUTION: 2 people min. recommended for install

⚡ CAUTION: Observe precautions for handling electrostatic sensitive devices.

⚠️ CAUTION: Use appropriate Personal Protective Equipment (PPE) to ensure safety at work.

3. MOUNTING TYPES

• Direct ceiling (surface) mount – go to section 4

• Suspended mount – go to section 5

• Recessed mount – go to section 6

NOTE: This document covers all FABRILum models including Rectangles, Circles, and Bullnose shapes. Diagrams show only Rectangles, however the installation process is the same for each model depending on the Mounting Type chosen.

4. DIRECT CEILING (SURFACE) MOUNT (RECTANGLE, CIRCLE, BULLNOSE)

4.1 REMOVE POWER AND CONTROL ASSEMBLY FROM FRAME

Unplug the DC cables from the Control Module, remove the screws and clip holding the power and control assembly to the frame.
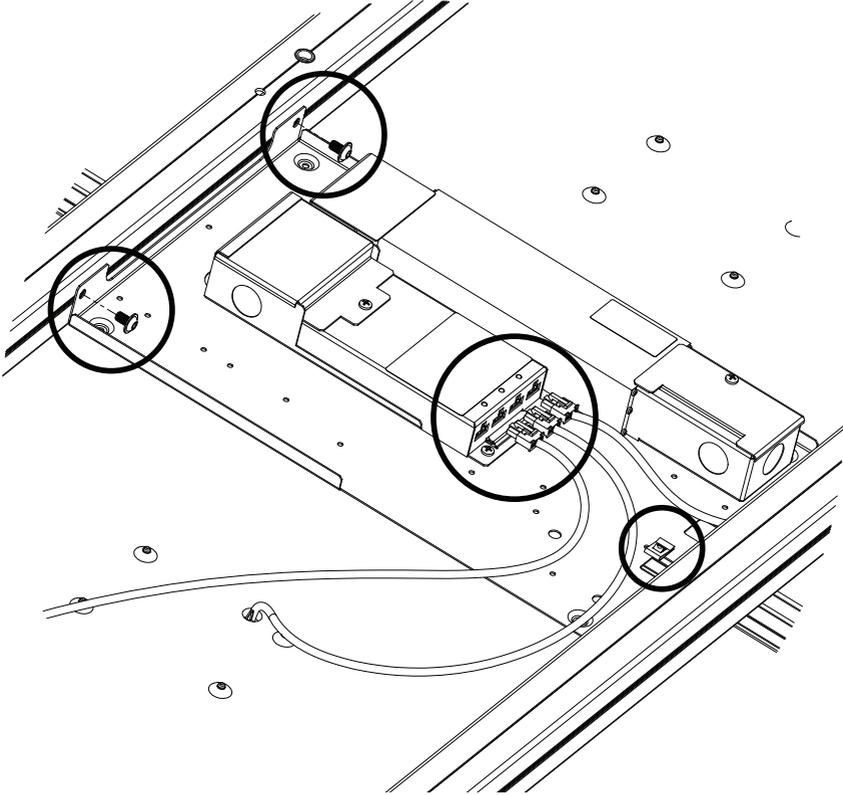
4.2 REMOVE FABRIC AND PANELS

⚠️ CAUTION: Wear clean gloves when handling the fabric
Remove the fabric by pulling the tab. Lay flat on a clean surface, do not fold or crease the fabric
Remove the two outermost panels by removing the L-brackets at the outer edges

⚠️ CAUTION: Take care not to damage LEDs with
tools when removing brackets

Bracket Type 1

Bracket Type 2

Wrap the shank and blade of the screwdriver with
masking tape. Then remove panel support brackets
by twisting the screwdriver carefully
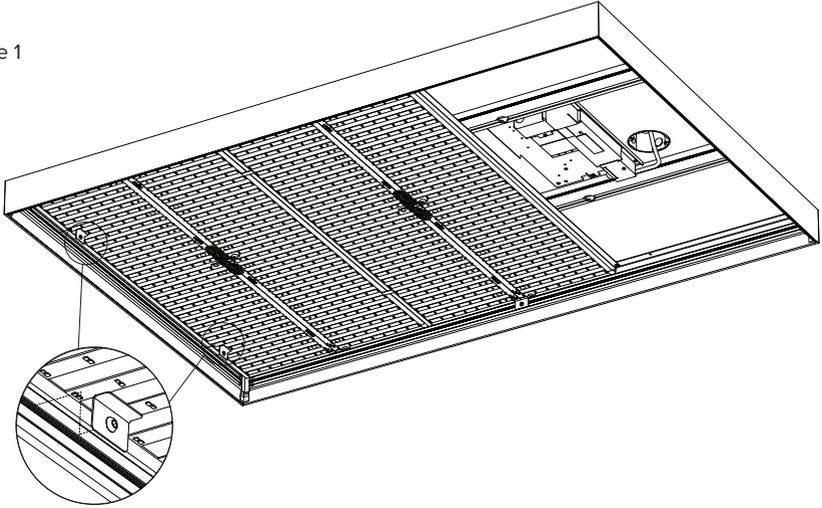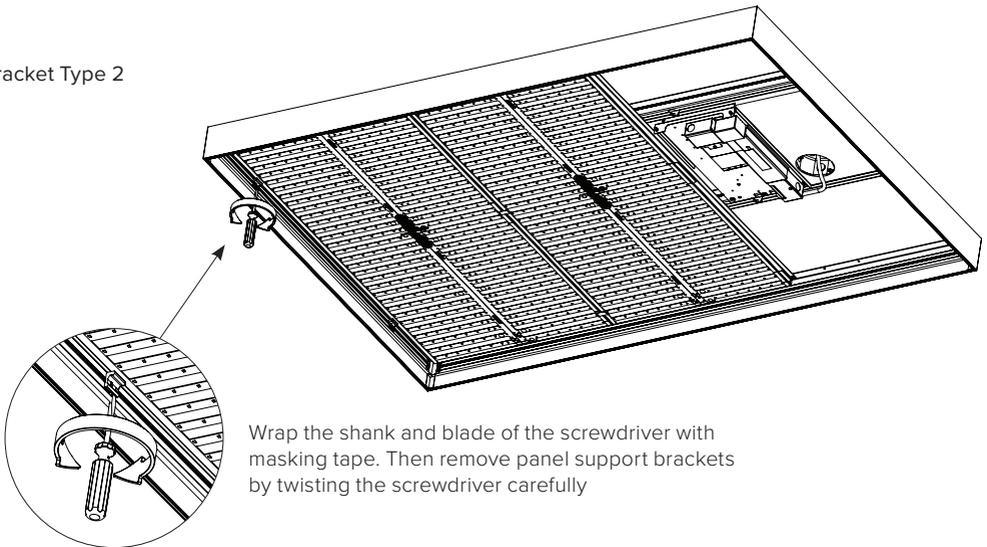
4.3 MARK THE MOUNTING POINTS ON THE CEILING

Mark the position of the mounting points on the ceiling. See Appendix for mounting position dimensions.

4.4 MOUNT THE FRAME TO THE CEILING

CAUTION: 2 people min. recommended for install

⚠ **CAUTION:** The luminaire weight is given in section 7. Ceiling fasteners are not provided by Cooledge. Ensure the mounting can withstand the load including any safety margin required by national or local building codes.

It is recommended to mount the luminaire directly to structure. If mounting to drywall use suitably rated toggle style anchors.

Marked location on ceiling

Toggle anchor

Screws (not supplied)
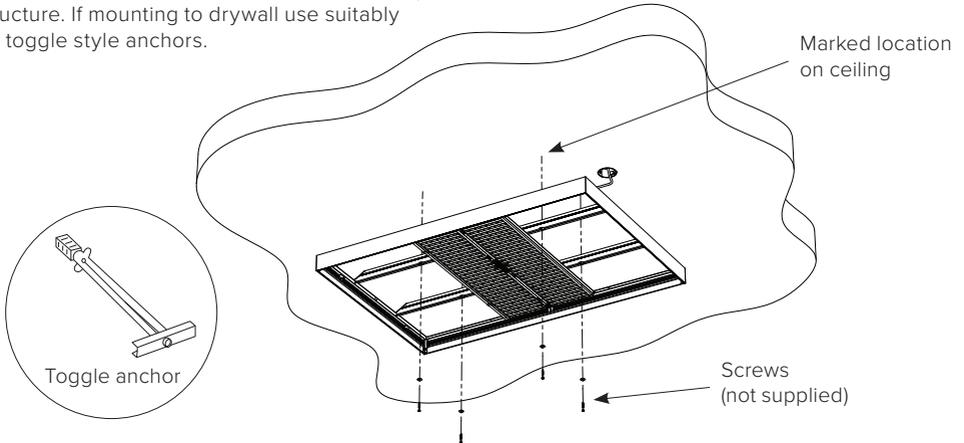
4.5 MOUNT THE POWER AND CONTROL ASSEMBLY

NOTE: the power and control assembly must be mounted between the frame mounting rails. Do not mount remotely.

