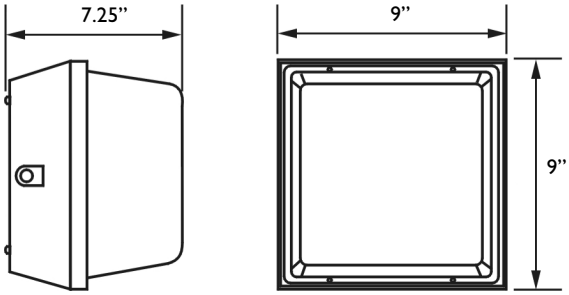
CANOPY.W



Product Information
The Canopy.W is a medium sized, efficient LED lighting fixture.

This LED lighting fixture features die-cast aluminum housing and textured powdercoat over a chromate conversion coating.

Applications: Convenience Stores, Gas Stations, Parking Garages, Walkways and medium indoor and outdoor lighting applications.

Performance Ratings and Certifications
UL 1598
UL 8750
CSA C22.2#250.0
CSA C22.2#250.13
IP Rating: IP65

Performance Summary

Lumens:	3,241 – 9,724 lm
Lumens Per Watt (Typical):	140 LPW
Power Consumption:	23 – 69 W
Light Engine:	L70 Rated Lifetime of 100,000+ hours.
CRI:	Minimum 70 CRI. Custom CRI available upon request.
CCT (Typical):	3000K, 4000K, 5700K
Light Dist. Pattern:	Multiple Distributions Available

Manufactured in the U.S. with parts from U.S. and imported.

Fixture Information

Housing:	Die-cast Aluminum
Color:	Bronze, custom color, marine grade paint, or epoxy coating
Finish:	Powdercoat finish
Lens:	High Impact Polycarbonate
Mounting:	Surface
Diffusion:	Prismatic
Length:	9.00”
Width:	9.00”
Height:	7.25”
Weight:	3.10 lbs
Shipping Weight:	4.00 lbs

Electrical System Characteristics / Data

AC Input:	120/277 VAC (standard), 480 VAC (upgrade)
FCC:	Title 47, Part 2, Part 15, Class A
EM:	Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (60% load); EN61000-3-3
EM Immunity:	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level(surge 4KV), criteria A
Withstand Voltage:	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC
Isolation Resistance:	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25 / 70% RH
Power Factor:	PF > 0.98/115VAC, PF > 0.92/277VAC
Total Harmonic Distortion:	THD < 20%
Standard Surge Protection:	All-Around Protection: OVP, SCP, OLP.
Enhanced Surge Protection:	Protects against surges according to C62.41.2 C and ANSI C136.2
Emergency Batt. Backup:	Optional upgrades available.

Optional Controls

Wireless Controls:	Optional via Pulse Wireless Mesh
Network Dimming:	0-10V, step and bi-level available.
Daylight Harvesting Sensor:	Optional
Occupancy Sensor:	Optional
Photocell:	Optional

Warranty
Standard limited 5-year warranty, first year includes labor. Optional 10-year warranty available.

911 S. Primrose Ave. - Suite I, Monrovia, California 91016 - **Phone** - (626) 357-0500 - **FAX** (626) 357-0079 **EMAIL**: info@ecads-na.com
www.ecadsledlighting.com

Performance Specifications

Electrical Load				
Light Engine	Drive Current (Amps@120VAC)	Drive Current (Amps@277VAC)	Drive Current (Amps@480VAC)	System Power (Watts)*
HEX-021-A-CW-MT	0.19	0.08	0.05	23.15
HEX-021-B-CW-MT	0.29	0.13	0.07	34.73
HEX-042-A-CW-MT	0.39	0.17	0.10	46.31
HEX-042-B-CW-MT	0.58	0.25	0.14	69.46

* ideal wattage

Operating Characteristics (Typical @5700K CCT)				
Light Engine	Lumens (Medium Dist)	Input Power (Watts)	Lumens per Watt	Replaces
HEX-021-A-CW-MT	3,241	23.15	140.00	125-300W
HEX-021-B-CW-MT	4,862	34.73	140.00	75-175W
HEX-042-A-CW-MT	6,435	46.31	138.98	125-300W
HEX-042-B-CW-MT	9,724	69.46	140.00	125-300W

Specifications and Options

Construction
Durable, die cast aluminum housing, with highly durable, white or textured bronze powdercoat finish.

Optional Finishes
Custom colors available (specify RAL code). Epoxy finish and marine-grade coating available. Marine grade coating is green.

Mounting Options
Surface mounting standard.

Lens Options
Standard UV stabilized acrylic, high impact polycarbonate, prismatic polycarbonate, opalescent polycarbonate and high impact/heat resistant glass lens available.

Light Distribution Patterns
T5 pattern standard. T1, T2, T3, T4, TRS, TLS patterns are optional.

Electrical System Specifications

Electrical System
Standard AC input of 120 – 277VAC. Optional upgrade to 480VAC. Driver meets maximum harmonic distortion (THD) of 20% and is ROHS compliant. Power Factor = > 0.9. Standard Surge protection according to IEC/EN 61000-4-5 EMC test standard and can protect against up to 4KV transient surge. Optional, enhanced Surge Protection protects Line-Ground, Line-Neutral, and Neutral-Ground. Protects against surges according to IEEE C62.41.2 C(10kA and 10kV) andANSI C136.2.

Controls
Optional controls include: 0-10V (010V), Step, line voltage and Bi-Level Dimming functionality (not guaranteed to work with all dimming systems). Occupancy and Daylight Harvest Sensors available. Optional Emergency Battery Backup: Nickel-Cadmium Batteries, 5W, 600 Lumens for 90 minutes. Optional Cold Emergency Battery Backup: 23W, 2000 Lumens for 90 minutes. The battery has a 7-10 year lifespan.

Driver
All LED drivers provide constant current to give flicker free lighting. Two different drive currents are provided; A (350 mA) and B (525 mA). Highly reliable. Suitable for dry, damp and wet locations. Compliant to worldwide safety regulationsfor lighting.

Ambient Temperature
We provide fixtures that can sustain ambient temperature ranging from -40F to 140F (-40C to 60C).

Wireless Control Options
Optional wireless networking using the Noribachi Pulse Wireless controller. Pulse is an Arduino-based hardware platform that provides communication between fixtures and a base station using Digi's XBEE based mesh network. Pulse controls up to 16 independent LED lighting fixtures using an FCC approved 900 MHz frequency with up to 200 Kbps data transmission speed. Transmit power output 50 mW. Data transmission rate is 156.25 kbps. 128 bit AES Encryption.

Occupancy Sensor and Daylight Harvesting
Sensor provides 60' diameter coverage from a 40' height. Time can be set from 30 seconds to 30 minutes.

RGBW Controls
Optional RGBW controls with communication to fixture via DMX512 or DMX256 and four channel controls. Four channel control uses red, green, blue and white (to control intensity). DMX controller optional, either software DMX master (via CD and USB adapter) or a physical DMX master. 2.4 GHz wireless DMX networking optional. Other frequencies available upon request.

Testing Compliance
Noribachi complies with and exceeds standards set forth by UL and CSA. All luminaires comply with UL 1598 (CSA C22.2#250.13), and UL 8750 (CSA C22.2#250.0) standards for safety. Performance testing is done in accordance with LM-79 color measurements and LM-79 distribution measurements, and LM-80 lumen maintenance testing.

Manufacturing
Manufactured in beautiful Harbor City, CA. ARRA Compliant. NAFTA Compliant. Test and burn-in of 100% of all luminaries before shipment. No less than 8-years experience in manufacturing LED-based products.

Warranty
Standard limited 5-year warranty, first year includes labor. Optional 10-year warranty available. See details at www.Noribachi.com.

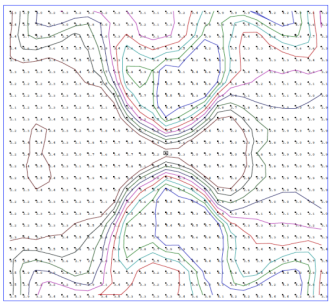
Note
All safety tests and performance data is done in ambient (STP) conditions. Specifications subject to change without notice. Actual performance may differ as a result of end-user environment application. Actual wattage may differ by +/- 8%. Lumen values may vary within compliance with ANSI C78-377 (unlessspecifying tight color bins).

