C4802 Brief Guide

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Curriculum Basis: CNATRAINST 1542.156D

Landing Zone Lighting

General aviation heliports (FAA AC 150/5390-2C.216): - Final approach and takeoff (FATO) zone is marked in raised or flush green perimeter lights - Touchdown and lift off (TLOF) zone is marked in flush green perimeter lights. - Floodlights may be used to illuminate the parking area and/or in lieu of green perimeter TLOF and FATO lighting. - Landing direction lights are a line of 5 green lights showing the preferred landing direction. - Heliport beacon flashes white/green/yellow at 30 to 45 flashes/min. - Lighted wind sock. - FAA recommends marking objects that penetrate an 8:1 object identification surface. (FAA AC 150/5390-2C.217)

Flush lighting

Raised lighting

Landing direction

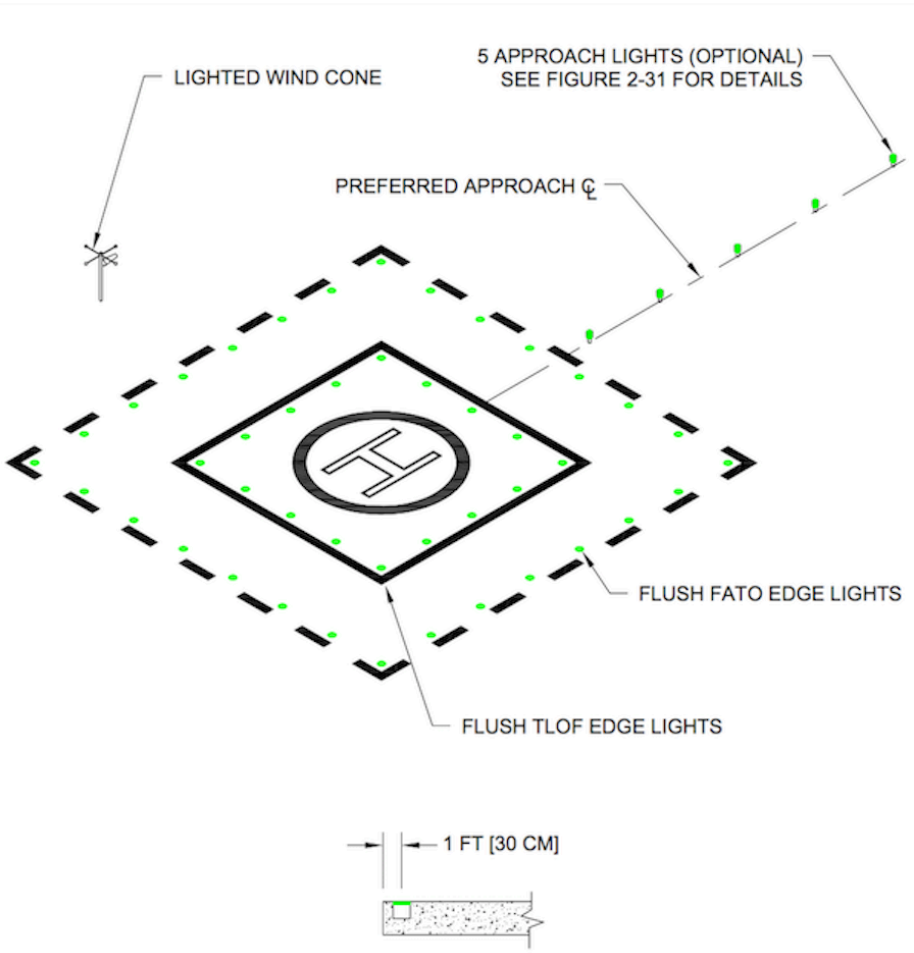
Object Identification Surface

Heliport instrument lighting system (HILS): - The HILS consists of 24 unidirectional white lights that extend the FATO perimeter lights. - The system extends both the right and left edge lights as “edge bars” and both the front and rear edge lights as “wing bars,” as shown below.

HILS

HALS

AIM 10-2-3:



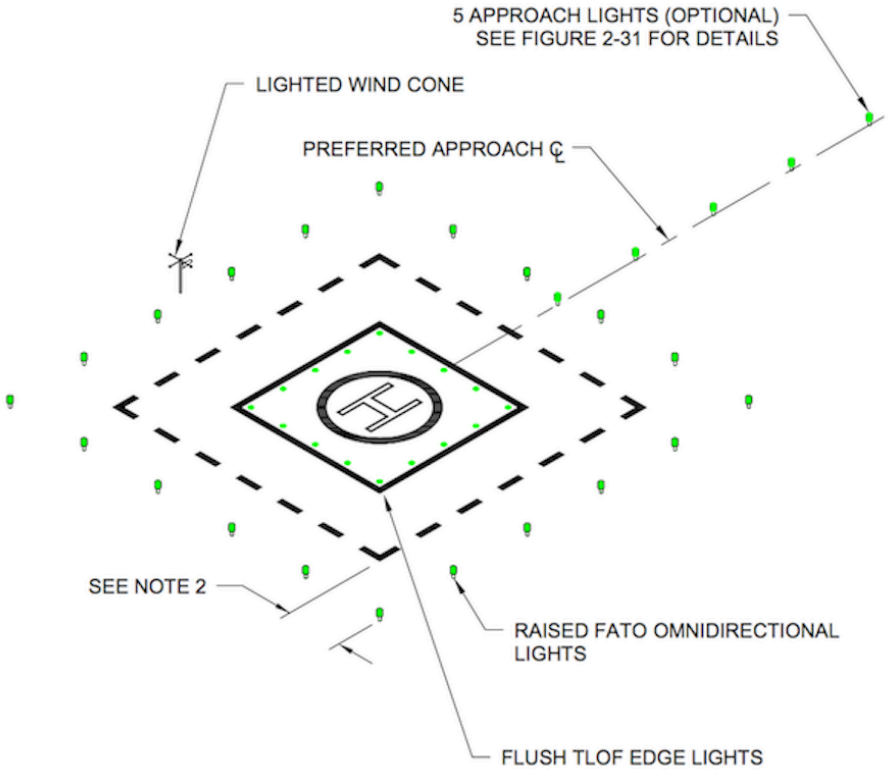
FLUSH IN-PAVEMENT LIGHT DETAIL

Notes:

1. Install flush FATO and TLOF perimeter lights inside or outside within 1 ft [30 cm] of the FATO and TLOF respective perimeters.

2. Overall length and weight limitation box is omitted for clarity.

Figure 1: Flush lighting



Notes:

1. Install flush FATO and TLOF perimeter lights inside or outside within 1 ft [30 cm] of the FATO and TLOF respective perimeters.
2. Install raised FATO lights 10 ft [3 m] outside the FATO perimeter.
3. Overall length and weight limitation box is omitted for clarity.