Mount the power and control assembly to the ceiling using four fasteners (not included) appropriate to the ceiling material. The weight of the power and control assembly can be up to 3.2Kg/7lbs. Ensure the fasteners can safely support this load.
If the power and control assembly is to be mounted over a ceiling junction box, punch out the knockout in the plate before mounting. Align the hole to the AC cable in the ceiling junction box.
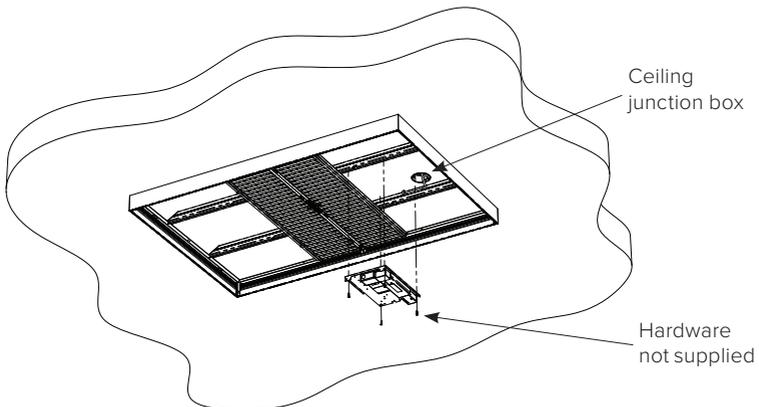
Ceiling junction box

Hardware not supplied

4.6 CONNECT AC POWER

The electrical power connections should be made by a qualified electrician in accordance with all national and local electrical and construction codes.

⚠️ CAUTION: Ensure electrical power is disconnected!

AC input cable

AC junction box
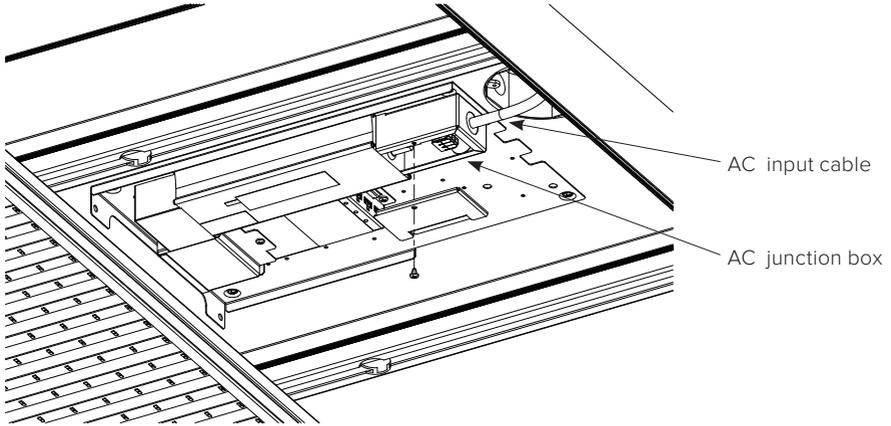
4.7 RE-INSTALL FIRST LED PANEL

CAUTION: Observe precautions for handling electrostatic sensitive devices.

CAUTION: 2 people min. recommended for install

Support panel on stiffener

Handle panel using edge rail
Do not touch LEDs
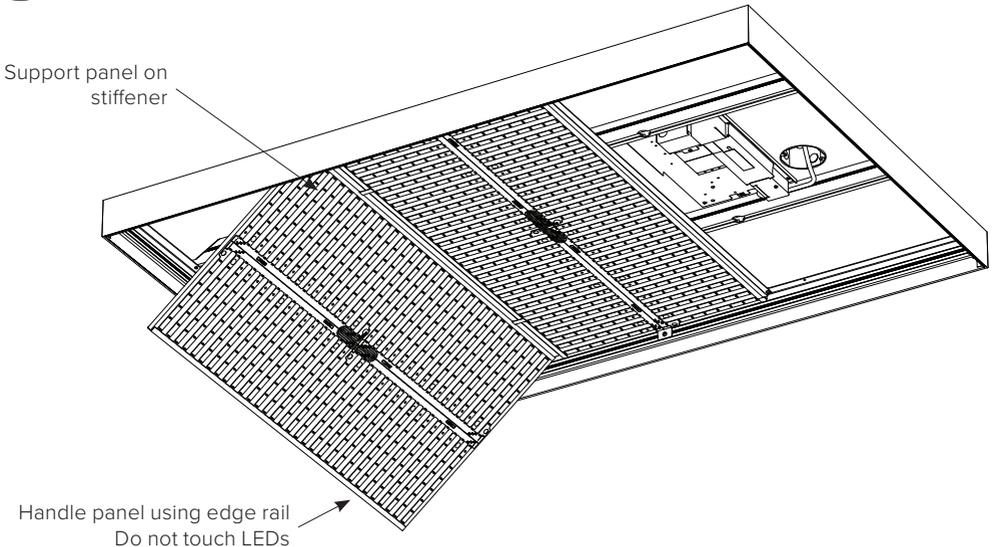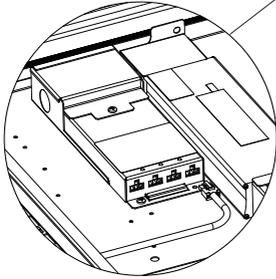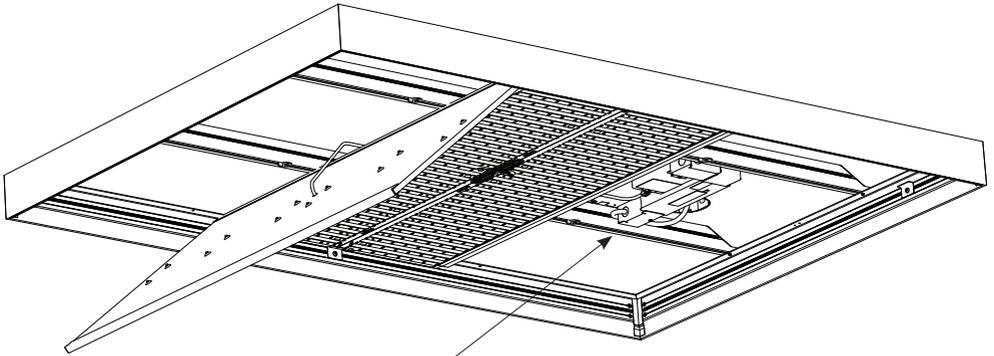
Connect the DC power cable from the panel to the control module.

Connections from the dimmer/controller to the FABRILum control module can be made using any two terminals for Static Color Temperature (SCT) models and must use only terminals 1 & 3 for Tunable White (TNW) models.

Bracket Type 1

Lift panel into position. Install perimeter panel support brackets using included hardware.
Take care not to damage LEDs when installing brackets.

Bracket Type 2

Press and insert perimeter panel support brackets into frame
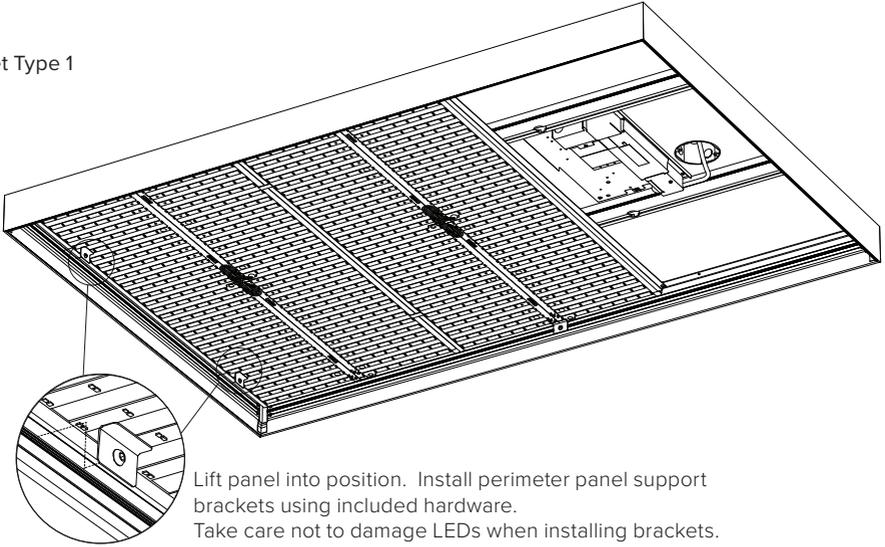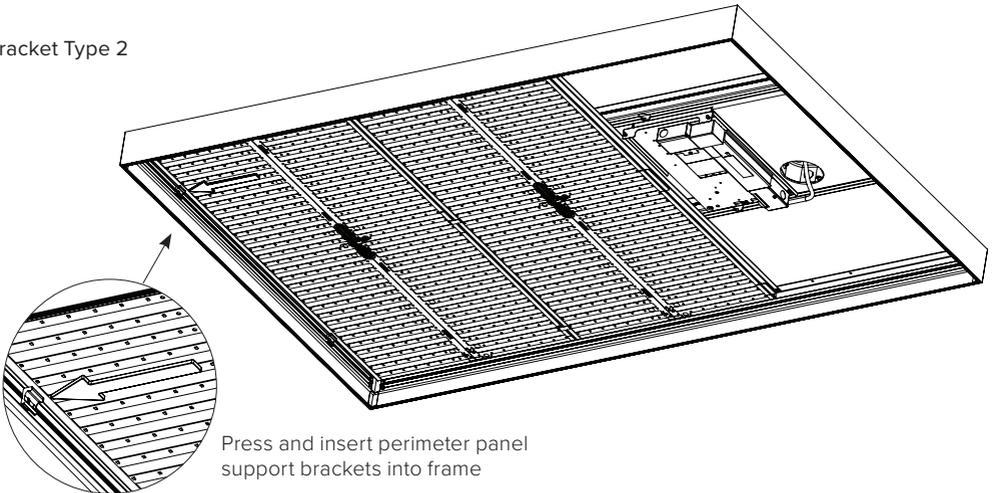
4.10 INSTALL REMAINING LED PANELS

Support panel on stiffener and lift into position as done with the first panel.

1. Support panel on stiffener

2. Connect DC cable on back side of panel

3. Lift panel and install brackets

Handle panel using edge rail
Do not touch LEDs
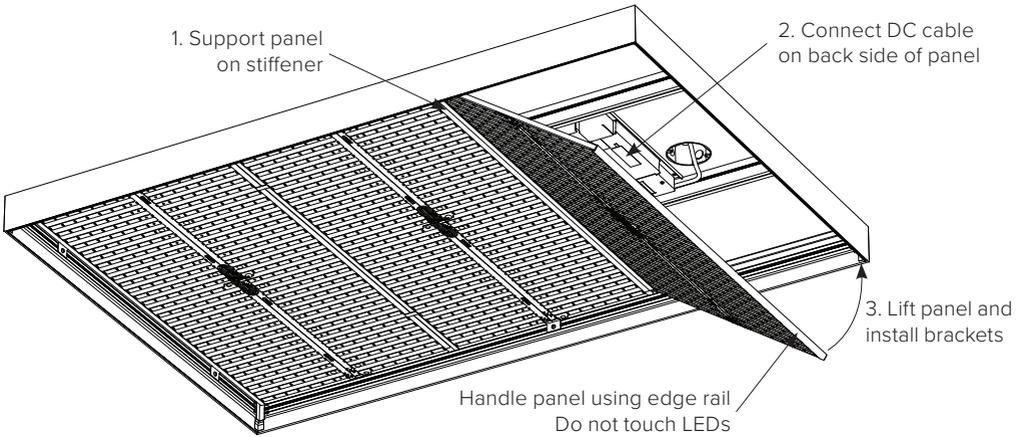
4.11 TEST LIGHTING

Turn on the luminaire and verify that all LEDs are lit. Test that the dimming is functioning correctly. Refer to section 10 of this document for additional control information.

4.12 INSTALL FABRIC

⚠ WARNING: Wear clean cotton or Latex gloves when handling fabric.

Slot in frame

Silicone bead

Fabric wraps outside of silicone bead

Smooth shiny side facing LED's

Textured woven side facing out

1. Secure fabric at corners of frame using shims

2. Tuck bead into slot working towards center of each side
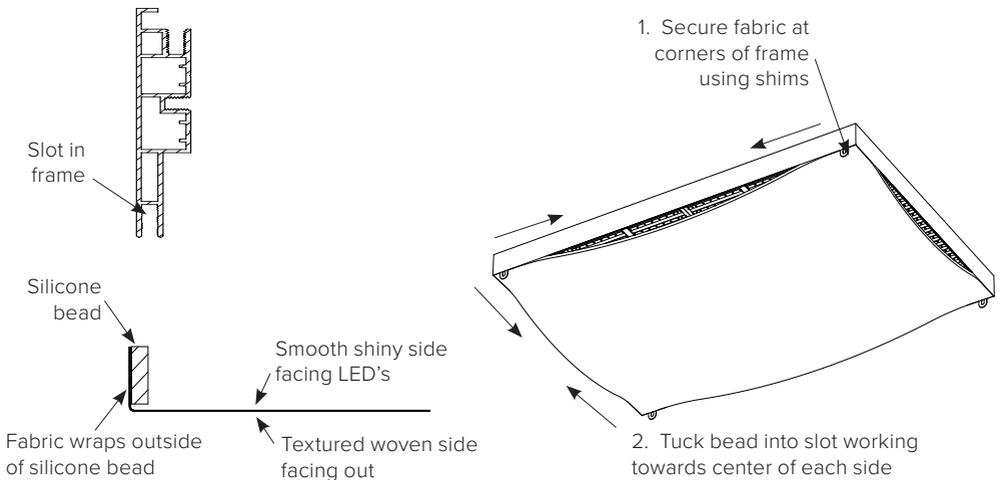
5. SUSPENDED MOUNT (RECTANGLE, CIRCLE, BULLNOSE)

⚠ Handle the unit with clean white gloves to prevent damage to the fabric

5.1 MARK THE MOUNTING POINTS ON THE CEILNG

Mark the position of the mounting cables on the ceiling. See appendix for mounting position dimensions.

5.2 ATTACH 4X CABLE GRIPPERS TO MOUNTING RAILS

Cable grippers are included with the lumnaire. Mount grippers to each of the threaded inserts in the top of the mounting rails.
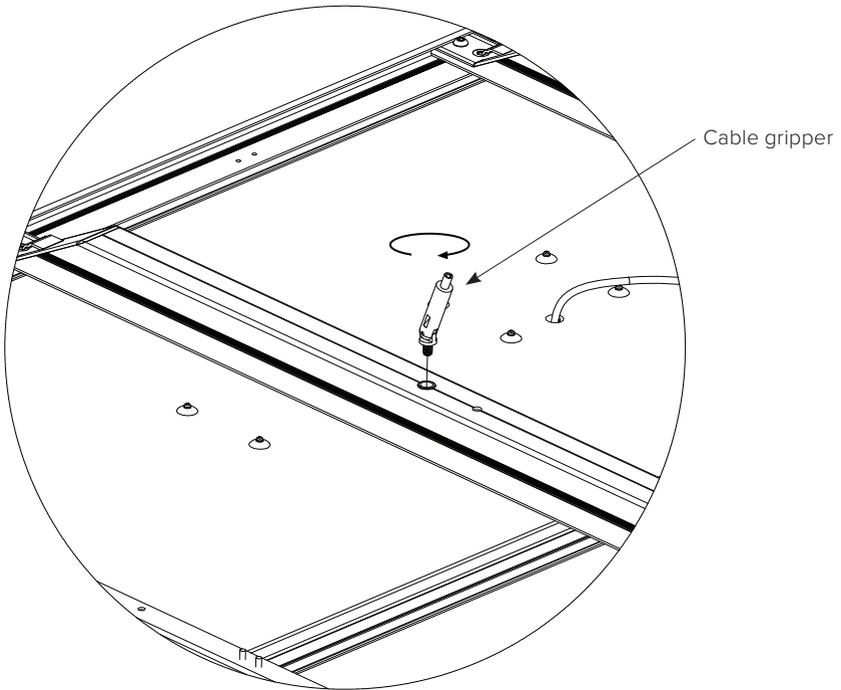
Cable gripper

5.3 ASSEMBLE UPPER GRIPPERS AND AIRCRAFT CABLES

Thread Aircraft Cable
through Coupler
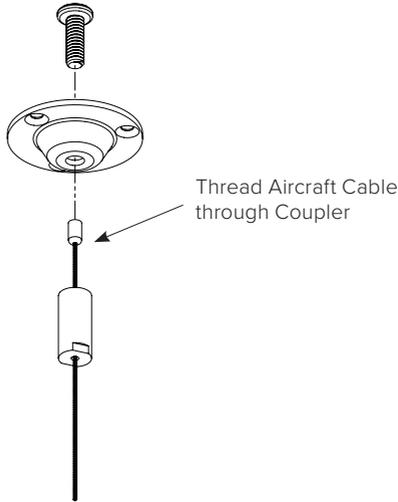
5.4 ATTACH 4X CEILING GRIPPERS TO CEILNG

CAUTION: 2 people min. recommended for install

!CAUTION: The luminaire weight is given in the appendix. Ceiling fasteners are not provided by Cooledge. Ensure the mounting can withstand the load including any safety margin required by national or local building codes.

Drywall plugs if required
(not supplied)
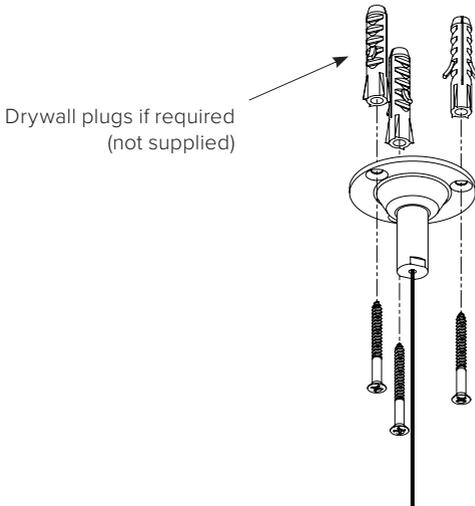
NOTE: when possible mount to studs or solid surface. Use drywall plugs only when necessary. Each cable gripper must be able to support 15kg.

