

Data of the sky region at the time of the observation.....**SQM-L 21.30 IR -15.0° Temperature 16°**
 Data of the night.....**Sun alt: -58.0° Moon alt: -32.3°**
 Data of the object.....**Alt: 72.3° Az: 35.4°**
 Telescope**Stargate 18"**



M76 planetary nebula is not very remarkable at low magnification.

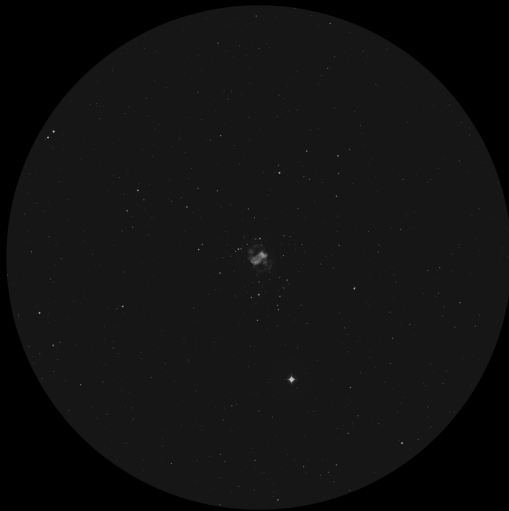
As usual I start by describing the field in which the object is located. I don't see many stars, and except for one of them, the rest are quite faint. This star stands out above the others, and in a way, it even steals the limelight from our planetary nebula. Its color is bluish-white.

M76 is visible to the naked eye, without the need for averted vision, although some details remain hidden at low magnification. Its size is small in this eyepiece and, at least at these magnifications, I don't quite see the resemblance to M27, nor do I understand why it is known as the little Dumbbell. My first image is of a barred nebula, with dimensions 1:4. Very bright, standing out clearly from the sky background, but not much.

After a few minutes of observation I notice a difference in brightness in the nebula itself, with the 3 o'clock region being clearly brighter than the 9 o'clock region. I also seem to notice that the thickness of the nebula is not constant but expands slightly at the edges. Perhaps this is why it is reminiscent of M27? If so I think you would have to put a lot of imagination into it because, honestly, the resemblance is poor.

Nagler 31mm (70x - 1° 10' - 6.6mm)

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The image of M76 in this eyepiece improves markedly as it is observed at a larger size, but I still struggle to find the similarities with M27.

Perhaps it is that expansion at the edges of the nebula, which is now more clearly seen, that may be slightly reminiscent of M27, but you really have to look for the coincidence to reach that conclusion.

I keep adding magnification to try to find more details.

Nagler 22mm (98x - 50' - 4.7mm)

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What a surprise! The nebula is much more complex than I imagined with the first eyepieces and I think I now understand the resemblance to M27. From the ends of the nebula two arcs depart in opposite directions. An arc leaves the 9 o'clock region to go up through the area from 12 o'clock. Similarly, although a little fainter, another arc leaves from the 3 o'clock region and turns in the opposite direction to the other arc, heading towards the 6 o'clock region. This second arc is more complicated to follow, and only at its beginning is it clearly distinguishable.

The arcs are much fainter than the rest of the nebula, perhaps that is why I had not been able to see them in the previous eyepieces. They are so faint that only with the averted vision I am able to observe them properly. If I

try to use direct vision I only observe the beginning of them in the 9 o'clock and 3 o'clock regions respectively.

Now it reminds me more of M27. However, in M27, these arcs are located on the same axis as the brightest region. In M76 they seem to be perpendicular to the brighter region, but in my mind the resemblance is drawn. I have finally figured it out.

Delos 14mm (154x - 28' - 3mm)

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I continue to be amazed by this nebula. The new detail that I observe with this eyepiece is a difference in brightness in the interior of the brightest area. It has no longer been a wide axis of uniform brightness (except for the 3 o'clock zone where, from the beginning, I appreciated an increase in brightness) to find a framed region more or less in the center of the nebula fainter than the outer edges.

