

Test Methods for Evaluating Aerial Drones Safety | Capabilities | Proficiency RobotTestMethods.nist.gov

VERSION 2023A



LEVEL 3 | OPEN AREA

SCORABLE SCENARIOS

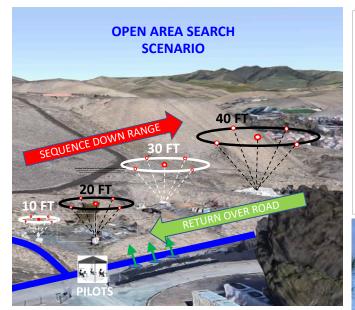
Perform the designated flight paths around objects with omni bucket stands. Each flight path includes a sequence of alignments with one or more buckets. While aligned with each bucket, control camera zoom and exposure to capture a SINGLE IMAGE of the inscribed ring and IDENTIFY TARGETS inside each bucket or in view nearby. Identify other objects of interest within the scenario at the same time.

- Score ALIGNMENT POINTS after the trial from images with UNBROKEN RINGS (5 pts) or BROKEN RINGS (1 pt).
- Score ACUITY POINTS by calling out the 5 increasingly small VISUAL ACUITY TARGET GAPS (1 pt each).
- Land CENTERED (5 pts) with the aircraft center inside the designated 60 cm (24 inch) diameter circle, or OFFSET (1 pt) with at least one propeller motor inside the circle.
- Start timer at launch and end after the last task is completed. Trial time limits are typically 5 minutes each (25 minutes to complete all 5 tests) although organizations may set their own trial time limits and passing scores.
- Extreme deviations from the intended flight path, or contact with any object, ends the trial to ensure safety.

Open Area Search Scenarios

Open Vehicle Identification Scenarios

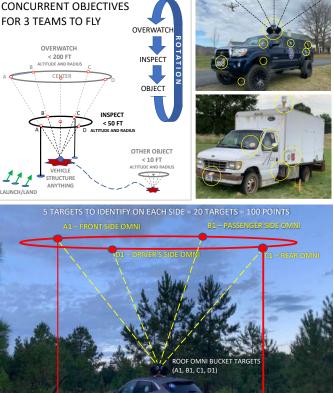
Day and Night Trials



- Teams concurrently fly separate objectives set up at safe distances and/or altitudes apart (with a clearly designated and safe return path).
- Each pilot flies for 15 minutes across 3 different objectives for 5 minutes each. Teams move as necessary to maintain sight lines and communication.
- Scenarios restart with a different rotation of Pilot, Proctor, and VO.



RONT PERCH



STICKERS ON ALL SIDES OF THE VEHICLE

AND SURROUNDING GROUND

PERCH BUCKETS TARGETS

REAR PERCH

FRONT AND REAR

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ACUITY SCORE: Circle correctly identified.	Pilot's Back Turned Lights Out, Buckets Lit	environment and aircraft.	he answer key (1 pt each).
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