Figure 2: Raised lighting

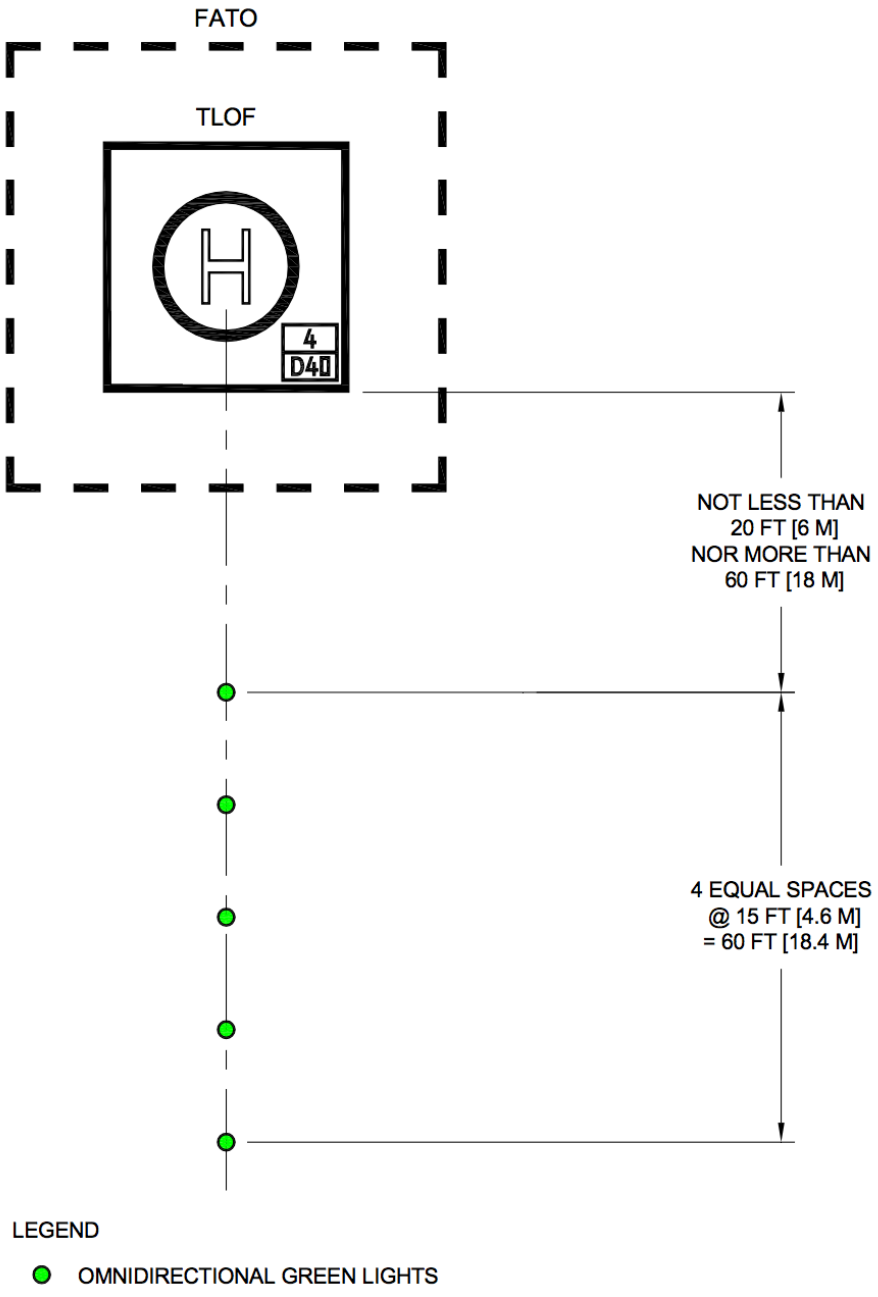


Figure 3: Landing direction

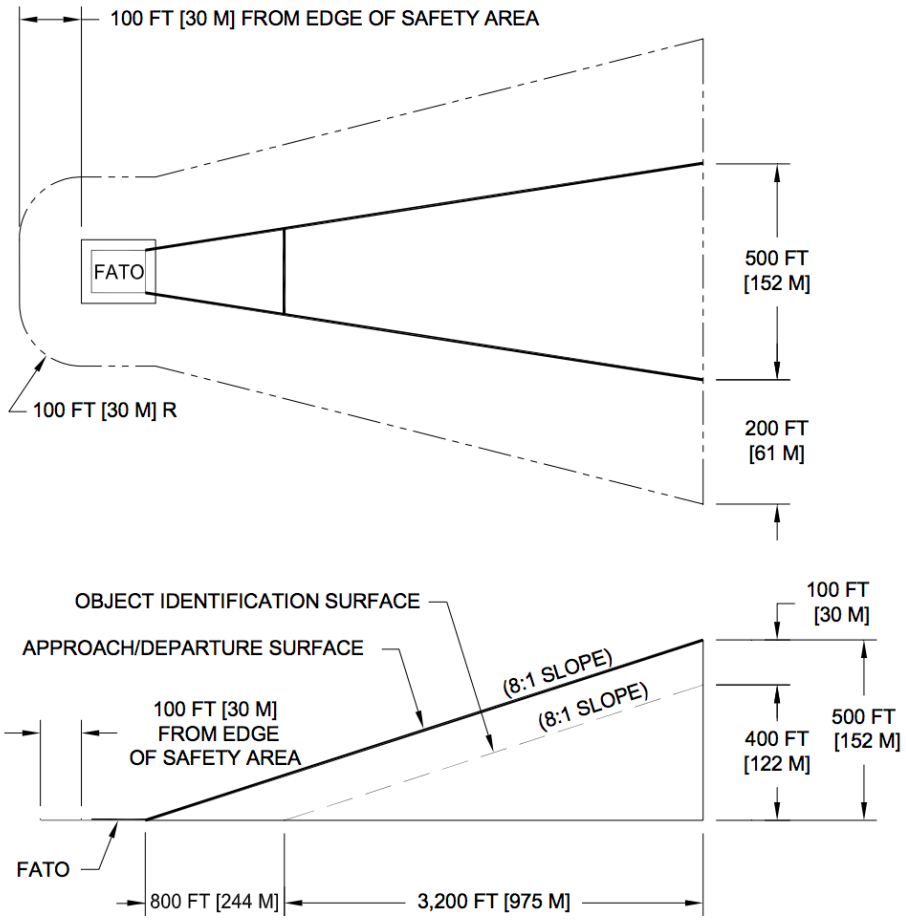
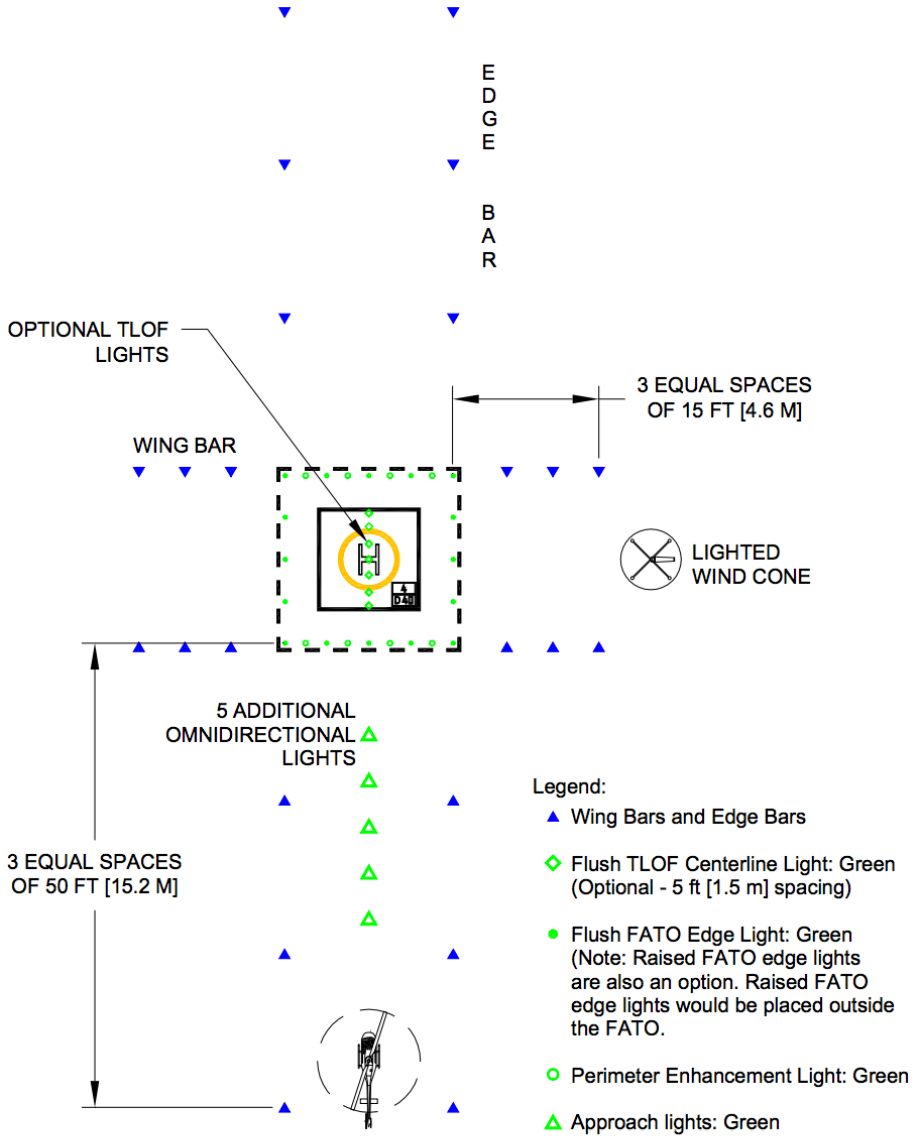


