SKYLINE: SPECIFICATIONS

COOLEDGE™

PROJECT		REFERENCE TYPE	
SPECIFIED BY		QUANTITY/SIZE	
DATE		NOTE	Luminous Ceilings

DESCRIPTION

Using Cooledge's SkySpan luminous ceilings as the base, SkyLine is the next step in the lighting revolution: a fully integrated ceiling illumination system that combines any and all layers of lighting into one solution.

Using proprietary profiles, SkyLine offers the ability to add track, recessed, linear, indirect lighting, and more, embedded within the luminous ceiling, around its perimeter, or both.

GENERAL

Mounting Options	Suspended & Surface Mount
Location	Indoor, dry location only
Operating Temperature	0 – 40°C (32 - 104°F)
Storage Temperature	-40 – +85°C (-40 - 185°F)
Relative Humidity	90% max (non-condensing)
Input Voltage	Nom. 120 – 277 VAC
Light Source (Luminous Ceiling)	Cooledge TILE products
Diffuser Material	Woven Polyester Fabric (coated) - Standard (other options available)
Dust Ply	Not Included
Frame Material	Aluminum
Fire Rating	ASTM E84 Class A /EN:3501-1 Class B / CAN ULC S102.2
Track	48VDC or 120/230VAC

SPECIFICATION

A luminous surface consisting of a lighting system, sound absorbing back panel, and woven light emitting diffuser mounted to an aluminum frame that includes one or all of: 48VDC/120VAC/230VAC tracks to enable a variety of track mounted luminaires; recessed, motionless adjustable accent luminaires; integrated downlights; linear uplight elements; and allowance for the addition of non-lighting services including fire suppression, sensors, speakers, or other.

The luminous ceiling portion of the system forms a single or series of uniformly diffuse and seamless light emitting surfaces; providing a minimum of xx fc (lux) on the horizontal workplane; suspended from or mounted directly to the ceiling surface; and are installable in occupied premises, without need for heating devices or water.

The diffusion surface material(s) is of a coated polyester fabric with a fire rating ASTM E 84 Class A /EN:3501-1 Class B /CAN ULC S102.2.

Light output from the luminous surface is CRI>90; provides flux within 10% of nominal, and has a color consistency of 2 SDCM over the entire surface. (Single CCT & Tunable White)

System must utilize UL Listed or CE Compliant components.

SKYLINE: SPECIFICATIONS

PHOTOMETRICS (STATIC CCT & TUNABLE WHITE) – LUMINOUS CEILING

SkyLine incorporates all of the same lighting elements as Cooledge's SkySpan product and therefore has the same photometric performance as the Suspended and Surface Mount configurations of SkySpan.
The photometric information provided below does not include the contributions from other lighting elements integrated into the system which may include Cooledge's Furtivo recessed, motionless adjustable luminaires, or other Cooledge Directional Lighting products such as downlights and uplights.
The following assumes Cooledge's standard smooth white fabric material as the primary luminous ceiling diffuser.

Distribution	Lambertian
Light Output[2] (lm/sqft) *Available in 3000K, 3500K, 4000K, and Tunable White 2700K-5700K only	Extra High Flux (XHF) = 590 High Flux (HF) = 395 *Medium High Flux (MHF) = 305 Medium Flux (MF) = 200 *Low Medium Flux (LMF) = 150 Low Flux (LF) = 100 *Eco Power (ECO) = 65
Light Output[2] (lm/m²) *Available in 3000K, 3500K, 4000K, and Tunable White 2700K-5700K only	Extra High Flux (XHF) = 6390 High Flux (HF) = 4260 *Medium High Flux (MHF) = 3280 Medium Flux (MF) = 2130 *Low Medium Flux (LMF) = 1620 Low Flux (LF) = 1065 *Eco Power (ECO) = 700
Correlated Color Temperature (CCT)	Single CCT: 2200K, 2700K, 3000K, 3500K, 4000K, 5700K Tunable White: 2700-5700K, 2200-3500K Dim-To-Warm: 3500-2200K
Color Rendering Index (CRI)	≥ 90
Color Uniformity	2 SDCM (typical)
Lumen Maintenance[3]	L80 = 75,000 hr

Cooledge has conducted extensive testing on the interaction between the light source and the surface materials to deliver the optical and photometric properties of the SkySpan/SkyLine system.

TM-30-15 DATA

CCT	2200K	2700K	3000K	3500K	4000K	5700K	TNW*
Rf	88	91	90	89	86	88	90
Rg	99	99	98	98	96	98	100

For more details about Cooledge Solutions color rendering, please see "Light Quality Metrics" at www.cooledgelighting.com
* = Tunable White @50% point in the tunable range 2700K - 5700K

1 Photometric files available from cooledge.lighting.com
2 Based on a 10' x 10' (3m x 3m) area
3 Based on LM80 data & TM-21 calculations

PHOTOMETRICS (W+RGB) - LUMINOUS CEILING

	lm/sqft*	lm/m²*
W (3500K)	320	3450
Full W+RGB	640	6900
Red only	95	1020
Green only	260	2800
Blue only	55	600

*Approximate: actual flux values may vary depending on the size and shape of the Specialty Illumination Solution.

WHITE - 3500K

Correlated Color Temperature (CCT)	3500K
CRI (Ra) - White	94
R9	64
Color Unigormity - White (Typical)	3 SDCM
Lumen Maintenance (L70)	50,000 hr

WHITE - W+RGB: OTHER CCTS*

Nominal CCT	Calculated CCT	CRI	R9
2700K	2752K	80	51
3000K	3080K	90	79
3500K	3465K	95	95
4000K	3985K	95	97
5000K	5031K	93	96
5700K	5640K	91	88

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Light as a building material

SKYLINE: SPECIFICATIONS

POWER – LUMINOUS CEILING

The power information provided below does not include the contributions from other lighting elements which may include Cooledge's Furtivo recessed, motionless adjustable luminaires, or other Cooledge Directional Lighting products such as downlights and uplights.

