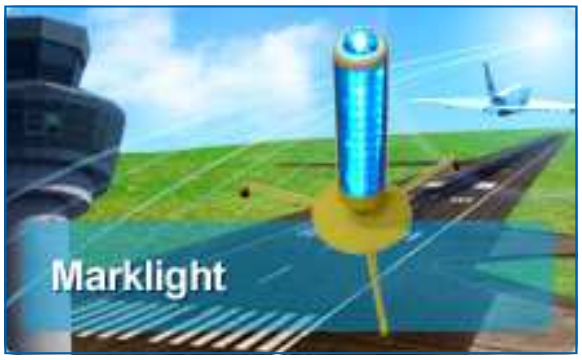
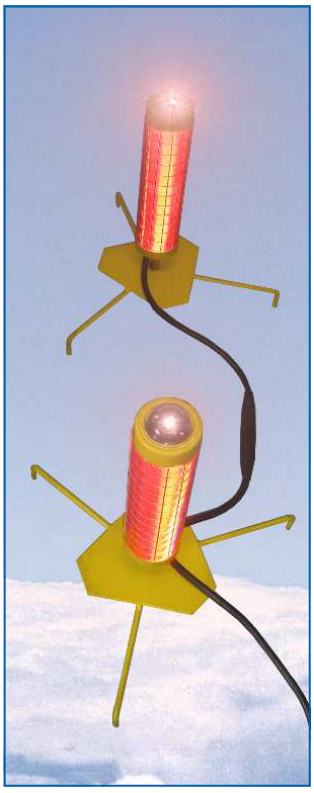
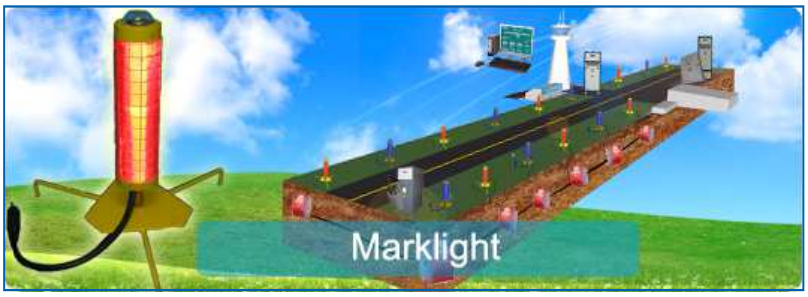
MARKLIGHT

LED retro-reflective transformer light
Taxiway and Parking Area Edge
Temporary - Work area marking (Barricade)







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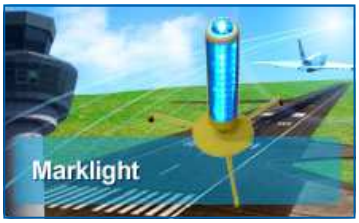
Compliance Specifications



ICAO Annex 14-Vol.1, **IEC** (61827)
FAA (AC150/5345-39B) (only blue version)
STAC certificate: 2009A001 (only blue version)

Applications

Patent n° 0955543

The MARKLIGHT led light is a revolutionary elevated marker light which has all requirements for taxiway and parking edge lighting (blue light) or for work area or temporary lighting (red light). A four in one product in a single led light marker :

- Transformer light (connected to the AGL primary circuit)
- Auto-reflective marker
- Elevated led light (connected to the AGL isolating transformer secondary circuit)
- Portable work area marker light (on a metallic brace).

This light has a simple design and a low consumption (<10VA), it cannot be disassembled: so it is extremely robust, reliable and completely watertight. MARKLIGHT is ICAO, FAA (blue version) and IEC compliant.

The temporary version can be stringed using an extension cable, the last light on the loop being used to close the current circuit. Eventually a plug can be used in order to use the same kind of light for stock management.

Advantages

Simple and reliable :

The MARKLIGHT marker has a sealed LED optic device which cannot be disassembled. This LED part will be supplied by a single brilliancy converter enabling the light to support 1.5A up to 6.6 Amps current supply. The light flux for 6.6 Amps nominal, slightly varies when the supply current step change.

The electronic and the connection leads are over moulded using a polyurethane resin. That manufacturing process will guarantee water tightness and total protection against all external chemical agents. The light body is covered by a blue or red retro-reflective sleeve, allowing the light fixture to be switched off during night time operations, when ground movements are scarce on taxiways.

