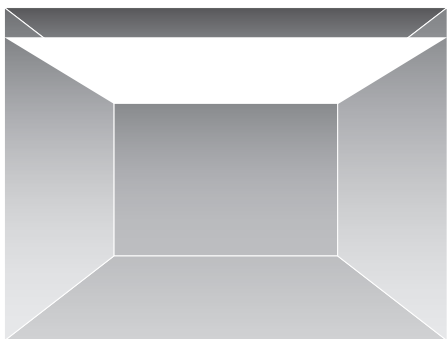


COOLEDGE™

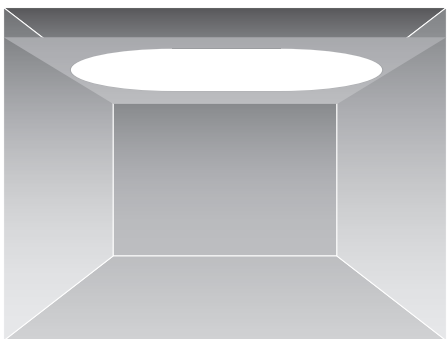
SkySpan

Flush Mount: Design & Installation Overview

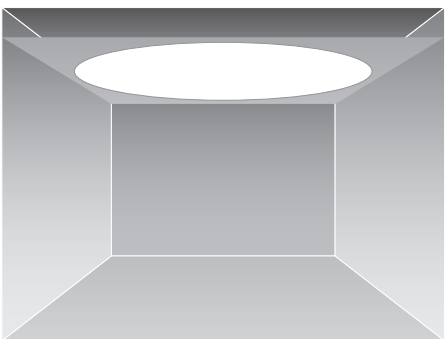
# SYSTEM OVERVIEW



RECTANGLES



CURVED CORNERS



CIRCLES

## DESCRIPTION

Cooledge SkySpan Flush Mount systems deliver superior quality illumination on an unprecedented scale, creating luminous ceilings that bring the feeling of the outdoors to interior spaces.

Cooledge SkySpan products are integrated solutions that include the lighting system, mounting hardware, woven polyester fabric diffuser AND installation of the fabric diffusers and mechanical components by a Cooledge certified installer in collaboration with the general contractor.

## SPECIFICATION HIGHLIGHTS

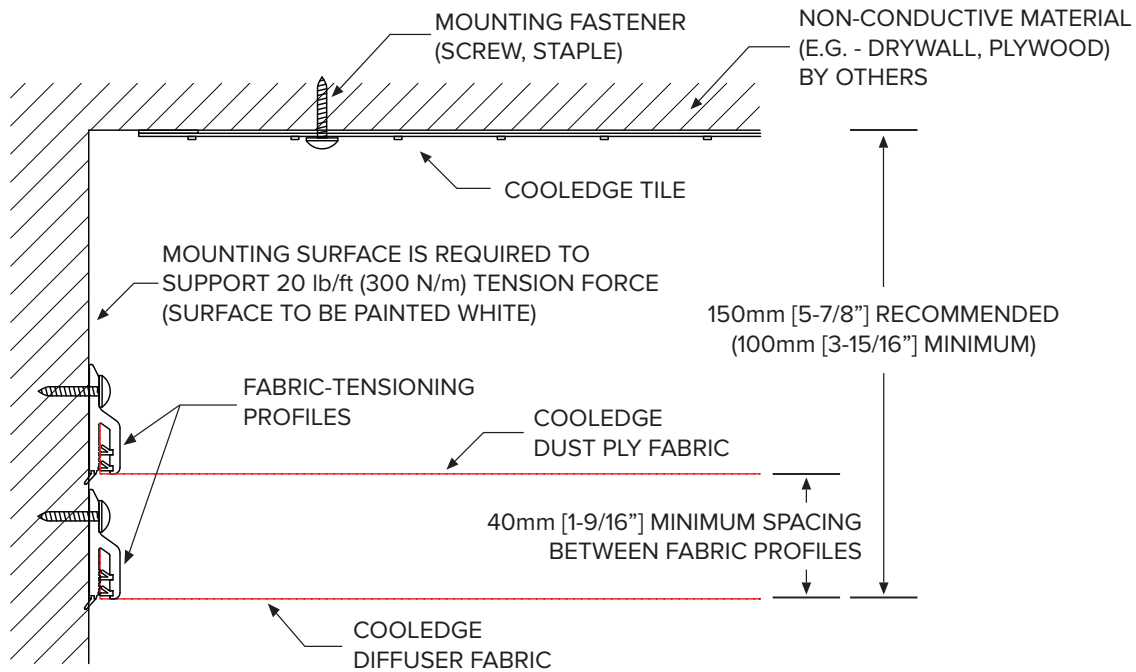
| Mounting Type               | Flush Mount - Recessed Cavity, Regressed Cavity, Wall-to-Wall |
|-----------------------------|---|
| Diffuser Material           | Fire Rated Woven Polyester Fabric                             |
| Maximum Seamless Dimensions | 161 ft x 15.5 ft (Wider is available with a seam)             |
| Light Output Options        | 7 Constant Flux Options Available                             |
| Color Temperature (CCT)     | 5 CCT Options plus Tunable White (3 tunable ranges available) |
| Color Rendering Index (CRI) | 90+   |
| Bug & Debris Protection     | Included  |
| Ceiling Cavity Depth        | Recommend: 6 in; Minimum: 4 in                                |