STATIC CCT & TUNABLE WHITE

Flux Category	Light Output (lm/sqft)	Light Output (lm/m²)	CCT	Power (W/sqft)	Power (W/m²)
Extra High Flux (XHF)	590	6390	2200K	n/a	n/a
			2700K	7.8	83.4
			3000K	7.1	76.2
			3500K	7.0	75.0
			4000K	7.0	75.0
			5700K	7.0	75.0
High Flux (HF)	395	4260	2200K	5.6	60.4
			2700K	5.2	55.6
			3000K	4.8	52.0
			3500K	4.6	49.6
			4000K	4.6	49.6
			5700K	4.7	50.8
Medium High Flux (MHF)	305	3280	2700K	4.0	43.4
			3000K	3.7	40.0
			3500K	3.6	38.4
			4000K	3.6	38.4
Medium Flux (MF)	200	2130	2200K	2.8	30.2
			2700K	2.6	27.8
			3000K	2.5	26.6
			3500K	2.2	24.2
			4000K	2.4	25.4
			5700K	2.2	24.2
Low Medium Flux (LMF)	150	1620	2700K	2.0	21.0
			3000K	1.8	19.4
			3500K	1.7	18.6
			4000K	1.7	18.6
Low Flux (LF)	100	1065	2200K	1.3	14.5
			2700K	1.2	13.3
			3000K	1.2	13.3
			3500K	1.1	12.1
			4000K	1.1	12.1
			5700K	1.1	12.1
Eco Power (ECO)	65	700	2700K	0.9	9.3
			3000K	0.8	8.6
			3500K	0.8	8.2
			4000K	0.8	8.2

W+RGB

	W/sqft	W/m²
W (3500K)	5.8	62
Full W+RGB	22.5	242
Red only	5.8	62
Green only	5.8	62
Blue only	5.8	62

CERTIFICATIONS

c(UL)us LISTED   CE   RoHS

WARRANTY

Refer to Cooledge Terms and Conditions for full warranty details.

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SKYLINE: SPECIFICATIONS

ACOUSTIC PERFORMANCE

When used in conjunction with an acoustic lighting system from Cooledge, SkySpan and SkyLine products provide exceptional acoustic performance that when combined with their large surface area result in significant noise reduction capability.

Mounting Type	Noise Reduction Coefficient	Sound Absorption Average	Weighted Sound Absorption Coefficient (ISO EN11654)
	NRC	SAA	α_w
Suspended (single)	0.90	0.91	0.90
Surface Mount	0.60	0.62	0.45 (M)

SYSTEM CONFIGURATIONS

Using proprietary profiles, SkyLine offers the ability to add track, recessed, linear, indirect lighting, and more, embedded within the luminous ceiling, around its perimeter, or both.
Unlike SkySpan with the possibility of almost unlimited shapes that include curves, SkyLine configurations are only possible for rectangular or rectilinear shapes.

SkySpan

SkyLine
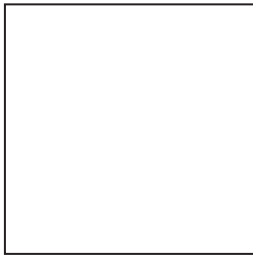
Visually inconspicuous outer profiles are used for attaching the fabric diffuser but cannot accommodate other luminaires or accessories.
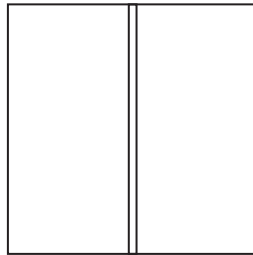
INTERNAL ("I")

The SkyLine profile(s) are located inside the perimeter of the luminous ceiling. Visually inconspicuous outer profiles are used for attaching the fabric diffuser but cannot accommodate other luminaires or accessories.
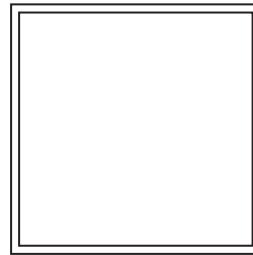
PERIMETER ("P")

The SkyLine profiles form the perimeter of the luminous ceiling. Directional luminaires and accessories may be integrated along this perimeter.
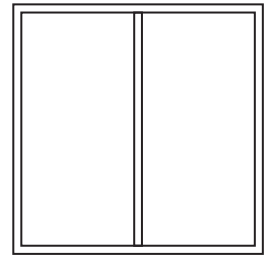
COMBINED ("C")

The SkyLine profiles form some or all of the perimeter of the luminous ceiling with additional profiles located inside. Directional luminaires and accessories may be integrated on any of the profiles.

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Light as a building material

SKYLINE: SPECIFICATIONS

MECHANICAL DETAILS

SkyLine profiles provide the mechanical attachment for Cooledge's fabric diffusers and sound absorbing panels to deliver the true acoustic performance combined with immersive illumination that Cooledge is known for.

In addition, SkyLine profiles can be supplied with 48VDC or 120/230VAC track to integrate a wide variety of track mounted luminaires. The system also includes cover plates with pre-cut openings to enable integration of downlights and non-lighting service elements such as sprinklers, sensors, security cameras, and more.

OTC-N: Narrow Profile

Designed to minimize the non-illuminated area of the SkyLine system while enabling track luminaires from both Cooledge and other brands, as well as Cooledge's Furtivo motionless adjustable accent luminaire.

