Obstruction Lighting Guide

COOPER Crouse-Hinds

Obstruction Lighting Devices as Tough as Your Environment

For more than a century, companies have come to rely on Cooper Crouse-Hinds for value they can trust to grow their business. By integrating a comprehensive line of electrical products with expert support, industry insights and local availability, we improve safety and productivity in the most demanding industrial and commercial environments worldwide. Every product we develop and every solution we engineer is clearly focused on lowering our customer's total cost of ownership.

Our new line of LED Obstruction Lighting is no exception. Designed for long life, high brightness, and energy efficiency, these products will provide years of cost-effective and maintenance-free operation. Cooper Crouse-Hinds LED obstruction lights, beacons, and visual signals contain the most advanced solid state technology packaged in a corrosive and weather-tight housing, meeting the most rigorous safety standards for the most demanding environments.

Cooper Crouse-Hinds is a global leader across the industrial, commercial and residential markets because of a strategic focus that combines the highest quality and reliability with technical support to minimize downtime, reduce repair incidence, and spur growth. In a worldwide marketplace, Cooper Crouse-Hinds provides solutions and products that are certified to meet local standards. When it comes to quality, engineering and service, however, our commitment to continuous reinvention sets a global standard.

Introduction to Obstruction Lighting Guidelines

Any structure that exceeds 200' above ground level generally needs to be marked (lighted) according to FAA/ICAO Regulations. There are many factors that can affect obstruction marking requirements, such as weather, terrain, proximity to airports, etc. The information presented in the following pages of this catalog is intended to provide basic guidance for structure marking.

The FAA and ICAO guidelines presented herein describe minimum requirements for various structure heights and descriptions of equipment to be used. Note that for Red Lighting Systems, the tower must be painted in alternating levels of aviation orange and white to provide maximum daytime visibility (red lights are for nighttime only). In the case of white or dual lighting systems, the need for painting the tower is eliminated.

Height is only one important consideration when choosing how a structure is to be marked. The products presented in this catalog support the obstruction lighting requirements set forth by the FAA/ FCC and ICAO. For industrial applications, professional assistance will be required, for example in the case of aviation lighting for industrial facilities. Let your sales representative or Cooper Crouse-Hinds Customer Service (866-764-5454) help you determine which is the best lighting solution for your unique application.

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FAA

FAA Lighting System Configuration

TYPE A	Red Lighting System
TYPE B	High Intensity White
TYPE C	High Intensity White/Medium Intensity White Beacon on appurtenance over 40' tall
TYPE D	Medium Intensity White
TYPE E	Dual Lighting System/Red Medium Intensity White
TYPE F	Dual Lighting System Red High Intensity White (Dual Beacon on appurtenance over 40' tall)

FAA Equipment Classification

L-810	Steady-Burning Red Obstruction Light
L-856	High Intensity Flashing White Obstruction Light (40 FPM)
L-857	High Intensity Flashing White Obstruction Light (60 FPM)
L-864	Flashing Red Obstruction Light (20-40 FPM)
L-865	Medium Intensity Flashing White Obstruction Light (40 FPM)
L-864/L-865	Dual: Flashing Red Obstruction Light Medium Intensity Flashing White Obstruction Light (40 FPM)
L-866	Medium Intensity Flashing White Obstruction Light (60 FPM)
L-885	Red Catenary (60 FPM)

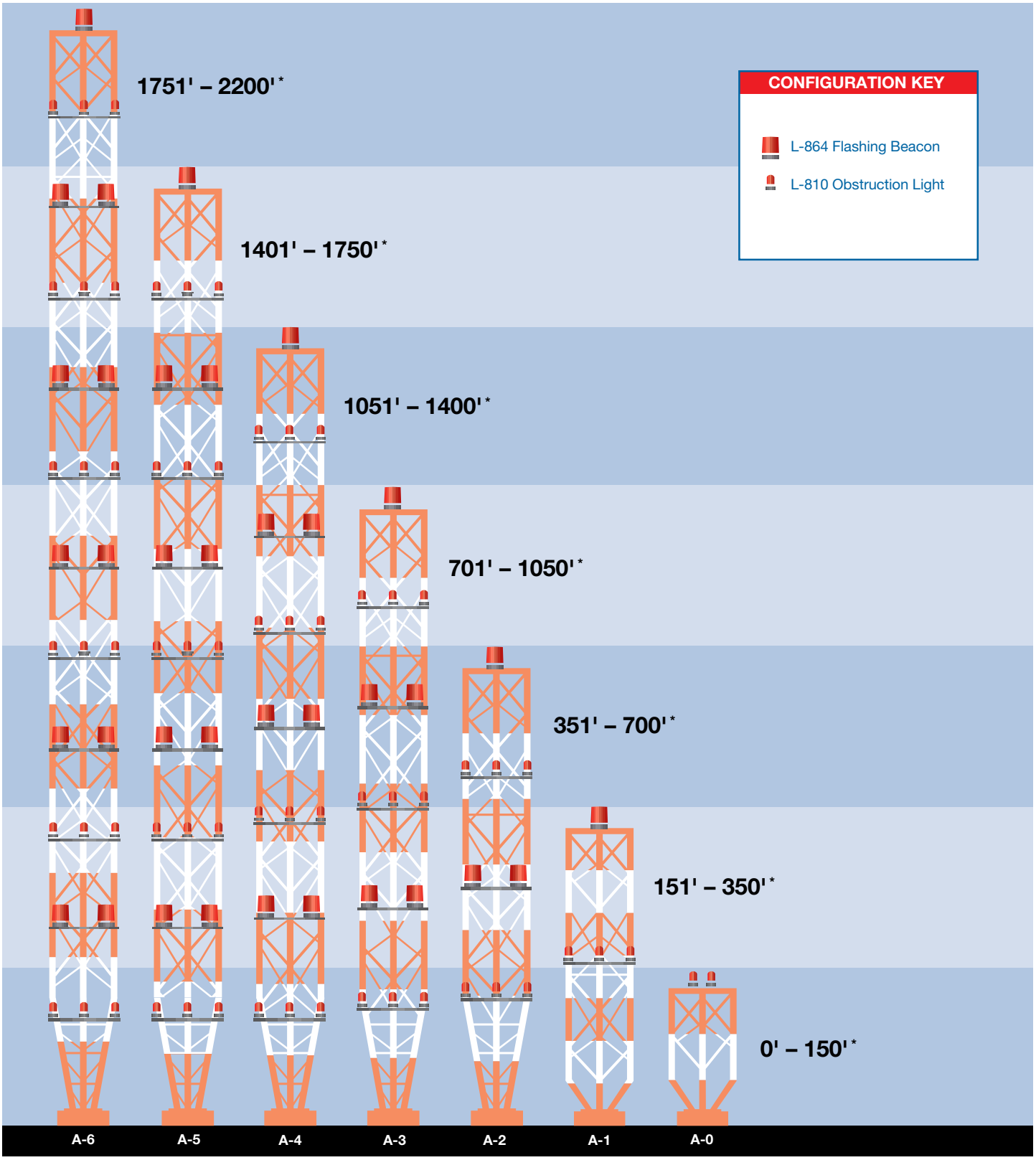
FPM = Flashes Per Minute

ICAO

ICAO Lighting System Configuration

Type A	Low Intensity, Red Steady Medium Intensity, White Flashing High Intensity, White Flashing
Type B	Low Intensity, Red Steady Medium Intensity, Red Flashing High Intensity, White Flashing
Type C	Low Intensity (Mobile), Yellow/Blue Flashing Medium Intensity, Red Steady

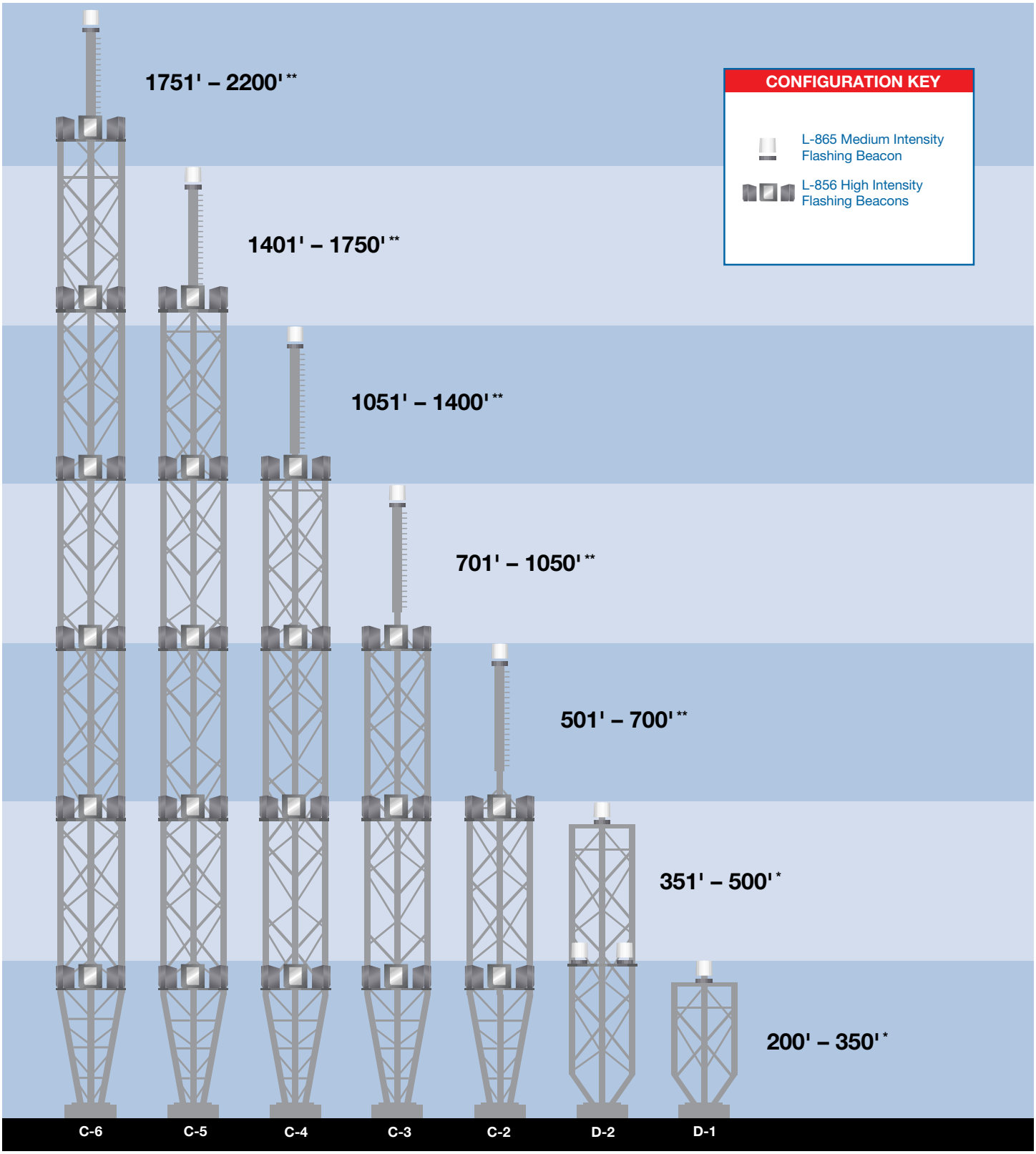
FAA Red Lighting Type A† — Painted Tower/Red Lights for Night



† This illustration is meant to be used as a guideline only. Please refer to FAA Advisory Circular 70/7460-1K

* Including any appurtenance

FAA White Lighting Type C† and Type D†—White Lights for Day/ White Lights for Night

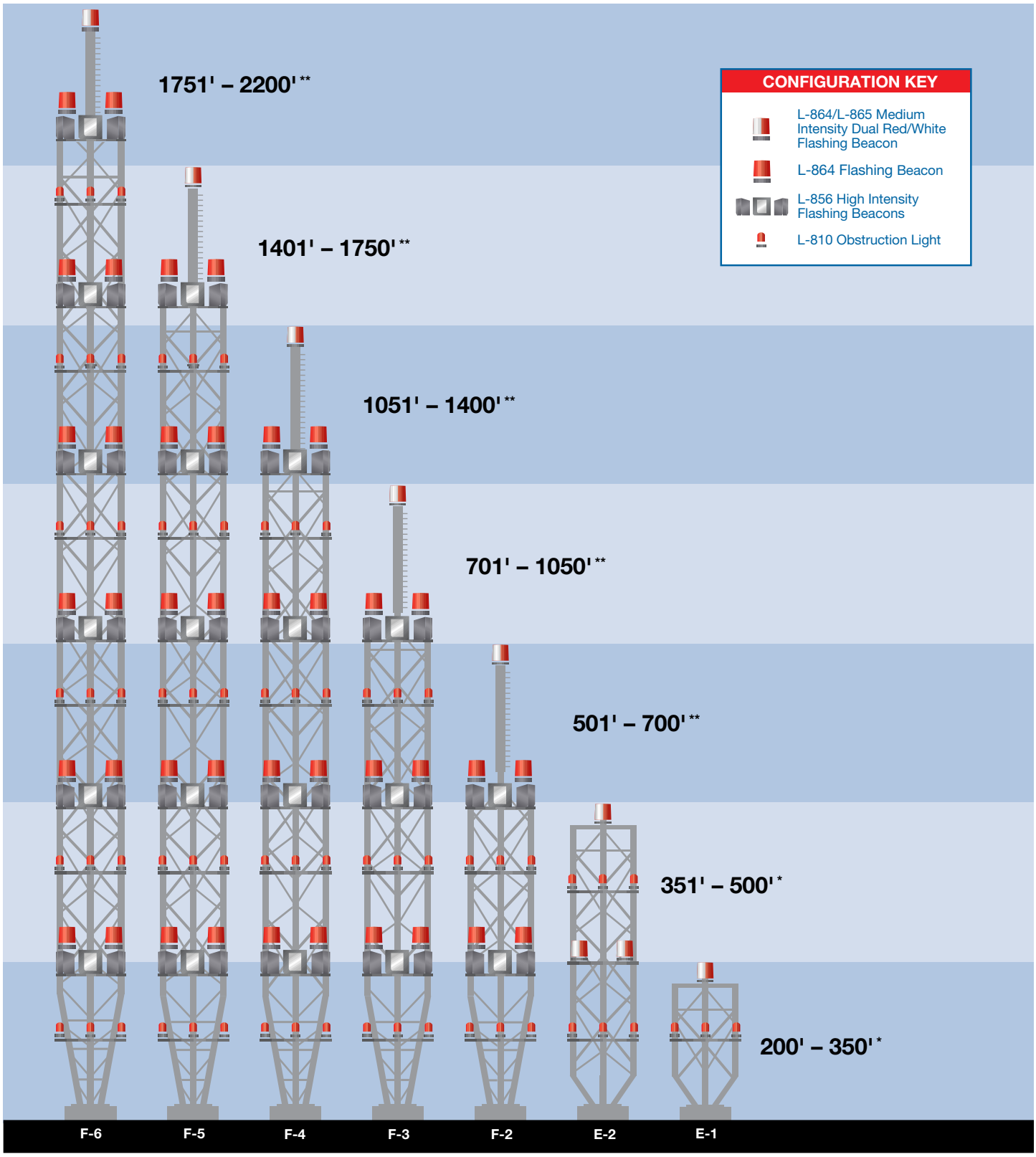


† This illustration is meant to be used as a guideline only. Please refer to FAA Advisory Circular 70/7460-1K

* Including any appurtenance

** Excluding appurtenance

FAA Dual Lighting Type E† and Type F†—White Lights for Day/ Red Lights for Night



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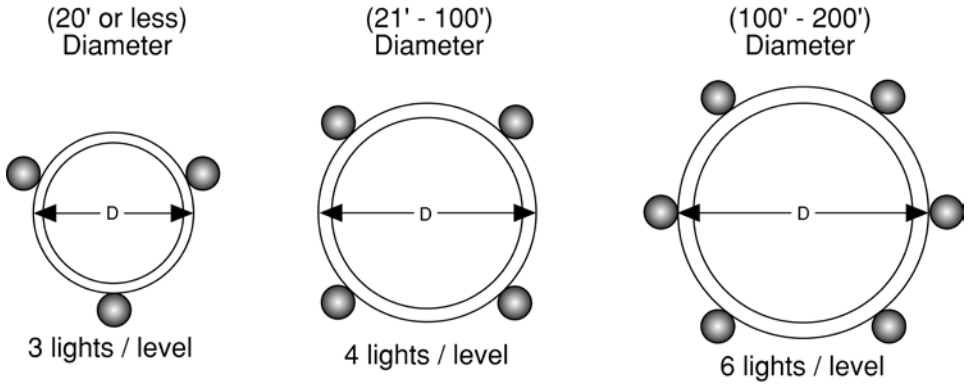
* Including any appurtenance

** Excluding appurtenance

FAA/FCC Chimney & Stack Lighting Requirements

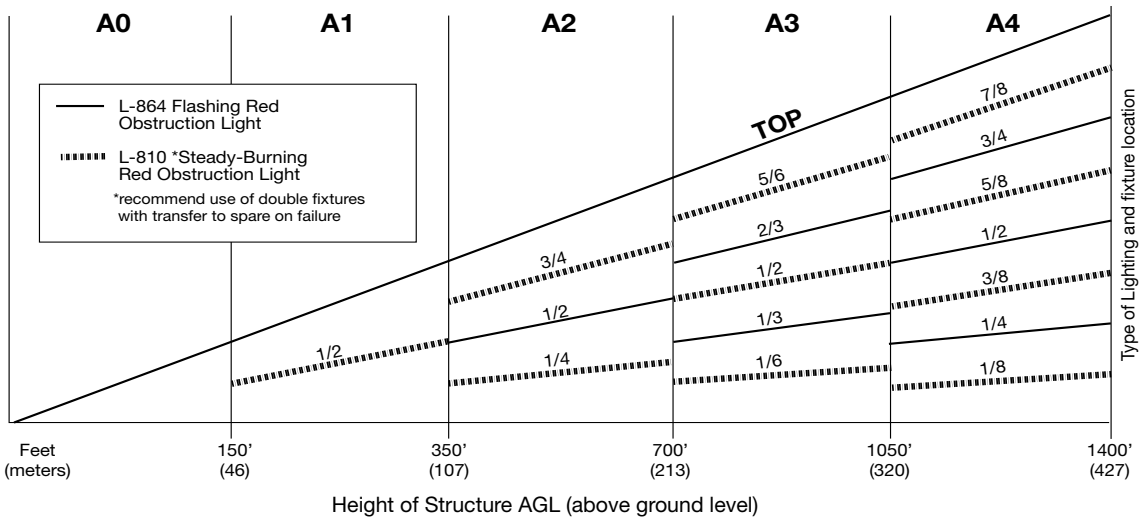
NOTE:
Information is provided to assist in your product selection based on AC 70/7460-1K and AC 150/5345-43G Advisory Circular. Your application may demand special lighting requirements. LED Fixtures are ideal for solid structure applications.