Figure 4: Object identification surface



Note: The depicted HILS installation is appropriate to a minimally sized heliport located at an elevation up to 1,000 ft [305 m] above mean sea level.

Figure 5: HILS

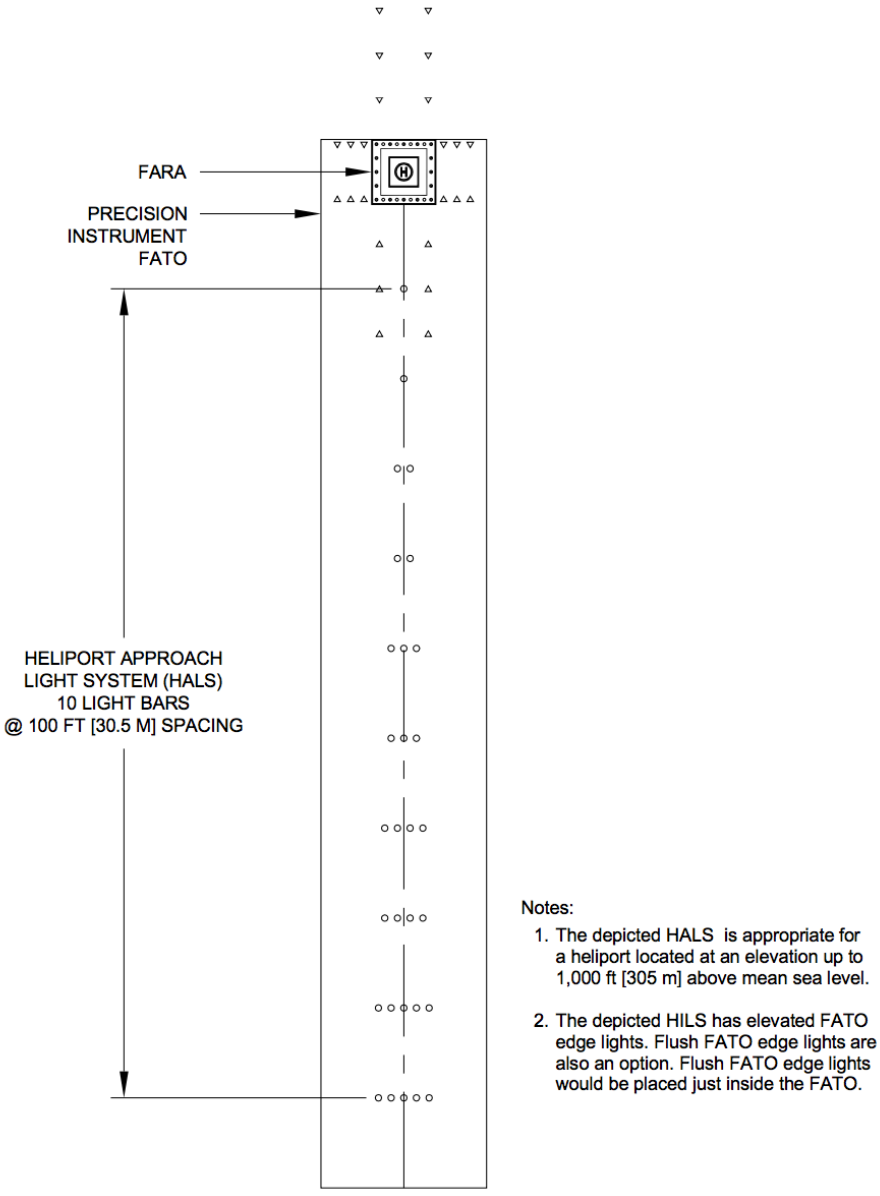


Figure 6: HALS

- Light touchdown area using five lights or road flares: one in each corner and one indicating wind direction.
- Place corner lights at least 60 ft apart for small helicopters (TH_57).

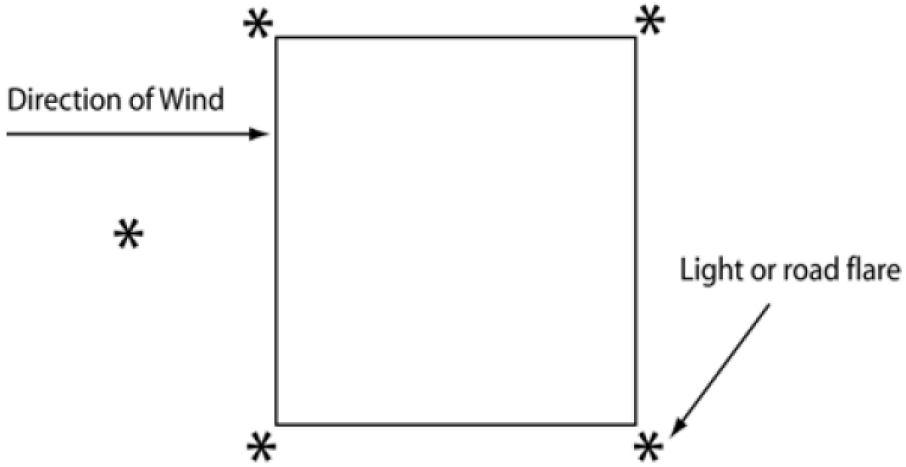


Figure 7: AIM recommended LZ lighting

Use of lights

RWOP 3.1.2; TH-57 NATOPS 7.7:

- General Operations: POSITION - ON 30 min before sunset until 30 min after sunrise. Anti-collision lights on from engine start to shutdown.
- NDZ Ops: Below flight idle: POSITION - FLASH/BRT. In the line: POSITION - STDY/BRT, ANTI-COLLISION - OFF. Crossing hold short: ANTI-COLLISION - ON, POSITION - STDY/BRT.
- Maintenance required: POSITION - FLASH/BRT.
- Taxiing through pits without refueling: SEARCHLIGHT - FLASH.
- Cleared under rotor arc: LDG LIGHT - FLASH.

CNAF 5.1.1.2:

- Anti-collision lights may be secured at anytime their use adversely affects ground operations, or anytime the aircraft is in the clouds.

TH-57 Contact FTI 804:

- During pre-start checks, adjust cockpit lights to their lowest intensity.

- Non-tactical flights > 500 ft, instrument and panel lights may be illuminated.
- Adjust interior lights to their lowest practical level.
- When flying off instruments, adjust lights to higher intensity, but turn them back down prior to landing to enhance night vision.

Aircraft Emergencies at Night

TH-57 Contact FTI 809:

- Same as day except will normally take longer due to increase physiological stress and reduced vision.
- Know the location of everything in the cockpit to increase EP efficiency.
- Forced landings: use landing light and any power available to reduce descent rate to identify safe landing area.

Landing Site Evaluation at Night

TH-57 NTAOPS 17.7.2; TH-57 Contact FTI 810:

- Become familiar with the terrain you will be flying over.
- Use landing light to observe obstructions and select landing area.
- SWEEP checks:
- (S) Size, slope, surface, suitability;
- (W) Winds, loss of wind effect;
- (E) Elevation (AGL, PA, DA);
- (E) Egress route (including waveoff direction);
- (P) Power (required vs. available).

Night Vision

FAA Airplane Flying Handbook Chapter 12: - Avoid bright light (especially white). - Takes at least 30 minutes for eyes to become fully dark adapted. - Can lose adaptation in a few seconds on exposure to bright light. - Eyeball anatomy: - Cones sense color and are concentrated in the center of the retina (fovea); - Rods sense light in black and white and surround the fovea; - Cones lose effectiveness under low light, however rods are still effective. - When fully adjusted to darkness, rods become 100,000 times more sensitive to light then they were under lighted conditions.