

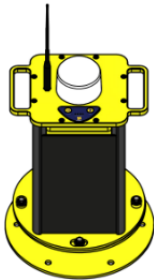
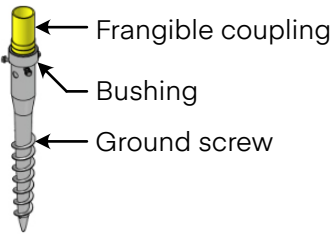


# Polaris Emergency (RGBW) V3



<p><b>Compliance to Standards</b></p>	<p><b>ICAO:</b> International Civil Aviation Organization, Airports, Annex 14, Vol. 1</p> <p><b>IEC TS 61827:</b> Electrical installations for the lighting and signaling of aerodromes. Characteristics of recessed and raised luminaires used at aerodromes and heliports.</p> <p><b>TP 312E:</b> Aerodromes Standards and Recommended Practices</p> <p><b>FAA:</b> AC 150/5345-46F</p> <p><b>Part 139</b> (Aerodromes) Manual of Standards</p>								
<p><b>Application</b></p>	<p>Battery-powered omnidirectional emergency lights for airports and heliports, designed to temporarily replace malfunctioning lights in the primary lighting system, featuring an RGBW LED with selectable colors (red, green, blue and white).</p> <p>The POLARIS design has been done in such way as to provide maximum safety.</p> <p>It is a reliable and flexible product, being easy to fit into any kind of infrastructure.</p>								
<p><b>Features</b></p>	<p>Designed and built with simplicity and ease of maintenance in mind. High power LED technology (100 000 hrs lifespan). Lightweight, low-energy and environment friendly lighting fitting. Lead Acid battery Steady with brightness control 1%, 3%, 10%, 30% and 100% Local/manual control Battery status LEDs</p> <p>The RGBW can be used as:</p> <table border="1" data-bbox="858 1554 1442 1704"> <tr> <td>Unserviceability, Runway End or Stop light</td> <td>Red</td> </tr> <tr> <td>Taxi light</td> <td>Blue</td> </tr> <tr> <td>TLOF or Threshold light</td> <td>Green</td> </tr> <tr> <td>Fato or Runway Edge light</td> <td>White</td> </tr> </table> <p><b>Optional:</b></p> <p><b>Infrared</b> - invisible light to the naked eye, NVG compatible. <b>Photocell sensor</b> - automatically switches between day and night operating modes. <b>Radio control</b> - one or two way <b>GPS incorporated</b> <b>ARCAL</b> - pilot activation</p>	Unserviceability, Runway End or Stop light	Red	Taxi light	Blue	TLOF or Threshold light	Green	Fato or Runway Edge light	White
Unserviceability, Runway End or Stop light	Red								
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<p><b>Product Code</b></p>	<p><b>AL - 194 - 01 - RGBW</b></p> <p>Series Indicator (Airfield Lighting) <b>AL</b>                  Product Indicator <b>194</b>                  LEDs Number <b>01</b>                  LEDs Light Color (Red, Green, Blue and White) <b>RGBW</b></p> <p><b>Optional:</b></p> <p>IR LED <b>IR</b></p> <p><i>When the infrared (IR) option is included, the IR LEDs are added to the number of visible LEDs indicated in the code. Depending on the configuration, one or two IR LEDs may be included.</i></p> <table border="1" data-bbox="523 752 1401 882"> <thead> <tr> <th colspan="2">Examples of codes:</th> </tr> </thead> <tbody> <tr> <td>IR not included</td> <td>AL-194-01-RGBW</td> </tr> <tr> <td>IR included (one IR led)</td> <td>AL-194-<b>02</b>-RGBW/<b>IR</b></td> </tr> <tr> <td>IR included (two IR leds)</td> <td>AL-194-<b>03</b>-RGBW/<b>IR</b></td> </tr> </tbody> </table>	Examples of codes:		IR not included	AL-194-01-RGBW	IR included (one IR led)	AL-194- <b>02</b> -RGBW/ <b>IR</b>	IR included (two IR leds)	AL-194- <b>03</b> -RGBW/ <b>IR</b>
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<p><b>Description</b></p>	<p><b>Housing</b> - powder coated aluminum RAL 1004 (aviation yellow) </p> <p><b>Dispenser</b> - hardened glass</p> <p><b>Cable gland</b> - nickel plated brass</p> <p><b>Fasteners</b> - stainless steel</p> <p>Light fixtures are provided with anti-condensation valve.</p>								
<p><b>Environment</b></p>	<p><b>Temperature range:</b> -20°C to +55°C</p> <p><b>Degree of protection:</b> IP67</p> <p><b>Humidity:</b> 0-100%</p>								
<p><b>Mounting</b></p>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="635 1442 775 1684">  <p>Installed directly on the ground (no fasteners required)</p> </div> <div data-bbox="1177 1406 1331 1684">  <p>On a base plate and a frangible coupling</p> </div> </div> <p>When installed directly on grass, sand, or soil without a solid foundation, the lamp can be mounted on a ground screw with an integrated bushing and frangible coupling.</p> <div data-bbox="1098 1809 1433 2042">  <p>Frangible coupling Bushing Ground screw</p> </div>								