NUMBER OF LIGHTS PER LEVEL/STRUCTURE DIAMETER



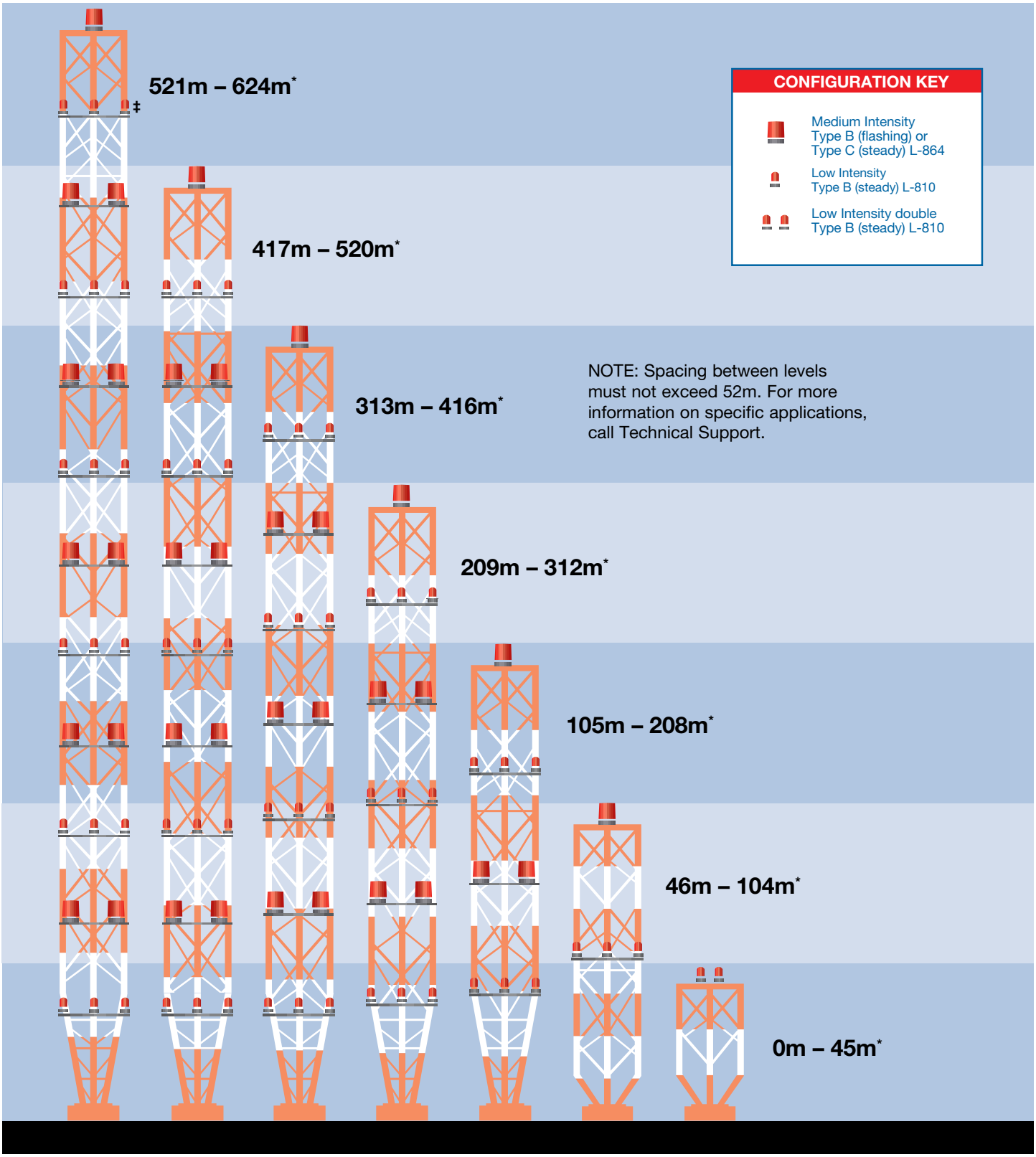
NOTE:
Number of lights per level is the minimum

NUMBER AND TYPES OF LIGHTING LEVELS/HEIGHT



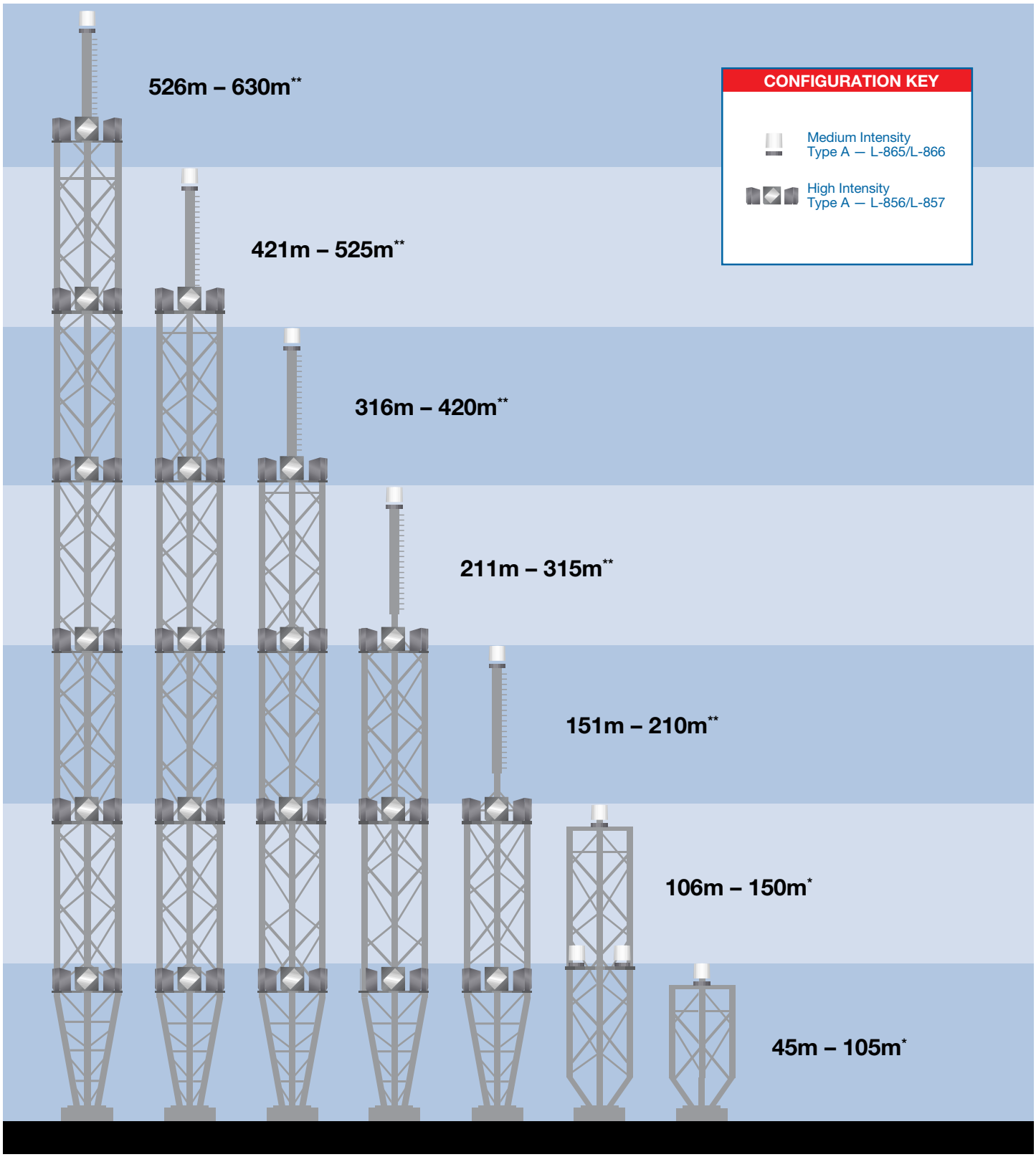
NOTE:
Lowest level of lights must be raised above the height of adjacent structures. If your structure is not represented, allow us to assist you with selecting the proper products for your specific structure. *Example:* For structure "A1" requires one L-864 beacon at top and at ½ tower height mount L-810 sidelights.

ICAO Red Lighting† — Painted Tower/Red Lights for Night



† This illustration is meant to be used as a guideline only. Please refer to ICAO (Annex 14)
‡ May use low intensity Type B or medium intensity Type B at this level
* Including any appurtenance

ICAO White Lighting† — White Lights for Day/White Lights for Night



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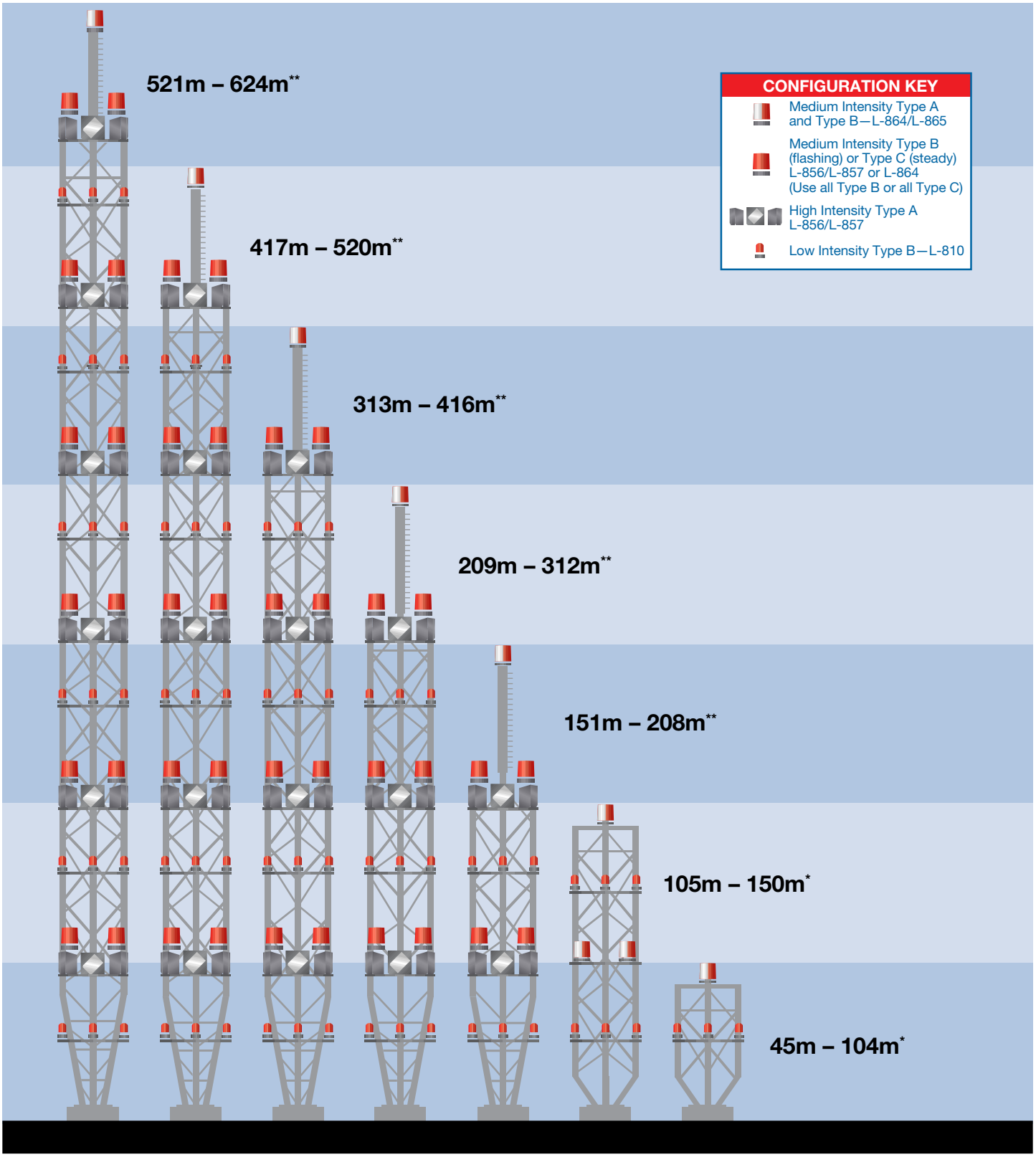
* Including any appurtenance
** Excluding appurtenance

ICAO Dual Lighting† — White Lights for Day/Red Lights for Night



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* Including any appurtenance

** Excluding appurtenance

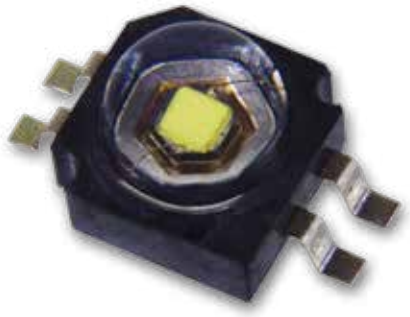
Evolution in Lighting Technology

Advances in light emitting diode (LED) technology, including super-bright white diodes and other performance improvements, are creating new applications and increased acceptability of LEDs in mainstream use. Additionally, challenging customer requirements in industrial or harsh and hazardous locations including long life, high brightness, and reliability can be achieved with currently available LED technology.

Once considered only for indication or decorative purposes, LEDs are now gaining acceptability in signaling, down lights, floodlights, street lights, and other mainstream uses. When compared to other conventional light sources such as incandescent, fluorescent or metal halide, a LED light source can offer longer life, energy savings, and equal or better light characteristics, providing years of maintenance free operation with a quantifiable return on investment.

Cooper Crouse-Hinds is leading the innovation efforts to make LED technology a viable alternative in luminaires for use in industrial and hazardous areas.

The Solid State LED growth initiative is one integral part of a company-wide plan to drive innovation and technology within our business to broaden our solutions to our customers.



LED photo courtesy of Philips Lumileds Lighting Company

LED – Light Emitting Diode

- Semiconductor material converts electricity into light
- Basic structure consists of semiconductor, reflector wire bond and epoxy dome
- Color of the light is dependent on the semiconductor material

Advantages of Cooper Crouse-Hinds LED Technology

Lower Cost of Ownership

Solid State LED lighting has become a leading energy efficient technology with the added benefit of long service life. This equates to energy savings and reduced maintenance, providing a lower cost of ownership when compared to many conventional light sources.

High Intensity and Brightness

High brightness and Ultra High brightness LEDs now offer the ability to produce customized light patterns for illumination. Using customized LED arrays, designers can now focus on unique fixture designs without relying on a pre-determined lamp source.

Low Heat

Conventional lighting technologies waste a significant portion of energy producing visible white light. This translates to excessive heat energy. LED technology is efficient at converting electrical energy into light energy while generating very little heat. In hazardous locations, this relates to a more favorable T-rating.

Environmentally Friendly

Unlike conventional light sources such as fluorescent and HID that use mercury to generate light, LED lighting uses no mercury, thus eliminating the issues surrounding disposal of hazardous substances. Additionally, LEDs save energy, therefore reducing the overall impact of fossil fuels on the environment.

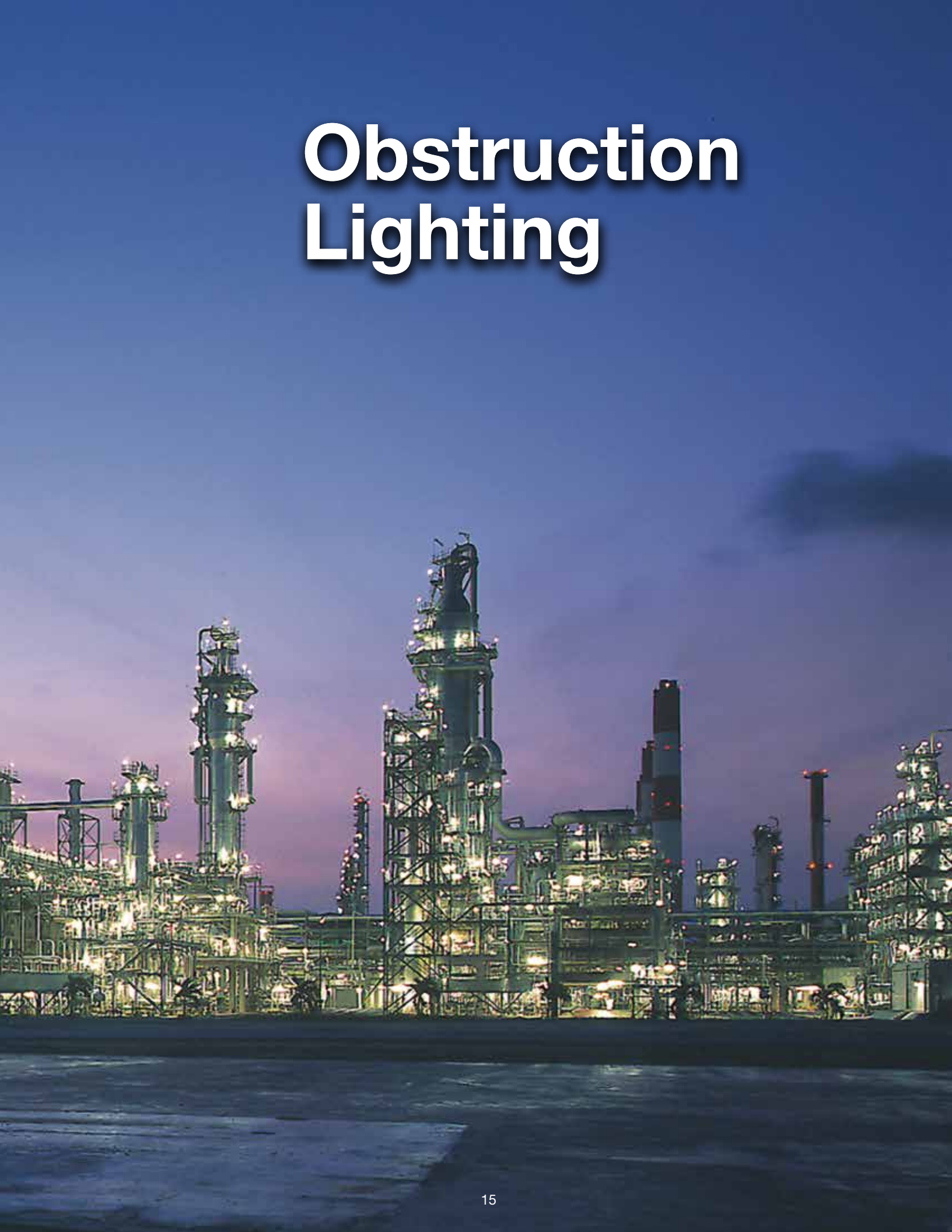
Reliable and Rugged

LEDs contain no fragile filaments or glass. LEDs are solid state devices and are less affected by the demands of harsh and hazardous environments. Additionally the life of the LED is based on lumen depreciation, not failure. Therefore, LED lighting is designed to maintain a safe lights-on condition throughout the useful life of the luminaire.

Easily Programmed or Controlled

Solid State lighting offers the ability to integrate control systems for building unique features into a lighting system. Controls can offer a feature as simple as dimming or on/off to controls of color temperature or monitoring of product condition.

Obstruction Lighting



RT SERIES
LED OBSTRUCTION LIGHT

Certified to: **FAA AC NO: 150/5345-43G**

Compliant to: **ICAO (Annex 14 - Fourth Edition, July 2004)**
Low intensity Type A (10 cd)
Low intensity Type B (32 cd)
DGAC Mexico

FEATURES/BENEFITS

- Available as a single, dual, or retrofit unit
- Available in 120-240VAC or 12-48VDC
- Grounding terminals provided
- Unique optical design (patent pending)
- Advanced high-flux LED technology
- Lasts years longer than an incandescent
- Weather/corrosion resistant lamp assembly and housing
- Self-contained wiring compartment eliminates additional boxes
- Threaded 1" and 3/4" bottom hub for mounting
- Can be operated steady or flashed
- Uses 95% less energy than incandescent
- Resistant to shock and vibration
- IP65 / IP66 / NEMA 4X

APPLICATION

The RT Series Obstruction Light utilizes a unique optical, electrical, and mechanical design. The RT Series is the most universal, compact, and efficient obstruction light in the world. ETL Certified to FAA requirements, the RT Series fixture is also ICAO and Transport Canada compliant. Also available as a single fixture for direct replacement of incandescent lamp/lens technology.

DC voltage version is perfect for use with our SOL Series of solar systems for a completely maintenance-free obstruction light system with absolutely no energy costs.

