



# **Three dimensional (3D) model of the 1882 Presque Isle Lighthouse (PILH) Fresnel lens with Red Characteristic Glass Panels**

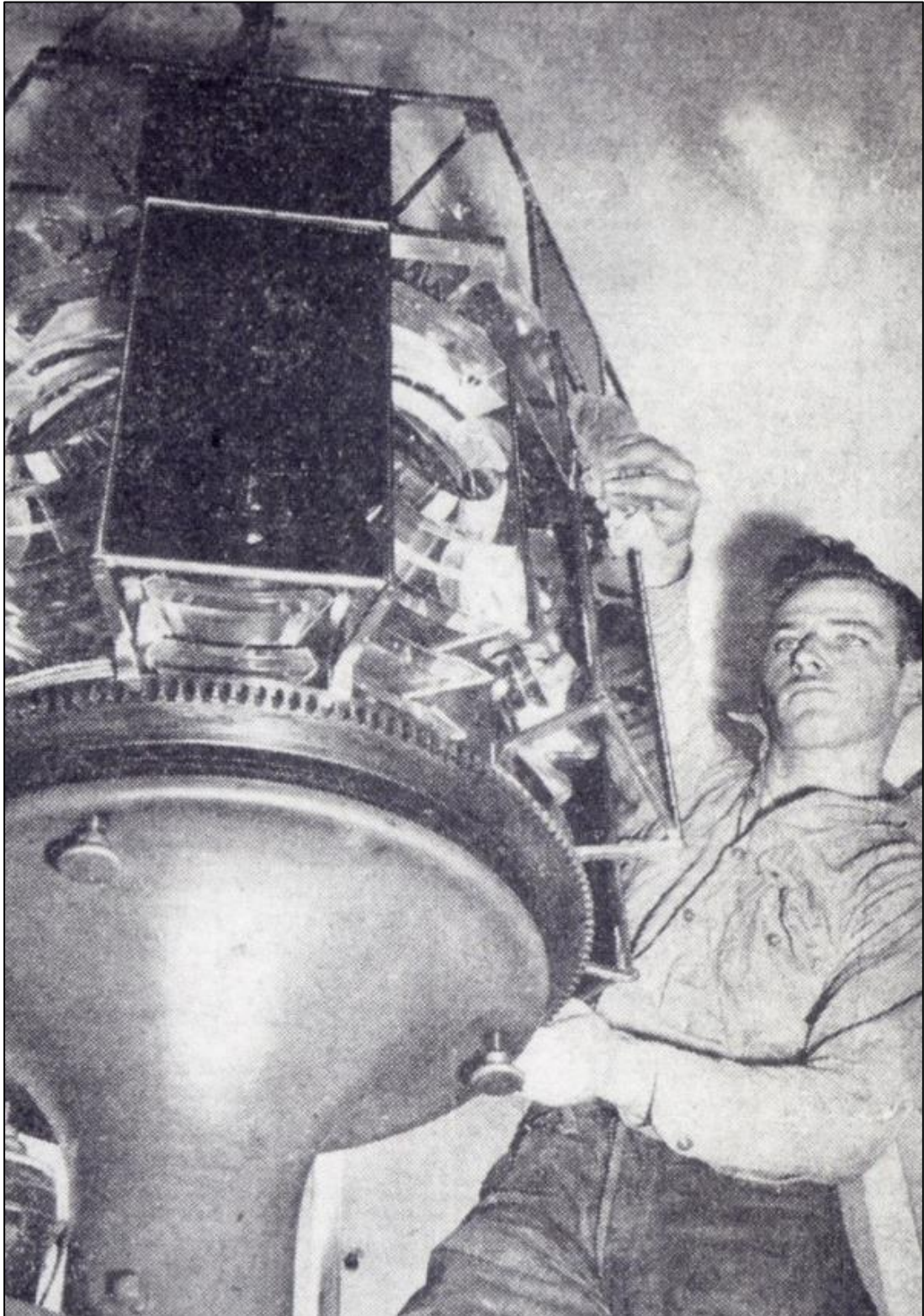
by Bill and Jim Nesgoda

4-17-2020

# Credits / Sources

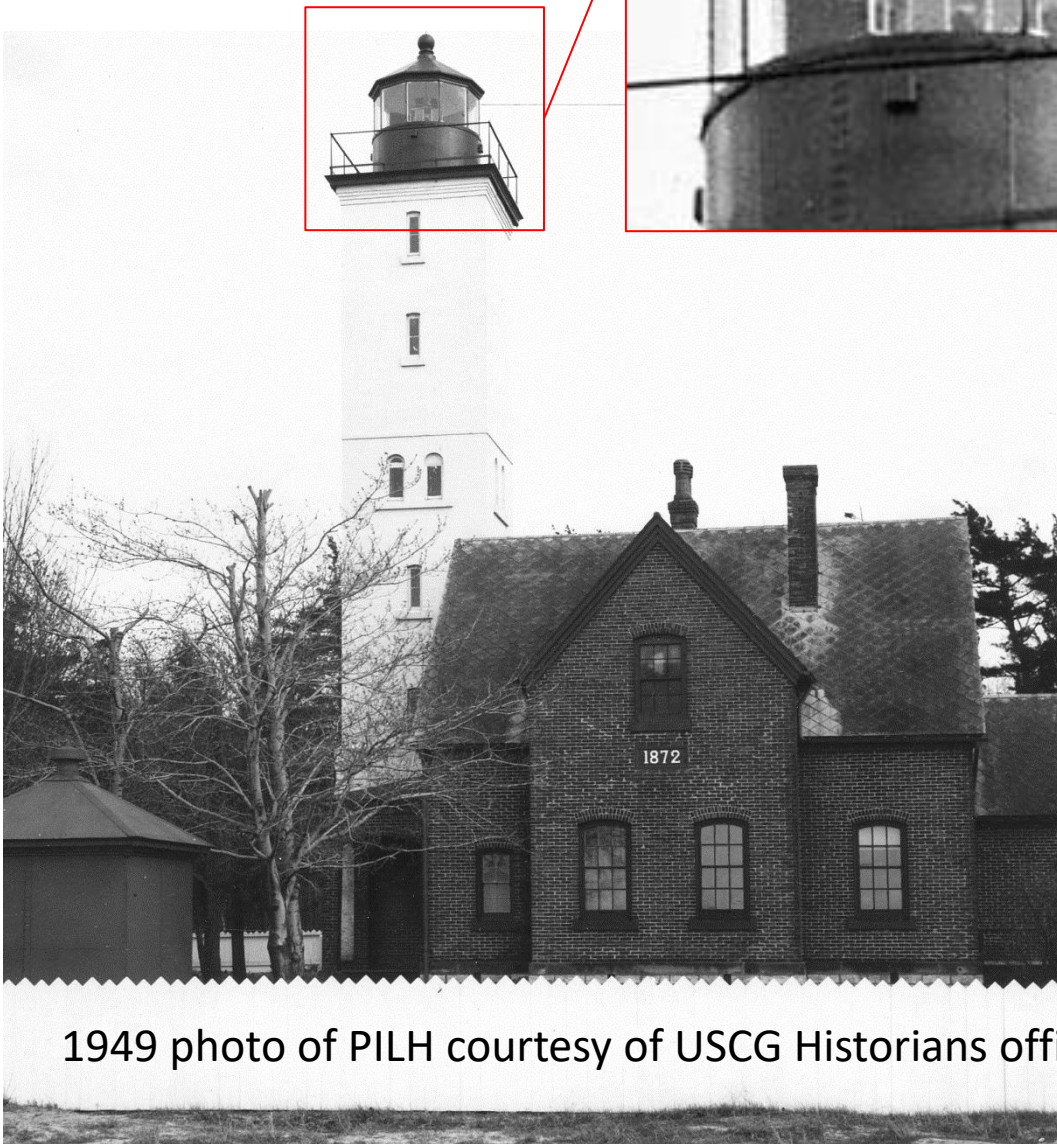
- 3D modeling courtesy of Jim Nesgoda
  - 3D modeling is a mathematical representation in 3 dimensions using specialized software.
  - Modeling of the PILH lens utilized technical dimensions from a fourth-order Fresnel lens profile engineering drawing.
  - Modeling of the PILH pedestal, gear and red glass panels utilized details observed from historical photographs.
- Fourth-order Fresnel lens profile details are courtesy of Dan Spinella of Artworks Florida
- Historic images of 1946 and 1949 PILH are courtesy of Erie Times News and United States Coast Guard (USGC) Historians Office
- Image of 12 flash panel, bulls-eye, fourth-order Fresnel lens is courtesy of USCG – Yorktown, VA and research from Dan Williams
- Image of Funck's improved fourth-order kerosene lamp - USCG is courtesy of The American Lighthouse Coordinating Committee (ALCC), American Lighthouse Lamp Identification and Description Listing

1946 PILH photo of the fourth-order, 12 flash panel, bulls-eye Fresnel lens and red glass panel assembly is courtesy of Erie Time News





Close up view of PILH  
lantern room with  
Fresnel lens and red  
glass panel assembly



1949 photo of PILH courtesy of USCG Historians office

Photo of fourth-order, 12 flash panel, bulls-eye Fresnel lens is courtesy of USCG Yorktown, VA. This lens has the same number of flash panels and bulls-eye lens characteristics as the 1882 PILH lens







3D model of fourth-order,  
12 flash panel, bulls-eye Fresnel lens  
representative of PILH



Comparison of photo and  
3D model of Fresnel lens

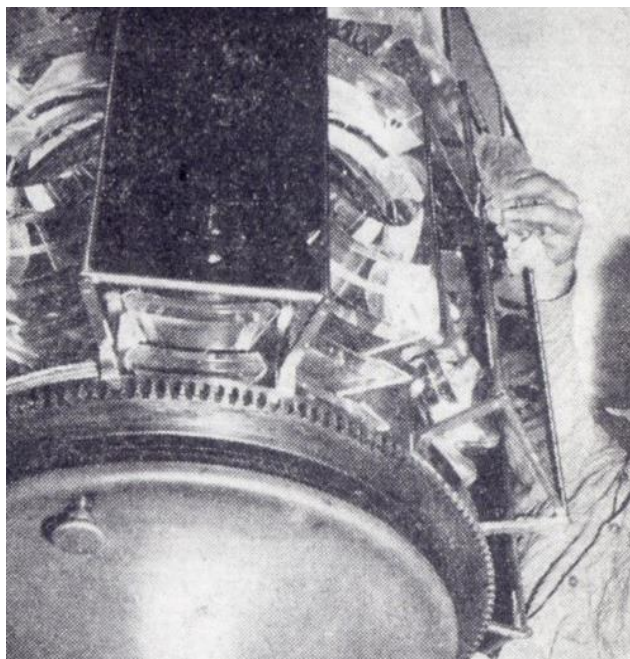
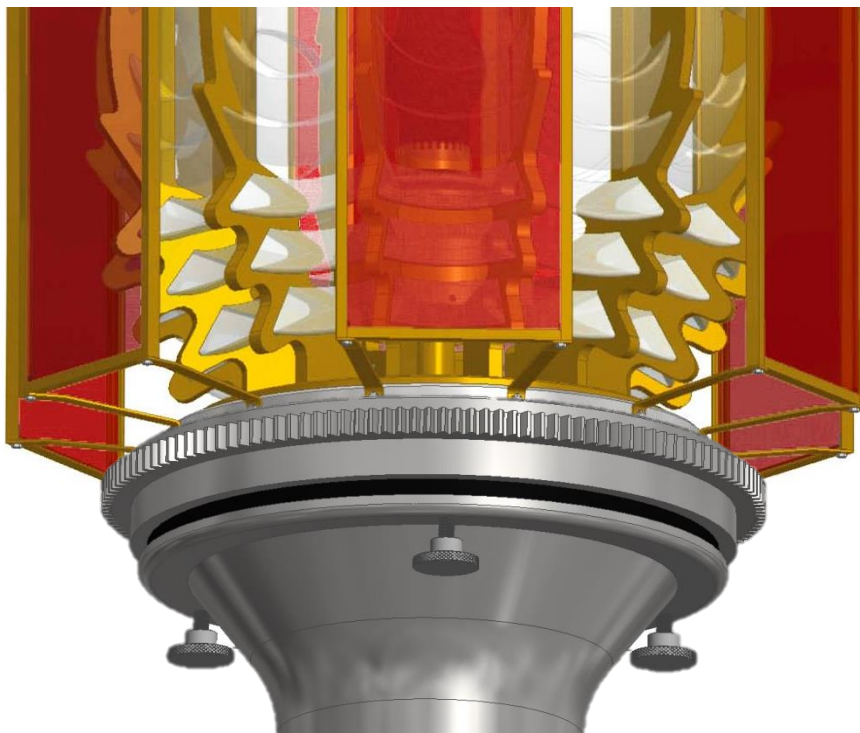




Lens with fourth-order  
kerosene lamp



Comparison of 1946 photo  
and 3D model of PILH lens  
assembly from similar vantage points



# Composite model of 1882 PILH Fresnel lens with red glass characteristic panels





# Model of Funck's improved USCG 1888 fourth-order kerosene lamp