Versatility use and adaptation :

Ground mounting is performed by a frangible ring, which can be used either on a mounting steal peg (for concrete sealing), on a mounting stake (for soft ground), or screwed on a fixed tripod/transportable brace.

The supply connection can be performed by an over moulded secondary bipolar connector lead (FAA ST1), or using two primary lead connectors (plug and receptacle) (FAA ST2 and ST9) for direct connection on the primary circuit.

Maintenance :

No maintenance is required for this led light which lifespan is rather elevated (50000h), apart for cleaning the lens glass or the retro-reflexive sleeve. The retro-reflective sleeve can be replaced in case of important deterioration.

MARKLIGHT® : Presentation

GENERAL PRESENTATION

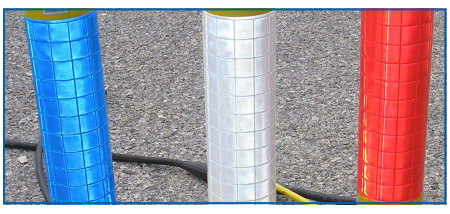
The MARKLIGHT light fixture is peculiar because it cannot be disassembled: the optical part and body are watertight.

To achieve that performance, the whole electronic part including the LED lighting system is cast with a polyurethane resin base.

This structure gives a high resistance to vibrations, shocks, as well as against chemical fluids and agents that can be encountered on airport taxiways.

Retro-reflective function

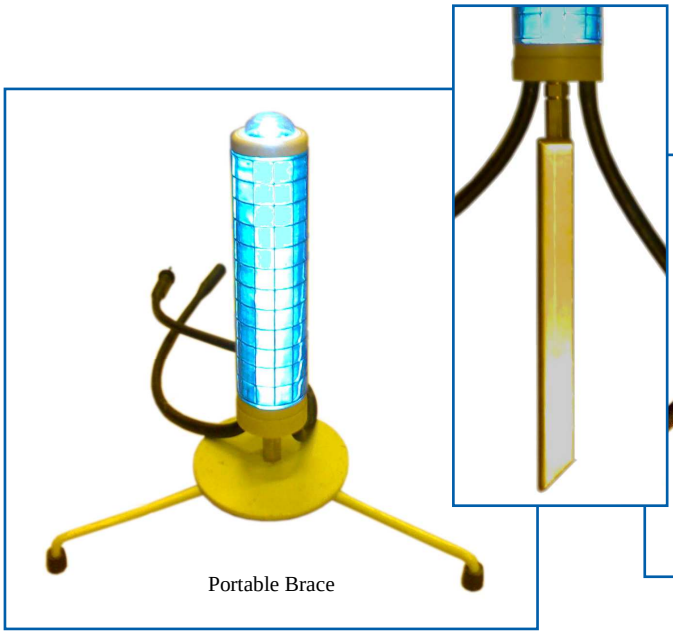
The moulded body of the marker is fit with a 250mm high retro-reflective sleeve which answers all requirements of the ICAO (Annex 14, Vol. 1, chapter 5.5.5 and annex 1), the FAA (AC 150/5345-39B) and BS (CAP 168) as regarding colour and frangibility.



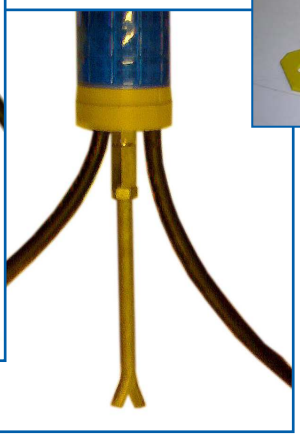
MARKLIGHT® : Presentation

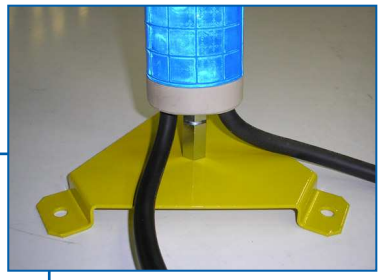
Mounting:

Mounting Stake



Concrete Peg



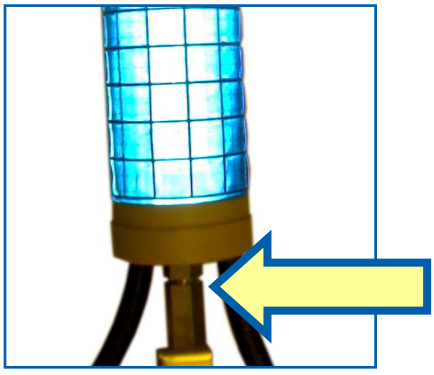


Tripod

Portable Brace

The MARKLIGHT marker can be supplied with a full mounting kit, including either a stake or a concrete peg. These equipments are connected to the body using a frangible coupling which will be screwed on the chosen mounting device (14 mm or 2” GAS thread).

2” GAS



14 mm GAS

MARKLIGHT® : Presentation

Temporary lighting

On airport platform, and especially on taxiways, work area can be troublesome to ground movements, and must be clearly identified by pilots. Temporary lighting will be put in place, and will stay in operation for the duration of the on going work (from 1 week to several months).

Three systems are commonly used:

1. Stand alone portable marker :

This stand alone lights do not meet semi-permanent installation (>2 or 3 days), and are quite expensive (buying costs + battery maintenance)

2. Work area markers 220V:

Markers using 220V power supply commonly face the lack of available 220V feeders at the vicinity of the work area and to the poor lifespan of low voltage electrical extension cable in such a harsh environment. Fabrication costs may be high and reliability may be poor.

3. Temporary marker:

Serial lighting, well fitted for airport application, will require quite an amount of available power on existing lighting circuits, on which it could be connected. Moreover, it will generally require a tailor-made lighting circuit to energise the lights.

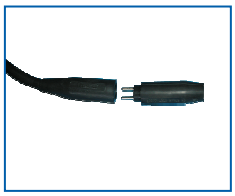
MARKLIGHT® : Presentation

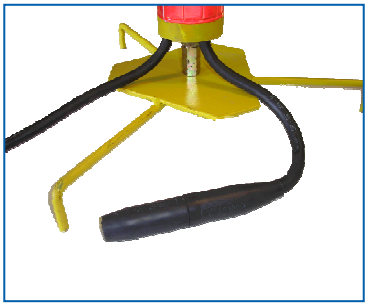
Temporary lighting

The MARKLIGHT® can be stringed easily, the temporary lighting loop being connected to the nearest lighting circuit available by mean of a single standard isolating transformer.

A 100W transformer can feed up to 15 Marklight®.

The lighting loop can be closed either using a Marklight® fitted with a single lead, or by mean of a termination plug.





MARKLIGHT® : Technical Characteristics

- **LED Light**:
  - Weight: 2.5 Kg.
  - Above the ground dimension: H 340 mm x D 77 mm.
  - Colour: blue or red
  - Nominal current: 6.6 Amps.
  - Input current: from 1.5 to 6.6 Amps.
  - Power consumption: less than 8 VA.
  - Light intensity:
    taxiway edge blue: > 2 cd from 0° up to 6° vertical, > 0.2 cd from 6° up to 90° vertical.
    work area marker red: > 10 cd from 0° up to 10° vertical, > 5 cd above 10° vertical.
  - Temperature: -55°C to +55°C
  - Lifespan: more than 50 000 Hrs.
  - IP 68.

- **Retro-reflective sleeve**:
  - Material: retro-reflective PVC.
  - Dimension: H 250 mm x D 75 mm.

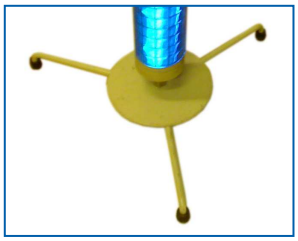
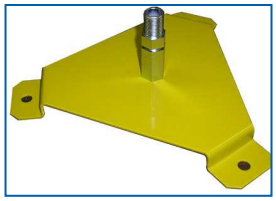
MARKLIGHT® : Technical Characteristics

