



INSTALLATION MANUAL

Nubion

DOC.NO: AVE-N09PANSN-IM

Part 0 Manual Administration

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0.2 Document approval

This document has been established in accordance with an alternative procedure to DOA approved under EASA AP429.

This installation manual is applicable for part numbers:

• Nubion Landing (13°)	AVE-N09PANSNL-1WA Mod(1)
• Nubion Landing (24°)	AVE-N09PANSNL-2WA Mod(1)
• Nubion Taxi (38°)	AVE-N09PANSNT-3WA Mod(1)
• Nubion Taxi (55°)	AVE-N09PANSNT-5WA Mod(1)
• Nubion Taxi (15° x 47°)	AVE-N09PANSNT-EWA Mod(1)

Compiled by:  21. – Apr. – 2020
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Approved by: _____ 21. – Apr. – 2020
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Head of DO, Aveo Engineering Group, s.r.o.

0.3 Amendment Record procedure

The master copy of this document shall be kept electronically as a read only document under the control of Aveo Engineering Group, s.r.o. as Master Copy.

ALL amendments to this manual will initiate a raise of issue.

ALL raises of issue will be given a sequential Alphabetic Issue Ident sequentially from 01 to 99 in Table 01 - **Issue No:** Column– Initial Issue of Document will be "01"

ALL Issues of this document will be approved by Head of DO

Issue No.	Details	Date	Effected Pages
01	Initial Issue	15.Dec.2016	ALL
02	Part Numbers update Technical specification update Optic simulation update	21.Apr.2020	3, 5 6 7, 8, 9

Table 01: Document Amendment Record Table

0.4 Effected Pages Procedure

ALL pages affected by ANY raise of issue of this manual will be listed in Table

01 - *Effected Pages* Column.

The reason(s) for ALL raise of issue and description of change due to raise of issue will be provided for ALL raises of issue in Table 01 - *Details* Column.

Changes from the previous issue are highlighted by **YELLOW HIGHLIGHTING** over new content. AND **YELLOW HIGHLIGHTING** AND CROSSING OUT of deleted content.

Example (**CROSSING OUT**)

0.5 Distribution List

As stated in 0.3 above; the master copy of this document shall be kept electronically as a read only document under the control of Aveo Engineering Group, s.r.o. as Master Copy.

All holders of copies of this Document will be recorded by listing in Table 02 – Distribution List.

Copy holders listed will be issued a copy of this document with sequential copy number as shown in Table 02 – Distribution List

Copy No.	Holder
MASTER	Aveo Engineering Group, s.r.o.
Table 02: Distribution List	

1. Nubion™

The Nubion™ landing or taxi light is a high powered LED light use in GA and transport category aircraft. It have been designed to be lightweight and with a low power draw to meet the highest requirements of all certified aircraft.

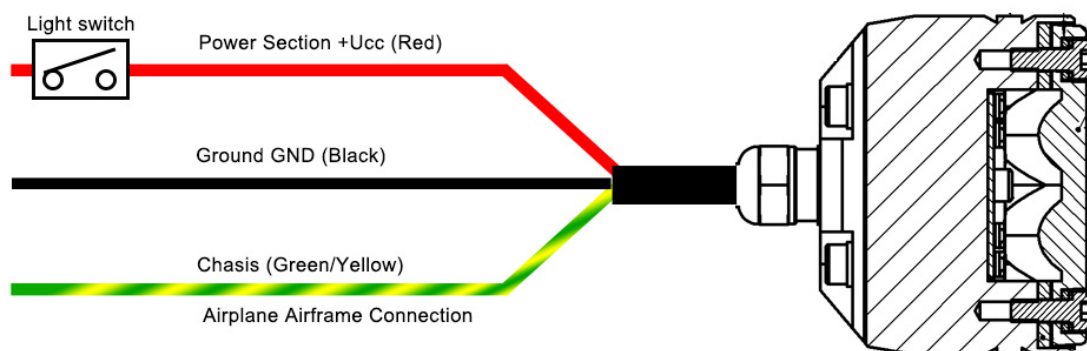
- **Nubion TAXI (38°)** PN : AVE-N09PANSNT-3WA Mod(1)
- **Nubion TAXI (55°)** PN : AVE-N09PANSNT-5WA Mod(1)
- **Nubion TAXI (15° x 47°)** PN : AVE-N09PANSNT-EWA Mod(1)

