

# RUNWAY LIGHTING

## IREL-L/IRTE-L

LED Runway Edge & Runway  
Threshold/End Light

STYLE 2, HIGH-INTENSITY



IREL-L

IRTE-L

### Compliance with Standards

- FAA:** L-850C(L) and L-850D(L) AC 150/5345-46 (Current Edition) and the FAA Engineering Brief No. 67. ETL Certified.
- ICAO:** Runway Edge: Annex 14, Vol. I, par. 5.3.9.7 and 5.3.9.10; Fig. A2-9 for 45 m runways.  
Runway End: Annex 14, Vol. I, par. 5.3.11; Fig. A2-8. (Unidirectional red only).
- T/C:** Runway Edge: Transport Canada TP 312 par. 5.3.10 and Appendix B, Figure B-10 for 45 m runways. Runway End: Transport Canada TP 312 par. 5.3.12. and Appendix B, Fig. B.1.9. (Unidirectional red only).
- Military:** Runway Edge: Photometry complies with UFC 3-535-01 Fig. 4-2 for runways less than 200 feet (60 m) wide.

### Uses

#### FAA L-850C(L)

- Runway edge on category I, II, and III runways
- Military runway edge applications less than 200 feet (60 m) wide

#### FAA L-850D(L)

- Runway displaced threshold light (unidirectional green)
- Runway threshold/end (FAA bidirectional red/green)

#### ICAO & T/C

- Runway edge applications less than 60 m (200 feet) wide
- Runway end (Unidirectional red only)

### Features

- Average LED life of 56,000 hours under high-intensity conditions and more than 150,000 hours under typical operating conditions, which significantly reduces ongoing maintenance costs and periodic re-lamping expenses, resulting in lower life cycle cost
- For L-850C white runway edge applications, use of LED light source eliminates color shifts at lower CCR step settings. For red, yellow or green runway applications, use of LED light source eliminates filter replacement and color shifts when viewed at various angles or CCR step settings.
- FAA Style 2—Low protrusion above ground of  $\leq 0.50$  inch reduces vibrations caused by aircraft landing gear in both light fixture and landing gear, increasing lamp life

- Can be installed on existing 6.6 A or 20 A series circuits with no modifications to existing CCR or isolation transformer
- Operates on either 3- or 5-step ferroresonant or thyristor CCRs that are designed in compliance with IEC or FAA requirements
- Very low power rating for LED lights contributes to a lower life cycle cost. Limits cost for supporting equipment, such as CCRs, to strict minimum.
- When quartz-incandescent fixtures are replaced with LED fixtures, airport staff can add more lights without increasing CCR size
- LED photometric performance will be maintained longer due to a cleaner lens. The lower temperature of the lens prevents the “baking effect” that causes contaminants to stick to the surface of the lens.
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- Smart electronics control current to LED, so light output matches existing incandescent fixtures.
- Smart electronics allow for a low cost and progressive evolution of the airfield lighting toward new LED-based technology.
- Unique double-barrier cord set design eliminates risk for water incursion in case the cord set becomes damaged. Cord set can also be easily replaced without opening fixture.
- Rugged lightning protection complies with ANSI/IEEE C62.41-1991 Location Category C2 given in FAA Eng. Brief 67. Category C2 is defined as a 1.2/50 $\mu$ S – 8/20  $\mu$ S combination wave, with a peak voltage of 10,000 Volts and a peak current of 5,000 Amps
- Light channel in front of prism windows protects prisms from damage and prevents rubber buildup thereby maintaining optimal light output
- Includes a UL 467 rated ground lug, which accepts an AWG 6 earth ground wire
- Environment-friendly, precision-cast aluminum alloy cover, optical support, and inner cover assembly with stainless steel hardware

### Operating Conditions

Temperature:	-40 °C to +55 °C (-40 °F to +131 °F)
Altitude:	Sea level to 10,000 feet (3000 m)
Relative Humidity:	Up to 100%

# RUNWAY LIGHTING

## IREL-L/IRTE-L

### Ordering Code

IREL - X X X 0 X X X X

#### Lens Color – Side 1

- 0 = Obscured
- 3 = White Left Toed (L-850C only)
- 4 = Red Straight (L-850D only)<sup>2</sup>
- 6 = Red Left Toed (L-850C only)
- 9 = Yellow Left Toed (L-850C only)
- C = Green Left Toed<sup>1</sup>