## FEATURES

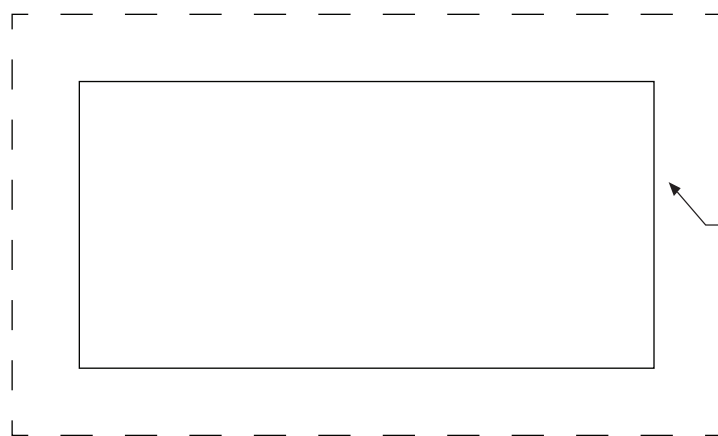
- **Continuous:** Mounts directly to each wall to form a continuous luminous ceiling or fill a cavity with almost limitless scalability
- **Immersive Illumination:** A large luminous surface delivers a surprising amount of illumination without visual discomfort
- **Simple Installation (included):** Woven fabric is easily stretched and held in place without need to remove equipment, or furniture, or isolate the space to create a heated environment
- **Code Friendly:** Fire-rated polyester fabric and a fully certified lighting system eliminate inspection challenges

## MOUNTING DETAILS & INTERFACES WITH BUILDING STRUCTURE



Coolidge SkySpan include the illumination source, profile, diffuser fabric, and installation of all non-electrical components

For additional details, please refer to the Site Preparation Requirements section



MAINS (AC) TERMINATION TO BE LOCATED AT THE PERIMETER OF THE FLUSH MOUNT CAVITY. E.G. NOT WITHIN THE EMITTING SURFACE AREA.

CHECK PROJECT SUBMITTALS - COOLEDGE POWER SUPPLIES MAY BE REMOTE MOUNTED.

SITE WIRING INTERFACE

# GENERAL INSTALLATION OVERVIEW

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## RESPONSIBILITIES

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- **General Contractor:** Installation of Architectural Recess and any other structural elements.
- **Electrical Contractor:** Installation of all high voltage mains wiring. Installation of COOLEDGE Lighting System including TILES, T-Cables, Control Modules, Power Supplies and all associated low voltage wiring when required by project.
- **COOLEDGE Installers:** Installation of COOLEDGE SkySpan Flush Mount System (PVC Profile and Two Layers of Fabric) and COOLEDGE Lighting System when not in scope for Electrical Contractor.

## PRIOR TO COOLEDGE INSTALLATION

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- To initiate the SkySpan Flush Mount installation process, our project management team will reach out directly to a designated site contact to begin preparation for an efficient and successful installation. It is imperative that communication begins as soon as possible. There are several documents that we share to help ensure accurate communication with regard to site readiness, project scope and timeline.
- Prior to the installation of the SkySpan Flush Mount System, the General Contractor must construct an architectural recess. The architectural recess must be at least 4" deep (6" recommended), the sidewalls of the architectural recess must have a Level 4 finish and be painted white. Recommended that the full cavity be painted white.
- The Electrical Contractor must pull low voltage wiring as shown in the provided lighting layout to the architectural recess (top entry is preferred). Wire gauge will be determined by the distance from the COOLEDGE Control Modules to the TILE (LED light sheet) rows within the architectural recess. Our TILE Lighting System will typically ship to the job site first and will be received and controlled by the Electrical Contractor. Once the material has been inventoried, COOLEDGE and the Electrical Contractor will review installation procedures and testing protocols specific to the installation. Coordination between our team and the Electrical Contractor is critical to success, so we ensure that all installation and testing procedures for the lighting system are clear and well understood by the electricians in the field.
- If there are any questions or concerns that arise during installation, the COOLEDGE Project Management Team is available to assist.

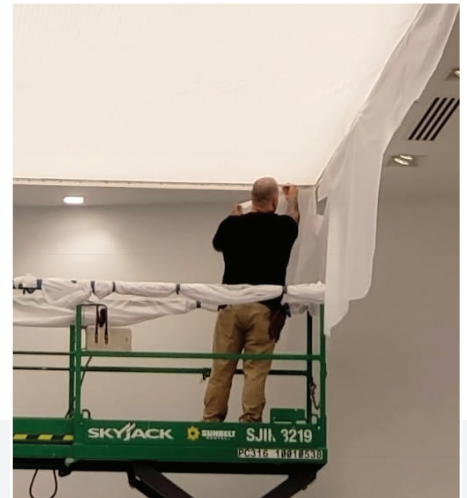


ARCHITECTURAL RECESS  
(showing TILES)



## FLUSH MOUNT SKYSPAN INSTALLATION BY COOLEDGE

- The COOLEDGE SkySpan Flush Mount System will typically ship to the job site following the Lighting System. The SkySpan Flush Mount System ships on a large pallet in order to accommodate the diffuser and dust ply, which can be up to 16.5' (5m) wide. This material should be stored in a safe, dry location.
- Installation should be scheduled at least 4 weeks in advance – in some circumstances, Cooledge can accommodate a minimum 2 weeks – with our Project Management Team. Once the Electrical Contractor is ready to install the TILE Lighting System a tentative installation date can be set, at this point the Pre-Installation Questionnaire must be filled out.
- Once the TILE Lighting System has been installed and tested (72hr burn-in recommended), the Electrical Contractor will confirm the fabric installation date with COOLEDGE and prepare the Site Readiness Form.
- On the fabric installation date, the COOLEDGE Install team will arrive on site and begin their work. After quickly reviewing the installation, the first step in the process is installing the COOLEDGE PVC track around the perimeter of the architectural recess.
- Once the track is installed, the team will begin installing the two layers of architectural fabric that complete the SkySpan Flush Mount System.
- After a final review of the installation, the Installation Team will ask for a Sign Off from the Site Contact. After completion, COOLEDGE will pass along an Operations and Maintenance Manual.



COOLEDGE INSTALLATION

## TYPICAL INSTALLATION SCHEDULE

Typical project lead times are 6-10 weeks from receipt of deposit and approved submittal package. The table below is a general timeline of events assuming a fixed installation date.

|  |  |
|--|--|
| <b>Upon Receipt of Deposit and Signed Submittal</b>  | Cooledge will reach out to the Site Contact to review all job related documents.                                     |
| <b>Minimum 6 Weeks from Fabric Installation</b>  | Cooledge and Site Contact determine tentative date for fabric installation.  |
| <b>Minimum 4 Weeks from Fabric Installation</b>  | Site Contact to complete Pre-Install Questionnaire   |
| <b>Minimum 3 Weeks from Fabric Installation</b>  | Cooledge and Site Contact review TILE and Control Module Installation Procedures.                                    |
| <b>2 Weeks from Fabric Installation</b>  | Lighting Installation substantially complete. Testing of Lighting System to begin.                                   |
| <b>1 Week from Fabric Installation</b>   | Testing of Lighting System Complete. Site Contact to complete Site Readiness Form and submit photographs of area(s). |
| <b>Day of Fabric Installation</b>  | Cooledge will arrive on site and begin installation of profiles and fabric.  |
| <b>Cooledge Project Management will be in regular contact with the site from receipt of Signed Submittal and Deposit until installation and commissioning is complete.</b> |  |

## WHAT IS INCLUDED IN THE COOLEDGE PRICE?

Each project is unique and has its own specific requirements. For this reason, Cooledge will prepare a quotation on an individual basis and incorporating the particular details of the project.

