

The following document outlines the essential physical, functional, and performance characteristics required for a remote marking system equivalent to the LodeStar V2. This equipment is intended to provide versatile, high-visibility illumination for assault zones in various operational environments. This updated specification explicitly incorporates and complies with the minimum marking and lighting requirements established in DAFMAN 13-217 (Drop Zone and Landing Zone Operations), and Unified Facilities Criteria (UFC) 3-260-01 and 3-535-01.

Salient Characteristics: Remote Marking System (DAFMAN 13-217, and Unified Facilities Criteria (UFC) 3-260-01 and 3-535-01 - Compliant)

To meet mission requirements, the requested remote marking system must meet or exceed the following salient characteristics, directly supporting DAFMAN 13-217, UFC 3-260-01 and 3-535-01 operational mandates:

Characteristic Category: Essential Requirement / Specification DAFMAN 13-217
Minimum Requirement Alignment

System Purpose: Portable, remote LED marking system designed to mark airfields (LZ) and drop zones (DZ). Meets requirements for visual and covert tactical marking of Drop Zones, Landing Zones, and Helicopter Landing Zones (HLZ).

Illumination Modes & Output: Must be capable of both steady and flashing light outputs. Must possess a minimum output rating of 15 candelas (or equivalent lumens) for overt visible light. Directly complies with the 15-candela minimum output requirement for night operations and omni-directional visible lighting.

Color Spectrum: Must feature five (5) selectable color outputs: Infrared (IR), Red, White, Blue, and Green. Must include a physical button to cycle through the color spectrum. Supports standard AMP patterns (White), Military Free-Fall (MFF) "green-to-red" systems, taxiway markers (Blue), and covert NVG ops (IR).

LED Array Configuration: Must feature three distinct LED arrays: one horizontal, one vertical, and one forward-facing. The forward-facing array must contain a minimum of two (2) IR LEDs; the other arrays must contain at least one (1) IR LED. Enables required covert infrared lighting substitution for overt lights during night operations when aircrews are NVG equipped.

Customizable Output (Directionality): Must allow users to toggle specific arrays on or off (e.g., front and rear active while top is inactive) via a dedicated mode cycle button. Complies with security requirements stating night markings should be visible only from the direction of the aircraft's approach, removing the need for physical hoods or screens. Capable to be operated by our handheld (ATAK) devices.

Power Source: Must operate on AA batteries and be fully compatible with lithium battery variants. Ensures sustained standalone operation in austere environments where fixed airfield lighting is unavailable.

Durability & Materials: The unit housing must be constructed from a high-impact, proprietary glass-reinforced polymer. It must withstand the mechanical stress and rollover effects of heavy wheeled machinery and military airlift aircraft (specifically C-130 and C-17). Ensures survivability during austere LZ operations, airfield taxiing, and heavy cargo offloads.

Anchoring System: Must include a baseplate or tie-down assembly, and at least two (2) ground stakes to securely anchor the unit to the ground. Complies with the mandate that all marking equipment must be adequately secured to withstand prop-wash, rotor-wash, and jet-blast.