PATENTS PENDING

OPERATING CONDITIONS

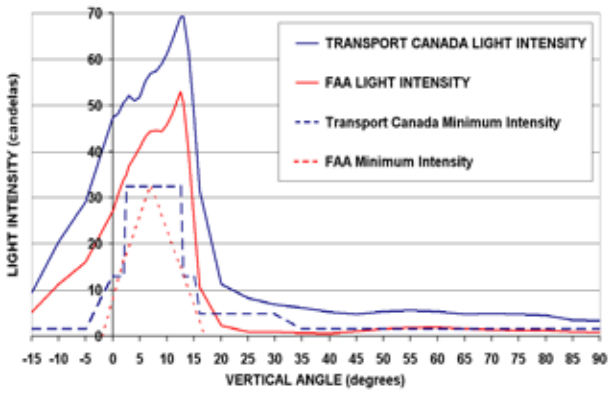
The RT Series is designed to withstand the dynamic conditions experienced in the most severe environments around the world. It has been tested in temperatures ranging from -40 to +55 degrees Celsius, direct sunlight, wind blown rain, wind in excess of 150mph, high humidity, salt, and fog.

MATERIALS AND FINISHES

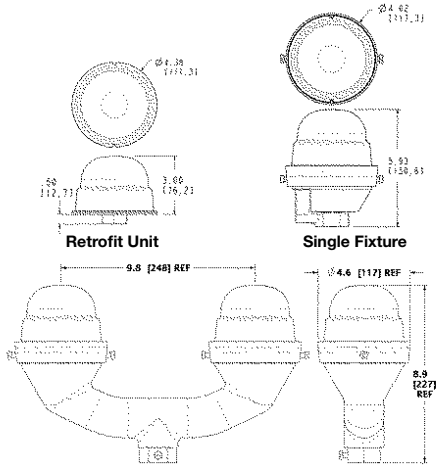
- Cast aluminum base and housing
- Aviation red UV resistant polycarbonate dome

NOTE: Ask about our solar powered obstruction lights.

PHOTOMETRIC DATA



MECHANICAL DIMENSIONS



AC POWER - ORDERING INFORMATION

Part Number	Description	Voltage	Color	Certification
RTLSF/120-240	Obstruction fixture, single	120-240VAC	Red	FAA
RTLDF/120-240	Obstruction fixture, double	120-240VAC	Red	FAA
EOLRTL/120-240	Retrofit OB fixture, single	120-240VAC	Red	FAA

AC POWER - WEIGHTS AND MEASURES

Model	Operating Voltage	Shipping Weight	Input Power (Nominal)	Container Dimensions
Retro Unit	100-240VAC +/- 10%	1.25 lbs.	6.5 W	7.60" x 5.25" x 5.75"
Single Unit	100-240VAC +/- 10%	2.00 lbs.	6.5 W	7.60" x 5.25" x 5.75"
Dual Unit	100-240VAC +/- 10%	4.60 lbs.	13.0 W	18.60" x 12.50" x 6.40"

DC POWER - ORDERING INFORMATION

Part Number	Description	Voltage	Color	Certification
RTLSF/12-48	Obstruction fixture, single	12-48VDC	Red	FAA
RTLDF/12-48	Obstruction fixture, double	12-48VDC	Red	FAA
EOLRTL/12-48	Retrofit OB fixture, single	12-48VDC	Red	FAA

DC POWER - WEIGHTS AND MEASURES

Model	Operating Voltage	Shipping Weight	Input Power (Nominal)	Container Dimensions
Retro Unit	12-48VDC	1.25 lbs.	3.5 W	7.60" x 5.25" x 5.75"
Single Unit	12-48VDC	2.00 lbs.	3.5 W	7.60" x 5.25" x 5.75"
Dual Unit	12-48VDC	4.60 lbs.	7.0 W	18.60" x 12.50" x 6.40"

L810 GENERAL USE
LED OBSTRUCTION LIGHT

Certified to: **FAA AC NO: 150/5345-43G**

Compliant to: **Canadian Aviation Regulation**
ICAO (Annex 14)
Low intensity Type A (10cd)
Low intensity Type B (32cd)

FEATURES/BENEFITS

- Available as a single or dual unit
- Available in 12VDC, 24VDC, 48VDC, 120VAC, and 240VAC versions (50 or 60Hz)
- Earth grounding provisions provided
- Unique optically designed lens to enhance LED operation and provide 360° visibility
- State-of-the-art high-flux LED technology
- Weather/corrosion resistant lamp assembly and housing
- Self-contained wiring compartment eliminates additional boxes
- Threaded 1" and 3/4" bottom hub for mounting
- Can be operated steady or flashed (controller not supplied)
- Resistant to shock and vibration
- NEMA 4X rated and IP66

APPLICATION

- The Cooper Crouse-Hinds LED Obstruction light is a type FAA L810 red obstruction light. Designed for steady burning, this fixture is used to mark any obstacle that may present hazards to aircraft navigation.

SPECIFICATIONS

- Operating Temperature: -67°F to +131°F (-55°C to +55°C)

FINISH

- Cast aluminum housing
- Stainless steel hardware

ORDERING INFORMATION†

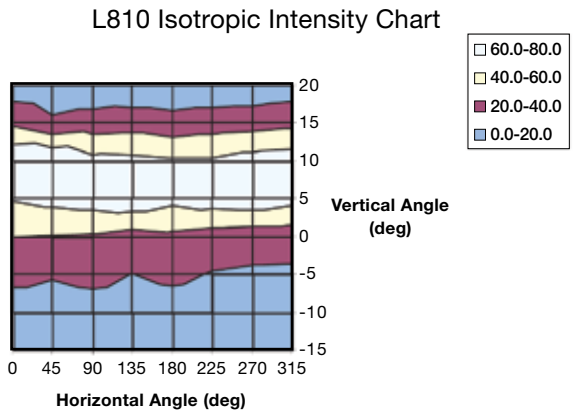
Voltage	Single Fixture	Dual Fixture
120VAC	OWLFSR/120	OWLFDR/120
240VAC	OWLFSR/240‡	OWLFDR/240‡
12VDC	OWLFSR/12	OWLFDR/12
48VDC	OWLFSR/48	OWLFDR/48
24VDC	OWLFSR/24	OWLFDR/24

CATALOG NUMBERING SYSTEM

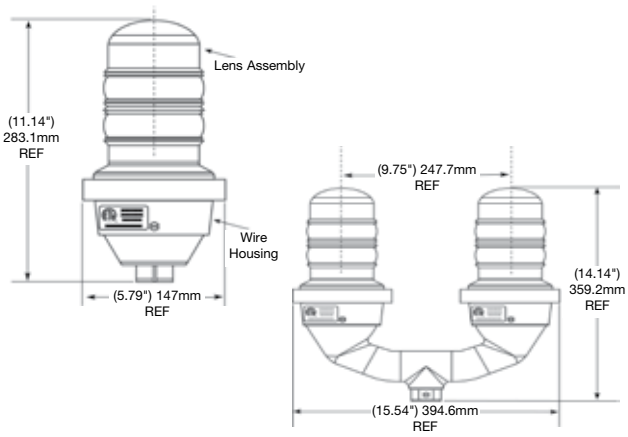
O Obstruction
W Non Hazardous Location
L Light Emitting Diode (LED)
F FAA Type L810
S Single or **D** Dual
R Red
120, 240 Voltage AC
12, 24, 48 Voltage DC

† Standard product meets both 32cd and 10cd requirements
‡ 240VAC lights are also available in 50cd and 10cd only. For 50cd only, remove "F" from catalog number and add "ICAO50CD" to end. For 10cd only remove "F" from catalog number and add "ICAO10CD to end. Ex. OWLSR/240 ICAO50CD

PHOTOMETRIC DATA



MECHANICAL DIMENSIONS



WEIGHTS & MEASUREMENTS

Part Number	Approx. Shipping Weight	Container Dimensions
Single Unit	7.1 lbs	16" x 9" x 8"
Dual Unit	16.1 lbs	22" x 17" x 9"

ELECTRICAL SPECIFICATIONS

	PF	VA	OPERATING VOLTAGE			WATTS (W)			AMPS
			Min	Typ	Max	Min	Typ	Max	
120VAC UNITS	.3	46.5	92	120	132	10	15	18	0.120
240VAC UNITS (60Hz)	.17	72	198	240	264	11	15	18	0.120
240VAC UNITS (50Hz)	–	–	198	240	264	12	14	17	–
12VDC UNITS (STANDARD)	–	–	10	12	14	20	25	29	2.000
24VDC UNITS	–	–	21	24	27	17	22	29	0.920
48VDC UNITS	–	–	43	48	53	11	14	16	0.275

L810 CLASS I, DIVISION 2
LED OBSTRUCTION LIGHT
Suitable for Use in Hazardous Areas

ETL Listed in compliance with UL1598 and UL844 for use in Class I, Div 2 Hazardous Locations

Certified to: **FAA AC NO: 150/5345-43G**

Compliant to: **ICAO (Annex 14) Type A or Type B**

FEATURES/BENEFITS

- Available as a single or dual unit
- Suitable for all Class I, Div 2, Groups A, B, C, D hazardous environments, T4 rated
- Unique optically designed lens to enhance LED operation and provide 360° visibility
- Up to 100,000 hours of service life
- Weather/corrosion resistant lamp assembly and housing
- Self-contained wiring compartment eliminates additional boxes
- Threaded 1" and 3/4" bottom hub for mounting
- Can be operated steady or flashed (controller not supplied)
- Resistant to shock and vibration
- NEMA 4X rated and IP66
- Available in 120VAC and 240VAC (50 or 60Hz)
- Energy efficient LED technology

APPLICATION

- The Cooper Crouse-Hinds Obstruction Light is an LED based Class I, Division 2 certified fixture. Used to mark obstructions on structures in hazardous environments, these fixtures provide a valuable solution to facilities in demanding and dangerous environments.

OPERATING CONDITIONS

- The fixture is designed for severe duty conditions and hazardous environments.
- Temperatures ranging from -67°F to +131°F (-55°C to +55°C). Will withstand wind in excess of 150 mph (240 kph), salt fog.

ORDERING INFORMATION

Voltage	Single Fixture	Dual Fixture	Color
120VAC	OX2LFSR/120	OX2LFDR/120	Red
240VAC	OX2LFSR/240	OX2LFDR/240	Red

CATALOG NUMBERING SYSTEM

O Obstruction

X2 Hazardous Location Class I, Div 2

L Light Emitting Diode (LED)

F FAA Type L810

S Single or **D** Dual

R Red

120, 240 Voltage AC

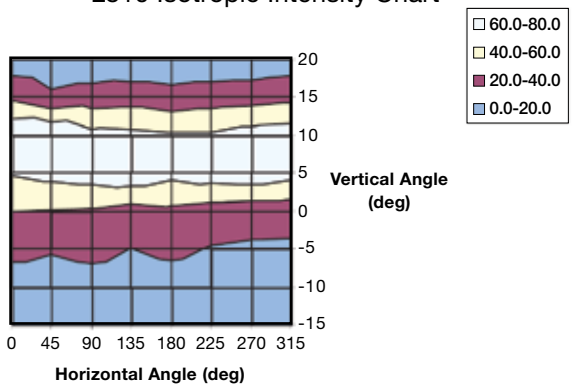
12, 24, 48 Voltage DC

FINISH

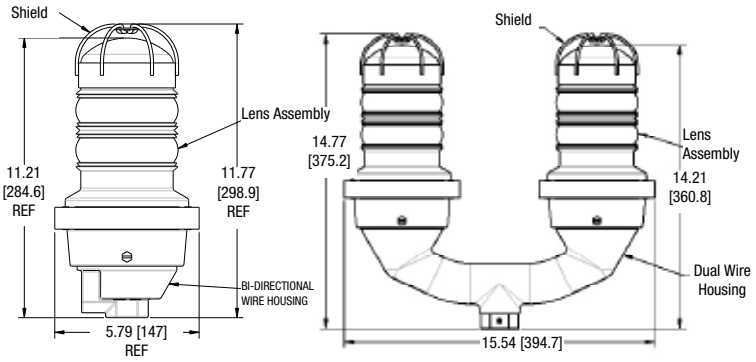
- Cast aluminum housing and stainless steel hardware.
- Electrostatically applied powdercoat of aviation orange paint.

PHOTOMETRIC DATA

L810 Isotropic Intensity Chart



MECHANICAL DIMENSIONS



Dimensions are in inches (mm)

WEIGHTS & MEASUREMENTS

Part Number	Approx. Shipping Weight	Container Dimensions
Single Unit	7.1 lbs	16" x 9" x 8"
Dual Unit	16.1 lbs	22" x 17" x 9"

ELECTRICAL SPECIFICATIONS

	PF	VA	OPERATING VOLTAGE			WATTS (W)		
			Min	Typ	Max	Min	Typ	Max
120VAC UNITS	0.3	65	92	120	132	10	15	18
240VAC UNITS (60Hz)	0.2	72	198	240	264	11	15	18
240VAC UNITS (50Hz)	0.2	73	198	240	264	12	13	17

L810 HAZARDOUS LOCATION ATEX CERTIFIED LED OBSTRUCTION LIGHT

Suitable for Use in Hazardous Areas

Certified to: **II 3G**
Ex nA IIC T4

Compliant to: **ICAO (Annex 14)**
Low Intensity
Type A or Type B

FEATURES/BENEFITS

- Inherent safety capability; low electrical/thermal energy and high light output
- Unique optically designed lens to enhance LED operation and provide 360° visibility
- Weather/corrosion resistant lamp assembly and housing
- Self-contained wiring compartment eliminates additional boxes
- Can be operated steady or flashed (controller not supplied)
- Available as a single or dual unit
- Resistant to shock and vibration
- Threaded 1" and 3/4" bottom hub for mounting
- NEMA 4X rated and IP66
- LED technology for extended life and energy efficiency
- Available in 120VAC and 240VAC
- T4 rated

APPLICATION

- The Cooper Crouse-Hinds Visual Signal Light is an LED based ATEX certified fixture. Used for visual indication in hazardous environments, providing a valuable solution to the petrochemical industry facilities.

ORDERING INFORMATION ATEX CERTIFIED PRODUCT

Voltage	Single Fixture	Dual Fixture	Color
120VAC	OALSR/120-ATEX	OALDR/120-ATEX	Red
240VAC	VALSR/240-ATEX	VALDR/240-ATEX	Red

CATALOG NUMBERING SYSTEM

O Obstruction or **V** Visual Signal
A ATEX Certified
L Light Emitting Diode (LED)
S Single **D** Dual

R Red
120, 240 Voltage AC
-ATEX

OPERATING CONDITIONS

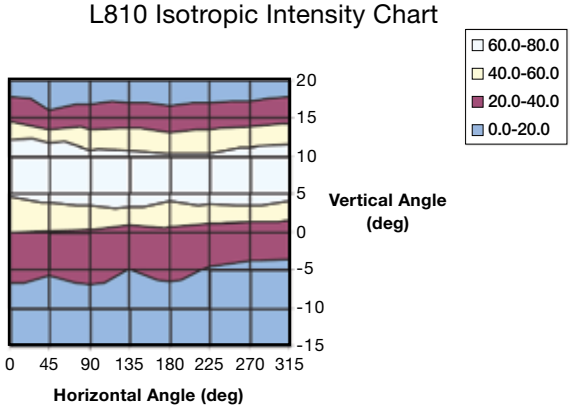
- Temperatures ranging from -67°F to +131°F (-55°C to +55°C). Will withstand wind in excess of 150 mph (240 kph), salt fog.

FINISH

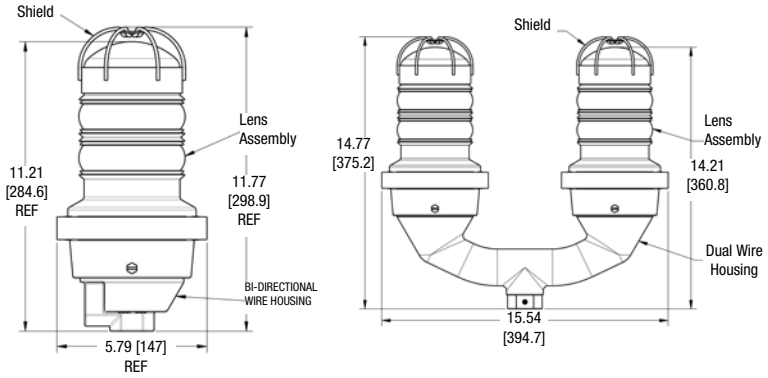
- Cast aluminum housing and stainless steel hardware.
- Electrostatically applied powdercoat of aviation orange paint.

PHOTOMETRIC DATA

L810 Isotropic Intensity Chart



MECHANICAL DIMENSIONS



Dimensions are in inches (mm)

WEIGHTS & MEASUREMENTS

Part Number	Approx. Shipping Weight	Container Dimensions
Single Unit	7.1 lbs	16" x 9" x 8"
Dual Unit	16.1 lbs	22" x 17" x 9"

ELECTRICAL SPECIFICATIONS

	PF	VA	OPERATING VOLTAGE			WATTS (W)		
			Min	Typ	Max	Min	Typ	Max
120VAC UNITS	0.3	65	92	120	132	10	15	18
240VAC UNITS (60Hz)	0.2	72	198	240	264	11	15	18
240VAC UNITS (50Hz)	0.2	73	198	240	264	12	13	17

L810 GENERAL USE INCANDESCENT OBSTRUCTION LIGHT

Certified to: **FAA AC 150/5345-43**

Compliant to: **FCC Rules and Regulations**
Canadian Standards Association (CSA)
ICAO (Annex 14)
Low Intensity Type A or Type B
Canadian Aviation Regulation
CAR 621.9 (Transport Canada)

EOL SERIES

FEATURES/BENEFITS

- ETL Certified to FAA (EOL with Red Globe and 116W, 130V Lamp(s) only)
- Red fresnel glass globes for 360° visibility
- Operates on 120 or 220-240V and 60 or 50Hz frequency power supply when used with proper voltage lamp
- Threaded 1" hub for mounting
- Pre-wired leads
- Cast aluminum housing with yellow finish
- Globes with tether and clamp band
- Accepts traffic signal lamps with USA medium screw base and European E27 base
- O-ring globe seal
- Lamp life 8,000 hours at 120V and 4,000 hours for 220-240V applications

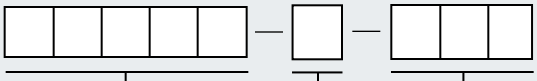
APPLICATION

- The EOL Series incandescent obstruction light is used for nighttime obstruction marking of tall structures that may present hazards to air navigation. The EOL is designed for steady burning applications.

WEIGHTS & MEASUREMENTS

	50033	50021	40940
Shipping Weight:	4.0 lbs 1.8 kg	10.0 lbs 4.5 kg	3.0 lbs 1.4 kg
Shipping Volume:	0.4 cu ft 0.011 cu m	0.45 cu ft 0.013 cu m	0.4 cu ft 0.011 cu m

ORDERING INFORMATION*



Fixture Type:
40940 = Single, Bottom Entry
50033 = Single, Side Entry
50021 = Double, Bottom Entry

Lens Color:
R = Red
G = Green
B = Blue
Y = Yellow
C = Clear

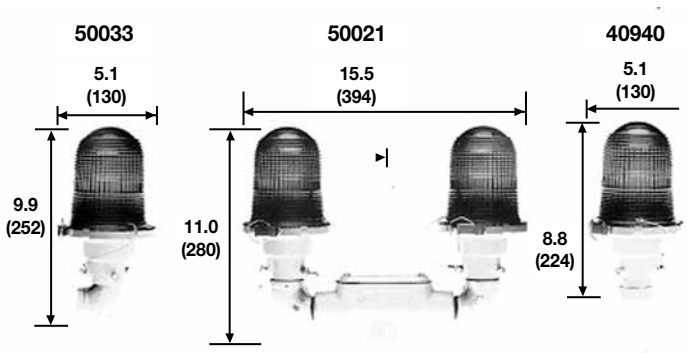
Lamp Type:
No symbols mean lamp(s) not included

116 = 116W	130V	10047-3100 or 10047-2993*
100 = 116W	230V	10047-2145

Note: Ground wire included as standard. No -GR suffix is required.