The SkyLine OTC-N profile has a narrow width to reduce the optical impact while enabling:

– Industry standard 48VDC track for spot/flood, graze, and linear elements
– Industry standard line voltage track to increase the variety of options
– Cooledge's new Furtivo motionless adjustable recessed luminaire to enable a perfectly planar aesthetic
– Tool-less cover plates with pre-cut openings for standard recessed downlights
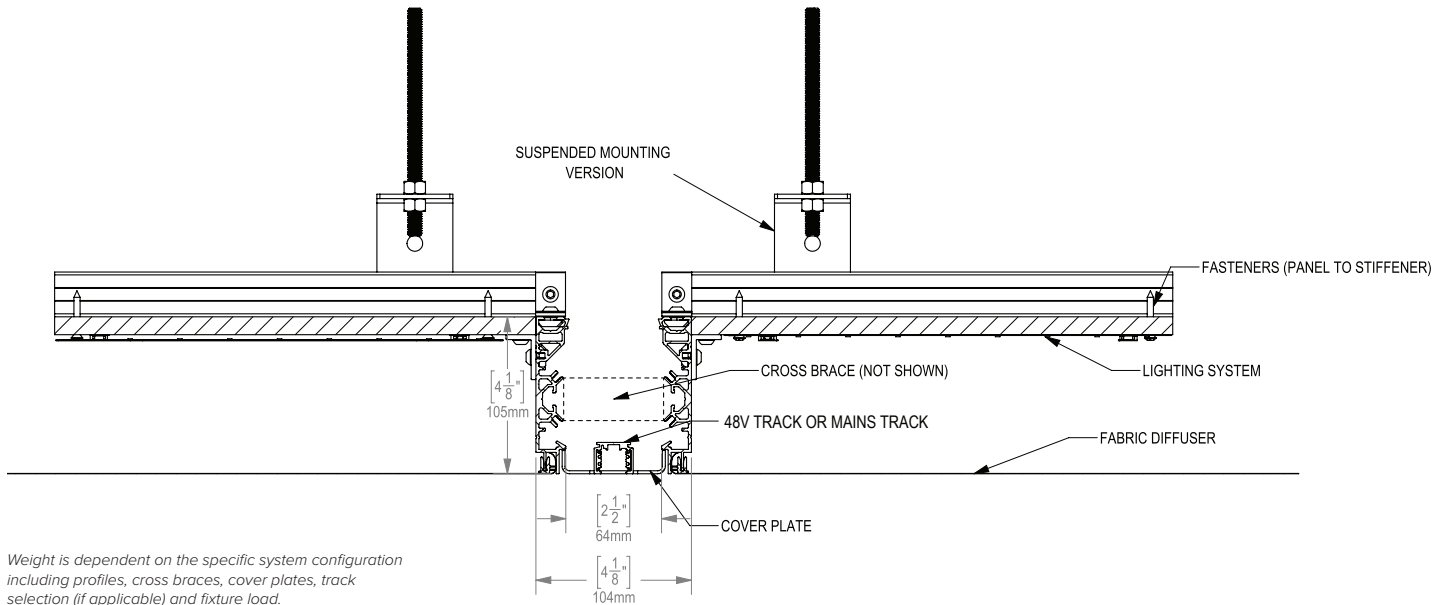– Customizable tool-less cover plates to accommodate specific luminaire or accessory sizes

Finish: Black powdercoat (other colors available upon request)
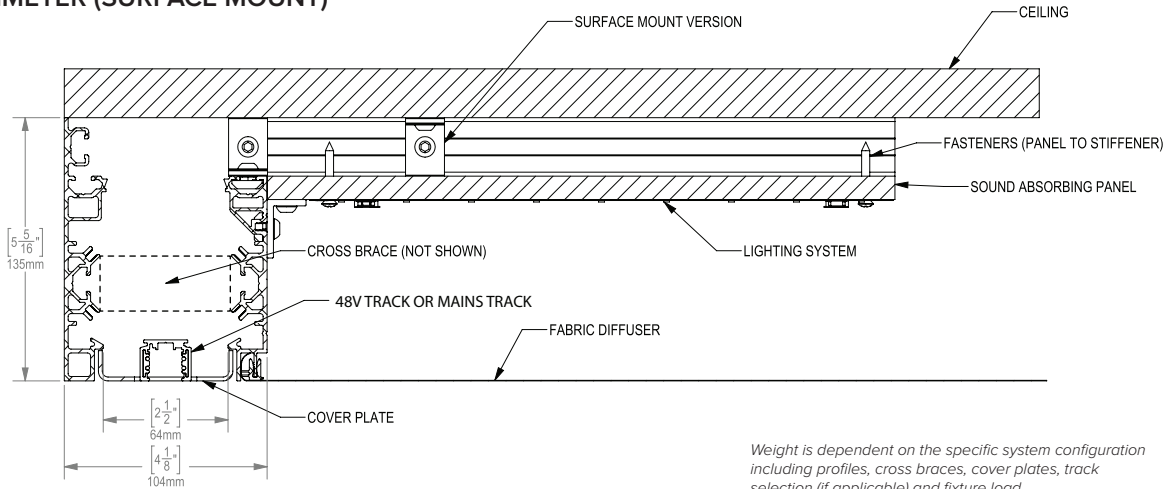
OTC-N PERIMETER (SUSPENDED)

SUSPENDED MOUNTING VERSION

FASTENERS (PANEL TO STIFFENER)

SOUND ABSORBING PANEL

LIGHTING SYSTEM

CROSS BRACE (NOT SHOWN)

48V TRACK OR MAINS TRACK

FABRIC DIFFUSER

COVER PLATE

$\left[5\frac{5}{16}"\right]$ 135mm

$\left[2\frac{1}{2}"\right]$ 64mm

$\left[4\frac{1}{8}"\right]$ 104mm

COOLEDGE™
Light as a building material
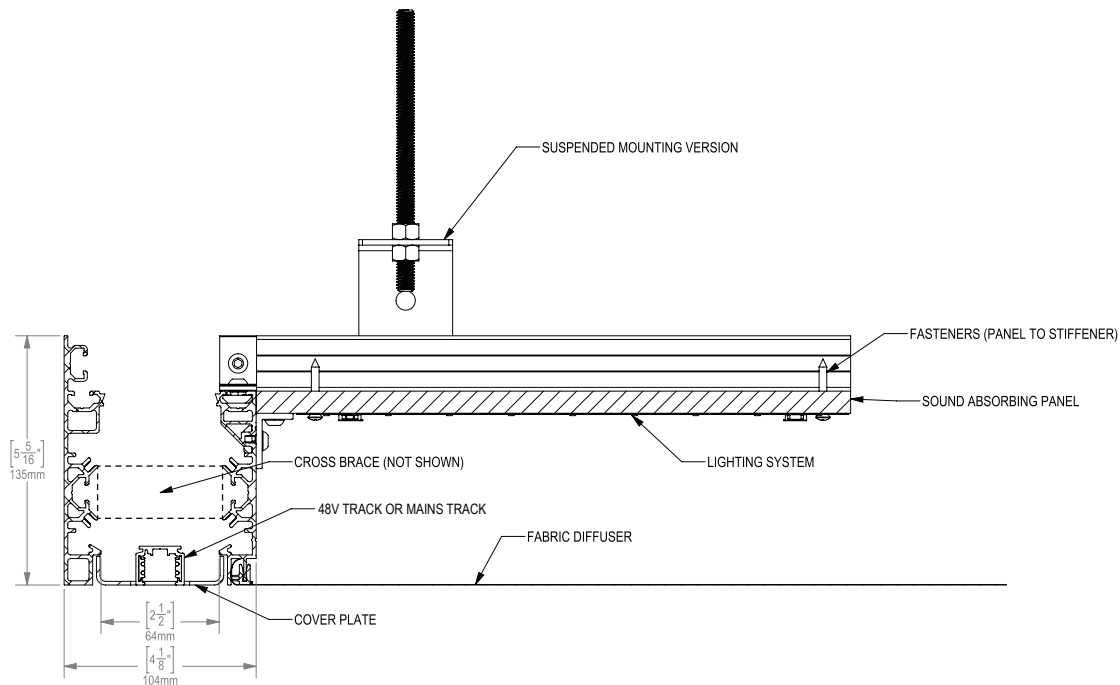
SKYLINE: SPECIFICATIONS

OTC-N INTERNAL (SUSPENDED)

SUSPENDED MOUNTING VERSION

FASTENERS (PANEL TO STIFFENER)

CROSS BRACE (NOT SHOWN)

LIGHTING SYSTEM

$4\frac{1}{8}$"
105mm

48V TRACK OR MAINS TRACK

FABRIC DIFFUSER

$2\frac{1}{2}$"
64mm

COVER PLATE

$4\frac{1}{8}$"
104mm

Weight is dependent on the specific system configuration including profiles, cross braces, cover plates, track selection (if applicable) and fixture load.

OTC-N PERIMETER (SURFACE MOUNT)

SURFACE MOUNT VERSION

CEILING

FASTENERS (PANEL TO STIFFENER)

SOUND ABSORBING PANEL

LIGHTING SYSTEM

$5\frac{5}{16}$"
135mm

CROSS BRACE (NOT SHOWN)

48V TRACK OR MAINS TRACK

FABRIC DIFFUSER

$2\frac{1}{2}$"
64mm

COVER PLATE

$4\frac{1}{8}$"
104mm

Weight is dependent on the specific system configuration including profiles, cross braces, cover plates, track selection (if applicable) and fixture load.

OTC-N INTERNAL (SURFACE MOUNT)

SURFACE MOUNTING VERSION

CEILING

FASTENERS (PANEL TO STIFFENER)

LIGHTING SYSTEM

$4\frac{1}{8}$"
105mm

CROSS BRACE (NOT SHOWN)

48V TRACK OR MAINS TRACK

FABRIC DIFFUSER

$2\frac{1}{2}$"
64mm

COVER PLATE

$4\frac{1}{8}$"
104mm

Weight is dependent on the specific system configuration including profiles, cross braces, cover plates, track selection (if applicable) and fixture load.

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SKYLINE: SPECIFICATIONS

OTC-W: Wide Profile

Accommodates larger Directional Lighting fixtures with the option of adding non-lighting services such as speakers, security cameras and more.

Finish: Black powdercoat (other colors available upon request)

OTC-W PERIMETER (SUSPENDED)
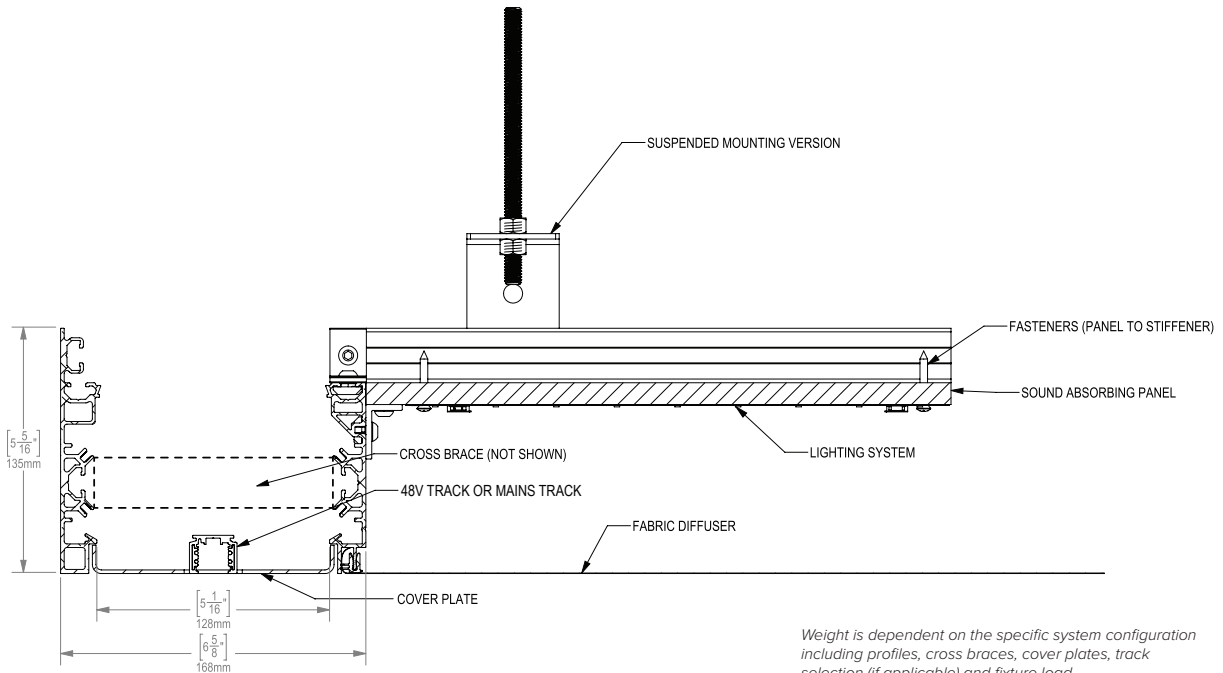
Weight is dependent on the specific system configuration including profiles, cross braces, cover plates, track selection (if applicable) and fixture load.