### **Distributor Net Prices include the following:**

- LED lighting system materials (LED lights, power supplies, control modules, internal wiring)
- Flush mount mechanical materials (Fabric diffuser, mounting profiles, accessories)
- Installation of the mechanical materials and final commissioning

### **Excluded:**

- Electrical installation as required by local laws
- Alterations (if required) to the building structure
- Additional expenses incurred as a result of limited access, remote locations, local labor conditions, or other unusual circumstances. These expenses will be identified on the project quotation

## WARRANTY\* & POST INSTALLATION SERVICE

Details of the Cooledge Terms & Conditions are found on our website at <https://www.cooledgelighting.com/resources/terms-conditions>.

The following warranty applies to Cooledge SkySpan Flush Mount systems.

- Lighting System Materials: 5 years
- Mechanical Materials: 5 years
- Mechanical Installation & Labor: 2 years

*\*Contact Cooledge for Extended Warranty Options*

# SITE PREPARATION REQUIREMENTS

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Prior to the arrival of Cooledge installation teams to complete installation of the flush mount system including profiles and two layers of fabric diffuser, the following requirement for the site must be complete to avoid delays and extra expenses that may occur if the site is not in a suitable condition for their work.

## GENERAL

---

- Unless indicated on the COOLEDGE Quote, the site shall provide lift, ladders, or rolling scaffold of suitable height for the use of COOLEDGE Installation Team.
- The area must be free of dust/debris that could damage or stain the diffuser fabric and work in the area that could potentially cause damage to the fabric should be substantially complete. COOLEDGE is not responsible for damage to the fabric once it is installed.
- The area immediately underneath the fixture location must be free from obstructions (when possible).
- The site is responsible for receiving and transporting all materials to the installation area.

## ARCHITECTURAL RECESS

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- Dimensions must match dimensions on signed submittal.
- Attachment walls must be built to withstand 20lb/linear foot (300N/m) tension force. For drywall mounting surfaces, Cooledge recommends the addition of blocking materials to ensure this requirement is achieved
- Must be painted white.
- Must be a minimum 4" depth (6" recommended).
- Must be clear of wiring and obstructions.
- COOLEDGE Power Supplies and Control Modules shall NOT be installed within the architectural recess.

## LIGHTING SYSTEM

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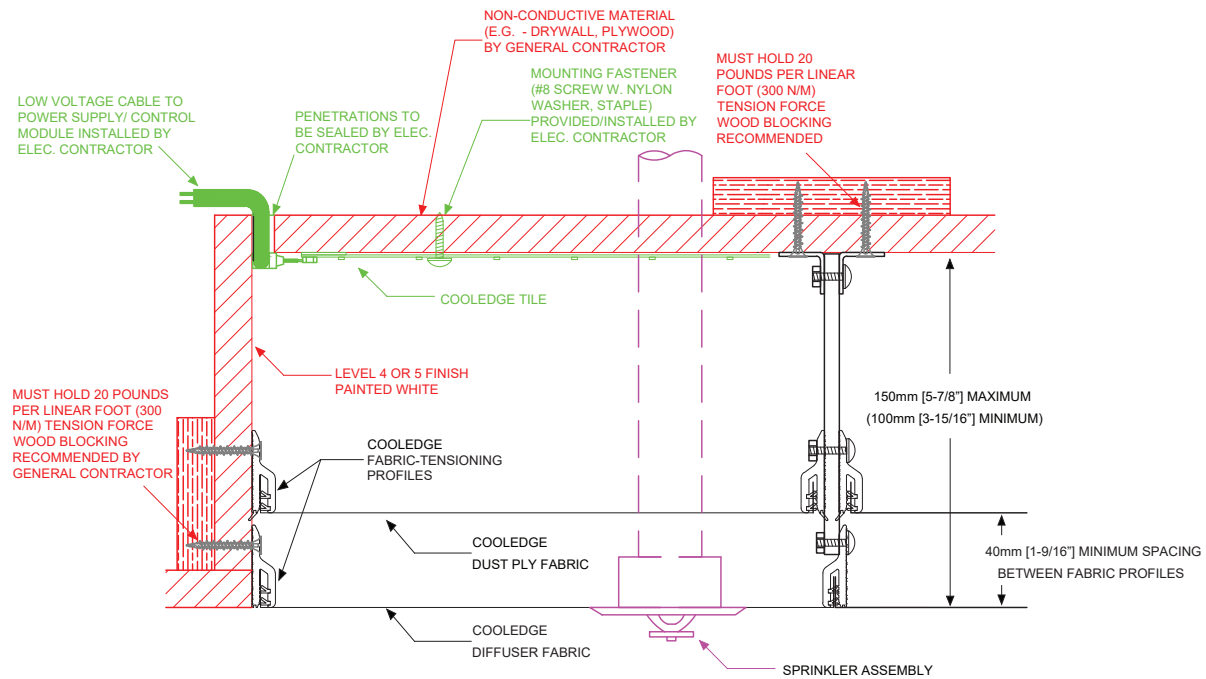
- Lighting system shall be fully operational prior to fabric installation.
- Electrical contractor shall follow the layout provided in the signed submittal or project specific installation document. Any deviation from the layout resulting in dark spots, shadows, or electrical failure is the responsibility of the electrical contractor. If you have any questions related to this, please contact your COOLEDGE Project Manager.



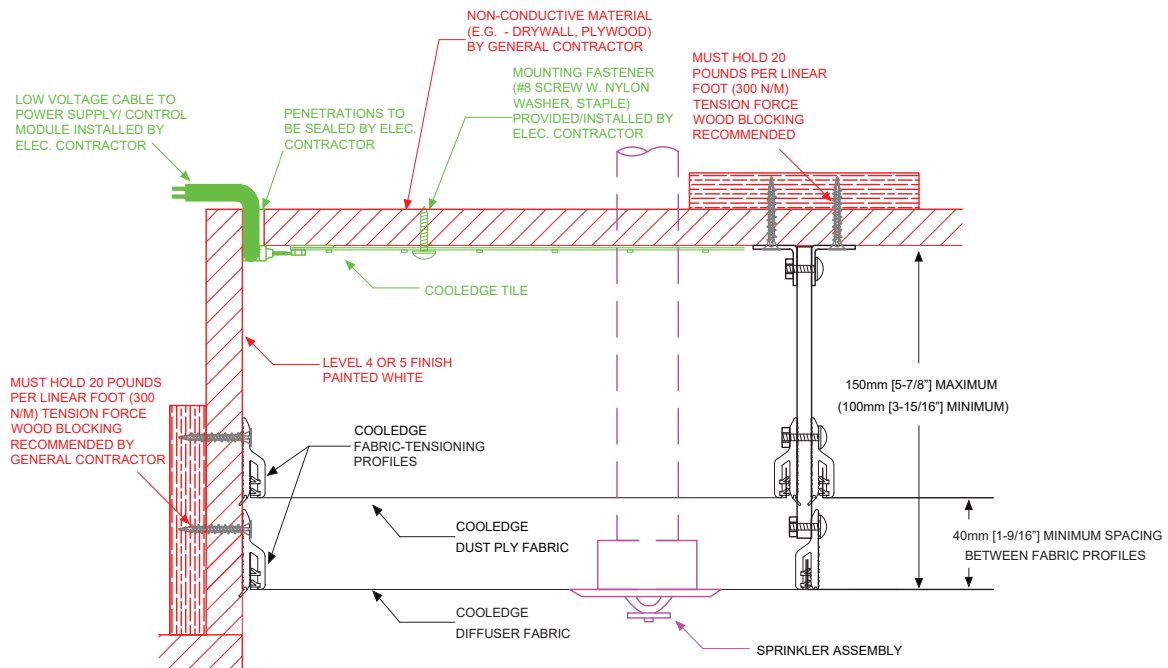
## ADDITIONAL DETAILS

The drawings below show three (3) flush mount configurations with recommendations for supplying the appropriate structural support and additional details for projects where midspan seams and/or sprinkler penetrations are required.

