

# ICAO Low-intensity Type A 10cd, Type B 32cd and Type E 32cd FAA L-810(F), Infrared 850nm

CEL Low-Intensity Portable (LI-P) is a portable, battery-operated red obstacle light. The light has been designed for outdoor use and has an enclosure made of shockproof polycarbonate. It does not require any maintenance apart from cleaning the enclosure and changing the batteries when needed. The operating time of the batteries up to 4-5 months (operating mode: RED 32cd, flash rate 20 FPM, photocell on).



ICAO International Standards and Recommended Practices: Aerodromes Annex 14 Volume 1, 8th Edition, July 2018, Chapter 6: Low-intensity Type A, Low-intensity Type B, Low-intensity Type E.

#### **Key features**

- Based on LED-technology
- Low-intensity RED fixed and flashing light
- NVG compliant infrared (IR) light
- GPS -synchronization as option
- Integrated photocell for control
- Very low power consumption
- Extremely reliable
- Very long battery lifetime
- Stabilized light output
- Lightweight and small
- External power supply and chaining connectors as options
- 160° / 280° / 360° operating modes
- Microprocessor control
- Very long maintenance intervals
- Low battery costs
- Easy to handle
- 5-year warranty

#### **RED light: Specifications met**

- ICAO Annex 14 Volume 1, 5th edition July 2009 Table 6-3, Low-intensity, Type A (fixed obstacle) obstacle light
- ICAO Annex 14 Volume 1, 5th edition July 2009 chapter 7, lighting for unserviceable areas.

#### **RED light: Photometric characteristics**

- 10cd red and IR
- 32cd red and IR
- Color aviation RED
- Fixed or flashing
- Horizontal beam 360°
- Vertical beam >10°
- Infrared 850nm
- All models fixed or flashing
- Photocell for Day / Night detection

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CEL-10-12-P-IR Portable Obstacle Light Complies with FAA light distribution

requirements (FAA L-810, L-810F)

#### **Photocell characteristics**

- High Accuracy

- User selectable switching threshold 800 lux / 1600 lux / always on

#### Other

- Corrosion and oxidation free materials
- Transparent polycarbonate cover
- Yellow shockproof polycarbonate enclosure
- Degree of protection: IP45

#### **Standard Batteries**

- Air-Alkaline batteries (non-rechargeable)
- Environmentally friendly, non toxic materials
- Dimensions 67mm x 67mm x 98/108mm (L x W x H)
- Nominal voltage 6V
- Capacity 50Ah
- Half capacity configuration: 2 batteries (total 12V 50Ah)
- Full capacity configuration: 4 batteries (total 12V 100Ah)

#### **Options:**

- External power supply / charging and chaining connectors
- FAA L-810 -type (32cd) Obstacle Light
- 5Ah rechargeable Lead Acid batteries
- Radio remote control
- Blue taxiway edge light



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#### **Order codes**

Part Low-intensity portable	Description
CEL-LI-P	Obstacle light, Red, Portable
CEL-LI-P-G	Obstacle light, Red, Portable with GPS
CEL-LI-P-IR	Obstacle light with infra-red
CEL-LI-P-IR-G	Obstacle light with infra-red and GPS
CEL-EL-IP-5-6V	Air-Alkaline battery 6V 50Ah

Options: GPS (G), External power supply / charging and chaining connectors (E), Blue taxiway edge light (B), Vertical mounting set (V), Other colors: e.g. blue, green, yellow, white or orange light



160° mode

280° mode

360° mode

#### **Electrical characteristics**

- Optimised for Air-Alkaline battery (non-rechargeable)
- Nominal operating voltage 12 VDC
- Operating voltage range 10 16 VDC
- Continuous operating time 1500 / 750 / 375 h (160° / 280° / 360° mode)

#### **Mechanical characteristics**

- Operating temperature range: -40...+55 °C
- Dimensions (LxWxH): 210mm x 175mm x 135mm
- Weight with 4 Air-Alkaline batteries: 4 kg
- Degree of protection: IP45

#### **Battery characteristics**

- Air-Alkaline batteries (non-rechargeable)
- Environmentally friendly, no toxic materials
- Dimensions 67 x 67 x 98/108 (L x W x H)
- Nominal voltage 6 V
- Capacity 50 Ah
- Full capacity configuration: 4 batteries (12 V, 100 Ah)

#### **INSTALLING BATTERIES**

LI-P has been optimized for use on Air-Alkaline batteries with a nominal operating voltage of 6 V, 50 Ah. The batteries are installed as shown in the figure.

