

How to Create a Realistic IES Lighting Effect in Photoshop

Nov 13th in [Effects](#) by [Keith Sereby](#)

In this tutorial, I'll show you how to create a realistic IES (photometric) lighting effect. We'll be using Photoshop CS4 as well as some free plugins and software. Let's



get started!

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My name is Keith Sereby, and I'm a graphic designer living in the United States. I've been in the field for 20 years and am currently the Creative Director at a Web design company in my home state.

Final Image Preview

Take a look at the image we'll be creating. Want access to the full PSD files and downloadable copies of every tutorial, including this one? Join [Psd Plus](#) for just \$9/month. You can view the final image preview below.

Tutorial Preparation

In order to complete this tutorial you'll need the following software:

- **Photoshop CS4**



- **Karbaras's IES Generator 3** ([Download](#))
- **Richard Rosenman's Grid Generator 1.7 Plug-in**
- **Cybia AlphaWorks Plug-in** ([Download](#))
- **1589835-nice.IES Profile** ([Download](#))

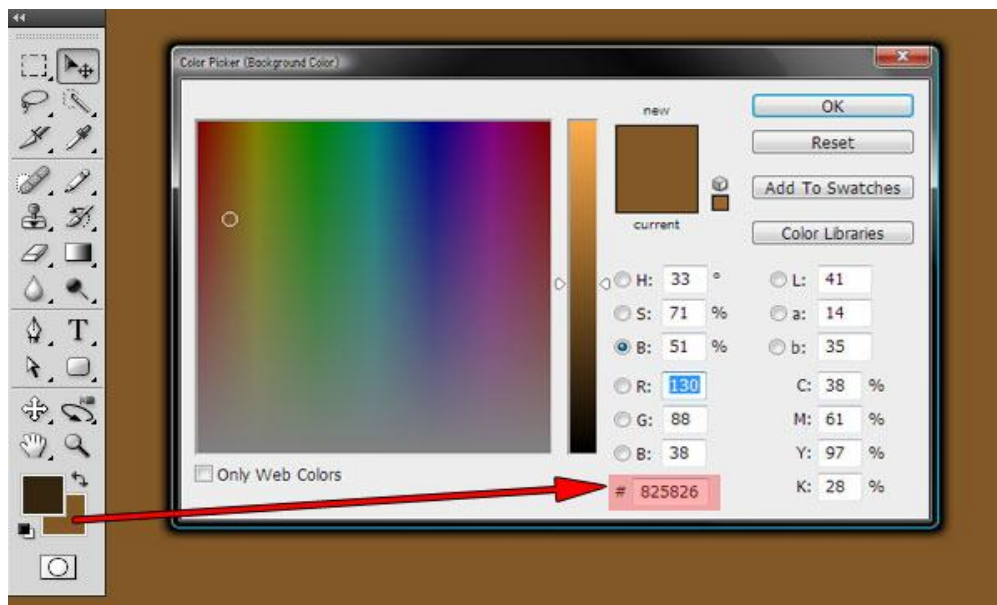
Prior to beginning the tutorial, make sure you have installed the Grid Generator and the AlphaWorks Photoshop plug-ins, and that you've downloaded Karbaras's IES Generator (a standalone app) and the 1589835-nice.IES profile.

Step 1: Setting Up the Texture PSD

This PSD will serve as a place to create certain textures used in the final layout. I find it helpful to create textures in a separate document. It's like a sandbox for experimentation.

Make a new document in Photoshop that is 1024px wide by 1024px high at 72dpi.

Set the foreground color to #34240f by clicking the topmost color swatch in the Tools palette and entering this number at the bottom of the Color Picker dialog box. Set the background color by the same method to #825826. Fill the "Background" layer with this color by pressing Command + Backspace.



Step 2: Making the Corkboard Texture

Now go to Filter > Distort > Glass. In the Glass filter dialog box, set Distortion to 15, Smoothness to 1, Texture to Frosted and Scaling to 100%. Click OK.

Go to Filter > Render > Fibers. In the Fibers filter dialog box set Variance to 8.0 and Strength to 47.0. You will probably need to click the Randomize button several times to get a texture that has an even distribution of Step 1's foreground and background colors. The best way to get a feel for the overall effect is to reduce the magnification

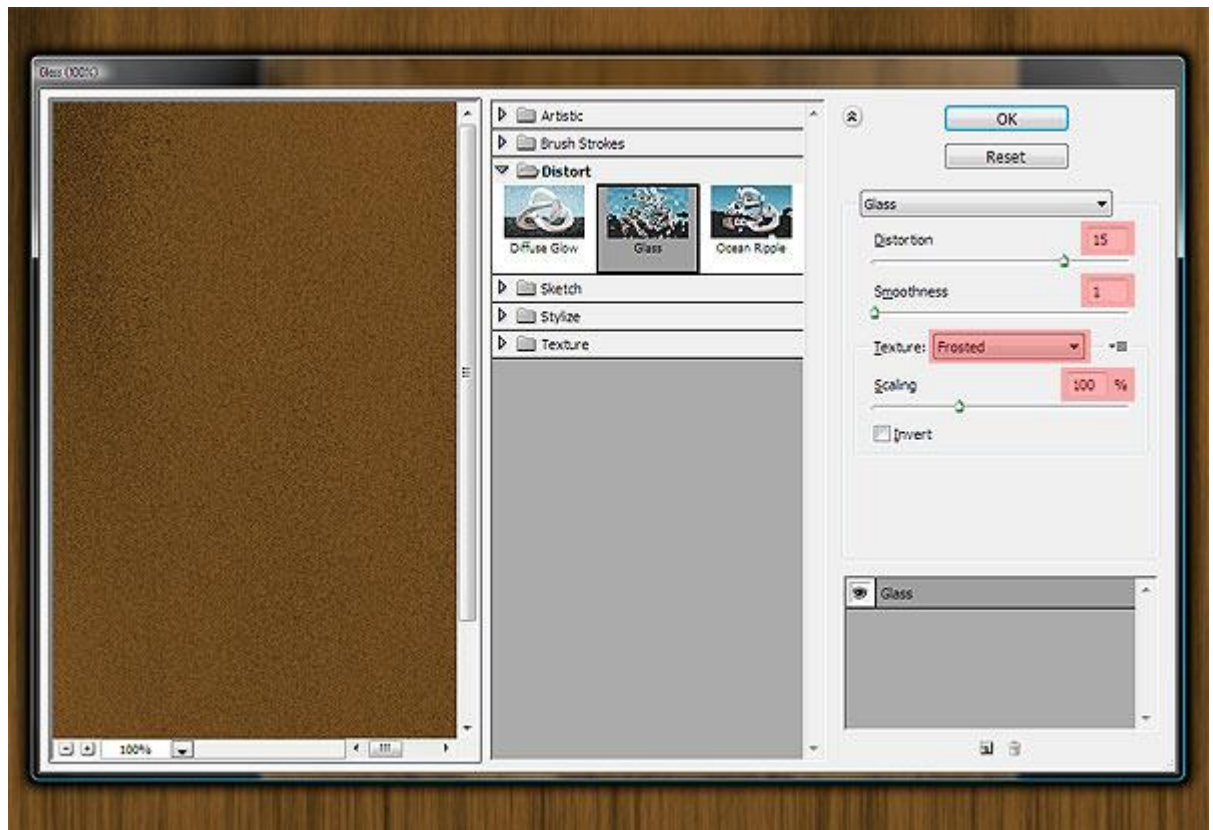
of the preview image by clicking the minus sign below it until the minimum is reached, in this case 16%.



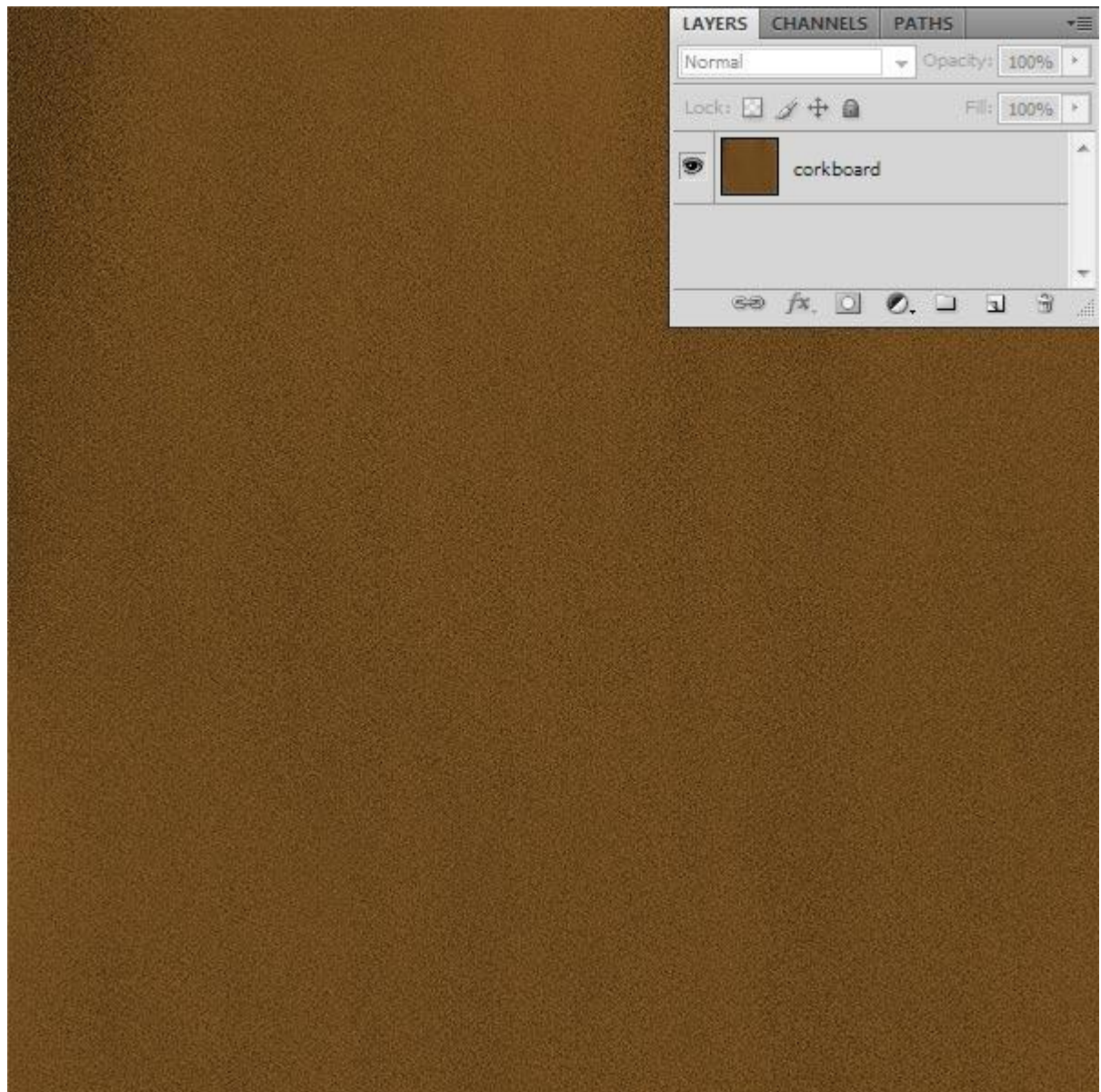
When done, click OK. The result will be similar to this:



Now go to Filter > Distort > Glass. In the Glass filter dialog box, set Distortion to 15, Smoothness to 1, Texture to Frosted and Scaling to 100%. Click OK.



Name this layer "corkboard." The result will be similar to this:

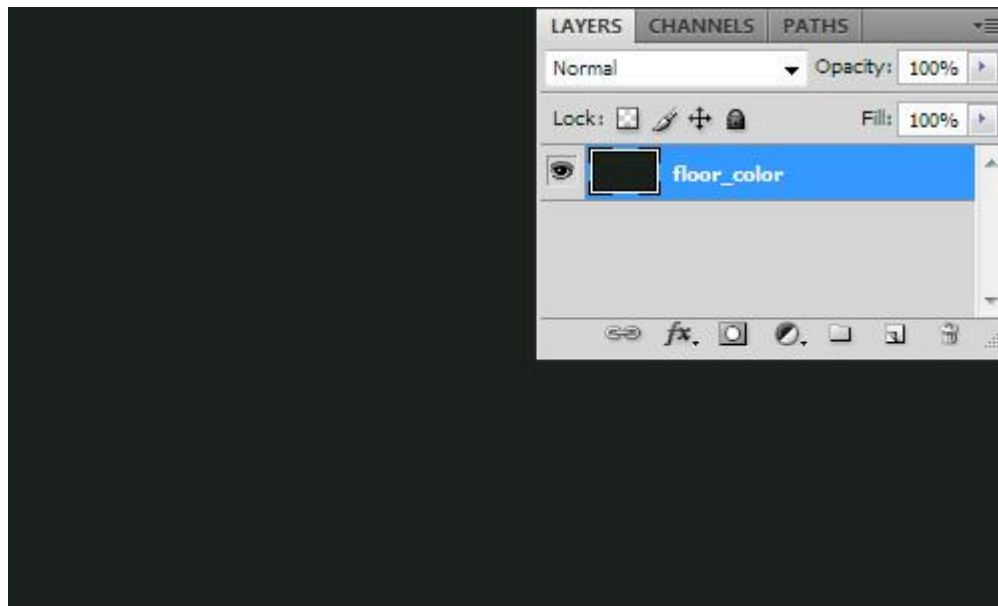


The corkboard texture is complete. Save the PSD as "textures.psd" but don't close it.

Step 3: Setting up the Main Layout

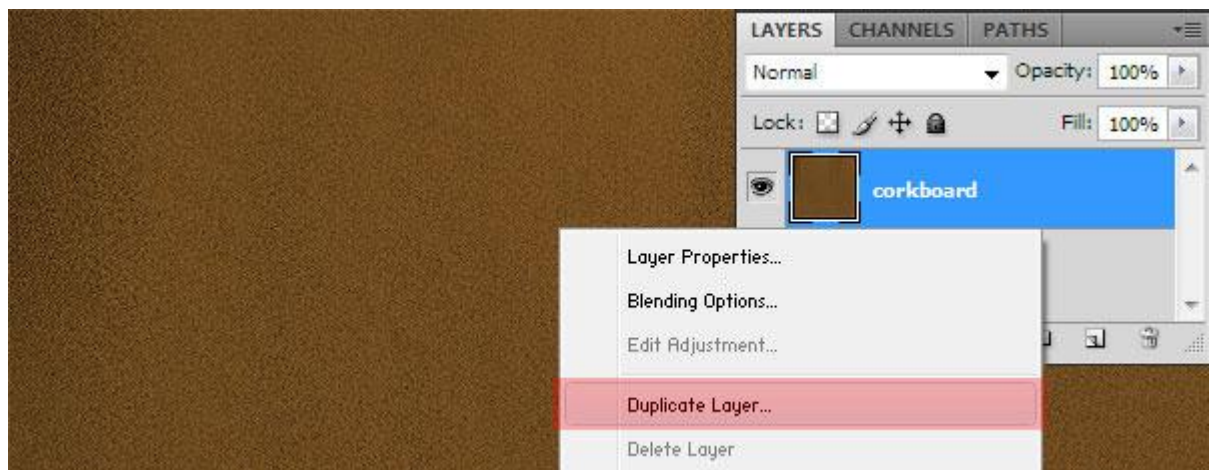
Create a new document that is 500px wide by 300px high at 72dpi. These dimensions are arbitrary and meant for the tutorial only. Save this document as "main_layout.psd."

Rename the "Background" layer to "floor_color" and fill it with #1a211c. This can be accomplished by setting the foreground color in the Tools palette to #1a211c and pressing Alt + Backspace.

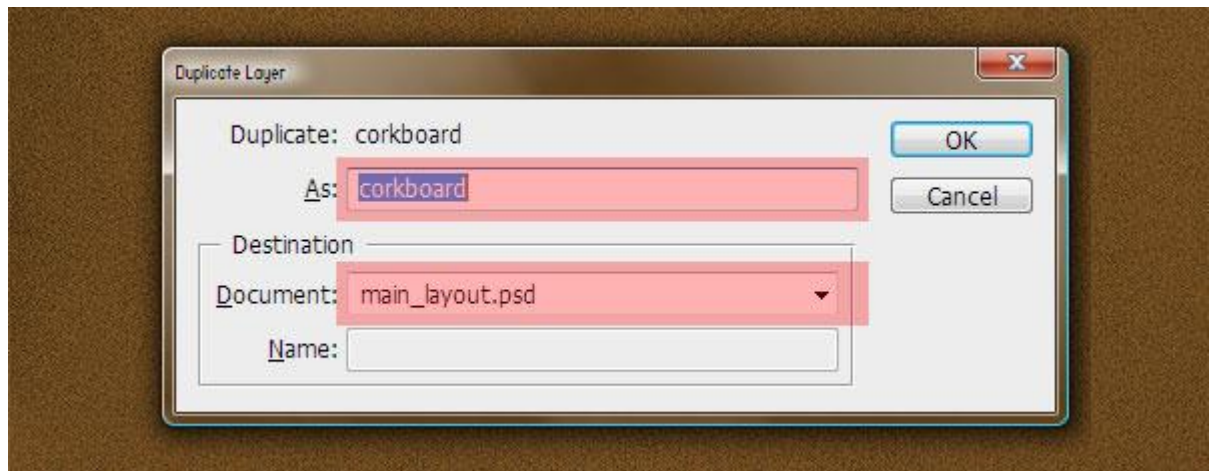


Step 4: Bringing in the Corkboard Texture

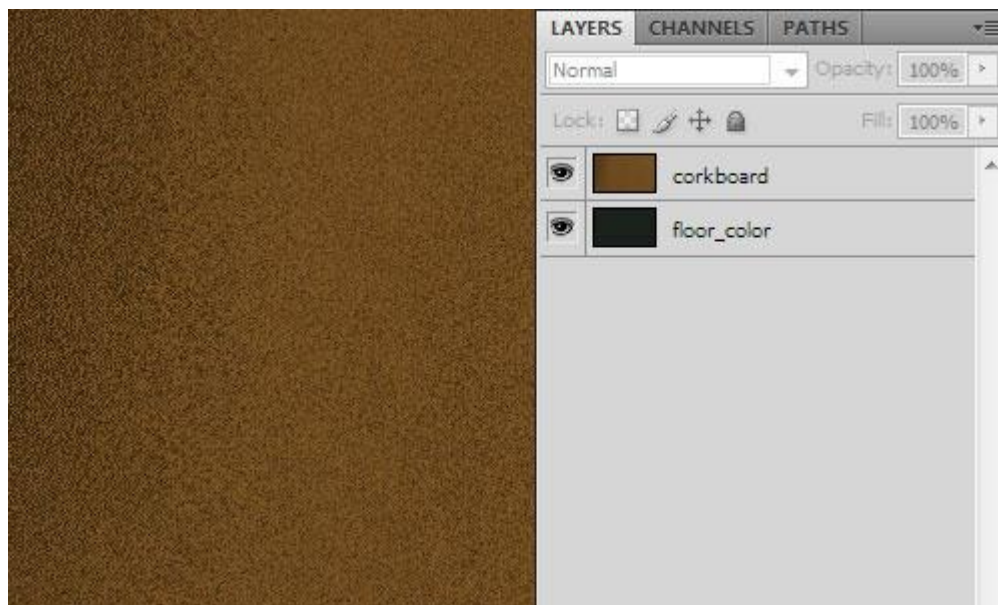
Go back to the "textures.psd" document. Right-click the "corkboard" layer and select "Duplicate Layer..." from the contextual menu.



In the resulting dialog, name the copied layer "corkboard" and select "main_layout.psd" as the destination document.



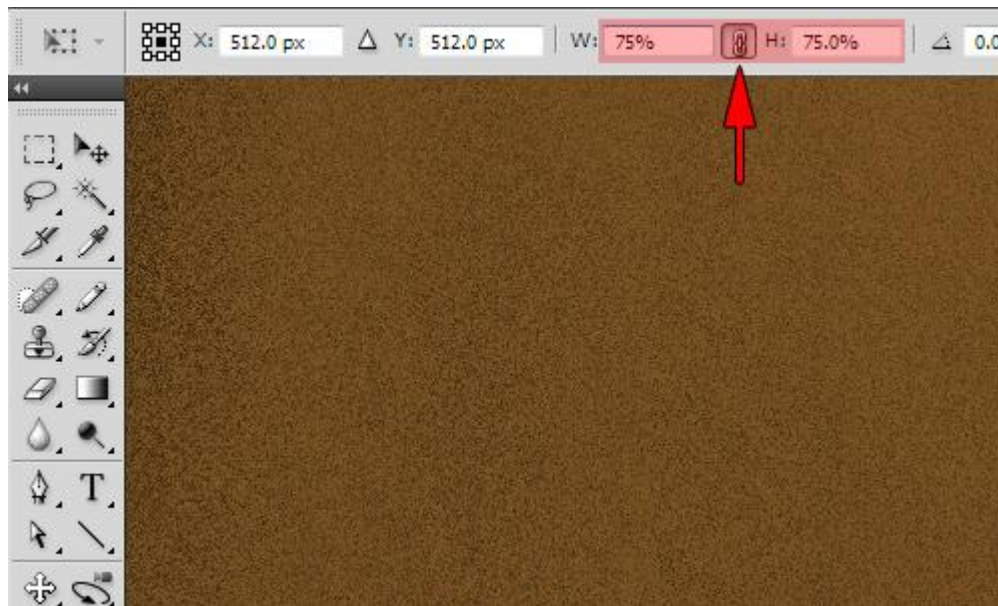
Go back to the "main_layout.psd" document. The new "corkboard" texture layer should appear above the "floor_color" layer.



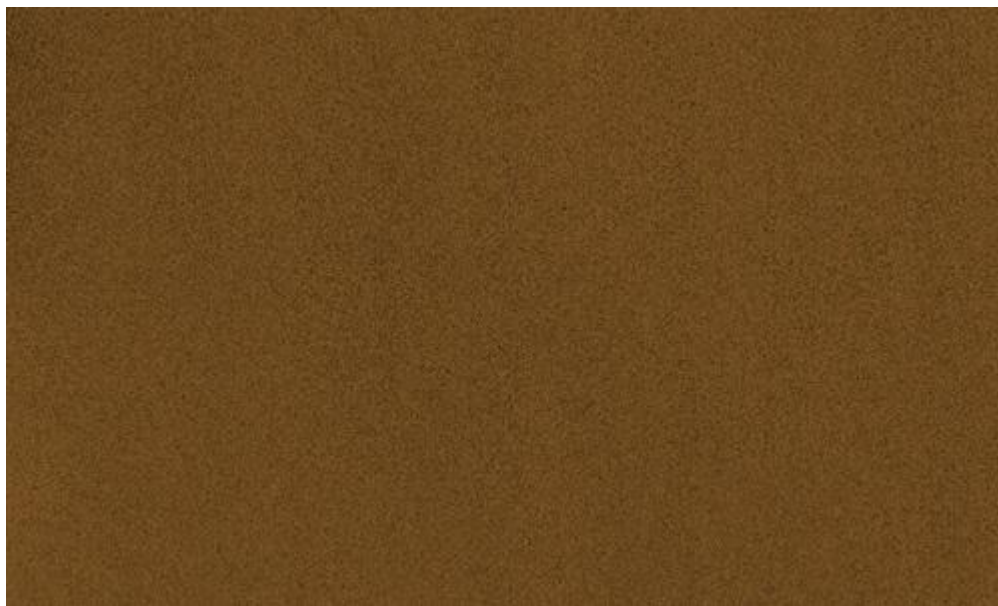
Step 5: Resizing and Repositioning the Corkboard Texture

With the "corkboard" layer selected in the Layers palette, press Command + T, the keyboard shortcut for the Edit > Transform > Scale command. In the Transform Tool Options palette click the Maintain Aspect Ratio icon (noted with a red arrow in the image below) between the width and height fields, and enter 75.00% for the width. Press Enter twice and the transform will be complete.

Clicking the "Maintain aspect ratio" icon ensures that the layer will be scaled equally in both directions. Alternatively, 75.00% can be entered in both fields without clicking the icon; the result would be the same.



The scaling operation will cause the texture layer to shift out of position so that it's located awkwardly in the lower right of the layout. With the "corkboard" layer selected, use the Move tool (V) and drag the texture around until it's in a position that looks pleasing, without great variations in tone across the layout:

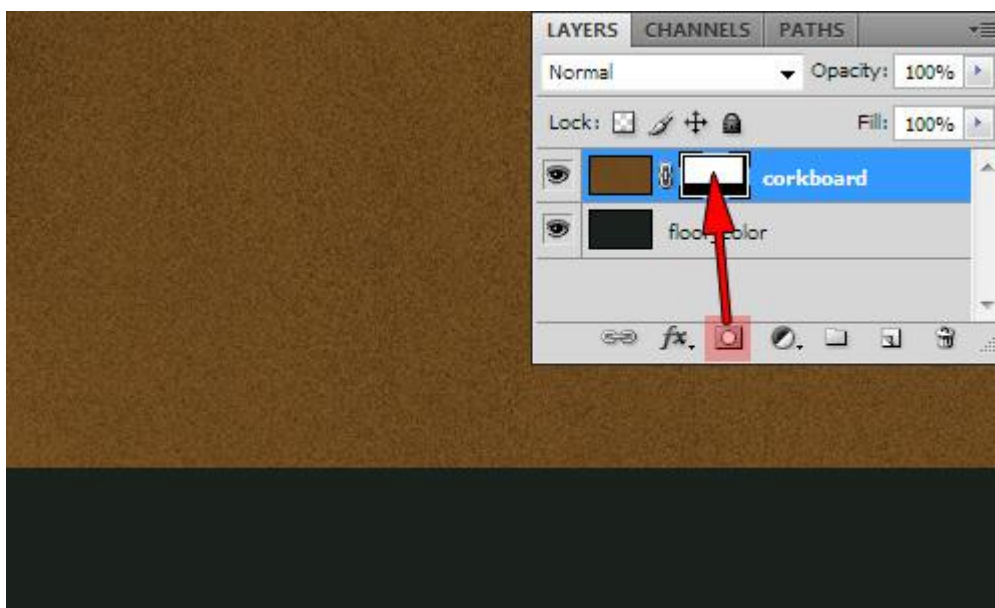


Step 6: Revealing the Floor Layer and Adjusting the Corkboard Color

With the "corkboard" layer selected use the Rectangular Marquee tool (M) to select a region that is 500px wide by about 230px high, starting at the upper left of the layout.

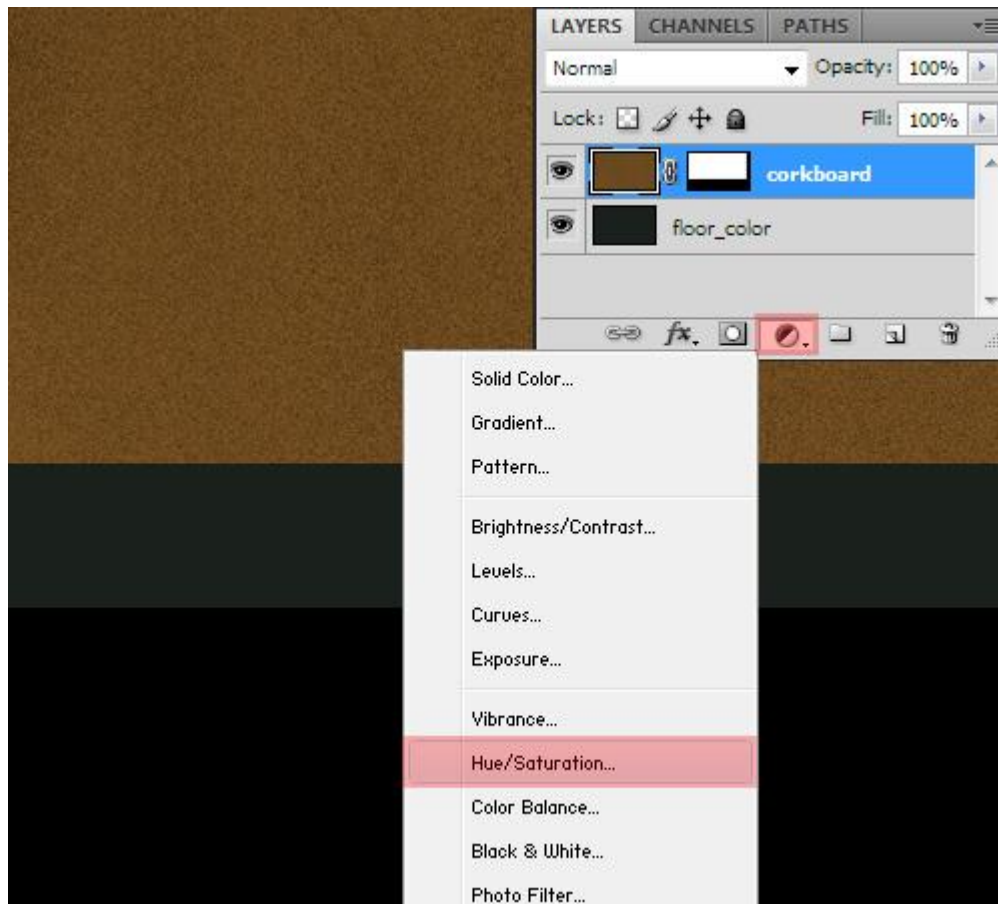


Click the Add Layer Mask button at the bottom of the Layers palette. This will add a mask to the texture layer, hiding the layer's pixels outside of the selection.



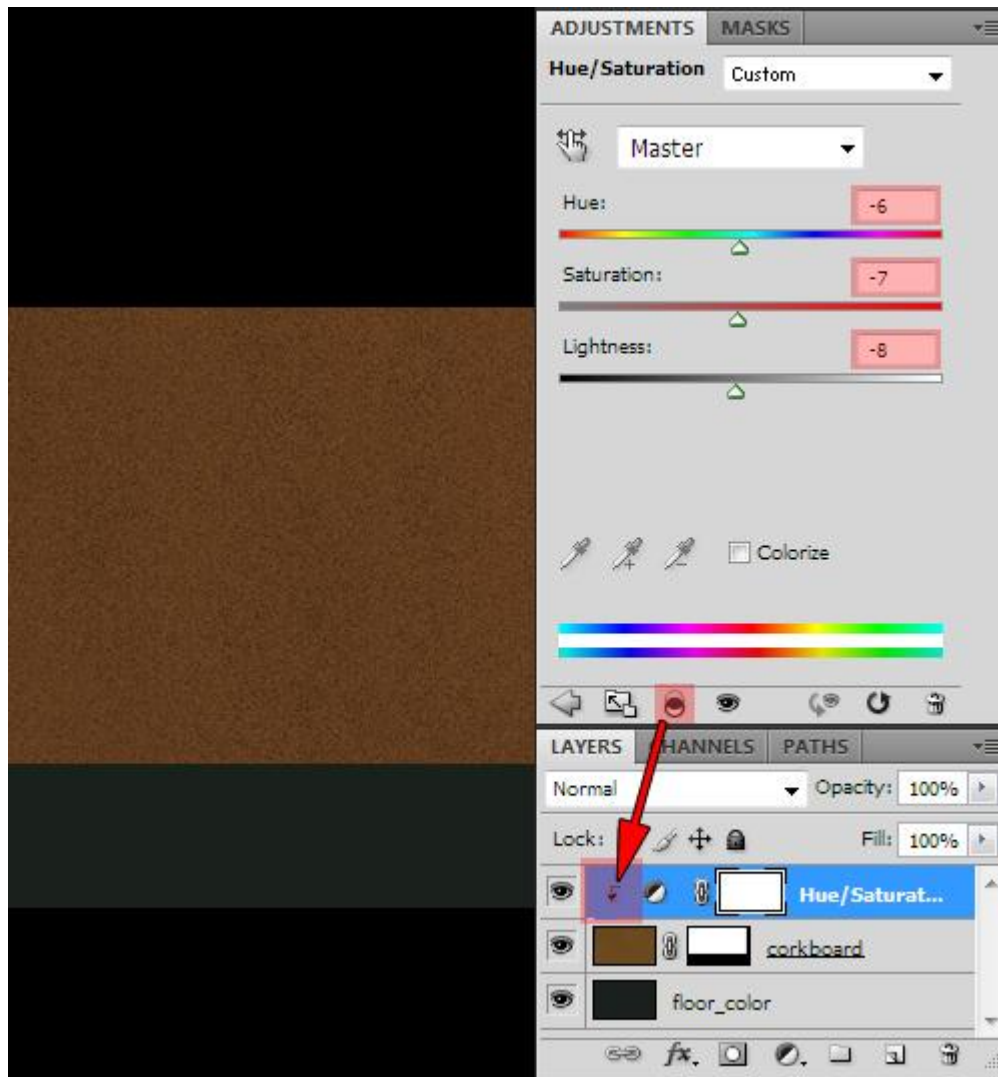
With the floor color revealed, the corkboard texture looks a bit oversaturated. This can be corrected using Adjustment Layers.

Select the "corkboard" layer. At the bottom of the Layers palette, click the "Create new fill or adjustment layer" icon, and select Hue/Saturation.



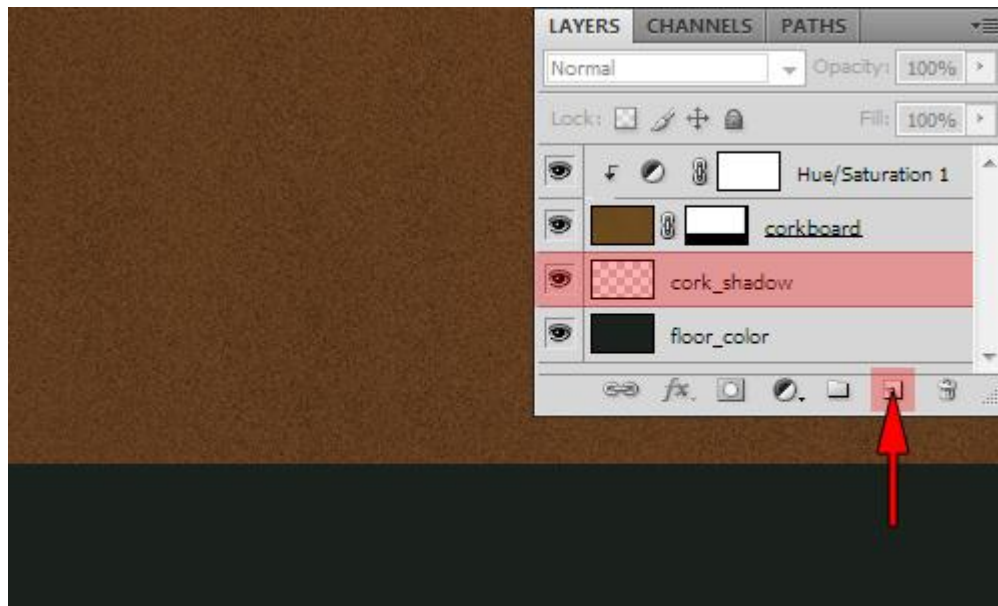
In the Adjustments palette, set Hue to -6, Saturation to -7 and Lightness to -8.

Also, so that the Adjustment layer only affects the "corkboard" texture layer, click the Clip To Layer icon at the bottom of the Adjustments palette (it looks like two intersecting circles stacked one on top of the other). This causes the Adjustment layer to affect only the layer directly below it in the Layers palette, which is indicated in the Layers palette by a downward-pointing arrow on the "Hue Saturation" layer; the name of the layer below it will be underlined.

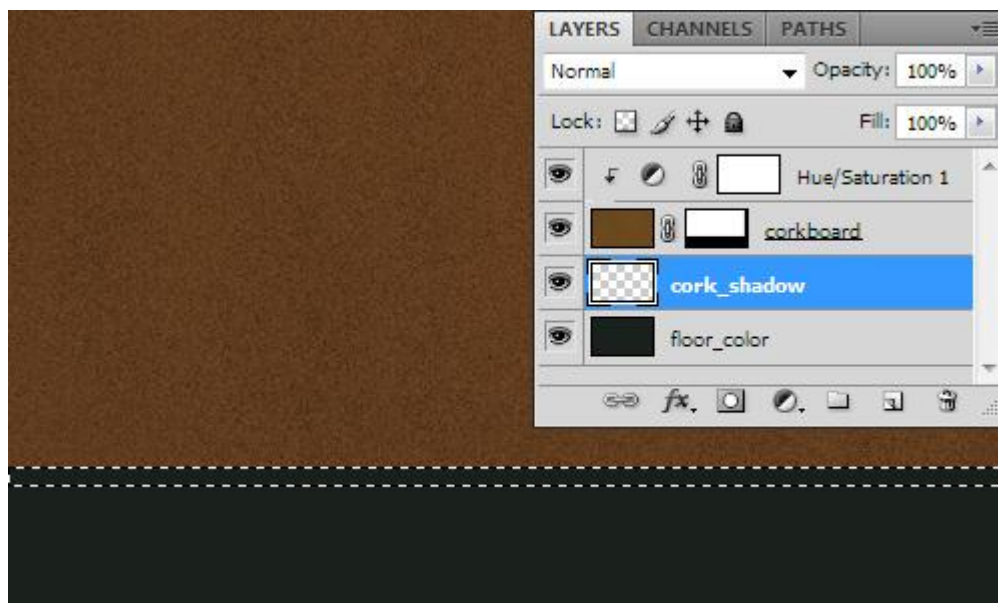


Step 7: Adding a Shadow Beneath the Corkboard

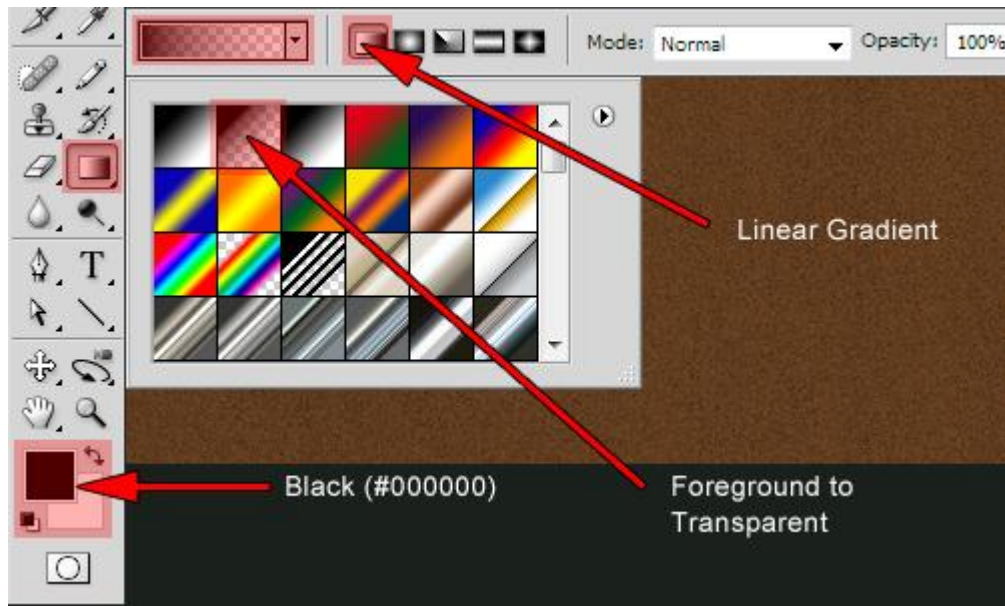
Make a new layer above the "floor_color" layer by clicking the Create New Layer icon at the bottom of the Layers palette (indicated by a red arrow in the image below). Once the new layer is created, move it directly above the "floor_color" layer and rename it to "cork_shadow." Layers are rearranged in the Layers palette by clicking and dragging them into position above or below other layers.



With the "cork_shadow" layer selected, use the Rectangular Marquee tool (M) to make a selection region 500px wide by 10px high starting at the bottom of the cork texture.



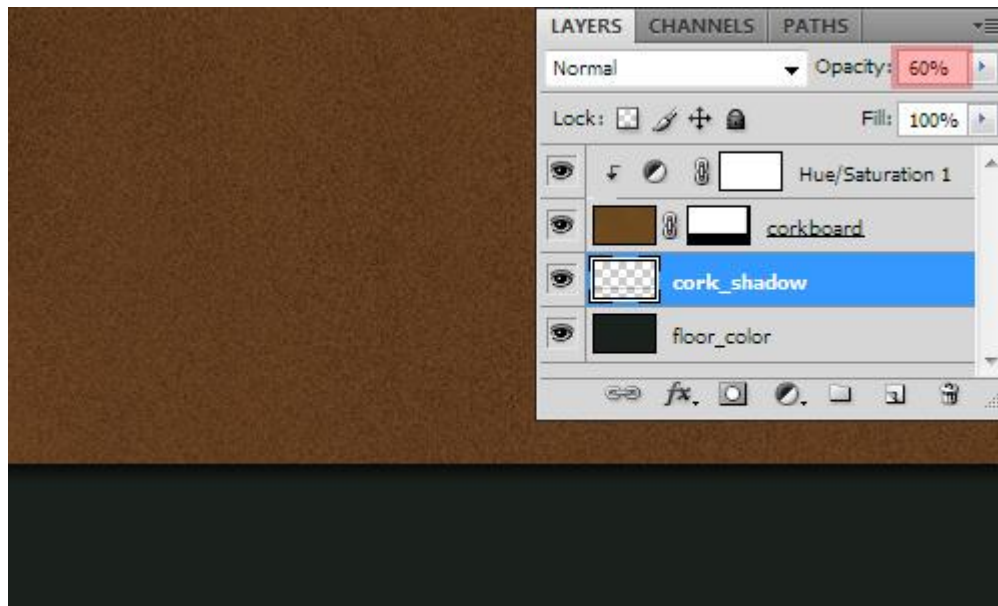
Change the foreground color to black by pressing D on the keyboard (this resets the color swatches in the Tools palette to the default black foreground and white background). Next, select the Gradient tool (G). In the Gradient Tool Options palette, select the gradient preset Foreground to Transparent and the type Linear Gradient.



To be accurate, zoom in on the selection. Starting at the top of the selection, click and Shift-drag (hold the Shift key while dragging) to the bottom. In this case, Shift-dragging will constrain the Gradient Tool to the X-axis, so that the gradient is at a perfect 90-degree angle. When done, press Command +D to deselect the region.

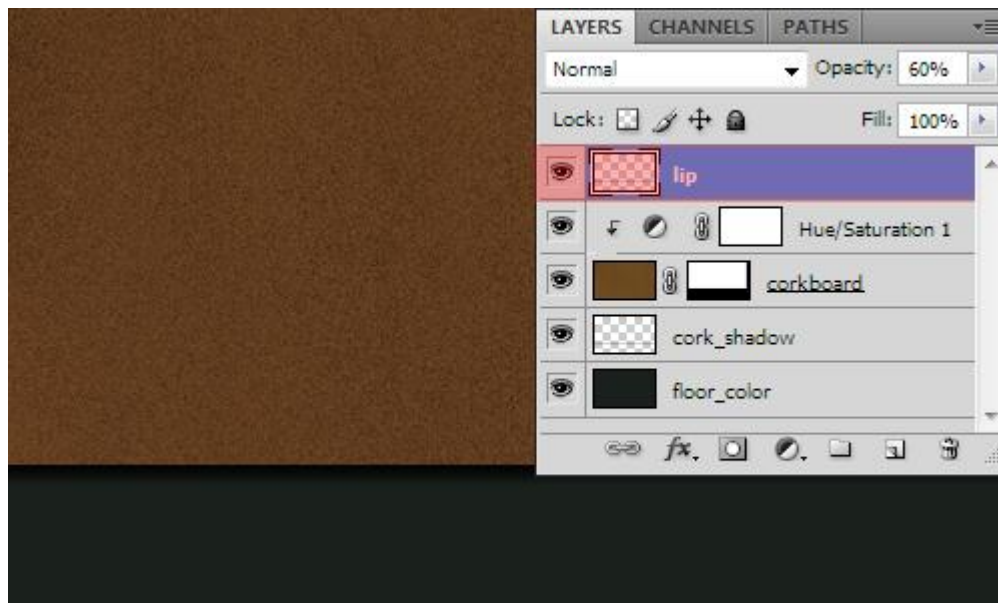


Change the opacity for this layer to 60%. Do this either by pressing 6 on the keyboard or entering the value directly in the Master Opacity box for the layer in the Layers palette.

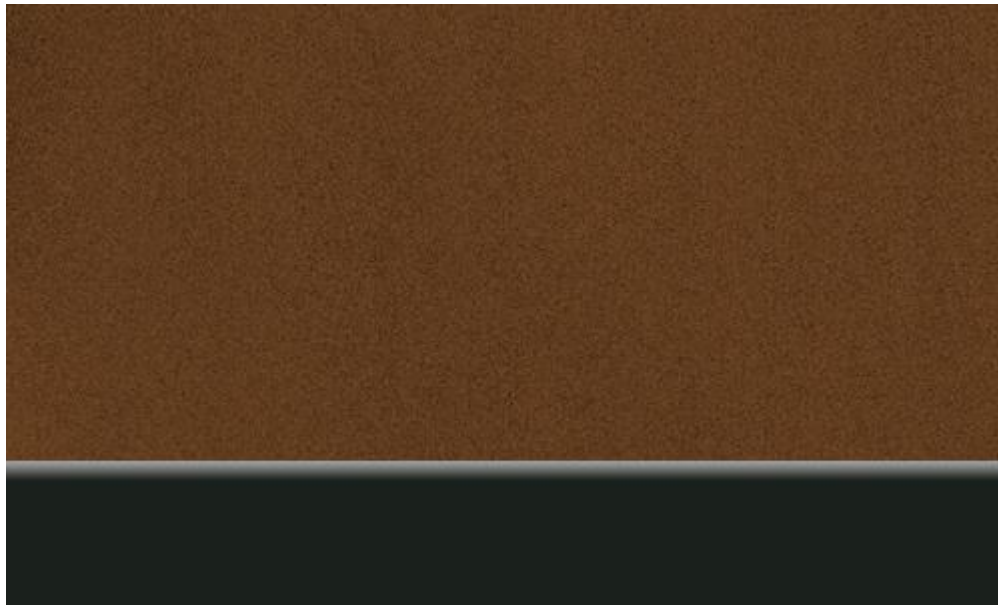


Step 8: Adding a Lip on the Corkboard

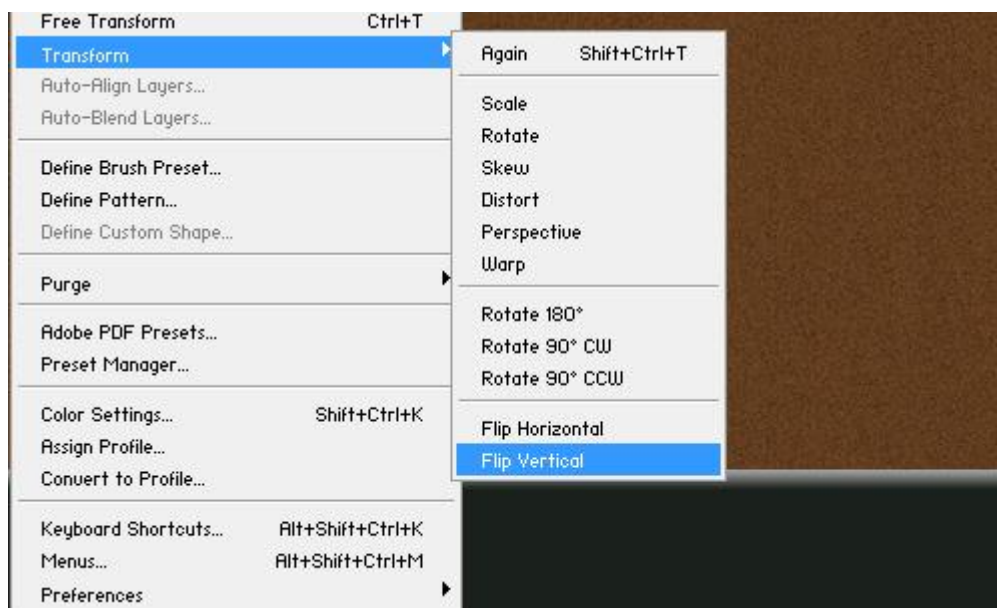
With the "cork_shadow" layer selected, press Command +J to duplicate it. In the Layers palette, drag the copied layer (automatically named "cork_shadow copy") to the top of all other layers. Rename this layer "lip.".



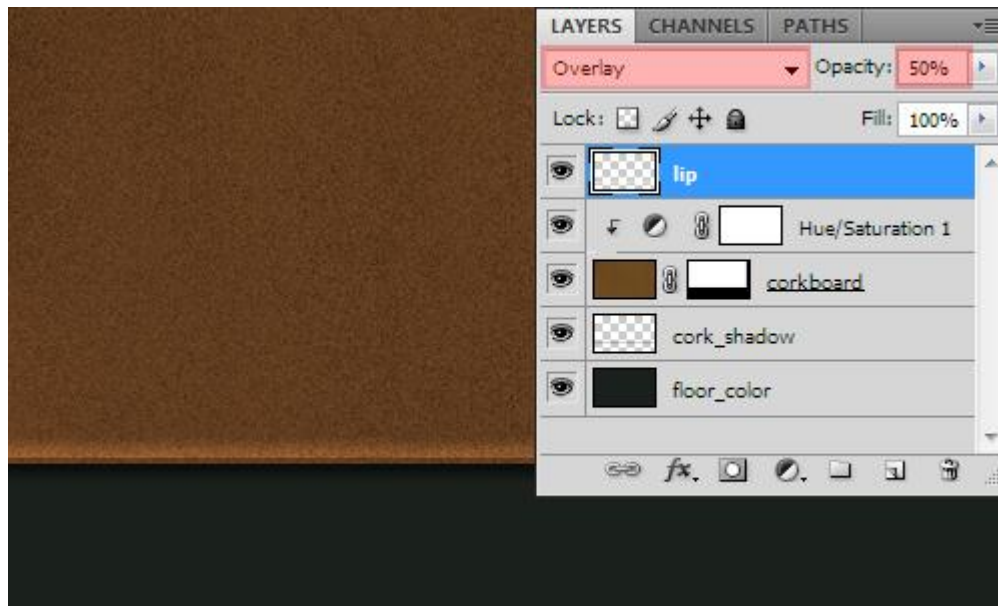
Make sure the "lip" layer is selected and invert the color of the layer pixels by pressing Command +I. Now it will be a white-to-transparent gradient.



Flip the layer vertically by going to Edit > Transform > Flip Vertical.



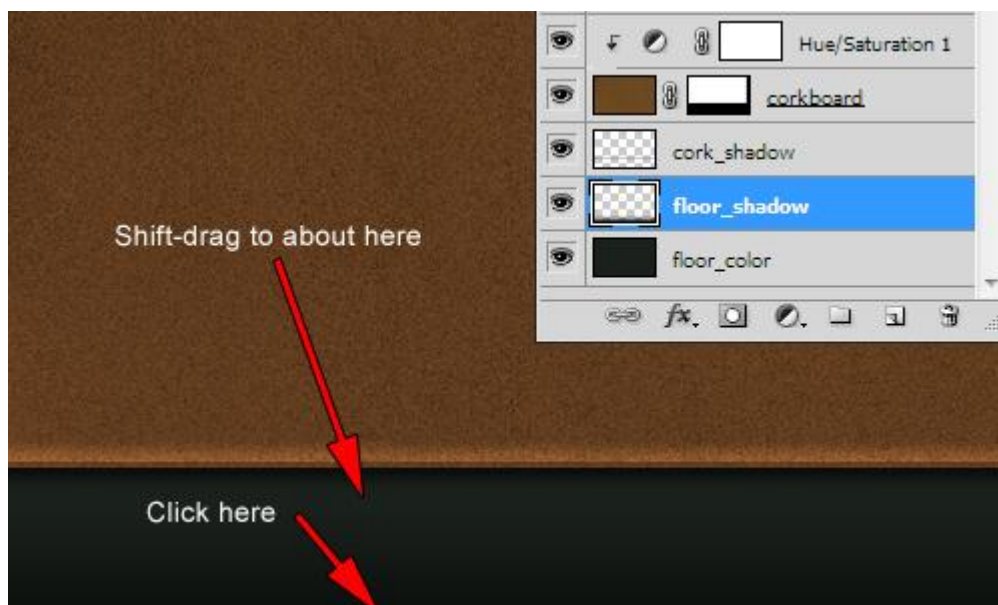
Nudge the layer up 9px by pressing Command + Up Arrow nine times. Now change the layer blending mode to Overlay and change the layer opacity to 50%.



Step 9: Adding a Shadow to the Floor

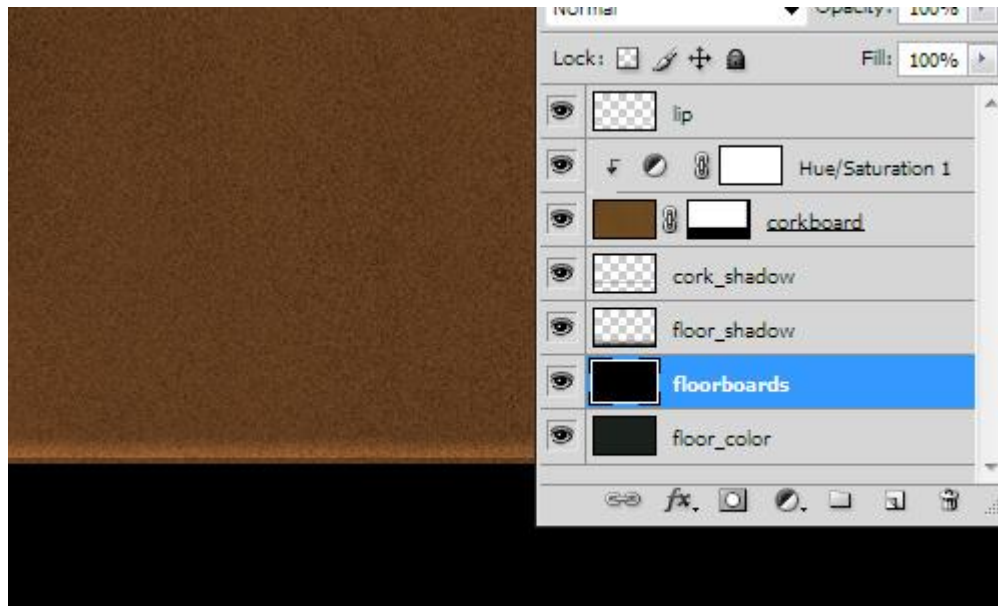
Make a new layer above the "floor_color" layer and name it "floor_shadow." Make sure the foreground color in the Tools palette is black.

Using the Gradient tool (G) with the "floor_shadow" layer selected, click at the bottom of the layout and Shift-drag to about three-quarters of the way up to the bottom of the corkboard. Finally, change the layer opacity to 50%.

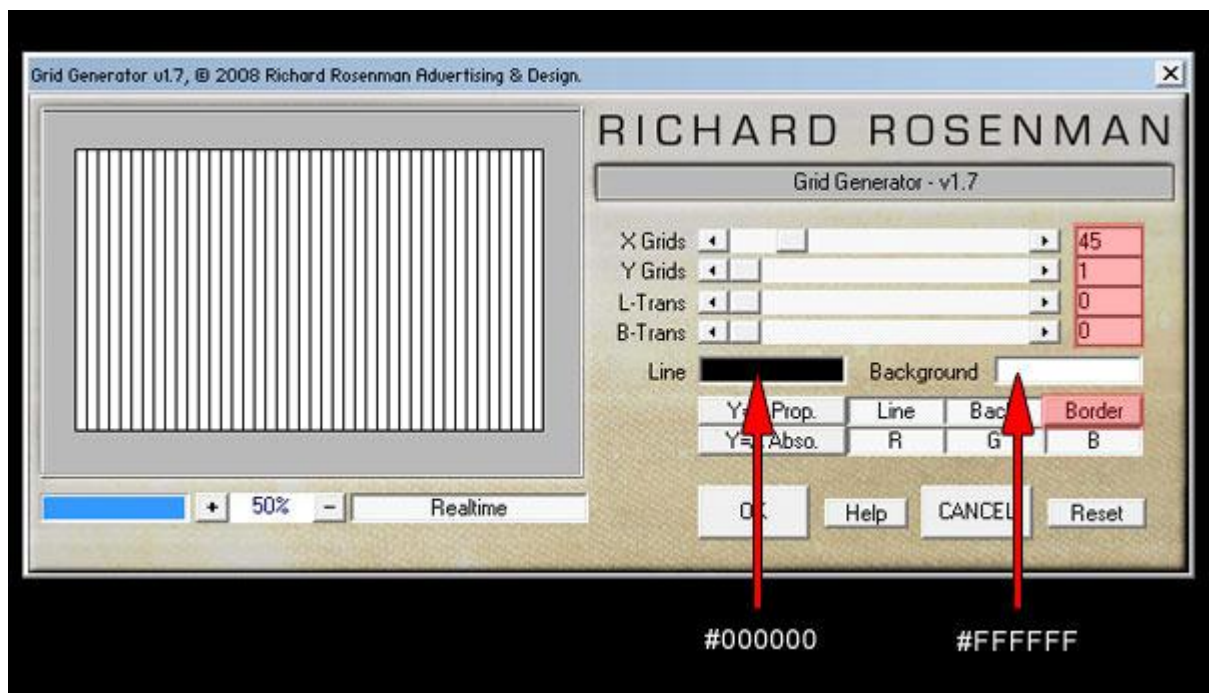


Step 10: Adding Floorboards

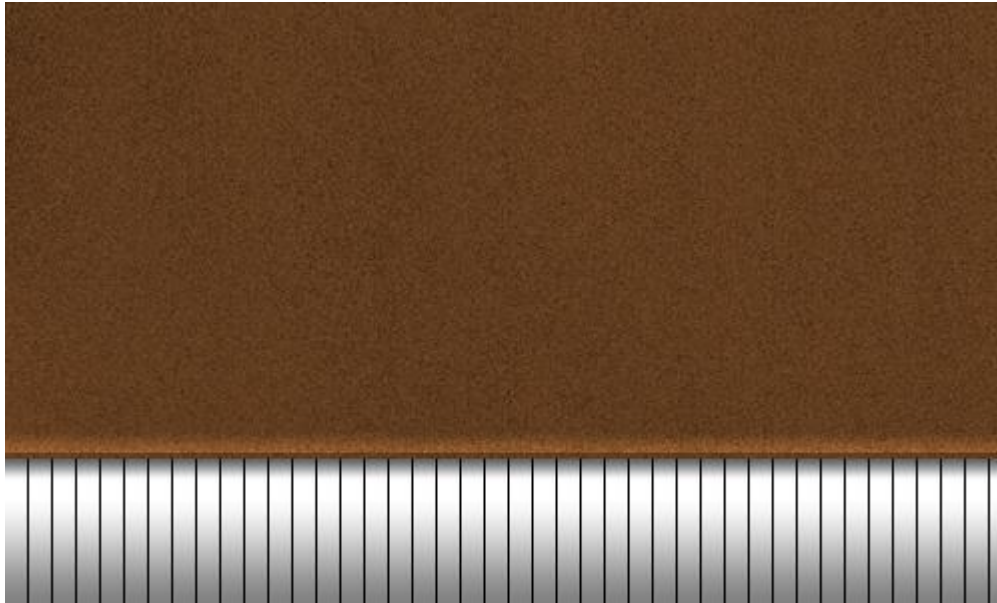
Next, we'll add some lines to suggest floorboards. Make a new layer above the "floor_color" layer, fill it with black and name it "floorboards."



This step uses the free Grid Generator plug-in by Richard Rosenman. With the "floorboards" layer selected, go to Filter > Richard Rosenman > Grid Generator. Adjust the settings in the Grid Generator dialog box to match those shown below:

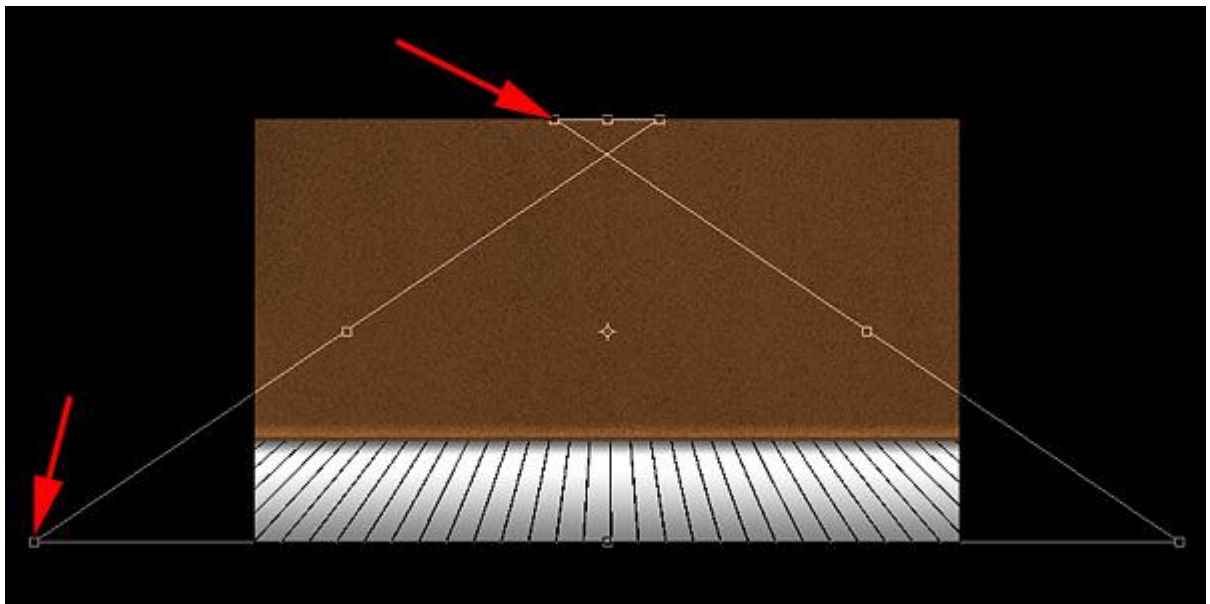


This is the result:



Step 11: Adding Perspective and Highlights to the Floorboards

Go to Edit > Transform > Perspective. Adjust the perspective of the "floorboards" layer by dragging the handles in the upper and lower corners of the transformation box left and right (indicated by red arrows) until it looks something like the image below. Note that the handles will need to be dragged beyond the edges of the document. When done, press Enter to apply the transformation.



Change the "floorboards" layer's blending mode to Multiply and its opacity to 30%.



Duplicate the "floorboards" layer and rename the new layer to "floorboards_highlight." Move this layer directly below the "floorboards" layer.

Invert it by pressing Command +I, change its blending mode to Overlay and its opacity to 10%.

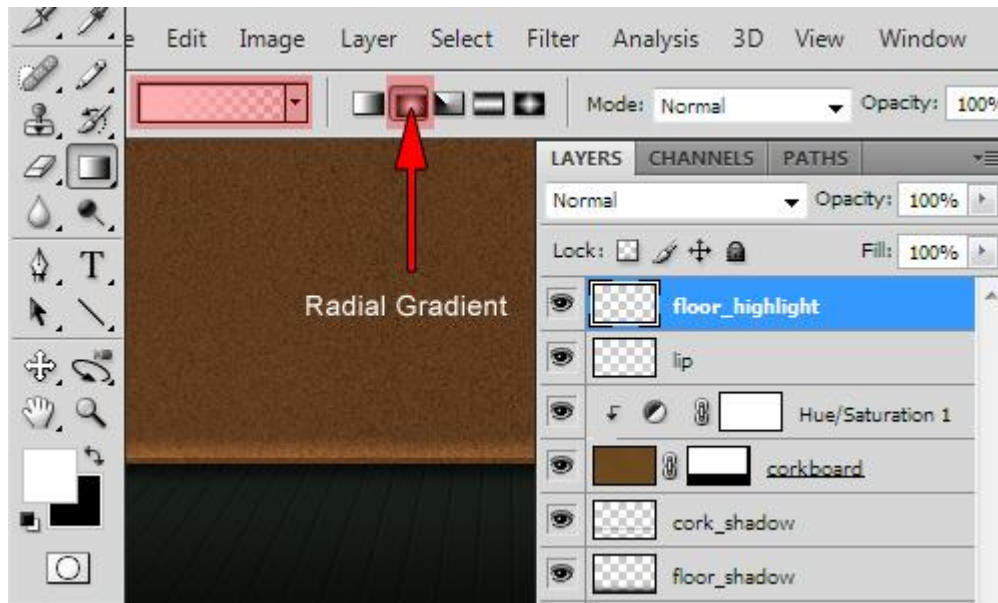
Finally, nudge it 1px to the right by pressing the Right Arrow once. This will give a subtle highlight to the floorboards.



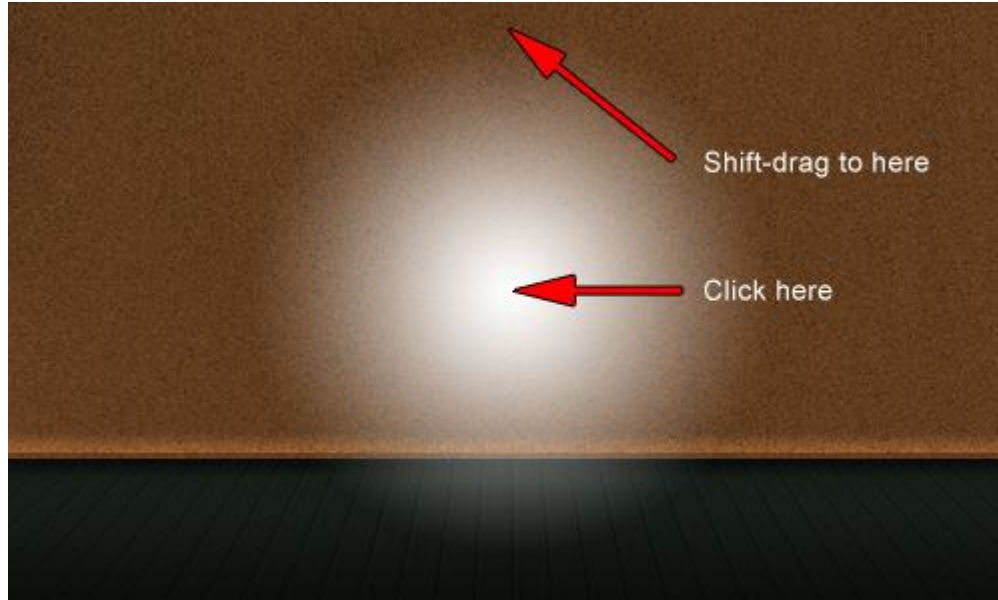
Step 12: Adding an Overall Highlight to the Floor

Make a new layer and name it "floor_highlight." Move this new layer to the top of the Layers palette, above all other layers.

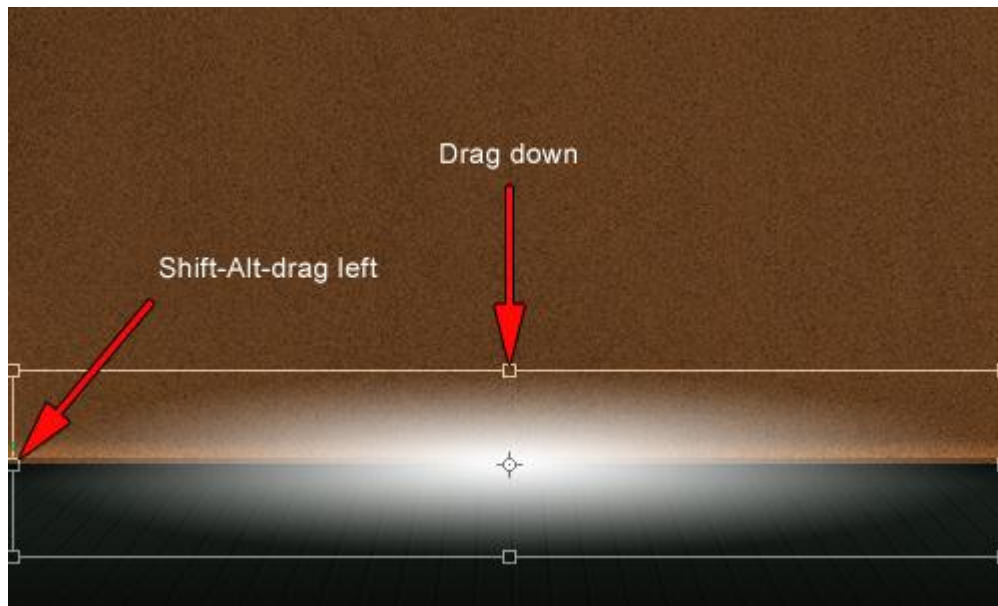
Change the foreground color to white by pressing D, then X, on the keyboard (this resets the Tools palette color swatches to default and then reverses them). Select the Gradient tool (G), and change its preset to Foreground to Transparent and its type to Radial Gradient.



Starting at the center of the layout, click and Shift-drag to nearly the top edge of the layout.



Press Command +T to transform the layer. Use the top center handle of the transform region to adjust the layer's height. Adjust its width outward from the center by Shift-Alt-dragging the left or right center handle. Press Enter to apply the transformation.



Move the "floor_highlight" layer to the spot directly above the "floor_shadow" layer in the Layers palette. Change its blending mode to Overlay and its opacity to 50%.



Step 12: Creating the Light Housing

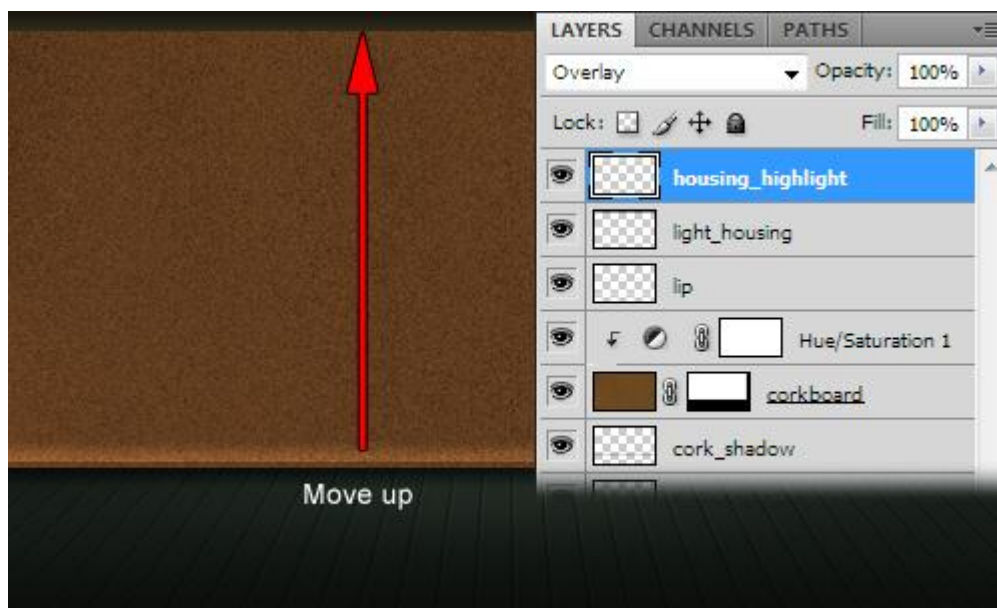
Make a new layer and move it to the top spot in the Layers palette. Name this layer "light_housing."

At the very top of this layer, use the Rectangular Marquee tool (M) to make a selection that's 500px wide by 10px high. Change the foreground color in the Tools palette to #17150e and fill the selection with this color by pressing Alt+Backspace.



Duplicate the "lip" layer by selecting it in the Layers palette and pressing Command +J. Move this new layer above the "light_housing" layer in the Layers palette and rename it "housing_highlight."

Use the Move tool (V) to move the layer up so that its bottom is in the same position as the bottom of the "light_housing."



Press Command + T to transform the layer. Adjust it from the top so that it's roughly half its current height.



Step 13: Adding a Shadow Beneath the Light Housing

Select the "housing_highlight" layer in the Layers palette and press Command + J to duplicate it. Rename the layer "housing_shadow" and invert it by pressing Command +I.

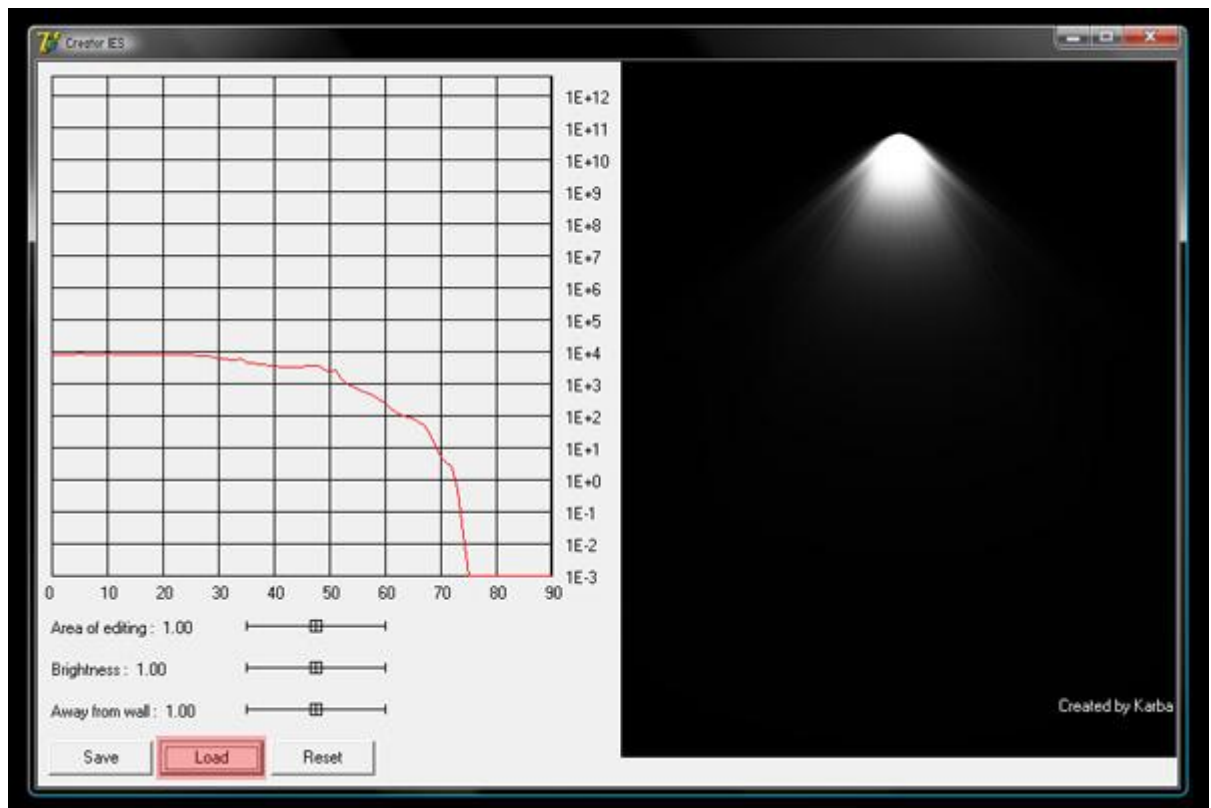
Flip the layer vertically by going to Edit > Transform > Flip Vertical. Then, nudge it down 1px by pressing the Down Arrow once.

Finally, change its opacity to 80%.