*For replacement lamps, order 10047-3100.

MECHANICAL DIMENSIONS



Dimensions are in inches (mm)

COOPER Crouse-Hinds

L810 GENERAL USE INCANDESCENT OBSTRUCTION LIGHT

Compliant to: **US Military Specification MIL-L-7830**
USAF ANA Standards
FCC Rules and Regulations
Canadian Standards Association (CSA)
ICAO (Annex 14)
Low Intensity Type A or Type B
Canadian Aviation Regulation
CAR 621.9 (Transport Canada)

VAW SERIES

FEATURES/BENEFITS

- Compliant to US Military Specification MIL-L-7830 as well as USAF ANA Standards
- Red fresnel glass globes for 360° visibility
- Threaded bottom 1" hub for mounting
- Cast aluminum housing with natural finish
- Threaded globes
- Accepts traffic signal lamps with USA medium screw base and European E27 base
- Operates on 120 or 220-240V and 60 or 50Hz frequency power supply when used with proper voltage lamp
- Gasket for globe seal
- Lamp Life 8000 hours at 120V and 4000 hours for 220-240V applications
- Optional wire guards (-GG option)

APPLICATION

- The VAW Series incandescent obstruction light is used for nighttime obstruction marking of tall structures that may present hazards to air navigation. The VAW is designed for steady burning applications.

WEIGHTS & MEASUREMENTS

	43961	43958
Shipping Weight:	16.0 lbs 1.4 kg	8.0 lbs 0.7 kg
Shipping Volume:	1.4 cu ft 0.04 cu m	0.7 cu ft 0.02 cu m

ORDERING INFORMATION*

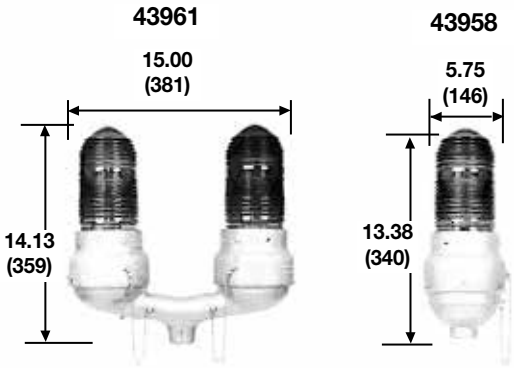
Fixture Type:
43958 = Single
43961 = Double
43950A = Double**

Lamp Type:
No Symbols Mean Lamp(s) Not Included
116 = 116W 120V 10047-1577
100 = 116W 230V 10047-2145

Options:
GG = Wire Globe Guard(s): Factory Installed Only
GR = Ground Wire(s)

* Other colored globes are available for non-obstruction lighting applications, (contact factory).
** Includes brackets for lowering device. Cooper Crouse-Hinds also offers the complete Obstruction Light Lowering System (contact factory).

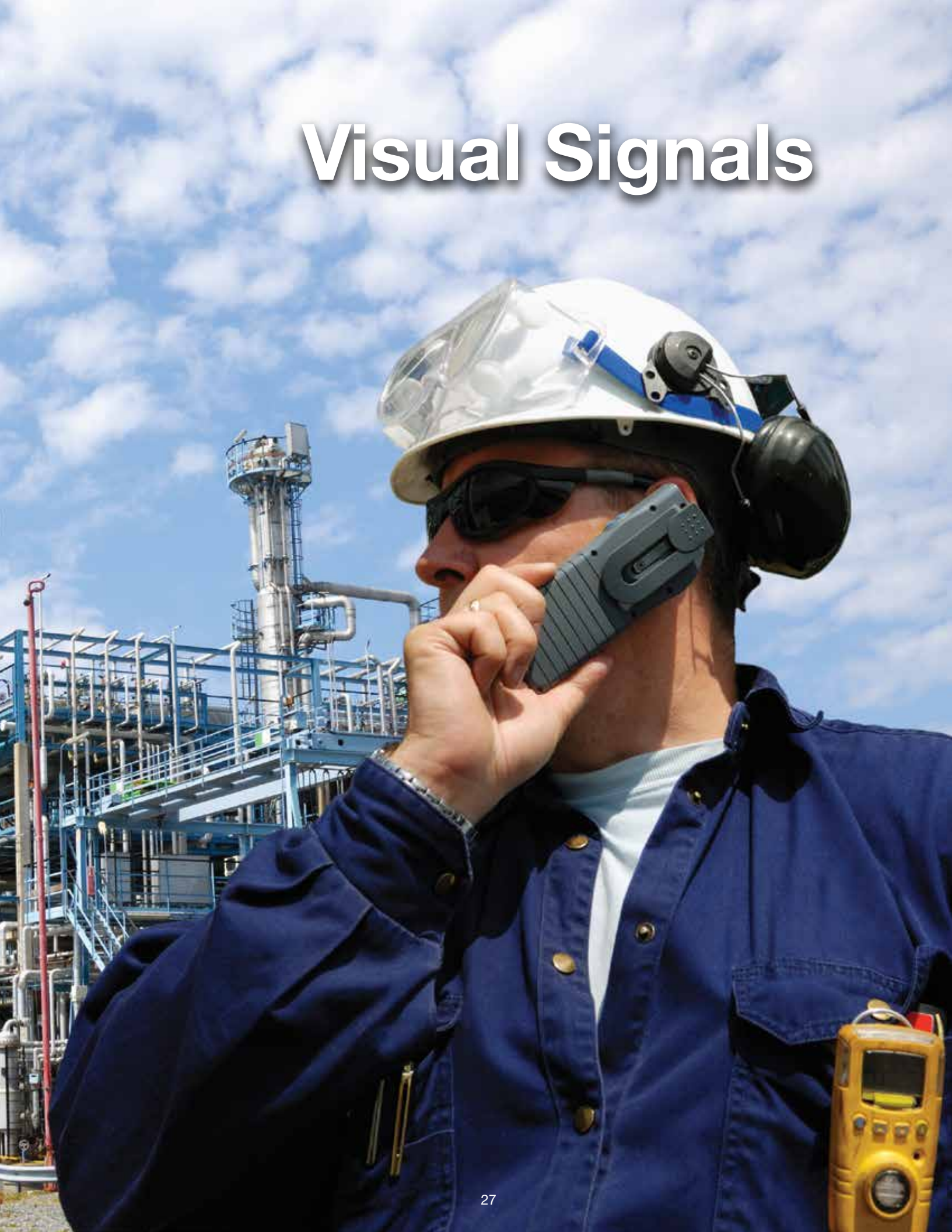
MECHANICAL DIMENSIONS



Dimensions are in inches (mm)

Application Note:
FAA Advisory Circular 70/7460-1K ‘‘Obstruction Marking and Lighting,’’ Chapter 12, paragraph 123.a advises that steady burning red lights should conform to FAA AC 150/5345-43 or Military Specification MIL-L-7830.

Visual Signals



GENERAL USE LED VISUAL SIGNAL LIGHT

UL 1598*

FEATURES/BENEFITS

- Available as a single or dual unit
- Available in 120VAC, 240VAC, 12/24/48VDC
- Unique optically designed lens to enhance LED operation and provide 360° visibility
- State-of-the-art high-flux LED technology for extended life and energy efficiency
- Uses 90% less energy than an incandescent
- Weather/corrosion resistant lamp assembly and housing
- Self-contained wiring compartment eliminates additional boxes
- Threaded 1" and 3/4" bottom hub for mounting
- Can be operated steady or flashed
- Resistant to shock and vibration
- NEMA 4X rated and IP66

APPLICATION

- The Cooper Crouse-Hinds Series Multi-Purpose LED Light fulfills the needs of engineers and architects requiring a rugged, weather-proof fixture with color alternatives to the standard red obstruction lights. Available in green, yellow, blue and white, these fixtures are typically used as a continuous source to warn, communicate, or draw attention to an area, machine, or process. Truly the LED solution to your lighting challenges.

OPERATING CONDITIONS

- Temperature: -67°F to +131°F (-55°C to +55°C)

*UL 1598 pending

ORDERING INFORMATION

Single Fixture

Voltage	Red	White	Blue	Green	Yellow
120VAC	OWLFSR/120	VWLSW/120	VWLSB/120	VWLSG/120	VWLSY/120
240VAC	OWLFSR/240	VWLSW/240	VWLSB/240	VWLSG/240	VWLSY/240
12VDC	OWLFSR/12				
48VDC	OWLFSR/48				
24VDC	OWLFSR/24				

Double Fixture

120VAC	OWLFDR/120	VWLDW/120	VWLDB/120	VWLDG/120	VWLDY/120
240VAC	OWLFDR/240	VWLDW/240	VWLDB/240	VWLDG/240	VWLDY/240
12VDC	OWLFDR/12				
48VDC	OWLFDR/48				
24VDC	OWLFDR/24				

CATALOG NUMBERING SYSTEM

O Obstruction or
V Visual Signal

W Non-Hazardous Location

L Light Emitting Diode (LED)

F FAA Type L810 (Obstruction Only)

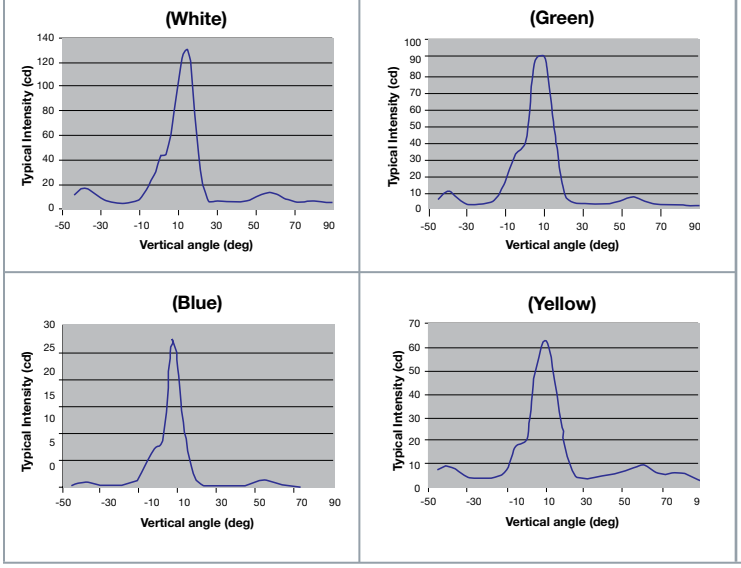
S Single or **D** Dual

R, W, B, G, Y Red, White, Blue, Green, Yellow

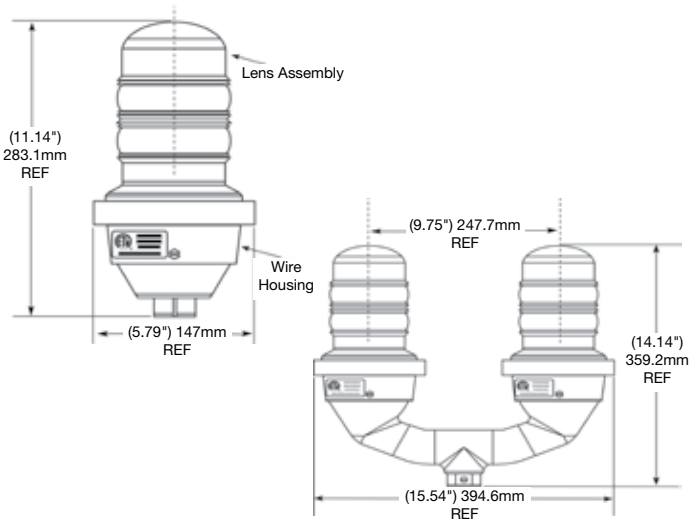
120, 240 Voltage AC

12, 24, 48 Voltage DC

PHOTOMETRIC DATA



MECHANICAL DIMENSIONS



WEIGHTS & MEASUREMENTS

Part Number	Approx. Shipping Weight	Container Dimensions
Single Unit	7.1 lbs	16" x 9" x 8"
Dual Unit	16.1 lbs	22" x 17" x 9"

ELECTRICAL SPECIFICATIONS

	PF	VA	OPERATING VOLTAGE			WATTS (W)			AMPS
			Min	Typ	Max	Min	Typ	Max	
120VAC UNITS (WHITE)	.36	44	92	120	132	12.5	16	18	0.360
120VAC UNITS (GREEN)	.36	44	92	120	132	12.5	16	18	0.360
120VAC UNITS (BLUE)	.36	44	92	120	132	12.5	16	18	0.360
120VAC UNITS (YELLOW)	.36	47	92	120	132	11	15	17	0.400

CLASS I, DIVISION 2 LED VISUAL SIGNAL LIGHT

Suitable for Use in Hazardous Areas

ETL Listed in compliance with UL1598 and UL844 for use in Class I, Div 2 Hazardous Locations

FEATURES/BENEFITS

- Inherent safety capability; low electrical/thermal energy and high light output
- Suitable for all Class I, Div 2, Groups A, B, C, D hazardous environments, T4 rated
- Unique optically designed lens to enhance LED operation and provide 360° visibility
- Weather/corrosion resistant lamp assembly and housing
- Self-contained wiring compartment eliminates additional boxes
- Can be operated steady or flashed (controller not supplied)
- Available as a single or dual unit
- Resistant to shock and vibration
- Threaded 1" and 3/4" bottom hub for mounting
- NEMA 4X rated and IP66
- LED technology for extended life and energy efficiency
- Available in 120VAC and 240VAC

APPLICATION

- The Cooper Crouse-Hinds Visual Signal Light is an LED based Class I, Division 2 certified fixture. Used for visual indication in hazardous environments, providing a valuable solution to the petrochemical industry facilities.

OPERATING CONDITIONS

- Temperatures ranging from -67°F to +131°F (-55°C to +55°C). Will withstand wind in excess of 150 mph (240 kph), salt fog.

FINISH

- Cast aluminum housing and stainless steel hardware.
- Electrostatically applied powdercoat of aviation orange paint.

ORDERING INFORMATION CLASS I, DIV 2

Voltage	Red	White	Blue	Green	Yellow
Single Fixture					
120VAC	OX2LFSR/120	VX2LSW/120	VX2LSB/120	VX2LSG/120	VX2LSY/120
240VAC	OX2LFSR/240	VX2LSW/240	VX2LSB/240	VX2LSG/240	VX2LSY/240
Double Fixture					
120VAC	OX2LFDR/120	VX2LDW/120	VX2LDB/120	VX2LDG/120	VX2LDY/120
240VAC	OX2LFDR/240	VX2LDW/240	VX2LDB/240	VX2LDG/240	VX2LDY/240

CATALOG NUMBERING SYSTEM

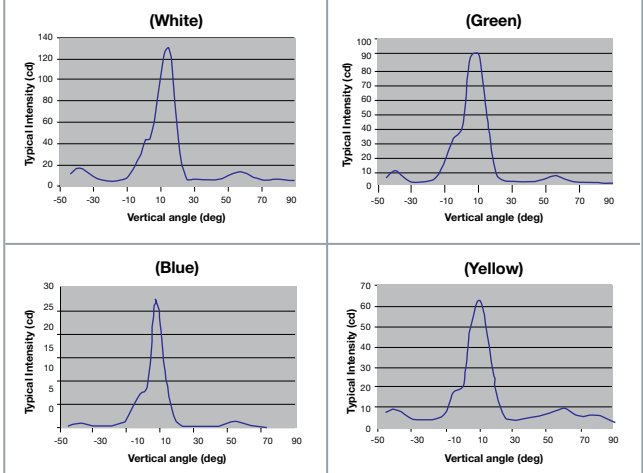
O Obstruction or **V** Visual Signal
X2 Class I, Div. 2
L Light Emitting Diode (LED)

F FAA Type L810 (Obstruction Only)
S Single **D** Dual

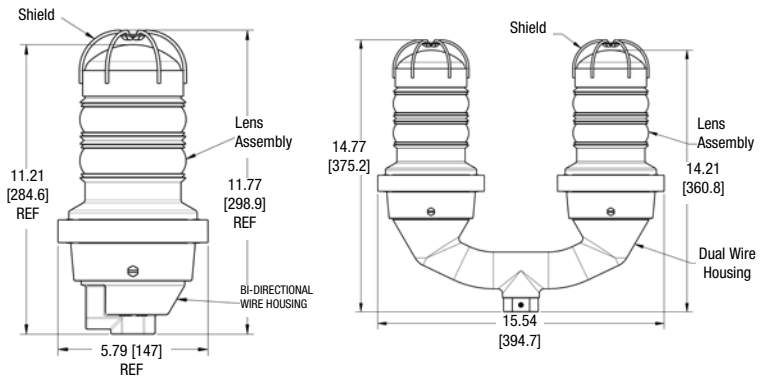
R, W, B, G, Y Red, White, Blue, Green, Yellow

120, 240 Voltage AC

PHOTOMETRIC DATA



MECHANICAL DIMENSIONS



Dimensions are in inches (mm)

WEIGHTS & MEASUREMENTS

Part Number	Approx. Shipping Weight	Container Dimensions
Single Unit	7.1 lbs	16" x 9" x 8"
Dual Unit	16.1 lbs	22" x 17" x 9"

ELECTRICAL SPECIFICATIONS

	VA	OPERATING VOLTAGE			WATTS		AMPS
		Min	Typ	Max	Typ	Max	
120VAC UNITS	47	92	120	132	15	18	0.120
240VAC UNITS	74	198	240	265	15	18	0.120

HAZARDOUS LOCATION ATEX CERTIFIED LED VISUAL SIGNAL LIGHT

Suitable for Use in Hazardous Areas

Certified to: **II 3G**
Ex nA IIC T4

FEATURES/BENEFITS

- Available as a single or dual unit
- Available in 120VAC, 240VAC
- Unique optically designed lens to enhance LED operation and provide 360° visibility
- State-of-the-art high-flux LED technology for extended life and energy efficiency
- Uses 90% less energy than an incandescent
- Weather/corrosion resistant lamp assembly and housing
- Self-contained wiring compartment eliminates additional boxes
- Threaded 1" and 3/4" bottom hub for mounting
- Can be operated steady or flashed
- Resistant to shock and vibration
- NEMA 4X rated and IP66
- T4 rated

APPLICATION

- The Cooper Crouse-Hinds Series Multi-Purpose LED Light fulfills the needs of engineers and architects requiring a rugged, weather-proof fixture with color alternatives to the standard red obstruction lights. Available in green, yellow, blue and white, these fixtures are equally at home in an office building, on the arctic tundra, or a sailboat. Truly the LED solution to your lighting challenges.

