

TFSR-05-10

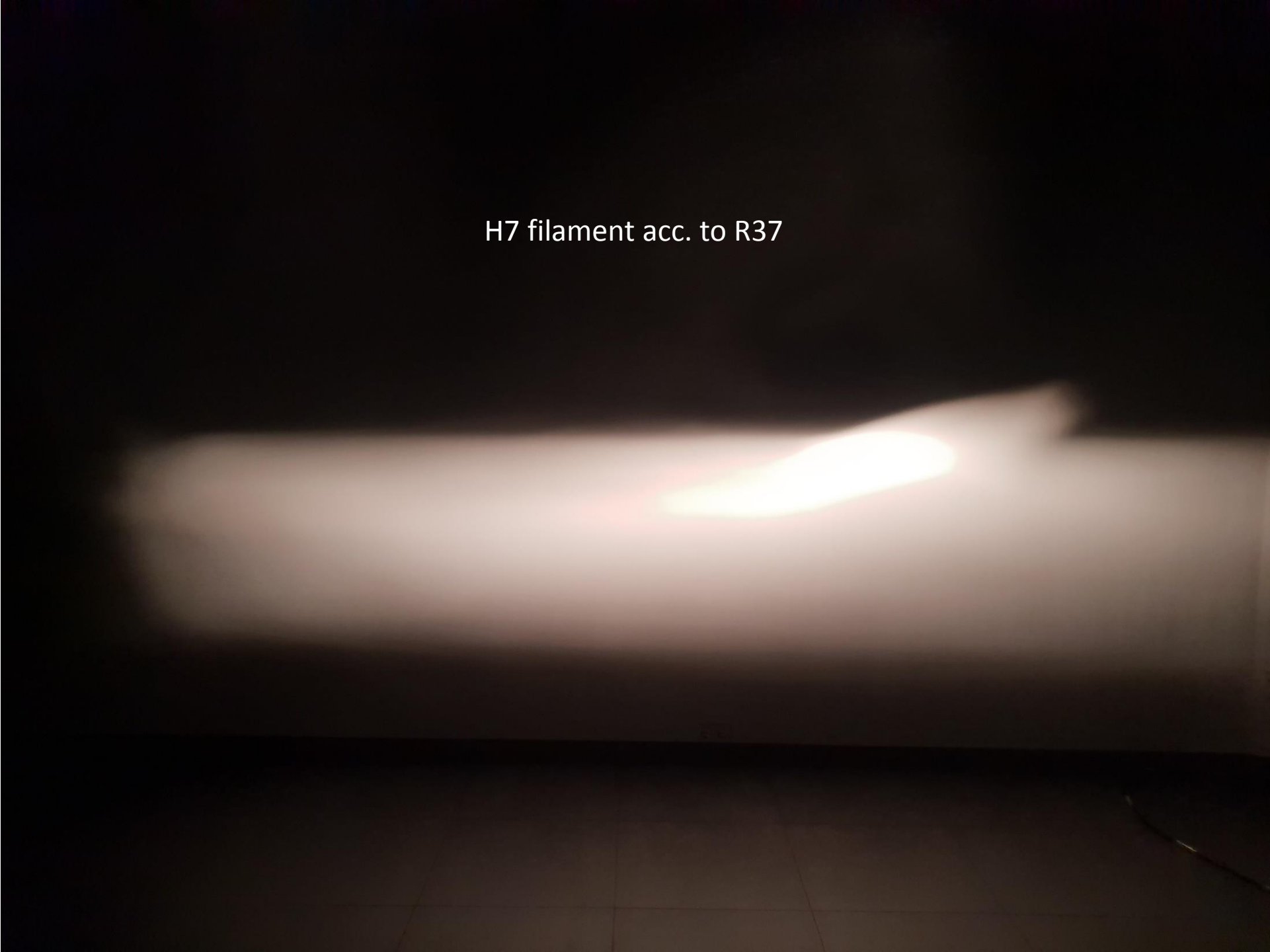
# Substitute/Retrofit Demonstration

5<sup>th</sup> GRE TF S/R Meeting

Aachen (Germany), 30-January 2019

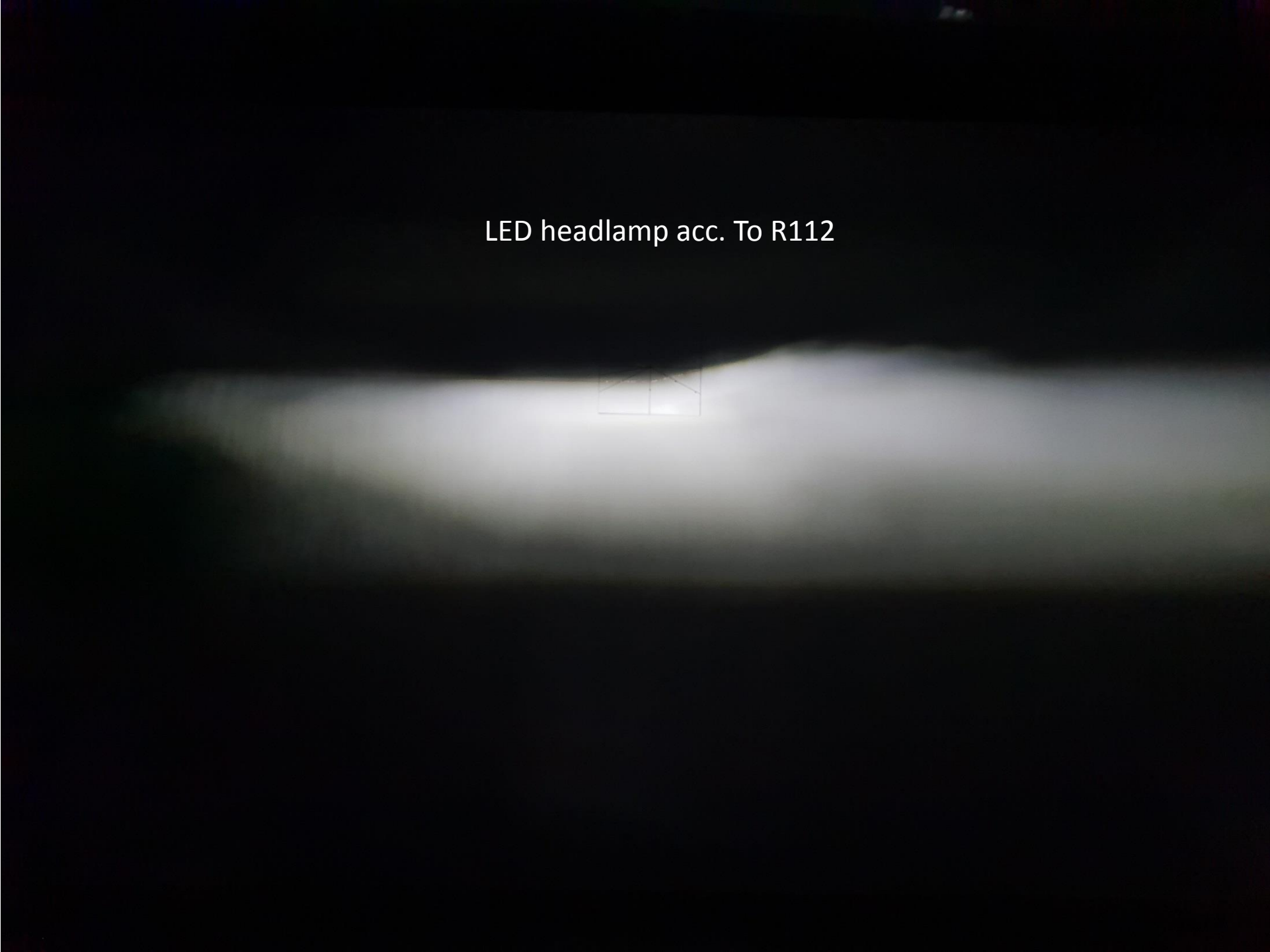
H7 Reflector  
Headlamp

H7 filament acc. to R37



OEM LED  
Headlamp

LED headlamp acc. To R112



# H7 Reflector Headlamp

Very bad “H7-Retrofit”  
 (“Maiskolben”)

H7 filament acc. to R37

*Please note that the H7 distribution appears different due to the changed camera settings: The low light level and the blueish color lead to a longer exposure time Which let the Halogen beam appear whiter and brighter than normal.*