- Elements shown in red are structural: responsibility of the general contractor.
- Elements shown in green are electrical: high voltage is the responsibility of the electrical contractor. Low voltage is the responsibility of the electrical contractor or Cooledge installer.
- Elements shown in black are SkySpan mechanical: responsibility of the Cooledge installer.

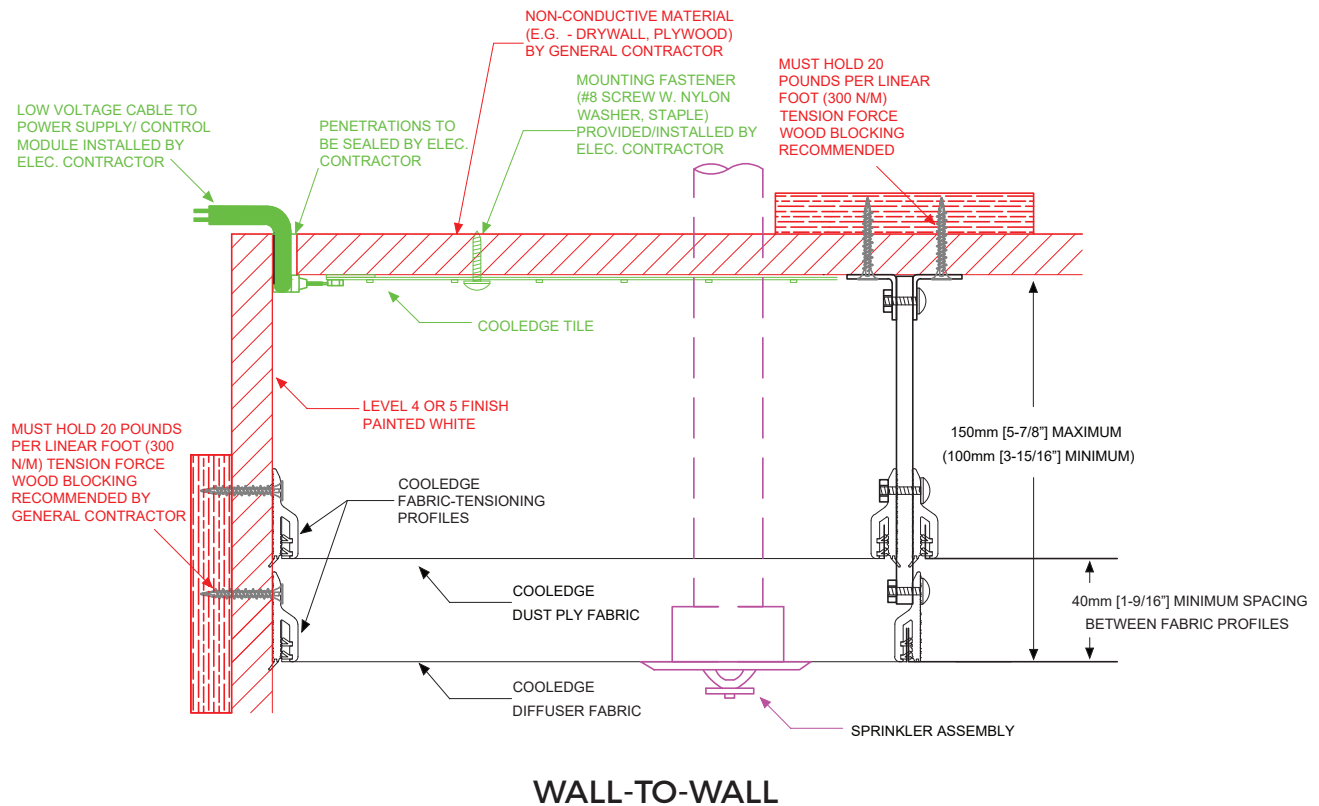


### RECESSED CAVITY



### REGRESSED CAVITY





## RESPONSIBILITIES:

### GENERAL CONTRACTOR (RED)

- INSTALLATION OF CAVITY WITH PROPER BACKING; LEVEL 4 OR 5 FINISH ON VERTICAL SURFACES PAINTED WHITE. RECOMMENDED THAT WHITE PAINT IS APPLIED TO ALL SURFACES.

### ELECTRICAL CONTRACTOR (GREEN)

- INSTALLATION OF TILES, T-CABLES, CONTROL MODULES, POWER SUPPLIES, AND ASSOCIATED CABLING.

### COOLEDGE INSTALLER (BLACK)

- INSTALLATION OF FABRIC-TENSIONING PROFILES, DUST-PLY, DIFFUSER FABRIC, AND MIDSPAN SEAM COMPONENTS.

### OTHER TRADES (MAGENTA)

- INSTALLATION OF SPRINKLER (OR OTHER ITEMS PENETRATING FABRIC).

## PROVIDED BY COOLEDGE:

- FABRIC-TENSIONING PROFILES, FABRIC LAYERS, AND ASSOCIATED HARDWARE FOR INSTALLATION BY COOLEDGE TEAM.
- COOLEDGE TILES, POWER SUPPLIES, CONTROL MODULES, T-CABLES, AND STARTER CABLE (ANY ADDITIONAL CABLING OR HARDWARE REQUIRED TO BE PROVIDED/INSTALLED BY ELEC. CONTRACTOR).
- DETAILED INSTALLATION DOCUMENTS.
- MIDSPAN SEAM HARDWARE AND COMPONENTS BROUGHT TO SITE BY COOLEDGE INSTALLERS AT TIME OF INSTALLATION.



**Appendix A**  
**SkySpan**  
**CSI 3-Part Specification**

# PRODUCT SPECIFICATIONS: COOLEDGE SKYSPAN

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## PART 1: GENERAL

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### 1.1 SCOPE

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- A. Supply and installation of a luminous fabric ceiling or luminous fabric ceiling fixture.

### 1.2 REFERENCES

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- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
- B. EN 13501-1 - Fire Classification of Construction Products and Building Elements - Part 1: Classification Using Data from Reaction to Fire Tests
- C. UL 2108 Standard for Low Voltage Lighting Systems
- D. UL 1598 Luminaires
- E. IEC/EN 60598-1 Part 1: Luminaires General Requirements and Tests

### 1.3 DEFINITIONS

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- A. **Flush Mount:** a luminous fabric ceiling that is mounted such that the emitting surface is contiguous and in the same plane as the ceiling surface materials. **le. is mounted flush with the ceiling surface.**
- B. **Surface Mount:** a luminous fabric ceiling or fabric ceiling fixture that is mounted directly to the ceiling surface materials.
- C. **Suspended:** a luminous fabric ceiling fixture that is suspended from and mounted to the ceiling surface materials via cables or threaded rods.

### 1.4 SUBMITALS

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- A. **Product Data:** submit product manufacturer's specification (data) sheet(s).
- B. **Light Quality:** submit product manufacturer's light quality data as per LM-79-08 to include at a minimum: color rendering index values for R1-R15, spectral power distribution graph, and values for Rf and Rg as defined in TM-30-15.
- C. **Shop Drawings:** submit product manufacturer's shop drawings showing at a minimum the external dimensions of the luminous ceiling or luminous ceiling fixture.

### 1.5 QUALIFICATIONS

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- A. Manufacturer must be the supplier of all components of the luminous ceiling or luminous ceiling fixture including lighting, fabric diffuser, tensioning profiles, power supplies, and control modules.
- B. Manufacturer must be able to provide IES format files to enable photometric and illuminance calculations.
- C. Manufacturer must, upon request, be able to provide a list of installations where its luminous ceiling products have been installed.

## 1.6 REGULATORY REQUIREMENTS

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- A.** Lighting system must be UL Listed (UL2108) and CE Compliant.
- B.** Frame and fabric assembly must be UL Listed (UL1598).
- C.** Luminous ceiling assembly or fixture must be rated a minimum of ASTM E84 Class A and EN13501-1: Class B – s1, d0.
- D.** Luminous ceiling assembly or fixture must be RoHS compliant.

## 1.7 DELIVERY, STORAGE, AND HANDLING

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- A.** Products must be stored in manufacturer's unopened packaging until ready for installation.

## 1.8 WARRANTY

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- A.** Electrical Components: limited warranty for parts and workmanship for a period of five (5) years from the shipment date.
- B.** Fabric and Profiles: limited warranty for parts and workmanship for a period of five (5) years from the shipment date.
- C.** Fabric and Profile Installation: limited warranty for workmanship by professional installers trained in the installation techniques specific to specialty fabric ceiling installations for a period of two (2) years from the date of installation.

