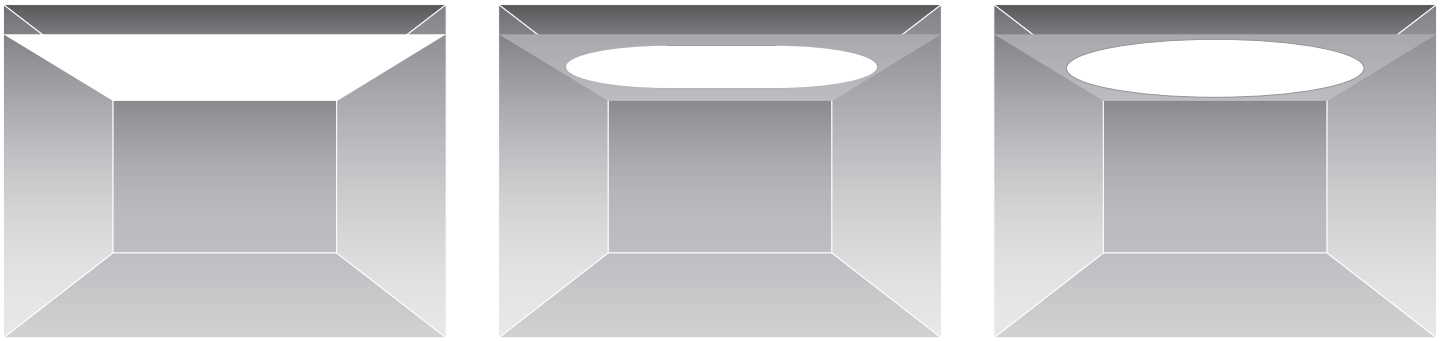
SKYSPAN FLUSH MOUNT: SPECIFICATIONS

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

SKYSPAN - FLUSH MOUNT STANDARD CONFIGURATION



Create luminous ceilings that deliver immersive illumination experiences from wall to wall.

GENERAL

Mounting Type	Flush Mount
Input Voltage	Nom. 120 – 277 VAC
Fabric Tensioning Profile	Flexible PVC
Light Source	Cooledge TILE Products
Diffuser Material	Woven Polyester Fabric (coated) - Standard (other options available)
Dust Ply Included	Yes
Maximum Seamless Dimensions	15.9ft (4.85m) x 161 ft (49m) (WxL)
Cavity Depth	Recommended: 6 in (150mm) Minimum: 4 in (100mm)

SPECIFICATION

- A luminous surface of dimensions aa x bb consisting of a lighting system, woven polyester light emitting diffuser mounted a vertical wall or ceiling cavity surfaces using a flexible profile.
- The luminous ceiling forms a single or series of uniformly diffuse and seamless light emitting surfaces; providing a minimum of xx fc (lux) on the horizontal workplane; and are installable in occupied premises, without need for heating devices or water.
- The surface material(s) is of a coated polyester fabric with a fire rating ASTM E 84 Class A /EN:13501-1 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)
- Cooledge SkySpan systems are UL Listed and/or CE Compliant.

FEATURES

– **Continuous**: Mounts directly to each wall to form a continuous luminous ceiling or fill a cavity with limitless scalability
– **No Special Site Requirements:** Woven fabric is easily stretched and held in place without need to remove equipment, or furniture, or isolate the space
– **First Time Right Install:** Field adjustability accommodates obstacles and altered site dimensions – no need for 2nd attempts
– **Immersive Illumination**: A large luminous surface delivers a surprising amount of illumination without visual discomfort
– **Adaptable:** Choice of tunable white, dim-to-warm, W+RGB or static color temperature
– **Code Friendly:** Fire-rated polyester fabric and a fully certified lighting system eliminate inspection challenges
– **Quick & Clean:** Avoid the mess caused by drywall construction and delays waiting for surface prep.

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Cooledge Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.

SKYSPAN FLUSH MOUNT: SPECIFICATIONS

PHOTOMETRICS (STATIC CCT & TUNABLE WHITE)

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) = 520 High Flux (HF) = 345 *Medium High Flux (MHF) = 270 Medium Flux (MF) = 175 *Low Medium Flux (LMF) = 130 Low Flux (LF) = 85 *Eco Power (ECO) = 60
Light Output[2] (lm/m^2) *Available in 3000K, 3500K, 4000K, and Tunable White 2700K-5700K only	Extra High Flux (XHF) = 5580 High Flux (HF) = 3710 *Medium High Flux (MHF) = 2900 Medium Flux (MF) = 1860 *Low Medium Flux (LMF) = 1400 Low Flux (LF) = 930 *Eco Power (ECO) = 640
Correlated Color Temperature (CCT)	Single CCT: 2200K, 2700K, 3000K, 3500K, 4000K, 5700K, Tunable White 2700K-5700K, 2200K-3500K Dim-to-Warm 3500K-2200K
Color Rendering Index (CRI)	≥ 90
Color Uniformity	2 SDCM (typical)
Lumen Maintenance[3]	L80 = 75,000 hr

1 Photometric files available from cooledgelighting.com
2 Based on a 10'x10' (3mx3m) area
3 Based on LM80 data & TM-21 calculations

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*

PHOTOMETRICS (W+RGB)

	lm/sqft*	lm/m^2*
W (3500K)	280	3000
Full W+RGB	560	6030
Red only	85	920
Green only	225	2400
Blue only	50	540

**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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SKYSPAN FLUSH MOUNT: SPECIFICATIONS

POWER (SINGLE CCT & TUNABLE WHITE)

Flux Category	Light Output (lm/sqft)	Light Output (lm/m^2)	CCT	Power (W/sqft)	Power (W/m^2)
Extra High Flux (XHF)	520	5580	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)	345	3710	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)	270	2900	TNW 2757	4.0	43.4
			3000K	3.7	40.0
			3500K	3.6	38.4
			4000K	3.6	38.4
Medium Flux (MF)	175	1860	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)	130	1400	TNW 2757	2.0	21.0
			3000K	1.8	19.4
			3500K	1.7	18.6
			4000K	1.7	18.6
Low Flux (LF)	85	940	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)	60	640	TNW 2757	0.9	9.3
			3000K	0.8	8.6
			3500K	0.8	8.2
			4000K	0.8	8.2

Note: for Tunable White use 2200K or 2700K power value; for Dim-to-Warm use 3500K value

POWER (W+RGB)

	W/sqft	W/m^2
W (3500K)	5.8	62
Full W+RGB	23	248
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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SKYSPAN FLUSH MOUNT: SPECIFICATIONS

BUILD-TO-ORDER FLUX VS POWER

For applications that require a more precise selection of flux/power combinations than is offered by standard SkySpan/SkyLine options, Cooledge offers a “Build-To-Order” (BTO) program that allows you to choose a non-standard flux/power combination to optimize for power density while still meeting the required illumination levels for your design.

Refer to the table below and select either a desired power level with corresponding light output level, or conversely, choose the minimum flux level that delivers the required illumination to determine the power level.

Flux (lm/sqft)	2200K	2700K	3000K	3500K	4000K	5700K
60	0.9	0.8	Standard			0.8
75	1.1	1.1	1.1	1.0	1.0	1.0
85	Standard					
100	1.6	1.4	1.4	1.3	1.3	1.3
130	2.0	1.9	Standard			1.7
150	2.4	2.2	2.1	2.0	2.0	2.0
175	Standard					
200	3.2	2.9	2.8	2.6	2.7	2.7
225	3.6	3.3	3.1	2.9	3.0	3.0
250	4.0	3.7	3.4	3.3	3.3	3.3
270	4.4	4.0	Standard			3.6
300	4.9	4.4	4.1	3.9	4.0	4.0
325	5.3	4.8	4.5	4.3	4.3	4.3
345	Standard					
375	6.1	5.5	5.1	4.9	5.0	5.0
400	6.5	5.9	5.5	5.3	5.3	5.3
425	6.9	6.3	5.8	5.6	5.6	5.7
450	7.3	6.6	6.1	5.9	6.0	6.0
475	7.7	7.0	6.5	6.3	6.3	6.3
500	8.2	7.4	6.8	6.6	6.6	6.7
520	Standard					
550	9.0	8.1	7.5	7.2	7.3	7.3
575	9.4	8.5	7.8	7.6	7.6	7.7
600	9.8	8.9	8.2	7.9	7.9	8.0
625	10.2	9.2	8.5	8.2	8.3	8.3
650	10.6	9.6	8.9	8.6	8.6	8.7
675	11.1	10.0	9.2	8.9	8.9	9.0

Flux (lm/m^2)	2200K	2700K	3000K	3500K	4000K	5700K
640	9.6	9.1	Standard			8.4
780	12.2	11.5	11.4	10.4	10.8	10.6
930	Standard					
1090	16.7	15.5	15.0	14.0	14.3	14.2
1400	22.0	20.3	Standard			18.5
1560	25.6	23.5	22.4	21.1	21.4	21.4
1860	Standard					
2190	34.5	31.5	29.6	28.2	28.5	28.6
2340	38.9	35.5	33.3	31.7	32.1	32.2
2650	43.4	39.5	37.0	35.3	35.7	35.8
2900	46.9	42.7	Standard			38.6
3280	52.3	47.5	44.2	42.4	42.8	43.0
3430	56.7	51.5	47.9	45.9	46.3	46.6
3710	Standard					
4050	65.6	59.5	55.2	53.1	53.4	53.8
4370	70.1	63.5	58.9	56.6	57.0	57.3
4520	74.5	67.5	62.5	60.2	60.5	60.9
4840	78.9	71.5	66.2	63.7	64.1	64.5
5150	83.4	75.5	69.8	67.3	67.6	68.1
5310	87.8	79.5	73.5	70.8	71.2	71.7
5580	Standard					
5930	96.7	87.5	80.8	77.9	78.3	78.9
6240	101.2	91.5	84.4	81.5	81.8	82.5
6400	105.6	95.5	88.1	85.0	85.4	86.1
6710	110.0	99.5	91.7	88.6	88.9	89.7
7020	114.5	103.5	95.4	92.1	92.5	93.3
7330	118.9	107.5	99.0	95.7	96.0	96.9

Notes:

1 Power levels shown are for SkySpan/SkyLine systems including power supplies and control modules.

2. Luminous flux values are based on calculations with a tolerance of ±5% of the value shown.

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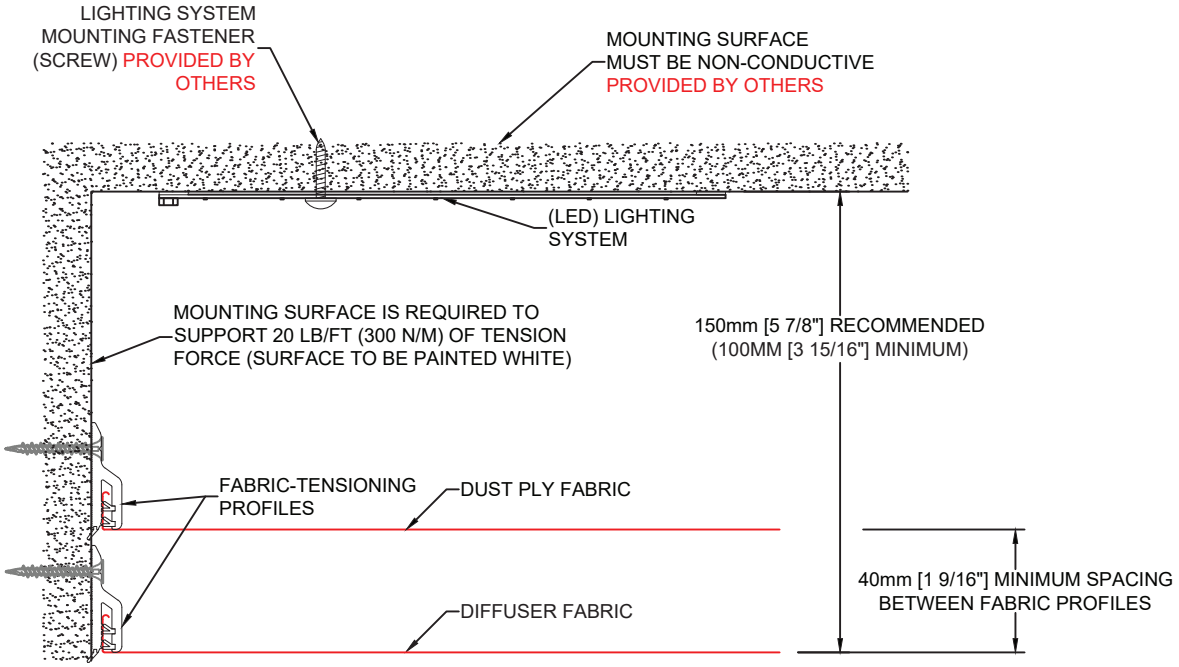
SKYSPAN FLUSH MOUNT: SPECIFICATIONS

MECHANICAL DETAILS



Cooledge Skyspan systems include the illumination source, profile, diffuser fabric, and installation of all non-electrical components

GENERAL

Location	Indoor, dry location only
Operating Temp. Range	0-40°C (32-104°F)
Storage Temp. Range	-40-85°C (-40-185°F)
Relative Humidity	90% max (non-condensing)
Fire Spread	ASTM E84: Class A (FSI = 0–25); EN13501-1: Class B – s1,d0; CAN ULC 102.2

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
	NRC	SAA
Suspended	0.90	0.91
Surface Mount	0.50	0.51
Flush Mount	0.30	0.31

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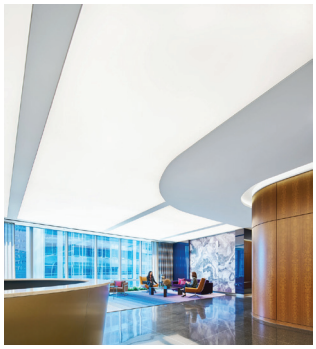
SKYSPAN FLUSH MOUNT: SPECIFICATIONS

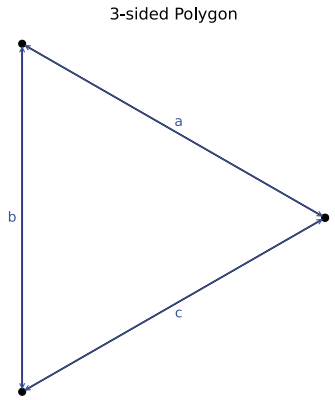
COMPLEX SHAPES

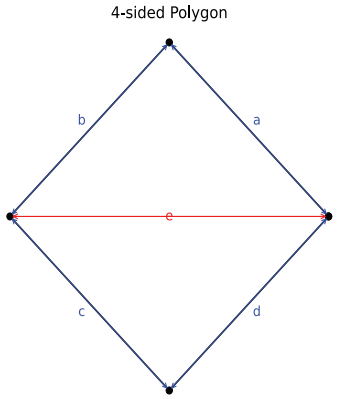
Cooledge SkySpan systems are generally configured in simple geometric shapes such as squares, rectangles, and circles. However, many other forms are possible – especially with Flush Mount systems. Symmetrical and non-symmetrical polygons as well as curved shapes including but not restricted to ovals are all possible.

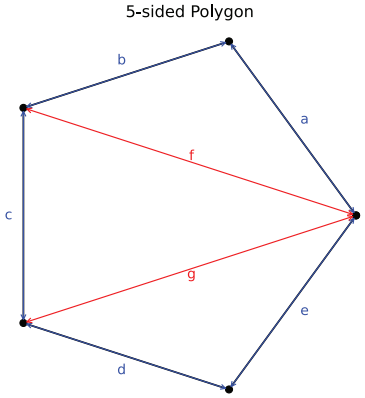


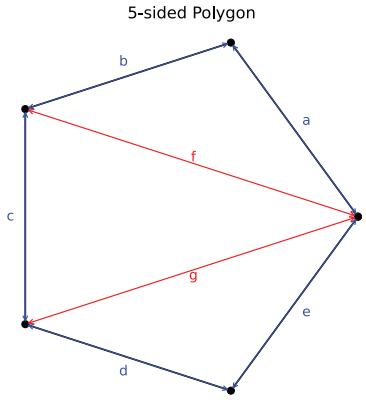
Cooledge will work with you to define the required dimensions for inclusion in your design and to guide related construction details. Below are examples of symmetrical polygons and the dimensions required to correctly define them.

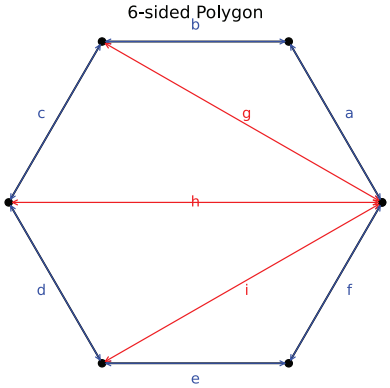
REQUIRED DIMENSIONS FOR POLYGONS

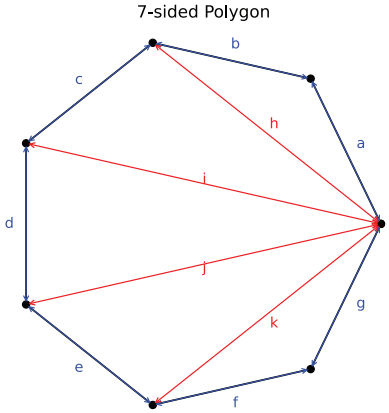












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SKYSPAN FLUSH MOUNT: SPECIFICATIONS

POWER AND CONTROL

SkySpan 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 the following documents:
- Cooledge SCT Power and Control 54V
- Cooledge TNW DTW Power and Control 54V
- Cooledge W+RGB Power & Control (24V)

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*

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*

ATHENA WIRELESS
LUTRON
Consult Cooledge for details

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)

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)

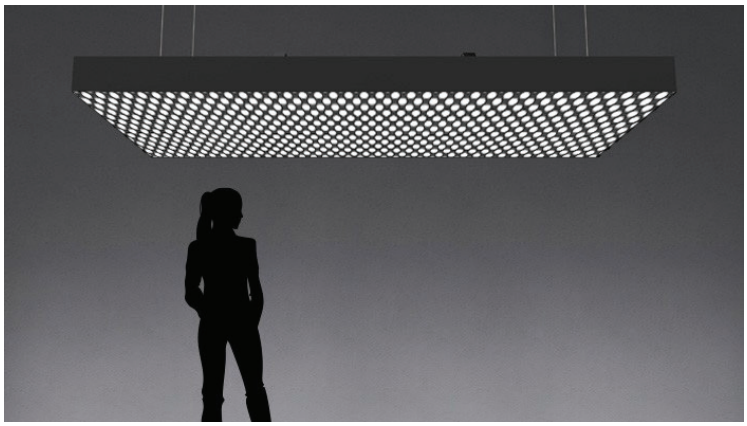
W+RGB solutions require alternate power & controls (DMX & Casambi only). Please contact Cooledge for details.

SKYSPAN FLUSH MOUNT: SPECIFICATIONS

FAUX PERFORATED METAL (PRINTED)

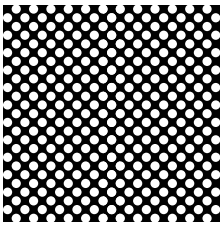
Make your design unique by adding the look of illuminated perforated metal panels to your SkySpan or SkyLine systerms luminaires using images printed right on the diffuser fabric.

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

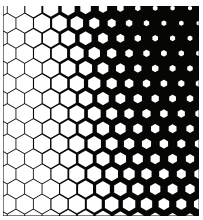


STANDARD PATTERNS

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



PATTERN A



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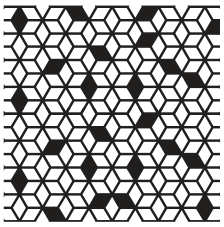
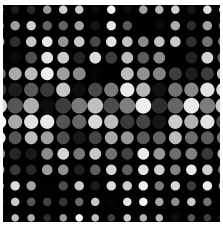
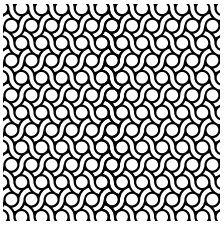


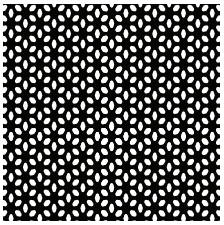
PATTERN C



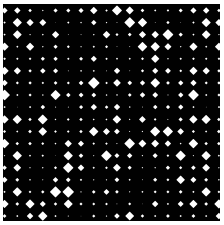
PATTERN D



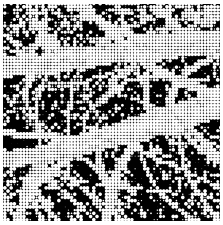
PATTERN E



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.

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SKYSPAN FLUSH MOUNT: 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 are required. Cooledge may also request additional information before issuing a quotation or accepting a purchase order.

SKYS	- FM	- _____	- _____	- _____	- _____	- _____	- _____
1	2	3	4	5	6	7	8

1 PRODUCT
SKYS = **S**kySpan

2 MOUNTING
SU = **Su**spended
SM = **S**urface **M**ount
FM = **F**lush **M**ount

3 SHAPE
REC = **R**ectangle
CIR = **C**ircle
CUR = **C**urve
POLY = **P**olygon

4 FLUX
XHF = E**x**tra **H**igh **F**lux
HF = **H**igh **F**lux
MF = **M**ed **F**lux
MHF = **M**ed **H**igh **F**lux
LF = **L**ow **F**lux
LMF = **L**ow **M**edium **F**lux
ECO=**L**ow **P**ower

5 CCT
22 = **22**00K
27 = **27**00K
30 = **30**00K
35 = **35**00K
40 = **40**00K
57 = **57**00K
TNW2757 = Tunable White 2700-5700K
TNW2235 = Tunable White 2200-3500K
DTW3522 = Dim-To-Warm 3500-2200K
W+RGB is available. Consult Cooledge for flux & control options

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

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

8 CERTIFICATION
U = c**U**L
C = **C**E

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