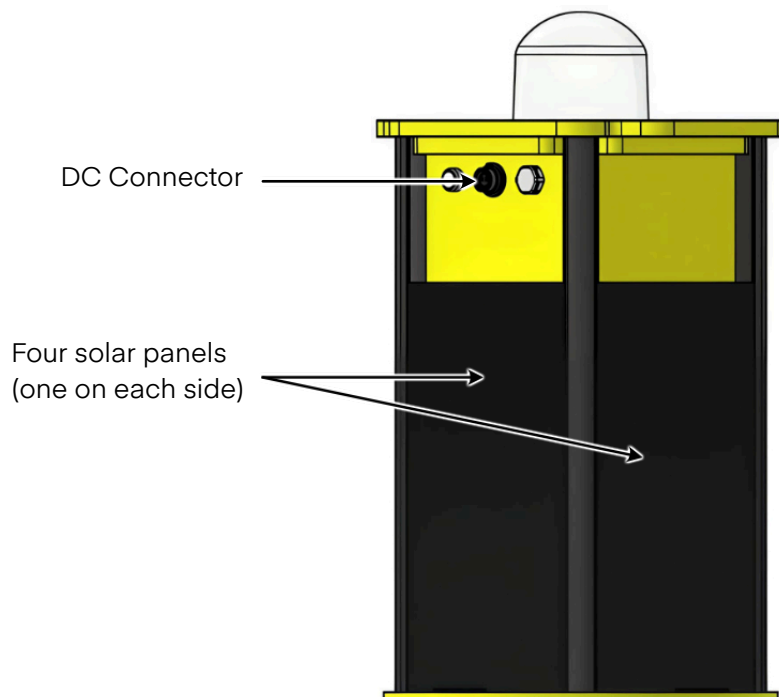
**Electrical Characteristics**

Lamp version	Power consumption	Power supply	Solar panels	Autonomy
Standard	Red light: 1 W Blue light: 0,3 W Green light: 1,5 W White light: 1,5 W	Lead Acid or LiFePO <sub>4</sub> (optional) Battery 12 V - 12 Ah	4x5 W	Red: 144 h Blue: 480 h Green: 96 h White: 96 h
Compact	Red light: 1 W Blue light: 0,3 W Green light: 1,5 W White light: 1,5 W	LiFePO <sub>4</sub> Battery 3.6 V - 12 Ah	4x2 W	Red: 43 h Blue: 144 h Green: 28 h White: 28 h

**Autonomy measured under ideal conditions: with a new, fully charged battery and an ambient temperature of 20°C.**

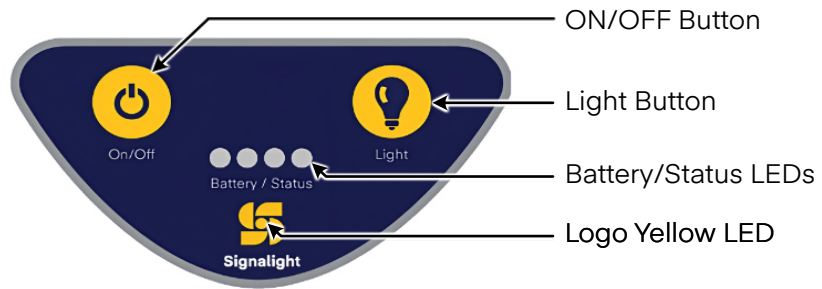
**Charging**

The primary charging method for Polaris V3 lamps is via the four integrated solar panels. Additionally, the lamps are equipped with a DC connector for optional external charging.