5.5 HANG LUMINAIRE

👥 CAUTION: 2 people min. recommended for install

Push cable into gripper

Pull
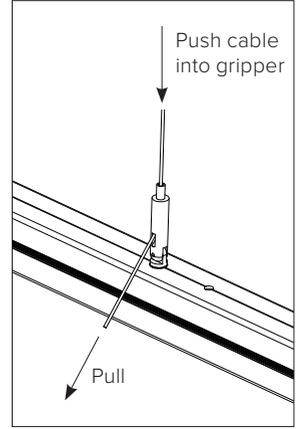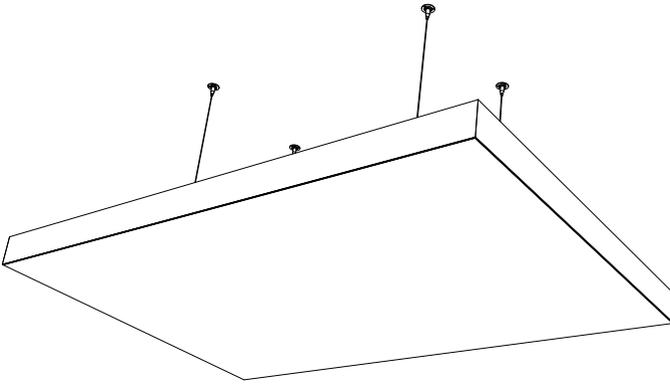
5.6 SET HEIGHT AND LEVEL

Mounting height

Level
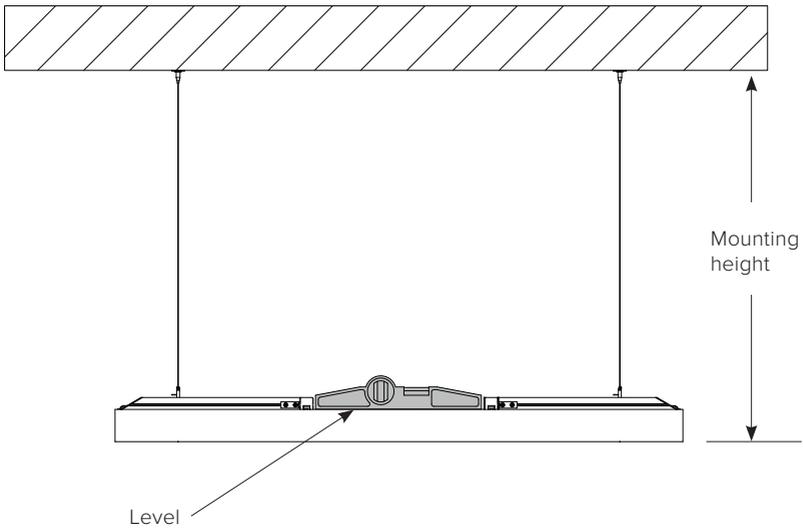
5.7 CONNECT AC POWER

The electrical power connections should be made by a qualified electrician in accordance with all national and local electrical and construction codes.

⚠ CAUTION: Ensure electrical power is disconnected!
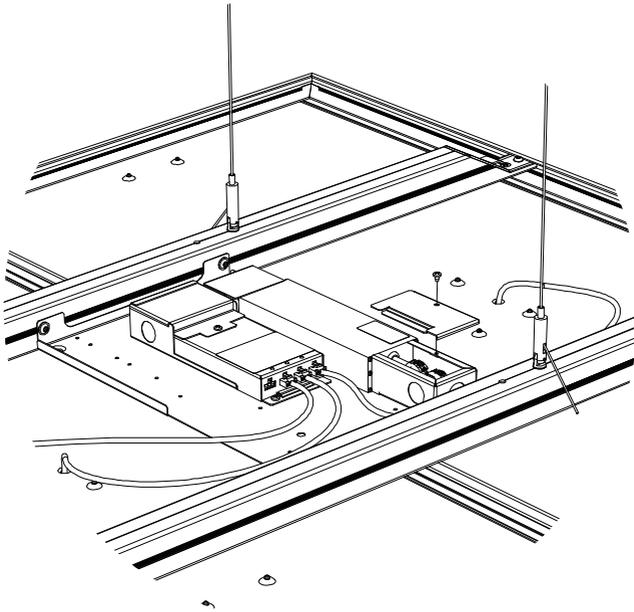
5.8 TEST LIGHTING

Turn on the luminaire and verify that all LEDs are lit. Test that the dimming is functioning correctly. Refer to section 10 of this document for additional control information.

6. RECESSED MOUNT (RECTANGLE ONLY)

NOTE: Note only available for RS (4'x4'/1.2mx1.2m), RM (4'x6'/1.2mx1.8m), and RL (4'x8'/1.2mx2.4m) rectangular luminaires.

NOTE: No insulation material is to be placed on top of the luminaire.

6.1 ASSEMBLE THE RECESSED MOUNT ADAPTER

A Recessed Mounting Adapter is required. This adapter is ordered and shipped separately.

4mm hex key
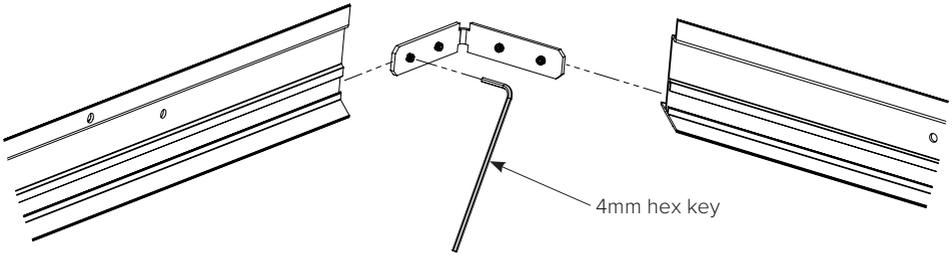
6.2 PREPARE THE CEILING OPENING

Cut the ceiling opening to 1220x1220mm / 48"x48" or 1220x1795mm / 48"x70" 5/8 or 1220x2370mm / 48"x93" 1/4, depending on the size of frame.
Install the recessed mount adapter kit (sold separately).
Install support wires or screws (not supplied) as required by national and local building codes.

Solid hanger wire
(not supplied)

OR

Drywall
ceiling

Wood or metal
ceiling support

#8 / M4 screw
(not supplied)
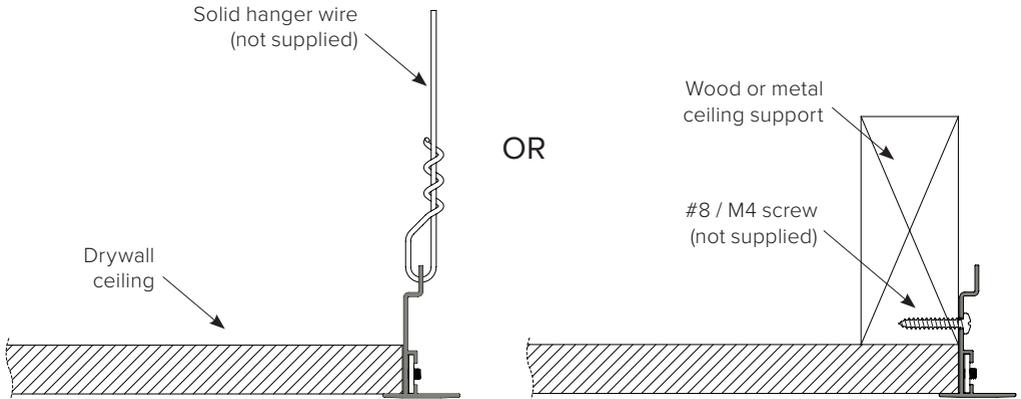
6.3 ATTACH 4X CABLE GRIPPERS TO CROSS STIFFENERS

Four cable grippers are included with the lumnaire. Mount grippers in each of the openings in the frame cross stiffeners.

Cable gripper

Push cable into gripper

Pull
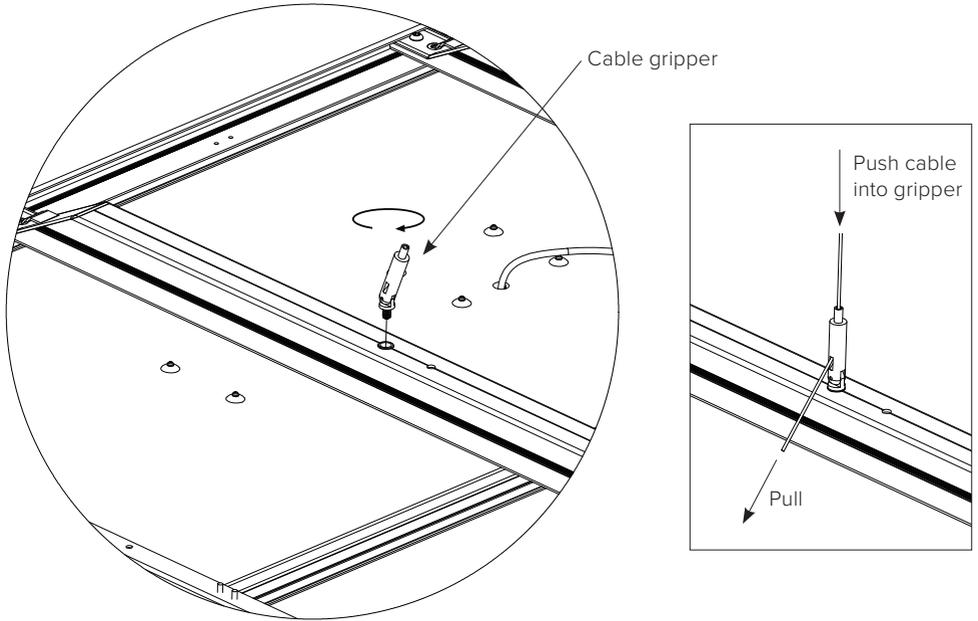
6.4 RAISE LUMINAIRE TO JUST BELOW CEILING

👥 CAUTION: 2 people min. recommended for install

Use the suspension cables to lift the luminaire close to the ceiling.
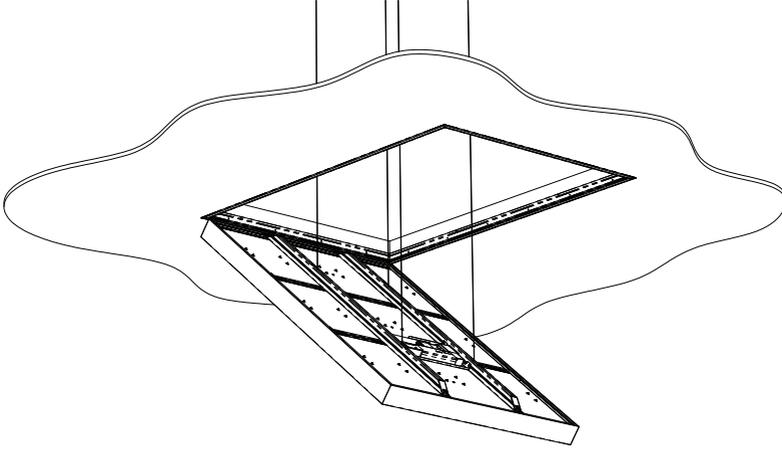
6.5 CONNECT AC POWER AND CONTROL INPUT CABLES

⚠ CAUTION: Ensure electrical power is disconnected!

Connect the AC power to the junction box. Where required by national or local electrical codes the AC cable may need to be in flexible conduit or of minimum rated jacket type. The electrical power connections should be made by a qualified electrician in accordance with all national and local electrical and construction codes.

AC power cable

From dimmer/controller.
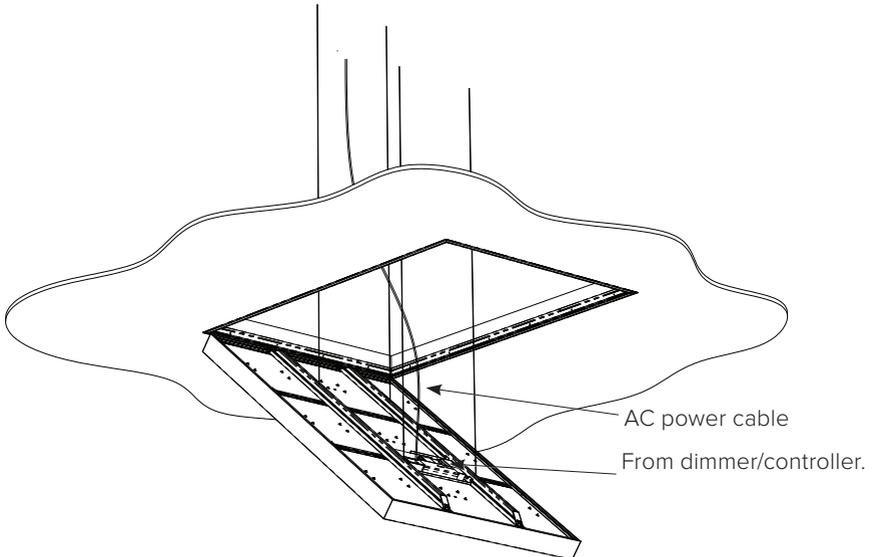
6.6 TEST LIGHTING

Turn on the luminaire and verify that all LEDs are lit. Test that the dimming is functioning correctly. (if connected) Refer to section 10 of this document for additional control information (available at cooledgelighting.com)

6.7 MOUNT THE LUMINAIRE IN THE CEILING OPENING

Raise the luminaire through the ceiling opening and rest it on the recessed mount adapter.
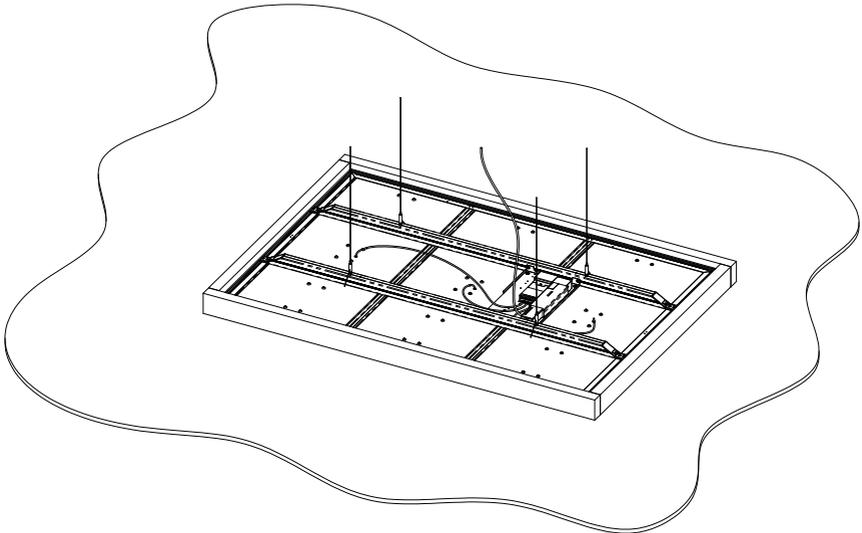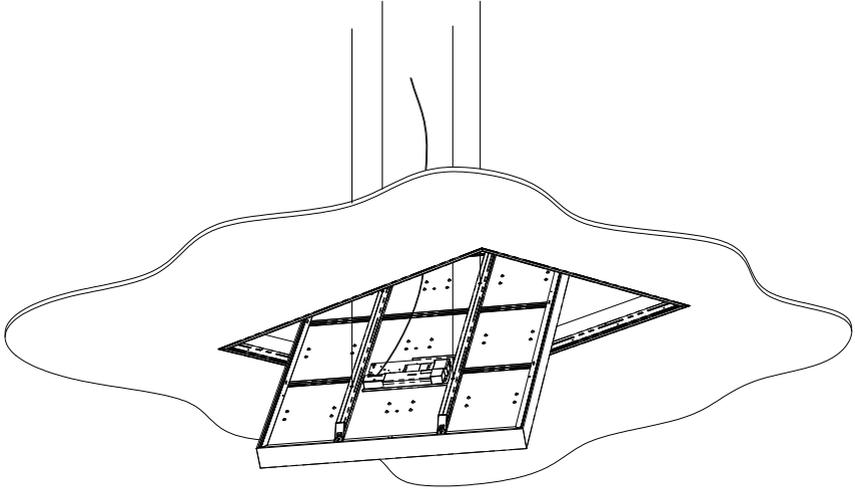
CABLE ATTACHMENT POINTS AND UNIT WEIGHTS
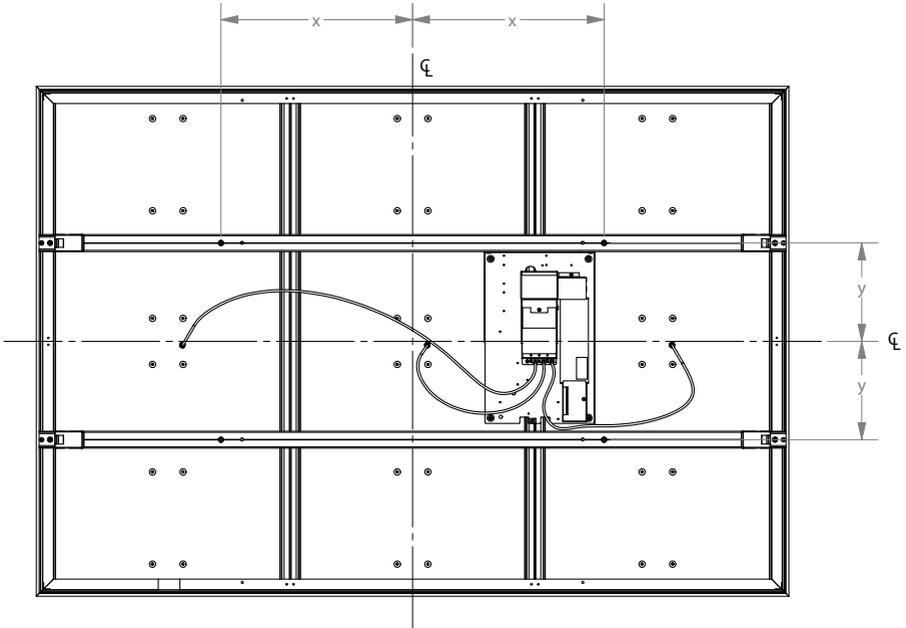
In the following charts, suspension points are taken from the geometric center of the frame.

RECTANGULAR FRAMES		Suspended		Surface Mount	
NOMINAL SIZE	UNIT WEIGHT	DIM "x"	DIM "y"	DIM "x"	DIM "y"
4' X 4' (1200mm X 1200mm)	36.2 lbs [16.4kg]	13 ¾" [350mm]	9" [230mm]	15 ¾" [400mm]	9" [230mm]
4' X 6' (1200mm X 1800mm)	54 lbs [24.6kg]	17 ¾" [450mm]	9" [230mm]	15 ¾" [400mm]	9" [230mm]
4' X 8' (1200mm X 2400mm)	66 lbs [30.1kg]	29 ½" [750mm]	9" [230mm]	31 ½" [800mm]	9" [230mm]
6' X 6' (1800mm X 1800mm)	66 lbs [29.9kg]	17 ¾" [450mm]	15 ¾" [400mm]	15 ¾" [400mm]	15 ¾" [400mm]
6' X 8' (1800mm X 2400mm)	78 lbs [35.6kg]	31.4" [798mm]	18.9" [480mm]	31.4" [798mm]	16.9" [430mm]

BULLNOSE FRAMES

NOMINAL SIZE	UNIT WEIGHT	Suspended		Surface Mount	
		DIM "x"	DIM "y"	DIM "x"	DIM "y"
4' x 8' (1200mm x 2400mm)	70 lbs (31.8 kg)	29.5" (750mm)	9" (230mm)	31.5" (800mm)	9" (230mm)
4' x 10' (1200mm x 3000mm)	85 lbs (38.6 kg)	37.5" (950mm)	9" (230mm)	39.5" (1000mm)	9" (230mm)

CIRCULAR FRAMES

NOMINAL SIZE	UNIT WEIGHT	Suspended		Surface Mount	
		DIM "x"	DIM "y"	DIM "x"	DIM "y"
4' (1200mm)	33 lbs [15.0kg]	10" [255mm]	9" [230mm]	11 13/16" [300mm]	9" [230mm]

8.0 CALCULATING REMOTE POWER & CONTROL DISTANCE

There are some circumstances when it is beneficial to mount the power tray (power supply and control module) remotely from the luminaire. Due to a voltage drop caused by the resistance of the cable carrying power between the Power Supply/Control Module and the luminaire, there is a maximum distance at which the power tray may be mounted. The maximum remote distance possible is dependent upon the size of the conductors used and the light output (High or Standard) and color temperature (CCT) of the luminaire. For the tables below, Tunable White luminaires should use the values for 2700K.

MAXIMUM REMOTE DISTANCE

HIGH FLUX					
CCT	2700K	3000K	3500K	4000K	5700K
Extension Cable (AWG)	Remote Distance (ft)	Remote Distance (ft)	Remote Distance (ft)	Remote Distance (ft)	Remote Distance (ft)
20	21.0	21.0	21.0	21.0	24.0
18	33.5	33.5	33.5	33.5	38.0
16	53.5	53.5	53.5	53.5	61.0
14	85.5	85.5	85.5	85.5	97.0

CCT	2700K	3000K	3500K	4000K	5700K
Extension Cable (mm²)	Remote Distance (m)	Remote Distance (m)	Remote Distance (m)	Remote Distance (m)	Remote Distance (m)
0.25	6.4	6.4	6.4	6.4	7.3
0.75	10.2	10.2	10.2	10.2	11.6
1.5	16.3	16.3	16.3	16.3	18.6
2.5	26.1	26.1	26.1	26.1	29.6

STANDARD FLUX					
CCT	2700K	3000K	3500K	4000K	5700K
Extension Cable (AWG)	Remote Distance (ft)	Remote Distance (ft)	Remote Distance (ft)	Remote Distance (ft)	Remote Distance (ft)
20	42.0	44.0	45.0	46.0	47.0
18	66.5	70.0	71.5	73.0	75.5
16	106.0	111.5	114.0	116.5	120.0
14	169.0	177.5	181.5	185.5	190.5

CCT	2700K	3000K	3500K	4000K	5700K
Extension Cable (mm²)	Remote Distance (m)	Remote Distance (m)	Remote Distance (m)	Remote Distance (m)	Remote Distance (m)
0.25	12.8	13.4	13.7	14.0	14.3
0.75	20.3	21.3	21.8	22.3	23.0
1.5	32.3	34.0	34.7	35.5	36.6
2.5	51.5	54.1	55.3	56.5	58.1

9.0 HANDLING AND MAINTENANCE

In general, Cooledge FABRILum Luminaires require little or no maintenance; however, if there is a need to handle or clean the luminaires, Cooledge recommends the following procedures.

Handling:

- Always handle the luminaire from the sides and avoid touching the diffuser to prevent fingerprints, oil, or dirt from marking the fabric.
- Always use cloth gloves if handling the fabric diffuser.

Cleaning:

Fabric Diffuser
Over time there may be some accumulation of dust from the environment. To remove dust there are several methods available including:
- Brush gently with a clean, micro fiber cloth or "magic eraser" (if available in your region)
- Vacuum with a clean brush-tip vacuum nozzle
- Blow with compressed air (ensure there is no oil or grease)
- Use an adhesive lint-roller (recommended to test a small area in case the specific type of roller leaves a residue)

For minor stains, spots or streaks, Cooledge recommends gently wiping the fabric with isopropyl alcohol, "IPA", (99% or higher) applied to a clean, soft cloth and allow to dry.

Note: use of liquids other than IPA to clean the fabric diffuser may result in permanent stains. FABRICated Luminaires are rated for dry locations only and should not be exposed to moisture or direct contact with water.

Trim/Fascia
- Wipe trim with a clean, soft cloth

10. POWER AND CONTROL

⚠ Control Module is suitable for use in dry locations only (IP20).

⚠ Luminaire must be installed by a qualified electrician.

⚡ All devices should always be disconneced from mains power supply and verify its absence prior to installation/maintenance.

⚠ Damage to Control Module and/or lighting elements may occur if wired incorrectly.

FCC STATEMENT:
This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

10.1 CONTROL OPTION

Each Cooledge luminaire is supplied with one or more control modules mounted adjacent to the power supply. The model of control module varies with luminaire type as shown below:

Static Color Temperature (SCT) Luminaires:

Power Supply

Control Module

Tunable White (TNW) Luminaires:

Power Supply
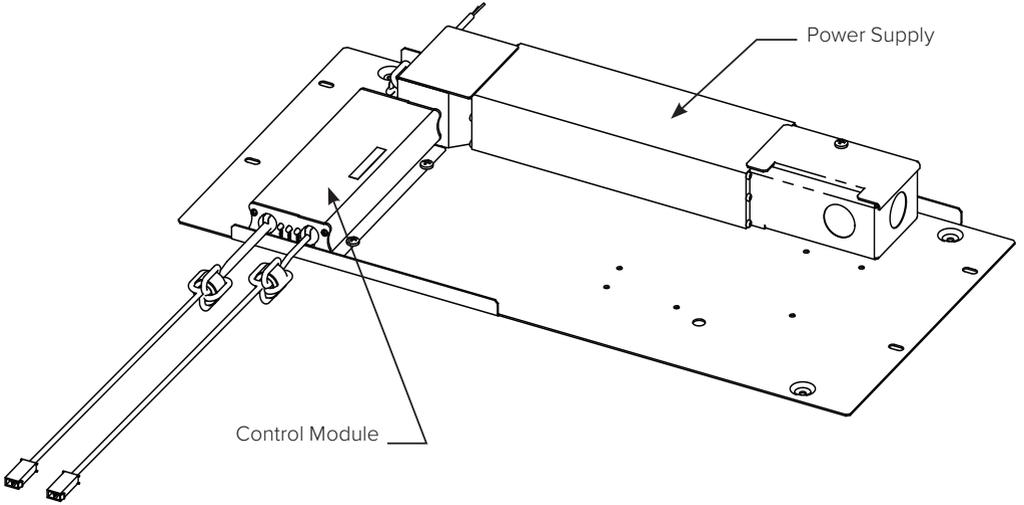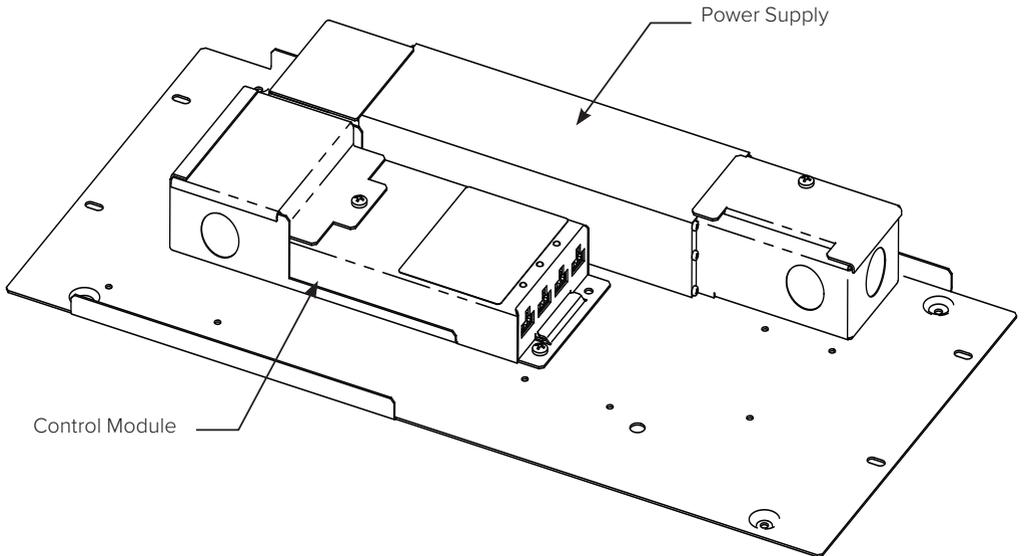
Control Module

10.2 CONTROL WIRING INPUTS

Both types of control module accept 0-10V control inputs. Other control inputs can be used with the addition of an optional control protocol adapter kit. Refer to the manual supplied with the adapter kit for correct installation of control adapters.

Static Color Temperature (SCT) Luminaires:

Red of Purple Wire (DIM+)

Black or Pink Wire (DIM-)
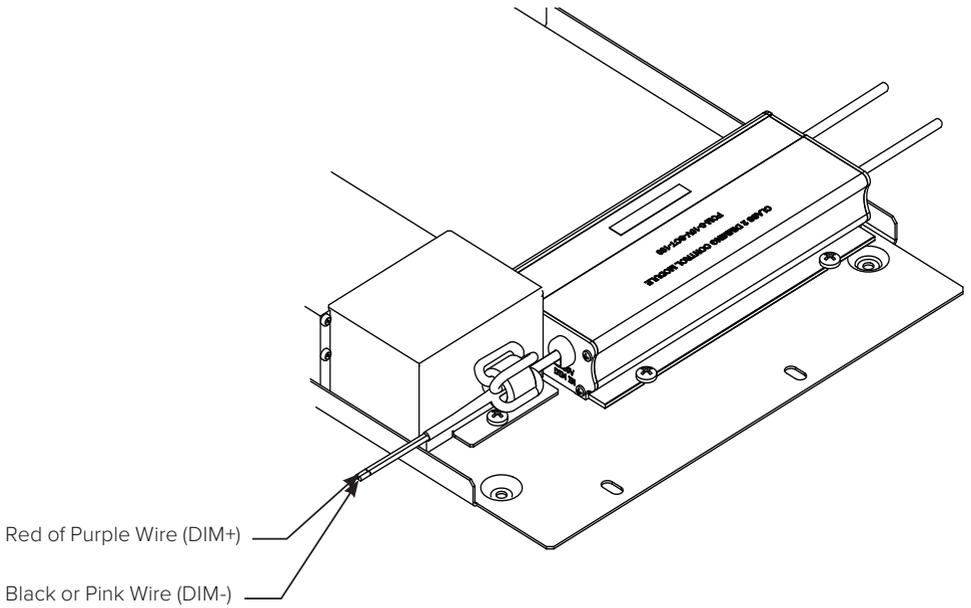
Tunable White (TNW) Luminaires:

Remove the control module junction box cover to access control module inputs and DIP switches. DIP switches are used to determine user configurable settings.

ORANGE WIRE (CCT+)

YELLOW WIRE (CCT-)

PURPLE WIRE (DIM+)

PINK WIRE (DIM-)

DC INPUT FROM POWER SUPPLY

DIP Switches
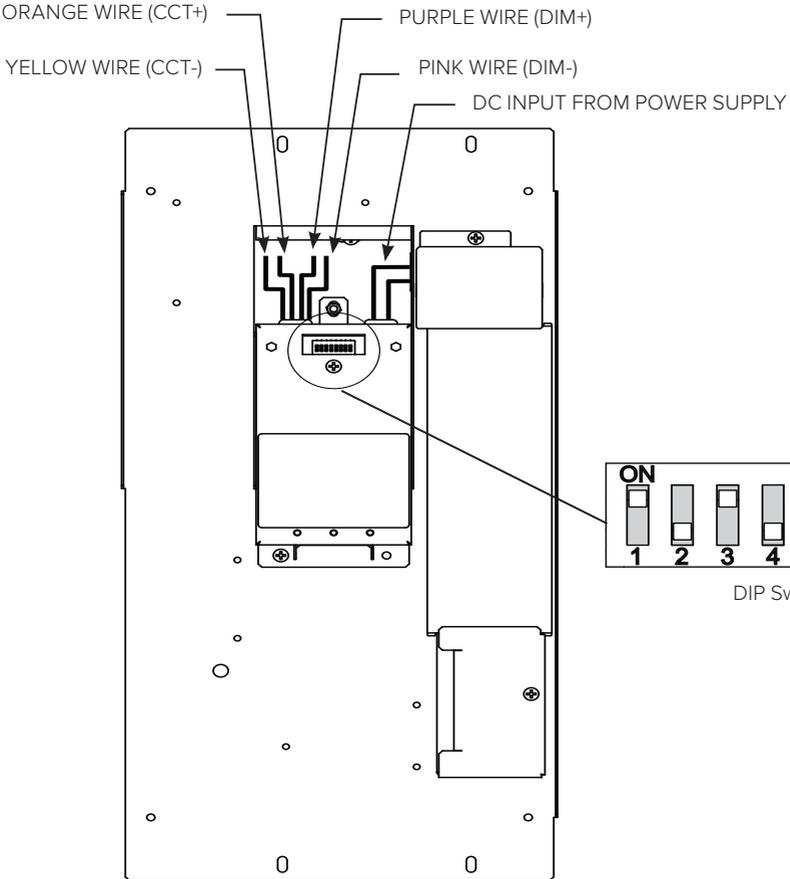
## 10.3 OUTPUT CONNECTIONS

The LED panels can be connected to the Control Module outputs as shown below:

Static Color Temperature (SCT) Luminaires: LED Panel cables plug into control module output cables.

Control module output cables
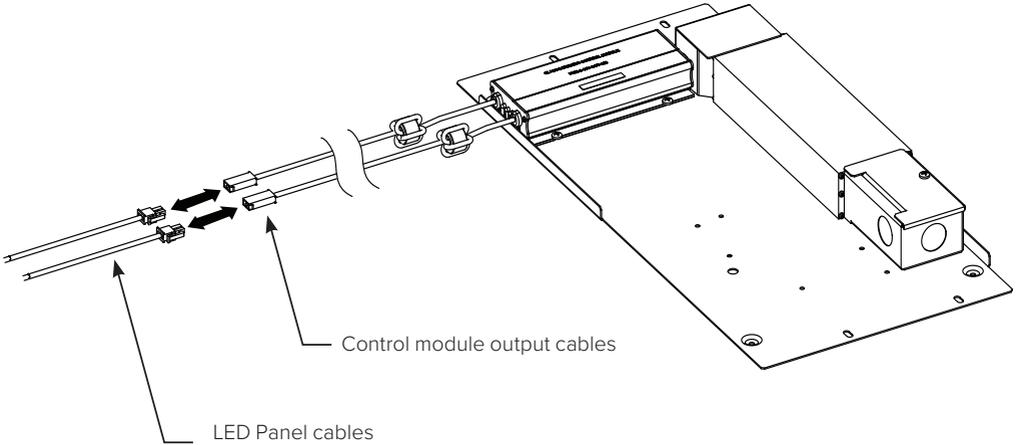
LED Panel cables

Tunable White (TNW) Luminaires: LED Panel cables plug directly into control module. Use control module outputs 1 and 3 for TNW luminaires.
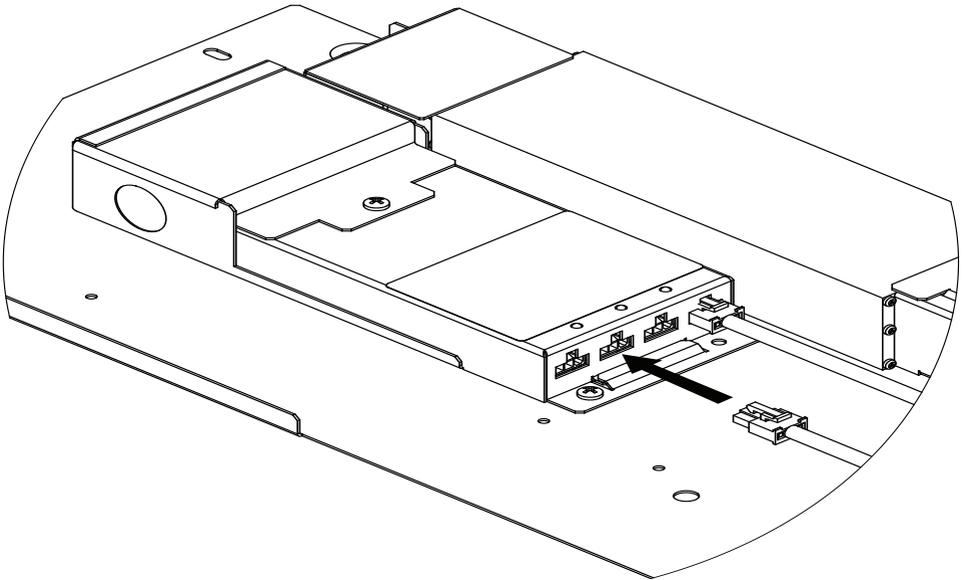
10.4 STANDALONE MODES

Standalone modes gives a pre-defined user-selectable fixed dimming and/or color output. No external control input is required. When one of the operational modes (Standalone or Dynamic Test) is selected through the DIP Switch setting, the module will ignore 0-10V commands and operate according to the settings in either LOG or LINEAR MODE.

