



# GMP验证报告

## GMP VERIFICATION REPORT

**验证企业:** 国药集团威奇达药业有限公司  
**验证地址:** 山西省大同市云州区第一医药园区国药集团威奇达药业有限公司  
**验证对象:** 头孢事业部110车间 冷库（三）  
**温控信息:** -23.0℃~-14.0℃  
**验证性质:** 使用前验证  
**验证环境:** 低温  
**验证类别:** 空载  
**验证项目:** 存储空间温度的偏差、均匀度和波动度确认  
 温度监测系统配置的测点终端安装位置确认  
 设备故障或外部供电中断的状况下温控库房保温性能及变化趋势确定  
 开门作业对温控库房温度分布影响的确认  
 本地区高温或低温等极端外部环境条件下的温度稳定性确认  
 温控设施设备运行参数及使用状况测试  
 风机工作情况确认  
 风机除霜作业对温控库房温度分布影响的确认

验证实施日期:

### 验证标准和技术要求:

依照《WHO第961号技术报告附录9: 时间和温度敏感的药品的贮运指南技术补充之温控存贮区的确认》、《药品生产质量管理规范（2010年修订）》、《中华人民共和国药品管理法》、《中华人民共和国药品管理法实施条例》、《药品经营质量管理规范》（GSP）及附录五《验证管理》、《GB/T34399-2025医药产品冷链物流温控设施设备验证性能确认技术规范》。

### 适用范围:

冷库及全部温湿度调节设施。

签发:

签发日期:

北京世福宝科技有限公司

Beijing SEVOBO Technology Co., Ltd



系统名称及版本号: 世福宝GSP/GMP冷链物流温控验证实时云系统

公司地址: 北京市通州区马驹桥联东U谷西区11B

V1.0

公司电话: 13021079718, 18610356318

公司网址: <http://www.sevobo.com>

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## 1 参与人员及培训记录

### 1.1 验证报告的起草、审核与批准

职责	姓名	职务	企业	签名
起草	白鹏	山西深焓验证工 程师	山西深焓节能环 境技术有限公司	
校对		山西深焓验证负 责人	山西深焓节能环 境技术有限公司	
审核		经理	国药集团威奇达 药业有限公司	
审核		经理	国药集团威奇达 药业有限公司	
审核	李昌慧	车间负责人	国药集团威奇达 药业有限公司	
审核	杨志龙	工程设备部经理	国药集团威奇达 药业有限公司	
审核	王晶	质量保证部QA	国药集团威奇达 药业有限公司	
审核	郭雨超	质量保证部经理	国药集团威奇达 药业有限公司	
批准	王志杰	质量负责人	国药集团威奇达 药业有限公司	

### 1.2 验证参与人员

职责	姓名	职务	企业	签名
组长	王志杰	质量负责人	国药集团威奇达 药业有限公司	
组员		经理	国药集团威奇达 药业有限公司	
组员		经理	国药集团威奇达 药业有限公司	
组员	白鹏	山西深焓验证工 程师	山西深焓节能环 境技术有限公司	
组员	郭雨超	质量保证部经理	国药集团威奇达 药业有限公司	

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组员	杨志龙	工程设备部经理	国药集团威奇达药业有限公司	
组员	李昌慧	车间负责人	国药集团威奇达药业有限公司	
组员		山西深焓验证负责人	山西深焓节能环保技术有限公司	

### 1.3 培训记录

## 2 验证目的

1. 建立阴凉库温湿度验证方案，检查并确认阴凉库内温湿度计放置是否合理，证明阴凉库是否能达到规定的温度和湿度的要求。
2. 对阴凉库日常监控点的位置确认
3. 阴凉库温度分布均匀度的确认，验证该库能够达到设定的温度要求，从而满足GMP管理要求。

## 3 验证依据

1. WHO第961号技术报告附录9：《时间和温度敏感的药品的贮运指南技术补充之温控贮存区的确认》；
2. 《药品生产质量管理规范（2019年修订）》；《中华人民共和国药品管理法》、《中华人民共和国药品管理法实施条例》；《药品经营质量管理规范》（GSP）及附录五《验证管理》、《GB/T34399-2025医药产品冷链物流温控设施设备验证性能确认技术规范》。
3. 验证实施标准：
  - (1) 成品阴凉库的温度控制范围：<20℃。
  - (2) 成品阴凉库的湿度控制范围：45%-75%。

## 4 验证规程

1. 概述：部分成品或者物料在贮存的过程中，有温湿度的要求，在成品或者物料贮存过程中，仓库的温湿度是否符合成品或者物料贮存的要求，需进行验证。
2. 验证目的要求
  - (1) 检查资料 and 文件是否符合GMP管理要求。
  - (2) 检查并确认成品阴凉库空调安装是否符合设计要求。
  - (3) 检查并确认成品阴凉库空调运行是否符合设计要求。
  - (4) 检查并确认成品阴凉库温度和湿度是否符合《WHO第961号技术报告附录9：时间和温度敏感的药品的贮运指南技术补充之温控贮存区的确认》仓储要求。

## 5 本次验证所用主要测量设备

### 5.1 验证设备标准

1. 用于检测成品阴凉库的温湿度传感器需经过合法的校验，并具有合格证书。
2. 验证所使用的温度传感器应当适用被验证设备的测量范围，温度测量范围在-10℃-45℃之间，温度的最大允许误差为±0.5℃；湿度测量范围在0%-95%之间，温度的最大允许误差为±3%。

### 5.2 验证设备描述

型号	品牌	温度测量范围	温度精度	湿度测量范围	湿度精度
SVB-YZ-REC-1	世福宝	-30° C~75° C	+0.5° C (≥0° C时); ±1° C (<0° C时)	0%-95%	±3%
SVB-YZ-REC-02	世福宝	-30° C~75° C	+0.5° C (≥0° C时); ±1° C (<0° C时)	0%-95%	±3%

### 5.3 验证设备清单

序号	型号	设备号	校准单位	校准证书	有效期	校准结果
1	SVB-YZ-REC-01	SF308010100212408088040803	济南市计量检定测试院	25001453974G1	2026-12-11	合格
2	SVB-YZ-REC-01	SF308010100212408088059803	济南市计量检定测试院	25001453987G1	2026-12-11	合格
3	SVB-YZ-REC-01	SF308010100212408088023803	济南市计量检定测试院	25001454003G1	2026-12-11	合格
4	SVB-YZ-REC-02	SF304070100022306148457803	济南市计量检定测试院	25001454060G1	2026-12-11	合格
5	SVB-YZ-REC-02	SF304070100022306088195803	济南市计量检定测试院	25001454104G1	2026-12-11	合格

序号	型号	设备号	校准单位	校准证书	有效期	校准结果
6	SVB-YZ-REC-01	SF308010100212408088041803	济南市计量检定测试院	25001463961G1	2026-12-11	合格
7	SVB-YZ-REC-02	SF304070100022306148095803	济南市计量检定测试院	25001474053G1	2026-12-11	合格
8	SVB-YZ-REC-02	SF304070100022306148131803	济南市计量检定测试院	25001474091G1	2026-12-11	合格
9	SVB-YZ-REC-01	SF308010100212408028030803	济南市计量检定测试院	25001463985G1	2026-12-11	合格
10	SVB-YZ-REC-02	SF304070100022306148107803	济南市计量检定测试院	25001454059G1	2026-12-11	合格
11	SVB-YZ-REC-01	SF308010100212408088039803	济南市计量检定测试院	25001463974G1	2026-12-11	合格
12	SVB-YZ-REC-02	SF304070100022306148246803	济南市计量检定测试院	25001454073G1	2026-12-11	合格
13	SVB-YZ-REC-01	SF308010100212408088009803	济南市计量检定测试院	25001453997G1	2026-12-11	合格
14	SVB-YZ-REC-02	SF304070100022306148135803	济南市计量检定测试院	25001474095G1	2026-12-11	合格
15	SVB-YZ-REC-01	SF308010100212408028006803	济南市计量检定测试院	25001464000G1	2026-12-11	合格
16	SVB-YZ-REC-02	SF304070100022306088024803	济南市计量检定测试院	25001474056G1	2026-12-11	合格

序号	型号	设备号	校准单位	校准证书	有效期	校准结果
17	SVB-YZ-REC-01	SF308010100212408088046803	济南市计量检定测试院	25001453970G1	2026-12-11	合格
18	SVB-YZ-REC-02	SF304070100022306148073803	济南市计量检定测试院	25001454071G1	2026-12-11	合格
19	SVB-YZ-REC-01	SF308010100212408088052803	济南市计量检定测试院	25001453986G1	2026-12-11	合格
20	SVB-YZ-REC-01	SF308010100212408088019803	济南市计量检定测试院	25001453968G1	2026-12-11	合格
21	SVB-YZ-REC-01	SF308010100212408028031803	济南市计量检定测试院	25001453998G1	2026-12-11	合格
22	SVB-YZ-REC-01	SF308010100212408028014803	济南市计量检定测试院	25001463964G1	2026-12-11	合格
23	SVB-YZ-REC-01	SF308010100212408088007803	济南市计量检定测试院	25001463983G1	2026-12-11	合格
24	SVB-YZ-REC-01	SF308010100212408088034803	济南市计量检定测试院	25001453976G1	2026-12-11	合格
25	SVB-YZ-REC-02	SF304070100022306088108803	济南市计量检定测试院	25001474061G1	2026-12-11	合格
26	SVB-YZ-REC-02	SF304070100022306088191803	济南市计量检定测试院	25001474059G1	2026-12-11	合格
27	SVB-YZ-REC-02	SF304070100022306148129803	济南市计量检定测试院	25001474084G1	2026-12-11	合格

序号	型号	设备号	校准单位	校准证书	有效期	校准结果
28	SVB-YZ-REC-02	SF304070100022306148507803	济南市计量检定测试院	25001494094G1	2026-12-11	合格
29	SVB-YZ-REC-02	SF304070100022306148630803	济南市计量检定测试院	25001494100G1	2026-12-11	合格
30	SVB-YZ-REC-02	SF304070100022306148165803	济南市计量检定测试院	25001494099G1	2026-12-11	合格
31	SVB-YZ-REC-02	SF304070100022306088041803	济南市计量检定测试院	25001474103G1	2026-12-11	合格
32	SVB-YZ-REC-01	SF308010100212408028017803	济南市计量检定测试院	25001463981G1	2026-12-11	合格
33	SVB-YZ-REC-01	SF308010100212408028037803	济南市计量检定测试院	25001463991G1	2026-12-11	合格
34	SVB-YZ-REC-02	SF304070100022306148200803	济南市计量检定测试院	25001494064G1	2026-12-11	合格
35	SVB-YZ-REC-02	SF304070100022306148606803	济南市计量检定测试院	25001494097G1	2026-12-11	合格
36	SVB-YZ-REC-01	SF308010100212408088035803	济南市计量检定测试院	25001463960G1	2026-12-11	合格
37	SVB-YZ-REC-02	SF304070100022306088201803	济南市计量检定测试院	25001474049G1	2026-12-11	合格
38	SVB-YZ-REC-02	SF304070100022306148448803	济南市计量检定测试院	25001494101G1	2026-12-11	合格

序号	型号	设备号	校准单位	校准证书	有效期	校准结果
39	SVB-YZ-REC-01	SF308010100212408028026803	济南市计量检定测试院	25001463999G1	2026-12-11	合格
40	SVB-YZ-REC-01	SF308010100212408028012803	济南市计量检定测试院	25001463996G1	2026-12-11	合格
41	SVB-YZ-REC-02	SF304070100022306088175803	济南市计量检定测试院	25001454103G1	2026-12-11	合格

## 6 验证对象

### 6.1 对象说明

名称	头孢事业部110车间 冷库（三）
长宽高(mm)	7578*2872*2700
面积(平米)	21.76
验证范围	-23.0℃~-14.0℃
验证状态	使用前

## 7 验证实施前准备及检查

### 7.1 系统条件确认

空调设备及仓库设计图情况确认表

序号	确认对象	检查标准	存放部门	确认结论
1	仓库平面布置图	应有	工程设备安全部	
2	仓库平面布置设计说明	应有	工程设备安全部	
3	空调运行	可运行	成品阴凉库	

检查人	
复核人	
确认结果	

确认人/日期	
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## 7.2 文件要求确认

验证用相关文件确认表

序号	文件名称	文件编号	起草人	审核人	批准人	执行日
1	仓储管理规程					
2	仓库卫生管理规程					
3	物料储存管理规程					
4	成品入库储存发放管理规程					
5	阴凉库管理规程					
6	仓库温湿度管理规程					
7	仓库清洁标准操作规程					
8	立式空调使用标准操作规程					
9	温度记录仪使用标准操作规程					

检查人	
复核人	
确认结果	
确认人/日期	

## 7.3 验证用记录仪检验确认

验证用记录仪校验情况确认表

序号	检查项目	合格要求	检查结论
1	记录仪校准证书	有效期内	
2	开机、记录、状态	应正常、清晰	

检查人	
复核人	

确认结果	
确认人/日期	

#### 7.4 环境卫生确认

阴凉库环境卫生情况确认表

序号	检查项目	检查标准	确认结果
1	地面	应整洁、干净	
2	门、窗、墙壁、天棚	应整洁、干净	
3	设备、设施表面	应清洁、干净	
4	其它	应清洁、干净	

检查人	
复核人	
确认结果	
确认人/日期	

#### 7.5 人员培训确认

参加验证人员培训确认表

序号	文件名称	文件编号	培训日期
1	仓储管理规程		
2	仓库卫生管理规程		
3	物料储存管理规程		
4	成品入库储存发放管理规程		
5	阴凉库管理规程		
6	仓库温湿度管理规程		
7	仓库清洁标准操作规程		
8	立式空调使用标准操作规程		
9	验证用记录仪使用标准操作规程		

检查人	
-----	--

复核人	
确认结果	
确认人/日期	

## 8 安装确认

### 8.1 技术资料检查

设备随机资料检查表

序号	资料名称	页数	份数	存放部门	检查结论
1	设备说明书		1	工程设备安全部	
2	产品合格证		1	工程设备安全部	
3	装箱单		1	工程设备安全部	
4	设备图纸		1	工程设备安全部	
5	开箱验收记录		1	工程设备安全部	
6	设备安装检查记录		1	工程设备安全部	

检查人	
复核人	
评定结果	
评定人/日期	

### 8.2 安装位置检查

设备安装位置检查情况表

序号	设备名称	安装位置	安装要求	检查结论
1	立式空调	成品阴凉库	使设备保持水平	
2	主机的后侧离墙距离	成品阴凉库	≥0.2M	
3	主机两侧离墙距离	成品阴凉库	≥0.2M	

检查人	
复核人	
评定结果	

评定人/日期	
检查人	
复核人	
评定结果	
评定人/日期	

### 8.3 设备外观检查

设备外观检查情况表

序号	检查项目	合格要求	检查结论
1	机身	完好	
2	油漆	无脱落	
3	控制面板	表面完好	
4	配套管线	连接符合要求	

### 8.4 设备电器部分检查

设备电器部分检查情况表

序号	检查项目	合格要求	检查结论
1	电源	AC50HZ380V	
2	摇控器/控制面板	灵敏	
3	接地装置	应有接地线路	

检查人	
复核人	
评定结果	
评定人/日期	

## 9 运行确认

在安装确认完成，以及其他相关配套条件具备后，即可进行该设备的运行确认。按照设备操作SOP对此设备进行试运行，检查其运行情况是否良好，各项指标是否达到预定的要求。

### 9.1 检查确认以下各项功能控制的稳定性和可靠性

操作控制系统功能检查记录表

序号	检查项目	要求	结果
1	电源 符合要求	安全可靠	合格
2	开关	控制功能方便可靠	合格
3	控制面板或摇控器	传感灵敏度	合格
4	开关机运行	应正常	合格
检查人			
复核人			
评定结果			
评定人/日期			

## 9.2 检查确认该设备在运行时各项控制（技术）参数是否符合要求

设备运行参数检查记录表

序号	操作内容	操作标准	结果
1	最低温度运行	$\geq 17^{\circ}\text{C}$	合格
2	最高温度运行	$\leq 30^{\circ}\text{C}$	合格
3	除湿功能运行	湿度 $>75\%$	合格
4	自动功能运行	$17^{\circ}\text{C} \leq \text{温度} \leq 30^{\circ}\text{C}$	合格
5	降温设定	$\leq 19^{\circ}\text{C}$	合格
检查人			
复核人			
评定结果			
评定人/日期			

## 10 性能确认

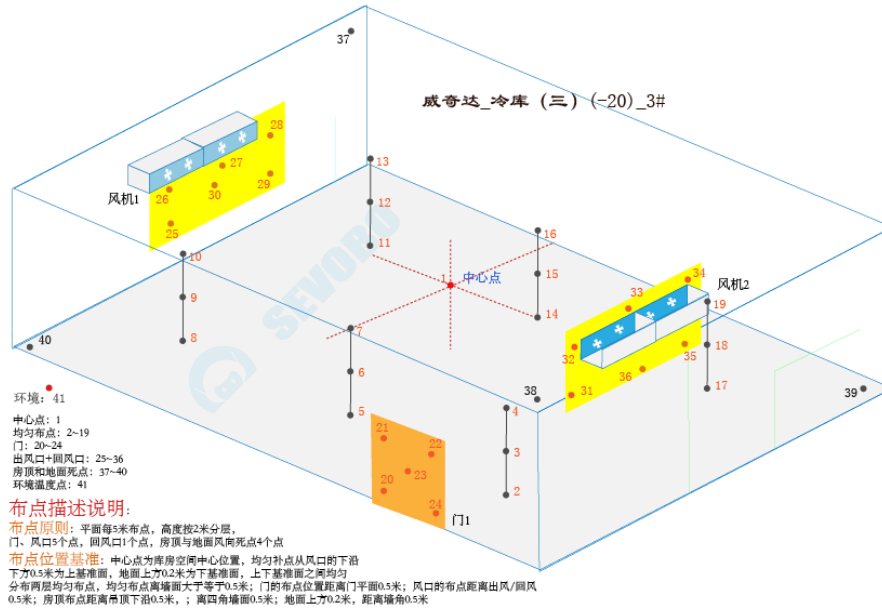
### 10.1 布点依据

- 1、在仓库内一次性同步布点，确保各测点采集数据的同步、有效；
- 2、每个库房中均匀性布点数量不应少于9个，仓间各角及中心位置均应布置测点，每两个测点的水平间距不应大于5m，垂直间距不应超过2m。
- 3、库房每个作业出入口及风机出风口区域至少布置5个测点，库房中每组货架或建筑结构的风向死角位置至少应布置3个测点。

- 4、特殊区域应布置温度监测点，包括空调或制冷设备回风位置、温度自动监测系统测点终端安装位置、门、窗、灯等位置。
- 5、温度监测点均应布置在货位上或货物可能存放的位置。

## 10.2 测点布置

### 10.2.1 布点示意图



布点示意图

### 10.2.2 布点位置详表

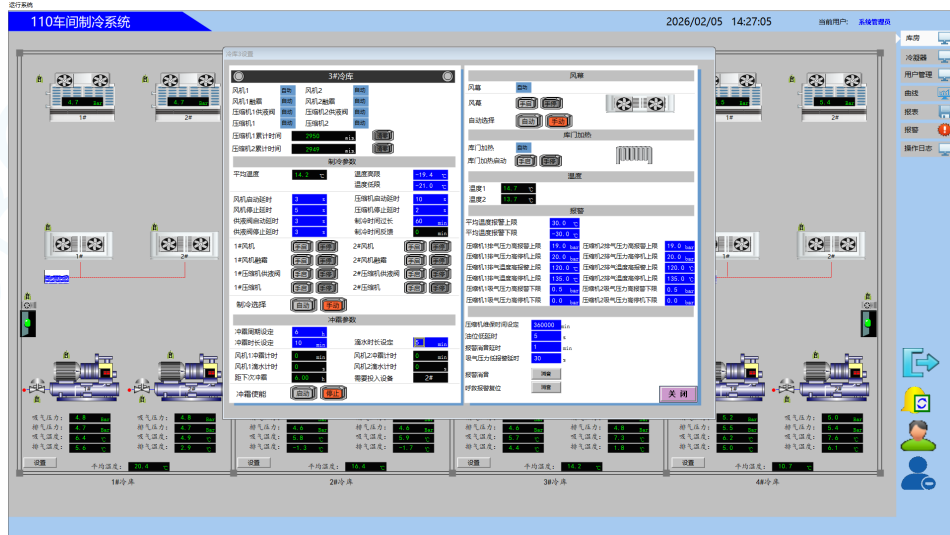
序号	名称	位置编码	类型	设备型号	设备编号
1	中心点1	A01	中心点	SVB-YZ-REC-01	SF308010100212408088040803
2	均匀布点 2	A02	均匀布点	SVB-YZ-REC-01	SF308010100212408088059803
3	均匀布点 3	A03	均匀布点	SVB-YZ-REC-01	SF308010100212408088023803
4	均匀布点 4	A04	均匀布点	SVB-YZ-REC-02	SF304070100022306148457803
5	均匀布点 5	A05	均匀布点	SVB-YZ-REC-02	SF304070100022306088195803
6	均匀布点 6	A06	均匀布点	SVB-YZ-REC-01	SF308010100212408088041803

序号	名称	位置编码	类型	设备型号	设备编号
7	均匀布点 7	A07	均匀布点	SVB-YZ- REC-02	SF304070100022306148095803
8	均匀布点 8	A08	均匀布点	SVB-YZ- REC-02	SF304070100022306148131803
9	均匀布点 9	A09	均匀布点	SVB-YZ- REC-01	SF308010100212408028030803
10	均匀布点 10	A10	均匀布点	SVB-YZ- REC-02	SF304070100022306148107803
11	均匀布点 11	A11	均匀布点	SVB-YZ- REC-01	SF308010100212408088039803
12	均匀布点 12	A12	均匀布点	SVB-YZ- REC-02	SF304070100022306148246803
13	均匀布点 13	A13	均匀布点	SVB-YZ- REC-01	SF308010100212408088009803
14	均匀布点 14	A14	均匀布点	SVB-YZ- REC-02	SF304070100022306148135803
15	均匀布点 15	A15	均匀布点	SVB-YZ- REC-01	SF308010100212408028006803
16	均匀布点 16	A16	均匀布点	SVB-YZ- REC-02	SF304070100022306088024803
17	均匀布点 17	A17	均匀布点	SVB-YZ- REC-01	SF308010100212408088046803
18	均匀布点 18	A18	均匀布点	SVB-YZ- REC-02	SF304070100022306148073803
19	均匀布点 19	A19	均匀布点	SVB-YZ- REC-01	SF308010100212408088052803
20	门20	A20	门	SVB-YZ- REC-01	SF308010100212408088019803
21	门21	A21	门	SVB-YZ- REC-01	SF308010100212408028031803
22	门22	A22	门	SVB-YZ- REC-01	SF308010100212408028014803
23	门23	A23	门	SVB-YZ- REC-01	SF308010100212408088007803

序号	名称	位置编码	类型	设备型号	设备编号
24	门24	A24	门	SVB-YZ- REC-01	SF308010100212408088034803
25	风机1出 风口25	A25	风机	SVB-YZ- REC-02	SF304070100022306088108803
26	风机1出 风口26	A26	风机	SVB-YZ- REC-02	SF304070100022306088191803
27	风机1出 风口27	A27	风机	SVB-YZ- REC-02	SF304070100022306148129803
28	风机1出 风口28	A28	风机	SVB-YZ- REC-02	SF304070100022306148507803
29	风机1出 风口29	A29	风机	SVB-YZ- REC-02	SF304070100022306148630803
30	风机1回 风口30	A30	风机	SVB-YZ- REC-02	SF304070100022306148165803
31	风机2出 风口31	A31	风机	SVB-YZ- REC-02	SF304070100022306088041803
32	风机2出 风口32	A32	风机	SVB-YZ- REC-01	SF308010100212408028017803
33	风机2出 风口33	A33	风机	SVB-YZ- REC-01	SF308010100212408028037803
34	风机2出 风口34	A34	风机	SVB-YZ- REC-02	SF304070100022306148200803
35	风机2出 风口35	A35	风机	SVB-YZ- REC-02	SF304070100022306148606803
36	风机2回 风口36	A36	风机	SVB-YZ- REC-01	SF308010100212408088035803
37	房顶37	A37	风向死角	SVB-YZ- REC-02	SF304070100022306088201803
38	房顶38	A38	风向死角	SVB-YZ- REC-02	SF304070100022306148448803
39	地面39	A39	风向死角	SVB-YZ- REC-01	SF308010100212408028026803
40	地面40	A40	风向死角	SVB-YZ- REC-01	SF308010100212408028012803

序号	名称	位置编码	类型	设备型号	设备编号
41	环境外温 41	A41	环境外温	SVB-YZ- REC-02	SF304070100022306088175803

### 10.2.3 现场照片



温控参数设置



1号门处布点



现场布点(正对1号风机)



现场布点(正对2号风机)



房顶死角布点



地面死角布点



整体布点

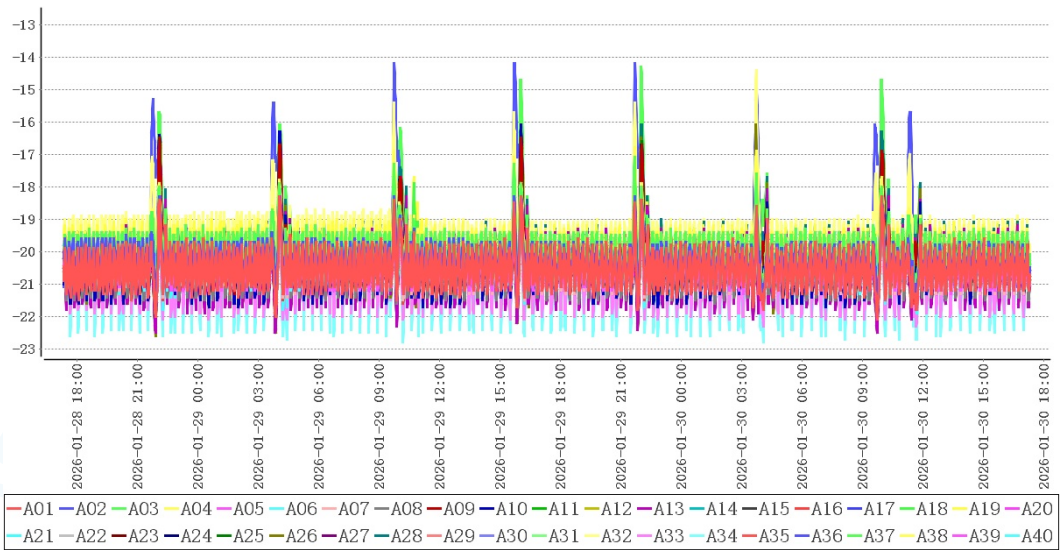


1号门开门测试

## 11 验证项目实施

### 11.1 温度分布特性测试

#### 11.1.1 温度分布特性



### (1)、温度偏差

温度偏差指温控设施设备稳定状态下, 测试空间的中心点在规定时间内多次实测温度的平均值与温度设定值的差值, 计算公式:  $\Delta td = td - to$

式中:

$\Delta td$  —— 温度偏差, 单位为摄氏度(°C);

$td$  —— 温度设定值, 单位为摄氏度(°C);

$to$  —— 中心点在规定时间内  $n$  次测量平均值, 单位为摄氏度(°C)

点位类型	测点	设定值(td)	平均值(to)
中心点	A01	-20.0	-20.5

温度偏差  $\Delta td = td - to = 0.5^{\circ}\text{C}$

### (2)、均匀度

温度均匀度指温控设施设备稳定状态下, 测试空间各测点在规定时间内每次测量中实测最高温度与最低温度之差的算术平均值, 计算公式:  $\Delta tu = \sum (t_{imax} - t_{imin}) / n$

式中:

$\Delta tu$  —— 温度均匀度, 单位为摄氏度(°C);

$t_{imax}$  —— 各测点在规定时间内第  $i$  次测得的最高温度, 单位为摄氏度(°C);

$t_{imin}$  —— 各测点在规定时间内第  $i$  次测得的最低温度, 单位为摄氏度(°C)。

$n$  —— 测量次数。

各测点最大值和最小值见附录A: 各测点极值表

均匀度 $\Delta t_u = \Sigma (t_{imax} - t_{imin}) / n = 1.7^{\circ}\text{C}$

### (3)、波动度

温度波动度指温控设施设备稳定状态下, 测试空间的中心点在规定时间内多次实测最高温度与最低温度之差的一半, 计算公式: $\Delta t_f = \pm (t_{omax} - t_{omin}) / 2$

式中:

$\Delta t_f$  ——温度波动度, 单位为摄氏度( $^{\circ}\text{C}$ );

$t_{omax}$  ——中心点在规定时间内 $n$ 次测量中的最高温度, 单位为摄氏度( $^{\circ}\text{C}$ );

$t_{omin}$  ——中心点在规定时间内 $n$ 次测量中的最低温度, 单位为摄氏度( $^{\circ}\text{C}$ )。

点位类型	测点	最大值( $t_{omax}$ )	最小值( $t_{omin}$ )
中心点	A01	-18.3	-22.1

波动度 $\Delta t_f = \pm (t_{omax} - t_{omin}) / 2 = 1.9^{\circ}\text{C}$

### (4)、结论综述

点位类型	测点	最大值	最小值	平均值
中心点	A01	-18.3	-22.1	-20.5
均匀布点	A02	-18.3	-21.4	-20.3
	A03	-17.1	-21.1	-20.0
	A04	-16.8	-21.3	-20.0
	A05	-18.1	-21.6	-20.5
	A06	-18.3	-21.9	-20.5
	A07	-17.9	-21.7	-20.5
	A08	-18.1	-21.9	-20.5
	A09	-16.5	-21.5	-20.3
	A10	-16.1	-22.0	-20.4
	A11	-17.8	-21.6	-20.4
	A12	-17.4	-21.7	-20.4
	A13	-16.6	-22.5	-20.3
	A14	-17.8	-21.9	-20.5
	A15	-17.8	-21.6	-20.3
	A16	-17.8	-21.8	-20.3
	A17	-17.9	-21.6	-20.3

	A18	-17.9	-22.2	-20.4
	A19	-17.0	-21.9	-19.9
出入口	A20	-17.9	-21.5	-20.2
	A21	-17.8	-22.3	-20.4
	A22	-17.2	-21.4	-20.0
	A23	-17.8	-21.3	-20.1
	A24	-17.8	-21.2	-20.1
	风机	A25	-16.1	-21.8
A26		-16.1	-22.6	-20.5
A27		-18.2	-22.1	-20.5
A28		-16.1	-22.5	-20.1
A29		-16.7	-22.4	-20.5
A30		-17.4	-21.7	-20.4
A31		-17.2	-21.2	-20.0
A32		-14.4	-21.0	-19.6
A33		-16.9	-22.3	-20.7
A34		-14.9	-22.8	-20.6
A35		-17.8	-22.4	-20.3
A36		-14.2	-21.5	-20.4
风向死角	A37	-14.3	-21.5	-19.9
	A38	-18.1	-21.8	-20.4
	A39	-17.7	-21.3	-19.9
	A40	-17.3	-21.1	-20.1
环境外温	A41	13.0	-10.6	-2.7

在库房空调或制冷系统温度控制参数符合设定要求、库房温度符合设定范围后，数据有效持续采集时间为48小时0分钟，在环境温度处于-10.6℃~13.0℃情况下，库内各测点温度在-22.8℃(A34)~-14.2℃(A36)之间，未超出温控范围-23.0℃~-14.0℃。根据《GBT34399-2025医药产品冷链物流温控设施设备验证性能确认技术规范》附录A计算方法，温度偏差 $\Delta t_d = t_d - t_o = 0.5^\circ\text{C}$ 、波动度 $\Delta t_f = \pm (t_{\text{max}} - t_{\text{min}}) / 2 = 1.9^\circ\text{C}$ 、均匀度 $\Delta t_u = \Sigma (t_{\text{imax}} - t_{\text{imin}}) / n = 1.7^\circ\text{C}$ ，可知偏差、均匀度、波动度各项数值不高于 $\pm 3^\circ\text{C}$ ，符合国标要求。

## 11.1.2 风机

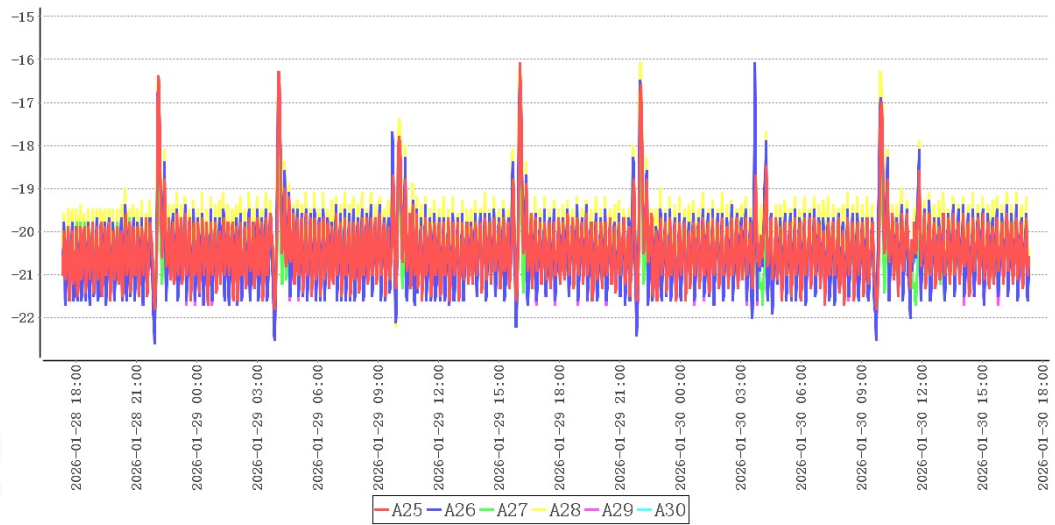
### 11.1.2.1 风机01



测点	最大值	最小值	平均值
A31	-17.2	-21.2	-20.0
A32	-14.4	-21.0	-19.6
A33	-16.9	-22.3	-20.7
A34	-14.9	-22.8	-20.6
A35	-17.8	-22.4	-20.3
A36	-14.2	-21.5	-20.4

检测项目	规范要求	检测结果	结论
风机01附近温度均匀性	全部测点温度范围(-23.0~14.0)℃	-22.8~-14.2℃	合格

### 11.1.2.2 风机02



测点	最大值	最小值	平均值
A25	-16.1	-21.8	-20.4
A26	-16.1	-22.6	-20.5
A27	-18.2	-22.1	-20.5
A28	-16.1	-22.5	-20.1
A29	-16.7	-22.4	-20.5
A30	-17.4	-21.7	-20.4

检测项目	规范要求	检测结果	结论
风机02附近温度均匀性	全部测点温度范围(-23.0~-14.0)℃	-22.6~-16.1℃	合格

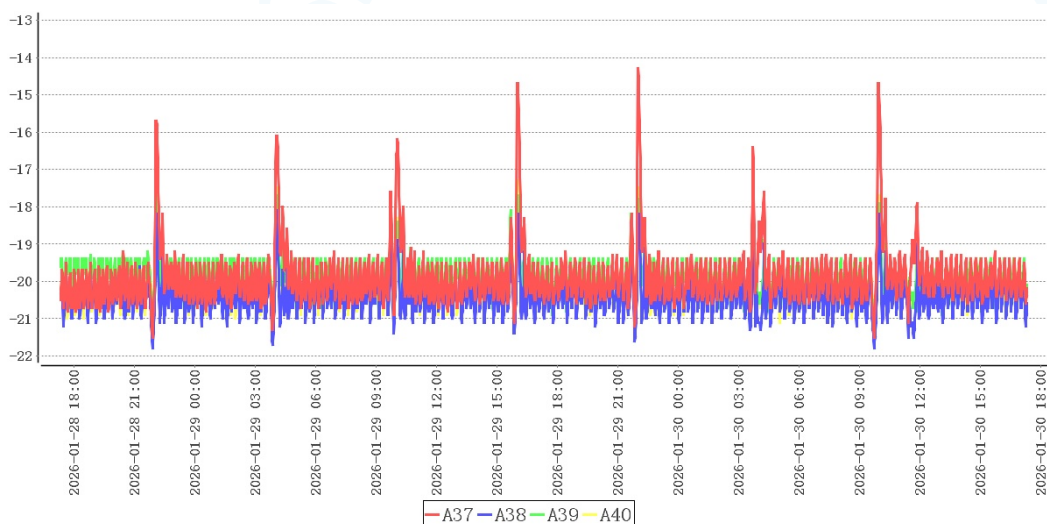
### 11.1.3 出入口



测点	最大值	最小值	平均值
A20	-17.9	-21.5	-20.2
A21	-17.8	-22.3	-20.4
A22	-17.2	-21.4	-20.0
A23	-17.8	-21.3	-20.1
A24	-17.8	-21.2	-20.1

检测项目	规范要求	检测结果	结论
门01附近温度均匀性	全部测点温度范围(-23.0~-14.0)℃	-22.3~-17.2℃	合格

#### 11.1.4 风向死角



测点	最大值	最小值	平均值
A37	-14.3	-21.5	-19.9
A38	-18.1	-21.8	-20.4
A39	-17.7	-21.3	-19.9
A40	-17.3	-21.1	-20.1

检测项目	规范要求	检测结果	结论
风向死角附近温度均匀性	全部测点温度范围(-23.0~-14.0)℃	-21.8~-14.3℃	合格

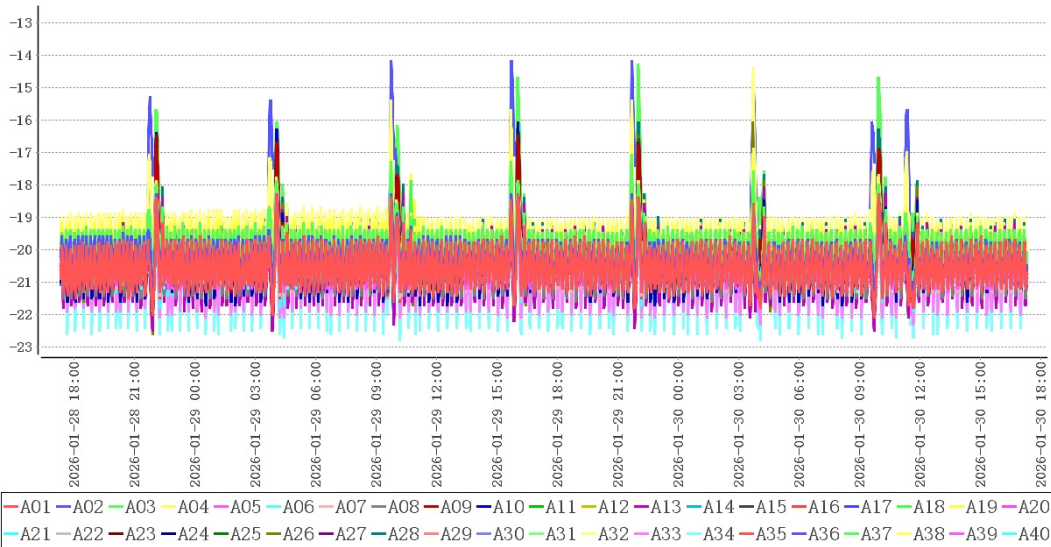
#### 11.1.5 适宜存放的安全位置及区域

根据以上分析，该冷库中除个别温度易超标区域不适合存放药品外，其他区域皆可放置。

不适合存放药品的区域有：风机出口下沿下方0.3m以上空间, 门口1米空间范围内, 风向死角范围内。

### 11.2 温控设施设备运行参数及使用状况测试

风机名称	设定启动	设定停止	检测启动	检测停止	结果
风机01	-19.4℃	-21.0℃	-19.4℃	-21.0℃	合格
风机02	-19.4℃	-21.0℃	-19.4℃	-21.0℃	合格

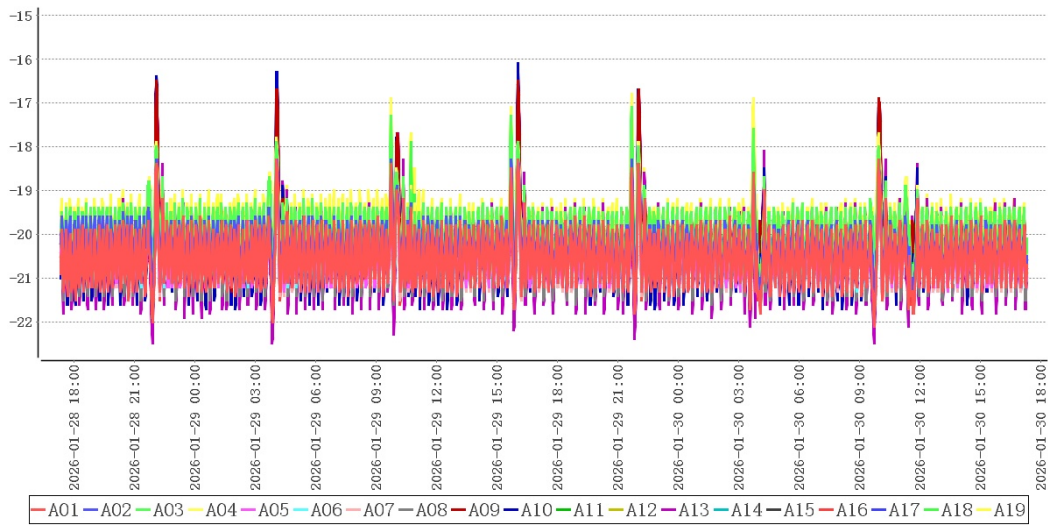


测点	最大值	最小值	平均值
A01	-18.3	-22.1	-20.5
A02	-18.3	-21.4	-20.3
A03	-17.1	-21.1	-20.0
A04	-16.8	-21.3	-20.0
A05	-18.1	-21.6	-20.5
A06	-18.3	-21.9	-20.5
A07	-17.9	-21.7	-20.5
A08	-18.1	-21.9	-20.5
A09	-16.5	-21.5	-20.3
A10	-16.1	-22.0	-20.4
A11	-17.8	-21.6	-20.4
A12	-17.4	-21.7	-20.4
A13	-16.6	-22.5	-20.3

测点	最大值	最小值	平均值
A14	-17.8	-21.9	-20.5
A15	-17.8	-21.6	-20.3
A16	-17.8	-21.8	-20.3
A17	-17.9	-21.6	-20.3
A18	-17.9	-22.2	-20.4
A19	-17.0	-21.9	-19.9
A20	-17.9	-21.5	-20.2
A21	-17.8	-22.3	-20.4
A22	-17.2	-21.4	-20.0
A23	-17.8	-21.3	-20.1
A24	-17.8	-21.2	-20.1
A25	-16.1	-21.8	-20.4
A26	-16.1	-22.6	-20.5
A27	-18.2	-22.1	-20.5
A28	-16.1	-22.5	-20.1
A29	-16.7	-22.4	-20.5
A30	-17.4	-21.7	-20.4
A31	-17.2	-21.2	-20.0
A32	-14.4	-21.0	-19.6
A33	-16.9	-22.3	-20.7
A34	-14.9	-22.8	-20.6
A35	-17.8	-22.4	-20.3
A36	-14.2	-21.5	-20.4
A37	-14.3	-21.5	-19.9
A38	-18.1	-21.8	-20.4
A39	-17.7	-21.3	-19.9
A40	-17.3	-21.1	-20.1

在当前设置的工作条件下，库内温度在-22.8℃~-14.2℃之间，符合-23.0℃~-14.0℃验证标准。

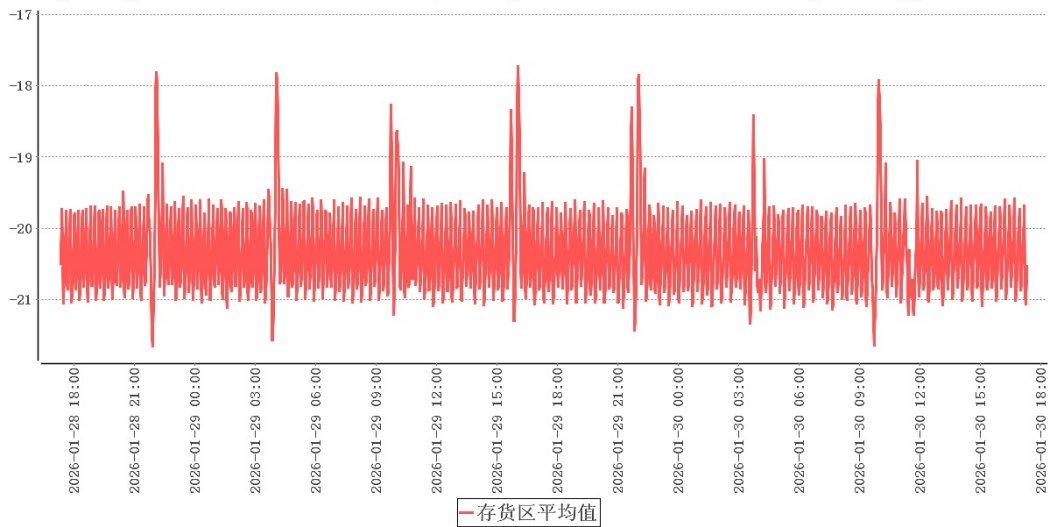
### 11.3 温度自动监测设备安装位置确认



结合温度分布特性可得出以下表格：

冷点热点表

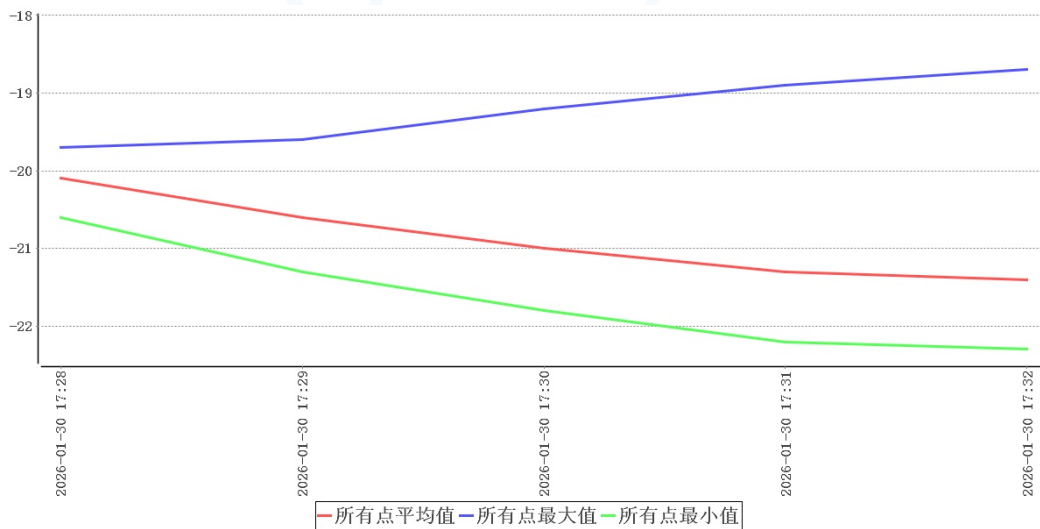
测点	最大值	最小值	平均值
A19(热点)	-17.0	-21.9	-19.9
A01(冷点)	-18.3	-22.1	-20.5
货区点位	-16.1	-22.5	-20.3



结合库内高温敏感区、低温敏感区分析，库内热点为A19，库内冷点为A01。请综合考虑实际布点位置确认监测点位，并安装/移动监测点位。

#### 11.4 开关门验证

##### 1、第1次开门测试



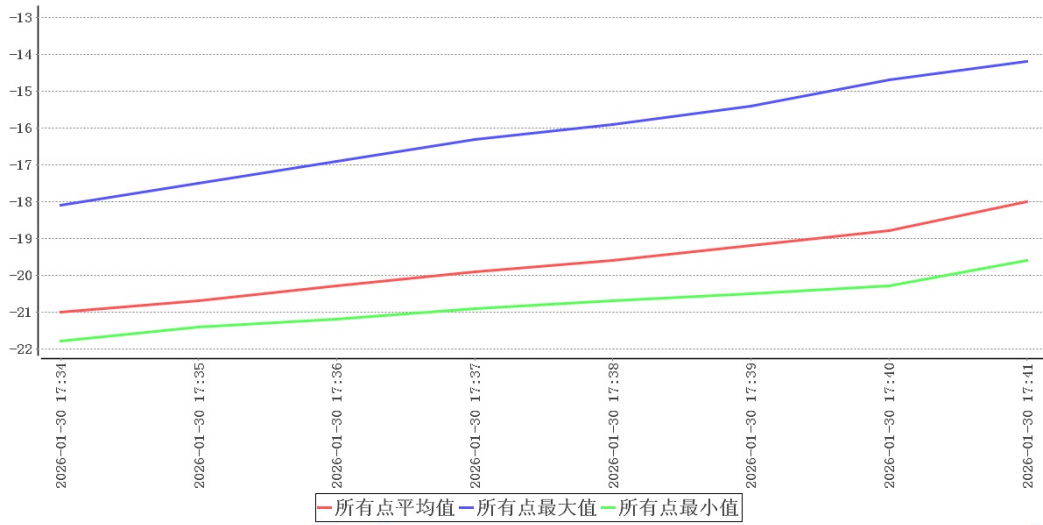
时间	所有点最大值	所有点最小值	所有点平均值	环境外温	备注
2026-01-30 17:28:00	-19.7	-20.6	-20.1	0.4	开门
2026-01-30 17:29:00	-19.6	-21.3	-20.6	0.4	
2026-01-30 17:30:00	-19.2	-21.8	-21.0	0.3	
2026-01-30 17:31:00	-18.9	-22.2	-21.3	0.3	
2026-01-30 17:32:00	-18.7	-22.3	-21.4	0.2	关门

探头编号	最早恢复至接受标准时温度(°C)	最早恢复至接受标准时刻	恢复至接受标准最小时长(分钟)
A01	N/A	N/A	N/A
A02	N/A	N/A	N/A
A03	N/A	N/A	N/A
A04	N/A	N/A	N/A
A05	N/A	N/A	N/A
A06	N/A	N/A	N/A
A07	N/A	N/A	N/A
A08	N/A	N/A	N/A
A09	N/A	N/A	N/A
A10	N/A	N/A	N/A
A11	N/A	N/A	N/A
A12	N/A	N/A	N/A

探头编号	最早恢复至接受标准时 温度(°C)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A13	N/A	N/A	N/A
A14	N/A	N/A	N/A
A15	N/A	N/A	N/A
A16	N/A	N/A	N/A
A17	N/A	N/A	N/A
A18	N/A	N/A	N/A
A19	N/A	N/A	N/A
A20	N/A	N/A	N/A
A21	N/A	N/A	N/A
A22	N/A	N/A	N/A
A23	N/A	N/A	N/A
A24	N/A	N/A	N/A
A25	N/A	N/A	N/A
A26	N/A	N/A	N/A
A27	N/A	N/A	N/A
A28	N/A	N/A	N/A
A29	N/A	N/A	N/A
A30	N/A	N/A	N/A
A31	N/A	N/A	N/A
A32	N/A	N/A	N/A
A33	N/A	N/A	N/A
A34	N/A	N/A	N/A
A35	N/A	N/A	N/A
A36	N/A	N/A	N/A
A37	N/A	N/A	N/A
A38	N/A	N/A	N/A
A39	N/A	N/A	N/A
A40	N/A	N/A	N/A

门01在环境温度处于0.2°C~0.4°C情况下，共持续4分钟，各测点温度在-22.3°C (A13, A26)~-18.7°C (A36)之间，未超出温控范围-23.0°C~-14.0°C。

## 2、第2次开门测试



时间	所有点最大值	所有点最小值	所有点平均值	环境外温	备注
2026-01-30 17:34:00	-18.1	-21.8	-21.0	0.1	开门
2026-01-30 17:35:00	-17.5	-21.4	-20.7	0.1	
2026-01-30 17:36:00	-16.9	-21.2	-20.3	0.1	
2026-01-30 17:37:00	-16.3	-20.9	-19.9	0.1	
2026-01-30 17:38:00	-15.9	-20.7	-19.6	0.0	
2026-01-30 17:39:00	-15.4	-20.5	-19.2	0.0	
2026-01-30 17:40:00	-14.7	-20.3	-18.8	0.0	
2026-01-30 17:41:00	-14.2	-19.6	-18.0	0.0	关门

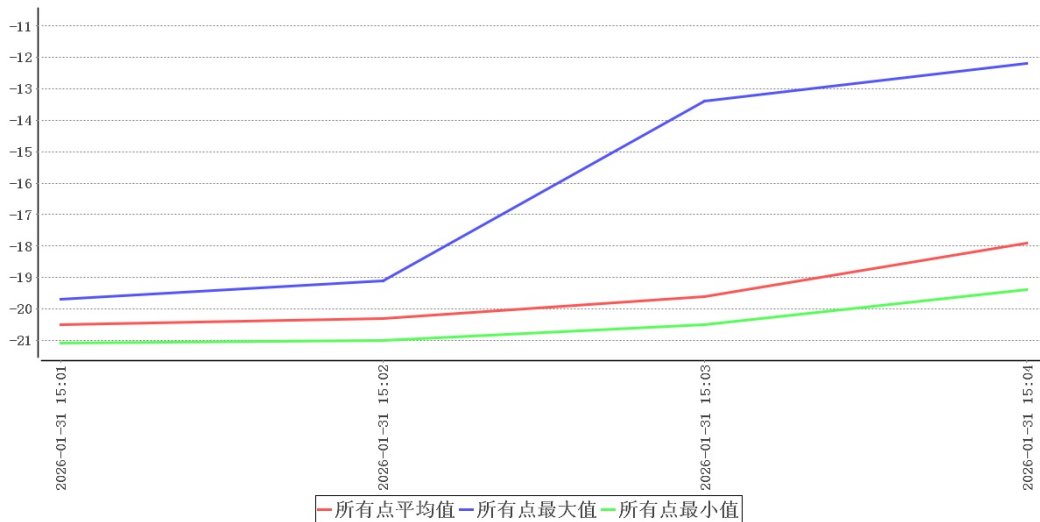
探头编号	最早恢复至接受标准时温度(℃)	最早恢复至接受标准时刻	恢复至接受标准最小时长(分钟)
A01	N/A	N/A	N/A
A02	N/A	N/A	N/A
A03	N/A	N/A	N/A
A04	N/A	N/A	N/A
A05	N/A	N/A	N/A
A06	N/A	N/A	N/A
A07	N/A	N/A	N/A
A08	N/A	N/A	N/A

探头编号	最早恢复至接受标准时 温度(°C)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A09	N/A	N/A	N/A
A10	N/A	N/A	N/A
A11	N/A	N/A	N/A
A12	N/A	N/A	N/A
A13	N/A	N/A	N/A
A14	N/A	N/A	N/A
A15	N/A	N/A	N/A
A16	N/A	N/A	N/A
A17	N/A	N/A	N/A
A18	N/A	N/A	N/A
A19	N/A	N/A	N/A
A20	N/A	N/A	N/A
A21	N/A	N/A	N/A
A22	N/A	N/A	N/A
A23	N/A	N/A	N/A
A24	N/A	N/A	N/A
A25	N/A	N/A	N/A
A26	N/A	N/A	N/A
A27	N/A	N/A	N/A
A28	N/A	N/A	N/A
A29	N/A	N/A	N/A
A30	N/A	N/A	N/A
A31	N/A	N/A	N/A
A32	N/A	N/A	N/A
A33	N/A	N/A	N/A
A34	N/A	N/A	N/A
A35	N/A	N/A	N/A
A36	N/A	N/A	N/A
A37	N/A	N/A	N/A
A38	N/A	N/A	N/A

探头编号	最早恢复至接受标准时 温度(°C)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A39	N/A	N/A	N/A
A40	N/A	N/A	N/A

门01在环境温度处于0.0°C~0.1°C情况下，共持续7分钟，各测点温度在-21.8°C (A13)~-14.2°C (A34)之间，未超出温控范围-23.0°C~-14.0°C。

### 3、第3次开门测试



时间	所有点最 大值	所有点最 小值	所有点平 均值	环境外温	备注
2026-01-31 15:01:00	-19.7	-21.1	-20.5	3.8	开门
2026-01-31 15:02:00	-19.1	-21.0	-20.3	3.9	
2026-01-31 15:03:00	-13.4	-20.5	-19.6	3.9	
2026-01-31 15:04:00	-12.2	-19.4	-17.9	4.1	关门

探头编号	最早恢复至接受标准时 温度(°C)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A01	N/A	N/A	N/A
A02	N/A	N/A	N/A
A03	N/A	N/A	N/A
A04	N/A	N/A	N/A
A05	N/A	N/A	N/A
A06	N/A	N/A	N/A

探头编号	最早恢复至接受标准时 温度(°C)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A07	N/A	N/A	N/A
A08	N/A	N/A	N/A
A09	N/A	N/A	N/A
A10	N/A	N/A	N/A
A11	N/A	N/A	N/A
A12	N/A	N/A	N/A
A13	N/A	N/A	N/A
A14	N/A	N/A	N/A
A15	N/A	N/A	N/A
A16	N/A	N/A	N/A
A17	N/A	N/A	N/A
A18	N/A	N/A	N/A
A19	N/A	N/A	N/A
A20	N/A	N/A	N/A
A21	N/A	N/A	N/A
A22	N/A	N/A	N/A
A23	N/A	N/A	N/A
A24	N/A	N/A	N/A
A25	N/A	N/A	N/A
A26	N/A	N/A	N/A
A27	N/A	N/A	N/A
A28	N/A	N/A	N/A
A29	N/A	N/A	N/A
A30	N/A	N/A	N/A
A31	N/A	N/A	N/A
A32	N/A	N/A	N/A
A33	N/A	N/A	N/A
A34	N/A	N/A	N/A
A35	N/A	N/A	N/A
A36	N/A	N/A	N/A

探头编号	最早恢复至接受标准时 温度(°C)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A37	N/A	N/A	N/A
A38	N/A	N/A	N/A
A39	N/A	N/A	N/A
A40	N/A	N/A	N/A

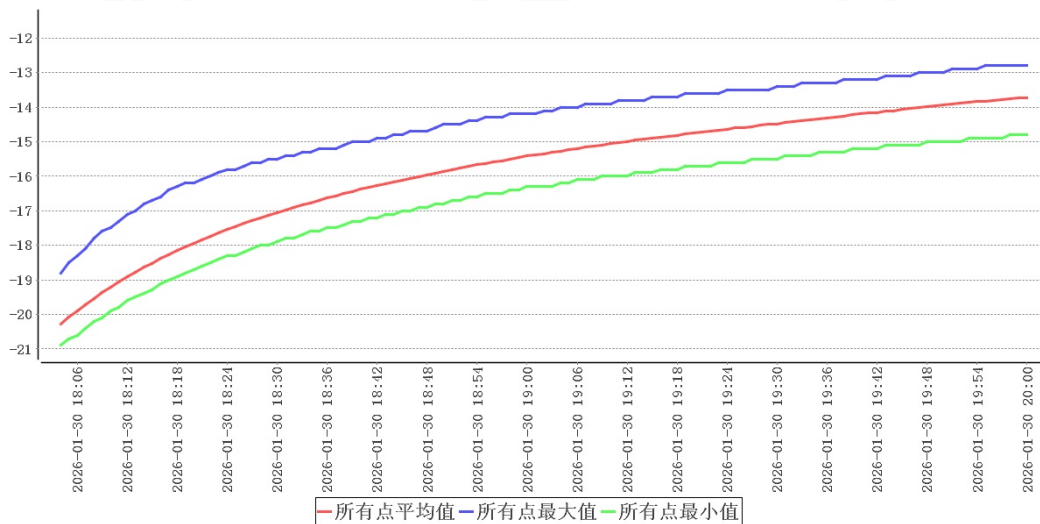
门01在环境温度处于3.8°C~4.1°C情况下，点位A20于2026-01-31 15:03:00最先达到-13.4°C，测试结束，满足不超出温控范围-23.0°C~-14.0°C的开门时长为2分钟。

#### 4、 门01开门测试总结

门01在环境温度0.0°C~4.1°C情况下，不同作业条件下进行开门测试，满足不超出温控范围-23.0°C~-14.0°C的开门时长分别为4/7/2分钟，综合考虑，实际操作规程建议开门时间不应超过4分钟。

### 11.5 设备故障或外部供电中断的状况下保温性能及变化趋势

#### 1、 第1次断电测试



断电开始时间	2026-01-30 18:04:00	断电结束时间	2026-01-30 20:00:00
断电测试期间最高温度	-12.8℃	断电测试期间最低温度	-20.9℃
升温最快的测点	A34	升温速率	0.065℃/分
平均外温	-1.2℃	推断超温时限	102分钟
最先超温(-14.0℃)测点	A37	超温时间点	2026-01-30 19:04:00

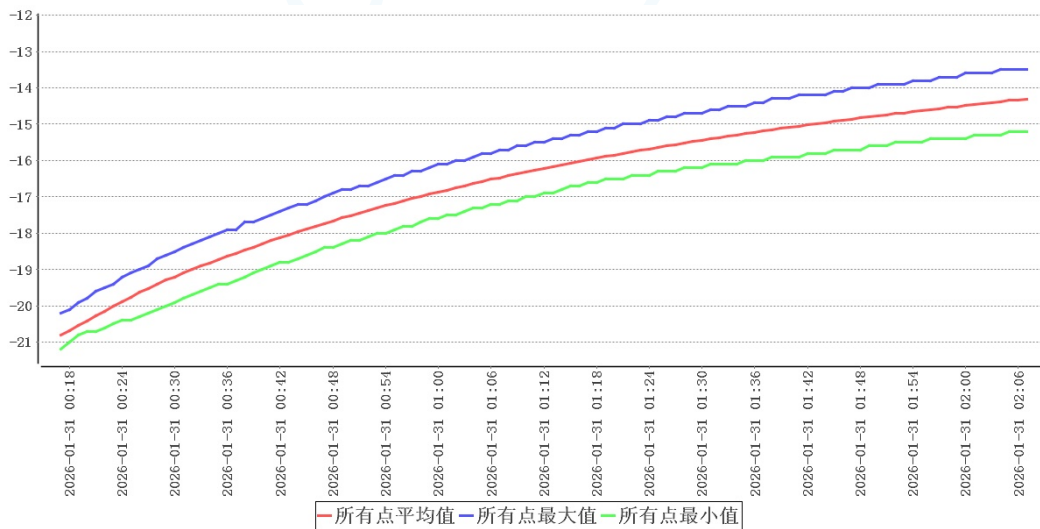
断电恢复

探头编号	最晚维持在接受标准时 温度(℃)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A01	N/A	N/A	N/A
A02	N/A	N/A	N/A
A03	N/A	N/A	N/A
A04	N/A	N/A	N/A
A05	N/A	N/A	N/A
A06	N/A	N/A	N/A
A07	N/A	N/A	N/A
A08	N/A	N/A	N/A
A09	N/A	N/A	N/A
A10	N/A	N/A	N/A
A11	N/A	N/A	N/A
A12	N/A	N/A	N/A
A13	N/A	N/A	N/A
A14	N/A	N/A	N/A
A15	N/A	N/A	N/A
A16	N/A	N/A	N/A
A17	N/A	N/A	N/A
A18	N/A	N/A	N/A
A19	N/A	N/A	N/A
A20	N/A	N/A	N/A
A21	N/A	N/A	N/A

A22	N/A	N/A	N/A
A23	N/A	N/A	N/A
A24	N/A	N/A	N/A
A25	N/A	N/A	N/A
A26	N/A	N/A	N/A
A27	N/A	N/A	N/A
A28	N/A	N/A	N/A
A29	N/A	N/A	N/A
A30	N/A	N/A	N/A
A31	N/A	N/A	N/A
A32	N/A	N/A	N/A
A33	N/A	N/A	N/A
A34	N/A	N/A	N/A
A35	N/A	N/A	N/A
A36	N/A	N/A	N/A
A37	N/A	N/A	N/A
A38	N/A	N/A	N/A
A39	N/A	N/A	N/A
A40	N/A	N/A	N/A

在环境温度处于-2.0℃~-0.6℃情况下,从2026-01-30 18:04:00断电开始变化最快的点为A34,升温速率为0.065℃/分,据此计算该点到达超温(-14.0℃)时长为102分钟;同时点位A37于2026-01-30 19:04:00最先达到-14.0℃,综合考虑满足不超出温控范围-23.0℃~-14.0℃的断电保温时长60分钟。

## 2、 第2次断电测试



断电开始时间	2026-01-31 00:17:00	断电结束时间	2026-01-31 02:07:00
断电测试期间最高温度	-13.5℃	断电测试期间最低温度	-21.2℃
升温最快的测点	A26	升温速率	0.066℃/分
平均外温	-7.7℃	推断超温时限	108分钟
最先超温(-14.0℃)测点	A32	超温时间点	2026-01-31 01:47:00

断电恢复

探头编号	最晚维持在接受标准时 温度(℃)	最早恢复至接受标准时 刻	恢复至接受标准最小时 长(分钟)
A01	N/A	N/A	N/A
A02	N/A	N/A	N/A
A03	N/A	N/A	N/A
A04	N/A	N/A	N/A
A05	N/A	N/A	N/A
A06	N/A	N/A	N/A
A07	N/A	N/A	N/A
A08	N/A	N/A	N/A
A09	N/A	N/A	N/A
A10	N/A	N/A	N/A
A11	N/A	N/A	N/A
A12	N/A	N/A	N/A

A13	N/A	N/A	N/A
A14	N/A	N/A	N/A
A15	N/A	N/A	N/A
A16	N/A	N/A	N/A
A17	N/A	N/A	N/A
A18	N/A	N/A	N/A
A19	N/A	N/A	N/A
A20	N/A	N/A	N/A
A21	N/A	N/A	N/A
A22	N/A	N/A	N/A
A23	N/A	N/A	N/A
A24	N/A	N/A	N/A
A25	N/A	N/A	N/A
A26	N/A	N/A	N/A
A27	N/A	N/A	N/A
A28	N/A	N/A	N/A
A29	N/A	N/A	N/A
A30	N/A	N/A	N/A
A31	N/A	N/A	N/A
A32	N/A	N/A	N/A
A33	N/A	N/A	N/A
A34	N/A	N/A	N/A
A35	N/A	N/A	N/A
A36	N/A	N/A	N/A
A37	N/A	N/A	N/A
A38	N/A	N/A	N/A
A39	N/A	N/A	N/A
A40	N/A	N/A	N/A

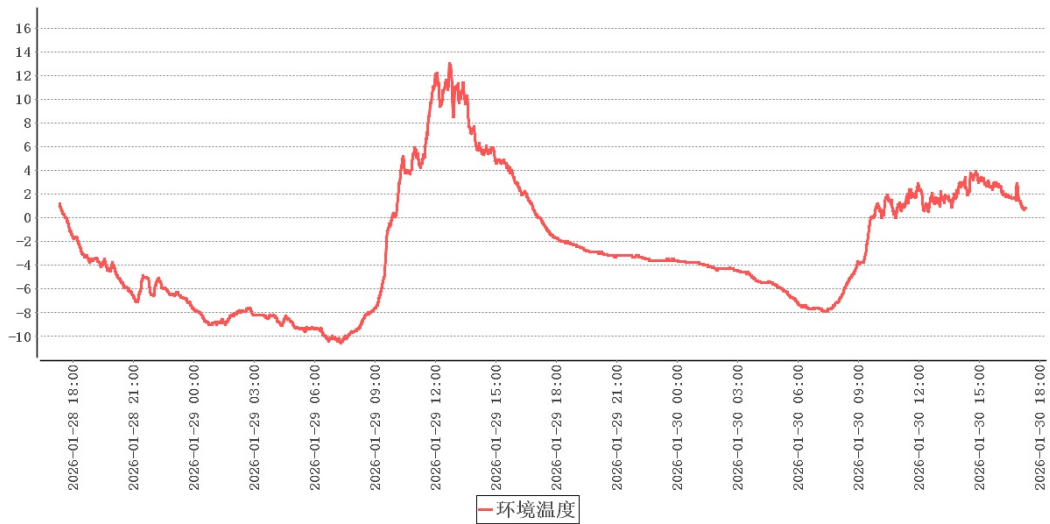
在环境温度处于-8.7℃~-6.9℃情况下,从2026-01-31 00:17:00断电开始变化最快的点为A26,升温速率为0.066℃/分,据此计算该点到达超温(-14.0℃)时长为108分钟;同时点位A32于2026-01-31 01:47:00最先达到-14.0℃,综合考虑满足不超出温控范围-23.0℃~-14.0℃的断电保温时长90分钟。

### 3、断电测试总结

在环境温度-8.7℃~-1.2℃情况下，不同作业条件下进行断电测试，基于变化速率最快点位温度变化推算时间分别为60/90分钟，综合考虑，实际操作规程建议断电时间不应超过75分钟，如果不能及时恢复供电，需要对库内药品做转库处理。

#### 11.6 本地区的高温或低温等极端外部环境条件下保温效果评估

外部温度	最大值	最小值	采集次数	平均值
仓库室外温度	13.0	-10.6	2880次	-2.7

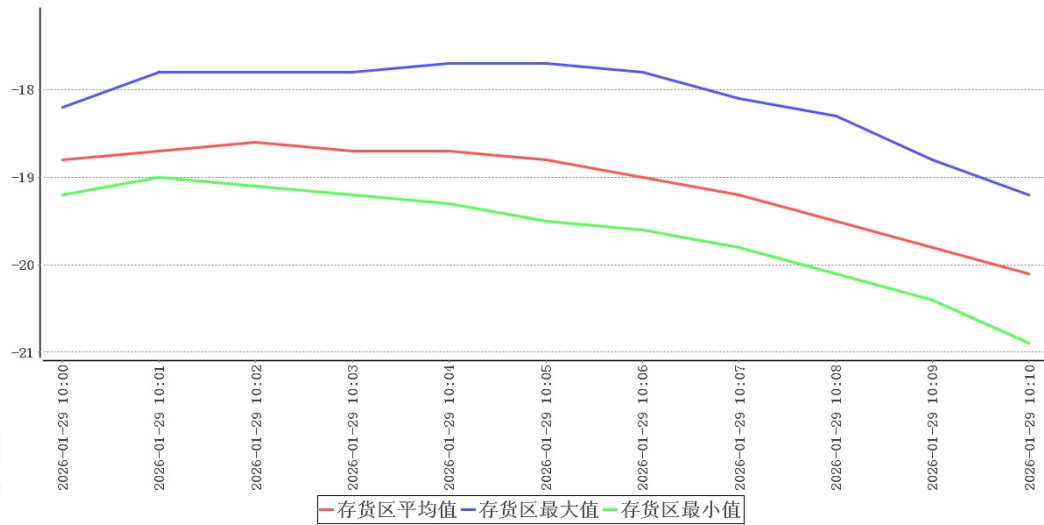


本次验证实施期间库外温度-10.6℃~13.0℃，各项验证结论可视为极寒验证，建议在本地区的高温环境下再次实施极热验证。

#### 11.7 风机除霜

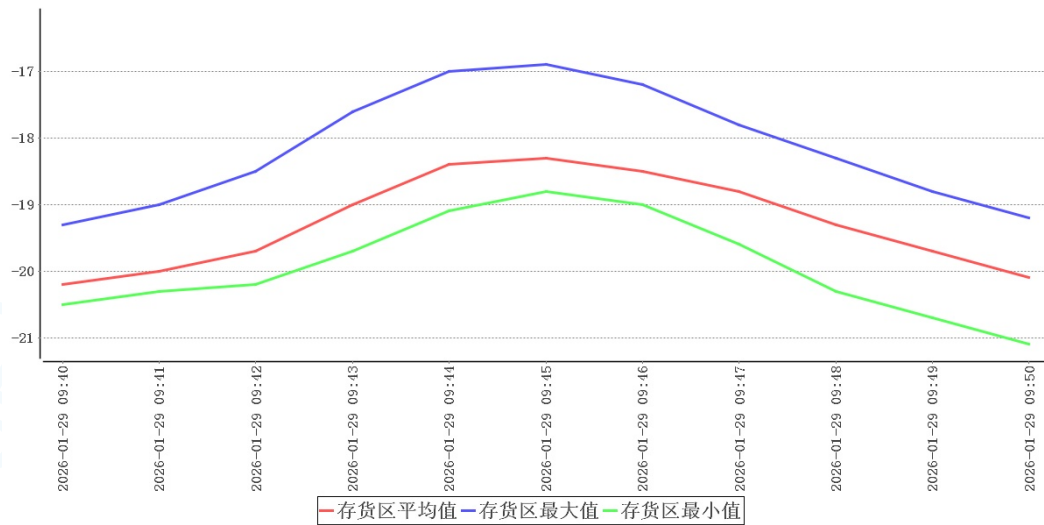
风机名称	风机编号	化霜间隔 参数(Hrs)	化霜时间 参数 (mins)	滴水时间 参数 (mins)	化霜停止 温度 (℃)
风机01	F01	6小时	10分钟	5分钟	-18.7℃
风机02	F02	6小时	10分钟	5分钟	-18.7℃

##### 11.7.1 风机01



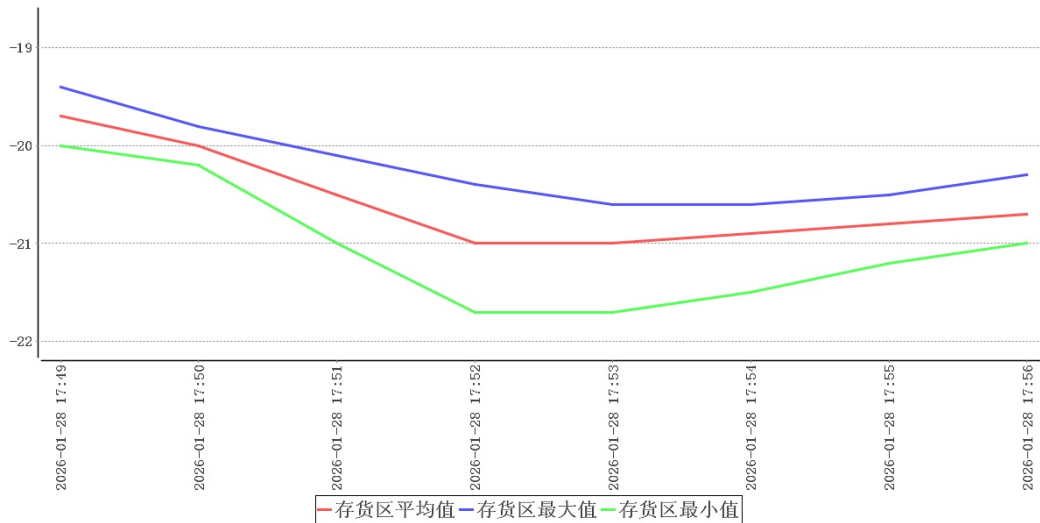
本次验证共持续0小时10分钟，在环境温度处于 $0.1^{\circ}\text{C}\sim 2.2^{\circ}\text{C}$ 情况下，各测点温度在 $-22.0^{\circ}\text{C}\sim -16.2^{\circ}\text{C}$ 之间，未超出温控范围 $-23.0^{\circ}\text{C}\sim -14.0^{\circ}\text{C}$ 。

### 11.7.2 风机02

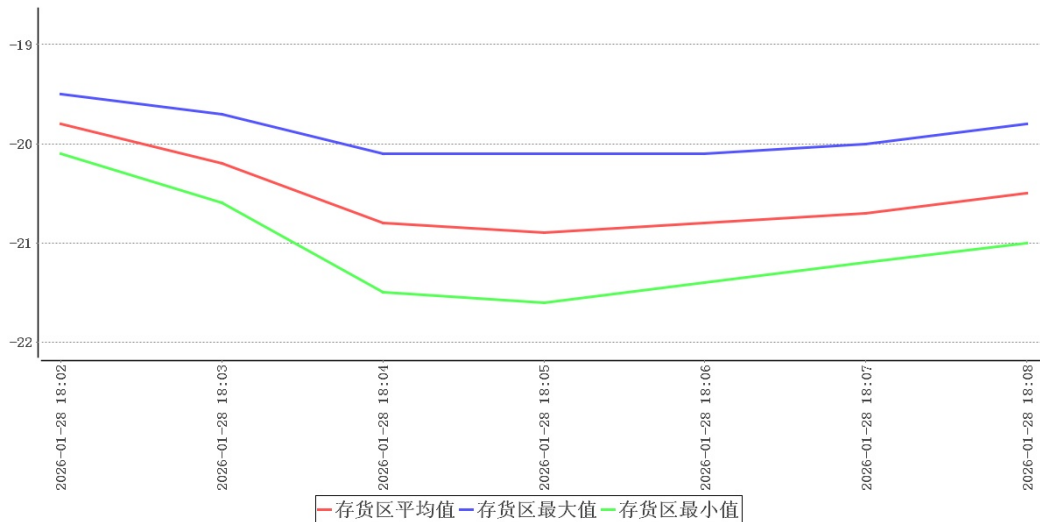


本次验证共持续0小时10分钟，在环境温度处于 $-0.9^{\circ}\text{C}\sim -0.1^{\circ}\text{C}$ 情况下，各测点温度在 $-21.1^{\circ}\text{C}\sim -14.2^{\circ}\text{C}$ 之间，未超出温控范围 $-23.0^{\circ}\text{C}\sim -14.0^{\circ}\text{C}$ 。

### 11.8 温控设施设备运行参数及使用状况测试—多组风机轮换



风机02启动时温度分布曲线



风机01启动时温度分布曲线

检测项目	时间	规范要求	检测结果	结论
风机02启动	2026-01-28 17:49:00~2026-01-28 17:56:00	全部测点温度范围 (-23.0~-14.0) °C	-21.7°C~-19.4°C	合格
风机01启动	2026-01-28 18:02:00~2026-01-28 18:08:00	全部测点温度范围 (-23.0~-14.0) °C	-21.6°C~-19.5°C	合格

从上表可以看出：当风机02开启时，库内温度最高点为-19.4°C，库内温度最低点为-21.7°C，符合-23.0°C~-14.0°C验证标准。当风机01开启时，库内温度最高点为-19.5°C，库内温度最低点为-21.6°C，符合-23.0°C~-14.0°C验证标准。

## 12 偏差处理

无

## 13 验证结论

序号	项目名称	结论
1	本地区高温或低温等极端外部环境条件下的温度稳定性确认	本次验证实施期间库外温度-10.6℃~13.0℃，各项验证结论可视为极寒验证，建议在本地区的高温环境下再次实施极热验证。
2	温度监测系统配置的测点终端安装位置确认	结合库内高温敏感区、低温敏感区分析，库内热点为A19，库内冷点为A01。请综合考虑实际布点位置确认监测点位，并安装/移动监测点位。
3	温控设施设备运行参数及使用状况测试	在当前设置的工作条件下，库内温度在-22.8℃~-14.2℃之间，符合-23.0℃~-14.0℃验证标准。
4	存储空间温度的偏差、均匀度和波动度确认	在库房空调或制冷系统温度控制参数符合设定要求、库房温度符合设定范围后，数据有效持续采集时间为48小时0分钟，在环境温度处于-10.6℃~13.0℃情况下，库内各测点温度在-22.8℃ (A34)~-14.2℃ (A36)之间，未超出温控范围-23.0℃~-14.0℃。根据《GBT34399-2025医药产品冷链物流温控设施设备验证性能确认技术规范》附录A计算方法，温度偏差 $\Delta t_d = t_d - t_o = 0.5^\circ\text{C}$ 、波动度 $\Delta t_f = \pm (t_{\text{max}} - t_{\text{min}}) / 2 = 1.9^\circ\text{C}$ 、均匀度 $\Delta t_u = \sum (t_{\text{imax}} - t_{\text{imin}}) / n = 1.7^\circ\text{C}$ ，可知偏差、均匀度、波动度各项数值不高于 $\pm 3^\circ\text{C}$ ，符合国标要求。
5	温控设施设备运行参数及使用状况测试-多组风机轮换	当风机02开启时，库内温度最高点为-19.4℃，库内温度最低点为-21.7℃，符合-23.0℃~-14.0℃验证标准。
6	温控设施设备运行参数及使用状况测试-多组风机轮换	当风机01开启时，库内温度最高点为-19.5℃，库内温度最低点为-21.6℃，符合-23.0℃~-14.0℃验证标准。
7	开门作业对温控库房温度分布影响的确认	门01在环境温度0.0℃~4.1℃情况下，不同作业条件下进行开门测试，满足不超出温控范围-23.0℃~-14.0℃的开门时长分别为4/7/2分钟，综合考虑，实际操作规程建议开门时间不应超过4分钟。

序号	项目名称	结论
8	设备故障或外部供电中断的状况下温控库房保温性能及变化趋势确定	在环境温度-8.7℃~-1.2℃情况下，不同作业条件下进行断电测试，基于变化速率最快速点温度变化推算时间分别为60/90分钟，综合考虑，实际操作规程建议断电时间不应超过75分钟，如果不能及时恢复供电，需要对库内药品做转移处理。
9	风机除霜作业对温控库房温度分布影响的确认	本次验证共持续0小时10分钟，在环境温度处于0.1℃~2.2℃情况下，各测点温度在-22.0℃~-16.2℃之间，未超出温控范围-23.0℃~-14.0℃。
10	风机除霜作业对温控库房温度分布影响的确认	本次验证共持续0小时10分钟，在环境温度处于-0.9℃~-0.1℃情况下，各测点温度在-21.1℃~-14.2℃之间，未超出温控范围-23.0℃~-14.0℃。

## 14 报告确认

经验证小组审批，各项确认结果均符合标准要求，批准投入使用，特此声明。

确认项目名称：头孢事业部110车间 冷库（三）低温空载验证

负责人 \_\_\_\_\_

## 15 再次验证周期

1. 在一般正常使用情况下，每二年再验证一次。
2. 遇任何重大变更，需要再次验证，以证明各种重大变更不会对现有使用效果产生影响：
  - (1) 设备移动安装地点或位置
  - (2) 重要配套设备变更或进行重大维修项目
  - (3) 设备性能参数应用超出本验证范围

# 合格证

CERTIFICATE

**使用单位:** 国药集团威奇达药业有限公司

**验证对象:** 头孢事业部110车间 冷库（三）

**验证日期:** 2026年01月31日

**验证结果:** 合格

**验证类型:** 使用前验证



**北京世福宝科技有限公司**

公司网址: <http://www.sevobo.com>

Beijing SEVOBO Technology Co., Ltd

公司地址: 北京市通州区马驹桥联东U谷西区11B

附录A: 各测点极值表

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 17:20:00	-19.6	-21.1	1.5
2026-01-28 17:21:00	-19.5	-21.0	1.5
2026-01-28 17:22:00	-19.3	-21.0	1.7
2026-01-28 17:23:00	-19.1	-20.8	1.7
2026-01-28 17:24:00	-19.0	-20.7	1.7
2026-01-28 17:25:00	-19.0	-20.5	1.5
2026-01-28 17:26:00	-19.6	-20.6	1.0
2026-01-28 17:27:00	-20.1	-21.3	1.2
2026-01-28 17:28:00	-20.3	-21.8	1.5
2026-01-28 17:29:00	-20.3	-21.7	1.4
2026-01-28 17:30:00	-20.3	-21.5	1.2
2026-01-28 17:31:00	-20.1	-21.2	1.1
2026-01-28 17:32:00	-20.0	-21.0	1.0
2026-01-28 17:33:00	-19.8	-20.8	1.0
2026-01-28 17:34:00	-19.6	-20.6	1.0
2026-01-28 17:35:00	-19.4	-20.4	1.0
2026-01-28 17:36:00	-19.2	-20.3	1.1
2026-01-28 17:37:00	-19.0	-20.0	1.0
2026-01-28 17:38:00	-19.1	-20.3	1.2
2026-01-28 17:39:00	-19.4	-21.7	2.3
2026-01-28 17:40:00	-19.8	-22.6	2.8
2026-01-28 17:41:00	-19.8	-22.3	2.5
2026-01-28 17:42:00	-19.8	-21.9	2.1
2026-01-28 17:43:00	-19.7	-21.5	1.8
2026-01-28 17:44:00	-19.6	-21.2	1.6
2026-01-28 17:45:00	-19.5	-21.1	1.6
2026-01-28 17:46:00	-19.3	-21.0	1.7
2026-01-28 17:47:00	-19.2	-20.9	1.7

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 17:48:00	-19.0	-20.8	1.8
2026-01-28 17:49:00	-18.9	-20.7	1.8
2026-01-28 17:50:00	-19.5	-20.7	1.2
2026-01-28 17:51:00	-19.9	-21.1	1.2
2026-01-28 17:52:00	-20.2	-21.7	1.5
2026-01-28 17:53:00	-20.3	-21.7	1.4
2026-01-28 17:54:00	-20.3	-21.5	1.2
2026-01-28 17:55:00	-20.2	-21.3	1.1
2026-01-28 17:56:00	-20.0	-21.0	1.0
2026-01-28 17:57:00	-19.8	-20.8	1.0
2026-01-28 17:58:00	-19.6	-20.6	1.0
2026-01-28 17:59:00	-19.4	-20.5	1.1
2026-01-28 18:00:00	-19.2	-20.4	1.2
2026-01-28 18:01:00	-19.0	-20.2	1.2
2026-01-28 18:02:00	-19.0	-20.3	1.3
2026-01-28 18:03:00	-19.3	-21.4	2.1
2026-01-28 18:04:00	-19.8	-22.5	2.7
2026-01-28 18:05:00	-19.8	-22.3	2.5
2026-01-28 18:06:00	-19.8	-21.8	2.0
2026-01-28 18:07:00	-19.7	-21.5	1.8
2026-01-28 18:08:00	-19.6	-21.1	1.5
2026-01-28 18:09:00	-19.5	-21.1	1.6
2026-01-28 18:10:00	-19.4	-21.0	1.6
2026-01-28 18:11:00	-19.2	-21.0	1.8
2026-01-28 18:12:00	-19.0	-20.8	1.8
2026-01-28 18:13:00	-18.9	-20.6	1.7
2026-01-28 18:14:00	-19.3	-20.6	1.3
2026-01-28 18:15:00	-19.9	-20.9	1.0
2026-01-28 18:16:00	-20.2	-21.6	1.4
2026-01-28 18:17:00	-20.3	-21.6	1.3

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 18:18:00	-20.4	-21.5	1.1
2026-01-28 18:19:00	-20.3	-21.3	1.0
2026-01-28 18:20:00	-20.1	-21.1	1.0
2026-01-28 18:21:00	-19.9	-20.8	0.9
2026-01-28 18:22:00	-19.7	-20.6	0.9
2026-01-28 18:23:00	-19.5	-20.5	1.0
2026-01-28 18:24:00	-19.3	-20.3	1.0
2026-01-28 18:25:00	-19.1	-20.2	1.1
2026-01-28 18:26:00	-19.0	-20.2	1.2
2026-01-28 18:27:00	-19.3	-21.4	2.1
2026-01-28 18:28:00	-19.7	-22.4	2.7
2026-01-28 18:29:00	-19.8	-22.3	2.5
2026-01-28 18:30:00	-19.8	-21.9	2.1
2026-01-28 18:31:00	-19.7	-21.5	1.8
2026-01-28 18:32:00	-19.6	-21.1	1.5
2026-01-28 18:33:00	-19.5	-21.0	1.5
2026-01-28 18:34:00	-19.3	-21.0	1.7
2026-01-28 18:35:00	-19.2	-21.0	1.8
2026-01-28 18:36:00	-19.0	-20.8	1.8
2026-01-28 18:37:00	-18.9	-20.7	1.8
2026-01-28 18:38:00	-19.2	-20.6	1.4
2026-01-28 18:39:00	-19.8	-20.8	1.0
2026-01-28 18:40:00	-20.1	-21.6	1.5
2026-01-28 18:41:00	-20.3	-21.7	1.4
2026-01-28 18:42:00	-20.3	-21.5	1.2
2026-01-28 18:43:00	-20.2	-21.3	1.1
2026-01-28 18:44:00	-20.0	-21.1	1.1
2026-01-28 18:45:00	-19.8	-20.9	1.1
2026-01-28 18:46:00	-19.7	-20.7	1.0
2026-01-28 18:47:00	-19.5	-20.5	1.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 18:48:00	-19.3	-20.4	1.1
2026-01-28 18:49:00	-19.1	-20.3	1.2
2026-01-28 18:50:00	-18.9	-20.0	1.1
2026-01-28 18:51:00	-19.1	-20.7	1.6
2026-01-28 18:52:00	-19.5	-22.0	2.5
2026-01-28 18:53:00	-19.9	-22.6	2.7
2026-01-28 18:54:00	-19.9	-22.2	2.3
2026-01-28 18:55:00	-19.8	-21.7	1.9
2026-01-28 18:56:00	-19.7	-21.3	1.6
2026-01-28 18:57:00	-19.6	-21.0	1.4
2026-01-28 18:58:00	-19.4	-20.9	1.5
2026-01-28 18:59:00	-19.3	-20.9	1.6
2026-01-28 19:00:00	-19.1	-20.8	1.7
2026-01-28 19:01:00	-19.0	-20.7	1.7
2026-01-28 19:02:00	-19.0	-20.6	1.6
2026-01-28 19:03:00	-19.6	-20.7	1.1
2026-01-28 19:04:00	-20.0	-21.2	1.2
2026-01-28 19:05:00	-20.2	-21.7	1.5
2026-01-28 19:06:00	-20.2	-21.6	1.4
2026-01-28 19:07:00	-20.2	-21.5	1.3
2026-01-28 19:08:00	-20.2	-21.2	1.0
2026-01-28 19:09:00	-20.0	-21.0	1.0
2026-01-28 19:10:00	-19.8	-20.7	0.9
2026-01-28 19:11:00	-19.6	-20.6	1.0
2026-01-28 19:12:00	-19.4	-20.5	1.1
2026-01-28 19:13:00	-19.1	-20.4	1.3
2026-01-28 19:14:00	-18.9	-20.2	1.3
2026-01-28 19:15:00	-19.0	-20.3	1.3
2026-01-28 19:16:00	-19.3	-21.5	2.2
2026-01-28 19:17:00	-19.7	-22.5	2.8

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 19:18:00	-19.8	-22.3	2.5
2026-01-28 19:19:00	-19.7	-21.8	2.1
2026-01-28 19:20:00	-19.7	-21.3	1.6
2026-01-28 19:21:00	-19.5	-21.2	1.7
2026-01-28 19:22:00	-19.4	-21.1	1.7
2026-01-28 19:23:00	-19.3	-21.0	1.7
2026-01-28 19:24:00	-19.1	-21.0	1.9
2026-01-28 19:25:00	-19.0	-20.9	1.9
2026-01-28 19:26:00	-18.9	-20.7	1.8
2026-01-28 19:27:00	-19.3	-20.7	1.4
2026-01-28 19:28:00	-19.8	-20.9	1.1
2026-01-28 19:29:00	-20.2	-21.6	1.4
2026-01-28 19:30:00	-20.3	-21.7	1.4
2026-01-28 19:31:00	-20.3	-21.5	1.2
2026-01-28 19:32:00	-20.2	-21.3	1.1
2026-01-28 19:33:00	-20.0	-21.0	1.0
2026-01-28 19:34:00	-19.8	-20.9	1.1
2026-01-28 19:35:00	-19.6	-20.7	1.1
2026-01-28 19:36:00	-19.4	-20.5	1.1
2026-01-28 19:37:00	-19.2	-20.4	1.2
2026-01-28 19:38:00	-19.0	-20.3	1.3
2026-01-28 19:39:00	-18.9	-20.0	1.1
2026-01-28 19:40:00	-19.2	-21.0	1.8
2026-01-28 19:41:00	-19.6	-22.2	2.6
2026-01-28 19:42:00	-19.8	-22.4	2.6
2026-01-28 19:43:00	-19.8	-22.0	2.2
2026-01-28 19:44:00	-19.7	-21.7	2.0
2026-01-28 19:45:00	-19.7	-21.2	1.5
2026-01-28 19:46:00	-19.5	-21.1	1.6
2026-01-28 19:47:00	-19.4	-21.0	1.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 19:48:00	-19.3	-21.0	1.7
2026-01-28 19:49:00	-19.1	-20.9	1.8
2026-01-28 19:50:00	-18.9	-20.7	1.8
2026-01-28 19:51:00	-19.0	-20.6	1.6
2026-01-28 19:52:00	-19.5	-20.7	1.2
2026-01-28 19:53:00	-20.0	-21.2	1.2
2026-01-28 19:54:00	-20.3	-21.6	1.3
2026-01-28 19:55:00	-20.4	-21.6	1.2
2026-01-28 19:56:00	-20.3	-21.4	1.1
2026-01-28 19:57:00	-20.1	-21.2	1.1
2026-01-28 19:58:00	-19.9	-20.9	1.0
2026-01-28 19:59:00	-19.7	-20.7	1.0
2026-01-28 20:00:00	-19.6	-20.5	0.9
2026-01-28 20:01:00	-19.3	-20.5	1.2
2026-01-28 20:02:00	-19.1	-20.4	1.3
2026-01-28 20:03:00	-18.9	-20.1	1.2
2026-01-28 20:04:00	-19.1	-20.5	1.4
2026-01-28 20:05:00	-19.6	-21.7	2.1
2026-01-28 20:06:00	-20.0	-22.4	2.4
2026-01-28 20:07:00	-20.0	-22.1	2.1
2026-01-28 20:08:00	-19.9	-21.7	1.8
2026-01-28 20:09:00	-19.8	-21.3	1.5
2026-01-28 20:10:00	-19.7	-21.0	1.3
2026-01-28 20:11:00	-19.5	-21.0	1.5
2026-01-28 20:12:00	-19.4	-20.9	1.5
2026-01-28 20:13:00	-19.2	-20.8	1.6
2026-01-28 20:14:00	-19.1	-20.7	1.6
2026-01-28 20:15:00	-18.9	-20.5	1.6
2026-01-28 20:16:00	-19.1	-20.7	1.6
2026-01-28 20:17:00	-19.5	-22.0	2.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 20:18:00	-19.8	-22.4	2.6
2026-01-28 20:19:00	-19.8	-22.1	2.3
2026-01-28 20:20:00	-19.7	-21.7	2.0
2026-01-28 20:21:00	-19.7	-21.3	1.6
2026-01-28 20:22:00	-19.5	-21.2	1.7
2026-01-28 20:23:00	-19.4	-21.1	1.7
2026-01-28 20:24:00	-19.2	-21.0	1.8
2026-01-28 20:25:00	-19.0	-20.9	1.9
2026-01-28 20:26:00	-18.9	-20.8	1.9
2026-01-28 20:27:00	-18.8	-20.5	1.7
2026-01-28 20:28:00	-19.3	-20.6	1.3
2026-01-28 20:29:00	-19.8	-20.9	1.1
2026-01-28 20:30:00	-20.2	-21.6	1.4
2026-01-28 20:31:00	-20.2	-21.6	1.4
2026-01-28 20:32:00	-20.3	-21.4	1.1
2026-01-28 20:33:00	-20.2	-21.2	1.0
2026-01-28 20:34:00	-20.0	-20.9	0.9
2026-01-28 20:35:00	-19.8	-20.7	0.9
2026-01-28 20:36:00	-19.6	-20.6	1.0
2026-01-28 20:37:00	-19.4	-20.5	1.1
2026-01-28 20:38:00	-19.3	-20.3	1.0
2026-01-28 20:39:00	-19.0	-20.1	1.1
2026-01-28 20:40:00	-19.0	-20.3	1.3
2026-01-28 20:41:00	-19.3	-21.5	2.2
2026-01-28 20:42:00	-19.7	-22.4	2.7
2026-01-28 20:43:00	-19.8	-22.3	2.5
2026-01-28 20:44:00	-19.8	-21.8	2.0
2026-01-28 20:45:00	-19.7	-21.4	1.7
2026-01-28 20:46:00	-19.6	-21.1	1.5
2026-01-28 20:47:00	-19.5	-21.1	1.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 20:48:00	-19.3	-21.0	1.7
2026-01-28 20:49:00	-19.2	-21.0	1.8
2026-01-28 20:50:00	-19.0	-20.8	1.8
2026-01-28 20:51:00	-18.9	-20.7	1.8
2026-01-28 20:52:00	-19.0	-20.6	1.6
2026-01-28 20:53:00	-19.7	-20.7	1.0
2026-01-28 20:54:00	-20.1	-21.5	1.4
2026-01-28 20:55:00	-20.3	-21.6	1.3
2026-01-28 20:56:00	-20.3	-21.5	1.2
2026-01-28 20:57:00	-20.2	-21.3	1.1
2026-01-28 20:58:00	-20.1	-21.1	1.0
2026-01-28 20:59:00	-19.8	-20.9	1.1
2026-01-28 21:00:00	-19.7	-20.7	1.0
2026-01-28 21:01:00	-19.5	-20.5	1.0
2026-01-28 21:02:00	-19.3	-20.4	1.1
2026-01-28 21:03:00	-19.1	-20.3	1.2
2026-01-28 21:04:00	-18.9	-20.1	1.2
2026-01-28 21:05:00	-19.1	-20.7	1.6
2026-01-28 21:06:00	-19.5	-21.9	2.4
2026-01-28 21:07:00	-19.8	-22.5	2.7
2026-01-28 21:08:00	-19.9	-22.1	2.2
2026-01-28 21:09:00	-19.8	-21.7	1.9
2026-01-28 21:10:00	-19.7	-21.3	1.6
2026-01-28 21:11:00	-19.6	-21.1	1.5
2026-01-28 21:12:00	-19.4	-21.0	1.6
2026-01-28 21:13:00	-19.2	-21.0	1.8
2026-01-28 21:14:00	-19.1	-20.9	1.8
2026-01-28 21:15:00	-19.0	-20.8	1.8
2026-01-28 21:16:00	-18.9	-20.6	1.7
2026-01-28 21:17:00	-19.4	-20.6	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 21:18:00	-20.0	-21.1	1.1
2026-01-28 21:19:00	-20.2	-21.8	1.6
2026-01-28 21:20:00	-20.3	-21.7	1.4
2026-01-28 21:21:00	-20.3	-21.5	1.2
2026-01-28 21:22:00	-20.1	-21.3	1.2
2026-01-28 21:23:00	-20.0	-21.0	1.0
2026-01-28 21:24:00	-19.8	-20.8	1.0
2026-01-28 21:25:00	-19.6	-20.6	1.0
2026-01-28 21:26:00	-19.4	-20.5	1.1
2026-01-28 21:27:00	-19.2	-20.4	1.2
2026-01-28 21:28:00	-19.0	-20.3	1.3
2026-01-28 21:29:00	-18.9	-20.1	1.2
2026-01-28 21:30:00	-19.2	-21.1	1.9
2026-01-28 21:31:00	-19.6	-22.4	2.8
2026-01-28 21:32:00	-19.8	-22.2	2.4
2026-01-28 21:33:00	-19.7	-21.8	2.1
2026-01-28 21:34:00	-19.6	-21.4	1.8
2026-01-28 21:35:00	-19.6	-21.2	1.6
2026-01-28 21:36:00	-19.4	-21.0	1.6
2026-01-28 21:37:00	-19.3	-20.8	1.5
2026-01-28 21:38:00	-19.1	-20.5	1.4
2026-01-28 21:39:00	-18.9	-20.3	1.4
2026-01-28 21:40:00	-18.4	-20.0	1.6
2026-01-28 21:41:00	-17.8	-19.9	2.1
2026-01-28 21:42:00	-17.0	-20.2	3.2
2026-01-28 21:43:00	-16.3	-20.5	4.2
2026-01-28 21:44:00	-16.0	-20.6	4.6
2026-01-28 21:45:00	-15.6	-20.8	5.2
2026-01-28 21:46:00	-15.3	-20.9	5.6
2026-01-28 21:47:00	-15.4	-21.0	5.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 21:48:00	-15.7	-21.2	5.5
2026-01-28 21:49:00	-16.0	-21.4	5.4
2026-01-28 21:50:00	-16.2	-21.6	5.4
2026-01-28 21:51:00	-16.4	-21.9	5.5
2026-01-28 21:52:00	-16.6	-22.2	5.6
2026-01-28 21:53:00	-17.3	-22.4	5.1
2026-01-28 21:54:00	-17.6	-22.6	5.0
2026-01-28 21:55:00	-17.7	-22.4	4.7
2026-01-28 21:56:00	-17.7	-22.0	4.3
2026-01-28 21:57:00	-17.6	-21.6	4.0
2026-01-28 21:58:00	-17.5	-21.3	3.8
2026-01-28 21:59:00	-17.4	-21.1	3.7
2026-01-28 22:00:00	-17.3	-20.8	3.5
2026-01-28 22:01:00	-17.2	-20.6	3.4
2026-01-28 22:02:00	-17.1	-20.4	3.3
2026-01-28 22:03:00	-16.1	-19.3	3.2
2026-01-28 22:04:00	-15.7	-18.6	2.9
2026-01-28 22:05:00	-15.7	-18.6	2.9
2026-01-28 22:06:00	-15.7	-19.0	3.3
2026-01-28 22:07:00	-15.8	-19.3	3.5
2026-01-28 22:08:00	-16.0	-19.7	3.7
2026-01-28 22:09:00	-16.3	-20.1	3.8
2026-01-28 22:10:00	-16.7	-20.4	3.7
2026-01-28 22:11:00	-17.2	-20.8	3.6
2026-01-28 22:12:00	-17.6	-21.2	3.6
2026-01-28 22:13:00	-18.0	-21.7	3.7
2026-01-28 22:14:00	-18.5	-22.0	3.5
2026-01-28 22:15:00	-19.0	-22.4	3.4
2026-01-28 22:16:00	-19.3	-22.6	3.3
2026-01-28 22:17:00	-19.4	-22.1	2.7

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 22:18:00	-19.3	-21.7	2.4
2026-01-28 22:19:00	-19.2	-21.2	2.0
2026-01-28 22:20:00	-19.1	-20.8	1.7
2026-01-28 22:21:00	-18.9	-20.6	1.7
2026-01-28 22:22:00	-18.7	-20.4	1.7
2026-01-28 22:23:00	-18.4	-20.2	1.8
2026-01-28 22:24:00	-18.1	-19.5	1.4
2026-01-28 22:25:00	-18.3	-19.4	1.1
2026-01-28 22:26:00	-19.0	-20.2	1.2
2026-01-28 22:27:00	-19.5	-21.0	1.5
2026-01-28 22:28:00	-20.0	-21.6	1.6
2026-01-28 22:29:00	-20.1	-21.6	1.5
2026-01-28 22:30:00	-20.1	-21.5	1.4
2026-01-28 22:31:00	-20.1	-21.2	1.1
2026-01-28 22:32:00	-19.9	-21.0	1.1
2026-01-28 22:33:00	-19.7	-20.7	1.0
2026-01-28 22:34:00	-19.5	-20.5	1.0
2026-01-28 22:35:00	-19.3	-20.3	1.0
2026-01-28 22:36:00	-19.1	-20.1	1.0
2026-01-28 22:37:00	-18.9	-19.9	1.0
2026-01-28 22:38:00	-19.1	-20.5	1.4
2026-01-28 22:39:00	-19.5	-21.7	2.2
2026-01-28 22:40:00	-20.0	-22.5	2.5
2026-01-28 22:41:00	-20.0	-22.2	2.2
2026-01-28 22:42:00	-19.9	-21.8	1.9
2026-01-28 22:43:00	-19.8	-21.4	1.6
2026-01-28 22:44:00	-19.7	-21.0	1.3
2026-01-28 22:45:00	-19.6	-20.9	1.3
2026-01-28 22:46:00	-19.4	-20.8	1.4
2026-01-28 22:47:00	-19.2	-20.7	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 22:48:00	-19.0	-20.6	1.6
2026-01-28 22:49:00	-18.9	-20.3	1.4
2026-01-28 22:50:00	-19.2	-21.0	1.8
2026-01-28 22:51:00	-19.6	-22.0	2.4
2026-01-28 22:52:00	-20.0	-22.5	2.5
2026-01-28 22:53:00	-19.9	-22.2	2.3
2026-01-28 22:54:00	-19.9	-21.7	1.8
2026-01-28 22:55:00	-19.7	-21.3	1.6
2026-01-28 22:56:00	-19.6	-21.0	1.4
2026-01-28 22:57:00	-19.4	-21.0	1.6
2026-01-28 22:58:00	-19.2	-20.9	1.7
2026-01-28 22:59:00	-19.1	-20.8	1.7
2026-01-28 23:00:00	-18.9	-20.7	1.8
2026-01-28 23:01:00	-19.0	-20.6	1.6
2026-01-28 23:02:00	-19.5	-20.7	1.2
2026-01-28 23:03:00	-20.0	-21.4	1.4
2026-01-28 23:04:00	-20.3	-21.7	1.4
2026-01-28 23:05:00	-20.3	-21.5	1.2
2026-01-28 23:06:00	-20.3	-21.3	1.0
2026-01-28 23:07:00	-20.1	-21.1	1.0
2026-01-28 23:08:00	-19.9	-20.8	0.9
2026-01-28 23:09:00	-19.7	-20.7	1.0
2026-01-28 23:10:00	-19.6	-20.5	0.9
2026-01-28 23:11:00	-19.4	-20.4	1.0
2026-01-28 23:12:00	-19.2	-20.3	1.1
2026-01-28 23:13:00	-19.0	-20.1	1.1
2026-01-28 23:14:00	-19.0	-20.2	1.2
2026-01-28 23:15:00	-19.4	-21.6	2.2
2026-01-28 23:16:00	-19.9	-22.5	2.6
2026-01-28 23:17:00	-20.0	-22.3	2.3

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 23:18:00	-20.0	-21.9	1.9
2026-01-28 23:19:00	-19.9	-21.5	1.6
2026-01-28 23:20:00	-19.8	-21.1	1.3
2026-01-28 23:21:00	-19.6	-21.1	1.5
2026-01-28 23:22:00	-19.5	-21.0	1.5
2026-01-28 23:23:00	-19.3	-20.9	1.6
2026-01-28 23:24:00	-19.1	-20.8	1.7
2026-01-28 23:25:00	-18.9	-20.6	1.7
2026-01-28 23:26:00	-18.9	-20.5	1.6
2026-01-28 23:27:00	-19.5	-20.6	1.1
2026-01-28 23:28:00	-19.9	-21.3	1.4
2026-01-28 23:29:00	-20.1	-21.9	1.8
2026-01-28 23:30:00	-20.3	-21.7	1.4
2026-01-28 23:31:00	-20.2	-21.4	1.2
2026-01-28 23:32:00	-20.1	-21.2	1.1
2026-01-28 23:33:00	-19.9	-21.0	1.1
2026-01-28 23:34:00	-19.7	-20.7	1.0
2026-01-28 23:35:00	-19.6	-20.6	1.0
2026-01-28 23:36:00	-19.4	-20.4	1.0
2026-01-28 23:37:00	-19.2	-20.3	1.1
2026-01-28 23:38:00	-18.9	-20.2	1.3
2026-01-28 23:39:00	-18.9	-20.0	1.1
2026-01-28 23:40:00	-19.2	-21.4	2.2
2026-01-28 23:41:00	-19.7	-22.5	2.8
2026-01-28 23:42:00	-19.8	-22.4	2.6
2026-01-28 23:43:00	-19.8	-22.0	2.2
2026-01-28 23:44:00	-19.7	-21.6	1.9
2026-01-28 23:45:00	-19.6	-21.2	1.6
2026-01-28 23:46:00	-19.5	-20.9	1.4
2026-01-28 23:47:00	-19.4	-20.9	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-28 23:48:00	-19.2	-20.9	1.7
2026-01-28 23:49:00	-19.0	-20.8	1.8
2026-01-28 23:50:00	-18.9	-20.7	1.8
2026-01-28 23:51:00	-18.8	-20.5	1.7
2026-01-28 23:52:00	-19.5	-20.6	1.1
2026-01-28 23:53:00	-20.0	-21.2	1.2
2026-01-28 23:54:00	-20.3	-21.8	1.5
2026-01-28 23:55:00	-20.3	-21.7	1.4
2026-01-28 23:56:00	-20.3	-21.5	1.2
2026-01-28 23:57:00	-20.1	-21.2	1.1
2026-01-28 23:58:00	-19.9	-21.0	1.1
2026-01-28 23:59:00	-19.7	-20.8	1.1
2026-01-29 00:00:00	-19.6	-20.7	1.1
2026-01-29 00:01:00	-19.4	-20.5	1.1
2026-01-29 00:02:00	-19.2	-20.4	1.2
2026-01-29 00:03:00	-19.0	-20.3	1.3
2026-01-29 00:04:00	-18.9	-20.0	1.1
2026-01-29 00:05:00	-19.1	-20.9	1.8
2026-01-29 00:06:00	-19.6	-22.1	2.5
2026-01-29 00:07:00	-19.9	-22.4	2.5
2026-01-29 00:08:00	-19.9	-22.0	2.1
2026-01-29 00:09:00	-19.8	-21.6	1.8
2026-01-29 00:10:00	-19.7	-21.2	1.5
2026-01-29 00:11:00	-19.6	-21.0	1.4
2026-01-29 00:12:00	-19.5	-21.0	1.5
2026-01-29 00:13:00	-19.3	-20.9	1.6
2026-01-29 00:14:00	-19.2	-20.8	1.6
2026-01-29 00:15:00	-19.0	-20.7	1.7
2026-01-29 00:16:00	-18.8	-20.5	1.7
2026-01-29 00:17:00	-19.1	-20.5	1.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 00:18:00	-19.8	-20.8	1.0
2026-01-29 00:19:00	-20.1	-21.7	1.6
2026-01-29 00:20:00	-20.3	-21.9	1.6
2026-01-29 00:21:00	-20.3	-21.7	1.4
2026-01-29 00:22:00	-20.2	-21.4	1.2
2026-01-29 00:23:00	-20.1	-21.2	1.1
2026-01-29 00:24:00	-19.9	-21.0	1.1
2026-01-29 00:25:00	-19.7	-20.8	1.1
2026-01-29 00:26:00	-19.5	-20.6	1.1
2026-01-29 00:27:00	-19.3	-20.4	1.1
2026-01-29 00:28:00	-19.1	-20.3	1.2
2026-01-29 00:29:00	-18.9	-20.1	1.2
2026-01-29 00:30:00	-19.0	-20.4	1.4
2026-01-29 00:31:00	-19.4	-21.7	2.3
2026-01-29 00:32:00	-19.8	-22.6	2.8
2026-01-29 00:33:00	-19.9	-22.4	2.5
2026-01-29 00:34:00	-19.8	-22.0	2.2
2026-01-29 00:35:00	-19.7	-21.6	1.9
2026-01-29 00:36:00	-19.6	-21.3	1.7
2026-01-29 00:37:00	-19.5	-21.3	1.8
2026-01-29 00:38:00	-19.4	-21.2	1.8
2026-01-29 00:39:00	-19.2	-21.1	1.9
2026-01-29 00:40:00	-19.0	-21.0	2.0
2026-01-29 00:41:00	-18.9	-20.8	1.9
2026-01-29 00:42:00	-18.8	-20.6	1.8
2026-01-29 00:43:00	-19.3	-20.7	1.4
2026-01-29 00:44:00	-20.0	-21.2	1.2
2026-01-29 00:45:00	-20.2	-21.8	1.6
2026-01-29 00:46:00	-20.3	-21.7	1.4
2026-01-29 00:47:00	-20.3	-21.5	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 00:48:00	-20.1	-21.2	1.1
2026-01-29 00:49:00	-19.9	-21.0	1.1
2026-01-29 00:50:00	-19.7	-20.8	1.1
2026-01-29 00:51:00	-19.6	-20.6	1.0
2026-01-29 00:52:00	-19.4	-20.5	1.1
2026-01-29 00:53:00	-19.2	-20.4	1.2
2026-01-29 00:54:00	-19.0	-20.3	1.3
2026-01-29 00:55:00	-18.8	-20.1	1.3
2026-01-29 00:56:00	-19.0	-20.6	1.6
2026-01-29 00:57:00	-19.5	-22.0	2.5
2026-01-29 00:58:00	-19.8	-22.5	2.7
2026-01-29 00:59:00	-19.9	-22.1	2.2
2026-01-29 01:00:00	-19.8	-21.7	1.9
2026-01-29 01:01:00	-19.7	-21.3	1.6
2026-01-29 01:02:00	-19.6	-21.0	1.4
2026-01-29 01:03:00	-19.4	-21.0	1.6
2026-01-29 01:04:00	-19.3	-21.0	1.7
2026-01-29 01:05:00	-19.1	-20.9	1.8
2026-01-29 01:06:00	-18.9	-20.7	1.8
2026-01-29 01:07:00	-18.8	-20.4	1.6
2026-01-29 01:08:00	-19.0	-20.6	1.6
2026-01-29 01:09:00	-19.6	-21.7	2.1
2026-01-29 01:10:00	-20.0	-22.6	2.6
2026-01-29 01:11:00	-20.0	-22.3	2.3
2026-01-29 01:12:00	-19.9	-21.8	1.9
2026-01-29 01:13:00	-19.8	-21.4	1.6
2026-01-29 01:14:00	-19.6	-21.2	1.6
2026-01-29 01:15:00	-19.4	-21.2	1.8
2026-01-29 01:16:00	-19.3	-21.1	1.8
2026-01-29 01:17:00	-19.1	-21.0	1.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 01:18:00	-19.0	-20.9	1.9
2026-01-29 01:19:00	-18.8	-20.7	1.9
2026-01-29 01:20:00	-19.3	-20.7	1.4
2026-01-29 01:21:00	-19.7	-20.9	1.2
2026-01-29 01:22:00	-20.2	-21.7	1.5
2026-01-29 01:23:00	-20.2	-21.6	1.4
2026-01-29 01:24:00	-20.3	-21.5	1.2
2026-01-29 01:25:00	-20.2	-21.2	1.0
2026-01-29 01:26:00	-20.1	-21.0	0.9
2026-01-29 01:27:00	-19.9	-20.8	0.9
2026-01-29 01:28:00	-19.7	-20.7	1.0
2026-01-29 01:29:00	-19.5	-20.5	1.0
2026-01-29 01:30:00	-19.3	-20.4	1.1
2026-01-29 01:31:00	-19.1	-20.3	1.2
2026-01-29 01:32:00	-19.0	-20.2	1.2
2026-01-29 01:33:00	-19.4	-20.3	0.9
2026-01-29 01:34:00	-19.9	-21.0	1.1
2026-01-29 01:35:00	-20.2	-21.7	1.5
2026-01-29 01:36:00	-20.3	-21.7	1.4
2026-01-29 01:37:00	-20.3	-21.5	1.2
2026-01-29 01:38:00	-20.3	-21.3	1.0
2026-01-29 01:39:00	-20.1	-21.1	1.0
2026-01-29 01:40:00	-20.0	-20.9	0.9
2026-01-29 01:41:00	-19.8	-20.7	0.9
2026-01-29 01:42:00	-19.6	-20.5	0.9
2026-01-29 01:43:00	-19.4	-20.4	1.0
2026-01-29 01:44:00	-19.2	-20.2	1.0
2026-01-29 01:45:00	-19.0	-20.1	1.1
2026-01-29 01:46:00	-19.1	-20.3	1.2
2026-01-29 01:47:00	-19.4	-21.5	2.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 01:48:00	-19.8	-22.5	2.7
2026-01-29 01:49:00	-19.9	-22.2	2.3
2026-01-29 01:50:00	-19.9	-21.8	1.9
2026-01-29 01:51:00	-19.7	-21.4	1.7
2026-01-29 01:52:00	-19.6	-21.1	1.5
2026-01-29 01:53:00	-19.5	-21.0	1.5
2026-01-29 01:54:00	-19.3	-21.0	1.7
2026-01-29 01:55:00	-19.2	-20.9	1.7
2026-01-29 01:56:00	-19.0	-20.8	1.8
2026-01-29 01:57:00	-18.8	-20.7	1.9
2026-01-29 01:58:00	-18.8	-20.4	1.6
2026-01-29 01:59:00	-19.0	-21.0	2.0
2026-01-29 02:00:00	-19.5	-22.0	2.5
2026-01-29 02:01:00	-19.7	-22.4	2.7
2026-01-29 02:02:00	-19.8	-22.1	2.3
2026-01-29 02:03:00	-19.7	-21.6	1.9
2026-01-29 02:04:00	-19.6	-21.2	1.6
2026-01-29 02:05:00	-19.5	-21.2	1.7
2026-01-29 02:06:00	-19.4	-21.2	1.8
2026-01-29 02:07:00	-19.2	-21.1	1.9
2026-01-29 02:08:00	-19.1	-21.0	1.9
2026-01-29 02:09:00	-18.9	-20.9	2.0
2026-01-29 02:10:00	-18.8	-20.7	1.9
2026-01-29 02:11:00	-19.2	-20.7	1.5
2026-01-29 02:12:00	-19.8	-21.0	1.2
2026-01-29 02:13:00	-20.2	-21.7	1.5
2026-01-29 02:14:00	-20.3	-21.6	1.3
2026-01-29 02:15:00	-20.3	-21.5	1.2
2026-01-29 02:16:00	-20.1	-21.3	1.2
2026-01-29 02:17:00	-20.0	-21.0	1.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 02:18:00	-19.8	-20.8	1.0
2026-01-29 02:19:00	-19.6	-20.7	1.1
2026-01-29 02:20:00	-19.4	-20.5	1.1
2026-01-29 02:21:00	-19.3	-20.4	1.1
2026-01-29 02:22:00	-19.1	-20.3	1.2
2026-01-29 02:23:00	-18.9	-20.1	1.2
2026-01-29 02:24:00	-19.0	-20.6	1.6
2026-01-29 02:25:00	-19.5	-21.8	2.3
2026-01-29 02:26:00	-19.9	-22.5	2.6
2026-01-29 02:27:00	-19.9	-22.2	2.3
2026-01-29 02:28:00	-19.8	-21.7	1.9
2026-01-29 02:29:00	-19.7	-21.4	1.7
2026-01-29 02:30:00	-19.6	-21.3	1.7
2026-01-29 02:31:00	-19.5	-21.3	1.8
2026-01-29 02:32:00	-19.3	-21.2	1.9
2026-01-29 02:33:00	-19.1	-21.0	1.9
2026-01-29 02:34:00	-18.9	-20.9	2.0
2026-01-29 02:35:00	-18.8	-20.7	1.9
2026-01-29 02:36:00	-19.1	-20.6	1.5
2026-01-29 02:37:00	-19.8	-20.9	1.1
2026-01-29 02:38:00	-20.2	-21.6	1.4
2026-01-29 02:39:00	-20.3	-21.6	1.3
2026-01-29 02:40:00	-20.4	-21.5	1.1
2026-01-29 02:41:00	-20.3	-21.2	0.9
2026-01-29 02:42:00	-20.1	-21.0	0.9
2026-01-29 02:43:00	-19.9	-20.8	0.9
2026-01-29 02:44:00	-19.7	-20.7	1.0
2026-01-29 02:45:00	-19.5	-20.6	1.1
2026-01-29 02:46:00	-19.3	-20.5	1.2
2026-01-29 02:47:00	-19.1	-20.3	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 02:48:00	-18.9	-20.2	1.3
2026-01-29 02:49:00	-19.0	-20.3	1.3
2026-01-29 02:50:00	-19.4	-21.8	2.4
2026-01-29 02:51:00	-19.8	-22.5	2.7
2026-01-29 02:52:00	-19.9	-22.2	2.3
2026-01-29 02:53:00	-19.8	-21.8	2.0
2026-01-29 02:54:00	-19.7	-21.3	1.6
2026-01-29 02:55:00	-19.6	-21.1	1.5
2026-01-29 02:56:00	-19.5	-21.1	1.6
2026-01-29 02:57:00	-19.3	-21.0	1.7
2026-01-29 02:58:00	-19.1	-20.9	1.8
2026-01-29 02:59:00	-19.0	-20.7	1.7
2026-01-29 03:00:00	-18.8	-20.6	1.8
2026-01-29 03:01:00	-19.0	-20.5	1.5
2026-01-29 03:02:00	-19.7	-20.7	1.0
2026-01-29 03:03:00	-20.1	-21.5	1.4
2026-01-29 03:04:00	-20.3	-21.7	1.4
2026-01-29 03:05:00	-20.3	-21.6	1.3
2026-01-29 03:06:00	-20.2	-21.3	1.1
2026-01-29 03:07:00	-20.1	-21.1	1.0
2026-01-29 03:08:00	-19.9	-20.9	1.0
2026-01-29 03:09:00	-19.7	-20.7	1.0
2026-01-29 03:10:00	-19.5	-20.6	1.1
2026-01-29 03:11:00	-19.3	-20.5	1.2
2026-01-29 03:12:00	-19.2	-20.4	1.2
2026-01-29 03:13:00	-18.9	-20.2	1.3
2026-01-29 03:14:00	-18.9	-20.0	1.1
2026-01-29 03:15:00	-19.2	-21.4	2.2
2026-01-29 03:16:00	-19.7	-22.4	2.7
2026-01-29 03:17:00	-19.9	-22.4	2.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 03:18:00	-19.8	-22.0	2.2
2026-01-29 03:19:00	-19.7	-21.6	1.9
2026-01-29 03:20:00	-19.7	-21.2	1.5
2026-01-29 03:21:00	-19.5	-21.1	1.6
2026-01-29 03:22:00	-19.4	-21.0	1.6
2026-01-29 03:23:00	-19.2	-21.0	1.8
2026-01-29 03:24:00	-19.1	-20.9	1.8
2026-01-29 03:25:00	-18.9	-20.7	1.8
2026-01-29 03:26:00	-18.8	-20.6	1.8
2026-01-29 03:27:00	-19.3	-20.6	1.3
2026-01-29 03:28:00	-19.9	-21.1	1.2
2026-01-29 03:29:00	-20.3	-21.7	1.4
2026-01-29 03:30:00	-20.4	-21.7	1.3
2026-01-29 03:31:00	-20.4	-21.5	1.1
2026-01-29 03:32:00	-20.3	-21.3	1.0
2026-01-29 03:33:00	-20.1	-21.1	1.0
2026-01-29 03:34:00	-19.9	-20.8	0.9
2026-01-29 03:35:00	-19.7	-20.7	1.0
2026-01-29 03:36:00	-19.5	-20.5	1.0
2026-01-29 03:37:00	-19.3	-20.3	1.0
2026-01-29 03:38:00	-19.1	-20.2	1.1
2026-01-29 03:39:00	-18.7	-20.0	1.3
2026-01-29 03:40:00	-17.6	-19.8	2.2
2026-01-29 03:41:00	-16.6	-20.1	3.5
2026-01-29 03:42:00	-16.3	-20.4	4.1
2026-01-29 03:43:00	-15.9	-20.5	4.6
2026-01-29 03:44:00	-15.5	-20.7	5.2
2026-01-29 03:45:00	-15.4	-20.9	5.5
2026-01-29 03:46:00	-15.4	-21.1	5.7
2026-01-29 03:47:00	-15.5	-21.3	5.8

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 03:48:00	-15.8	-21.5	5.7
2026-01-29 03:49:00	-16.3	-21.8	5.5
2026-01-29 03:50:00	-16.7	-22.1	5.4
2026-01-29 03:51:00	-17.1	-22.5	5.4
2026-01-29 03:52:00	-17.4	-22.5	5.1
2026-01-29 03:53:00	-17.5	-22.2	4.7
2026-01-29 03:54:00	-17.5	-21.8	4.3
2026-01-29 03:55:00	-17.4	-21.6	4.2
2026-01-29 03:56:00	-17.3	-21.3	4.0
2026-01-29 03:57:00	-17.3	-21.0	3.7
2026-01-29 03:58:00	-17.2	-20.8	3.6
2026-01-29 03:59:00	-17.1	-20.6	3.5
2026-01-29 04:00:00	-17.0	-20.3	3.3
2026-01-29 04:01:00	-16.8	-19.5	2.7
2026-01-29 04:02:00	-16.3	-18.6	2.3
2026-01-29 04:03:00	-16.1	-18.4	2.3
2026-01-29 04:04:00	-16.1	-18.9	2.8
2026-01-29 04:05:00	-16.1	-19.3	3.2
2026-01-29 04:06:00	-16.2	-19.5	3.3
2026-01-29 04:07:00	-16.4	-19.9	3.5
2026-01-29 04:08:00	-16.7	-20.2	3.5
2026-01-29 04:09:00	-17.1	-20.6	3.5
2026-01-29 04:10:00	-17.5	-21.1	3.6
2026-01-29 04:11:00	-18.0	-21.5	3.5
2026-01-29 04:12:00	-18.4	-22.0	3.6
2026-01-29 04:13:00	-18.8	-22.3	3.5
2026-01-29 04:14:00	-19.2	-22.6	3.4
2026-01-29 04:15:00	-19.3	-22.2	2.9
2026-01-29 04:16:00	-19.3	-21.6	2.3
2026-01-29 04:17:00	-19.2	-21.1	1.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 04:18:00	-18.9	-20.7	1.8
2026-01-29 04:19:00	-18.7	-20.6	1.9
2026-01-29 04:20:00	-18.4	-20.4	2.0
2026-01-29 04:21:00	-18.2	-20.2	2.0
2026-01-29 04:22:00	-18.0	-19.8	1.8
2026-01-29 04:23:00	-18.3	-20.7	2.4
2026-01-29 04:24:00	-18.6	-21.5	2.9
2026-01-29 04:25:00	-19.1	-22.3	3.2
2026-01-29 04:26:00	-19.5	-22.7	3.2
2026-01-29 04:27:00	-19.7	-22.3	2.6
2026-01-29 04:28:00	-19.6	-21.9	2.3
2026-01-29 04:29:00	-19.5	-21.3	1.8
2026-01-29 04:30:00	-19.3	-21.0	1.7
2026-01-29 04:31:00	-19.1	-20.7	1.6
2026-01-29 04:32:00	-19.0	-20.5	1.5
2026-01-29 04:33:00	-18.8	-20.4	1.6
2026-01-29 04:34:00	-18.6	-20.3	1.7
2026-01-29 04:35:00	-18.6	-20.2	1.6
2026-01-29 04:36:00	-19.1	-20.5	1.4
2026-01-29 04:37:00	-19.7	-21.3	1.6
2026-01-29 04:38:00	-20.1	-21.8	1.7
2026-01-29 04:39:00	-20.2	-21.6	1.4
2026-01-29 04:40:00	-20.2	-21.3	1.1
2026-01-29 04:41:00	-20.1	-21.1	1.0
2026-01-29 04:42:00	-19.9	-20.9	1.0
2026-01-29 04:43:00	-19.7	-20.7	1.0
2026-01-29 04:44:00	-19.6	-20.5	0.9
2026-01-29 04:45:00	-19.4	-20.4	1.0
2026-01-29 04:46:00	-19.2	-20.2	1.0
2026-01-29 04:47:00	-19.0	-20.1	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 04:48:00	-19.0	-19.9	0.9
2026-01-29 04:49:00	-19.2	-21.2	2.0
2026-01-29 04:50:00	-19.8	-22.3	2.5
2026-01-29 04:51:00	-20.0	-22.4	2.4
2026-01-29 04:52:00	-20.0	-22.0	2.0
2026-01-29 04:53:00	-19.9	-21.6	1.7
2026-01-29 04:54:00	-19.7	-21.2	1.5
2026-01-29 04:55:00	-19.6	-20.9	1.3
2026-01-29 04:56:00	-19.4	-20.8	1.4
2026-01-29 04:57:00	-19.2	-20.8	1.6
2026-01-29 04:58:00	-19.1	-20.7	1.6
2026-01-29 04:59:00	-18.9	-20.6	1.7
2026-01-29 05:00:00	-18.9	-20.5	1.6
2026-01-29 05:01:00	-19.6	-20.6	1.0
2026-01-29 05:02:00	-20.0	-21.4	1.4
2026-01-29 05:03:00	-20.3	-21.8	1.5
2026-01-29 05:04:00	-20.4	-21.6	1.2
2026-01-29 05:05:00	-20.3	-21.3	1.0
2026-01-29 05:06:00	-20.1	-21.1	1.0
2026-01-29 05:07:00	-19.9	-20.9	1.0
2026-01-29 05:08:00	-19.7	-20.7	1.0
2026-01-29 05:09:00	-19.6	-20.5	0.9
2026-01-29 05:10:00	-19.4	-20.4	1.0
2026-01-29 05:11:00	-19.3	-20.4	1.1
2026-01-29 05:12:00	-19.0	-20.2	1.2
2026-01-29 05:13:00	-18.9	-20.0	1.1
2026-01-29 05:14:00	-19.1	-20.9	1.8
2026-01-29 05:15:00	-19.6	-22.1	2.5
2026-01-29 05:16:00	-19.8	-22.4	2.6
2026-01-29 05:17:00	-19.8	-22.0	2.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 05:18:00	-19.7	-21.6	1.9
2026-01-29 05:19:00	-19.6	-21.3	1.7
2026-01-29 05:20:00	-19.5	-21.2	1.7
2026-01-29 05:21:00	-19.4	-21.1	1.7
2026-01-29 05:22:00	-19.2	-21.0	1.8
2026-01-29 05:23:00	-19.1	-21.0	1.9
2026-01-29 05:24:00	-18.8	-20.8	2.0
2026-01-29 05:25:00	-18.7	-20.6	1.9
2026-01-29 05:26:00	-18.9	-20.5	1.6
2026-01-29 05:27:00	-19.7	-20.7	1.0
2026-01-29 05:28:00	-20.1	-21.6	1.5
2026-01-29 05:29:00	-20.3	-21.7	1.4
2026-01-29 05:30:00	-20.2	-21.5	1.3
2026-01-29 05:31:00	-20.1	-21.3	1.2
2026-01-29 05:32:00	-19.9	-21.1	1.2
2026-01-29 05:33:00	-19.8	-20.9	1.1
2026-01-29 05:34:00	-19.6	-20.7	1.1
2026-01-29 05:35:00	-19.5	-20.5	1.0
2026-01-29 05:36:00	-19.3	-20.4	1.1
2026-01-29 05:37:00	-19.1	-20.3	1.2
2026-01-29 05:38:00	-18.9	-20.2	1.3
2026-01-29 05:39:00	-18.9	-20.0	1.1
2026-01-29 05:40:00	-19.2	-21.0	1.8
2026-01-29 05:41:00	-19.6	-22.4	2.8
2026-01-29 05:42:00	-19.8	-22.2	2.4
2026-01-29 05:43:00	-19.7	-21.9	2.2
2026-01-29 05:44:00	-19.7	-21.4	1.7
2026-01-29 05:45:00	-19.6	-21.2	1.6
2026-01-29 05:46:00	-19.5	-21.1	1.6
2026-01-29 05:47:00	-19.3	-21.1	1.8

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 05:48:00	-19.2	-21.0	1.8
2026-01-29 05:49:00	-19.0	-20.9	1.9
2026-01-29 05:50:00	-18.9	-20.8	1.9
2026-01-29 05:51:00	-18.7	-20.5	1.8
2026-01-29 05:52:00	-19.1	-20.5	1.4
2026-01-29 05:53:00	-19.8	-20.9	1.1
2026-01-29 05:54:00	-20.2	-21.7	1.5
2026-01-29 05:55:00	-20.3	-21.7	1.4
2026-01-29 05:56:00	-20.3	-21.5	1.2
2026-01-29 05:57:00	-20.2	-21.3	1.1
2026-01-29 05:58:00	-20.0	-21.0	1.0
2026-01-29 05:59:00	-19.8	-20.9	1.1
2026-01-29 06:00:00	-19.7	-20.7	1.0
2026-01-29 06:01:00	-19.5	-20.5	1.0
2026-01-29 06:02:00	-19.3	-20.4	1.1
2026-01-29 06:03:00	-19.1	-20.4	1.3
2026-01-29 06:04:00	-18.9	-20.2	1.3
2026-01-29 06:05:00	-18.9	-20.2	1.3
2026-01-29 06:06:00	-19.3	-21.5	2.2
2026-01-29 06:07:00	-19.7	-22.4	2.7
2026-01-29 06:08:00	-19.8	-22.2	2.4
2026-01-29 06:09:00	-19.8	-21.8	2.0
2026-01-29 06:10:00	-19.7	-21.4	1.7
2026-01-29 06:11:00	-19.6	-21.1	1.5
2026-01-29 06:12:00	-19.5	-21.0	1.5
2026-01-29 06:13:00	-19.3	-21.0	1.7
2026-01-29 06:14:00	-19.2	-20.9	1.7
2026-01-29 06:15:00	-19.0	-20.8	1.8
2026-01-29 06:16:00	-18.8	-20.7	1.9
2026-01-29 06:17:00	-18.7	-20.5	1.8

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 06:18:00	-19.2	-20.5	1.3
2026-01-29 06:19:00	-19.9	-21.0	1.1
2026-01-29 06:20:00	-20.2	-21.7	1.5
2026-01-29 06:21:00	-20.3	-21.6	1.3
2026-01-29 06:22:00	-20.3	-21.4	1.1
2026-01-29 06:23:00	-20.1	-21.2	1.1
2026-01-29 06:24:00	-20.0	-21.0	1.0
2026-01-29 06:25:00	-19.8	-20.7	0.9
2026-01-29 06:26:00	-19.6	-20.6	1.0
2026-01-29 06:27:00	-19.5	-20.5	1.0
2026-01-29 06:28:00	-19.3	-20.4	1.1
2026-01-29 06:29:00	-19.1	-20.3	1.2
2026-01-29 06:30:00	-18.9	-20.1	1.2
2026-01-29 06:31:00	-19.0	-20.3	1.3
2026-01-29 06:32:00	-19.4	-21.7	2.3
2026-01-29 06:33:00	-19.9	-22.5	2.6
2026-01-29 06:34:00	-19.9	-22.2	2.3
2026-01-29 06:35:00	-19.8	-21.7	1.9
2026-01-29 06:36:00	-19.7	-21.3	1.6
2026-01-29 06:37:00	-19.6	-21.3	1.7
2026-01-29 06:38:00	-19.5	-21.1	1.6
2026-01-29 06:39:00	-19.3	-21.0	1.7
2026-01-29 06:40:00	-19.1	-21.0	1.9
2026-01-29 06:41:00	-19.0	-20.9	1.9
2026-01-29 06:42:00	-18.8	-20.6	1.8
2026-01-29 06:43:00	-18.9	-20.4	1.5
2026-01-29 06:44:00	-19.4	-21.5	2.1
2026-01-29 06:45:00	-19.9	-22.6	2.7
2026-01-29 06:46:00	-20.0	-22.4	2.4
2026-01-29 06:47:00	-19.9	-21.9	2.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 06:48:00	-19.8	-21.5	1.7
2026-01-29 06:49:00	-19.7	-21.3	1.6
2026-01-29 06:50:00	-19.5	-21.2	1.7
2026-01-29 06:51:00	-19.4	-21.1	1.7
2026-01-29 06:52:00	-19.2	-21.0	1.8
2026-01-29 06:53:00	-19.0	-21.0	2.0
2026-01-29 06:54:00	-18.8	-20.8	2.0
2026-01-29 06:55:00	-18.9	-20.6	1.7
2026-01-29 06:56:00	-19.4	-20.7	1.3
2026-01-29 06:57:00	-20.0	-21.3	1.3
2026-01-29 06:58:00	-20.3	-21.7	1.4
2026-01-29 06:59:00	-20.3	-21.5	1.2
2026-01-29 07:00:00	-20.3	-21.3	1.0
2026-01-29 07:01:00	-20.1	-21.1	1.0
2026-01-29 07:02:00	-19.9	-20.9	1.0
2026-01-29 07:03:00	-19.7	-20.7	1.0
2026-01-29 07:04:00	-19.6	-20.7	1.1
2026-01-29 07:05:00	-19.4	-20.5	1.1
2026-01-29 07:06:00	-19.2	-20.5	1.3
2026-01-29 07:07:00	-19.0	-20.4	1.4
2026-01-29 07:08:00	-18.9	-20.1	1.2
2026-01-29 07:09:00	-19.0	-20.5	1.5
2026-01-29 07:10:00	-19.5	-22.0	2.5
2026-01-29 07:11:00	-19.8	-22.5	2.7
2026-01-29 07:12:00	-19.8	-22.2	2.4
2026-01-29 07:13:00	-19.8	-21.7	1.9
2026-01-29 07:14:00	-19.7	-21.3	1.6
2026-01-29 07:15:00	-19.6	-21.2	1.6
2026-01-29 07:16:00	-19.5	-21.2	1.7
2026-01-29 07:17:00	-19.3	-21.0	1.7

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 07:18:00	-19.1	-20.9	1.8
2026-01-29 07:19:00	-18.9	-20.8	1.9
2026-01-29 07:20:00	-18.8	-20.6	1.8
2026-01-29 07:21:00	-19.0	-20.6	1.6
2026-01-29 07:22:00	-19.7	-20.7	1.0
2026-01-29 07:23:00	-20.1	-21.5	1.4
2026-01-29 07:24:00	-20.3	-21.6	1.3
2026-01-29 07:25:00	-20.4	-21.5	1.1
2026-01-29 07:26:00	-20.3	-21.3	1.0
2026-01-29 07:27:00	-20.1	-21.1	1.0
2026-01-29 07:28:00	-19.9	-20.9	1.0
2026-01-29 07:29:00	-19.7	-20.7	1.0
2026-01-29 07:30:00	-19.6	-20.6	1.0
2026-01-29 07:31:00	-19.4	-20.5	1.1
2026-01-29 07:32:00	-19.2	-20.4	1.2
2026-01-29 07:33:00	-19.0	-20.3	1.3
2026-01-29 07:34:00	-18.9	-20.1	1.2
2026-01-29 07:35:00	-19.0	-20.5	1.5
2026-01-29 07:36:00	-19.5	-22.0	2.5
2026-01-29 07:37:00	-19.7	-22.4	2.7
2026-01-29 07:38:00	-19.8	-22.1	2.3
2026-01-29 07:39:00	-19.8	-21.7	1.9
2026-01-29 07:40:00	-19.7	-21.3	1.6
2026-01-29 07:41:00	-19.6	-21.0	1.4
2026-01-29 07:42:00	-19.4	-21.0	1.6
2026-01-29 07:43:00	-19.3	-21.0	1.7
2026-01-29 07:44:00	-19.1	-20.8	1.7
2026-01-29 07:45:00	-18.9	-20.7	1.8
2026-01-29 07:46:00	-18.8	-20.7	1.9
2026-01-29 07:47:00	-18.8	-20.5	1.7

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 07:48:00	-19.5	-20.6	1.1
2026-01-29 07:49:00	-20.0	-21.4	1.4
2026-01-29 07:50:00	-20.3	-21.8	1.5
2026-01-29 07:51:00	-20.3	-21.6	1.3
2026-01-29 07:52:00	-20.4	-21.5	1.1
2026-01-29 07:53:00	-20.2	-21.2	1.0
2026-01-29 07:54:00	-20.0	-21.0	1.0
2026-01-29 07:55:00	-19.8	-20.8	1.0
2026-01-29 07:56:00	-19.6	-20.6	1.0
2026-01-29 07:57:00	-19.5	-20.5	1.0
2026-01-29 07:58:00	-19.3	-20.4	1.1
2026-01-29 07:59:00	-19.1	-20.3	1.2
2026-01-29 08:00:00	-18.9	-20.2	1.3
2026-01-29 08:01:00	-18.9	-20.2	1.3
2026-01-29 08:02:00	-19.4	-21.4	2.0
2026-01-29 08:03:00	-19.8	-22.5	2.7
2026-01-29 08:04:00	-19.9	-22.3	2.4
2026-01-29 08:05:00	-19.8	-21.8	2.0
2026-01-29 08:06:00	-19.7	-21.3	1.6
2026-01-29 08:07:00	-19.6	-21.1	1.5
2026-01-29 08:08:00	-19.5	-21.1	1.6
2026-01-29 08:09:00	-19.3	-21.0	1.7
2026-01-29 08:10:00	-19.1	-20.9	1.8
2026-01-29 08:11:00	-18.9	-20.8	1.9
2026-01-29 08:12:00	-18.8	-20.6	1.8
2026-01-29 08:13:00	-18.7	-20.5	1.8
2026-01-29 08:14:00	-19.3	-20.5	1.2
2026-01-29 08:15:00	-19.9	-21.2	1.3
2026-01-29 08:16:00	-20.3	-21.7	1.4
2026-01-29 08:17:00	-20.4	-21.6	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 08:18:00	-20.4	-21.5	1.1
2026-01-29 08:19:00	-20.2	-21.2	1.0
2026-01-29 08:20:00	-20.0	-21.0	1.0
2026-01-29 08:21:00	-19.8	-20.8	1.0
2026-01-29 08:22:00	-19.7	-20.6	0.9
2026-01-29 08:23:00	-19.5	-20.5	1.0
2026-01-29 08:24:00	-19.3	-20.4	1.1
2026-01-29 08:25:00	-19.1	-20.3	1.2
2026-01-29 08:26:00	-19.0	-20.2	1.2
2026-01-29 08:27:00	-18.9	-20.0	1.1
2026-01-29 08:28:00	-19.4	-21.2	1.8
2026-01-29 08:29:00	-19.9	-22.5	2.6
2026-01-29 08:30:00	-20.0	-22.3	2.3
2026-01-29 08:31:00	-19.9	-21.9	2.0
2026-01-29 08:32:00	-19.8	-21.4	1.6
2026-01-29 08:33:00	-19.7	-21.2	1.5
2026-01-29 08:34:00	-19.6	-21.1	1.5
2026-01-29 08:35:00	-19.4	-21.0	1.6
2026-01-29 08:36:00	-19.2	-21.0	1.8
2026-01-29 08:37:00	-19.0	-20.9	1.9
2026-01-29 08:38:00	-18.8	-20.7	1.9
2026-01-29 08:39:00	-18.8	-20.5	1.7
2026-01-29 08:40:00	-19.4	-20.6	1.2
2026-01-29 08:41:00	-19.9	-21.2	1.3
2026-01-29 08:42:00	-20.2	-21.7	1.5
2026-01-29 08:43:00	-20.3	-21.5	1.2
2026-01-29 08:44:00	-20.2	-21.3	1.1
2026-01-29 08:45:00	-20.1	-21.1	1.0
2026-01-29 08:46:00	-19.9	-20.9	1.0
2026-01-29 08:47:00	-19.7	-20.7	1.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 08:48:00	-19.5	-20.7	1.2
2026-01-29 08:49:00	-19.4	-20.5	1.1
2026-01-29 08:50:00	-19.2	-20.5	1.3
2026-01-29 08:51:00	-19.0	-20.4	1.4
2026-01-29 08:52:00	-18.9	-20.2	1.3
2026-01-29 08:53:00	-18.9	-20.2	1.3
2026-01-29 08:54:00	-19.5	-21.5	2.0
2026-01-29 08:55:00	-19.9	-22.5	2.6
2026-01-29 08:56:00	-20.0	-22.2	2.2
2026-01-29 08:57:00	-19.9	-21.8	1.9
2026-01-29 08:58:00	-19.8	-21.4	1.6
2026-01-29 08:59:00	-19.7	-21.3	1.6
2026-01-29 09:00:00	-19.5	-21.2	1.7
2026-01-29 09:01:00	-19.4	-21.0	1.6
2026-01-29 09:02:00	-19.1	-21.0	1.9
2026-01-29 09:03:00	-18.9	-20.8	1.9
2026-01-29 09:04:00	-18.8	-20.7	1.9
2026-01-29 09:05:00	-18.7	-20.5	1.8
2026-01-29 09:06:00	-19.5	-20.6	1.1
2026-01-29 09:07:00	-20.0	-21.3	1.3
2026-01-29 09:08:00	-20.3	-21.7	1.4
2026-01-29 09:09:00	-20.4	-21.6	1.2
2026-01-29 09:10:00	-20.3	-21.4	1.1
2026-01-29 09:11:00	-20.1	-21.2	1.1
2026-01-29 09:12:00	-19.9	-20.9	1.0
2026-01-29 09:13:00	-19.7	-20.8	1.1
2026-01-29 09:14:00	-19.6	-20.6	1.0
2026-01-29 09:15:00	-19.4	-20.5	1.1
2026-01-29 09:16:00	-19.3	-20.4	1.1
2026-01-29 09:17:00	-19.1	-20.3	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 09:18:00	-18.9	-20.2	1.3
2026-01-29 09:19:00	-19.0	-20.3	1.3
2026-01-29 09:20:00	-19.3	-21.6	2.3
2026-01-29 09:21:00	-19.7	-22.6	2.9
2026-01-29 09:22:00	-19.9	-22.3	2.4
2026-01-29 09:23:00	-19.8	-21.8	2.0
2026-01-29 09:24:00	-19.7	-21.5	1.8
2026-01-29 09:25:00	-19.6	-21.1	1.5
2026-01-29 09:26:00	-19.5	-21.0	1.5
2026-01-29 09:27:00	-19.4	-21.0	1.6
2026-01-29 09:28:00	-19.2	-20.9	1.7
2026-01-29 09:29:00	-19.0	-20.8	1.8
2026-01-29 09:30:00	-18.8	-20.7	1.9
2026-01-29 09:31:00	-18.7	-20.4	1.7
2026-01-29 09:32:00	-19.1	-21.2	2.1
2026-01-29 09:33:00	-19.6	-22.0	2.4
2026-01-29 09:34:00	-20.1	-21.7	1.6
2026-01-29 09:35:00	-20.4	-21.7	1.3
2026-01-29 09:36:00	-20.2	-21.5	1.3
2026-01-29 09:37:00	-20.1	-21.1	1.0
2026-01-29 09:38:00	-19.8	-20.9	1.1
2026-01-29 09:39:00	-19.3	-20.7	1.4
2026-01-29 09:40:00	-18.7	-20.5	1.8
2026-01-29 09:41:00	-18.0	-20.3	2.3
2026-01-29 09:42:00	-17.3	-20.2	2.9
2026-01-29 09:43:00	-16.4	-19.7	3.3
2026-01-29 09:44:00	-14.9	-19.1	4.2
2026-01-29 09:45:00	-14.4	-18.8	4.4
2026-01-29 09:46:00	-14.2	-19.0	4.8
2026-01-29 09:47:00	-14.5	-19.6	5.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 09:48:00	-15.1	-20.3	5.2
2026-01-29 09:49:00	-15.3	-20.7	5.4
2026-01-29 09:50:00	-15.8	-21.1	5.3
2026-01-29 09:51:00	-16.2	-21.5	5.3
2026-01-29 09:52:00	-16.5	-21.9	5.4
2026-01-29 09:53:00	-17.1	-22.3	5.2
2026-01-29 09:54:00	-17.2	-21.9	4.7
2026-01-29 09:55:00	-17.1	-21.5	4.4
2026-01-29 09:56:00	-17.0	-21.2	4.2
2026-01-29 09:57:00	-17.0	-20.8	3.8
2026-01-29 09:58:00	-16.9	-20.5	3.6
2026-01-29 09:59:00	-17.0	-20.1	3.1
2026-01-29 10:00:00	-17.0	-19.3	2.3
2026-01-29 10:01:00	-16.6	-19.5	2.9
2026-01-29 10:02:00	-16.5	-19.8	3.3
2026-01-29 10:03:00	-16.3	-20.1	3.8
2026-01-29 10:04:00	-16.2	-20.3	4.1
2026-01-29 10:05:00	-16.3	-20.4	4.1
2026-01-29 10:06:00	-16.6	-20.6	4.0
2026-01-29 10:07:00	-17.0	-21.0	4.0
2026-01-29 10:08:00	-17.3	-21.2	3.9
2026-01-29 10:09:00	-17.7	-21.7	4.0
2026-01-29 10:10:00	-18.1	-22.0	3.9
2026-01-29 10:11:00	-18.6	-22.4	3.8
2026-01-29 10:12:00	-18.9	-22.8	3.9
2026-01-29 10:13:00	-19.2	-22.5	3.3
2026-01-29 10:14:00	-19.2	-21.9	2.7
2026-01-29 10:15:00	-19.1	-21.5	2.4
2026-01-29 10:16:00	-19.0	-21.0	2.0
2026-01-29 10:17:00	-18.8	-20.7	1.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 10:18:00	-18.5	-20.6	2.1
2026-01-29 10:19:00	-18.3	-20.4	2.1
2026-01-29 10:20:00	-18.1	-20.2	2.1
2026-01-29 10:21:00	-18.0	-19.5	1.5
2026-01-29 10:22:00	-18.1	-19.5	1.4
2026-01-29 10:23:00	-18.8	-20.1	1.3
2026-01-29 10:24:00	-19.4	-21.0	1.6
2026-01-29 10:25:00	-20.1	-21.7	1.6
2026-01-29 10:26:00	-20.3	-21.6	1.3
2026-01-29 10:27:00	-20.2	-21.5	1.3
2026-01-29 10:28:00	-20.1	-21.2	1.1
2026-01-29 10:29:00	-19.9	-20.9	1.0
2026-01-29 10:30:00	-19.7	-20.7	1.0
2026-01-29 10:31:00	-19.5	-20.5	1.0
2026-01-29 10:32:00	-19.3	-20.4	1.1
2026-01-29 10:33:00	-19.1	-20.3	1.2
2026-01-29 10:34:00	-18.9	-20.1	1.2
2026-01-29 10:35:00	-18.9	-19.9	1.0
2026-01-29 10:36:00	-19.1	-21.1	2.0
2026-01-29 10:37:00	-19.7	-22.3	2.6
2026-01-29 10:38:00	-19.9	-22.4	2.5
2026-01-29 10:39:00	-19.9	-22.0	2.1
2026-01-29 10:40:00	-19.8	-21.6	1.8
2026-01-29 10:41:00	-19.3	-21.1	1.8
2026-01-29 10:42:00	-18.5	-20.6	2.1
2026-01-29 10:43:00	-17.9	-20.1	2.2
2026-01-29 10:44:00	-17.7	-20.0	2.3
2026-01-29 10:45:00	-18.1	-20.1	2.0
2026-01-29 10:46:00	-18.5	-20.6	2.1
2026-01-29 10:47:00	-18.9	-21.2	2.3

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 10:48:00	-19.2	-21.6	2.4
2026-01-29 10:49:00	-19.1	-21.7	2.6
2026-01-29 10:50:00	-19.1	-21.5	2.4
2026-01-29 10:51:00	-18.8	-21.1	2.3
2026-01-29 10:52:00	-18.5	-20.7	2.2
2026-01-29 10:53:00	-18.5	-20.5	2.0
2026-01-29 10:54:00	-18.5	-20.3	1.8
2026-01-29 10:55:00	-18.5	-20.0	1.5
2026-01-29 10:56:00	-18.9	-20.7	1.8
2026-01-29 10:57:00	-19.3	-22.0	2.7
2026-01-29 10:58:00	-19.8	-22.6	2.8
2026-01-29 10:59:00	-19.8	-22.2	2.4
2026-01-29 11:00:00	-19.7	-21.8	2.1
2026-01-29 11:01:00	-19.7	-21.4	1.7
2026-01-29 11:02:00	-19.6	-21.1	1.5
2026-01-29 11:03:00	-19.5	-20.9	1.4
2026-01-29 11:04:00	-19.4	-20.8	1.4
2026-01-29 11:05:00	-19.3	-20.7	1.4
2026-01-29 11:06:00	-19.1	-20.6	1.5
2026-01-29 11:07:00	-19.0	-20.5	1.5
2026-01-29 11:08:00	-19.0	-20.3	1.3
2026-01-29 11:09:00	-19.3	-21.2	1.9
2026-01-29 11:10:00	-19.7	-22.2	2.5
2026-01-29 11:11:00	-19.9	-22.5	2.6
2026-01-29 11:12:00	-20.0	-22.2	2.2
2026-01-29 11:13:00	-19.9	-21.8	1.9
2026-01-29 11:14:00	-19.8	-21.5	1.7
2026-01-29 11:15:00	-19.7	-21.1	1.4
2026-01-29 11:16:00	-19.5	-21.0	1.5
2026-01-29 11:17:00	-19.4	-20.9	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 11:18:00	-19.3	-20.8	1.5
2026-01-29 11:19:00	-19.2	-20.7	1.5
2026-01-29 11:20:00	-19.0	-20.6	1.6
2026-01-29 11:21:00	-19.1	-20.5	1.4
2026-01-29 11:22:00	-19.5	-20.6	1.1
2026-01-29 11:23:00	-19.9	-21.3	1.4
2026-01-29 11:24:00	-20.3	-21.7	1.4
2026-01-29 11:25:00	-20.3	-21.5	1.2
2026-01-29 11:26:00	-20.3	-21.3	1.0
2026-01-29 11:27:00	-20.2	-21.2	1.0
2026-01-29 11:28:00	-20.0	-21.0	1.0
2026-01-29 11:29:00	-19.9	-20.7	0.8
2026-01-29 11:30:00	-19.7	-20.6	0.9
2026-01-29 11:31:00	-19.6	-20.5	0.9
2026-01-29 11:32:00	-19.4	-20.4	1.0
2026-01-29 11:33:00	-19.3	-20.3	1.0
2026-01-29 11:34:00	-19.1	-20.2	1.1
2026-01-29 11:35:00	-19.1	-20.0	0.9
2026-01-29 11:36:00	-19.3	-21.2	1.9
2026-01-29 11:37:00	-19.7	-22.4	2.7
2026-01-29 11:38:00	-19.9	-22.4	2.5
2026-01-29 11:39:00	-20.0	-22.1	2.1
2026-01-29 11:40:00	-19.9	-21.7	1.8
2026-01-29 11:41:00	-19.8	-21.3	1.5
2026-01-29 11:42:00	-19.7	-21.0	1.3
2026-01-29 11:43:00	-19.6	-20.9	1.3
2026-01-29 11:44:00	-19.5	-20.9	1.4
2026-01-29 11:45:00	-19.4	-20.8	1.4
2026-01-29 11:46:00	-19.3	-20.7	1.4
2026-01-29 11:47:00	-19.1	-20.6	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 11:48:00	-19.2	-20.5	1.3
2026-01-29 11:49:00	-19.8	-20.7	0.9
2026-01-29 11:50:00	-20.1	-21.5	1.4
2026-01-29 11:51:00	-20.3	-21.7	1.4
2026-01-29 11:52:00	-20.4	-21.6	1.2
2026-01-29 11:53:00	-20.3	-21.3	1.0
2026-01-29 11:54:00	-20.3	-21.2	0.9
2026-01-29 11:55:00	-20.1	-21.0	0.9
2026-01-29 11:56:00	-20.0	-20.8	0.8
2026-01-29 11:57:00	-19.8	-20.6	0.8
2026-01-29 11:58:00	-19.6	-20.5	0.9
2026-01-29 11:59:00	-19.5	-20.5	1.0
2026-01-29 12:00:00	-19.4	-20.4	1.0
2026-01-29 12:01:00	-19.2	-20.3	1.1
2026-01-29 12:02:00	-19.1	-20.1	1.0
2026-01-29 12:03:00	-19.2	-20.7	1.5
2026-01-29 12:04:00	-19.6	-22.1	2.5
2026-01-29 12:05:00	-19.9	-22.5	2.6
2026-01-29 12:06:00	-20.0	-22.2	2.2
2026-01-29 12:07:00	-20.0	-21.9	1.9
2026-01-29 12:08:00	-19.9	-21.5	1.6
2026-01-29 12:09:00	-19.7	-21.2	1.5
2026-01-29 12:10:00	-19.7	-21.0	1.3
2026-01-29 12:11:00	-19.6	-21.0	1.4
2026-01-29 12:12:00	-19.4	-20.9	1.5
2026-01-29 12:13:00	-19.3	-20.8	1.5
2026-01-29 12:14:00	-19.2	-20.7	1.5
2026-01-29 12:15:00	-19.0	-20.5	1.5
2026-01-29 12:16:00	-19.3	-20.6	1.3
2026-01-29 12:17:00	-19.8	-21.0	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 12:18:00	-20.2	-21.7	1.5
2026-01-29 12:19:00	-20.3	-21.7	1.4
2026-01-29 12:20:00	-20.4	-21.5	1.1
2026-01-29 12:21:00	-20.3	-21.3	1.0
2026-01-29 12:22:00	-20.1	-21.1	1.0
2026-01-29 12:23:00	-20.0	-20.9	0.9
2026-01-29 12:24:00	-19.8	-20.7	0.9
2026-01-29 12:25:00	-19.7	-20.6	0.9
2026-01-29 12:26:00	-19.5	-20.5	1.0
2026-01-29 12:27:00	-19.4	-20.5	1.1
2026-01-29 12:28:00	-19.3	-20.4	1.1
2026-01-29 12:29:00	-19.1	-20.3	1.2
2026-01-29 12:30:00	-19.1	-20.1	1.0
2026-01-29 12:31:00	-19.3	-21.1	1.8
2026-01-29 12:32:00	-19.7	-22.3	2.6
2026-01-29 12:33:00	-20.0	-22.4	2.4
2026-01-29 12:34:00	-20.0	-22.0	2.0
2026-01-29 12:35:00	-19.9	-21.7	1.8
2026-01-29 12:36:00	-19.8	-21.3	1.5
2026-01-29 12:37:00	-19.7	-21.2	1.5
2026-01-29 12:38:00	-19.6	-21.2	1.6
2026-01-29 12:39:00	-19.5	-21.0	1.5
2026-01-29 12:40:00	-19.4	-21.0	1.6
2026-01-29 12:41:00	-19.3	-20.9	1.6
2026-01-29 12:42:00	-19.2	-20.8	1.6
2026-01-29 12:43:00	-19.0	-20.6	1.6
2026-01-29 12:44:00	-19.4	-20.6	1.2
2026-01-29 12:45:00	-19.9	-21.0	1.1
2026-01-29 12:46:00	-20.3	-21.7	1.4
2026-01-29 12:47:00	-20.3	-21.6	1.3

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 12:48:00	-20.3	-21.5	1.2
2026-01-29 12:49:00	-20.3	-21.3	1.0
2026-01-29 12:50:00	-20.1	-21.1	1.0
2026-01-29 12:51:00	-20.0	-20.9	0.9
2026-01-29 12:52:00	-19.8	-20.7	0.9
2026-01-29 12:53:00	-19.7	-20.6	0.9
2026-01-29 12:54:00	-19.5	-20.5	1.0
2026-01-29 12:55:00	-19.4	-20.4	1.0
2026-01-29 12:56:00	-19.3	-20.3	1.0
2026-01-29 12:57:00	-19.1	-20.2	1.1
2026-01-29 12:58:00	-19.0	-20.0	1.0
2026-01-29 12:59:00	-19.3	-21.1	1.8
2026-01-29 13:00:00	-19.7	-22.4	2.7
2026-01-29 13:01:00	-19.9	-22.3	2.4
2026-01-29 13:02:00	-19.9	-22.0	2.1
2026-01-29 13:03:00	-19.8	-21.6	1.8
2026-01-29 13:04:00	-19.7	-21.3	1.6
2026-01-29 13:05:00	-19.6	-21.2	1.6
2026-01-29 13:06:00	-19.5	-21.1	1.6
2026-01-29 13:07:00	-19.4	-21.0	1.6
2026-01-29 13:08:00	-19.3	-20.9	1.6
2026-01-29 13:09:00	-19.2	-20.8	1.6
2026-01-29 13:10:00	-19.1	-20.7	1.6
2026-01-29 13:11:00	-19.0	-20.5	1.5
2026-01-29 13:12:00	-19.6	-20.7	1.1
2026-01-29 13:13:00	-20.0	-21.2	1.2
2026-01-29 13:14:00	-20.3	-21.7	1.4
2026-01-29 13:15:00	-20.3	-21.6	1.3
2026-01-29 13:16:00	-20.3	-21.5	1.2
2026-01-29 13:17:00	-20.3	-21.2	0.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 13:18:00	-20.1	-21.0	0.9
2026-01-29 13:19:00	-19.9	-20.8	0.9
2026-01-29 13:20:00	-19.8	-20.7	0.9
2026-01-29 13:21:00	-19.6	-20.6	1.0
2026-01-29 13:22:00	-19.5	-20.5	1.0
2026-01-29 13:23:00	-19.3	-20.4	1.1
2026-01-29 13:24:00	-19.2	-20.3	1.1
2026-01-29 13:25:00	-19.1	-20.2	1.1
2026-01-29 13:26:00	-19.2	-20.5	1.3
2026-01-29 13:27:00	-19.7	-21.8	2.1
2026-01-29 13:28:00	-20.0	-22.4	2.4
2026-01-29 13:29:00	-20.0	-22.1	2.1
2026-01-29 13:30:00	-20.0	-21.8	1.8
2026-01-29 13:31:00	-19.9	-21.4	1.5
2026-01-29 13:32:00	-19.8	-21.1	1.3
2026-01-29 13:33:00	-19.7	-21.0	1.3
2026-01-29 13:34:00	-19.6	-21.0	1.4
2026-01-29 13:35:00	-19.5	-21.0	1.5
2026-01-29 13:36:00	-19.3	-20.8	1.5
2026-01-29 13:37:00	-19.2	-20.7	1.5
2026-01-29 13:38:00	-19.2	-20.4	1.2
2026-01-29 13:39:00	-19.5	-21.2	1.7
2026-01-29 13:40:00	-19.9	-22.3	2.4
2026-01-29 13:41:00	-20.1	-22.5	2.4
2026-01-29 13:42:00	-20.1	-22.1	2.0
2026-01-29 13:43:00	-20.0	-21.8	1.8
2026-01-29 13:44:00	-19.9	-21.4	1.5
2026-01-29 13:45:00	-19.8	-21.1	1.3
2026-01-29 13:46:00	-19.7	-21.0	1.3
2026-01-29 13:47:00	-19.6	-20.9	1.3

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 13:48:00	-19.4	-20.8	1.4
2026-01-29 13:49:00	-19.3	-20.8	1.5
2026-01-29 13:50:00	-19.1	-20.7	1.6
2026-01-29 13:51:00	-19.3	-20.7	1.4
2026-01-29 13:52:00	-19.7	-20.9	1.2
2026-01-29 13:53:00	-20.2	-21.6	1.4
2026-01-29 13:54:00	-20.3	-21.6	1.3
2026-01-29 13:55:00	-20.4	-21.5	1.1
2026-01-29 13:56:00	-20.3	-21.2	0.9
2026-01-29 13:57:00	-20.3	-21.0	0.7
2026-01-29 13:58:00	-20.1	-20.9	0.8
2026-01-29 13:59:00	-19.9	-20.7	0.8
2026-01-29 14:00:00	-19.8	-20.7	0.9
2026-01-29 14:01:00	-19.6	-20.6	1.0
2026-01-29 14:02:00	-19.5	-20.5	1.0
2026-01-29 14:03:00	-19.3	-20.4	1.1
2026-01-29 14:04:00	-19.2	-20.3	1.1
2026-01-29 14:05:00	-19.1	-20.1	1.0
2026-01-29 14:06:00	-19.3	-20.8	1.5
2026-01-29 14:07:00	-19.7	-22.2	2.5
2026-01-29 14:08:00	-20.0	-22.4	2.4
2026-01-29 14:09:00	-20.0	-22.1	2.1
2026-01-29 14:10:00	-20.0	-21.8	1.8
2026-01-29 14:11:00	-19.9	-21.4	1.5
2026-01-29 14:12:00	-19.8	-21.1	1.3
2026-01-29 14:13:00	-19.6	-21.1	1.5
2026-01-29 14:14:00	-19.5	-21.0	1.5
2026-01-29 14:15:00	-19.4	-20.9	1.5
2026-01-29 14:16:00	-19.3	-20.8	1.5
2026-01-29 14:17:00	-19.2	-20.7	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 14:18:00	-19.0	-20.6	1.6
2026-01-29 14:19:00	-19.4	-20.6	1.2
2026-01-29 14:20:00	-19.9	-21.0	1.1
2026-01-29 14:21:00	-20.3	-21.7	1.4
2026-01-29 14:22:00	-20.4	-21.6	1.2
2026-01-29 14:23:00	-20.4	-21.5	1.1
2026-01-29 14:24:00	-20.3	-21.3	1.0
2026-01-29 14:25:00	-20.2	-21.1	0.9
2026-01-29 14:26:00	-20.0	-20.9	0.9
2026-01-29 14:27:00	-19.9	-20.7	0.8
2026-01-29 14:28:00	-19.7	-20.6	0.9
2026-01-29 14:29:00	-19.6	-20.5	0.9
2026-01-29 14:30:00	-19.4	-20.4	1.0
2026-01-29 14:31:00	-19.3	-20.4	1.1
2026-01-29 14:32:00	-19.1	-20.3	1.2
2026-01-29 14:33:00	-19.0	-20.1	1.1
2026-01-29 14:34:00	-19.3	-20.7	1.4
2026-01-29 14:35:00	-19.8	-22.1	2.3
2026-01-29 14:36:00	-20.1	-22.4	2.3
2026-01-29 14:37:00	-20.1	-22.1	2.0
2026-01-29 14:38:00	-20.1	-21.7	1.6
2026-01-29 14:39:00	-20.0	-21.4	1.4
2026-01-29 14:40:00	-19.8	-21.1	1.3
2026-01-29 14:41:00	-19.7	-21.0	1.3
2026-01-29 14:42:00	-19.6	-21.0	1.4
2026-01-29 14:43:00	-19.5	-20.8	1.3
2026-01-29 14:44:00	-19.3	-20.8	1.5
2026-01-29 14:45:00	-19.2	-20.7	1.5
2026-01-29 14:46:00	-19.0	-20.5	1.5
2026-01-29 14:47:00	-19.5	-20.6	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 14:48:00	-19.9	-21.1	1.2
2026-01-29 14:49:00	-20.2	-21.7	1.5
2026-01-29 14:50:00	-20.3	-21.6	1.3
2026-01-29 14:51:00	-20.3	-21.4	1.1
2026-01-29 14:52:00	-20.3	-21.2	0.9
2026-01-29 14:53:00	-20.1	-21.0	0.9
2026-01-29 14:54:00	-20.0	-20.8	0.8
2026-01-29 14:55:00	-19.8	-20.7	0.9
2026-01-29 14:56:00	-19.6	-20.6	1.0
2026-01-29 14:57:00	-19.5	-20.5	1.0
2026-01-29 14:58:00	-19.4	-20.5	1.1
2026-01-29 14:59:00	-19.3	-20.4	1.1
2026-01-29 15:00:00	-19.1	-20.3	1.2
2026-01-29 15:01:00	-19.1	-20.2	1.1
2026-01-29 15:02:00	-19.4	-21.5	2.1
2026-01-29 15:03:00	-20.0	-22.5	2.5
2026-01-29 15:04:00	-20.1	-22.4	2.3
2026-01-29 15:05:00	-20.0	-22.0	2.0
2026-01-29 15:06:00	-20.0	-21.7	1.7
2026-01-29 15:07:00	-19.9	-21.3	1.4
2026-01-29 15:08:00	-19.7	-21.0	1.3
2026-01-29 15:09:00	-19.6	-20.9	1.3
2026-01-29 15:10:00	-19.5	-20.8	1.3
2026-01-29 15:11:00	-19.4	-20.8	1.4
2026-01-29 15:12:00	-19.3	-20.7	1.4
2026-01-29 15:13:00	-19.1	-20.5	1.4
2026-01-29 15:14:00	-19.2	-20.5	1.3
2026-01-29 15:15:00	-19.7	-20.6	0.9
2026-01-29 15:16:00	-20.1	-21.5	1.4
2026-01-29 15:17:00	-20.3	-21.8	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 15:18:00	-20.3	-21.6	1.3
2026-01-29 15:19:00	-20.4	-21.4	1.0
2026-01-29 15:20:00	-20.2	-21.2	1.0
2026-01-29 15:21:00	-20.1	-21.0	0.9
2026-01-29 15:22:00	-19.9	-20.8	0.9
2026-01-29 15:23:00	-19.7	-20.7	1.0
2026-01-29 15:24:00	-19.6	-20.6	1.0
2026-01-29 15:25:00	-19.5	-20.5	1.0
2026-01-29 15:26:00	-19.3	-20.4	1.1
2026-01-29 15:27:00	-19.2	-20.3	1.1
2026-01-29 15:28:00	-19.1	-20.2	1.1
2026-01-29 15:29:00	-19.1	-20.7	1.6
2026-01-29 15:30:00	-19.6	-21.9	2.3
2026-01-29 15:31:00	-20.0	-22.5	2.5
2026-01-29 15:32:00	-20.0	-22.2	2.2
2026-01-29 15:33:00	-20.0	-21.8	1.8
2026-01-29 15:34:00	-19.9	-21.5	1.6
2026-01-29 15:35:00	-19.8	-21.2	1.4
2026-01-29 15:36:00	-19.6	-20.9	1.3
2026-01-29 15:37:00	-19.4	-20.6	1.2
2026-01-29 15:38:00	-19.1	-20.4	1.3
2026-01-29 15:39:00	-18.6	-20.2	1.6
2026-01-29 15:40:00	-17.0	-19.8	2.8
2026-01-29 15:41:00	-15.3	-19.2	3.9
2026-01-29 15:42:00	-14.6	-18.9	4.3
2026-01-29 15:43:00	-14.2	-19.0	4.8
2026-01-29 15:44:00	-14.2	-19.4	5.2
2026-01-29 15:45:00	-14.2	-19.8	5.6
2026-01-29 15:46:00	-14.5	-20.3	5.8
2026-01-29 15:47:00	-14.8	-20.7	5.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 15:48:00	-15.2	-21.1	5.9
2026-01-29 15:49:00	-16.0	-21.6	5.6
2026-01-29 15:50:00	-16.5	-21.9	5.4
2026-01-29 15:51:00	-16.9	-22.2	5.3
2026-01-29 15:52:00	-17.0	-22.2	5.2
2026-01-29 15:53:00	-17.1	-21.9	4.8
2026-01-29 15:54:00	-17.1	-21.5	4.4
2026-01-29 15:55:00	-17.0	-21.3	4.3
2026-01-29 15:56:00	-17.0	-21.0	4.0
2026-01-29 15:57:00	-16.9	-20.8	3.9
2026-01-29 15:58:00	-16.8	-20.6	3.8
2026-01-29 15:59:00	-16.7	-20.3	3.6
2026-01-29 16:00:00	-15.4	-19.6	4.2
2026-01-29 16:01:00	-14.7	-18.8	4.1
2026-01-29 16:02:00	-14.7	-18.5	3.8
2026-01-29 16:03:00	-14.9	-18.8	3.9
2026-01-29 16:04:00	-15.0	-19.2	4.2
2026-01-29 16:05:00	-15.4	-19.6	4.2
2026-01-29 16:06:00	-15.8	-20.0	4.2
2026-01-29 16:07:00	-16.3	-20.4	4.1
2026-01-29 16:08:00	-16.7	-20.8	4.1
2026-01-29 16:09:00	-17.2	-21.3	4.1
2026-01-29 16:10:00	-17.7	-21.7	4.0
2026-01-29 16:11:00	-18.2	-22.1	3.9
2026-01-29 16:12:00	-18.7	-22.5	3.8
2026-01-29 16:13:00	-19.1	-22.6	3.5
2026-01-29 16:14:00	-19.2	-22.2	3.0
2026-01-29 16:15:00	-19.1	-21.7	2.6
2026-01-29 16:16:00	-19.0	-21.3	2.3
2026-01-29 16:17:00	-18.9	-20.9	2.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 16:18:00	-18.8	-20.6	1.8
2026-01-29 16:19:00	-18.6	-20.4	1.8
2026-01-29 16:20:00	-18.5	-20.3	1.8
2026-01-29 16:21:00	-18.3	-19.8	1.5
2026-01-29 16:22:00	-18.4	-19.5	1.1
2026-01-29 16:23:00	-18.9	-20.1	1.2
2026-01-29 16:24:00	-19.5	-20.9	1.4
2026-01-29 16:25:00	-20.0	-21.6	1.6
2026-01-29 16:26:00	-20.2	-21.7	1.5
2026-01-29 16:27:00	-20.1	-21.6	1.5
2026-01-29 16:28:00	-20.1	-21.3	1.2
2026-01-29 16:29:00	-20.0	-21.1	1.1
2026-01-29 16:30:00	-19.9	-20.9	1.0
2026-01-29 16:31:00	-19.8	-20.7	0.9
2026-01-29 16:32:00	-19.6	-20.5	0.9
2026-01-29 16:33:00	-19.5	-20.3	0.8
2026-01-29 16:34:00	-19.3	-20.1	0.8
2026-01-29 16:35:00	-19.1	-20.0	0.9
2026-01-29 16:36:00	-19.1	-20.1	1.0
2026-01-29 16:37:00	-19.5	-21.4	1.9
2026-01-29 16:38:00	-19.9	-22.3	2.4
2026-01-29 16:39:00	-20.1	-22.4	2.3
2026-01-29 16:40:00	-20.1	-22.1	2.0
2026-01-29 16:41:00	-20.0	-21.7	1.7
2026-01-29 16:42:00	-19.9	-21.4	1.5
2026-01-29 16:43:00	-19.8	-21.0	1.2
2026-01-29 16:44:00	-19.6	-20.8	1.2
2026-01-29 16:45:00	-19.5	-20.6	1.1
2026-01-29 16:46:00	-19.4	-20.5	1.1
2026-01-29 16:47:00	-19.3	-20.4	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 16:48:00	-19.1	-20.3	1.2
2026-01-29 16:49:00	-19.3	-20.3	1.0
2026-01-29 16:50:00	-19.7	-20.7	1.0
2026-01-29 16:51:00	-20.1	-21.6	1.5
2026-01-29 16:52:00	-20.3	-21.8	1.5
2026-01-29 16:53:00	-20.3	-21.6	1.3
2026-01-29 16:54:00	-20.3	-21.4	1.1
2026-01-29 16:55:00	-20.2	-21.2	1.0
2026-01-29 16:56:00	-20.0	-21.0	1.0
2026-01-29 16:57:00	-19.9	-20.8	0.9
2026-01-29 16:58:00	-19.7	-20.6	0.9
2026-01-29 16:59:00	-19.6	-20.5	0.9
2026-01-29 17:00:00	-19.5	-20.3	0.8
2026-01-29 17:01:00	-19.3	-20.2	0.9
2026-01-29 17:02:00	-19.2	-20.1	0.9
2026-01-29 17:03:00	-19.1	-20.0	0.9
2026-01-29 17:04:00	-19.5	-21.2	1.7
2026-01-29 17:05:00	-20.0	-22.3	2.3
2026-01-29 17:06:00	-20.1	-22.4	2.3
2026-01-29 17:07:00	-20.1	-22.1	2.0
2026-01-29 17:08:00	-20.0	-21.7	1.7
2026-01-29 17:09:00	-20.0	-21.3	1.3
2026-01-29 17:10:00	-19.8	-21.1	1.3
2026-01-29 17:11:00	-19.7	-20.9	1.2
2026-01-29 17:12:00	-19.6	-20.8	1.2
2026-01-29 17:13:00	-19.5	-20.7	1.2
2026-01-29 17:14:00	-19.4	-20.6	1.2
2026-01-29 17:15:00	-19.3	-20.6	1.3
2026-01-29 17:16:00	-19.1	-20.4	1.3
2026-01-29 17:17:00	-19.5	-20.5	1.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 17:18:00	-20.0	-21.1	1.1
2026-01-29 17:19:00	-20.3	-21.6	1.3
2026-01-29 17:20:00	-20.4	-21.5	1.1
2026-01-29 17:21:00	-20.4	-21.4	1.0
2026-01-29 17:22:00	-20.3	-21.2	0.9
2026-01-29 17:23:00	-20.2	-21.0	0.8
2026-01-29 17:24:00	-20.0	-20.9	0.9
2026-01-29 17:25:00	-19.9	-20.7	0.8
2026-01-29 17:26:00	-19.7	-20.6	0.9
2026-01-29 17:27:00	-19.6	-20.5	0.9
2026-01-29 17:28:00	-19.4	-20.4	1.0
2026-01-29 17:29:00	-19.3	-20.3	1.0
2026-01-29 17:30:00	-19.1	-20.2	1.1
2026-01-29 17:31:00	-19.1	-20.1	1.0
2026-01-29 17:32:00	-19.5	-21.4	1.9
2026-01-29 17:33:00	-20.0	-22.5	2.5
2026-01-29 17:34:00	-20.1	-22.4	2.3
2026-01-29 17:35:00	-20.1	-22.0	1.9
2026-01-29 17:36:00	-20.0	-21.7	1.7
2026-01-29 17:37:00	-19.9	-21.3	1.4
2026-01-29 17:38:00	-19.8	-21.0	1.2
2026-01-29 17:39:00	-19.7	-20.8	1.1
2026-01-29 17:40:00	-19.6	-20.8	1.2
2026-01-29 17:41:00	-19.5	-20.7	1.2
2026-01-29 17:42:00	-19.3	-20.7	1.4
2026-01-29 17:43:00	-19.2	-20.6	1.4
2026-01-29 17:44:00	-19.1	-20.4	1.3
2026-01-29 17:45:00	-19.6	-20.6	1.0
2026-01-29 17:46:00	-20.0	-21.2	1.2
2026-01-29 17:47:00	-20.3	-21.8	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 17:48:00	-20.3	-21.6	1.3
2026-01-29 17:49:00	-20.3	-21.5	1.2
2026-01-29 17:50:00	-20.3	-21.2	0.9
2026-01-29 17:51:00	-20.1	-21.0	0.9
2026-01-29 17:52:00	-20.0	-20.9	0.9
2026-01-29 17:53:00	-19.8	-20.7	0.9
2026-01-29 17:54:00	-19.7	-20.6	0.9
2026-01-29 17:55:00	-19.5	-20.5	1.0
2026-01-29 17:56:00	-19.4	-20.4	1.0
2026-01-29 17:57:00	-19.3	-20.4	1.1
2026-01-29 17:58:00	-19.1	-20.3	1.2
2026-01-29 17:59:00	-19.1	-20.1	1.0
2026-01-29 18:00:00	-19.5	-21.2	1.7
2026-01-29 18:01:00	-20.0	-22.4	2.4
2026-01-29 18:02:00	-20.1	-22.3	2.2
2026-01-29 18:03:00	-20.1	-21.9	1.8
2026-01-29 18:04:00	-20.0	-21.6	1.6
2026-01-29 18:05:00	-19.9	-21.2	1.3
2026-01-29 18:06:00	-19.8	-21.0	1.2
2026-01-29 18:07:00	-19.7	-20.8	1.1
2026-01-29 18:08:00	-19.6	-20.8	1.2
2026-01-29 18:09:00	-19.5	-20.8	1.3
2026-01-29 18:10:00	-19.3	-20.7	1.4
2026-01-29 18:11:00	-19.2	-20.6	1.4
2026-01-29 18:12:00	-19.2	-20.3	1.1
2026-01-29 18:13:00	-19.5	-21.2	1.7
2026-01-29 18:14:00	-19.9	-22.3	2.4
2026-01-29 18:15:00	-20.1	-22.4	2.3
2026-01-29 18:16:00	-20.1	-22.1	2.0
2026-01-29 18:17:00	-20.0	-21.7	1.7

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 18:18:00	-19.9	-21.4	1.5
2026-01-29 18:19:00	-19.8	-21.0	1.2
2026-01-29 18:20:00	-19.7	-21.0	1.3
2026-01-29 18:21:00	-19.5	-20.9	1.4
2026-01-29 18:22:00	-19.4	-20.8	1.4
2026-01-29 18:23:00	-19.3	-20.8	1.5
2026-01-29 18:24:00	-19.1	-20.6	1.5
2026-01-29 18:25:00	-19.1	-20.5	1.4
2026-01-29 18:26:00	-19.5	-20.6	1.1
2026-01-29 18:27:00	-19.9	-21.2	1.3
2026-01-29 18:28:00	-20.3	-21.6	1.3
2026-01-29 18:29:00	-20.4	-21.5	1.1
2026-01-29 18:30:00	-20.4	-21.3	0.9
2026-01-29 18:31:00	-20.3	-21.2	0.9
2026-01-29 18:32:00	-20.2	-21.0	0.8
2026-01-29 18:33:00	-20.0	-20.8	0.8
2026-01-29 18:34:00	-19.8	-20.7	0.9
2026-01-29 18:35:00	-19.7	-20.6	0.9
2026-01-29 18:36:00	-19.5	-20.5	1.0
2026-01-29 18:37:00	-19.4	-20.5	1.1
2026-01-29 18:38:00	-19.3	-20.4	1.1
2026-01-29 18:39:00	-19.1	-20.3	1.2
2026-01-29 18:40:00	-19.1	-20.2	1.1
2026-01-29 18:41:00	-19.5	-21.3	1.8
2026-01-29 18:42:00	-20.0	-22.5	2.5
2026-01-29 18:43:00	-20.1	-22.4	2.3
2026-01-29 18:44:00	-20.1	-22.0	1.9
2026-01-29 18:45:00	-20.0	-21.6	1.6
2026-01-29 18:46:00	-19.9	-21.3	1.4
2026-01-29 18:47:00	-19.8	-21.0	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 18:48:00	-19.6	-21.0	1.4
2026-01-29 18:49:00	-19.5	-20.9	1.4
2026-01-29 18:50:00	-19.4	-20.8	1.4
2026-01-29 18:51:00	-19.3	-20.7	1.4
2026-01-29 18:52:00	-19.1	-20.6	1.5
2026-01-29 18:53:00	-19.1	-20.5	1.4
2026-01-29 18:54:00	-19.5	-20.6	1.1
2026-01-29 18:55:00	-20.0	-21.4	1.4
2026-01-29 18:56:00	-20.3	-21.8	1.5
2026-01-29 18:57:00	-20.3	-21.7	1.4
2026-01-29 18:58:00	-20.4	-21.5	1.1
2026-01-29 18:59:00	-20.2	-21.2	1.0
2026-01-29 19:00:00	-20.1	-21.0	0.9
2026-01-29 19:01:00	-19.9	-20.8	0.9
2026-01-29 19:02:00	-19.8	-20.7	0.9
2026-01-29 19:03:00	-19.6	-20.6	1.0
2026-01-29 19:04:00	-19.5	-20.5	1.0
2026-01-29 19:05:00	-19.3	-20.5	1.2
2026-01-29 19:06:00	-19.2	-20.4	1.2
2026-01-29 19:07:00	-19.1	-20.3	1.2
2026-01-29 19:08:00	-19.1	-20.1	1.0
2026-01-29 19:09:00	-19.6	-21.5	1.9
2026-01-29 19:10:00	-20.0	-22.4	2.4
2026-01-29 19:11:00	-20.0	-22.2	2.2
2026-01-29 19:12:00	-20.0	-21.8	1.8
2026-01-29 19:13:00	-19.9	-21.5	1.6
2026-01-29 19:14:00	-19.8	-21.2	1.4
2026-01-29 19:15:00	-19.7	-21.1	1.4
2026-01-29 19:16:00	-19.6	-21.0	1.4
2026-01-29 19:17:00	-19.5	-20.9	1.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 19:18:00	-19.4	-20.8	1.4
2026-01-29 19:19:00	-19.3	-20.7	1.4
2026-01-29 19:20:00	-19.1	-20.5	1.4
2026-01-29 19:21:00	-19.1	-20.5	1.4
2026-01-29 19:22:00	-19.6	-20.7	1.1
2026-01-29 19:23:00	-20.1	-21.4	1.3
2026-01-29 19:24:00	-20.3	-21.8	1.5
2026-01-29 19:25:00	-20.3	-21.6	1.3
2026-01-29 19:26:00	-20.3	-21.4	1.1
2026-01-29 19:27:00	-20.3	-21.2	0.9
2026-01-29 19:28:00	-20.1	-21.0	0.9
2026-01-29 19:29:00	-20.0	-20.8	0.8
2026-01-29 19:30:00	-19.8	-20.7	0.9
2026-01-29 19:31:00	-19.6	-20.6	1.0
2026-01-29 19:32:00	-19.5	-20.5	1.0
2026-01-29 19:33:00	-19.4	-20.5	1.1
2026-01-29 19:34:00	-19.2	-20.4	1.2
2026-01-29 19:35:00	-19.1	-20.2	1.1
2026-01-29 19:36:00	-19.1	-20.4	1.3
2026-01-29 19:37:00	-19.5	-21.7	2.2
2026-01-29 19:38:00	-19.9	-22.6	2.7
2026-01-29 19:39:00	-20.0	-22.4	2.4
2026-01-29 19:40:00	-20.0	-22.0	2.0
2026-01-29 19:41:00	-19.9	-21.6	1.7
2026-01-29 19:42:00	-19.8	-21.3	1.5
2026-01-29 19:43:00	-19.7	-21.1	1.4
2026-01-29 19:44:00	-19.6	-21.1	1.5
2026-01-29 19:45:00	-19.5	-21.0	1.5
2026-01-29 19:46:00	-19.4	-20.9	1.5
2026-01-29 19:47:00	-19.3	-20.8	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 19:48:00	-19.1	-20.7	1.6
2026-01-29 19:49:00	-19.0	-20.6	1.6
2026-01-29 19:50:00	-19.5	-20.7	1.2
2026-01-29 19:51:00	-20.0	-21.1	1.1
2026-01-29 19:52:00	-20.3	-21.6	1.3
2026-01-29 19:53:00	-20.4	-21.6	1.2
2026-01-29 19:54:00	-20.4	-21.5	1.1
2026-01-29 19:55:00	-20.3	-21.3	1.0
2026-01-29 19:56:00	-20.1	-21.1	1.0
2026-01-29 19:57:00	-20.0	-20.9	0.9
2026-01-29 19:58:00	-19.8	-20.7	0.9
2026-01-29 19:59:00	-19.7	-20.6	0.9
2026-01-29 20:00:00	-19.5	-20.6	1.1
2026-01-29 20:01:00	-19.4	-20.5	1.1
2026-01-29 20:02:00	-19.3	-20.4	1.1
2026-01-29 20:03:00	-19.1	-20.3	1.2
2026-01-29 20:04:00	-19.1	-20.1	1.0
2026-01-29 20:05:00	-19.4	-21.3	1.9
2026-01-29 20:06:00	-20.0	-22.4	2.4
2026-01-29 20:07:00	-20.1	-22.4	2.3
2026-01-29 20:08:00	-20.1	-22.0	1.9
2026-01-29 20:09:00	-20.0	-21.6	1.6
2026-01-29 20:10:00	-19.9	-21.3	1.4
2026-01-29 20:11:00	-19.8	-21.0	1.2
2026-01-29 20:12:00	-19.7	-21.0	1.3
2026-01-29 20:13:00	-19.6	-20.9	1.3
2026-01-29 20:14:00	-19.5	-20.8	1.3
2026-01-29 20:15:00	-19.3	-20.7	1.4
2026-01-29 20:16:00	-19.2	-20.7	1.5
2026-01-29 20:17:00	-19.1	-20.5	1.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 20:18:00	-19.6	-20.6	1.0
2026-01-29 20:19:00	-20.0	-21.2	1.2
2026-01-29 20:20:00	-20.3	-21.8	1.5
2026-01-29 20:21:00	-20.3	-21.7	1.4
2026-01-29 20:22:00	-20.3	-21.5	1.2
2026-01-29 20:23:00	-20.3	-21.3	1.0
2026-01-29 20:24:00	-20.2	-21.1	0.9
2026-01-29 20:25:00	-20.0	-20.9	0.9
2026-01-29 20:26:00	-19.8	-20.8	1.0
2026-01-29 20:27:00	-19.7	-20.7	1.0
2026-01-29 20:28:00	-19.5	-20.6	1.1
2026-01-29 20:29:00	-19.4	-20.5	1.1
2026-01-29 20:30:00	-19.3	-20.4	1.1
2026-01-29 20:31:00	-19.1	-20.3	1.2
2026-01-29 20:32:00	-19.1	-20.1	1.0
2026-01-29 20:33:00	-19.5	-21.3	1.8
2026-01-29 20:34:00	-20.0	-22.4	2.4
2026-01-29 20:35:00	-20.1	-22.3	2.2
2026-01-29 20:36:00	-20.1	-22.0	1.9
2026-01-29 20:37:00	-20.0	-21.6	1.6
2026-01-29 20:38:00	-19.9	-21.3	1.4
2026-01-29 20:39:00	-19.8	-21.1	1.3
2026-01-29 20:40:00	-19.6	-21.0	1.4
2026-01-29 20:41:00	-19.5	-21.0	1.5
2026-01-29 20:42:00	-19.4	-20.9	1.5
2026-01-29 20:43:00	-19.3	-20.7	1.4
2026-01-29 20:44:00	-19.1	-20.6	1.5
2026-01-29 20:45:00	-19.2	-20.4	1.2
2026-01-29 20:46:00	-19.5	-21.6	2.1
2026-01-29 20:47:00	-20.0	-22.6	2.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 20:48:00	-20.1	-22.4	2.3
2026-01-29 20:49:00	-20.1	-22.1	2.0
2026-01-29 20:50:00	-20.0	-21.7	1.7
2026-01-29 20:51:00	-19.9	-21.4	1.5
2026-01-29 20:52:00	-19.7	-21.0	1.3
2026-01-29 20:53:00	-19.6	-21.0	1.4
2026-01-29 20:54:00	-19.5	-20.9	1.4
2026-01-29 20:55:00	-19.4	-20.9	1.5
2026-01-29 20:56:00	-19.3	-20.7	1.4
2026-01-29 20:57:00	-19.1	-20.6	1.5
2026-01-29 20:58:00	-19.2	-20.6	1.4
2026-01-29 20:59:00	-19.5	-20.7	1.2
2026-01-29 21:00:00	-19.9	-21.4	1.5
2026-01-29 21:01:00	-20.3	-21.7	1.4
2026-01-29 21:02:00	-20.4	-21.5	1.1
2026-01-29 21:03:00	-20.4	-21.3	0.9
2026-01-29 21:04:00	-20.2	-21.1	0.9
2026-01-29 21:05:00	-20.1	-20.9	0.8
2026-01-29 21:06:00	-19.9	-20.8	0.9
2026-01-29 21:07:00	-19.8	-20.7	0.9
2026-01-29 21:08:00	-19.6	-20.7	1.1
2026-01-29 21:09:00	-19.5	-20.6	1.1
2026-01-29 21:10:00	-19.4	-20.5	1.1
2026-01-29 21:11:00	-19.2	-20.4	1.2
2026-01-29 21:12:00	-19.1	-20.3	1.2
2026-01-29 21:13:00	-19.3	-20.3	1.0
2026-01-29 21:14:00	-19.7	-20.8	1.1
2026-01-29 21:15:00	-20.2	-21.7	1.5
2026-01-29 21:16:00	-20.4	-21.8	1.4
2026-01-29 21:17:00	-20.4	-21.6	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 21:18:00	-20.3	-21.4	1.1
2026-01-29 21:19:00	-20.2	-21.2	1.0
2026-01-29 21:20:00	-20.0	-21.0	1.0
2026-01-29 21:21:00	-19.9	-20.8	0.9
2026-01-29 21:22:00	-19.7	-20.7	1.0
2026-01-29 21:23:00	-19.6	-20.5	0.9
2026-01-29 21:24:00	-19.4	-20.4	1.0
2026-01-29 21:25:00	-19.3	-20.3	1.0
2026-01-29 21:26:00	-19.2	-20.1	0.9
2026-01-29 21:27:00	-19.0	-20.0	1.0
2026-01-29 21:28:00	-19.1	-20.5	1.4
2026-01-29 21:29:00	-19.5	-21.8	2.3
2026-01-29 21:30:00	-19.9	-22.5	2.6
2026-01-29 21:31:00	-20.0	-22.2	2.2
2026-01-29 21:32:00	-19.9	-21.9	2.0
2026-01-29 21:33:00	-19.8	-21.6	1.8
2026-01-29 21:34:00	-19.7	-21.2	1.5
2026-01-29 21:35:00	-19.6	-20.9	1.3
2026-01-29 21:36:00	-19.4	-20.7	1.3
2026-01-29 21:37:00	-19.1	-20.5	1.4
2026-01-29 21:38:00	-18.6	-20.3	1.7
2026-01-29 21:39:00	-17.8	-20.1	2.3
2026-01-29 21:40:00	-15.7	-19.4	3.7
2026-01-29 21:41:00	-14.6	-18.9	4.3
2026-01-29 21:42:00	-14.2	-18.9	4.7
2026-01-29 21:43:00	-14.2	-19.3	5.1
2026-01-29 21:44:00	-14.7	-19.9	5.2
2026-01-29 21:45:00	-14.8	-20.3	5.5
2026-01-29 21:46:00	-15.2	-20.7	5.5
2026-01-29 21:47:00	-15.8	-21.2	5.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 21:48:00	-16.2	-21.6	5.4
2026-01-29 21:49:00	-16.8	-22.0	5.2
2026-01-29 21:50:00	-17.2	-22.4	5.2
2026-01-29 21:51:00	-17.4	-22.4	5.0
2026-01-29 21:52:00	-17.4	-22.2	4.8
2026-01-29 21:53:00	-17.4	-21.8	4.4
2026-01-29 21:54:00	-17.4	-21.6	4.2
2026-01-29 21:55:00	-17.3	-21.2	3.9
2026-01-29 21:56:00	-17.2	-20.9	3.7
2026-01-29 21:57:00	-17.1	-20.7	3.6
2026-01-29 21:58:00	-17.0	-20.5	3.5
2026-01-29 21:59:00	-16.9	-20.2	3.3
2026-01-29 22:00:00	-14.4	-19.1	4.7
2026-01-29 22:01:00	-14.3	-18.5	4.2
2026-01-29 22:02:00	-14.5	-18.7	4.2
2026-01-29 22:03:00	-14.8	-19.2	4.4
2026-01-29 22:04:00	-15.2	-19.5	4.3
2026-01-29 22:05:00	-15.7	-20.0	4.3
2026-01-29 22:06:00	-16.2	-20.4	4.2
2026-01-29 22:07:00	-16.7	-20.9	4.2
2026-01-29 22:08:00	-17.3	-21.4	4.1
2026-01-29 22:09:00	-17.7	-21.7	4.0
2026-01-29 22:10:00	-18.3	-22.2	3.9
2026-01-29 22:11:00	-18.7	-22.5	3.8
2026-01-29 22:12:00	-19.1	-22.5	3.4
2026-01-29 22:13:00	-19.2	-22.1	2.9
2026-01-29 22:14:00	-19.1	-21.6	2.5
2026-01-29 22:15:00	-19.0	-21.2	2.2
2026-01-29 22:16:00	-18.9	-20.8	1.9
2026-01-29 22:17:00	-18.7	-20.6	1.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 22:18:00	-18.6	-20.4	1.8
2026-01-29 22:19:00	-18.4	-20.3	1.9
2026-01-29 22:20:00	-18.3	-19.8	1.5
2026-01-29 22:21:00	-18.3	-19.5	1.2
2026-01-29 22:22:00	-18.8	-20.0	1.2
2026-01-29 22:23:00	-19.4	-20.9	1.5
2026-01-29 22:24:00	-20.0	-21.6	1.6
2026-01-29 22:25:00	-20.2	-21.7	1.5
2026-01-29 22:26:00	-20.2	-21.5	1.3
2026-01-29 22:27:00	-20.1	-21.3	1.2
2026-01-29 22:28:00	-20.1	-21.1	1.0
2026-01-29 22:29:00	-20.0	-20.9	0.9
2026-01-29 22:30:00	-19.8	-20.7	0.9
2026-01-29 22:31:00	-19.7	-20.5	0.8
2026-01-29 22:32:00	-19.5	-20.3	0.8
2026-01-29 22:33:00	-19.4	-20.2	0.8
2026-01-29 22:34:00	-19.2	-20.1	0.9
2026-01-29 22:35:00	-19.1	-19.9	0.8
2026-01-29 22:36:00	-19.1	-20.6	1.5
2026-01-29 22:37:00	-19.5	-21.8	2.3
2026-01-29 22:38:00	-19.9	-22.5	2.6
2026-01-29 22:39:00	-19.9	-22.3	2.4
2026-01-29 22:40:00	-19.8	-21.9	2.1
2026-01-29 22:41:00	-19.8	-21.6	1.8
2026-01-29 22:42:00	-19.7	-21.2	1.5
2026-01-29 22:43:00	-19.6	-21.0	1.4
2026-01-29 22:44:00	-19.5	-20.8	1.3
2026-01-29 22:45:00	-19.4	-20.7	1.3
2026-01-29 22:46:00	-19.3	-20.6	1.3
2026-01-29 22:47:00	-19.2	-20.5	1.3

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 22:48:00	-19.1	-20.3	1.2
2026-01-29 22:49:00	-19.2	-20.8	1.6
2026-01-29 22:50:00	-19.6	-21.9	2.3
2026-01-29 22:51:00	-20.0	-22.6	2.6
2026-01-29 22:52:00	-20.0	-22.3	2.3
2026-01-29 22:53:00	-20.0	-21.9	1.9
2026-01-29 22:54:00	-19.9	-21.6	1.7
2026-01-29 22:55:00	-19.8	-21.2	1.4
2026-01-29 22:56:00	-19.7	-21.0	1.3
2026-01-29 22:57:00	-19.6	-21.0	1.4
2026-01-29 22:58:00	-19.4	-20.9	1.5
2026-01-29 22:59:00	-19.3	-20.8	1.5
2026-01-29 23:00:00	-19.2	-20.7	1.5
2026-01-29 23:01:00	-19.0	-20.5	1.5
2026-01-29 23:02:00	-19.2	-20.6	1.4
2026-01-29 23:03:00	-19.7	-21.0	1.3
2026-01-29 23:04:00	-20.3	-21.6	1.3
2026-01-29 23:05:00	-20.4	-21.7	1.3
2026-01-29 23:06:00	-20.4	-21.5	1.1
2026-01-29 23:07:00	-20.3	-21.3	1.0
2026-01-29 23:08:00	-20.1	-21.0	0.9
2026-01-29 23:09:00	-20.0	-20.9	0.9
2026-01-29 23:10:00	-19.8	-20.7	0.9
2026-01-29 23:11:00	-19.7	-20.7	1.0
2026-01-29 23:12:00	-19.6	-20.6	1.0
2026-01-29 23:13:00	-19.4	-20.5	1.1
2026-01-29 23:14:00	-19.3	-20.4	1.1
2026-01-29 23:15:00	-19.1	-20.3	1.2
2026-01-29 23:16:00	-19.1	-20.1	1.0
2026-01-29 23:17:00	-19.2	-20.8	1.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 23:18:00	-19.7	-22.2	2.5
2026-01-29 23:19:00	-20.0	-22.5	2.5
2026-01-29 23:20:00	-20.1	-22.2	2.1
2026-01-29 23:21:00	-20.0	-21.8	1.8
2026-01-29 23:22:00	-19.9	-21.5	1.6
2026-01-29 23:23:00	-19.8	-21.2	1.4
2026-01-29 23:24:00	-19.7	-21.1	1.4
2026-01-29 23:25:00	-19.6	-21.0	1.4
2026-01-29 23:26:00	-19.5	-20.9	1.4
2026-01-29 23:27:00	-19.3	-20.8	1.5
2026-01-29 23:28:00	-19.2	-20.7	1.5
2026-01-29 23:29:00	-19.0	-20.5	1.5
2026-01-29 23:30:00	-19.3	-20.5	1.2
2026-01-29 23:31:00	-19.8	-20.8	1.0
2026-01-29 23:32:00	-20.2	-21.6	1.4
2026-01-29 23:33:00	-20.3	-21.6	1.3
2026-01-29 23:34:00	-20.3	-21.5	1.2
2026-01-29 23:35:00	-20.3	-21.3	1.0
2026-01-29 23:36:00	-20.2	-21.1	0.9
2026-01-29 23:37:00	-20.0	-21.0	1.0
2026-01-29 23:38:00	-19.9	-20.8	0.9
2026-01-29 23:39:00	-19.7	-20.7	1.0
2026-01-29 23:40:00	-19.6	-20.6	1.0
2026-01-29 23:41:00	-19.5	-20.5	1.0
2026-01-29 23:42:00	-19.3	-20.4	1.1
2026-01-29 23:43:00	-19.2	-20.4	1.2
2026-01-29 23:44:00	-19.1	-20.2	1.1
2026-01-29 23:45:00	-19.1	-20.2	1.1
2026-01-29 23:46:00	-19.5	-21.7	2.2
2026-01-29 23:47:00	-19.8	-22.6	2.8

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-29 23:48:00	-20.0	-22.4	2.4
2026-01-29 23:49:00	-19.9	-22.1	2.2
2026-01-29 23:50:00	-19.9	-21.6	1.7
2026-01-29 23:51:00	-19.8	-21.3	1.5
2026-01-29 23:52:00	-19.7	-21.2	1.5
2026-01-29 23:53:00	-19.6	-21.1	1.5
2026-01-29 23:54:00	-19.5	-21.0	1.5
2026-01-29 23:55:00	-19.4	-21.0	1.6
2026-01-29 23:56:00	-19.3	-20.9	1.6
2026-01-29 23:57:00	-19.1	-20.8	1.7
2026-01-29 23:58:00	-19.0	-20.6	1.6
2026-01-29 23:59:00	-19.4	-20.6	1.2
2026-01-30 00:00:00	-19.8	-21.1	1.3
2026-01-30 00:01:00	-20.3	-21.7	1.4
2026-01-30 00:02:00	-20.4	-21.6	1.2
2026-01-30 00:03:00	-20.4	-21.5	1.1
2026-01-30 00:04:00	-20.3	-21.3	1.0
2026-01-30 00:05:00	-20.1	-21.1	1.0
2026-01-30 00:06:00	-20.0	-20.9	0.9
2026-01-30 00:07:00	-19.8	-20.7	0.9
2026-01-30 00:08:00	-19.7	-20.7	1.0
2026-01-30 00:09:00	-19.5	-20.6	1.1
2026-01-30 00:10:00	-19.4	-20.5	1.1
2026-01-30 00:11:00	-19.3	-20.4	1.1
2026-01-30 00:12:00	-19.1	-20.4	1.3
2026-01-30 00:13:00	-19.1	-20.1	1.0
2026-01-30 00:14:00	-19.3	-21.0	1.7
2026-01-30 00:15:00	-19.8	-22.4	2.6
2026-01-30 00:16:00	-19.9	-22.4	2.5
2026-01-30 00:17:00	-20.0	-22.1	2.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 00:18:00	-19.9	-21.7	1.8
2026-01-30 00:19:00	-19.8	-21.4	1.6
2026-01-30 00:20:00	-19.7	-21.1	1.4
2026-01-30 00:21:00	-19.6	-21.0	1.4
2026-01-30 00:22:00	-19.5	-21.0	1.5
2026-01-30 00:23:00	-19.4	-20.9	1.5
2026-01-30 00:24:00	-19.3	-20.8	1.5
2026-01-30 00:25:00	-19.2	-20.7	1.5
2026-01-30 00:26:00	-19.1	-20.5	1.4
2026-01-30 00:27:00	-19.2	-20.8	1.6
2026-01-30 00:28:00	-19.6	-21.7	2.1
2026-01-30 00:29:00	-20.0	-22.6	2.6
2026-01-30 00:30:00	-20.1	-22.3	2.2
2026-01-30 00:31:00	-20.1	-21.9	1.8
2026-01-30 00:32:00	-20.0	-21.6	1.6
2026-01-30 00:33:00	-19.8	-21.2	1.4
2026-01-30 00:34:00	-19.7	-21.1	1.4
2026-01-30 00:35:00	-19.6	-21.0	1.4
2026-01-30 00:36:00	-19.5	-21.0	1.5
2026-01-30 00:37:00	-19.3	-20.9	1.6
2026-01-30 00:38:00	-19.2	-20.8	1.6
2026-01-30 00:39:00	-19.1	-20.6	1.5
2026-01-30 00:40:00	-19.3	-20.6	1.3
2026-01-30 00:41:00	-19.6	-20.8	1.2
2026-01-30 00:42:00	-20.2	-21.6	1.4
2026-01-30 00:43:00	-20.3	-21.8	1.5
2026-01-30 00:44:00	-20.4	-21.6	1.2
2026-01-30 00:45:00	-20.4	-21.4	1.0
2026-01-30 00:46:00	-20.2	-21.2	1.0
2026-01-30 00:47:00	-20.1	-21.0	0.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 00:48:00	-19.9	-20.8	0.9
2026-01-30 00:49:00	-19.8	-20.7	0.9
2026-01-30 00:50:00	-19.6	-20.7	1.1
2026-01-30 00:51:00	-19.5	-20.6	1.1
2026-01-30 00:52:00	-19.4	-20.5	1.1
2026-01-30 00:53:00	-19.2	-20.4	1.2
2026-01-30 00:54:00	-19.1	-20.3	1.2
2026-01-30 00:55:00	-19.1	-20.2	1.1
2026-01-30 00:56:00	-19.4	-21.4	2.0
2026-01-30 00:57:00	-20.0	-22.6	2.6
2026-01-30 00:58:00	-20.1	-22.3	2.2
2026-01-30 00:59:00	-20.1	-21.9	1.8
2026-01-30 01:00:00	-20.0	-21.6	1.6
2026-01-30 01:01:00	-19.9	-21.3	1.4
2026-01-30 01:02:00	-19.7	-21.0	1.3
2026-01-30 01:03:00	-19.6	-21.0	1.4
2026-01-30 01:04:00	-19.5	-20.9	1.4
2026-01-30 01:05:00	-19.4	-20.8	1.4
2026-01-30 01:06:00	-19.3	-20.8	1.5
2026-01-30 01:07:00	-19.1	-20.7	1.6
2026-01-30 01:08:00	-19.0	-20.5	1.5
2026-01-30 01:09:00	-19.4	-20.6	1.2
2026-01-30 01:10:00	-19.8	-21.1	1.3
2026-01-30 01:11:00	-20.3	-21.7	1.4
2026-01-30 01:12:00	-20.4	-21.7	1.3
2026-01-30 01:13:00	-20.4	-21.5	1.1
2026-01-30 01:14:00	-20.3	-21.2	0.9
2026-01-30 01:15:00	-20.1	-21.0	0.9
2026-01-30 01:16:00	-20.0	-20.9	0.9
2026-01-30 01:17:00	-19.8	-20.8	1.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 01:18:00	-19.7	-20.7	1.0
2026-01-30 01:19:00	-19.5	-20.6	1.1
2026-01-30 01:20:00	-19.4	-20.5	1.1
2026-01-30 01:21:00	-19.3	-20.4	1.1
2026-01-30 01:22:00	-19.1	-20.4	1.3
2026-01-30 01:23:00	-19.1	-20.1	1.0
2026-01-30 01:24:00	-19.2	-21.0	1.8
2026-01-30 01:25:00	-19.7	-22.1	2.4
2026-01-30 01:26:00	-20.0	-22.6	2.6
2026-01-30 01:27:00	-20.0	-22.3	2.3
2026-01-30 01:28:00	-20.0	-21.9	1.9
2026-01-30 01:29:00	-19.9	-21.5	1.6
2026-01-30 01:30:00	-19.8	-21.2	1.4
2026-01-30 01:31:00	-19.7	-21.1	1.4
2026-01-30 01:32:00	-19.6	-21.0	1.4
2026-01-30 01:33:00	-19.5	-21.0	1.5
2026-01-30 01:34:00	-19.4	-20.9	1.5
2026-01-30 01:35:00	-19.3	-20.8	1.5
2026-01-30 01:36:00	-19.1	-20.6	1.5
2026-01-30 01:37:00	-19.1	-20.5	1.4
2026-01-30 01:38:00	-19.6	-20.7	1.1
2026-01-30 01:39:00	-20.0	-21.4	1.4
2026-01-30 01:40:00	-20.3	-21.9	1.6
2026-01-30 01:41:00	-20.4	-21.7	1.3
2026-01-30 01:42:00	-20.4	-21.5	1.1
2026-01-30 01:43:00	-20.3	-21.3	1.0
2026-01-30 01:44:00	-20.1	-21.1	1.0
2026-01-30 01:45:00	-20.0	-20.9	0.9
2026-01-30 01:46:00	-19.8	-20.7	0.9
2026-01-30 01:47:00	-19.7	-20.7	1.0

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 01:48:00	-19.6	-20.6	1.0
2026-01-30 01:49:00	-19.4	-20.5	1.1
2026-01-30 01:50:00	-19.3	-20.4	1.1
2026-01-30 01:51:00	-19.1	-20.4	1.3
2026-01-30 01:52:00	-19.1	-20.1	1.0
2026-01-30 01:53:00	-19.3	-20.9	1.6
2026-01-30 01:54:00	-19.9	-22.3	2.4
2026-01-30 01:55:00	-20.1	-22.4	2.3
2026-01-30 01:56:00	-20.0	-22.1	2.1
2026-01-30 01:57:00	-20.0	-21.7	1.7
2026-01-30 01:58:00	-19.9	-21.4	1.5
2026-01-30 01:59:00	-19.7	-21.1	1.4
2026-01-30 02:00:00	-19.7	-21.0	1.3
2026-01-30 02:01:00	-19.5	-21.0	1.5
2026-01-30 02:02:00	-19.4	-20.9	1.5
2026-01-30 02:03:00	-19.3	-20.8	1.5
2026-01-30 02:04:00	-19.2	-20.7	1.5
2026-01-30 02:05:00	-19.0	-20.5	1.5
2026-01-30 02:06:00	-19.2	-20.5	1.3
2026-01-30 02:07:00	-19.8	-21.0	1.2
2026-01-30 02:08:00	-20.3	-21.7	1.4
2026-01-30 02:09:00	-20.3	-21.7	1.4
2026-01-30 02:10:00	-20.3	-21.5	1.2
2026-01-30 02:11:00	-20.3	-21.3	1.0
2026-01-30 02:12:00	-20.1	-21.1	1.0
2026-01-30 02:13:00	-20.0	-20.9	0.9
2026-01-30 02:14:00	-19.8	-20.8	1.0
2026-01-30 02:15:00	-19.7	-20.7	1.0
2026-01-30 02:16:00	-19.6	-20.7	1.1
2026-01-30 02:17:00	-19.4	-20.5	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 02:18:00	-19.3	-20.5	1.2
2026-01-30 02:19:00	-19.2	-20.4	1.2
2026-01-30 02:20:00	-19.1	-20.2	1.1
2026-01-30 02:21:00	-19.2	-20.5	1.3
2026-01-30 02:22:00	-19.8	-22.0	2.2
2026-01-30 02:23:00	-20.1	-22.4	2.3
2026-01-30 02:24:00	-20.1	-22.1	2.0
2026-01-30 02:25:00	-20.0	-21.8	1.8
2026-01-30 02:26:00	-19.9	-21.4	1.5
2026-01-30 02:27:00	-19.8	-21.1	1.3
2026-01-30 02:28:00	-19.7	-21.0	1.3
2026-01-30 02:29:00	-19.6	-21.0	1.4
2026-01-30 02:30:00	-19.5	-20.9	1.4
2026-01-30 02:31:00	-19.4	-20.8	1.4
2026-01-30 02:32:00	-19.2	-20.7	1.5
2026-01-30 02:33:00	-19.1	-20.7	1.6
2026-01-30 02:34:00	-19.1	-20.6	1.5
2026-01-30 02:35:00	-19.6	-20.7	1.1
2026-01-30 02:36:00	-20.1	-21.5	1.4
2026-01-30 02:37:00	-20.4	-21.6	1.2
2026-01-30 02:38:00	-20.4	-21.5	1.1
2026-01-30 02:39:00	-20.3	-21.3	1.0
2026-01-30 02:40:00	-20.2	-21.1	0.9
2026-01-30 02:41:00	-20.1	-20.9	0.8
2026-01-30 02:42:00	-19.9	-20.8	0.9
2026-01-30 02:43:00	-19.8	-20.7	0.9
2026-01-30 02:44:00	-19.6	-20.7	1.1
2026-01-30 02:45:00	-19.5	-20.6	1.1
2026-01-30 02:46:00	-19.3	-20.5	1.2
2026-01-30 02:47:00	-19.2	-20.4	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 02:48:00	-19.1	-20.3	1.2
2026-01-30 02:49:00	-19.0	-20.1	1.1
2026-01-30 02:50:00	-19.4	-21.3	1.9
2026-01-30 02:51:00	-19.9	-22.4	2.5
2026-01-30 02:52:00	-20.1	-22.3	2.2
2026-01-30 02:53:00	-20.0	-22.0	2.0
2026-01-30 02:54:00	-20.0	-21.6	1.6
2026-01-30 02:55:00	-19.8	-21.3	1.5
2026-01-30 02:56:00	-19.7	-21.0	1.3
2026-01-30 02:57:00	-19.6	-21.0	1.4
2026-01-30 02:58:00	-19.5	-20.9	1.4
2026-01-30 02:59:00	-19.4	-20.8	1.4
2026-01-30 03:00:00	-19.3	-20.7	1.4
2026-01-30 03:01:00	-19.1	-20.7	1.6
2026-01-30 03:02:00	-19.1	-20.4	1.3
2026-01-30 03:03:00	-19.5	-21.1	1.6
2026-01-30 03:04:00	-19.8	-22.3	2.5
2026-01-30 03:05:00	-20.1	-22.5	2.4
2026-01-30 03:06:00	-20.1	-22.1	2.0
2026-01-30 03:07:00	-20.0	-21.7	1.7
2026-01-30 03:08:00	-19.9	-21.4	1.5
2026-01-30 03:09:00	-19.8	-21.1	1.3
2026-01-30 03:10:00	-19.7	-21.0	1.3
2026-01-30 03:11:00	-19.6	-21.0	1.4
2026-01-30 03:12:00	-19.4	-20.9	1.5
2026-01-30 03:13:00	-19.3	-20.8	1.5
2026-01-30 03:14:00	-19.1	-20.7	1.6
2026-01-30 03:15:00	-19.1	-20.6	1.5
2026-01-30 03:16:00	-19.3	-20.7	1.4
2026-01-30 03:17:00	-19.8	-21.2	1.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 03:18:00	-20.3	-21.8	1.5
2026-01-30 03:19:00	-20.3	-21.7	1.4
2026-01-30 03:20:00	-20.3	-21.5	1.2
2026-01-30 03:21:00	-20.3	-21.3	1.0
2026-01-30 03:22:00	-20.1	-21.1	1.0
2026-01-30 03:23:00	-20.0	-21.0	1.0
2026-01-30 03:24:00	-19.8	-20.8	1.0
2026-01-30 03:25:00	-19.7	-20.7	1.0
2026-01-30 03:26:00	-19.6	-20.7	1.1
2026-01-30 03:27:00	-19.5	-20.6	1.1
2026-01-30 03:28:00	-19.3	-20.5	1.2
2026-01-30 03:29:00	-19.2	-20.4	1.2
2026-01-30 03:30:00	-19.1	-20.3	1.2
2026-01-30 03:31:00	-19.4	-20.4	1.0
2026-01-30 03:32:00	-19.8	-21.0	1.2
2026-01-30 03:33:00	-19.8	-21.6	1.8
2026-01-30 03:34:00	-19.4	-22.1	2.7
2026-01-30 03:35:00	-19.3	-22.0	2.7
2026-01-30 03:36:00	-19.0	-21.7	2.7
2026-01-30 03:37:00	-18.6	-21.4	2.8
2026-01-30 03:38:00	-18.1	-21.1	3.0
2026-01-30 03:39:00	-17.5	-20.9	3.4
2026-01-30 03:40:00	-16.8	-20.7	3.9
2026-01-30 03:41:00	-16.3	-20.5	4.2
2026-01-30 03:42:00	-15.7	-20.3	4.6
2026-01-30 03:43:00	-14.7	-20.0	5.3
2026-01-30 03:44:00	-14.4	-19.2	4.8
2026-01-30 03:45:00	-14.9	-18.9	4.0
2026-01-30 03:46:00	-15.1	-19.6	4.5
2026-01-30 03:47:00	-15.5	-20.2	4.7

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 03:48:00	-16.1	-20.9	4.8
2026-01-30 03:49:00	-16.5	-21.6	5.1
2026-01-30 03:50:00	-17.0	-21.9	4.9
2026-01-30 03:51:00	-17.6	-21.1	3.5
2026-01-30 03:52:00	-18.2	-20.8	2.6
2026-01-30 03:53:00	-18.6	-21.0	2.4
2026-01-30 03:54:00	-19.1	-21.6	2.5
2026-01-30 03:55:00	-19.4	-22.1	2.7
2026-01-30 03:56:00	-19.7	-22.3	2.6
2026-01-30 03:57:00	-19.5	-22.4	2.9
2026-01-30 03:58:00	-19.2	-22.3	3.1
2026-01-30 03:59:00	-19.0	-22.3	3.3
2026-01-30 04:00:00	-18.8	-22.2	3.4
2026-01-30 04:01:00	-18.4	-22.2	3.8
2026-01-30 04:02:00	-18.4	-22.2	3.8
2026-01-30 04:03:00	-18.5	-22.3	3.8
2026-01-30 04:04:00	-18.7	-22.4	3.7
2026-01-30 04:05:00	-18.9	-22.8	3.9
2026-01-30 04:06:00	-19.1	-22.7	3.6
2026-01-30 04:07:00	-19.2	-22.3	3.1
2026-01-30 04:08:00	-19.1	-21.6	2.5
2026-01-30 04:09:00	-18.9	-21.2	2.3
2026-01-30 04:10:00	-18.7	-21.1	2.4
2026-01-30 04:11:00	-18.5	-20.9	2.4
2026-01-30 04:12:00	-18.3	-20.7	2.4
2026-01-30 04:13:00	-18.1	-20.6	2.5
2026-01-30 04:14:00	-17.9	-20.4	2.5
2026-01-30 04:15:00	-17.7	-20.3	2.6
2026-01-30 04:16:00	-17.6	-19.6	2.0
2026-01-30 04:17:00	-17.8	-19.4	1.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 04:18:00	-18.4	-19.9	1.5
2026-01-30 04:19:00	-19.1	-20.8	1.7
2026-01-30 04:20:00	-19.9	-21.6	1.7
2026-01-30 04:21:00	-20.1	-21.6	1.5
2026-01-30 04:22:00	-20.1	-21.4	1.3
2026-01-30 04:23:00	-20.1	-21.2	1.1
2026-01-30 04:24:00	-19.9	-21.0	1.1
2026-01-30 04:25:00	-19.8	-20.7	0.9
2026-01-30 04:26:00	-19.6	-20.6	1.0
2026-01-30 04:27:00	-19.5	-20.4	0.9
2026-01-30 04:28:00	-19.4	-20.3	0.9
2026-01-30 04:29:00	-19.2	-20.2	1.0
2026-01-30 04:30:00	-19.1	-20.1	1.0
2026-01-30 04:31:00	-19.0	-19.9	0.9
2026-01-30 04:32:00	-19.5	-20.3	0.8
2026-01-30 04:33:00	-19.9	-21.1	1.2
2026-01-30 04:34:00	-20.2	-21.8	1.6
2026-01-30 04:35:00	-20.3	-21.9	1.6
2026-01-30 04:36:00	-20.4	-21.7	1.3
2026-01-30 04:37:00	-20.3	-21.5	1.2
2026-01-30 04:38:00	-20.1	-21.3	1.2
2026-01-30 04:39:00	-20.0	-21.0	1.0
2026-01-30 04:40:00	-19.8	-20.9	1.1
2026-01-30 04:41:00	-19.7	-20.7	1.0
2026-01-30 04:42:00	-19.6	-20.5	0.9
2026-01-30 04:43:00	-19.4	-20.4	1.0
2026-01-30 04:44:00	-19.3	-20.3	1.0
2026-01-30 04:45:00	-19.1	-20.1	1.0
2026-01-30 04:46:00	-19.0	-19.9	0.9
2026-01-30 04:47:00	-19.2	-20.7	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 04:48:00	-19.7	-22.0	2.3
2026-01-30 04:49:00	-20.0	-22.4	2.4
2026-01-30 04:50:00	-20.0	-22.1	2.1
2026-01-30 04:51:00	-20.0	-21.7	1.7
2026-01-30 04:52:00	-19.9	-21.3	1.4
2026-01-30 04:53:00	-19.7	-21.1	1.4
2026-01-30 04:54:00	-19.6	-20.8	1.2
2026-01-30 04:55:00	-19.5	-20.7	1.2
2026-01-30 04:56:00	-19.4	-20.7	1.3
2026-01-30 04:57:00	-19.3	-20.6	1.3
2026-01-30 04:58:00	-19.2	-20.5	1.3
2026-01-30 04:59:00	-19.1	-20.3	1.2
2026-01-30 05:00:00	-19.2	-20.7	1.5
2026-01-30 05:01:00	-19.6	-21.8	2.2
2026-01-30 05:02:00	-19.9	-22.6	2.7
2026-01-30 05:03:00	-20.0	-22.4	2.4
2026-01-30 05:04:00	-20.0	-22.0	2.0
2026-01-30 05:05:00	-19.9	-21.7	1.8
2026-01-30 05:06:00	-19.8	-21.3	1.5
2026-01-30 05:07:00	-19.7	-21.0	1.3
2026-01-30 05:08:00	-19.6	-21.0	1.4
2026-01-30 05:09:00	-19.5	-20.9	1.4
2026-01-30 05:10:00	-19.4	-20.8	1.4
2026-01-30 05:11:00	-19.2	-20.7	1.5
2026-01-30 05:12:00	-19.1	-20.6	1.5
2026-01-30 05:13:00	-19.2	-20.5	1.3
2026-01-30 05:14:00	-19.6	-20.7	1.1
2026-01-30 05:15:00	-20.1	-21.5	1.4
2026-01-30 05:16:00	-20.4	-21.7	1.3
2026-01-30 05:17:00	-20.4	-21.5	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 05:18:00	-20.4	-21.4	1.0
2026-01-30 05:19:00	-20.3	-21.2	0.9
2026-01-30 05:20:00	-20.1	-21.0	0.9
2026-01-30 05:21:00	-20.0	-20.8	0.8
2026-01-30 05:22:00	-19.8	-20.7	0.9
2026-01-30 05:23:00	-19.7	-20.6	0.9
2026-01-30 05:24:00	-19.6	-20.5	0.9
2026-01-30 05:25:00	-19.4	-20.4	1.0
2026-01-30 05:26:00	-19.3	-20.4	1.1
2026-01-30 05:27:00	-19.1	-20.3	1.2
2026-01-30 05:28:00	-19.1	-20.1	1.0
2026-01-30 05:29:00	-19.3	-21.2	1.9
2026-01-30 05:30:00	-19.8	-22.4	2.6
2026-01-30 05:31:00	-20.0	-22.4	2.4
2026-01-30 05:32:00	-20.0	-22.1	2.1
2026-01-30 05:33:00	-19.9	-21.7	1.8
2026-01-30 05:34:00	-19.8	-21.4	1.6
2026-01-30 05:35:00	-19.7	-21.1	1.4
2026-01-30 05:36:00	-19.6	-21.0	1.4
2026-01-30 05:37:00	-19.5	-21.0	1.5
2026-01-30 05:38:00	-19.4	-20.9	1.5
2026-01-30 05:39:00	-19.3	-20.8	1.5
2026-01-30 05:40:00	-19.2	-20.7	1.5
2026-01-30 05:41:00	-19.0	-20.5	1.5
2026-01-30 05:42:00	-19.2	-20.5	1.3
2026-01-30 05:43:00	-19.7	-20.8	1.1
2026-01-30 05:44:00	-20.2	-21.6	1.4
2026-01-30 05:45:00	-20.4	-21.6	1.2
2026-01-30 05:46:00	-20.4	-21.5	1.1
2026-01-30 05:47:00	-20.4	-21.3	0.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 05:48:00	-20.2	-21.1	0.9
2026-01-30 05:49:00	-20.1	-20.9	0.8
2026-01-30 05:50:00	-19.9	-20.8	0.9
2026-01-30 05:51:00	-19.8	-20.7	0.9
2026-01-30 05:52:00	-19.6	-20.6	1.0
2026-01-30 05:53:00	-19.5	-20.5	1.0
2026-01-30 05:54:00	-19.3	-20.4	1.1
2026-01-30 05:55:00	-19.2	-20.4	1.2
2026-01-30 05:56:00	-19.1	-20.3	1.2
2026-01-30 05:57:00	-19.1	-20.3	1.2
2026-01-30 05:58:00	-19.5	-21.5	2.0
2026-01-30 05:59:00	-19.9	-22.6	2.7
2026-01-30 06:00:00	-20.0	-22.3	2.3
2026-01-30 06:01:00	-20.0	-22.0	2.0
2026-01-30 06:02:00	-20.0	-21.7	1.7
2026-01-30 06:03:00	-19.9	-21.3	1.4
2026-01-30 06:04:00	-19.8	-21.1	1.3
2026-01-30 06:05:00	-19.6	-21.0	1.4
2026-01-30 06:06:00	-19.5	-20.9	1.4
2026-01-30 06:07:00	-19.4	-20.8	1.4
2026-01-30 06:08:00	-19.3	-20.8	1.5
2026-01-30 06:09:00	-19.2	-20.7	1.5
2026-01-30 06:10:00	-19.0	-20.5	1.5
2026-01-30 06:11:00	-19.3	-20.6	1.3
2026-01-30 06:12:00	-19.8	-20.9	1.1
2026-01-30 06:13:00	-20.3	-21.7	1.4
2026-01-30 06:14:00	-20.4	-21.7	1.3
2026-01-30 06:15:00	-20.4	-21.6	1.2
2026-01-30 06:16:00	-20.4	-21.4	1.0
2026-01-30 06:17:00	-20.3	-21.2	0.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 06:18:00	-20.1	-21.0	0.9
2026-01-30 06:19:00	-20.0	-20.8	0.8
2026-01-30 06:20:00	-19.8	-20.7	0.9
2026-01-30 06:21:00	-19.7	-20.7	1.0
2026-01-30 06:22:00	-19.5	-20.6	1.1
2026-01-30 06:23:00	-19.4	-20.5	1.1
2026-01-30 06:24:00	-19.3	-20.4	1.1
2026-01-30 06:25:00	-19.1	-20.4	1.3
2026-01-30 06:26:00	-19.1	-20.1	1.0
2026-01-30 06:27:00	-19.3	-21.2	1.9
2026-01-30 06:28:00	-19.9	-22.4	2.5
2026-01-30 06:29:00	-20.0	-22.3	2.3
2026-01-30 06:30:00	-20.0	-22.0	2.0
2026-01-30 06:31:00	-20.0	-21.7	1.7
2026-01-30 06:32:00	-19.8	-21.3	1.5
2026-01-30 06:33:00	-19.7	-21.2	1.5
2026-01-30 06:34:00	-19.6	-21.1	1.5
2026-01-30 06:35:00	-19.5	-21.1	1.6
2026-01-30 06:36:00	-19.4	-21.0	1.6
2026-01-30 06:37:00	-19.3	-20.9	1.6
2026-01-30 06:38:00	-19.2	-20.7	1.5
2026-01-30 06:39:00	-19.0	-20.6	1.6
2026-01-30 06:40:00	-19.2	-20.6	1.4
2026-01-30 06:41:00	-19.7	-20.8	1.1
2026-01-30 06:42:00	-20.2	-21.6	1.4
2026-01-30 06:43:00	-20.3	-21.6	1.3
2026-01-30 06:44:00	-20.3	-21.5	1.2
2026-01-30 06:45:00	-20.3	-21.2	0.9
2026-01-30 06:46:00	-20.1	-21.0	0.9
2026-01-30 06:47:00	-20.0	-20.9	0.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 06:48:00	-19.9	-20.7	0.8
2026-01-30 06:49:00	-19.7	-20.7	1.0
2026-01-30 06:50:00	-19.6	-20.6	1.0
2026-01-30 06:51:00	-19.5	-20.5	1.0
2026-01-30 06:52:00	-19.3	-20.4	1.1
2026-01-30 06:53:00	-19.2	-20.4	1.2
2026-01-30 06:54:00	-19.1	-20.2	1.1
2026-01-30 06:55:00	-19.1	-20.5	1.4
2026-01-30 06:56:00	-19.6	-21.8	2.2
2026-01-30 06:57:00	-20.0	-22.6	2.6
2026-01-30 06:58:00	-20.1	-22.3	2.2
2026-01-30 06:59:00	-20.0	-21.9	1.9
2026-01-30 07:00:00	-20.0	-21.6	1.6
2026-01-30 07:01:00	-19.8	-21.3	1.5
2026-01-30 07:02:00	-19.7	-21.0	1.3
2026-01-30 07:03:00	-19.6	-20.9	1.3
2026-01-30 07:04:00	-19.5	-20.8	1.3
2026-01-30 07:05:00	-19.3	-20.7	1.4
2026-01-30 07:06:00	-19.2	-20.7	1.5
2026-01-30 07:07:00	-19.1	-20.5	1.4
2026-01-30 07:08:00	-19.1	-20.5	1.4
2026-01-30 07:09:00	-19.5	-21.7	2.2
2026-01-30 07:10:00	-20.0	-22.6	2.6
2026-01-30 07:11:00	-20.1	-22.6	2.5
2026-01-30 07:12:00	-20.1	-22.2	2.1
2026-01-30 07:13:00	-20.0	-21.8	1.8
2026-01-30 07:14:00	-19.9	-21.5	1.6
2026-01-30 07:15:00	-19.8	-21.2	1.4
2026-01-30 07:16:00	-19.7	-21.0	1.3
2026-01-30 07:17:00	-19.6	-21.0	1.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 07:18:00	-19.5	-20.9	1.4
2026-01-30 07:19:00	-19.3	-20.8	1.5
2026-01-30 07:20:00	-19.2	-20.7	1.5
2026-01-30 07:21:00	-19.0	-20.6	1.6
2026-01-30 07:22:00	-19.2	-20.6	1.4
2026-01-30 07:23:00	-19.6	-20.9	1.3
2026-01-30 07:24:00	-20.2	-21.6	1.4
2026-01-30 07:25:00	-20.4	-21.6	1.2
2026-01-30 07:26:00	-20.4	-21.5	1.1
2026-01-30 07:27:00	-20.3	-21.3	1.0
2026-01-30 07:28:00	-20.1	-21.1	1.0
2026-01-30 07:29:00	-20.0	-20.9	0.9
2026-01-30 07:30:00	-19.8	-20.8	1.0
2026-01-30 07:31:00	-19.7	-20.7	1.0
2026-01-30 07:32:00	-19.5	-20.7	1.2
2026-01-30 07:33:00	-19.4	-20.6	1.2
2026-01-30 07:34:00	-19.3	-20.5	1.2
2026-01-30 07:35:00	-19.2	-20.4	1.2
2026-01-30 07:36:00	-19.0	-20.3	1.3
2026-01-30 07:37:00	-19.3	-20.3	1.0
2026-01-30 07:38:00	-19.8	-20.9	1.1
2026-01-30 07:39:00	-20.3	-21.6	1.3
2026-01-30 07:40:00	-20.4	-21.8	1.4
2026-01-30 07:41:00	-20.4	-21.6	1.2
2026-01-30 07:42:00	-20.4	-21.4	1.0
2026-01-30 07:43:00	-20.2	-21.2	1.0
2026-01-30 07:44:00	-20.1	-21.0	0.9
2026-01-30 07:45:00	-19.9	-20.8	0.9
2026-01-30 07:46:00	-19.8	-20.7	0.9
2026-01-30 07:47:00	-19.6	-20.5	0.9

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 07:48:00	-19.5	-20.4	0.9
2026-01-30 07:49:00	-19.4	-20.3	0.9
2026-01-30 07:50:00	-19.2	-20.2	1.0
2026-01-30 07:51:00	-19.1	-20.2	1.1
2026-01-30 07:52:00	-19.0	-20.0	1.0
2026-01-30 07:53:00	-19.3	-21.1	1.8
2026-01-30 07:54:00	-19.9	-22.4	2.5
2026-01-30 07:55:00	-20.0	-22.4	2.4
2026-01-30 07:56:00	-20.0	-22.0	2.0
2026-01-30 07:57:00	-19.9	-21.6	1.7
2026-01-30 07:58:00	-19.8	-21.3	1.5
2026-01-30 07:59:00	-19.7	-21.1	1.4
2026-01-30 08:00:00	-19.6	-21.0	1.4
2026-01-30 08:01:00	-19.5	-21.0	1.5
2026-01-30 08:02:00	-19.4	-20.9	1.5
2026-01-30 08:03:00	-19.3	-20.8	1.5
2026-01-30 08:04:00	-19.2	-20.7	1.5
2026-01-30 08:05:00	-19.1	-20.6	1.5
2026-01-30 08:06:00	-19.1	-20.5	1.4
2026-01-30 08:07:00	-19.5	-21.6	2.1
2026-01-30 08:08:00	-20.0	-22.7	2.7
2026-01-30 08:09:00	-20.1	-22.5	2.4
2026-01-30 08:10:00	-20.0	-22.2	2.2
2026-01-30 08:11:00	-20.0	-21.7	1.7
2026-01-30 08:12:00	-19.8	-21.4	1.6
2026-01-30 08:13:00	-19.7	-21.3	1.6
2026-01-30 08:14:00	-19.6	-21.2	1.6
2026-01-30 08:15:00	-19.5	-21.1	1.6
2026-01-30 08:16:00	-19.3	-21.0	1.7
2026-01-30 08:17:00	-19.2	-21.0	1.8

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 08:18:00	-19.1	-20.8	1.7
2026-01-30 08:19:00	-19.0	-20.6	1.6
2026-01-30 08:20:00	-19.3	-20.7	1.4
2026-01-30 08:21:00	-19.7	-21.1	1.4
2026-01-30 08:22:00	-20.3	-21.7	1.4
2026-01-30 08:23:00	-20.4	-21.6	1.2
2026-01-30 08:24:00	-20.4	-21.4	1.0
2026-01-30 08:25:00	-20.2	-21.2	1.0
2026-01-30 08:26:00	-20.1	-21.0	0.9
2026-01-30 08:27:00	-19.9	-20.9	1.0
2026-01-30 08:28:00	-19.8	-20.8	1.0
2026-01-30 08:29:00	-19.6	-20.7	1.1
2026-01-30 08:30:00	-19.5	-20.6	1.1
2026-01-30 08:31:00	-19.4	-20.5	1.1
2026-01-30 08:32:00	-19.2	-20.5	1.3
2026-01-30 08:33:00	-19.1	-20.4	1.3
2026-01-30 08:34:00	-19.0	-20.2	1.2
2026-01-30 08:35:00	-19.1	-20.5	1.4
2026-01-30 08:36:00	-19.6	-21.9	2.3
2026-01-30 08:37:00	-19.9	-22.5	2.6
2026-01-30 08:38:00	-20.0	-22.3	2.3
2026-01-30 08:39:00	-19.9	-21.9	2.0
2026-01-30 08:40:00	-19.8	-21.6	1.8
2026-01-30 08:41:00	-19.7	-21.2	1.5
2026-01-30 08:42:00	-19.7	-21.1	1.4
2026-01-30 08:43:00	-19.6	-21.0	1.4
2026-01-30 08:44:00	-19.5	-21.0	1.5
2026-01-30 08:45:00	-19.3	-20.9	1.6
2026-01-30 08:46:00	-19.2	-20.8	1.6
2026-01-30 08:47:00	-19.1	-20.7	1.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 08:48:00	-18.9	-20.5	1.6
2026-01-30 08:49:00	-19.3	-20.6	1.3
2026-01-30 08:50:00	-19.9	-21.1	1.2
2026-01-30 08:51:00	-20.3	-21.8	1.5
2026-01-30 08:52:00	-20.4	-21.6	1.2
2026-01-30 08:53:00	-20.4	-21.5	1.1
2026-01-30 08:54:00	-20.3	-21.3	1.0
2026-01-30 08:55:00	-20.1	-21.1	1.0
2026-01-30 08:56:00	-20.0	-20.9	0.9
2026-01-30 08:57:00	-19.8	-20.8	1.0
2026-01-30 08:58:00	-19.7	-20.7	1.0
2026-01-30 08:59:00	-19.5	-20.6	1.1
2026-01-30 09:00:00	-19.4	-20.6	1.2
2026-01-30 09:01:00	-19.3	-20.5	1.2
2026-01-30 09:02:00	-19.1	-20.4	1.3
2026-01-30 09:03:00	-19.0	-20.3	1.3
2026-01-30 09:04:00	-19.0	-20.3	1.3
2026-01-30 09:05:00	-19.4	-21.6	2.2
2026-01-30 09:06:00	-19.9	-22.6	2.7
2026-01-30 09:07:00	-20.0	-22.4	2.4
2026-01-30 09:08:00	-20.0	-22.0	2.0
2026-01-30 09:09:00	-19.9	-21.6	1.7
2026-01-30 09:10:00	-19.8	-21.3	1.5
2026-01-30 09:11:00	-19.7	-21.1	1.4
2026-01-30 09:12:00	-19.6	-21.0	1.4
2026-01-30 09:13:00	-19.5	-21.0	1.5
2026-01-30 09:14:00	-19.4	-20.9	1.5
2026-01-30 09:15:00	-19.3	-20.8	1.5
2026-01-30 09:16:00	-19.1	-20.7	1.6
2026-01-30 09:17:00	-19.0	-20.5	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 09:18:00	-19.3	-20.6	1.3
2026-01-30 09:19:00	-19.8	-21.0	1.2
2026-01-30 09:20:00	-20.3	-21.6	1.3
2026-01-30 09:21:00	-20.4	-21.6	1.2
2026-01-30 09:22:00	-20.4	-21.5	1.1
2026-01-30 09:23:00	-20.4	-21.3	0.9
2026-01-30 09:24:00	-20.2	-21.1	0.9
2026-01-30 09:25:00	-20.0	-20.9	0.9
2026-01-30 09:26:00	-19.9	-20.8	0.9
2026-01-30 09:27:00	-19.7	-20.7	1.0
2026-01-30 09:28:00	-19.6	-20.7	1.1
2026-01-30 09:29:00	-19.5	-20.6	1.1
2026-01-30 09:30:00	-19.3	-20.4	1.1
2026-01-30 09:31:00	-19.2	-20.3	1.1
2026-01-30 09:32:00	-19.0	-20.0	1.0
2026-01-30 09:33:00	-18.8	-19.9	1.1
2026-01-30 09:34:00	-17.9	-20.3	2.4
2026-01-30 09:35:00	-17.3	-20.9	3.6
2026-01-30 09:36:00	-16.8	-21.2	4.4
2026-01-30 09:37:00	-16.5	-21.4	4.9
2026-01-30 09:38:00	-16.1	-21.5	5.4
2026-01-30 09:39:00	-16.3	-21.7	5.4
2026-01-30 09:40:00	-16.2	-21.7	5.5
2026-01-30 09:41:00	-16.3	-21.8	5.5
2026-01-30 09:42:00	-16.4	-22.0	5.6
2026-01-30 09:43:00	-16.9	-22.3	5.4
2026-01-30 09:44:00	-17.1	-22.5	5.4
2026-01-30 09:45:00	-17.3	-22.4	5.1
2026-01-30 09:46:00	-17.3	-22.1	4.8
2026-01-30 09:47:00	-17.2	-21.8	4.6

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 09:48:00	-17.1	-21.6	4.5
2026-01-30 09:49:00	-17.1	-21.3	4.2
2026-01-30 09:50:00	-17.1	-21.1	4.0
2026-01-30 09:51:00	-17.1	-20.9	3.8
2026-01-30 09:52:00	-17.0	-20.7	3.7
2026-01-30 09:53:00	-16.9	-20.5	3.6
2026-01-30 09:54:00	-16.7	-20.3	3.6
2026-01-30 09:55:00	-16.5	-19.7	3.2
2026-01-30 09:56:00	-14.7	-18.8	4.1
2026-01-30 09:57:00	-14.7	-18.5	3.8
2026-01-30 09:58:00	-14.8	-18.8	4.0
2026-01-30 09:59:00	-15.0	-19.3	4.3
2026-01-30 10:00:00	-15.3	-19.7	4.4
2026-01-30 10:01:00	-15.5	-19.9	4.4
2026-01-30 10:02:00	-15.9	-20.1	4.2
2026-01-30 10:03:00	-16.4	-20.6	4.2
2026-01-30 10:04:00	-16.9	-21.0	4.1
2026-01-30 10:05:00	-17.3	-21.3	4.0
2026-01-30 10:06:00	-17.8	-21.8	4.0
2026-01-30 10:07:00	-18.2	-22.2	4.0
2026-01-30 10:08:00	-18.8	-22.6	3.8
2026-01-30 10:09:00	-19.1	-22.6	3.5
2026-01-30 10:10:00	-19.2	-22.0	2.8
2026-01-30 10:11:00	-19.1	-21.6	2.5
2026-01-30 10:12:00	-19.0	-21.0	2.0
2026-01-30 10:13:00	-18.7	-20.8	2.1
2026-01-30 10:14:00	-18.5	-20.6	2.1
2026-01-30 10:15:00	-18.3	-20.4	2.1
2026-01-30 10:16:00	-18.1	-20.3	2.2
2026-01-30 10:17:00	-17.8	-20.2	2.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 10:18:00	-17.8	-19.6	1.8
2026-01-30 10:19:00	-18.0	-19.5	1.5
2026-01-30 10:20:00	-18.7	-20.2	1.5
2026-01-30 10:21:00	-19.4	-21.0	1.6
2026-01-30 10:22:00	-20.1	-21.7	1.6
2026-01-30 10:23:00	-20.2	-21.6	1.4
2026-01-30 10:24:00	-20.2	-21.5	1.3
2026-01-30 10:25:00	-20.1	-21.2	1.1
2026-01-30 10:26:00	-20.0	-21.0	1.0
2026-01-30 10:27:00	-19.9	-20.8	0.9
2026-01-30 10:28:00	-19.7	-20.6	0.9
2026-01-30 10:29:00	-19.6	-20.4	0.8
2026-01-30 10:30:00	-19.4	-20.3	0.9
2026-01-30 10:31:00	-19.3	-20.2	0.9
2026-01-30 10:32:00	-19.1	-20.1	1.0
2026-01-30 10:33:00	-19.0	-19.8	0.8
2026-01-30 10:34:00	-19.2	-20.6	1.4
2026-01-30 10:35:00	-19.7	-21.9	2.2
2026-01-30 10:36:00	-20.1	-22.4	2.3
2026-01-30 10:37:00	-20.1	-22.2	2.1
2026-01-30 10:38:00	-20.0	-21.8	1.8
2026-01-30 10:39:00	-20.0	-21.5	1.5
2026-01-30 10:40:00	-19.8	-21.1	1.3
2026-01-30 10:41:00	-19.7	-20.9	1.2
2026-01-30 10:42:00	-19.6	-20.7	1.1
2026-01-30 10:43:00	-19.5	-20.5	1.0
2026-01-30 10:44:00	-19.3	-20.5	1.2
2026-01-30 10:45:00	-19.2	-20.4	1.2
2026-01-30 10:46:00	-19.1	-20.2	1.1
2026-01-30 10:47:00	-19.3	-20.7	1.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 10:48:00	-19.7	-21.9	2.2
2026-01-30 10:49:00	-20.0	-22.7	2.7
2026-01-30 10:50:00	-20.1	-22.4	2.3
2026-01-30 10:51:00	-20.1	-22.0	1.9
2026-01-30 10:52:00	-20.0	-21.7	1.7
2026-01-30 10:53:00	-19.9	-21.3	1.4
2026-01-30 10:54:00	-19.7	-21.0	1.3
2026-01-30 10:55:00	-19.6	-20.9	1.3
2026-01-30 10:56:00	-19.5	-20.9	1.4
2026-01-30 10:57:00	-19.4	-20.8	1.4
2026-01-30 10:58:00	-19.2	-20.7	1.5
2026-01-30 10:59:00	-19.1	-20.6	1.5
2026-01-30 11:00:00	-18.9	-20.4	1.5
2026-01-30 11:01:00	-19.2	-20.5	1.3
2026-01-30 11:02:00	-19.6	-20.9	1.3
2026-01-30 11:03:00	-20.2	-21.7	1.5
2026-01-30 11:04:00	-20.3	-21.7	1.4
2026-01-30 11:05:00	-20.4	-21.5	1.1
2026-01-30 11:06:00	-20.3	-21.2	0.9
2026-01-30 11:07:00	-20.1	-21.0	0.9
2026-01-30 11:08:00	-20.0	-20.9	0.9
2026-01-30 11:09:00	-19.8	-20.7	0.9
2026-01-30 11:10:00	-19.7	-20.6	0.9
2026-01-30 11:11:00	-19.6	-20.5	0.9
2026-01-30 11:12:00	-19.4	-20.4	1.0
2026-01-30 11:13:00	-19.3	-20.2	0.9
2026-01-30 11:14:00	-19.1	-20.1	1.0
2026-01-30 11:15:00	-18.6	-19.9	1.3
2026-01-30 11:16:00	-17.5	-20.0	2.5
2026-01-30 11:17:00	-17.1	-20.3	3.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 11:18:00	-16.8	-20.6	3.8
2026-01-30 11:19:00	-16.2	-20.8	4.6
2026-01-30 11:20:00	-15.9	-21.0	5.1
2026-01-30 11:21:00	-15.7	-21.1	5.4
2026-01-30 11:22:00	-15.8	-21.2	5.4
2026-01-30 11:23:00	-15.7	-21.4	5.7
2026-01-30 11:24:00	-15.7	-21.6	5.9
2026-01-30 11:25:00	-16.0	-21.8	5.8
2026-01-30 11:26:00	-16.7	-22.1	5.4
2026-01-30 11:27:00	-17.4	-21.5	4.1
2026-01-30 11:28:00	-18.0	-20.9	2.9
2026-01-30 11:29:00	-18.4	-20.9	2.5
2026-01-30 11:30:00	-19.0	-21.5	2.5
2026-01-30 11:31:00	-19.5	-22.0	2.5
2026-01-30 11:32:00	-19.8	-22.3	2.5
2026-01-30 11:33:00	-19.8	-22.3	2.5
2026-01-30 11:34:00	-19.6	-22.3	2.7
2026-01-30 11:35:00	-19.4	-22.3	2.9
2026-01-30 11:36:00	-19.2	-22.2	3.0
2026-01-30 11:37:00	-19.0	-22.1	3.1
2026-01-30 11:38:00	-18.9	-22.1	3.2
2026-01-30 11:39:00	-18.9	-22.2	3.3
2026-01-30 11:40:00	-19.0	-22.4	3.4
2026-01-30 11:41:00	-19.2	-22.7	3.5
2026-01-30 11:42:00	-19.5	-22.7	3.2
2026-01-30 11:43:00	-19.5	-22.3	2.8
2026-01-30 11:44:00	-19.5	-21.7	2.2
2026-01-30 11:45:00	-19.3	-21.3	2.0
2026-01-30 11:46:00	-19.1	-21.2	2.1
2026-01-30 11:47:00	-18.9	-21.0	2.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 11:48:00	-18.7	-20.9	2.2
2026-01-30 11:49:00	-18.4	-20.7	2.3
2026-01-30 11:50:00	-18.2	-20.6	2.4
2026-01-30 11:51:00	-18.0	-20.4	2.4
2026-01-30 11:52:00	-17.9	-20.1	2.2
2026-01-30 11:53:00	-17.9	-19.4	1.5
2026-01-30 11:54:00	-18.3	-19.7	1.4
2026-01-30 11:55:00	-18.9	-20.5	1.6
2026-01-30 11:56:00	-19.5	-21.4	1.9
2026-01-30 11:57:00	-19.9	-21.6	1.7
2026-01-30 11:58:00	-20.1	-21.5	1.4
2026-01-30 11:59:00	-20.1	-21.3	1.2
2026-01-30 12:00:00	-20.0	-21.1	1.1
2026-01-30 12:01:00	-19.9	-20.9	1.0
2026-01-30 12:02:00	-19.8	-20.7	0.9
2026-01-30 12:03:00	-19.7	-20.6	0.9
2026-01-30 12:04:00	-19.5	-20.5	1.0
2026-01-30 12:05:00	-19.4	-20.3	0.9
2026-01-30 12:06:00	-19.3	-20.2	0.9
2026-01-30 12:07:00	-19.2	-20.1	0.9
2026-01-30 12:08:00	-19.1	-19.9	0.8
2026-01-30 12:09:00	-19.3	-20.8	1.5
2026-01-30 12:10:00	-19.7	-22.0	2.3
2026-01-30 12:11:00	-20.0	-22.4	2.4
2026-01-30 12:12:00	-20.0	-22.1	2.1
2026-01-30 12:13:00	-20.0	-21.8	1.8
2026-01-30 12:14:00	-19.9	-21.4	1.5
2026-01-30 12:15:00	-19.8	-21.2	1.4
2026-01-30 12:16:00	-19.7	-20.8	1.1
2026-01-30 12:17:00	-19.6	-20.7	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 12:18:00	-19.4	-20.6	1.2
2026-01-30 12:19:00	-19.3	-20.5	1.2
2026-01-30 12:20:00	-19.2	-20.5	1.3
2026-01-30 12:21:00	-19.1	-20.4	1.3
2026-01-30 12:22:00	-18.9	-20.3	1.4
2026-01-30 12:23:00	-19.4	-20.4	1.0
2026-01-30 12:24:00	-19.8	-21.2	1.4
2026-01-30 12:25:00	-20.3	-21.7	1.4
2026-01-30 12:26:00	-20.3	-21.6	1.3
2026-01-30 12:27:00	-20.3	-21.5	1.2
2026-01-30 12:28:00	-20.3	-21.3	1.0
2026-01-30 12:29:00	-20.1	-21.0	0.9
2026-01-30 12:30:00	-20.0	-20.9	0.9
2026-01-30 12:31:00	-19.8	-20.7	0.9
2026-01-30 12:32:00	-19.7	-20.6	0.9
2026-01-30 12:33:00	-19.5	-20.4	0.9
2026-01-30 12:34:00	-19.4	-20.3	0.9
2026-01-30 12:35:00	-19.3	-20.2	0.9
2026-01-30 12:36:00	-19.1	-20.1	1.0
2026-01-30 12:37:00	-19.0	-20.0	1.0
2026-01-30 12:38:00	-19.1	-20.5	1.4
2026-01-30 12:39:00	-19.6	-21.7	2.1
2026-01-30 12:40:00	-20.0	-22.6	2.6
2026-01-30 12:41:00	-20.1	-22.3	2.2
2026-01-30 12:42:00	-20.0	-21.9	1.9
2026-01-30 12:43:00	-19.9	-21.6	1.7
2026-01-30 12:44:00	-19.8	-21.2	1.4
2026-01-30 12:45:00	-19.7	-21.0	1.3
2026-01-30 12:46:00	-19.6	-20.9	1.3
2026-01-30 12:47:00	-19.5	-20.9	1.4

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 12:48:00	-19.4	-20.8	1.4
2026-01-30 12:49:00	-19.3	-20.7	1.4
2026-01-30 12:50:00	-19.1	-20.6	1.5
2026-01-30 12:51:00	-19.1	-20.4	1.3
2026-01-30 12:52:00	-19.3	-20.8	1.5
2026-01-30 12:53:00	-19.6	-21.9	2.3
2026-01-30 12:54:00	-20.0	-22.6	2.6
2026-01-30 12:55:00	-20.1	-22.3	2.2
2026-01-30 12:56:00	-20.1	-21.9	1.8
2026-01-30 12:57:00	-20.0	-21.5	1.5
2026-01-30 12:58:00	-19.8	-21.2	1.4
2026-01-30 12:59:00	-19.7	-21.0	1.3
2026-01-30 13:00:00	-19.6	-21.0	1.4
2026-01-30 13:01:00	-19.5	-20.9	1.4
2026-01-30 13:02:00	-19.3	-20.8	1.5
2026-01-30 13:03:00	-19.2	-20.7	1.5
2026-01-30 13:04:00	-19.1	-20.6	1.5
2026-01-30 13:05:00	-19.2	-20.5	1.3
2026-01-30 13:06:00	-19.5	-20.8	1.3
2026-01-30 13:07:00	-20.1	-21.5	1.4
2026-01-30 13:08:00	-20.3	-21.6	1.3
2026-01-30 13:09:00	-20.3	-21.5	1.2
2026-01-30 13:10:00	-20.3	-21.3	1.0
2026-01-30 13:11:00	-20.2	-21.1	0.9
2026-01-30 13:12:00	-20.0	-20.9	0.9
2026-01-30 13:13:00	-19.9	-20.8	0.9
2026-01-30 13:14:00	-19.8	-20.7	0.9
2026-01-30 13:15:00	-19.6	-20.7	1.1
2026-01-30 13:16:00	-19.5	-20.6	1.1
2026-01-30 13:17:00	-19.4	-20.5	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 13:18:00	-19.2	-20.4	1.2
2026-01-30 13:19:00	-19.1	-20.3	1.2
2026-01-30 13:20:00	-19.1	-20.1	1.0
2026-01-30 13:21:00	-19.5	-21.1	1.6
2026-01-30 13:22:00	-20.0	-22.4	2.4
2026-01-30 13:23:00	-20.1	-22.3	2.2
2026-01-30 13:24:00	-20.1	-21.9	1.8
2026-01-30 13:25:00	-20.0	-21.6	1.6
2026-01-30 13:26:00	-19.9	-21.3	1.4
2026-01-30 13:27:00	-19.8	-21.1	1.3
2026-01-30 13:28:00	-19.7	-21.0	1.3
2026-01-30 13:29:00	-19.6	-21.0	1.4
2026-01-30 13:30:00	-19.5	-20.9	1.4
2026-01-30 13:31:00	-19.3	-20.8	1.5
2026-01-30 13:32:00	-19.2	-20.7	1.5
2026-01-30 13:33:00	-19.1	-20.5	1.4
2026-01-30 13:34:00	-19.1	-20.5	1.4
2026-01-30 13:35:00	-19.5	-20.6	1.1
2026-01-30 13:36:00	-20.0	-21.5	1.5
2026-01-30 13:37:00	-20.4	-21.5	1.1
2026-01-30 13:38:00	-20.4	-21.5	1.1
2026-01-30 13:39:00	-20.4	-21.3	0.9
2026-01-30 13:40:00	-20.3	-21.1	0.8
2026-01-30 13:41:00	-20.1	-20.9	0.8
2026-01-30 13:42:00	-20.0	-20.8	0.8
2026-01-30 13:43:00	-19.8	-20.7	0.9
2026-01-30 13:44:00	-19.7	-20.6	0.9
2026-01-30 13:45:00	-19.5	-20.5	1.0
2026-01-30 13:46:00	-19.4	-20.5	1.1
2026-01-30 13:47:00	-19.3	-20.4	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 13:48:00	-19.1	-20.3	1.2
2026-01-30 13:49:00	-19.0	-20.1	1.1
2026-01-30 13:50:00	-19.3	-20.7	1.4
2026-01-30 13:51:00	-19.8	-21.8	2.0
2026-01-30 13:52:00	-20.1	-22.4	2.3
2026-01-30 13:53:00	-20.1	-22.1	2.0
2026-01-30 13:54:00	-20.1	-21.8	1.7
2026-01-30 13:55:00	-20.0	-21.4	1.4
2026-01-30 13:56:00	-19.8	-21.2	1.4
2026-01-30 13:57:00	-19.7	-21.1	1.4
2026-01-30 13:58:00	-19.6	-21.0	1.4
2026-01-30 13:59:00	-19.5	-21.0	1.5
2026-01-30 14:00:00	-19.4	-20.9	1.5
2026-01-30 14:01:00	-19.3	-20.8	1.5
2026-01-30 14:02:00	-19.1	-20.7	1.6
2026-01-30 14:03:00	-19.0	-20.5	1.5
2026-01-30 14:04:00	-19.5	-20.6	1.1
2026-01-30 14:05:00	-19.9	-21.1	1.2
2026-01-30 14:06:00	-20.3	-21.8	1.5
2026-01-30 14:07:00	-20.3	-21.7	1.4
2026-01-30 14:08:00	-20.3	-21.5	1.2
2026-01-30 14:09:00	-20.3	-21.2	0.9
2026-01-30 14:10:00	-20.2	-21.0	0.8
2026-01-30 14:11:00	-20.0	-20.9	0.9
2026-01-30 14:12:00	-19.8	-20.7	0.9
2026-01-30 14:13:00	-19.7	-20.7	1.0
2026-01-30 14:14:00	-19.6	-20.5	0.9
2026-01-30 14:15:00	-19.4	-20.5	1.1
2026-01-30 14:16:00	-19.3	-20.4	1.1
2026-01-30 14:17:00	-19.2	-20.3	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 14:18:00	-19.1	-20.1	1.0
2026-01-30 14:19:00	-19.1	-20.4	1.3
2026-01-30 14:20:00	-19.5	-21.9	2.4
2026-01-30 14:21:00	-19.8	-22.5	2.7
2026-01-30 14:22:00	-20.0	-22.2	2.2
2026-01-30 14:23:00	-19.9	-21.9	2.0
2026-01-30 14:24:00	-19.8	-21.5	1.7
2026-01-30 14:25:00	-19.8	-21.2	1.4
2026-01-30 14:26:00	-19.7	-21.0	1.3
2026-01-30 14:27:00	-19.6	-21.0	1.4
2026-01-30 14:28:00	-19.4	-20.9	1.5
2026-01-30 14:29:00	-19.3	-20.8	1.5
2026-01-30 14:30:00	-19.2	-20.7	1.5
2026-01-30 14:31:00	-19.1	-20.6	1.5
2026-01-30 14:32:00	-18.9	-20.5	1.6
2026-01-30 14:33:00	-19.2	-20.4	1.2
2026-01-30 14:34:00	-19.8	-20.7	0.9
2026-01-30 14:35:00	-20.2	-21.6	1.4
2026-01-30 14:36:00	-20.3	-21.7	1.4
2026-01-30 14:37:00	-20.4	-21.5	1.1
2026-01-30 14:38:00	-20.3	-21.3	1.0
2026-01-30 14:39:00	-20.1	-21.1	1.0
2026-01-30 14:40:00	-20.0	-20.9	0.9
2026-01-30 14:41:00	-19.8	-20.7	0.9
2026-01-30 14:42:00	-19.7	-20.7	1.0
2026-01-30 14:43:00	-19.6	-20.6	1.0
2026-01-30 14:44:00	-19.4	-20.5	1.1
2026-01-30 14:45:00	-19.3	-20.4	1.1
2026-01-30 14:46:00	-19.2	-20.4	1.2
2026-01-30 14:47:00	-19.0	-20.2	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 14:48:00	-19.0	-20.1	1.1
2026-01-30 14:49:00	-19.4	-21.1	1.7
2026-01-30 14:50:00	-19.9	-22.4	2.5
2026-01-30 14:51:00	-20.1	-22.3	2.2
2026-01-30 14:52:00	-20.0	-21.9	1.9
2026-01-30 14:53:00	-20.0	-21.6	1.6
2026-01-30 14:54:00	-19.9	-21.3	1.4
2026-01-30 14:55:00	-19.7	-21.0	1.3
2026-01-30 14:56:00	-19.6	-21.0	1.4
2026-01-30 14:57:00	-19.5	-20.9	1.4
2026-01-30 14:58:00	-19.4	-20.8	1.4
2026-01-30 14:59:00	-19.3	-20.7	1.4
2026-01-30 15:00:00	-19.2	-20.7	1.5
2026-01-30 15:01:00	-19.0	-20.5	1.5
2026-01-30 15:02:00	-19.1	-20.5	1.4
2026-01-30 15:03:00	-19.7	-20.7	1.0
2026-01-30 15:04:00	-20.2	-21.6	1.4
2026-01-30 15:05:00	-20.4	-21.8	1.4
2026-01-30 15:06:00	-20.4	-21.6	1.2
2026-01-30 15:07:00	-20.4	-21.5	1.1
2026-01-30 15:08:00	-20.2	-21.2	1.0
2026-01-30 15:09:00	-20.1	-21.0	0.9
2026-01-30 15:10:00	-20.0	-20.8	0.8
2026-01-30 15:11:00	-19.8	-20.7	0.9
2026-01-30 15:12:00	-19.6	-20.6	1.0
2026-01-30 15:13:00	-19.5	-20.5	1.0
2026-01-30 15:14:00	-19.4	-20.5	1.1
2026-01-30 15:15:00	-19.2	-20.4	1.2
2026-01-30 15:16:00	-19.1	-20.3	1.2
2026-01-30 15:17:00	-19.0	-20.1	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 15:18:00	-19.2	-20.6	1.4
2026-01-30 15:19:00	-19.6	-21.8	2.2
2026-01-30 15:20:00	-20.0	-22.4	2.4
2026-01-30 15:21:00	-20.1	-22.2	2.1
2026-01-30 15:22:00	-20.0	-21.8	1.8
2026-01-30 15:23:00	-19.9	-21.5	1.6
2026-01-30 15:24:00	-19.8	-21.1	1.3
2026-01-30 15:25:00	-19.7	-21.0	1.3
2026-01-30 15:26:00	-19.6	-20.9	1.3
2026-01-30 15:27:00	-19.5	-20.9	1.4
2026-01-30 15:28:00	-19.4	-20.8	1.4
2026-01-30 15:29:00	-19.3	-20.7	1.4
2026-01-30 15:30:00	-19.1	-20.6	1.5
2026-01-30 15:31:00	-19.1	-20.4	1.3
2026-01-30 15:32:00	-19.3	-21.0	1.7
2026-01-30 15:33:00	-19.8	-22.0	2.2
2026-01-30 15:34:00	-20.1	-22.5	2.4
2026-01-30 15:35:00	-20.1	-22.2	2.1
2026-01-30 15:36:00	-20.0	-21.8	1.8
2026-01-30 15:37:00	-19.9	-21.4	1.5
2026-01-30 15:38:00	-19.8	-21.1	1.3
2026-01-30 15:39:00	-19.6	-21.0	1.4
2026-01-30 15:40:00	-19.5	-20.9	1.4
2026-01-30 15:41:00	-19.4	-20.8	1.4
2026-01-30 15:42:00	-19.3	-20.8	1.5
2026-01-30 15:43:00	-19.1	-20.7	1.6
2026-01-30 15:44:00	-19.1	-20.5	1.4
2026-01-30 15:45:00	-19.3	-20.7	1.4
2026-01-30 15:46:00	-19.8	-21.2	1.4
2026-01-30 15:47:00	-20.3	-21.8	1.5

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 15:48:00	-20.4	-21.7	1.3
2026-01-30 15:49:00	-20.4	-21.5	1.1
2026-01-30 15:50:00	-20.2	-21.3	1.1
2026-01-30 15:51:00	-20.1	-21.1	1.0
2026-01-30 15:52:00	-20.0	-20.9	0.9
2026-01-30 15:53:00	-19.8	-20.7	0.9
2026-01-30 15:54:00	-19.7	-20.7	1.0
2026-01-30 15:55:00	-19.5	-20.6	1.1
2026-01-30 15:56:00	-19.4	-20.5	1.1
2026-01-30 15:57:00	-19.3	-20.4	1.1
2026-01-30 15:58:00	-19.1	-20.4	1.3
2026-01-30 15:59:00	-19.0	-20.2	1.2
2026-01-30 16:00:00	-19.1	-20.5	1.4
2026-01-30 16:01:00	-19.6	-21.7	2.1
2026-01-30 16:02:00	-20.0	-22.4	2.4
2026-01-30 16:03:00	-20.1	-22.2	2.1
2026-01-30 16:04:00	-20.0	-21.8	1.8
2026-01-30 16:05:00	-19.9	-21.5	1.6
2026-01-30 16:06:00	-19.8	-21.1	1.3
2026-01-30 16:07:00	-19.7	-21.0	1.3
2026-01-30 16:08:00	-19.6	-21.0	1.4
2026-01-30 16:09:00	-19.5	-20.9	1.4
2026-01-30 16:10:00	-19.4	-20.8	1.4
2026-01-30 16:11:00	-19.3	-20.7	1.4
2026-01-30 16:12:00	-19.1	-20.6	1.5
2026-01-30 16:13:00	-19.0	-20.5	1.5
2026-01-30 16:14:00	-19.5	-20.6	1.1
2026-01-30 16:15:00	-20.0	-21.1	1.1
2026-01-30 16:16:00	-20.3	-21.6	1.3
2026-01-30 16:17:00	-20.3	-21.5	1.2

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 16:18:00	-20.3	-21.3	1.0
2026-01-30 16:19:00	-20.2	-21.2	1.0
2026-01-30 16:20:00	-20.1	-21.0	0.9
2026-01-30 16:21:00	-19.9	-20.8	0.9
2026-01-30 16:22:00	-19.8	-20.7	0.9
2026-01-30 16:23:00	-19.7	-20.6	0.9
2026-01-30 16:24:00	-19.5	-20.6	1.1
2026-01-30 16:25:00	-19.4	-20.5	1.1
2026-01-30 16:26:00	-19.2	-20.4	1.2
2026-01-30 16:27:00	-19.1	-20.3	1.2
2026-01-30 16:28:00	-19.0	-20.1	1.1
2026-01-30 16:29:00	-19.2	-20.6	1.4
2026-01-30 16:30:00	-19.7	-22.0	2.3
2026-01-30 16:31:00	-20.0	-22.4	2.4
2026-01-30 16:32:00	-20.1	-22.1	2.0
2026-01-30 16:33:00	-20.0	-21.7	1.7
2026-01-30 16:34:00	-19.9	-21.4	1.5
2026-01-30 16:35:00	-19.8	-21.1	1.3
2026-01-30 16:36:00	-19.7	-21.1	1.4
2026-01-30 16:37:00	-19.6	-21.0	1.4
2026-01-30 16:38:00	-19.5	-21.0	1.5
2026-01-30 16:39:00	-19.3	-20.8	1.5
2026-01-30 16:40:00	-19.2	-20.7	1.5
2026-01-30 16:41:00	-19.1	-20.7	1.6
2026-01-30 16:42:00	-18.9	-20.5	1.6
2026-01-30 16:43:00	-19.5	-20.6	1.1
2026-01-30 16:44:00	-19.9	-21.1	1.2
2026-01-30 16:45:00	-20.3	-21.7	1.4
2026-01-30 16:46:00	-20.4	-21.6	1.2
2026-01-30 16:47:00	-20.4	-21.5	1.1

时间	所有点最大值 (timax)	所有点最小值 (timin)	timax-timin
2026-01-30 16:48:00	-20.3	-21.2	0.9
2026-01-30 16:49:00	-20.1	-21.0	0.9
2026-01-30 16:50:00	-20.0	-20.9	0.9
2026-01-30 16:51:00	-19.8	-20.7	0.9
2026-01-30 16:52:00	-19.7	-20.7	1.0
2026-01-30 16:53:00	-19.5	-20.6	1.1
2026-01-30 16:54:00	-19.4	-20.5	1.1
2026-01-30 16:55:00	-19.3	-20.4	1.1
2026-01-30 16:56:00	-19.1	-20.3	1.2
2026-01-30 16:57:00	-19.0	-20.2	1.2
2026-01-30 16:58:00	-19.1	-20.5	1.4
2026-01-30 16:59:00	-19.6	-21.7	2.1
2026-01-30 17:00:00	-20.0	-22.4	2.4
2026-01-30 17:01:00	-20.1	-22.2	2.1
2026-01-30 17:02:00	-20.0	-21.8	1.8
2026-01-30 17:03:00	-20.0	-21.5	1.5
2026-01-30 17:04:00	-19.8	-21.2	1.4
2026-01-30 17:05:00	-19.7	-21.0	1.3
2026-01-30 17:06:00	-19.6	-21.0	1.4
2026-01-30 17:07:00	-19.5	-21.0	1.5
2026-01-30 17:08:00	-19.4	-20.9	1.5
2026-01-30 17:09:00	-19.3	-20.8	1.5
2026-01-30 17:10:00	-19.2	-20.7	1.5
2026-01-30 17:11:00	-19.0	-20.5	1.5
2026-01-30 17:12:00	-19.4	-20.6	1.2
2026-01-30 17:13:00	-19.8	-21.0	1.2
2026-01-30 17:14:00	-20.3	-21.7	1.4
2026-01-30 17:15:00	-20.4	-21.7	1.3
2026-01-30 17:16:00	-20.4	-21.5	1.1
2026-01-30 17:17:00	-20.3	-21.3	1.0

时间	所有点最大值 (t <sub>imax</sub> )	所有点最小值 (t <sub>imin</sub> )	t <sub>imax</sub> -t <sub>imin</sub>
2026-01-30 17:18:00	-20.1	-21.1	1.0
2026-01-30 17:19:00	-20.0	-20.9	0.9
2026-01-30 17:20:00	-19.8	-20.8	1.0