- **Nubion LANDING (13°)** PN : AVE-N09PANSNL-1WA Mod(1)
- **Nubion LANDING (24°)** PN : AVE-N09PANSNL-2WA Mod(1)

2. OPERATING INSTRUCTIONS

When installed on the aircraft, using the aircraft's power (28 volts), the light will be at its maximum intensity. *Operating Voltage range is 18-36VDC.*

3. INSTALLATION SCHEMATIC / WIRING DIAGRAM



Recommended wire AWG size: **20**

4. CONTROL & POWER INPUTS

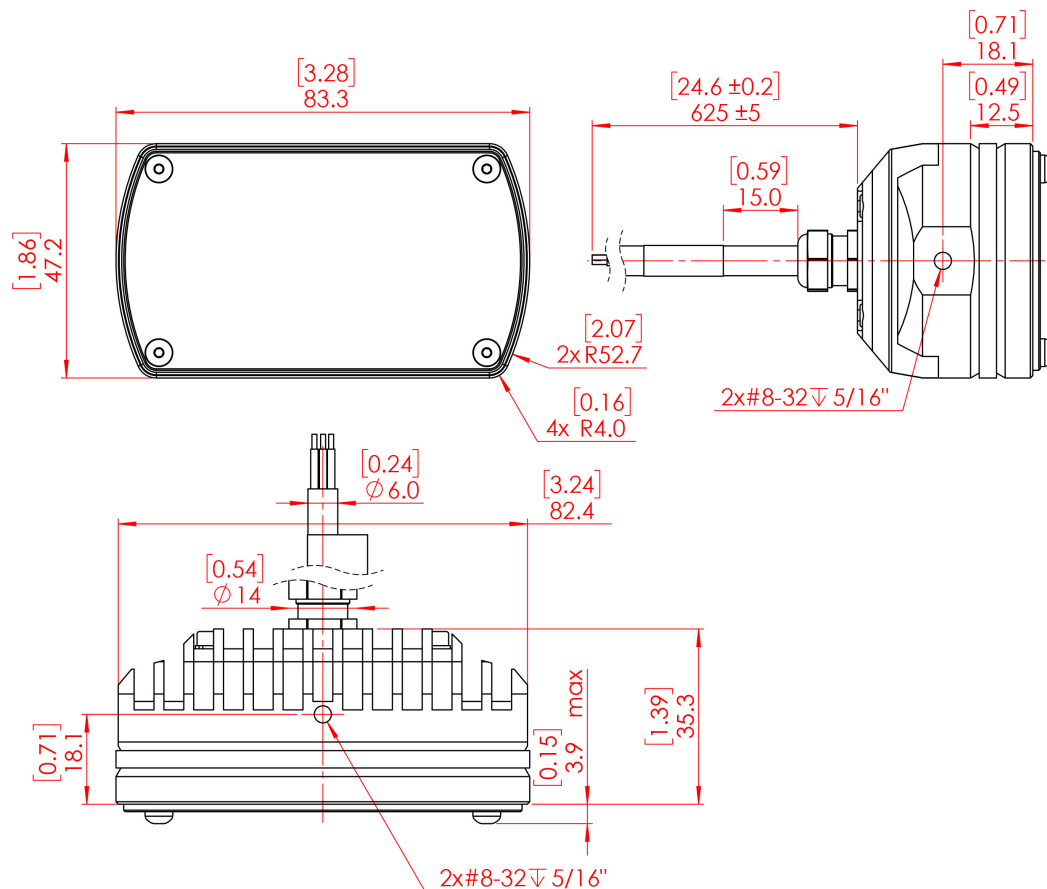
- | | |
|---------------------|--|
| BLACK | Negative common power supply line (ground) |
| RED | Positive power supply line |
| GREEN/YELLOW | Chassis (Airplane airframe connection) |

5. TECHNICAL SPECIFICATION

Electronic specification - Ambient temperature (25°C):

