LPL-L
LED Precision Approach Path Indicator (PAPI)

Compliance with Standards
ICAO: Annex 14, Vol. 1, para. 5.3.5.23 to 5.3.5.45
T/C: Transport Canada TP 312 par. 5.3.6.14 and Appendix B, section B.3.1.
CE: Complies with the requirements of the EMC Directive 2004/108/EC

Features (Continued)
- Depending on operating mode, light unit uses 62% to 80% less energy than traditional light units that use three 105 W lamps, two 200 W lamps or three 200 W lamps.
- Very low power rating of LED light units contributes to a lower life cycle cost. Limits cost for supporting equipment, such as CCRs, to strict minimum.
- For Style A (Voltage Powered) FAA systems, a separate Master Control Cabinet is not used. Master functionality is incorporated into the Primary Light Units. This minimizes installation costs and provides for compliance with FAA Safety Management System requirements to clear the Runway Safety Areas (RSA) and Runway Obstacle Free Areas (ROFA) of all unnecessary obstacles. Distance from the voltage power supply is limited only by the incoming power wire size used. Operates on a wide input voltage range of 170 VAC to 265 VAC, 50/60Hz and can be field re-configured to operate on a voltage range of 94 VAC to 132 VAC, 50/60Hz.
- For Style B (Series Circuit Powered) systems, operates on either 3- or 5-step ferroresonant or thyristor CCRs that are designed in compliance with IEC or FAA requirements.
- Use of LED light source improves safety and pilot recognition by eliminating color shifts typical of incandescent light sources at lower intensity settings.
- A unique digital display indicating the vertical angle can be read from outside the light unit. This eliminates the need to manually use an aiming device during initial installation and for routine verification of vertical angle setting, minimizing maintenance time.
- In case a light unit tilts, the display locally indicates which light unit has tilted. Light unit status indicators, including horizontal angle, can also be read from outside the PAPI unit without removing the top cover. This also allows quick troubleshooting, minimizing the maintenance effort needed to determine which light unit is tilted.
- Light units may be aimed at any vertical angle up to 10°.
- Outer optical lens protected from sandblast by a hardened front glass shield.
- Rugged lightning protection that complies with ANSI/IEEE C62.41-1991 Location Category C2 given in FAA Eng. Brief 67. Category C2 is defined as a 1.2/50μS – 8/20 μS combination wave, with a peak voltage of 10,000 V and a peak current of 5,000 A.
- For Style A systems, a photoelectric control on the primary light unit automatically provides full intensity during the day and a reduced intensity (5% or 20% of full intensity) at night. Both the full and reduced intensity light level can be field adjusted. A circuit breaker is provided to permit the input power to be de-energized for field maintenance.
- Includes an integral deflection plate on the top front edge of the light unit cover. This prevents the pilot from seeing light reflected from the back of the light unit.
Ordering Code  LPLX - XX0X00

<table>
<thead>
<tr>
<th>Specification</th>
<th>LPLX - XX0X00</th>
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<tbody>
<tr>
<td>F = FAA</td>
<td>LPLX - FF0000</td>
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<tr>
<td>I = ICAO/TP 312</td>
<td>LPLX - IF0000</td>
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</tbody>
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Power
A = PAPI A, 170 to 265 VAC, 50/60 Hz (voltage)
B = PAPI B, 2.8-6.6 A, 50/60 Hz (current)

Type
2 = L-881 (2 Light Unit)
4 = L-880 (4 Light Unit)
0

Operation/Control Mode
0 = Style B Operation
1 = Style A Operation, Day/Night Control Mode
2 = Style A Operation, Current Sensing Control Mode
3 = Style A Operation, External On/Off Control Mode

Notes
1 ICAO and TP 312 PAPI units are normally provided without a tilt switch function.
2 All PAPI A units are factory preset to operate from a voltage range of 170 to 265 VAC. The system can be easily modified in the field for 94 to 132 VAC (120 VAC nominal) operation.
3 See Operation/Control Mode table for details.

Features (Continued)
- Light unit body is painted anti-reflective black. Top cover is painted aviation orange for FAA applications and aviation yellow for ICAO/TP 312 applications.
- Meets both FAA Class I and II temperature ranges:
  - Class I: -31 °F to +131 °F (-35 °C to +55 °C)
  - Class II: -67 °F to +131 °F (-55 °C to +55 °C)

Electrical Supply
Each Style A PAPI system is powered from the Primary Light Unit. Each Style B PAPI light unit is powered with 6.6 A maximum via a 6.6A/6.6 A or 20 A/6.6 A 150 W isolation transformer.

Style A
- Input Voltage: 170 to 265 VAC, 50/60 Hz or 94 to 132 VAC, 50/60 Hz
- L-880 (4-box): 528 VA max.
- L-881 (2-box): 264 VA max.

Style B
- L-880 (4-box) – Total CCR Load: 570 VA max.

Features (Continued)
- As seen at input of PAPI Primary Light Unit
- Includes PAPI light units and isolation transformers
- Source of primary light source power can be a minimum of 305 m (1000 ft) away using 6 mm² (AWG 10) wire.

Operation/Control Mode
Multiple remote control options are available that maximize operational flexibility and minimize energy usage

<table>
<thead>
<tr>
<th>Option</th>
<th>Operation/Control Mode</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Style B Operation</td>
<td>Powered from a 3-step CCR (4.8 A to 6.6 A, 50/60 Hz) or a 5-step CCR (2.8 A to 6.6 A, 50/60 Hz). Light unit intensity is controlled by CCR setting. Operating range is field programmable. When set for 3-step, heater is activated at turn-on in any step; light output is activated after initial heating period is complete (up to 3 minutes for Temperature Class I and 5 minutes for Temperature Class II). When set for 5-step, CCR is configured for continuous standby heater operation at steps B1 (2.8 A) or B2 (3.4 A) with light output deactivated. Assuming CCR has been continually powering light units, light output instantly activated in the top three settings (B3 to B5) of the CCR (4.1 A to 6.6 A).</td>
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<tr>
<td>1</td>
<td>Style A Operation, Day/Night Control Mode</td>
<td>Powered from a continuous 50/60 Hz AC voltage source. Provides On/Off control through current sensing of the runway series circuit during nighttime operations. During daytime, light units are activated at the 100% step via control from the photocell (current sensing input is not used). Nighttime intensity is automatically set to 5% or 20% (field selectable).</td>
</tr>
<tr>
<td>2</td>
<td>Style A Operation, Current Sensing Control Mode</td>
<td>Powered from a continuous 50/60 Hz AC voltage source. Provides On/Off control through current sensing of the runway series circuit. Turns on the light units anytime (Day or Night) when current greater than 2.8 A is present in the associated series circuit. When On, light units are activated at the 100% step via control from the photocell during daytime. Nighttime intensity is automatically set to 5% or 20% (field selectable).</td>
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<tr>
<td>3</td>
<td>Style A Operation, External On/Off Control Mode</td>
<td>Powered from a continuous 50/60 Hz AC voltage source. Provides On/Off control through an external contact closure connected to Primary Light Unit. When On, light units are activated at the 100% step via control from the photocell during daytime. Nighttime intensity is automatically set to 5% or 20% (field selectable).</td>
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