#### Lens Color – Side 2

- 0 = Obscured
- 2 = White Right Toed (L-850C only)
- 4 = Red Straight (L-850D only)<sup>2</sup>
- 5 = Red Right Toed (L-850C only)
- 8 = Yellow Right Toed (L-850C only)
- B = Green Right Toed<sup>1</sup>

#### Power

- 1 = 50 Hz
- 2 = 60 Hz

#### 0

#### Number of Cord Sets

- 1 = One
- 2 = Two

#### Arctic Kit:

- 1 = No
- 2 = Yes

#### Cord Set Style and Length

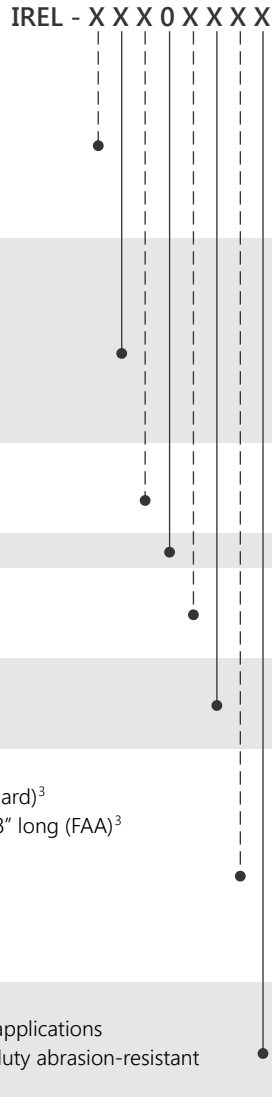
- 0 = Style 6 (2-pin), 18" long (FAA standard)<sup>3</sup>
- 1 = Style 1 (2-pin) SO jacketed cable, 18" long (FAA)<sup>3</sup>
- 2 = Style 6 (2-pin), 10" long<sup>4</sup>
- 3 = Style 6 (3-pin), 10" long<sup>4</sup>
- 4 = German Style 1 (2-pin), 10" long<sup>4</sup>
- 5 = German Style 1 (3-pin) 10" long<sup>4</sup>
- 6 = French Style (3-pin), 10" long<sup>4</sup>

#### Application

- Leave blank for FAA, Military or 45 m applications
- 3 = FAA, Military or 45 m with heavy-duty abrasion-resistant lens coating<sup>5,6</sup>

#### Notes

- ETL Certified for the following L-850D configurations: IRELC4X0XX0, IREL-4BX0XX0, IREL-C0X0XX0, IREL-40X0XX0, IREL-0BX0XX0, and IREL-44X0XX0.
- <sup>1</sup> Green complies with only FAA photometric requirements.
- <sup>2</sup> Red runway end complies with FAA/ICAO/TP312 photometric requirements.
- <sup>3</sup> Fixtures with 18" cord sets are for installation on deep base cans and are not supplied with an external O-ring gasket.
- <sup>4</sup> Fixtures with 10" cord sets are for installation on shallow bases and are supplied with an external O-ring gasket.
- <sup>5</sup> Typically used for intensive winter service where sand is applied to runways and rotating brushes are used.
- <sup>6</sup> Not ETL Certified.



### Electrical Supply

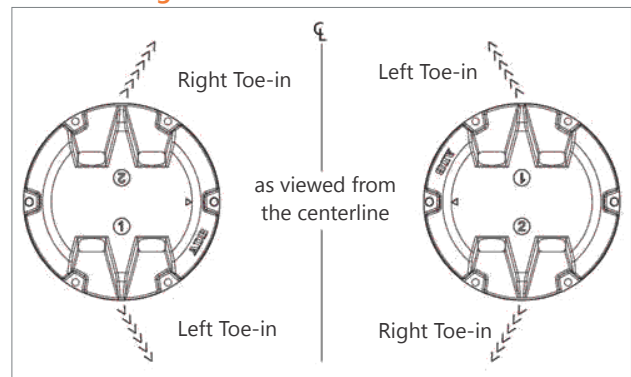
It is recommended that the L-850C(L) LED fixture be powered from a dedicated CCR and that separate remote controls are available. IREL LED lights have been designed to work with any IEC- or FAA-compliant transformer up to 200 W without affecting the performance or lifetime of the light fixture or transformer. See data sheet 3033 for more details on recommended isolation transformers (XF) specified below.