10.5 STANDALONE TNW MODE

Standalone TNW mode allows the user to select a fixed setting for dimming and color output.

| Switches 1-4 (Mode)	Switches 5-8 (Intensity)
0-0-1-1	X-X-X-X

| DIP Switches 5-8	Output Level (%)	Output Color Temp (K)
0-0-0-0	25%	2700K
1-0-0-0	100%	2700K
0-1-0-0	5%	3000K
1-1-0-0	25%	3000K
0-0-1-0	50%	3000K
1-0-1-0	100%	3000K
0-1-1-0	5%	3500K
1-1-1-0	25%	3500K
0-1-1-1	50%	3500K
1-0-0-1	100%	3500K
0-1-0-1	5%	4000K
1-1-0-1	25%	4000K
0-0-1-1	50%	4000K
1-0-1-1	100%	4000K
0-1-1-1	25%	5700K
1-1-1-1	100%	5700K

10.6 STANDALONE TNW DYNAMIC

Dynamic test mode is used to check the system functionality. This mode will ignore control inputs and cycle through the output range. This mode is only applicable to TNW luminaires.

Standalone TNW	Mode Switches 1-8
Dynamic Colour Tune Test (TNW)	1-1-1-1-1-1-1-1

Output duty cycle starts with the WARM LEDs (TNW=2700K) raising their intensity from 0% to 100% then decreasing to 0%. Next the COOL LEDs (TNW=5700K) raise intensity from 0% to 100% then decrease to 0%. This cycle repeats indefinitely with a period of 7.5 seconds.
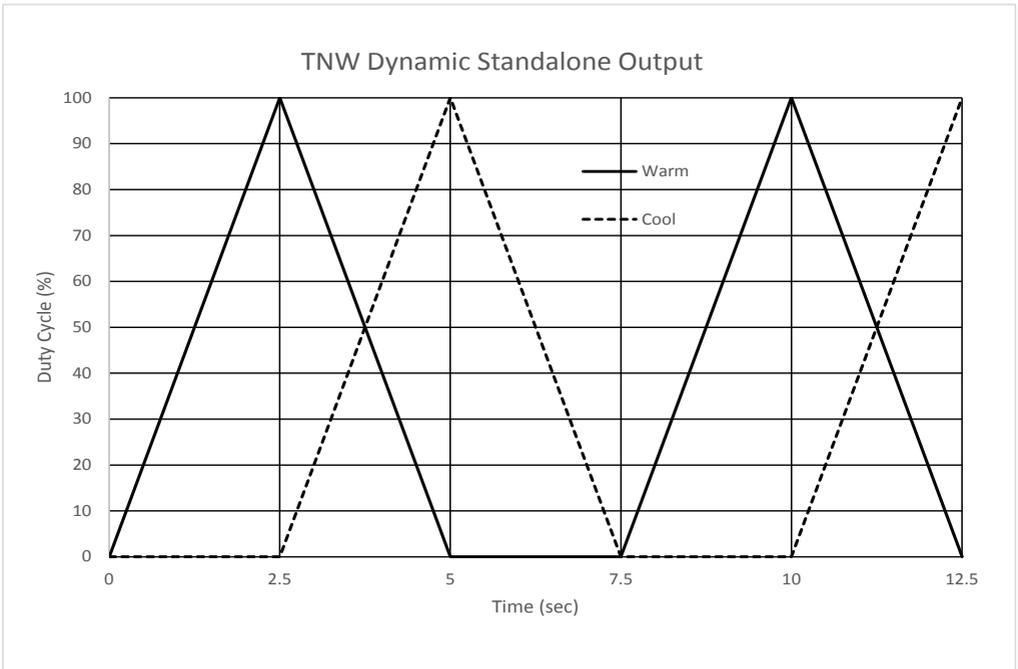
APPENDIX A: SCT CONTROL MODULE DIMMING RESPONSE



SCT Controller Dimming Curve
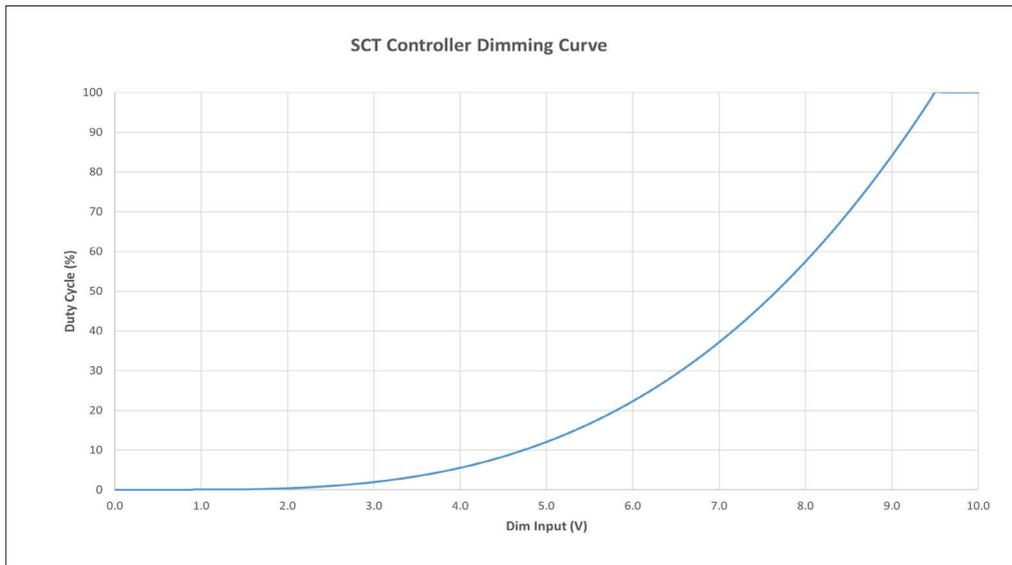
APPENDIX B: TNW CONTROL MODULE DIMMING RESPONSE

There are three 0-10V operating modes which can be used to select the desired dimming curve: Linear, LOG-A and LOG-B.   The corresponding DIP switch settings are:

DIP Switch Setting	Operation
1000xxxx	TNW, 2 Channel Output, Linear
1010xxxx	TNW, 2 Channel Output, LOG-A
1001xxxx	TNW, 2 Channel Output, LOG-B

These settings produce a dimming output as shown below:

TNW Controller Dimming Curves
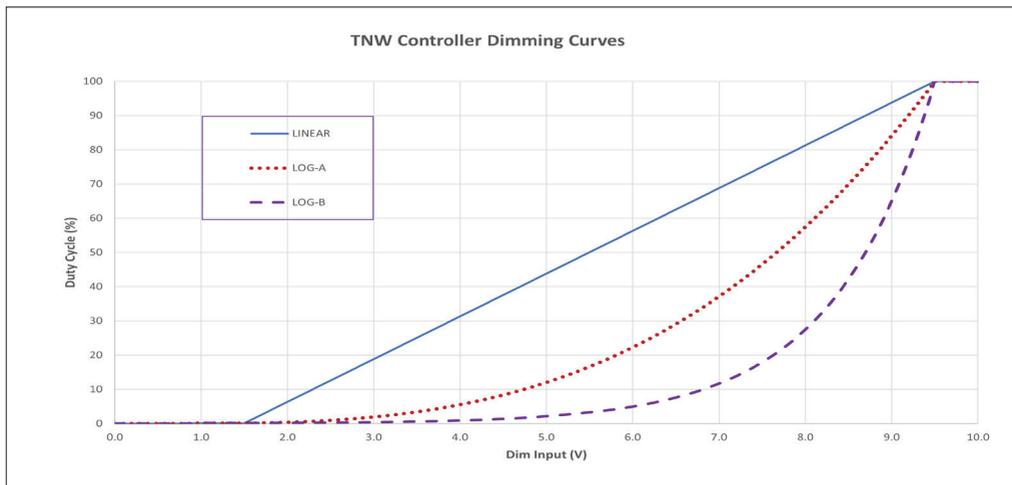
Color Temperature Response
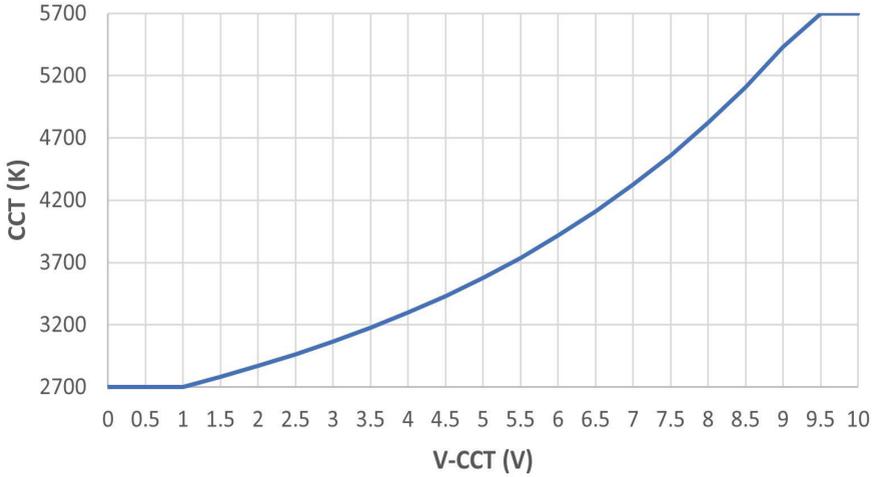
V-CCT	CCT
0	2700
1	2700
1.5	2783
2.0	2870
2.5	2963
3.0	3065
3.5	3176
4.0	3298
4.5	3431
5.0	3578

V-CCT	CCT
5.5	3738
6.0	3915
6.5	4110
7.0	4325
7.5	4561
8.0	4822
8.5	5110
9.0	5429
9.5	5700
10	5700

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