Observation Plan: 2025-04-15

1. Overall Conditions Assessment:

Conditions tonight are rated as **Average**. While the weather forecast is excellent (clear skies, good seeing), the Bortle 8 sky and significant light dome in the south will significantly impact image quality, especially for targets at lower altitudes or with extended diffuse structures. The absence of the moon is a positive factor.

2. Top Recommended Targets:

Target	Observability	Framing Analysis	Filter Choice & Justification	Imaging Tips
M51 (Whirlpool Galaxy)	Peak Alt: 88.43 deg, Duration: 6.92 hr	Good Fit	No Filter. M51 is a bright galaxy, high in the sky, and far from the light dome. While Bortle 8 will impact detail, the high altitude and brightness mitigate this.	Beginner: Focus on achieving good focus and guiding. Advanced: Explore using different exposures (short and long) to capture both core and faint outer arms.
M101 (Pinwheel Galaxy)	Peak Alt: 81.29 deg, Duration: 6.92 hr	Widefield	No Filter. Similar to M51, its high altitude and brightness make it a good candidate for imaging without a filter, although some light pollution will affect it.	Beginner: Use a histogram to fine-tune the exposure. Advanced: Explore using dithering to reduce noise and gradient artifacts from the light dome.
M13 (Hercules Globular Cluster)	Peak Alt: 80.88 deg, Duration: 5.83 hr	Good Fit	No Filter. High altitude and compact nature make it less susceptible to light pollution.	Beginner: Experiment with different integration times. Advanced: Use careful processing techniques to resolve individual stars within the cluster.
M81 (Bode's Galaxy)	Peak Alt: 66.52 deg, Duration: 6.92 hr	Good Fit	No Filter. While the altitude is lower than optimal, it's still reasonably high, and its brightness improves the chances of success.	Beginner: Pay attention to polar alignment for sharp stars. Advanced: Consider using a luminance filter to improve signal-to-noise ratio on the galaxy's core.

NGC 7000 (North America Nebula) was excluded due to its lower altitude (48.63 deg) and relatively short observable window (2.0 hrs) making it too susceptible to the significant light dome and making its successful imaging less likely without the use of narrowband filters. Its large size (unspecified) would require an extended duration of imaging time. While the Dual Narrowband filter would help significantly, the overall quality would still be compromised given the Bortle 8 conditions.