After the batteries have been inserted and the cover closed, the following default settings are active:

- POWER:	ON
- MODE:	360°
- PHOTOCELL:	ON
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- FLASH: OFF

The settings can be easily changed from the control panel on the cover of the light. When the light is switched off, the latest settings are stored into the memory of the light. When the cover is opened again, the default settings are restored.

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#### **Battery configuration**

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## **Control panel switches**

#### **POWER ON / OFF**

When switched OFF, the current consumption of the light is about 0.1 mA (0.9 Ah / year), which enables the lights to be stored with the batteries installed. The red LOW BATT indicator light starts flashing when the battery voltage has decreased to a voltage level where the light output level starts decreasing.

#### MODE 160° / 280° / 360°

For selecting horizontal radiation pattern. For example, when marking runway ends at airports, narrow radiation patterns can be selected and consequently, the light's operating time extended.

Current consumption and continuous operating times when using  $4 \times 50$  Ah batteries in different modes (70% battery capacity):

	10cd	32cd
160°	7500 h (310 days)	2500h (104 days)
280°	3300 h (135 days)	1100h (45 days)
360°	2100 h (87 days)	700h (29 days)

NOTE: Usable battery lifetime may be shorter. GPS reduces operating times by 15%.



#### **PHOTOCEL ON / OFF**

For selecting the use of day-and-night switch. A yellow flashing indicator light shows when the photocell is active. The sensitivity of the photocell can be changed using the DIP switch on the inside of the cover, see figure below. At the dusk, the light turns on after 5 seconds delay and at the dawn, turns off after 3 minutes delay.

The operating time at 12 h ON / 12 h OFF intervals, 360° mode and when using 4 x 50Ah batteries is as follows:

	10cd	32cd
160°	600 days	200 days
280°	270 days	90 days
360°	150 days	50 days

NOTE: Usable battery lifetime may be shorter. GPS reduces operating times by 15%.



CEL-LI-P Control Panel

#### FLASH ON / OFF \_ MODE 32cd

When switched on, the light flashes 20 times per minute. This selection extends the operating time remarkably.

The theoretical operating time for different modes when using 4 x 50 Ah batteries, with and without a photocell (12 h ON / 12 h OFF), is as follows:

#### Mode Photocell ON Photocell OFF @20FPM

160°	1400 days	700 days	
280°			
360°	400 days	200 days	

**NOTE:** Usable battery lifetime may be shorter. GPS reduces operating times by 15%.

When power will be switched on, the light will be in Flash On /  $360^{\circ}$  / Photocell On -mode by default.

			4		0 N				
5	PC SENSIT.		2			1	2	LIGHT OUTP	UT
O N		250 cd/m2 / 800 lx	ω			ΟN	ΟN	RED 10 cd	
OFF		500 cd/m2 / 1600 lx	4			ΟN	OFF	RED 32 cd	
			л			OFF	ΟN	BLUE 3 cd	1)
6	7	FLASH RATE	6			OFF	OFF	BLUE 5 cd	1)
O N	ΟN	20 FPM	7						
ΟN	OFF	30 FPM	8			3	4	INFRARED P	OWER
OFF	ΟN	40 FPM				ΟN	ΟN	OFF <b>2)</b>	
OFF	OFF	60 FPM				ΟN	OFF	50 mW/sr	
						OFF	ΟN	100 mW/sr	
8						OFF	OFF	100 mW/sr	3)
ΟN		RESET *)							
OFF		NORMAL OPER.					1)	Option	
							2)	RED ONLY	
							3)	IR always	stead
*	Tog	gle the switch							

RESET OFF and RESET after changing the DIP-switch For normal operation select RESET

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### **Mounting Bracket**



Dimensions