OPERATING CONDITIONS

- Temperature: -67°F to +131°F (-55°C to +55°C)

ORDERING INFORMATION

Single Fixture

Voltage	Red	White	Blue	Green	Yellow
120VAC	OALSR/120-ATEX	VALSW/120-ATEX	VALSB/120-ATEX	VALSG/120-ATEX	VALSY/120-ATEX
240VAC	VALSR/240-ATEX	VALSW/240-ATEX	VALSB/240-ATEX	VALSG/240-ATEX	VALSY/240-ATEX

Double Fixture

120VAC	OALDR/120-ATEX	VALDW/120-ATEX	VALDB/120-ATEX	VALDG/120-ATEX	VALDY/120-ATEX
240VAC	VALDR/240-ATEX	VALDW/240-ATEX	VALDB/240-ATEX	VALDG/240-ATEX	VALDY/240-ATEX

CATALOG NUMBERING SYSTEM

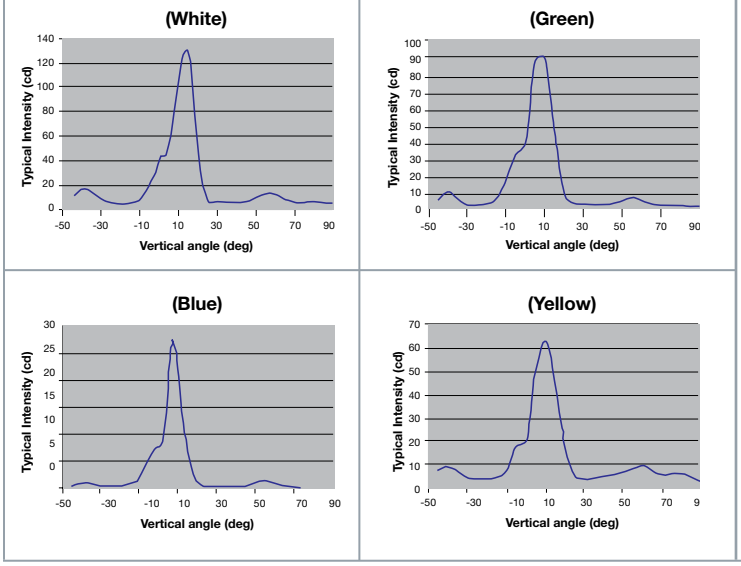
O Obstruction or **V** Visual Signal
A ATEX
W Non-Hazardous Location

L Light Emitting Diode (LED)
S Single or **D** Dual

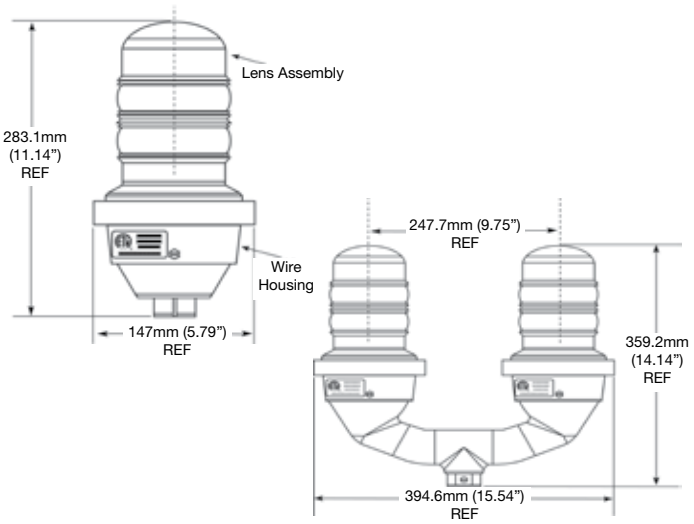
R, W, B, G, Y
Red, White, Blue, Green, Yellow

120, 240 Voltage AC
-ATEX

PHOTOMETRIC DATA



MECHANICAL DIMENSIONS



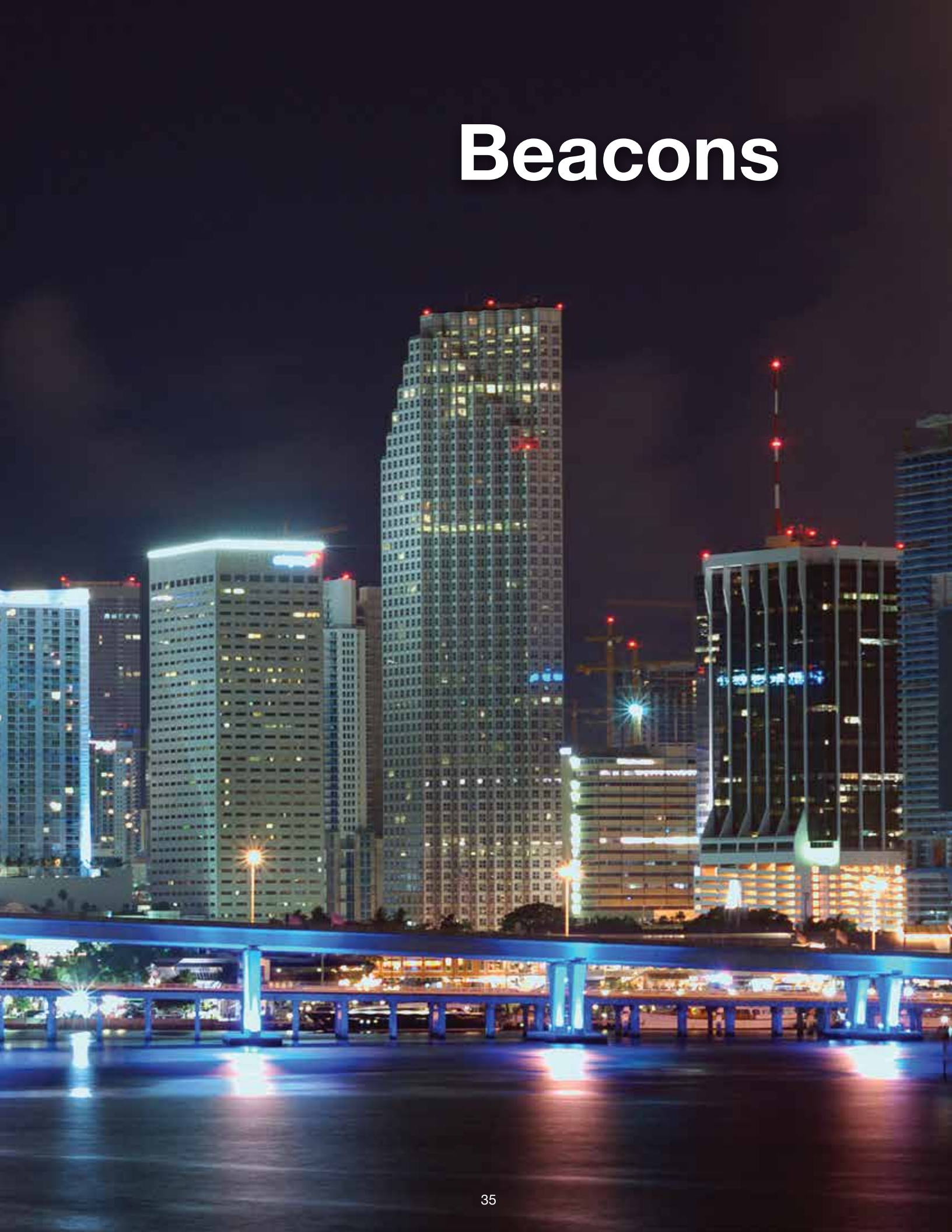
WEIGHTS & MEASUREMENTS

Part Number	Approx. Shipping Weight	Container Dimensions
Single Unit	7.1 lbs	16" x 9" x 8"
Dual Unit	16.1 lbs	22" x 17" x 9"

ELECTRICAL SPECIFICATIONS

	PF	VA	OPERATING VOLTAGE			WATTS	
			Min	Typ	Max	Typ	Max
120VAC UNITS	0.37	73	92	120	132	10	18
240VAC UNITS	0.20	74	216	240	264	15	18

Beacons



L864 GENERAL USE
LED RED BEACON
MEDIUM INTENSITY

Certified to: **FAA AC NO: 150/5345-43G**

Compliant to: **ICAO (Annex 14)**
FAA Engineering Brief No. 67

FEATURES/BENEFITS

- Designed to replace 300mm incandescent obstruction lighting fixtures with state-of-the-art high-flux LED technology
- Modular design for simple replacement of light engine
- Can be flashed or steady burned (order controller or flasher separately)
- Uses 90% less energy than incandescent beacons
- Weighs 20 lbs.
- Meets or exceeds industry EMI/RFI standards
- Beacon designed to mount onto existing bolt pattern installations
- Resistant to shock and vibration
- NEMA 4X rated and IP66

APPLICATION

- The Cooper Crouse-Hinds LED based medium intensity red beacon utilizes state-of-the-art optical design to achieve the most compact, efficient, FAA compliant L864 device in the market. While it readily interfaces into existing installations, its robust, low power design will provide years of maintenance-free service.

OPERATING CONDITIONS

- The beacon is designed to withstand the dynamic conditions experienced in the most severe environments around the world.
- Temperatures ranging from -67°F to +131°F (-55° to +55° Celsius), direct sunlight, wind blown rain, wind in excess of 150mph, high humidity, salt fog.

ORDERING INFORMATION

Voltage	Catalog Number	Color
120/240VAC	CWLFR/120-240	Red

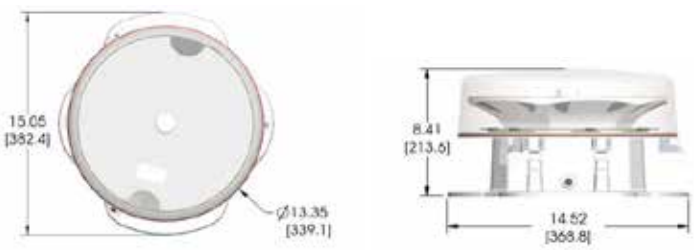
FINISH

- The beacon is designed for durability with a cast aluminum base stainless steel hardware. The dome is made of UV resistant polycarbonate and sealed to ensure maximum life of the product.

ELECTRICAL SPECIFICATIONS

Voltage	Frequency	Wattage	Power Factor	No. LEDs
120/240V	50/60Hz	20	>0.9	36

DIMENSIONS



L864 CLASS I, DIVISION 2 LED RED BEACON MEDIUM INTENSITY

Suitable for Use in Hazardous Areas

Certified to: **FAA AC NO: 150/5345-43G**

Compliant to: **ICAO (Annex 14)**
Type A or Type B
Canadian Aviation Regulation
CAR 621.9 (Transport Canada)

FEATURES/BENEFITS

- Suitable for all Class I, Div. 2, Groups A, B, C, D hazardous environments T5 rated
- Designed to replace 300mm incandescent obstruction lighting fixtures with state-of-the-art high-flux LED technology
- Modular design for simple replacement of light engine
- Can be flashed or steady burned (order controller or flasher separately)
- Uses 90% less energy than an incandescent
- Weighs less than 28 lbs.
- Beacon designed to mount onto existing bolt pattern installations
- Resistant to shock and vibration
- NEMA 4X rated and IP66

APPLICATION

- The Cooper Crouse-Hinds LED based Class I, Div 2 certified medium intensity red beacon was designed to easily interface into existing systems or to be provided as a red lighting fixture for new installations. The beacon is used to mark any obstacle that may provide hazards to aircraft navigation.

OPERATING CONDITIONS

- The beacon is designed to withstand the dynamic conditions experienced in the most severe environments around the world.
- Temperatures ranging from -67°F to +131°F (-55° to +55° Celsius), direct sunlight, wind blown rain, wind in excess of 150 mph, high humidity, salt fog. Does not create, nor is the performance degraded by EMI/RFI.

ORDERING INFORMATION

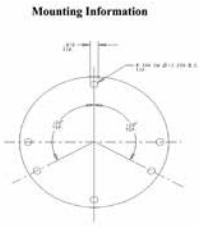
Voltage	Catalog Number	Color
120/240VAC	CX2LFR/120-240	Red

FINISH

- Cast aluminum base and stainless steel hardware.
- Electrostatically applied powdercoat of aviation orange paint.
- Dome is made of UV resistant acrylic and sealed to ensure maximum life of the product.

MECHANICAL DIMENSIONS

MOUNTING INFORMATION



Beacon Bottom View

WEIGHTS & MEASUREMENTS

Part Number	Approx. Shipping Weight	Container Dimensions
D1 Series	20 lbs (12.70 kg)	24" x 24" x 24" (600 x 600 x 600 mm)

ELECTRICAL SPECIFICATIONS

Voltage	Frequency	Wattage	Power Factor	No. LEDs
120/240V	50/60Hz	20	>0.9	36

LED BEACON HEAT/SUN SHIELD

Stainless Steel Heat/Sun Shield for LED Beacons P/N 5810-018S

SERIES SPECIFICATIONS

- 304 Stainless Steel
- Beacon Mounting Bolt Pattern

APPLICATION

- Supports beacons listed below:
- CWLFR/120 240 - LED Red Beacon
- CX2LFR/120-240 - LED Red Beacon Class I, Div. 2
- DRW1LF/120-240 - LED Dual Red/White Beacon
- DX2RW1LF/120-240 - LED Dual Red/White Beacon Class I, Div. 2

GENERAL USE LED RETROFIT ADAPTER

FEATURES/BENEFITS

- Allows for simple retrofit onto existing incandescent beacons
- Eliminates the need to completely remove the old fixture
- Utilizes a simple socket based electrical interface. No wiring on the tower
- Rugged cast design
- Designed to interface with most existing fixtures in the market
- Reduces retrofit time for an LED beacon to a small fraction of what would be required for a complete fixture removal

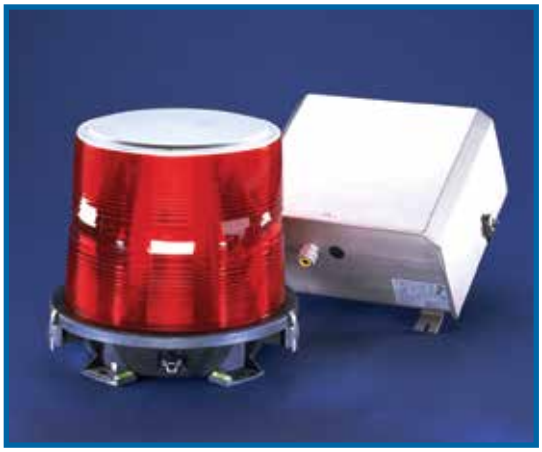
ORDERING INFORMATION

Catalog Number	Description
BLF Adaptor	Retrofit Adapter

L864 GENERAL USE XENON RED MEDIUM INTENSITY BEACON

Certified to: **FAA AC 150/5345-43G: L-864**

Compliant to: **FCC Rules and Regulations**
Canadian Standards Association (CSA)
ICAO Type B (red)



FEATURES/BENEFITS

- FAA approved L-864
- Meets or exceeds ICAO specifications
- Power consumption is 90% less than conventional incandescent beacons
- Low operating and maintenance costs with long life flashtubes
- NEMA 4X stainless steel enclosure
- Special circuitry eliminates the lens failure due to ozone corrosion common to all other beacons
- Horizontal 360 degree and vertical 5 degree beam spread
- Very narrow, controlled beam
- Smallest size and wind loading
- AC or DC operation available
- Remote alarm indication
- Complete technical data and application assistance available

APPLICATION

- The CHB314 is a medium intensity white beacon system that provides a red beacon for day and night operation for lighting structures up to 500 feet high and is available for Catenary style lighting (L-866). A single beacon provides 360° coverage for structures up to 350 feet. Three beacons provide proper marking for structures between 350 and 500 feet high. The beacon is also available in 60Hz or 50Hz power options. Power consumption is 90% less than conventional incandescent beacons.
- The beacon is operated on a continuous 24 hours basis generating 20,000 effective candelas during the daytime/twilight period and automatically reduces to 2,000 effective candelas during night period.

ORDERING INFORMATION*

Each Beacon System consists of a flashhead and separate power supply. Each system requires a photocell and interconnecting cables. After selecting a beacon, see the Accessories table below.

Voltage	Catalog Number
110/120V 50Hz	CHB314 110/120V 50Hz
208/240V 50Hz	CHB314 208/240V 50Hz
110/120V 60Hz	CHB314 110/120V 60Hz
208/240V 60Hz	CHB314 208/240V 60Hz

* Note: Obstructions over 350 feet require several interconnected power converters and flashheads (typically three) in a master/slave configuration. Contact Cooper Crouse-Hinds Customer Service for further assistance.

ACCESSORIES

Description	Catalog Number
Photocell	PEC 510
Interconnecting Cable[1]	4634000

[1] Sold in 50 foot increments. The quantity of cable ordered will reflect the number of feet required. Ex. For 100 feet, order a quantity 100 of 4634000.

ELECTRICAL RATINGS

Mode	Flash Rate (flashes/minute)	Power Used
Night	20	250W

ALL LED BASED L864 / L865 TYPE DUAL RED / WHITE MEDIUM INTENSITY BEACON FOR HAZARDOUS OR NORMAL LOCATIONS

LED DUAL BEACON

Certified to: **FAA AC NO: 150/5345-43G**

Compliant to: **ICAO (Annex 14 - Fourth Edition, July 2004)**

Cl. I, Div. 2, Groups A, B, C, D, T5

(DX2RW1LF/120-240)

APPLICATION

The all LED Cooper Crouse-Hinds Medium Intensity White Strobe and Red Beacon is designed for the lighting of hazardous areas that require the need for aircraft warning lighting. This is purpose-built for installations such as flares and chimneys.

The Dual L864 / L865 uses LED technology for light output from both the red beacon and white strobe. Unlike conventional Xenon flashtube technology, little or no maintenance is required during its lifetime. With voltages of less than 200VDC, working voltages are significantly less than with Xenon flashtube designs; therefore, this system represents an advance in safety.

The Cooper Crouse-Hinds Dual L864 / L865 LED Beacon operates from a 110/230VAC 50/60Hz supply. The power supply/control box can be located up to 550 feet away from the light engine, such as at the base of the tower.

WEIGHTS

- Flash Head - Approximately 26 lbs.

MATERIALS / FINISHES

- Powder coat aluminum base
- High temperature UV resistant acrylic
- Stainless steel hardware

ORDERING INFORMATION

Catalog Number	Description
DX2RW1LF/120-240	1 level dual red/white LED beacon (for Class I, Division 2 applications)
DRW1LF/120-240	1 level dual red/white LED beacon

SERIES SPECIFICATIONS

20,000 cd white daytime mode, 2,000 cd red nighttime mode, default 2,000 cd white nighttime mode

Universal 110/230VAC 50/60Hz power factor corrected supply

- White Day: 90W

- Red Night: 35W

- White Night: 25W

Power Factor: >0.9

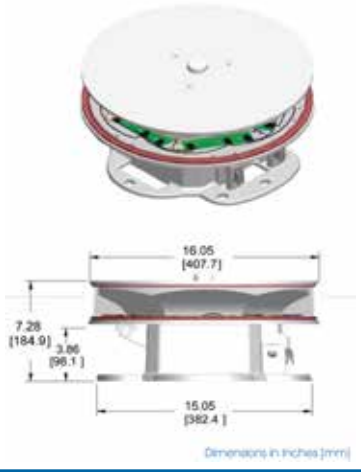
Operating Temperature: -40°C to +55°C

Storage Temperature: -55°C to +55°C

Flash Rate: 20-40 fpm (controller dependent)

Synchronization: multiple unit sync from single controller or GPS controls

MECHANICAL DIMENSIONS



L864/L865 GENERAL USE XENON DUAL BEACON MEDIUM INTENSITY

Certified to: **FAA AC 150/5345-43G: L-864 & L-865**

Compliant to: **FCC Rules and Regulations**
Canadian Standards Association (CSA)
ICAO Type A (white) or B (red)

FEATURES/BENEFITS

- FAA approved L-864 & L-865
- Meets or exceeds ICAO specifications
- Power consumption is 90% less than conventional incandescent beacons.
- Low operating and maintenance costs with long life flashtubes
- Power supply includes 12 LED indicators to convey operating status
- NEMA 4X stainless steel enclosure
- Special circuitry eliminates the lens failure due to ozone corrosion common to all other beacons
- Horizontal 360 degree and vertical 5 degree beam spread
- Very narrow, controlled beam
- Smallest size and wind loading
- AC or DC operation available
- Remote alarm indication

APPLICATION

- The CHB324 is a medium intensity dual-beacon system that provides a white beacon for day operation and a red beacon for night operation for lighting structures up to 500 feet high. A single beacon provides 360 degree coverage for structures up to 350 feet. Three beacons provide proper marking for structures between 351 and 500 feet high. The beacon is available in 60Hz or 50Hz power options. Power consumption is 90% less than conventional incandescent beacons.
- The beacon is operated on a continuous 24 hour basis generating 20,000 effective candelas during the white daytime/twilight period and automatically reduces to 2,000 effective candelas during red night period.