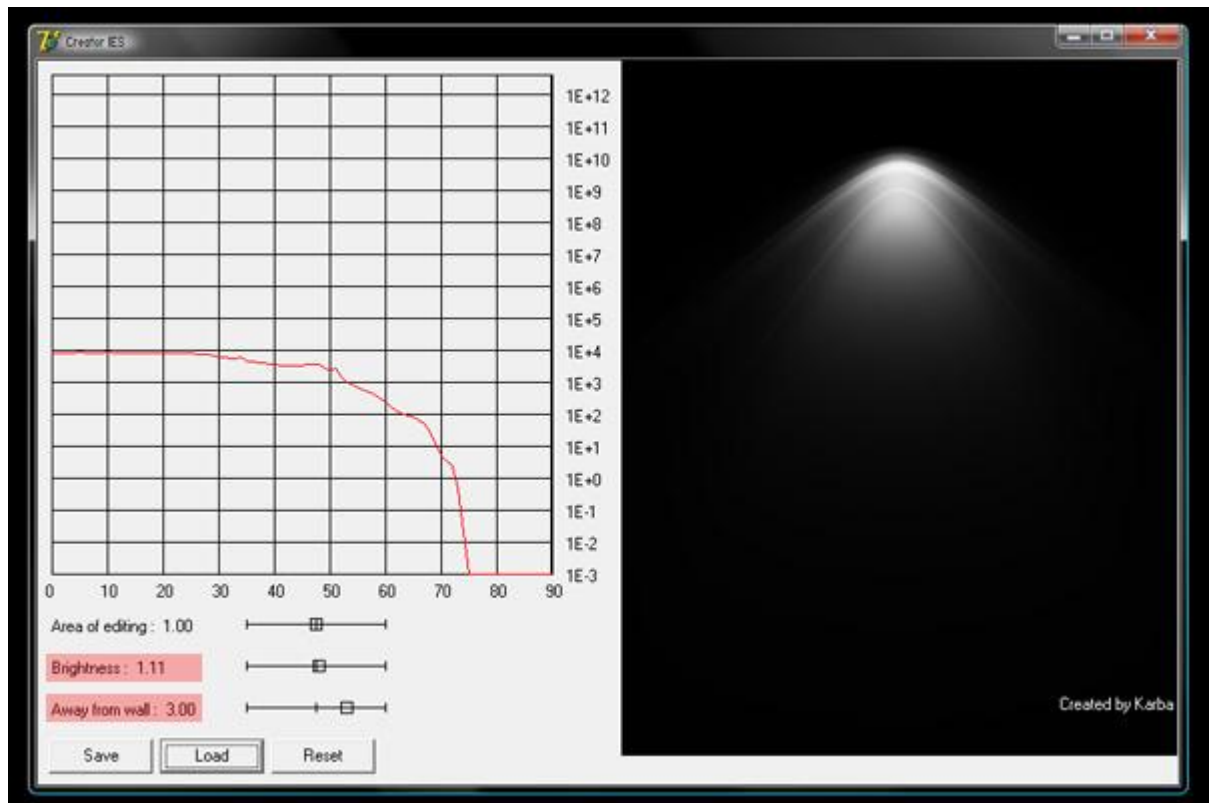


Step 14: Creating a Light

Launch IES Generator. At the bottom left of the application window, click the Load button and locate the "1589835-nice.IES" profile that you downloaded in the Tutorial Preparation.



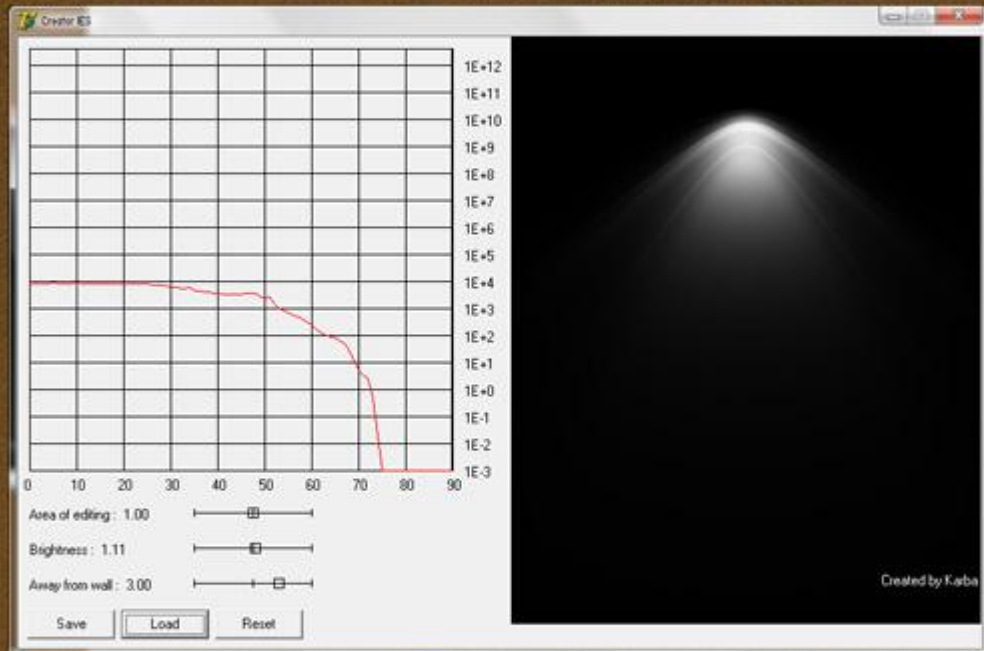
Using the sliders at the lower left of the window, adjust Brightness to 1.11 and Away From Wall to 3.00 so that the image on the right side of the window looks something like this:



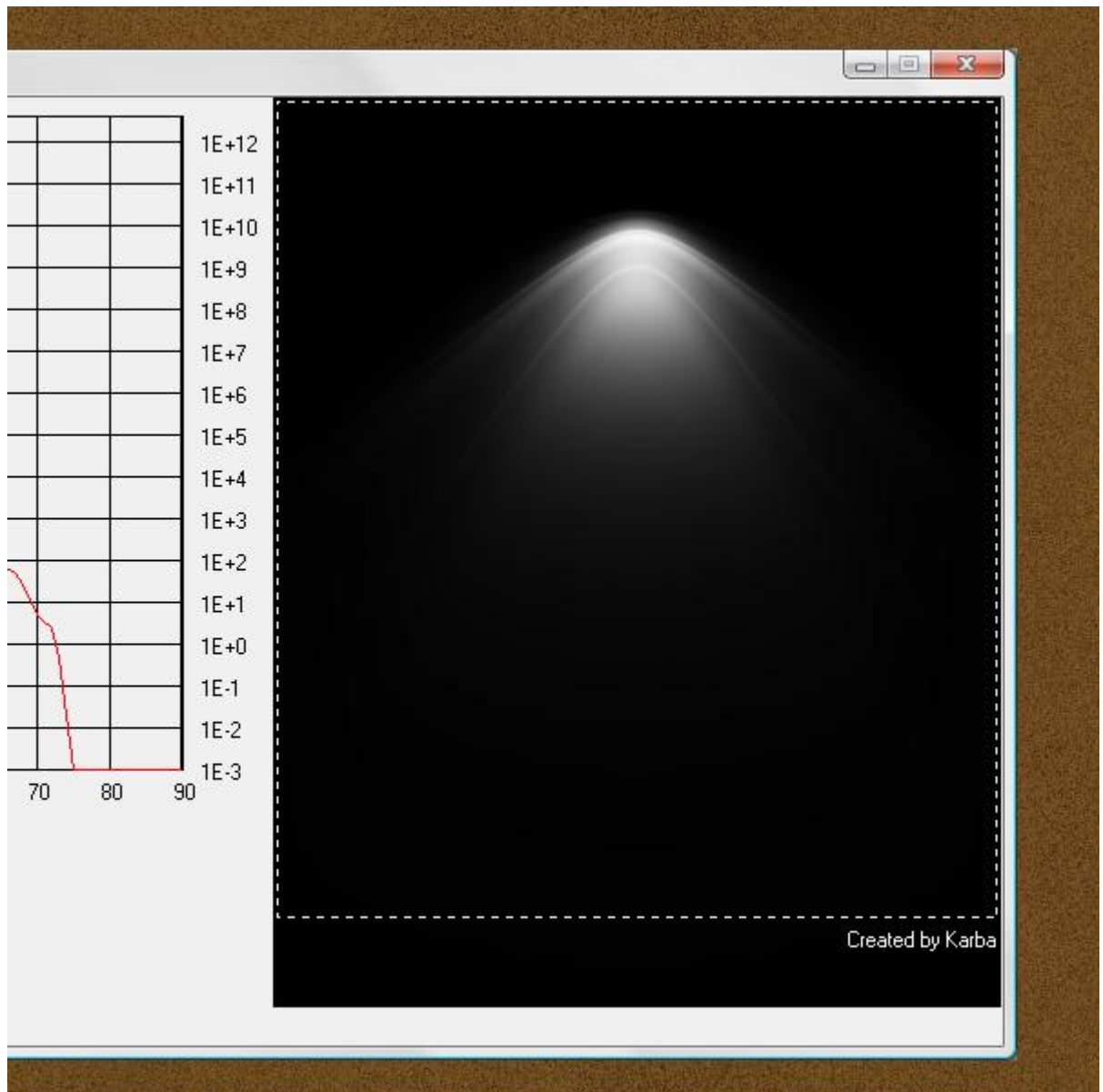
Step 15: Bringing the Light into Photoshop

IES Generator doesn't have an export or save function, so a screen capture is needed to paste it into the Photoshop layout. You can use a screen capture utility if you have one. Otherwise, press Alt + Print Screen (this is a Windows key-combination which captures the active window to the clipboard). After making the capture, return to Photoshop.

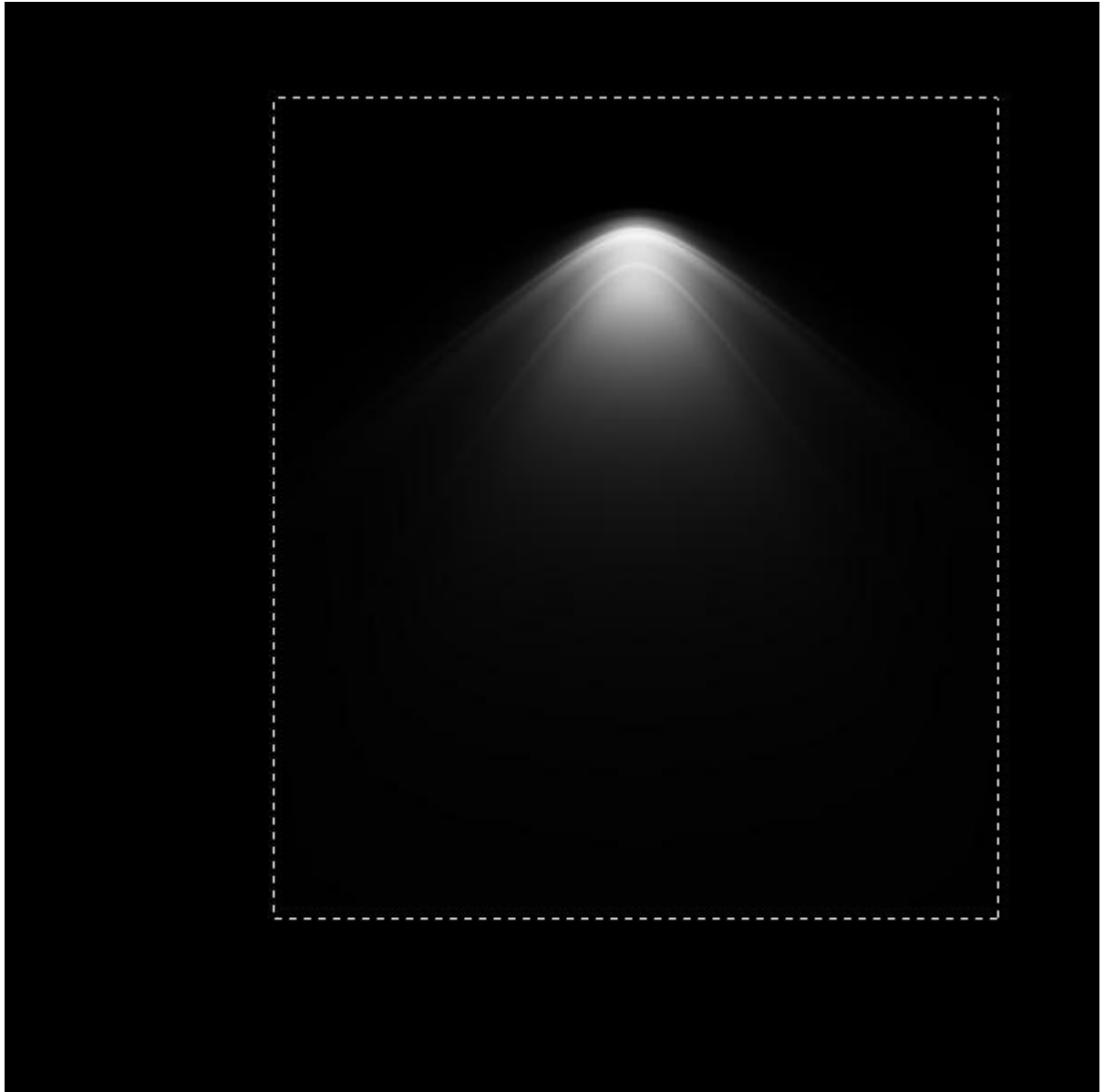
Open the "textures.psd" document created in Step 1, if it isn't already open. Press Command +V to paste the screen capture into the document. It will appear in a new layer above the "corkboard" layer. If for some reason it ends up below the "corkboard" layer, just move it up in the Layers palette.



With the new layer selected, use the Rectangular Marquee tool (M) to make a selection around the IES image as shown:



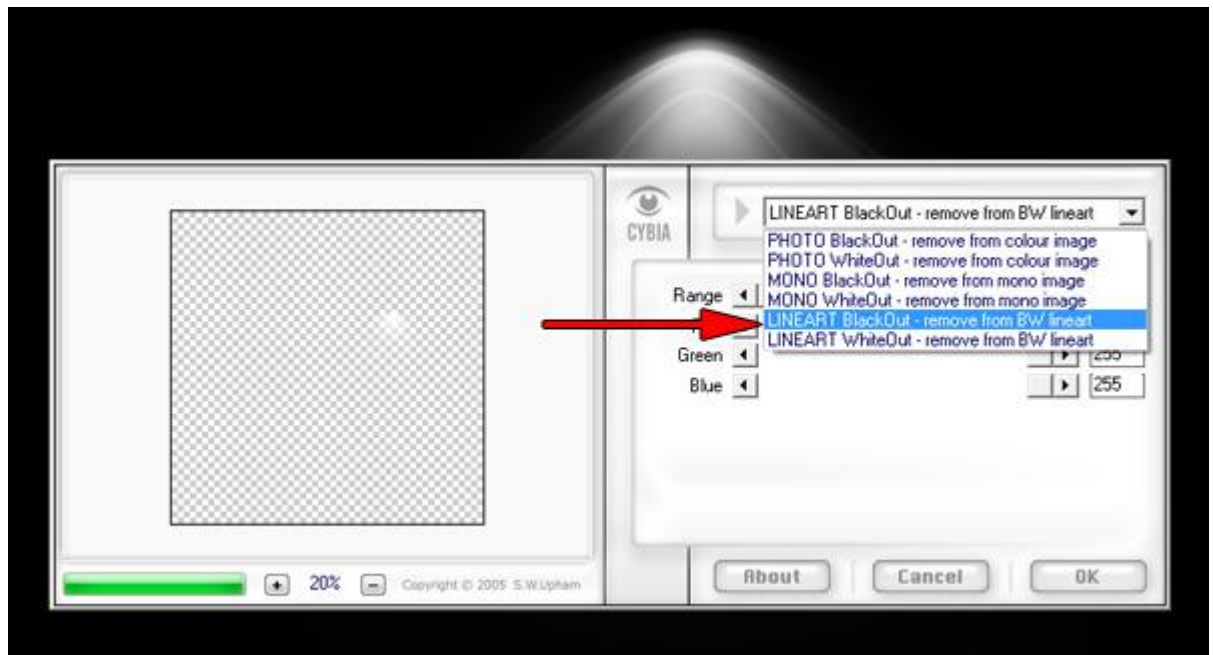
Go to Select > Inverse to invert the selection. Fill this region with black.



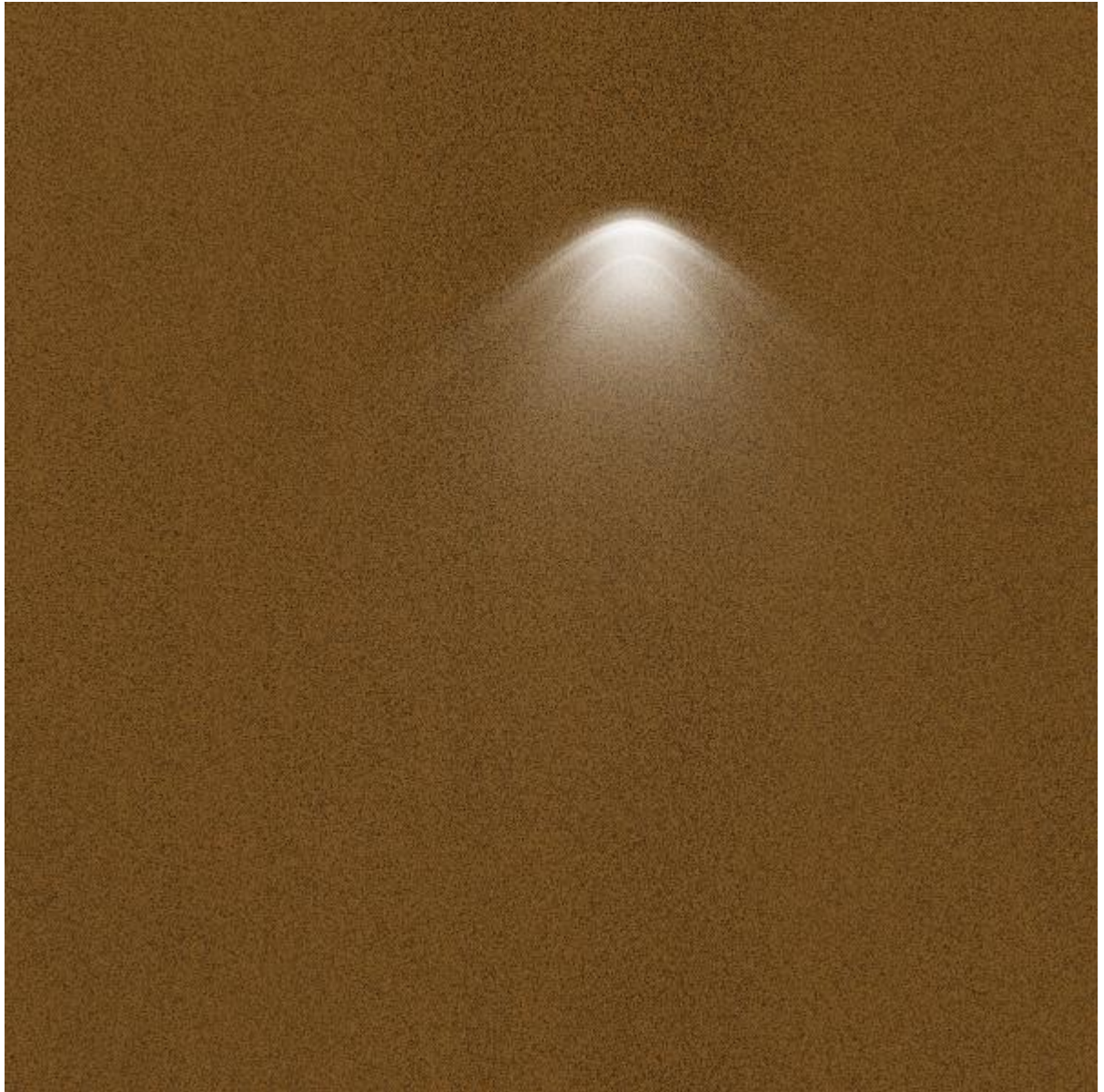
Step 15: Extracting the White Pixels from the Light Layer and Positioning It

Now we'll use the free AlphaWorks plug-in by Cybia to remove all the black from this layer, so that we end up with just the white pixels that make up the light pattern.

