**HelioJet**

Smart LED cabin lighting to replace fluorescent tubes

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**The Challenge: A sufficient LED solution to replace fluorescent tubes in cabins**

Up until today LED lighting solutions have not been able to satisfactorily replace fluorescent tubes in aircraft cabins. LED strips, which consist of a large number of light diodes, show certain disadvantages:

- No homogeneous line light
- Change of light stability over time
- Susceptibility to trouble due to a large number of light diodes

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**The solution: HelioJet – Smart LED cabin light**

**HelioJet**, a new and unique LED lighting technology uses only a fractional amount of light diodes as conventional LED strips. This leads to significant improvements in performance, reliability, maintenance and costs:

- Very homogeneous line light
- Constant high light stability
- Low maintenance due much smaller number of LED involved
- High MTBF (Mean Time Between Failure)

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**Product Concept HelioJet**

- Uses all the advantages of fluorescent tubes and LED technology: long lifetime combined with homogeneous illumination.

- Flexible, modular production concept enabling multiple electromechanical light variations suitable for most aircraft types.
Comparison of LED strip and HelioJet

- In contrast to pure LED solutions HelioJet does not show any light point effects, as it mixes the light colours of the LEDs in the light guide that creates a perfect homogeneous appearance.
- Furthermore high quality LEDs are used to guarantee best light performance and reliability.

Continuous high light quality over lifetime

- An ageing LED has a negative influence over its lifetime that results in a colour shift from the original LED colour in addition to the dot effects. The observed result is an even more inhomogeneous light pattern.
- HelioJet counteracts this by using a high quality, high power LED and mixing its light in the glass light guide.

LED strip: Change in light stability over time

Technical Specifications (for 928mm unit)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illuminance @ 1m distance</td>
<td>&gt;350 lx (fluorescent tube: 130 lx)</td>
</tr>
<tr>
<td>Illuminance of cabin floor</td>
<td>&gt;50 lx</td>
</tr>
<tr>
<td>Colour temperature</td>
<td>Various (typically 4000 K, 5600 K)</td>
</tr>
<tr>
<td>Colour Rendering Index</td>
<td>85</td>
</tr>
<tr>
<td>Relative MTBF</td>
<td>5 times the MTBF of standard LED strip</td>
</tr>
<tr>
<td>Operating current of LEDs</td>
<td>700 mA max.</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>28 VDC</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>25 W</td>
</tr>
<tr>
<td>Light Beam angle</td>
<td>80°</td>
</tr>
</tbody>
</table>

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