L-850C(L) & L-850D(L)	Fixture Load	Isolation XF	Isol. XF Load	CCR Load
<b>Without Heater</b>				
Unidirectional	21 VA	30/45 W	8 VA	29 VA
Bidirectional <sup>1</sup>	36 VA	65 W	17 VA	53 VA
Bidirectional <sup>2</sup>	21 VA/side (42 VA total)	30/45 W per side	8 VA/ XF	29 VA/side (58 VA total)
<b>With Heater</b>				
Unidirectional	49 VA	65 W	15 VA	64 VA
Bidirectional <sup>1</sup>	64 VA	65 W	13 VA	77 VA
Bidirectional <sup>2</sup>	49 VA/side (98 VA total)	65 W per side	15 VA per XF	64 VA /side (128 VA total)

#### Notes

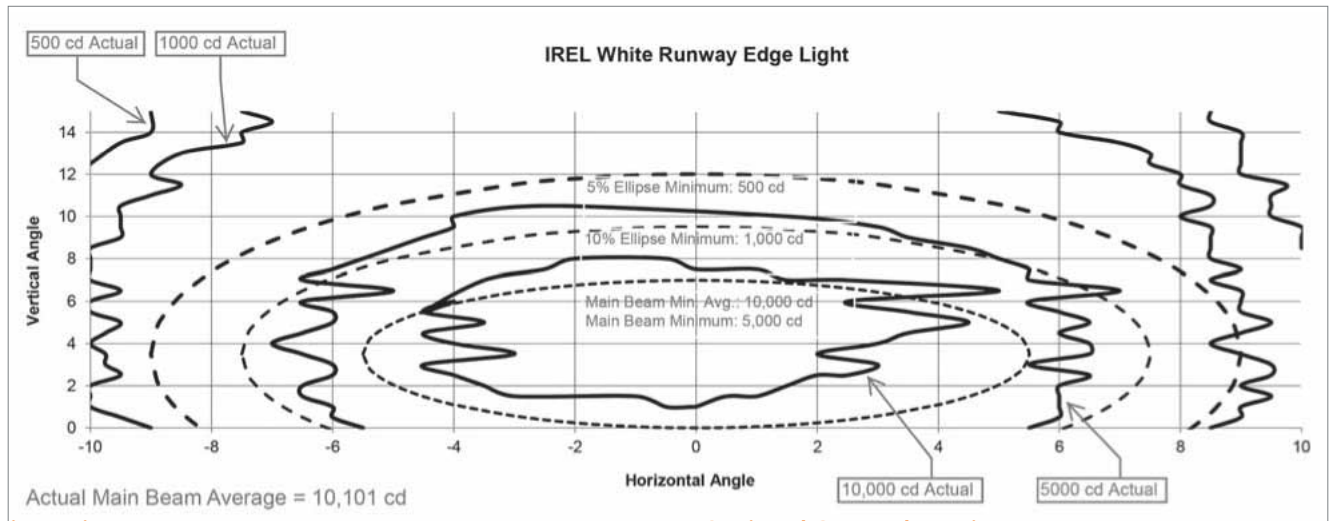
- <sup>1</sup> One cord set
- <sup>2</sup> One cord set per side

### Toe-in Coding



**Note:** Triangle embossed on the top cover should point toward the centerline to ensure correct toe-in position.

### Photometric Data: IREL-L / L-850C(L)



### Dimensions

- Outside Diameter: 11.94 in (30.33 cm)
- Bolt Circle Diameter (L-868B): 11.25 in (28.58 cm)
- Max. Bottom Cover O.D.:
  - 9.92 in (25.20 cm) down to depth of 1.63 in (4.14 cm)
  - 8.69 in (22.07 cm) from depth of 1.63 in (4.14 cm) to 3.88 in (9.86 cm)
- Compatible with L-868B Top Sections where the overall height of the Top Section is less than 4 in (10.16 cm).
- Bottom Cover Depth: 3.88 in (9.9 cm)

### Optional Snow Plow Ring

Depending on installation method and snow plowing technique used, a snow plow ring may be necessary. Snow plow rings are available for either standard or stainless steel adjustable Size B L-868 cans. Contact ADB Safegate Sales Department for additional details.

### Packaging

- In cardboard box: 7 x 13 x 13 in (17.8 x 33 x 33 cm)
- Weight with packing: 18.5 lb (8.4 kg)
- Weight without packing: 15.5 lb (7 kg)