It is very curious to observe, because I am not referring to the faint arcs but to the bright bar. It seems really complex, and this view, with the faint view of arcs that are fully contemplated using the averted vision, makes the whole gain in beauty. It is lucky to have a good set of eyepieces to see such a different image of the nebula at such different magnifications.



Ethos 10mm (216x - 27' - 2.1mm)

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The BEST image I have ever gotten of the nebula without any doubt.

Now it is not only that I can better appreciate the difference in brightness inside the bright bar, but also that the arcs close over the nebula itself.

Let's go by parts. Regarding the arcs, which is what most caught my attention, it is a delight to walk through them calmly using the averted vision. The beginning of both arcs is totally visible with direct vision, it is when you advance on them when they become fainter. But with a little more effort, you can see how the arc in the upper part of the nebula turns on itself to join the 3 o'clock region. It starts from the 9 o'clock zone of the bright bar and goes up to 12 o'clock in a 90° turn to continue parallel to the bright bar and end up turning (much fainter in this part) back to the 3 o'clock region.

Something similar happens in the other region, the arc that leaves the 3 o'clock region turns to move through the 6 o'clock region parallel to the bright bar and ends up joining again with the 9 o'clock region. However, this last

part is the faintest by far and the most difficult to observe.

Thanks to this image the nebula has gained a lot in size, as these bridges make the size of the nebula triple what I previously imagined and its proportions go from 1:3 to 1:1.

In addition to this dazzling view, I enjoy a better image of the central bar, and its fainter area inside, as if it were hollow. This is obviously an optical illusion as its lack of brightness is not similar to that seen on the inside or outside of the bridges.

It is very curious because it seems that this faint area runs from 3 to 9 the bright bar inside.

Finally I thought I saw a star just at the edge of the 3 o'clock zone which leads me to confusion. I don't know if the nebula extends around it or is so close that it blurs.

Superb image.



Ethos 8mm (270x - 22' - 1.7mm)

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What a pity to lose so much light with this eyepiece because the image of the nebula is breathtaking.

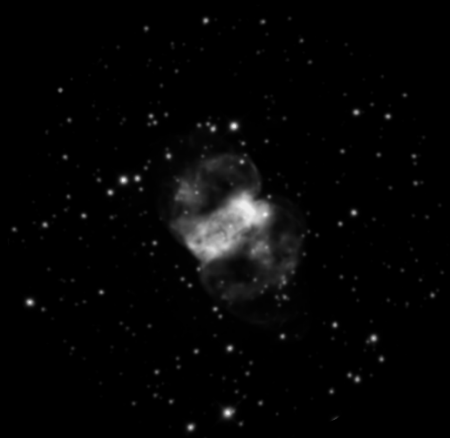
Thanks to this eyepiece I am able to clearly distinguish the contrasts of the central bar and enjoy the play of the star located in the 3 o'clock region of the nebula. Because of how close it is to the nebula and because of its faint brightness, this star appears or disappears depending on whether you observe it directly or not. It's a beautiful gift that detail in the 3 o'clock region.

The arcs now blend much more with the background and are much more complicated to observe. The feeling you get is that the nebula 'swells' with a fainter envelope. I have seemed to sense that within the arcs themselves there are brighter and dimmer regions, sort of nodules or granules of brightness. In fact, in the arc that goes from 9 o'clock to 3 o'clock through 12 o'clock, I have the feeling that it breaks shortly after turning. It really is a subtle but very beautiful image and I can confirm that it has nothing

to do with the first impression I had of a poor object without much detail.

On the contrary, it is full of subtleties that I really find difficult to describe but here and there I see different concentrations of brightness that surely are regions with more or less gases or with gases that approach or move away from us.

Complicated but very curious object.



Delos 4.5mm (480x - 9' - 1mm)