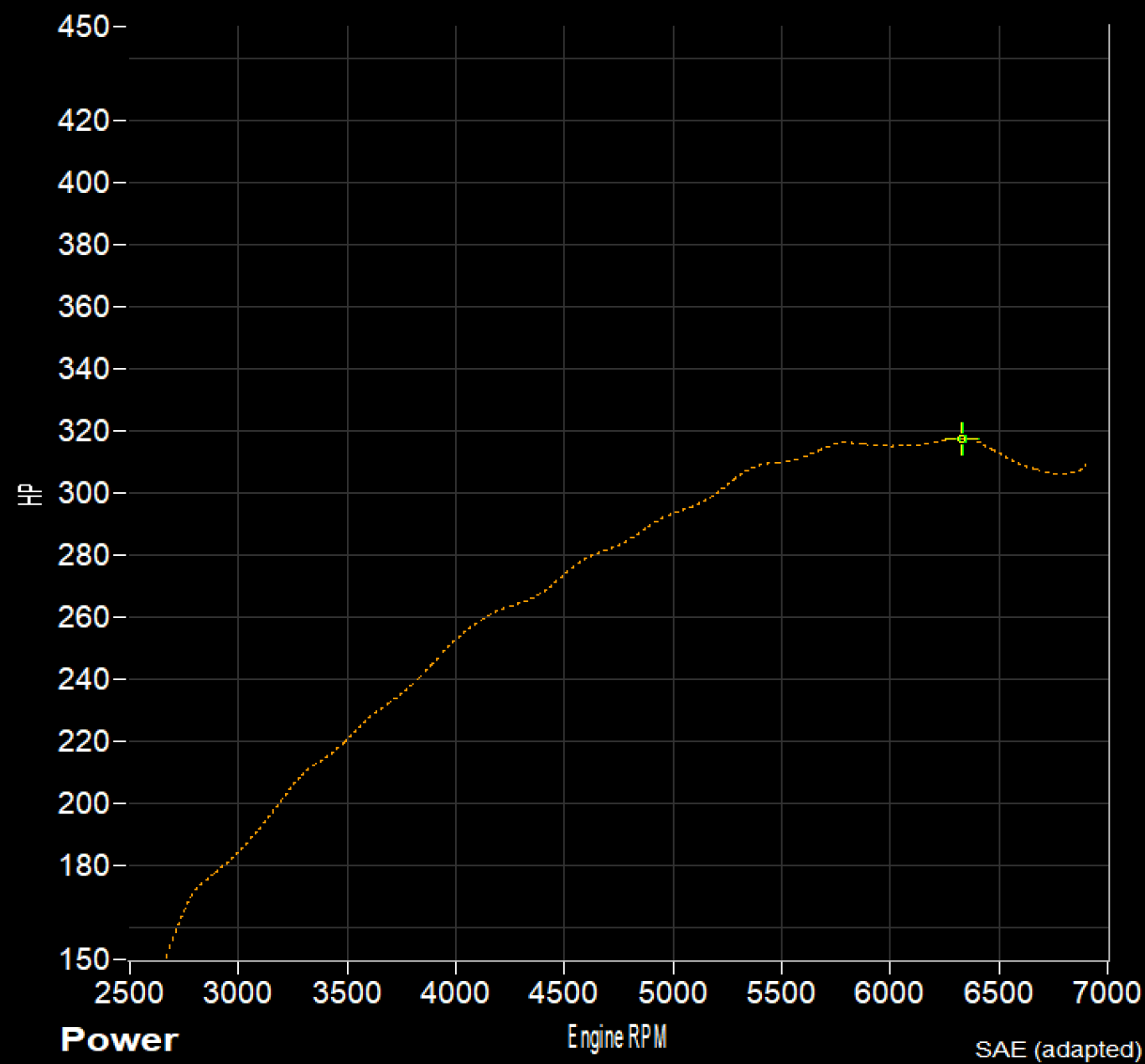
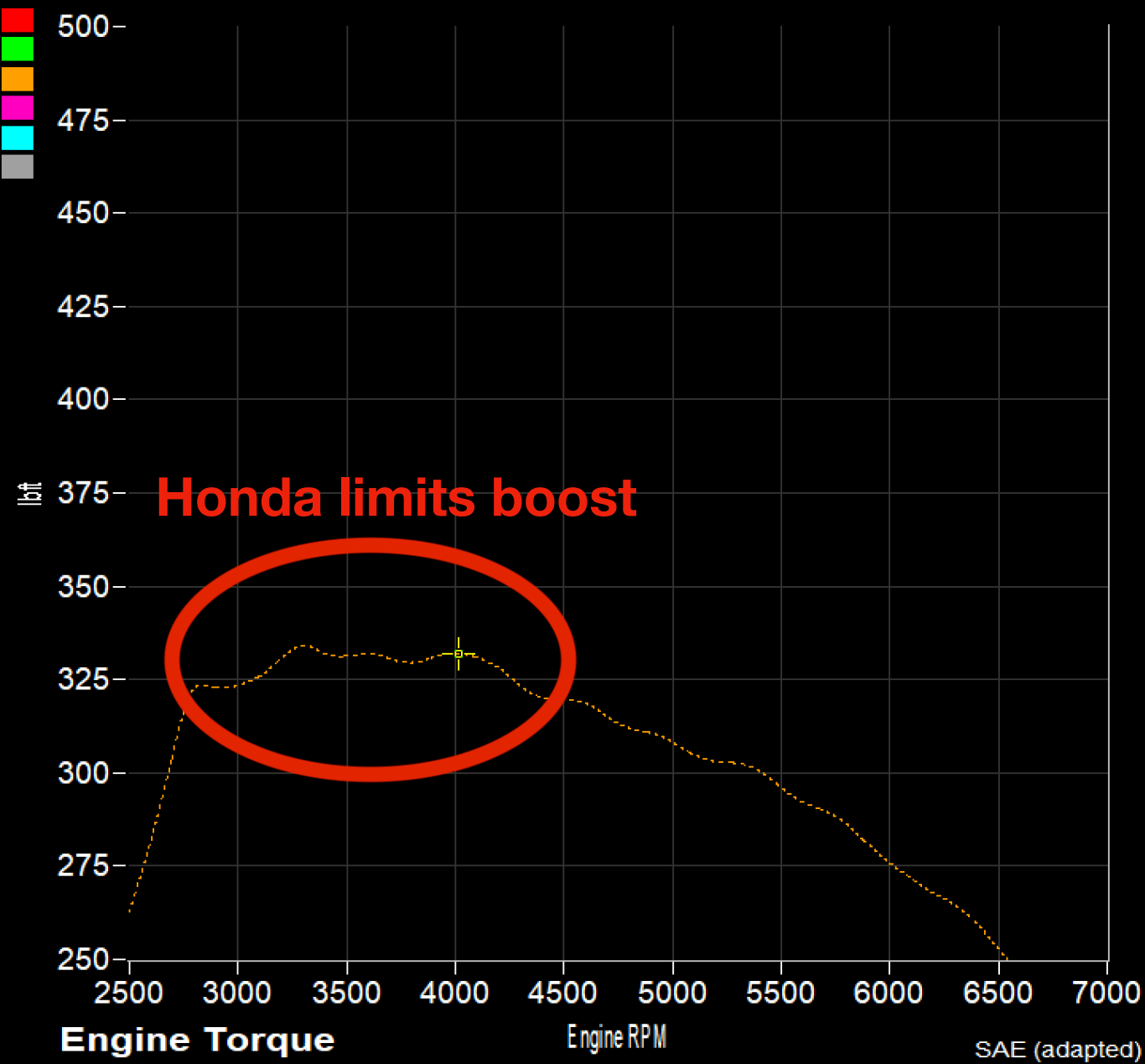