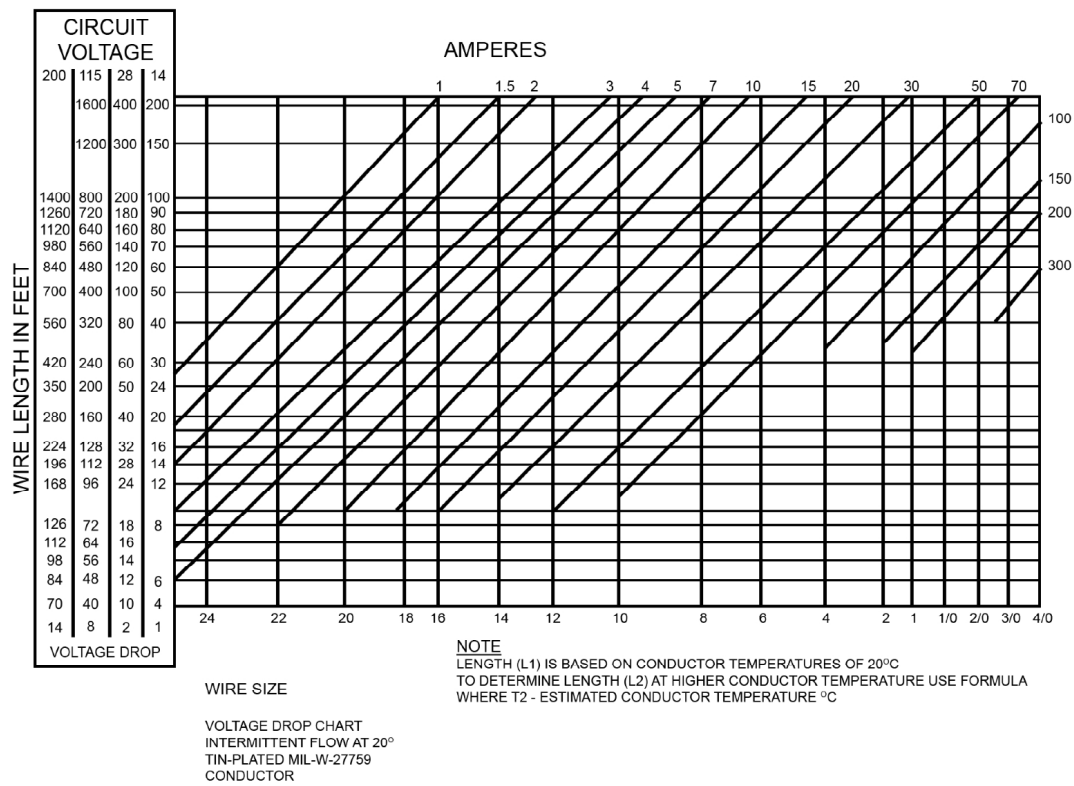
Operating voltage:	18-36V DC
Primary input voltage:	28V DC
Voltage protection:	a. Over-voltage protection: 80V (1s) b. Over-voltage lockout: 38.5V DC c. Under-Voltage protection
Reverse polarity protection:	Yes
LED quantity:	6 pcs
Performance:	
Input current:	1.44A@18V (+/- 5%) 0.89A@28V (+/- 5%) 0.69A@36V (+/- 5%)
Input power:	25W@28V (typ)
Operating temperature:	-40°C to +85°C -55°C to +85°C / -67°F to +185°F
Over-Temperature protection:	Yes
Weight:	7.76oz (220g) 6.88oz (195g)

6. TECHNICAL DRAWING



*dimensions in mm [inches]

