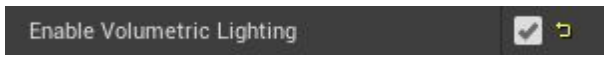
Unreal Engine 4 Volumetric Lighting Overview

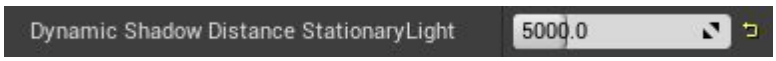
How to enable volumetric lighting at UE4? You should have at least one light and one postprocessing volume at the world. Then making the following changes:

Light Component

- Directional light, spot light and point light are supported.
- Check 

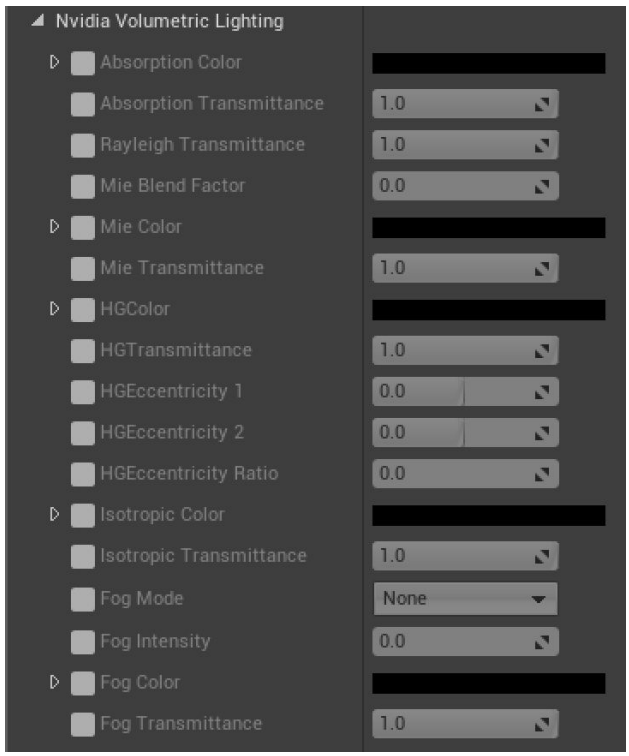
and 

.
- Check 

- NOTE:
    - The dynamic shadows are requested, so you had 2 options for the directional light
        - Movable light
        - Stationary light with
        

        -
    - Only the movable light was allowed for the spot and point light.

Postprocessing Volume



- Setup the volume shape and size or set it unbound.
- Design the medium combination, if you didn't know about the medium, check **MediumDesign.pdf**
    - Set the color and transmittance both.
    - Density formula:

      $$Density = -ln(Transmittance \times Range + (1 - Range)) \times Color \times Scale$$

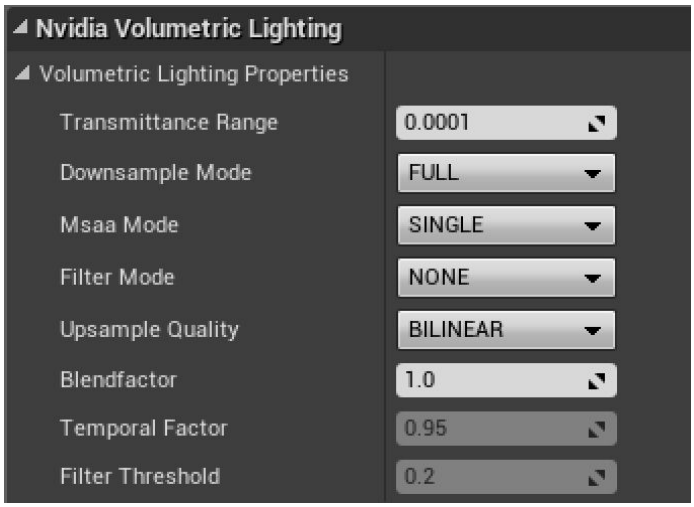
      $$Range \in [0, 1]$$

      $$Transmittance \in [0, 1]$$

      Range was defined by WorldSettings.

      Scale was defined by Console Commands.
    - Support 2 conditions
        - Simple scattering: [Rayleigh] + [Mie]
        - Three parameter scattering: [Rayleigh] + [Isotropic] + [Henyey-Greenstein]
- Multiple volumes are supported. The medium will be blended when switching the volumes.

World Settings



You could change the performance and the anti-aliasing by selecting the different modes there.

VR Rendering

Volumetric Lighting supports VR rendering by default.
If you wanted it working with **Nvidia VRWorks UE4 branch**, enable the macro **VRWORKS_SUPPORT** at NVVolumetricLightingRendering.cpp.

Console Commands

- r.NvVl

  Read-only. Add or remove the volumetric lighting feature. Restart required.

- r.NvVl.Enable

  Enable/Disable the volumetric lighting rendering.

- r.NvVl.DebugMode

  Debug mode: 0 - no debug, 1 - wireframe mode, 2 - the volumetric lighting without the scene color

- r.NvVl.ScatterScale

  Scale all the density of the medium phases. Default 1.0.

- r.NvVl.Fog

  Enable/Disable the fog (if have) on the scattering

- r.NvVl.SPS

  Enable/Disable Single-Pass Stereo (if you had Pascal GPU) for the volumetric lighting