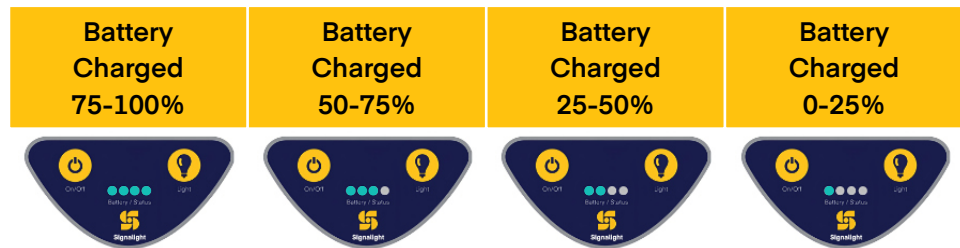
Control

Local/manual Control




Following installation, press the ON/OFF button to connect the battery, thereby powering the POLARIS unit. Once the unit is powered, the yellow LED on the SIGNALIGHT LOGO will blink every 5 seconds, indicating that the light is in STANDBY mode.

Press the "Light" button to activate the main LEDs. The first press will display the battery's charge level through the 4 signal LEDs:



The display showing the battery's charge level will turn off after approximately 10 seconds, and the status LEDs will go dark. Pressing the "Light" button again activates the MAIN LEDs in RED. A subsequent press causes the RED LED to blink five times, after which the light will operate based on the photocell, illuminating only at night in RED. Pressing the "Light" button again switches the LED to BLUE; another press and the blue LED blinks five times, setting the light to operate with the photocell at night in BLUE. A further press changes the LED to GREEN; pressing again makes the GREEN LED blink five times, enabling night-time operation in GREEN based on the photocell. Another press of the "Light" button turns the LED WHITE. Pressing again results in the WHITE LED blinking five times, after which the light will function with the photocell at night in WHITE. Pressing the button once more turns off the light, and the POLARIS unit enters STANDBY mode. When the light is in STANDBY, the LOGO's yellow LED will blink once every 5 seconds. When the light operates based on the photocell, the LOGO's yellow LED will blink every 5 seconds.

 Look/See	<b>ON/OFF Button:</b> Connects the battery and the light enters standby mode
	<b>Light Button:</b> Battery status →RED → RED + photocell →BLUE → BLUE + photocell →GREEN → GREEN + photocell →WHITE → WHITE + photocell →STANDBY

**Control**

**Disconnecting the battery**

Holding down the "Light" button for more than 3 seconds will disconnect the battery. This step is advised when the lamps will not be used for an extended period or during transportation to ensure there is no power consumption. Prior to disconnection, the main LEDs will blink three times as an indicator. Once the battery is disconnected, the LED on the logo will turn off. To protect the battery from over-discharging and potential damage, if the battery voltage drops below 10.2 volts, it will automatically disconnect.

**Radio Control**

Optional the POLARIS lights can be radio controlled.

Radio control is made using LORA technology in 868 Mhz for Europe or 915 Mhz for US, optional 433 Mhz.

The lights can be controlled one way using a handled remote control.



**Control**

**HANDHELD RADIO REMOTE CONTROL**



The remote control, powered by batteries, can simultaneously transmit commands to all the lights.

To extend the battery's life, switch off the remote when it's not in use. If the remote control is powered the status LED from the right is ON. Pressing the RED button activates the lights in red, and similarly for other colors. To turn off the lights, press the OFF button. For photocell mode activation, press a color button followed by the BLACK button. The chosen LED color will blink five times and then turn off, automatically illuminating when darkness falls. After each push, for a command, the LED status from the left lit for few seconds until the order is transmitted. One can send another command just after the status LED is OFF.

One way communications means all the lights can be started at 1%, 3%, 10%, 30% or 100% or switched OFF.