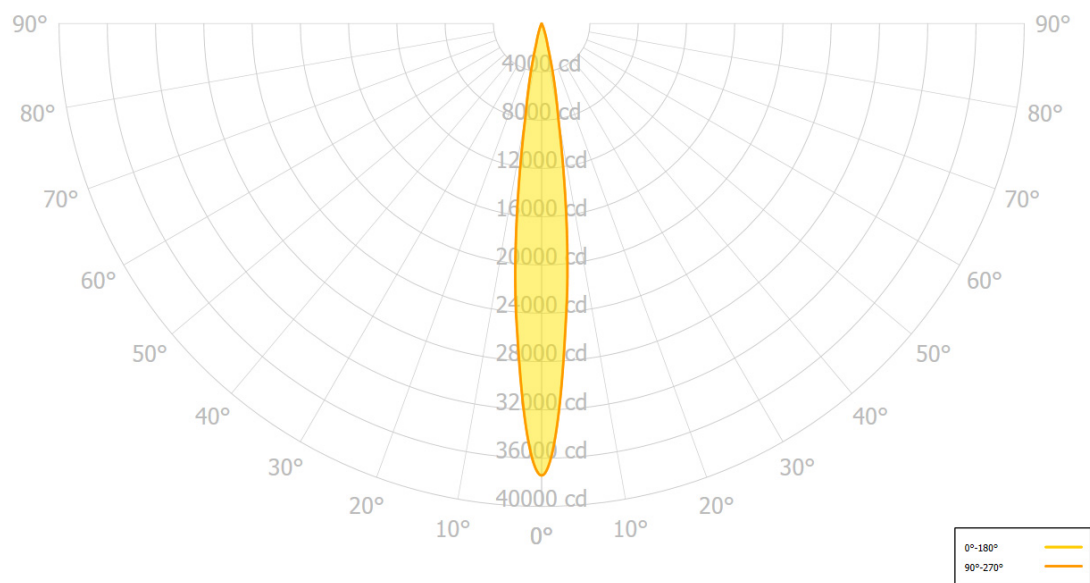
7.WIRING CHART



8. OPTIC SIMULATION

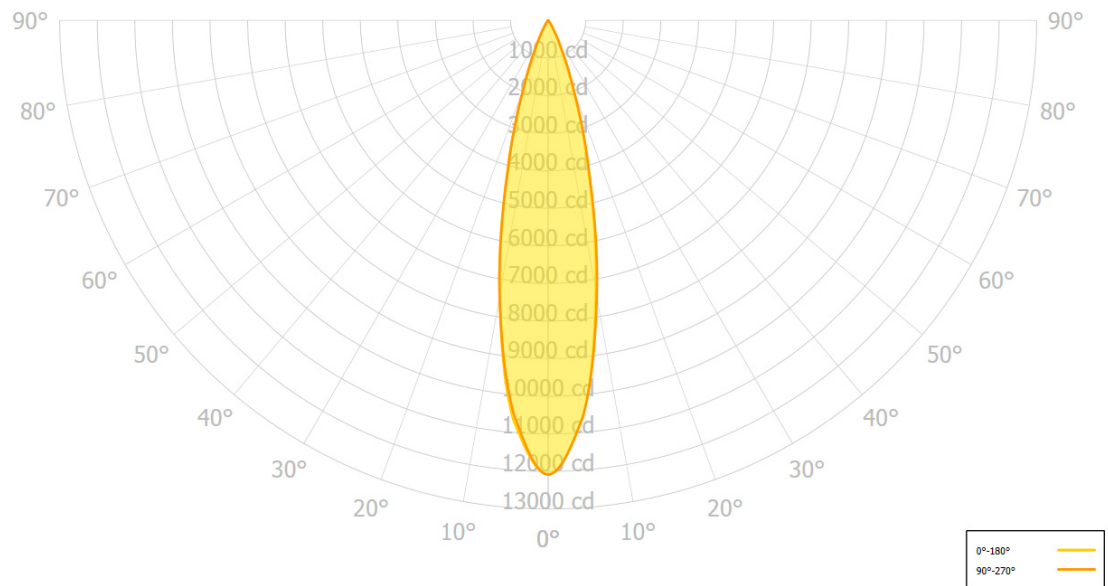
Nubion LANDING (13°) PN : AVE-N09PANSNL-1WA Mod(1)

37431 Cd



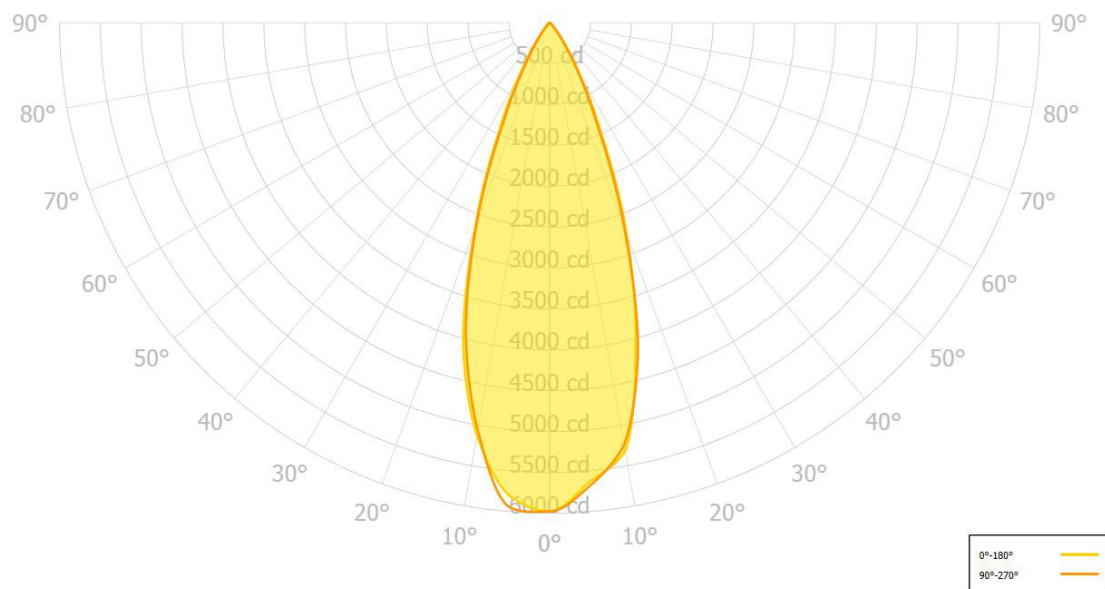
Nubion LANDING (24°) PN : AVE-N09PANSNL-2WA Mod(1)

12081 Cd



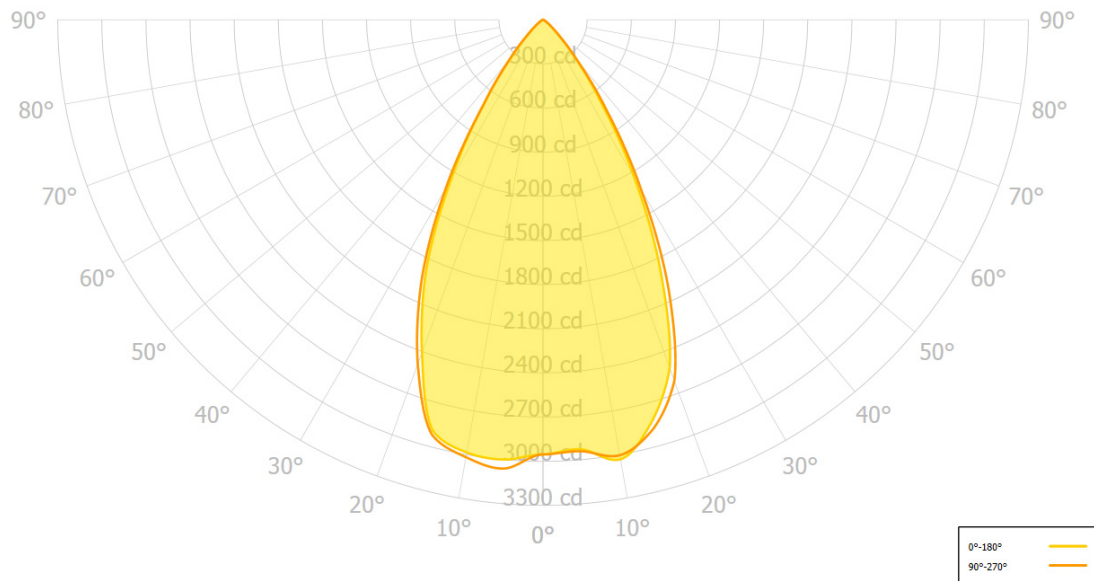
Nubion TAXI (38°) PN : AVE-N09PANSNT-3WA Mod(1)