**HUNATA<sup>®</sup>**  
0100100001101110110111001100100011000010111010001100001

# Flex fuel testing FK8 Civic Type R

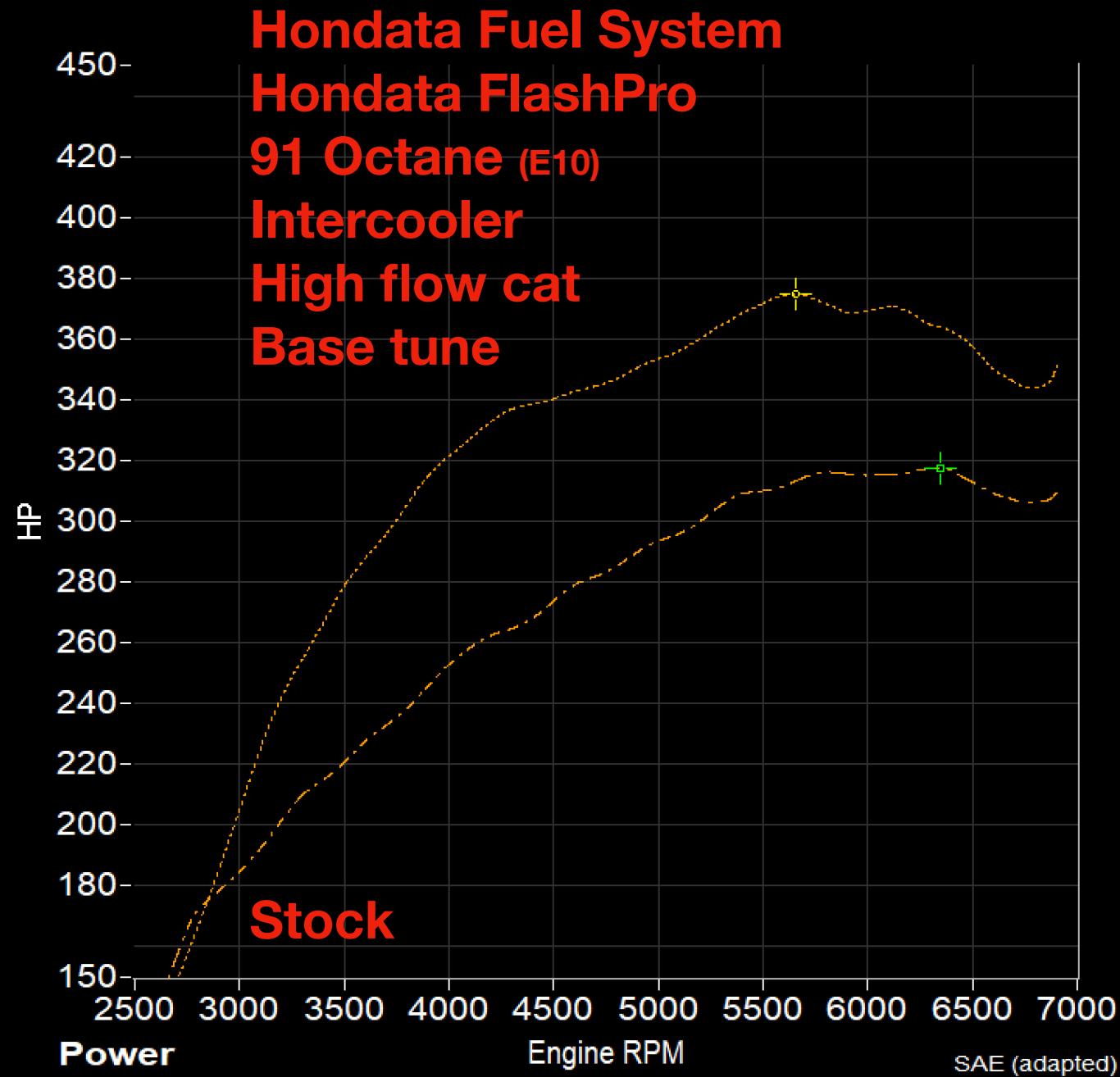
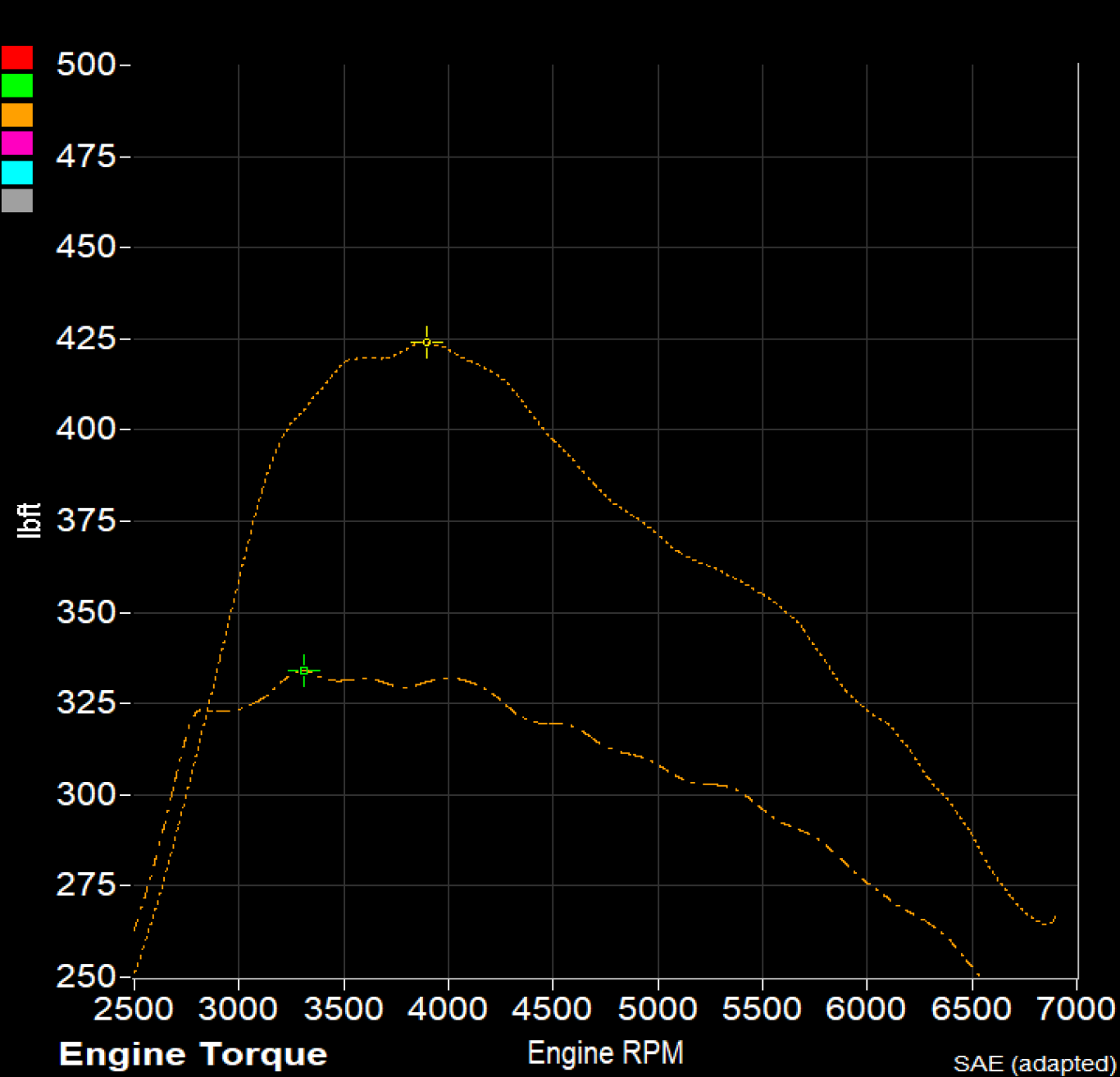
# Stock Civic Type R



332.01	67.2	4018	ratio 4.625:1
lbft	mph	rpm	tcf 1.000
332.01	67.2	4018	delta 0.00

317.33	105.9	6330	ratio 4.625:1
HP	mph	rpm	tcf 1.000
317.33	106.0	6337	delta 0.00

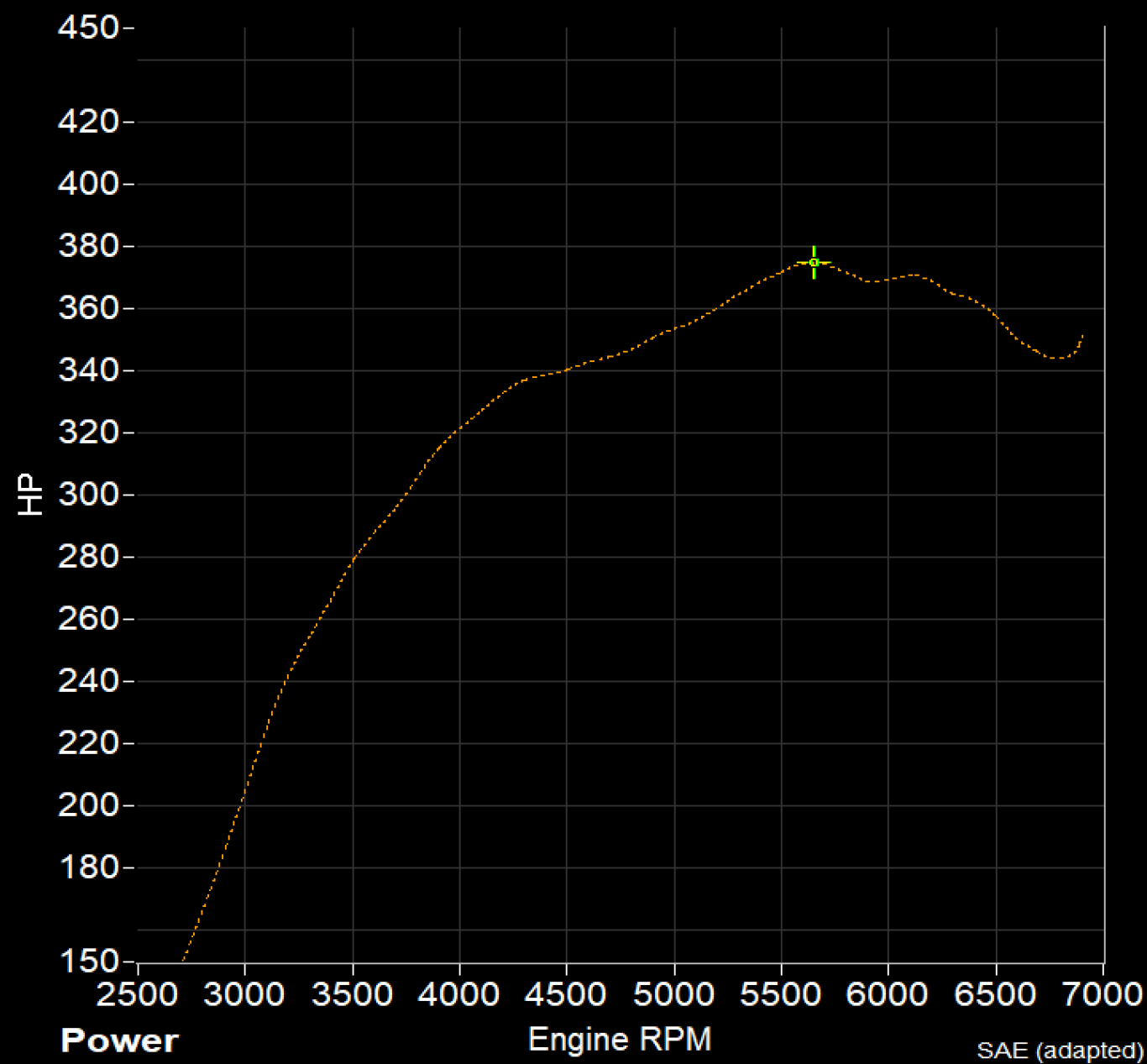
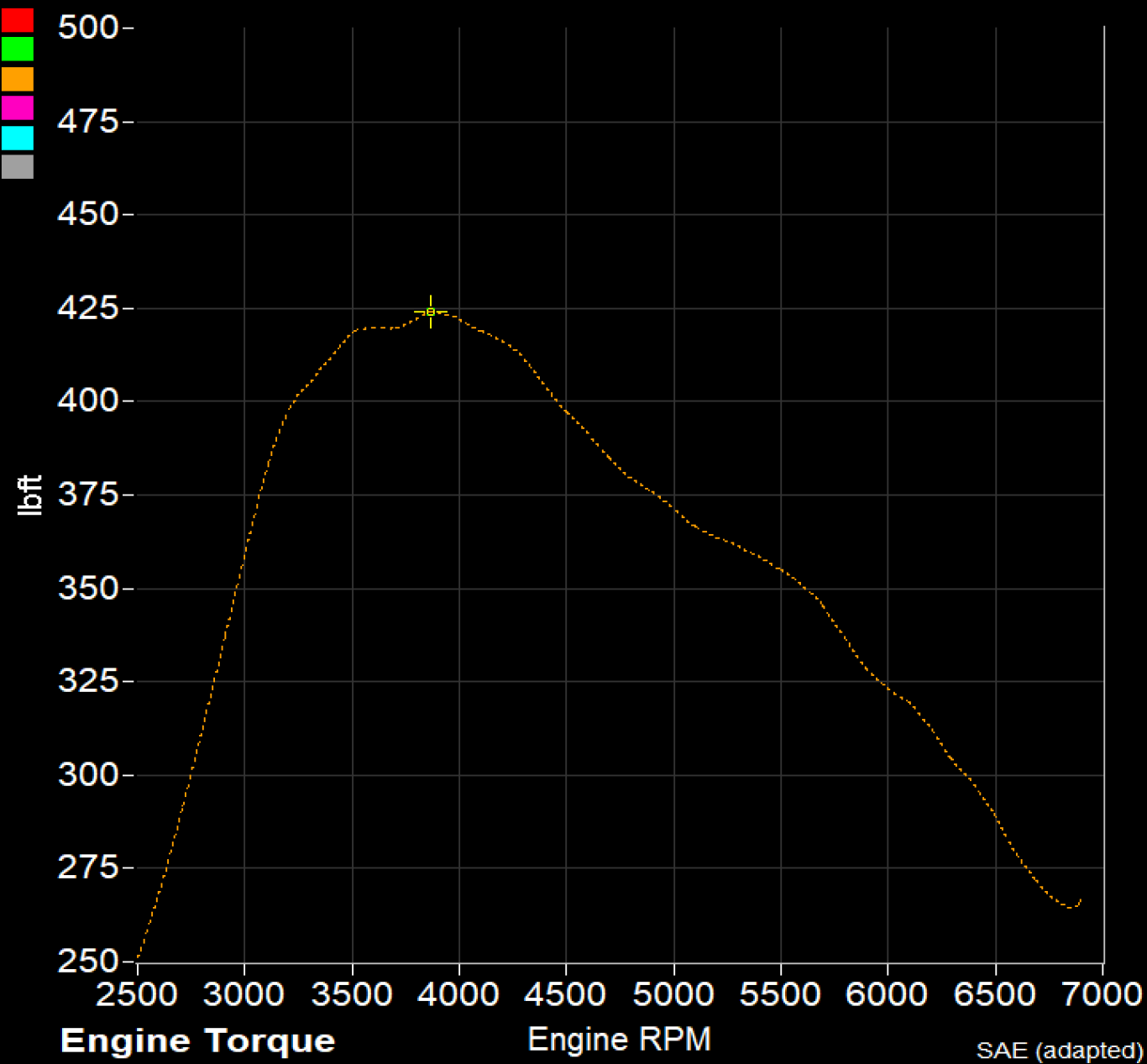
# Hondata Fuel System base tune 57 hp 90 lb-ft



# Ethanol basics

- 34% less energy density
- 50% volume more to generate the same bang
- More than 100 octane (less knock)
- As ethanol evaporates the air is cooled
  - In cylinder charge cooler

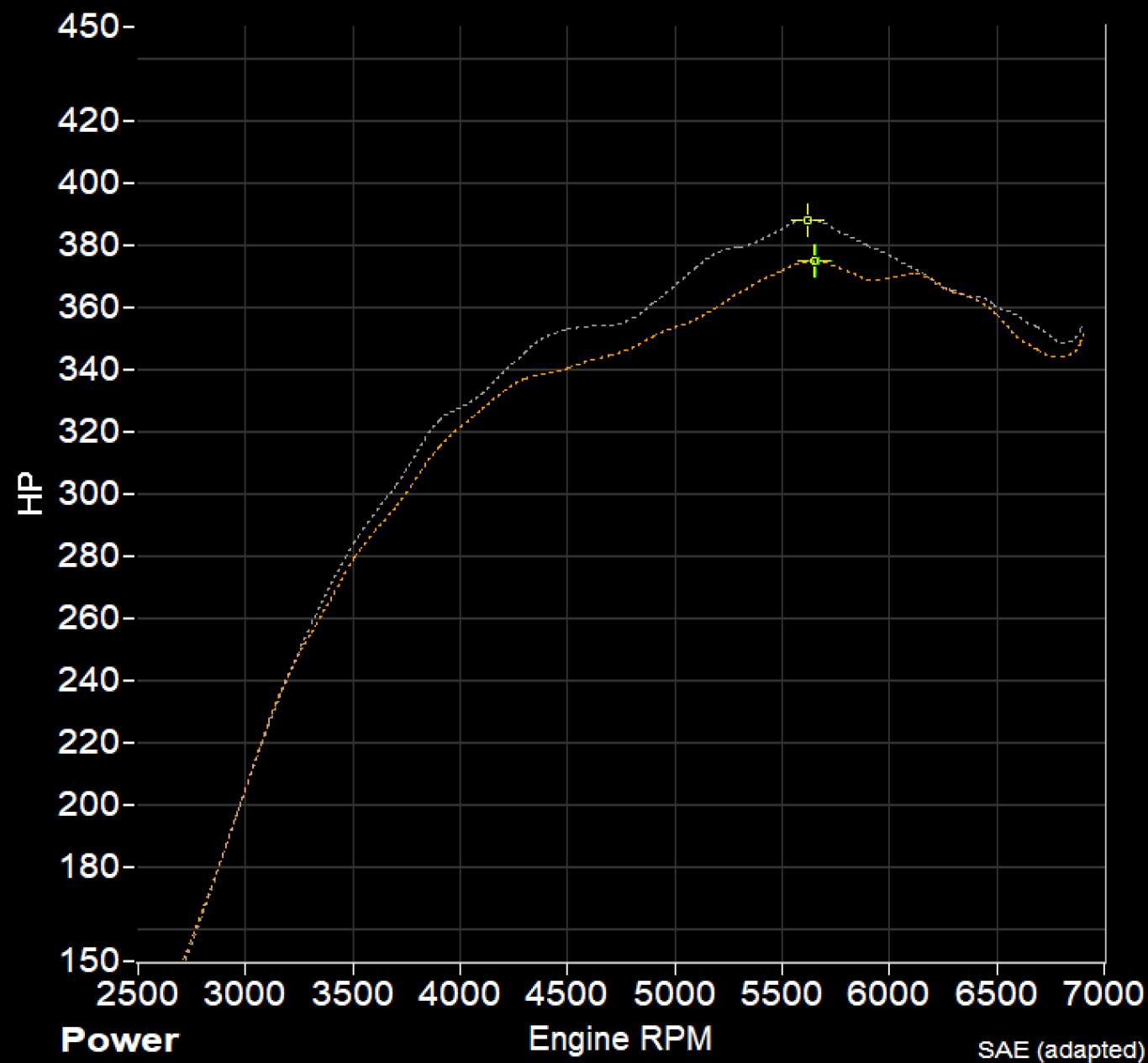
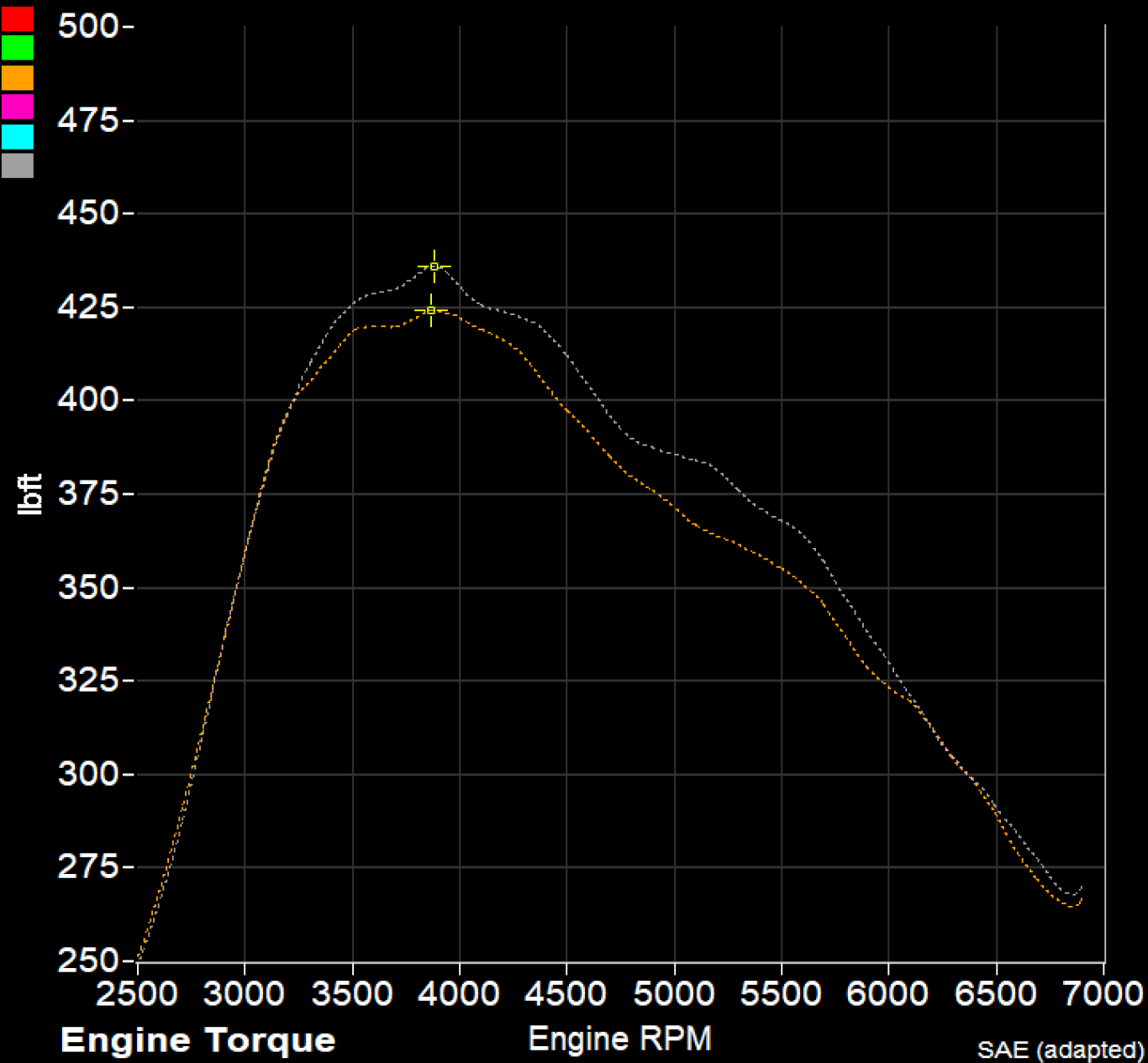
# E10



423.97	79.9	3870	ratio 3.746:1
lbft	mph	rpm	tcf 1.000
423.97	79.9	3870	delta 0.00

374.54	116.7	5652	ratio 3.746:1
HP	mph	rpm	tcf 1.000
374.63	116.8	5659	delta 0.09

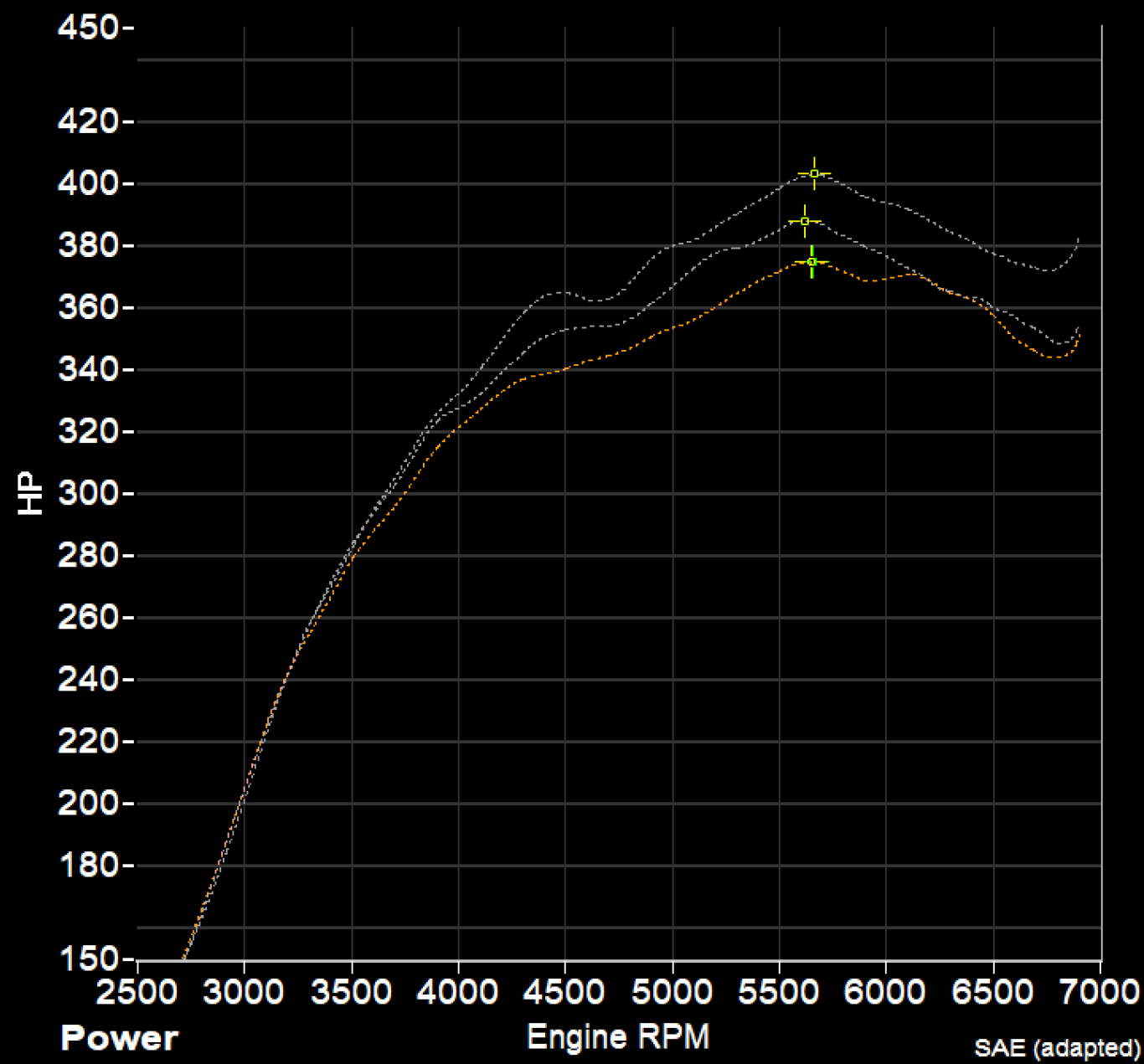
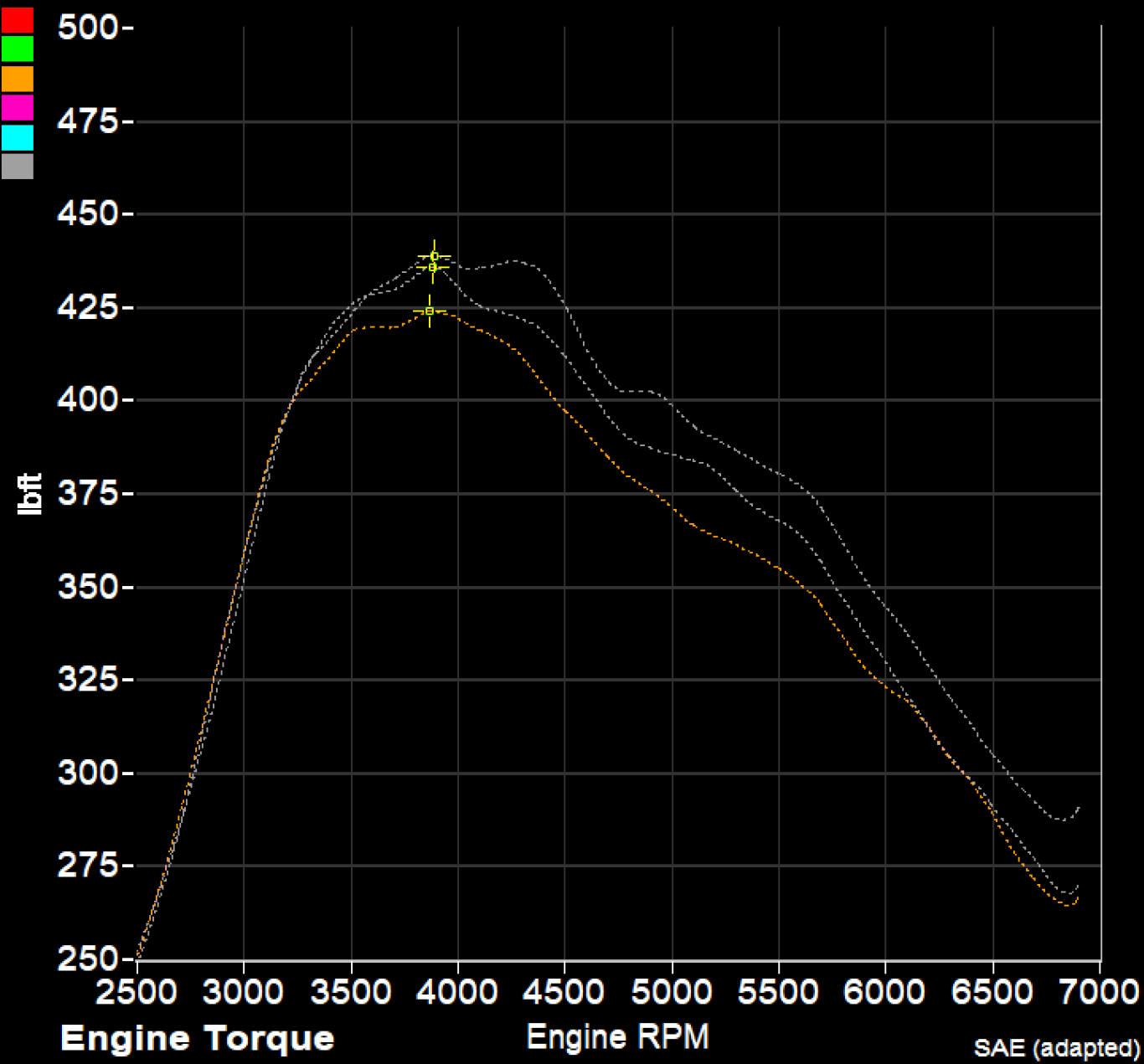
# E18



436.9	89.2	3880	ratio 3.746:1
lbft	mph	rpm	tcf 1.000
436.9	89.2	3880	delta 0.00

388.6	116.7	5622	ratio 3.746:1
HP	mph	rpm	tcf 1.000
388.6	116.8	5622	delta 0.09

# E29

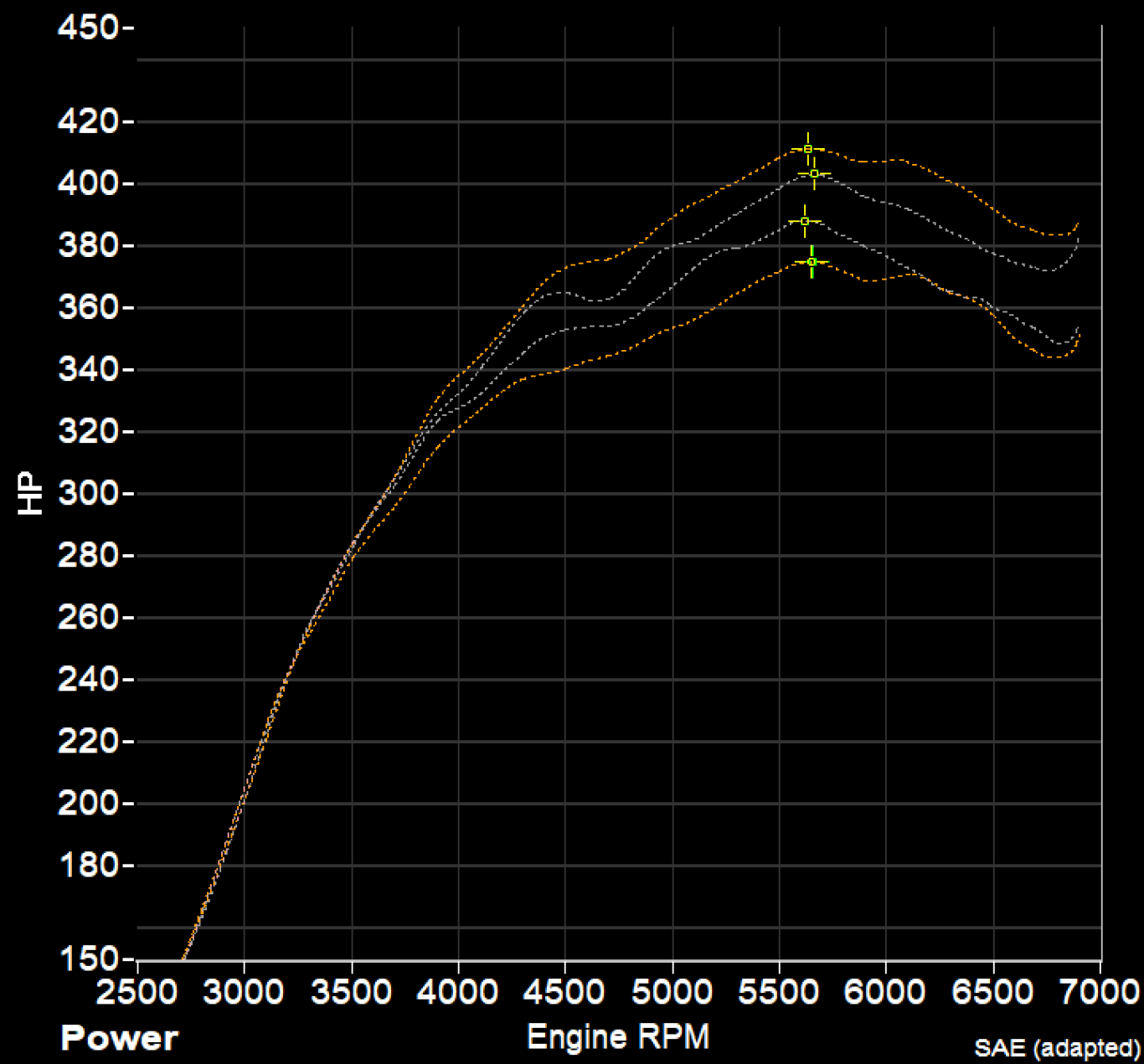
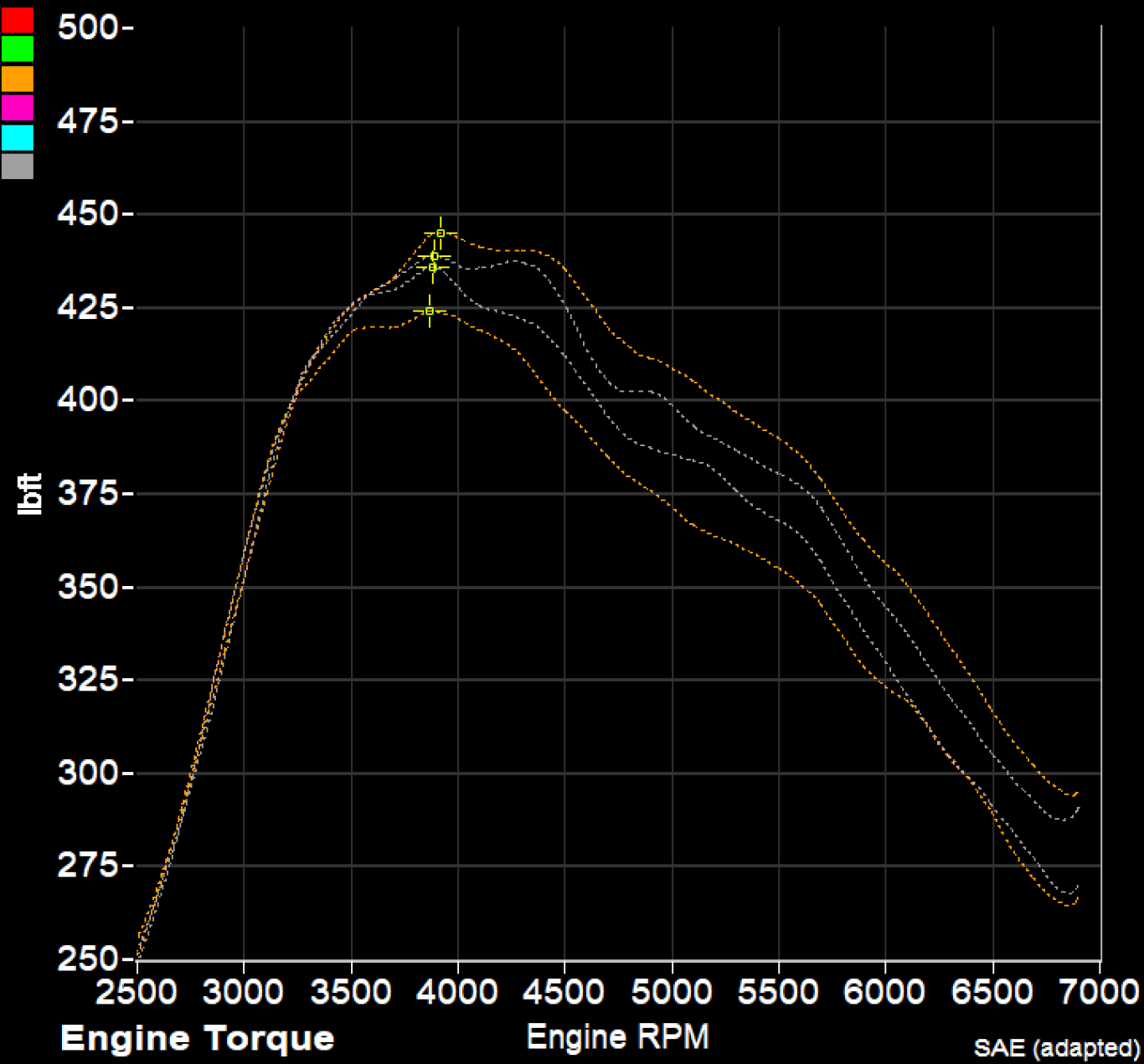


438.00	80.9	3800	ratio 3.746:1
lbft	mph	rpm	tcf 1.000
438.00	80.9	3800	delta 0.00

388.08	116.0	5600	ratio 3.746:1
HP	mph	rpm	tcf 1.000
388.08	116.0	5600	delta 0.09



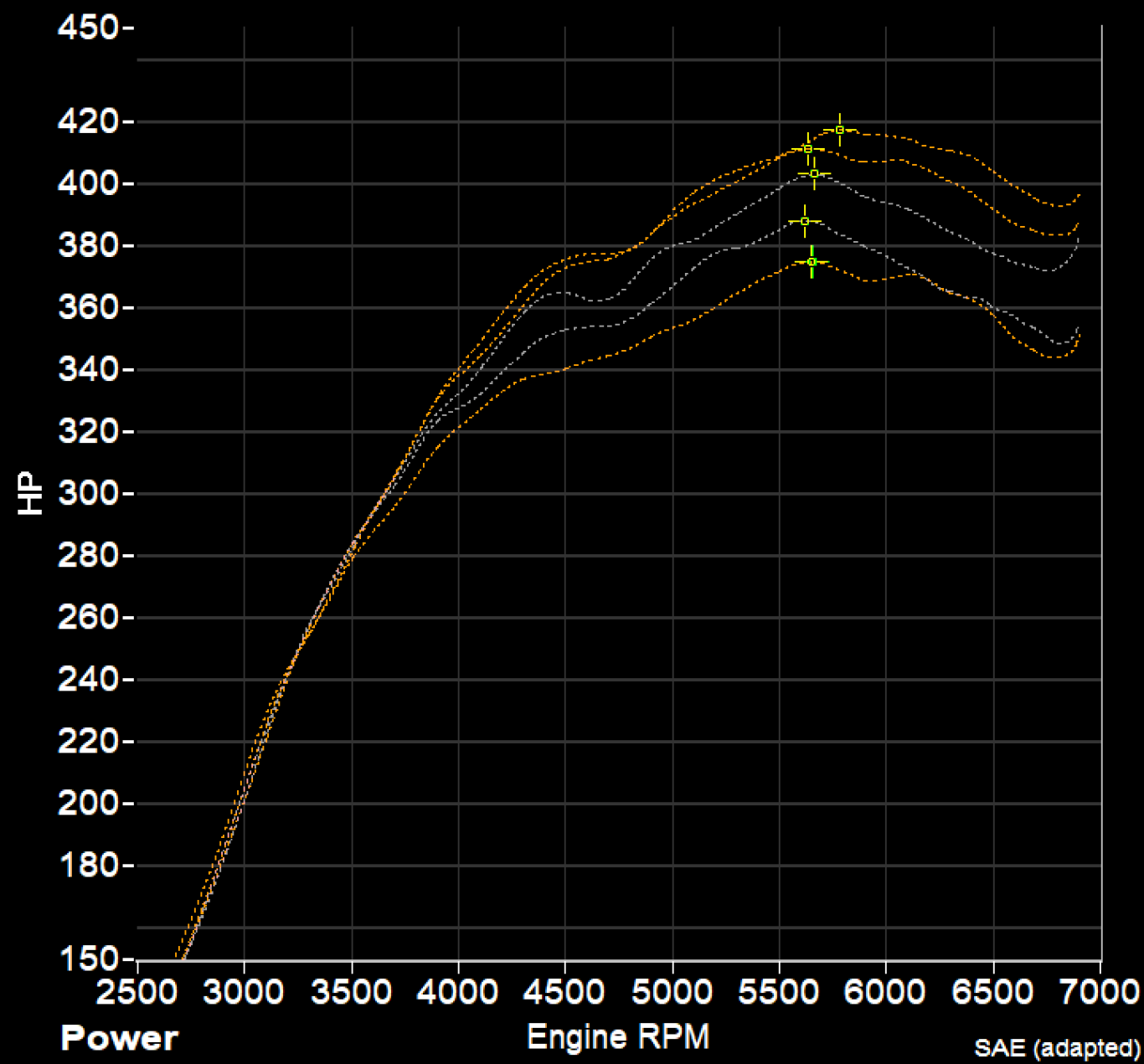
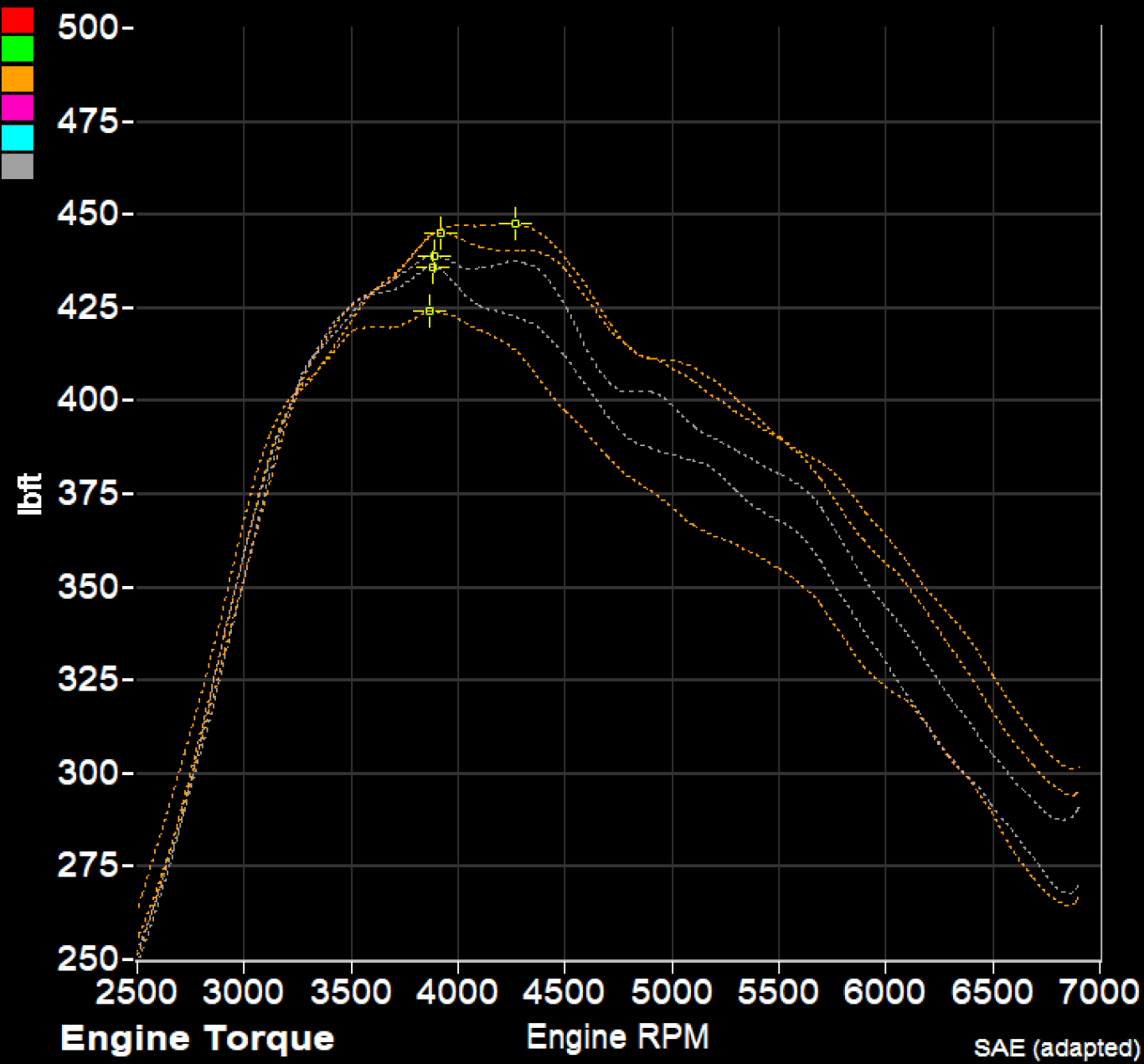
# E38



440.00 3900 3900 ratio 3.746:1  
lbft mph rpm tcf 1.000  
440.00 3900 3900 delta 0.00

408.00 5600 5600 ratio 3.746:1  
HP mph rpm tcf 1.000  
408.00 5600 5600 delta 0.00

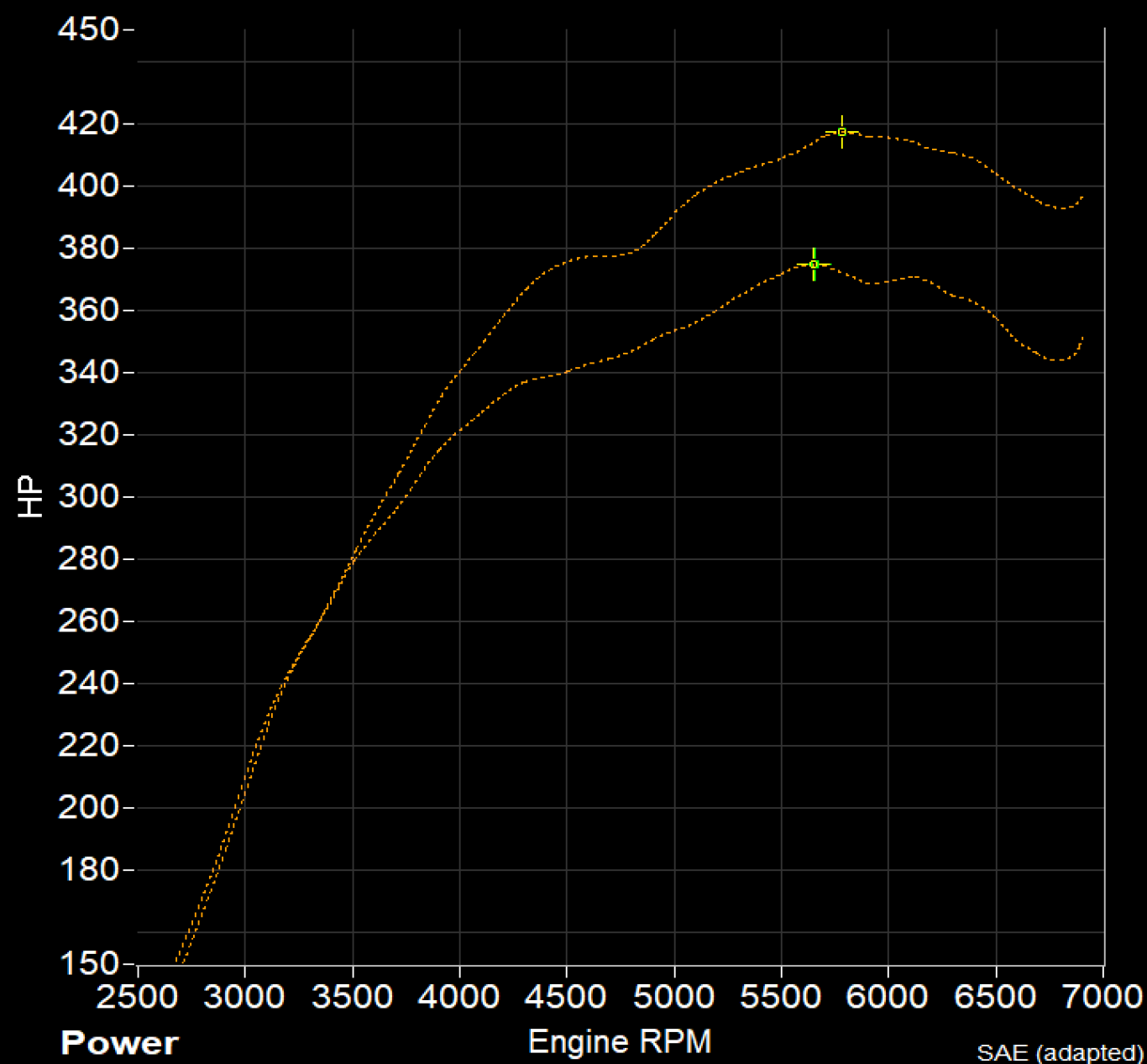
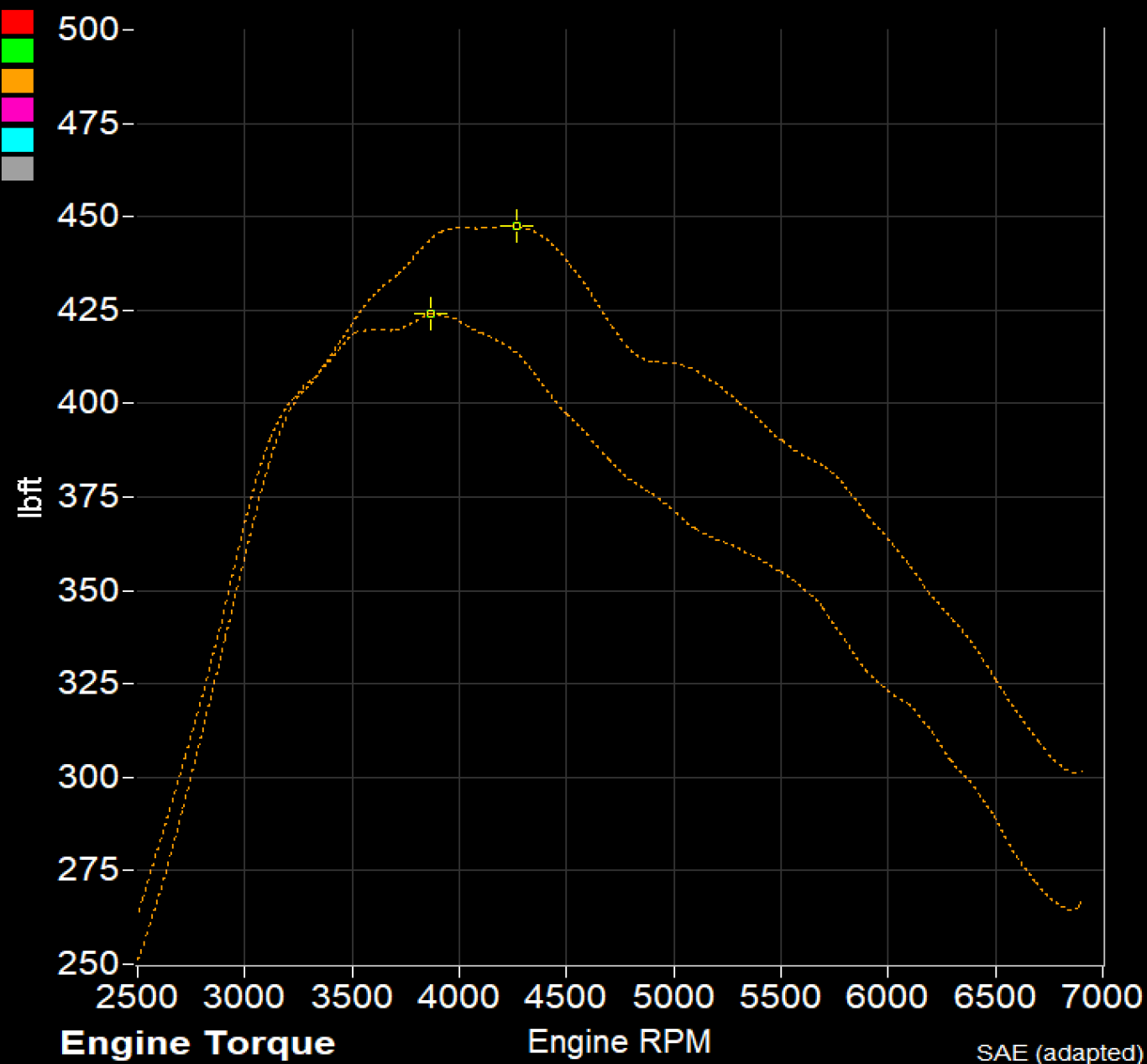
# E52



438.00 80.0 3990 ratio 3.746:1  
lbft mph rpm tcf 1.000  
438.00 80.0 3990 delta 0.00

393.00 110.0 5602 ratio 3.746:1  
HP mph rpm tcf 1.000  
393.00 110.0 5602 delta 0.00

# E10-E52 44 hp 25 lb ft



447.98  
lbft  
3270  
ratio 3.746:1  
tcf 1.000  
delta 0.00

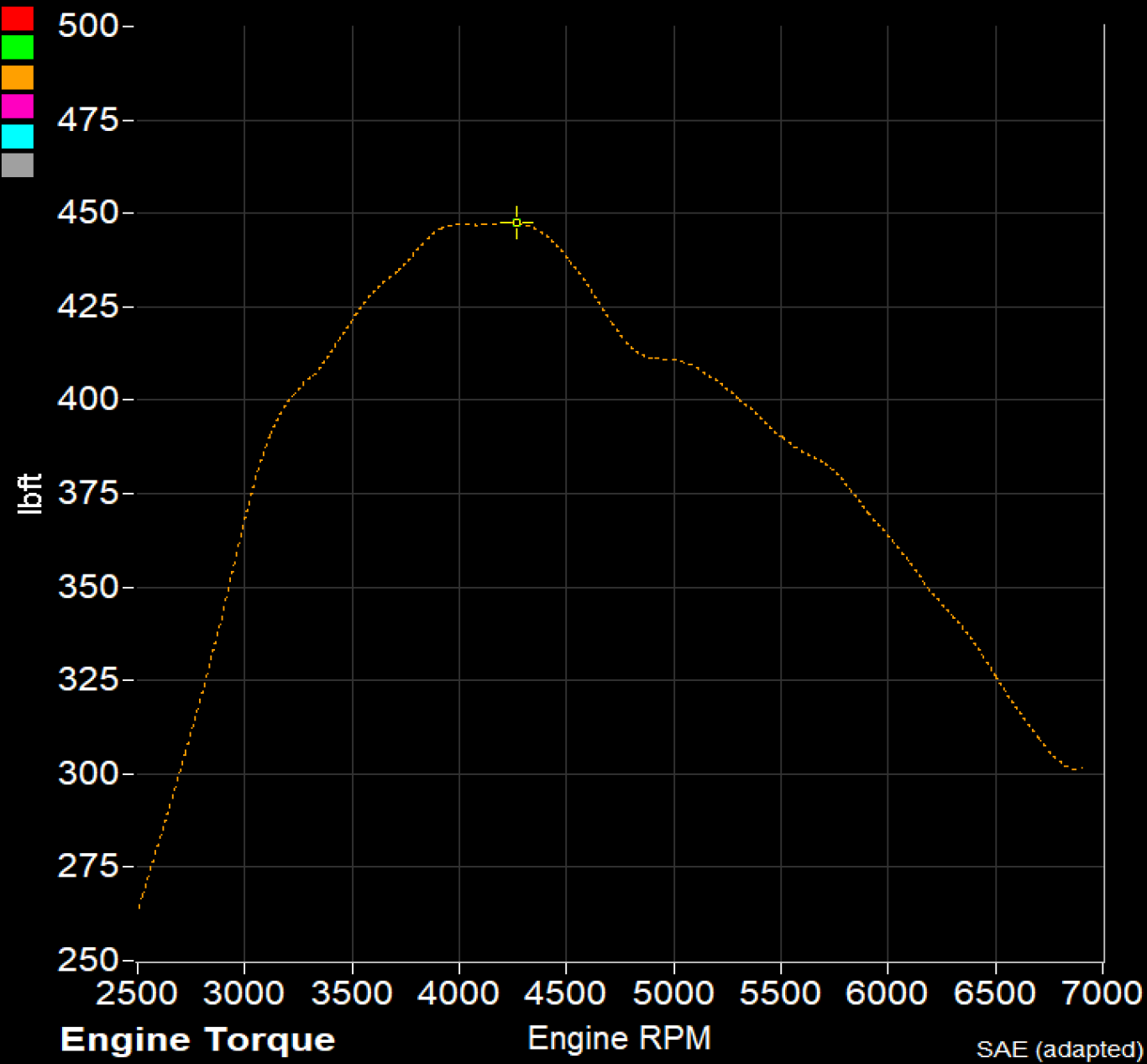
418.56  
HP  
5682  
ratio 3.746:1  
tcf 1.000  
delta 0.09

## Torque everywhere above 4000

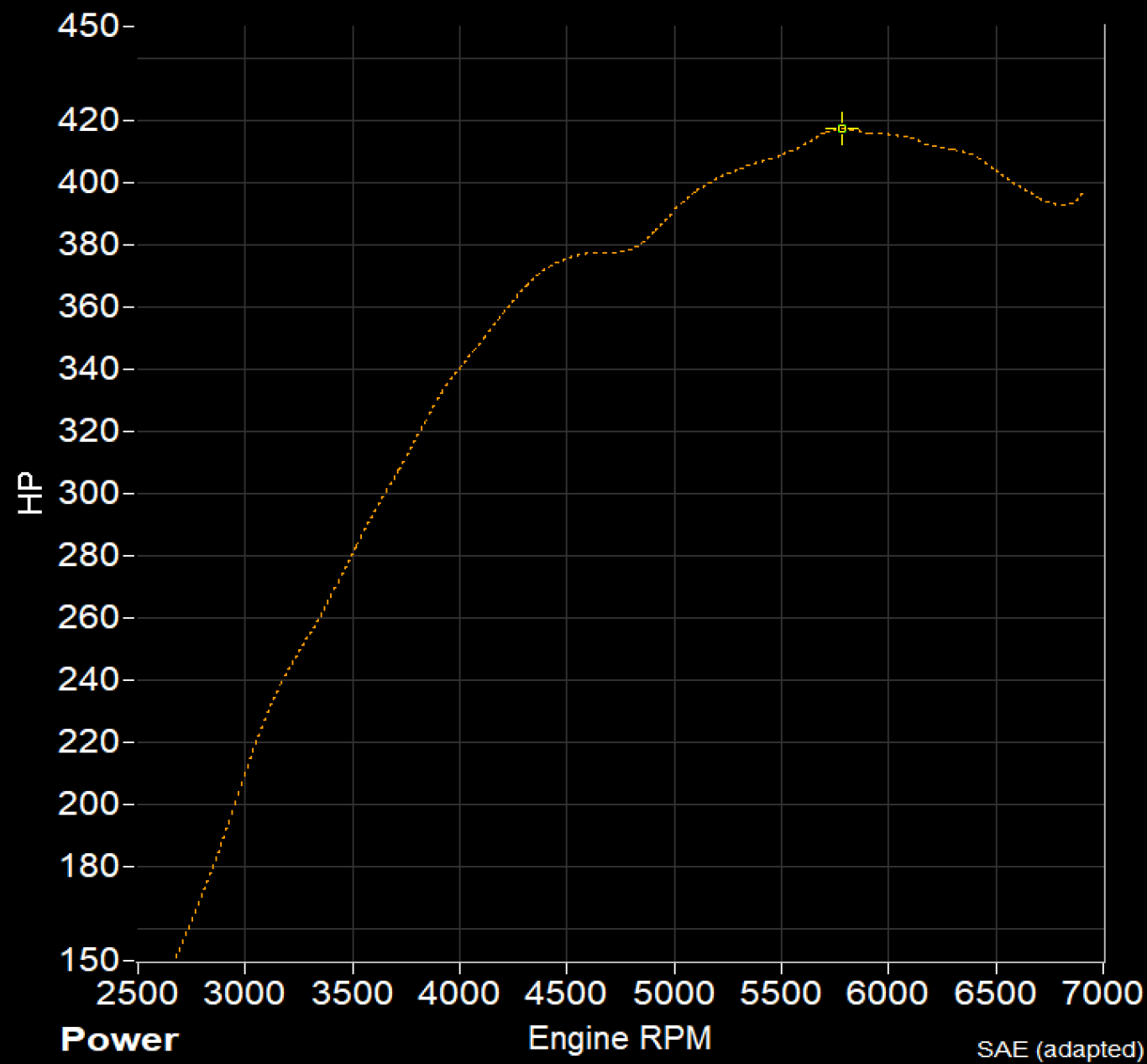
# Filling your tank

- Can you remember two numbers?
- 3 & 4
- 3 Gallons E85, 4 Gallons pump = E40
- 4 Gallons E85, 3 Gallons pump = E50
- E40-E50 has better range than E85

# Higher ethanol content E52 +

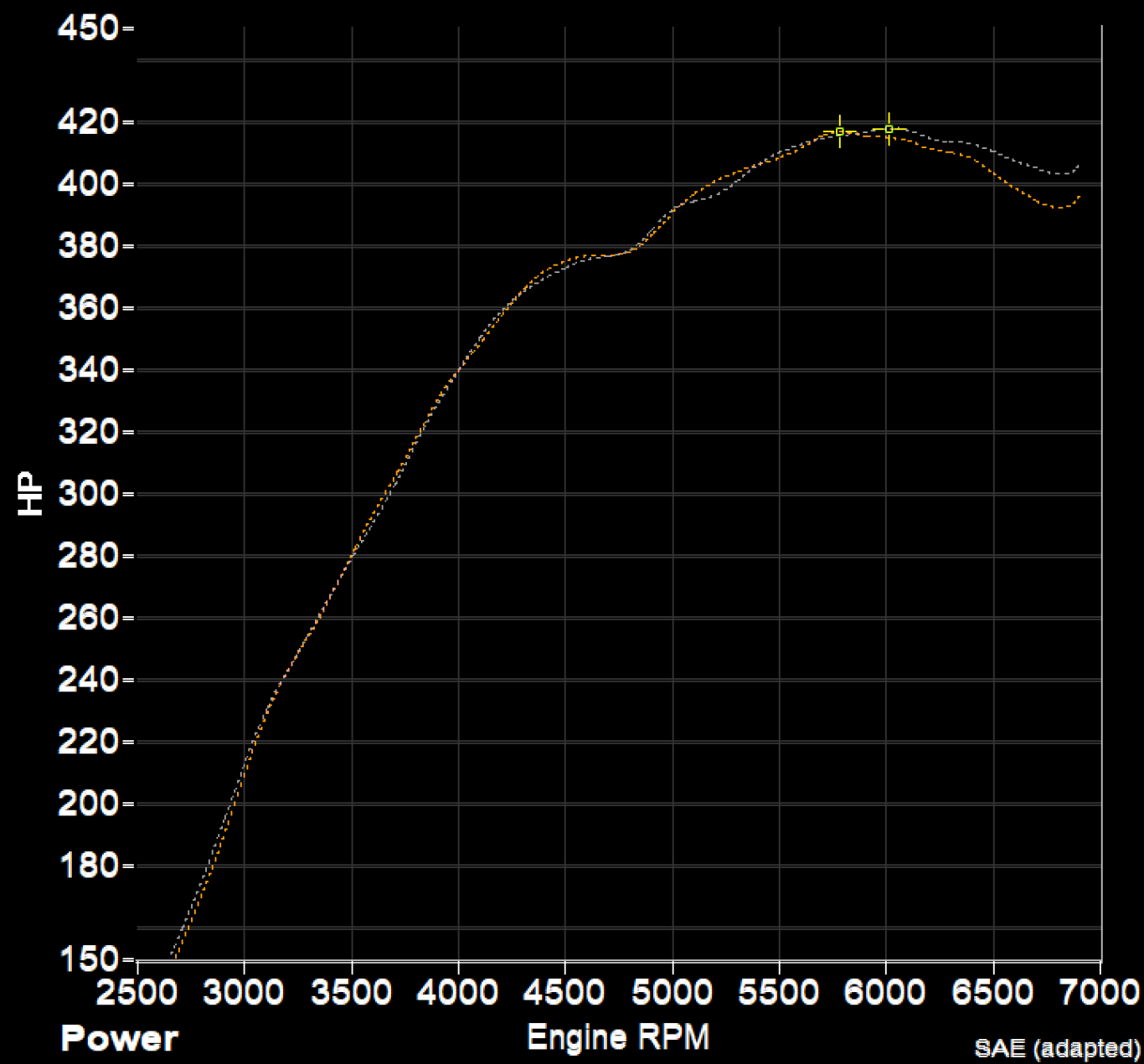
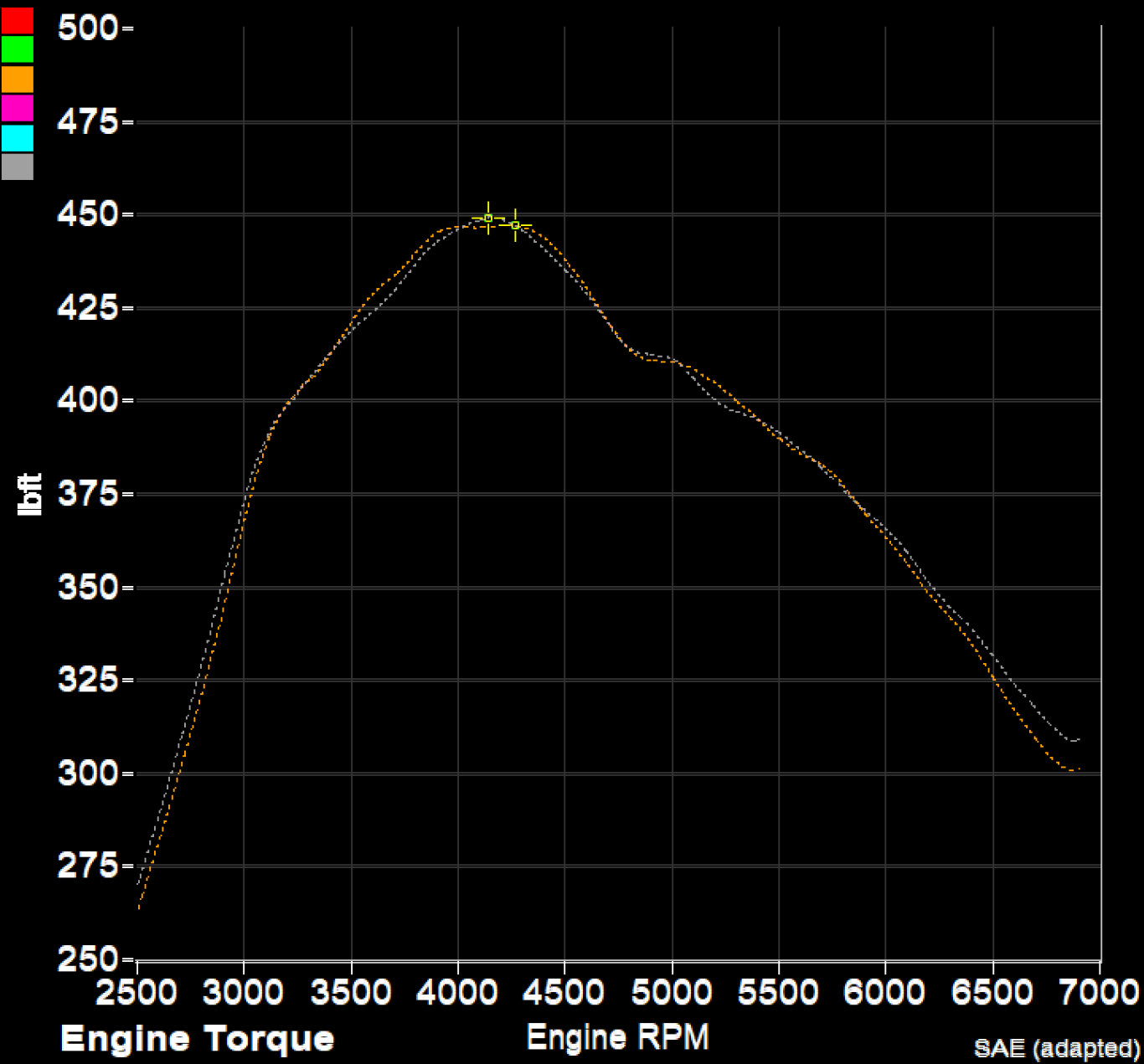


447.38	88.2	4271	ratio 3.746:1
lbft	mph	rpm	tcf 1.000
447.38	88.2	4271	delta 0.00



417.16	119.4	5785	ratio 3.746:1
HP	mph	rpm	tcf 1.000
417.16	119.4	5785	delta 0.00

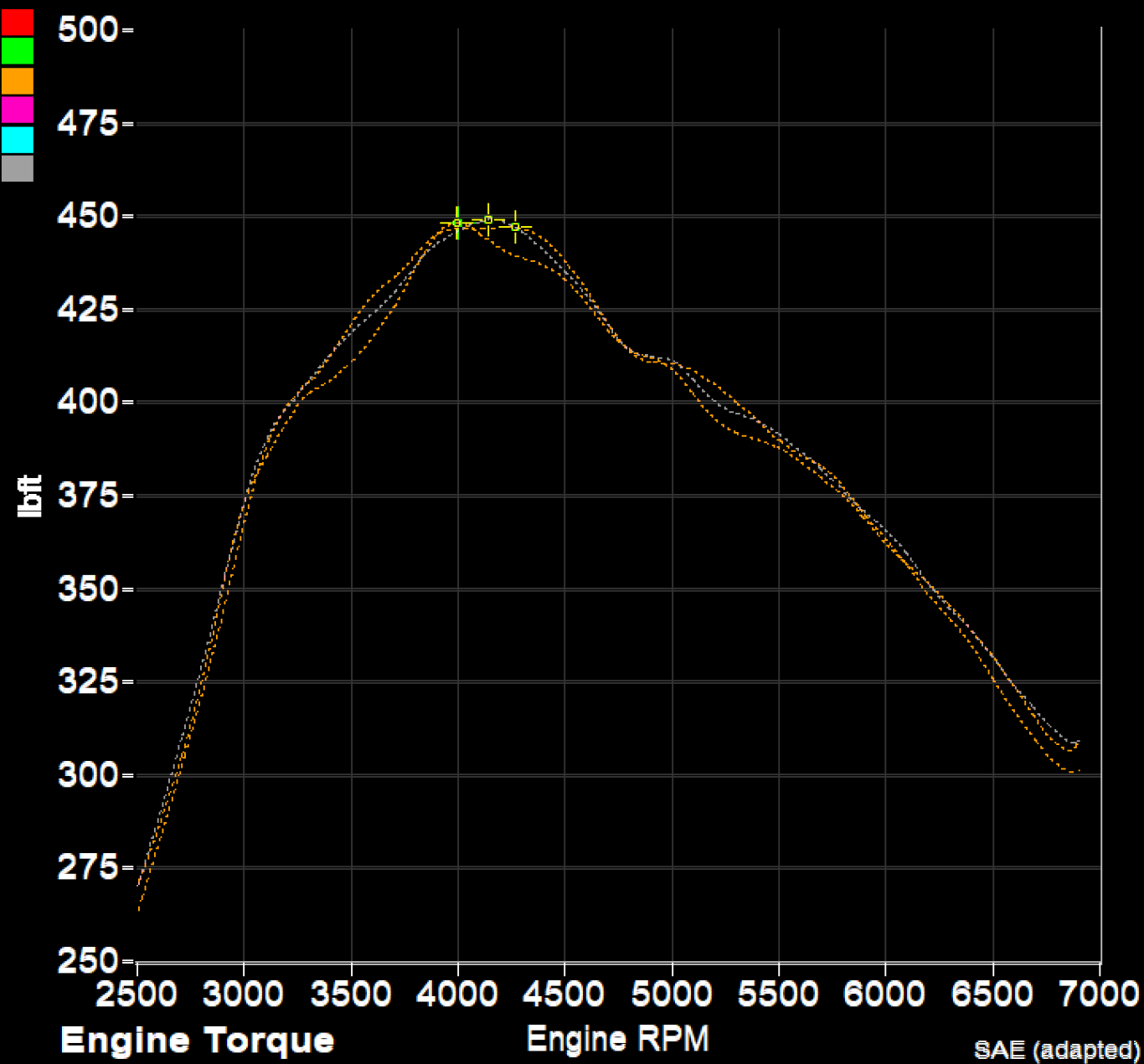
# E67



449.08	85.2	4239	ratio 3.746:1
lbft	mph	rpm	tcf 1.000
449.08	85.2	4239	delta 0.00

417.36	129.2	6086	ratio 3.746:1
HP	mph	rpm	tcf 1.000
417.36	129.2	6086	delta 0.00

# E52-73

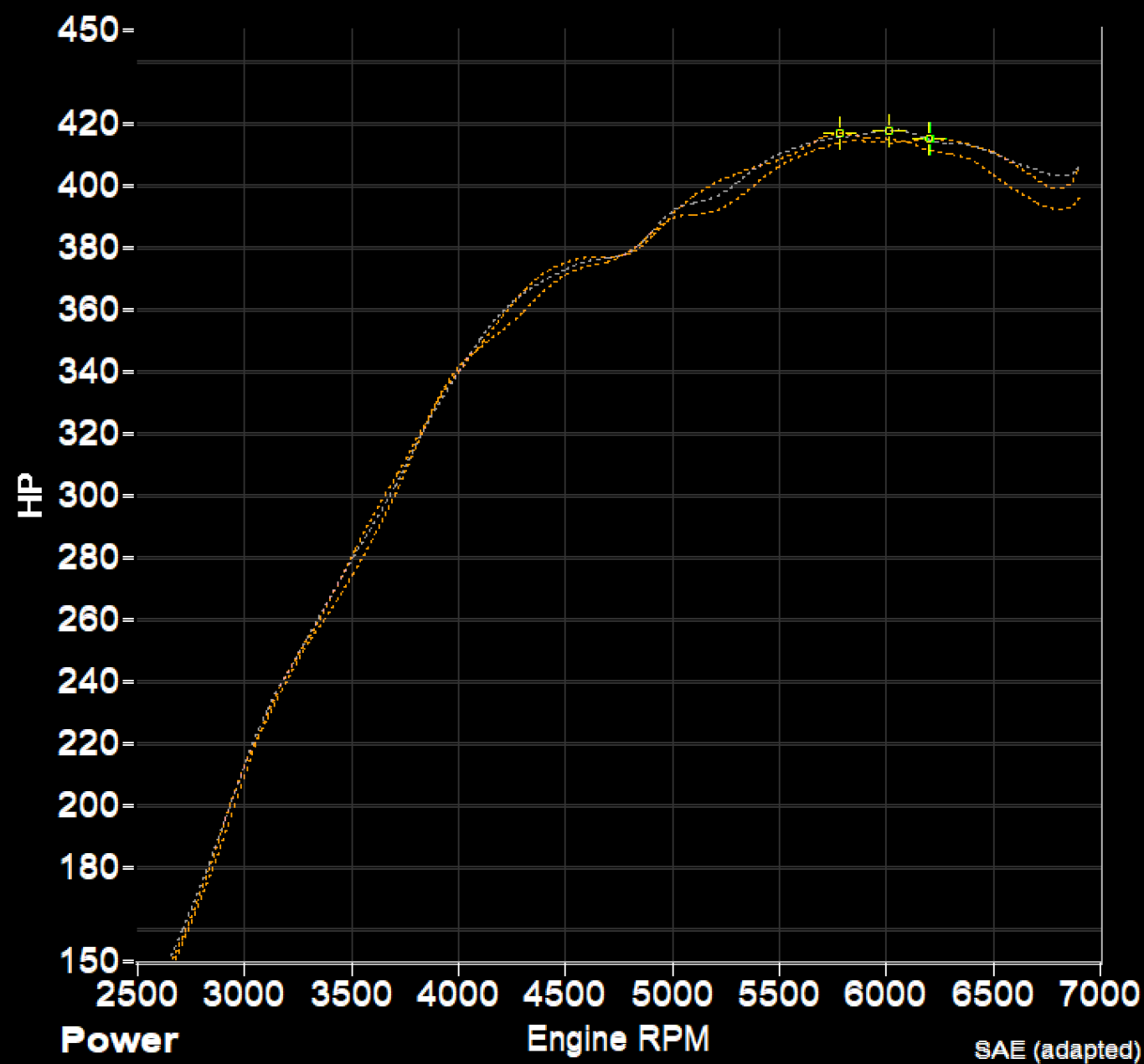


447.98  
lbft  
447.98

88.5  
mph  
88.5

4009  
rpm  
4009

ratio 3.746:1  
tcf 1.000  
delta 0.00



417.65  
HP  
417.65

129.2  
mph  
129.2

6006  
rpm  
6006

ratio 3.746:1  
tcf 1.000  
delta 0.00

A little less < 4000  
A little more > 6500

# Tuning and tech notes

- E85 needs 50% more volume
- But the Hondata fuel system delivers 24% more volume
- You can run full E85
- Boost reduced as the ethanol content climbs
- Injector duty 35%
- Fuel pump duty 90%
- Dyno tune leaner for more boost and pump duty
- Circuit race CTRs (no cat) >120 track hours at 13.2 air fuel





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