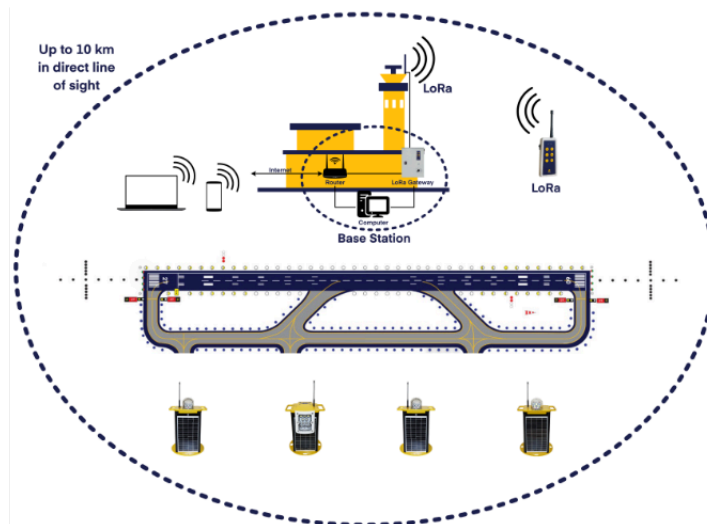
Optionally, the lamps can be controlled in groups, pre-set at the factory through a customized remote control

**Control**

**Polaris Application**

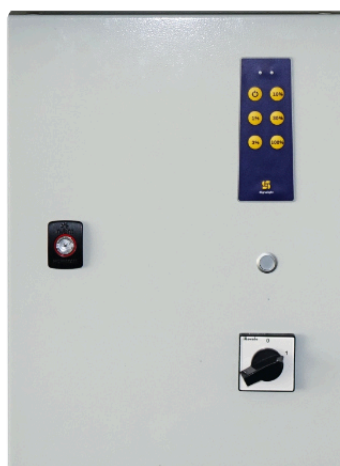
Another option is to control the lights using a base station, in this case the communication is bidirectional via Polaris application.

The distance covered can be up to 10 km in line of sight.



From the POLARIS application the control is more complex. The lights can be controlled individual, in groups, on scenarios and the user can see all the parameters of the lights.

**ARCAL – Pilot activation**

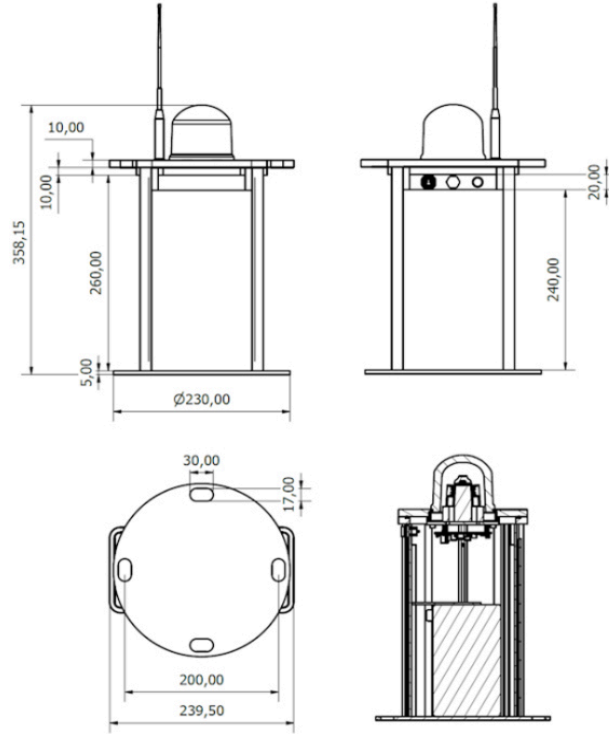


This option allows pilots to activate the lights using the communication system. **Three clicks** on the microphone set the lamps to **10%** intensity, **five clicks** to **30%**, and **seven clicks** to **100%**.

**Mechanical Characteristics**

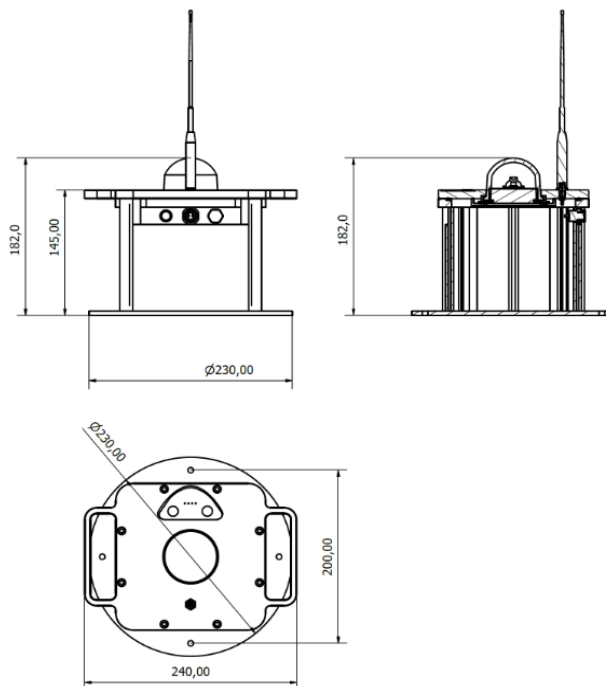
**Weight: 9.3 kg**

**Dimensions of the standard version:**



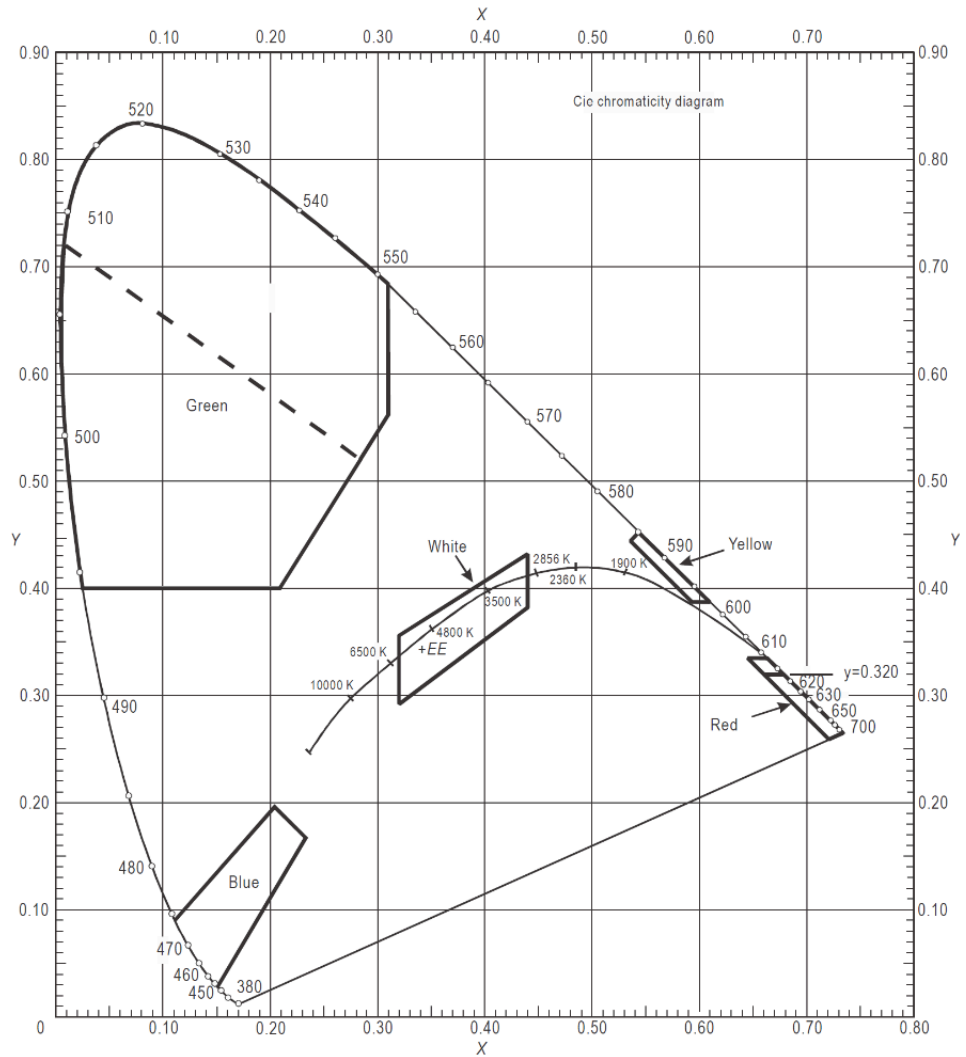
**Weight: 4 kg**

**Dimensions of the compact version:**



**Photometric Characteristics**

Unserviceability, Runway End or Stop light	Red	10 cd omnidirectional
Taxi light	Blue	2 cd omnidirectional
TLOF or Threshold light	Green	50 cd omnidirectional
Fato or Runway Edge light	White	100 cd

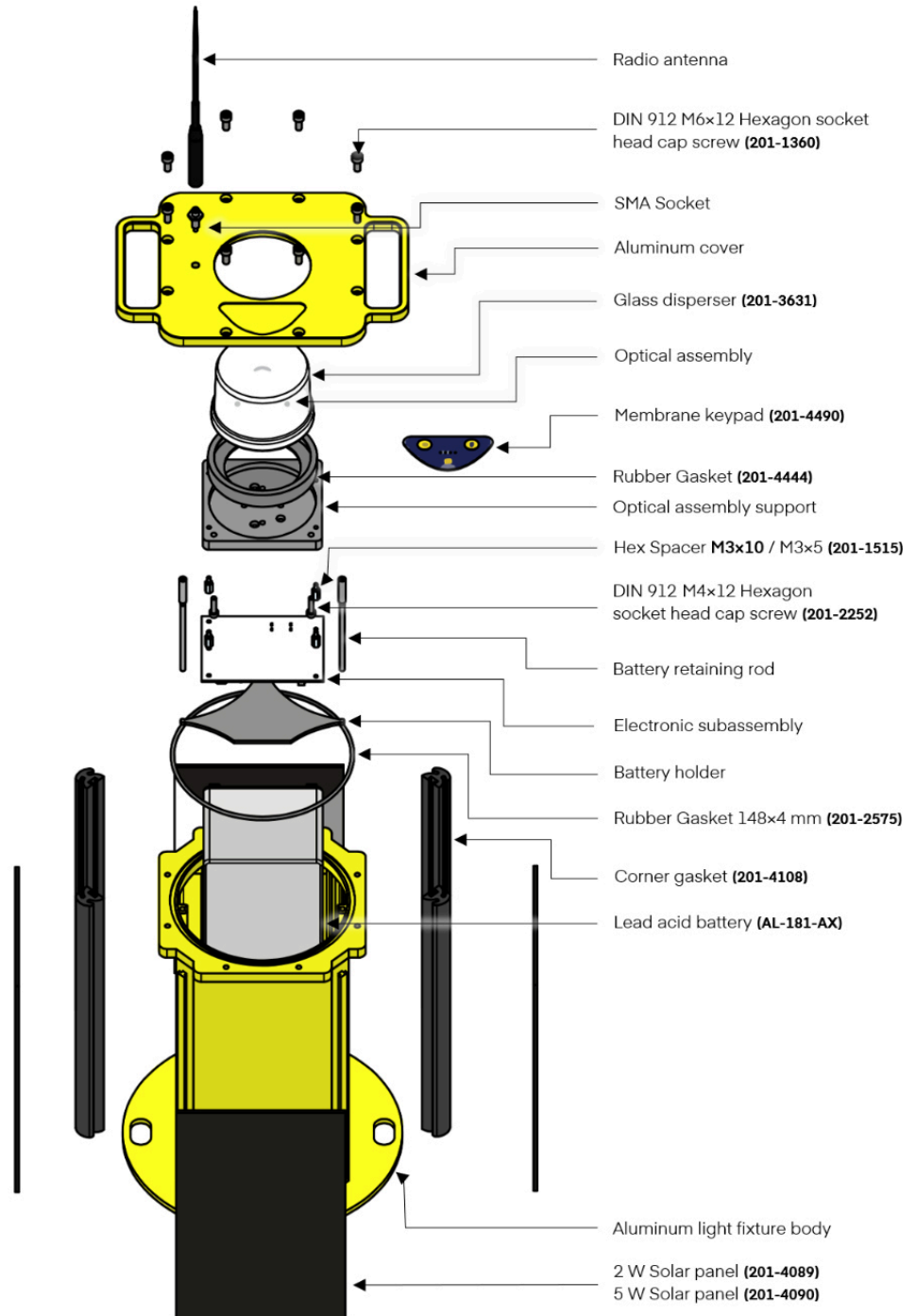


The measured trichromatic coordinates correspond to color range requirements in:

**ICAO Annex 14 - Aerodromes Vol.1, fig, A1-1b.**

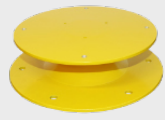

**Colors for aeronautical ground lights (solid state lighting)**

**Spare Parts**



**Accessory**

To order accessories please call our customer support. For contact details please refer to our website - [www.signalight.com](http://www.signalight.com)

#	NAME - SERIES	PRODUCT CODE	IMAGE
1	Fixing System for Polaris V3	AL-232-AX	
2	Ground mounting screw	AL-229-AX	



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