H7 Reflector  
Headlamp

Bad "H7-Retrofit"

H7 filament acc. to R37

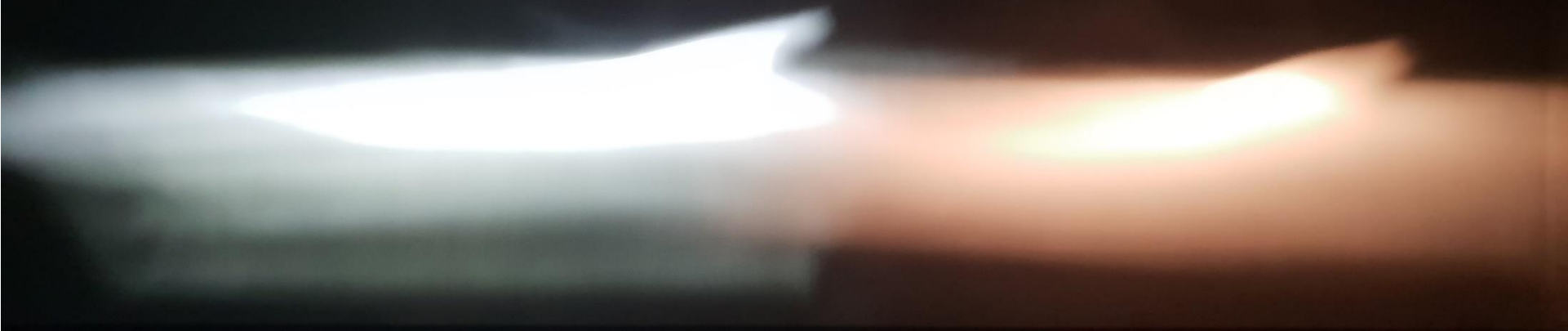


H7 Reflector  
Headlamp

Good "H7-Retrofit"

*not fulfilling all equivalence criteria*

H7 filament acc. to R37



*Leading to a compliant beam with some deviations compared to the Halogen beam*



# H7 Reflector Headlamp

H7 Substitute "H7/LED"

*Prototype fulfilling all proposed  
equivalence criteria; TFSR-05-04*

H7 filament acc. to R37

*Besides the color temperature, more or less the same beam. All beam details are traceable !*