Go to Filter > Cybia > AlphaWorks. From the drop down menu at the upper right of the filter's dialog box, select "LINEAR BlackOut - remove from BW lineart." Click OK.

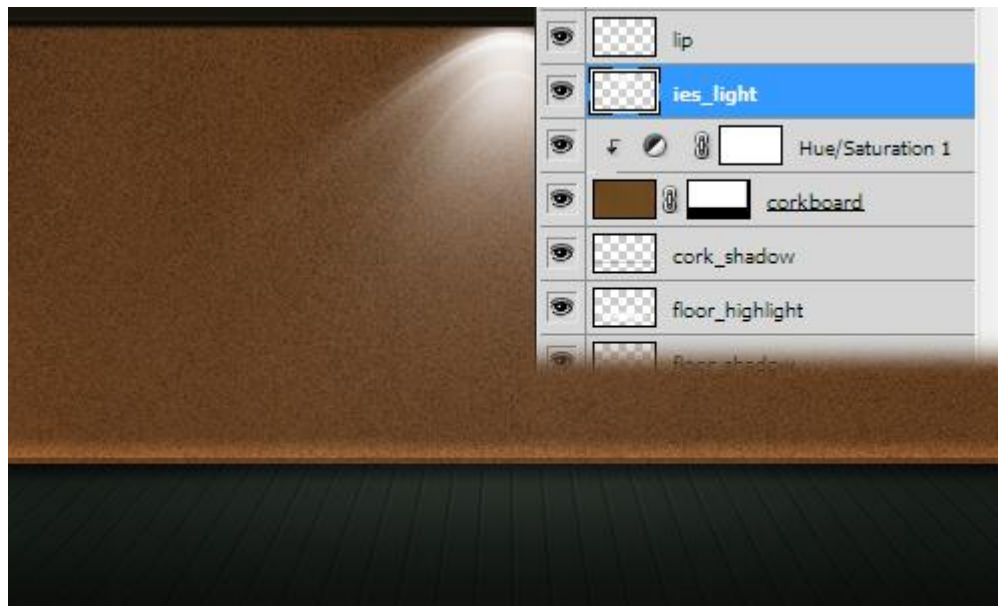


This will be the result:



With this layer still selected, press Command +A (Select > All), copy it, then switch to the "main_layout.psd".

Select the "Hue/Saturation 1" layer in the Layers palette and press Command +V to paste. The new layer will appear between the "lip" layer and the "Hue/Saturation 1" layer. Rename it to "ies_light."

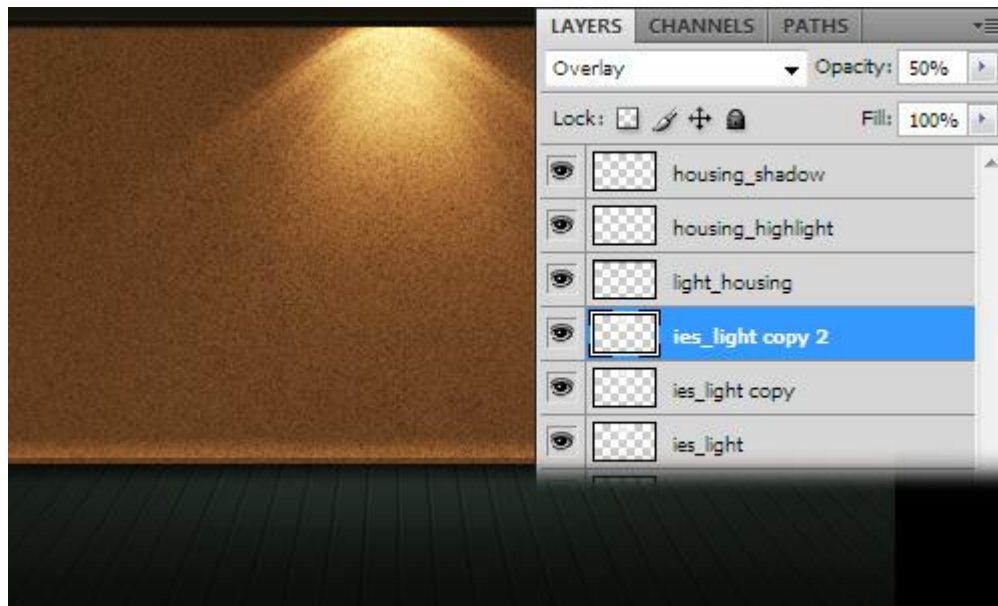


Nudge the "ies_light" layer up 6px by pressing the Up Arrow six times. Now change this layer's blending mode to Overlay.

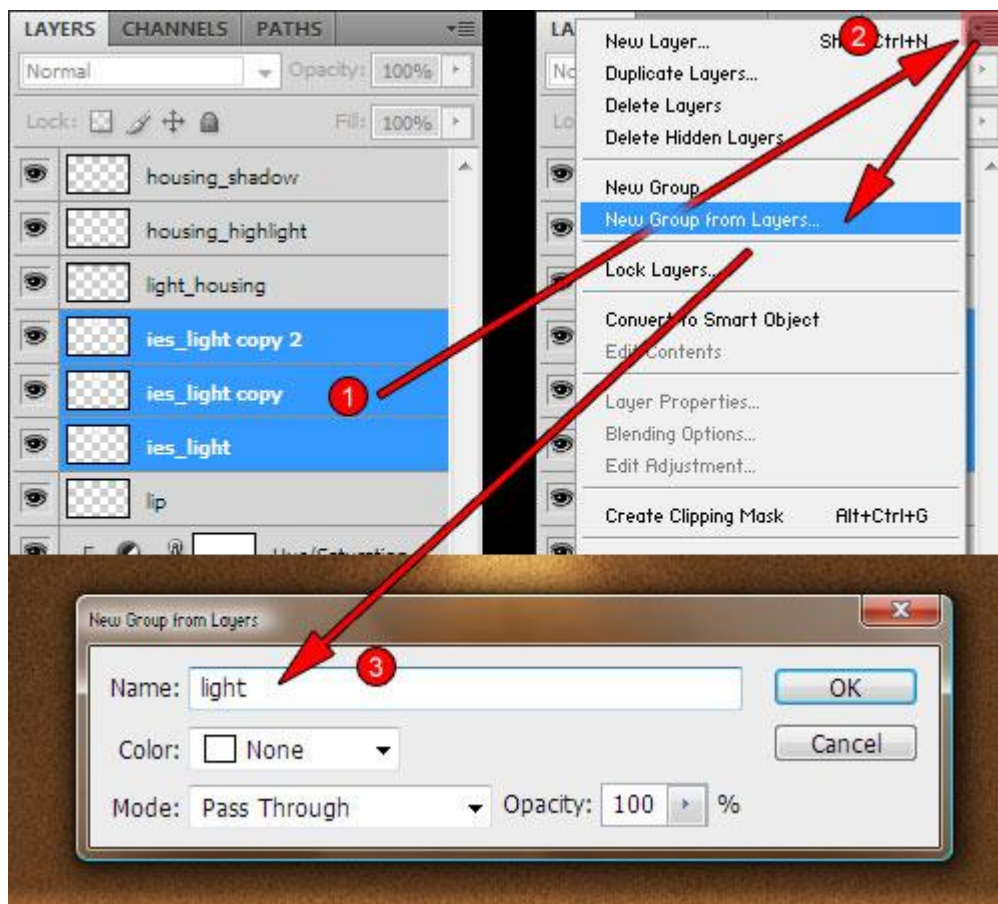


Step 16: Intensifying the Light

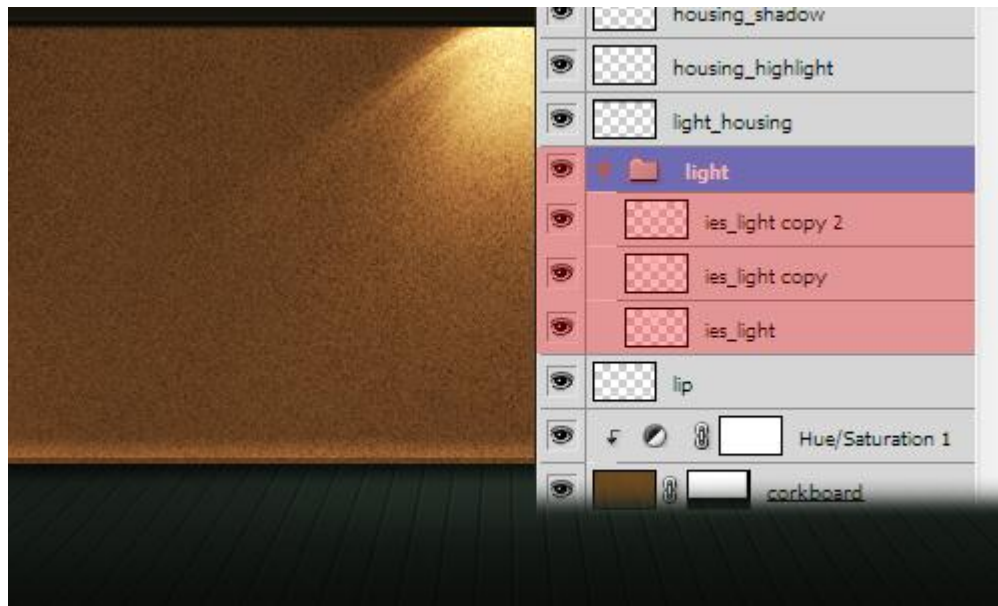
Duplicate the "ies_light" layer twice by selecting it in the Layers palette and pressing Command +J twice. Change the opacity of the topmost copy ("ies_light copy 2") to 50%.



The three layers, "ies_light," "ies_light copy" and "ies_light copy 2" make up a single effect. Collect them into one layer group by clicking the "ies_light" layer, holding down the Shift key and selecting "ies_light copy 2." Click the icon at the top right of the Layer palette and select New Group from Layers. In the dialog box that pops up, name the group "light." Click OK.

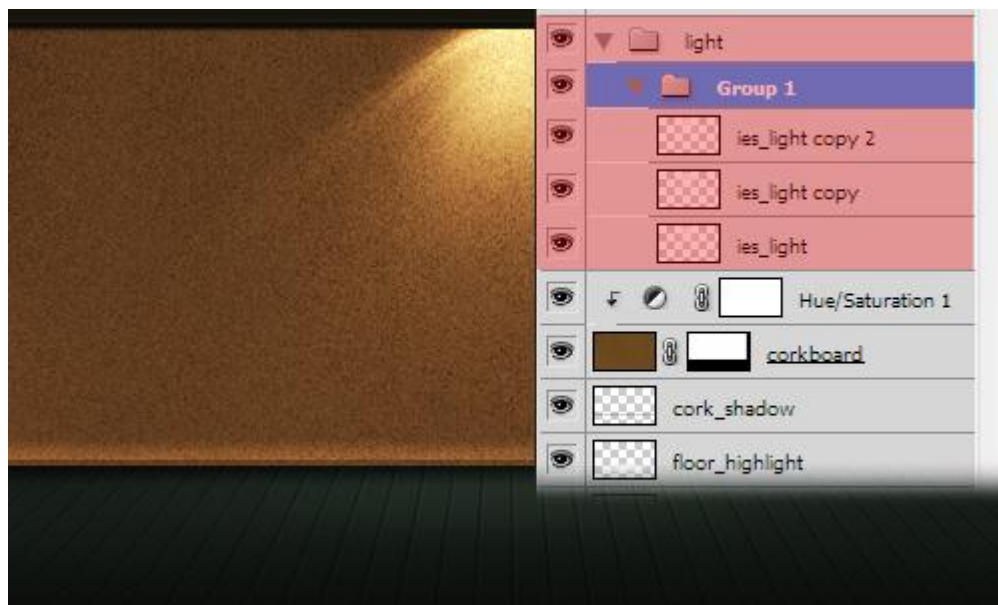


Now the three layers will be in a single group.

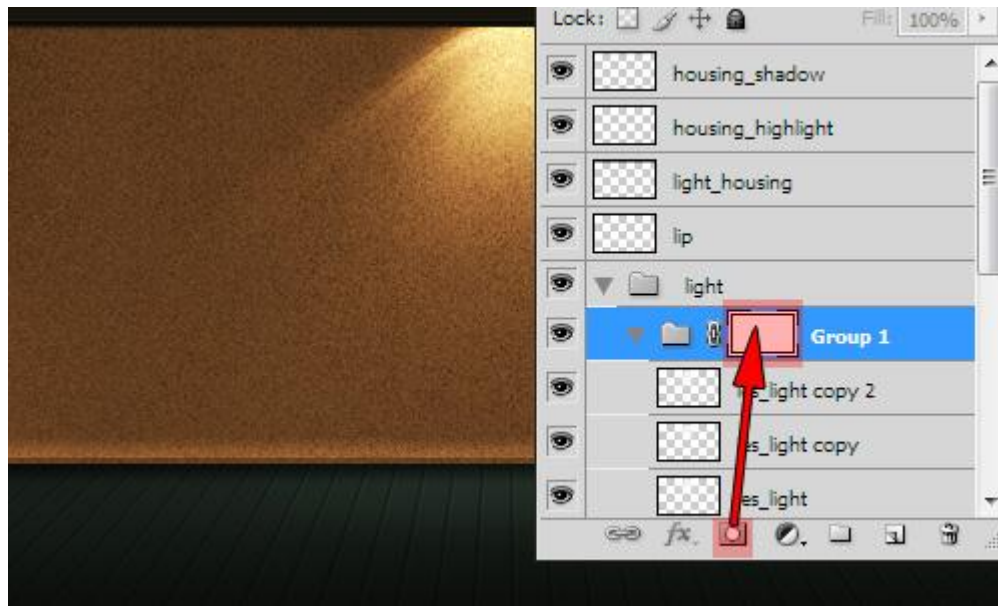


Step 17: Controlling the Extent of the Light

Select all the layers within the "light" group, and group them again by the same method described in Step 16. It's not necessary to rename this new layer group.

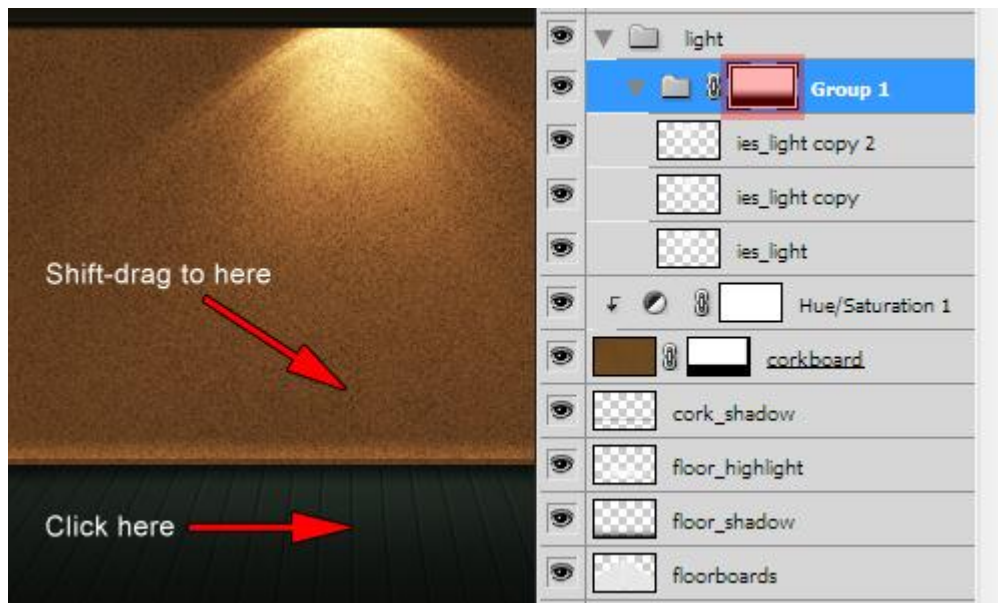


Select "Group 1" in the Layers palette and create a layer mask for this group by clicking on the "Add a layer mask" icon at the bottom of the palette. The mask will appear ahead of the group name - it looks like a white box.



In the Layers palette, click the layer mask thumbnail (the white box) to select it. Select the Gradient tool (G).

As described in Step 6, make sure the gradient preset is Foreground to Transparent and the type is Linear Gradient. Starting at the middle of the floor, click and Shift-drag to a spot approximately as shown in the image below. A preview of the mask just created will appear in the layer mask thumbnail.

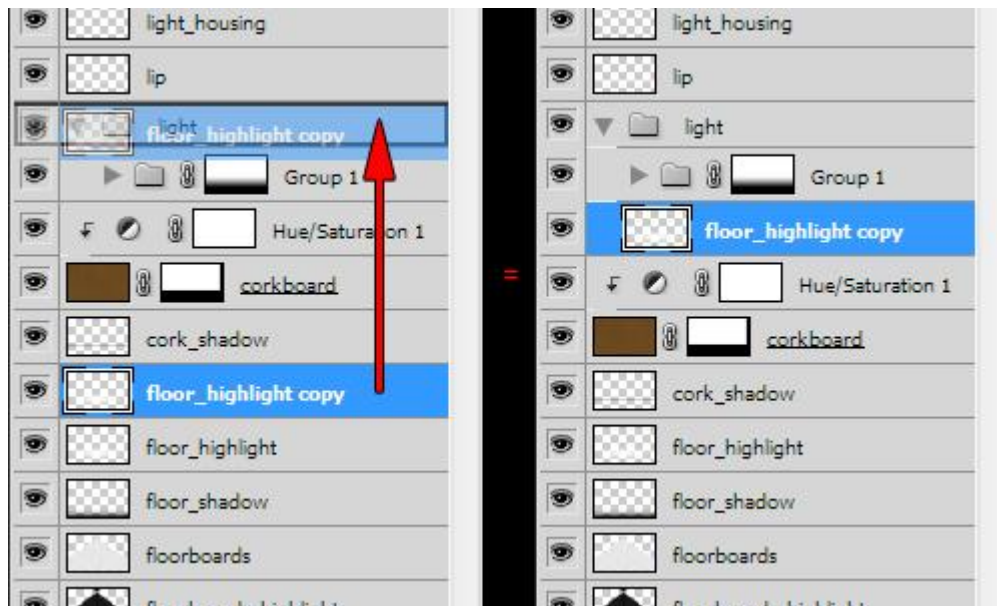


Step 18: Adding a Highlight Spot on the Floor

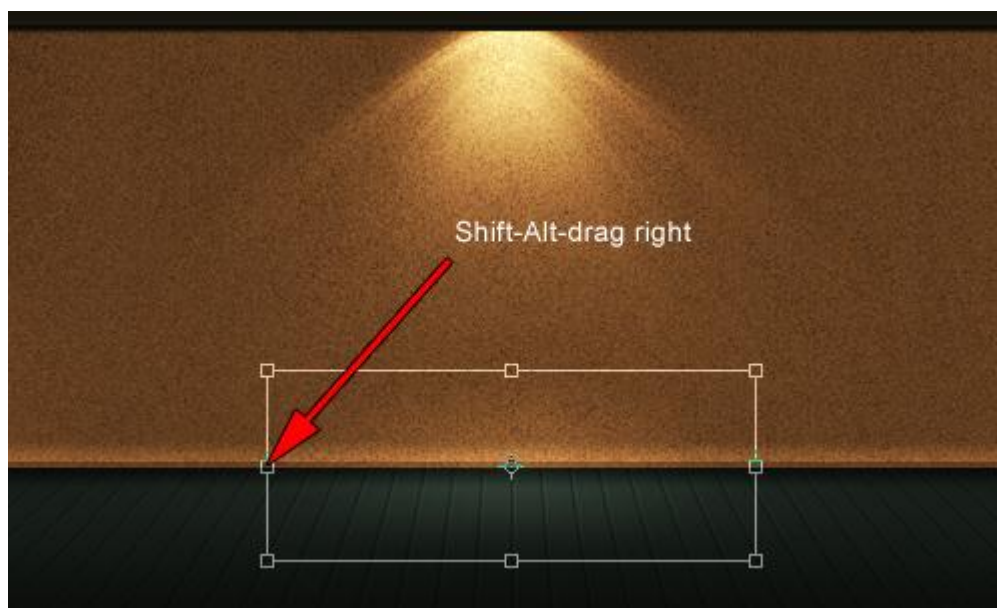
Collapse "Group 1" within the "light" layer group by clicking the gray arrow to the left of its name.