ORDERING INFORMATION*

Each Beacon System consists of a flashhead and separate power supply. Each system requires a photocell and interconnecting cables. After selecting a beacon, see the Accessories table below.

Voltage	Catalog Number
110/120V 50Hz	CHB324 110/120V 50Hz
208/240V 50Hz	CHB324 208/240V 50Hz
110/120V 60Hz	CHB324 110/120V 60Hz
208/240V 60Hz	CHB324 208/240V 60Hz

* Note: Obstructions over 350 feet require several interconnected power converters and flashheads (typically three) in a master/slave configuration. Contact Cooper Crouse-Hinds Customer Service for further assistance.

ACCESSORIES

Description	Catalog Number
Photocell	PEC 510
Interconnecting Cable[1]	4634000

[1] Sold in 50 foot increments. The quantity of cable ordered will reflect the number of feet required. Ex. For 100 feet, order a quantity 100 of 4634000.

ELECTRICAL RATINGS

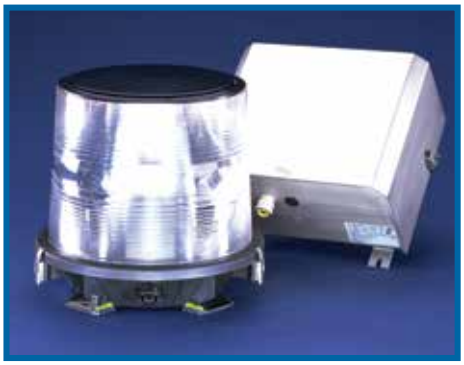
Mode	Flash Rate† (flashes/minute)	Power Used
Day/Twilight	40	130W
Night	20	145W

† Flashtube light output meets the FAA minimum requirements of 20,000 candelas day/twilight and 2,000 candelas night for a period of not less than two years.

L865/L866 GENERAL USE XENON WHITE BEACON MEDIUM INTENSITY

Certified to: **FAA AC 150/5345-43G: L-865 & L-866**

Compliant to: **FCC Rules and Regulations**
Canadian Standards Association (CSA)
ICAO (Annex 14)
Type A (white)



FEATURES/BENEFITS

- FAA approved L-865 & L-866
- Meets or exceeds ICAO specifications
- Power consumption is 90% less than conventional incandescent beacons
- Low operating and maintenance costs with long life flashtubes
- NEMA 4X stainless steel enclosure
- Special circuitry eliminates the lens failure due to ozone corrosion common to all other beacons
- Horizontal 360 degree and vertical 5 degree beam spread
- Very narrow, controlled beam
- Smallest size and wind loading
- AC or DC operation available
- Remote alarm indication
- Complete technical data and application assistance available

APPLICATION

- The CHB310 is a medium intensity white beacon system that provides a white beacon for day and night operation for lighting structures up to 500 feet high and is available for Catenary style lighting (L-866). A single beacon provides 360° coverage for structures up to 350 feet. Three beacons provide proper marking for structures between 350 and 500 feet high. The beacon is also available in 60Hz or 50Hz power options. Power consumption is 90% less than conventional incandescent beacons.
- The beacon is operated on a continuous 24 hours basis generating 20,000 effective candelas during the daytime/twilight period and automatically reduces to 2,000 effective candelas during night period.

ORDERING INFORMATION*

Each Beacon System consists of a flashhead and separate power supply. Each system requires a photocell and interconnecting cables. After selecting a beacon, see the Accessories table below.

Voltage	Catalog Number
110/120V 50Hz	CHB310 110/120V 50Hz
208/240V 50Hz	CHB310 208/240V 50Hz
110/120V 60Hz	CHB310 110/120V 60Hz
208/240V 60Hz	CHB310 208/240V 60Hz

* Note: Obstructions over 350 feet require several interconnected power converters and flashheads (typically three) in a master/slave configuration. Contact Cooper Crouse-Hinds customer service for assistance.

ACCESSORIES

Description	Catalog Number
Photocell	PEC 510
Interconnecting Cable[1]	4634000

[1] Sold in 50 foot increments. The quantity of cable ordered will reflect the number of feet required. Ex. For 100 feet, order a quantity 100 of 4634000.

ELECTRICAL RATINGS

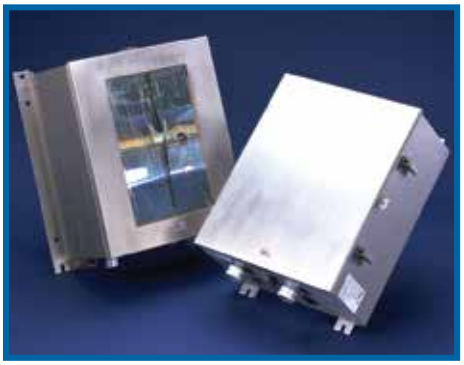
Mode	Flash Rate‡ (flashes/minute)	Power Used
Day	40	130W
Night	40	75W

‡ Flashtube light output meets the FAA minimum requirements of 20,000 candelas day/twilight and 2,000 candelas night for a period of not less than two years.

L856/L857 GENERAL USE XENON WHITE BEACON HIGH INTENSITY

Certified to: **FAA AC 150/5345-43G: L-856 & L-857**

Compliant to: **FCC Rules and Regulations**
Canadian Standards Association (CSA)
ICAO (Annex 14)
Type A or B (white)



FEATURES/BENEFITS

- FAA approved L-856 or L-857
- Meets or exceeds ICAO type A or type B (white) specifications
- NEMA 4X stainless steel enclosure
- Low operating and maintenance costs with long life flashtubes
- Horizontal 120 degree and vertical 5 degree beam spread
- Complete technical data and application assistance available

APPLICATION

- The CHB204 Beacon, when combined with the CHC121W Controller or the CHC140W Controller is a high intensity white strobe system that provides a white strobe for day, twilight, and night operation for lighting structures over 500 feet high and is available for Catenary style lighting L-857. Since each beacon provides 120 degree coverage, a minimum of three beacons is required at each level to attain 360 degree coverage on most structures. To determine the number of tiers and placement requirements, please refer to the appropriate publications of your respective governing body.
- The beacon is operated on a continuous 24-hour basis generating 270,000 (L-856), 200,000 (ICAO Type A), 140,000 (L-857) or 100,000 (ICAO Type B) effective candelas during the daytime period, 20,000 effective candelas in the twilight period, 2,000 (optional 4,000) effective candelas during night period when configured with the CHC121W or CHC140W Controller.

ACCESSORIES

Description	Catalog Number
Photocell	PEC 510*

*NOTE: The PEC510 photocell is required to direct intensity stepping for the CHC121W or the CHC140W controllers.

ORDERING INFORMATION

Each system consists of a flashhead and separate power supply. Each system requires a photocell and interconnecting cables. After selecting a beacon, see the Accessories table below. Refer to page 58 for Controller information.

Voltage	Catalog Number	Controller
110/120V 50Hz	CHB204 110/120V 50Hz	CHC140W
220/240V 50Hz	CHB204 220/240V 50Hz	CHC140W
110/120V 60Hz	CHB204 110/120V 60Hz	CHC140W
208/220V 60Hz	CHB204 208/220V 60Hz	CHC140W
230/240V 60Hz	CHB204 230/240V 60Hz	CHC140W
480V	CHB204 480V 60Hz	CHC140W
110/120V 50Hz	CHB204S 110/120V 50Hz	CHC121W
208/240V 50Hz	CHB204S 220/240V 50Hz	CHC121W
110/120V 60Hz	CHB204S 110/120V 60Hz	CHC121W
208/240V 60Hz	CHB204S 208/220V 60Hz	CHC121W
230/240V 60Hz	CHB204S 230/240V 60Hz	CHC121W
480V	CHB204S 480V 60Hz	CHC121W

ELECTRICAL RATINGS

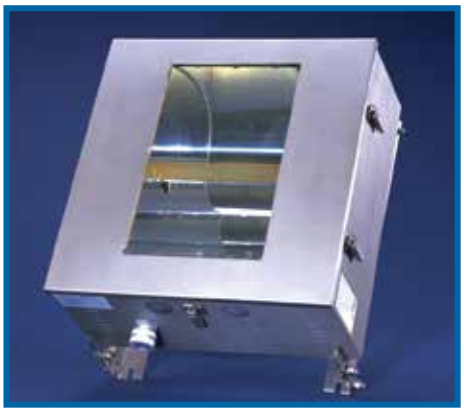
Mode	Flash Rate‡ (flashes/minute)	Power Used
Day/Twilight	40	255W
Night	40	255W

‡ Flashtube light output meets the FAA minimum requirements of 20,000 candelas day/twilight and 2,000 candelas night for a period of not less than two years.

L856/L857 GENERAL USE XENON WHITE BEACON HIGH INTENSITY

Certified to: **FAA AC 150/2345-43F: L-856 & L-857**

Compliant to: **FCC Rules and Regulations**
Canadian Standards Association (CSA)
ICAO (Annex 14)
Type A or B (white)



FEATURES/BENEFITS

- Same enclosure for power converter and flashhead saves space and installation cost
- FAA approved L-856 or L-857
- Meets or exceeds ICAO type A or type B (white) specifications
- NEMA 4X stainless steel enclosure
- Low operating and maintenance costs with long life flashtubes
- Horizontal 120 degree and vertical 5 degree beam spread
- Complete technical data and application assistance available

APPLICATION

- The CHB205 Beacon, when combined with the CHC121W Controller or the CHC140W Controller is a high intensity white strobe system that provides a white strobe for day, twilight, and night operation for lighting structures over 500 feet high and is available for Catenary style lighting L-857. Since each beacon provides 120 degree coverage, a minimum of three beacons is required at each level to attain 360 degree coverage on most structures. To determine the number of tiers and placement requirements, please refer to the appropriate publications of your respective governing body.
- The beacon is operated on a continuous 24-hour basis generating 270,000 (L-856), 200,000 (ICAO Type A), 140,000 (L-857) or 100,000 (ICAO Type B) effective candelas during the daytime period, 20,000 effective candelas in the twilight period, 2,000 (optional 4,000) effective candelas during night period when configured with the CHC121W or CHC140W Controller.

ORDERING INFORMATION

Each system consists of a flashhead and power supply in one enclosure. Each system requires a photocell and interconnecting cables. After selecting a beacon, see the Accessories table below. Refer to page 58 for Controller information.

Voltage	Catalog Number	Controller
110/120V 50Hz	CHB205 110/120V 50Hz	CHC140W
220/240V 50Hz	CHB205 220/240V 50Hz	CHC140W
110/120V 60Hz	CHB205 110/120V 60Hz	CHC140W
208/220V 60Hz	CHB205 208/220V 60Hz	CHC140W
230/240V 60Hz	CHB205 230/240V 60Hz	CHC140W
480V	CHB205 480V 60Hz	CHC140W
110/120V 50Hz	CHB205S 110/120V 50Hz	CHC121W
208/240V 50Hz	CHB205S 220/240V 50Hz	CHC121W
110/120V 60Hz	CHB205S 110/120V 60Hz	CHC121W
208/240V 60Hz	CHB205S 208/220V 60Hz	CHC121W
230/240V 60Hz	CHB205S 230/240V 60Hz	CHC121W
480V	CHB205S 480V 60Hz	CHC121W

ELECTRICAL RATINGS

Mode	Flash Rate‡ (flashes/minute)	Power Used
Day/Twilight	40	255W
Night	40	255W

‡ Flashtube light output meets the FAA minimum requirements of 20,000 candelas day/twilight and 2,000 candelas night for a period of not less than two years.

ACCESSORIES

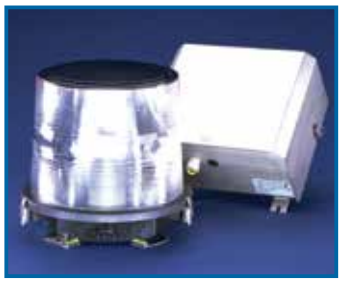
Description	Catalog Number
Photocell	PEC 510*

*NOTE: The PEC510 photocell is required to direct intensity stepping for the CHC121W or CHC140W controllers.

WHITE MEDIUM INTENSITY FLASHHEAD WITH CHC140W CONTROLLER

Certified to:
FAA AC 150/5345-43G:
L-865 & L-866

Compliant to:
FCC Rules and Regulations
Canadian Standards Association (CSA)
ICAO (Annex 14)
Type A (white)



FEATURES/BENEFITS

- FAA approved L-865 & L-866
- Meets or exceeds ICAO specifications
- Power consumption is 90% less than conventional incandescent beacons
- Low operating and maintenance costs with long life flashtubes
- NEMA 4X stainless steel enclosure
- Special circuitry eliminates the lens failure due to ozone corrosion common to all other beacons
- Horizontal 360 degree and vertical 5 degree beam spread
- Very narrow, controlled beam
- Smallest size and wind loading
- AC or DC operation available
- Remote alarm indication
- Complete technical data and application assistance available

APPLICATION

- The CHB302W is a medium intensity white beacon for use with high intensity systems and designed to work with the CHC140W Controller. It will provide a white beacon and night operations for structures up to 500'.
- Complete technical data and application assistance available.

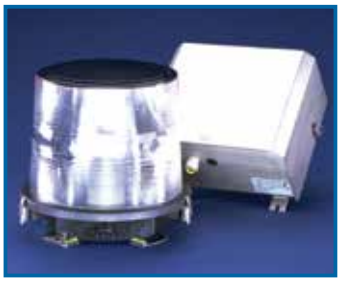
ORDERING INFORMATION*

Voltage	Catalog Number
110/120V 50Hz	CHB302W 110/120V 50Hz
220/240V 50Hz	CHB302W 220/240V 50Hz
110/120V 60Hz	CHB302W 110/120V 60Hz
110/120V 60Hz 4000cd	CHB302W 110/120V 60Hz 4000cd
208/220V 60Hz	CHB302W 208/220V 60Hz
230/240V 60Hz	CHB302W 230/240V 60Hz
480V 60Hz	CHB302W 480V 60Hz

WHITE MEDIUM INTENSITY FLASHHEAD WITH CHC121W CONTROLLER

Certified to:
FAA AC 150/5345-43G:
L-865 & L-866

Compliant to:
FCC Rules and Regulations
Canadian Standards Association (CSA)
ICAO (Annex 14)
Type A (white)



FEATURES/BENEFITS

- FAA approved L-865 & L-866
- Meets or exceeds ICAO specifications
- Power consumption is 90% less than conventional incandescent beacons
- Low operating and maintenance costs with long life flashtubes
- NEMA 4X stainless steel enclosure
- Special circuitry eliminates the lens failure due to ozone corrosion common to all other beacons
- Horizontal 360 degree and vertical 5 degree beam spread
- Very narrow, controlled beam
- Smallest size and wind loading
- AC or DC operation available
- Remote alarm indication
- Complete technical data and application assistance available

APPLICATION

- The CHB302WS is a medium intensity white beacon for use with high intensity systems and designed to work with the CHC121W Controller. It will provide a white beacon and night operations for structures up to 500'.
- Complete technical data and application assistance available.

ORDERING INFORMATION*

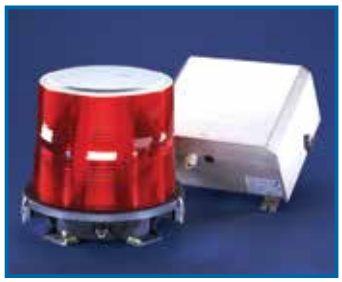
Voltage	Catalog Number
110/120V 50Hz	CHB302WS 110/120V 50Hz
220/240V 50Hz	CHB302WS 220/240V 50Hz
110/120V 60Hz	CHB302WS 110/120V 60Hz
208/220V 60Hz	CHB302WS 208/220V 60Hz
230/240V 60Hz	CHB302WS 230/240V 60Hz
480V 60Hz	CHB302WS 480V 60Hz

* Note: Obstructions over 350 feet require several interconnected power converters and flashheads (typically three) in a master/slave configuration. Contact Cooper Crouse-Hinds customer service for assistance.

RED MEDIUM INTENSITY FLASHHEAD WITH CHC121W CONTROLLER

Certified to:
FAA AC 150/5345-43G:
L-864

Compliant to:
FCC Rules and Regulations
Canadian Standards Association (CSA)
ICAO (Annex 14)
Type B (red)



FEATURES/BENEFITS

- FAA approved L-864
- Meets or exceeds ICAO specifications
- Power consumption is 90% less than conventional incandescent beacons
- Low operating and maintenance costs with long life flashtubes
- NEMA 4X stainless steel enclosure
- Special circuitry eliminates the lens failure due to ozone corrosion common to all other beacons
- Horizontal 360 degree and vertical 5 degree beam spread
- Very narrow, controlled beam
- Smallest size and wind loading
- AC or DC operation available
- Remote alarm indication
- Complete technical data and application assistance available

APPLICATION

- The CHB302R is a medium intensity red beacon for use with high intensity systems and designed to work with the CHC121W Controller. It will provide a red beacon for night operations for structures up to 500'.
- Complete technical data and application assistance available.

ORDERING INFORMATION*

Voltage	Catalog Number
220/240V 50Hz	CHB302R 220/240V 50Hz
110/120V 60Hz	CHB302R 110/120V 60Hz

* Note: Obstructions over 350 feet require several interconnected power converters and flashheads (typically three) in a master/slave configuration. Contact Cooper Crouse-Hinds customer service for assistance.

RED/WHITE MEDIUM INTENSITY FLASHHEAD WITH CHC121W CONTROLLER

Certified to:
FAA AC 150/5345-43G:
L-864 & L-865

Compliant to:
FCC Rules and Regulations
Canadian Standards Association (CSA)
ICAO (Annex 14)
Type A (white)
or B (red)

FEATURES/BENEFITS

- FAA approved L-864 & L-865
- Meets or exceeds ICAO specifications
- Power consumption is 90% less than conventional incandescent beacons
- Low operating and maintenance costs with long life flashtubes
- Power supply includes 12 LED Indicators to convey operating status
- NEMA 4X stainless steel enclosure
- Special circuitry eliminates the lens failure due to ozone corrosion common to all other beacons
- Horizontal 360 degree and vertical 5 degree beam spread
- Very narrow, controlled beam
- Smallest size and wind loading
- AC or DC operation available
- Remote alarm indication

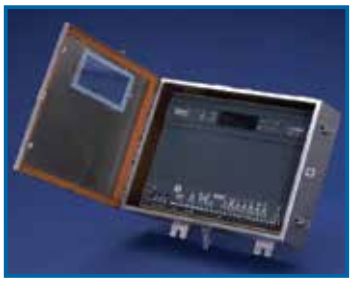
APPLICATION

- The CHB302D is a dual medium intensity beacon for use with high intensity systems and designed to work with the CHC121W Controller. It will provide a white beacon for day operation and red beacon for night operations for structures up to 500'.
- Remote alarm indication.

ORDERING INFORMATION*

Voltage	Catalog Number
110/120V 50Hz	CHB302D 110/120V 50Hz
220/240V 50Hz	CHB302D 220/240V 50Hz
110/120V 60Hz	CHB302D 110/120V 60Hz
208/220V 60Hz	CHB302D 208/220V 60Hz
230/240V 60Hz	CHB302D 230/240V 60Hz
480V 60Hz	CHB302D 480V 60Hz

CHC121W CONTROLLER INTERACTIVE DIAGNOSTICS, PROGRAMMING & CONTROL



FEATURES/BENEFITS

- Remote diagnostics capability
- Integrates with external red light controller
- LED indicators for at-a-glance status
- Digital display
- User programmable via scroll menus or software
- (15) discrete dry contact data points
- Utilizes resistive photocell
- Rack mount available
- NEMA 4X stainless steel outdoor rated enclosure

APPLICATION

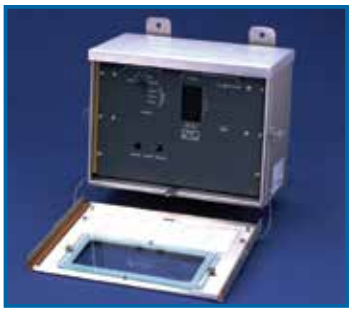
- The CHC121W controller includes a convenient display panel allowing for easily readable programming, status, and diagnostics. The “Graphic display” shows real time status and location of each individual strobe in the system. The digital display allows the user to interrogate an individual light to view flash counts (overall and mode specific), internal temperature, line voltages, trigger voltage, bank voltage, mode energy, marker voltage, operating marker bulbs, and current firmware version.
- This system controls, monitors, diagnoses, logs and communicates lighting system events from the convenience of your computer that is connected via POTS.