OTC-W INTERNAL (SUSPENDED)
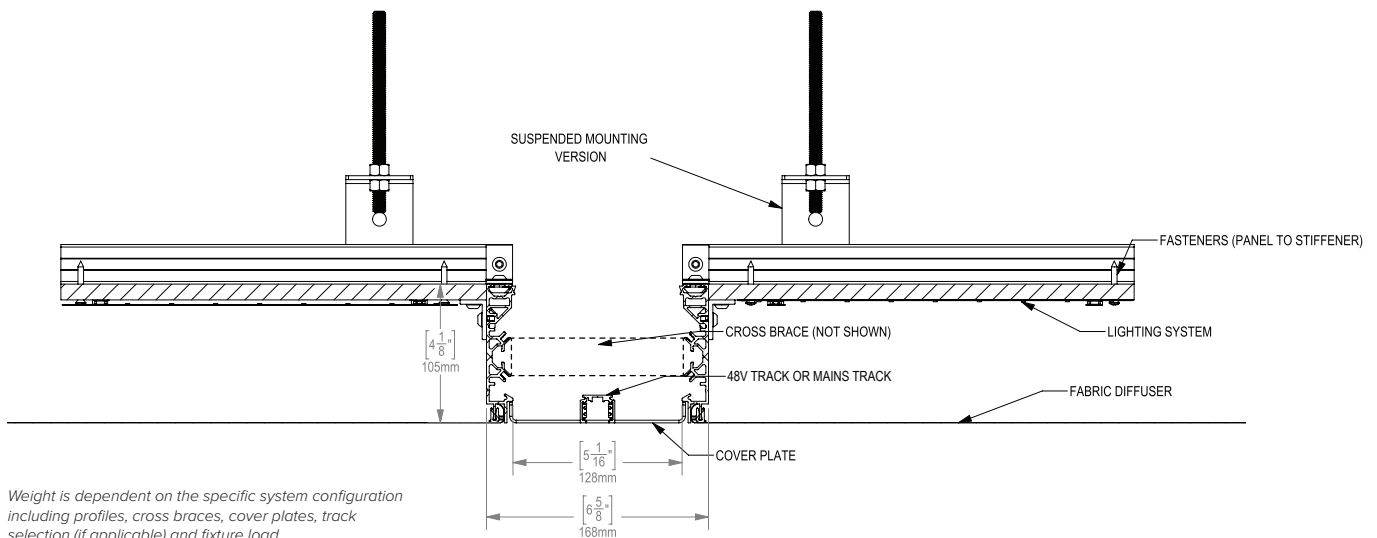
Weight is dependent on the specific system configuration including profiles, cross braces, cover plates, track selection (if applicable) and fixture load.

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Light as a building material

SKYLINE: SPECIFICATIONS

OTC-W PERIMETER (SURFACE MOUNT)
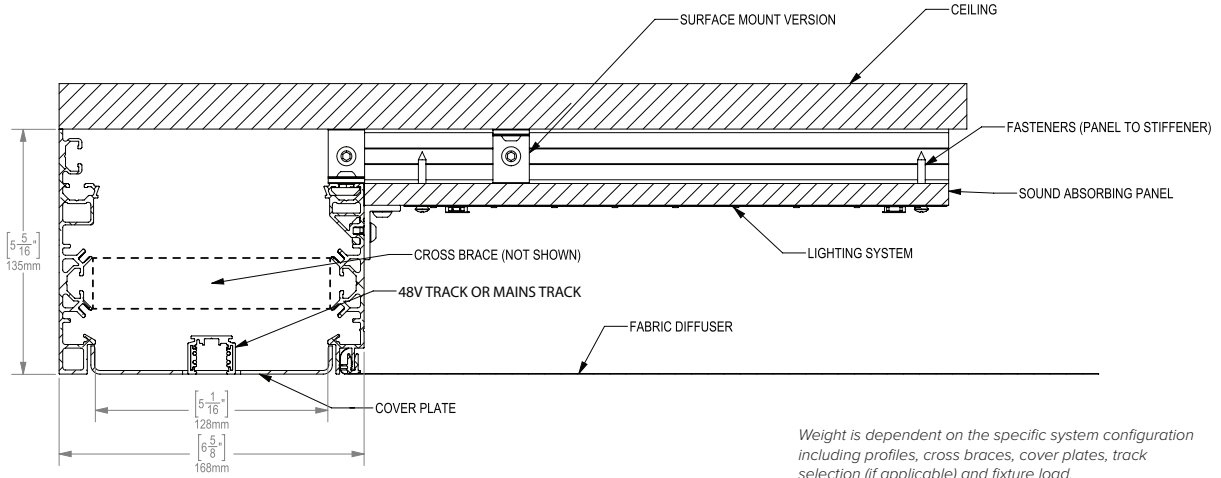
Weight is dependent on the specific system configuration including profiles, cross braces, cover plates, track selection (if applicable) and fixture load.

OTC-W INTERNAL (SURFACE MOUNT)
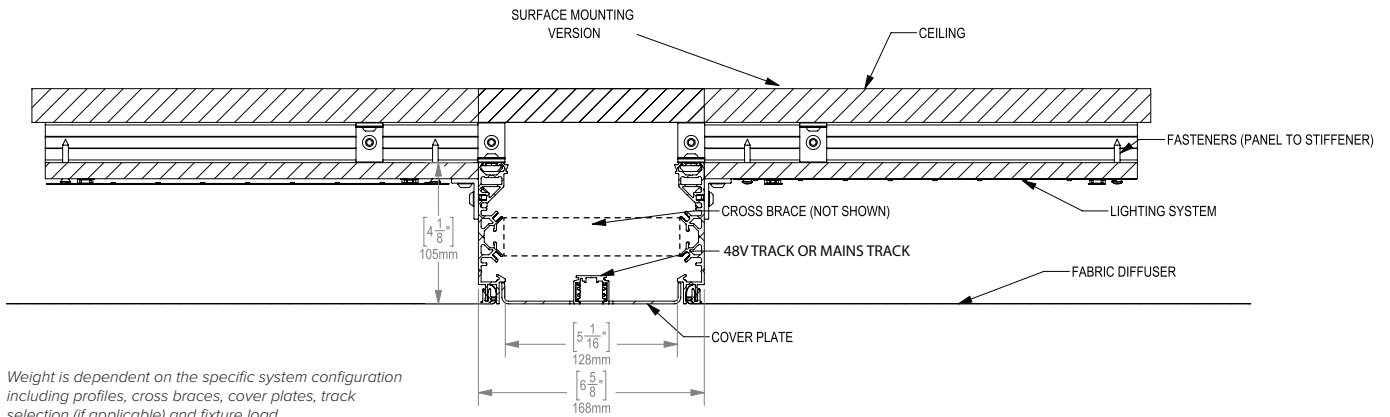
Weight is dependent on the specific system configuration including profiles, cross braces, cover plates, track selection (if applicable) and fixture load.

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Light as a building material

SKYLINE: SPECIFICATIONS

48VDC Track (UL Listed & CE Compliant)

Accommodates a variety of low voltage track luminaires. The SkyLine system is available to ship with the track pre-installed to enable your choice of 3rd party track luminaires using either 2 circuits/channels without data or one circuit/channel + data.
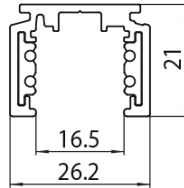
– Input Voltage: 48VDC

– 2 circuits: 2x +/- 15A/0-60V dc or 1 circuit + Data Bus: +/- 10A/0-60V + D+/D

– Construction: External extruded body in aluminum; Insulated extruded body in PVC; Copper conductors

– Color: Black RAL 9005 embossed

– Maximum Load: 5 lb/ft (7.6 kg/m)

120VAC Track (UL Listed)

SkyLine is available to ship with this 4-power conductor + 2 data conductor 120VAC track pre-installed. The standard track includes 3 circuits/channels and one neutral for maximum design flexibility.
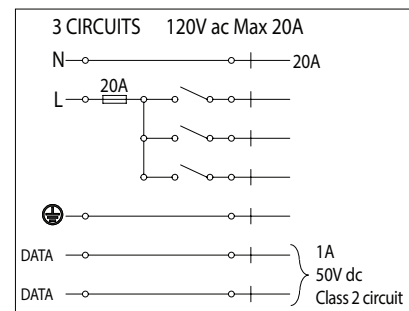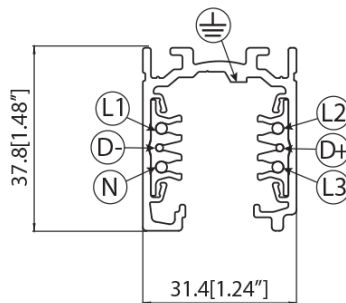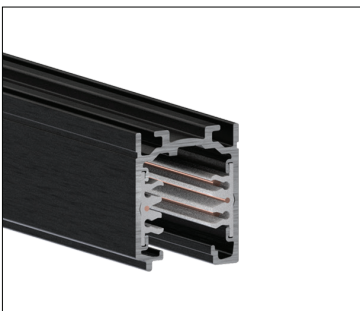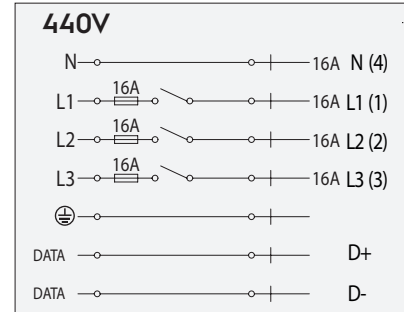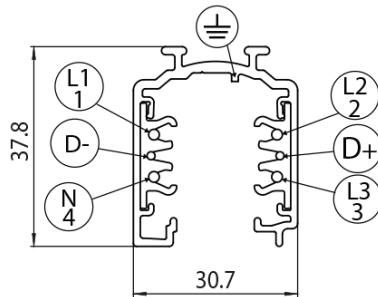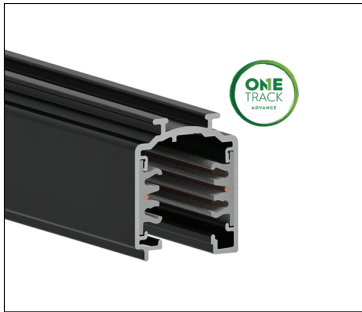

3 circuit (channel) + 2 data conductors

– Input Voltage: nom. 120VAC (60Hz)

– Max. Current: 20A

– 3 circuits: : L1/L2/L3/N/ground 3x120V/20A + D+/D- 2x1A/50V FELV AC (DALI)

– Construction: External extruded body in aluminum; Insulated extruded body in PVC; Copper conductors

– Color: Black RAL 9005 embossed

– Maximum Load: 5 lb/ft (7.6 kg/m)

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Light as a building material

SKYLINE: SPECIFICATIONS

230VAC Track (CE Compliant)

For regions where 230V line voltage is dominant, SkyLine is available to ship with this 4-power conductor + 2 data conductor max. 440V track pre-installed. The standard track includes 3 circuits/channels and one neutral for maximum design flexibility.

440V

3 circuit (channel) + 2 data conductors

– Input Voltage: nom. 230VAC (50-60Hz); Max. 440VAC

– Max. Current: 16A

– 3 circuits: : L1/L2/L3/N/ground 16A/440V + D+/D- 2x1A/50V FELV AC (DALI)

– Construction: External extruded body in aluminum; Insulated extruded body in PVC; Copper conductors

– Color: Black RAL 9005 embossed

– Maximum Load: 5 lb/ft (7.6 kg/m)

Cover Plates

Featuring tool-less magnetic snap-in-place connections, cover plates are used to conceal the internal surfaces of the SkyLine profiles to provide a smooth finish. They also provide the mechanical attachment for recessed luminaires and non-lighting accessories
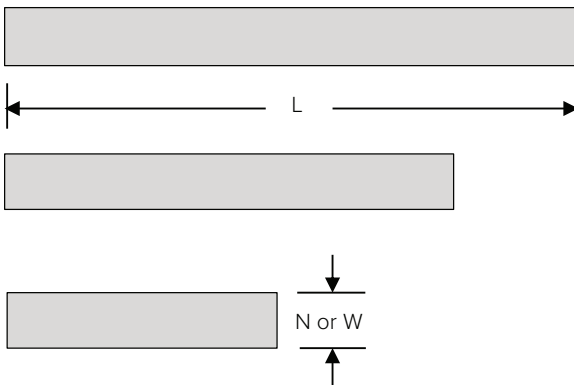
Mounting	Tool-less Magnetic Snap-in-Place
Lengths/Weight	Long: 47.2" (1200mm)/7lb (2.9Kg) Medium: 23.6" (600mm) /4lb (1.5kg) Short: 11.8" (300mm) /2lb (0.8kg)
Material	0.80" (2mm) thick steel
Finish	Black Powder Coat
Maximum Diameter/Slot Width for Directional Lighting & Accessories	Narrow (N) = 2.3" (59mm) Wide (W) = 4.8" (123mm)
Maximum Slot Length	Long: 1050mm Medium: 450mm Short: 150mm
Maximum Load	5lb/ft (7.5kg/m) or total 20lb (9.1kg)
Safety Cable	Included (rated FoS = 5X)

COOLEDGE™
Light as a building material

SKYLINE: SPECIFICATIONS

GUIDELINES FOR SPECIFYING 3ᴿᴰ PARTY LUMINAIRES

A key feature of the SkyLine system is its ability to integrate your preferred accent/directional lighting luminaires. In order to ensure compatibility, here are some general guidelines for selecting luminaires that are not supplied by Cooledge. Our sales and technical teams will work you with to ensure correct integration to achieve the lighting effect you require.

In general, 3ʳᵈ party luminaires will be mounted to SkyLine cover plates through penetrations cut into the plates.

Track Luminaires

– Ensure the selected luminaire type is compatible with the track you have selected (details above).

– Ensure the weight of the luminaires does not exceed 5lbs/ft

– Ensure the selected luminaire type meets the regulatory requirements for your region – e.g. UL Listed, CE Compliant, or other.

Recessed Luminaires including Downlights

– Accessories cannot be attached to joint cover plates or cover plates smaller than 12"/300mm long.

– Ensure the combined weight of the luminaires not exceed the load rating for the cover plate. (See table above)

– Ensure the selected luminaire type meets the regulatory requirements for your region – e.g. UL Listed, CE Compliant, or other.

– Provide Cooledge with the required penetration size. Ensure the penetration size does not exceed the maximum noted above. Confirmed via signed submittal

– While the actual vs. rated CCT will vary between different manufacturers, in general, it is a good idea to select luminaires with the same rated CCT unless you have a specific requirement for other CCTs.

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Light as a building material

SKYLINE: SPECIFICATIONS

POWER & CONTROLS - LUMINOUS CEILING

SkySpan & SkyLine

Cooledge SkySpan and SkyLine products include all mechanical, electrical, and lighting components required including power supplies and Cooledge Control Modules selected from the options listed below.

Specifications for the power supplies and Cooledge Control Modules shown below are available in:
- Power and Control Specifications (cUL Listed)
- Power and Control Specifications (CE Compliant)

POWER SUPPLIES (54V) - cUL Listed

Order Code	# Controller Channels *	Enclosure
EPSS-092-54V-UL	1	Yes
EPSS-200-54V-UL	2	Yes
EPSS-400-54V-UL	4	Yes

Class 2 (max 90W) output

COOLEDGE CONTROL MODULES (54V) - Static CCT

Order Code	Protocols
CTR-SCT-DAL/010-48/58V	0-10V, DALI
CTR-SCT-DMX-48/58V	DMX
CTR-SCT-CAS-48/58V	Casambi (wireless)

POWER SUPPLIES (54V) - CE Compliant

Order Code	# Controller Channels*	Enclosure
EPSS-092-54V-CE	1	Yes
EPSS-200-54V-CE	2	Yes
EPSS-400-54V-CE	4	Yes

Class 2 (max 90W) output

COOLEDGE CONTROL MODULES (54V) - TUNABLE WHITE

Order Code	Function	Protocols
CTR-TNW-DAL/010-48/58V	Tunable White	0-10V, DALI
CTR-TNW-DMX-48/58V	Tunable White	DMX
CTR-TNW-CAS-48/58V	Tunable White	Casambi (Wireless)
CTR-DTW-DAL/010-48/58V	Dim-to-Warm	0-10V, DALI
CTR-DTW-DMX-48/58V	Dim-to-Warm	DMX
CTR-DTW-CAS-48/58V	Dim-to-Warm	Casambi (Wireless)

W+RGB solutions require alternate power & controls (DMX & Casambi only). Please contact Cooledge for details.

POWER & CONTROLS – DIRECTIONAL LIGHTING

Furtivo Recessed
Power and Controls specifications are included in the specification data sheet for Furtivo Recessed located on the Cooledge website: www.cooledgelighting.com/furtive-recessed

Cooledge Directional Lighting
Power and Controls specifications are included in the specification data sheets located on the Cooledge website: www.cooledgelighting.com/directional-lighting

3rd Party Directional Lighting
Power and Controls specifications are provided by the manufacturer and should be verified as compatible with the Cooledge SkyLine system.

COOLEDGE™
Light as a building material

SKYLINE: SPECIFICATIONS

### FAUX PERFORATED METAL (PRINTED)

Make your design unique by adding the look of illuminated perforated metal panels to your SkySpan or SkyLine ceiling using images printed right on the diffuser fabric.

Combine exceptional quality illumination, true acoustic performance, and visual interest in one simple luminaire solution.
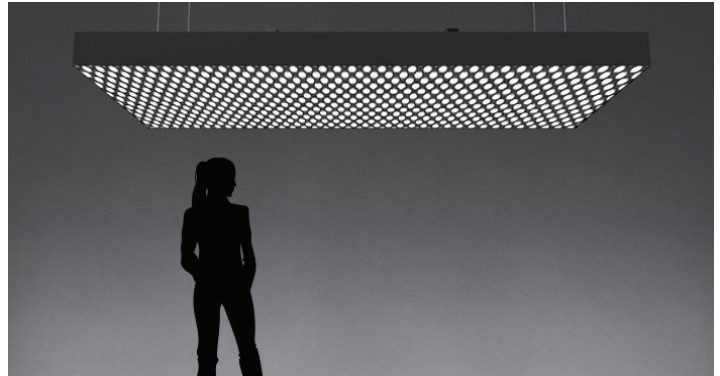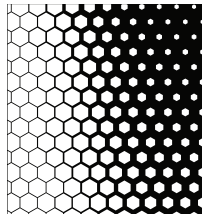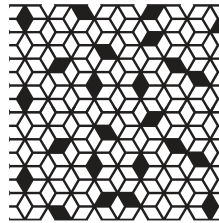

STANDARD PATTERNS

The following are standard patterns available from Cooledge. We are also able to work with other images that you have selected.
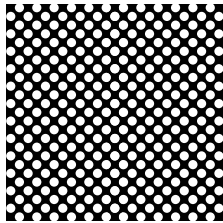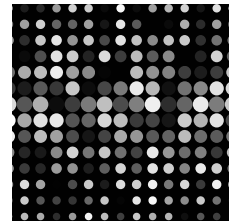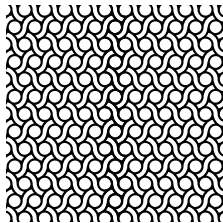

PATTERN A

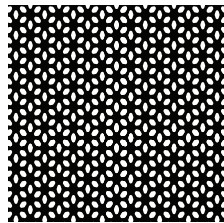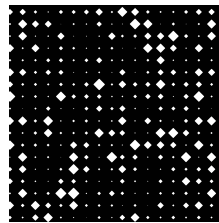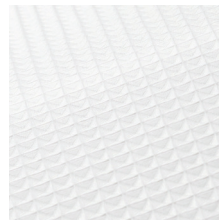PATTERN B

PATTERN C

PATTERN D

PATTERN E

PATTERN F

PATTERN G

PATTERN H

DIFFUSER OPTIONS – DESIGNER SERIES FOR LUMINOUS CEILINGS

In addition to our standard smooth white fabric diffuser, Cooledge offers options to change aesthetic appeal of its luminous ceiling product by introducing the Designer Series of fabric diffusers. These fabrics add an element of texture to your design and elevates the luminous ceiling from the appearance of a traditional light fixture to a unique architectural element.

WAFFLE CONTOURS
Add some sparkle and depth with this fabric option that allows a hint of the LEDs to shine through a waffle pattern structured surface.

TEXTURED
The fabric (cotton) weave pattern adds a subtle texture to the appearance of the fabric without impacting the light transmission performance.

COOLEDGE™
Light as a building material

SKYLINE: SPECIFICATIONS

HOW TO SPECIFY

NOTE: By their nature, Cooledge SkySpan and SkyLine are custom products. These Specification Codes are provided for use as simple references to SkySpan/SkyLine in specifications and/or construction documents and do not include all details required to define the system. Specification Codes are NOT ordering codes. In order to receive quotations or purchase these products from Cooledge, the dimensions and integrated luminaires and accessories are required. Cooledge may also request additional information before issuing a quotation or accepting a purchase order.

SKYL _____ - _____ - _____ - _____ - _____ - _____ - _____ - _____ - _____ - _____ - _____
  1   2   3   4   5   6   7   8   9   10   11

1 PRODUCT
SKYL = SkyLine

2 MOUNTING
SM = Surface Mount
SUS = Suspended

3 CONFIGURATION
P = Perimeter
I = Internal
C = Combined

4 FLUX
XHF = Extra High Flux
HF = High Flux
MHF = Med-High Flux
MF = Medium Flux
LMF = Low-Med Flux
ECO = Low Power

5 CCT
22 = 2200K
27 = 2700K
30 = 3000K
35 = 3500K
40 = 4000K
57 = 5700K
TNW2757 = Tunable White 2700-5700K
TNW2235 = Tunable White 2200-3500K
DTW3522 = Dim-To-Warm 3500-2200K

6 FINISH
BK = Black
CUS = Custom Color

7 DIMMING
010 = 0-10V
DAL = DALI
DMX = DMX
CAS = Casambi (Wireless)
ATH = Athena (Wireless)

8 DIFFUSER
STD = Smooth White
TXT = Textured White
WAF = Waffle Contour White
FPRF-x = Faux Perforated Metal – Pattern x (printed)
GRPH = Custom Graphic Image (printed)

9 TRACK
NA = Not Inlcuded
48VDC = 48VDC Low Voltage
120VAC = 120VAC Mains Voltage
230VAC = 230VAC Mains Voltage

10 DIRECTIONAL
FRE = Furtivo Recessed
OTH = Other
NA = Not Included

11 CERTIFICATION
CE = CE Compliant
UL = UL Listed

INSTALLATION

Installation of Cooledge SkySpan and SkyLine products is included in the purchase of the product.
Installation of these products must be done by a Cooledge approved installer.

COOLEDGE™
Light as a building material