Select the "floor_highlight" layer in the Layers palette and duplicate it by pressing Command + J. The new layer will be named "floor_highlight copy."

Move this new layer into the "light" group by dragging and dropping it directly on the "light" group's name.

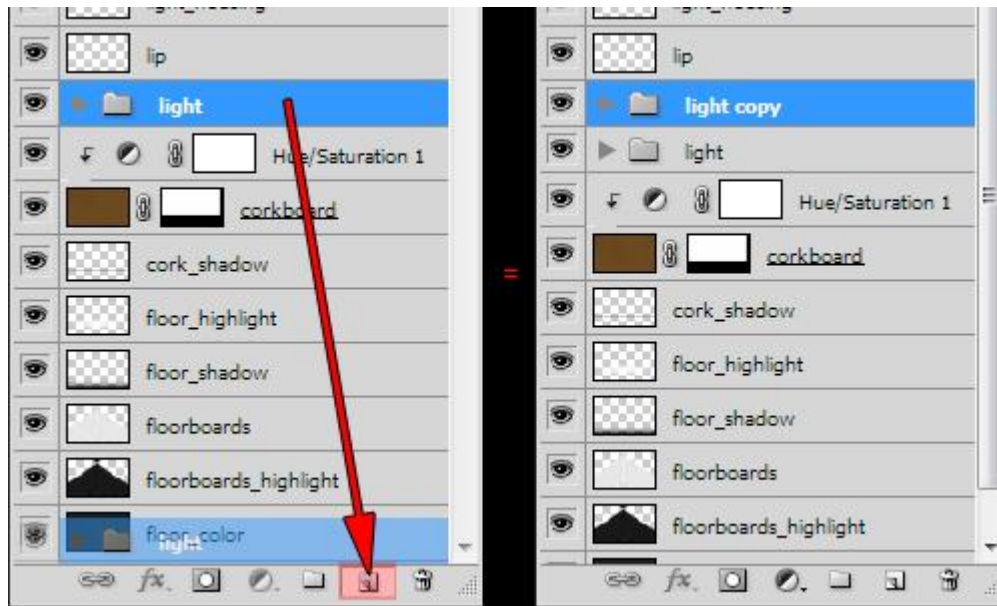


Press Command +T to transform the "floor_highlight copy" layer until it's approximately 50% of its current width. Press Enter to apply the transformation. Rename the layer to "spot" and change its opacity to 70%.

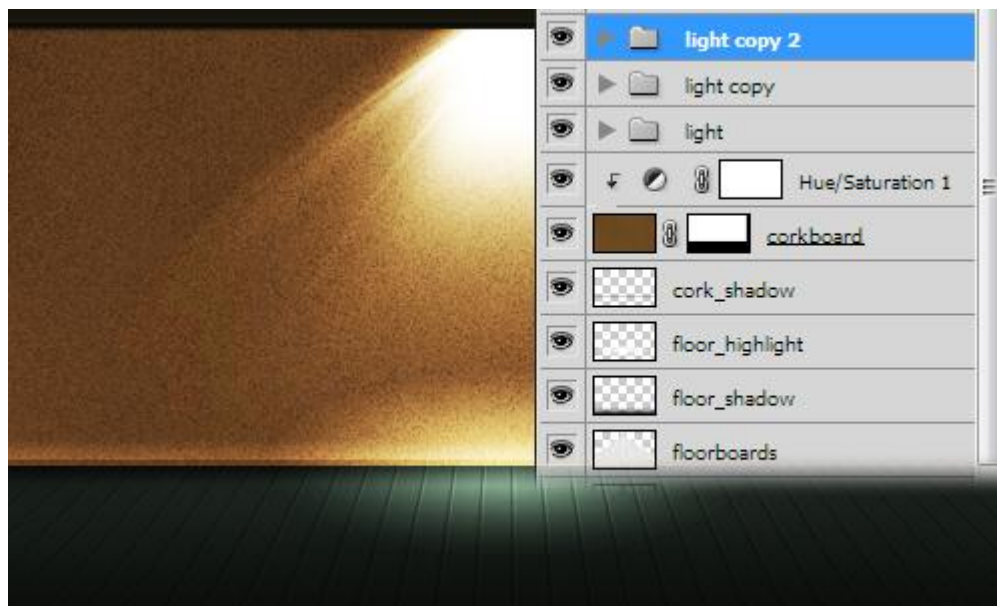


Step 19: Duplicating the Light

Two more copies of the "light" group are needed. Select and collapse the "light" layer group in the Layers palette. Drag and drop it on the "Create a new layer" icon at the bottom of the palette. A copy of the group, named "light copy" will appear above the original in the Layers palette.

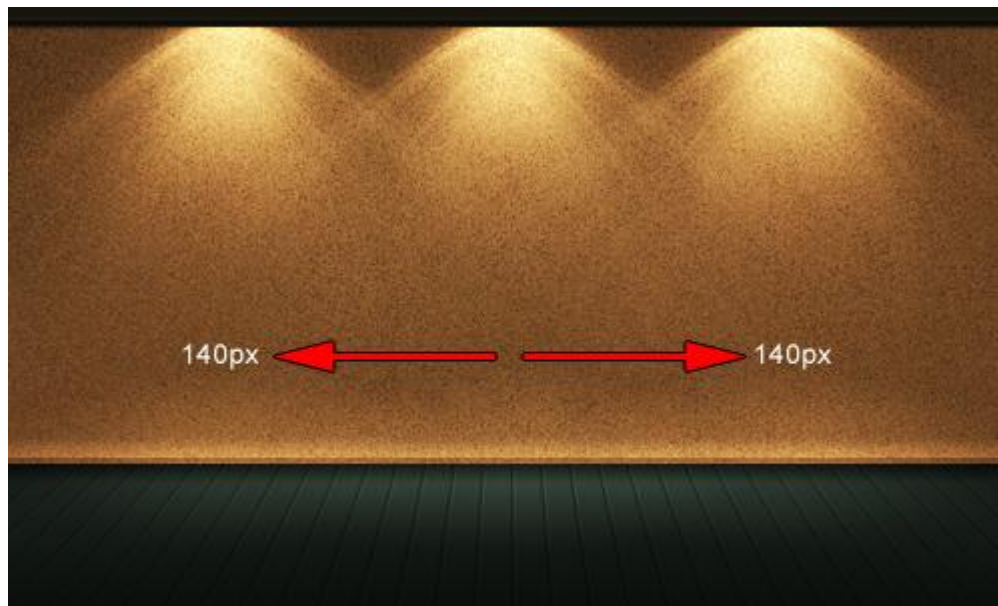


Copy this new group by the same method. There will now be three groups in the Layers palette named "light," "light copy" and "light copy 2."

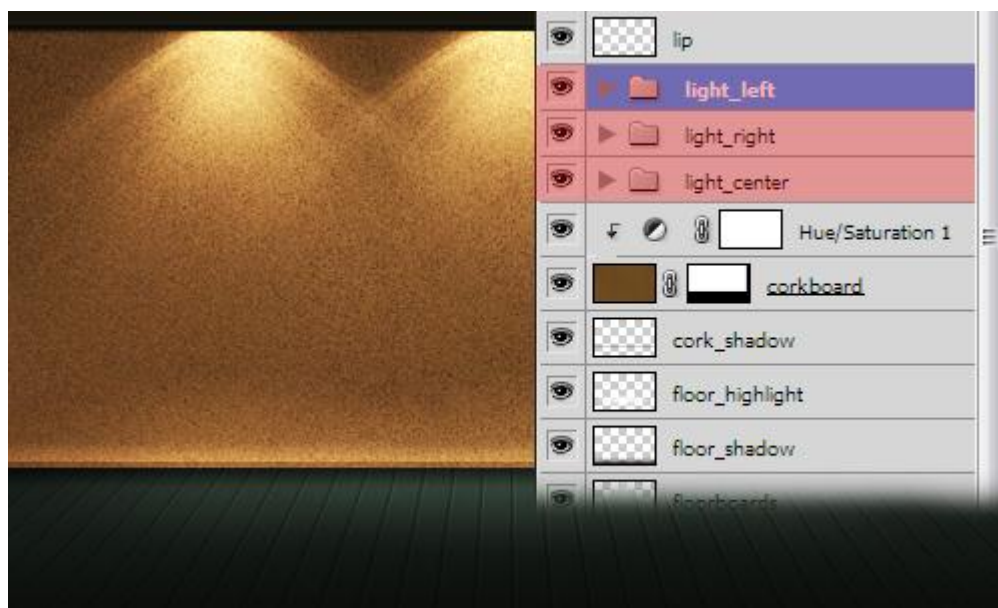


Step 20: Moving the Lights into Position

With the "light copy 2" layer group selected in the Layers palette, nudge it left 140px by pressing Shift+Left Arrow 14 times (holding the Shift key down while using the arrow keys nudges 10px at a time). Next, select the "light copy" group and nudge it right 140px by the same method.

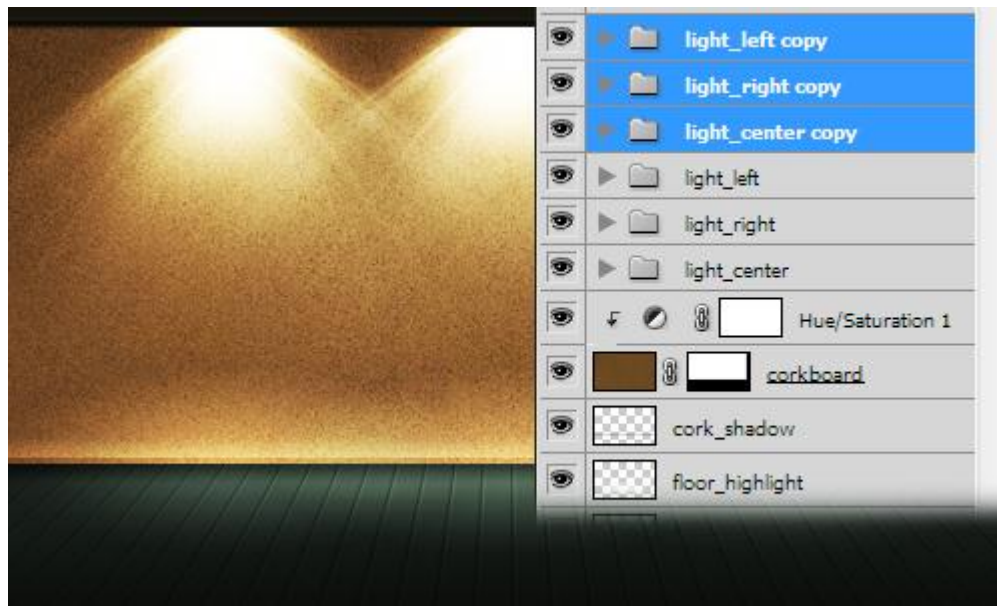


Rename "light copy 2" to "light_left," "light copy" to "light_right" and "light" to "light_center," to coordinate with their positions in the layout.

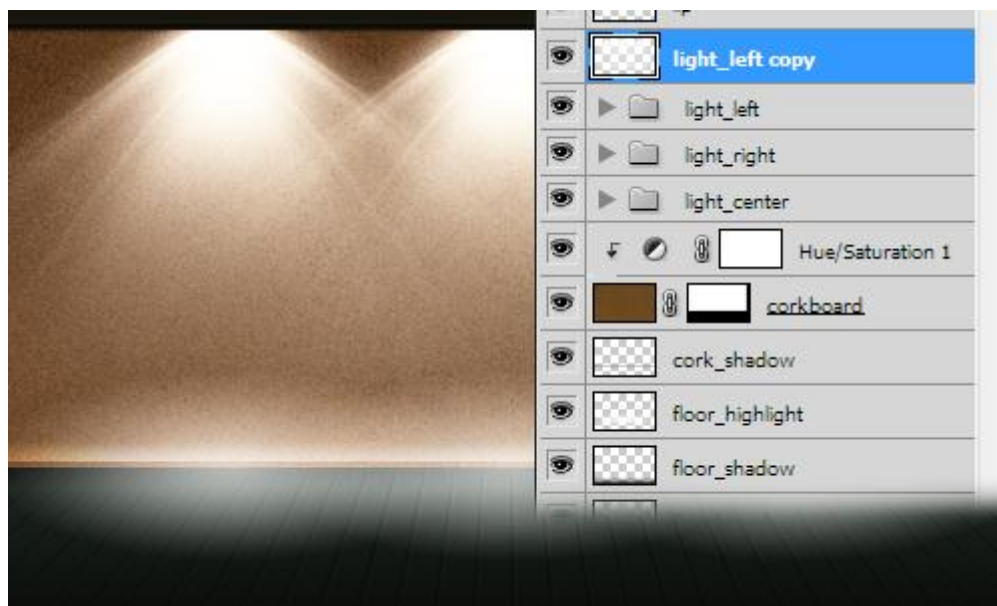


Step 21: Spilling the Lights onto the Housing

Select the layer groups "light_center," "light_right" and "light_left." Drag and drop them onto the "Create a new layer" icon at the bottom of the Layers palette. Three new copies of these groups will appear above the originals in the Layers palette.



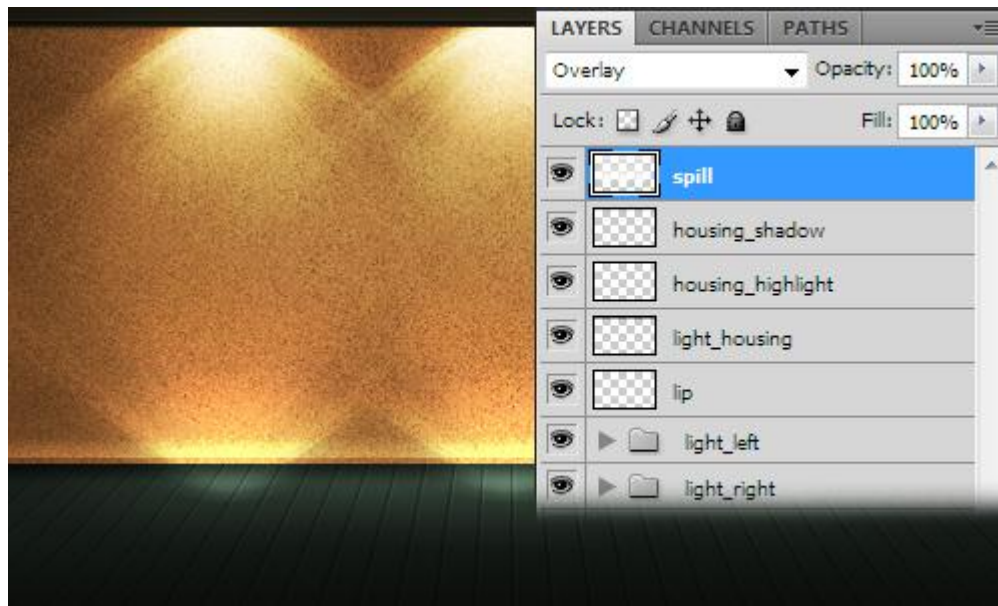
Press Command +E to merge the groups into one layer.



Rename the layer "spill."

Move it to the top of the Layers palette above the "housing_shadow" layer and change the layer's blending mode to Overlay.

Flip it vertically by going to Edit > Transform > Flip Vertical.

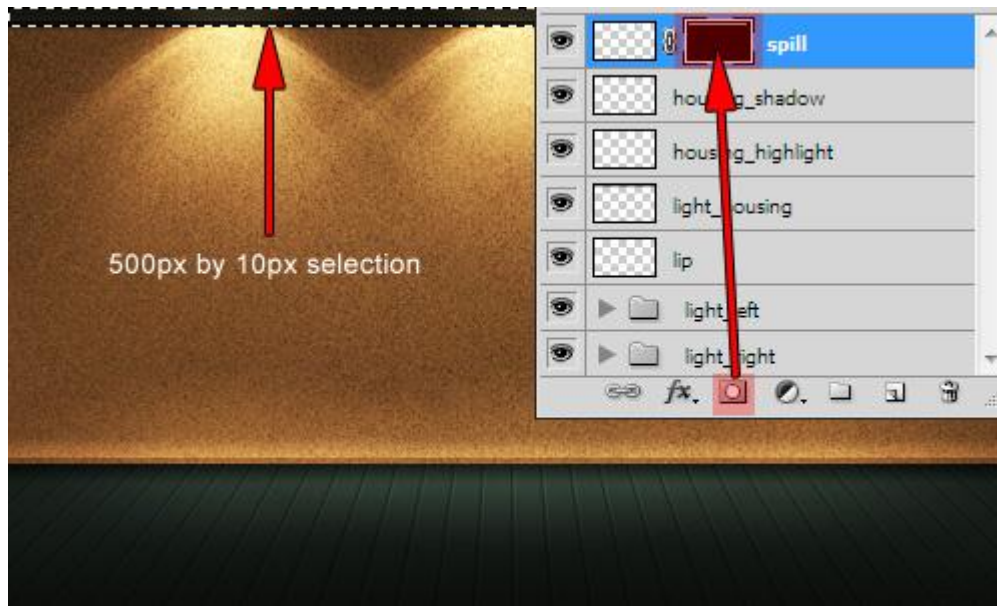


Nudge the "spill" layer up 230px by pressing Shift+Up Arrow 23 times.



Using the Rectangular Marquee tool (M), make a selection that's 500px wide by 10px high, starting at the upper left of the layout.

Click the "Add layer mask" icon at the bottom of the Layers palette to add a mask to the "spill" layer. This will restrict its effect to the light housing area.



Step 22: Adding a Shadow Behind the Lights (optional)

Next, we'll darken the area around the top of the lights against the corkboard to give them a little more emphasis. This step is optional.

In the Layers palette, select the "lip" layer and click the "Create a new layer" icon at the bottom of the Layers palette. The new layer will appear above the "lip" layer. Rename it to "top_shadow."