ORDERING INFORMATION*

Voltage	Catalog Number
230V 50Hz	CHC121W 230V 50Hz
120V 60Hz	CHC121W 120V 60Hz
240V 60Hz	CHC121W 240V 60Hz

*NOTE: Interconnect wiring used between the CHC121W or CHC140W controllers and the flasheads is not supplied. Appropriate length of two-conductor, twisted pair cable (Belden #8719 or equal) can be ordered locally.

CHC140W CONTROLLER HIGH INTENSITY STROBE SYSTEM CONTROLLER



FEATURES/BENEFITS

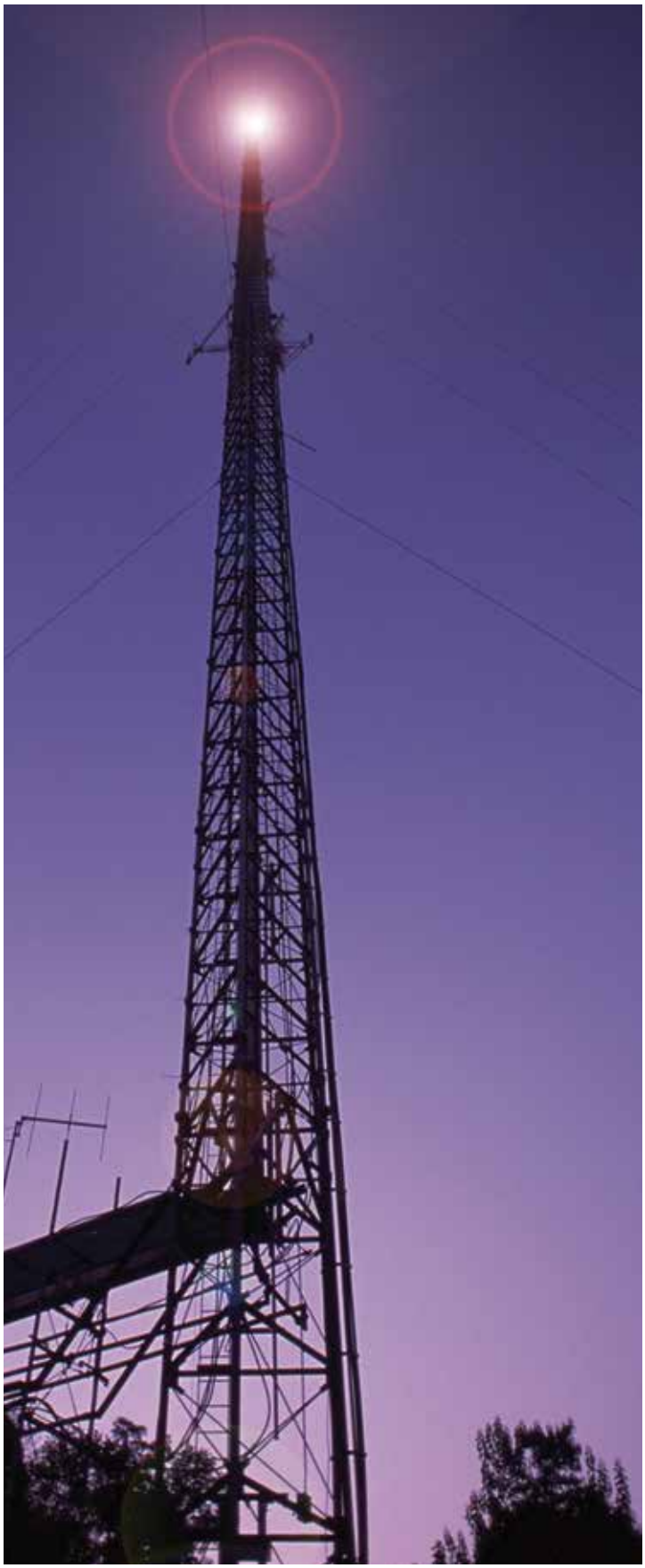
- Independent LED status light for each beacon
- Mode Alert and Transition System
- LED indicators for at-a-glance status
- Capable of operating up to 28 flashheads
- Synchronizes beacons and directs flash timing and intensity
- Records and reports beacon operating status
- Utilizes resistive photocell
- Rack mount available
- NEMA 4X stainless steel outdoor rated enclosure

APPLICATION

- The CHC140W controller includes a convenient LED display panel allowing for easy viewing. The "Graphic display" shows real time status and location of each individual strobe in the system. The digital display allows the user to determine individual beacon status "at-a-glance." For 24-hour white strobe systems where automated monitoring is not necessary.

ORDERING INFORMATION*

Voltage	Catalog Number
115V 50Hz	CHC140W 115V 50Hz
230/240V 50Hz	CHC140W 230/240V 50Hz
120V 60Hz	CHC140W 120V 60Hz
220/240V 60Hz	CHC140W 220/240V 60Hz



Standard and Custom Controllers to Meet Your Specific Needs

Cooper Crouse-Hinds offers the very best Obstruction Lighting Control Systems. In this section you will find listed some basic standard red lighting (incandescent and LED) as well as dual lighting controllers.

Whether you purchase one of our standard controllers or a custom controller designed specifically to meet your needs, Cooper Crouse-Hinds controllers meet the highest of quality standards. Each controller must pass a rigorous quality review and test procedure before being shipped from our manufacturing facility.

Our design staff has the expertise and experience to provide you with the very best product—one that meets all the latest FAA and FCC requirements. We incorporate field proven designs and components and we back this quality with a 5-year warranty on all our solid-state components and the very best in customer support and service available.

Standard Open

Class I, Division 2 Open

Standard with Optional HOA and Pilot Lights

Class I, Division 2 with Optional Pilot Lights

STANDARD FEATURES ON ALL OLC SERIES CONTROLLERS

- NEMA 4 rated enclosure
- 120VAC or 230VAC, 50/60Hz
- Solid state flashers with zero voltage switching for longer lamp life, encapsulated to protect against harsh conditions and vibration
- Solid state alarm modules, encapsulated to protect against harsh conditions and vibration
- Line voltage transient protection
- Fused outputs
- Failure detection for:
  - Beacon lamp failure
  - Obstruction lamp failure
  - Flasher failure (force beacon on steady in the event of failure)
  - Power failure
- Local LED indicators for:
  - Beacon lamp failure
  - Obstruction lamp failure
  - Flasher failure
  - Power present
- Individual isolated alarm contacts for remote alarming for:
  - Beacon lamp failure
  - Obstruction lamp failure
  - Flasher failure
  - Power failure
- Photo-control override switch on enclosure door

OPTIONAL FEATURES AVAILABLE FOR AN ADDITIONAL CHARGE

- Enclosures:
  - NEMA 1
  - NEMA 4X (stainless steel, fiberglass, or polycarbonate)
  - Class I, Division 2, Groups B, C, D (NEMA 7/4 or NEMA 7/4X)
- Pilot lights on enclosure door
- HOA switch on enclosure door
- Remote indicator panel
- Alternating feature—doubles lamp life (ALTR)
- Audible alarms
- Auto dialer
- Back-up designs:
  - Redundant beacons
  - *Consult factory for other back-up designs
- GPS synchronization (not available for Class I, Division 2)
- AC/DC power source
- Back-up power source

*Consult factory for custom configurations.

LED RED OBSTRUCTION LIGHTING CONTROL SYSTEMS

Certified to: **FAA AC 70/7460-1**

***Compliant to*:** **FCC Rules and Regulations**
NEMA & UL Enclosures
IEC 529 Enclosures
NEMA 4 rated and IP66

OLC SERIES

SELECTION CHART—LED RED

OLC Catalog Number*	Input Voltage[2] L864	CWLFR/ 120-240 Flashing Beacons L864	OWLFSR/ 120 or /240 Single Obstruction Lights L810	OWLFDR/ 120 or /240 Double Obstruction Lights L810	Maximum Structure Height[1]		Typical FAA Structure
					Feet	Meters	
Control Systems for Towers							
72000T-ALTR	120	0	–	1	150	45.7	A0
72001T-3	120	1	3	–	350	106.7	A1
72002T-3	120	3	6	–	700	213.4	A2
72003T-3	120	5	9	–	1050	320.0	A3
72200T-ALTR	230	0	–	1	150	45.7	A0
72201T-3	230	1	3	–	350	106.7	A1
72202T-3	230	3	6	–	700	213.4	A2
72203T-3	230	5	9	–	1050	320.0	A3
Control Systems for Solid Structures							
73000S-3-ALTR	120	0	–	3	150	45.7	A0
73000S-4-ALTR	120	0	–	4	150	45.7	A0
73001S-3	120	3	3	–	350	106.7	A1
73001S-3-ALTR	120	3	–	3	350	106.7	A1
73200S-3-ALTR	230	0	–	3	150	45.7	A0
73200S-4-ALTR	230	0	–	4	150	45.7	A0
73201S-3	230	3	3	–	350	106.7	A1
73201S-3-ALTR	230	3	–	3	350	106.7	A1

[1] Heights are calculated maximums based upon OLC capacities with regards to FAA specifications.
[2] Voltages are line to neutral. The 230V units are typically for 220-240V export applications and require a neutral or grounded leg.
* ALTR options- Each time the photocell energizes the opposite light will operate from the previous day.

Note: For custom control systems, contact Cooper Crouse-Hinds Customer Service.

GPS SYNCHRONIZED FLASHER

APPLICATION

The Synchronized Flasher Module (SFM) with GPS technology provides the synchronized flashing function (proper sequence of ON/OFF time) for multiple LED beacons or LED obstruction lights. With a GPS system, beacon synchronizations will occur within seconds from when the power is applied to the SFC. Synchronization is maintained whenever power is applied to the controller. Applications include wind turbines, broadcast (including hot AM towers), cellular, tall buildings, bridges, and more.

Our L864 LED Beacon provides the most focused beam meeting FAA requirements.

The SFM (Synchronized Flasher Module) consists of solid-state components encapsulated in a rugged plastic housing to protect against shock, vibration and humidity.

CATALOG NUMBER	VOLTAGE
11510-001	120/230 VAC

The SFM can be packaged into a NEMA 4X Enclosure. This will provide additional protection from environmental elements, as well as the ability to monitor the unit in a location away from the beacon.

CATALOG NUMBER	VOLTAGE
11501-001 11502-001	120VAC 230VAC

ACCESSORIES FOR THE SFM

ANTENNA OPTIONS (ANTENNA PURCHASED SEPARATELY)

Catalog No:
11511-100

Miniature 3V GPS Antenna
Compact GPS Antenna with magnetic mounting for quick and convenient placement. Lower cost alternative.

Catalog No:
11511-200

Bullet 3.3V GPS Antenna
Waterproof and extra rugged; the antenna cable can be threaded through a mounting pole for added protection and reliability. Jam-resistant.

MONITORING OPTIONS		Catalog Number:
	Solid-state alarm controller for remote alarming	T-TM-LED-1
	Synchronized flasher controller with monitoring	T-T1-LED-1

PEC GENERAL USE PHOTOELECTRIC CONTROLLER

Certified to: **FAA AC 70/7460-1**

Compliant to: **FCC Rules and Regulations**
Canadian Standards Association (CSA) PEC

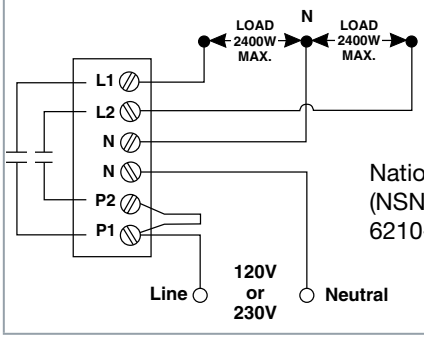
FEATURES/BENEFITS

- Meets FAA and FCC requirements
- Two 30A load contacts
- Maximum of 2,400W load per contact
- Surge protection
- LED power indicator
- Cast aluminum weatherproof box
- Solid-state circuitry for high reliability
- Light actuation: Energizes at 35 foot-candles
  De-energizes at 60 foot-candles
- Each contact may directly switch a load, activate an OLA lighting contactor, or activate an OLC controller
- Operates on 60 or 50Hz frequency power
- Front housing hooks onto lower edge of the aluminum box for easy installation
- Screw terminals for 8 AWG wire
- Voltage tolerance ± 20%

APPLICATION

- The PEC Photoelectric controller automatically switches lighting circuits directly as a load contactor or indirectly through other lighting contactors or controllers.

WIRING DIAGRAM



National Stock Number (NSN): PEC-52010
6210-00-443-4662

Two Wire Service with Split Loads

Note: For a combination photoelectric controller and flasher in the same housing as the PEC, order PCF-70006 for 120V operation or PCF-70206 for 220V operation.

ORDERING INFORMATION

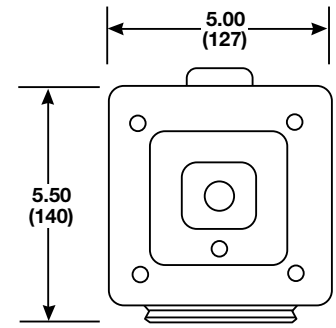
Catalog Number	Voltage*
52010	120
52010-1	230

* Voltages are line to neutral. The 230V units are typically for 220-240V operation.

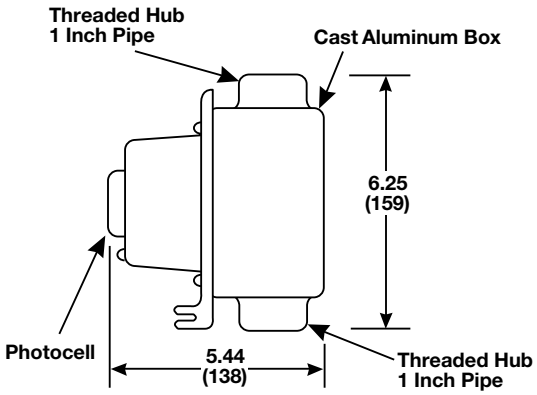
OPTIONS

Description	Suffix
For use with dual red/white system	W

INSTALLATION DRAWING



Dimensions are in inches (mm)



WEIGHTS & MEASUREMENTS

Shipping Weight:	5 lbs	2.3 kg
Shipping Volume:	0.3 ft^3	0.008 m^3

PEC CLASS I, DIVISION 2 PHOTOELECTRIC CONTROLLER

Certified to: **FAA AC 70/7460-1**

Compliant to: **Class I, Division 2, Groups B, C & D**
FCC Rules and Regulations

FEATURES/BENEFITS

- Enclosure (NEMA 7/4X) is rated for hazardous duty Class I, Div 2, Group D (70061; 70261)
- Groups B, C and D (UNI-70061; UNI-70261)
- Bottom side of cast housing fitted with 1" NPT hub
- Factory calibrated Light Actuation Levels:
  Energized at 35fc and below
  De-energized above 60fc
- Power: 120 VAC ± 20%; 50/60Hz
  230 VAC ± 20%; 50/60Hz
- Two SPST N.O. 30 amp contacts
  (see connection diagrams)
- Screw terminals for up to #8 AWG wire
- Meets all FAA Specifications
- LED Power Indicator

NOTE: For Class I, Groups B and C, Zone 1, Groups IIB and H2, all conduit entries must be sealed with approved sealing fittings.

APPLICATION

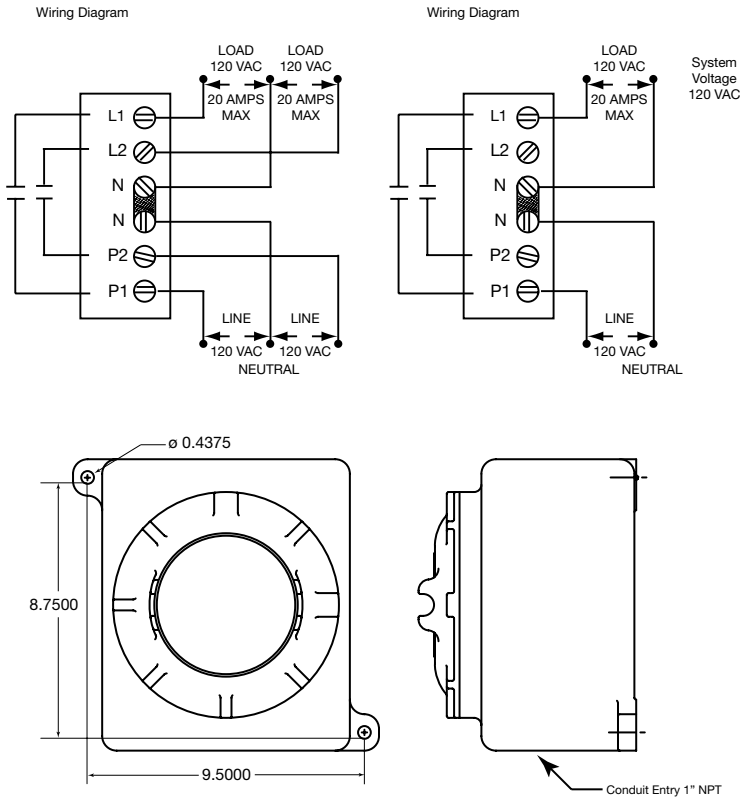
- The PEC Photoelectric controller is designed for use in hazardous applications. It is to be used for ON at dusk, OFF at dawn operation of tower and obstruction lighting in aviation service.

ORDERING INFORMATION

Catalog Number	Description	Voltage
70061	Class I, Div 2, Group D	120
70261	Class I, Div 2, Group D	230
UNI-70061*	Class I, Div 2, Groups B, C, D	120
UNI-70261*	Class I, Div 2, Groups B, C, D	230

* Enclosure dimensions different from those shown below.

WIRING DIAGRAM



PEC LOCKING TYPE DELAYED RESPONSE PHOTOELECTRIC CONTROLLER

Certified to: **FAA AC 70/7460-1**

Compliant to: **FCC Rules and Regulations**

FEATURES/BENEFITS

- Housing: UV stabilized high-impact polypropylene
- Photocell: 1-inch cadmium sulfide light sensitive element
- Turn-on/Turn-off: 35 foot-candles turn-on; 58 foot-candles turn-off
- Time Delay: Minimum 15 seconds
- Switch Type: Single-pole, single-throw. Contact position at night normally closed
- Temperature Range: -40°F to 170°F
- Power Consumption: 1.1 watts average at 120 VAC
- Rated Life: 5,000 operations minimum at rated load
- Surge Protection
- Dimensions: 3.07" diameter, 2.15" high
- Built-in time delay prevents false cycling caused by lightning flashes or stray headlights
- Meets FAA/FCC requirements for airway obstruction lighting

APPLICATION

- The PEC Photoelectric Controller automatically switches lighting circuits directly as a load contactor or indirectly through other lighting contactors or controllers.