## PART 2: PRODUCTS

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### 2.1 MANUFACTURERS

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- A.** Cooledge Lighting Inc.  
110-13551 Commerce Parkway  
Richmond, BC, Canada V6V 2L1  
[www.cooledgelighting.com](http://www.cooledgelighting.com)
- B.** Substitutions
  - 1. Not permitted

### 2.2 ELECTRICAL REQUIREMENTS

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- A.** Input voltage to power supplies must be in the range 110-277 VAC.
- B.** Input frequency must be 50Hz or 60Hz.
- C.** Output voltage from the control modules to the lighting system must be <60 VDC.
- D.** Control modules must enable up to 4 drive channels of <100W each.



## 2.3 MATERIALS

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- A.** LED lighting system is to be comprised of:
  - 1.** Flexible LED light panels made from a polymer substrate with tool-less snap connectors.
  - 2.** 2-conductor cables with “T” connections on 11.8” (300mm) spacing.
  - 3.** One or more control modules that enable control input signals for dimming and CCT tuning and provide up to four (4) channels of maximum 100W power per channel.
  - 4.** One or more power supplies that convert AC line voltage to <60V DC.
- B.** PVC fabric tensioning profiles.
- C.** Fabric diffuser to be knitted or woven polyester or cotton.

## 2.4 PHOTOMETRIC PERFORMANCE

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- A.** Luminous flux must be one of the following:
  - 1.** Flush Mount: 520, 345, 270, 175, 130, 85, or 60 lm/sqft (5580, 3710, 2900, 1860, 1400, 930, 640 lm/m<sup>2</sup>)
  - 2.** Surface Mount: 590, 395, 305, 200, 150, 100, or 65 lm/sqft (6390, 4260, 3280, 2130, 1620, 1065, or 700 lm/m<sup>2</sup>)
  - 3.** Suspended: 590, 395, 305, 200, 150, 100, or 65 lm/sqft (6390, 4260, 3280, 2130, 1620, 1065, or 700 lm/m<sup>2</sup>)
- B.** Luminous flux must not vary by more than ±10% across the emitting surface of the luminous ceiling or luminous ceiling fixture.
- C.** When illuminated, it must not be possible to see individual LEDs or bright spots when viewing the fabric diffuser from any angle.
- D.** Lumen maintenance must be a minimum of 75,000hr to 80% initial output (L80 = 75,000hr) based on IES TM-21 projection calculations.
- E.** For static CCT models minimum dimming level must be 0.10% of full light output.
- F.** For Tunable White models minimum dimming level must be 1.0% of full light output.

## 2.5 LIGHT QUALITY PERFORMANCE

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- A.** Color rendering index (CRI) must be >90.
- B.** Nominal CCT must be one of the following: 2200K, 2700K, 3000K, 3500K, 4000K, 5700K, Tunable White 2700K-5700K or 2200-3500K, or Dim-to-Warm 3500K-2200K.
- C.** The R9 value must be >50.
- D.** Typical color uniformity must be 2 SDCM or less.

## 2.6 CONTROL PROTOCOLS

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- A.** Control modules must accept at least one of the following control input protocols for dimming and/or CCT tuning: 0-10V, DALI, DMX, Casambi (wireless), or Athena (wireless).

## PART 3: EXECUTION

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### 3.1 INSTALLERS

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- A.** Lighting system installation to be performed by a qualified electrician(s) according to national and local codes and regulations.
- B.** Fabric and profile installation and system commissioning to be performed by professional installers approved by the manufacturer and trained in the techniques specific to installation of the products.

### 3.2 SITE PREPARATION

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- A.** Ceiling Access: the area around and beneath the luminous ceiling or luminous ceiling fixtures must be clear and allow access to suitable lift equipment and all other equipment required for installation.
- B.** Hours of Operation: work shall take place between the hours of 0:900-17:00 (9am-5pm) on Monday to Friday. Requirements for installation to take place outside of these hours must be communicated to the manufacturer a minimum of 4 weeks prior to the work taking place.

### 3.3 COMMISSIONING

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- A.** Upon completion of work, a document affirming completion of the project, signed by the owner, owner's representative or the general contractor must be submitted to the manufacturer.

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Richmond, BC, Canada V6V 2L1  
+1 604 273 2665

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[www.cooledgelighting.com](http://www.cooledgelighting.com)