Distribution Types

Distribution							
Light Engine	Drive	CCT	T1	T2	T3	T4	T5
HEX-021	A	5700	3,177	2,528	3,079	2,917	3,241
HEX-021	B	5700	4,765	3,792	4,619	4,376	4,862
HEX-042	A	5700	4,992	3,973	4,839	4,584	6,435
HEX-042	B	5700	9,530	7,585	9,238	8,752	9,724
Distribution types may not be applicable to all fixture configurations							

Type Distribution
HEX-042

T-1



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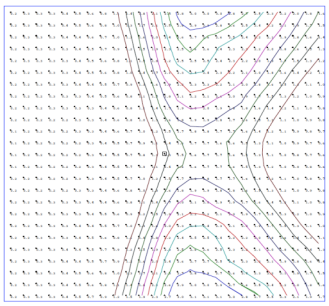

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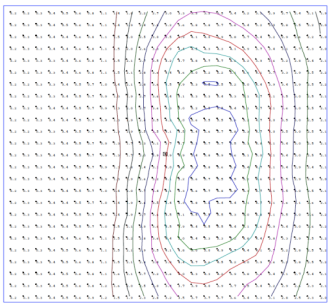

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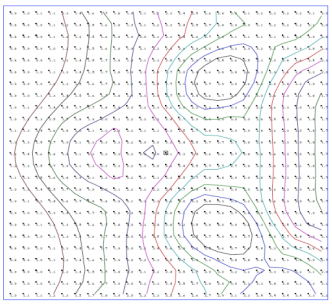
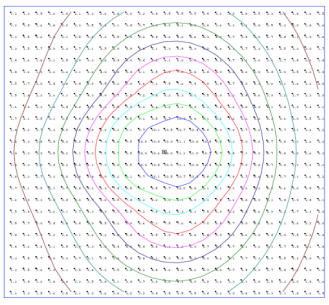


T-5



Distribution
120° Standard Beam Spread. 80° Optional Beam Spread available for certain light engines. 40° Optional Beam Spread available for certain light engines. Other Light Engine Type Distribution available upon request.

Distribution types may not be applicable for all fixture configurations.

•IES Type Distributions are generated in an open space.
•Light Distribution images are mounted at 10 feet.

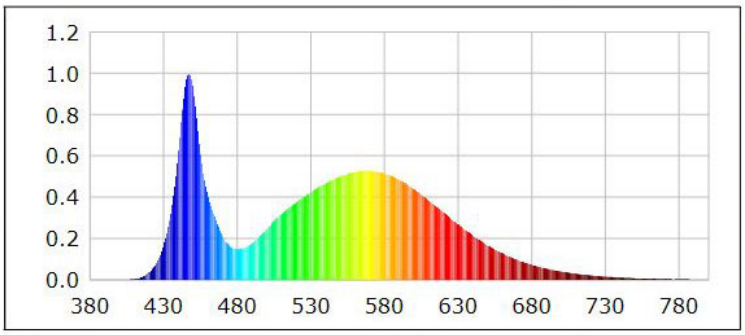
Optics Specifications

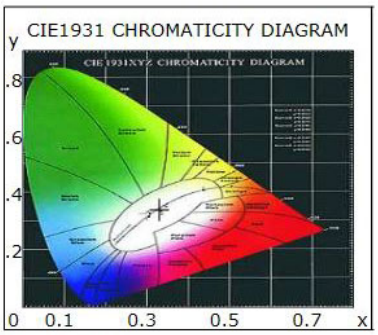
White LED Optics
High brightness, high efficiency LEDs. Standard color temperature is Cool White (5700K typical). Neutral White (4000K typical) and Warm White (3000K typical) also available. All with minimum 70 CRI. Tight bins (<+/-50degK variability) also available – recommended for WW installations as the eye is sensitive to variations in this color range. 40deg and 80deg beam angle optional (n/a for RGBW).

RGBW Light Engine Optics
RGBW light engine also available, compatible with DMX controller. RGBW colors, to allow changing from pure white light to any hue available. Multiple channels of LEDS produce a full spectrum of light anywhere from deepest red to farthest violet. CRI greater than 75 in the 2700K – 4000K range.

Single color light engines also available. Red=630 nanometers, Green=525 nanometers. Blue=475 nanometers.

Photometric Data for White LED Light Engine



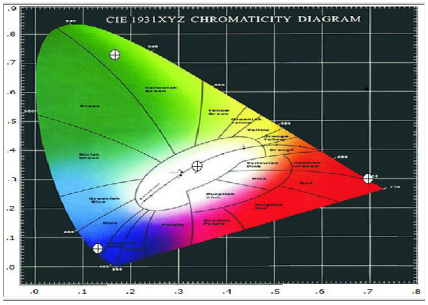


Chromaticity coordinates: x=0.3305 y=0.3424 u(u')=0.2050 v=0.3186 v'=0.4779
CCT: Tc=5700K (duv=0.00156) Color Ratio: R=0.133 G=0.827 B=0.040
Peak Wavelength: 447.2nm Half Bandwidth: 19.1nm
Dominant Wavelength: 535.2nm Color Purity: 0.020
Color Render Index: Ra= 75.0, avgR(1~14)= 65.6, avgR(1~15)= 65.9

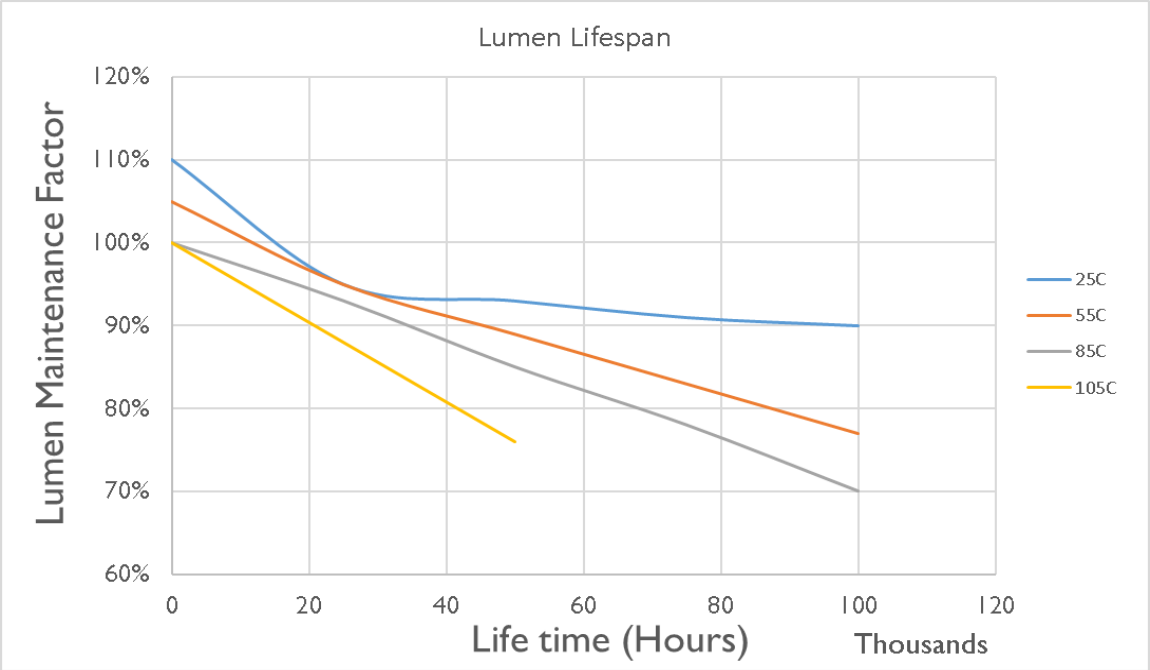
R1 =74	R2 =76	R3 =76	R4 =81	R5 =75	R6 =66	R7 =84	R8 =67
R9 =0	R10=41	R11=78	R12=40	R13=73	R14=86	R15=71	