ORDERING INFORMATION

Catalog Number	Description	Voltage
18001-007	Locking-Type Photoelectric Control for Red Light Systems	120VAC
18002-007	Locking-Type Photoelectric Control for Red Light Systems	230VAC
18001-008	Locking-Type Photoelectric Control for White Strobe Systems	120VAC
18002-008	Locking-Type Photoelectric Control for White Strobe Systems	230VAC
18003-001	Locking-Type Photoelectric Control	12VDC
18003-002	Locking-Type Photoelectric Control	24VDC
18003-003	Locking-Type Photoelectric Control	48VDC
8506-001	Receptacle (Socket)	480V (MAX)

RECEPTACLES FOR LOCKING-TYPE PHOTOCONTROLS

With all-weather locking type receptacle and Lexan® housing.

With 14 inch 14 AWG wire color-coded as follows: line = black; neutral = white; load = red. Threaded stem fits through a ½ inch knockout.

Dimensions: 2⅝" diameter (socket); 2⅝" high (including stem). ½" NPT at bottom fitting.

PCF GENERAL USE PHOTOELECTRIC CONTROLLER AND FLASHER

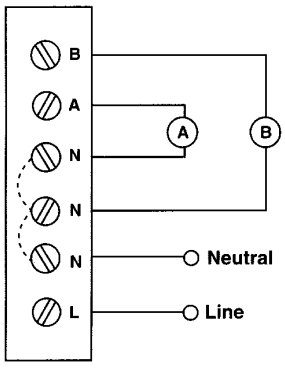
Certified to: **FAA AC 70/7460-1**

Compliant to: **FCC Rules and Regulations**

FEATURES/BENEFITS

- Meets FAA & FCC requirements
- Combines flasher and PEC in one compact unit
- Controller housing hooks onto the box for easy wiring
- Solid-state flasher for high reliability
- Flashes up to 1,400W
- Flash rate: 30 ± 10 per minute with 2/3 on and 1/3 off
- LED power indicator
- Cast aluminum box
- Zero switching voltage for longer lamp life
- Inrush: 300A at 120V
- Light actuation: Energizes at 35 foot-candles
  De-energizes at 60 foot-candles
- Voltage tolerance ± 15%

WIRING DIAGRAM



A = Obstruction Light Lamp(s)
Maximum Total Load of 1,000 W

B = Beacon Lamps Maximum
Total Load of 1,400 W

Note: For a photoelectric controller only in the same housing, order PEC-52010 for 120V operation or PEC-52010-1 for 220-240V operation.

WEIGHTS & MEASUREMENTS

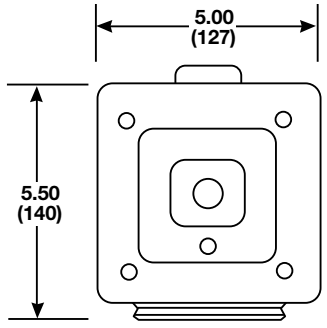
Shipping Weight:	5 lbs	2.3 kg
Shipping Volume:	0.3 ft^3	0.008 m^3

ORDERING INFORMATION

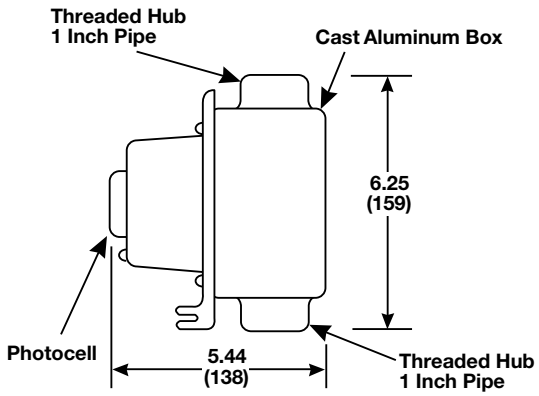
Catalog Number**	Description	Voltage*
70006	Photoelectric Controller/Flasher	120
70206	Photoelectric Controller/Flasher	220-240

*Two wire voltage line to neutral
** For high RF environment add suffix "RF" to catalog number

INSTALLATION DRAWING



Dimensions are in inches (mm)



APPLICATION

- The PCF is a combination photo controller and flasher in a single unit. It is perfect for automatic operation of a single FCB beacon. It will flash any incandescent or LED lighting fixtures, including obstruction lights, with a total flashing load of 1,400W or less. The PCF will also switch steady burning lights totaling 1,000W in addition to flashing a beacon.

OLF GENERAL USE & CLASS I, DIVISION 2 OBSTRUCTION LIGHTING FLASHER

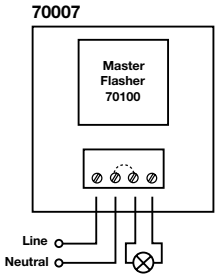
Certified to: **FAA AC 70/7460-1**

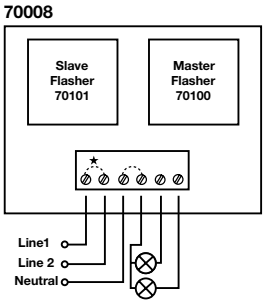
Compliant to: **FCC Rules and Regulations**

FEATURES/BENEFITS

- Meets FAA and FCC requirements
- Solid-state components for reliability
- Each flasher circuit operates up to 2,000W of lamp load or as low as a single obstruction light
- Zero voltage switching for longer lamp life
- Automatic operation using a single PEC photoelectric controller to directly switch the 1-circuit and 2-circuit OLFs and to activate an OLA lighting contactor to switch the 3-circuit OLF
- Single circuit OLF models have a cast aluminum housing with one-inch threaded hub at top and bottom (70007; 70207; 1-1/2 inch hubs on 70060; 70260)
- Raintight NEMA 3R box with bottom knockouts (2-circuit and 3-circuit OLFs)
- Operates on 60 or 50Hz frequency power
- Voltage tolerance ±15%
- Optional NEMA 4 enclosure (suffix -N4)
- Optional RF suppression for hot AM towers (suffix -RF)

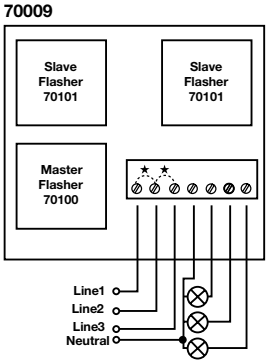
WIRING DIAGRAMS





⊗ Beacon with two 620W lamps or any incandescent lamp load totaling 2,000W or less.

* If the supply is 120V, 2 wires, wire the terminals as shown and connect the power to Line 1 and neutral.



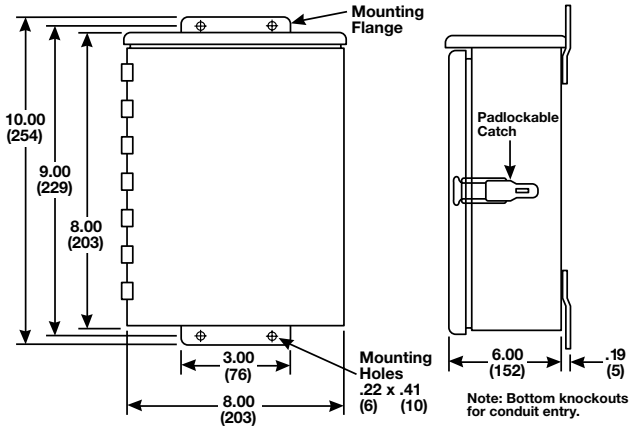
ORDERING INFORMATION

Catalog Number	Voltage*	Number of Outputs
70007	120	1
70008	120	2
70009	120	3
70060**	120	1
70207	230	1
70208	230	2
70209	230	3
70260**	230	1

*Two wire voltage line to neutral

** Enclosure is rated for hazardous atmospheres per NEC Class I, Division 2; Class II; Class III.

DIMENSION DRAWINGS 70008 & 70009



Dimensions are in inches (mm)

APPLICATION

- The OLF flasher provides the flashing function for medium intensity beacons, obstruction lights, or other incandescent lamp loads.

WEIGHTS & MEASUREMENTS

	70007	70008 70009
Shipping Weight:	8.0 lbs 3.6 kg	10.0 lbs 4.5 kg
Shipping Volume:	0.5 ft^3 0.014 m^3	1.0 ft^3 0.028 m^3

ALTR GENERAL USE ALTERNATING LIGHT CONTROL WITH TRANSFER RELAY

FEATURES/BENEFITS

- Solid state components for high reliability encapsulated to protect against harsh conditions and vibration
- Cast aluminum 4" x 4" x 3" box with one-inch threaded hubs at top and bottom
- 120VAC failure output available for remote alarming
- Suitable for 50 or 60Hz frequency power
- Line voltage transient protection
- Low power consumption
- Designed to connect to a Double Head, L-810 Light Assembly (Incandescent or LED)
- ALTR provides maximum life on both lights
- Doubles the time between service calls
- When used with an LED assembly, mean time to failure can be up to 20+ years

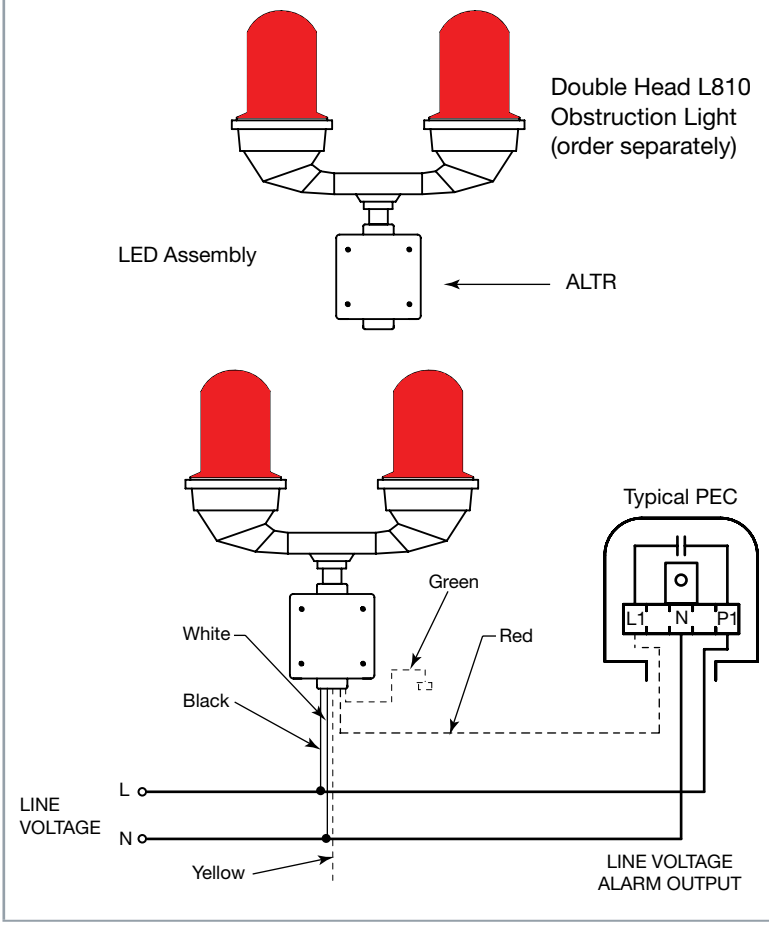
APPLICATION

- The ALTR alternates between each light in a double obstruction light assembly each time the tower lights are energized by the photo-control, ensuring equal usage of the lights over the life of the lamps. In the event one of the lights fails, the ALTR automatically energizes the operational light and provides an output for alarm monitoring. The ALTR provides an economical solution for applications where the obstruction lights are difficult and/or expensive to service such as towers or stacks that are inaccessible through normal methods.

ORDERING INFORMATION

Catalog Number	Description	Voltage
70029	ALTR Relay	120VAC
70229	ALTR Relay	240VAC

WIRING DIAGRAM



OLR GENERAL USE OBSTRUCTION LIGHTING RELAY

FEATURES/BENEFITS

- Solid state components for high reliability
- Cast aluminum 4" x 4" x 3" box with one-inch threaded hubs at top and bottom
- Toroidal current sensing
- Number of lamps selectable:
  1 to 4 single head obstruction lights, 1 double head obstruction light, or 2 lamps for beacon
- Lamp wattage selectable: 120V: 620/700W or 116W
  230V: 700W or 116W
- Isolated alarm outputs (10 amps at 120VAC or 30VDC)
- Spare lamp output rated 125W
- Red LED lamp failure indicator
- May be installed before or after a flasher unit
- Multiple wires may be passed through the toroid such as for two beacons
- Suitable for 50 or 60Hz frequency power
- Voltage tolerance ±20% of 120 or 240V
- Operating temperature: -40°F to 150°F
  -40°C to 65°C

APPLICATION

The OLR is a universal transfer and alarm relay. It is programmable by means of a selector switch to sense up to two beacons or four obstruction light lamps. Typical applications:

- Lamp failure alarm relay for up to four single obstruction lights.
- Alarm relay for one double head obstruction light with transfer of power from the failed lamp to the standby lamp.
- Lamp failure alarm relay for up to two flashing beacons.

ORDERING INFORMATION

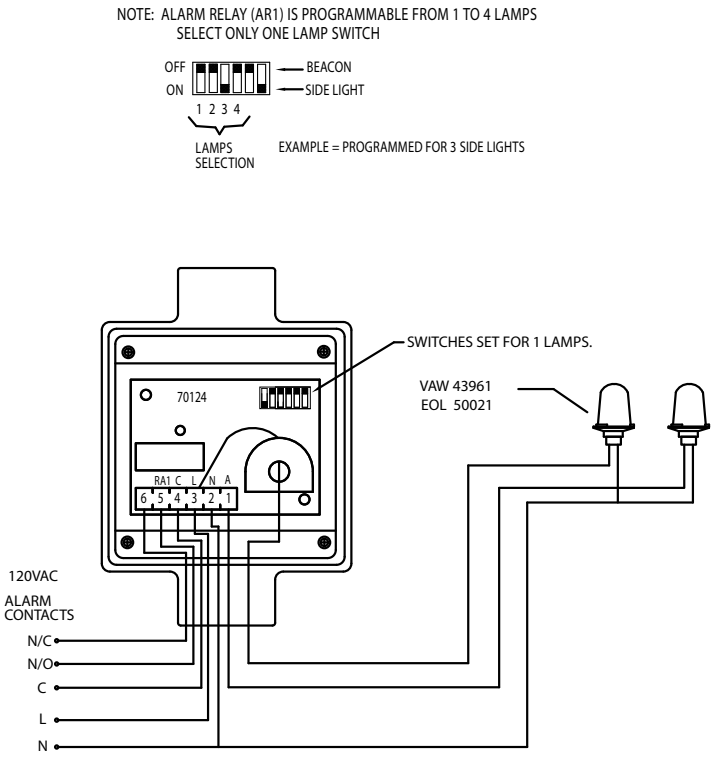
Catalog Number	Description	Voltage*
70020	Universal Transfer/Alarm Relay	120
70220	Universal Transfer/Alarm Relay	220-240

*Two wire voltage

OPTIONS

Options	Add Suffix
OLR unit for use with LED style beacons or obstruction lights	-LED
OLR unit mounted in a Class I, Division 1 & 2 explosionproof (NEMA 4X, 7) enclosure	-X4

WIRING DIAGRAM



OTR GENERAL USE TRANSFER RELAY ASSEMBLY

FEATURES/BENEFITS

- Solid state components for high reliability
- Cast aluminum 4" x 4" x 3" box with one-inch threaded hubs at top and bottom
- Instantaneous switching when a failure occurs
- Universal voltage: 120 to 240VAC
- Suitable for 50 or 60Hz frequency power
- Line voltage output: 125 watt maximum
- No trip delay
- Operating temperature : -40°F to 150°F
  -40°C to 65°C
- May be purchased mated to a Double EOL Light Assembly as a complete, ready to use solution

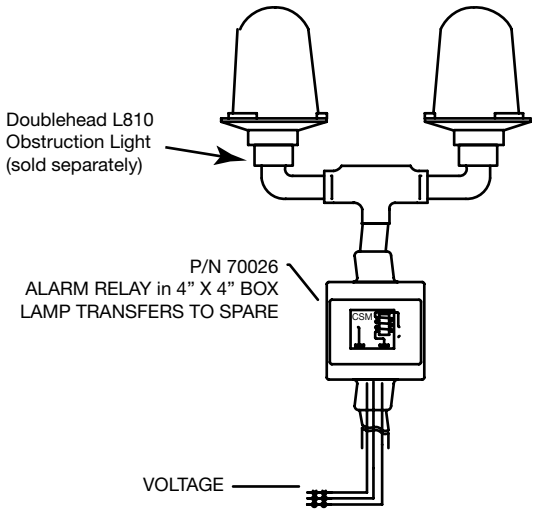
APPLICATION

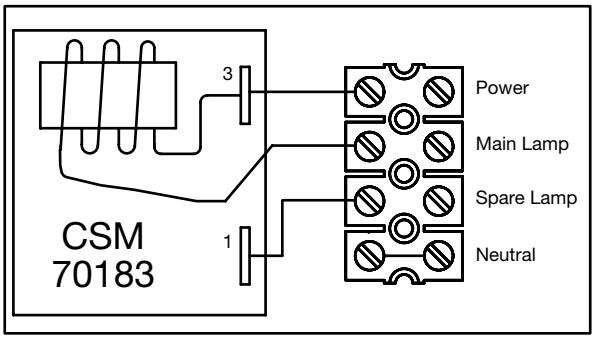
- The OTR can provide fault monitoring of a steady burning side light. Upon failure of the first lamp, the relay will transfer power to the standby lamp. It will support 100-watt/230VAC, 116-watt/120VAC or 116-watt / 230VAC operation of one EOL or VAW (L810) dual headside lights. Normal operation resumes with replacement of failed lamp.

ORDERING INFORMATION

Catalog Number	Description	Voltage
70026	Transfer Relay Assembly (OTR)	120 to 240VAC

WIRING DIAGRAM





ALARM INDICATING LIGHT

FEATURES/BENEFITS

The Cooper Crouse-Hinds Alarm Indicating Light Assembly consists of the following:

- Cast aluminum box
- Lamp—6W for 120VAC units
- Lamp—10W for 230VAC unit
- Threaded Hub—1 inch NPT
- 120VAC or 230VAC operation
- Gasketed box cover
- 1 inch lens (red, amber, green)

APPLICATION

- This unit may be used to indicate power is applied to the lighting controls, or be used to indicate a fault has occurred.
- This indicator light is designed for outdoor mounting in a vertical conduit run.

WEIGHTS & MEASUREMENTS

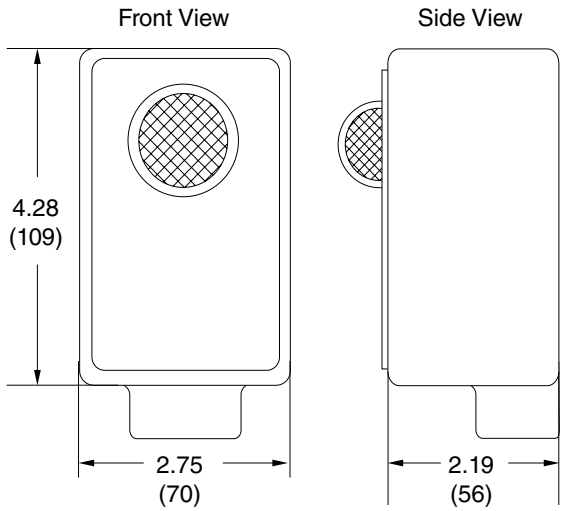
Shipping Weight:	4.0 lbs	1.8 kg
Shipping Volume:	0.2 ft^3	0.006 m^3

ORDERING INFORMATION

Catalog Number	Description	Voltage
12010-001-R*	Indicating light, red	120
12010-002-R*	Indicating light, red	230

*Optional colors: G = Green; A = Amber

INSTALLATION DRAWING



INSTALLATION

Connection to a power source and load

1. Remove four (4) cover screws.
2. Make power and load connections.
3. When field connections are complete, reinstall cover using four (4) screws provided.

Index

For more information:

If further assistance is required, please contact an authorized Cooper Crouse-Hinds Distributor, Sales Office or Customer Service Department:

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