MINISTÈRE CHARGÉ DES TRANSPORTS
Liberté Égalité Fraternité

direction générale de l'Aviation civile

Service technique de l'Aviation civile

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Test application

To email back at the address mentioned opposite
(once duly filled in, dated and signed)
Any incomplete application will be returned.
Please, fill out a form for each light/sign/panel model

Blank form downloadable at www.stac.aviation-civile.gouv.fr

Applicant

Compagny	Contact person
Corporate name :	NAME, first name :
Postal address :	Phone :
	Email :

Deliverables recipients *(if different from the applicant)*

NAME, first name : Postal address :

Purpose

☐ Certification / Approval *((Photometric and colorimetric performance only)*

Requested tests to be mentioned in the table on the next page.

Light(s) / Sign(s) / Panel(s) to be tested

Characteristics :

Please fill in the table on the next page.

Delivery address : (for the light(s) / sign(s) / panel(s) to be tested)

Direction de la technique et de l'innovation (DSNA/DTI)
Bâtiment U – Laboratoire « Aides visuelles »
***1** avenue du Docteur Grynfogel*
31035 Toulouse Cedex 1
FRANCE

Warning : The transport (including the delivery and the return) of any light / sign / panel is at the expense and risk of the applicant.

Engagement

Applicant

☐ **I read and accept all the general terms and conditions for use of the service attached in annex**

☐ **I acknowledge that the equipment covered by this application complies with Directive 2014/35/EU as set out in Decree 2015-1083 of 27 August 2015**
(For more information, see §4.1.2 Annex 1 : General terms and conditions for use of the service)

Date :

Signature :

STAC
Application admissibility

FDEM n° : Réservé STAC

Réservé STAC

Envoi formulaire

Description of the equipment to be assessed

Please ensure consistency between these informations, product labelling and associated technical documentation

Characteristics :

BRAND	
MODEL	
Product Code	
Inset / Elevated	
Nominal electrical supply voltage or intensity	
Optical center position	Identified / specified : ☐ On the equipment ☐ In the technical documentation

Lighting functions to be assessed : ***fill the table on the next page***

Luminous sources characteristics :

Brand(s)		
Color(s)		
Number		
LED / Halogen / Other ?		
Complete reference(s)		

Requested tests

*Photometric **and** colorimetric tests*

☐ Standard (23°C)

☐ High temperature — *Specify : +…….. °C (max +55°C)*

☐ Low Temperature — *Specify : -…….. °C (min -55°C)*

Additional tests

☐ Surface temperature test * / **

☐ Static load test ** ☐ Watertightness test ** ☐ Mechanical impacts test **

** Halogen lights only* *** Inset lights only*

Tested lighting functions to be assessed

(Cf Annex 2 : tested lighting functions)

Airport lights

APPROACH	☐ Side row			
	☐ Center line (no flashing) / crossbar			
	☐ Center line (flashing) / runway threshold identification			
	☐ PAPI			
RUNWAY	☐ Threshold wing bar			
	☐ Center line	Longitudinal spacing 15 m	☐ Cat I ou II	
			☐ Cat III	
		☐ Longitudinal spacing 30 m		
	☐ Edge	Precision approach	width	☐ 45m
				☐ 60m
			Omnidirectional characteristic	☐ avec
				☐ sans
		☐ Non precision approach		
		☐ Night VFR		
	☐ Threshold	☐ Non precision approach	☐ Precision approach	☐ Night VFR
	☐ End			
	☐ Rapid exit indicator (RETIL)		Longitudinal spacing 15 m	☐ Cat I ou II
				☐ Cat III
			☐ Longitudinal spacing 30 m	
	☐ Touchdown Zone			
	☐ Take-off hold (THL)			
TAXIWAY	☐ Center line ☐ Stop Bar / No-entry bar	☐ with A-SMCGS ☐ RVR <350 m ☐ RVR ≥ 350 m	☐ Curved sections	
			Straight sections	☐ Narrow beam
				☐ Wide beam
	☐ Enhanced rapid exit center line			
	☐ Intermediate Holding Point (IHP)			
	☐ Runway entrance (REL)	RVR < 350 m	☐ Straight sections (Wide beam)	
			☐ Curved sections	
	☐ Edge			
	Runway guard	☐ High Intensity	Configuration	☐ A
		☐ Low Intensity		☐ B

Airport luminescent signs

☐ Mandatory	☐ Information		☐ RVR < 800m	☐ RVR ≥ 800 m

Heliport lighting systems

☐ Heliport fixed approach	☐ FATO	☐ Heliport taxiway center line
☐ Heliport flashing approach	☐ Aiming point	☐ TLOF (light)
☐ Heliport beacon	☐ HAPI	☐ Flight path alignment guidance lighting system
☐ Heliport taxiway, edge or parking		☐ TLOF (luminescent panel)

Obstruction light

Horizontal beam spread				
Low Intensity	☐ Type A	☐ Type B		☐ Type E
Flashing frequency and duration				
Medium Intensity	Type A	☐ Day/Twilight ☐ Night	☐ Type B	☐ Type C
	☐ Secondary wind turbine top		☐ Modified beam beacon	
Flashing frequency and duration				
High Intensity	☐ Type A ☐ Type B	☐ Day	☐ Twilight	☐ Night
Flashing frequency and duration				

Annex 1: General terms and conditions for use of the service

1. Object and general terms

This agreement takes effect from the date of its notification by the STAC to the applicant, subject to the receipt by the STAC of the various items to be provided, mentioned in article « Items to be provided ».

No tests will be carried out without any application form dully filled in, dated and signed by the STAC and the applicant.

Any incomplete application is returned. Before applying, the applicant may contact the STAC by email at the address mentioned on page 1 (in the top left corner).

2. Particular conditions of termination

In the case of a serious breach of this agreement by one of the parties, the latter is denounced by the other party, by registered letter with acknowledgment of receipt, without prejudice to the provisions of article 17. below. The termination of this agreement is then effective at the date of receipt by the breaching party of the letter of denunciation issued by the non-breaching party.

3. Time frame

The average processing time for a request (excluding the summer period) is estimated to be less than 3 months from the receipt of the necessary elements indicated in the article "Items to be provided".

4. Items to be provided

4.1. List

4.1.1. Technical documentation

The technical documentation of any product to be tested shall contain the information below. The results of any test which has already been carried out may also be provided.

Product	Elements provided by the technical documentation	
Light	• Light source(s): model, brand, number, type (halogen, LED…) • Optical components: prisms, glass, lens, filters… • Optical center position • Body • Seals • Connections • Setting instructions • Electrical insulation resistance	• Operating and maintenance instructions • Operating temperature range • Nominal electrical supply voltage or intensity • Electrical protection index • Electrical insulation class • Frangible or non-frangible type
Luminescent signs or panels	• Light source(s) : model, brand, number, type (halogen, LED…), schema • Voltage converter : model, brand, conversion range • Front surface : material, manufacturer, model • Inner coating : material, manufacturer, model	

4.1.2. Samples and other items

The number of samples to be provided per product to be tested is specified when sending this form duly signed by the STAC. The other items to be provided are mentioned below.

Products / Other items to be provided	Inset lights	Elevated lights	Luminescent panel (Heliport lighting)	Luminescent signs (Airport lighting)	
				Mandatory No-entry 08 – 26	**Information** ← A | B ↑
Support structure	X				
Support for vertical mounting		X (if any)	X		
Specific aligning device / tool					

The applicant is liable for ensuring that any product sample to be tested complies with the following requirements :

- being compliant with Directive 2014/35/EU* as set out in Decree 2015-1083 of 27 August 2015*,
- being identified by a serial number,
- being compliant with health and safety at work standards and regulations in force.

** DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits*

** DECREE 2015-1083 of 27 August 2015* on the placing on the market of electrical equipment designed for use within certain voltage limits.*

4.1.3. Attestations

For any certification / approval request from a distributor, the latter provides an attestation from the manufacturer authorizing the distributor to market its product, if applicable under another brand/model name.
In the case of a request for an already certified product, the distributor must also provide a certificate stating that the newly referenced product has not undergone any modification compared to the initial product affecting its photometric and colorimetric performances. If not, the product must be reassessed.

5. Transport

The transport (including the delivery and the return) of any product sample that will be or has already been tested is at the expense and risk of the applicant. Please use the address mentioned on page 1.

6. Checks

When receiving the different product samples to be tested, the STAC checks their number, checks that they are not damaged and that they work. Then, the STAC acknowledges receipt, informing the applicant of any damage or defect.

7. Keeping of one product sample

The STAC keeps for 10 years, per any tested product, as a control sample (in case of subsequently needed tests), the sample on which only the photometry and the colorimetry tests at +23°C were performed. The other samples are taken back by the applicant, once the tests are completed.

This provision does apply only to aeronautical lights, no-entry luminescent signs and heliport luminescent panel.

8. Tests

8.1. List

Products / Essais	Lights				Luminescent panel (Heliport lighting)	Luminescent signs (Airport lighting)
	Airport or heliport lighting (except PAPI and HAPI)		PAPI HAPI	Obstacle or wind turbine lighting		
	Elevated	Inset				
Photometry and colorimetry tests (performed at 23°C±2°C)						
Photometry and colorimetry tests at high and low temperature						
Mechanical impacts test						
Surface temperature test **Static load test** **Watertightness test**						

Tests performed on any provided sample — *Tests performed on one of the provided sample* — *Non performed test*

8.2. Methods

Tests are performed in accordance with the normative reference CEI/TS 61827 : 2004 and with the documents PRO/SE/E/VIS/6029 and PRO/SE/E/VIS/6016.

8.3. Methods selection

For fixed light, in case of a deviation between the tests method requested by the applicant and the one defined by the accreditation scope, tests will be performed outside the accreditation scope with the agreement of the applicant.

9. Accreditation

The STAC holds an accreditation by the COFRAC to perform photometry and colorimetry tests on fixed aeronautical lights. (Accreditation n° 1-5966 in the field Transport / Lighting and signaling devices / Performance or functional capacity testing). The accreditation scope is available on www.cofrac.fr.
The applicant is prohibited from using the accreditation mark of the STAC. Any misuse or abusive use, observed or brought to the attention of the STAC, will be notified to the Cofrac.

10. Price

The tests listed above are free of charge.

11. Deliverables

At the end of the tests, the STAC provides the applicant (or the addressee mentioned on page 1), by mail, a copy of the following documents :

- one or several tests reports including the tests results and their analysis,
- if appropriate, copy(ies) of certificate(s) of conformity or approval(s), for each tested product, (signed French version; including English translation (in italics) provided as a courtesy only),

The originals of the certificate(s) of conformity or approval(s) are sent by post.

12. Measurement uncertainty

The uncertainties related to the various quantities sought are indicated for information purposes in the various tables presenting the results. They define 95% confidence level intervals (coverage factor k = 1.96).

Annex 1: General terms and conditions for use of the service

13. Compliance assessment

13.1. Normative reference

The assessment of the compliance of a product is performed according to the **photometric and colorimetric** specifications in force, defined by the documents SPE/STAC/SE/E/VIS/6008 and SPE/SE/E/VIS/6009 written by the STAC in accordance with:

- ICAO Annex 14,
- EASA CS-ADR-DSN and/or CS-HPT-DSN
- order of April 2018, 23rd on air navigation obstruction lighting.

These documents can be downloaded from the STAC website at www.stac.aviation-civile.gouv.fr

Any change to a certified or approved product, of whatever kind (optical, electrical, mechanical, structural), requires a re-assessment of the compliance of the product.