5977 Cd



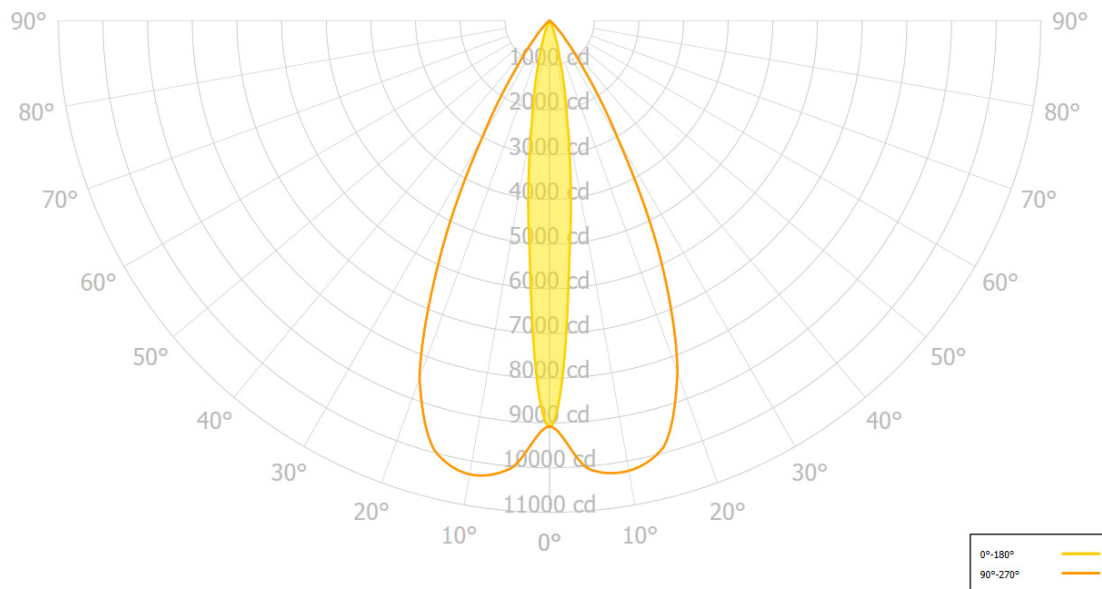
Nubion TAXI (55°) PN : AVE-N09PANSNT-5WA Mod(1)

3132 Cd



Nubion TAXI (15° x 47°) PN : AVE-N09PANSNT-EWA Mod(1)

10300 Cd



9. EQUIPMENT LIMITATION

Nubion™ should only be powered by 18-36VDC.

10. CARE AND CLEANING OF YOUR AVEO ENGINEERING AVIATION LIGHTS

When you receive your Aveo Engineering Aviation Lights, they will have been factory polished and ready to install on the aircraft.

If the lights require a deeper cleaning, they should be polished with a quality lamb's wool sheet and can also be used for deeper polishing. Under no circumstances should any petroleum based product be used to clean the lights.

11. TESTING OF THE LIGHT BEFORE INSTALLATION

All Aveo Aviation lights undergo rigorous testing prior to being released from our engineering manufacturing department. This testing involves a burn-in time as well as other function testing. No light is released for sale without undergoing this extensive operational testing.

When you receive the **Nubion™** light, and wish to test the function of the light prior to installation on your aircraft, please note the following:

1. Please review the written information that is enclosed in the packaging.
Warranty information as well as a cautionary note about power supply removal is enclosed with each package.
2. Remove the light from the package. Note that there are three (3) wires:
Black – Negative lead
Red – Positive lead
Green/Yellow – Chassis
3. Testing of the function of the light can be done with a regular 28V/5A dc power supply (not a battery charger). Connect the black wire to the ground (negative) leads of a power supply, and then connect the red wire to the positive (+) leads on the power supply. The Nubion light should start lighting. When installed on the aircraft, using the aircraft's power (28 volts), the light will be at its maximum intensity.
After testing, the light can be installed on the aircraft.

IMPORTANT NOTES:

1. Under no circumstances should any power supply other than a 18-36 VDC, or a 28 volt battery be used to test the light. Do not use: Battery chargers, battery back-up power devices, or other bench avionics testing methods to test the aviation light. The light is functional between 18 and

36 volts. Use of a battery charger or other power unit to test the light will void the warranty and may damage the light.

If you have any questions about the installation of the lights, please refer to our web site: www.aveoengineering.com

12. NOTES ON INSTALLATION

Spread the tightening forces evenly around the mounting hole. Stainless steel screw is recommended. Length depends upon placement location on aircraft.

13. CONTINUED AIRWORTHINESS INFORMATION

a. *Circuit/Wiring Protection*

Each Nubion series light features a **Negative Temperature Coefficient** (NTC) circuit that limits internal temperatures by attenuating operating current (with a corresponding reduction of brightness) when internal temperatures reach a certain threshold. This proprietary circuitry serves to protect the light itself, and associated aircraft wiring, against a thermal runaway condition.

b. *Periodic Inspection Procedure for Nubion Series*

The **Nubion**™ lights should always be checked for proper operation during preflight. This procedural information is already provided in all general aviation aircraft flight manuals.

The lights should be visually inspected for general condition, proper operation, and correct installation at each annual and/or 100 hour inspection. Any debris or atmospheric deposits accumulated on the surface of the lights should be removed using a UV Wax such as Farecia Profile UV Wax to ensure ongoing optical clarity. In addition refer to section 10 of installation manual for detailed cleaning instructions.