Photometric Data for RGBW LED Light Engine

Chromaticity coordinates:
White x = 0.3405, y = 0.3459
Green x = 0.1687, y = 0.7296
Red x = 0.6968, y = 0.3024
Blue x = 0.1316, y = 0.0636



Lumen Performance



Lumen Maintenance Factors (B Drive)					
T_J (Junction Temp)	INITIAL LMF	25K HR PROJECTED LMF	50K HR PROJECTED LMF	75K HR PROJECTED LMF	100K HR PROJECTED LMF
25°c	1.10	0.95	0.93	0.91	0.90
55°c	1.05	0.95	0.89	0.83	0.77
85°c	1.00	0.93	0.85	0.78	0.70
105°c	1.00	0.88	0.76	N/A	N/A

Each temperature has an independent initial value. In accordance with IESNA TM021011, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip). In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip)

Lumen Multiplier	
AMBIENT TEMPERATURE	LUMEN MULTIPLIER
10°C	1.032
15°C	1.021
25°C	1.000
40°C	0.968
50°C	0.946

CANOPY.W

How to Order

Sample Order Code: Only include the optional upgrades you need.

CAW	–	HEX	–	042	–	B	–	CW	–	MT	–	COL-5004	–	EPOXY	–	BLD[50]
Fixture (required)		Light Board (required)		Number of Diodes (required)		Drive Current (required)		LED Color Temperature (required)		Voltage (required)		Custom Fixture Color (optional)		Coating (optional)		Dimming (optional)

EM	–	DHS	–	PC2	–	DHS	–	PUL	–	PUL	–	T4	–	80D
Emergency Battery Backup (optional)		Occupancy Sensor (optional)		Button Photocell (optional)		Daylight Harvesting Sensor (optional)		Controller (optional)		Controller (optional)		Distribution (optional)		Beam Angle (optional)

Numbering Order	Specification	Required or Optional	Allowed Values	Description
1	Fixture	Required	CAW	For Canopy.W
2	Light Board	Required	HEX	For Canopy.W
3	Number of Diodes	Required	021	For HEX-021
			042	For HEX-042
4	Drive Current	Required	A	A (350mA) drive current
			B	B (525mA) drive current
5	LED Color Temperature	Required	CW	Standard Cool White LEDs (5700K)
			NW	Neutral White LEDs (4000K)
			WW	Warm White LEDs (3000K)
			[Specific Degree Kelvin]	Specific color temp LEDs [Specific degree Kelvin]
			TI [Specific Degree Kelvin]	Tight Bin LED Color [Specific degree Kelvin]
			RGBW	Red/Green/Blue/White light engine
			COL	Single color light engine
6	Voltage	Required	MT	Standard AC input: 120VAC - 277VAC
			HV1	High Voltage (480VAC) option for up to 150W
			HV2	High Voltage (480VAC) option for greater than 150W
7	Custom Fixture Color	Optional	COL-[RAL]	Custom Fixture Color (RAL code)
8	Coating	Optional	EPOXY	Epoxy Coating
			MARINE	Marine Grade Fixture Coating
9	Dimming	Optional	010V	0 - 10V dimming
			STEP100	Step dimming (100-299W)
			STEP 300	Step dimming (>300W)
			LVDIM	Line Voltage dimming
10	Emergency Battery Backup	Optional	EM	Emergency battery backup
			EMC	Emergency battery backup-Cold
11	Occupancy Sensor	Optional	OS	Occupancy Sensor
12	Button Photocell	Optional	PC1	120V Button Photocell
			PC2	240V Button Photocell
13	Daylight Harvesting Sensor	Optional	DHS	Daylight Harvesting Sensor
14	Surge Protection	Optional	SRG1	Enhanced surge protection for 120-277VAC
			SRG2	Enhanced surge protection for 480VAC
15	Controller	Optional	PUL	Pulse Wireless Controller
16	Distribution	Optional	T1	Type 1 Distribution Pattern
			T2	Type 2 Distribution Pattern
			T3	Type 3 Distribution Pattern
			T4	Type 4 Distribution Pattern
			TLS	Optional Left Slanted
			TRS	Optional Right Slanted
17	Beam Angle	Optional	80D	80 degree beam angle optics