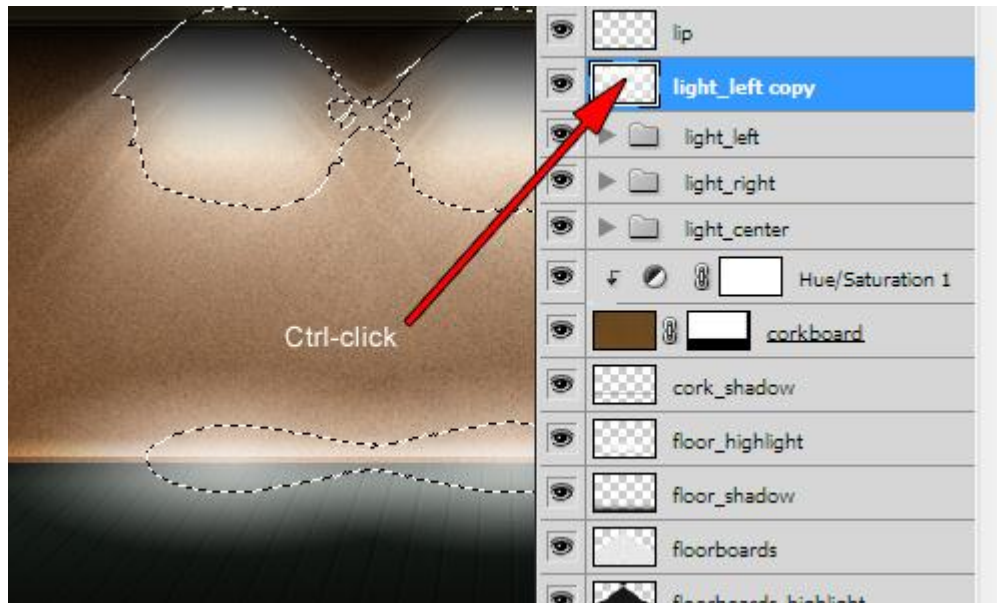
Using the Gradient tool (G), with the preset Foreground to Transparent, type Linear Gradient and a foreground color of black, Shift-drag in the "top_shadow" layer as shown:



The "top_shadow" layer needs to be masked so that it excludes the lights.

Select the layer groups "light_center," "light_right" and "light_left." Duplicate and merge them into a single layer.

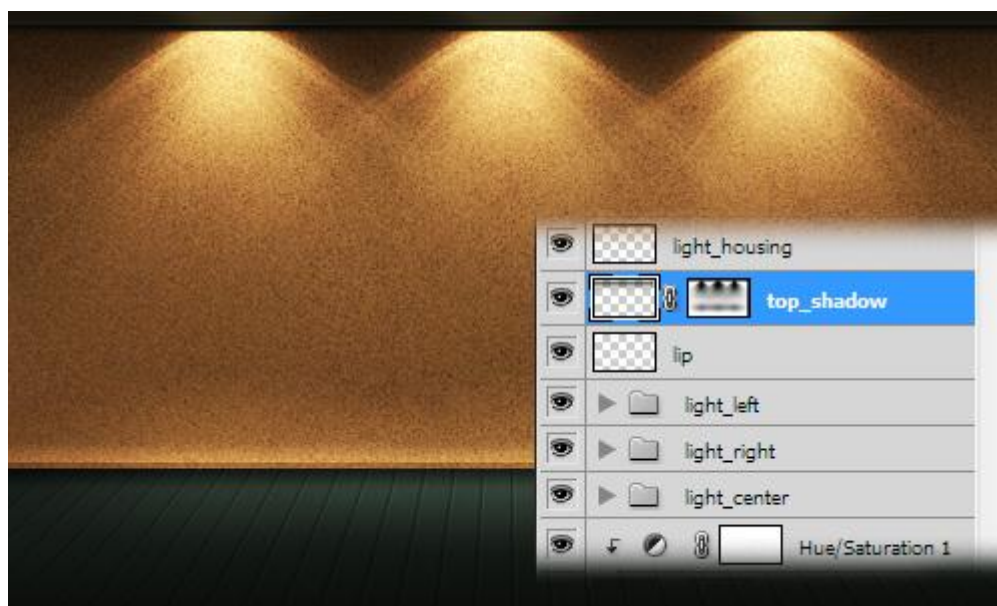
Command-click the layer thumbnail in the Layers palette to load the layer's transparency as a selection.



Go to Select > Inverse to invert the selection. Now select the "top_shadow" layer in the Layers palette and click the "Add layer mask" icon at the bottom of the palette.

Change the "top_shadow" layer's opacity to 60%, and its blending mode to Overlay.

Finally, delete the "light_left copy" layer.



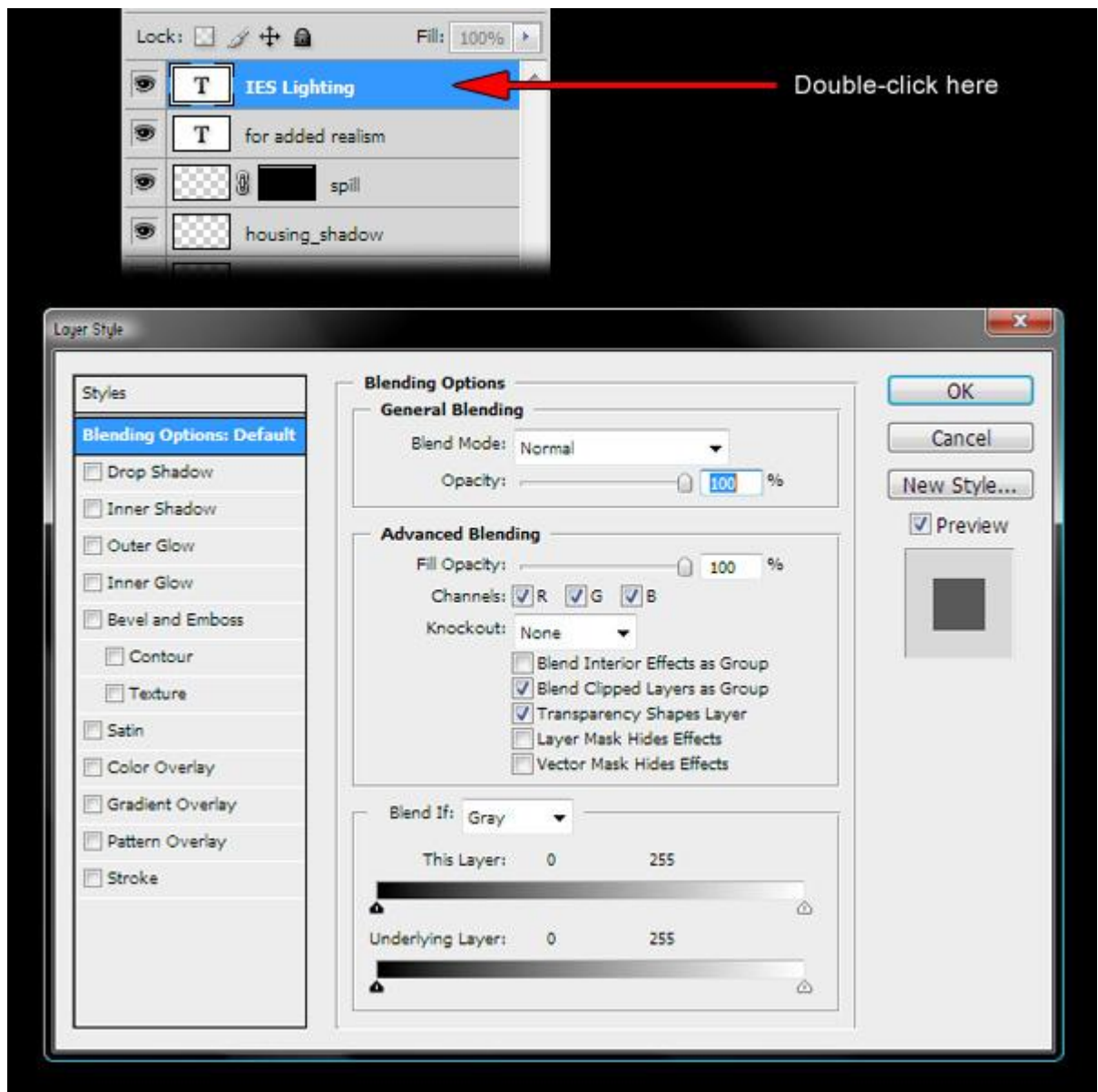
Step 23: Adding Text, The Final Step

As the final step, inlaid text will be added to the corkboard. Any font(s) can be used, but this example uses Arista 2.0 Light and DIN Mittelschrift. (How to use Photoshop's Text Tool will not be covered in this part of the tutorial.)

The text layers should be placed above all other layers in the Layers palette.

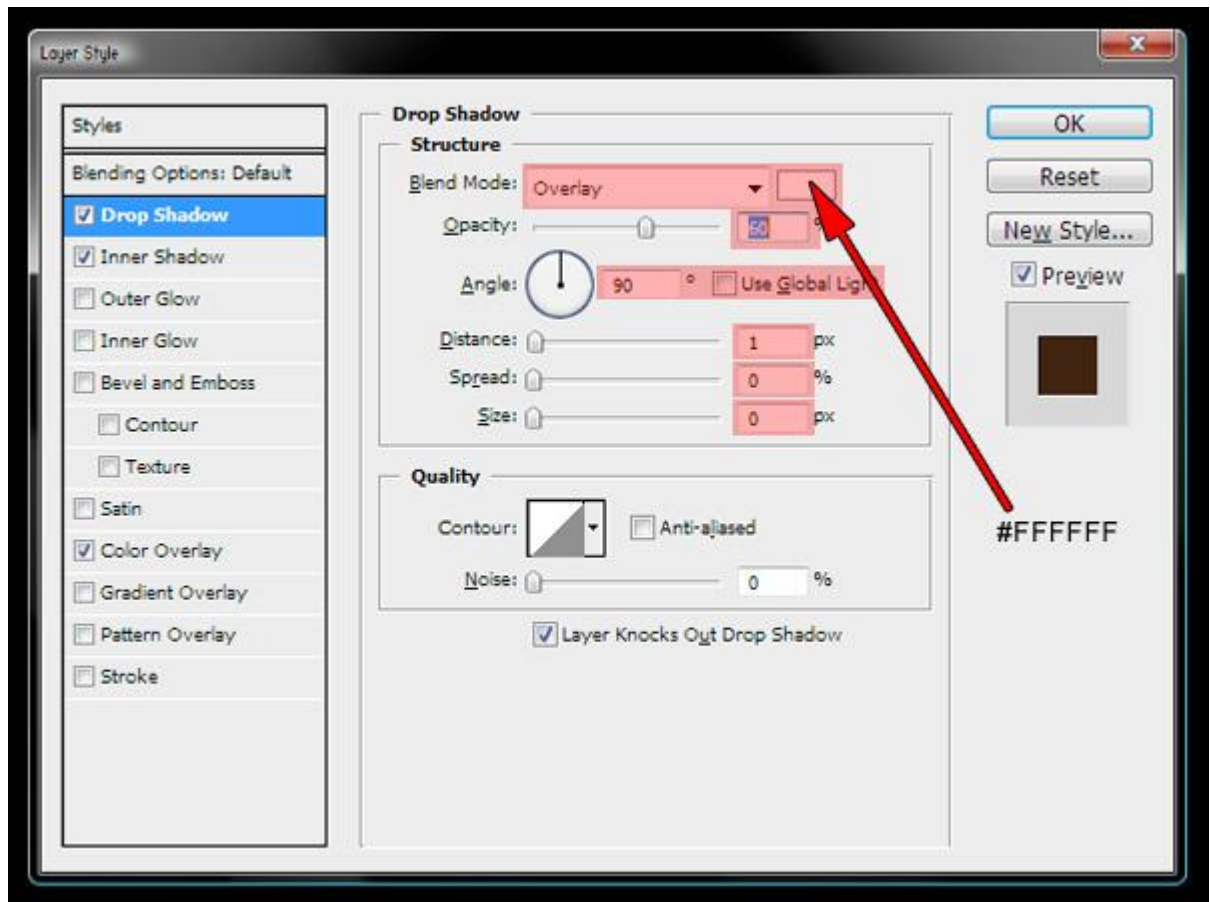


In the Layers palette, double-click in the area to the right of the text layer's name. This will open up the Layer Style dialog box.

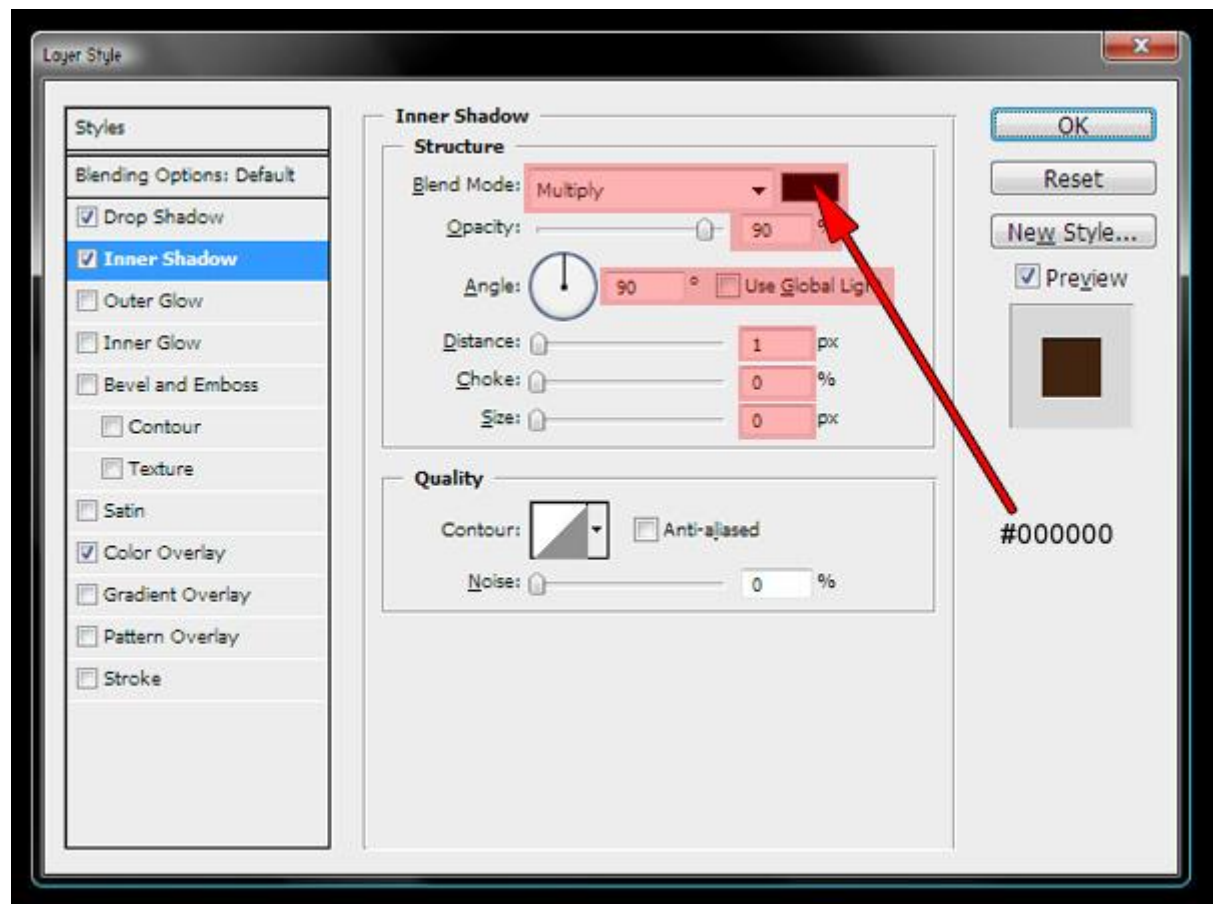


In the Layer Style window, adjust the settings as shown.

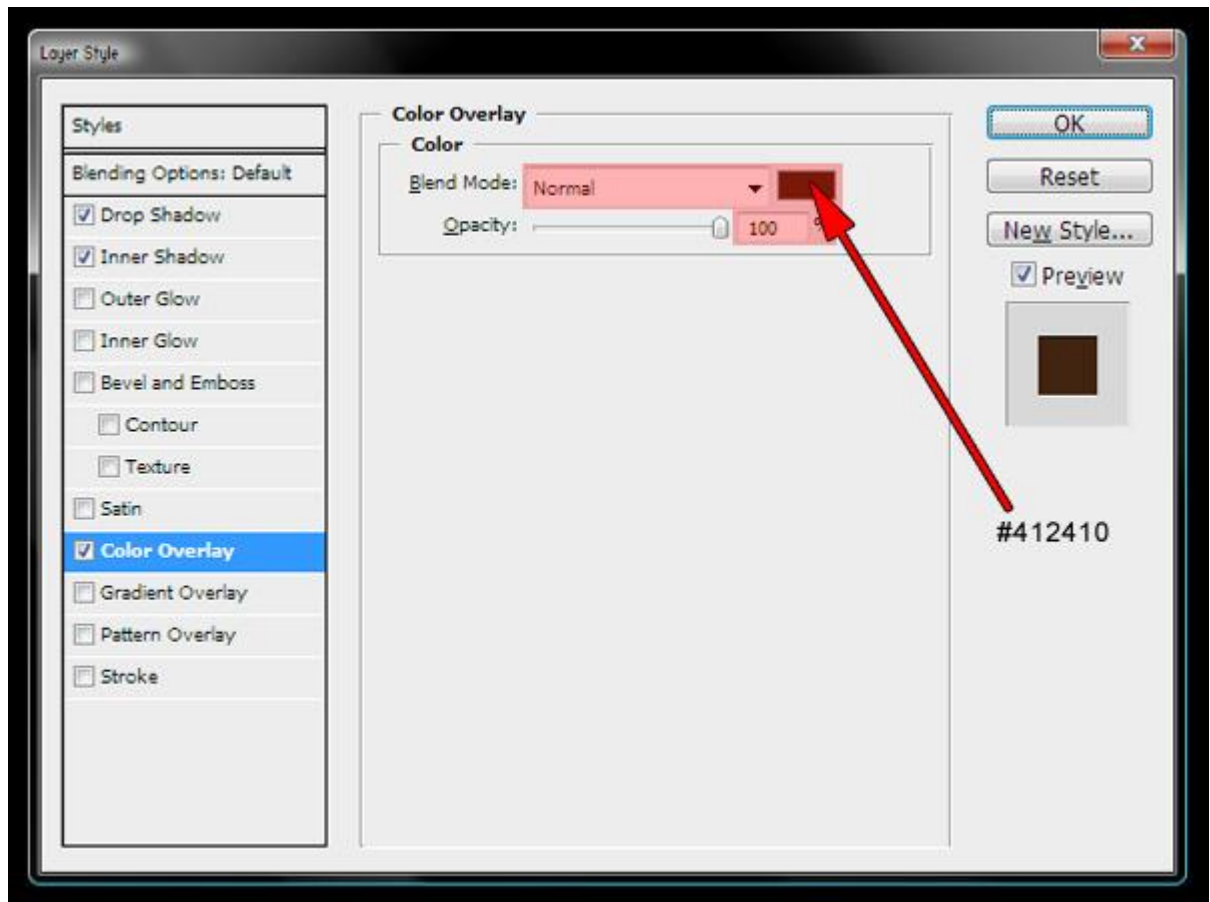
Drop Shadow:



Inner Shadow:



Color Overlay:



Final Result

This is the final result:

