

**Understanding the Challenges associated with Digitising and Storing a  
Private Family-Based Photography Collection in Cape Town.**

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## SUMMARY AND KEY TERMS

Title of dissertation: Understanding the Challenges associated with Digitising and Storing a Private Family-Based Photography Collection in Cape Town.

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Photographic materials within the familial context are more than just mere objects. They represent priceless memories that are susceptible to material degradation. State institutions within the Arts in South Africa are generally found to be underfunded and understaffed, and find themselves struggling to caretake even conventional objects. Photographs and negatives are some of the most difficult objects to preserve because of their vulnerability to their storage environment, as well as, the autocatalytic degradation behaviour / aging of older negatives. This research will be focused on the condition assessment of a sample selection of negatives within the author's personal family photographic collection, as well as, the digitisation and appropriate storage with a focus on prolonging the longevity of the collection as a whole, in a sustainable manner. It is the author's intention that this paper can be used as a starting point for other South Africans hoping to do the same.

**Key terms:** Cellulose Acetate, Cellulose Nitrate, Relative Humidity, Temperature, digitisation, Adsorbents, Agents of deterioration, digital obsolescence, acetic acid, technical photography, preservation.

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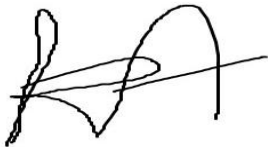
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## PLAGIARISM DECLARATION

I hereby declare that the dissertation '*Understanding the Challenges associated with Digitising and Storing a Private Family-Based Photography Collection in Cape Town*' is my own original work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



Khaya Adams

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# 1. INTRODUCTION

This initial chapter includes a number of different subjects, to better understand the project as a whole. Firstly, the background and aims of the study are outlined to impart a clearer understanding, with regards to the genesis of this paper. Secondly, a brief look into the development of flexible film bases will be described, to have a better initial understanding with respect to their materiality. This study is focused on private family collections, and therefore, the differences between institutional collections and private family collections will be briefly touched upon as well.

Photography conservation is challenging and the difficulty in locating good online resources is a significant aspect in preserving a private family collection and it is important that this is mentioned. A brief look at the different more academically focused resources available in regards to flexible film base conservation will then be explored. This is not a complete and comprehensive listing of these resources but it is rather a nudge in the right direction to highlight the types of resources that are accessible. The theoretical approach and research methodology of the project are also discussed, to better understand the layout of the paper. The advice given in this paper should not be taken and used verbatim, but should rather be seen as suggestions, that are only relevant when based upon the specific context as outlined in the paper. This chapter concludes with a preliminary outline of the chapters in the dissertation.

## 1.1 Background and Aims of the Study

In 2015, I digitised all our family albums. The main reason for doing so was to free up the space they were occupying in the house. I removed the photographs from the albums and scanned them individually. It amounted to around 10,000 photographs. I used an old Canon flatbed scanner (CanoScan LiDE 400) to scan in the photographs. The reason for scanning them individually was to better organise them, as well as, the belief that it would result in higher quality scans once digitised.

I had hoped that once the photographs were removed from their albums there would be some type of inscription which would help to identify them, but this was not the case, and the majority of the photos were placed straight into albums without any information.

The photographs would have spanned around thirty years, beginning just before 1990, when my older sister was born. Once digital photography became the preferred method of photography in our household, the albums were rarely opened. The main photographers would have been my parents, grandparents, close relatives, and my siblings and I. A few photographs would have been taken by family friends, which resulted in the pleasant surprise of coming across a few black and white photographs by the late well-known South African photographer George Hallett<sup>1</sup> (Jayawardane, 2020:[sp]). The scanned in images were then stored on two Hard disk drives (HDD) with one serving as a duplicate as a safety precaution. About two years ago, one of the HDDs failed, which motivated me to move all the images onto two solid state drives (SSD) with one serving as a duplicate once again.

I did not digitise the negatives in the collection at the time because I had not realised it was even possible. The negatives are enclosed within paper envelopes that one would receive when developing them at a photography laboratory. They are piled haphazardly in a shoebox sized metal container in no particular order.

The present research returns to these negatives to assess their condition and look at the method of digitisation as an added means of preservation. The focal question this research wishes to answer is: What is best way to prolong the life of the negatives within this private family collection? Knowing what I know now about the susceptibility of negatives to humidity and heat, it is important to make sure that these negatives are preserved in some way. Separating the negatives by type, putting each negative within its own type of sleeve and then placing these sleeves in an appropriate enclosure would be an ideal solution. The focus of this

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<sup>1</sup> George Hallett (1942-2020) had been a long-time friend of my father. Hallett was well-known for his portraits of Nelson Mandela which had been taken during South Africa's first democratic elections in 1994.

research is on the cellulose acetate negatives, as they are the older and more materially unstable part of the collection.

The reasoning for this research is both personal and academic. Going through the negatives it became clear that a number of the images had not been developed in the past and therefore exist only in their original exposed state. Allowing these negatives to degrade without attempting to preserve them would be a great loss to the family collection.

## 1.2 A Brief History of flexible film bases

Cellulose nitrate film was introduced by the Eastman Kodak company in 1889 (Enticknap, 2005:5). While cellulose nitrate was the starting point for flexible film bases, it was not the end point. It was not long before people realised that cellulose nitrate was highly flammable and it only took a few cinema fires to convince people that a change was needed (2005: 18) as Monique Fischer (2020:4) wrote, “Beginning in the mid-1920s, highly flammable nitrate film was slowly replaced with cellulose acetate film base.” Acetate was meant to be the panacea of film stock that lasted hundreds of years, but this was unfortunately not the case.

The main problem affecting cellulose acetate is that if it is not stored correctly, it can begin to deteriorate and produce acetic acid (Reilly, 1993:13). The ‘correct’ storage conditions will be discussed in more detail in chapter 4. The more degraded the film base is, the faster it will deteriorate. This is because the process is autocatalytic, as Reilly (1993) explains, “A catalyst is a substance that speeds up a chemical reaction but is not consumed by it. When a reaction is catalyzed by acids as it is in acetate film, and acid is a product of the reaction itself, you have an autocatalytic system.” Cellulose acetate was commonly referred to as ‘safety’ film due to the fact that it did not spontaneously combust, it went through several iterations before cellulose *triacetate* was manufactured in 1945 and is the only type of acetate film still produced today.

Even though cellulose nitrate is a concern for many conservators, archivists or any such stakeholders, its existence was quite brief (1889-1951).

Meaning that the vast majority of the types of surviving negatives in family collections would likely either be cellulose acetate (1920s-present) or the more modern polyester film (1955-present) base.

### 1.3 Institutional versus Private collections

The needs and resources of institutions and private collections can differ greatly, including their mandate in regards to preservation. The present research attempts to fill this gap within a South African context. The literature suggests a few notable differences regarding collections management, decision-making, access and use of resources. For example, there is likely much less bureaucracy involved when scanning and digitising negatives in a private family collection when compared to an institution. The same can be said in relation to the ethics around deaccessioning an object (Paterson, 2013:6). An institution cannot easily dispose of objects that they can no longer take care of, as it is usually a process that involves numerous stakeholders. One could argue that family collections are almost always focused on the content of the image, whilst institutions may be focused on the content and materiality of it as well. One could therefore argue that preservation may have a different meaning depending on the context. That is not to say that private family collections are not concerned with the materiality of objects, but there is a sentimentality attached to their preservation that is absent from institutions that hold vast collections.

Institutions do not have the same freedom in regards to decision making since it is not ‘their own collection’. If a curator or conservator would like to make decisions regarding an object, they cannot make it by themselves. A good example of this is the Benin Bronzes. One person does not solely make the decision in regards to objects, and in an institutional setting, legality can even be an issue as Lesseliers (2023:[sp]) writes:

The British Museum’s cautious approach is primarily due to its cultural internationalist perspective on repatriation. It perceives itself as a library of the world that showcases pluralism and diversity. Additionally, the museum’s ability to repatriate cultural artifacts is constrained by the provisions of the British Museum Act of 1963.

One could argue that even if returning the bronzes is the right thing to do morally, by placing these pieces within an institutional setting, one has tied them in place using a complicated macro-environment. If this were a private collection, there would likely still be hurdles in place, since they are cultural artifacts, but the actual process would likely be much simpler.

It is important to emphasise that one should not view the categories of materiality and content as too rigid. Private family collections are not solely concerned with the content of an object and institutions are not only interested in the materiality of an object. It is rather pointing to a difference in objectives and mandate. Institutions exist in part to safeguard significant cultural artefacts and therefore they have a vested interest in having objects to exhibit.

The materiality of an object is lost once it is photographed or digitised. In the case of a negative, it is transformed into something completely different. With that transformation there is also a sense of loss. One completely obscures the film base, the emulsion layer, the residual chemicals that made the whole light capturing process possible etc. There is historical value in understanding how these different materials and processes fit into a temporal space. That once again does not mean that the image captured does not have value, but the material itself may take precedent.

Since photography became easily accessible to the public, it has served as a means to capture memories (Severson, 1995: 1). Nowadays it is easy to capture 100s of images at the click of a button and go through them like one's own private photography lab but this was not always the case. Photography used to be an entirely analogue endeavour, with each photograph being carefully framed and produced. This meant that each photograph stored within an album had an ascribed value, within that familial context.

If for example, famed war photographer Roger Fenton<sup>2</sup>, had taken a picture of one's relative in the past, there would be different objectives for the various parties involved. One would be interested in the image itself, as it would be a picture of one's relative but an institution would

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<sup>2</sup> Roger Fenton (1819-1869) was a British photographer and one of the early pioneers of the art. He is most well-known for the four months he dedicated to capturing of the Crimean War (Matthew, HCG & Harrison, B (eds), 2004:315).

likely rather be interested in the negative. The negative would likely be a glass plate, considering the time, and there would be value in preserving the glass because it contains all sorts of valuable information pertaining to the time. This example, whilst somewhat simplistic, is a way to understand how families and institutions differ in how they perceive photographic materials.

## 1.4 Good and Bad Online resources

It is important to understand that there are a diverse range of requirements, depending on the materiality of the object. If one cannot guarantee the necessary storage requirements then the likelihood of being able to preserve those items is drastically reduced (LeMaster, 2012: 26). This is not only relevant for small private home collections but institutions as well. It is not uncommon to find institutions in possession of objects that they cannot sufficiently preserve because they were unable to refuse the donation. This has even resulted in institutions having policies in place to allow them to outline what they will and won't accept as donations (Garner, 2023:[sp]). The preservation of photographic materials is a particularly challenging endeavour in this regard.

Before moving onto the type of knowledge produced through academic channels, it is important to acknowledge the scarcity of *good* online resources especially in relation to photography conservation. Even just separating those good and bad online resources can be challenging. For example, an article that appeared in 'Country Living' suggested the dangerous method of using bread to clean and polish photographs<sup>3</sup> (Murtaugh, 2017:[sp]). The New York state archives has a single webpage consisting of three paragraphs, which describes general common sense practices to photograph and slide preservation (New York State archives, sa:[sp]). The Wisconsin Historical society has a collection of websites to help in regards to 'caring for and preserving your family treasures', but it does come with the disclaimer:

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<sup>3</sup> Even though to the naked eye, the picture may look 'cleaner'. One would actually be damaging the picture. For example, the fat and oil on the bread would be deposited onto the surface of the photograph which would eventually degrade the image. The article also does not state how much pressure should be used to 'polish' which will likely also cause damage due to the abrasion of rubbing the bread on the surface of the photograph. It is at its core, a very bad method to treat photographs.

The information presented here is not intended to provide comprehensive technical advice or instructions on preservation issues. Any information contained or referenced is meant to provide a basic understanding of preservation practices and does not constitute an endorsement by the Wisconsin Historical Society (Wisconsin Historical Society, sa,[sp]).

One of the best online resources mentioned by the Wisconsin Historical Society for photographic care was created by the United States Library of Congress (Library of Congress, sa:[sp]). Even though it is incredibly helpful, there are still instances where the online resource shows its limitations and instructs the viewer to “consult a photograph conservator” (Library of congress, sa: [sp]). One reason why there is usually this ‘consultation disclaimer’ is because photographic conservation is difficult. If one were to attempt interventive conservation, one would have to use chemicals that are likely to be harmful to your health and therefore these websites will not easily give one, step-by-step advice on how to go about doing this.

The other reason has to do with accessibility. In many western institutions, there are in-house conservators that can be consulted and would likely even offer advice. This is unfortunately not the case for South Africa, as McGinn (2017:37) writes,

The most pressing issues and challenges identified include diminishing subsidies, freezing of posts, ageing infrastructure, over-crowding of repositories, a lack of dedicated budgets for conservation, a misunderstanding of the role and purpose of conservation, scant expertise and research, a non-existent publication record on local content, conservation practitioners close to retirement, poor succession planning, and a lack of local training opportunities.

It is important to acknowledge the above South African context, in order to understand why online resources could provide valuable guidance in the absence of local expertise, but it is equally important to understand that the available online advice can be confusing. In addition, more academic resources as listed below are also not always accessible locally, especially if one is not part of a tertiary institution.

## 1.5 Brief Literature Review

This section reviews various resources that have both informed and helped in the process of writing this paper. Leo Enticknap's book *Moving image technology: From zoetrope to digital* (2005), was incredibly helpful in understanding the background to the development of flexible film base and how it developed concurrently with the film industry. There are also a number of good and easy to understand books on photographic conservation that were helpful such as, *The Permanence and Care of Color Photographs: Traditional and digital Color Prints, Color Negatives slides and Motion Pictures* by Henry Wilhelm with contributions by Carol Brower (1993), this book was particularly helpful when looking into sleeves for negatives. James Reilly (1993) has produced one of the best guides to date on the storage of cellulose acetate film in the *IPI Storage Guide for Acetate Film*.

Bertrand Lavédrine has published two books on (*Preventive Conservation of Photograph Collections* (2003); *Photographs of the Past: Process and Preservation* 2009) photographic preservation and both were helpful in understanding the materiality of the acetate negatives in regards to their makeup. Laura Capell (2010) published a very useful article titled, *Digitization as a preservation method for damaged acetate Negatives: A case study*. It was integral in understanding some of the limitations of the digitisation process in regards to the level of degradation.

Monique Fischer's (2020), *A Short Guide to Film Base Photographic Materials: Identification, Care and Duplication* was valuable in identifying acetate film. Maurice Fisher (sa) has created an entire chronology of Ilford film online at 'photomemorabilia.co.uk' and it was incredibly useful in helping to date and identifying the Ilford film in the collection to isolate the cellulose acetate film.

The Canadian Conservation Institute (2018; 2020) website possesses one of the best resources in regards to agents of deterioration and proved helpful in understanding the particular dangers acetate negatives may be susceptible to. Foekje Boersma's article *Preventive conservation—*

*more than 'dusting objects'?* An overview of the development of the preventive conservation profession (2016) was instructive in emphasising the importance of preventative conservation in the process of preservation. Jean-Louis Bigourdan (2006) wrote an article titled, *Stability of Acetate Film Base: Accelerated aging Data revisited* which was included in a collection of articles in a book edited by Debra H. Norris and Jennifer Jae Gutierrez, titled, *Issues in Conservation of Photographs* (2010). It was useful in understanding why cold storage is such an effective storage method for acetate film.

Yvonne Shashoua, Michael Schilling and Joy Mazurek's (2014) article on adsorbents was particularly valuable in designing a suitable storage method. Douglas Nishimura's 2015 article on the same topic was similarly helpful. Julianne Bell, Mick Newnham & Petronella Nel (2017) also published an article on adsorbents, and it was enlightening in its aim to use tea as an alternative to more traditional adsorbents. The reasoning as to why the advice was not followed in this particular instance was the lack of long-term evidence showing the efficacy of tea as an adsorbent.

When it came to digitisation, the resources that proved most helpful were online and were produced by photographers or scanning enthusiasts. The blog 'Scan your entire life' by Curtis Bisel (sa) was particularly helpful in understanding the digitisation process using an Epson V600, and is one of the best online resources one can find in regards to home digitisation. The websites 'Carmencita Film Lab' (2023) and 'Richard Photo Lab' (2016, 2021) were both educational in explaining the different file formats that can be used when digitising as well as their accompanying drawbacks.

## 1.6 The Theoretical Approach and Research Methodology

The negative collection was examined as whole, to initially isolate all the acetate negatives from the polyester negatives. Once the acetate negatives had been identified, a sample size was created by choosing one in every ten negatives. A condition assessment was then conducted on the samples to assess anything of note, with particular attention paid to any damage or deterioration. A-D strips<sup>4</sup> were used to assess cellulose acetate deterioration.

Each negative was then measured and photographed under different lighting conditions, namely: normal illumination, raking, specular and transmitted lighting.<sup>5</sup> The negatives were also viewed under magnification using a high-powered USB microscope, to better assess damage to the image layer as well.

After the condition assessment of the samples, an assessment of the environment where the negatives will eventually be stored needed to take place. This evaluation took place over two months using data loggers which recorded a new reading every ten minutes. The data gathered from both the data loggers and the condition assessment, provided the necessary information to create a stable storage environment for prolonging the longevity of the cellulose acetate negative collection as a whole.

## 1.7 Feasibility and Significance of study

In conclusion, South African institutions have a great need for skilled conservators. In this context it is important to understand that many South Africans have photographic collections that are neglected, collecting dust, deteriorating or both. This study will show those people that

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<sup>4</sup> A-D strips are a propriety product produced by the Image Permanence institute in New York. They are designed to measure the deterioration level of acetate film. They are easy and simple to use, and are most importantly non-destructive. They are at the moment the most effective way to ascertain the condition of acetate film collections. They are produced in America and must therefore be imported, which can prove to be costly for South Africans in need of this specialised testing tool.

<sup>5</sup> Technical photography using different types of lighting can elucidate the different aspects in regards to the condition of the object. Due to the material nature of negatives, one would assume that damage can be most effectively observed using transmitted light (light shone through the object) but this will be touched upon in more detail in the following chapter.

it is not impossible to preserve their collections themselves. It is important that this paper is not seen as a step-by-step guide, as each collection has their own unique needs. It should rather be seen as opportunity to view the different options that are available, and at the same time, highlight some common-sense practises when it comes to photography conservation.

## 1.8 Preliminary Outline of Chapters

Chapter two is focused on the initial sampling and the condition assessment of those samples. Different lighting and magnification are both used to ascertain the condition of the chosen samples and areas of concern are noted. Chapter three delves into the digitisation process of the samples and the challenges that go along with this process, with particular attention paid to choice of file format, metadata and scanning settings used.

Chapter four will discuss the storage options for this particular photography collection. It will look at different agents of deterioration affecting cellulose acetate film, digital storage and obsolescence and the choice of negative sleeves. It will also display the data collected in tables to emphasise how environment affects storage choice.

The final chapter is the conclusion, which will summarise the previous chapters, as well as, elucidate upon how the study has improved upon the storage of the photography collection in question. The chapter ends with the limitations of the study and suggests areas of the dissertation that can be further researched.

## 2. SAMPLING AND CONDITION ASSESSMENT

### 2.1 Introduction



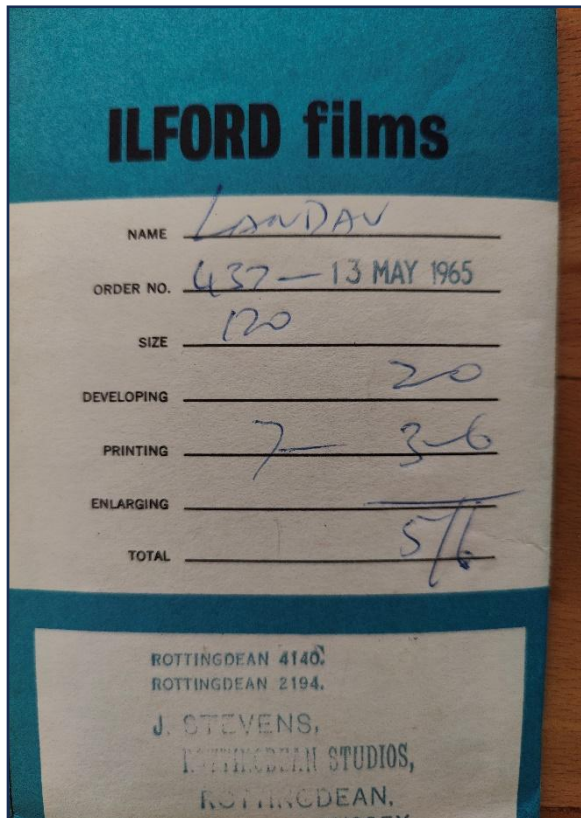
**Figure 1: Metal box containing negatives.**

The negatives were stored within a metal container, as can be seen in figure 1. One can see that the negatives were enclosed within paper envelopes and the box was damaged in the upper right corner, which meant that the box did not close fully and allowed the film base the ability to ‘breathe’.

Since this present research will only be focusing on cellulose acetate (CA) film base, it was important to group those together when sampling. There are a number of ways to identify them and some of these methods can unfortunately be quite destructive and unreliable. An example of a destructive method would be the burn test, this is done by removing a small portion of the film base and

burning it in a well-ventilated area. If it is cellulose nitrate (CN) it will burn rapidly with a yellow flame, if it is CA, it will not burn as quickly (Fisher, 2020:4).

Research conducted by Carter, Swarbick, Harrison & Ronai (2020), sought to find a reliable and non-destructive scientific method to rapidly identifying cellulose nitrate and acetate. Using Infrared total reflectance spectroscopy and a multivariate statistical analysis they were able to reliably identify film bases. This method uses a special piece of equipment using infrared (IR) radiation to give one a measurement based on the material it is reflecting. That measurement is then used in conjunction with databases and software to assess whether a negative is CN or CA.



**Figure 2: Brand and date of when negative was developed on the envelope.**

Whilst this is very simplistic explanation of a fairly complex procedure, it highlights the existence of a method that can non-destructively help identify cellulose acetate.

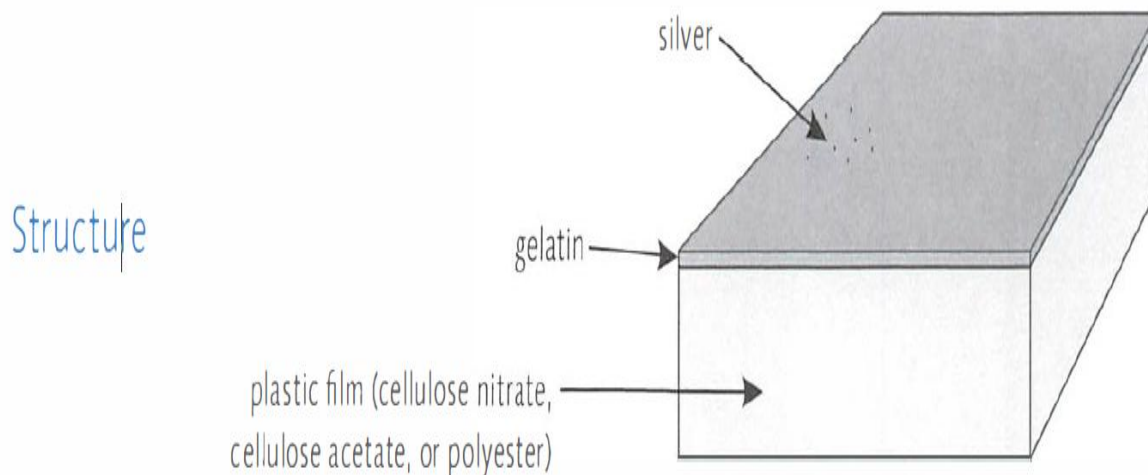
This method however, would likely not be accessible to most large South African institutions let alone small family collections due to the necessary equipment, databases and expertise.

Therefore, the best non-destructive method for identifying CA at home is achieved by observing the brand, year and any noticeable edge markings. Using this method, it was possible to identify which ones were CA, as in many cases the brand and date were marked on the back of the envelope as seen in figure 2.

It is however, important to note that the date is merely showing when the film was developed and does not signify the date of manufacture of the film base. Ilford film was a British manufacture of film and once they started producing CA film base in the mid-1940s they almost exclusively produced this type of film. Considering the width of the negative (6cm) they would have been 120 film base and this is another indication in terms of when they would have been produced. Maurice Fisher (sa) created a website called [photomemorabilia.co.uk](http://photomemorabilia.co.uk), in which he created an entire chronology of Ilford film, listing the dates of when and what films were released and even the characteristics of the film base. Using this source made identifying the acetate film a straight forward process.

The acetate negatives were either from the Kodak or Ilford brands. Kodak CA film base is fairly easy to recognise through edge printing, and the use of the words 'Safety Film' as can be seen in figure 4. In this particular instance, the identification of the acetate film was relatively simple, but this is unfortunately not always the case, which is why people turn to the more destructive tests, that are not always reliable.

Before one goes further, it is important to understand the cross section of a CA negative. By understanding how these negatives are layered, one will be able to better understand how the samples are being evaluated. It also allows one to better understand the consequences of damage to the different layers. One can view the cross section in Figure 3.<sup>6</sup> The bottom layer is the base layer, made from, in this case, cellulose acetate. The image layer above is suspended in a gelatin binder. The image layer is essentially where the image has been 'captured'.



**Figure 3: A simple cross section of a cellulose acetate negative.**

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<sup>6</sup> Image was taken from, Lavédrine, B, Gandolfo, JP, McElhone, J & Monod, S. 2009. *Photographs of the past: process and preservation*. California: Getty Publications.

All of the CA film was grouped together and sampled. One in every ten negatives were chosen, which resulted in fourteen samples. Thirteen of them had a width of around 61mm, with one being 35mm wide, meaning that all but one of the samples were 120 film stock. The sizes of the 120 film also differed in length, with three of them measuring 61mm x 60mm, two of them measuring 61mm x 45mm and the rest them being 60mm x 90mm.

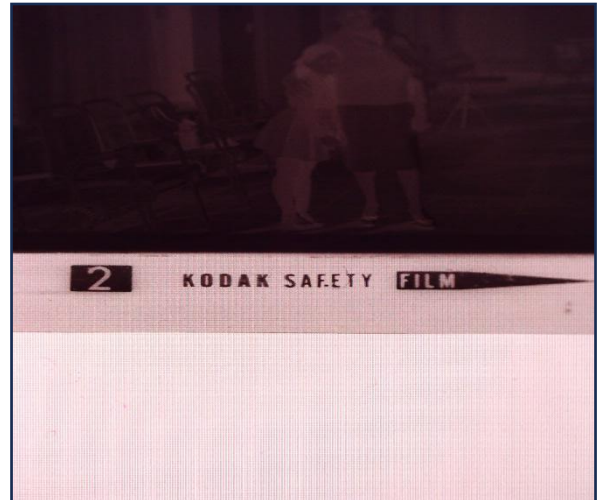


Figure 4: Kodak Edge Printing.



Figure 5: Different size of samples from the author's collection.

To get the correct length, one needs to measure the image layer. One can see an example of the different sizes of the samples in figure 5. Each sample was then placed in a separate piece of folded paper with a description of each written in pencil on the outside, which included the development date, brand, and size, e.g. Ilford, 1965, 6x6. All the negatives are dated between 1962 and 1968.

## 2.2 Initial Visual Inspection for damage

Before beginning a more in-depth condition assessment of the samples, it is useful to do an initial visual inspection. It allows one to note down any obvious signs of damage or degradation that can help one inform how one will conduct a more thorough assessment later on. If CA film has deteriorated, particularly if the deterioration is severe, one will notice a vinegary smell, hence the term ‘vinegar syndrome’ to describe CA degradation. One negative can affect another, and it is therefore, important to locate the damaged ones promptly. One will be looking for things such as warping, curling and discoloration, all of which are early signs of deterioration.

If one were to see things such as formation of bubbles in the film or even channelling, which is when the image layer has deformed due to shrinkage in the film base, this would point to a severe level of degradation and one would likely smell it before one even saw these things. One can see examples of these types of damage and at what stage they are likely to occur in figures 6,7,8 and 9.<sup>7</sup>

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<sup>7</sup> All credit for images used in figures 6,7,8 and 9 goes to the library and Archives of Canada, Government of Canada (2022) Access to this resource can be found online: <https://library-archives.canada.ca/eng/collection/engage-learn/publications/ebooks/Pages/visual-glossary-acetate.aspx>

### 2.2.1 Curling

Curling is generally the first indication that something is wrong. It can also be accompanied by a blue or red discolouration when the degradation is more advanced. Curling is usually caused by an environment that is too dry and the difference in contraction rate between the two layers (image layer and film base). Curling by itself is reversible, and is not considered degradation when viewed in isolation.

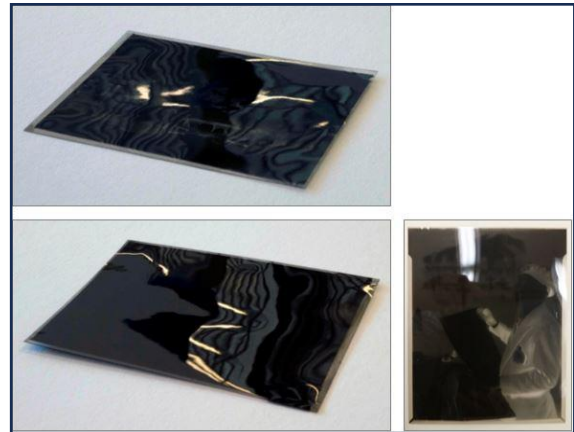


Figure 6: Curling

### 2.2.2 Warping

As the base begins to deteriorate, shrinkage and brittleness usually begins to occur which leads to warping.



Figure 7: Warping

### 2.2.3 Bubble and Crystal Formation

As further deterioration takes place, the loss of the plasticiser in the base layer becomes noticeable through the formation of bubbles or the deposits of “small whitish crystals on the surface.” ( Lavédrine, Gandolfo & Monod, 2003: 19).



Figure 8: Bubble and Crystal Formation

### 2.2.4 Channelling

Channelling is generally seen as the most severe and last stage of acetate deterioration. It is the culmination of the previous stages as well as further loss of plasticiser and severe autocatalytic acetic acid damage.



Figure 9: Channelling

## 2.3 Testing using A-D Strips



Figure 10: A-D Strips.

The types of acetate degradation listed in the previous section were not observed in any significant way among the sample negatives, and therefore, they had likely not begun to deteriorate yet, but to be sure, there are ways of testing for deterioration. There are more scientific methods of observing degradation, such as the methods put forth in the research conducted by Littlejohn, Pethrick, Quye & Bellany (2013). They found that there was a correlation between the visual degradation of cellulose acetate negatives and the chemical changes observed using micro-Fourier Transform Infrared (FTIR) Spectroscopy and ion chromatography (Littlejohn et al, 2013:423).

The main problem lies in the access to the necessary equipment and expertise to conduct these tests. It may be difficult for most large institutions in South Africa to gain access to these things, and would almost certainly not be available to small family collections.

Simpler means of testing at home includes the use of testing kits, called A-D (Acid Deterioration) strips. They are a propriety product produced by the Image Permanence Institute in New York. For anyone in possession of acetate they are an invaluable resource, which is why their high cost is unfortunate. The results of the strips are measured in five colour coded levels, with blue to show that there is no degradation and yellow to indicate severe degradation.

On their website they sell for 60 US dollars, but to import them at this time of writing would cost the equivalent of almost 175 US dollars. One can see how problematic this can be for those of us locally. Each pack comes with 250 strips as seen in figure 10. One strip was placed with each sample enclosed within a separate paper envelope for 24 hours. This method was chosen to better isolate the deteriorating negatives. If for example, sample four, showed signs of degradation, it could then be traced back to the pack of negative it had come from and then they could be tested as well. Luckily, all of the strips came back blue, indicating that there was no deterioration.



Figure 11: Technical photography set up.



Figure 12: Transmitted light.

## 2.4 Technical photography

Technical photography is necessary for a number of reasons. Firstly, it is to provide stakeholders with a visual record of the condition of the collection when it has first been assessed. And the most important reason is to use the different types of photography to observe anything of note during the condition assessment. Technical photography was conducted with the film placed within a film holder, to both flatten the image, and reduce the amount of handling necessary, as seen in figure 11. To figure out the best type of photography to identify areas of concern, visible

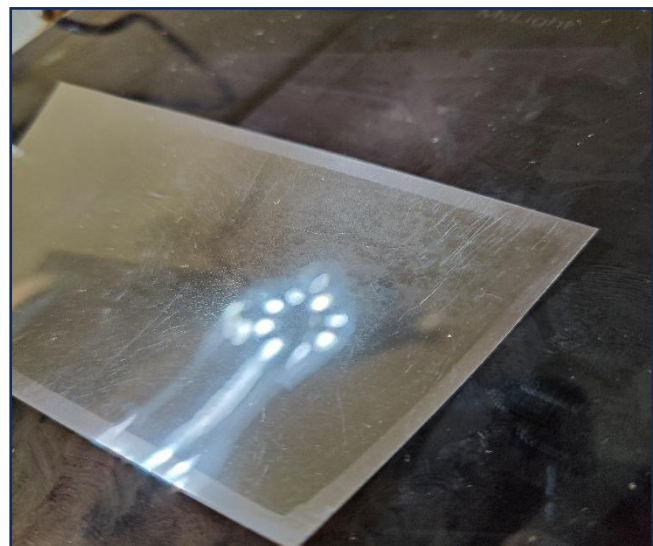
light was used first. Due to the nature of the film base itself, it was hard to see anything notable using this method. Next was transmitted light, which was achieved using an iPad on a white background, with the backlight on full, as seen in figure 12. Transmitted light is when light is shone through the back of an object, and it is particularly effective when used with a negative.

Raking light seen in figure 13, is when a light is shone through one side of the object to see any distortions in the material such as warping, which meant that the negative had to be removed from the holder. Raking light was not as useful as transmitted light and did not provide anything noteworthy. Specular light is achieved by shining a light directly on the object and observing the resulting surface sheen. It proved to be the one of the more useful types of photography to located areas of damage, particularly when viewed under magnification.

One can already see in figure 14, that even without magnification, there are scratches on the film base, which is completely obscured when viewed through transmitted light.



**Figure 13: Raking light.**



**Figure 14: Specular light.**



**Figure 15: Magnification using specular light.**

It was also important that before taking a closer look for areas of damage, one should ascertain which side is the image layer. There are a few ways to do this but the easiest method is to look for the matte side of the film base, which is usually the image layer.

Another method is to observe any curling, as the image layer would be within that curl. The reason for this, is the difference in contraction rate between the image and base layer, as was discussed in the previous section.

Using specular light and magnification, one could see numerous thin scratches, as can be seen in figure 15. These types of scratches were observed in all of the negatives on both sides.

The scratches were more apparent on the shiny side due to the difference in refraction. One could account for these scratches, by looking at the way the negatives were stored.

All the negatives were stored grouped together in their envelopes without separation between each film base, as seen in figure 16. This would have caused the negatives to rub against one another, which would have been further exacerbated by any dust sandwiched between them.

Specular light under magnification was also helpful in locating fingerprints, which would have remained there since whoever last handled it incorrectly, as can be seen in figure 17.

Transmitted light was invaluable in understanding the condition of the image layer. By shining a light through the negatives, one can better locate missing or damaged areas and discolouration. When viewing the negatives under this transmitted light, everything looked more or less perfect.



**Figure 16: Previous storage of samples.**



**Figure 17: Record of fingerprints.**



**Figure 18: Sample 9 under transmitted light.**



**Figure 19: Magnified view of problem area in sample 9.**

The image layer appeared uniform, without any damage: it was only under magnification that it became apparent that there were small areas missing. It should be noted that even in the worst case of it, as seen in sample 9, the damage was still minimal and could only be clearly identified as loss under magnification.

Figure 18, shows sample 9 photographed using transmitted light, and one will notice two small white dots in the middle right-hand side. Once seen under magnification, as in figure 19, one was easily able to tell that the image layer had completely disappeared.

These areas of loss can likely also be explained by their previous storage as well. These negatives are almost sixty years old, and the fact that the loss within the image layer remains relatively small, when one considers how they had been stored, is quite remarkable. These areas, in which the image layer has been damaged will be an important observation to be aware of during the digitisation process, as this will likely result in gaps in the digital image.



Figure 20: State of returned negatives.

Another area to be aware of is the manner in which the negatives have been cut. When your developed photographs were returned to you from a photography lab, you would not get the roll returned fully intact but rather in pieces, as seen in figure 20. This is the reason why the samples are not all one uniform length size. As previously discussed, the correct way in which to ascertain the film size particularly with 120 film is by measuring the image layer size.

Why this is important is that there is a correct and incorrect way to cut film. One would want to make sure that it has been cut correctly so as not damage the image layer. Sample 1 as seen in figure 21 is a good example of a well-cut frame. There is a clear delineation between the image layer and the surrounding film base.

This is however not always the case and one may find negatives that have been cut to the point that one is not sure if the image layer itself has been severed. Two of the samples (samples 4,13) are such cases, they can be seen in figure 22 and 23, where the image appears cut.

This is something one should be aware of once again during the digitisation process as it could lead to a sense of incongruity in the image and would need to be noted if this is the case.

Something that was surprising when viewing the negatives was a patterning around a number of the samples as seen below in figure 22. Around the edges there are what appear to be black smudges almost as if it was burned. This does not however have anything to do with degradation in the image but it is rather due to light exposure, called light leak. After a negative is exposed but before it is developed it is still susceptible to changes by light.



**Figure 21: Example of how Sample 1 has been cut.**

Of the 14 samples, six of them suffer from varying degrees of light leak (samples 2,3,4,5,6,13). In most cases light leak is accidental and unintentional, however, some photographers will intentionally expose their film to light to create a deliberate flare effect in the image (Mireles, [sa]:[sp]). Of the six samples suffering from this light exposure, figure 22 (sample 4) is one of the worst examples of it, one can even see how the exposure has moved from the edge of the film base and encroached upon the image. These will also need to be noted during the digitisation process, as it will likely mean that those sections of the image have been obscured. Mireles ([sa]:[sp]) explains what could happen if an undeveloped film is exposed to light, “At first it will create light leaks or interesting effects, but after a while, the negative will be completely black.”



**Figure 22: Sample 4 with cut off at the top.**



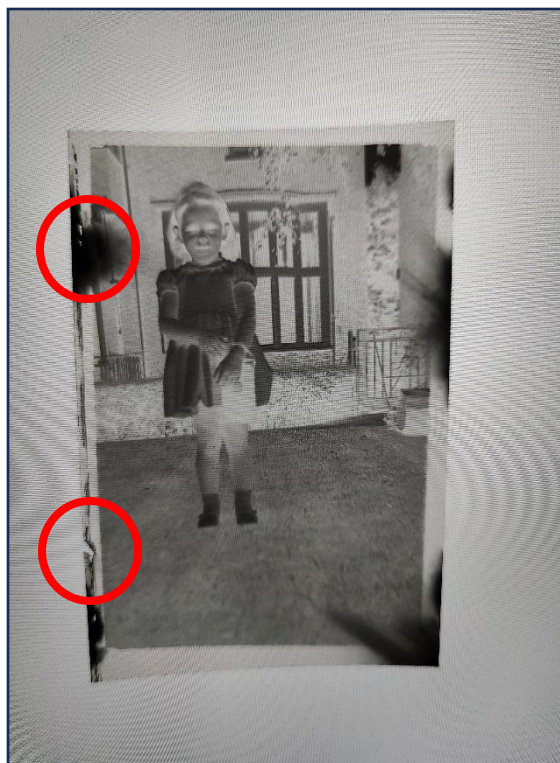
**Figure 23: Sample 13 with cut off at the bottom.**

In samples 2, as seen in figure 24 below, one can see that the light exposure is not as severe. These are also smaller sized film, being 6x6, as opposed to the 6x9 sized film in figures 21,22 and 23. If one also looks closely one can see that there are actually three frames on the strips, with two being full frames and a partial frame on the right. The strip has been cut right down and through the image layer. This could have been due to the fact that the image was overexposed when it was captured on camera and it was likely not going to be developed anyway. One will be able to check something like this during digitisation.

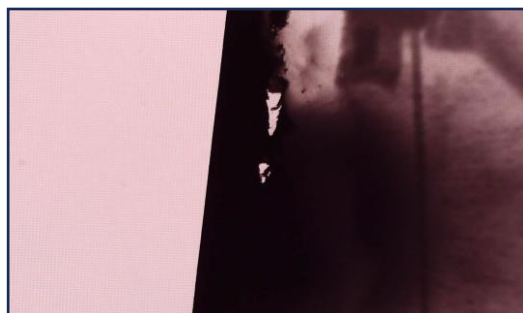


**Figure 24: Sample 2.**

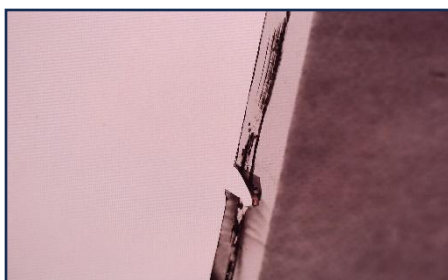
Physical damage was not only limited to scratches and two of the samples had tears on their edges (samples 3 & 5) The tears themselves did not encroach upon the image layer, but to better understand these scratches one needs to understand a bit more about CA. CN, CA and Polyester are essentially all different types of plastics (Lavédrine, Gandolfo & Monod, 2003:16). The invention of CN and its application in photography paved the way for flexible film. Both CN and CA, whilst naturally rigid and fairly strong, are not particularly flexible forms of plastics. Modern Polyester film is both thicker and stronger compared to CN and CA, and it is for this very reason, that its adoption over acetate was so protracted (Enticknap, 2005:23). With CA, if there was a jam within the camera, the film base would likely break before the camera components, but the opposite was true for polyester, as Enticknap (2005:23) writes, “a survey of US cinema operators sponsored by Agfa-Gevaert in 1979 revealed widespread objection to its introduction...and fear of equipment damage was ‘the main source of resistance to polyester.”



**Figure 25: Sample 3.**



**Figure 26: Magnified view of small tear in upper left section of sample 3.**



**Figure 27: Magnified view of tear, bottom left of sample 3**

The reason why this needs to be highlighted, is to show that these CA film bases are relatively fragile when bent and it does not take much to cause tears within the material, particularly in the outer edges, where things are more likely to ‘catch’. Figure 25, shows sample three under transmitted light, and figure, 26 and 27 are magnified views of the areas where the tears are located.

One can see in figure 27, that the tear is a small lateral one, that has folded in on itself but still remains separate from the image layer. Under magnification, the tear in figure 26, appears to be two holes, a small circular hole at the bottom and a longer one above it. It looks as if something sharp caught and pulled on the film base. What makes it quite unique is that it is more of a gouge than a tear, as the outer edge remains untouched, it looks almost as if a staple had been removed badly. It is hard to explain this type of damage, but it is thankfully not affecting the image layer.















## 2.5 Compiling Data and Conclusion

Once all the technical photography and visual observations have been conducted, it is useful to compile all of those things into a table. The table should include different sections, such as scratches, light leak, image layer loss etc. Each of those sections should then be judged on a sliding scale. Try to keep this scale as simple as possible, e.g. use a scale of 1 to 5, with 1 being seen as the worst and 5 as the best.

It makes it easier to assess one's collection as a whole and identify anomalies amongst the samples, e.g. samples 3 & 5 in regards to physical tears in the negatives. The headings included in the table will be reliant on the materiality of the object being assessed. The table for the 14 samples after their condition assessment in this instance can be observed below.

What one can see from the table is that none of the negatives are deteriorating due to the CA base itself. This was also confirmed through the A-D test strips. The majority of the damage affecting the negatives is a direct result of poor handling and storage. One can even argue that there is a direct correlation between the severity of scratches on the film bases and the level of loss in the image layer. Having the data displayed in such a simple manner gives one a better idea of how one should be treating the collection as a whole.

It is important to highlight the fact that the loss within the image layer, even in the worst cases, is minimal and does not obscure the viewer's understanding of the photograph as a whole. Even with all these different issues, the 14 negatives remain to be in an overall good condition, without any signs of autocatalytic degradation.

Sample	Picture of Sample (Transmitted)	Size (mm)	A-D test result	Curling	Discolouration	Warping	Bubbles	Crystal formation	Channeling	Image Layer Loss	Light Leak	Physical Tears	Physical scratches
1		60x90	5	5	n/a	n/a	n/a	n/a	n/a	5	n/a	n/a	3
2		60x45	5	5	n/a	n/a	n/a	n/a	n/a	5	3	n/a	3
3		60x90	5	5	n/a	n/a	n/a	n/a	n/a	n/a	3	4	4
4		60x90	5	5	n/a	n/a	n/a	n/a	n/a	4	2	n/a	2
5		60x90	5	5	n/a	n/a	n/a	n/a	n/a	5	4	5	3
6		60x60	5	5	n/a	n/a	n/a	n/a	n/a	4	5	n/a	2
7		60x45	5	5	n/a	n/a	n/a	n/a	n/a	5	n/a	n/a	3
8		60x60	5	5	n/a	n/a	n/a	n/a	n/a	5	n/a	n/a	3
9		60x60	5	5	n/a	n/a	n/a	n/a	n/a	4	n/a	n/a	2
10		24x36	5	5	n/a	n/a	n/a	n/a	n/a	4	n/a	n/a	2
11		60x90	5	5	n/a	n/a	n/a	n/a	n/a	5	n/a	n/a	3
12		60x90	5	5	n/a	n/a	n/a	n/a	n/a	5	n/a	n/a	3
13		60x90	5	5	n/a	n/a	n/a	n/a	n/a	4	4	n/a	2
14		60x90	5	5	n/a	n/a	n/a	n/a	n/a	5	n/a	n/a	3

Key:  
 1: Poor                      3: Fair  
 2: Fair-Poor              4: Good Fair  
 3: Fair                        5: Good  
 4: Good-Fair              n/a: Sample is unaffected by this category.

**Table 1: Condition Assessment Results**

## 3. DIGITISATION

### 3.1 Introduction

Before describing the digitisation process itself, it is important to discuss what digitisation is, and its benefits and limitations. Digitisation in regards to conventional objects such as books, documents, art on canvas and photographs etc. refers to the process of turning these objects into digital images. Meaning that a digitised book is essentially just a collection of images collated to resemble a book, but is in actuality not the book itself.

The above point reflects the main limitation of digitisation from a conservation viewpoint. The process is focused more on the content of the object rather than its materiality, as an image can only provide a limited amount of information. One cannot for example take a sample from an image, nor can one observe the smell or touch of an object etc. One could, therefore, argue that the process creates a completely separate entity from the object itself. The digitised image is a representation of the object at its time of capture and becomes an entity in its own terms as Jasmine Burns (2017:7) writes:

The digital image itself is an additional form of metadata for the object, as it captures and preserves not only the content but also the current state of its material existence at a particular moment in time. The digital image solidifies the object in time. Because the original and its digital counterpart age differently, the surrogate essentially provides two versions of the same singular object.

Burns (2017), however, views negatives differently as she states, “Scanned directly from a negative, they are translated purely for their content: they become distorted from their material form (5).” To better understand Burns’s words one needs to see a negative as a draft of an image. A negative was never meant to exist purely as a negative, it has survived to be developed and reproduced. Once that negative is developed or scanned it becomes a changed object, and even though the negative may represent the ‘highest quality’ of that image, one cannot ‘view’ the image without it being transferred into a positive.

One of the biggest benefits of digitisation has to do with its accessibility. Since the mid-1990s, libraries around the world began the process of scanning in portions of their collections and making it available to the world wide web (Verheusen, 2008:28).

It was suddenly possible to read archival documents from thousands of kilometres away. An added-on benefit to this shift towards digitisation has meant that fragile books and documents in circulation can be pulled and placed in proper storage once they are scanned to lengthen their longevity (Kemp, 2016:58), all the while keeping research access alive through their digital avatar.

By using the above examples one can begin to understand why the digitisation of negatives in particular, is a worthwhile endeavour for private family collections. Even though the materiality of the negative, is transformed through scanning, the converted image is likely the important focal point of those with private family collections.

### 3.2 Duplication

Duplication is another means by which negatives are preserved, and even though it's likely not a method families would choose, it's important to touch upon it. The below case study showcases the challenges that even well-funded institutions face when dealing with flexible film base preservation.

Sandy Ryan (2005) outlines the process of the British Library transferring their acetate film to polyester stock. The Budget for the project was £1 million spread out over five years, translating into roughly £200,000 every year. Even though it seems like a lot of money, it still wouldn't be enough to transfer all their acetate film and priority was given to their filmed newspapers.

There are different types of duplication and the process itself can be quite technical, but the main intent behind it is to create a mirror image on a more stable film stock. In this way, you can create another 'master' copy that is less susceptible to environmental change. Ryan (2005:2), explains how they needed to use older machines for their specific duplication process:

One of the most interesting things about our duplication process is that we are using DePue duplicators. These machines were originally designed for the movie film duplication and have been out of production for over thirty years now. Consequently, spare parts are almost impossible to get hold of, and keeping them working requires a huge amount of innovation and dedication, not to mention the odd spot of bribery and coercion!

The plan had trouble not only with funding, but with procuring the necessary equipment to begin the duplication process as well. A pilot project was launched in June 2004, to test out the feasibility of the project and it was found that for the long-term storage of their acetate films, something like cold storage would be a better solution than a mass transfer project.

The reason why this case study is valuable for private family collections is that it shows a difference in objective. The acetate film at the British library is valuable not only due to its content, but also because, it displays the method in which newspapers were captured at the time. It showcases, for example, the brand of film that may have been used at the time, and its materiality tells a story. That is not to say that a small private collection may not be interested in this aspect, but it is less likely.

The limitations in place in regards to funding, staff and space etc. will almost always be more of an issue in comparison to more traditional institutions. The amount of film will also differ depending on the type of collection. The film collection that the British Library possesses is likely much larger than any normal private family collection, and therefore, something like digitisation may be less feasible compared to cold storage

### 3.3 File Format

The file format one will be using, can affect not only the quality of the digitised image but also its file size. This is, therefore, an important consideration in developing the initial planning of a digitisation project. There are many different types of image files, but to keep it simple, this section will only be dealing with the two most common ones, TIFF and JPEG. The Koninklijke Bibliotheek (KB) or as it is referred to globally, The Royal Library of the Netherlands, was at the forefront of mass digitisation and it is worth understanding their choice in file format as

Verheusen (2008:34) writes, “When the Koninklijke Biblioteek started digitisation activities, a lot of effort was put into creating the perfect image. Also, scanning had to be carried out in such a way that the original was not damaged...For master files the TIFF format was used.”

The KB’s focus on creating the highest image quality possible is admirable but may not be the focus for every collection. TIFF files are much larger than JPEGs due to the fact that they are usually uncompressed file types that retain all their image data (Carmencita Film Lab, 2023: [sp]). Both files are raster image file formats, meaning that they are made up of a grid of pixels to create a legible image (Richard Photo Lab, 2016: [sp]) This becomes important when an image needs to be stretched out or zoomed into. If one for example were going to store a scan of the same negative in both TIFF and JPEG then there would be a clear difference in the number of pixels available.

One would find that one could zoom in closer to the TIFF image before one would begin to notice the individual pixels compared to the JPEG. One cannot make a fixed numerical comparison between the two, for example, one cannot say that one can zoom 20x on a JPEG and 200x on a TIFF before one sees pixelation, as this is highly dependent on the quality of the source. But by their very nature JPEGs are compressed files, which means that there will always be less data available. One can change the level of compression on the files but there will always be missing data to reduce their file size. This will be discussed further under ‘digitisation results’ with examples given in figures 35 and 36.

Colour is also another important factor when it comes to file choice. A JPEG file will always be in 8-bit format, meaning that it is limited to 256 shades of colour whilst TIFF which allows both 8-bit and the larger 16-bit equates to 65,536 shades of colour (250 times more) (Carmencita Film Lab, 2003: [sp]). This larger bit rate means that it can better capture colour gradience, texture and tonal shifts.

If one were to be choosing the best quality of image then an uncompressed TIFF file would be the best possible choice, but this could mean that each scan would be around 200 megabytes (MB) which is a lot larger than a comparable JPEG. This is not such a big problem if one has 100 negatives, but it begins to be a problem when one has 1000, 2000 or even more.

Space begins to become a premium as one will see in the following chapter. It is therefore up to the individual to choose the file format that they believe is the most appropriate for their collection.

This should be decided by the stakeholders of the collection, by paying close attention to the resulting scans during the digitisation process. One may find that a JPEG file is good enough for that particular collection, or even that the resulting TIFF files are unnecessarily big. In traditional institutional settings, a TIFF file is always the preferred file format for 'master files', but even these institutions have concerns in regards to whether the better quality of the format outweighs the larger file sizes as, Gillesse, Rog & Verheusen (2008:41) explain: "The TIFF uncompressed file format is a widely accepted standard for storing master images of digitisation projects. As in the Koninklijke Bibliotheek, The National Library of the Netherlands (KB) the scale of these projects is rising rapidly, the need for an alternative, compressed file format is felt".

### 3.4 Digitisation Methods

There are a few ways to digitise negatives but this section will be focusing on two methods which continue to prove to be popular. Conventional Flatbed scanning, using a specialised scanner and Digital Single Lens Reflex (DSLR)<sup>8</sup> scanning. Whilst there is not much information online in regards to conventional photography conservation the inverse is true for digitisation. A quick internet search results in a plethora of information in regards to digitisation and the majority of this advice has been produced by photographers, or those within that sphere of work.

Negative digitisation works using a fairly simple principle of using a light to illuminate the negative and a sensor to capture the image. For example, one could take figure 7, which was used as an example to show transmitted light and load it into an image processing software and all one needs to do is invert the colour in the image and the result would be your scan as seen

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<sup>8</sup> Digital Single Lens Reflex (DSLR) cameras, gives photographers the ability to easily change, light, exposure, colour etc. Whilst also storing all the images on a memory card as opposed to Single Lens Reflex (SLR) cameras which still use film rolls.

below in figure 28. One would still need to crop and rotate the image etc. but the result would still be a digitised negative.

The reason why conventional flatbed scanners struggle to scan negatives is due to the fact that they have a white covering on the inside of the lid to create an even scan, since objects such as documents and photographs only need lighting on one side, as opposed to negatives that need transmitted light. Specialised scanners such as the Epson V600, which will be used in this paper, have a transparency glass allowing the negative to be backlit correctly as seen in figure 29 below.

The Epson V600 is now discontinued and the only available scanner of its kind available in South Africa is the Epson V850, which retails for around R23,000 or \$1250 at this time of writing. The Epson V850 was originally released in 2014 (Demolder, 2014:[sp]), which makes it ten years old. Paying that amount of money for a scanner this old is not an attractive option, especially if one's budget cannot stretch that far.

As one can see in figure 28, it is possible to digitise negatives with a film holder, a backlight (such as a tablet) and one's mobile phone. While not ideal, one needs to think about what one's objective is when digitising the collection.

Having an all-in-one scanner such as the v600 is very convenient as it does all the work for you. All one needs to do is load the negative into the scanner and wait. An issue with using such as scanner, is time.



**Figure 28: An example of simple digitisation process by inverting the colours.**

Each scan takes around 2 minutes but can take even longer depending on the size of the negatives and the settings chosen. If one has a particularly large collection, this might not be practical. It is one of the reasons that many choose to digitise using a DSLR.

This method uses the same principle as using a mobile phone but with a few differences. Photographer Daren Zomeran (2021) has a blog post titled, 'Film scan shootout: DSLR vs. Epson V600 flatbed scanner'.

Zomeran at the time lists the price of the V600 at around \$300, however, to purchase an equivalent one locally is more than four times that, which makes the choice between the two, a more complicated one. Zomeran gives a breakdown of the cost of DSLR scanning,

I spent \$500 on a tripod, ~\$40 on extension tubes, and ~\$45 on the LED Light Table and a few other knick-knacks along the way. But I still don't have a perfect setup. To do this right, eventually, I'll have to spend another \$500+ on a dedicated macro lens to have that perfect corner to corner sharpness on the resulting digital files (Zomeran, 2021:[sp]).



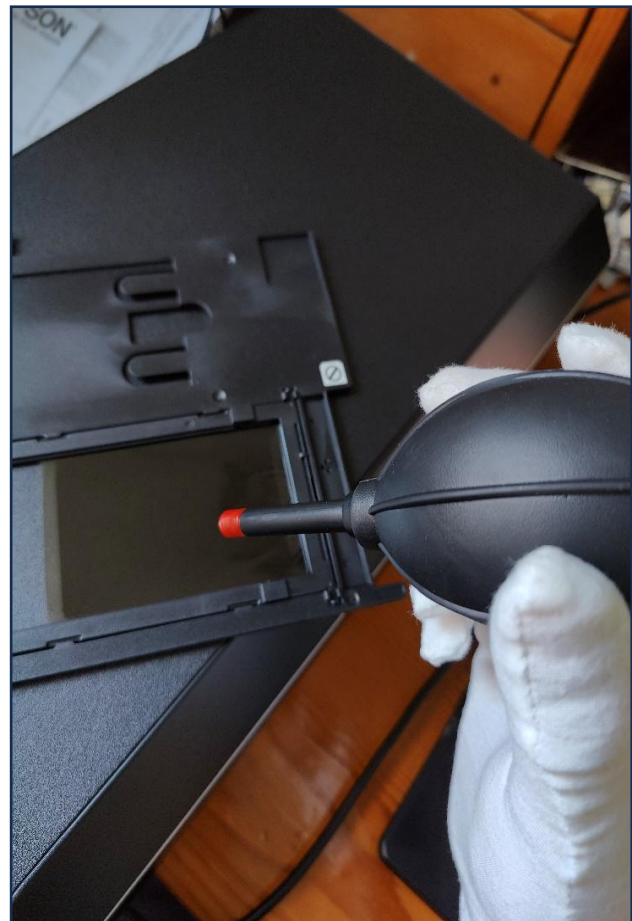
**Figure 29: Transparency glass on Epson V600, to allow for the digitisation of negatives.**

The above set up will already cost one \$1000 without even including the cost of a DSLR. Which can make these specialised negative scanners quite an attractive proposition.

However, if one already has a DSLR and a macro lens, then one should think about this method as it is not only cost effective, but the resulting scans are usually better quality, as it gives one the ability to shoot in RAW<sup>9</sup>, which allows one more freedom during editing. There is also the option of importing the V600, which would reduce the cost by almost half in comparison to buying the V850 locally.

Everyone's budget is different and it is important to assess one's collection and decide which method works best. The above two methods are both fairly expensive if one doesn't already have the equipment. Therefore, it would be helpful to briefly touch on one more method of digitisation; film scanners. These are machines dedicated to scanning negatives. The main drawback to these scanners is that they will usually only allow one to scan in one format, for example 35mm. The benefit of these is that they are easy to use and start at a reasonable price of less than around \$100.

It is a great alternative to flatbed scanning or DSLR scanning, and while the results will likely not be as good if one is using one of the more entry level models, they would likely be good enough for most private family collections.



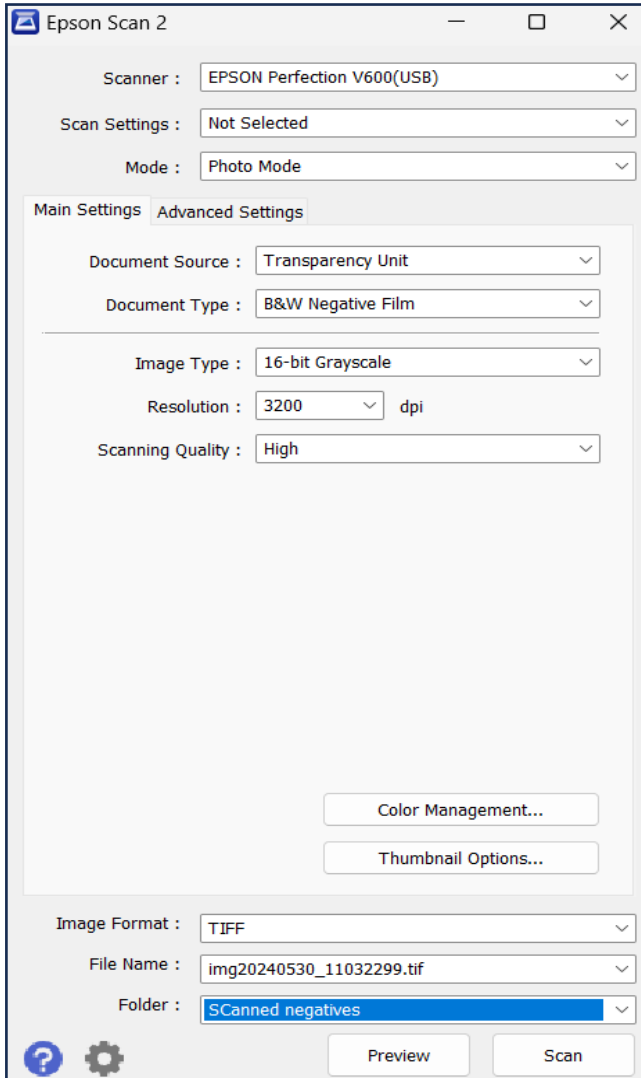
**Figure 30: Using air blower to remove dust from negatives before scanning.**

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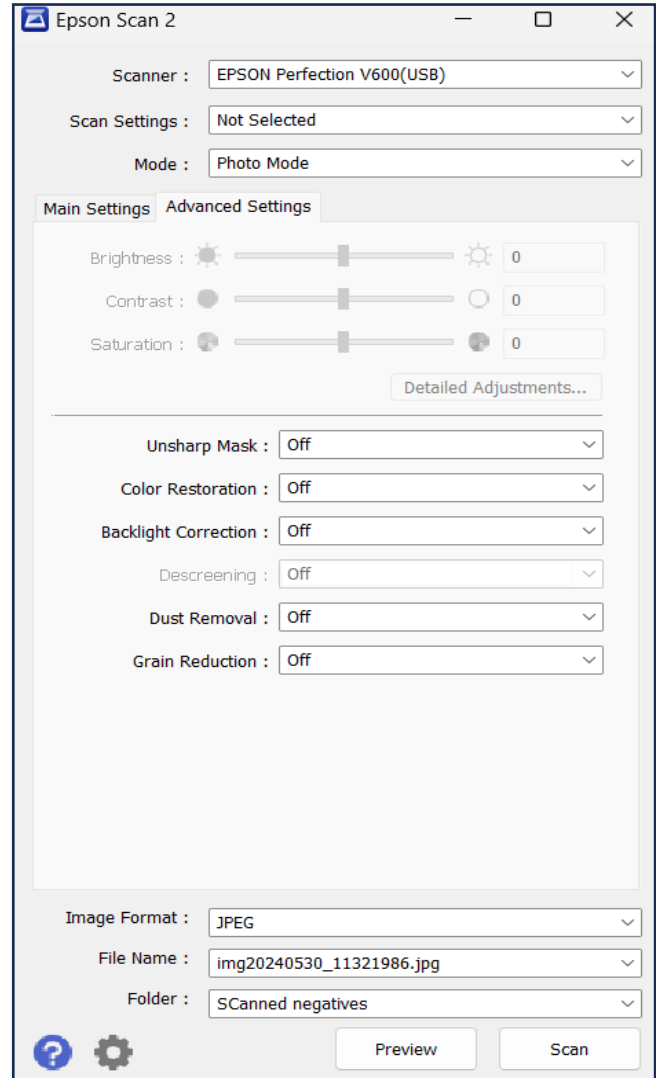
<sup>9</sup> RAW files are uncompressed and unprocessed, and contain the most data out of all the raster file formats. This allows a much higher level of manipulation during editing.

### 3.5 Digitisation results

Before any of the negatives were scanned they were dusted using a small little air blower. These are easy to find and not expensive. It is a gentle way to remove dust from the negatives without resorting to brushes (which could scratch the sensitive image layer) or compressed air (which could damage the negative base itself), as seen in figure 30.



**Figure 31: Setting used for first scan.**



**Figure 32: Advanced setting, for software manipulation of images.**

One of the most important settings when scanning, is choosing the correct DPI or dots per inch. It is therefore important to understand what one's scanner is capable of first.

The V600 allows one to scan up to 12800 DPI, however, the hardware of the scanner can actually only scan up to 9600 DPI optically, meaning that to reach that higher amount, the scanning is digitally inflating the size of the scan without a real noticeable upgrade in quality.

Even though one can scan at 9600 DPI, this would not be advised as Australian digitisation service provider, Memories 2 Digital (2019;[sp]) explains, “It's also worth keeping in mind that higher resolutions won't always produce better scans. If you push the scan resolution too high, it will start to introduce noise<sup>10</sup> and grain into the output image, especially for photos that weren't perfectly focuses [sic] or exposed originally”.

There is therefore some amount of experimentation that one must undertake, in order to get the best results for one's own collection. DPI, can also be quite subjective and what looks good to one person may not look good to another. There is however a certain range of DPI that most people experienced with digitisation agree is suitable for archiving negatives and it sits between 3000 to 4000 DPI (Bisel, 2019:[sp]) Therefore, the first scan was scanned at 3200 DPI.

The setting used to capture the first scan can be seen in figure 31. Sample 1, will be used as a test, and it will be captured in both TIFF and JPEG, to compare both size, quality and time taken to scan. Another important aspect to be aware of when scanning, is orientation. When scanning, the image layer should be facing upwards, towards the lid, whilst the film base should be facing the scanning bed: this ensures that one does not scan a mirrored image.

Within the scanning software, there are also advanced settings, that can be used to sharpen the image, remove dust and reduce grain. The first set of images were scanned without the use of any of these settings to get a better idea of how the images looked without interference. The TIFF of the scan can be seen in figure 33 below and the JPEG in figure 34.

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<sup>10</sup> Noise is a type of visual distortion, that can cause discolouration and discontinuity in the scanned image.

Seen next to each other in this way there is not much difference. One will only notice a difference when one zooms into the scans as seen in figures 35 and 36.

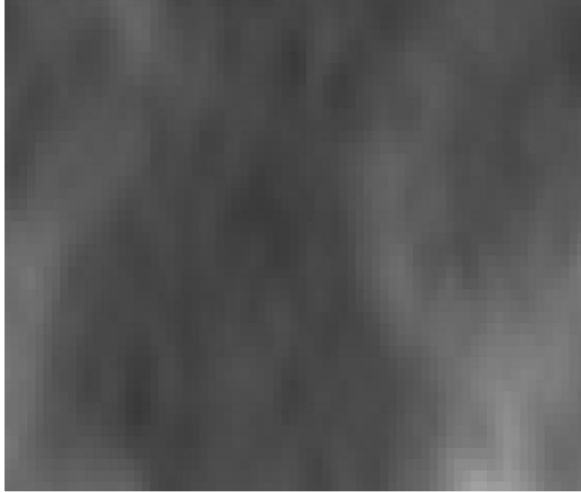
One has to zoom in quite significantly before one can observe changes in the different file formats but what one can see is that the JPEG has areas that are missing. This is due to the fact that it uses lossy compression, meaning that it removes data to reduce its file size. The difference in the size of the files themselves is quite significant, the TIFF file amounts to 134 MB, whilst the JPEG file is less than 8 MB. One will need to make the decision if the big jump in size is worth the gains in quality. Since this collection is less than two hundred negatives, the TIFF size is not unmanageable.



**Figure 33: TIFF of sample 1, without software manipulation.**



**Figure 34: JPEG of sample 1, without software manipulation.**

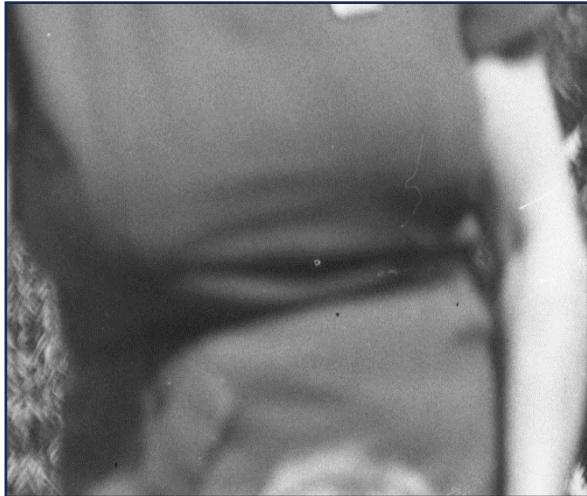


**Figure 35: Zoomed in to 1600 on TIFF.**



**Figure 36: Zoomed in to 1600 in JPEG.**

If one were to increase the DPI setting to 4800 (the next setting up on scanner), it would result in a file size of 303 MB and the scanning time would take 2 minutes longer than the original 2 minutes and 30 seconds. Therefore, it was decided to digitise using the TIFF file format at 3200 DPI. The next thing to decide would be whether or not to use any of the advanced settings. In figure 37, which is a close up of sample 1, one can see the dust and dirt stuck to the negative even after using the air blower.



**Figure 37: Close up showing dust and dirt without any enhancements applied.**

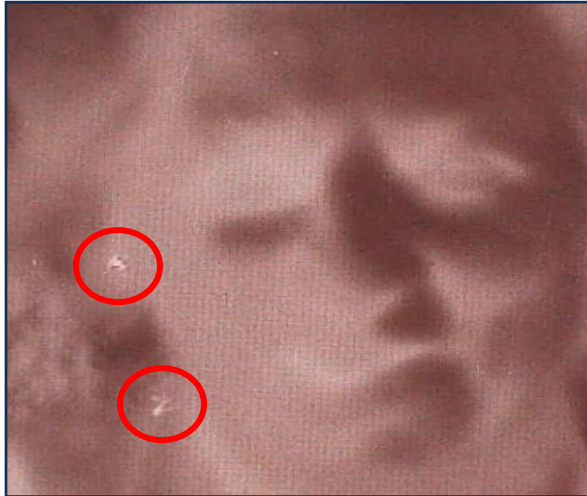


**Figure 38: Close up with enhancements applied to minimise the visual aspect of dust and dirt.**

With the enhancements in figure 38, it has helped to fade the dust and some of the dirt in image, but it has been too aggressive in sharpening the image and it results in an image which has an even grainier appearance when compared to the unenhanced photo.

After careful consideration, it was decided that images would be scanned in without any enhancements but one would still need to make sure that as much dust as possible is removed before digitisation. It is better to have the negatives captured as simply as possible to reduce the possible drawbacks that come with software manipulation.

Sample one was one of the negatives where damages to the image layer was observed when the condition assessment was done in the previous chapter. One can see the damage clearly in figure 39 below.



**Figure 39: Close up of damage to image layer in sample 1.**



**Figure 40: Close up of damage to image layer in sample 1 after digitisation.**

After scanning, the areas with damage to the image layer appear black. Since the image layer is no longer there, there is nothing to digitise. And whilst the size of the damage is not large, it is a clear example of how problematic material loss in the image layer can be in regards to digitisation.

When one is scanning, it is also important to understand which issues are due to the condition of the negatives rather than the scanning process. An example of this can be seen in figure 41. The photo overall is not as sharp as one would want, and this could be due to a number of different reasons, the amount of camera motion when the picture was taken, shutter speed, lighting, lens choice etc. This lack of sharpness and the blurriness of the facial features is not due to the scanning itself but rather because of the state of the originally exposed image.



**Figure 41: Close up of face in sample 1 to show how it is out of focus.**

Richard Photo Lab has a blog post titled, 'Film Scans: 18 Common Issues (2021:[sp])', in which they help to identify some of the issues that can occur during film digitisation. An issue observed in the previous chapter was the numerous thin scratches on the film base. Richard Photo Lab (2019:[sp]) explains, how these scratches can affect digitisation:

**Scratches on the film base:** Dust particles, dirt, or sand can act as abrasives and create scratches on the base side of the film. These scratches can appear as lines or marks on the developed negatives and can potentially affect image quality by introducing visible defects.

These lines marks were apparent during the digitisation process, as seen in figure 42. This was due to how the photos were stored, with no separation between the negatives, the resulting abrasion has likely caused these lines. It is important to understand why, and how, the resulting scans are produced. These lines can likely be removed through some type of editing but would probably take a considerable amount of time. One must once again view the objective of the collection as a whole and decide whether this level of 'defect' is acceptable.



**Figure 42: Lines in scanned images, likely due to scratches on the film base**

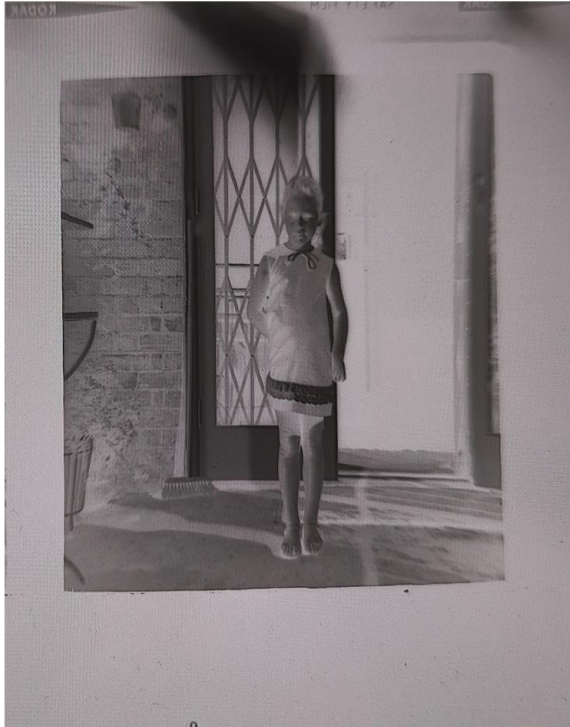
Sample 2, was one of the samples that had some degree of light leak. It is a strip of 120 film with each image measuring 6 x 4.5, therefore a smaller negative size in comparison to sample 1 (6 x 9). The resulting images are smaller in size and the scanner had trouble isolating the image, meaning that it would be an even smaller sized image after it has been cropped. As one can see by the black bars at the top and bottom of the image as seen in figure 43. The light leak affecting the negative can be seen starkly in the comparison between the negative and the resulting scan below, as seen in figures 44 and 45 respectively.



**Figure 43: The black bars, displaying the difficulty in isolating the image.**

The light leak in sample 2 is limited to just one area, and once it is scanned, one can see a white mark which obscures the top of the image. The image is still viewable and is not overly distracting, as it is isolated to one area. Sample 4 also has a case of light leak, but it is affecting more than one area in comparison to sample 2.

Once again one can see those white flares around the image. Since it is around the edges of the picture, it is not too distracting in relation to the image itself. As previously discussed, some photographers do this deliberately to get this effect and one can see why one may find this aesthetically appealing. Sample 4 was also one of the samples in which there was concern in regards to how it had been cut off at the top, but as one can see in figures 46 and 47, the result indicates that this should not be anything to worry about.



**Figure 44: Sample two under transmitted light.**



**Figure 45: Digitised image showing how light leak affects resulting scan.**



**Figure 46: Sample 4 negative**



**Figure 47: Sample 4 digitised**

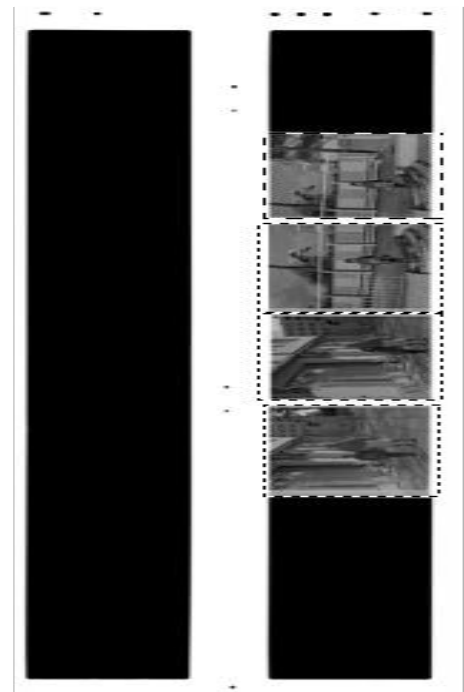
Sample 10 was the only strip of 35mm film and it was interesting to see how they compared to the larger negatives once they were digitised. The 35mm strips turned out to be more complicated than scanning the single negatives. The scanner had trouble identifying each image in the strip and one ended up with scans such as seen in figure 48.



**Figure 48: Scanner struggling to isolate each image in the strip.**

As one can see, the scanner has trouble isolating each image and the border between images is included in the scan.

The best solution to solve the issue with the borders was to go into the settings and select each image as a separate scanning area as seen in figure 49. Whilst this solved the problem of the bordering and images being cut off, the resulting scans were dull and lacking in contrast in comparison, as can be seen in figure 50 below. This was then solved by scanning the entire strip and subsequently cropping each picture individually as seen in figure 51. Once the image was then cropped, it was very similar in appearance to the original scan as can be observed in figure 52.



**Figure 49: Selecting cropping areas manually.**

The process can take a lot longer than just scanning a single negative, but what the process also displays is the fact that each photo needs to be viewed and analysed after every scan to see whether or not it is acceptable. This procedure takes time and as one can imagine, the larger the collection the more arduous the digitisation process becomes.



**Figure 50: Individual scan, with the cropping areas chosen manually.**



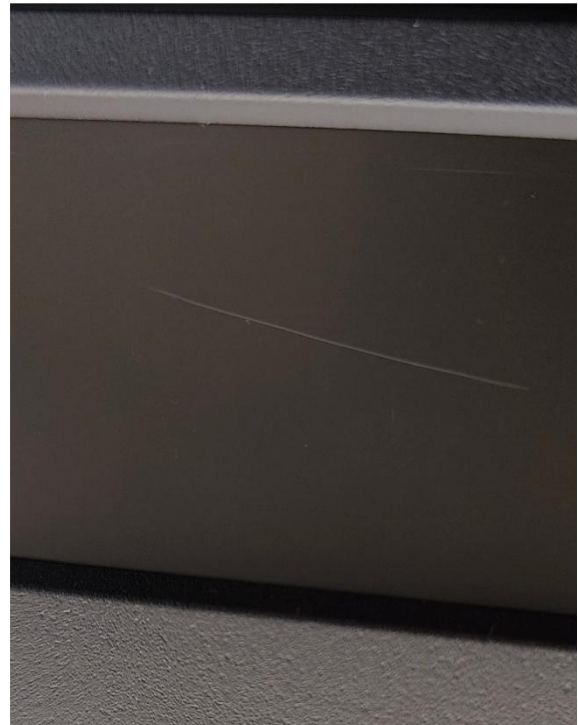
**Figure 51: Results of scanning the entire strip.**



**Figure 52: Image cropped from strip.**

The reason why this image was also selected from the strip has to do with the white line that is running across it. For this type of defect to appear meant that the scratch was fairly deep, and when the negative is viewed under specular light, one can see that the line matches the damage exactly, as one can see in figure 53.

The rest of the negatives were digitised without too much trouble and can be found in the appendix.



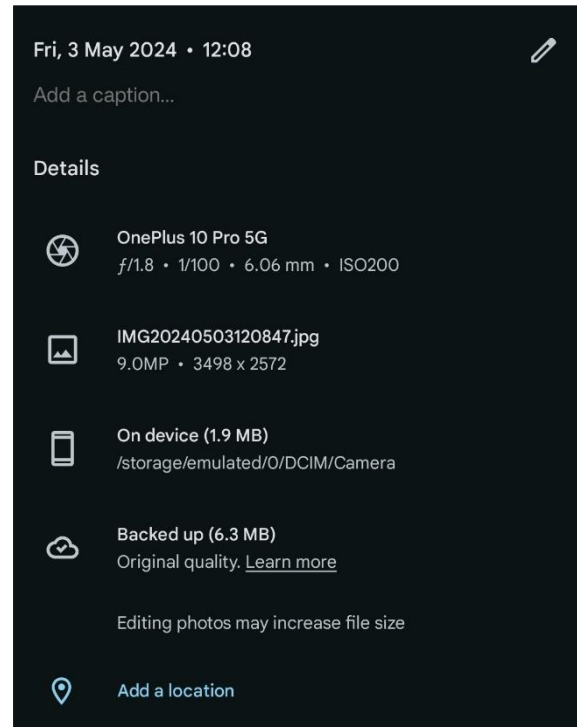
**Figure 53: Scratch on film base matches damage on digitised image**

### 3.6 Metadata

The term ‘metadata’ refers to data that is used to describe a resource. Creating metadata is an important step in the digitisation process. When the collection is based within an institutional environment, users will likely be accessing the files online and the metadata process will be more complicated. But the principal behind it remains the same. Metadata is at its core, information ascribed to digital files to create an organisational system, in which files can be searched for more accurately. An example of a very rudimentary form of metadata, would be the writing on the back of a photograph one may find, such as, ‘mom and

dad at the beach, 1965’. A more modern example of metadata that one can easily understand is linked to one’s mobile phone. Every time one takes a photograph with their phone there is certain information that is automatically ascribed to that image, which can be seen in figure 54.

As one can see, there is a date which one can easily see, that makes it easier for the phone to organise the photographs. For example, without metadata regarding the date of the photograph one could not organise the photographs by newest to oldest or vice versa.



**Figure 54: Example of the metadata one may see on their phone**

It can be a daunting task to manually create metadata for digital files. Cunningham & Masoodian (2007:466) had some informative findings when they observed the 'native' metadata that individuals used to organise their own personal photo collection,

Participants recognized that they needed descriptive metadata for their photos both to locate specific images and to appreciate the photos whose contexts were being lost to imperfect human memory. Since photos may be given to others, there is also a concern that the recipients may not store descriptions of photos. But participants are reluctant to record captions visibly on the photo, as this detracts from the image. Ideally, the metadata would be separate from, but bound to, a photo, so that the metadata would 'follow' the photo as the photo is copied or passed along to others.

For private family collections metadata becomes increasingly important, not only to organise photos, but to identify the subjects within the images. As times goes on, it becomes increasingly common for that information to be lost. Having a word document to ascribe certain information is incredibly helpful in searching for files. For example, if one was looking for images from a certain year, all one would need to do would be to search for the year and all the images from that year would be identified. This becomes progressively more important the larger the collection becomes. Vercoustre and Paradis (1999:43), discuss the difficulty in creating metadata for photographs due to the varied nature of collections:

Searching for photos must rely on manual cataloguing, or relate texts and documents that come with the photos. Creating standard metadata for photographs is difficult since one photo may have very different meanings, depending on the context, of whether it is part of a collection, or even on the purpose of a particular end user.

One can provide as much or as little metadata as one desires, but the more categories one can include, the better organised a collection will be. For this paper the fourteen samples will be organised 1-14. However, once the collection as a whole is digitised this organisation would need to be redone, with the use of separate file folders. In figure 55, one can see an example of the metadata that will be used in this particular collection.

The metadata is not exhaustive, but for this collection of less than 200 negatives, it should provide an adequate organisational system.

The full metadata for all 14 samples can be found in the appendix.

1. Author: Ivan Landau  
Date: 1963  
Subjects: Julia Landau, Julia Burnik  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 134 MB|  
File Format: TIFF  
Resolution: 6774 x 10432  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

**Figure 55: Example of Metadata for this collection**

### 3.7 Conclusion

There are a number of factors that need to be accounted for during the digitisation process. Ideally one would want to digitise once, and therefore, it is important that the chosen method, format and settings are applicable to one's contextual situation. Being assiduous during the process and reviewing each resulting scan is vital, as it allows one to pick up on any abnormalities or problems in the digitisation process itself. Being cognisant of storage requirements during digitisation also allows one to plan for the next step in conserving the collection. Metadata is an essential part of digitising a photography collection as it creates order. Without descriptive data, a digitised photography collection is merely an assemblage of images without structure. There is no perfect way to digitise a collection, as each collection is different. This chapter has sought to show the trial and error that is attached to the digitisation process, and highlight the multifaceted nature of the task.

## 4. STORAGE

### 4.1 Introduction

Many people make the mistake of thinking of modern conservation as being strictly interventive, when in actuality the field has seen a big move towards preventative conservation. Preventative conservation is the control of the storage and surrounding environment of the object to minimise the negative changes to the object with an emphasis on lengthening the longevity of the collection as a whole. Most institutions have an understanding that temperature and humidity can affect objects, but the actual implementation of the advice given by conservators is usually lost in the bureaucratic ether, as Boersma (2016:14) writes,

It is my personal opinion that the profession should reconfirm preventive conservation as the main guiding principle in our profession—moving it back to the start of the process, as was established by national and international professional associations, rather than being merely a treatment option.

Within film and media there is a phrase called ‘fix it in post’. It is used by the industry to explain the way in which those at the top shirk their responsibility to those working in post-production, as Dawson (2021:[sp]) explains,

The decision to fix it in post is made because some stakeholder with the power to make the call (i.e., a director, producer, ad exec client, etc.) makes the decision because they think doing so will save time and cost...What they don't often understand is the cost to use visual effects (VFX) to rotoscope something out of a moving shot, might actually be just as, if not more expensive, than just taking a little bit of time to fix whatever it is that needs fixing.

Putting preventative measures in place within an institutional setting is usually very expensive, but the time and money that goes into interventive conservation can usually be offset by this initial expense. Lourenço, Barontini, Oliveira and Ortega (2022:85) explains, how this can become complicated, particularly in institutional settings,

Although preventive conservation is recognised as the potentially most cost-effective strategy for cultural heritage preservation, its widespread application is complicated by several factors, as its multidisciplinary nature, the sparsity and case-specificity of the available information, the lack of effective guidelines

or standards, the limited expertise of the professionals and the lack of awareness of users, owners and managers.

The lack of bureaucracy is one of the main benefits of a private family collection. Those making the decisions regarding the collection, are those that have a vested and personal interest in its wellbeing. Preventative conservation should always be the first step in regards to collection management because it minimises a lot of problems that can appear further down the line. This type of conservation is particularly important for photographic materials because interventive conservation can be difficult, lengthy and costly as it requires specialist knowledge, materials and equipment.

It is important to understand that cold storage of flexible film-based negatives will always be the best solution in regards to preserving the materiality of the object, as McCabe (1991:190) explains: “The most desirable conditions for storage of most photographs is at or near freezing temperatures and at a relative humidity of approximately 35%. When stored permanently under these conditions, most photographic materials should last indefinitely.”

Whilst cold storage is effective at stopping the chemical changes in cellulose based negatives, it is increasingly being seen as an unsustainable solution in the face of the ongoing climate crisis (Adorno, 2018:[sp]). It is also important to recognise that the objectives of institutions are likely different when compared to private family collections, and this should be taken into considerations when evaluating storage solutions.

An example of the use of cold storage for a large collection of photographic materials is the Brettmann Collection. Bill Gates, bought the 11 million image Brettmann collection in 1995, and due to the fluctuating temperatures of New York city it was moved “one-and-a-half hours out of Pittsburgh, 220 feet down a limestone mine” (Schultz, 2020:[sp]). What makes the storage conditions interesting, is that the mine itself, helps to minimise temperature fluctuations, as Schultz (2020) writes, “The trove is equal parts secret library and semi-natural refrigerator. The mine’s temperature is typically a little lower than that of the outside world, but far more constant.” The Brettmann collection showcases how effective preventative conservation can be.

Whilst the initial funding for such a project would have been monumental, the time and money saved in the long run, likely made it a viable option in this particular case.

To better understand just how important the storage environment is, one needs to only look at the advice given by the Image Permanence Institute (IPI). The IPI created a storage guide for acetate film (Reilly, 1993), and within that guide is a table that gives one a rough idea of how temperature and humidity can affect the onset of cellulose acetate degradation. At higher temperatures, humidity is important, but as the temperature decreases humidity becomes less of a factor, for example at 21° Celsius and 60% relative humidity (RH), cellulose acetate negatives will take 30 years before they begin to degrade, but at 40% RH they will take 50 years (Reilly, 1993:8). If one can lower the temperature by 4° degrees Celsius, then one can double the life of the negatives, and at 10° Celsius and 40 RH, it will take 200 years before they begin to degrade. An extreme example, would be that at -26° Celsius, humidity is no longer a factor and no matter the RH, it would take more than 3500 years before the onset of measurable deterioration.

This table is important because it sets out the rubric of how one should view their collection; namely, how long does one want their collection to last? As one will see in the next section, these environmental considerations become increasingly important.

## 4.2 Agents of Deterioration

Before identifying a suitable storage solution, it is important to understand why a good storage solution is so important. Adequate storage should guard against the five main factors that can affect negatives, namely: physical forces, light, mould and pest infestation and temperature and humidity.

### 4.2.1 Physical Forces

As seen in the condition report, the negatives not only had small areas missing within the image layer, but also numerous scratches on the film base; as well as, tears along the edges of the

negatives. Physical damage on the negatives base is not always obvious and this can be particularly important if one is hoping to digitise them, because this type of damage can show up readily on the digital image. In the case of the samples, the damage was likely caused by the lack of separation between negatives and the resulting abrasion. This could be remedied by putting each negative in its own sleeve, as will be discussed in greater detail later on in the chapter.

#### **4.2.2 Light**

Light damage to negatives is less likely when compared to photographs as negatives are not displayed in the same manner. Whenever objects are being displayed, there is the dilemma of what Michalski (2018:[sp]) calls ‘seeing versus saving’ as he explains, “We need light in order to see collections, but light damages some objects. In terms of risk management trade-offs, we must make a decision that minimizes the loss of value due to poor visual access and the loss of value due to permanent damage.”

This is an important aspect of collections management, particularly for works of art, light can have an extremely detrimental effect in regards to the vividness of colours. Colours will eventually fade but this is dependent on the time the object is exposed to light and the wavelength of the light it is exposed to. As negatives are usually not displayed in the same manner of conventional works of art, light becomes less of a factor but it is still something to consider when thinking of storage, or handling them in general.

#### **4.2.3 Temperature and Relative Humidity**

As mentioned earlier, temperature and relative humidity (RH) are the main factors when considering negative storage. It is important to be aware of some of the signs of damage to negatives, due to temperature and RH, to better rectify these conditions. Temperature when combined with a high RH can be particularly damaging, but even just high temperatures can be bad, as it accelerates degradation. Cellulose acetate film will usually begin to deform at higher than room temperatures (exceeding 45° Celsius) (Fenn and Scott Williams (2020):[sp]).

It was mentioned earlier that cellulose acetate (CA) has a lifespan in accordance with its temperature and RH combination.

The reason they play such an important role is because of hydrolysis. Hydrolysis is the chemical process, where water is used to break the chemical bonds within a material. The rate of degradation increases depending on the temperature and RH and it is why one can make these estimates of lifespan as seen in the previous section (Wilhelm and Brower, 1993: 321).

High RH coupled with high temperatures is one of the worst things to afflict a cellulose acetate collection. High temperatures in this case, being defined, as any temperature a few degrees above room temperature (20°-21° Celsius) and higher. RH can have a wide range of effects, depending on the moisture content as explained by Roosa and Robb (2004:6), “High RH causes a gelatin binder to become soft and sticky making it vulnerable to mechanical damage and image deterioration. Low RH causes the binder to shrink and crack and the secondary support to curl.”

High fluctuation in temperature and RH causes ‘cycling’ (Roosa and Robb, 2004: 7). This is the constant movement of moisture in and out of the object, which increases the rate of deterioration of the object immensely. If a negative is constantly being forced to move because of the moisture it is retaining, it will not only have an effect on it chemically but mechanically as well, which will eventually lead to the distortion of the negative.

#### **4.2.4 Mould and Pest infestation**

High RH (usually above 65%) begins to introduce moisture into the objects and can cause such things as mould spores to germinate. This would be particularly bad for the image layer as this could eventually destroy the image. The image is usually suspended in a binder made from gelatin, which the mould digests as a food source while it grows (Lavédrine & Gandolfo, McElhone & Monod, 2009: 316).

Many insects also see the organic gelatin as a food source. When negatives are stored in high RH and enclosed in a container creating a darkened environment, it produces the perfect space for these insects to proliferate and ultimately severely damage or even completely destroy a collection.

Early detection of mould and pest infestation is vital in being able to isolate these objects and reduce the risk of the problem spreading. One can see why it is so important to manage the storage of one's negatives and to make sure that the condition of the objects are safe and stable.

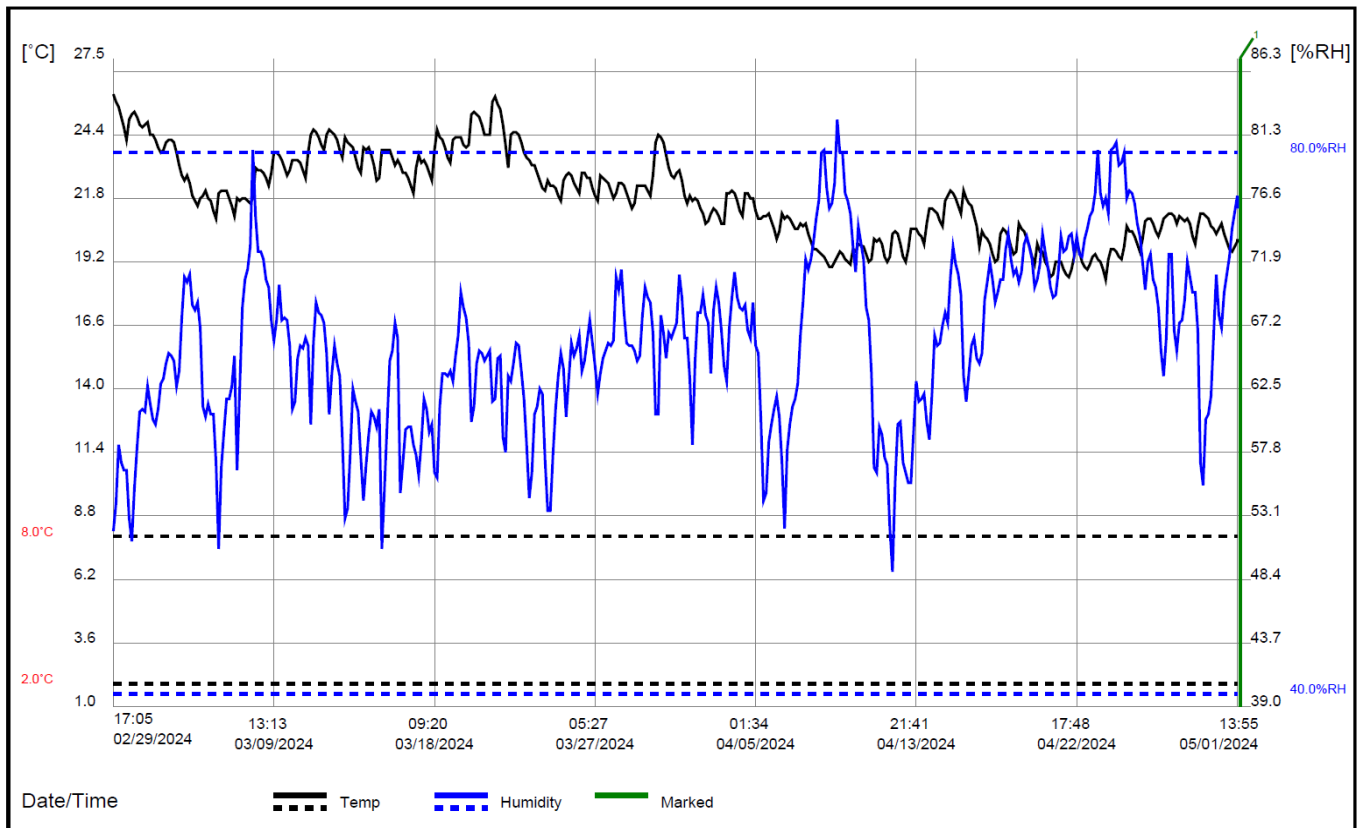
### 4.3 Environment

Once one has an idea of how long one wants their negatives to last, one needs to better understand the environment they will be stored in. Since this collection is being digitised, the negatives will not be the only version of the images in existence, and therefore, they will not need to be preserved perfectly for an indefinite amount of time. Somewhere between 30 and 50 years will give one more than enough time to re-evaluate the objective of the collection further down the line. To achieve this, one would need a storage environment of around roughly 21° Celsius and a constant RH of between 40% and 60%.

Before one begins any type of testing, one needs to better understand one's regional climate. Cape Town has a mediterranean climate, meaning that it has hot, relatively dry summers and wet winters (Roberts, Meadows & Dodson, 2001). Knowing the type of weather one is expecting, can give one a better idea of the type of storage solutions one should be looking at. Testing was done at the end of Summer and the beginning of Autumn (March and April).



**Figure 56: Data logger used**

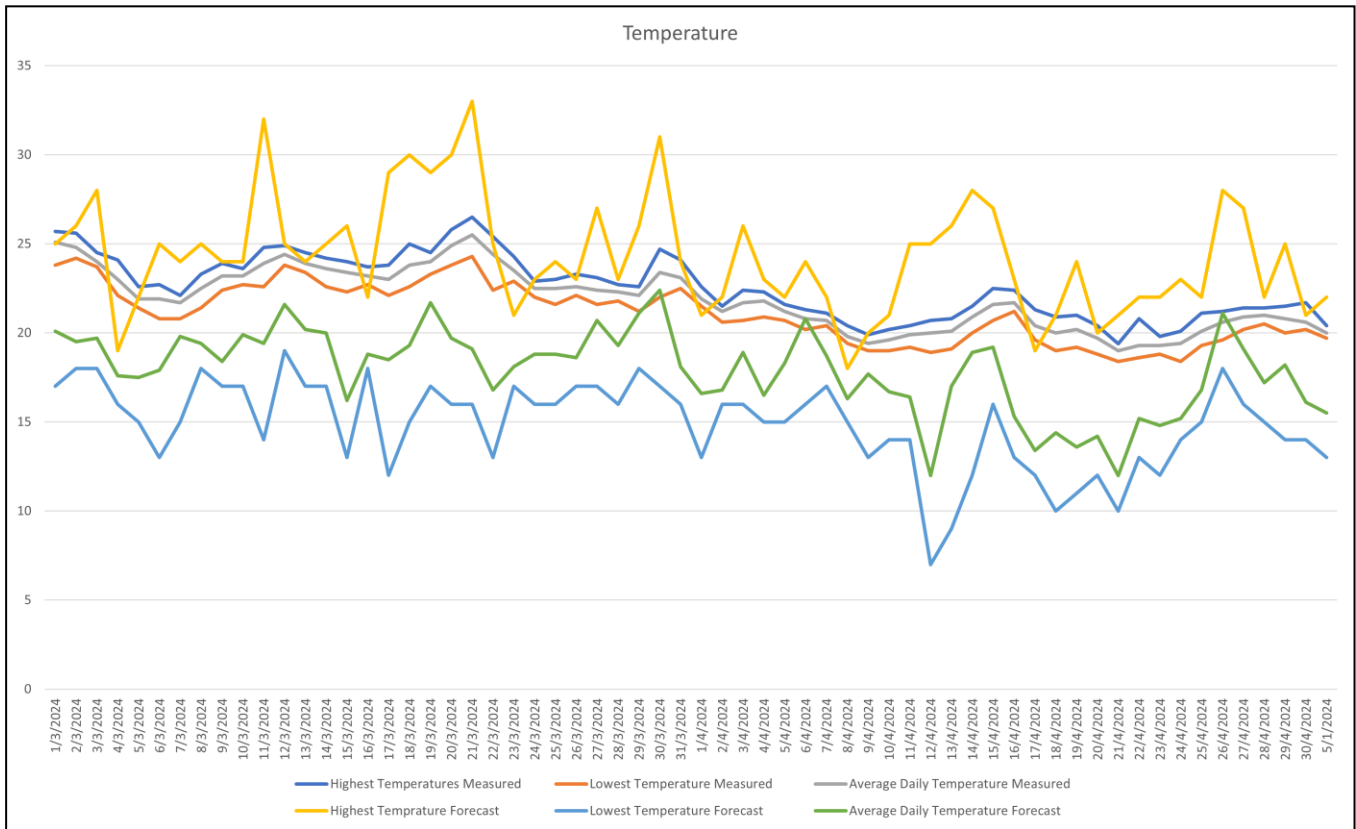


**Table 2: Autogenerated by datalogger.**

Even before testing was started, there was the assumption that the temperature readings would be relatively high due to the time of the year. Readings of temperature and humidity were collected using 'Tzone TemU 03' data loggers, as can be seen in figure 56.

Data loggers are useful because they log new readings at regular intervals giving one a better idea of fluctuations and are much more convenient and accurate than having to do manual spot checks. Many of these data loggers also automatically give tables displaying the relevant results, as can be seen in table 2.

The above table is helpful in seeing fluctuations of the highs and lows in temperature and humidity but does not give one a full breadth of the readings, as well as a sense of comparison. The data loggers produced a reading every ten minutes, which equates to 144 readings a day, resulting in almost 9000 readings over two months. Each day was then organised by highest



**Table 3: Temperature readings organised.**

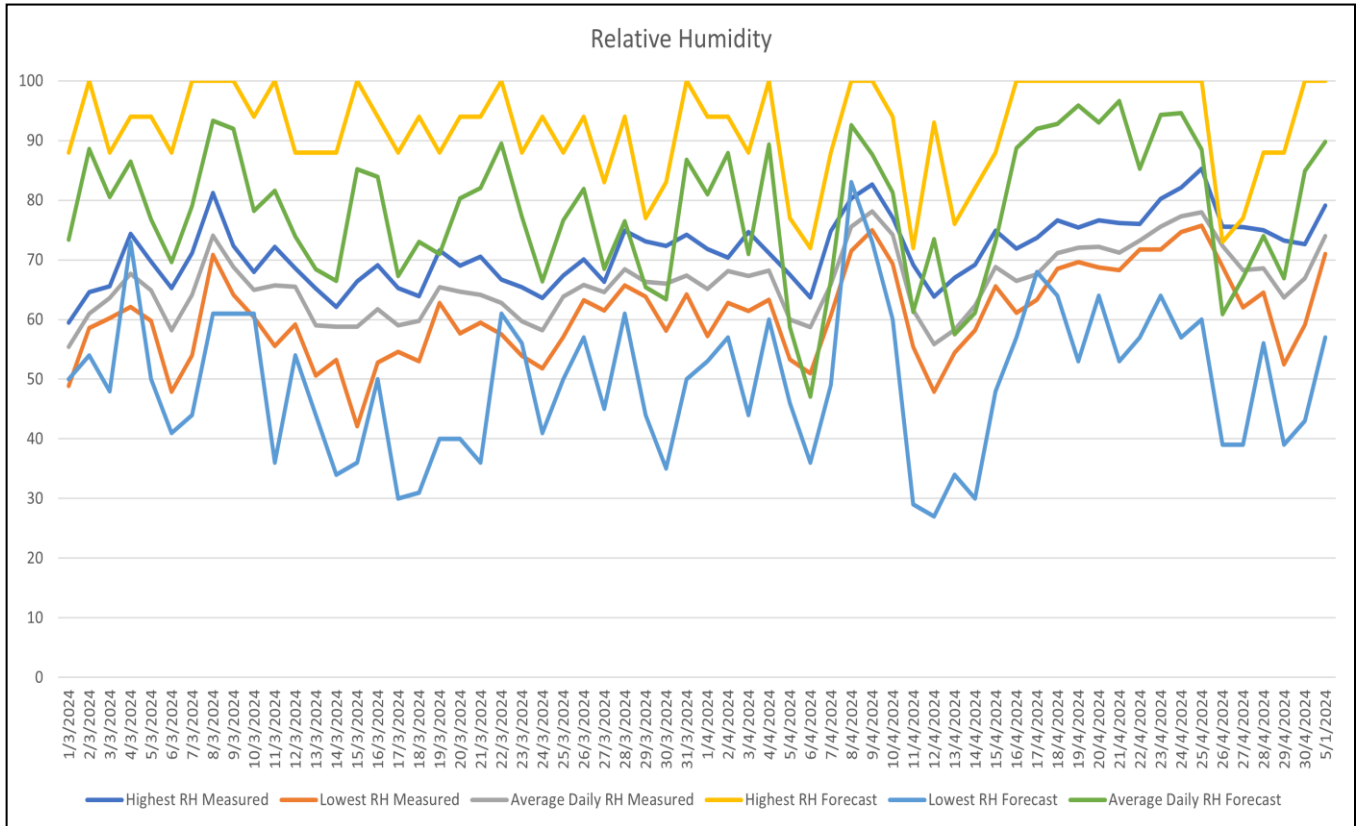
readings, lowest readings and average daily reading, table 3, reflects this organisational trend in regards to temperature readings.

As one can see, even though the initial temperature is quite high, the highest temperature is never higher than 26.5° Celsius, and the highest day to day fluctuation is within 2° Celsius.

As the month goes on, and summer begins to fade, the average temperatures reduce, and from the beginning of April, stay at the relatively constant average of 20.5° Celsius

What one can see by looking at the highest, lowest and average measured readings, is that they stick fairly close together and there is not too much fluctuation, which is a good thing. In comparison to the forecast temperatures which fluctuate far more.<sup>11</sup> One can tell through, this simple comparison, how beneficial it is for the object to be placed indoors. One would ideally

<sup>11</sup> The website Weather underground (2024), (<https://www.wunderground.com>) was used for all forecast data.



**Table 4: RH readings organised.**

want a lower temperature, and as mentioned earlier, RH becomes more of an issue when one's temperatures are higher. The RH readings can be seen in table 4.

One will immediately notice that there are more fluctuations in the RH in comparison to the temperatures. Not only are there instances where the RH peaks above 80%, but the distance between highest, lowest and average is larger, pointing to these larger fluctuations.

These variations are important for storage, as these can become incredibly detrimental to flexible film-based negatives if they are large enough. What is important to recognise, is that these are not sudden spikes, and the fluctuations are fairly gradual, and at around +/- 10%, it puts the samples at minimal risk (Lavédrine et al, 2009: 281).

The main concern when viewing these readings is the high RH in general. Even when viewed in comparison to the forecast figures, one can see that they lack the stability of the temperature readings. The RH readings must also be put into perspective, as they will likely be higher once the winter months begin.

#### 4.4 Sleeves

As mentioned earlier, physical damage to the negatives can be greatly reduced, simply by placing them in sleeves. This sounds simple, but choosing the correct material for the sleeves can be challenging. To better understand the choice made for this collection, it would be helpful to have some context, which can be found by discussing lamination. Lamination was a popular conservation method that started in the mid-1930s, it involved placing a paper document between two pieces of cellulose acetate and heating the edges to seal the document, 'protecting' it (Woodward, 2017:108).

By sealing the document, one does not allow the usually naturally acidic paper to off-gas, hastening its deterioration. The reason why it is important to understand the process of lamination is because it allows one to appreciate why negatives need to 'breathe'. A lot of literature will recommend polyester sleeves as suitable enclosures for negatives (Wilhelm and Bower, 1993:485). These are not sealed sleeves and will include a top flap to allow some breathability. The main advantage to using plastic sleeves, especially if one has a large collection, is ease of access. One can see the negatives through the plastic without having to remove them for inspection.

The main problem is that the polyester does not help support the stability of the negatives. It is effectively sealing the negatives on three sides, and if moisture were, for whatever reason, to be introduced into these spaces, it will do nothing to combat it. It also importantly does not allow the negatives to effectively off-gas their degradation products if they are already degrading. Untreated polyester can also be very expensive, and the added component of having to create individual sleeves can be fairly laborious. Paper is a good alternative to polyester, as it allows

breathability, and depending on if the paper is buffered, it can also help offset inherently acidic photographic materials.

Using paper as sleeves for negatives has not been a new thing as Debra Hess Norris writes (1991:581),

Paper enclosures should have an alpha cellulose content greater than 87% and contain no lignin, ground wood, or alum rosin sizing. Both buffered (alkaline) and unbuffered paper are acceptable, although under certain conditions one may preferred over the other. For example, inherently acidic photographic materials, such as platinum prints or cellulose nitrate and acetate film, benefit from buffered enclosures.

There seems to be a clear understanding that paper is a good material for creating sleeves, and it would seem that the only reason one would choose plastic sleeves would be for ease of access and to reduce handling. There are, however, some standards that must be adhered to in regards to using paper for display and storage. These two standards can be found through the International Organization for Standardization (ISO). The standards that need to be adhered to are ISO 18902 and ISO 18916, with the latter being more relevant in this case (Lavédrine et al, 2009: 281).

It is important to understand that in the South African context, cost becomes more of a factor. A regular ream of 500 sheet printer stock paper of 80 gsm costs around R100 or around \$5 at this time of writing. One would not want to use this type of paper as it is naturally acidic, one would rather want to use buffered (alkaline) paper as a precaution for this particular collection, as the CA can become acidic. The buffered paper, therefore, helps to offset the acidity of the degraded CA negatives. The cost for 100 sheets of Perma/Dur buffered paper (75gsm) is around R600 or around \$30, this works out to R6 or US 30c a sheet, which is a lot more expensive than regular paper. If one has a smaller collection, this may not seem like such a huge amount, but the larger a collection becomes, the more this cost becomes a factor.

Whilst these sheets of buffered paper are expensive, they are one of the more important components of the storage of cellulose acetate negatives, and it is important to realise, that one sheet does not equal one sleeve. For this particular collection, it was found that once the sheet was divided into four pieces, each measuring roughly 217mm x 140mm, they were each large enough to create a single sleeve. This means that those 100 sheets translate into 400 sleeves. At R1.50 or US 7.5c, this becomes a much more palatable prospect. An example of the sleeves created can be viewed in figure 57. The paper used was in line with the ISO standards as discussed above.



**Figure 57: Sleeves made using buffered paper.**

Each sleeve was then marked with the sample number at the top of the right-side folded edge, in pencil. This marking should be made before the negatives are put into the sleeves to prevent accidental impressions. This once again draws attention to the importance of having the correct metadata for organisation. Years down the line, these numbers will mean nothing by themselves. The numbers are there merely as a means of placing them in an orderly fashion, the real organisation should have already taken place when the metadata was recorded.

## 4.5 Digital Storage Solutions and Obsolescence

This topic was mentioned briefly in the introduction, but it is important to touch upon it again, before one looks into a suitable storage solution for the negatives themselves. Technology is changing and evolving at a rapid pace and choosing a suitable digital solution can be more troubling than initially anticipated. Lavédrine et al (2009:310) mentions how digital

obsolescence can affect the storage of digital files. Storage solutions over time become obsolete, because they are no longer commonly used or they can only be read by special means. One needs to only think of the CD-ROM and how ubiquitous it was only a few years ago, but now, finding a machine with an included CD-ROM drive, is almost impossible.

To better understand the term 'digital obsolescence', it is helpful to look at a case study. Leo Enticknap (2005:4) describes how the British Broadcasting Company (BBC) in 1987, decided to create a computer-based resource to serve as snapshot of UK life at the time, something like a modern Domesday Book. The material was recorded on 12-inch laser discs, which was a common practise at the time. It only took a short period of time for these discs to be obsolete, and they had to be migrated to newer technology to be accessed.

Mckie and Thorpe (2002:[sp]) summed it up best, when they wrote, "It was meant to be a showcase for Britain's electronic prowess - a computer-based, multimedia version of the Domesday Book. But 16 years after it was created, the £2.5 million BBC Domesday Project has achieved an unexpected and unwelcome status: it is now unreadable."

It is hard to fathom that what is considered cutting edge technology today, will likely be seen as outdated tomorrow. Portable external hard disk drives (HDD) are still used today, but newer Solid-State drives (SSD) are becoming the more popular alternative. SSDs have fewer moving parts, are faster and more portable. They are also a newer technology, and therefore the risk of digital obsolescence is smaller, in comparison to HDDs.

Studies have also found that the lifespan of SSDs significantly rival that of their older counterparts (Cunningham, 2022:[sp]). The main drawback is the cost, as SSDs tend to be more expensive than HDDs. The cost of these storage solutions will heavily depend on the size of the collection.

An SSD of around 500GB could be purchased for around R1000 or \$50 at this time of writing. This cost can increase significantly depending on brand, size, read speed and so forth. It is important to understand that backups of data are also important, and in the data storage industry, there is a rule called the 3-2-1 strategy (Pusin, 2015:[sp]). It refers to having three copies of your data in two different mediums, with one copy being kept off-site.

At first glance, it may seem like a lot of work but it is important that the digital images are kept safe. A simple example of the 3-2-1 rule would be, a copy on the computer used to digitise the images, a copy on an external SSD and then a final copy on a cloud-based storage solution.

Cloud storage is an incredibly useful and reliable means of keeping your data safe and accessible. The main drawback is once again cost. All cloud storage is subscription-based and this can become expensive, depending on the size of one's collection. Take Microsoft OneDrive as an example: for 100GB of storage, it costs R399 a year (Microsoft, sa: [sp]). This plan is likely sufficient for most private family collections, as it should on principle provide enough storage for around 500, 6 x 9 negatives, scanned at 3200 DPI. On the other hand, 1TB of storage would cost R1099 a year, which translates into almost three times the cost of the basic plan, but provides ten times the amount of storage (roughly 5000 negatives). One would, therefore, need to decide which digital storage solution works best.

Even if one does not follow the 3-2-1 rule, it is important to have at least two backups of one's data. It is a simple way to protect one's collection in the event of the failure of one of the backups. This particular collection will be following the 3-2-1 rule, as outlined above, by utilising a Samsung T7 500GB SSD and 100GB cloud storage solution provided by Microsoft OneDrive.

## 4.6 Dry Cabinet

Before one discusses the dry cabinet as a storage solution, it is important to understand why this paper sought to choose a storage solution that did not rely on mechanical climate control.<sup>12</sup> As sustainability becomes more of an issue going forward, relying on things like dehumidifiers, air conditioners and refrigeration etc. to maintain an optimal environment becomes less and less desirable. This was a big factor in trying to stay away from those types of solutions but the main one had to do with the South African context.

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<sup>12</sup> Mechanical climate control is the use of mechanical devices to control climate. It is an expensive and energy demanding solution in aiding preventative conservation.

Since 2007, South Africa has been affected by what is called, load shedding (Nowakowska & Tubis, 2015:103). Which is essentially a series of scheduled rolling blackouts used in an effort to maintain the integrity of the power grid. This creates a situation in which the electricity supply can be off for hours, or even days, at a time. In such a situation, trying to rely on high wattage solutions to maintain one's collection can become not only expensive but almost an impossibility



**Figure 58: Purchased Dry Cabinet.**

South Africans have begun to see load shedding as an everyday occurrence, as Roula Inglesi-Lotz (2023:1) writes in Mid-2023, “The country has barely experienced a day without some stage of load shedding implemented since September 2022, with the average stage in a day continuously rising.” A storage solution would need to account for this situation to be effective.

From observing the environment in the previous section, it became clear that Relative Humidity (RH) would be an issue. A solution to combat this, would be to create a microenvironment (Nishimura, 2015:241).

There are benefits and disadvantages to microenvironments and it is important to understand them before deciding if this is the best solution.

Keeping the negatives in an unsealed container would always be preferred, as it allows the negatives to effectively off-gas, preventing acetic acid build up and deterioration. Once one seals them away, they can rapidly degrade if they are not correctly stored or monitored.

Dry cabinets/dry boxes can be built or purchased. For this collection it was decided that an electronic dry cabinet was preferred as opposed to a DIY dry box (Go, 2018: [sp]).

A 50L dry cabinet was purchased for the price of R2500 or around \$135 at this time of writing, the dry cabinet can be viewed in figure 58.

The reasoning for this choice is directly linked to the disadvantages that come with a DIY dry box. Making your own dry box is fairly simple. All one needs is a transparent and air tight plastic container. The reasoning for a transparent container is because one will need to monitor the state of the items inside without opening the container. One would need a hygrometer, which would then need to be placed inside the container to monitor temperature and RH. Activated silica gel would need to be used as an adsorbent to reduce RH, and lastly one may need another adsorbent to target any acetic acid.

The main disadvantage to the DIY setup is that it requires more monitoring than the electronic cabinet. The silica gel will become exhausted and need to be replaced<sup>13</sup>, and if it is not replaced there is the risk of a steep rise in RH within the container. There is also the lack of control.

To reach the required RH, one would need to place the correct amount of silica gel to achieve the correct RH, which can take a bit of experimenting to achieve.

Whereas with the electronic dry cabinet, all one needs to do is adjust the nob inside the cabinet to the required level and then one can just leave it alone. There are three main disadvantages that accompany this convenience; namely, its price, the requirement of electricity and its limited size. The price was weighed against the potential time and effort needed to maintain dry boxes and was deemed acceptable. The electricity required to run it amounts to 7W, which makes it a sustainable solution compared to other mechanical climate controls means, and it also allows it to be run off a small power bank if a loss of power does occur. The limited size can be a factor for those with larger collections but for this use case it is sufficient. One could purchase a larger dry cabinet but then there would likely be an increase in price.

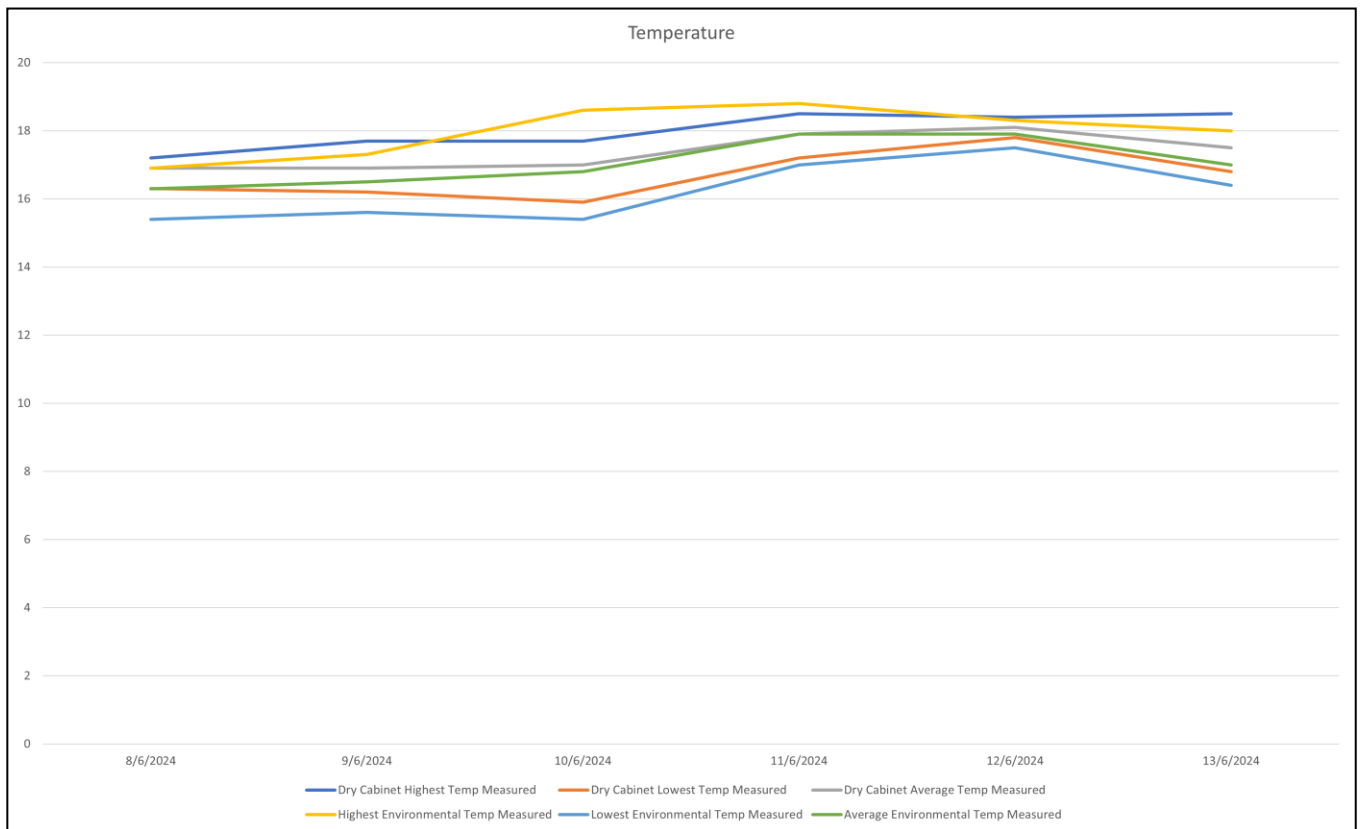
Before one gets into the efficacy of the dry cabinet itself, it is important to be practical in regards to one's approach to storage. The best storage solution will always be the one that can be achieved with the resources at hand.

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<sup>13</sup> Silica Gel can be re-used by drying them out in a standard oven. The added energy usage and labour must be taken into consideration during this process, to ascertain if this is a worthwhile endeavour.

One could even argue that the negatives in this collection could have been kept in their previous storage place, in relatively safely for a few more years. But the main reason for using a dry cabinet is to mitigate future intervention and ideally to give one more time to decide on the future of the collection as a whole.

Two data loggers were used to better understand the efficacy of the dry cabinet. One was placed inside the dry cabinet itself and one outside of it. Temperature was observed first and the results can be viewed in table 5.

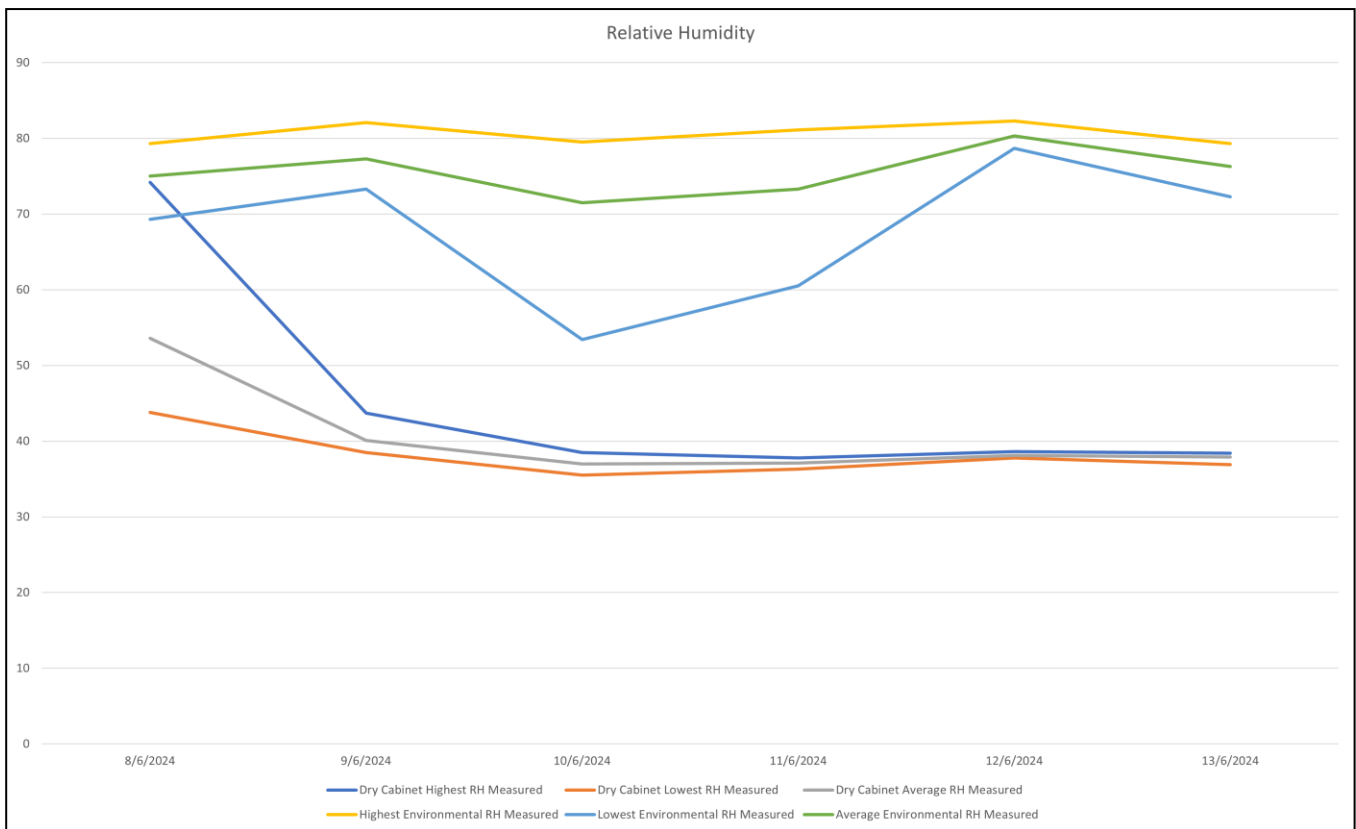


**Table 5: Dry cabinet temperature readings.**

The readings were recorded over a period of roughly six days. The dry cabinet did not make a noticeable difference in regard to temperature and stayed roughly in line with room temperature.

The readings were recorded in winter and therefore, the temperatures are noticeably lower than those taken previously. The data is not surprising, as the main purpose of the cabinet is to lower RH.

Table 6, clearly shows the efficacy of the dry cabinet in regards to RH. On the first day the RH reading starts fairly high, but as time goes on, there is a steady drop in RH. By day three, the RH readings became consistent, the highs, lows and average being almost identical, which points to the fact that the dry cabinet is able to maintain a consistently stable RH. The RH is a bit lower than required and would need to be adjusted to around 45% to account for the paper sleeves. One can see why a dry cabinet would be an ideal storage solution for many private family collections. Particularly for those struggling with high RH.



**Table 6: Dry Cabinet RH readings.**

## 4.7 Adsorbents

When one chooses to use a microenvironment such as the solution above, an important safety precaution is an adsorbent to target acetic acid. It is important, however, to first understand the condition of one's CA collection before an adsorbent is chosen. In a study conducted by Shashoua, Schilling and Mazurek (2014), they found that when it came to undegraded film, some adsorbents more readily adsorbed the plasticiser in the film base rather than the acetic acid. The amount of plasticiser adsorbed was highly dependent on the adsorbent used, for example, silica gel readily adsorbed plasticiser in the case of both degraded and undegraded film (Shashoua et al, 2014:6-7).

The best method to identify the condition of one's collection is through the use of A-D strips, as previously mentioned. Through this method, it was deemed that there was no deterioration present within the chosen samples. Therefore, one could argue that the use of an adsorbent to target acetic acid would not be necessary. If, for example, the strips showed level 1 (Blue-Green) instead of level 0 (Blue), meaning that deterioration has started, then an adsorbent should be used to slow down the degradation.

The choice of adsorbent is important as one would need something that is relatively cheap and easily available, while at the same time still being effective. In 2017, Bell, Newnham & Nel, wrote a paper advocating for tea to be using as in alternative adsorbent. The idea is innovative but the problem is that research around it has been scarce, especially in regards to long term storage and therefore, it can't be advocated for. Activated carbon is a common adsorbent that has been regularly used since the 1990s (Shashoua et al, 2014: 2). It is cheap and does not have the ability to adsorb water vapour, therefore, making it a good adsorbent for acetic acid.

Silica gel is also effective for acetic acid, but its main purpose is to reduce RH. One would therefore want to use a different adsorbent to regulate acetic acid, such as activated carbon.

It is important to realise that each adsorbent is not perfect and that they all have their pros and cons. By using the 2014 study as discussed above, one can get a general idea of which adsorbents may be appropriate for one's situation.

## 4.8 Monitoring

Any type of collection requires regular monitoring. This becomes even more important when using a microenvironment. As this is a closed system, there is risk of rapid degradation if the onset of deterioration begins. If your film is stable, and there is no deterioration, one can place one A-D strip within the microenvironment to test for the presence of acetic acid, every 4 months. The caveat being that it is an electronic dry cabinet.

If one is using DIY dry boxes then, monitoring will have to be more regular. One will need to also check the RH within the boxes to observe if the silica gel has been exhausted and needs replacing. The method of placing a single A-D strip within a box can also be used when the silica gel is replaced.

It is important to understand that once deterioration has begun, it is only a matter of time until the negatives degrade past the point of even being able to be digitised. It is one of the reasons why cold storage is recommended since it halts the chemical processes behind the breakdown of the negative. This is the reason why regular monitoring is so vital, especially in regards to stable film. Obviously, the larger a collection is, the harder this task becomes, and the use of random sampling can be helpful in this regard.

## 4.9 Conclusion

As one can see from the above chapter, there are a lot of factors to consider when deciding on a storage solution for one's collection. On the face of it, it may seem like a lot, but all these steps are worthwhile. Purchasing things like buffered paper, adsorbents, cloud storage etc. may at the time seem more expensive than necessary but once one's collection has deteriorated, the cost of having it conserved in an interventive manner will likely be much more. In the worst-case scenario one's collection could be completely destroyed. No one would want something like this to happen, and it is therefore important to recognise the risks the collection may be vulnerable to and address them in the best way possible, whilst at the same time also accounting for one's own contextual situation.



**Figure 59: BEFORE**



**Figure 60: AFTER**

## 5. CONCLUSION

### 5.1 Summary of Chapters

This dissertation set out to do three main things: firstly, it was to ascertain the condition of the cellulose acetate negatives within the collections through sampling, secondly, it was to digitise those samples as a means of preservation, and lastly, it was to better rehouse the samples in a sustainable way. The collection had been unattended to for quite some time and there was an urgent need to evaluate the collection before it began to deteriorate.

Chapter One, established the background of the collection and the reasoning for pursuing this research. It explored some of the main thematic differences between institutional and private collections and the scarcity of good online resources in regards to conservation of photographic materials. The literature review also highlighted the fact that the inverse is also true and that there is a scarcity of helpful and accessible academic resources in regards to things such as digitisation.

Chapter Two, looked at the sampling and condition assessment process. It found that the identification of Cellulose Acetate can be challenging if one has not been provided with a base level of information, particularly outside of an institutional setting. Technical photography was used in conjunction with A-D strips to establish a base level condition assessment of the collection. Magnification proved to be instrumental in locating areas of damage that were hard to detect with the naked eye. Much of the physical damage observed in the samples, was likely the result of unsuitable housings and improper handling.

Chapter Three, discussed the digitisation process of the samples. It found that digitisation should not be seen as a replacement to conventional preservation but rather as an alternative, especially within private family collections. There were numerous challenges and decisions that had to be made when it came to the scanning of the samples. As every collection is different the choice of DPI, file format, the amount of software manipulation used and the type of metadata included is subjective and should be decided after careful consideration, as outlined in the chapter.

Chapter Four was focused on one of the most important aspects of conservation, storage. All the data collected over two months was put into tables to show the difficulty of creating a sustainable and stable storage environment. And why something like a dry cabinet may be a good solution for those with smaller collections, particularly for a South African context. It also highlighted the importance of having a good digital storage strategy to keep the scanned images safe, and emphasised the fact, that whilst many of these materials may seem expensive at first, in the long run they are likely worth it.

## 5.2 Contributions of the Study

This dissertation has made a contribution to the field of photographic conservation in South Africa by illustrating that it is possible to conserve one's own collection at home. This study was never meant to be a step-by-step guide but rather a way to emphasise a common-sense approach to photography preservation. It is meant to highlight some of the 'dos and don'ts', and direct interested individuals to sources that are actually useful and helpful, whilst at the same time, also drawing attention to the important things one should be aware of when one is thinking of preserving a cellulose acetate photography collection.

## 5.3 Limitations of the Study

One of the main limitations of this study was the fact that it is only focused on one material, namely, cellulose acetate flexible film base. By only focusing on cellulose acetate, it occluded the approaches one may take in regards to other materials e.g. glass plate negatives, cellulose nitrate negatives, different types of positives etc. Another limitation was time: data could only realistically be collected over a period of two months. A better understanding of the potential storage environment could have been achieved if more time had been available to collect data.

Another big limitation had to do with the fact that digitisation was only done through flatbed scanning. This meant that no practical comparisons could be made in regards to quality, ease of use or efficiency of time.

## 5.4 Suggestions for Further Research

Broadening the focus of the study to include more photographic materials would have provided one with a more complex and well-rounded perspective. It would also help to highlight the difficulty in preserving mixed photographic collections. Another area of focus, could have been the inclusion of DSLR scanning to be able to make practical comparisons to flatbed scanning. Long-term monitoring of the current storage environment would also be beneficial as one would be able to observe any adverse changes the dry cabinet may result in. A practical line of further research would be to create a helpful guide for South African institutions that are in possession of photographic materials, by highlighting some of the properties of the different types of photographic materials, the different agents of deterioration, some useful materials that can be purchased locally etc. This is likely a challenging endeavour, but considering the current state of photography conservation in South Africa, it would be a worthwhile one.

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## APPENDICES

### Appendix A: Digitised Images



Sample 1



Sample 2.1



Sample 2.2



Sample 3



**Sample 4**



**Sample 5**



Sample 6



Sample 7



Sample 8



Sample 9.1



**Sample 9.2**



**Sample 10.1**



**Sample 10.2**



**Sample 10.3**



**Sample 10.4**



**Sample 11**



Sample 12



Sample 13



**Sample 14**

## Appendix B: Metadata

1. Author: Ivan Landau  
Date: 1963  
Subjects: Julia Landau, Julia Burnik  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 134 MB  
File Format: TIFF  
Resolution: 6774 x 10432  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

2.1 Author: Ivan Landau  
Date: 1963/1964  
Subjects: Julia Landau  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 4.5  
Size of Film: 120  
Size of File: 64.6 MB  
File Format: TIFF  
Resolution: 5003 x 6773  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

2.2 Author: Ivan Landau  
Date: 1963/1964  
Subjects: Julia Landau  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 4.5  
Size of Film: 120  
Size of File: 68.8 MB  
File Format: TIFF  
Resolution: 5322 x 6773  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

3. Author: Ivan Landau  
Date: 1965  
Subjects: Julia Landau  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 127 MB  
File Format: TIFF  
Resolution: 6773 x 9888  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

4. Author: Ivan Landau  
Date: 1963  
Subjects: Julia Landau, Julia Burnik  
Location: Belgium  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 127 MB  
File Format: TIFF  
Resolution: 6773 x 9888  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600
  
5. Author: Ivan Landau  
Date: 1965  
Subjects: Audrey Landau  
Location: N/A  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 134 MB  
File Format: TIFF  
Resolution: 6774 x 10432  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

6. Author: Ivan Landau  
Date: 1963  
Subjects: Julia Landau  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 6  
Size of Film: 120  
Size of File: 89.4 MB  
File Format: TIFF  
Resolution: 6773 x 6923  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600
  
7. Author: Ivan Landau  
Date: 1968  
Subjects: Julia Landau, Julia Burnik  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 4.5  
Size of Film: 120  
Size of File: 18.6 MB  
File Format: TIFF  
Resolution: 5197 x 5088  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

8. Author: Ivan Landau  
Date: 1965  
Subjects: Julia Landau, Julia Burnik, Audrey Landau  
Location: Rotterdam  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 6  
Size of Film: 120  
Size of File: 90 MB  
File Format: TIFF  
Resolution: 6774 x 6965  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

9.1 Author: Audrey Landau  
Date: 1965  
Subjects: Julia Landau, Ivan Landau, Julia Burnik  
Location: N/A  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 6  
Size of Film: 120  
Size of File: 90 MB  
File Format: TIFF  
Resolution: 6774 x 6966  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

## 9.2 Author: Audrey Landau

Date: 1965  
Subjects: Julia Landau, Ivan Landau, Julia Burnik  
Location: N/A  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 6  
Size of Film: 120  
Size of File: 89.9 MB  
File Format: TIFF  
Resolution: 6774 x 6955  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

## 10.1 Author: Audrey Landau

Date: 1968  
Subjects: Julia Landau  
Location: Bournemouth  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 36 x 24  
Size of Film: 35  
Size of File: 64.3 MB  
File Format: TIFF  
Resolution: 3648 x 3081  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

10.2 Author: Audrey Landau  
Date: 1968  
Subjects: Julia Landau, Julia Burnik  
Location: Bournemouth  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 36 x 24  
Size of Film: 35  
Size of File: 21.4 MB  
File Format: TIFF  
Resolution: 3648 x 3080  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

10.3 Author: Audrey Landau  
Date: 1968  
Subjects: Julia Landau, Julia Burnik  
Location: Bournemouth  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 36 x 24  
Size of Film: 35  
Size of File: 20.8 MB  
File Format: TIFF  
Resolution: 3616 x 3024  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

10.4 Author: Audrey Landau  
Date: 1968  
Subjects: Julia Landau  
Location: Bournemouth  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 36 x 24  
Size of Film: 35  
Size of File: 20.8 MB  
File Format: TIFF  
Resolution: 3616 x 3024  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

11. Author: Ivan Landau  
Date: 1963  
Subjects: Julia Landau, Audrey Landau  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 134 MB  
File Format: TIFF  
Resolution: 10411 x 6774  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

12. Author: Ivan Landau  
Date: 1963/1964  
Subjects: Julia Landau  
Location: London  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 135 MB  
File Format: TIFF  
Resolution: 6774 x 10496  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

13. Author: Audrey Landau  
Date: 1963  
Subjects: Julia Landau, Julia Burnik  
Location: N/A  
Film Base: Cellulose Acetate  
Source: Negative  
Size of Negative: 6 x 9  
Size of Film: 120  
Size of File: 134 MB  
File Format: TIFF  
Resolution: 6774 x 10389  
DPI: 3200  
Colour: Black and White  
Bit Depth: 16-Bit Grayscale  
Compression: Uncompressed  
Date of digitisation: June 2<sup>nd</sup> 2024  
Digitisation Equipment: Epson V600

14. Author: Ivan Landau

Date: 1962

Subjects: Julia Landau, Julia Burnik

Location: London

Film Base: Cellulose Acetate

Source: Negative

Size of Negative: 6 x 9

Size of Film: 120

Size of File: 134 MB

File Format: TIFF

Resolution: 6774 x 10421

DPI: 3200

Colour: Black and White

Bit Depth: 16-Bit Grayscale

Compression: Uncompressed

Date of digitisation: June 2<sup>nd</sup> 2024

Digitisation Equipment: Epson V600

## Appendix C: Datalogger Data



Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
02/29/2024	17:05:58	26.4	52.1	03/01/2024	09:05:58	24.0	67.5	03/02/2024	01:05:58	25.1	60.6	03/02/2024	17:05:58	24.4	60.3	03/03/2024	09:05:58	23.7	63.2
02/29/2024	17:15:58	26.3	52.2	03/01/2024	09:15:58	24.1	57.4	03/02/2024	01:15:58	25.1	60.8	03/02/2024	17:15:58	24.4	60.4	03/03/2024	09:15:58	23.7	63.1
02/29/2024	17:25:58	26.2	52.1	03/01/2024	09:25:58	24.2	57.4	03/02/2024	01:25:58	25.1	60.9	03/02/2024	17:25:58	24.5	60.4	03/03/2024	09:25:58	23.7	63.0
02/29/2024	17:35:58	26.2	52.3	03/01/2024	09:35:58	24.3	57.7	03/02/2024	01:35:58	25.1	61.0	03/02/2024	17:35:58	24.5	60.3	03/03/2024	09:35:58	23.7	63.1
02/29/2024	17:45:58	26.2	52.4	03/01/2024	09:45:58	24.4	49.8	03/02/2024	01:45:58	25.1	61.3	03/02/2024	17:45:58	24.6	60.2	03/03/2024	09:45:58	23.7	63.1
02/29/2024	17:55:58	26.1	52.4	03/01/2024	09:55:58	24.5	56.6	03/02/2024	01:55:58	25.1	61.4	03/02/2024	17:55:58	24.6	60.1	03/03/2024	09:55:58	23.7	63.1
02/29/2024	18:05:58	26.1	52.4	03/01/2024	10:05:58	24.5	56.2	03/02/2024	02:05:58	25.1	61.3	03/02/2024	18:05:58	24.6	60.0	03/03/2024	10:05:58	23.8	63.5
02/29/2024	18:15:58	26.1	52.6	03/01/2024	10:15:58	24.6	56.2	03/02/2024	02:15:58	25.1	61.3	03/02/2024	18:15:58	24.6	59.9	03/03/2024	10:15:58	23.9	63.3
02/29/2024	18:25:58	26.1	52.9	03/01/2024	10:25:58	24.7	56.9	03/02/2024	02:25:58	25.1	61.3	03/02/2024	18:25:58	24.6	59.9	03/03/2024	10:25:58	24.0	63.4
02/29/2024	18:35:58	26.1	53.2	03/01/2024	10:35:58	24.8	57.8	03/02/2024	02:35:58	25.1	61.4	03/02/2024	18:35:58	24.6	59.7	03/03/2024	10:35:58	24.1	63.5
02/29/2024	18:45:58	26.1	53.4	03/01/2024	10:45:58	24.9	57.7	03/02/2024	02:45:58	25.1	61.2	03/02/2024	18:45:58	24.6	59.4	03/03/2024	10:45:58	24.1	63.6
02/29/2024	18:55:58	26.1	53.6	03/01/2024	10:55:58	24.9	57.3	03/02/2024	02:55:58	25.1	61.0	03/02/2024	18:55:58	24.6	59.2	03/03/2024	10:55:58	24.2	63.9
02/29/2024	19:05:58	26.4	6.0	03/01/2024	11:05:58	25.0	57.6	03/02/2024	03:05:58	25.0	60.9	03/02/2024	19:05:58	24.6	59.0	03/03/2024	11:05:58	24.2	63.9
02/29/2024	19:15:58	26.3	53.7	03/01/2024	11:15:58	25.1	57.3	03/02/2024	03:15:58	25.1	60.9	03/02/2024	19:15:58	24.6	58.9	03/03/2024	11:15:58	24.2	64.1
02/29/2024	19:25:58	26.2	54.0	03/01/2024	11:25:58	25.1	57.5	03/02/2024	03:25:58	25.0	60.7	03/02/2024	19:25:58	24.5	59.0	03/03/2024	11:25:58	24.2	64.1
02/29/2024	19:35:58	26.1	54.3	03/01/2024	11:35:58	25.2	58.0	03/02/2024	03:35:58	25.1	60.7	03/02/2024	19:35:58	24.5	59.4	03/03/2024	11:35:58	24.1	64.0
02/29/2024	19:45:58	26.1	54.6	03/01/2024	11:45:58	25.2	58.0	03/02/2024	03:45:58	25.1	60.8	03/02/2024	19:45:58	24.5	59.9	03/03/2024	11:45:58	24.2	64.0
02/29/2024	19:55:58	26.1	56.2	03/01/2024	11:55:58	25.3	56.2	03/02/2024	03:55:58	25.0	60.7	03/02/2024	19:55:58	24.5	59.0	03/03/2024	11:55:58	24.1	64.2
02/29/2024	20:05:58	26.1	56.7	03/01/2024	12:05:58	25.3	54.0	03/02/2024	04:05:58	25.0	60.8	03/02/2024	20:05:58	24.5	59.6	03/03/2024	12:05:58	24.2	64.4
02/29/2024	20:15:58	26.1	57.1	03/01/2024	12:15:58	25.4	49.8	03/02/2024	04:15:58	25.0	61.7	03/02/2024	20:15:58	24.5	59.7	03/03/2024	12:15:58	24.2	64.4
02/29/2024	20:25:58	26.1	58.0	03/01/2024	12:25:58	25.3	51.3	03/02/2024	04:25:58	25.0	60.7	03/02/2024	20:25:58	24.5	63.2	03/03/2024	12:25:58	24.2	64.5
02/29/2024	20:35:58	26.1	58.1	03/01/2024	12:35:58	25.3	50.7	03/02/2024	04:35:58	25.0	60.8	03/02/2024	20:35:58	24.6	62.5	03/03/2024	12:35:58	24.2	64.6
02/29/2024	20:45:58	26.1	59.3	03/01/2024	12:45:58	25.3	50.2	03/02/2024	04:45:58	24.9	60.9	03/02/2024	20:45:58	24.6	62.1	03/03/2024	12:45:58	24.2	64.6
02/29/2024	20:55:58	26.1	60.1	03/01/2024	12:55:58	25.3	49.5	03/02/2024	04:55:58	24.9	60.9	03/02/2024	20:55:58	24.6	61.9	03/03/2024	12:55:58	24.2	64.7
02/29/2024	21:05:58	26.1	59.9	03/01/2024	13:05:58	25.4	49.7	03/02/2024	05:05:58	24.9	61.0	03/02/2024	21:05:58	24.5	61.8	03/03/2024	13:05:58	24.3	64.5
02/29/2024	21:15:58	26.0	59.7	03/01/2024	13:15:58	25.4	50.0	03/02/2024	05:15:58	24.9	60.9	03/02/2024	21:15:58	24.5	61.5	03/03/2024	13:15:58	24.2	64.3
02/29/2024	21:25:58	26.1	59.3	03/01/2024	13:25:58	25.4	49.8	03/02/2024	05:25:58	24.9	61.0	03/02/2024	21:25:58	24.5	61.7	03/03/2024	13:25:58	24.2	64.3
02/29/2024	21:35:58	26.0	59.0	03/01/2024	13:35:58	25.4	49.9	03/02/2024	05:35:58	24.9	60.9	03/02/2024	21:35:58	24.5	60.7	03/03/2024	13:35:58	24.2	64.6
02/29/2024	21:45:58	26.0	59.2	03/01/2024	13:45:58	25.5	48.9	03/02/2024	05:45:58	24.9	60.9	03/02/2024	21:45:58	24.4	60.6	03/03/2024	13:45:58	24.2	64.6
02/29/2024	21:55:58	25.9	59.2	03/01/2024	13:55:58	25.5	49.0	03/02/2024	05:55:58	24.8	61.0	03/02/2024	21:55:58	24.4	60.2	03/03/2024	13:55:58	24.1	64.4
02/29/2024	22:05:58	25.9	59.0	03/01/2024	14:05:58	25.4	49.3	03/02/2024	06:05:58	24.8	61.0	03/02/2024	22:05:58	24.4	60.0	03/03/2024	14:05:58	24.1	64.5
02/29/2024	22:15:58	25.9	58.7	03/01/2024	14:15:58	25.5	49.2	03/02/2024	06:15:58	24.8	61.0	03/02/2024	22:15:58	24.4	59.9	03/03/2024	14:15:58	24.1	64.5
02/29/2024	22:25:58	25.9	58.5	03/01/2024	14:25:58	25.4	49.0	03/02/2024	06:25:58	24.8	61.1	03/02/2024	22:25:58	24.3	59.8	03/03/2024	14:25:58	24.1	64.5
02/29/2024	22:35:58	25.9	58.3	03/01/2024	14:35:58	25.4	49.3	03/02/2024	06:35:58	24.8	61.1	03/02/2024	22:35:58	24.3	59.7	03/03/2024	14:35:58	24.1	64.6
02/29/2024	22:45:58	25.9	58.1	03/01/2024	14:45:58	25.4	49.5	03/02/2024	06:45:58	24.8	61.2	03/02/2024	22:45:58	24.3	59.7	03/03/2024	14:45:58	24.1	64.7
02/29/2024	22:55:58	25.9	58.0	03/01/2024	14:55:58	25.5	50.0	03/02/2024	06:55:58	24.8	61.3	03/02/2024	22:55:58	24.3	59.7	03/03/2024	14:55:58	24.2	64.7
02/29/2024	23:05:58	25.8	57.8	03/01/2024	15:05:58	25.5	50.2	03/02/2024	07:05:58	24.7	61.4	03/02/2024	23:05:58	24.3	59.7	03/03/2024	15:05:58	24.2	64.8
02/29/2024	23:15:58	25.8	57.8	03/01/2024	15:15:58	25.5	50.5	03/02/2024	07:15:58	24.8	61.5	03/02/2024	23:15:58	24.3	59.7	03/03/2024	15:15:58	24.2	64.7
02/29/2024	23:25:58	25.8	57.8	03/01/2024	15:25:58	25.5	50.4	03/02/2024	07:25:58	24.7	61.4	03/02/2024	23:25:58	24.2	59.8	03/03/2024	15:25:58	24.2	64.7
02/29/2024	23:35:58	25.7	57.7	03/01/2024	15:35:58	25.5	50.2	03/02/2024	07:35:58	24.8	61.7	03/02/2024	23:35:58	24.2	59.9	03/03/2024	15:35:58	24.2	65.0
02/29/2024	23:45:58	25.7	57.7	03/01/2024	15:45:58	25.5	50.6	03/02/2024	07:45:58	24.8	61.9	03/02/2024	23:45:58	24.2	60.0	03/03/2024	15:45:58	24.2	65.1
02/29/2024	23:55:58	25.7	57.6	03/01/2024	15:55:58	25.5	50.0	03/02/2024	07:55:58	24.7	62.0	03/02/2024	23:55:58	24.2	60.1	03/03/2024	15:55:58	24.2	65.1
03/01/2024	00:05:58	25.7	57.6	03/01/2024	16:05:58	25.5	51.5	03/02/2024	08:05:58	24.8	62.1	03/02/2024	00:05:58	24.2	60.2	03/03/2024	16:05:58	24.2	65.2
03/01/2024	00:15:58	25.6	57.5	03/01/2024	16:15:58	25.5	51.8	03/02/2024	08:15:58	24.8	62.3	03/03/2024	00:15:58	24.2	60.3	03/03/2024	16:15:58	24.2	65.3
03/01/2024	00:25:58	25.6	57.4	03/01/2024	16:25:58	25.5	52.0	03/02/2024	08:25:58	24.8	62.5	03/03/2024	00:25:58	24.2	60.3	03/03/2024	16:25:58	24.2	65.4
03/01/2024	00:35:58	25.6	57.4	03/01/2024	16:35:58	25.5	52.2	03/02/2024	08:35:58	24.8	62.7	03/03/2024	00:35:58	24.2	60.4	03/03/2024	16:35:58	24.2	65.4
03/01/2024	00:45:58	25.5	57.4	03/01/2024	16:45:58	25.5	52.5	03/02/2024	08:45:58	24.7	62.9	03/03/2024	00:45:58	24.1	60.4	03/03/2024	16:45:58	24.2	65.5
03/01/2024	00:55:58	25.5	57.4	03/01/2024	16:55:58	25.5	52.8	03/02/2024	08:55:58	24.7	62.8	03/03/2024	00:55:58	24.1	60.5	03/03/2024	16:55:58	24.2	65.5
03/01/2024	01:05:58	25.5	57.4	03/01/2024	17:05:58	25.5	53.0	03/02/2024	09:05:58	24.7	62.9	03/03/2024	01:05:58	24.1	60.5	03/03/2024	17:05:58	24.2	65.5
03/01/2024	01:15:58	25.5	57.4	03/01/2024	17:15:58	25.5	54.2	03/02/2024	09:15:58	24.7	61.6	03/03/2024	01:15:58	24.1	60.5	03/03/2024	17:15:58	24.2	65.6
03/01/2024	01:25:58	25.4	57.4	03/01/2024	17:25:58	25.6	54.4	03/02/2024	09:25:58	24.8	61.2	03/03/2024	01:25:58	24.1	60.6	03/03/2024	17:25:58	24.2	65.5



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
03/04/2024	01:05:58	24.1	64.6	03/04/2024	17:05:58	22.9	70.5	03/05/2024	09:05:58	21.7	69.1	03/06/2024	01:05:58	21.7	60.7	03/06/2024	17:05:58	22.2	58.0
03/04/2024	01:15:58	24.1	64.5	03/04/2024	17:15:58	22.9	70.5	03/05/2024	09:15:58	21.8	68.9	03/06/2024	01:15:58	21.7	60.7	03/06/2024	17:15:58	22.2	58.5
03/04/2024	01:25:58	24.0	64.5	03/04/2024	17:25:58	22.8	70.4	03/05/2024	09:25:58	21.8	68.8	03/06/2024	01:25:58	21.7	60.7	03/06/2024	17:25:58	22.3	58.6
03/04/2024	01:35:58	24.0	64.5	03/04/2024	17:35:58	22.8	70.5	03/05/2024	09:35:58	21.9	68.6	03/06/2024	01:35:58	21.7	60.6	03/06/2024	17:35:58	22.3	58.8
03/04/2024	01:45:58	24.0	64.3	03/04/2024	17:45:58	22.8	70.4	03/05/2024	09:45:58	21.9	68.5	03/06/2024	01:45:58	21.6	60.6	03/06/2024	17:45:58	22.3	58.9
03/04/2024	01:55:58	24.0	64.1	03/04/2024	17:55:58	22.8	70.5	03/05/2024	09:55:58	21.9	68.3	03/06/2024	01:55:58	21.6	60.7	03/06/2024	17:55:58	22.3	58.9
03/04/2024	02:05:58	23.9	63.9	03/04/2024	18:05:58	22.7	70.4	03/05/2024	10:05:58	21.8	68.3	03/06/2024	02:05:58	21.6	60.8	03/06/2024	18:05:58	22.3	59.0
03/04/2024	02:15:58	23.9	63.5	03/04/2024	18:15:58	22.7	70.5	03/05/2024	10:15:58	21.8	68.4	03/06/2024	02:15:58	21.6	60.8	03/06/2024	18:15:58	22.3	59.0
03/04/2024	02:25:58	23.9	63.2	03/04/2024	18:25:58	22.7	70.5	03/05/2024	10:25:58	21.8	68.6	03/06/2024	02:25:58	21.6	60.8	03/06/2024	18:25:58	22.3	59.1
03/04/2024	02:35:58	23.8	63.2	03/04/2024	18:35:58	22.7	70.4	03/05/2024	10:35:58	21.8	68.5	03/06/2024	02:35:58	21.5	60.8	03/06/2024	18:35:58	22.3	59.1
03/04/2024	02:45:58	23.8	63.0	03/04/2024	18:45:58	22.7	70.5	03/05/2024	10:45:58	21.9	68.5	03/06/2024	02:45:58	21.5	60.8	03/06/2024	18:45:58	22.3	59.1
03/04/2024	02:55:58	23.7	62.8	03/04/2024	18:55:58	22.6	70.4	03/05/2024	10:55:58	22.0	68.1	03/06/2024	02:55:58	21.5	60.8	03/06/2024	18:55:58	22.3	59.1
03/04/2024	03:05:58	23.7	62.6	03/04/2024	19:05:58	22.6	70.2	03/05/2024	11:05:58	22.1	67.3	03/06/2024	03:05:58	21.5	60.7	03/06/2024	19:05:58	22.3	59.2
03/04/2024	03:15:58	23.7	62.5	03/04/2024	19:15:58	22.7	70.3	03/05/2024	11:15:58	22.1	66.8	03/06/2024	03:15:58	21.5	60.7	03/06/2024	19:15:58	22.3	59.2
03/04/2024	03:25:58	23.6	62.4	03/04/2024	19:25:58	22.7	70.5	03/05/2024	11:25:58	22.1	66.4	03/06/2024	03:25:58	21.5	60.7	03/06/2024	19:25:58	22.3	59.2
03/04/2024	03:35:58	23.7	62.4	03/04/2024	19:35:58	22.6	70.6	03/05/2024	11:35:58	22.1	66.3	03/06/2024	03:35:58	21.5	60.7	03/06/2024	19:35:58	22.3	59.3
03/04/2024	03:45:58	23.6	62.3	03/04/2024	19:45:58	22.6	70.7	03/05/2024	11:45:58	22.0	66.0	03/06/2024	03:45:58	21.5	60.7	03/06/2024	19:45:58	22.3	59.3
03/04/2024	03:55:58	23.6	62.2	03/04/2024	19:55:58	22.6	70.6	03/05/2024	11:55:58	22.0	65.7	03/06/2024	03:55:58	21.4	60.7	03/06/2024	19:55:58	22.4	63.3
03/04/2024	04:05:58	23.6	62.2	03/04/2024	20:05:58	22.6	70.6	03/05/2024	12:05:58	22.0	65.5	03/06/2024	04:05:58	21.4	60.7	03/06/2024	20:05:58	22.4	64.4
03/04/2024	04:15:58	23.6	62.2	03/04/2024	20:15:58	22.6	70.4	03/05/2024	12:15:58	22.1	65.1	03/06/2024	04:15:58	21.4	60.7	03/06/2024	20:15:58	22.4	63.8
03/04/2024	04:25:58	23.6	62.2	03/04/2024	20:25:58	22.6	74.4	03/05/2024	12:25:58	21.9	63.9	03/06/2024	04:25:58	21.4	60.7	03/06/2024	20:25:58	22.4	63.0
03/04/2024	04:35:58	23.5	62.1	03/04/2024	20:35:58	22.6	73.2	03/05/2024	12:35:58	21.9	63.8	03/06/2024	04:35:58	21.4	60.7	03/06/2024	20:35:58	22.3	62.5
03/04/2024	04:45:58	23.5	62.1	03/04/2024	20:45:58	22.6	72.6	03/05/2024	12:45:58	21.9	63.8	03/06/2024	04:45:58	21.4	60.7	03/06/2024	20:45:58	22.3	62.2
03/04/2024	04:55:58	23.5	62.1	03/04/2024	20:55:58	22.6	72.5	03/05/2024	12:55:58	21.9	63.6	03/06/2024	04:55:58	21.4	60.6	03/06/2024	20:55:58	22.4	62.2
03/04/2024	05:05:58	23.5	62.2	03/04/2024	21:05:58	22.5	72.1	03/05/2024	13:05:58	21.9	62.5	03/06/2024	05:05:58	21.3	60.7	03/06/2024	21:05:58	22.3	61.9
03/04/2024	05:15:58	23.5	62.3	03/04/2024	21:15:58	22.5	71.7	03/05/2024	13:15:58	21.9	61.6	03/06/2024	05:15:58	21.3	60.7	03/06/2024	21:15:58	22.3	61.7
03/04/2024	05:25:58	23.5	62.3	03/04/2024	21:25:58	22.5	71.3	03/05/2024	13:25:58	21.9	61.1	03/06/2024	05:25:58	21.3	60.6	03/06/2024	21:25:58	22.3	61.8
03/04/2024	05:35:58	23.5	62.3	03/04/2024	21:35:58	22.5	71.0	03/05/2024	13:35:58	22.0	60.7	03/06/2024	05:35:58	21.3	60.6	03/06/2024	21:35:58	22.3	61.3
03/04/2024	05:45:58	23.4	62.4	03/04/2024	21:45:58	22.5	70.9	03/05/2024	13:45:58	22.0	60.2	03/06/2024	05:45:58	21.3	60.7	03/06/2024	21:45:58	22.3	61.4
03/04/2024	05:55:58	23.4	62.4	03/04/2024	21:55:58	22.4	70.6	03/05/2024	13:55:58	21.9	59.8	03/06/2024	05:55:58	21.2	60.7	03/06/2024	21:55:58	22.2	61.4
03/04/2024	06:05:58	23.4	62.3	03/04/2024	22:05:58	22.4	70.5	03/05/2024	14:05:58	22.0	59.8	03/06/2024	06:05:58	21.3	60.8	03/06/2024	22:05:58	22.2	61.6
03/04/2024	06:15:58	23.4	62.4	03/04/2024	22:15:58	22.4	70.3	03/05/2024	14:15:58	22.0	59.8	03/06/2024	06:15:58	21.2	60.8	03/06/2024	22:15:58	22.2	61.7
03/04/2024	06:25:58	23.4	62.5	03/04/2024	22:25:58	22.3	70.1	03/05/2024	14:25:58	22.0	59.8	03/06/2024	06:25:58	21.2	60.6	03/06/2024	22:25:58	22.1	61.7
03/04/2024	06:35:58	23.3	62.7	03/04/2024	22:35:58	22.3	70.0	03/05/2024	14:35:58	22.0	59.9	03/06/2024	06:35:58	21.1	59.0	03/06/2024	22:35:58	22.1	61.7
03/04/2024	06:45:58	23.2	63.2	03/04/2024	22:45:58	22.3	69.8	03/05/2024	14:45:58	22.1	60.2	03/06/2024	06:45:58	21.0	58.5	03/06/2024	22:45:58	22.1	61.7
03/04/2024	06:55:58	23.2	63.6	03/04/2024	22:55:58	22.3	69.7	03/05/2024	14:55:58	22.0	60.7	03/06/2024	06:55:58	21.0	58.7	03/06/2024	22:55:58	22.1	61.8
03/04/2024	07:05:58	23.2	63.9	03/04/2024	23:05:58	22.3	69.6	03/05/2024	15:05:58	22.1	60.6	03/06/2024	07:05:58	21.0	58.8	03/06/2024	23:05:58	22.1	61.8
03/04/2024	07:15:58	23.1	64.4	03/04/2024	23:15:58	22.2	69.5	03/05/2024	15:15:58	22.1	60.6	03/06/2024	07:15:58	21.0	58.6	03/06/2024	23:15:58	22.1	61.9
03/04/2024	07:25:58	23.1	64.6	03/04/2024	23:25:58	22.2	69.4	03/05/2024	15:25:58	22.1	61.6	03/06/2024	07:25:58	21.0	58.6	03/06/2024	23:25:58	22.1	61.9
03/04/2024	07:35:58	23.0	65.0	03/04/2024	23:35:58	22.2	69.3	03/05/2024	15:35:58	22.2	62.9	03/06/2024	07:35:58	21.0	57.4	03/06/2024	23:35:58	22.1	62.0
03/04/2024	07:45:58	23.0	65.6	03/04/2024	23:45:58	22.1	69.2	03/05/2024	15:45:58	22.3	63.0	03/06/2024	07:45:58	20.9	56.4	03/06/2024	23:45:58	22.1	62.0
03/04/2024	07:55:58	23.0	65.7	03/04/2024	23:55:58	22.1	69.1	03/05/2024	15:55:58	22.4	62.5	03/06/2024	07:55:58	20.9	56.1	03/06/2024	23:55:58	22.1	62.1
03/04/2024	08:05:58	23.0	65.9	03/04/2024	00:05:58	22.1	68.9	03/05/2024	16:05:58	22.4	62.5	03/06/2024	08:05:58	21.0	56.5	03/07/2024	00:05:58	22.1	62.1
03/04/2024	08:15:58	23.0	66.1	03/05/2024	00:15:58	22.1	68.9	03/05/2024	16:15:58	22.4	62.1	03/06/2024	08:15:58	20.9	56.0	03/07/2024	00:15:58	22.1	62.1
03/04/2024	08:25:58	23.0	67.0	03/05/2024	00:25:58	22.1	68.8	03/05/2024	16:25:58	22.6	61.2	03/06/2024	08:25:58	20.9	56.1	03/07/2024	00:25:58	22.1	62.1
03/04/2024	08:35:58	23.0	67.1	03/05/2024	00:35:58	22.1	68.7	03/05/2024	16:35:58	22.6	60.6	03/06/2024	08:35:58	21.0	56.2	03/07/2024	00:35:58	22.1	62.0
03/04/2024	08:45:58	23.0	68.8	03/05/2024	00:45:58	22.0	68.7	03/05/2024	16:45:58	22.5	60.2	03/06/2024	08:45:58	21.0	56.0	03/07/2024	00:45:58	22.0	62.1
03/04/2024	08:55:58	23.0	69.2	03/05/2024	00:55:58	22.0	68.6	03/05/2024	16:55:58	22.5	60.0	03/06/2024	08:55:58	21.1	55.8	03/07/2024	00:55:58	22.0	62.1
03/04/2024	09:05:58	23.0	67.7	03/05/2024	01:05:58	22.0	68.6	03/05/2024	17:05:58	22.4	60.2	03/06/2024	09:05:58	21.0	55.5	03/07/2024	01:05:58	22.0	62.0
03/04/2024	09:15:58	23.0	68.4	03/05/2024	01:15:58	22.0	68.4	03/05/2024	17:15:58	22.4	60.2	03/06/2024	09:15:58	21.0	55.5	03/07/2024	01:15:58	22.0	62.0
03/04/2024	09:25:58	23.0	66.7	03/05/2024	01:25:58	21.9	68.4	03/05/2024	17:25:58	22.3	60.2	03/06/2024	09:25:58	21.4	55.1	03/07/2024	01:25:58	22.0	62.0
03/04/2024	09:35:58	23.0	66.5	03/0															



**Temperature&Humidity Table**

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
03/07/2024	09:05:58	21.3	66.0	03/08/2024	01:05:58	21.8	71.2	03/08/2024	17:05:58	23.1	72.0	03/09/2024	09:05:58	22.8	68.3	03/10/2024	01:05:58	23.3	67.6
03/07/2024	09:15:58	21.4	65.8	03/08/2024	01:15:58	21.8	71.3	03/08/2024	17:15:58	23.0	72.1	03/09/2024	09:15:58	22.8	68.2	03/10/2024	01:15:58	23.3	67.7
03/07/2024	09:25:58	21.5	65.1	03/08/2024	01:25:58	21.8	71.4	03/08/2024	17:25:58	23.0	72.2	03/09/2024	09:25:58	22.9	67.7	03/10/2024	01:25:58	23.3	67.8
03/07/2024	09:35:58	21.5	64.6	03/08/2024	01:35:58	21.8	71.4	03/08/2024	17:35:58	23.0	72.2	03/09/2024	09:35:58	22.9	67.4	03/10/2024	01:35:58	23.3	67.8
03/07/2024	09:45:58	21.6	64.0	03/08/2024	01:45:58	21.8	71.4	03/08/2024	17:45:58	23.0	72.5	03/09/2024	09:45:58	23.0	67.0	03/10/2024	01:45:58	23.3	67.8
03/07/2024	09:55:58	21.7	63.4	03/08/2024	01:55:58	21.8	71.5	03/08/2024	17:55:58	23.0	72.6	03/09/2024	09:55:58	23.1	67.1	03/10/2024	01:55:58	23.2	67.9
03/07/2024	10:05:58	21.8	62.3	03/08/2024	02:05:58	21.7	71.6	03/08/2024	18:05:58	23.0	72.7	03/09/2024	10:05:58	23.1	66.6	03/10/2024	02:05:58	23.2	68.0
03/07/2024	10:15:58	21.8	61.1	03/08/2024	02:15:58	21.7	71.7	03/08/2024	18:15:58	23.0	72.7	03/09/2024	10:15:58	23.2	66.4	03/10/2024	02:15:58	23.2	68.0
03/07/2024	10:25:58	21.9	60.5	03/08/2024	02:25:58	21.7	71.8	03/08/2024	18:25:58	23.0	72.7	03/09/2024	10:25:58	23.4	66.3	03/10/2024	02:25:58	23.2	67.9
03/07/2024	10:35:58	22.0	60.2	03/08/2024	02:35:58	21.7	71.9	03/08/2024	18:35:58	23.0	72.8	03/09/2024	10:35:58	23.5	65.9	03/10/2024	02:35:58	23.1	67.9
03/07/2024	10:45:58	22.0	59.6	03/08/2024	02:45:58	21.7	71.9	03/08/2024	18:45:58	23.0	72.8	03/09/2024	10:45:58	23.5	65.3	03/10/2024	02:45:58	23.2	67.9
03/07/2024	10:55:58	22.1	58.9	03/08/2024	02:55:58	21.7	72.0	03/08/2024	18:55:58	23.0	72.9	03/09/2024	10:55:58	23.6	65.2	03/10/2024	02:55:58	23.1	67.9
03/07/2024	11:05:58	22.1	57.2	03/08/2024	03:05:58	21.6	72.1	03/08/2024	19:05:58	23.0	73.1	03/09/2024	11:05:58	23.7	64.9	03/10/2024	03:05:58	23.1	67.9
03/07/2024	11:15:58	22.1	56.6	03/08/2024	03:15:58	21.7	72.1	03/08/2024	19:15:58	23.1	73.1	03/09/2024	11:15:58	23.7	64.4	03/10/2024	03:15:58	23.1	67.8
03/07/2024	11:25:58	22.0	56.4	03/08/2024	03:25:58	21.7	72.1	03/08/2024	19:25:58	23.1	73.1	03/09/2024	11:25:58	23.7	64.3	03/10/2024	03:25:58	23.1	67.9
03/07/2024	11:35:58	22.0	56.1	03/08/2024	03:35:58	21.7	72.2	03/08/2024	19:35:58	23.1	73.0	03/09/2024	11:35:58	23.6	64.1	03/10/2024	03:35:58	23.1	67.8
03/07/2024	11:45:58	21.9	55.6	03/08/2024	03:45:58	21.7	72.2	03/08/2024	19:45:58	23.1	72.9	03/09/2024	11:45:58	23.6	64.6	03/10/2024	03:45:58	23.1	67.7
03/07/2024	11:55:58	21.9	55.6	03/08/2024	03:55:58	21.7	72.2	03/08/2024	19:55:58	23.1	72.8	03/09/2024	11:55:58	23.6	65.1	03/10/2024	03:55:58	23.0	67.7
03/07/2024	12:05:58	21.9	55.7	03/08/2024	04:05:58	21.7	72.3	03/08/2024	20:05:58	23.1	72.7	03/09/2024	12:05:58	23.6	64.8	03/10/2024	04:05:58	23.0	67.6
03/07/2024	12:15:58	21.8	56.4	03/08/2024	04:15:58	21.6	72.4	03/08/2024	20:15:58	23.0	72.9	03/09/2024	12:15:58	23.7	65.0	03/10/2024	04:15:58	23.0	67.7
03/07/2024	12:25:58	21.8	56.2	03/08/2024	04:25:58	21.6	72.3	03/08/2024	20:25:58	23.1	72.8	03/09/2024	12:25:58	23.7	65.3	03/10/2024	04:25:58	23.0	67.6
03/07/2024	12:35:58	21.8	55.5	03/08/2024	04:35:58	21.6	72.4	03/08/2024	20:35:58	23.1	72.7	03/09/2024	12:35:58	23.7	66.1	03/10/2024	04:35:58	23.0	67.5
03/07/2024	12:45:58	21.8	55.1	03/08/2024	04:45:58	21.6	72.4	03/08/2024	20:45:58	23.1	72.6	03/09/2024	12:45:58	23.7	67.2	03/10/2024	04:45:58	23.0	67.4
03/07/2024	12:55:58	21.7	55.1	03/08/2024	04:55:58	21.6	72.5	03/08/2024	20:55:58	23.1	72.5	03/09/2024	12:55:58	23.8	67.1	03/10/2024	04:55:58	22.9	67.5
03/07/2024	13:05:58	21.7	55.2	03/08/2024	05:05:58	21.6	72.6	03/08/2024	21:05:58	23.1	72.4	03/09/2024	13:05:58	23.9	67.1	03/10/2024	05:05:58	22.9	67.4
03/07/2024	13:15:58	21.7	54.8	03/08/2024	05:15:58	21.6	72.7	03/08/2024	21:15:58	23.1	72.4	03/09/2024	13:15:58	23.9	66.7	03/10/2024	05:15:58	22.9	67.5
03/07/2024	13:25:58	21.7	54.8	03/08/2024	05:25:58	21.6	72.8	03/08/2024	21:25:58	23.0	72.4	03/09/2024	13:25:58	23.9	66.9	03/10/2024	05:25:58	22.9	67.6
03/07/2024	13:35:58	21.7	54.3	03/08/2024	05:35:58	21.6	72.8	03/08/2024	21:35:58	23.1	72.3	03/09/2024	13:35:58	23.9	66.9	03/10/2024	05:35:58	22.9	67.5
03/07/2024	13:45:58	21.6	54.0	03/08/2024	05:45:58	21.6	72.9	03/08/2024	21:45:58	23.0	72.3	03/09/2024	13:45:58	23.8	67.0	03/10/2024	05:45:58	22.9	67.5
03/07/2024	13:55:58	21.6	54.0	03/08/2024	05:55:58	21.6	72.9	03/08/2024	21:55:58	23.0	72.3	03/09/2024	13:55:58	23.8	67.2	03/10/2024	05:55:58	22.9	67.5
03/07/2024	14:05:58	21.6	55.0	03/08/2024	06:05:58	21.6	73.5	03/08/2024	22:05:58	23.0	72.3	03/09/2024	14:05:58	23.8	67.5	03/10/2024	06:05:58	22.9	67.6
03/07/2024	14:15:58	21.6	55.7	03/08/2024	06:15:58	21.5	74.0	03/08/2024	22:15:58	23.0	72.3	03/09/2024	14:15:58	23.7	67.7	03/10/2024	06:15:58	22.9	67.6
03/07/2024	14:25:58	21.6	56.4	03/08/2024	06:25:58	21.5	74.0	03/08/2024	22:25:58	23.0	72.3	03/09/2024	14:25:58	23.7	67.8	03/10/2024	06:25:58	22.8	67.7
03/07/2024	14:35:58	21.6	57.5	03/08/2024	06:35:58	21.5	73.9	03/08/2024	22:35:58	23.0	72.4	03/09/2024	14:35:58	23.7	67.7	03/10/2024	06:35:58	22.8	67.7
03/07/2024	14:45:58	21.6	58.6	03/08/2024	06:45:58	21.6	74.3	03/08/2024	22:45:58	23.0	72.5	03/09/2024	14:45:58	23.7	67.9	03/10/2024	06:45:58	22.8	67.8
03/07/2024	14:55:58	21.6	61.4	03/08/2024	06:55:58	21.6	74.2	03/08/2024	22:55:58	23.0	72.4	03/09/2024	14:55:58	23.7	67.9	03/10/2024	06:55:58	22.8	67.8
03/07/2024	15:05:58	21.7	63.3	03/08/2024	07:05:58	21.6	77.2	03/08/2024	23:05:58	22.9	72.5	03/09/2024	15:05:58	23.7	67.8	03/10/2024	07:05:58	22.8	67.8
03/07/2024	15:15:58	21.7	64.6	03/08/2024	07:15:58	21.6	77.3	03/08/2024	23:15:58	23.0	72.5	03/09/2024	15:15:58	23.7	67.8	03/10/2024	07:15:58	22.8	67.9
03/07/2024	15:25:58	21.7	65.4	03/08/2024	07:25:58	21.5	79.0	03/08/2024	23:25:58	23.0	72.4	03/09/2024	15:25:58	23.8	67.6	03/10/2024	07:25:58	22.8	67.9
03/07/2024	15:35:58	21.7	65.9	03/08/2024	07:35:58	21.5	80.4	03/08/2024	23:35:58	22.9	72.3	03/09/2024	15:35:58	23.8	67.6	03/10/2024	07:35:58	22.8	68.0
03/07/2024	15:45:58	21.8	66.2	03/08/2024	07:45:58	21.4	80.3	03/08/2024	23:45:58	23.0	72.2	03/09/2024	15:45:58	23.8	67.5	03/10/2024	07:45:58	22.8	67.9
03/07/2024	15:55:58	21.8	66.8	03/08/2024	07:55:58	21.5	80.5	03/08/2024	23:55:58	23.0	72.2	03/09/2024	15:55:58	23.8	67.5	03/10/2024	07:55:58	22.8	67.9
03/07/2024	16:05:58	21.8	66.8	03/08/2024	08:05:58	21.6	80.8	03/08/2024	00:05:58	22.9	72.0	03/09/2024	16:05:58	23.8	67.5	03/10/2024	08:05:58	22.8	67.5
03/07/2024	16:15:58	21.8	67.0	03/08/2024	08:15:58	21.6	80.8	03/09/2024	00:15:58	22.9	71.9	03/09/2024	16:15:58	23.8	67.5	03/10/2024	08:15:58	22.7	67.2
03/07/2024	16:25:58	21.8	66.9	03/08/2024	08:25:58	21.6	80.5	03/09/2024	00:25:58	22.9	71.9	03/09/2024	16:25:58	23.8	67.5	03/10/2024	08:25:58	22.7	67.4
03/07/2024	16:35:58	21.8	67.0	03/08/2024	08:35:58	21.7	80.4	03/09/2024	00:35:58	22.9	71.9	03/09/2024	16:35:58	23.8	67.3	03/10/2024	08:35:58	22.7	67.2
03/07/2024	16:45:58	21.9	67.2	03/08/2024	08:45:58	21.7	80.5	03/09/2024	00:45:58	22.9	71.9	03/09/2024	16:45:58	23.7	67.2	03/10/2024	08:45:58	22.7	67.1
03/07/2024	16:55:58	21.9	66.9	03/08/2024	08:55:58	21.8	80.3	03/09/2024	00:55:58	22.9	71.8	03/09/2024	16:55:58	23.7	67.2	03/10/2024	08:55:58	22.7	67.0
03/07/2024	17:05:58	21.9	67.2	03/08/2024	09:05:58	21.6	79.8	03/09/2024	01:05:58	22.9	71.7	03/09/2024	17:05:58	23.7	67.2	03/10/2024	09:05:58	22.7	67.2
03/07/2024	17:15:58	21.9	67.2	03/08/2024	09:15:58	21.9	81.2	03/09/2024	01:15:58	22.9	71.5	03/09/2024	17:15:58	23.6	67.2	03/10/2024	09:15:58	22.7	66.8
03/07/2024	17:25:58	21.9	67.5	03/08/2024	09:25:58	22.0	81.2	03/09/2024	01:25:58	22.8	71.4	03/09/2024	17:25:58	23.6	67.3	03/10/2024	09:25:58	22.8	66.5
03/07/2024																			



### Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
03/10/2024	17:05:58	23.4	61.9	03/11/2024	09:05:58	23.2	69.6	03/12/2024	01:05:58	24.3	68.2	03/12/2024	17:05:58	24.7	62.8	03/13/2024	09:05:58	23.7	55.2
03/10/2024	17:15:58	23.4	61.9	03/11/2024	09:15:58	23.2	69.2	03/12/2024	01:15:58	24.2	68.2	03/12/2024	17:15:58	24.7	63.1	03/13/2024	09:15:58	23.8	55.0
03/10/2024	17:25:58	23.4	62.1	03/11/2024	09:25:58	23.3	68.7	03/12/2024	01:25:58	24.2	68.3	03/12/2024	17:25:58	24.7	63.5	03/13/2024	09:25:58	23.9	54.9
03/10/2024	17:35:58	23.4	62.2	03/11/2024	09:35:58	23.4	67.8	03/12/2024	01:35:58	24.2	68.3	03/12/2024	17:35:58	24.7	63.9	03/13/2024	09:35:58	23.9	54.8
03/10/2024	17:45:58	23.4	62.2	03/11/2024	09:45:58	23.5	67.1	03/12/2024	01:45:58	24.2	68.4	03/12/2024	17:45:58	24.7	64.1	03/13/2024	09:45:58	24.0	54.2
03/10/2024	17:55:58	23.4	62.3	03/11/2024	09:55:58	23.6	66.6	03/12/2024	01:55:58	24.2	68.4	03/12/2024	17:55:58	24.7	64.2	03/13/2024	09:55:58	24.1	53.9
03/10/2024	18:05:58	23.4	62.5	03/11/2024	10:05:58	23.6	66.3	03/12/2024	02:05:58	24.2	68.5	03/12/2024	18:05:58	24.7	64.4	03/13/2024	10:05:58	24.1	54.0
03/10/2024	18:15:58	23.4	62.7	03/11/2024	10:15:58	23.7	65.8	03/12/2024	02:15:58	24.2	68.5	03/12/2024	18:15:58	24.6	64.5	03/13/2024	10:15:58	24.2	53.9
03/10/2024	18:25:58	23.4	62.8	03/11/2024	10:25:58	23.8	65.5	03/12/2024	02:25:58	24.2	68.5	03/12/2024	18:25:58	24.6	64.6	03/13/2024	10:25:58	24.3	53.5
03/10/2024	18:35:58	23.4	63.0	03/11/2024	10:35:58	23.9	65.1	03/12/2024	02:35:58	24.2	68.6	03/12/2024	18:35:58	24.6	64.8	03/13/2024	10:35:58	24.4	53.2
03/10/2024	18:45:58	23.4	63.3	03/11/2024	10:45:58	24.0	64.9	03/12/2024	02:45:58	24.2	68.5	03/12/2024	18:45:58	24.6	64.7	03/13/2024	10:45:58	24.5	53.4
03/10/2024	18:55:58	23.4	63.5	03/11/2024	10:55:58	24.1	64.7	03/12/2024	02:55:58	24.2	68.6	03/12/2024	18:55:58	24.6	64.8	03/13/2024	10:55:58	24.4	54.0
03/10/2024	19:05:58	23.4	63.7	03/11/2024	11:05:58	24.1	64.5	03/12/2024	03:05:58	24.1	68.5	03/12/2024	19:05:58	24.6	65.0	03/13/2024	11:05:58	24.5	54.5
03/10/2024	19:15:58	23.4	63.8	03/11/2024	11:15:58	24.1	64.4	03/12/2024	03:15:58	24.1	68.6	03/12/2024	19:15:58	24.6	65.0	03/13/2024	11:15:58	24.4	54.1
03/10/2024	19:25:58	23.4	64.0	03/11/2024	11:25:58	24.2	64.2	03/12/2024	03:25:58	24.1	68.5	03/12/2024	19:25:58	24.6	65.5	03/13/2024	11:25:58	24.4	53.3
03/10/2024	19:35:58	23.5	64.1	03/11/2024	11:35:58	24.2	63.8	03/12/2024	03:35:58	24.1	68.4	03/12/2024	19:35:58	24.6	65.4	03/13/2024	11:35:58	24.4	53.3
03/10/2024	19:45:58	23.5	64.3	03/11/2024	11:45:58	24.2	62.6	03/12/2024	03:45:58	24.1	68.3	03/12/2024	19:45:58	24.6	65.4	03/13/2024	11:45:58	24.3	53.3
03/10/2024	19:55:58	23.5	64.5	03/11/2024	11:55:58	24.2	62.3	03/12/2024	03:55:58	24.0	68.2	03/12/2024	19:55:58	24.6	65.4	03/13/2024	11:55:58	24.3	53.3
03/10/2024	20:05:58	23.5	64.7	03/11/2024	12:05:58	24.2	61.9	03/12/2024	04:05:58	24.0	68.1	03/12/2024	20:05:58	24.6	65.4	03/13/2024	12:05:58	24.3	52.5
03/10/2024	20:15:58	23.5	65.0	03/11/2024	12:15:58	24.1	61.7	03/12/2024	04:15:58	24.0	68.1	03/12/2024	20:15:58	24.6	65.5	03/13/2024	12:15:58	24.4	51.5
03/10/2024	20:25:58	23.5	64.9	03/11/2024	12:25:58	24.3	62.5	03/12/2024	04:25:58	24.0	67.8	03/12/2024	20:25:58	24.6	65.7	03/13/2024	12:25:58	24.3	51.6
03/10/2024	20:35:58	23.5	65.1	03/11/2024	12:35:58	24.3	62.3	03/12/2024	04:35:58	24.0	67.7	03/12/2024	20:35:58	24.6	65.7	03/13/2024	12:35:58	24.3	51.0
03/10/2024	20:45:58	23.5	65.7	03/11/2024	12:45:58	24.3	62.1	03/12/2024	04:45:58	24.0	67.6	03/12/2024	20:45:58	24.6	65.8	03/13/2024	12:45:58	24.3	51.8
03/10/2024	20:55:58	23.5	65.7	03/11/2024	12:55:58	24.3	61.3	03/12/2024	04:55:58	24.0	67.5	03/12/2024	20:55:58	24.6	65.8	03/13/2024	12:55:58	24.3	52.2
03/10/2024	21:05:58	23.5	65.8	03/11/2024	13:05:58	24.4	60.4	03/12/2024	05:05:58	24.0	67.4	03/12/2024	21:05:58	24.6	65.6	03/13/2024	13:05:58	24.3	53.0
03/10/2024	21:15:58	23.5	65.9	03/11/2024	13:15:58	24.4	60.0	03/12/2024	05:15:58	23.9	67.3	03/12/2024	21:15:58	24.6	65.6	03/13/2024	13:15:58	24.3	53.3
03/10/2024	21:25:58	23.5	65.9	03/11/2024	13:25:58	24.4	59.8	03/12/2024	05:25:58	23.9	67.3	03/12/2024	21:25:58	24.6	65.6	03/13/2024	13:25:58	24.4	53.4
03/10/2024	21:35:58	23.5	65.9	03/11/2024	13:35:58	24.4	57.8	03/12/2024	05:35:58	23.9	67.3	03/12/2024	21:35:58	24.6	65.6	03/13/2024	13:35:58	24.3	53.9
03/10/2024	21:45:58	23.5	65.9	03/11/2024	13:45:58	24.5	56.9	03/12/2024	05:45:58	23.9	67.4	03/12/2024	21:45:58	24.6	65.7	03/13/2024	13:45:58	24.2	53.6
03/10/2024	21:55:58	23.5	65.9	03/11/2024	13:55:58	24.4	56.3	03/12/2024	05:55:58	23.9	67.5	03/12/2024	21:55:58	24.6	65.7	03/13/2024	13:55:58	24.2	54.0
03/10/2024	22:05:58	23.5	65.9	03/11/2024	14:05:58	24.5	55.6	03/12/2024	06:05:58	23.9	67.3	03/12/2024	22:05:58	24.6	65.6	03/13/2024	14:05:58	24.2	53.7
03/10/2024	22:15:58	23.5	66.0	03/11/2024	14:15:58	24.5	56.6	03/12/2024	06:15:58	23.9	67.5	03/12/2024	22:15:58	24.6	65.6	03/13/2024	14:15:58	24.1	53.7
03/10/2024	22:25:58	23.5	66.0	03/11/2024	14:25:58	24.5	56.4	03/12/2024	06:25:58	23.8	67.5	03/12/2024	22:25:58	24.6	66.1	03/13/2024	14:25:58	24.1	52.7
03/10/2024	22:35:58	23.4	66.0	03/11/2024	14:35:58	24.6	57.9	03/12/2024	06:35:58	23.8	67.4	03/12/2024	22:35:58	24.6	66.3	03/13/2024	14:35:58	24.1	52.8
03/10/2024	22:45:58	23.4	66.1	03/11/2024	14:45:58	24.6	59.7	03/12/2024	06:45:58	23.8	67.6	03/12/2024	22:45:58	24.6	66.3	03/13/2024	14:45:58	24.1	52.8
03/10/2024	22:55:58	23.4	66.1	03/11/2024	14:55:58	24.6	60.9	03/12/2024	06:55:58	23.9	67.6	03/12/2024	22:55:58	24.6	66.7	03/13/2024	14:55:58	24.1	52.5
03/10/2024	23:05:58	23.4	66.2	03/11/2024	15:05:58	24.6	61.6	03/12/2024	07:05:58	23.8	67.4	03/12/2024	23:05:58	24.6	66.5	03/13/2024	15:05:58	24.0	52.5
03/10/2024	23:15:58	23.4	66.1	03/11/2024	15:15:58	24.6	62.3	03/12/2024	07:15:58	23.8	67.2	03/12/2024	23:15:58	24.6	66.4	03/13/2024	15:15:58	24.0	52.3
03/10/2024	23:25:58	23.4	66.0	03/11/2024	15:25:58	24.6	62.9	03/12/2024	07:25:58	23.8	67.3	03/12/2024	23:25:58	24.6	66.3	03/13/2024	15:25:58	24.0	52.8
03/10/2024	23:35:58	23.4	65.9	03/11/2024	15:35:58	24.6	63.4	03/12/2024	07:35:58	23.8	67.5	03/12/2024	23:35:58	24.6	66.0	03/13/2024	15:35:58	24.1	53.4
03/10/2024	23:45:58	23.3	65.9	03/11/2024	15:45:58	24.7	64.0	03/12/2024	07:45:58	23.8	67.4	03/12/2024	23:45:58	24.4	65.8	03/13/2024	15:45:58	24.1	54.3
03/11/2024	00:05:58	23.3	65.8	03/11/2024	15:55:58	24.7	65.7	03/12/2024	07:55:58	23.8	67.4	03/12/2024	23:55:58	24.4	65.8	03/13/2024	15:55:58	24.1	54.3
03/11/2024	00:15:58	23.3	65.8	03/11/2024	16:05:58	24.8	67.1	03/12/2024	08:05:58	23.8	67.7	03/12/2024	00:05:58	24.4	65.2	03/13/2024	16:05:58	24.2	55.1
03/11/2024	00:25:58	23.3	65.8	03/11/2024	16:15:58	24.8	66.4	03/12/2024	08:15:58	23.8	67.6	03/12/2024	00:15:58	24.3	65.0	03/13/2024	16:15:58	24.2	55.4
03/11/2024	00:35:58	23.3	65.7	03/11/2024	16:25:58	24.8	66.0	03/12/2024	08:25:58	23.9	67.6	03/12/2024	00:25:58	24.3	64.8	03/13/2024	16:25:58	24.2	55.5
03/11/2024	00:45:58	23.3	65.7	03/11/2024	16:35:58	24.8	66.0	03/12/2024	08:35:58	23.9	67.6	03/12/2024	00:35:58	24.3	64.6	03/13/2024	16:35:58	24.1	55.9
03/11/2024	00:55:58	23.3	65.7	03/11/2024	16:45:58	24.8	66.0	03/12/2024	08:45:58	24.0	67.5	03/12/2024	00:45:58	24.3	64.5	03/13/2024	16:45:58	24.1	56.2
03/11/2024	01:05:58	23.2	65.7	03/11/2024	16:55:58	24.7	66.0	03/12/2024	08:55:58	24.0	67.4	03/12/2024	00:55:58	24.3	64.3	03/13/2024	16:55:58	24.1	56.3
03/11/2024	01:15:58	23.2	65.7	03/11/2024	17:05:58	24.7	66.0	03/12/2024	09:05:58	24.0	67.4	03/12/2024	01:05:58	24.3	64.1	03/13/2024	17:05:58	24.1	57.0
03/11/2024	01:25:58	23.2	65.7	03/11/2024	17:15:58	24.7	66.0	03/12/2024	09:15:58	24.1	67.1	03/12/2024	01:15:58	24.2	64.0	03/13/2024	17:15:58	24.1	57.0
03/11/2024	01:35:58	23.2	65.8	03/11/2024	17:25:58	24.7	66.0	03/12/2024	09:25:58	24.2	67.0	03/12/2024	01:25:58	24.2	63.9	03/13/2024	17:25:58	24.1	57.1
03/11/2024	01:45:58	23.2																	



### Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
03/14/2024	01:05:58	23.6	61.9	03/14/2024	17:05:58	24.0	57.9	03/15/2024	09:05:58	22.8	61.3	03/16/2024	01:05:58	23.6	65.1	03/16/2024	17:05:58	22.8	57.9
03/14/2024	01:15:58	23.5	61.8	03/14/2024	17:15:58	24.1	58.1	03/15/2024	09:15:58	22.9	61.3	03/16/2024	01:15:58	23.6	65.1	03/16/2024	17:15:58	22.8	57.9
03/14/2024	01:25:58	23.5	61.8	03/14/2024	17:25:58	24.1	58.3	03/15/2024	09:25:58	22.9	61.3	03/16/2024	01:25:58	23.6	65.2	03/16/2024	17:25:58	22.8	58.1
03/14/2024	01:35:58	23.5	61.8	03/14/2024	17:35:58	24.1	58.4	03/15/2024	09:35:58	23.0	61.4	03/16/2024	01:35:58	23.6	65.2	03/16/2024	17:35:58	22.9	58.3
03/14/2024	01:45:58	23.5	61.7	03/14/2024	17:45:58	24.1	58.6	03/15/2024	09:45:58	23.1	61.1	03/16/2024	01:45:58	23.6	65.3	03/16/2024	17:45:58	22.9	58.4
03/14/2024	01:55:58	23.5	61.7	03/14/2024	17:55:58	24.1	58.8	03/15/2024	09:55:58	23.2	60.8	03/16/2024	01:55:58	23.5	65.3	03/16/2024	17:55:58	22.9	58.5
03/14/2024	02:05:58	23.5	61.7	03/14/2024	18:05:58	24.1	58.7	03/15/2024	10:05:58	23.3	60.7	03/16/2024	02:05:58	23.5	65.4	03/16/2024	18:05:58	22.9	58.6
03/14/2024	02:15:58	23.4	61.7	03/14/2024	18:15:58	24.0	58.7	03/15/2024	10:15:58	23.4	60.6	03/16/2024	02:15:58	23.5	65.4	03/16/2024	18:15:58	22.9	58.6
03/14/2024	02:25:58	23.4	61.6	03/14/2024	18:25:58	24.0	58.8	03/15/2024	10:25:58	23.4	60.5	03/16/2024	02:25:58	23.5	65.5	03/16/2024	18:25:58	22.9	58.9
03/14/2024	02:35:58	23.4	61.5	03/14/2024	18:35:58	24.0	58.8	03/15/2024	10:35:58	23.6	60.5	03/16/2024	02:35:58	23.5	65.6	03/16/2024	18:35:58	22.9	59.0
03/14/2024	02:45:58	23.4	61.5	03/14/2024	18:45:58	23.9	58.8	03/15/2024	10:45:58	23.6	60.4	03/16/2024	02:45:58	23.4	65.6	03/16/2024	18:45:58	22.9	59.1
03/14/2024	02:55:58	23.4	61.5	03/14/2024	18:55:58	23.9	59.0	03/15/2024	10:55:58	23.7	60.4	03/16/2024	02:55:58	23.4	65.7	03/16/2024	18:55:58	22.9	59.3
03/14/2024	03:05:58	23.3	61.4	03/14/2024	19:05:58	24.0	59.4	03/15/2024	11:05:58	23.8	60.4	03/16/2024	03:05:58	23.4	65.7	03/16/2024	19:05:58	22.9	59.4
03/14/2024	03:15:58	23.3	61.3	03/14/2024	19:15:58	23.9	59.7	03/15/2024	11:15:58	23.8	60.2	03/16/2024	03:15:58	23.4	65.7	03/16/2024	19:15:58	23.0	59.5
03/14/2024	03:25:58	23.3	61.3	03/14/2024	19:25:58	24.0	59.8	03/15/2024	11:25:58	23.9	59.5	03/16/2024	03:25:58	23.4	65.7	03/16/2024	19:25:58	22.9	59.6
03/14/2024	03:35:58	23.3	61.2	03/14/2024	19:35:58	24.0	60.0	03/15/2024	11:35:58	23.9	59.5	03/16/2024	03:35:58	23.4	65.7	03/16/2024	19:35:58	23.0	59.8
03/14/2024	03:45:58	23.2	61.2	03/14/2024	19:45:58	23.9	60.1	03/15/2024	11:45:58	23.9	51.2	03/16/2024	03:45:58	23.4	65.8	03/16/2024	19:45:58	23.0	60.0
03/14/2024	03:55:58	23.2	61.0	03/14/2024	19:55:58	23.9	60.2	03/15/2024	11:55:58	23.8	47.8	03/16/2024	03:55:58	23.4	66.0	03/16/2024	19:55:58	23.0	60.1
03/14/2024	04:05:58	23.2	61.1	03/14/2024	20:05:58	23.9	60.3	03/15/2024	12:05:58	23.8	44.1	03/16/2024	04:05:58	23.4	66.1	03/16/2024	20:05:58	23.0	60.1
03/14/2024	04:15:58	23.2	61.1	03/14/2024	20:15:58	23.9	60.7	03/15/2024	12:15:58	23.9	42.2	03/16/2024	04:15:58	23.4	66.3	03/16/2024	20:15:58	23.0	60.2
03/14/2024	04:25:58	23.2	61.0	03/14/2024	20:25:58	23.9	60.4	03/15/2024	12:25:58	23.8	42.1	03/16/2024	04:25:58	23.3	66.4	03/16/2024	20:25:58	23.0	60.2
03/14/2024	04:35:58	23.2	61.1	03/14/2024	20:35:58	23.8	60.4	03/15/2024	12:35:58	23.7	42.8	03/16/2024	04:35:58	23.4	66.6	03/16/2024	20:35:58	23.0	60.2
03/14/2024	04:45:58	23.1	61.0	03/14/2024	20:45:58	23.8	60.4	03/15/2024	12:45:58	23.7	44.2	03/16/2024	04:45:58	23.3	66.8	03/16/2024	20:45:58	23.0	60.1
03/14/2024	04:55:58	23.1	61.0	03/14/2024	20:55:58	23.8	60.4	03/15/2024	12:55:58	23.7	46.0	03/16/2024	04:55:58	23.3	66.9	03/16/2024	20:55:58	22.9	60.0
03/14/2024	05:05:58	23.1	61.1	03/14/2024	21:05:58	23.8	60.4	03/15/2024	13:05:58	23.8	48.7	03/16/2024	05:05:58	23.3	67.0	03/16/2024	21:05:58	23.0	60.0
03/14/2024	05:15:58	23.1	61.1	03/14/2024	21:15:58	23.8	60.6	03/15/2024	13:15:58	23.9	50.0	03/16/2024	05:15:58	23.3	67.2	03/16/2024	21:15:58	22.9	59.8
03/14/2024	05:25:58	23.1	61.2	03/14/2024	21:25:58	23.8	60.7	03/15/2024	13:25:58	23.9	50.2	03/16/2024	05:25:58	23.3	67.3	03/16/2024	21:25:58	22.9	59.8
03/14/2024	05:35:58	23.1	61.2	03/14/2024	21:35:58	23.8	60.8	03/15/2024	13:35:58	23.9	50.5	03/16/2024	05:35:58	23.3	67.4	03/16/2024	21:35:58	22.9	59.7
03/14/2024	05:45:58	23.0	61.2	03/14/2024	21:45:58	23.7	60.9	03/15/2024	13:45:58	23.9	50.5	03/16/2024	05:45:58	23.3	67.4	03/16/2024	21:45:58	22.9	59.8
03/14/2024	05:55:58	23.0	61.2	03/14/2024	21:55:58	23.8	60.9	03/15/2024	13:55:58	23.9	50.8	03/16/2024	05:55:58	23.3	67.5	03/16/2024	21:55:58	22.9	59.9
03/14/2024	06:05:58	23.0	61.1	03/14/2024	22:05:58	23.7	61.0	03/15/2024	14:05:58	23.9	51.3	03/16/2024	06:05:58	23.2	67.6	03/16/2024	22:05:58	22.9	60.0
03/14/2024	06:15:58	23.0	61.1	03/14/2024	22:15:58	23.7	61.0	03/15/2024	14:15:58	23.9	52.1	03/16/2024	06:15:58	23.2	67.7	03/16/2024	22:15:58	22.9	60.0
03/14/2024	06:25:58	22.9	59.9	03/14/2024	22:25:58	23.7	61.1	03/15/2024	14:25:58	23.9	52.8	03/16/2024	06:25:58	23.2	67.7	03/16/2024	22:25:58	22.9	60.0
03/14/2024	06:35:58	22.9	59.6	03/14/2024	22:35:58	23.7	61.1	03/15/2024	14:35:58	23.9	54.0	03/16/2024	06:35:58	23.2	68.0	03/16/2024	22:35:58	22.9	60.0
03/14/2024	06:45:58	22.8	59.9	03/14/2024	22:45:58	23.6	61.1	03/15/2024	14:45:58	23.9	54.9	03/16/2024	06:45:58	23.1	68.1	03/16/2024	22:45:58	22.9	60.2
03/14/2024	06:55:58	22.7	58.9	03/14/2024	22:55:58	23.6	61.2	03/15/2024	14:55:58	23.9	55.4	03/16/2024	06:55:58	23.1	68.1	03/16/2024	22:55:58	22.8	59.9
03/14/2024	07:05:58	22.6	58.7	03/14/2024	23:05:58	23.6	61.2	03/15/2024	15:05:58	23.9	55.3	03/16/2024	07:05:58	23.2	68.1	03/16/2024	23:05:58	22.8	59.8
03/14/2024	07:15:58	22.6	59.0	03/14/2024	23:15:58	23.6	61.2	03/15/2024	15:15:58	23.9	55.5	03/16/2024	07:15:58	23.2	68.2	03/16/2024	23:15:58	22.8	59.8
03/14/2024	07:25:58	22.6	59.1	03/14/2024	23:25:58	23.6	61.2	03/15/2024	15:25:58	23.9	55.1	03/16/2024	07:25:58	23.3	69.1	03/16/2024	23:25:58	22.8	59.8
03/14/2024	07:35:58	22.7	59.2	03/14/2024	23:35:58	23.6	61.2	03/15/2024	15:35:58	23.9	54.9	03/16/2024	07:35:58	23.3	69.1	03/16/2024	23:35:58	22.7	59.7
03/14/2024	07:45:58	22.7	59.3	03/14/2024	23:45:58	23.6	61.1	03/15/2024	15:45:58	23.9	55.4	03/16/2024	07:45:58	23.3	68.8	03/16/2024	23:45:58	22.7	59.6
03/14/2024	07:55:58	22.7	59.3	03/14/2024	23:55:58	23.5	61.0	03/15/2024	15:55:58	23.9	55.6	03/16/2024	07:55:58	23.3	68.4	03/16/2024	23:55:58	22.7	59.7
03/14/2024	08:05:58	22.8	58.9	03/15/2024	00:05:58	23.5	61.0	03/15/2024	16:05:58	23.9	55.6	03/16/2024	08:05:58	23.3	68.4	03/16/2024	00:05:58	22.7	59.6
03/14/2024	08:15:58	22.9	58.3	03/15/2024	00:15:58	23.5	61.0	03/15/2024	16:15:58	23.9	55.5	03/16/2024	08:15:58	23.3	68.2	03/17/2024	00:15:58	22.7	59.7
03/14/2024	08:25:58	22.9	57.8	03/15/2024	00:25:58	23.5	61.0	03/15/2024	16:25:58	23.9	55.5	03/16/2024	08:25:58	23.4	67.9	03/17/2024	00:25:58	22.6	59.7
03/14/2024	08:35:58	22.9	57.6	03/15/2024	00:35:58	23.5	61.0	03/15/2024	16:35:58	23.9	55.6	03/16/2024	08:35:58	23.4	67.7	03/17/2024	00:35:58	22.6	59.8
03/14/2024	08:45:58	23.0	57.5	03/15/2024	00:45:58	23.4	60.9	03/15/2024	16:45:58	23.9	55.9	03/16/2024	08:45:58	23.4	67.6	03/17/2024	00:45:58	22.6	59.9
03/14/2024	08:55:58	23.0	57.6	03/15/2024	00:55:58	23.4	60.9	03/15/2024	16:55:58	23.8	56.1	03/16/2024	08:55:58	23.5	67.3	03/17/2024	00:55:58	22.6	59.9
03/14/2024	09:05:58	23.1	57.6	03/15/2024	01:05:58	23.4	60.8	03/15/2024	17:05:58	23.8	56.0	03/16/2024	09:05:58	23.5	67.3	03/17/2024	01:05:58	22.6	60.0
03/14/2024	09:15:58	23.2	56.8	03/15/2024	01:15:58	23.4	60.8	03/15/2024	17:15:58	23.8	56.4	03/16/2024	09:15:58	23.5	66.9	03/17/2024	01:15:58	22.6	60.0
03/14/2024	09:25:58	23.2	56.2	03/15/2024	01:25:58	23.3	60.7	03/15/2024	17:25:58	23.8	56.8	03/16/2024	09:25:58	23.5	66.7	03/17/2024	01:25:58	22.6	60.0
03/14/2024																			



Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
03/17/2024	09:05:58	22.7	58.9	03/18/2024	01:05:58	23.2	60.6	03/18/2024	17:05:58	24.3	60.7	03/19/2024	09:05:58	23.6	64.2	03/20/2024	01:05:58	24.0	68.6
03/17/2024	09:15:58	22.8	58.4	03/18/2024	01:15:58	23.1	60.4	03/18/2024	17:15:58	24.3	60.9	03/19/2024	09:15:58	23.7	64.1	03/20/2024	01:15:58	24.0	68.5
03/17/2024	09:25:58	22.9	58.2	03/18/2024	01:25:58	23.1	60.3	03/18/2024	17:25:58	24.3	61.0	03/19/2024	09:25:58	23.8	64.0	03/20/2024	01:25:58	24.0	68.4
03/17/2024	09:35:58	23.0	57.6	03/18/2024	01:35:58	23.1	60.3	03/18/2024	17:35:58	24.3	61.1	03/19/2024	09:35:58	23.8	63.8	03/20/2024	01:35:58	24.0	68.5
03/17/2024	09:45:58	23.1	57.9	03/18/2024	01:45:58	23.1	60.2	03/18/2024	17:45:58	24.3	61.2	03/19/2024	09:45:58	23.9	63.8	03/20/2024	01:45:58	24.0	68.4
03/17/2024	09:55:58	23.2	58.7	03/18/2024	01:55:58	23.0	60.1	03/18/2024	17:55:58	24.3	61.8	03/19/2024	09:55:58	24.0	63.6	03/20/2024	01:55:58	24.0	68.4
03/17/2024	10:05:58	23.4	58.5	03/18/2024	02:05:58	23.0	60.1	03/18/2024	18:05:58	24.3	62.8	03/19/2024	10:05:58	24.1	63.5	03/20/2024	02:05:58	24.0	68.4
03/17/2024	10:15:58	23.5	59.1	03/18/2024	02:15:58	23.0	59.9	03/18/2024	18:15:58	24.3	62.7	03/19/2024	10:15:58	24.1	63.4	03/20/2024	02:15:58	24.0	68.3
03/17/2024	10:25:58	23.6	58.6	03/18/2024	02:25:58	23.0	59.8	03/18/2024	18:25:58	24.3	63.0	03/19/2024	10:25:58	24.2	63.2	03/20/2024	02:25:58	24.0	68.3
03/17/2024	10:35:58	23.6	57.7	03/18/2024	02:35:58	23.0	59.7	03/18/2024	18:35:58	24.3	63.2	03/19/2024	10:35:58	24.2	63.1	03/20/2024	02:35:58	24.0	68.2
03/17/2024	10:45:58	23.7	57.1	03/18/2024	02:45:58	23.0	59.6	03/18/2024	18:45:58	24.3	63.3	03/19/2024	10:45:58	24.3	63.1	03/20/2024	02:45:58	24.0	68.2
03/17/2024	10:55:58	23.8	56.4	03/18/2024	02:55:58	23.0	59.4	03/18/2024	18:55:58	24.3	63.3	03/19/2024	10:55:58	24.4	63.0	03/20/2024	02:55:58	24.0	68.2
03/17/2024	11:05:58	23.9	55.8	03/18/2024	03:05:58	23.0	59.2	03/18/2024	19:05:58	24.3	63.7	03/19/2024	11:05:58	24.4	62.9	03/20/2024	03:05:58	24.0	68.1
03/17/2024	11:15:58	23.8	55.3	03/18/2024	03:15:58	23.0	59.4	03/18/2024	19:15:58	24.3	63.4	03/19/2024	11:15:58	24.5	62.8	03/20/2024	03:15:58	24.0	68.0
03/17/2024	11:25:58	23.8	55.1	03/18/2024	03:25:58	22.9	59.4	03/18/2024	19:25:58	24.4	63.8	03/19/2024	11:25:58	24.5	62.8	03/20/2024	03:25:58	24.0	68.1
03/17/2024	11:35:58	23.8	55.6	03/18/2024	03:35:58	22.9	59.4	03/18/2024	19:35:58	24.4	63.5	03/19/2024	11:35:58	24.5	62.8	03/20/2024	03:35:58	24.0	68.0
03/17/2024	11:45:58	23.8	55.5	03/18/2024	03:45:58	22.9	59.3	03/18/2024	19:45:58	24.4	63.6	03/19/2024	11:45:58	24.4	62.8	03/20/2024	03:45:58	23.9	68.0
03/17/2024	11:55:58	23.7	55.0	03/18/2024	03:55:58	22.9	59.3	03/18/2024	19:55:58	24.4	63.6	03/19/2024	11:55:58	24.4	62.9	03/20/2024	03:55:58	23.9	67.9
03/17/2024	12:05:58	23.7	54.6	03/18/2024	04:05:58	22.9	59.2	03/18/2024	20:05:58	24.3	63.7	03/19/2024	12:05:58	24.3	63.0	03/20/2024	04:05:58	23.9	67.9
03/17/2024	12:15:58	23.7	55.7	03/18/2024	04:15:58	22.9	59.2	03/18/2024	20:15:58	24.3	63.7	03/19/2024	12:15:58	24.3	63.1	03/20/2024	04:15:58	23.9	67.9
03/17/2024	12:25:58	23.7	55.1	03/18/2024	04:25:58	22.9	59.2	03/18/2024	20:25:58	24.3	63.7	03/19/2024	12:25:58	24.3	63.4	03/20/2024	04:25:58	23.9	67.8
03/17/2024	12:35:58	23.7	55.1	03/18/2024	04:35:58	22.9	59.2	03/18/2024	20:35:58	24.3	63.9	03/19/2024	12:35:58	24.3	63.5	03/20/2024	04:35:58	23.9	67.8
03/17/2024	12:45:58	23.7	54.9	03/18/2024	04:45:58	22.8	59.1	03/18/2024	20:45:58	24.3	63.7	03/19/2024	12:45:58	24.3	63.7	03/20/2024	04:45:58	23.9	67.7
03/17/2024	12:55:58	23.7	54.6	03/18/2024	04:55:58	22.8	59.0	03/18/2024	20:55:58	24.3	63.9	03/19/2024	12:55:58	24.3	63.9	03/20/2024	04:55:58	23.9	67.7
03/17/2024	13:05:58	23.7	54.9	03/18/2024	05:05:58	22.8	59.1	03/18/2024	21:05:58	24.3	63.8	03/19/2024	13:05:58	24.3	64.1	03/20/2024	05:05:58	23.8	67.6
03/17/2024	13:15:58	23.7	55.3	03/18/2024	05:15:58	22.8	59.0	03/18/2024	21:15:58	24.3	63.8	03/19/2024	13:15:58	24.4	64.2	03/20/2024	05:15:58	23.9	67.7
03/17/2024	13:25:58	23.7	55.7	03/18/2024	05:25:58	22.8	59.2	03/18/2024	21:25:58	24.3	63.7	03/19/2024	13:25:58	24.4	64.1	03/20/2024	05:25:58	23.9	67.7
03/17/2024	13:35:58	23.7	55.9	03/18/2024	05:35:58	22.7	59.2	03/18/2024	21:35:58	24.2	63.8	03/19/2024	13:35:58	24.4	64.4	03/20/2024	05:35:58	23.8	67.6
03/17/2024	13:45:58	23.7	56.3	03/18/2024	05:45:58	22.7	59.2	03/18/2024	21:45:58	24.2	63.9	03/19/2024	13:45:58	24.3	64.6	03/20/2024	05:45:58	23.8	67.6
03/17/2024	13:55:58	23.7	56.7	03/18/2024	05:55:58	22.7	59.2	03/18/2024	21:55:58	24.2	63.8	03/19/2024	13:55:58	24.3	64.8	03/20/2024	05:55:58	23.8	67.6
03/17/2024	14:05:58	23.6	57.0	03/18/2024	06:05:58	22.7	59.3	03/18/2024	22:05:58	24.2	63.8	03/19/2024	14:05:58	24.3	64.9	03/20/2024	06:05:58	23.8	67.5
03/17/2024	14:15:58	23.6	57.5	03/18/2024	06:15:58	22.7	59.4	03/18/2024	22:15:58	24.2	63.8	03/19/2024	14:15:58	24.3	65.0	03/20/2024	06:15:58	23.8	67.5
03/17/2024	14:25:58	23.6	57.8	03/18/2024	06:25:58	22.7	59.6	03/18/2024	22:25:58	24.1	63.8	03/19/2024	14:25:58	24.3	65.3	03/20/2024	06:25:58	23.8	67.5
03/17/2024	14:35:58	23.6	58.1	03/18/2024	06:35:58	22.7	59.4	03/18/2024	22:35:58	24.1	63.8	03/19/2024	14:35:58	24.3	65.4	03/20/2024	06:35:58	23.8	67.5
03/17/2024	14:45:58	23.6	58.4	03/18/2024	06:45:58	22.6	59.6	03/18/2024	22:45:58	24.1	63.8	03/19/2024	14:45:58	24.3	65.4	03/20/2024	06:45:58	23.8	67.5
03/17/2024	14:55:58	23.6	58.6	03/18/2024	06:55:58	22.6	59.5	03/18/2024	22:55:58	24.1	63.8	03/19/2024	14:55:58	24.3	65.5	03/20/2024	06:55:58	23.8	67.6
03/17/2024	15:05:58	23.6	58.7	03/18/2024	07:05:58	22.6	59.7	03/18/2024	23:05:58	24.1	63.8	03/19/2024	15:05:58	24.3	65.6	03/20/2024	07:05:58	23.8	67.4
03/17/2024	15:15:58	23.5	58.9	03/18/2024	07:15:58	22.6	60.1	03/18/2024	23:15:58	24.1	63.8	03/19/2024	15:15:58	24.3	65.6	03/20/2024	07:15:58	23.8	67.2
03/17/2024	15:25:58	23.5	58.9	03/18/2024	07:25:58	22.6	60.3	03/18/2024	23:25:58	24.0	63.8	03/19/2024	15:25:58	24.3	65.7	03/20/2024	07:25:58	23.8	66.2
03/17/2024	15:35:58	23.5	58.7	03/18/2024	07:35:58	22.6	60.4	03/18/2024	23:35:58	24.0	63.8	03/19/2024	15:35:58	24.4	65.7	03/20/2024	07:35:58	23.9	65.9
03/17/2024	15:45:58	23.5	58.7	03/18/2024	07:45:58	22.6	60.5	03/18/2024	23:45:58	24.0	63.8	03/19/2024	15:45:58	24.4	65.7	03/20/2024	07:45:58	23.9	66.5
03/17/2024	15:55:58	23.5	58.7	03/18/2024	07:55:58	22.6	60.5	03/18/2024	23:55:58	24.0	63.8	03/19/2024	15:55:58	24.4	65.8	03/20/2024	07:55:58	23.9	66.5
03/17/2024	16:05:58	23.5	58.5	03/18/2024	08:05:58	22.7	60.5	03/18/2024	00:05:58	23.9	63.7	03/19/2024	16:05:58	24.5	65.8	03/20/2024	08:05:58	23.9	65.7
03/17/2024	16:15:58	23.5	58.7	03/18/2024	08:15:58	22.8	61.7	03/19/2024	00:15:58	23.9	63.7	03/19/2024	16:15:58	24.5	65.8	03/20/2024	08:15:58	24.0	65.8
03/17/2024	16:25:58	23.4	58.7	03/18/2024	08:25:58	22.8	61.3	03/19/2024	00:25:58	23.9	63.7	03/19/2024	16:25:58	24.4	65.9	03/20/2024	08:25:58	24.1	65.2
03/17/2024	16:35:58	23.4	58.8	03/18/2024	08:35:58	22.8	60.4	03/19/2024	00:35:58	23.9	63.6	03/19/2024	16:35:58	24.4	66.0	03/20/2024	08:35:58	24.1	65.1
03/17/2024	16:45:58	23.4	58.8	03/18/2024	08:45:58	22.9	59.9	03/19/2024	00:45:58	23.9	63.7	03/19/2024	16:45:58	24.4	66.2	03/20/2024	08:45:58	24.2	64.7
03/17/2024	16:55:58	23.3	58.7	03/18/2024	08:55:58	23.0	59.9	03/19/2024	00:55:58	23.9	63.7	03/19/2024	16:55:58	24.3	66.2	03/20/2024	08:55:58	24.3	64.5
03/17/2024	17:05:58	23.3	58.5	03/18/2024	09:05:58	23.0	59.6	03/19/2024	01:05:58	24.0	63.7	03/19/2024	17:05:58	24.3	66.3	03/20/2024	09:05:58	24.3	64.5
03/17/2024	17:15:58	23.3	58.5	03/18/2024	09:15:58	23.3	61.0	03/19/2024	01:15:58	24.0	63.7	03/19/2024	17:15:58	24.3	66.3	03/20/2024	09:15:58	24.5	64.4
03/17/2024	17:25:58	23.2	58.6	03/18/2024	09:25:58	23.3	60.8	03/19/2024	01:25:58	23.8	63.7	03/19/2024	17:25:58	24.3	66.5	03/20/2024	09:25:58	24.6	63.9
03/17/2024	17:35:58	23.2	58.5																



Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
03/20/2024	17:05:58	25.6	63.9	03/21/2024	09:05:58	24.6	65.6	03/22/2024	01:05:58	25.2	59.8	03/22/2024	17:05:58	24.6	64.4	03/23/2024	09:05:58	23.4	57.4
03/20/2024	17:15:58	25.6	64.1	03/21/2024	09:15:58	24.8	65.7	03/22/2024	01:15:58	25.1	59.7	03/22/2024	17:15:58	24.5	64.5	03/23/2024	09:15:58	23.4	58.4
03/20/2024	17:25:58	25.6	64.2	03/21/2024	09:25:58	24.9	65.4	03/22/2024	01:25:58	25.1	59.5	03/22/2024	17:25:58	24.5	64.7	03/23/2024	09:25:58	23.4	58.7
03/20/2024	17:35:58	25.6	64.4	03/21/2024	09:35:58	25.1	65.6	03/22/2024	01:35:58	25.0	59.5	03/22/2024	17:35:58	24.5	64.2	03/23/2024	09:35:58	23.5	58.6
03/20/2024	17:45:58	25.6	64.5	03/21/2024	09:45:58	25.2	65.7	03/22/2024	01:45:58	25.0	59.4	03/22/2024	17:45:58	24.5	64.9	03/23/2024	09:45:58	23.5	58.7
03/20/2024	17:55:58	25.6	64.5	03/21/2024	09:55:58	25.3	65.6	03/22/2024	01:55:58	25.0	59.0	03/22/2024	17:55:58	24.5	65.0	03/23/2024	09:55:58	23.6	59.2
03/20/2024	18:05:58	25.6	64.3	03/21/2024	10:05:58	25.3	65.5	03/22/2024	02:05:58	24.9	58.9	03/22/2024	18:05:58	24.5	65.1	03/23/2024	10:05:58	23.7	59.3
03/20/2024	18:15:58	25.6	64.4	03/21/2024	10:15:58	25.4	65.2	03/22/2024	02:15:58	24.9	58.7	03/22/2024	18:15:58	24.5	65.2	03/23/2024	10:15:58	23.7	58.5
03/20/2024	18:25:58	25.5	64.4	03/21/2024	10:25:58	25.5	64.6	03/22/2024	02:25:58	24.8	58.6	03/22/2024	18:25:58	24.5	65.2	03/23/2024	10:25:58	23.7	58.1
03/20/2024	18:35:58	25.5	64.5	03/21/2024	10:35:58	25.7	64.0	03/22/2024	02:35:58	24.8	58.4	03/22/2024	18:35:58	24.6	65.4	03/23/2024	10:35:58	23.6	58.0
03/20/2024	18:45:58	25.5	64.6	03/21/2024	10:45:58	25.9	62.8	03/22/2024	02:45:58	24.8	58.1	03/22/2024	18:45:58	24.6	65.7	03/23/2024	10:45:58	23.6	57.8
03/20/2024	18:55:58	25.5	64.6	03/21/2024	10:55:58	25.6	62.5	03/22/2024	02:55:58	24.7	58.0	03/22/2024	18:55:58	24.7	65.9	03/23/2024	10:55:58	23.6	57.6
03/20/2024	19:05:58	25.5	64.6	03/21/2024	11:05:58	26.1	62.1	03/22/2024	03:05:58	24.7	57.9	03/22/2024	19:05:58	24.7	65.8	03/23/2024	11:05:58	23.6	56.7
03/20/2024	19:15:58	25.5	64.6	03/21/2024	11:15:58	26.2	62.4	03/22/2024	03:15:58	24.6	57.6	03/22/2024	19:15:58	24.7	65.9	03/23/2024	11:15:58	23.7	56.2
03/20/2024	19:25:58	25.5	65.1	03/21/2024	11:25:58	26.2	61.8	03/22/2024	03:25:58	24.6	57.6	03/22/2024	19:25:58	24.7	66.1	03/23/2024	11:25:58	23.7	55.6
03/20/2024	19:35:58	25.5	65.3	03/21/2024	11:35:58	26.3	61.0	03/22/2024	03:35:58	24.6	57.5	03/22/2024	19:35:58	24.7	66.0	03/23/2024	11:35:58	23.7	55.3
03/20/2024	19:45:58	25.5	65.3	03/21/2024	11:45:58	26.3	61.2	03/22/2024	03:45:58	24.5	57.5	03/22/2024	19:45:58	24.6	66.2	03/23/2024	11:45:58	23.7	55.0
03/20/2024	19:55:58	25.5	65.3	03/21/2024	11:55:58	26.3	60.8	03/22/2024	03:55:58	24.4	57.5	03/22/2024	19:55:58	24.6	66.2	03/23/2024	11:55:58	23.7	54.7
03/20/2024	20:05:58	25.5	65.4	03/21/2024	12:05:58	26.3	60.9	03/22/2024	04:05:58	24.4	57.5	03/22/2024	20:05:58	24.6	66.2	03/23/2024	12:05:58	23.6	54.5
03/20/2024	20:15:58	25.4	65.7	03/21/2024	12:15:58	26.4	60.6	03/22/2024	04:15:58	24.1	57.9	03/22/2024	20:15:58	24.6	66.3	03/23/2024	12:15:58	23.6	54.7
03/20/2024	20:25:58	25.4	65.6	03/21/2024	12:25:58	26.3	61.0	03/22/2024	04:25:58	24.3	57.7	03/22/2024	20:25:58	24.6	66.3	03/23/2024	12:25:58	23.6	54.6
03/20/2024	20:35:58	25.4	65.6	03/21/2024	12:35:58	26.1	61.0	03/22/2024	04:35:58	24.3	57.7	03/22/2024	20:35:58	24.6	66.6	03/23/2024	12:35:58	23.5	54.1
03/20/2024	20:45:58	25.4	65.6	03/21/2024	12:45:58	26.1	61.4	03/22/2024	04:45:58	24.3	57.8	03/22/2024	20:45:58	24.6	66.7	03/23/2024	12:45:58	23.5	53.9
03/20/2024	20:55:58	25.4	65.6	03/21/2024	12:55:58	26.2	60.7	03/22/2024	04:55:58	24.3	57.8	03/22/2024	20:55:58	24.6	66.7	03/23/2024	12:55:58	23.4	53.9
03/20/2024	21:05:58	25.4	65.3	03/21/2024	13:05:58	26.2	60.2	03/22/2024	05:05:58	24.2	57.8	03/22/2024	21:05:58	24.6	66.6	03/23/2024	13:05:58	23.4	54.3
03/20/2024	21:15:58	25.4	65.3	03/21/2024	13:15:58	26.3	59.5	03/22/2024	05:15:58	24.2	57.9	03/22/2024	21:15:58	24.6	66.5	03/23/2024	13:15:58	23.4	54.3
03/20/2024	21:25:58	25.4	65.2	03/21/2024	13:25:58	26.4	60.2	03/22/2024	05:25:58	24.1	58.2	03/22/2024	21:25:58	24.5	66.5	03/23/2024	13:25:58	23.4	54.1
03/20/2024	21:35:58	25.4	65.5	03/21/2024	13:35:58	26.4	60.8	03/22/2024	05:35:58	24.1	58.2	03/22/2024	21:35:58	24.5	66.4	03/23/2024	13:35:58	23.4	54.6
03/20/2024	21:45:58	25.4	65.2	03/21/2024	13:45:58	26.5	60.8	03/22/2024	05:45:58	24.1	58.1	03/22/2024	21:45:58	24.5	66.3	03/23/2024	13:45:58	23.4	54.3
03/20/2024	21:55:58	25.3	65.3	03/21/2024	13:55:58	26.5	60.6	03/22/2024	05:55:58	24.0	57.7	03/22/2024	21:55:58	24.5	66.2	03/23/2024	13:55:58	23.3	54.5
03/20/2024	22:05:58	25.3	65.4	03/21/2024	14:05:58	26.5	60.4	03/22/2024	06:05:58	23.9	57.5	03/22/2024	22:05:58	24.5	66.2	03/23/2024	14:05:58	23.2	54.5
03/20/2024	22:15:58	25.3	65.5	03/21/2024	14:15:58	26.5	60.2	03/22/2024	06:15:58	23.8	57.5	03/22/2024	22:15:58	24.5	66.1	03/23/2024	14:15:58	23.2	54.7
03/20/2024	22:25:58	25.3	65.5	03/21/2024	14:25:58	26.5	60.4	03/22/2024	06:25:58	23.8	57.8	03/22/2024	22:25:58	24.5	66.1	03/23/2024	14:25:58	23.1	54.3
03/20/2024	22:35:58	25.3	65.5	03/21/2024	14:35:58	26.5	60.6	03/22/2024	06:35:58	23.6	58.4	03/22/2024	22:35:58	24.5	65.9	03/23/2024	14:35:58	23.1	54.1
03/20/2024	22:45:58	25.3	65.4	03/21/2024	14:45:58	26.4	60.9	03/22/2024	06:45:58	23.5	58.6	03/22/2024	22:45:58	24.5	65.9	03/23/2024	14:45:58	23.1	54.1
03/20/2024	22:55:58	25.3	65.4	03/21/2024	14:55:58	26.4	61.1	03/22/2024	06:55:58	23.4	59.1	03/22/2024	22:55:58	24.5	65.8	03/23/2024	14:55:58	23.0	53.9
03/20/2024	23:05:58	25.3	65.6	03/21/2024	15:05:58	26.4	61.6	03/22/2024	07:05:58	23.3	59.4	03/22/2024	23:05:58	24.5	65.6	03/23/2024	15:05:58	23.0	54.0
03/20/2024	23:15:58	25.3	65.5	03/21/2024	15:15:58	26.4	62.0	03/22/2024	07:15:58	23.1	60.0	03/22/2024	23:15:58	24.4	65.7	03/23/2024	15:15:58	23.0	54.0
03/20/2024	23:25:58	25.3	65.6	03/21/2024	15:25:58	26.4	61.9	03/22/2024	07:25:58	23.0	60.6	03/22/2024	23:25:58	24.4	65.6	03/23/2024	15:25:58	23.1	54.3
03/20/2024	23:35:58	25.3	65.4	03/21/2024	15:35:58	26.4	61.8	03/22/2024	07:35:58	22.8	61.1	03/22/2024	23:35:58	24.4	65.5	03/23/2024	15:35:58	23.1	54.7
03/20/2024	23:45:58	25.3	65.4	03/21/2024	15:45:58	26.3	62.0	03/22/2024	07:45:58	22.8	61.8	03/22/2024	23:45:58	24.4	65.4	03/23/2024	15:45:58	23.2	54.9
03/20/2024	23:55:58	25.3	65.5	03/21/2024	15:55:58	26.3	62.2	03/22/2024	07:55:58	22.8	61.3	03/22/2024	23:55:58	24.3	65.4	03/23/2024	15:55:58	23.2	54.7
03/21/2024	00:05:58	25.2	65.1	03/21/2024	16:05:58	26.3	62.1	03/22/2024	08:05:58	22.4	63.4	03/23/2024	00:05:58	24.3	65.4	03/23/2024	16:05:58	23.3	55.7
03/21/2024	00:15:58	25.2	65.4	03/21/2024	16:15:58	26.3	63.3	03/22/2024	08:15:58	22.5	64.0	03/23/2024	00:15:58	24.3	65.3	03/23/2024	16:15:58	23.3	56.3
03/21/2024	00:25:58	25.2	65.3	03/21/2024	16:25:58	26.3	63.9	03/22/2024	08:25:58	22.6	64.2	03/23/2024	00:25:58	24.3	65.3	03/23/2024	16:25:58	23.3	56.8
03/21/2024	00:35:58	25.2	65.3	03/21/2024	16:35:58	26.3	63.8	03/22/2024	08:35:58	22.7	64.1	03/23/2024	00:35:58	24.3	65.2	03/23/2024	16:35:58	23.3	57.0
03/21/2024	00:45:58	25.2	65.2	03/21/2024	16:45:58	26.2	63.8	03/22/2024	08:45:58	22.8	64.0	03/23/2024	00:45:58	24.3	65.1	03/23/2024	16:45:58	23.3	57.3
03/21/2024	00:55:58	25.1	65.2	03/21/2024	16:55:58	26.2	63.7	03/22/2024	08:55:58	23.0	64.4	03/23/2024	00:55:58	24.3	65.0	03/23/2024	16:55:58	23.3	57.4
03/21/2024	01:05:58	25.1	65.1	03/21/2024	17:05:58	26.1	63.6	03/22/2024	09:05:58	23.1	64.9	03/23/2024	01:05:58	24.3	64.9	03/23/2024	17:05:58	23.3	57.8
03/21/2024	01:15:58	25.1	65.0	03/21/2024	17:15:58	26.1	63.4	03/22/2024	09:15:58	23.1	64.9	03/23/2024	01:15:58	24.2	64.8	03/23/2024	17:15:58	23.3	57.8
03/21/2024	01:25:58	25.1	65.1	03/21/2024	17:25:58	26.0	63.2	03/22/2024	09:25:58	23.3	64.7	03/23/2024	01:25:58	24.2	64.6	03/23/2024	17:25:58	23.3	57.9
03/21/2024	01:35:58	25.1	65																



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
03/24/2024	01:05:58	22.7	61.6	03/24/2024	17:05:58	22.5	53.8	03/25/2024	09:05:58	22.1	67.0	03/26/2024	01:05:58	22.5	64.9	03/26/2024	17:05:58	22.8	66.3
03/24/2024	01:15:58	22.7	61.6	03/24/2024	17:15:58	22.5	54.1	03/25/2024	09:15:58	22.2	67.4	03/26/2024	01:15:58	22.5	65.0	03/26/2024	17:15:58	22.8	66.5
03/24/2024	01:25:58	22.7	61.7	03/24/2024	17:25:58	22.4	54.2	03/25/2024	09:25:58	22.3	66.2	03/26/2024	01:25:58	22.5	65.1	03/26/2024	17:25:58	22.8	66.4
03/24/2024	01:35:58	22.7	61.8	03/24/2024	17:35:58	22.4	54.5	03/25/2024	09:35:58	22.4	66.8	03/26/2024	01:35:58	22.5	65.2	03/26/2024	17:35:58	22.8	66.5
03/24/2024	01:45:58	22.7	61.9	03/24/2024	17:45:58	22.5	54.8	03/25/2024	09:45:58	22.5	65.4	03/26/2024	01:45:58	22.5	65.2	03/26/2024	17:45:58	22.8	66.6
03/24/2024	01:55:58	22.7	62.0	03/24/2024	17:55:58	22.5	55.1	03/25/2024	09:55:58	22.6	65.1	03/26/2024	01:55:58	22.5	65.3	03/26/2024	17:55:58	22.8	66.6
03/24/2024	02:05:58	22.7	62.0	03/24/2024	18:05:58	22.5	55.4	03/25/2024	10:05:58	22.7	64.7	03/26/2024	02:05:58	22.5	65.3	03/26/2024	18:05:58	22.8	66.6
03/24/2024	02:15:58	22.7	62.1	03/24/2024	18:15:58	22.5	55.6	03/25/2024	10:15:58	22.8	64.2	03/26/2024	02:15:58	22.5	65.4	03/26/2024	18:15:58	22.8	66.6
03/24/2024	02:25:58	22.7	62.2	03/24/2024	18:25:58	22.5	56.0	03/25/2024	10:25:58	22.9	63.8	03/26/2024	02:25:58	22.4	65.4	03/26/2024	18:25:58	22.8	66.5
03/24/2024	02:35:58	22.7	62.4	03/24/2024	18:35:58	22.5	56.1	03/25/2024	10:35:58	22.9	63.2	03/26/2024	02:35:58	22.4	65.5	03/26/2024	18:35:58	22.8	66.4
03/24/2024	02:45:58	22.6	62.5	03/24/2024	18:45:58	22.5	56.3	03/25/2024	10:45:58	22.9	62.8	03/26/2024	02:45:58	22.4	65.5	03/26/2024	18:45:58	22.8	66.4
03/24/2024	02:55:58	22.6	62.7	03/24/2024	18:55:58	22.5	56.4	03/25/2024	10:55:58	22.9	62.2	03/26/2024	02:55:58	22.4	65.6	03/26/2024	18:55:58	22.8	66.2
03/24/2024	03:05:58	22.6	62.7	03/24/2024	19:05:58	22.5	56.6	03/25/2024	11:05:58	23.0	62.0	03/26/2024	03:05:58	22.4	65.6	03/26/2024	19:05:58	22.8	66.1
03/24/2024	03:15:58	22.6	62.9	03/24/2024	19:15:58	22.5	56.8	03/25/2024	11:15:58	22.9	61.8	03/26/2024	03:15:58	22.4	65.6	03/26/2024	19:15:58	22.8	66.1
03/24/2024	03:25:58	22.6	63.0	03/24/2024	19:25:58	22.5	56.9	03/25/2024	11:25:58	22.9	62.0	03/26/2024	03:25:58	22.4	65.6	03/26/2024	19:25:58	22.8	66.0
03/24/2024	03:35:58	22.6	63.0	03/24/2024	19:35:58	22.5	57.1	03/25/2024	11:35:58	22.9	62.2	03/26/2024	03:35:58	22.4	65.7	03/26/2024	19:35:58	22.7	66.3
03/24/2024	03:45:58	22.6	63.1	03/24/2024	19:45:58	22.5	57.2	03/25/2024	11:45:58	22.9	62.5	03/26/2024	03:45:58	22.3	65.6	03/26/2024	19:45:58	22.8	66.5
03/24/2024	03:55:58	22.6	63.2	03/24/2024	19:55:58	22.5	57.3	03/25/2024	11:55:58	22.8	62.7	03/26/2024	03:55:58	22.3	65.7	03/26/2024	19:55:58	22.8	66.6
03/24/2024	04:05:58	22.5	63.1	03/24/2024	20:05:58	22.4	57.3	03/25/2024	12:05:58	22.8	63.5	03/26/2024	04:05:58	22.3	65.7	03/26/2024	20:05:58	22.8	66.8
03/24/2024	04:15:58	22.5	63.1	03/24/2024	20:15:58	22.4	57.7	03/25/2024	12:15:58	22.9	62.1	03/26/2024	04:15:58	22.3	65.7	03/26/2024	20:15:58	22.8	70.1
03/24/2024	04:25:58	22.5	63.3	03/24/2024	20:25:58	22.5	57.7	03/25/2024	12:25:58	22.8	63.9	03/26/2024	04:25:58	22.3	65.7	03/26/2024	20:25:58	22.8	68.7
03/24/2024	04:35:58	22.5	63.3	03/24/2024	20:35:58	22.5	57.9	03/25/2024	12:35:58	22.9	64.1	03/26/2024	04:35:58	22.3	65.7	03/26/2024	20:35:58	22.8	68.7
03/24/2024	04:45:58	22.5	63.5	03/24/2024	20:45:58	22.5	58.0	03/25/2024	12:45:58	22.8	63.7	03/26/2024	04:45:58	22.3	65.8	03/26/2024	20:45:58	22.7	68.5
03/24/2024	04:55:58	22.5	63.5	03/24/2024	20:55:58	22.4	58.1	03/25/2024	12:55:58	22.9	63.5	03/26/2024	04:55:58	22.3	65.8	03/26/2024	20:55:58	22.8	68.4
03/24/2024	05:05:58	22.5	63.6	03/24/2024	21:05:58	22.5	58.2	03/25/2024	13:05:58	22.9	63.3	03/26/2024	05:05:58	22.2	65.9	03/26/2024	21:05:58	22.7	68.4
03/24/2024	05:15:58	22.4	63.3	03/24/2024	21:15:58	22.4	58.3	03/25/2024	13:15:58	22.9	62.8	03/26/2024	05:15:58	22.2	65.9	03/26/2024	21:15:58	22.7	68.2
03/24/2024	05:25:58	22.4	63.3	03/24/2024	21:25:58	22.4	58.4	03/25/2024	13:25:58	22.9	62.1	03/26/2024	05:25:58	22.2	66.0	03/26/2024	21:25:58	22.7	68.3
03/24/2024	05:35:58	22.4	63.1	03/24/2024	21:35:58	22.4	58.6	03/25/2024	13:35:58	22.9	62.1	03/26/2024	05:35:58	22.2	66.0	03/26/2024	21:35:58	22.7	67.8
03/24/2024	05:45:58	22.4	62.9	03/24/2024	21:45:58	22.4	58.8	03/25/2024	13:45:58	22.9	61.5	03/26/2024	05:45:58	22.2	66.0	03/26/2024	21:45:58	22.7	67.7
03/24/2024	05:55:58	22.4	62.7	03/24/2024	21:55:58	22.4	59.0	03/25/2024	13:55:58	22.9	60.6	03/26/2024	05:55:58	22.2	66.0	03/26/2024	21:55:58	22.7	67.6
03/24/2024	06:05:58	22.4	62.6	03/24/2024	22:05:58	22.4	59.2	03/25/2024	14:05:58	22.9	60.2	03/26/2024	06:05:58	22.2	66.1	03/26/2024	22:05:58	22.8	67.5
03/24/2024	06:15:58	22.4	62.4	03/24/2024	22:15:58	22.4	59.4	03/25/2024	14:15:58	22.9	59.7	03/26/2024	06:15:58	22.2	66.1	03/26/2024	22:15:58	22.8	67.3
03/24/2024	06:25:58	22.3	62.2	03/24/2024	22:25:58	22.4	59.5	03/25/2024	14:25:58	22.8	58.9	03/26/2024	06:25:58	22.1	66.1	03/26/2024	22:25:58	22.8	67.2
03/24/2024	06:35:58	22.3	62.2	03/24/2024	22:35:58	22.4	59.7	03/25/2024	14:35:58	22.8	58.4	03/26/2024	06:35:58	22.1	66.1	03/26/2024	22:35:58	22.8	67.2
03/24/2024	06:45:58	22.3	62.0	03/24/2024	22:45:58	22.4	59.9	03/25/2024	14:45:58	22.8	57.9	03/26/2024	06:45:58	22.1	66.1	03/26/2024	22:45:58	22.8	67.1
03/24/2024	06:55:58	22.3	61.8	03/24/2024	22:55:58	22.4	60.1	03/25/2024	14:55:58	22.8	57.8	03/26/2024	06:55:58	22.1	66.0	03/26/2024	22:55:58	22.8	67.0
03/24/2024	07:05:58	22.3	61.6	03/24/2024	23:05:58	22.4	60.2	03/25/2024	15:05:58	22.8	57.4	03/26/2024	07:05:58	22.1	66.6	03/26/2024	23:05:58	22.8	67.0
03/24/2024	07:15:58	22.2	61.4	03/24/2024	23:15:58	22.3	60.3	03/25/2024	15:15:58	22.8	57.1	03/26/2024	07:15:58	22.1	66.7	03/26/2024	23:15:58	22.8	66.8
03/24/2024	07:25:58	22.3	61.2	03/24/2024	23:25:58	22.3	60.5	03/25/2024	15:25:58	22.9	57.2	03/26/2024	07:25:58	22.1	66.9	03/26/2024	23:25:58	22.8	66.6
03/24/2024	07:35:58	22.2	61.1	03/24/2024	23:35:58	22.3	60.6	03/25/2024	15:35:58	22.9	57.4	03/26/2024	07:35:58	22.1	66.9	03/26/2024	23:35:58	22.8	66.5
03/24/2024	07:45:58	22.2	61.0	03/24/2024	23:45:58	22.3	60.7	03/25/2024	15:45:58	22.9	57.8	03/26/2024	07:45:58	22.1	67.1	03/26/2024	23:45:58	22.8	66.4
03/24/2024	07:55:58	22.2	60.9	03/24/2024	23:55:58	22.3	60.9	03/25/2024	15:55:58	22.9	58.4	03/26/2024	07:55:58	22.1	67.3	03/26/2024	23:55:58	22.8	66.3
03/24/2024	08:05:58	22.2	60.9	03/24/2024	00:05:58	22.3	61.3	03/25/2024	16:05:58	23.0	61.8	03/26/2024	08:05:58	22.1	67.3	03/27/2024	00:05:58	22.4	66.2
03/24/2024	08:15:58	22.2	60.8	03/25/2024	00:15:58	22.3	61.5	03/25/2024	16:15:58	22.9	62.3	03/26/2024	08:15:58	22.1	67.3	03/27/2024	00:15:58	22.4	66.2
03/24/2024	08:25:58	22.2	60.9	03/25/2024	00:25:58	22.3	61.7	03/25/2024	16:25:58	22.9	62.5	03/26/2024	08:25:58	22.1	67.0	03/27/2024	00:25:58	22.4	66.3
03/24/2024	08:35:58	22.2	60.8	03/25/2024	00:35:58	22.3	61.9	03/25/2024	16:35:58	22.9	62.7	03/26/2024	08:35:58	22.2	66.9	03/27/2024	00:35:58	22.4	66.2
03/24/2024	08:45:58	22.1	60.2	03/25/2024	00:45:58	22.3	61.8	03/25/2024	16:45:58	22.9	63.1	03/26/2024	08:45:58	22.3	66.3	03/27/2024	00:45:58	22.4	66.3
03/24/2024	08:55:58	22.1	59.5	03/25/2024	00:55:58	22.3	62.1	03/25/2024	16:55:58	22.9	63.2	03/26/2024	08:55:58	22.4	66.1	03/27/2024	00:55:58	22.3	66.2
03/24/2024	09:05:58	22.1	59.5	03/25/2024	01:05:58	22.2	62.0	03/25/2024	17:05:58	22.9	63.2	03/26/2024	09:05:58	22.4	66.1	03/27/2024	01:05:58	22.3	66.2
03/24/2024	09:15:58	22.0	58.3	03/25/2024	01:15:58	22.2	62.3	03/25/2024	17:15:58	22.9	63.7	03/26/2024	09:15:58	22.5	65.5	03/27/2024	01:15:58	22.3	66.2
03/24/2024	09:25:58	22.1	58.0	03/25/2024	01:25:58	22.2	62.4	03/25/2024	17:25:58	22.8	63.9	03/26/2024	09:25:58	22.6	65.2	03/27/2024	01:25:58	22.3	66.0
03/24/2024	09:35:58	22.1	57.8	0															



### Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
03/27/2024	09:05:58	21.9	62.0	03/28/2024	01:05:58	22.3	65.8	03/28/2024	17:05:58	22.5	70.1	03/29/2024	09:05:58	21.7	65.7	03/30/2024	01:05:58	22.3	69.6
03/27/2024	09:15:58	22.0	62.1	03/28/2024	01:15:58	22.3	65.8	03/28/2024	17:15:58	22.5	69.9	03/29/2024	09:15:58	21.7	65.5	03/30/2024	01:15:58	22.3	69.5
03/27/2024	09:25:58	22.1	62.2	03/28/2024	01:25:58	22.2	65.8	03/28/2024	17:25:58	22.5	69.8	03/29/2024	09:25:58	21.8	65.2	03/30/2024	01:25:58	22.3	69.5
03/27/2024	09:35:58	22.2	62.3	03/28/2024	01:35:58	22.2	65.7	03/28/2024	17:35:58	22.5	69.6	03/29/2024	09:35:58	22.0	65.3	03/30/2024	01:35:58	22.3	69.5
03/27/2024	09:45:58	22.3	62.2	03/28/2024	01:45:58	22.2	65.7	03/28/2024	17:45:58	22.5	69.4	03/29/2024	09:45:58	22.0	65.1	03/30/2024	01:45:58	22.2	69.4
03/27/2024	09:55:58	22.4	62.4	03/28/2024	01:55:58	22.2	65.4	03/28/2024	17:55:58	22.5	69.2	03/29/2024	09:55:58	22.1	65.0	03/30/2024	01:55:58	22.2	69.4
03/27/2024	10:05:58	22.5	62.5	03/28/2024	02:05:58	22.2	65.7	03/28/2024	18:05:58	22.4	69.0	03/29/2024	10:05:58	22.2	64.8	03/30/2024	02:05:58	22.2	69.4
03/27/2024	10:15:58	22.7	62.8	03/28/2024	02:15:58	22.1	65.7	03/28/2024	18:15:58	22.4	68.9	03/29/2024	10:15:58	22.4	64.6	03/30/2024	02:15:58	22.2	69.4
03/27/2024	10:25:58	22.7	63.0	03/28/2024	02:25:58	22.1	65.7	03/28/2024	18:25:58	22.4	68.7	03/29/2024	10:25:58	22.5	64.3	03/30/2024	02:25:58	22.2	69.4
03/27/2024	10:35:58	22.9	63.1	03/28/2024	02:35:58	22.1	65.7	03/28/2024	18:35:58	22.4	68.6	03/29/2024	10:35:58	22.5	64.1	03/30/2024	02:35:58	22.2	69.3
03/27/2024	10:45:58	23.0	63.1	03/28/2024	02:45:58	22.1	65.7	03/28/2024	18:45:58	22.4	68.4	03/29/2024	10:45:58	22.6	64.0	03/30/2024	02:45:58	22.2	69.3
03/27/2024	10:55:58	23.1	62.8	03/28/2024	02:55:58	22.1	65.7	03/28/2024	18:55:58	22.4	68.3	03/29/2024	10:55:58	22.6	63.9	03/30/2024	02:55:58	22.2	69.3
03/27/2024	11:05:58	23.1	63.4	03/28/2024	03:05:58	22.0	66.1	03/28/2024	19:05:58	22.2	68.2	03/29/2024	11:05:58	22.6	63.8	03/30/2024	03:05:58	22.2	69.2
03/27/2024	11:15:58	23.1	63.7	03/28/2024	03:15:58	22.0	65.7	03/28/2024	19:15:58	22.4	68.0	03/29/2024	11:15:58	22.6	63.8	03/30/2024	03:15:58	22.2	69.2
03/27/2024	11:25:58	23.0	63.8	03/28/2024	03:25:58	22.0	65.7	03/28/2024	19:25:58	22.5	67.8	03/29/2024	11:25:58	22.6	63.9	03/30/2024	03:25:58	22.1	69.1
03/27/2024	11:35:58	23.0	64.0	03/28/2024	03:35:58	22.0	65.7	03/28/2024	19:35:58	22.4	67.6	03/29/2024	11:35:58	22.5	64.0	03/30/2024	03:35:58	22.1	69.1
03/27/2024	11:45:58	22.9	64.3	03/28/2024	03:45:58	22.0	65.8	03/28/2024	19:45:58	22.4	67.3	03/29/2024	11:45:58	22.5	64.1	03/30/2024	03:45:58	22.1	69.2
03/27/2024	11:55:58	22.9	64.5	03/28/2024	03:55:58	21.9	65.9	03/28/2024	19:55:58	22.4	67.0	03/29/2024	11:55:58	22.5	64.5	03/30/2024	03:55:58	22.1	69.2
03/27/2024	12:05:58	22.9	64.6	03/28/2024	04:05:58	22.0	65.8	03/28/2024	20:05:58	22.4	66.7	03/29/2024	12:05:58	22.5	64.4	03/30/2024	04:05:58	22.1	69.1
03/27/2024	12:15:58	22.9	64.7	03/28/2024	04:15:58	21.9	66.1	03/28/2024	20:15:58	22.3	66.3	03/29/2024	12:15:58	22.5	64.5	03/30/2024	04:15:58	22.1	69.1
03/27/2024	12:25:58	22.9	64.8	03/28/2024	04:25:58	21.9	65.8	03/28/2024	20:25:58	22.3	66.6	03/29/2024	12:25:58	22.4	64.5	03/30/2024	04:25:58	22.1	69.1
03/27/2024	12:35:58	22.9	64.7	03/28/2024	04:35:58	21.9	65.8	03/28/2024	20:35:58	22.3	66.7	03/29/2024	12:35:58	22.4	64.5	03/30/2024	04:35:58	22.1	69.0
03/27/2024	12:45:58	22.9	64.8	03/28/2024	04:45:58	21.9	65.9	03/28/2024	20:45:58	22.3	66.6	03/29/2024	12:45:58	22.4	64.4	03/30/2024	04:45:58	22.1	69.0
03/27/2024	12:55:58	22.9	64.7	03/28/2024	04:55:58	21.9	65.8	03/28/2024	20:55:58	22.3	66.6	03/29/2024	12:55:58	22.3	64.5	03/30/2024	04:55:58	22.1	69.0
03/27/2024	13:05:58	22.8	64.9	03/28/2024	05:05:58	21.9	65.9	03/28/2024	21:05:58	22.3	66.5	03/29/2024	13:05:58	22.3	64.6	03/30/2024	05:05:58	22.1	69.0
03/27/2024	13:15:58	22.8	64.9	03/28/2024	05:15:58	21.9	66.0	03/28/2024	21:15:58	22.3	66.4	03/29/2024	13:15:58	22.3	64.6	03/30/2024	05:15:58	22.0	68.9
03/27/2024	13:25:58	22.9	65.2	03/28/2024	05:25:58	21.9	66.1	03/28/2024	21:25:58	22.3	66.3	03/29/2024	13:25:58	22.3	64.5	03/30/2024	05:25:58	22.0	68.9
03/27/2024	13:35:58	22.9	64.9	03/28/2024	05:35:58	21.8	66.2	03/28/2024	21:35:58	22.2	66.3	03/29/2024	13:35:58	22.4	65.9	03/30/2024	05:35:58	22.0	68.8
03/27/2024	13:45:58	22.9	64.8	03/28/2024	05:45:58	21.8	66.3	03/28/2024	21:45:58	22.2	66.1	03/29/2024	13:45:58	22.4	66.0	03/30/2024	05:45:58	22.0	68.8
03/27/2024	13:55:58	22.9	64.8	03/28/2024	05:55:58	21.8	66.4	03/28/2024	21:55:58	22.2	66.1	03/29/2024	13:55:58	22.5	65.8	03/30/2024	05:55:58	22.0	68.8
03/27/2024	14:05:58	22.9	65.1	03/28/2024	06:05:58	21.8	66.4	03/28/2024	22:05:58	22.2	66.0	03/29/2024	14:05:58	22.5	65.6	03/30/2024	06:05:58	22.0	68.9
03/27/2024	14:15:58	22.9	65.0	03/28/2024	06:15:58	21.8	66.5	03/28/2024	22:15:58	22.1	66.0	03/29/2024	14:15:58	22.5	65.5	03/30/2024	06:15:58	22.0	69.0
03/27/2024	14:25:58	22.8	65.1	03/28/2024	06:25:58	21.8	66.5	03/28/2024	22:25:58	22.1	65.9	03/29/2024	14:25:58	22.5	65.4	03/30/2024	06:25:58	22.0	69.0
03/27/2024	14:35:58	22.8	65.0	03/28/2024	06:35:58	21.8	66.6	03/28/2024	22:35:58	22.1	65.9	03/29/2024	14:35:58	22.5	65.4	03/30/2024	06:35:58	22.0	69.1
03/27/2024	14:45:58	22.8	64.8	03/28/2024	06:45:58	21.7	67.1	03/28/2024	22:45:58	22.1	65.9	03/29/2024	14:45:58	22.5	65.4	03/30/2024	06:45:58	22.0	69.1
03/27/2024	14:55:58	22.8	64.8	03/28/2024	06:55:58	22.0	74.9	03/28/2024	22:55:58	22.1	65.9	03/29/2024	14:55:58	22.5	65.3	03/30/2024	06:55:58	22.0	69.1
03/27/2024	15:05:58	22.7	64.7	03/28/2024	07:05:58	22.0	73.2	03/28/2024	23:05:58	22.0	65.9	03/29/2024	15:05:58	22.5	65.3	03/30/2024	07:05:58	22.0	69.1
03/27/2024	15:15:58	22.7	64.8	03/28/2024	07:15:58	21.9	71.7	03/28/2024	23:15:58	22.0	65.9	03/29/2024	15:15:58	22.5	65.3	03/30/2024	07:15:58	22.0	69.1
03/27/2024	15:25:58	22.7	64.9	03/28/2024	07:25:58	21.9	71.0	03/28/2024	23:25:58	22.0	65.8	03/29/2024	15:25:58	22.5	65.2	03/30/2024	07:25:58	22.0	69.1
03/27/2024	15:35:58	22.7	65.1	03/28/2024	07:35:58	21.9	71.2	03/28/2024	23:35:58	22.0	65.8	03/29/2024	15:35:58	22.4	65.2	03/30/2024	07:35:58	22.0	69.1
03/27/2024	15:45:58	22.7	65.1	03/28/2024	07:45:58	21.8	70.7	03/28/2024	23:45:58	22.0	65.8	03/29/2024	15:45:58	22.4	65.1	03/30/2024	07:45:58	22.0	69.5
03/27/2024	15:55:58	22.6	64.9	03/28/2024	07:55:58	21.9	70.9	03/28/2024	00:05:58	22.0	65.9	03/29/2024	16:05:58	22.4	64.9	03/30/2024	08:05:58	22.1	69.7
03/27/2024	16:05:58	22.6	64.9	03/28/2024	08:05:58	21.9	70.8	03/29/2024	00:15:58	22.0	65.8	03/29/2024	16:15:58	22.4	64.8	03/30/2024	08:15:58	22.1	69.6
03/27/2024	16:15:58	22.6	65.1	03/28/2024	08:15:58	21.9	70.8	03/29/2024	00:25:58	21.9	65.9	03/29/2024	16:25:58	22.4	64.8	03/30/2024	08:25:58	22.2	69.3
03/27/2024	16:25:58	22.7	65.1	03/28/2024	08:25:58	21.9	70.8	03/29/2024	00:35:58	21.9	65.9	03/29/2024	16:35:58	22.3	64.8	03/30/2024	08:35:58	22.2	69.2
03/27/2024	16:35:58	22.6	65.2	03/28/2024	08:35:58	22.0	70.8	03/29/2024	00:45:58	21.9	65.9	03/29/2024	16:45:58	22.3	64.9	03/30/2024	08:45:58	22.2	69.3
03/27/2024	16:45:58	22.6	65.2	03/28/2024	08:45:58	22.1	71.4	03/29/2024	00:55:58	21.9	65.9	03/29/2024	16:55:58	22.3	64.9	03/30/2024	08:55:58	22.5	69.0
03/27/2024	16:55:58	22.7	65.2	03/28/2024	08:55:58	22.2	70.8	03/29/2024	01:05:58	21.9	65.9	03/29/2024	17:05:58	22.3	64.8	03/30/2024	09:05:58	22.6	69.0
03/27/2024	17:05:58	22.7	65.2	03/28/2024	09:05:58	22.4	69.8	03/29/2024	01:15:58	21.8	65.9	03/29/2024	17:15:58	22.3	64.8	03/30/2024	09:15:58	22.7	67.4
03/27/2024	17:15:58	22.6	65.2	03/28/2024	09:15:58	22.4	69.7	03/29/2024	01:25:58	21.8	65.9	03/29/2024	17:25:58	22.3	64.5	03/30/2024	09:25:58	22.9	67.1
03/27/2024	17:25:58	22.6	65.2	03/28/2024	09:25:58	22.4	69.7	03/29/2024	01:35:58	21.8	65.9	03/29/2024	17:35:58	22.3	64.6	03/30/2024	09:35:58	23.0	66.7
03/27/2024	17:35:58	22.6																	



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
03/30/2024	17:05:58	24.4	61.8	03/31/2024	09:05:58	22.8	66.5	04/01/2024	01:05:58	22.5	68.3	04/01/2024	17:05:58	21.7	63.8	04/02/2024	09:05:58	20.7	66.2
03/30/2024	17:15:58	24.3	63.3	03/31/2024	09:15:58	22.8	66.4	04/01/2024	01:15:58	22.4	68.1	04/01/2024	17:15:58	21.8	65.6	04/02/2024	09:15:58	20.7	66.4
03/30/2024	17:25:58	24.3	64.0	03/31/2024	09:25:58	22.7	66.4	04/01/2024	01:25:58	22.4	68.5	04/01/2024	17:25:58	21.8	66.2	04/02/2024	09:25:58	20.7	66.2
03/30/2024	17:35:58	24.3	64.5	03/31/2024	09:35:58	22.8	66.3	04/01/2024	01:35:58	22.4	68.2	04/01/2024	17:35:58	21.9	67.5	04/02/2024	09:35:58	20.7	66.8
03/30/2024	17:45:58	24.3	64.9	03/31/2024	09:45:58	22.8	66.1	04/01/2024	01:45:58	22.4	68.0	04/01/2024	17:45:58	22.0	67.7	04/02/2024	09:45:58	20.7	67.9
03/30/2024	17:55:58	24.3	65.2	03/31/2024	09:55:58	22.8	66.1	04/01/2024	01:55:58	22.3	67.8	04/01/2024	17:55:58	22.1	67.8	04/02/2024	09:55:58	20.6	69.1
03/30/2024	18:05:58	24.3	65.4	03/31/2024	10:05:58	22.8	65.9	04/01/2024	02:05:58	22.3	67.6	04/01/2024	18:05:58	22.1	67.2	04/02/2024	10:05:58	20.6	69.9
03/30/2024	18:15:58	24.3	65.5	03/31/2024	10:15:58	22.8	65.9	04/01/2024	02:15:58	22.3	67.3	04/01/2024	18:15:58	22.1	66.6	04/02/2024	10:15:58	20.6	70.2
03/30/2024	18:25:58	24.3	65.5	03/31/2024	10:25:58	22.9	66.0	04/01/2024	02:25:58	22.2	67.1	04/01/2024	18:25:58	22.0	66.3	04/02/2024	10:25:58	20.8	70.2
03/30/2024	18:35:58	24.3	65.3	03/31/2024	10:35:58	22.9	66.1	04/01/2024	02:35:58	22.2	67.0	04/01/2024	18:35:58	22.0	66.2	04/02/2024	10:35:58	21.0	69.2
03/30/2024	18:45:58	24.3	65.3	03/31/2024	10:45:58	22.9	66.1	04/01/2024	02:45:58	22.2	66.8	04/01/2024	18:45:58	21.9	66.1	04/02/2024	10:45:58	21.0	68.7
03/30/2024	18:55:58	24.3	65.3	03/31/2024	10:55:58	22.9	66.3	04/01/2024	02:55:58	22.1	66.7	04/01/2024	18:55:58	21.9	65.9	04/02/2024	10:55:58	21.0	68.1
03/30/2024	19:05:58	24.3	65.4	03/31/2024	11:05:58	22.9	66.5	04/01/2024	03:05:58	22.1	66.7	04/01/2024	19:05:58	21.8	65.8	04/02/2024	11:05:58	21.0	68.1
03/30/2024	19:15:58	24.3	65.5	03/31/2024	11:15:58	22.9	66.4	04/01/2024	03:15:58	22.0	66.4	04/01/2024	19:15:58	21.8	65.9	04/02/2024	11:15:58	21.0	67.8
03/30/2024	19:25:58	24.4	65.6	03/31/2024	11:25:58	22.9	66.5	04/01/2024	03:25:58	22.0	66.2	04/01/2024	19:25:58	21.8	66.0	04/02/2024	11:25:58	21.0	67.5
03/30/2024	19:35:58	24.4	65.6	03/31/2024	11:35:58	22.9	66.7	04/01/2024	03:35:58	22.0	66.1	04/01/2024	19:35:58	21.8	65.9	04/02/2024	11:35:58	21.0	66.9
03/30/2024	19:45:58	24.4	65.8	03/31/2024	11:45:58	22.9	67.2	04/01/2024	03:45:58	21.9	66.0	04/01/2024	19:45:58	21.8	66.2	04/02/2024	11:45:58	21.1	66.8
03/30/2024	19:55:58	24.4	65.9	03/31/2024	11:55:58	22.9	67.1	04/01/2024	03:55:58	21.9	65.9	04/01/2024	19:55:58	21.9	71.8	04/02/2024	11:55:58	21.1	66.7
03/30/2024	20:05:58	24.4	71.2	03/31/2024	12:05:58	22.9	67.0	04/01/2024	04:05:58	21.9	65.8	04/01/2024	20:05:58	21.9	71.8	04/02/2024	12:05:58	21.1	65.9
03/30/2024	20:15:58	24.4	66.2	03/31/2024	12:15:58	22.9	67.1	04/01/2024	04:15:58	21.9	65.7	04/01/2024	20:15:58	21.9	71.1	04/02/2024	12:15:58	21.1	65.7
03/30/2024	20:25:58	24.4	71.4	03/31/2024	12:25:58	22.9	66.9	04/01/2024	04:25:58	21.8	65.8	04/01/2024	20:25:58	21.9	69.9	04/02/2024	12:25:58	21.1	65.3
03/30/2024	20:35:58	24.4	71.2	03/31/2024	12:35:58	22.8	67.0	04/01/2024	04:35:58	21.8	65.8	04/01/2024	20:35:58	21.8	69.5	04/02/2024	12:35:58	21.2	65.6
03/30/2024	20:45:58	24.3	71.1	03/31/2024	12:45:58	22.9	67.7	04/01/2024	04:45:58	21.8	65.8	04/01/2024	20:45:58	21.8	68.8	04/02/2024	12:45:58	21.2	65.1
03/30/2024	20:55:58	24.3	70.8	03/31/2024	12:55:58	22.9	67.7	04/01/2024	04:55:58	21.8	65.7	04/01/2024	20:55:58	21.8	68.4	04/02/2024	12:55:58	21.2	65.1
03/30/2024	21:05:58	24.3	70.5	03/31/2024	13:05:58	22.9	67.4	04/01/2024	05:05:58	21.7	65.8	04/01/2024	21:05:58	21.7	68.2	04/02/2024	13:05:58	21.2	64.6
03/30/2024	21:15:58	24.3	70.1	03/31/2024	13:15:58	22.8	67.1	04/01/2024	05:15:58	21.7	65.8	04/01/2024	21:15:58	21.7	68.4	04/02/2024	13:15:58	21.2	64.3
03/30/2024	21:25:58	24.3	69.8	03/31/2024	13:25:58	22.8	67.1	04/01/2024	05:25:58	21.7	65.7	04/01/2024	21:25:58	21.7	68.3	04/02/2024	13:25:58	21.2	64.1
03/30/2024	21:35:58	24.3	69.5	03/31/2024	13:35:58	22.8	67.3	04/01/2024	05:35:58	21.7	65.8	04/01/2024	21:35:58	21.7	67.9	04/02/2024	13:35:58	21.2	63.4
03/30/2024	21:45:58	24.2	68.9	03/31/2024	13:45:58	22.7	67.1	04/01/2024	05:45:58	21.6	65.8	04/01/2024	21:45:58	21.7	67.8	04/02/2024	13:45:58	21.2	63.2
03/30/2024	21:55:58	24.2	68.4	03/31/2024	13:55:58	22.7	66.7	04/01/2024	05:55:58	21.6	65.9	04/01/2024	21:55:58	21.7	67.7	04/02/2024	13:55:58	21.2	63.1
03/30/2024	22:05:58	24.2	68.1	03/31/2024	14:05:58	22.7	66.4	04/01/2024	06:05:58	21.6	65.8	04/01/2024	22:05:58	21.6	67.7	04/02/2024	14:05:58	21.2	63.0
03/30/2024	22:15:58	24.2	67.8	03/31/2024	14:15:58	22.7	66.2	04/01/2024	06:15:58	21.6	66.0	04/01/2024	22:15:58	21.6	67.8	04/02/2024	14:15:58	21.2	62.8
03/30/2024	22:25:58	24.2	67.7	03/31/2024	14:25:58	22.6	66.4	04/01/2024	06:25:58	21.6	66.1	04/01/2024	22:25:58	21.6	67.8	04/02/2024	14:25:58	21.2	62.8
03/30/2024	22:35:58	24.2	67.4	03/31/2024	14:35:58	22.6	66.5	04/01/2024	06:35:58	21.6	66.2	04/01/2024	22:35:58	21.6	67.7	04/02/2024	14:35:58	21.2	62.8
03/30/2024	22:45:58	24.2	67.3	03/31/2024	14:45:58	22.6	66.7	04/01/2024	06:45:58	21.6	66.2	04/01/2024	22:45:58	21.6	67.7	04/02/2024	14:45:58	21.3	63.2
03/30/2024	22:55:58	24.2	67.2	03/31/2024	14:55:58	22.6	66.3	04/01/2024	06:55:58	21.5	66.2	04/01/2024	22:55:58	21.6	67.8	04/02/2024	14:55:58	21.3	63.5
03/30/2024	23:05:58	24.1	67.1	03/31/2024	15:05:58	22.5	66.4	04/01/2024	07:05:58	21.5	66.2	04/01/2024	23:05:58	21.6	67.7	04/02/2024	15:05:58	21.3	63.7
03/30/2024	23:15:58	24.1	66.9	03/31/2024	15:15:58	22.5	66.5	04/01/2024	07:15:58	21.6	66.5	04/01/2024	23:15:58	21.6	67.8	04/02/2024	15:15:58	21.3	63.7
03/30/2024	23:25:58	24.1	66.8	03/31/2024	15:25:58	22.5	66.6	04/01/2024	07:25:58	21.6	66.5	04/01/2024	23:25:58	21.5	67.9	04/02/2024	15:25:58	21.3	63.9
03/30/2024	23:35:58	24.1	66.7	03/31/2024	15:35:58	22.6	67.2	04/01/2024	07:35:58	21.6	66.8	04/01/2024	23:35:58	21.5	68.0	04/02/2024	15:35:58	21.3	64.1
03/30/2024	23:45:58	24.1	66.4	03/31/2024	15:45:58	22.7	67.3	04/01/2024	07:45:58	21.7	67.2	04/01/2024	23:45:58	21.5	68.1	04/02/2024	15:45:58	21.3	64.3
03/30/2024	23:55:58	24.1	66.0	03/31/2024	16:05:58	22.7	67.0	04/01/2024	07:55:58	21.6	67.1	04/01/2024	23:55:58	21.5	68.1	04/02/2024	16:05:58	21.3	64.7
03/31/2024	00:05:58	24.1	66.0	03/31/2024	16:15:58	22.9	67.0	04/01/2024	08:05:58	21.9	67.1	04/02/2024	00:05:58	21.5	68.1	04/02/2024	16:15:58	21.3	64.7
03/31/2024	00:15:58	24.1	66.0	03/31/2024	16:25:58	22.9	66.8	04/01/2024	08:15:58	21.9	67.0	04/02/2024	00:15:58	21.5	68.2	04/02/2024	16:25:58	21.3	65.0
03/31/2024	00:25:58	24.1	66.0	03/31/2024	16:35:58	22.9	66.8	04/01/2024	08:25:58	22.0	66.4	04/02/2024	00:25:58	21.4	68.1	04/02/2024	16:35:58	21.3	65.4
03/31/2024	00:35:58	24.0	65.6	03/31/2024	16:45:58	22.9	66.8	04/01/2024	08:35:58	22.0	66.1	04/02/2024	00:35:58	21.4	68.2	04/02/2024	16:45:58	21.3	65.7
03/31/2024	00:45:58	24.0	65.7	03/31/2024	16:55:58	22.9	66.8	04/01/2024	08:45:58	22.0	65.8	04/02/2024	00:45:58	21.5	68.1	04/02/2024	16:55:58	21.3	67.2
03/31/2024	00:55:58	24.0	65.5	03/31/2024	17:05:58	22.9	66.8	04/01/2024	08:55:58	22.0	65.8	04/02/2024	00:55:58	21.4	68.3	04/02/2024	17:05:58	21.3	68.7
03/31/2024	01:05:58	23.9	65.8	03/31/2024	17:15:58	23.0	67.1	04/01/2024	09:05:58	22.1	65.5	04/02/2024	01:05:58	21.4	68.3	04/02/2024	17:15:58	21.3	68.3
03/31/2024	01:15:58	23.9	65.3	03/31/2024	17:25:58	23.0	67.1	04/01/2024	09:15:58	22.1	65.5	04/02/2024	01:15:58	21.5	68.5	04/02/2024	17:25:58	21.3	68.5
03/31/2024	01:25:58	23.9	65.1	03/31/2024	17:35:58	23.0	67.5	04/01/2024	09:25:58	22.1	65.2	04/02/2024	01:25:58	21.4	68.6	04/02/2024	17:35:58	21.5	69.3
03/31/2024</																			



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
04/03/2024	01:05:58	21.1	68.8	04/03/2024	17:05:58	22.2	68.0	04/04/2024	09:05:58	21.2	68.9	04/05/2024	01:05:58	21.5	66.7	04/06/2024	17:05:58	21.3	56.1
04/03/2024	01:15:58	21.1	68.6	04/03/2024	17:15:58	22.1	67.9	04/04/2024	09:15:58	21.3	69.0	04/05/2024	01:15:58	21.5	66.5	04/06/2024	17:15:58	21.3	56.2
04/03/2024	01:25:58	21.1	68.6	04/03/2024	17:25:58	22.1	68.1	04/04/2024	09:25:58	21.5	69.1	04/05/2024	01:25:58	21.4	66.5	04/06/2024	17:25:58	21.2	56.4
04/03/2024	01:35:58	21.0	68.4	04/03/2024	17:35:58	22.1	68.7	04/04/2024	09:35:58	21.6	68.7	04/05/2024	01:35:58	21.4	66.3	04/06/2024	17:35:58	21.2	56.4
04/03/2024	01:45:58	21.1	68.3	04/03/2024	17:45:58	22.2	69.0	04/04/2024	09:45:58	21.7	68.7	04/05/2024	01:45:58	21.4	66.1	04/06/2024	17:45:58	21.2	56.5
04/03/2024	01:55:58	21.0	68.3	04/03/2024	17:55:58	22.3	69.0	04/04/2024	09:55:58	21.9	68.4	04/05/2024	01:55:58	21.4	65.8	04/06/2024	17:55:58	21.2	57.0
04/03/2024	02:05:58	21.0	68.2	04/03/2024	18:05:58	22.2	69.2	04/04/2024	10:05:58	22.0	67.7	04/05/2024	02:05:58	21.3	65.6	04/06/2024	18:05:58	21.3	57.2
04/03/2024	02:15:58	21.0	68.1	04/03/2024	18:15:58	22.3	69.4	04/04/2024	10:15:58	22.1	67.6	04/05/2024	02:15:58	21.3	65.5	04/06/2024	18:15:58	21.3	57.3
04/03/2024	02:25:58	21.0	68.1	04/03/2024	18:25:58	22.3	69.5	04/04/2024	10:25:58	22.0	67.5	04/05/2024	02:25:58	21.3	65.3	04/06/2024	18:25:58	21.3	57.2
04/03/2024	02:35:58	21.0	68.0	04/03/2024	18:35:58	22.3	69.5	04/04/2024	10:35:58	22.1	67.4	04/05/2024	02:35:58	21.3	65.2	04/06/2024	18:35:58	21.3	57.1
04/03/2024	02:45:58	21.0	67.9	04/03/2024	18:45:58	22.3	69.5	04/04/2024	10:45:58	22.1	67.6	04/05/2024	02:45:58	21.3	65.0	04/06/2024	18:45:58	21.3	57.2
04/03/2024	02:55:58	20.9	67.8	04/03/2024	18:55:58	22.3	69.6	04/04/2024	10:55:58	22.1	68.3	04/05/2024	02:55:58	21.3	65.3	04/06/2024	18:55:58	21.2	57.2
04/03/2024	03:05:58	20.9	67.6	04/03/2024	19:05:58	22.3	69.6	04/04/2024	11:05:58	22.1	68.3	04/05/2024	03:05:58	21.2	64.8	04/06/2024	19:05:58	21.2	57.0
04/03/2024	03:15:58	20.9	67.6	04/03/2024	19:15:58	22.3	69.5	04/04/2024	11:15:58	22.1	68.1	04/05/2024	03:15:58	21.2	64.9	04/06/2024	19:15:58	21.2	57.1
04/03/2024	03:25:58	20.9	67.5	04/03/2024	19:25:58	22.3	69.4	04/04/2024	11:25:58	22.1	67.9	04/05/2024	03:25:58	21.2	64.7	04/06/2024	19:25:58	21.2	57.0
04/03/2024	03:35:58	20.9	67.4	04/03/2024	19:35:58	22.3	69.6	04/04/2024	11:35:58	22.1	68.0	04/05/2024	03:35:58	21.2	64.6	04/06/2024	19:35:58	21.2	56.9
04/03/2024	03:45:58	20.9	67.4	04/03/2024	19:45:58	22.3	71.7	04/04/2024	11:45:58	22.1	68.0	04/05/2024	03:45:58	21.2	64.6	04/06/2024	19:45:58	21.2	56.9
04/03/2024	03:55:58	20.9	67.3	04/03/2024	19:55:58	22.3	70.9	04/04/2024	11:55:58	22.1	68.0	04/05/2024	03:55:58	21.2	64.5	04/06/2024	19:55:58	21.1	57.1
04/03/2024	04:05:58	20.9	67.2	04/03/2024	20:05:58	22.3	74.0	04/04/2024	12:05:58	22.1	68.2	04/05/2024	04:05:58	21.2	64.5	04/06/2024	20:05:58	21.1	60.2
04/03/2024	04:15:58	20.8	67.1	04/03/2024	20:15:58	22.3	74.7	04/04/2024	12:15:58	22.1	68.3	04/05/2024	04:15:58	21.1	64.5	04/06/2024	20:15:58	21.2	63.1
04/03/2024	04:25:58	20.8	67.0	04/03/2024	20:25:58	22.3	74.7	04/04/2024	12:25:58	22.1	69.0	04/05/2024	04:25:58	21.1	64.6	04/06/2024	20:25:58	21.2	62.9
04/03/2024	04:35:58	20.8	66.9	04/03/2024	20:35:58	22.3	73.3	04/04/2024	12:35:58	22.1	69.5	04/05/2024	04:35:58	21.1	64.7	04/06/2024	20:35:58	21.3	62.5
04/03/2024	04:45:58	20.8	66.8	04/03/2024	20:45:58	22.3	72.6	04/04/2024	12:45:58	22.1	70.3	04/05/2024	04:45:58	21.1	64.8	04/06/2024	20:45:58	21.2	62.1
04/03/2024	04:55:58	20.8	66.8	04/03/2024	20:55:58	22.3	71.7	04/04/2024	12:55:58	22.1	70.8	04/05/2024	04:55:58	21.0	65.0	04/06/2024	20:55:58	21.3	61.8
04/03/2024	05:05:58	20.8	66.6	04/03/2024	21:05:58	22.2	71.3	04/04/2024	13:05:58	22.2	71.1	04/05/2024	05:05:58	21.1	65.2	04/06/2024	21:05:58	21.1	65.2
04/03/2024	05:15:58	20.8	66.6	04/03/2024	21:15:58	22.3	71.0	04/04/2024	13:15:58	22.2	71.0	04/05/2024	05:15:58	21.0	65.1	04/06/2024	21:15:58	21.2	61.4
04/03/2024	05:25:58	20.7	66.8	04/03/2024	21:25:58	22.3	70.3	04/04/2024	13:25:58	22.2	69.3	04/05/2024	05:25:58	21.0	65.3	04/06/2024	21:25:58	21.2	61.4
04/03/2024	05:35:58	20.7	66.4	04/03/2024	21:35:58	22.1	70.7	04/04/2024	13:35:58	22.2	70.0	04/05/2024	05:35:58	21.0	65.5	04/06/2024	21:35:58	21.2	60.6
04/03/2024	05:45:58	20.7	66.2	04/03/2024	21:45:58	22.2	70.7	04/04/2024	13:45:58	22.3	69.8	04/05/2024	05:45:58	21.0	65.8	04/06/2024	21:45:58	21.2	60.2
04/03/2024	05:55:58	20.7	66.1	04/03/2024	21:55:58	22.2	70.6	04/04/2024	13:55:58	22.2	69.6	04/05/2024	05:55:58	21.0	65.7	04/06/2024	21:55:58	21.2	59.8
04/03/2024	06:05:58	20.7	66.0	04/03/2024	22:05:58	22.1	70.6	04/04/2024	14:05:58	22.2	69.3	04/05/2024	06:05:58	21.0	65.8	04/06/2024	22:05:58	21.1	59.6
04/03/2024	06:15:58	20.7	66.0	04/03/2024	22:15:58	22.1	70.6	04/04/2024	14:15:58	22.2	69.2	04/05/2024	06:15:58	21.0	65.9	04/06/2024	22:15:58	21.1	59.6
04/03/2024	06:25:58	20.7	66.0	04/03/2024	22:25:58	22.1	70.6	04/04/2024	14:25:58	22.2	68.7	04/05/2024	06:25:58	21.0	66.0	04/06/2024	22:25:58	21.0	59.5
04/03/2024	06:35:58	20.7	65.9	04/03/2024	22:35:58	22.1	70.5	04/04/2024	14:35:58	22.2	68.6	04/05/2024	06:35:58	21.0	65.9	04/06/2024	22:35:58	21.0	59.5
04/03/2024	06:45:58	20.7	65.9	04/03/2024	22:45:58	22.1	70.5	04/04/2024	14:45:58	22.2	68.7	04/05/2024	06:45:58	21.0	65.9	04/06/2024	22:45:58	21.0	59.5
04/03/2024	06:55:58	20.7	65.5	04/03/2024	22:55:58	22.1	70.3	04/04/2024	14:55:58	22.2	68.6	04/05/2024	06:55:58	20.9	65.8	04/06/2024	22:55:58	21.0	59.6
04/03/2024	07:05:58	20.7	64.9	04/03/2024	23:05:58	22.0	70.3	04/04/2024	15:05:58	22.1	68.9	04/05/2024	07:05:58	20.9	65.1	04/06/2024	23:05:58	21.0	59.6
04/03/2024	07:15:58	20.7	64.5	04/03/2024	23:15:58	22.0	70.3	04/04/2024	15:15:58	22.2	68.5	04/05/2024	07:15:58	20.9	64.7	04/06/2024	23:15:58	20.9	59.7
04/03/2024	07:25:58	20.7	64.5	04/03/2024	23:25:58	22.0	70.2	04/04/2024	15:25:58	22.1	67.7	04/05/2024	07:25:58	20.8	63.3	04/06/2024	23:25:58	20.9	59.7
04/03/2024	07:35:58	20.7	64.5	04/03/2024	23:35:58	22.0	70.1	04/04/2024	15:35:58	22.1	67.1	04/05/2024	07:35:58	20.8	62.8	04/06/2024	23:35:58	20.9	59.8
04/03/2024	07:45:58	20.7	64.5	04/03/2024	23:45:58	22.0	69.9	04/04/2024	15:45:58	22.1	66.4	04/05/2024	07:45:58	20.7	63.0	04/06/2024	23:45:58	20.9	59.8
04/03/2024	07:55:58	20.7	64.5	04/03/2024	23:55:58	21.9	69.3	04/04/2024	15:55:58	22.1	66.4	04/05/2024	07:55:58	20.7	63.0	04/06/2024	23:55:58	20.9	59.8
04/03/2024	08:05:58	20.7	64.4	04/03/2024	00:05:58	21.9	69.7	04/04/2024	16:05:58	22.1	65.4	04/05/2024	08:05:58	20.7	64.1	04/06/2024	00:05:58	20.8	60.1
04/03/2024	08:15:58	20.7	64.2	04/04/2024	00:15:58	21.9	69.6	04/04/2024	16:15:58	22.1	64.1	04/05/2024	08:15:58	20.8	63.8	04/06/2024	00:15:58	20.8	60.1
04/03/2024	08:25:58	20.8	64.2	04/04/2024	00:25:58	21.9	69.5	04/04/2024	16:25:58	22.0	63.3	04/05/2024	08:25:58	20.8	62.8	04/06/2024	00:25:58	20.8	60.3
04/03/2024	08:35:58	20.9	64.5	04/04/2024	00:35:58	21.9	69.3	04/04/2024	16:35:58	22.0	63.6	04/05/2024	08:35:58	20.8	62.3	04/06/2024	00:35:58	20.8	60.3
04/03/2024	08:45:58	21.0	63.2	04/04/2024	00:45:58	21.8	69.3	04/04/2024	16:45:58	22.0	64.1	04/05/2024	08:45:58	20.9	61.5	04/06/2024	00:45:58	20.8	60.4
04/03/2024	08:55:58	21.1	62.4	04/04/2024	00:55:58	21.8	69.3	04/04/2024	16:55:58	22.0	63.9	04/05/2024	08:55:58	21.0	61.1	04/06/2024	00:55:58	20.7	60.5
04/03/2024	09:05:58	21.2	62.4	04/04/2024	01:05:58	21.7	69.3	04/04/2024	17:05:58	22.0	63.6	04/05/2024	09:05:58	21.0	60.2	04/06/2024	01:05:58	20.7	60.5
04/03/2024	09:15:58	21.4	62.5	04/04/2024	01:15:58	21.8	69.3	04/04/2024	17:15:58	22.0	64.5	04/05/2024	09:15:58	21.0	59.6	04/06/2024	01:15:58	20.7	60.6
04/03/2024	09:25:58	21.5	62.7	04/04/2024	01:25:58	21.8	69.3	04/04/2024	17:25:58	22.0	64.9	04/05/2024	09:25:58	21.2	58.9	04/06/2024	01:25:58	20.7	60.7
04/03/2024	09:35:58	21.6	62.7	0															



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
04/06/2024	09:05:58	20.4	62.2	04/07/2024	01:05:58	21.0	61.4	04/07/2024	17:05:58	20.9	70.6	04/08/2024	09:05:58	19.8	74.6	04/09/2024	01:05:58	19.3	77.3
04/06/2024	09:15:58	20.4	61.9	04/07/2024	01:15:58	21.0	61.4	04/07/2024	17:15:58	20.9	70.1	04/08/2024	09:15:58	19.8	74.8	04/09/2024	01:15:58	19.2	77.0
04/06/2024	09:25:58	20.6	61.4	04/07/2024	01:25:58	20.9	61.5	04/07/2024	17:25:58	20.9	69.8	04/08/2024	09:25:58	19.8	74.8	04/09/2024	01:25:58	19.2	77.0
04/06/2024	09:35:58	20.7	60.8	04/07/2024	01:35:58	20.9	61.6	04/07/2024	17:35:58	20.9	69.4	04/08/2024	09:35:58	19.8	74.8	04/09/2024	01:35:58	19.2	76.9
04/06/2024	09:45:58	20.8	60.3	04/07/2024	01:45:58	20.9	61.6	04/07/2024	17:45:58	20.9	69.1	04/08/2024	09:45:58	19.8	74.8	04/09/2024	01:45:58	19.2	76.7
04/06/2024	09:55:58	20.8	59.7	04/07/2024	01:55:58	20.9	61.5	04/07/2024	17:55:58	20.8	68.9	04/08/2024	09:55:58	19.8	74.8	04/09/2024	01:55:58	19.2	76.5
04/06/2024	10:05:58	20.8	59.0	04/07/2024	02:05:58	20.9	61.4	04/07/2024	18:05:58	20.8	68.7	04/08/2024	10:05:58	19.8	74.8	04/09/2024	02:05:58	19.2	76.5
04/06/2024	10:15:58	20.8	58.6	04/07/2024	02:15:58	20.9	61.3	04/07/2024	18:15:58	20.7	68.8	04/08/2024	10:15:58	19.9	74.9	04/09/2024	02:15:58	19.2	76.5
04/06/2024	10:25:58	20.9	58.2	04/07/2024	02:25:58	20.9	61.3	04/07/2024	18:25:58	20.7	68.9	04/08/2024	10:25:58	19.8	75.3	04/09/2024	02:25:58	19.2	76.4
04/06/2024	10:35:58	20.9	57.7	04/07/2024	02:35:58	20.8	61.1	04/07/2024	18:35:58	20.7	68.9	04/08/2024	10:35:58	19.9	75.7	04/09/2024	02:35:58	19.1	76.2
04/06/2024	10:45:58	20.9	57.5	04/07/2024	02:45:58	20.8	61.1	04/07/2024	18:45:58	20.7	69.2	04/08/2024	10:45:58	19.8	75.6	04/09/2024	02:45:58	19.2	76.2
04/06/2024	10:55:58	21.0	57.2	04/07/2024	02:55:58	20.8	61.0	04/07/2024	18:55:58	20.7	69.2	04/08/2024	10:55:58	19.8	75.6	04/09/2024	02:55:58	19.1	76.1
04/06/2024	11:05:58	21.0	57.0	04/07/2024	03:05:58	20.8	61.1	04/07/2024	19:05:58	20.3	71.3	04/08/2024	11:05:58	19.8	75.5	04/09/2024	03:05:58	19.1	76.1
04/06/2024	11:15:58	21.1	57.6	04/07/2024	03:15:58	20.8	61.1	04/07/2024	19:15:58	20.7	73.7	04/08/2024	11:15:58	19.8	75.5	04/09/2024	03:15:58	19.1	76.0
04/06/2024	11:25:58	21.2	58.8	04/07/2024	03:25:58	20.8	61.1	04/07/2024	19:25:58	20.7	74.0	04/08/2024	11:25:58	19.8	75.5	04/09/2024	03:25:58	19.1	75.9
04/06/2024	11:35:58	21.3	59.4	04/07/2024	03:35:58	20.8	61.1	04/07/2024	19:35:58	20.7	73.9	04/08/2024	11:35:58	19.8	75.5	04/09/2024	03:35:58	19.1	75.9
04/06/2024	11:45:58	21.3	62.6	04/07/2024	03:45:58	20.8	61.1	04/07/2024	19:45:58	20.8	73.5	04/08/2024	11:45:58	19.8	75.3	04/09/2024	03:45:58	19.1	75.9
04/06/2024	11:55:58	21.3	63.7	04/07/2024	03:55:58	20.8	61.1	04/07/2024	19:55:58	20.8	72.8	04/08/2024	11:55:58	19.8	75.4	04/09/2024	03:55:58	19.1	75.8
04/06/2024	12:05:58	21.3	62.4	04/07/2024	04:05:58	20.7	61.1	04/07/2024	20:05:58	20.9	74.0	04/08/2024	12:05:58	19.7	75.4	04/09/2024	04:05:58	19.1	75.9
04/06/2024	12:15:58	21.3	61.0	04/07/2024	04:15:58	20.6	61.4	04/07/2024	20:15:58	20.9	71.3	04/08/2024	12:15:58	19.7	75.3	04/09/2024	04:15:58	19.2	75.8
04/06/2024	12:25:58	21.3	60.3	04/07/2024	04:25:58	20.7	61.1	04/07/2024	20:25:58	21.0	73.7	04/08/2024	12:25:58	19.7	75.3	04/09/2024	04:25:58	19.0	75.8
04/06/2024	12:35:58	21.3	59.2	04/07/2024	04:35:58	20.7	61.1	04/07/2024	20:35:58	21.0	72.8	04/08/2024	12:35:58	19.7	75.4	04/09/2024	04:35:58	19.0	75.8
04/06/2024	12:45:58	21.3	57.9	04/07/2024	04:45:58	20.7	61.2	04/07/2024	20:45:58	21.0	72.3	04/08/2024	12:45:58	19.7	75.7	04/09/2024	04:45:58	19.0	75.7
04/06/2024	12:55:58	21.2	57.0	04/07/2024	04:55:58	20.7	61.3	04/07/2024	20:55:58	21.0	71.9	04/08/2024	12:55:58	19.7	75.7	04/09/2024	04:55:58	19.0	75.7
04/06/2024	13:05:58	21.2	56.2	04/07/2024	05:05:58	20.6	61.3	04/07/2024	21:05:58	21.0	71.6	04/08/2024	13:05:58	19.7	76.6	04/09/2024	05:05:58	19.0	75.8
04/06/2024	13:15:58	21.2	55.5	04/07/2024	05:15:58	20.6	61.3	04/07/2024	21:15:58	20.9	71.4	04/08/2024	13:15:58	19.7	76.7	04/09/2024	05:15:58	19.0	75.8
04/06/2024	13:25:58	21.1	52.6	04/07/2024	05:25:58	20.6	61.4	04/07/2024	21:25:58	20.9	71.8	04/08/2024	13:25:58	19.7	76.3	04/09/2024	05:25:58	19.0	75.7
04/06/2024	13:35:58	21.2	54.4	04/07/2024	05:35:58	20.7	61.5	04/07/2024	21:35:58	20.9	71.2	04/08/2024	13:35:58	19.7	76.6	04/09/2024	05:35:58	19.0	75.7
04/06/2024	13:45:58	21.1	54.1	04/07/2024	05:45:58	20.6	61.6	04/07/2024	21:45:58	20.8	71.0	04/08/2024	13:45:58	19.7	76.5	04/09/2024	05:45:58	19.0	75.6
04/06/2024	13:55:58	21.2	53.9	04/07/2024	05:55:58	20.6	61.7	04/07/2024	21:55:58	20.8	71.1	04/08/2024	13:55:58	19.7	76.7	04/09/2024	05:55:58	19.0	75.7
04/06/2024	14:05:58	21.2	53.8	04/07/2024	06:05:58	20.6	61.8	04/07/2024	22:05:58	20.7	71.1	04/08/2024	14:05:58	19.7	76.7	04/09/2024	06:05:58	19.0	75.7
04/06/2024	14:15:58	21.2	53.9	04/07/2024	06:15:58	20.6	61.9	04/07/2024	22:15:58	20.7	71.1	04/08/2024	14:15:58	19.7	77.0	04/09/2024	06:15:58	19.0	75.8
04/06/2024	14:25:58	21.2	52.8	04/07/2024	06:25:58	20.6	61.9	04/07/2024	22:25:58	20.6	71.2	04/08/2024	14:25:58	19.7	77.1	04/09/2024	06:25:58	19.0	75.9
04/06/2024	14:35:58	21.2	52.3	04/07/2024	06:35:58	20.6	62.0	04/07/2024	22:35:58	20.6	71.2	04/08/2024	14:35:58	19.7	77.2	04/09/2024	06:35:58	19.0	75.9
04/06/2024	14:45:58	21.1	52.6	04/07/2024	06:45:58	20.6	62.1	04/07/2024	22:45:58	20.6	71.2	04/08/2024	14:45:58	19.7	77.2	04/09/2024	06:45:58	19.0	75.9
04/06/2024	14:55:58	21.1	52.7	04/07/2024	06:55:58	20.6	62.2	04/07/2024	22:55:58	20.5	71.2	04/08/2024	14:55:58	19.7	77.1	04/09/2024	06:55:58	19.1	75.6
04/06/2024	15:05:58	21.1	53.0	04/07/2024	07:05:58	20.6	62.2	04/07/2024	23:05:58	20.5	71.3	04/08/2024	15:05:58	19.7	77.1	04/09/2024	07:05:58	19.0	75.9
04/06/2024	15:15:58	21.1	52.9	04/07/2024	07:15:58	20.6	62.2	04/07/2024	23:15:58	20.5	71.3	04/08/2024	15:15:58	19.7	77.1	04/09/2024	07:15:58	19.0	76.2
04/06/2024	15:25:58	21.1	52.7	04/07/2024	07:25:58	20.6	62.3	04/07/2024	23:25:58	20.5	71.4	04/08/2024	15:25:58	19.7	77.2	04/09/2024	07:25:58	19.0	76.4
04/06/2024	15:35:58	21.1	51.6	04/07/2024	07:35:58	20.6	62.3	04/07/2024	23:35:58	20.4	71.4	04/08/2024	15:35:58	19.7	77.2	04/09/2024	07:35:58	19.0	76.6
04/06/2024	15:45:58	21.1	51.5	04/07/2024	07:45:58	20.6	62.3	04/07/2024	23:45:58	20.4	71.4	04/08/2024	15:45:58	19.7	78.5	04/09/2024	07:45:58	19.0	76.7
04/06/2024	15:55:58	21.1	51.1	04/07/2024	07:55:58	20.6	62.4	04/07/2024	23:55:58	20.4	71.5	04/08/2024	15:55:58	19.7	78.6	04/09/2024	07:55:58	19.0	76.7
04/06/2024	16:05:58	21.1	51.0	04/07/2024	08:05:58	20.6	62.5	04/08/2024	00:05:58	20.4	71.5	04/08/2024	16:05:58	19.8	79.4	04/09/2024	08:05:58	19.0	76.8
04/06/2024	16:15:58	21.1	51.3	04/07/2024	08:15:58	20.6	62.5	04/08/2024	00:15:58	20.4	71.5	04/08/2024	16:15:58	19.8	78.9	04/09/2024	08:15:58	19.0	77.0
04/06/2024	16:25:58	21.0	51.4	04/07/2024	08:25:58	20.5	62.3	04/08/2024	00:25:58	20.4	71.5	04/08/2024	16:25:58	19.8	78.8	04/09/2024	08:25:58	19.0	77.0
04/06/2024	16:35:58	21.0	51.3	04/07/2024	08:35:58	20.5	62.0	04/08/2024	00:35:58	20.4	71.5	04/08/2024	16:35:58	19.7	78.6	04/09/2024	08:35:58	19.1	77.1
04/06/2024	16:45:58	21.0	51.4	04/07/2024	08:45:58	20.5	62.0	04/08/2024	00:45:58	20.3	71.5	04/08/2024	16:45:58	19.7	78.5	04/09/2024	08:45:58	19.1	77.3
04/06/2024	16:55:58	21.0	51.2	04/07/2024	08:55:58	20.5	61.9	04/08/2024	00:55:58	20.3	71.6	04/08/2024	16:55:58	19.7	78.4	04/09/2024	08:55:58	19.1	77.4
04/06/2024	17:05:58	21.0	51.1	04/07/2024	09:05:58	20.5	61.4	04/08/2024	01:05:58	20.3	71.3	04/08/2024	17:05:58	19.6	78.3	04/09/2024	09:05:58	19.2	77.3
04/06/2024	17:15:58	21.0	51.4	04/07/2024	09:15:58	20.5	62.1	04/08/2024	01:15:58	20.3	71.7	04/08/2024	17:15:58	19.6	78.2	04/09/2024	09:15:58	19.1	77.4
04/06/2024	17:25:58	21.0	52.4	04/07/2024	09:25:58	20.6	62.5	04/08/2024	01:25:58	20.2	71.8	04/08/2024	17:25:58	19.6	78.1	04/09/2024	09:25:58	19.1	77.3
04/06/2024	17:35:58	21.0	52.9																



Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
04/09/2024	17:05:58	19.9	80.5	04/10/2024	09:05:58	19.2	75.2	04/11/2024	01:05:58	19.7	68.6	04/12/2024	09:05:58	19.6	52.0				
04/09/2024	17:15:58	19.9	80.1	04/10/2024	09:15:58	19.2	75.2	04/11/2024	01:15:58	19.6	68.5	04/12/2024	09:15:58	19.7	52.2				
04/09/2024	17:25:58	19.9	79.9	04/10/2024	09:25:58	19.3	75.2	04/11/2024	01:25:58	19.6	68.5	04/12/2024	09:25:58	19.8	51.0				
04/09/2024	17:35:58	19.8	79.8	04/10/2024	09:35:58	19.4	75.5	04/11/2024	01:35:58	19.6	68.4	04/12/2024	09:35:58	20.0	51.0				
04/09/2024	17:45:58	19.8	79.9	04/10/2024	09:45:58	19.6	75.3	04/11/2024	01:45:58	19.6	68.5	04/12/2024	09:45:58	20.0	51.9				
04/09/2024	17:55:58	19.7	79.8	04/10/2024	09:55:58	19.7	74.9	04/11/2024	01:55:58	19.6	68.4	04/12/2024	09:55:58	20.3	51.5				
04/09/2024	18:05:58	19.7	79.8	04/10/2024	10:05:58	19.8	74.5	04/11/2024	02:05:58	19.6	68.5	04/12/2024	10:05:58	20.3	53.3				
04/09/2024	18:15:58	19.7	79.7	04/10/2024	10:15:58	19.8	74.3	04/11/2024	02:15:58	19.6	68.5	04/12/2024	10:15:58	20.4	51.5				
04/09/2024	18:25:58	19.7	79.7	04/10/2024	10:25:58	19.8	74.1	04/11/2024	02:25:58	19.5	68.5	04/12/2024	10:25:58	20.4	49.6				
04/09/2024	18:35:58	19.7	79.8	04/10/2024	10:35:58	19.9	73.9	04/11/2024	02:35:58	19.5	68.4	04/12/2024	10:35:58	20.4	49.4				
04/09/2024	18:45:58	19.6	79.9	04/10/2024	10:45:58	19.9	73.5	04/11/2024	02:45:58	19.5	68.4	04/12/2024	10:45:58	20.5	48.6				
04/09/2024	18:55:58	19.7	80.1	04/10/2024	10:55:58	20.0	73.1	04/11/2024	02:55:58	19.5	68.3	04/12/2024	10:55:58	20.5	48.1				
04/09/2024	19:05:58	19.7	80.2	04/10/2024	11:05:58	20.0	72.9	04/11/2024	03:05:58	19.5	68.6	04/12/2024	11:05:58	20.4	48.4				
04/09/2024	19:15:58	19.7	80.0	04/10/2024	11:15:58	20.1	72.7	04/11/2024	03:15:58	19.4	68.2	04/12/2024	11:15:58	20.4	49.0				
04/09/2024	19:25:58	19.7	80.1	04/10/2024	11:25:58	20.0	73.5	04/11/2024	03:25:58	19.4	68.2	04/12/2024	11:25:58	20.4	49.2				
04/09/2024	19:35:58	19.7	80.1	04/10/2024	11:35:58	20.0	73.4	04/11/2024	03:35:58	19.4	68.1	04/12/2024	11:35:58	20.4	49.0				
04/09/2024	19:45:58	19.8	80.1	04/10/2024	11:45:58	20.0	72.9	04/11/2024	03:45:58	19.4	68.1	04/12/2024	11:45:58	20.3	49.0				
04/09/2024	19:55:58	19.8	80.0	04/10/2024	11:55:58	19.9	72.3	04/11/2024	03:55:58	19.4	68.0	04/12/2024	11:55:58	20.3	49.3				
04/09/2024	20:05:58	19.7	79.9	04/10/2024	12:05:58	19.9	72.2	04/11/2024	04:05:58	19.3	68.0	04/12/2024	12:05:58	20.3	49.5				
04/09/2024	20:15:58	19.7	79.9	04/10/2024	12:15:58	19.7	71.4	04/11/2024	04:15:58	19.2	67.3	04/12/2024	12:15:58	20.3	49.2				
04/09/2024	20:25:58	19.7	79.9	04/10/2024	12:25:58	19.9	72.2	04/11/2024	04:25:58	19.3	67.8	04/12/2024	12:25:58	20.3	49.4				
04/09/2024	20:35:58	19.7	79.8	04/10/2024	12:35:58	19.8	72.1	04/11/2024	04:35:58	19.3	67.6	04/12/2024	12:35:58	20.3	49.0				
04/09/2024	20:45:58	19.7	79.8	04/10/2024	12:45:58	19.8	71.9	04/11/2024	04:45:58	19.3	67.5	04/12/2024	12:45:58	20.4	48.7				
04/09/2024	20:55:58	19.7	79.7	04/10/2024	12:55:58	19.8	71.7	04/11/2024	04:55:58	19.3	67.4	04/12/2024	12:55:58	20.4	48.7				
04/09/2024	21:05:58	19.6	79.7	04/10/2024	13:05:58	19.8	71.9	04/11/2024	05:05:58	19.2	67.4	04/12/2024	13:05:58	20.5	48.9				
04/09/2024	21:15:58	19.6	79.6	04/10/2024	13:15:58	19.8	71.9	04/11/2024	05:15:58	19.2	67.3	04/12/2024	13:15:58	20.5	48.2				
04/09/2024	21:25:58	19.6	79.3	04/10/2024	13:25:58	19.7	71.7	04/11/2024	05:25:58	19.2	67.3	04/12/2024	13:25:58	20.5	48.1				
04/09/2024	21:35:58	19.6	79.4	04/10/2024	13:35:58	19.7	71.3	04/11/2024	05:35:58	19.2	67.3	04/12/2024	13:35:58	20.5	48.0				
04/09/2024	21:45:58	19.6	79.4	04/10/2024	13:45:58	19.8	71.1	04/11/2024	05:45:58	19.2	67.5	04/12/2024	13:45:58	20.6	49.7				
04/09/2024	21:55:58	19.6	79.2	04/10/2024	13:55:58	19.7	70.9	04/11/2024	05:55:58	19.2	67.4	04/12/2024	13:55:58	20.5	51.5				
04/09/2024	22:05:58	19.6	79.1	04/10/2024	14:05:58	19.7	70.4	04/11/2024	06:05:58	19.2	67.3	04/12/2024	14:05:58	20.5	52.2				
04/09/2024	22:15:58	19.6	79.0	04/10/2024	14:15:58	19.7	70.5	04/11/2024	06:15:58	19.2	67.2	04/12/2024	14:15:58	20.5	52.5				
04/09/2024	22:25:58	19.6	78.7	04/10/2024	14:25:58	19.7	70.5	04/11/2024	06:25:58	19.2	67.1	04/12/2024	14:25:58	20.6	53.0				
04/09/2024	22:35:58	19.6	78.4	04/10/2024	14:35:58	19.7	70.7	04/11/2024	06:35:58	19.2	67.0	04/12/2024	14:35:58	20.5	53.4				
04/09/2024	22:45:58	19.6	78.2	04/10/2024	14:45:58	19.8	70.9	04/11/2024	06:45:58	19.2	66.9	04/12/2024	14:45:58	20.5	53.2				
04/09/2024	22:55:58	19.5	77.9	04/10/2024	14:55:58	19.8	71.0	04/11/2024	06:55:58	19.2	66.8	04/12/2024	14:55:58	20.4	54.1				
04/09/2024	23:05:58	19.5	77.7	04/10/2024	15:05:58	19.8	71.0	04/11/2024	07:05:58	19.2	66.9	04/12/2024	15:05:58	20.5	54.2				
04/09/2024	23:15:58	19.5	77.6	04/10/2024	15:15:58	19.8	71.2	04/11/2024	07:15:58	19.2	67.0	04/12/2024	15:15:58	20.4	54.5				
04/09/2024	23:25:58	19.5	77.4	04/10/2024	15:25:58	19.8	71.4	04/11/2024	07:25:58	19.3	67.3	04/12/2024	15:25:58	20.4	55.0				
04/09/2024	23:35:58	19.5	77.3	04/10/2024	15:35:58	19.7	71.5	04/11/2024	07:35:58	19.3	67.0	04/12/2024	15:35:58	20.4	55.3				
04/09/2024	23:45:58	19.5	77.3	04/10/2024	15:45:58	19.7	71.6	04/11/2024	07:45:58	19.3	66.1	04/12/2024	15:45:58	20.5	55.5				
04/09/2024	23:55:58	19.5	77.3	04/10/2024	15:55:58	19.7	71.4	04/11/2024	07:55:58	19.3	66.1	04/12/2024	15:55:58	20.5	55.2				
04/10/2024	00:05:58	19.5	77.1	04/10/2024	16:05:58	19.7	71.7	04/11/2024	08:05:58	19.3	64.8	04/12/2024	00:05:58	19.8	58.2				
04/10/2024	00:15:58	19.5	77.1	04/10/2024	16:15:58	19.7	71.7	04/11/2024	08:15:58	19.3	64.5	04/12/2024	00:15:58	19.8	58.1				
04/10/2024	00:25:58	19.4	77.1	04/10/2024	16:25:58	19.7	71.8	04/11/2024	08:25:58	19.3	64.0	04/12/2024	00:25:58	19.8	57.9				
04/10/2024	00:35:58	19.4	77.0	04/10/2024	16:35:58	19.8	73.0	04/11/2024	08:35:58	19.4	63.6	04/12/2024	00:35:58	19.7	57.9				
04/10/2024	00:45:58	19.4	77.0	04/10/2024	16:45:58	19.8	74.6	04/11/2024	08:45:58	19.4	62.1	04/12/2024	00:45:58	19.7	57.9				
04/10/2024	00:55:58	19.4	77.0	04/10/2024	16:55:58	19.9	76.6	04/11/2024	08:55:58	19.5	62.2	04/12/2024	00:55:58	19.7	57.9				
04/10/2024	01:05:58	19.4	76.9	04/10/2024	17:05:58	20.0	75.8	04/11/2024	09:05:58	19.5	61.7	04/12/2024	01:05:58	19.7	57.7				
04/10/2024	01:15:58	19.4	76.9	04/10/2024	17:15:58	20.0	75.8	04/11/2024	09:15:58	19.5	61.0	04/12/2024	01:15:58	19.7	57.7				
04/10/2024	01:25:58	19.4	76.9	04/10/2024	17:25:58	20.0	75.1	04/11/2024	09:25:58	19.6	60.6	04/12/2024	01:25:58	19.7	57.7				
04/10/2024	01:35:58	19.4	76.8	04/10/2024	17:35:58	20.1	75.0	04/11/2024	09:35:58	19.9	60.4	04/12/2024	01:35:58	19.6	57.9				
04/10/2024	01:45:58	19.4	76.8	04/10/2024	17:45:58	20.1	75.4	04/11/2024	09:45:58	20.0	60.1	04/12/2024	01:45:58	19.6	57.6				
04/10/2024	01:55:58	19.4	76.8	04/10/2024	17:55:58	20.2	75.2	04/11/2024	09:55:58	20.1	59.8	04/12/2024	01:55:58	19.6	57.6				
04/10/2024	02:05:58	19.4	76.8	04/10/2024	18:05:58	20.2	75.0	04/11/2024	10:05:58	20.1	59.5	04/12/2024	02:05:58	19.6	57.6				
04/10/2024	02:15:58	19.4	76.9	04/10/2024	18:15:58	20.1	74.7	04/11/2024	10:15:58	20.2	59.6	04/12/2024	02:15:58	19.6	57.7				
04/10/2024	02:25:58	19.4	76.9	04/10/2024	18:25:58	20.1	74.3	04/11/2024	10:25:58	20.2	59.3	04/12/2024	02:25:58	19.6	57.8				
04/10/2024	02:35:58	19.4	76.9	04/10/2024	18:35:58	20.1	74.1	04/11/2024	10:35:58	20.2	58.3	04/12/2024	02:35:58	19.5	57.3				
04/10/2024	02:45:58	19.3	76.9	04/10/2024	18:45:58	20.1	73.9	04/11/2024	10:45:58	20.2	58.1	04/12/2024	02:45:58	19.5	57.3				
04/10/2024	02:55:58	19.3	76.9	04/10/2024	18:55:58	20.1	73.7	04/11/2024	10:55:58	20.2	56.6	04/12/2024	02:55:58	19.5	57.2				
04/10/2024	03:05:58	19.3	76.9	04/10/2024	19:05:58	20.1	73.8	04/11/2024	11:05:58	20.2	57.2	04/12/2024	03:05:58	19.5	57.2				
04/10/2024	03:15:58	19.3	76.9	04/10/2024	19:15:58	20.1	73.6	04/11/2024	11:15:58	20.3	56.9	04/12/2024	03:15:58	19.4	57.3				
04/10/2024	03:25:58	19.3	76.9	04/10/2024	19:25:58	20.1	73.7	04/11/2024	11:25:58	20.2	56.2	04/12/2024	03:25:58	19.4	57.0				
04/10/2024	03:35:58	19.3	76.9	04/10/2024	19:35:58	20.1	73.5	04/11/2024	11:35:58	20.2									



### Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
04/13/2024	01:05:58	19.8	58.8	04/13/2024	17:05:58	20.7	61.6	04/14/2024	09:05:58	20.5	61.9	04/15/2024	01:05:58	21.1	66.0	04/16/2024	17:05:58	22.3	71.7
04/13/2024	01:15:58	19.7	58.5	04/13/2024	17:15:58	20.7	61.4	04/14/2024	09:15:58	20.6	61.5	04/15/2024	01:15:58	21.1	66.0	04/16/2024	17:15:58	22.3	73.7
04/13/2024	01:25:58	19.7	58.3	04/13/2024	17:25:58	20.7	61.2	04/14/2024	09:25:58	20.7	61.0	04/15/2024	01:25:58	21.1	65.9	04/16/2024	17:25:58	22.4	73.8
04/13/2024	01:35:58	19.7	58.2	04/13/2024	17:35:58	20.7	61.4	04/14/2024	09:35:58	20.9	61.4	04/15/2024	01:35:58	21.1	66.0	04/16/2024	17:35:58	22.4	74.1
04/13/2024	01:45:58	19.7	58.1	04/13/2024	17:45:58	20.7	61.5	04/14/2024	09:45:58	21.0	60.6	04/15/2024	01:45:58	21.1	65.9	04/16/2024	17:45:58	22.5	74.2
04/13/2024	01:55:58	19.6	67.8	04/13/2024	17:55:58	20.7	61.4	04/14/2024	09:55:58	21.1	59.8	04/15/2024	01:55:58	21.1	65.9	04/16/2024	17:55:58	22.5	73.1
04/13/2024	02:05:58	19.6	67.5	04/13/2024	18:05:58	20.7	61.3	04/14/2024	10:05:58	21.2	59.4	04/15/2024	02:05:58	21.1	65.9	04/16/2024	18:05:58	22.5	73.1
04/13/2024	02:15:58	19.6	67.3	04/13/2024	18:15:58	20.7	61.3	04/14/2024	10:15:58	21.3	59.1	04/15/2024	02:15:58	21.0	65.8	04/16/2024	18:15:58	22.4	72.2
04/13/2024	02:25:58	19.6	66.9	04/13/2024	18:25:58	20.7	61.2	04/14/2024	10:25:58	21.3	58.8	04/15/2024	02:25:58	21.0	65.8	04/16/2024	18:25:58	22.4	72.1
04/13/2024	02:35:58	19.6	66.9	04/13/2024	18:35:58	20.7	61.2	04/14/2024	10:35:58	21.3	58.7	04/15/2024	02:35:58	21.0	65.8	04/16/2024	18:35:58	22.4	72.1
04/13/2024	02:45:58	19.6	66.6	04/13/2024	18:45:58	20.7	61.3	04/14/2024	10:45:58	21.4	58.6	04/15/2024	02:45:58	21.0	65.9	04/16/2024	18:45:58	22.3	71.8
04/13/2024	02:55:58	19.5	66.5	04/13/2024	18:55:58	20.7	61.3	04/14/2024	10:55:58	21.4	58.4	04/15/2024	02:55:58	21.0	65.9	04/16/2024	18:55:58	22.3	71.8
04/13/2024	03:05:58	19.2	67.0	04/13/2024	19:05:58	20.6	61.9	04/14/2024	11:05:58	21.4	58.2	04/15/2024	03:05:58	21.0	65.9	04/16/2024	19:05:58	22.3	71.6
04/13/2024	03:15:58	19.5	66.5	04/13/2024	19:15:58	20.6	61.5	04/14/2024	11:15:58	21.4	58.2	04/15/2024	03:15:58	21.0	65.9	04/16/2024	19:15:58	22.3	71.7
04/13/2024	03:25:58	19.5	66.1	04/13/2024	19:25:58	20.7	61.6	04/14/2024	11:25:58	21.3	58.3	04/15/2024	03:25:58	20.9	65.9	04/16/2024	19:25:58	22.2	71.5
04/13/2024	03:35:58	19.5	66.1	04/13/2024	19:35:58	20.6	61.7	04/14/2024	11:35:58	21.3	58.6	04/15/2024	03:35:58	20.9	66.0	04/16/2024	19:35:58	22.2	71.5
04/13/2024	03:45:58	19.4	65.8	04/13/2024	19:45:58	20.7	61.7	04/14/2024	11:45:58	21.3	58.6	04/15/2024	03:45:58	20.9	65.9	04/16/2024	19:45:58	22.2	71.5
04/13/2024	03:55:58	19.4	65.8	04/13/2024	19:55:58	20.7	65.3	04/14/2024	11:55:58	21.3	58.7	04/15/2024	03:55:58	20.9	66.0	04/16/2024	19:55:58	22.2	71.4
04/13/2024	04:05:58	19.4	65.9	04/13/2024	20:05:58	20.7	67.0	04/14/2024	12:05:58	21.3	58.8	04/15/2024	04:05:58	20.9	65.9	04/16/2024	20:05:58	22.2	73.4
04/13/2024	04:15:58	19.2	67.2	04/13/2024	20:15:58	20.6	61.9	04/14/2024	12:15:58	21.4	58.4	04/15/2024	04:15:58	20.9	66.0	04/16/2024	20:15:58	22.2	74.2
04/13/2024	04:25:58	19.4	65.8	04/13/2024	20:25:58	20.7	65.9	04/14/2024	12:25:58	21.3	58.5	04/15/2024	04:25:58	20.9	66.0	04/16/2024	20:25:58	22.2	74.9
04/13/2024	04:35:58	19.4	65.8	04/13/2024	20:35:58	20.7	65.3	04/14/2024	12:35:58	21.3	58.8	04/15/2024	04:35:58	20.9	66.0	04/16/2024	20:35:58	22.2	74.9
04/13/2024	04:45:58	19.4	65.6	04/13/2024	20:45:58	20.7	64.8	04/14/2024	12:45:58	21.3	59.0	04/15/2024	04:45:58	20.9	66.1	04/16/2024	20:45:58	22.3	74.9
04/13/2024	04:55:58	19.4	65.8	04/13/2024	20:55:58	20.7	64.4	04/14/2024	12:55:58	21.3	59.1	04/15/2024	04:55:58	20.8	66.1	04/16/2024	20:55:58	22.2	74.6
04/13/2024	05:05:58	19.3	65.8	04/13/2024	21:05:58	20.7	64.1	04/14/2024	13:05:58	21.4	58.7	04/15/2024	05:05:58	20.8	66.2	04/16/2024	21:05:58	22.2	74.8
04/13/2024	05:15:58	19.3	65.9	04/13/2024	21:15:58	20.7	63.7	04/14/2024	13:15:58	21.4	58.3	04/15/2024	05:15:58	20.8	66.3	04/16/2024	21:15:58	22.2	73.8
04/13/2024	05:25:58	19.5	66.4	04/13/2024	21:25:58	20.6	63.5	04/14/2024	13:25:58	21.4	58.4	04/15/2024	05:25:58	20.8	66.3	04/16/2024	21:25:58	22.2	74.2
04/13/2024	05:35:58	19.3	66.0	04/13/2024	21:35:58	20.6	63.2	04/14/2024	13:35:58	21.5	59.0	04/15/2024	05:35:58	20.8	66.5	04/16/2024	21:35:58	22.1	73.5
04/13/2024	05:45:58	19.3	66.2	04/13/2024	21:45:58	20.6	62.9	04/14/2024	13:45:58	21.5	58.8	04/15/2024	05:45:58	20.8	66.3	04/16/2024	21:45:58	22.1	73.3
04/13/2024	05:55:58	19.3	66.3	04/13/2024	21:55:58	20.6	62.5	04/14/2024	13:55:58	21.5	58.7	04/15/2024	05:55:58	20.8	66.6	04/16/2024	21:55:58	22.1	73.1
04/13/2024	06:05:58	19.2	66.4	04/13/2024	22:05:58	20.6	62.3	04/14/2024	14:05:58	21.5	58.7	04/15/2024	06:05:58	20.7	66.7	04/16/2024	22:05:58	22.1	72.9
04/13/2024	06:15:58	19.2	66.5	04/13/2024	22:15:58	20.5	62.1	04/14/2024	14:15:58	21.5	58.9	04/15/2024	06:15:58	20.7	67.0	04/16/2024	22:15:58	22.1	72.8
04/13/2024	06:25:58	19.2	66.7	04/13/2024	22:25:58	20.5	61.9	04/14/2024	14:25:58	21.5	59.5	04/15/2024	06:25:58	20.7	67.1	04/16/2024	22:25:58	22.0	72.7
04/13/2024	06:35:58	19.2	66.8	04/13/2024	22:35:58	20.5	61.6	04/14/2024	14:35:58	21.5	59.9	04/15/2024	06:35:58	20.7	67.2	04/16/2024	22:35:58	22.0	72.6
04/13/2024	06:45:58	19.2	67.0	04/13/2024	22:45:58	20.5	61.7	04/14/2024	14:45:58	21.5	59.8	04/15/2024	06:45:58	20.7	67.3	04/16/2024	22:45:58	22.0	72.4
04/13/2024	06:55:58	19.2	67.2	04/13/2024	22:55:58	20.5	61.2	04/14/2024	14:55:58	21.5	59.8	04/15/2024	06:55:58	20.7	67.2	04/16/2024	22:55:58	22.0	72.6
04/13/2024	07:05:58	19.2	67.3	04/13/2024	23:05:58	20.5	61.0	04/14/2024	15:05:58	21.5	59.8	04/15/2024	07:05:58	20.7	67.4	04/16/2024	23:05:58	22.0	72.3
04/13/2024	07:15:58	19.2	67.4	04/13/2024	23:15:58	20.4	60.9	04/14/2024	15:15:58	21.5	59.9	04/15/2024	07:15:58	20.7	67.5	04/16/2024	23:15:58	21.9	72.2
04/13/2024	07:25:58	19.2	67.4	04/13/2024	23:25:58	20.4	60.8	04/14/2024	15:25:58	21.5	60.0	04/15/2024	07:25:58	20.7	67.5	04/16/2024	23:25:58	21.9	72.2
04/13/2024	07:35:58	19.2	67.2	04/13/2024	23:35:58	20.4	60.9	04/14/2024	15:35:58	21.5	60.4	04/15/2024	07:35:58	20.7	67.7	04/16/2024	23:35:58	21.9	72.1
04/13/2024	07:45:58	19.2	67.6	04/13/2024	23:45:58	20.4	60.8	04/14/2024	15:45:58	21.4	60.7	04/15/2024	07:45:58	20.7	67.9	04/16/2024	23:45:58	21.9	72.1
04/13/2024	07:55:58	19.1	66.8	04/13/2024	23:55:58	20.4	60.8	04/14/2024	15:55:58	21.4	60.7	04/15/2024	07:55:58	20.7	67.9	04/16/2024	23:55:58	21.9	72.1
04/13/2024	08:05:58	19.1	66.6	04/13/2024	00:05:58	20.5	61.4	04/14/2024	16:05:58	21.4	61.3	04/15/2024	08:05:58	20.7	68.3	04/16/2024	00:05:58	21.9	71.9
04/13/2024	08:15:58	19.1	66.0	04/14/2024	00:15:58	20.5	61.7	04/14/2024	16:15:58	21.4	61.5	04/15/2024	08:15:58	20.7	68.5	04/16/2024	00:15:58	21.9	71.8
04/13/2024	08:25:58	19.2	65.7	04/14/2024	00:25:58	20.5	61.9	04/14/2024	16:25:58	21.4	61.7	04/15/2024	08:25:58	20.8	68.8	04/16/2024	00:25:58	21.8	71.7
04/13/2024	08:35:58	19.2	66.2	04/14/2024	00:35:58	20.5	61.9	04/14/2024	16:35:58	21.4	61.9	04/15/2024	08:35:58	20.8	68.8	04/16/2024	00:35:58	21.8	71.7
04/13/2024	08:45:58	19.3	67.1	04/14/2024	00:45:58	20.5	61.9	04/14/2024	16:45:58	21.4	62.1	04/15/2024	08:45:58	20.9	68.9	04/16/2024	00:45:58	21.8	71.7
04/13/2024	08:55:58	19.4	66.6	04/14/2024	00:55:58	20.6	61.8	04/14/2024	16:55:58	21.4	62.5	04/15/2024	08:55:58	21.1	68.7	04/16/2024	00:55:58	21.8	71.7
04/13/2024	09:05:58	19.4	66.6	04/14/2024	01:05:58	20.5	62.0	04/14/2024	17:05:58	21.4	62.8	04/15/2024	09:05:58	21.3	68.4	04/16/2024	01:05:58	21.7	71.5
04/13/2024	09:15:58	19.7	66.1	04/14/2024	01:15:58	20.5	62.0	04/14/2024	17:15:58	21.4	62.8	04/15/2024	09:15:58	21.3	68.4	04/16/2024	01:15:58	21.7	71.5
04/13/2024	09:25:58	19.9	65.8	04/14/2024	01:25:58	20.5	61.9	04/14/2024	17:25:58	21.4	62.9	04/15/2024	09:25:58	21.5	68.7	04/16/2024	01:25:58	21.7	71.4
04/13/2024	09:35:58	20.0																	



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
04/16/2024	09:05:58	21.6	66.2	04/17/2024	01:05:58	21.2	66.3	04/17/2024	17:05:58	20.3	70.4	04/18/2024	09:05:58	19.6	70.6	04/19/2024	01:05:58	20.0	73.0
04/16/2024	09:15:58	21.8	65.7	04/17/2024	01:15:58	21.1	66.2	04/17/2024	17:15:58	20.3	70.4	04/18/2024	09:15:58	19.8	70.4	04/19/2024	01:15:58	20.0	72.9
04/16/2024	09:25:58	22.0	65.3	04/17/2024	01:25:58	21.1	66.3	04/17/2024	17:25:58	20.3	70.6	04/18/2024	09:25:58	20.0	70.3	04/19/2024	01:25:58	20.0	72.8
04/16/2024	09:35:58	22.1	65.0	04/17/2024	01:35:58	21.1	66.2	04/17/2024	17:35:58	20.3	70.6	04/18/2024	09:35:58	20.2	70.1	04/19/2024	01:35:58	20.0	72.7
04/16/2024	09:45:58	22.2	64.7	04/17/2024	01:45:58	21.1	66.1	04/17/2024	17:45:58	20.3	70.7	04/18/2024	09:45:58	20.3	70.3	04/19/2024	01:45:58	20.0	72.5
04/16/2024	09:55:58	22.3	64.4	04/17/2024	01:55:58	21.0	66.0	04/17/2024	17:55:58	20.3	70.6	04/18/2024	09:55:58	20.4	70.4	04/19/2024	01:55:58	20.0	72.3
04/16/2024	10:05:58	22.4	64.0	04/17/2024	02:05:58	21.0	65.9	04/17/2024	18:05:58	20.3	70.4	04/18/2024	10:05:58	20.5	70.2	04/19/2024	02:05:58	19.9	72.2
04/16/2024	10:15:58	22.4	63.7	04/17/2024	02:15:58	21.0	65.8	04/17/2024	18:15:58	20.3	70.4	04/18/2024	10:15:58	20.5	70.2	04/19/2024	02:15:58	19.9	72.0
04/16/2024	10:25:58	22.4	63.5	04/17/2024	02:25:58	21.0	65.7	04/17/2024	18:25:58	20.3	70.3	04/18/2024	10:25:58	20.5	70.1	04/19/2024	02:25:58	19.9	71.7
04/16/2024	10:35:58	22.4	63.1	04/17/2024	02:35:58	20.9	65.6	04/17/2024	18:35:58	20.3	70.4	04/18/2024	10:35:58	20.6	70.3	04/19/2024	02:35:58	19.9	71.6
04/16/2024	10:45:58	22.4	62.8	04/17/2024	02:45:58	20.9	65.5	04/17/2024	18:45:58	20.2	70.2	04/18/2024	10:45:58	20.6	70.2	04/19/2024	02:45:58	19.9	71.5
04/16/2024	10:55:58	22.4	62.8	04/17/2024	02:55:58	20.9	65.4	04/17/2024	18:55:58	20.3	70.2	04/18/2024	10:55:58	20.6	70.1	04/19/2024	02:55:58	19.9	71.4
04/16/2024	11:05:58	22.4	62.9	04/17/2024	03:05:58	20.9	65.3	04/17/2024	19:05:58	20.2	70.2	04/18/2024	11:05:58	20.6	70.1	04/19/2024	03:05:58	19.9	71.3
04/16/2024	11:15:58	22.4	62.9	04/17/2024	03:15:58	20.8	65.2	04/17/2024	19:15:58	20.2	70.2	04/18/2024	11:15:58	20.5	70.2	04/19/2024	03:15:58	19.8	71.1
04/16/2024	11:25:58	22.3	62.9	04/17/2024	03:25:58	20.8	65.1	04/17/2024	19:25:58	20.2	70.2	04/18/2024	11:25:58	20.5	70.4	04/19/2024	03:25:58	19.8	70.9
04/16/2024	11:35:58	22.3	63.0	04/17/2024	03:35:58	20.8	65.1	04/17/2024	19:35:58	20.2	70.2	04/18/2024	11:35:58	20.5	70.5	04/19/2024	03:35:58	19.8	70.9
04/16/2024	11:45:58	22.2	63.1	04/17/2024	03:45:58	20.8	65.1	04/17/2024	19:45:58	20.2	70.2	04/18/2024	11:45:58	20.4	70.7	04/19/2024	03:45:58	19.8	70.9
04/16/2024	11:55:58	22.2	63.3	04/17/2024	03:55:58	20.8	65.1	04/17/2024	19:55:58	20.2	70.2	04/18/2024	11:55:58	20.4	70.9	04/19/2024	03:55:58	19.8	70.8
04/16/2024	12:05:58	22.2	63.7	04/17/2024	04:05:58	20.8	65.1	04/17/2024	20:05:58	20.2	73.4	04/18/2024	12:05:58	20.3	70.9	04/19/2024	04:05:58	19.7	70.9
04/16/2024	12:15:58	22.2	61.7	04/17/2024	04:15:58	20.7	65.1	04/17/2024	20:15:58	20.5	72.2	04/18/2024	12:15:58	20.3	71.3	04/19/2024	04:15:58	19.7	70.8
04/16/2024	12:25:58	22.2	63.6	04/17/2024	04:25:58	20.7	65.0	04/17/2024	20:25:58	20.2	73.6	04/18/2024	12:25:58	20.3	71.1	04/19/2024	04:25:58	19.7	70.8
04/16/2024	12:35:58	22.2	63.4	04/17/2024	04:35:58	20.7	64.9	04/17/2024	20:35:58	20.2	73.2	04/18/2024	12:35:58	20.4	71.2	04/19/2024	04:35:58	19.7	70.9
04/16/2024	12:45:58	22.1	63.2	04/17/2024	04:45:58	20.7	64.8	04/17/2024	20:45:58	20.2	72.9	04/18/2024	12:45:58	20.4	71.1	04/19/2024	04:45:58	19.7	71.0
04/16/2024	12:55:58	22.1	62.8	04/17/2024	04:55:58	20.6	64.8	04/17/2024	20:55:58	20.2	72.6	04/18/2024	12:55:58	20.3	71.2	04/19/2024	04:55:58	19.7	71.1
04/16/2024	13:05:58	22.1	62.5	04/17/2024	05:05:58	20.6	64.6	04/17/2024	21:05:58	20.2	72.4	04/18/2024	13:05:58	20.4	71.1	04/19/2024	05:05:58	19.7	71.2
04/16/2024	13:15:58	22.0	62.2	04/17/2024	05:15:58	20.6	64.6	04/17/2024	21:15:58	20.2	72.1	04/18/2024	13:15:58	20.4	71.0	04/19/2024	05:15:58	19.8	71.2
04/16/2024	13:25:58	21.9	61.7	04/17/2024	05:25:58	20.6	64.4	04/17/2024	21:25:58	20.1	71.9	04/18/2024	13:25:58	20.4	71.0	04/19/2024	05:25:58	19.8	71.1
04/16/2024	13:35:58	21.9	61.4	04/17/2024	05:35:58	20.5	64.5	04/17/2024	21:35:58	20.1	71.9	04/18/2024	13:35:58	20.4	71.0	04/19/2024	05:35:58	19.8	71.2
04/16/2024	13:45:58	21.9	61.6	04/17/2024	05:45:58	20.5	64.5	04/17/2024	21:45:58	20.1	71.8	04/18/2024	13:45:58	20.5	71.6	04/19/2024	05:45:58	19.8	71.2
04/16/2024	13:55:58	21.8	61.3	04/17/2024	05:55:58	20.5	64.6	04/17/2024	21:55:58	20.1	71.7	04/18/2024	13:55:58	20.6	71.7	04/19/2024	05:55:58	19.6	71.1
04/16/2024	14:05:58	21.8	61.2	04/17/2024	06:05:58	20.5	64.5	04/17/2024	22:05:58	20.1	71.7	04/18/2024	14:05:58	20.6	71.1	04/19/2024	06:05:58	19.6	71.1
04/16/2024	14:15:58	21.8	61.1	04/17/2024	06:15:58	20.4	64.4	04/17/2024	22:15:58	20.0	71.7	04/18/2024	14:15:58	20.6	70.7	04/19/2024	06:15:58	19.6	71.6
04/16/2024	14:25:58	21.8	61.3	04/17/2024	06:25:58	20.4	64.4	04/17/2024	22:25:58	20.0	71.7	04/18/2024	14:25:58	20.7	70.4	04/19/2024	06:25:58	19.6	71.6
04/16/2024	14:35:58	21.8	61.6	04/17/2024	06:35:58	20.4	64.4	04/17/2024	22:35:58	20.0	71.6	04/18/2024	14:35:58	20.6	70.3	04/19/2024	06:35:58	19.6	71.6
04/16/2024	14:45:58	21.8	61.8	04/17/2024	06:45:58	20.3	64.0	04/17/2024	22:45:58	20.5	71.6	04/18/2024	14:45:58	20.7	70.5	04/19/2024	06:45:58	19.5	71.5
04/16/2024	14:55:58	21.8	61.9	04/17/2024	06:55:58	20.3	64.0	04/17/2024	22:55:58	20.0	71.6	04/18/2024	14:55:58	20.8	70.6	04/19/2024	06:55:58	19.5	71.5
04/16/2024	15:05:58	21.8	61.5	04/17/2024	07:05:58	20.2	63.9	04/17/2024	23:05:58	19.9	71.5	04/18/2024	15:05:58	20.8	70.6	04/19/2024	07:05:58	19.5	71.0
04/16/2024	15:15:58	21.8	61.3	04/17/2024	07:15:58	20.2	64.0	04/17/2024	23:15:58	19.9	71.5	04/18/2024	15:15:58	20.9	70.4	04/19/2024	07:15:58	19.4	70.9
04/16/2024	15:25:58	21.7	61.1	04/17/2024	07:25:58	20.1	63.5	04/17/2024	23:25:58	19.9	71.4	04/18/2024	15:25:58	20.9	70.7	04/19/2024	07:25:58	19.3	71.1
04/16/2024	15:35:58	21.7	61.1	04/17/2024	07:35:58	19.8	63.3	04/17/2024	23:35:58	19.9	71.4	04/18/2024	15:35:58	20.8	70.8	04/19/2024	07:35:58	19.3	71.2
04/16/2024	15:45:58	21.7	61.3	04/17/2024	07:45:58	19.7	63.7	04/17/2024	23:45:58	19.9	71.3	04/18/2024	15:45:58	20.8	70.7	04/19/2024	07:45:58	19.2	71.3
04/16/2024	15:55:58	21.7	61.7	04/17/2024	07:55:58	19.6	64.4	04/17/2024	23:55:58	19.8	71.3	04/18/2024	15:55:58	20.7	70.6	04/19/2024	07:55:58	19.2	71.3
04/16/2024	16:05:58	21.7	61.7	04/17/2024	08:05:58	19.6	64.5	04/18/2024	00:05:58	19.8	71.2	04/18/2024	16:05:58	20.7	70.6	04/19/2024	08:05:58	19.2	71.9
04/16/2024	16:15:58	21.7	62.3	04/17/2024	08:15:58	19.6	64.5	04/18/2024	00:15:58	19.8	71.1	04/18/2024	16:15:58	20.6	70.7	04/19/2024	08:15:58	19.2	72.0
04/16/2024	16:25:58	21.7	62.2	04/17/2024	08:25:58	19.6	64.7	04/18/2024	00:25:58	19.8	71.1	04/18/2024	16:25:58	20.6	70.8	04/19/2024	08:25:58	19.2	72.3
04/16/2024	16:35:58	21.7	62.4	04/17/2024	08:35:58	19.7	64.9	04/18/2024	00:35:58	19.8	71.0	04/18/2024	16:35:58	20.6	70.9	04/19/2024	08:35:58	19.3	72.4
04/16/2024	16:45:58	21.6	62.7	04/17/2024	08:45:58	19.8	65.4	04/18/2024	00:45:58	19.8	71.0	04/18/2024	16:45:58	20.5	70.9	04/19/2024	08:45:58	19.4	72.5
04/16/2024	16:55:58	21.6	63.0	04/17/2024	08:55:58	19.8	65.3	04/18/2024	00:55:58	19.7	70.9	04/18/2024	16:55:58	20.5	71.0	04/19/2024	08:55:58	19.6	72.1
04/16/2024	17:05:58	21.6	63.6	04/17/2024	09:05:58	19.6	65.1	04/18/2024	01:05:58	19.7	70.7	04/18/2024	17:05:58	20.4	71.1	04/19/2024	09:05:58	19.5	72.1
04/16/2024	17:15:58	21.6	63.6	04/17/2024	09:15:58	20.0	65.1	04/18/2024	01:15:58	19.7	70.7	04/18/2024	17:15:58	20.4	71.1	04/19/2024	09:15:58	19.5	72.1
04/16/2024	17:25:58	21.6	63.8	04/17/2024	09:25:58	20.1	64.9	04/18/2024	01:25:58	19.7	70.7	04/18/2024	17:25:58	20.4	71.5	04/19/2024	09:25:58	20.0	71.6
04/16/2024	17:35:58	21.6	64.0	0															



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
04/19/2024	17:05:58	20.5	71.2	04/20/2024	09:05:58	19.0	68.7	04/21/2024	01:05:58	19.2	72.2	04/22/2024	17:05:58	19.2	70.9	04/22/2024	09:05:58	18.7	74.9
04/19/2024	17:15:58	20.4	72.1	04/20/2024	09:15:58	18.9	68.8	04/21/2024	01:15:58	19.2	72.1	04/22/2024	17:15:58	19.2	71.1	04/22/2024	09:15:58	18.7	75.0
04/19/2024	17:25:58	20.5	72.8	04/20/2024	09:25:58	18.9	69.2	04/21/2024	01:25:58	19.2	72.0	04/22/2024	17:25:58	19.2	71.1	04/22/2024	09:25:58	18.8	76.0
04/19/2024	17:35:58	20.5	73.2	04/20/2024	09:35:58	18.8	69.2	04/21/2024	01:35:58	19.2	72.0	04/22/2024	17:35:58	19.2	71.9	04/22/2024	09:35:58	18.7	75.7
04/19/2024	17:45:58	20.6	73.2	04/20/2024	09:45:58	18.8	69.5	04/21/2024	01:45:58	19.1	72.0	04/22/2024	17:45:58	19.2	72.5	04/22/2024	09:45:58	18.7	75.2
04/19/2024	17:55:58	20.6	73.2	04/20/2024	09:55:58	18.8	69.6	04/21/2024	01:55:58	19.1	71.9	04/22/2024	17:55:58	19.3	72.6	04/22/2024	09:55:58	18.8	74.8
04/19/2024	18:05:58	20.6	72.9	04/20/2024	10:05:58	19.0	71.1	04/21/2024	02:05:58	19.1	72.0	04/22/2024	18:05:58	19.3	72.5	04/22/2024	10:05:58	18.8	74.7
04/19/2024	18:15:58	20.6	72.9	04/20/2024	10:15:58	19.1	71.1	04/21/2024	02:15:58	19.1	71.9	04/22/2024	18:15:58	19.3	72.6	04/22/2024	10:15:58	18.8	74.6
04/19/2024	18:25:58	20.6	72.8	04/20/2024	10:25:58	19.1	71.4	04/21/2024	02:25:58	19.0	71.8	04/22/2024	18:25:58	19.3	72.2	04/22/2024	10:25:58	18.9	74.4
04/19/2024	18:35:58	20.5	72.8	04/20/2024	10:35:58	19.1	70.2	04/21/2024	02:35:58	19.1	71.8	04/22/2024	18:35:58	19.3	72.0	04/22/2024	10:35:58	18.9	74.0
04/19/2024	18:45:58	20.5	72.7	04/20/2024	10:45:58	19.1	70.1	04/21/2024	02:45:58	19.0	71.8	04/22/2024	18:45:58	19.3	71.9	04/22/2024	10:45:58	19.1	73.7
04/19/2024	18:55:58	20.5	72.7	04/20/2024	10:55:58	19.2	70.1	04/21/2024	02:55:58	19.0	71.7	04/22/2024	18:55:58	19.3	71.8	04/22/2024	10:55:58	19.2	73.4
04/19/2024	19:05:58	20.5	72.6	04/20/2024	11:05:58	19.4	70.7	04/21/2024	03:05:58	19.0	71.8	04/22/2024	19:05:58	19.2	71.9	04/22/2024	11:05:58	19.2	73.2
04/19/2024	19:15:58	20.5	72.5	04/20/2024	11:15:58	19.8	71.1	04/21/2024	03:15:58	19.0	71.5	04/22/2024	19:15:58	19.2	71.9	04/22/2024	11:15:58	19.2	73.1
04/19/2024	19:25:58	20.5	72.6	04/20/2024	11:25:58	20.2	71.3	04/21/2024	03:25:58	19.0	71.5	04/22/2024	19:25:58	19.2	71.9	04/22/2024	11:25:58	19.2	73.0
04/19/2024	19:35:58	20.4	72.6	04/20/2024	11:35:58	20.4	70.6	04/21/2024	03:35:58	19.0	71.5	04/22/2024	19:35:58	19.2	72.0	04/22/2024	11:35:58	19.2	72.9
04/19/2024	19:45:58	20.5	75.4	04/20/2024	11:45:58	20.3	69.9	04/21/2024	03:45:58	18.9	71.4	04/22/2024	19:45:58	19.2	72.1	04/22/2024	11:45:58	19.2	72.9
04/19/2024	19:55:58	20.5	74.6	04/20/2024	11:55:58	20.3	69.8	04/21/2024	03:55:58	18.9	71.3	04/22/2024	19:55:58	19.2	73.5	04/22/2024	11:55:58	19.2	72.9
04/19/2024	20:05:58	20.5	74.3	04/20/2024	12:05:58	20.1	69.9	04/21/2024	04:05:58	18.9	71.2	04/22/2024	20:05:58	19.3	76.2	04/22/2024	12:05:58	19.2	73.0
04/19/2024	20:15:58	20.1	74.6	04/20/2024	12:15:58	20.0	71.3	04/21/2024	04:15:58	18.9	71.3	04/22/2024	20:15:58	19.3	76.1	04/22/2024	12:15:58	19.2	73.0
04/19/2024	20:25:58	20.5	74.4	04/20/2024	12:25:58	20.0	70.0	04/21/2024	04:25:58	18.9	71.1	04/22/2024	20:25:58	19.3	75.6	04/22/2024	12:25:58	19.2	73.3
04/19/2024	20:35:58	20.5	74.2	04/20/2024	12:35:58	20.0	70.2	04/21/2024	04:35:58	18.9	71.1	04/22/2024	20:35:58	19.3	75.8	04/22/2024	12:35:58	19.3	73.0
04/19/2024	20:45:58	20.5	73.9	04/20/2024	12:45:58	20.0	70.8	04/21/2024	04:45:58	18.8	71.0	04/22/2024	20:45:58	19.3	75.5	04/22/2024	12:45:58	19.3	72.6
04/19/2024	20:55:58	20.4	73.8	04/20/2024	12:55:58	20.0	71.6	04/21/2024	04:55:58	18.8	70.9	04/22/2024	20:55:58	19.3	75.0	04/22/2024	12:55:58	19.4	72.5
04/19/2024	21:05:58	20.4	73.8	04/20/2024	13:05:58	20.0	71.6	04/21/2024	05:05:58	18.8	70.8	04/22/2024	21:05:58	19.3	74.8	04/22/2024	13:05:58	19.4	72.5
04/19/2024	21:15:58	20.4	73.8	04/20/2024	13:15:58	20.0	71.6	04/21/2024	05:15:58	18.8	70.8	04/22/2024	21:15:58	19.3	74.7	04/22/2024	13:15:58	19.5	72.7
04/19/2024	21:25:58	20.1	74.1	04/20/2024	13:25:58	20.0	71.3	04/21/2024	05:25:58	18.9	70.7	04/22/2024	21:25:58	19.2	74.6	04/22/2024	13:25:58	19.5	72.4
04/19/2024	21:35:58	20.3	73.6	04/20/2024	13:35:58	20.0	71.2	04/21/2024	05:35:58	18.7	70.6	04/22/2024	21:35:58	19.2	74.2	04/22/2024	13:35:58	19.6	72.4
04/19/2024	21:45:58	20.3	73.6	04/20/2024	13:45:58	19.9	71.0	04/21/2024	05:45:58	18.7	70.5	04/22/2024	21:45:58	19.2	74.0	04/22/2024	13:45:58	19.6	72.4
04/19/2024	21:55:58	20.3	73.6	04/20/2024	13:55:58	19.9	70.9	04/21/2024	05:55:58	18.7	70.5	04/22/2024	21:55:58	19.2	73.7	04/22/2024	13:55:58	19.6	72.4
04/19/2024	22:05:58	20.3	73.7	04/20/2024	14:05:58	19.9	70.8	04/21/2024	06:05:58	18.7	70.5	04/22/2024	22:05:58	19.2	73.5	04/22/2024	14:05:58	19.7	72.8
04/19/2024	22:15:58	20.3	73.7	04/20/2024	14:15:58	19.8	70.7	04/21/2024	06:15:58	18.7	70.5	04/22/2024	22:15:58	19.1	73.5	04/22/2024	14:15:58	19.8	72.7
04/19/2024	22:25:58	20.2	73.7	04/20/2024	14:25:58	19.8	70.7	04/21/2024	06:25:58	18.7	70.5	04/22/2024	22:25:58	19.1	73.3	04/22/2024	14:25:58	19.9	72.5
04/19/2024	22:35:58	20.3	73.8	04/20/2024	14:35:58	19.8	70.7	04/21/2024	06:35:58	18.7	70.5	04/22/2024	22:35:58	19.1	73.2	04/22/2024	14:35:58	19.9	72.4
04/19/2024	22:45:58	20.2	73.8	04/20/2024	14:45:58	19.8	70.7	04/21/2024	06:45:58	18.6	70.3	04/22/2024	22:45:58	19.1	73.1	04/22/2024	14:45:58	19.8	72.1
04/19/2024	22:55:58	20.2	73.8	04/20/2024	14:55:58	19.8	70.8	04/21/2024	06:55:58	18.6	70.2	04/22/2024	22:55:58	19.0	73.1	04/22/2024	14:55:58	19.7	72.2
04/19/2024	23:05:58	20.2	73.9	04/20/2024	15:05:58	19.7	70.8	04/21/2024	07:05:58	18.6	70.1	04/22/2024	23:05:58	19.0	73.0	04/22/2024	15:05:58	19.7	72.3
04/19/2024	23:15:58	20.2	73.9	04/20/2024	15:15:58	19.7	70.8	04/21/2024	07:15:58	18.6	69.9	04/22/2024	23:15:58	19.0	73.0	04/22/2024	15:15:58	19.7	72.4
04/19/2024	23:25:58	20.2	73.9	04/20/2024	15:25:58	19.7	70.9	04/21/2024	07:25:58	18.6	69.6	04/22/2024	23:25:58	19.0	72.9	04/22/2024	15:25:58	19.6	72.4
04/19/2024	23:35:58	20.1	73.9	04/20/2024	15:35:58	19.7	71.0	04/21/2024	07:35:58	18.5	69.3	04/22/2024	23:35:58	19.0	72.9	04/22/2024	15:35:58	19.6	72.5
04/19/2024	23:45:58	20.1	73.9	04/20/2024	15:45:58	19.7	71.1	04/21/2024	07:45:58	18.5	69.1	04/22/2024	23:45:58	18.9	72.8	04/22/2024	15:45:58	19.6	72.9
04/19/2024	23:55:58	20.1	74.0	04/20/2024	15:55:58	19.7	71.1	04/21/2024	07:55:58	18.5	69.1	04/22/2024	23:55:58	18.9	72.8	04/22/2024	15:55:58	19.7	73.1
04/20/2024	00:05:58	20.1	74.0	04/20/2024	16:05:58	19.7	71.2	04/21/2024	08:05:58	18.5	69.0	04/22/2024	00:05:58	18.9	72.6	04/22/2024	16:05:58	19.7	73.6
04/20/2024	00:15:58	20.1	74.0	04/20/2024	16:15:58	19.6	71.2	04/21/2024	08:15:58	18.5	68.9	04/22/2024	00:15:58	18.9	72.6	04/22/2024	16:15:58	19.8	74.5
04/20/2024	00:25:58	20.1	74.0	04/20/2024	16:25:58	19.6	71.3	04/21/2024	08:25:58	18.5	68.9	04/22/2024	00:25:58	18.9	72.5	04/22/2024	16:25:58	20.1	74.7
04/20/2024	00:35:58	20.1	73.9	04/20/2024	16:35:58	19.6	71.4	04/21/2024	08:35:58	18.5	69.1	04/22/2024	00:35:58	18.9	72.5	04/22/2024	16:35:58	20.2	74.2
04/20/2024	00:45:58	20.1	73.8	04/20/2024	16:45:58	19.6	71.8	04/21/2024	08:45:58	18.5	69.0	04/22/2024	00:45:58	18.9	72.5	04/22/2024	16:45:58	20.2	74.1
04/20/2024	00:55:58	20.0	73.8	04/20/2024	16:55:58	19.7	71.9	04/21/2024	08:55:58	18.4	69.2	04/22/2024	00:55:58	18.8	72.5	04/22/2024	16:55:58	20.1	73.8
04/20/2024	01:05:58	20.0	73.7	04/20/2024	17:05:58	19.8	72.1	04/21/2024	09:05:58	18.4	69.4	04/22/2024	01:05:58	18.8	72.5	04/22/2024	17:05:58	20.0	73.8
04/20/2024	01:15:58	20.0	73.7	04/20/2024	17:15:58	19.8	72.1	04/21/2024	09:15:58	18.4	69.4	04/22/2024	01:15:58	18.8	72.6	04/22/2024	17:15:58	19.9	73.8
04/20/2024	01:25:58	20.0	73.6	04/20/2024	17:25:58	19.9	73.9	04/21/2024	09:25:58	18.4	69.5	04/22/2024	01:25:58	18.8	72.6	04/22/2024	17:25:58	19.9	73.9
04/20/2024	01:35:58	20.0	73.6																