OPTIONS

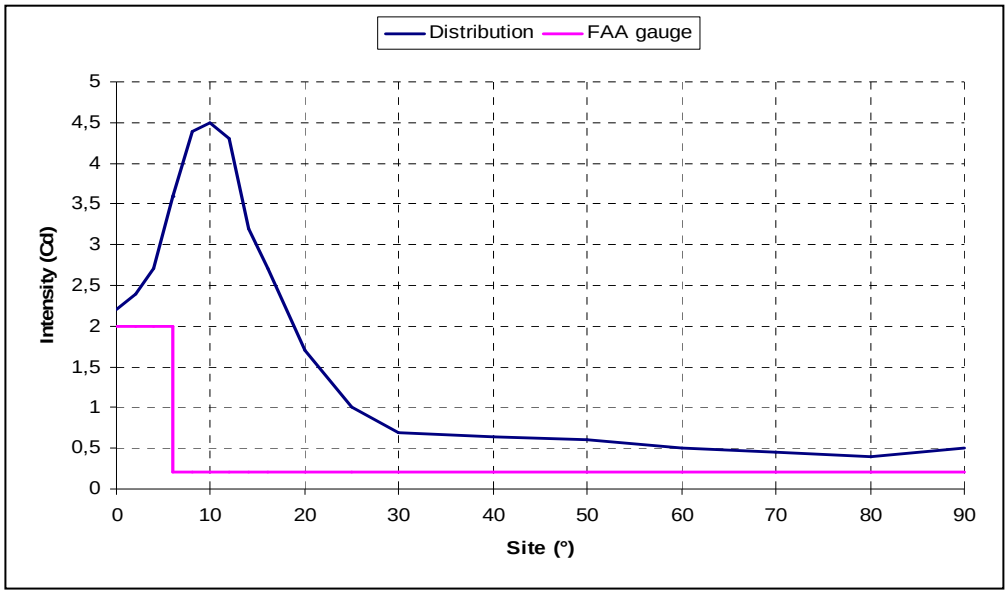
- **Connection choice** :
  - Primary connection: 2 FAA primary plug and receptacle lead ST2 and ST9 (L 0.5 m).
  - Secondary connection: 1 FAA secondary plug ST1 (L 0.5 m).
  - Secondary connection: 2 FAA secondary plug and receptacle lead ST1 and ST7 (L 0.5 m) or 2 FAA secondary plug leads ST1
  - ST6 plug with 2 single core wires (L 10cm)

- **Mounting** :
  - Stake
  - Concrete peg
  - Mounting brace
  - Tripod stand (14 mm or 2” GAS)




- **Photometric characteristics (blue light):**



MARKLIGHT® :
LED Retro-reflective Transformer Light

ORDERING INFORMATION

The MARKLIGHT is defined using an ordering code. That code will describe particularities and options.

Example : TFR-700-B10-01-20 = blue marker for taxiway edge with retro-reflective sleeve, using primary connection, on concrete mounting peg and frangible coupling :

T	F	R	-	7	0	0	-	B	1	0	-	0	1	-	2	0

Series TFR : Retro-reflective LED transformer light

Model 700 : Converter type

Optical Options
BXX : Blue
RXX : Red
X1X : Single step brightness
XX0 : With retro-reflective sleeve
XXS : Without retro-reflective sleeve

Connection Options
00 : 1 Bipolar lead ST1
01 : 2 Single-pole leads ST2 and ST9
02 : ST6 plug with 2 single core leads (2.5 mm²)
03 : 2 Bipolar leads ST1
04 : 1 Bipolar lead ST1+ 1 Bipolar lead ST7

Mounting Options
0X : Without mounting
1X : With mounting stake (14mm gaz)
2X : With concrete peg (14mm gaz)
3X : With mounting brace (14mm gaz)
4X : With tripod stand (14mm gaz)
51 : With breakable coupling and 2” male thread
52 : With breakable coupling and 2” male thread and tripod stand
X0 : With breakable coupling
XS : Without breakable coupling

Accessories
10.18711 : 10 m bipolar extension cable plug/receptacle
10.24143 : 10 m bipolar extension cable receptacle /receptacle
10.24144 : 3 m bipolar extension cable plug/receptacle
10.24145 : 3 m bipolar extension cable receptacle /receptacle
10.20217 : 8 m bipolar extension cable plug/receptacle
30.08510 : Male termination plug
30.11045 : Female termination plug