

Cadient™ Dynamic Skylight

Cadient™ Experience 2' x 2' Architectural LED Dynamic Skylight

Rev. Date: V1 11/12/2019

Product Description

Cree Lighting's Cadient™ dynamic skylight brings the outdoors in, recreating the sensation of being under a natural sky for an interior lighting experience that's as smart as it is visually stunning. For architects, lighting designers and specifiers seeking the visual impact and human benefits of a real skylight — but without the associated high costs or construction limitations — the Cadient™ experience is an exciting, dynamic lighting solution that delivers the sensation and human benefits of bringing the outdoors in to any interior space

Applications: Commercial office, healthcare, education, retail

Performance Summary

Utilizes Cree TrueWhite® Technology
Adjustable Lumen Levels: 200-3,200
Input Power: 6-50 watts
Efficacy: Up to 67 LPW
CRI: 90+ CRI
R9: > 65
CCT: Adjustable from 3000K to 6500K
Input Voltage: 120-277 VAC
L70 Lifetime: > 100,000 hours at 35°C
Limited Warranty†: 5 years on luminaire, configuration tool, wireless dimmer and gateway; 1 year on touchscreen, face plates, and drywall grid adapter
Mounting: Designed for use in most ceiling grids including standard 1 1/2", 9/16", 15/16" and hard ceiling
Weight: 34 lbs. (15.4kg)
Controls: SmartCast® Technology dimming to 5% with East to West Sun Feature
Assembled in the U.S.A. of U.S. and imported parts

† See <http://creelighting.com/warranty> for warranty terms

Cadient™ Accessories

Ordering Information	
<p>SmartCast® Technology Configuration Tool CCT-CWC-1</p> <ul style="list-style-type: none"> - One required per project CMA control or is selected <p>SmartCast® Technology Face Plates† CFP-1-WH</p> <ul style="list-style-type: none"> - Matching Cree face plate, 1-gang, white <p>CFP-2-WH</p> <ul style="list-style-type: none"> - Matching Cree face plate, 2-gang, white <p>CFP-3-WH</p> <ul style="list-style-type: none"> - Matching Cree face plate, 3-gang, white 	<p>SmartCast® Technology Adjustable CCT Wireless Dimmer† CCD-CWC-WH</p> <p>SmartCast® Wireless Gateway with WiFi CSC-GW-CWC-W</p> <ul style="list-style-type: none"> - Required with SmartCast Touchscreen Control <p>SmartCast® Touchscreen Control CSC-TS-A-BK</p> <p>Drywall Grid Adapter DGA22-WHT</p>

† Refer to the [Wireless Dimmer SmartCast Control spec sheet](#) for more details

Ordering Information

Example: CDNT-AL-ACK-CMA

CDNT	AL	ACK	Voltage	CMA
Product	Lumen Package	CCT	Voltage	Control
CDNT	AL Adjustable Lumens 200 - 3,200 Lumens	ACK Adjustable Color 3000K - 6500K	Blank 120 - 277 Volt	CMA SmartCast® Technology - Integral motion and ambient sensors and wireless communication - Dimming to 5%



Cadient™ Dynamic Skylight

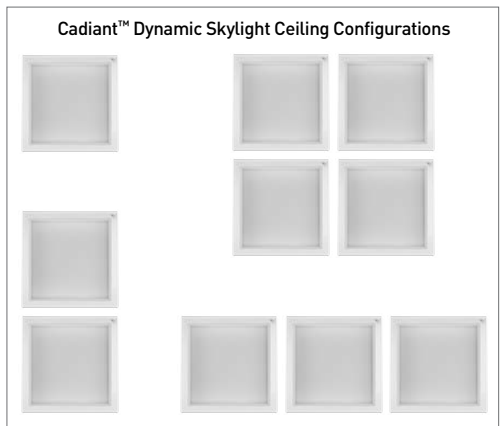
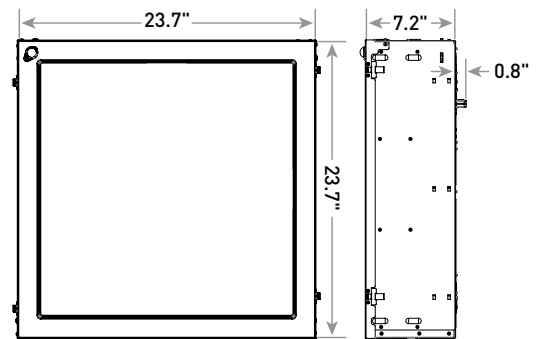


SmartCast® Touchscreen Control



Smartcast® Wireless Gateway with WiFi

*SmartCast Touchscreen & SmartCast Wireless Gateway Sold Separately



SMARTCAST®
TECHNOLOGY

CREE
TRUE WHITE
TECHNOLOGY



CREE LIGHTING

US: creelighting.com (800) 236-6800

Canada: creelighting-canada.com (800) 473-1234

Product Specifications

SMARTCAST® TECHNOLOGY

SmartCast® Technology is the most intuitive and easiest to install intelligent light solution on the market. SmartCast® Technology delivers up to 70% energy savings at up to half the cost of other solutions. Luminaires combine best-in-class light with onboard sensors and intelligence to deliver a better light experience. Extreme energy productivity, code compliance and a better light experience without any extra design, installation or setup work.