13.2. Decision rules

The expanded measurement uncertainty U (k=1.96) is taken into account as follows when assessing the compliance of a product :

Photometric performance	**Case 1 :** All results comply with regulatory specifications without taking U into account.
	Case 2 : One of the results complies with regulatory specifications when taking U into account. The other results comply with regulatory specifications without taking U into account.
Colorimetric performance	**Case 1 :** All chromatic coordinates pairs comply with regulatory specifications without taking U into account.
	Case 2 : One or several chromatic coordinates pairs comply with regulatory specifications when taking U into account.
Other performances	Not taken into account for the compliance assessment.

13.3. Validity of certificates of conformity or approvals

A certificate of conformity or an approval issued by STAC does not mention any validity date. In other words, a certificate of conformity remains valid as long as no modification impacting the photometric and colorimetric performances of the certified equipment (optical, electrical or mechanical) is made.

14. Responsibilities

14.1. Products to be tested

The STAC is liable for the storage of any product to be tested, once received in its premises. The STAC undertakes to test it in accordance with the operating instructions supplied by the applicant. The applicant will cover any damage that may arise to the staff or to the facilities of the STAC from operating the product in accordance with its operating instructions.

No compensation for the loss sustained by the applicant may be claimed from the STAC, which shall not be held liable, in the following cases related to the product to be tested :

- damages or loss occurring during its transport (to and from the STAC),
- operating defects noted by the STAC upon its receipt,
- unintentional damages occurring during the tests.

14.2. Documentation

The STAC is liable for the management of any information obtained or generated during its activities. Within this framework, no information is made public, except for :

- the information « Model », « Brand », « Inset or elevated type » and « Colour », « Nominal power supply », « Luminous sources type » and « Certificate number and date » which is published on the STAC website in case of successful certification evaluation,
- data made public by the applicant.

Any other information is deemed exclusive and confidential.

15. Non-disclosure of intellectual property and personal data

The STAC undertakes to protect and not to disclose any intellectual properties and any personal data of the applicant. Furthermore, the STAC undertakes not to disclose any tests results to any third party which is not part of the DGAC.

Nevertheless, some data may be communicated to third parties (such as regulatory authorities, certification / accreditation bodies or auditors conducting audits dealing with the quality policy of the STAC) and analysed for statistical or scientific purposes.

16. Force majeure

Neither of both parties shall be compelled to comply with the terms of this agreement if some causes legitimately beyond its control prevent it from doing so. The affected party will have to notify the other party of the detailed reasons for invoking force majeure, to explain the predictable effects on this agreement and to put forward proposals for a resolution.

17. Dispute resolution and claims handing

Both parties shall endeavor to act in good faith to resolve amicably any dispute between them arising from difficulties in complying with the terms of this agreement or from any new event affecting it. In the hypothesis where no negotiated solution, acceptable to both parties, may be found, the parties submit to the exclusive French court jurisdiction.

Any claim by the applicant shall be made by e-mail at the address mentioned on page 1. The claim handling process implemented by the STAC is made available on request.

Annexe 2 : Tested lighting functions

Airport lights	Obstruction lights	Heliport lighting systems	Airport luminescent signs
Approach, side row	LI A	Heliport fixed approach	Mandatory (RVR < 800 m)
Approach, centre line (non flashing) / crossbar	LI B	Heliport flashing approach	Mandatory (RVR ≥ 800 m)
Approach, centre line (flashing) / runway treshold identification	LI E	Heliport beacon	Information (RVR < 800 m)
Approach, PAPI	HI A twilight	FATO	Information (RVR ≥ 800 m)
Runway, centre line (longitudinal spacing : 15 m, category I or II)	HI A day	Aiming point	
Runway, centre line (longitudinal spacing : 15 m, category III)	HI A night	TLOF (light)	
Runway, centre line (longitudinal spacing : 30 m)	HI B twilight	TLOF (luminescent panel)	
Runway, treshold wing bar	HI B day	Heliport taxiway, centre line	
Runway, edge (non-precision approaches)	HI B night	Heliport taxiway, edge or parking	
Runway, edge (precision approaches, width : 45 m, without an omnidirectional characteristic)	MI A day / twilight	HAPI	
Runway, edge (precision approaches, width : 60 m, without an omnidirectional characteristic)	MI A night	Flight path alignment guidance lighting system	
Runway, edge (precision approaches, width : 45 m, with an omnidirectional characteristic)	MI B		
Runway, edge (precision approaches, width : 60 m, with an omnidirectional characteristic)	MI C		
Runway, edge (night VFR)	Secondary wind turbine top		
Runway, end (non-precision approaches)	Modified beam beacon		
Runway, end (precision approaches)			
Runway, end (night VFR)			
Runway, end/threshold (non-precision approaches)			
Runway, end/threshold (precision approaches)			
Runway, end/threshold (night VFR)			
Runway, RETIL (longitudinal spacing : 15 m, category I or II)			
Runway, RETIL (longitudinal spacing : 15 m, category III)			
Runway, RETIL (longitudinal spacing : 30 m)			
Runway, threshold (non-precision approaches)			
Runway, threshold (precision approaches)			
Runway, threshold (night VFR)			
Runway, TDZ / simple TDZ			
Runway, take-off hold : THL			
Taxiway, centre line (with A-SMCGS, curved sections)			
Taxiway, centre line (with A-SMCGS, straight sections, narrow beam)			
Taxiway, centre line (with A-SMCGS, straight sections, wide beam)			
Taxiway, centre line (without A-SMCGS, RVR < 350 m, curved sections)			
Taxiway, centre line (without A-SMCGS, RVR < 350 m, straight sections, narrow beam)			
Taxiway, centre line (without A-SMCGS, RVR < 350 m, straight sections, wide beam)			
Taxiway, enhanced rapid exit taxiway centre line			
Taxiway, Intermediate Holding Point			
Taxiway, centre line (without A-SMCGS, RVR ≥ 350 m, curved sections)			
Taxiway, centre line (without A-SMCGS, RVR ≥ 350 m, straight sections)			
Taxiway, SB / NEB (with A-SMCGS, curved sections)			
Taxiway, SB / NEB (with A-SMCGS, straight sections, narrow beam)			
Taxiway, SB / NEB (with A-SMCGS, straight sections, wide beam)			
Taxiway, SB / NEB (without A-SMCGS, RVR < 350 m, curved sections)			
Taxiway, SB / NEB (without A-SMCGS, RVR < 350 m, straight sections, narrow beam)			
Taxiway, SB / NEB (without A-SMCGS, RVR < 350 m, straight sections, wide beam)			
Taxiway, SB / NEB (without A-SMCGS, RVR ≥ 350 m, curved sections)			
Taxiway, SB / NEB without A-SMCGS, RVR ≥ 350 m, straight sections)			
Taxiway, REL (RVR < 350m, straight sections, wide beam)			
Taxiway, REL (RVR < 350m curved sections)			
Taxiway, edge			
Low intensity runway guard (configuration A)			
Low intensity runway guard (configuration B)			
High intensity runway guard (configuration A)			
High intensity runway guard (configuration B)			

Legend :

PAPI :Precision approach path indicator
VFR :Visual flight rules
TDZ :Touchdown zone
THL :Take-off and hold light
RETILRapid exit taxiway indicator lights

A-SMGCS :Advanced surface movement guidance and control system
RVR :Runway visual range
SB :Stop bar
NEB :No-entry bar
REL :Runway entrance light

HI :High intensity
MI :Medium intensity
LI :Low intensity

FATO :Final approach and take-off
TLOF :Touchdown and lift-off area
HAPI :Helicopter approach path indicator