### Temperature&Humidity Table

Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH	Date	Time	C	%RH
04/23/2024	01:05:58	19.3	72.8	04/23/2024	17:05:58	19.8	77.1	04/24/2024	09:05:58	18.4	77.4	04/25/2024	01:05:58	19.6	79.2	04/25/2024	17:05:58	20.6	77.2
04/23/2024	01:15:58	19.3	72.8	04/23/2024	17:15:58	19.8	76.8	04/24/2024	09:15:58	18.4	77.6	04/25/2024	01:15:58	19.6	79.2	04/25/2024	17:15:58	20.5	77.1
04/23/2024	01:25:58	19.3	73.0	04/23/2024	17:25:58	19.7	76.7	04/24/2024	09:25:58	18.4	77.7	04/25/2024	01:25:58	19.6	79.2	04/25/2024	17:25:58	20.5	77.0
04/23/2024	01:35:58	19.3	73.0	04/23/2024	17:35:58	19.7	76.8	04/24/2024	09:35:58	18.5	77.7	04/25/2024	01:35:58	19.6	79.2	04/25/2024	17:35:58	20.5	76.9
04/23/2024	01:45:58	19.3	73.1	04/23/2024	17:45:58	19.7	76.9	04/24/2024	09:45:58	18.6	77.9	04/25/2024	01:45:58	19.5	79.1	04/25/2024	17:45:58	20.5	76.9
04/23/2024	01:55:58	19.2	73.1	04/23/2024	17:55:58	19.7	76.7	04/24/2024	09:55:58	18.9	77.4	04/25/2024	01:55:58	19.5	79.2	04/25/2024	17:55:58	20.5	77.0
04/23/2024	02:05:58	19.2	73.2	04/23/2024	18:05:58	19.6	76.6	04/24/2024	10:05:58	19.1	76.8	04/25/2024	02:05:58	19.5	79.1	04/25/2024	18:05:58	20.5	77.0
04/23/2024	02:15:58	19.2	73.2	04/23/2024	18:15:58	19.6	76.7	04/24/2024	10:15:58	19.3	76.4	04/25/2024	02:15:58	19.5	79.2	04/25/2024	18:15:58	20.5	77.3
04/23/2024	02:25:58	19.2	73.3	04/23/2024	18:25:58	19.6	76.7	04/24/2024	10:25:58	19.3	76.1	04/25/2024	02:25:58	19.5	79.2	04/25/2024	18:25:58	20.6	77.4
04/23/2024	02:35:58	19.2	73.3	04/23/2024	18:35:58	19.6	76.6	04/24/2024	10:35:58	19.4	76.2	04/25/2024	02:35:58	19.5	79.2	04/25/2024	18:35:58	20.5	77.4
04/23/2024	02:45:58	19.2	73.4	04/23/2024	18:45:58	19.6	76.6	04/24/2024	10:45:58	19.3	75.9	04/25/2024	02:45:58	19.5	79.2	04/25/2024	18:45:58	20.6	77.2
04/23/2024	02:55:58	19.2	73.4	04/23/2024	18:55:58	19.6	76.6	04/24/2024	10:55:58	19.3	75.7	04/25/2024	02:55:58	19.5	79.2	04/25/2024	18:55:58	20.5	77.3
04/23/2024	03:05:58	19.1	73.4	04/23/2024	19:05:58	19.5	76.6	04/24/2024	11:05:58	19.3	75.6	04/25/2024	03:05:58	19.4	79.2	04/25/2024	19:05:58	20.6	77.2
04/23/2024	03:15:58	19.1	73.4	04/23/2024	19:15:58	19.5	76.5	04/24/2024	11:15:58	19.3	75.5	04/25/2024	03:15:58	19.5	79.2	04/25/2024	19:15:58	20.5	77.0
04/23/2024	03:25:58	19.1	73.5	04/23/2024	19:25:58	19.5	76.5	04/24/2024	11:25:58	19.4	75.3	04/25/2024	03:25:58	19.5	79.2	04/25/2024	19:25:58	20.5	77.0
04/23/2024	03:35:58	19.1	73.6	04/23/2024	19:35:58	19.5	76.5	04/24/2024	11:35:58	19.4	75.2	04/25/2024	03:35:58	19.4	79.3	04/25/2024	19:35:58	20.5	77.0
04/23/2024	03:45:58	19.1	73.7	04/23/2024	19:45:58	19.5	76.5	04/24/2024	11:45:58	19.5	75.3	04/25/2024	03:45:58	19.5	79.3	04/25/2024	19:45:58	20.5	77.2
04/23/2024	03:55:58	19.1	73.7	04/23/2024	19:55:58	19.4	76.8	04/24/2024	11:55:58	19.5	75.3	04/25/2024	03:55:58	19.4	79.3	04/25/2024	19:55:58	20.5	77.5
04/23/2024	04:05:58	19.1	73.8	04/23/2024	20:05:58	19.5	77.5	04/24/2024	12:05:58	19.6	75.0	04/25/2024	04:05:58	19.4	79.3	04/25/2024	20:05:58	20.5	77.1
04/23/2024	04:15:58	19.1	73.9	04/23/2024	20:15:58	19.5	77.4	04/24/2024	12:15:58	19.6	74.9	04/25/2024	04:15:58	19.4	79.4	04/25/2024	20:15:58	20.5	77.1
04/23/2024	04:25:58	19.0	73.9	04/23/2024	20:25:58	19.6	80.2	04/24/2024	12:25:58	19.7	74.8	04/25/2024	04:25:58	19.4	79.4	04/25/2024	20:25:58	20.5	77.1
04/23/2024	04:35:58	19.0	73.9	04/23/2024	20:35:58	19.5	80.0	04/24/2024	12:35:58	19.7	75.1	04/25/2024	04:35:58	19.4	79.4	04/25/2024	20:35:58	20.5	77.2
04/23/2024	04:45:58	19.0	73.9	04/23/2024	20:45:58	19.5	79.8	04/24/2024	12:45:58	19.7	75.0	04/25/2024	04:45:58	19.4	79.4	04/25/2024	20:45:58	20.5	77.1
04/23/2024	04:55:58	19.0	74.0	04/23/2024	20:55:58	19.5	79.7	04/24/2024	12:55:58	19.8	75.1	04/25/2024	04:55:58	19.4	79.4	04/25/2024	20:55:58	20.4	77.0
04/23/2024	05:05:58	19.0	74.1	04/23/2024	21:05:58	19.5	79.2	04/24/2024	13:05:58	19.9	74.7	04/25/2024	05:05:58	19.4	79.4	04/25/2024	21:05:58	20.4	77.0
04/23/2024	05:15:58	19.0	74.1	04/23/2024	21:15:58	19.5	78.6	04/24/2024	13:15:58	19.9	75.0	04/25/2024	05:15:58	19.4	79.4	04/25/2024	21:15:58	20.4	76.9
04/23/2024	05:25:58	19.0	74.1	04/23/2024	21:25:58	19.5	78.4	04/24/2024	13:25:58	19.9	74.9	04/25/2024	05:25:58	19.4	79.4	04/25/2024	21:25:58	20.4	76.8
04/23/2024	05:35:58	19.0	74.2	04/23/2024	21:35:58	19.4	78.4	04/24/2024	13:35:58	19.9	74.9	04/25/2024	05:35:58	19.4	79.5	04/25/2024	21:35:58	20.4	76.6
04/23/2024	05:45:58	19.0	74.2	04/23/2024	21:45:58	19.4	78.5	04/24/2024	13:45:58	19.9	74.7	04/25/2024	05:45:58	19.4	79.5	04/25/2024	21:45:58	20.4	76.5
04/23/2024	05:55:58	19.0	74.3	04/23/2024	21:55:58	19.4	78.4	04/24/2024	13:55:58	19.9	74.9	04/25/2024	05:55:58	19.4	79.5	04/25/2024	21:55:58	20.3	76.5
04/23/2024	06:05:58	19.0	74.3	04/23/2024	22:05:58	19.4	78.4	04/24/2024	14:05:58	19.8	74.9	04/25/2024	06:05:58	19.4	79.5	04/25/2024	22:05:58	20.3	76.4
04/23/2024	06:15:58	18.9	74.3	04/23/2024	22:15:58	19.4	78.2	04/24/2024	14:15:58	19.9	75.0	04/25/2024	06:15:58	19.4	79.6	04/25/2024	22:15:58	20.3	76.4
04/23/2024	06:25:58	18.9	74.4	04/23/2024	22:25:58	19.4	78.1	04/24/2024	14:25:58	19.9	75.0	04/25/2024	06:25:58	19.3	79.5	04/25/2024	22:25:58	20.3	76.3
04/23/2024	06:35:58	18.9	74.4	04/23/2024	22:35:58	19.4	78.0	04/24/2024	14:35:58	19.8	75.0	04/25/2024	06:35:58	19.4	79.5	04/25/2024	22:35:58	20.3	76.2
04/23/2024	06:45:58	18.9	74.5	04/23/2024	22:45:58	19.4	77.9	04/24/2024	14:45:58	19.8	75.2	04/25/2024	06:45:58	19.4	79.6	04/25/2024	22:45:58	20.3	76.2
04/23/2024	06:55:58	18.9	74.5	04/23/2024	22:55:58	19.4	77.8	04/24/2024	14:55:58	19.8	75.4	04/25/2024	06:55:58	19.4	79.6	04/25/2024	22:55:58	20.3	76.2
04/23/2024	07:05:58	18.9	74.5	04/23/2024	23:05:58	19.4	77.8	04/24/2024	15:05:58	19.7	75.6	04/25/2024	07:05:58	19.6	85.3	04/25/2024	23:05:58	20.3	76.3
04/23/2024	07:15:58	18.9	74.5	04/23/2024	23:15:58	19.3	77.7	04/24/2024	15:15:58	19.7	75.8	04/25/2024	07:15:58	19.7	79.7	04/25/2024	23:15:58	20.3	76.2
04/23/2024	07:25:58	18.9	74.5	04/23/2024	23:25:58	19.3	77.6	04/24/2024	15:25:58	19.7	75.9	04/25/2024	07:25:58	19.6	79.9	04/25/2024	23:25:58	20.3	76.1
04/23/2024	07:35:58	18.8	74.6	04/23/2024	23:35:58	19.3	77.5	04/24/2024	15:35:58	19.6	76.1	04/25/2024	07:35:58	19.5	80.1	04/25/2024	23:35:58	20.3	76.0
04/23/2024	07:45:58	18.9	74.6	04/23/2024	23:45:58	19.3	77.5	04/24/2024	15:45:58	19.6	76.3	04/25/2024	07:45:58	19.5	80.4	04/25/2024	23:45:58	20.2	75.8
04/23/2024	07:55:58	18.9	74.6	04/23/2024	23:55:58	19.3	77.5	04/24/2024	15:55:58	19.7	76.4	04/25/2024	07:55:58	19.5	80.4	04/25/2024	23:55:58	20.2	75.8
04/23/2024	08:05:58	18.9	74.8	04/24/2024	00:05:58	19.3	77.2	04/24/2024	16:05:58	19.7	77.7	04/25/2024	08:05:58	19.6	80.8	04/26/2024	00:05:58	20.2	75.6
04/23/2024	08:15:58	18.9	74.8	04/24/2024	00:15:58	19.3	77.2	04/24/2024	16:15:58	19.8	79.5	04/25/2024	08:15:58	19.6	81.0	04/26/2024	00:15:58	20.2	75.6
04/23/2024	08:25:58	18.9	74.8	04/24/2024	00:25:58	19.2	77.2	04/24/2024	16:25:58	19.9	80.2	04/25/2024	08:25:58	19.7	80.9	04/26/2024	00:25:58	20.2	75.6
04/23/2024	08:35:58	18.9	74.8	04/24/2024	00:35:58	19.2	77.1	04/24/2024	16:35:58	20.0	79.6	04/25/2024	08:35:58	19.8	80.8	04/26/2024	00:35:58	20.2	75.4
04/23/2024	08:45:58	18.9	74.9	04/24/2024	00:45:58	19.2	77.1	04/24/2024	16:45:58	20.1	79.0	04/25/2024	08:45:58	19.9	81.0	04/26/2024	00:45:58	20.1	75.3
04/23/2024	08:55:58	18.9	74.9	04/24/2024	00:55:58	19.2	77.1	04/24/2024	16:55:58	20.1	78.8	04/25/2024	08:55:58	20.2	80.6	04/26/2024	00:55:58	20.1	75.3
04/23/2024	09:05:58	18.9	74.9	04/24/2024	01:05:58	19.2	77.1	04/24/2024	17:05:58	20.1	78.2	04/25/2024	09:05:58	20.4	80.2	04/26/2024	01:05:58	20.1	75.2
04/23/2024	09:15:58	18.9	75.0	04/24/2024	01:15:58	19.2	77.0	04/24/2024	17:15:58	20.0	78.7	04/25/2024	09:15:58	20.5	79.6	04/26/2024	01:15:58	20.1	75.2
04/23/2024	09:25:58	18.9	75.0	04/24/2024	01:25:58	19.1	77.1	04/24/2024	17:25:58	20.0	78.7	04/25/2024	09:25:58	20.5	79.2	04/26/2024	01:25:58	20.1	75.1
04/23/2024	09:35:58	18.9	75.0	0															



### Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
04/26/2024	09:05:58	20.4	71.9	04/27/2024	01:05:58	20.6	70.0	04/27/2024	17:05:58	21.1	65.8	04/28/2024	09:05:58	21.2	68.1	04/29/2024	01:05:58	20.6	70.4
04/26/2024	09:15:58	20.5	71.7	04/27/2024	01:15:58	20.6	70.1	04/27/2024	17:15:58	21.1	65.9	04/28/2024	09:15:58	21.2	67.9	04/29/2024	01:15:58	20.6	70.4
04/26/2024	09:25:58	20.7	71.3	04/27/2024	01:25:58	20.6	70.1	04/27/2024	17:25:58	21.1	66.7	04/28/2024	09:25:58	21.2	67.7	04/29/2024	01:25:58	20.6	70.3
04/26/2024	09:35:58	20.8	71.0	04/27/2024	01:35:58	20.6	70.3	04/27/2024	17:35:58	21.2	69.2	04/28/2024	09:35:58	21.3	67.4	04/29/2024	01:35:58	20.5	70.3
04/26/2024	09:45:58	20.8	70.7	04/27/2024	01:45:58	20.6	70.4	04/27/2024	17:45:58	21.3	70.9	04/28/2024	09:45:58	21.3	67.3	04/29/2024	01:45:58	20.5	70.1
04/26/2024	09:55:58	20.9	70.4	04/27/2024	01:55:58	20.6	70.4	04/27/2024	17:55:58	21.3	70.8	04/28/2024	09:55:58	21.3	67.1	04/29/2024	01:55:58	20.5	70.1
04/26/2024	10:05:58	21.0	70.4	04/27/2024	02:05:58	20.6	70.4	04/27/2024	18:05:58	21.3	70.6	04/28/2024	10:05:58	21.3	67.0	04/29/2024	02:05:58	20.5	70.1
04/26/2024	10:15:58	21.1	70.0	04/27/2024	02:15:58	20.6	70.5	04/27/2024	18:15:58	21.3	70.4	04/28/2024	10:15:58	21.3	67.0	04/29/2024	02:15:58	20.4	70.0
04/26/2024	10:25:58	21.1	69.9	04/27/2024	02:25:58	20.6	70.5	04/27/2024	18:25:58	21.3	70.2	04/28/2024	10:25:58	21.3	67.1	04/29/2024	02:25:58	20.4	70.0
04/26/2024	10:35:58	21.1	69.9	04/27/2024	02:35:58	20.6	70.1	04/27/2024	18:35:58	21.3	70.0	04/28/2024	10:35:58	21.4	67.2	04/29/2024	02:35:58	20.4	69.9
04/26/2024	10:45:58	21.1	69.5	04/27/2024	02:45:58	20.6	70.1	04/27/2024	18:45:58	21.3	70.0	04/28/2024	10:45:58	21.4	67.2	04/29/2024	02:45:58	20.4	69.9
04/26/2024	10:55:58	21.0	68.9	04/27/2024	02:55:58	20.6	70.0	04/27/2024	18:55:58	21.2	69.9	04/28/2024	10:55:58	21.3	67.0	04/29/2024	02:55:58	20.4	69.9
04/26/2024	11:05:58	21.0	68.9	04/27/2024	03:05:58	20.6	70.1	04/27/2024	19:05:58	21.3	69.9	04/28/2024	11:05:58	21.2	67.4	04/29/2024	03:05:58	20.4	69.8
04/26/2024	11:15:58	20.9	69.0	04/27/2024	03:15:58	20.5	69.9	04/27/2024	19:15:58	21.2	69.9	04/28/2024	11:15:58	21.3	67.4	04/29/2024	03:15:58	20.3	69.8
04/26/2024	11:25:58	20.9	69.2	04/27/2024	03:25:58	20.5	69.9	04/27/2024	19:25:58	21.2	69.9	04/28/2024	11:25:58	21.3	67.6	04/29/2024	03:25:58	20.3	69.8
04/26/2024	11:35:58	20.9	69.8	04/27/2024	03:35:58	20.5	69.9	04/27/2024	19:35:58	21.2	70.1	04/28/2024	11:35:58	21.3	67.5	04/29/2024	03:35:58	20.3	69.8
04/26/2024	11:45:58	20.9	70.8	04/27/2024	03:45:58	20.5	69.9	04/27/2024	19:45:58	21.2	72.8	04/28/2024	11:45:58	21.2	67.6	04/29/2024	03:45:58	20.3	69.8
04/26/2024	11:55:58	20.8	71.1	04/27/2024	03:55:58	20.5	69.9	04/27/2024	19:55:58	21.3	75.0	04/28/2024	11:55:58	21.2	67.5	04/29/2024	03:55:58	20.3	69.8
04/26/2024	12:05:58	20.8	70.8	04/27/2024	04:05:58	20.5	69.8	04/27/2024	20:05:58	21.4	75.4	04/28/2024	12:05:58	21.1	67.5	04/29/2024	04:05:58	20.3	69.8
04/26/2024	12:15:58	20.8	70.6	04/27/2024	04:15:58	20.4	69.7	04/27/2024	20:15:58	21.3	75.9	04/28/2024	12:15:58	21.1	67.3	04/29/2024	04:15:58	20.2	69.7
04/26/2024	12:25:58	20.8	70.5	04/27/2024	04:25:58	20.4	69.7	04/27/2024	20:25:58	21.3	75.2	04/28/2024	12:25:58	21.1	67.2	04/29/2024	04:25:58	20.2	69.7
04/26/2024	12:35:58	20.8	70.2	04/27/2024	04:35:58	20.4	69.7	04/27/2024	20:35:58	21.3	75.0	04/28/2024	12:35:58	21.1	67.2	04/29/2024	04:35:58	20.2	69.7
04/26/2024	12:45:58	20.9	69.9	04/27/2024	04:45:58	20.4	69.5	04/27/2024	20:45:58	21.3	74.6	04/28/2024	12:45:58	21.0	67.3	04/29/2024	04:45:58	20.2	69.8
04/26/2024	12:55:58	20.9	69.8	04/27/2024	04:55:58	20.4	69.3	04/27/2024	20:55:58	21.3	74.4	04/28/2024	12:55:58	21.0	67.3	04/29/2024	04:55:58	20.2	69.8
04/26/2024	13:05:58	20.9	69.9	04/27/2024	05:05:58	20.4	69.3	04/27/2024	21:05:58	21.3	74.2	04/28/2024	13:05:58	21.0	67.3	04/29/2024	05:05:58	20.2	70.0
04/26/2024	13:15:58	21.0	70.0	04/27/2024	05:15:58	20.4	69.4	04/27/2024	21:15:58	21.3	74.0	04/28/2024	13:15:58	21.0	67.4	04/29/2024	05:15:58	20.2	69.8
04/26/2024	13:25:58	21.0	70.1	04/27/2024	05:25:58	20.4	69.3	04/27/2024	21:25:58	21.3	73.9	04/28/2024	13:25:58	21.0	67.4	04/29/2024	05:25:58	20.2	70.1
04/26/2024	13:35:58	21.1	70.2	04/27/2024	05:35:58	20.4	69.1	04/27/2024	21:35:58	21.3	73.7	04/28/2024	13:35:58	21.0	67.9	04/29/2024	05:35:58	20.1	69.7
04/26/2024	13:45:58	21.1	70.1	04/27/2024	05:45:58	20.3	69.1	04/27/2024	21:45:58	21.3	73.5	04/28/2024	13:45:58	21.0	68.1	04/29/2024	05:45:58	20.1	69.9
04/26/2024	13:55:58	21.1	70.1	04/27/2024	05:55:58	20.3	69.1	04/27/2024	21:55:58	21.3	73.4	04/28/2024	13:55:58	21.0	68.3	04/29/2024	05:55:58	20.1	69.8
04/26/2024	14:05:58	21.1	70.1	04/27/2024	06:05:58	20.3	69.0	04/27/2024	22:05:58	21.3	73.3	04/28/2024	14:05:58	21.0	68.4	04/29/2024	06:05:58	20.1	69.6
04/26/2024	14:15:58	21.2	70.3	04/27/2024	06:15:58	20.3	69.0	04/27/2024	22:15:58	21.3	73.2	04/28/2024	14:15:58	20.9	68.3	04/29/2024	06:15:58	20.1	69.6
04/26/2024	14:25:58	21.1	70.5	04/27/2024	06:25:58	20.3	68.8	04/27/2024	22:25:58	21.3	73.1	04/28/2024	14:25:58	21.0	68.4	04/29/2024	06:25:58	20.1	69.5
04/26/2024	14:35:58	21.1	70.7	04/27/2024	06:35:58	20.3	68.2	04/27/2024	22:35:58	21.3	73.9	04/28/2024	14:35:58	20.9	68.2	04/29/2024	06:35:58	20.1	69.8
04/26/2024	14:45:58	21.1	70.9	04/27/2024	06:45:58	20.3	68.2	04/27/2024	22:45:58	21.2	72.9	04/28/2024	14:45:58	20.9	68.9	04/29/2024	06:45:58	20.0	69.5
04/26/2024	14:55:58	21.1	71.3	04/27/2024	06:55:58	20.2	67.6	04/27/2024	22:55:58	21.2	72.8	04/28/2024	14:55:58	20.9	67.9	04/29/2024	06:55:58	20.0	69.5
04/26/2024	15:05:58	21.1	71.3	04/27/2024	07:05:58	20.2	67.3	04/27/2024	23:05:58	21.3	72.7	04/28/2024	15:05:58	20.9	67.9	04/29/2024	07:05:58	20.0	69.5
04/26/2024	15:15:58	21.1	71.3	04/27/2024	07:15:58	20.2	67.3	04/27/2024	23:15:58	21.2	72.7	04/28/2024	15:15:58	20.8	67.9	04/29/2024	07:15:58	20.0	69.5
04/26/2024	15:25:58	21.0	71.3	04/27/2024	07:25:58	20.2	67.2	04/27/2024	23:25:58	21.2	72.6	04/28/2024	15:25:58	20.8	67.8	04/29/2024	07:25:58	20.0	69.5
04/26/2024	15:35:58	21.0	71.4	04/27/2024	07:35:58	20.2	67.4	04/27/2024	23:35:58	21.2	72.4	04/28/2024	15:35:58	20.8	67.6	04/29/2024	07:35:58	20.0	69.3
04/26/2024	15:45:58	21.0	71.6	04/27/2024	07:45:58	20.2	67.0	04/27/2024	23:45:58	21.2	72.4	04/28/2024	15:45:58	20.8	67.6	04/29/2024	07:45:58	20.0	69.4
04/26/2024	15:55:58	21.0	71.1	04/27/2024	07:55:58	20.3	66.7	04/27/2024	23:55:58	21.1	73.9	04/28/2024	15:55:58	20.9	68.2	04/29/2024	07:55:58	20.0	69.4
04/26/2024	16:05:58	21.0	71.8	04/27/2024	08:05:58	20.2	66.2	04/28/2024	00:05:58	21.2	72.3	04/28/2024	16:05:58	20.7	67.9	04/29/2024	08:05:58	20.0	70.5
04/26/2024	16:15:58	21.0	71.9	04/27/2024	08:15:58	20.3	66.0	04/28/2024	00:15:58	21.2	72.2	04/28/2024	16:15:58	20.7	68.1	04/29/2024	08:15:58	20.1	70.2
04/26/2024	16:25:58	21.0	72.1	04/27/2024	08:25:58	20.3	65.7	04/28/2024	00:25:58	21.2	72.1	04/28/2024	16:25:58	20.7	68.2	04/29/2024	08:25:58	20.1	70.7
04/26/2024	16:35:58	21.0	72.5	04/27/2024	08:35:58	20.4	66.3	04/28/2024	00:35:58	21.2	72.0	04/28/2024	16:35:58	20.8	68.8	04/29/2024	08:35:58	20.1	71.1
04/26/2024	16:45:58	21.1	73.0	04/27/2024	08:45:58	20.5	66.6	04/28/2024	00:45:58	21.1	71.8	04/28/2024	16:45:58	20.8	69.4	04/29/2024	08:45:58	20.1	71.1
04/26/2024	16:55:58	21.0	73.3	04/27/2024	08:55:58	20.6	66.6	04/28/2024	00:55:58	21.1	71.6	04/28/2024	16:55:58	20.9	70.6	04/29/2024	08:55:58	20.2	71.6
04/26/2024	17:05:58	21.1	73.1	04/27/2024	09:05:58	20.7	66.7	04/28/2024	01:05:58	21.1	71.5	04/28/2024	17:05:58	21.0	70.2	04/29/2024	09:05:58	20.2	72.1
04/26/2024	17:15:58	21.1	73.4	04/27/2024	09:15:58	20.8	66.2	04/28/2024	01:15:58	21.1	71.1	04/28/2024	17:15:58	21.1	71.1	04/29/2024	09:15:58	20.3	72.2
04/26/2024	17:25:58	21.1	73.3	04/27/2024	09:25:58	20.8	65.8	04/28/2024	01:25:58	21.1	70.5	04/28/2024	17:25:58	21.2	70.5	04/29/2024	09:25:58	20.4	71.4
04/26/2024	17:35:58	21.1																	



### Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
04/29/2024	17:05:58	21.3	55.6	04/30/2024	09:05:58	20.5	69.2	05/01/2024	01:05:58	20.1	71.2								
04/29/2024	17:15:58	21.2	55.6	04/30/2024	09:15:58	20.5	69.4	05/01/2024	01:15:58	20.1	71.2								
04/29/2024	17:25:58	21.2	55.3	04/30/2024	09:25:58	20.5	69.7	05/01/2024	01:25:58	20.1	71.2								
04/29/2024	17:35:58	21.2	55.1	04/30/2024	09:35:58	20.5	69.8	05/01/2024	01:35:58	20.1	71.2								
04/29/2024	17:45:58	21.2	55.0	04/30/2024	09:45:58	20.4	70.0	05/01/2024	01:45:58	20.1	71.3								
04/29/2024	17:55:58	21.2	54.9	04/30/2024	09:55:58	20.4	70.2	05/01/2024	01:55:58	20.1	71.2								
04/29/2024	18:05:58	21.2	54.8	04/30/2024	10:05:58	20.4	70.4	05/01/2024	02:05:58	20.0	71.2								
04/29/2024	18:15:58	21.2	55.3	04/30/2024	10:15:58	20.4	70.5	05/01/2024	02:15:58	20.0	71.2								
04/29/2024	18:25:58	21.2	55.8	04/30/2024	10:25:58	20.4	70.7	05/01/2024	02:25:58	20.0	71.2								
04/29/2024	18:35:58	21.2	55.6	04/30/2024	10:35:58	20.4	70.9	05/01/2024	02:35:58	20.0	71.3								
04/29/2024	18:45:58	21.2	55.4	04/30/2024	10:45:58	20.4	71.0	05/01/2024	02:45:58	20.0	71.2								
04/29/2024	18:55:58	21.2	55.1	04/30/2024	10:55:58	20.4	71.1	05/01/2024	02:55:58	19.9	71.3								
04/29/2024	19:05:58	21.2	55.0	04/30/2024	11:05:58	20.4	71.2	05/01/2024	03:05:58	20.0	71.4								
04/29/2024	19:15:58	21.2	54.9	04/30/2024	11:15:58	20.4	71.3	05/01/2024	03:15:58	19.9	71.4								
04/29/2024	19:25:58	21.1	54.7	04/30/2024	11:25:58	20.4	71.4	05/01/2024	03:25:58	19.9	71.4								
04/29/2024	19:35:58	21.2	54.5	04/30/2024	11:35:58	20.5	71.5	05/01/2024	03:35:58	19.9	71.5								
04/29/2024	19:45:58	21.1	54.9	04/30/2024	11:45:58	20.5	71.4	05/01/2024	03:45:58	19.9	71.6								
04/29/2024	19:55:58	21.2	54.8	04/30/2024	11:55:58	20.5	71.7	05/01/2024	03:55:58	19.9	72.0								
04/29/2024	20:05:58	21.1	55.0	04/30/2024	12:05:58	20.5	72.2	05/01/2024	04:05:58	19.9	72.0								
04/29/2024	20:15:58	21.2	62.1	04/30/2024	12:15:58	20.6	72.3	05/01/2024	04:15:58	19.9	71.4								
04/29/2024	20:25:58	21.2	64.6	04/30/2024	12:25:58	20.6	72.6	05/01/2024	04:25:58	19.9	72.1								
04/29/2024	20:35:58	21.2	64.1	04/30/2024	12:35:58	20.7	72.5	05/01/2024	04:35:58	19.9	72.2								
04/29/2024	20:45:58	21.2	63.7	04/30/2024	12:45:58	20.7	72.3	05/01/2024	04:45:58	19.8	72.3								
04/29/2024	20:55:58	21.2	63.0	04/30/2024	12:55:58	20.6	72.0	05/01/2024	04:55:58	19.8	72.4								
04/29/2024	21:05:58	21.2	62.5	04/30/2024	13:05:58	20.6	71.5	05/01/2024	05:05:58	19.8	72.7								
04/29/2024	21:15:58	21.2	62.0	04/30/2024	13:15:58	20.6	71.0	05/01/2024	05:15:58	19.8	72.8								
04/29/2024	21:25:58	21.1	61.7	04/30/2024	13:25:58	20.6	70.4	05/01/2024	05:25:58	19.7	74.0								
04/29/2024	21:35:58	21.2	62.0	04/30/2024	13:35:58	20.6	70.0	05/01/2024	05:35:58	19.8	73.4								
04/29/2024	21:45:58	21.1	62.3	04/30/2024	13:45:58	20.6	69.7	05/01/2024	05:45:58	19.9	74.1								
04/29/2024	21:55:58	21.1	62.1	04/30/2024	13:55:58	20.6	69.4	05/01/2024	05:55:58	19.8	73.7								
04/29/2024	22:05:58	21.1	62.1	04/30/2024	14:05:58	20.7	68.8	05/01/2024	06:05:58	19.8	73.8								
04/29/2024	22:15:58	21.1	62.2	04/30/2024	14:15:58	20.6	68.3	05/01/2024	06:15:58	19.8	73.7								
04/29/2024	22:25:58	21.1	62.3	04/30/2024	14:25:58	20.6	67.9	05/01/2024	06:25:58	19.8	73.6								
04/29/2024	22:35:58	21.1	62.3	04/30/2024	14:35:58	20.6	67.3	05/01/2024	06:35:58	19.8	74.0								
04/29/2024	22:45:58	21.1	62.3	04/30/2024	14:45:58	20.7	68.8	05/01/2024	06:45:58	20.0	74.1								
04/29/2024	22:55:58	21.1	62.3	04/30/2024	14:55:58	20.7	68.3	05/01/2024	06:55:58	19.7	74.0								
04/29/2024	23:05:58	21.1	62.3	04/30/2024	15:05:58	20.7	67.8	05/01/2024	07:05:58	19.7	74.1								
04/29/2024	23:15:58	21.1	62.3	04/30/2024	15:15:58	20.7	67.3	05/01/2024	07:15:58	19.7	74.2								
04/29/2024	23:25:58	21.1	62.3	04/30/2024	15:25:58	20.7	66.0	05/01/2024	07:25:58	19.8	74.4								
04/29/2024	23:35:58	21.1	62.3	04/30/2024	15:35:58	20.6	65.1	05/01/2024	07:35:58	19.8	74.5								
04/29/2024	23:45:58	21.1	62.1	04/30/2024	15:45:58	20.6	63.5	05/01/2024	07:45:58	19.7	74.4								
04/30/2024	00:05:58	21.0	61.7	04/30/2024	15:55:58	20.6	63.1	05/01/2024	07:55:58	19.7	74.4								
04/30/2024	00:15:58	21.0	61.4	04/30/2024	16:05:58	20.6	62.6	05/01/2024	08:05:58	19.7	74.4								
04/30/2024	00:25:58	21.0	61.2	04/30/2024	16:15:58	20.6	62.6	05/01/2024	08:15:58	19.7	74.6								
04/30/2024	00:35:58	21.0	60.9	04/30/2024	16:25:58	20.6	62.5	05/01/2024	08:25:58	19.7	74.6								
04/30/2024	00:45:58	21.0	60.7	04/30/2024	16:35:58	20.5	62.5	05/01/2024	08:35:58	19.7	74.8								
04/30/2024	00:55:58	21.0	60.4	04/30/2024	16:45:58	20.5	62.0	05/01/2024	08:45:58	19.8	75.1								
04/30/2024	01:05:58	21.0	60.2	04/30/2024	16:55:58	20.5	62.2	05/01/2024	08:55:58	19.8	75.2								
04/30/2024	01:15:58	20.9	59.7	04/30/2024	17:05:58	20.6	63.7	05/01/2024	09:05:58	19.9	75.4								
04/30/2024	01:25:58	20.9	59.4	04/30/2024	17:15:58	20.6	65.5	05/01/2024	09:15:58	19.8	75.4								
04/30/2024	01:35:58	20.9	59.1	04/30/2024	17:25:58	20.7	67.6	05/01/2024	09:25:58	19.8	75.6								
04/30/2024	01:45:58	20.9	59.2	04/30/2024	17:35:58	20.8	67.9	05/01/2024	09:35:58	19.8	75.9								
04/30/2024	01:55:58	20.9	59.2	04/30/2024	17:45:58	20.9	68.3	05/01/2024	09:45:58	19.9	76.3								
04/30/2024	02:05:58	20.9	59.3	04/30/2024	17:55:58	20.9	68.3	05/01/2024	09:55:58	19.9	76.4								
04/30/2024	02:15:58	20.9	59.2	04/30/2024	18:05:58	20.9	68.3	05/01/2024	10:05:58	19.9	76.3								
04/30/2024	02:25:58	20.9	59.7	04/30/2024	18:15:58	20.9	69.0	05/01/2024	10:15:58	19.9	76.4								
04/30/2024	02:35:58	20.9	59.7	04/30/2024	18:25:58	21.0	68.1	05/01/2024	10:25:58	20.0	76.7								
04/30/2024	02:45:58	20.9	59.7	04/30/2024	18:35:58	21.3	69.1	05/01/2024	10:35:58	20.0	77.1								
04/30/2024	02:55:58	20.9	59.9	04/30/2024	18:45:58	21.2	69.4	05/01/2024	10:45:58	20.0	77.3								
04/30/2024	03:05:58	20.9	59.9	04/30/2024	18:55:58	21.1	69.5	05/01/2024	10:55:58	20.0	77.5								
04/30/2024	03:15:58	20.8	60.2	04/30/2024	19:05:58	21.1	70.4	05/01/2024	11:05:58	20.1	77.8								
04/30/2024	03:25:58	20.8	60.6	04/30/2024	19:15:58	21.1	71.2	05/01/2024	11:15:58	20.2	77.8								
04/30/2024	03:35:58	20.8	61.1	04/30/2024	19:25:58	21.1	71.0	05/01/2024	11:25:58	20.2	77.6								
04/30/2024	03:45:58	20.8	61.4	04/30/2024	19:35:58	21.0	70.8	05/01/2024	11:35:58	20.2	77.6								
04/30/2024	03:55:58	20.8	61.7	04/30/2024	19:45:58	20.9	70.2	05/01/2024	11:45:58	20.3	78.1								
04/30/2024	04:05:58	20.8	62.1	04/30/2024	19:55:58	20.8	70.0	05/01/2024	11:55:58	20.3	77.8								
04/30/2024	04:15:58	20.8	62.4	04/30/2024	20:05:58	20.7	69.9	05/01/2024	12:05:58	20.3	77.3								
04/30/2024	04:25:58	20.8	62.8	04/30/2024	20:15:58	20.7	69.8	05/01/2024	12:15:58	20.3	76.8								
04/30/2024	04:35:58	20.8	63.1	04/30/2024	20:25:58	20.7	69.8	05/01/2024	12:25:58	20.3	76.6								
04/30/2024	04:45:58	20.7	63.5	04/30/2024	20:35:58	20.6	69.6	05/01/2024	12:35:58	20.3	76.6								
04/30/2024	04:55:58	20.8	63.9	04/30/2024	20:45:58	20.6	69.6	05/01/2024	12:45:58	20.3	76.2								
04/30/2024	05:05:58	20.7	64.3	04/30/2024	20:55:58	20.5	69.4	05/01/2024	12:55:58	20.3	75.7								

## Appendix D: Datalogger Data (Dry Cabinet)



Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
06/08/2024	09:51:56	16.3	73.9	06/09/2024	01:51:56	16.7	42.8	06/09/2024	17:51:56	17.1	38.7	06/10/2024	09:51:56	17.4	37.0	06/11/2024	01:51:56	17.3	37.0
06/08/2024	10:01:56	16.5	74.2	06/09/2024	02:01:56	16.7	42.7	06/09/2024	18:01:56	17.1	38.7	06/10/2024	10:01:56	17.5	36.9	06/11/2024	02:01:56	17.2	37.0
06/08/2024	10:11:56	16.7	73.1	06/09/2024	02:11:56	16.7	42.7	06/09/2024	18:11:56	17.1	38.7	06/10/2024	10:11:56	17.6	36.8	06/11/2024	02:11:56	17.2	37.0
06/08/2024	10:21:56	17.0	71.9	06/09/2024	02:21:56	16.7	42.6	06/09/2024	18:21:56	17.1	38.7	06/10/2024	10:21:56	17.6	36.7	06/11/2024	02:21:56	17.2	37.0
06/08/2024	10:31:56	17.1	70.8	06/09/2024	02:31:56	16.7	42.5	06/09/2024	18:31:56	17.1	38.7	06/10/2024	10:31:56	17.7	36.7	06/11/2024	02:31:56	17.2	37.0
06/08/2024	10:41:56	17.2	69.8	06/09/2024	02:41:56	16.6	42.5	06/09/2024	18:41:56	17.1	38.7	06/10/2024	10:41:56	17.6	36.6	06/11/2024	02:41:56	17.2	37.1
06/08/2024	10:51:56	17.2	68.9	06/09/2024	02:51:56	16.6	42.4	06/09/2024	18:51:56	17.1	38.7	06/10/2024	10:51:56	17.6	36.6	06/11/2024	02:51:56	17.3	37.1
06/08/2024	11:01:56	17.2	68.1	06/09/2024	03:01:56	16.6	42.3	06/09/2024	19:01:56	17.1	38.7	06/10/2024	11:01:56	17.5	36.6	06/11/2024	03:01:56	17.3	37.1
06/08/2024	11:11:56	17.1	67.4	06/09/2024	03:11:56	16.6	42.2	06/09/2024	19:11:56	17.1	38.7	06/10/2024	11:11:56	17.4	36.6	06/11/2024	03:11:56	17.3	37.1
06/08/2024	11:21:56	17.1	66.7	06/09/2024	03:21:56	16.6	42.2	06/09/2024	19:21:56	17.1	38.7	06/10/2024	11:21:56	17.4	36.6	06/11/2024	03:21:56	17.2	37.1
06/08/2024	11:31:56	17.1	66.0	06/09/2024	03:31:56	16.6	42.1	06/09/2024	19:31:56	17.1	38.6	06/10/2024	11:31:56	17.4	36.6	06/11/2024	03:31:56	17.2	37.1
06/08/2024	11:41:56	17.0	65.3	06/09/2024	03:41:56	16.6	42.1	06/09/2024	19:41:56	17.1	38.6	06/10/2024	11:41:56	17.4	36.5	06/11/2024	03:41:56	17.3	37.1
06/08/2024	11:51:56	17.0	64.6	06/09/2024	03:51:56	16.6	42.0	06/09/2024	19:51:56	17.1	38.6	06/10/2024	11:51:56	17.4	36.5	06/11/2024	03:51:56	17.3	37.2
06/08/2024	12:01:56	17.0	64.0	06/09/2024	04:01:56	16.5	42.0	06/09/2024	20:01:56	17.1	38.6	06/10/2024	12:01:56	17.4	36.4	06/11/2024	04:01:56	17.2	37.1
06/08/2024	12:11:56	16.9	63.3	06/09/2024	04:11:56	16.5	41.9	06/09/2024	20:11:56	17.1	38.7	06/10/2024	12:11:56	17.4	36.3	06/11/2024	04:11:56	17.3	37.2
06/08/2024	12:21:56	16.9	62.7	06/09/2024	04:21:56	16.5	41.8	06/09/2024	20:21:56	17.1	38.7	06/10/2024	12:21:56	17.4	36.2	06/11/2024	04:21:56	17.3	37.1
06/08/2024	12:31:56	16.9	62.1	06/09/2024	04:31:56	16.5	41.8	06/09/2024	20:31:56	17.2	38.7	06/10/2024	12:31:56	17.4	36.2	06/11/2024	04:31:56	17.3	37.2
06/08/2024	12:41:56	16.9	61.5	06/09/2024	04:41:56	16.5	41.7	06/09/2024	20:41:56	17.2	38.7	06/10/2024	12:41:56	17.4	36.1	06/11/2024	04:41:56	17.3	37.2
06/08/2024	12:51:56	16.9	61.0	06/09/2024	04:51:56	16.4	41.6	06/09/2024	20:51:56	17.2	38.7	06/10/2024	12:51:56	17.5	36.0	06/11/2024	04:51:56	17.3	37.2
06/08/2024	13:01:56	16.9	60.3	06/09/2024	05:01:56	16.4	41.5	06/09/2024	21:01:56	17.1	38.7	06/10/2024	13:01:56	17.5	35.9	06/11/2024	05:01:56	17.3	37.2
06/08/2024	13:11:56	16.9	59.9	06/09/2024	05:11:56	16.4	41.5	06/09/2024	21:11:56	17.1	38.6	06/10/2024	13:11:56	17.5	35.9	06/11/2024	05:11:56	17.3	37.3
06/08/2024	13:21:56	16.9	59.4	06/09/2024	05:21:56	16.4	41.5	06/09/2024	21:21:56	17.1	38.7	06/10/2024	13:21:56	17.5	35.8	06/11/2024	05:21:56	17.3	37.3
06/08/2024	13:31:56	16.8	58.8	06/09/2024	05:31:56	16.3	41.5	06/09/2024	21:31:56	17.1	38.7	06/10/2024	13:31:56	17.6	35.7	06/11/2024	05:31:56	17.3	37.3
06/08/2024	13:41:56	16.8	58.3	06/09/2024	05:41:56	16.3	41.4	06/09/2024	21:41:56	17.1	38.6	06/10/2024	13:41:56	17.6	35.7	06/11/2024	05:41:56	17.3	37.3
06/08/2024	13:51:56	16.8	57.9	06/09/2024	05:51:56	16.3	41.3	06/09/2024	21:51:56	17.1	38.6	06/10/2024	13:51:56	17.6	35.6	06/11/2024	05:51:56	17.3	37.3
06/08/2024	14:01:56	16.9	57.4	06/09/2024	06:01:56	16.3	41.3	06/09/2024	22:01:56	17.1	38.6	06/10/2024	14:01:56	17.6	35.5	06/11/2024	06:01:56	17.3	37.3
06/08/2024	14:11:56	17.0	56.9	06/09/2024	06:11:56	16.3	41.2	06/09/2024	22:11:56	17.1	38.5	06/10/2024	14:11:56	17.6	35.5	06/11/2024	06:11:56	17.3	37.3
06/08/2024	14:21:56	16.8	56.4	06/09/2024	06:21:56	16.3	41.2	06/09/2024	22:21:56	17.1	38.6	06/10/2024	14:21:56	17.6	35.5	06/11/2024	06:21:56	17.3	37.3
06/08/2024	14:31:56	16.8	56.0	06/09/2024	06:31:56	16.3	41.1	06/09/2024	22:31:56	17.1	38.6	06/10/2024	14:31:56	17.6	35.5	06/11/2024	06:31:56	17.3	37.3
06/08/2024	14:41:56	16.9	55.6	06/09/2024	06:41:56	16.3	41.0	06/09/2024	22:41:56	17.0	38.6	06/10/2024	14:41:56	17.5	35.5	06/11/2024	06:41:56	17.4	37.3
06/08/2024	14:51:56	16.8	55.1	06/09/2024	06:51:56	16.3	41.0	06/09/2024	22:51:56	17.0	38.6	06/10/2024	14:51:56	17.4	35.6	06/11/2024	06:51:56	17.4	37.3
06/08/2024	15:01:56	16.8	54.7	06/09/2024	07:01:56	16.3	41.0	06/09/2024	23:01:56	17.0	38.6	06/10/2024	15:01:56	17.4	35.7	06/11/2024	07:01:56	17.4	37.3
06/08/2024	15:11:56	16.9	54.3	06/09/2024	07:11:56	16.2	40.9	06/09/2024	23:11:56	17.0	38.5	06/10/2024	15:11:56	17.3	35.8	06/11/2024	07:11:56	17.4	37.4
06/08/2024	15:21:56	16.9	53.9	06/09/2024	07:21:56	16.3	40.9	06/09/2024	23:21:56	17.0	38.5	06/10/2024	15:21:56	17.3	35.8	06/11/2024	07:21:56	17.4	37.3
06/08/2024	15:31:56	16.9	53.6	06/09/2024	07:31:56	16.3	40.9	06/09/2024	23:31:56	17.0	38.5	06/10/2024	15:31:56	17.3	35.7	06/11/2024	07:31:56	17.4	37.3
06/08/2024	15:41:56	16.9	53.2	06/09/2024	07:41:56	16.3	40.8	06/09/2024	23:41:56	17.0	38.5	06/10/2024	15:41:56	17.2	36.0	06/11/2024	07:41:56	17.4	37.4
06/08/2024	15:51:56	16.8	52.8	06/09/2024	07:51:56	16.3	40.7	06/09/2024	23:51:56	17.0	38.6	06/10/2024	15:51:56	17.2	36.0	06/11/2024	07:51:56	17.4	37.3
06/08/2024	16:01:56	16.8	52.5	06/09/2024	08:01:56	16.3	40.7	06/09/2024	00:01:56	17.0	38.5	06/10/2024	16:01:56	17.2	36.2	06/11/2024	08:01:56	17.4	37.3
06/08/2024	16:11:56	16.9	52.2	06/09/2024	08:11:56	16.3	40.7	06/10/2024	00:11:56	16.9	38.5	06/10/2024	16:11:56	17.2	36.2	06/11/2024	08:11:56	17.4	37.3
06/08/2024	16:21:56	16.9	51.9	06/09/2024	08:21:56	16.3	40.6	06/10/2024	00:21:56	16.9	38.5	06/10/2024	16:21:56	17.2	36.3	06/11/2024	08:21:56	17.4	37.3
06/08/2024	16:31:56	16.9	51.5	06/09/2024	08:31:56	16.3	40.6	06/10/2024	00:31:56	16.9	38.5	06/10/2024	16:31:56	17.2	36.4	06/11/2024	08:31:56	17.5	37.3
06/08/2024	16:41:56	16.9	51.0	06/09/2024	08:41:56	16.3	40.5	06/10/2024	00:41:56	16.9	38.5	06/10/2024	16:41:56	17.2	36.4	06/11/2024	08:41:56	17.5	37.3
06/08/2024	16:51:56	16.9	51.0	06/09/2024	08:51:56	16.4	40.5	06/10/2024	00:51:56	16.9	38.4	06/10/2024	16:51:56	17.2	36.4	06/11/2024	08:51:56	17.5	37.4
06/08/2024	17:01:56	17.0	50.7	06/09/2024	09:01:56	16.5	40.5	06/10/2024	01:01:56	16.9	38.4	06/10/2024	17:01:56	17.2	36.5	06/11/2024	09:01:56	17.5	37.3
06/08/2024	17:11:56	17.0	50.4	06/09/2024	09:11:56	16.6	40.5	06/10/2024	01:11:56	16.8	38.4	06/10/2024	17:11:56	17.3	36.6	06/11/2024	09:11:56	17.6	37.3
06/08/2024	17:21:56	17.0	50.2	06/09/2024	09:21:56	16.7	40.3	06/10/2024	01:21:56	16.8	38.4	06/10/2024	17:21:56	17.3	36.6	06/11/2024	09:21:56	17.6	37.3
06/08/2024	17:31:56	17.0	49.9	06/09/2024	09:31:56	16.8	40.2	06/10/2024	01:31:56	16.8	38.4	06/10/2024	17:31:56	17.3	36.7	06/11/2024	09:31:56	17.6	37.3
06/08/2024	17:41:56	17.0	49.6	06/09/2024	09:41:56	16.9	40.0	06/10/2024	01:41:56	16.8	38.4	06/10/2024	17:41:56	17.3	36.7	06/11/2024	09:41:56	17.7	37.3
06/08/2024	17:51:56	17.0	49.1	06/09/2024	09:51:56	16.9	40.0	06/10/2024	01:51:56	16.8	38.3	06/10/2024	17:51:56	17.3	36.7	06/11/2024	09:51:56	17.7	37.3
06/08/2024	18:01:56	17.0	49.1	06/09/2024	10:01:56	17.1	39.9	06/10/2024	02:01:56	16.8	38.3	06/10/2024	18:01:56	17.3	36.7	06/11/2024	10:01:56	17.3	37.3
06/08/2024	18:11:56	17.0	48.9	06/09/2024	10:11:56	17.3	39.7	06/10/2024	02:11:56	16.7	38.3	06/10/2024	18:11:56	17.3	36.8	06/11/2024	10:11:56		