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIALS

- Durable 22 ga. galvanized steel housing provides strength and uniformity
- 8" depth gives the impression of a true sky while fitting into most recessed applications
- Luminaire is post-painted for enhanced matte finish
- Includes four t-bar clips and tabs for mounting support wires (by others)
- Luminaire sides and ends are hemmed in for safe, easy handling
- Not for installation within 3" (76mm) of insulation
- **Weight:** 34.0 lbs. (15.4kg)

OPTICAL SYSTEM

- Unique luminaire design creates perfect balance of both horizontal and vertical illumination
- Optimized smooth acrylic lens eliminates pixelation and delivers a low-glare, diffused light distribution
- Dynamic lighting profile provides variation in lumen output and CCT throughout the day
- Soft blue-sky w/east to west sun panels which simulates the natural dawn to dusk arc of the sun

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V, 50/60Hz
- **Input Power:** Stays constant over life
- **Power Factor:** > 90% at full load
- **Total Harmonic Distortion:** < 20% at full load
- **Operating Temperature Range:** 0°C - + 35°C (32°F - + 95°F)

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for damp locations
- Designed for indoor use only
- Requires minimum 90°C supply conductors
- Not intended for use in environments containing airborne corrosive agents such as chemical solvents, cleaners, or cutting fluids
- RoHS compliant. Consult factory for additional details
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Meets Buy American requirements within ARRA
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

SmartCast® Technology

INTEGRAL MOTION SENSOR

- Passive infrared (PIR)
- **Coverage area:** 100 sq. ft. (30.5m²) at 10 ft. (3.0m) mounting height
- Not intended to be mounted higher than 12 ft. (3.7m)
- **Operation:**
 - Grouped with a wall control: Luminaire will operate in vacancy mode (manual-on/auto-off)
 - Not grouped with a wall control: Luminaire will operate in occupancy mode (auto-on/auto-off)
- Configuration Tool required to initiate OneButton™ Setup

AMBIENT LIGHT SENSOR

- Sensor response matches response of human eye
- Not intended to be mounted higher than 12 ft. (3.7m)
- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Configuration Tool
- Daylight harvesting calibration performed automatically during OneButton™ Setup

INTEGRAL WIRELESS COMMUNICATION

- 2.4GHz wireless mesh technology with AES 128-bit encryption
- Self assigns to quietest channel during OneButton™ Setup
- **Range:**
 - 30 ft. (9.1m) in typical commercial applications
 - 300 ft. (91.4m) open air without obstructions
- **Network:** 250 devices max.
- **Space:** 100 devices max. per group
- FCC and IC certified

LUMINAIRE

- Luminaires operate at full intensity until OneButton™ Setup is initiated by the Configuration Tool
- 10-year power fail memory of settings

DEPLOYMENT

- Please refer to the [SmartCast® Technology Deployment Guide](#)

Cadient™ Dynamic Skylight Ambient Adjusted Lumen Maintenance ¹					
Ambient	Initial LMF	25K hr Reported ² LMF	50K hr Estimated ³ LMF	75K hr Estimated ³ LMF	100K hr Estimated ³ LMF
0°C (32°F)	1.05	0.97	0.90	0.83	0.77
5°C (41°F)	1.04	0.97	0.89	0.82	0.76
10°C (50°F)	1.03	0.96	0.88	0.82	0.76
15°C (59°F)	1.02	0.95	0.88	0.81	0.75
20°C (68°F)	1.01	0.94	0.87	0.80	0.74
25°C (77°F)	1.00	0.93	0.86	0.79	0.73
30°C (86°F)	0.99	0.92	0.85	0.79	0.73
35°C (95°F)	0.98	0.91	0.84	0.78	0.72

¹ Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors.

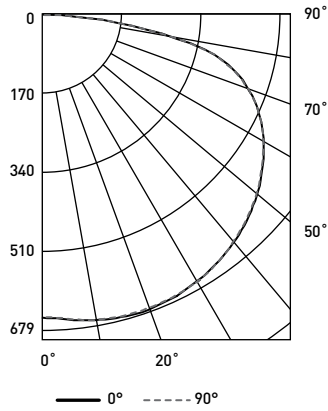
² In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.

³ Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

Photometry

CDNT-AL-ACK-CMA BASED ON CESTL REPORT TEST #: PL14999-001A

Luminaire photometry has been conducted in accordance with IES LM-79-08. IES LM-79-08 specifies the entire luminaire as the source resulting in a luminaire efficiency of 100%.



CDNT-AL-ACK-CMA
Shown at Midday Preset (4500K)
Initial Delivered Lumens: 3,060

Reference www.creelighting.com/cadient for detailed photometric data

Coefficients Of Utilization – Zonal Cavity Method				
RC %:	80			
RW %:	70	50	30	10
RCR: 0	119	119	119	119
1	106	100	94	90
2	94	84	76	69
3	85	72	63	55
4	77	63	53	45
5	70	56	45	38
6	64	50	40	32
7	59	45	35	28
8	55	40	31	25
9	51	37	28	22
10	48	34	25	20

Effective Floor Cavity Reflectance: 0.20

Average Luminance Table (cd/sq.m)			
Vertical Angle	Horizontal Angle		
	0°	45°	90°
45°	3,227	3,335	3,217
55°	3,694	3,800	3,680
65°	4,484	4,506	4,472
75°	5,876	5,523	5,805
85°	5,629	5,376	5,452

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixt
0-30	564	N/A	18.4
0-40	980	N/A	32.0
0-60	1,994	N/A	65.1
0-90	3,060	N/A	100.0
0-180	3,060	N/A	100.0