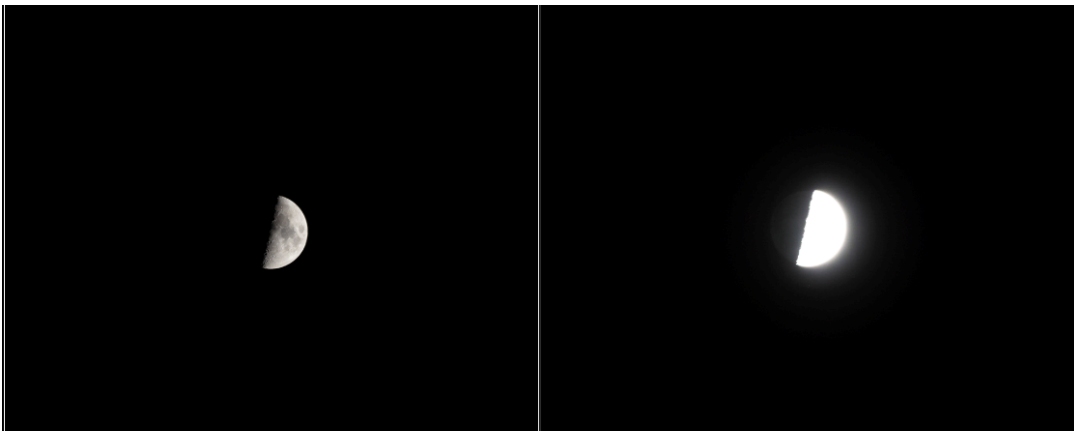# How to Produce the HDR Moon Effect

1. Start with two moon images taken on a tripod, that look basically like this:

2. Clean up proper exposure, so perhaps reduce blue, highlights, and noise.
3. Switch the properly exposed image to auto white balance. Note the decimal values (ex: 4740, 0).
4. On the over exposed image, change its WB temp/tint to match (ex: 4740,0).
5. Increase, as needed, highlights on the over exposed image to add "glow".
6. Zoom in on glow area to right on over exposed image and reduce noise (ex: 50).
7. Select both images in LR, right click, and choose EDIT IN>OPEN AS LAYERS in Photoshop (PS).
8. In the layers tool, make sure the over exposed image is below the properly exposed image.
9. Select the top/properly exposed layer, lower OPACITY to 50%.
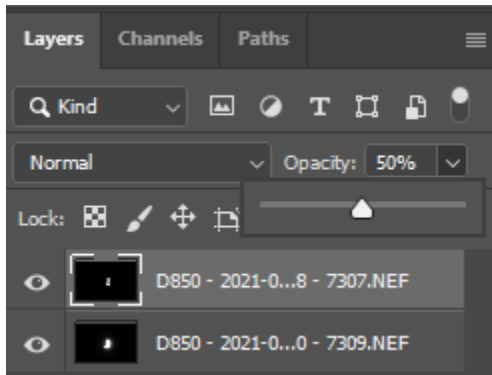
10. Use the move tool to align the two moon images. If necessary, leave PS and resize the clean moon so it will totally cover the glowing moon.
11. Raise opacity back to 100%.
12. Press ADD LAYER MASK button (circle inside a square).
13. Choose gradient tool, pull down gradients and be sure BASICS and the first gradient is chosen.
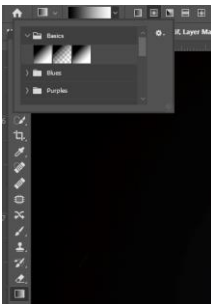
14. Click/Drag the gradient tool "line" from outside upper left of the dark side, across it's middle and into the edge of the light side.
15. Create a new Adjustment layer and choose brightness/contrast.
16. Since it affects the layers below it, move it between the two moon image layers. That will now affect only the glowing moon layer. Adjust it up a bit (ex: B/20 and C/9).
17. Click normal moon layer (left icon of image on that layer row), add another adjustment layer to it, and choose brightness/contrast again.
18. Hold ALT and hover the mouse between the normal moon and the new adjustment layer until a down arrow and square appear, then click. This locks the top two layers together, otherwise the adjustment layer will affect all layers.
19. You can now adjust each layer with it's adjustment layer without affect the other layer.
20. Create a stamp visible layer, CTRL+SHIFT+ALT+E. That takes all visible components and stamps it into a new layer. Since it's on top, you could hide all the lower layers, and nothing will change. Unhide all the hidden layers.
21. Want to cut out just the circle of the moon. Make sure Rulers (CTRL R) are visible. Click on the top Ruler and drag a guideline down and leave it on the top edge of the moon.
22. Create a second guideline by clicking the left ruler and pulling it over to the edge of the moon.
23. Choose the elliptical marquee tool and place it's cross hairs on the intersection of your guidelines.
24. Drag the new circle down until it completely covers the moon.
25. Create a new mask layer on that newest layer.
26. Make all lower layers hidden except the lower base layer.

27. If the white glow sticks out, unmagnify until edges of layers are visible, click on the lowest base layer and resize its image box/size until the glow of the moon is hidden.
28. Choose VIEW>CLEAR GUIDES.
29. Choose crop and discard the rough edges and make the image squarer.
30. Select CROP tool and on the ribbon input 1 and 1 for square aspects.
31. Pull the crop edges smaller to eliminate the unwanted background and edges.
32. If the glow is too bright, create a new layer mask on the bottom layer (appears above it), then adjust the brightness or contrast to adjust the glow.
33. You could also use an image of a full moon to put into the dark side to produce a lot more detail in the dark.
34. You could also composite your result onto a background of stars.
35. Add a full moon layer at the beginning. Rename your layers to signify star backdrop, full moon, quarter moon, and glow moon.
36. The moon wobbles a bit by date, so make quarter and full only visible under layers and make sure they are separated from each other a lot. Use the free transform (CTRL T) of the quarter moon to rotate it until the surface features exactly match.
37. Then lay the quarter on top of the full moon.
38. Use guides and cut out the merged full/quarter moon with the elliptical. Move the glow layer with free transform to line it up and hide it behind again.
39. Crop out to square again.
40. Bring star layer to the top. Change its layer blend mode to LIGHTEN. Create another layer mask, use a black brush, 100% opacity, normal blend mode, then remove them from the moon area.

Using a full moon, half moon, and a blown out over exposed moon: