



# 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（一）  
**温控信息:** 2.0℃~8.0℃  
**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:** 温控设施设备运行参数及使用状况测试  
 温度监测系统配置的测点终端安装位置确认  
 开门作业对温控库房温度分布影响的确认  
 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  
 存储空间温度的偏差、均匀度和波动度确认  
 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  
 风机除霜作业对温控库房温度分布影响的确认  
 温控设施设备运行参数及使用状况测试-多组风机轮换

**验证实施日期:**

**签发:**

### 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:

冷库及全部温度调节设施。

**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  
 V1.0

公司地址: 北京市通州区马驹桥联东U谷西区11B

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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<br>程师 | 山西深焓节能环<br>境技术有限公司 |    |
| 校对 |     | 山西深焓验证负<br>责人 | 山西深焓节能环<br>境技术有限公司 |    |
| 审核 |     | 经理            | 国药集团威奇达<br>药业有限公司  |    |
| 审核 |     | 经理            | 国药集团威奇达<br>药业有限公司  |    |
| 审核 | 李昌慧 | 车间负责人         | 国药集团威奇达<br>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<br>药业有限公司  |    |
| 审核 | 王晶  | 质量保证部QA       | 国药集团威奇达<br>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<br>药业有限公司  |    |
| 批准 | 王志杰 | 质量负责人         | 国药集团威奇达<br>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<br>药业有限公司 |    |
| 组长 | 王晶  | 质量保证部QA | 国药集团威奇达<br>药业有限公司 |    |
| 组长 | 杨志龙 | 工程设备部经理 | 国药集团威奇达<br>药业有限公司 |    |
| 组长 | 李昌慧 | 车间负责人   | 国药集团威奇达<br>药业有限公司 |    |
| 组员 |     | 经理      | 国药集团威奇达<br>药业有限公司 |    |

| 职责 | 姓名  | 职务        | 企业             | 签名 |
|----|-----|-----------|----------------|----|
| 组员 |     | 经理        | 国药集团威奇达药业有限公司  |    |
| 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  |    |
| 组员 | 白鹏  | 山西深焓验证工程师 | 山西深焓节能环保技术有限公司 |    |
| 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. 建立冷库温度验证方案，检查并确认冷库库内温湿度计放置是否合理，证明冷库是否能达到规定的温度的要求。
2. 对冷库日常监控点的位置确认。
3. 冷库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法规要求、美国FDA认证及欧盟CEP认证要求。

## 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：成品冷库的温度控制范围：2℃-8℃。

## 4 验证规程

1. 概述：部分成品或者物料在贮存的过程中，有温度的要求，在成品或者物料贮存过程中，仓库的温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) 检查并确认成品冷库风机安装是否符合设计要求。
  - (3) 检查并确认成品冷库风机运行是否符合设计要求。
  - (4) 检查并确认成品冷库温度是否符合《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. 用于检测成品冷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)；<br>±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)；<br>±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 | SF308010100212408088004803 | 济南市计量检定测试院 | 25001463968G1 | 2026-12-11 | 合格   |
| 2  | SVB-YZ-REC-02 | SF304070100022306148046803 | 济南市计量检定测试院 | 25001474060G1 | 2026-12-11 | 合格   |
| 3  | SVB-YZ-REC-02 | SF304070100022306148607803 | 济南市计量检定测试院 | 25001494054G1 | 2026-12-11 | 合格   |
| 4  | SVB-YZ-REC-02 | SF304070100022306028037803 | 济南市计量检定测试院 | 25001474036G1 | 2026-12-11 | 合格   |
| 5  | SVB-YZ-REC-02 | SF304070100022306088185803 | 济南市计量检定测试院 | 25001474077G1 | 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 | SF308010100212408088057803 | 济南市计量检定测试院 | 25001464004G1 | 2026-12-11 | 合格   |
| 7  | SVB-YZ-REC-02 | SF304070100022306148297803 | 济南市计量检定测试院 | 25001494079G1 | 2026-12-11 | 合格   |
| 8  | SVB-YZ-REC-02 | SF304070100022306088222803 | 济南市计量检定测试院 | 25001474052G1 | 2026-12-11 | 合格   |
| 9  | SVB-YZ-REC-02 | SF304070100022306148144803 | 济南市计量检定测试院 | 25001474033G1 | 2026-12-11 | 合格   |
| 10 | SVB-YZ-REC-02 | SF304070100022306148550803 | 济南市计量检定测试院 | 25001494024G1 | 2026-12-11 | 合格   |
| 11 | SVB-YZ-REC-02 | SF304070100022306028057803 | 济南市计量检定测试院 | 25001454036G1 | 2026-12-11 | 合格   |
| 12 | SVB-YZ-REC-01 | SF308010100212408088010803 | 济南市计量检定测试院 | 25001464003G1 | 2026-12-11 | 合格   |
| 13 | SVB-YZ-REC-02 | SF304070100022306088147803 | 济南市计量检定测试院 | 25001474016G1 | 2026-12-11 | 合格   |
| 14 | SVB-YZ-REC-02 | SF304070100022306148062803 | 济南市计量检定测试院 | 25001474069G1 | 2026-12-11 | 合格   |
| 15 | SVB-YZ-REC-02 | SF304070100022306148587803 | 济南市计量检定测试院 | 25001494007G1 | 2026-12-11 | 合格   |
| 16 | SVB-YZ-REC-02 | SF304070100022306148687803 | 济南市计量检定测试院 | 25001454019G1 | 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-02 | SF304070100022306088119803 | 济南市计量检定测试院 | 25001474015G1 | 2026-12-11 | 合格   |
| 18 | SVB-YZ-REC-02 | SF304070100022306088214803 | 济南市计量检定测试院 | 25001474066G1 | 2026-12-11 | 合格   |
| 19 | SVB-YZ-REC-02 | SF304070100022306148285803 | 济南市计量检定测试院 | 25001494025G1 | 2026-12-11 | 合格   |
| 20 | SVB-YZ-REC-01 | SF308010100212408088008803 | 济南市计量检定测试院 | 25001453962G1 | 2026-12-11 | 合格   |
| 21 | SVB-YZ-REC-02 | SF304070100022306088181803 | 济南市计量检定测试院 | 25001474076G1 | 2026-12-11 | 合格   |
| 22 | SVB-YZ-REC-01 | SF308010100212408088001803 | 济南市计量检定测试院 | 25001463989G1 | 2026-12-11 | 合格   |
| 23 | SVB-YZ-REC-02 | SF304070100022306088163803 | 济南市计量检定测试院 | 25001474090G1 | 2026-12-11 | 合格   |
| 24 | SVB-YZ-REC-02 | SF304070100022306148380803 | 济南市计量检定测试院 | 25001454086G1 | 2026-12-11 | 合格   |
| 25 | SVB-YZ-REC-02 | SF304070100022306148637803 | 济南市计量检定测试院 | 25001454091G1 | 2026-12-11 | 合格   |
| 26 | SVB-YZ-REC-02 | SF304070100022306088224803 | 济南市计量检定测试院 | 25001474092G1 | 2026-12-11 | 合格   |
| 27 | SVB-YZ-REC-02 | SF304070100022306148627803 | 济南市计量检定测试院 | 25001494010G1 | 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 | SF304070100022306148136803 | 济南市计量检定测试院 | 25001474089G1 | 2026-12-11 | 合格   |
| 29 | SVB-YZ-REC-01 | SF308010100212408088053803 | 济南市计量检定测试院 | 25001463978G1 | 2026-12-11 | 合格   |
| 30 | SVB-YZ-REC-01 | SF308010100212408088051803 | 济南市计量检定测试院 | 25001463986G1 | 2026-12-11 | 合格   |
| 31 | SVB-YZ-REC-01 | SF308010100212408088003803 | 济南市计量检定测试院 | 25001463963G1 | 2026-12-11 | 合格   |
| 32 | SVB-YZ-REC-02 | SF304070100022306148546803 | 济南市计量检定测试院 | 25001494009G1 | 2026-12-11 | 合格   |
| 33 | SVB-YZ-REC-01 | SF308010100212408088017803 | 济南市计量检定测试院 | 25001463966G1 | 2026-12-11 | 合格   |
| 34 | SVB-YZ-REC-02 | SF304070100022306028054803 | 济南市计量检定测试院 | 25001474045G1 | 2026-12-11 | 合格   |
| 35 | SVB-YZ-REC-02 | SF304070100022306148437803 | 济南市计量检定测试院 | 25001494330G1 | 2026-12-11 | 合格   |
| 36 | SVB-YZ-REC-02 | SF304070100022306088081803 | 济南市计量检定测试院 | 25001474065G1 | 2026-12-11 | 合格   |
| 37 | SVB-YZ-REC-02 | SF304070100022306148526803 | 济南市计量检定测试院 | 25001494052G1 | 2026-12-11 | 合格   |
| 38 | SVB-YZ-REC-02 | SF304070100022306148232803 | 济南市计量检定测试院 | 25001494012G1 | 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-02 | SF304070100022306148410803 | 济南市计量检定测试院 | 25001494076G1 | 2026-12-11 | 合格   |
| 40 | SVB-YZ-REC-02 | SF304070100022306088104803 | 济南市计量检定测试院 | 25001474013G1 | 2026-12-11 | 合格   |
| 41 | SVB-YZ-REC-02 | SF304070100022306148570803 | 济南市计量检定测试院 | 25001494055G1 | 2026-12-11 | 合格   |
| 42 | SVB-YZ-REC-02 | SF304070100022306148159803 | 济南市计量检定测试院 | 25001494029G1 | 2026-12-11 | 合格   |
| 43 | SVB-YZ-REC-02 | SF304070100022306148415803 | 济南市计量检定测试院 | 25001494071G1 | 2026-12-11 | 合格   |
| 44 | SVB-YZ-REC-02 | SF304070100022306028040803 | 济南市计量检定测试院 | 25001474006G1 | 2026-12-11 | 合格   |
| 45 | SVB-YZ-REC-01 | SF308010100212408088047803 | 济南市计量检定测试院 | 25001463979G1 | 2026-12-11 | 合格   |
| 46 | SVB-YZ-REC-02 | SF304070100022306148451803 | 济南市计量检定测试院 | 25001494078G1 | 2026-12-11 | 合格   |
| 47 | SVB-YZ-REC-02 | SF304070100022306088241803 | 济南市计量检定测试院 | 25001474072G1 | 2026-12-11 | 合格   |
| 48 | SVB-YZ-REC-02 | SF304070100022306148263803 | 济南市计量检定测试院 | 25001494087G1 | 2026-12-11 | 合格   |
| 49 | SVB-YZ-REC-02 | SF304070100022306088049803 | 济南市计量检定测试院 | 25001474035G1 | 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 |
|----|---------------|----------------------------|------------|---------------|------------|------|
| 50 | SVB-YZ-REC-02 | SF304070100022306088112803 | 济南市计量检定测试院 | 25001474023G1 | 2026-12-11 | 合格   |
| 51 | SVB-YZ-REC-02 | SF304070100022306148330803 | 济南市计量检定测试院 | 25001494065G1 | 2026-12-11 | 合格   |
| 52 | SVB-YZ-REC-02 | SF304070100022306088175803 | 济南市计量检定测试院 | 25001454103G1 | 2026-12-11 | 合格   |
| 53 | SVB-YZ-REC-01 | SF308010100212408028023803 | 济南市计量检定测试院 | 25001463967G1 | 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（一） |
| 长宽高(mm) | 14398*5662*2700  |
| 面积(平米)  |                  |
| 验证范围    | 2.0℃~8.0℃        |
| 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 | 有    |
| 2  | 仓库平面布置设计说明 | 应有   | 工程设备安全部 | 有    |
| 3  | 空调运行       | 可运行  | 成品冷库    | 运行正常 |

|        |  |
|--------|--|
| 检查人    |  |
| 复核人    |  |
| 确认结果   |  |
| 确认人/日期 |  |

## 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  | 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   | 合格   |
| 2  | 开机、记录、状态 | 应正常、清晰 | 合格   |

|        |  |
|--------|--|
| 检查人    |  |
| 复核人    |  |
| 确认结果   |  |
| 确认人/日期 |  |

#### 7.4 环境卫生确认

冷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 | 整洁、干净 |
| 2  | 门、窗、墙壁、天棚 | 应整洁、干净 | 整洁、干净 |
| 3  | 设备、设施表面   | 应清洁、干净 | 清洁、干净 |
| 4  | 其它        | 应清洁、干净 | 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 | 合格   |
| 2  | 产品合格证    |    | 1  | 工程设备安全部 | 合格   |
| 3  | 装箱单      |    | 1  | 工程设备安全部 | 合格   |
| 4  | 设备图纸     |    | 1  | 工程设备安全部 | 合格   |
| 5  | 开箱验收记录   |    | 1  | 工程设备安全部 | 合格   |
| 6  | 设备安装检查记录 |    | 1  | 工程设备安全部 | 合格   |

|        |  |
|--------|--|
| 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  | 自动融霜冷风机   | 成品冷库 | 安装牢固，出风口保持水平 | 合格   |
| 2  | 主机的后侧离墙距离 | 成品冷库 | ≥0.2M        | 合格   |
| 3  | 主机两侧离墙距离  | 成品冷库 | ≥0.2M        | 合格   |

|     |  |
|-----|--|
| 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 |      |

|        |  |
|--------|--|
| 检查人    |  |
| 复核人    |  |
| 评定结果   |  |
| 评定人/日期 |  |

### 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 | 合格   |
| 2  | 摇控器/控制面板 | 灵敏         | 合格   |
| 3  | 接地装置     | 应有接地线路     | 合格   |

|        |  |
|--------|--|
| 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 | $\geq 4.0^{\circ}\text{C}$                                    | 合格 |
| 2  | 最高温度运行 | $\leq 7.3^{\circ}\text{C}$                                    | 合格 |
| 3  | 自动功能运行 | $4.0^{\circ}\text{C} \leq \text{温度} \leq 7.3^{\circ}\text{C}$ | 合格 |

|        |  |
|--------|--|
| 检查人    |  |
| 复核人    |  |
| 评定结果   |  |
| 评定人/日期 |  |

## 10 性能确认

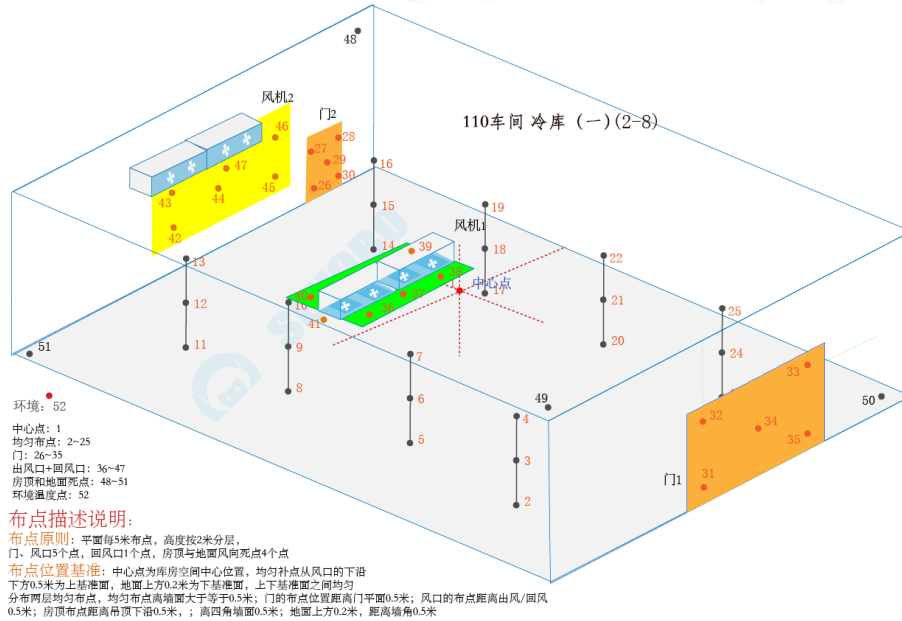
### 10.1 布点依据

- 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

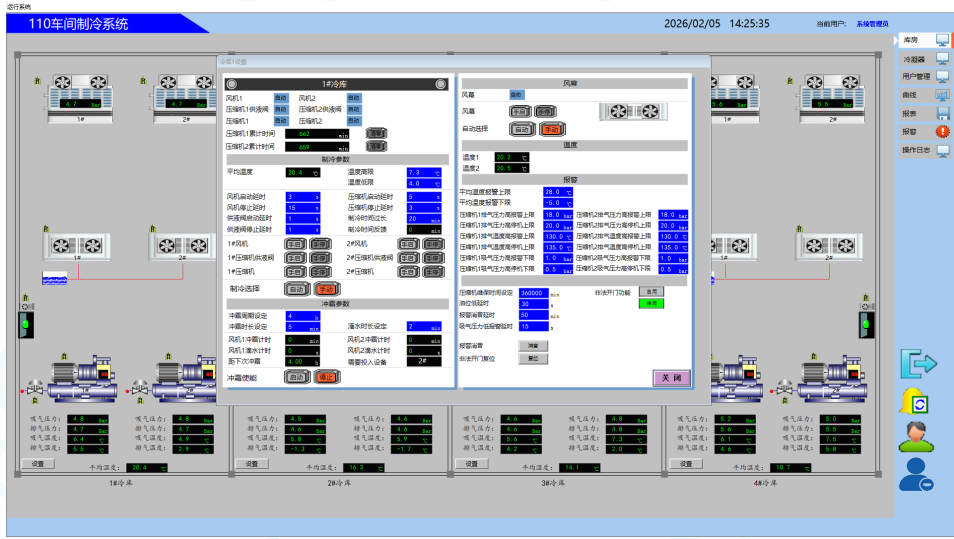
| 序号 | 名称        | 位置编码 | 类型   | 设备型号              | 设备编号                       |
|----|-----------|------|------|-------------------|----------------------------|
| 1  | 中心点1      | A01  | 中心点  | SVB-YZ-<br>REC-01 | SF308010100212408088004803 |
| 2  | 均匀布点<br>2 | A02  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148046803 |
| 3  | 均匀布点<br>3 | A03  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148607803 |
| 4  | 均匀布点<br>4 | A04  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306028037803 |
| 5  | 均匀布点<br>5 | A05  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306088185803 |
| 6  | 均匀布点<br>6 | A06  | 均匀布点 | SVB-YZ-<br>REC-01 | SF308010100212408088057803 |

| 序号 | 名称         | 位置编码 | 类型   | 设备型号              | 设备编号                       |
|----|------------|------|------|-------------------|----------------------------|
| 7  | 均匀布点<br>7  | A07  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148297803 |
| 8  | 均匀布点<br>8  | A08  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306088222803 |
| 9  | 均匀布点<br>9  | A09  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148144803 |
| 10 | 均匀布点<br>10 | A10  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148550803 |
| 11 | 均匀布点<br>11 | A11  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306028057803 |
| 12 | 均匀布点<br>12 | A12  | 均匀布点 | SVB-YZ-<br>REC-01 | SF308010100212408088010803 |
| 13 | 均匀布点<br>13 | A13  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306088147803 |
| 14 | 均匀布点<br>14 | A14  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148062803 |
| 15 | 均匀布点<br>15 | A15  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148587803 |
| 16 | 均匀布点<br>16 | A16  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148687803 |
| 17 | 均匀布点<br>17 | A17  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306088119803 |
| 18 | 均匀布点<br>18 | A18  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306088214803 |
| 19 | 均匀布点<br>19 | A19  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148285803 |
| 20 | 均匀布点<br>20 | A20  | 均匀布点 | SVB-YZ-<br>REC-01 | SF308010100212408088008803 |
| 21 | 均匀布点<br>21 | A21  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306088181803 |
| 22 | 均匀布点<br>22 | A22  | 均匀布点 | SVB-YZ-<br>REC-01 | SF308010100212408088001803 |
| 23 | 均匀布点<br>23 | A23  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306088163803 |

| 序号 | 名称           | 位置编码 | 类型   | 设备型号              | 设备编号                       |
|----|--------------|------|------|-------------------|----------------------------|
| 24 | 均匀布点<br>24   | A24  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148380803 |
| 25 | 均匀布点<br>25   | A25  | 均匀布点 | SVB-YZ-<br>REC-02 | SF304070100022306148637803 |
| 26 | 门26          | A26  | 门    | SVB-YZ-<br>REC-02 | SF304070100022306088224803 |
| 27 | 门27          | A27  | 门    | SVB-YZ-<br>REC-02 | SF304070100022306148627803 |
| 28 | 门28          | A28  | 门    | SVB-YZ-<br>REC-02 | SF304070100022306148136803 |
| 29 | 门29          | A29  | 门    | SVB-YZ-<br>REC-01 | SF308010100212408088053803 |
| 30 | 门30          | A30  | 门    | SVB-YZ-<br>REC-01 | SF308010100212408088051803 |
| 31 | 门31          | A31  | 门    | SVB-YZ-<br>REC-01 | SF308010100212408088003803 |
| 32 | 门32          | A32  | 门    | SVB-YZ-<br>REC-02 | SF304070100022306148546803 |
| 33 | 门33          | A33  | 门    | SVB-YZ-<br>REC-01 | SF308010100212408088017803 |
| 34 | 门34          | A34  | 门    | SVB-YZ-<br>REC-02 | SF304070100022306028054803 |
| 35 | 门35          | A35  | 门    | SVB-YZ-<br>REC-02 | SF304070100022306148437803 |
| 36 | 风机1出<br>风口36 | A36  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306088081803 |
| 37 | 风机1出<br>风口37 | A37  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306148526803 |
| 38 | 风机1出<br>风口38 | A38  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306148232803 |
| 39 | 风机1出<br>风口39 | A39  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306148410803 |
| 40 | 风机1出<br>风口40 | A40  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306088104803 |

| 序号 | 名称           | 位置编码 | 类型   | 设备型号              | 设备编号                       |
|----|--------------|------|------|-------------------|----------------------------|
| 41 | 风机1回<br>风口41 | A41  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306148570803 |
| 42 | 风机2出<br>风口42 | A42  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306148159803 |
| 43 | 风机2出<br>风口43 | A43  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306148415803 |
| 44 | 风机2出<br>风口44 | A44  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306028040803 |
| 45 | 风机2出<br>风口45 | A45  | 风机   | SVB-YZ-<br>REC-01 | SF308010100212408088047803 |
| 46 | 风机2出<br>风口46 | A46  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306148451803 |
| 47 | 风机2回<br>风口47 | A47  | 风机   | SVB-YZ-<br>REC-02 | SF304070100022306088241803 |
| 48 | 房顶48         | A48  | 风向死角 | SVB-YZ-<br>REC-02 | SF304070100022306148263803 |
| 49 | 房顶49         | A49  | 风向死角 | SVB-YZ-<br>REC-02 | SF304070100022306088049803 |
| 50 | 地面50         | A50  | 风向死角 | SVB-YZ-<br>REC-02 | SF304070100022306088112803 |
| 51 | 地面51         | A51  | 风向死角 | SVB-YZ-<br>REC-02 | SF304070100022306148330803 |
| 52 | 环境外温<br>52   | A52  | 环境外温 | SVB-YZ-<br>REC-02 | SF304070100022306088175803 |
| 53 | 仓库外温<br>56   | A56  | 仓库外温 | SVB-YZ-<br>REC-01 | SF308010100212408028023803 |

### 10.2.3 现场照片



温控参数设置



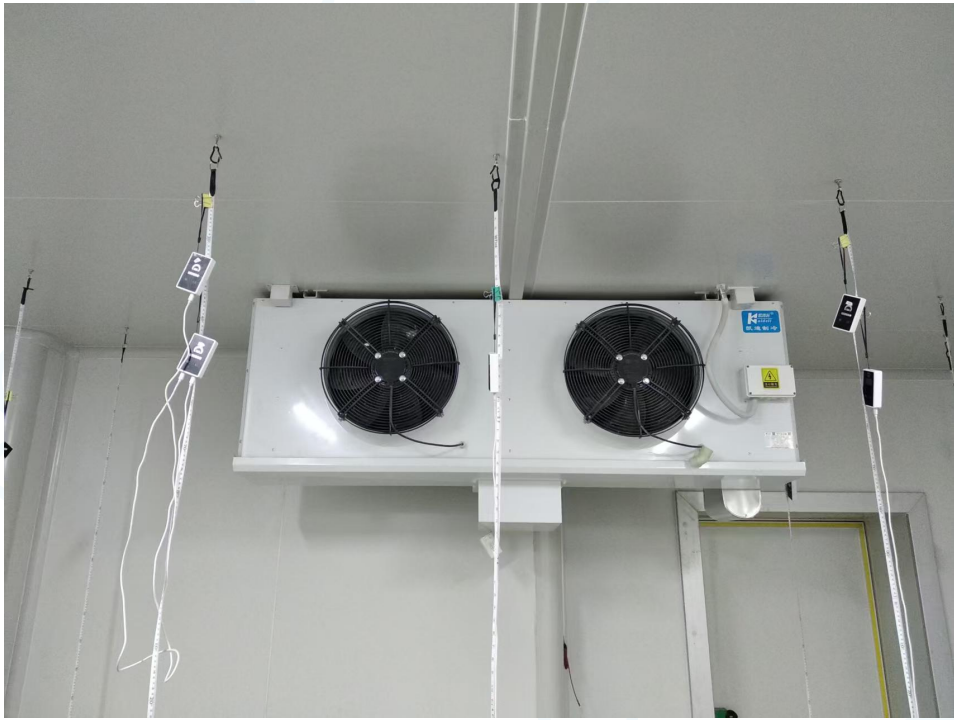
1号门处布点



1号风机出风口



1号风机回风口



2号风机出风口



2号风机回风口



均匀布点



均匀布点



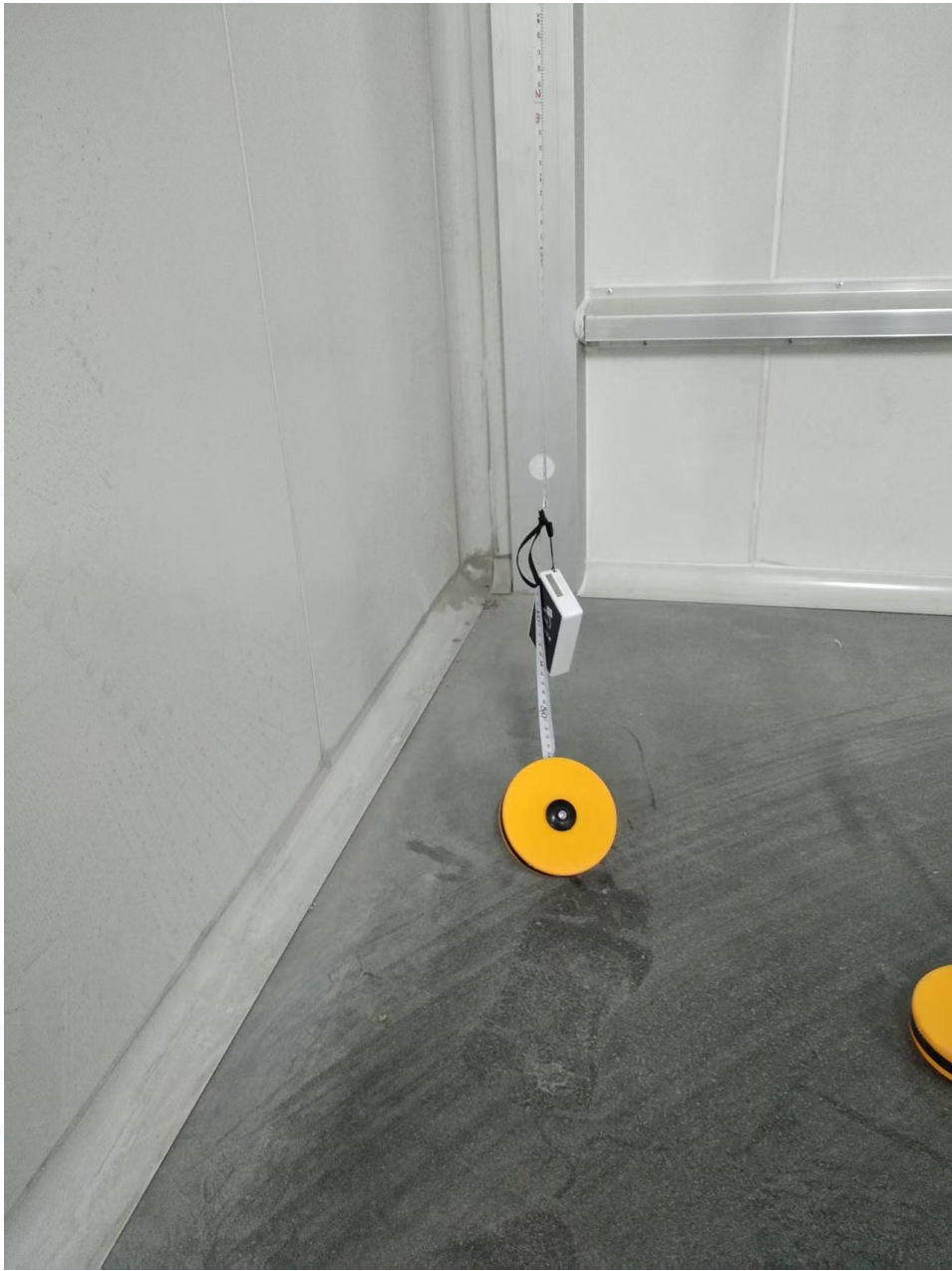
均匀布点



均匀布点



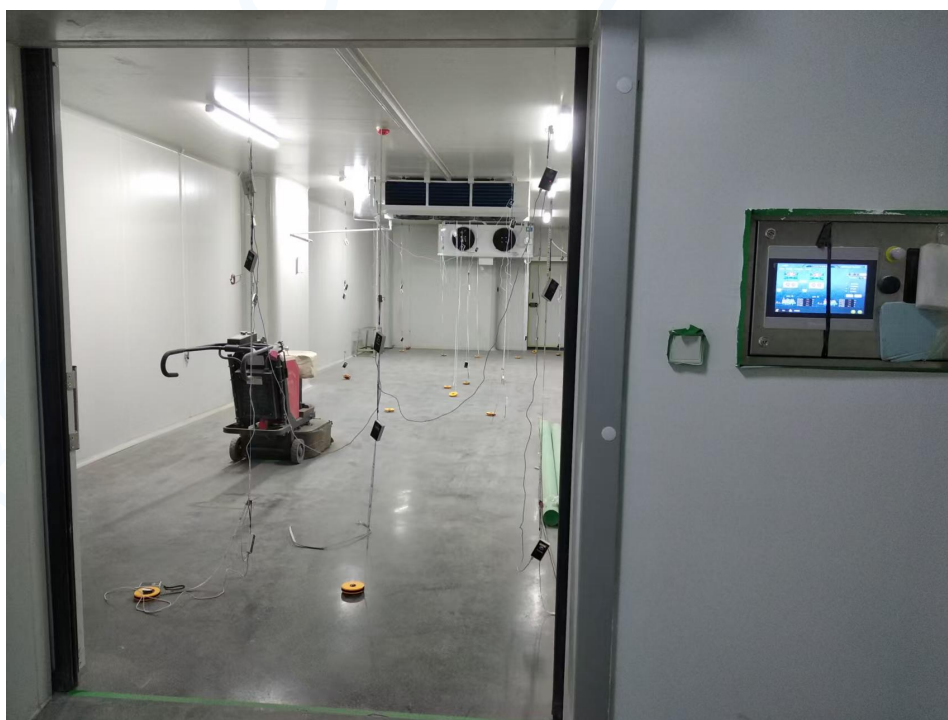
房顶死角布点



地面死角布点



仓库外温

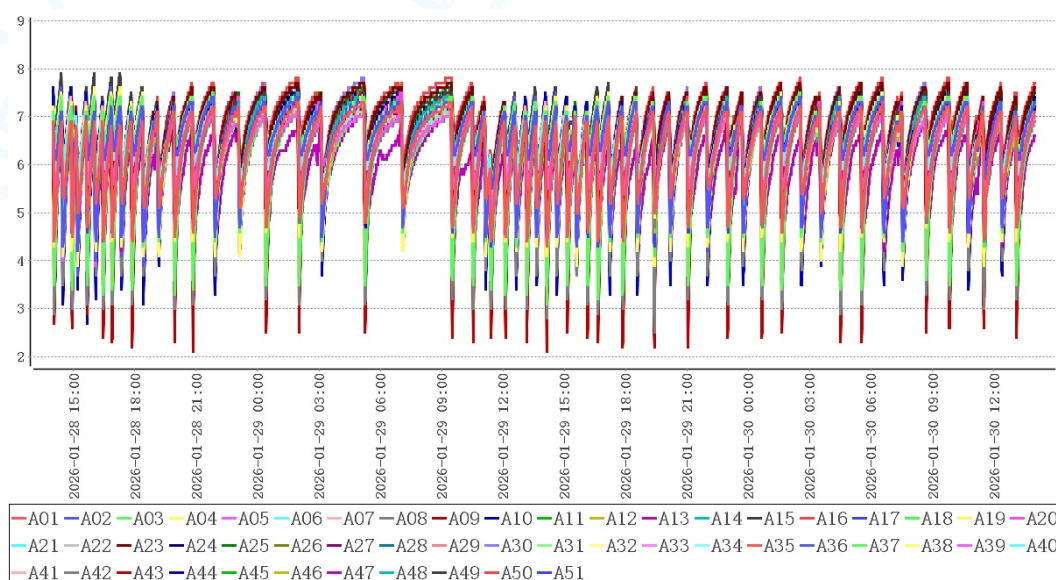


1号门开门测试

## 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:  $\Delta t_d = t_d - t_o$

式中:

$\Delta t_d$  ——温度偏差,单位为摄氏度( $^{\circ}\text{C}$ );

$t_d$  ——温度设定值,单位为摄氏度( $^{\circ}\text{C}$ );

$t_o$  ——中心点在规定时间内 $n$ 次测量平均值,单位为摄氏度( $^{\circ}\text{C}$ )

| 点位类型 | 测点  | 设定值( $t_d$ ) | 平均值( $t_o$ ) |
|------|-----|--------------|--------------|
| 中心点  | A01 | 5.0          | 6.3          |

温度偏差 $\Delta t_d = t_d - t_o = -1.3^{\circ}\text{C}$

## (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: $\Delta t_u = \Sigma (t_{imax} - t_{imin}) / n$

式中:

$\Delta t_u$  ——温度均匀度,单位为摄氏度( $^{\circ}\text{C}$ );

$t_{imax}$  ——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( $^{\circ}\text{C}$ );

$t_{imin}$  ——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( $^{\circ}\text{C}$ )。

$n$  ——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 $\Delta t_u = \Sigma (t_{imax} - t_{imin}) / n = 1.5^{\circ}\text{C}$

## (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 | 7.3               | 4.3               |

波动度 $\Delta t_f = \pm (t_{omax} - t_{omin}) / 2 = 1.5^{\circ}\text{C}$

## (4)、结论综述

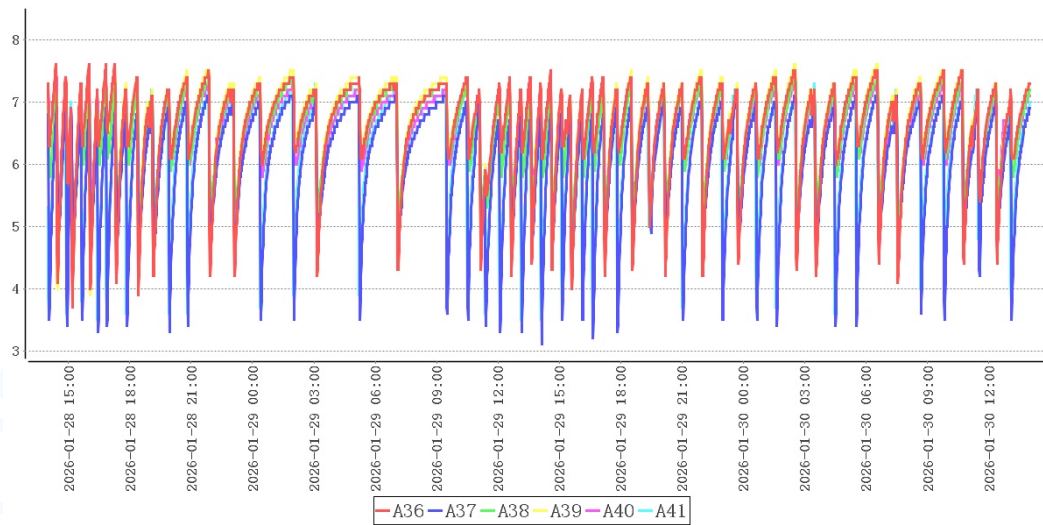
| 点位类型 | 测点  | 最大值 | 最小值 | 平均值 |
|------|-----|-----|-----|-----|
| 中心点  | A01 | 7.3 | 4.3 | 6.3 |
| 均匀布点 | A02 | 7.4 | 4.2 | 6.5 |
|      | A03 | 7.5 | 4.2 | 6.6 |
|      | A04 | 7.6 | 3.9 | 6.6 |
|      | A05 | 7.2 | 5.0 | 6.3 |
|      | A06 | 7.3 | 5.4 | 6.6 |
|      | A07 | 7.4 | 5.3 | 6.5 |
|      | A08 | 7.1 | 4.4 | 6.2 |
|      | A09 | 7.3 | 4.7 | 6.4 |
|      | A10 | 7.6 | 4.5 | 6.5 |
|      | A11 | 7.3 | 4.5 | 6.3 |
|      | A12 | 7.2 | 4.6 | 6.2 |
|      | A13 | 7.4 | 4.2 | 6.4 |
|      | A14 | 7.5 | 4.8 | 6.5 |
|      | A15 | 7.5 | 4.9 | 6.5 |
|      | A16 | 7.5 | 4.9 | 6.6 |
|      | A17 | 7.4 | 4.3 | 6.3 |
|      | A18 | 7.4 | 4.1 | 6.4 |
|      | A19 | 7.4 | 3.9 | 6.4 |
|      | A20 | 7.5 | 4.9 | 6.6 |
|      | A21 | 7.4 | 5.0 | 6.5 |
|      | A22 | 7.4 | 5.0 | 6.6 |
|      | A23 | 7.7 | 5.1 | 6.9 |
|      | A24 | 7.6 | 5.2 | 6.7 |
|      | A25 | 7.7 | 5.6 | 6.9 |
| 出入口  | A26 | 7.6 | 4.9 | 6.5 |
|      | A27 | 7.6 | 4.8 | 6.5 |
|      | A28 | 7.6 | 5.0 | 6.6 |
|      | A29 | 7.6 | 4.7 | 6.5 |
|      | A30 | 7.8 | 4.9 | 6.7 |

|      |     |      |       |      |
|------|-----|------|-------|------|
|      | A31 | 7.4  | 4.4   | 6.6  |
|      | A32 | 7.6  | 5.0   | 6.8  |
|      | A33 | 7.6  | 5.6   | 6.8  |
|      | A34 | 7.6  | 5.2   | 6.8  |
|      | A35 | 7.7  | 5.2   | 6.8  |
| 风机   | A36 | 7.6  | 3.7   | 6.6  |
|      | A37 | 7.1  | 3.1   | 6.0  |
|      | A38 | 7.4  | 4.8   | 6.5  |
|      | A39 | 7.6  | 3.9   | 6.6  |
|      | A40 | 7.4  | 4.9   | 6.5  |
|      | A41 | 7.3  | 3.4   | 6.1  |
|      | A42 | 7.2  | 2.5   | 6.0  |
|      | A43 | 7.4  | 2.1   | 6.1  |
|      | A44 | 7.2  | 2.6   | 6.0  |
|      | A45 | 7.4  | 4.0   | 6.4  |
|      | A46 | 7.4  | 4.9   | 6.5  |
|      | A47 | 7.1  | 3.8   | 5.8  |
| 风向死角 | A48 | 7.5  | 5.2   | 6.6  |
|      | A49 | 7.9  | 4.3   | 6.7  |
|      | A50 | 7.8  | 5.4   | 7.0  |
|      | A51 | 7.1  | 4.1   | 6.2  |
| 环境外温 | A52 | 13.0 | -10.6 | -2.5 |
| 仓库外温 | A56 | 16.9 | 10.6  | 14.7 |

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2.1℃(A43)~7.9℃(A49)之间，未超出温控范围2.0℃~8.0℃。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 $\Delta t_d = t_d - t_o = -1.3^\circ\text{C}$ 、波动度 $\Delta t_f = \pm (t_{\text{max}} - t_{\text{min}}) / 2 = 1.5^\circ\text{C}$ 、均匀度 $\Delta t_u = \Sigma (t_{\text{imax}} - t_{\text{imin}}) / n = 1.5^\circ\text{C}$ ，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

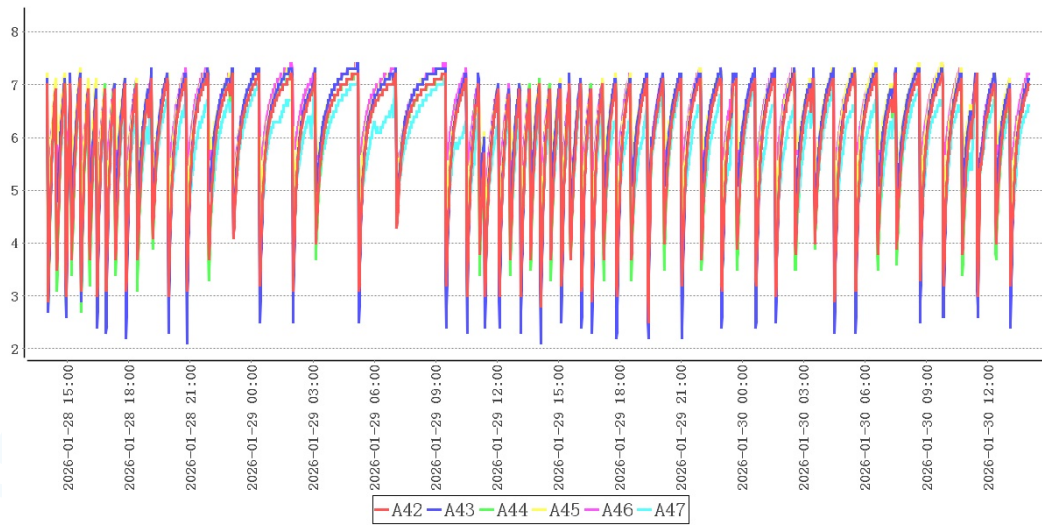
### 11.1.2.1 风机01



| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A36 | 7.6 | 3.7 | 6.6 |
| A37 | 7.1 | 3.1 | 6.0 |
| A38 | 7.4 | 4.8 | 6.5 |
| A39 | 7.6 | 3.9 | 6.6 |
| A40 | 7.4 | 4.9 | 6.5 |
| A41 | 7.3 | 3.4 | 6.1 |

| 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<br>(2.0~8.0)℃ | 3.1~7.6℃ | 合格 |

### 11.1.2.2 风机02

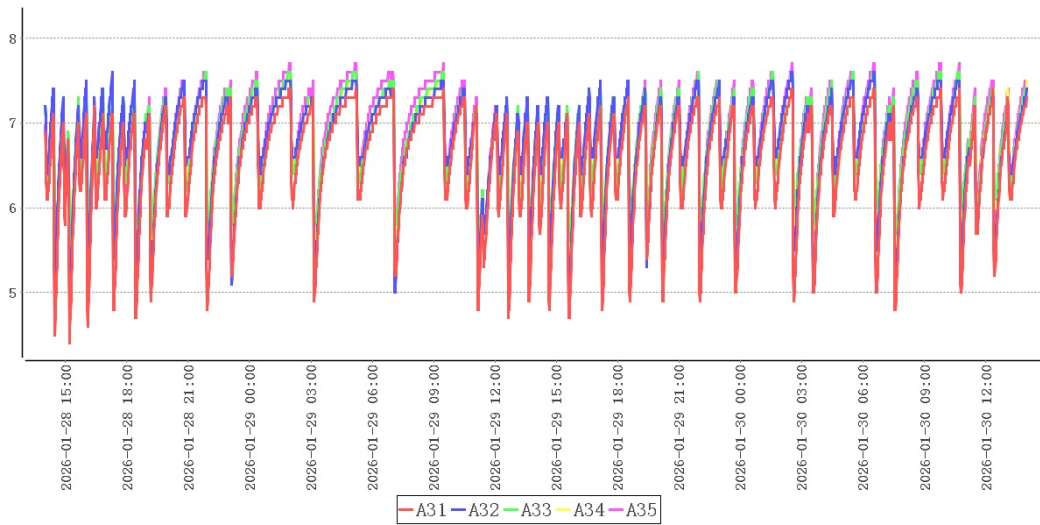


| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A42 | 7.2 | 2.5 | 6.0 |
| A43 | 7.4 | 2.1 | 6.1 |
| A44 | 7.2 | 2.6 | 6.0 |
| A45 | 7.4 | 4.0 | 6.4 |
| A46 | 7.4 | 4.9 | 6.5 |
| A47 | 7.1 | 3.8 | 5.8 |

| 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<br>(2.0~8.0)℃ | 2.1~7.4℃ | 合格 |

### 11.1.3 出入口

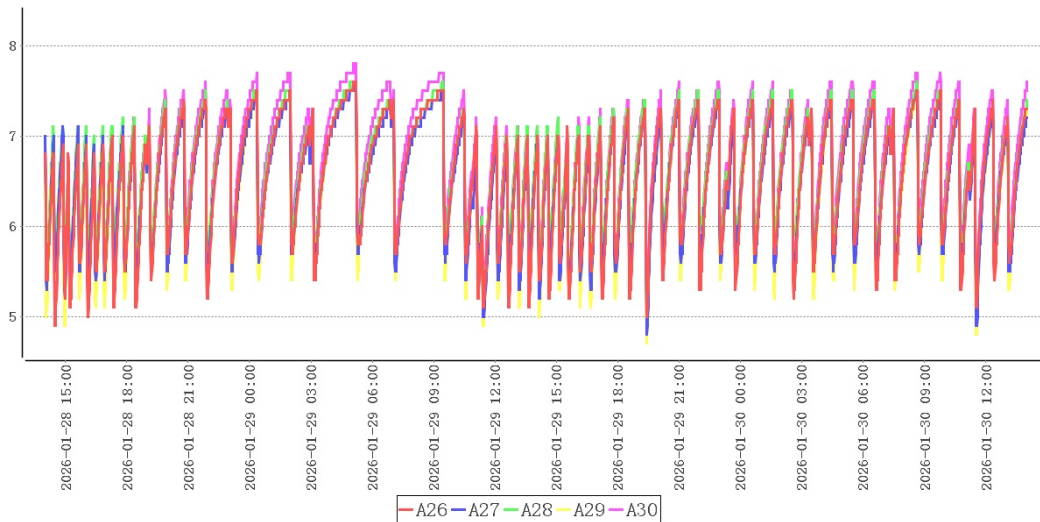
#### 11.1.3.1 门01



| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A31 | 7.4 | 4.4 | 6.6 |
| A32 | 7.6 | 5.0 | 6.8 |
| A33 | 7.6 | 5.6 | 6.8 |
| A34 | 7.6 | 5.2 | 6.8 |
| A35 | 7.7 | 5.2 | 6.8 |

| 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<br>(2.0~8.0)℃ | 4.4~7.7℃ | 合格 |

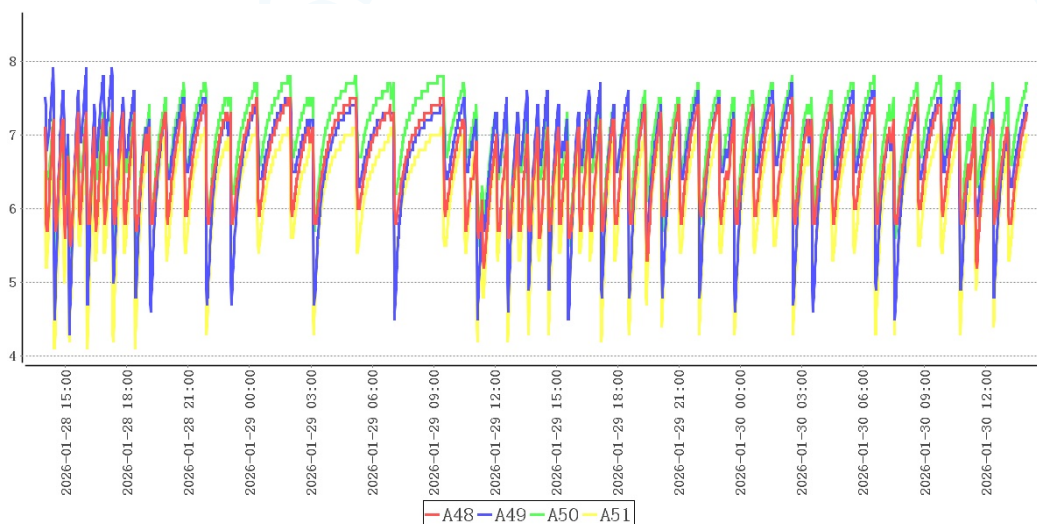
### 11.1.3.2 门02



| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A26 | 7.6 | 4.9 | 6.5 |
| A27 | 7.6 | 4.8 | 6.5 |
| A28 | 7.6 | 5.0 | 6.6 |
| A29 | 7.6 | 4.7 | 6.5 |
| A30 | 7.8 | 4.9 | 6.7 |

| 检测项目       | 规范要求                   | 检测结果     | 结论 |
|------------|------------------------|----------|----|
| 门02附近温度均匀性 | 全部测点温度范围<br>(2.0~8.0)℃ | 4.7~7.8℃ | 合格 |

#### 11.1.4 风向死角



| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A48 | 7.5 | 5.2 | 6.6 |
| A49 | 7.9 | 4.3 | 6.7 |
| A50 | 7.8 | 5.4 | 7.0 |
| A51 | 7.1 | 4.1 | 6.2 |

| 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<br>(2.0~8.0)℃ | 4.1~7.9℃ | 合格 |

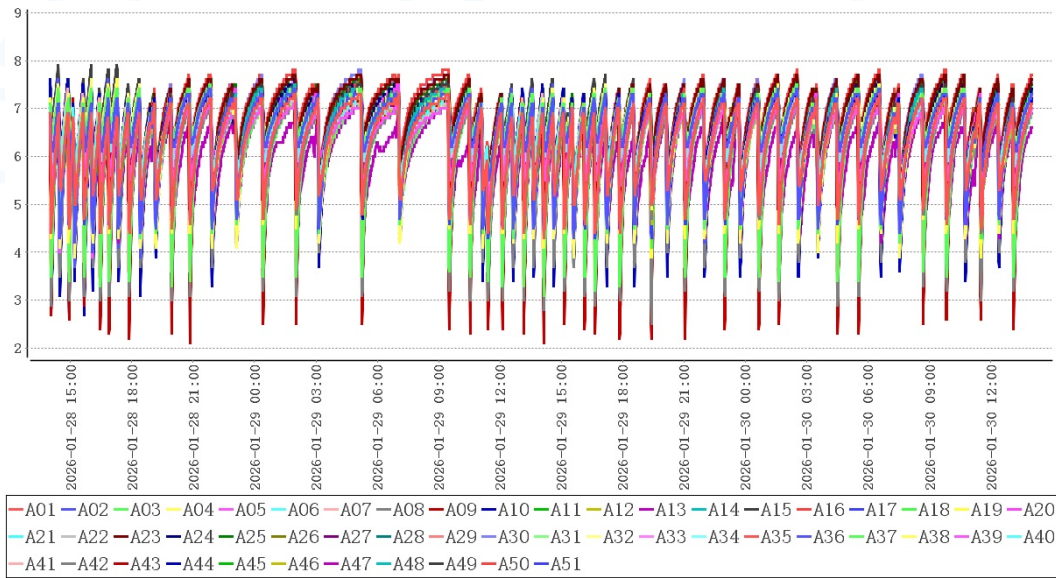
#### 11.1.5 适宜存放的安全位置及区域

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 | 7.3℃ | 4.0℃ | 7.3℃ | 4.0℃ | 合格 |
| 风机02 | 7.3℃ | 4.0℃ | 7.3℃ | 4.0℃ | 合格 |



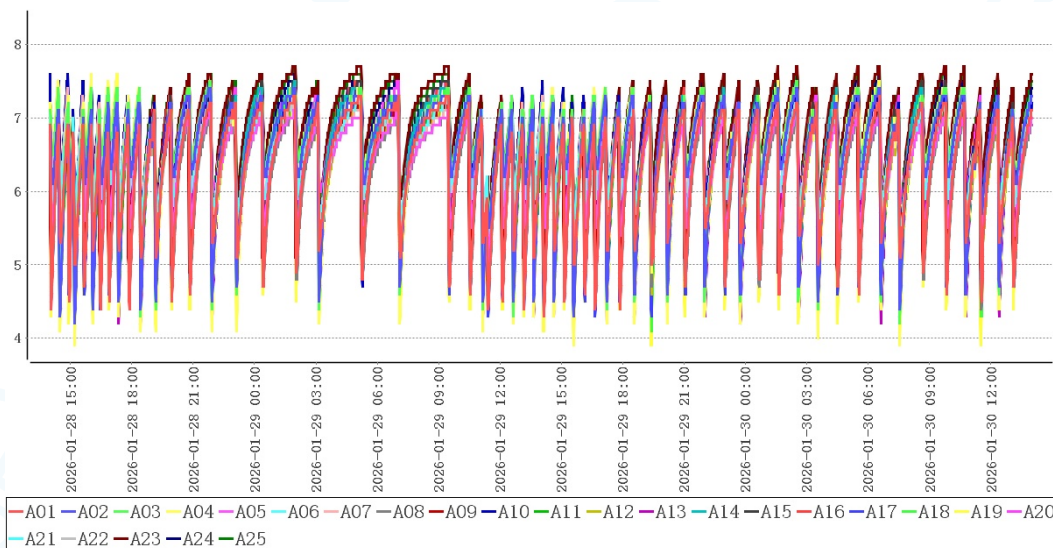
| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A01 | 7.3 | 4.3 | 6.3 |
| A02 | 7.4 | 4.2 | 6.5 |
| A03 | 7.5 | 4.2 | 6.6 |
| A04 | 7.6 | 3.9 | 6.6 |
| A05 | 7.2 | 5.0 | 6.3 |
| A06 | 7.3 | 5.4 | 6.6 |
| A07 | 7.4 | 5.3 | 6.5 |
| A08 | 7.1 | 4.4 | 6.2 |
| A09 | 7.3 | 4.7 | 6.4 |
| A10 | 7.6 | 4.5 | 6.5 |
| A11 | 7.3 | 4.5 | 6.3 |
| A12 | 7.2 | 4.6 | 6.2 |
| A13 | 7.4 | 4.2 | 6.4 |

| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A14 | 7.5 | 4.8 | 6.5 |
| A15 | 7.5 | 4.9 | 6.5 |
| A16 | 7.5 | 4.9 | 6.6 |
| A17 | 7.4 | 4.3 | 6.3 |
| A18 | 7.4 | 4.1 | 6.4 |
| A19 | 7.4 | 3.9 | 6.4 |
| A20 | 7.5 | 4.9 | 6.6 |
| A21 | 7.4 | 5.0 | 6.5 |
| A22 | 7.4 | 5.0 | 6.6 |
| A23 | 7.7 | 5.1 | 6.9 |
| A24 | 7.6 | 5.2 | 6.7 |
| A25 | 7.7 | 5.6 | 6.9 |
| A26 | 7.6 | 4.9 | 6.5 |
| A27 | 7.6 | 4.8 | 6.5 |
| A28 | 7.6 | 5.0 | 6.6 |
| A29 | 7.6 | 4.7 | 6.5 |
| A30 | 7.8 | 4.9 | 6.7 |
| A31 | 7.4 | 4.4 | 6.6 |
| A32 | 7.6 | 5.0 | 6.8 |
| A33 | 7.6 | 5.6 | 6.8 |
| A34 | 7.6 | 5.2 | 6.8 |
| A35 | 7.7 | 5.2 | 6.8 |
| A36 | 7.6 | 3.7 | 6.6 |
| A37 | 7.1 | 3.1 | 6.0 |
| A38 | 7.4 | 4.8 | 6.5 |
| A39 | 7.6 | 3.9 | 6.6 |
| A40 | 7.4 | 4.9 | 6.5 |
| A41 | 7.3 | 3.4 | 6.1 |
| A42 | 7.2 | 2.5 | 6.0 |
| A43 | 7.4 | 2.1 | 6.1 |
| A44 | 7.2 | 2.6 | 6.0 |

| 测点  | 最大值 | 最小值 | 平均值 |
|-----|-----|-----|-----|
| A45 | 7.4 | 4.0 | 6.4 |
| A46 | 7.4 | 4.9 | 6.5 |
| A47 | 7.1 | 3.8 | 5.8 |
| A48 | 7.5 | 5.2 | 6.6 |
| A49 | 7.9 | 4.3 | 6.7 |
| A50 | 7.8 | 5.4 | 7.0 |
| A51 | 7.1 | 4.1 | 6.2 |

在当前设置的工作条件下，库内温度在2.1℃~7.9℃之间，符合2.0℃~8.0℃验证标准。

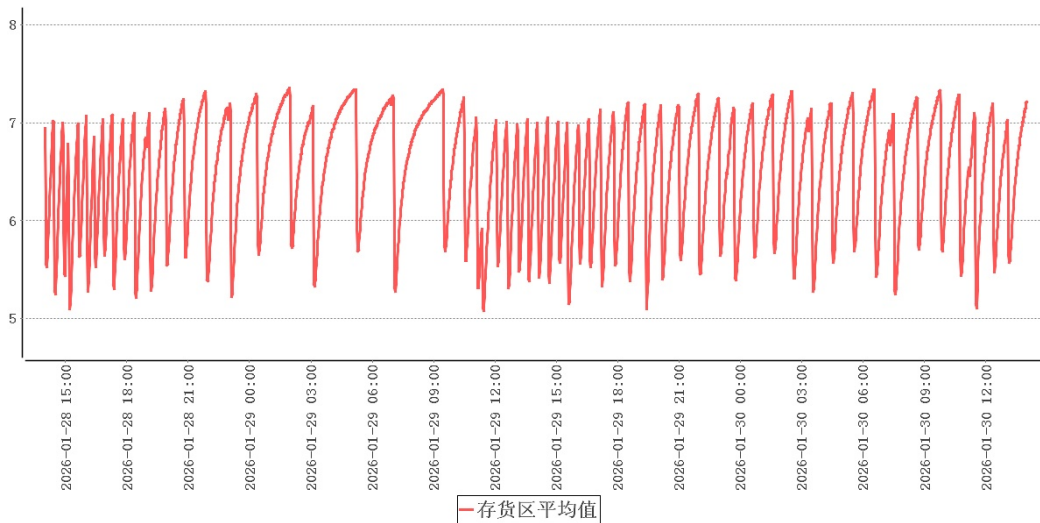
### 11.3 温度自动监测设备安装位置确认



结合温度分布特性可得出以下表格：

冷点热点表

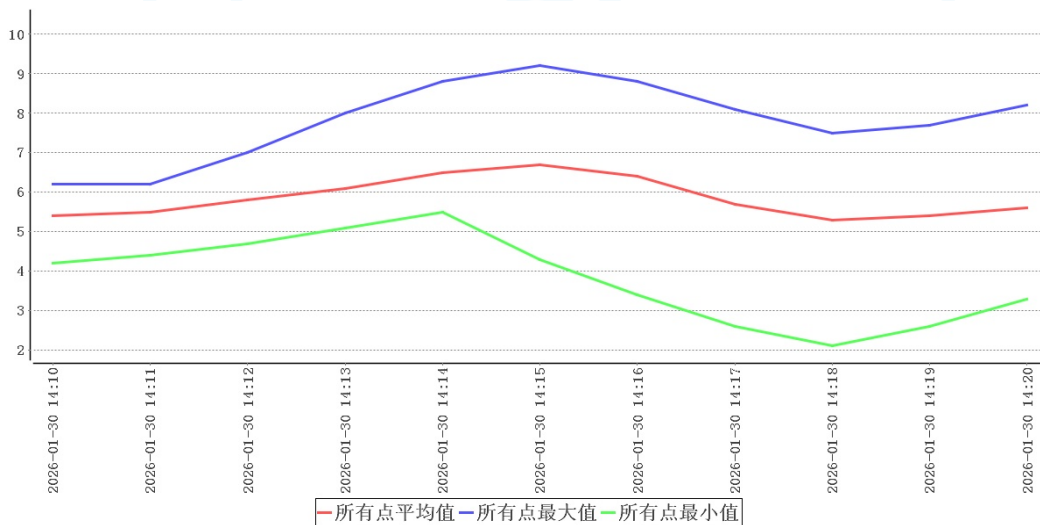
| 测点      | 最大值 | 最小值 | 平均值 |
|---------|-----|-----|-----|
| A23(热点) | 7.7 | 5.1 | 6.9 |
| A25(热点) | 7.7 | 5.6 | 6.9 |
| A08(冷点) | 7.1 | 4.4 | 6.2 |
| 货区点位    | 7.7 | 3.9 | 6.5 |



结合库内高温敏感区、低温敏感区分析，库内热点为A23、A25，库内冷点为A08。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<br>值 | 所有点最<br>小值 | 所有点平<br>均值 | 冷库外温 | 环境外温 | 备注 |
|------------------------|------------|------------|------------|------|------|----|
| 2026-01-30<br>14:10:00 | 6.2        | 4.2        | 5.4        | 16.1 | 2.9  | 开门 |
| 2026-01-30<br>14:11:00 | 6.2        | 4.4        | 5.5        | 15.9 | 2.8  |    |
| 2026-01-30<br>14:12:00 | 7.0        | 4.7        | 5.8        | 15.6 | 2.8  |    |
| 2026-01-30<br>14:13:00 | 8.0        | 5.1        | 6.1        | 15.3 | 2.8  | 关门 |

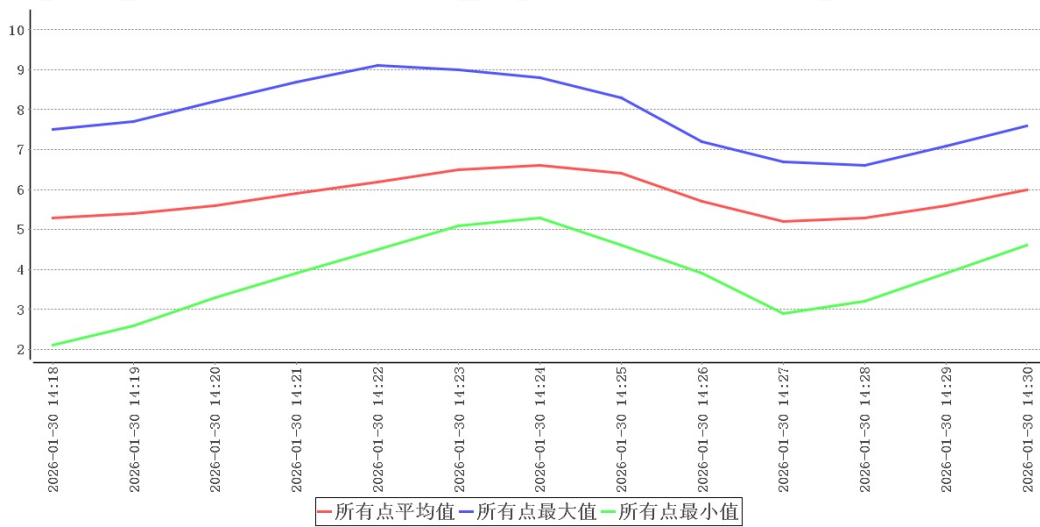
| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>长(分钟) |
|------|----------------------|-----------------|---------------------|
| A01  | N/A                  | N/A             | N/A                 |
| A02  | N/A                  | N/A             | N/A                 |
| A03  | N/A                  | 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                 |

| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>长(分钟) |
|------|----------------------|-----------------|---------------------|
| 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                 |
| A41  | N/A                  | N/A             | N/A                 |
| A42  | N/A                  | N/A             | N/A                 |
| A43  | N/A                  | N/A             | N/A                 |
| A44  | N/A                  | N/A             | N/A                 |
| A45  | N/A                  | N/A             | N/A                 |
| A46  | N/A                  | N/A             | N/A                 |
| A47  | N/A                  | N/A             | N/A                 |
| A48  | N/A                  | N/A             | N/A                 |
| A49  | N/A                  | N/A             | N/A                 |
| A50  | N/A                  | N/A             | N/A                 |

| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>长(分钟) |
|------|----------------------|-----------------|---------------------|
| A51  | N/A                  | N/A             | N/A                 |

门01在环境温度处于2.8°C~2.9°C情况下，点位A31于2026-01-30 14:13:00最先达到8.0°C，测试结束，满足不超出温控范围2.0°C~8.0°C的开门时长为3分钟。

## 2、第2次开门测试



| 时间                     | 所有点最<br>大值 | 所有点最<br>小值 | 所有点平<br>均值 | 冷库外温 | 环境外温 | 备注 |
|------------------------|------------|------------|------------|------|------|----|
| 2026-01-30<br>14:18:00 | 7.5        | 2.1        | 5.3        | 15.5 | 3.4  | 开门 |
| 2026-01-30<br>14:19:00 | 7.7        | 2.6        | 5.4        | 15.1 | 3.1  |    |
| 2026-01-30<br>14:20:00 | 8.2        | 3.3        | 5.6        | 15.0 | 2.5  | 关门 |

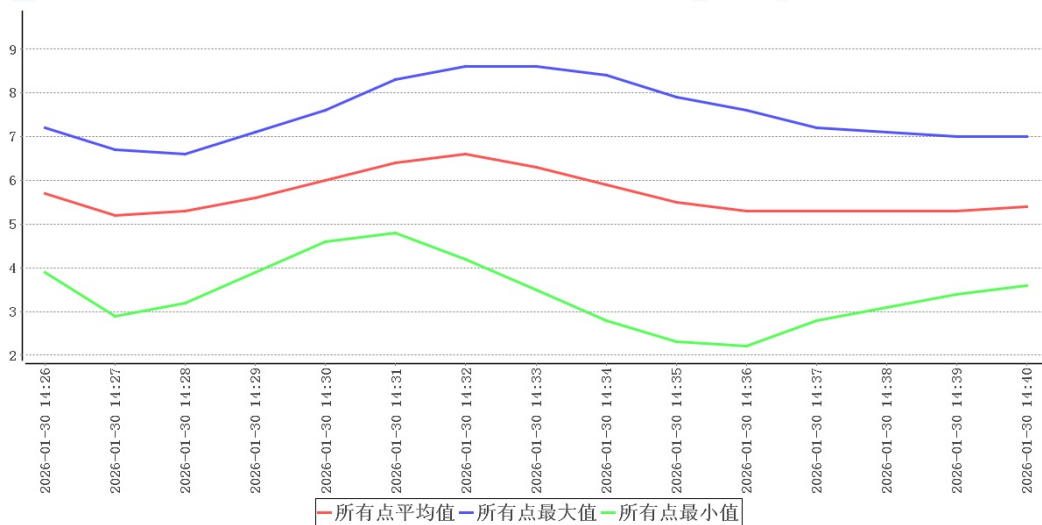
| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>长(分钟) |
|------|----------------------|-----------------|---------------------|
| A01  | N/A                  | N/A             | N/A                 |
| A02  | N/A                  | N/A             | N/A                 |
| A03  | N/A                  | 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<br>温度(°C) | 最早恢复至接受标准时<br>刻  | 恢复至接受标准最小时<br>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  | 6.8                  | 2026-01-30 14:26 | 6                   |
| 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<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>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                 |
| A41  | N/A                  | N/A             | N/A                 |
| A42  | N/A                  | N/A             | N/A                 |
| A43  | N/A                  | N/A             | N/A                 |
| A44  | N/A                  | N/A             | N/A                 |
| A45  | N/A                  | N/A             | N/A                 |
| A46  | N/A                  | N/A             | N/A                 |
| A47  | N/A                  | N/A             | N/A                 |
| A48  | N/A                  | N/A             | N/A                 |
| A49  | N/A                  | N/A             | N/A                 |
| A50  | N/A                  | N/A             | N/A                 |
| A51  | N/A                  | N/A             | N/A                 |

门01在环境温度处于2.5°C~3.4°C情况下，点位A31于2026-01-30 14:20:00最先达到8.2°C，测试结束，满足不超出温控范围2.0°C~8.0°C的开门时长为2分钟。

### 3、第3次开门测试



| 时间                     | 所有点最大<br>值 | 所有点最<br>小值 | 所有点平<br>均值 | 冷库外温 | 环境外温 | 备注 |
|------------------------|------------|------------|------------|------|------|----|
| 2026-01-30<br>14:26:00 | 7.2        | 3.9        | 5.7        | 15.6 | 1.9  | 开门 |
| 2026-01-30<br>14:27:00 | 6.7        | 2.9        | 5.2        | 15.3 | 2.0  |    |
| 2026-01-30<br>14:28:00 | 6.6        | 3.2        | 5.3        | 14.9 | 2.1  |    |
| 2026-01-30<br>14:29:00 | 7.1        | 3.9        | 5.6        | 14.0 | 2.2  |    |
| 2026-01-30<br>14:30:00 | 7.6        | 4.6        | 6.0        | 13.9 | 2.3  |    |
| 2026-01-30<br>14:31:00 | 8.3        | 4.8        | 6.4        | 14.0 | 2.2  | 关门 |

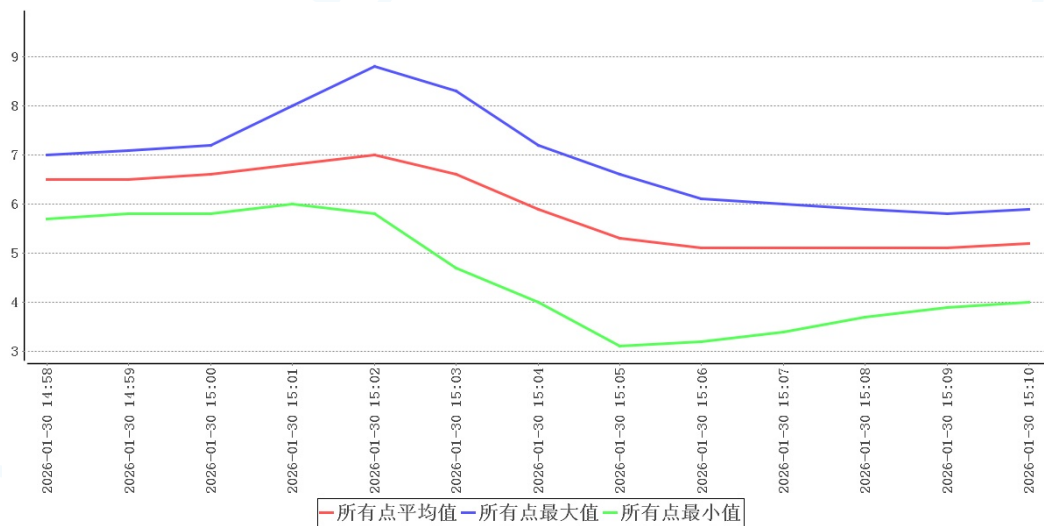
| 探头编号 | 最早恢复至接受标准时<br>温度(℃) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>长(分钟) |
|------|---------------------|-----------------|---------------------|
| A01  | N/A                 | N/A             | N/A                 |
| A02  | N/A                 | N/A             | N/A                 |
| A03  | N/A                 | 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                 |

| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>长(分钟) |
|------|----------------------|-----------------|---------------------|
| 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                 |
| A41  | N/A                  | N/A             | N/A                 |
| A42  | N/A                  | N/A             | N/A                 |
| A43  | N/A                  | N/A             | N/A                 |
| A44  | N/A                  | N/A             | N/A                 |
| A45  | N/A                  | N/A             | N/A                 |
| A46  | N/A                  | N/A             | N/A                 |

| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻  | 恢复至接受标准最小时<br>长(分钟) |
|------|----------------------|------------------|---------------------|
| A47  | N/A                  | N/A              | N/A                 |
| A48  | N/A                  | N/A              | N/A                 |
| A49  | 7.8                  | 2026-01-30 14:35 | 4                   |
| A50  | N/A                  | N/A              | N/A                 |
| A51  | N/A                  | N/A              | N/A                 |

门01在环境温度处于1.9°C~2.3°C情况下，点位A49于2026-01-30 14:31:00最先达到8.3°C，测试结束，满足不超出温控范围2.0°C~8.0°C的开门时长为5分钟。

#### 4、第4次开门测试



| 时间                     | 所有点最<br>大值 | 所有点最<br>小值 | 所有点平<br>均值 | 冷库外温 | 环境外温 | 备注 |
|------------------------|------------|------------|------------|------|------|----|
| 2026-01-30<br>14:58:00 | 7.0        | 5.7        | 6.5        | 16.4 | 3.0  | 开门 |
| 2026-01-30<br>14:59:00 | 7.1        | 5.8        | 6.5        | 16.5 | 3.1  |    |
| 2026-01-30<br>15:00:00 | 7.2        | 5.8        | 6.6        | 16.3 | 3.1  |    |
| 2026-01-30<br>15:01:00 | 8.0        | 6.0        | 6.8        | 15.9 | 3.1  | 关门 |

| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>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                 |

| 探头编号 | 最早恢复至接受标准时<br>温度(°C) | 最早恢复至接受标准时<br>刻 | 恢复至接受标准最小时<br>长(分钟) |
|------|----------------------|-----------------|---------------------|
| 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                 |
| A41  | N/A                  | N/A             | N/A                 |
| A42  | N/A                  | N/A             | N/A                 |
| A43  | N/A                  | N/A             | N/A                 |
| A44  | N/A                  | N/A             | N/A                 |
| A45  | N/A                  | N/A             | N/A                 |
| A46  | N/A                  | N/A             | N/A                 |
| A47  | N/A                  | N/A             | N/A                 |
| A48  | N/A                  | N/A             | N/A                 |
| A49  | N/A                  | N/A             | N/A                 |
| A50  | N/A                  | N/A             | N/A                 |
| A51  | N/A                  | N/A             | N/A                 |

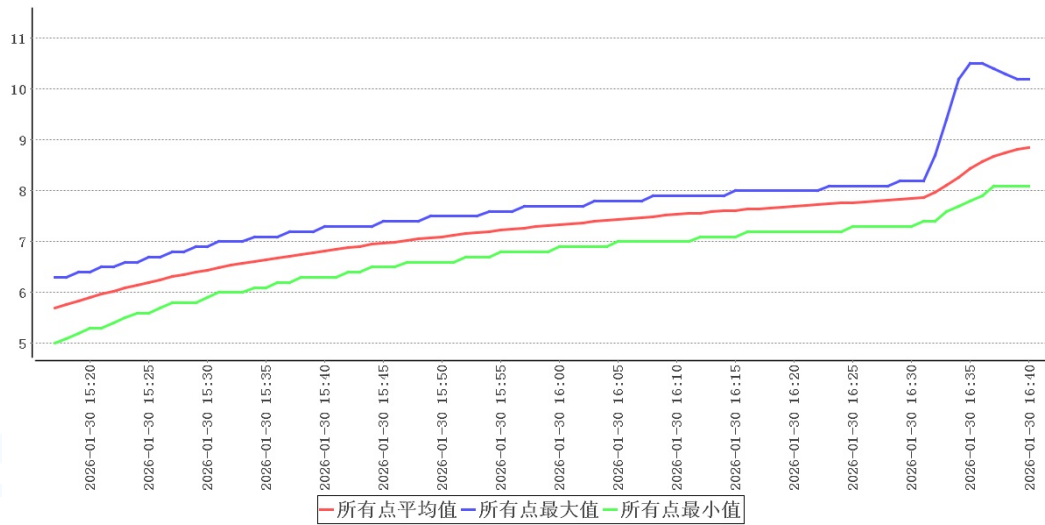
门01在环境温度处于3.0°C~3.1°C情况下，点位A31于2026-01-30 15:01:00最先达到8.0°C，测试结束，满足不超出温控范围2.0°C~8.0°C的开门时长为3分钟。

#### 5、 门01开门测试总结

门01在环境温度1.9°C~3.4°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2.0°C~8.0°C的开门时长分别为3/2/5/3分钟，综合考虑，实际操作规程建议开门时间不应超过3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<br>15:17:00 | 断电结束时间     | 2026-01-30<br>16:24:00 |
| 断电测试期间最高温度      | 8.1°C                  | 断电测试期间最低温度 | 5.0°C                  |
| 升温最快的测点         | A44                    | 升温速率       | 0.039°C/分              |
| 平均外温            | 2.6°C                  | 推断超温时限     | 74分钟                   |
| 最先超温 (8.0°C) 测点 | A50                    | 超温时间点      | 2026-01-30<br>16:15:00 |

断电恢复

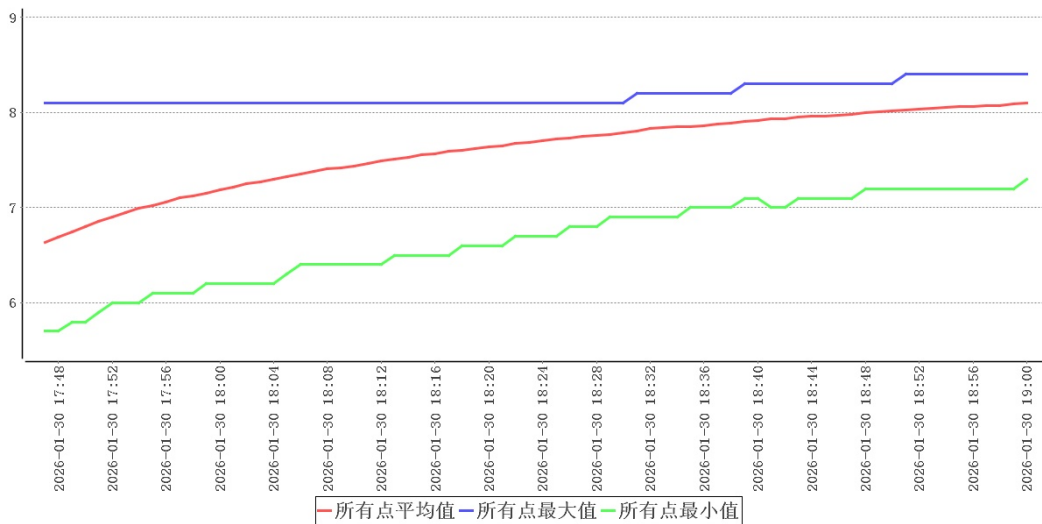
| 探头编号 | 最晚维持在接受标准时温度(°C) | 最早恢复至接受标准时刻 | 恢复至接受标准最小时长(分钟) |
|------|------------------|-------------|-----------------|
| A01  | N/A              | N/A         | N/A             |
| A02  | N/A              | N/A         | N/A             |
| A03  | N/A              | N/A         | N/A             |
| 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             |

|     |     |     |     |
|-----|-----|-----|-----|
| 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 |
| A41 | N/A | N/A | N/A |
| A42 | N/A | N/A | N/A |
| A43 | N/A | N/A | N/A |
| A44 | N/A | N/A | N/A |

|     |     |     |     |
|-----|-----|-----|-----|
| A45 | N/A | N/A | N/A |
| A46 | N/A | N/A | N/A |
| A47 | N/A | N/A | N/A |
| A48 | N/A | N/A | N/A |
| A49 | N/A | N/A | N/A |
| A50 | N/A | N/A | N/A |
| A51 | N/A | N/A | N/A |

在环境温度处于1.8℃~3.1℃情况下,从2026-01-30 15:17:00断电开始变化最快的点为A44,升温速率为0.039℃/分,据此计算该点到达超温(8.0℃)时长为74分钟;同时点位A50于2026-01-30 16:15:00最先达到8.0℃,综合考虑满足不超出温控范围2.0℃~8.0℃的断电保温时长58分钟。

## 2、第2次断电测试



|              |                        |            |                        |
|--------------|------------------------|------------|------------------------|
| 断电开始时间       | 2026-01-30<br>17:47:00 | 断电结束时间     | 2026-01-30<br>18:27:00 |
| 断电测试期间最高温度   | 8.1℃                   | 断电测试期间最低温度 | 5.7℃                   |
| 升温最快的测点      | A44                    | 升温速率       | 0.038℃/分               |
| 平均外温         | -0.6℃                  | 推断超温时限     | 50分钟                   |
| 最先超温(8.0℃)测点 | A22                    | 超温时间点      | 2026-01-30<br>17:47:00 |

断电恢复

| 探头编号 | 最晚维持在接受标准时温度(°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             |
| 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 |
| A41 | N/A | N/A | N/A |
| A42 | N/A | N/A | N/A |
| A43 | N/A | N/A | N/A |
| A44 | N/A | N/A | N/A |
| A45 | N/A | N/A | N/A |
| A46 | N/A | N/A | N/A |
| A47 | N/A | N/A | N/A |
| A48 | N/A | N/A | N/A |
| A49 | N/A | N/A | N/A |
| A50 | N/A | N/A | N/A |
| A51 | N/A | N/A | N/A |

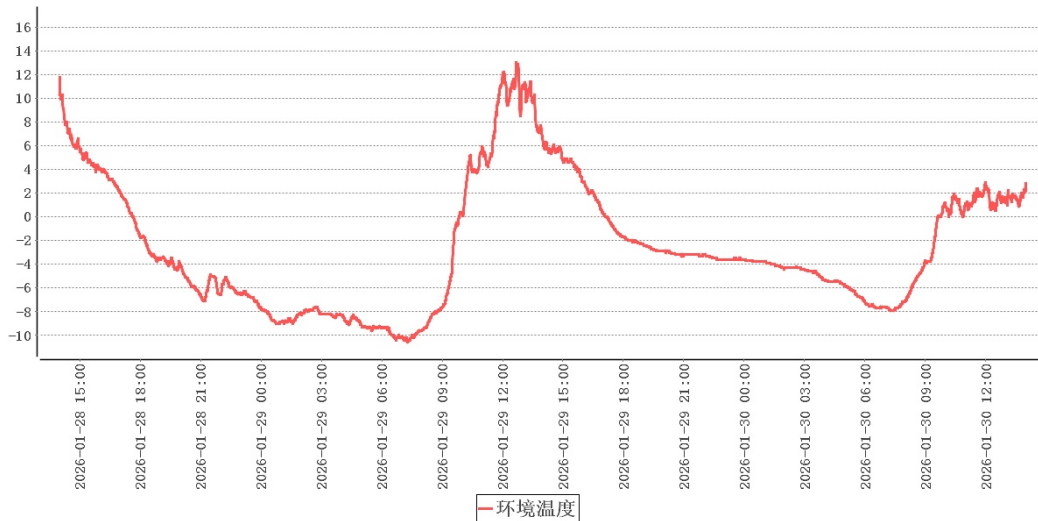
在环境温度处于 $-0.9^{\circ}\text{C}\sim-0.1^{\circ}\text{C}$ 情况下,从2026-01-30 17:47:00断电开始变化最快的点为A44,升温速率为 $0.038^{\circ}\text{C}/\text{分}$ ,据此计算该点到达超温( $8.0^{\circ}\text{C}$ )时长为50分钟;同时点位A22于2026-01-30 17:47:00最先达到 $8.1^{\circ}\text{C}$ ,综合考虑满足不超出温控范围 $2.0^{\circ}\text{C}\sim 8.0^{\circ}\text{C}$ 的断电保温时长0分钟。

### 3、断电测试总结

在环境温度 $-0.9^{\circ}\text{C}\sim 2.6^{\circ}\text{C}$ 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58/0分钟,综合考虑,实际操作规程建议断电时间不应超过29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 | -2.5 |
| 库外室内温度 | 16.9 | 10.6  | 2880次 | 14.7 |

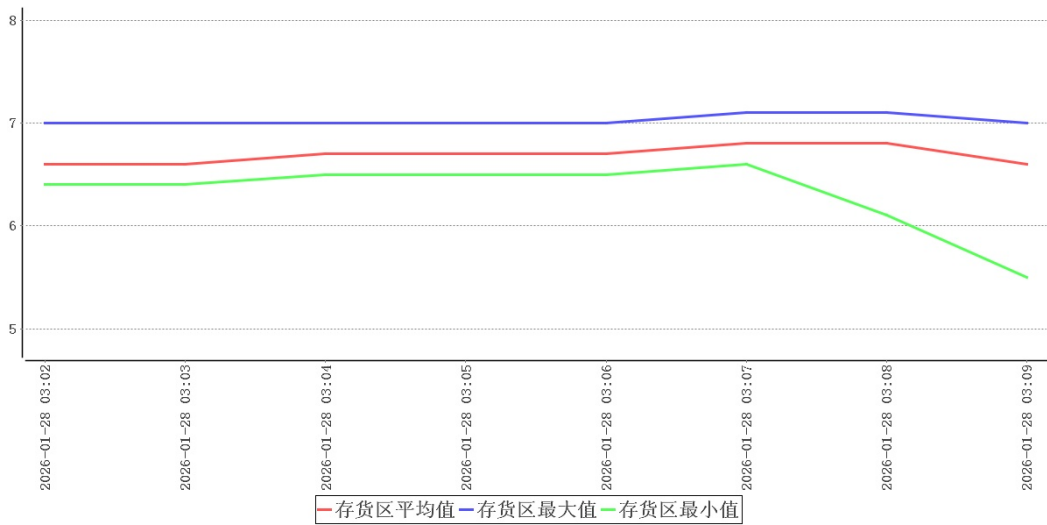


本次验证实施期间库外温度-10.6℃~13.0℃，各项验证结论可视为极寒验证，建议在本地区的高温环境下再次实施极热验证。

## 11.7 风机除霜

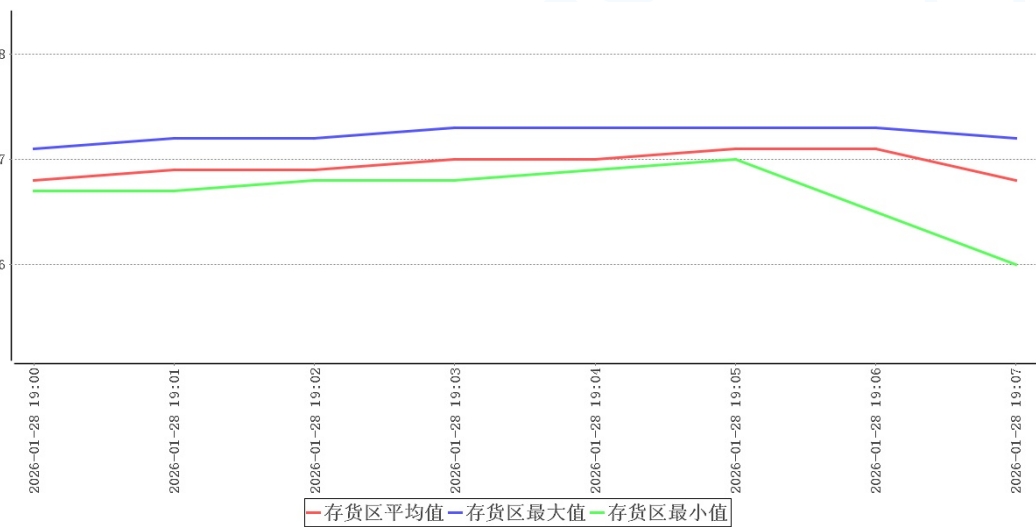
| 风机名称 | 风机编号 | 化霜间隔参数 (Hrs) | 化霜时间参数 (mins) | 滴水时间参数 (mins) | 化霜停止温度 (°C) |
|------|------|--------------|---------------|---------------|-------------|
| 风机01 | F01  | 4小时          | 5分钟           | 2分钟           | 7.5℃        |
| 风机02 | F02  | 4小时          | 5分钟           | 2分钟           | 7.5℃        |

### 11.7.1 风机02



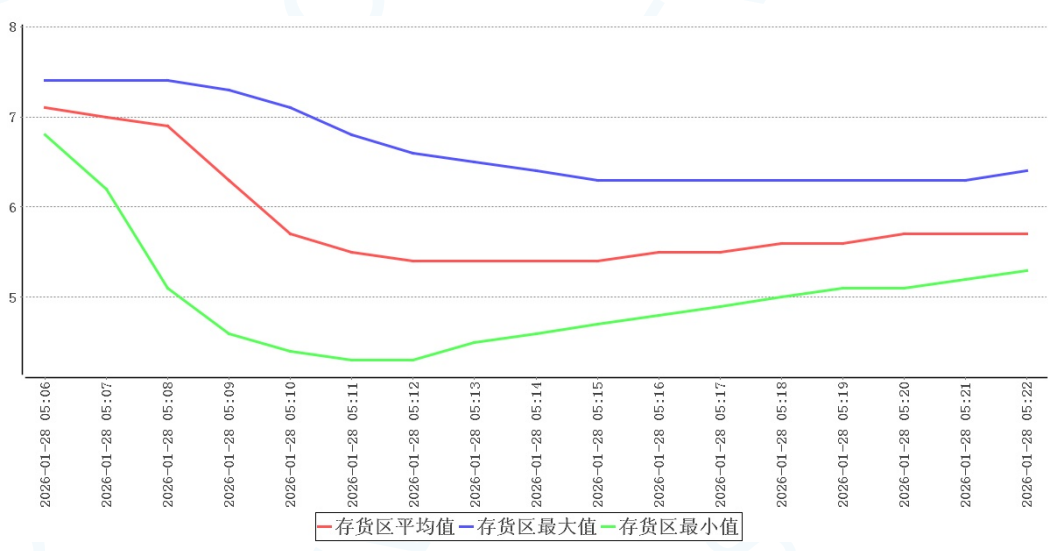
本次验证共持续0小时7分钟，在环境温度处于-11.3℃~-11.2℃情况下，各测点温度在5.2℃~7.2℃之间，未超出温控范围2.0℃~8.0℃。

#### 11.7.2 风机01

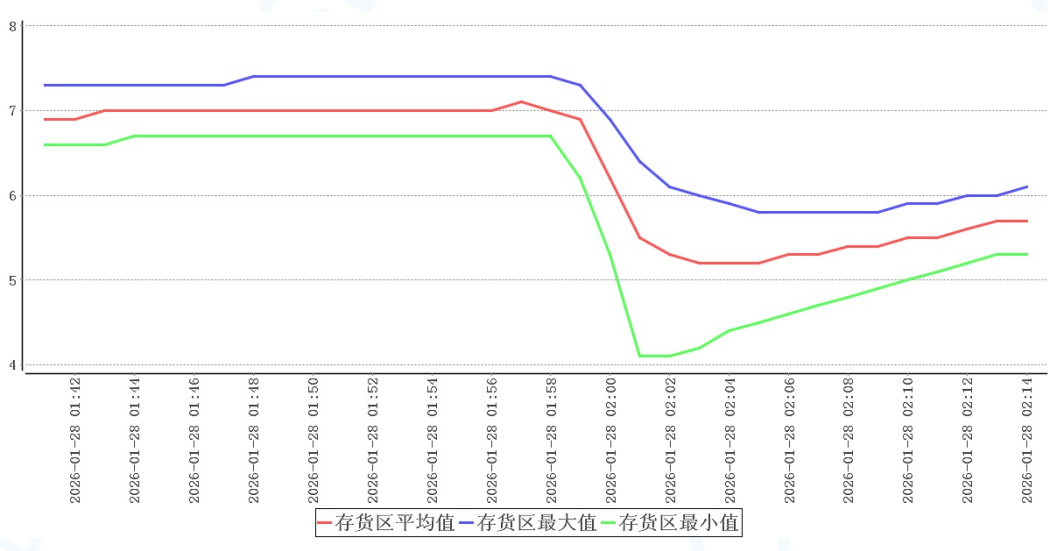


本次验证共持续0小时7分钟，在环境温度处于-3.6℃~-3.5℃情况下，各测点温度在5.4℃~7.4℃之间，未超出温控范围2.0℃~8.0℃。

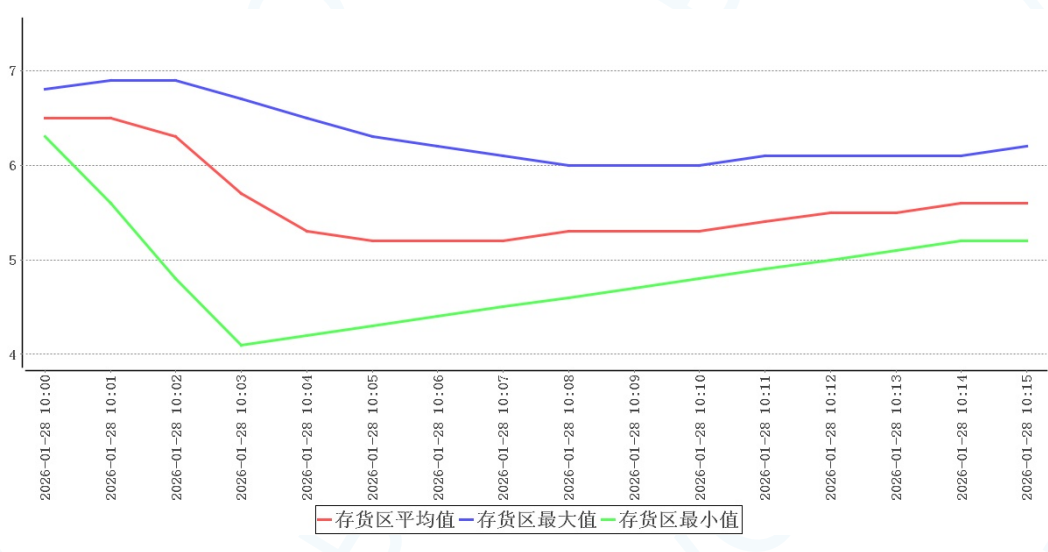
#### 11.8 温控设施设备运行参数及使用状况测试—多组风机轮换



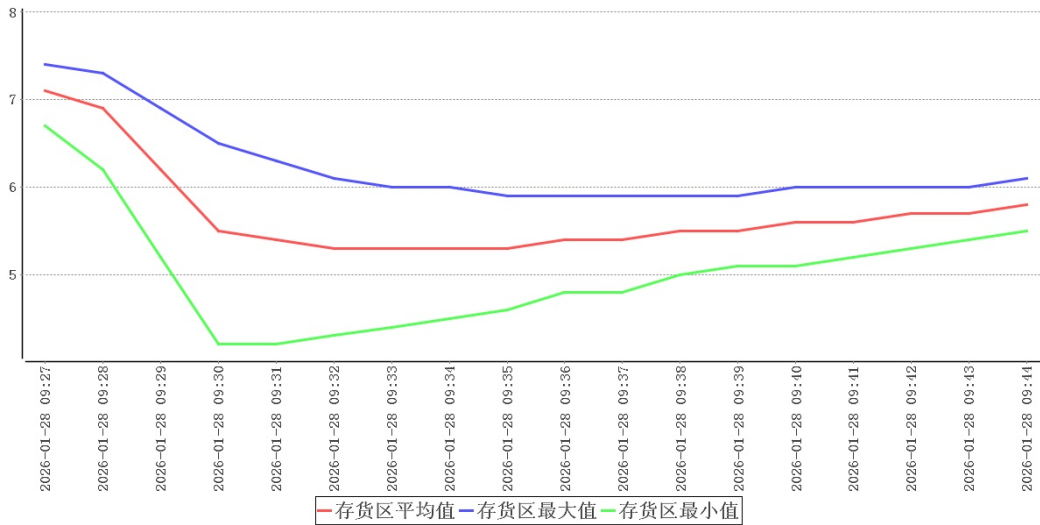
风机01启动时温度分布曲线



风机02启动时温度分布曲线



风机01启动时温度分布曲线



风机02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01启动 | 2026-01-28<br>05:06:00~2026-01-28<br>05:22:00 | 全部测点温度范围<br>(2.0~8.0) °C | 4.3°C~7.4°C | 合格 |
| 风机02启动 | 2026-01-28<br>01:41:00~2026-01-28<br>02:14:00 | 全部测点温度范围<br>(2.0~8.0) °C | 4.1°C~7.4°C | 合格 |
| 风机01启动 | 2026-01-28<br>10:00:00~2026-01-28<br>10:15:00 | 全部测点温度范围<br>(2.0~8.0) °C | 4.1°C~6.9°C | 合格 |
| 风机02启动 | 2026-01-28<br>09:27:00~2026-01-28<br>09:44:00 | 全部测点温度范围<br>(2.0~8.0) °C | 4.2°C~7.4°C | 合格 |

从上表可以看出：当风机01开启时，库内温度最高点为7.4°C，库内温度最低点为4.3°C，符合2.0°C~8.0°C验证标准。当风机02开启时，库内温度最高点为7.4°C，库内温度最低点为4.1°C，符合2.0°C~8.0°C验证标准。当风机01开启时，库内温度最高点为6.9°C，库内温度最低点为4.1°C，符合2.0°C~8.0°C验证标准。当风机02开启时，库内温度最高点为7.4°C，库内温度最低点为4.2°C，符合2.0°C~8.0°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℃，各项验证结论可视作极寒验证，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A23、A25，库内冷点为A08。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2.1℃~7.9℃之间，符合2.0℃~8.0℃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2.1℃(A43)~7.9℃(A49)之间，未超出温控范围2.0℃~8.0℃。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 $\Delta t_d = t_d - t_o = -1.3^\circ\text{C}$ 、波动度 $\Delta t_f = \pm (t_{\text{max}} - t_{\text{min}}) / 2 = 1.5^\circ\text{C}$ 、均匀度 $\Delta t_u = \sum (t_{\text{imax}} - t_{\text{imin}}) / n = 1.5^\circ\text{C}$ ，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01开启时，库内温度最高点为7.4℃，库内温度最低点为4.3℃，符合2.0℃~8.0℃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02开启时，库内温度最高点为7.4℃，库内温度最低点为4.1℃，符合2.0℃~8.0℃验证标准。  |
| 7  | 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6.9℃，库内温度最低点为4.1℃，符合2.0℃~8.0℃验证标准。  |
| 8  | 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7.4℃，库内温度最低点为4.2℃，符合2.0℃~8.0℃验证标准。  |

| 序号 | 项目名称                           | 结论  |
|----|--------------------------------|---|
| 9  | 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1.9℃~3.4℃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2.0℃~8.0℃的开门时长分别为3/2/5/3分钟，综合考虑，实际操作规程建议开门时间不应超过3分钟。                |
| 10 | 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-0.9℃~2.6℃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58/0分钟，综合考虑，实际操作规程建议断电时间不应超过29分钟，如果不能及时恢复供电，需要对库内药品做转移处理。 |
| 11 | 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7分钟，在环境温度处于-11.3℃~-11.2℃情况下，各测点温度在5.2℃~7.2℃之间，未超出温控范围2.0℃~8.0℃。                                       |
| 12 | 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7分钟，在环境温度处于-3.6℃~-3.5℃情况下，各测点温度在5.4℃~7.4℃之间，未超出温控范围2.0℃~8.0℃。   |

## 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（一）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（一）

**验证日期:** 2026年01月30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<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 14:00:00 | 7.6               | 5.3               | 2.3         |
| 2026-01-28 14:01:00 | 7.5               | 3.9               | 3.6         |
| 2026-01-28 14:02:00 | 7.4               | 3.6               | 3.8         |
| 2026-01-28 14:03:00 | 7.2               | 2.7               | 4.5         |
| 2026-01-28 14:04:00 | 7.0               | 2.7               | 4.3         |
| 2026-01-28 14:05:00 | 6.9               | 3.1               | 3.8         |
| 2026-01-28 14:06:00 | 6.8               | 3.5               | 3.3         |
| 2026-01-28 14:07:00 | 6.9               | 3.7               | 3.2         |
| 2026-01-28 14:08:00 | 6.9               | 4.1               | 2.8         |
| 2026-01-28 14:09:00 | 6.9               | 4.3               | 2.6         |
| 2026-01-28 14:10:00 | 7.0               | 4.6               | 2.4         |
| 2026-01-28 14:11:00 | 7.0               | 4.9               | 2.1         |
| 2026-01-28 14:12:00 | 7.1               | 5.1               | 2.0         |
| 2026-01-28 14:13:00 | 7.1               | 5.3               | 1.8         |
| 2026-01-28 14:14:00 | 7.2               | 5.5               | 1.7         |
| 2026-01-28 14:15:00 | 7.2               | 5.7               | 1.5         |
| 2026-01-28 14:16:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-28 14:17:00 | 7.4               | 5.9               | 1.5         |
| 2026-01-28 14:18:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-28 14:19:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-28 14:20:00 | 7.6               | 6.2               | 1.4         |
| 2026-01-28 14:21:00 | 7.7               | 6.3               | 1.4         |
| 2026-01-28 14:22:00 | 7.7               | 6.4               | 1.3         |
| 2026-01-28 14:23:00 | 7.8               | 6.5               | 1.3         |
| 2026-01-28 14:24:00 | 7.9               | 6.6               | 1.3         |
| 2026-01-28 14:25:00 | 7.6               | 5.8               | 1.8         |
| 2026-01-28 14:26:00 | 7.4               | 4.8               | 2.6         |
| 2026-01-28 14:27:00 | 7.0               | 4.1               | 2.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 14:28:00 | 6.7               | 3.4               | 3.3         |
| 2026-01-28 14:29:00 | 6.4               | 3.1               | 3.3         |
| 2026-01-28 14:30:00 | 6.2               | 3.4               | 2.8         |
| 2026-01-28 14:31:00 | 6.2               | 3.7               | 2.5         |
| 2026-01-28 14:32:00 | 6.2               | 4.0               | 2.2         |
| 2026-01-28 14:33:00 | 6.2               | 4.2               | 2.0         |
| 2026-01-28 14:34:00 | 6.3               | 4.5               | 1.8         |
| 2026-01-28 14:35:00 | 6.4               | 4.7               | 1.7         |
| 2026-01-28 14:36:00 | 6.4               | 4.9               | 1.5         |
| 2026-01-28 14:37:00 | 6.5               | 5.1               | 1.4         |
| 2026-01-28 14:38:00 | 6.6               | 5.3               | 1.3         |
| 2026-01-28 14:39:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-28 14:40:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-28 14:41:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-28 14:42:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-28 14:43:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-28 14:44:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-28 14:45:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-28 14:46:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-28 14:47:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-28 14:48:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 14:49:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-28 14:50:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-28 14:51:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-28 14:52:00 | 7.6               | 5.8               | 1.8         |
| 2026-01-28 14:53:00 | 7.6               | 4.2               | 3.4         |
| 2026-01-28 14:54:00 | 7.6               | 3.6               | 4.0         |
| 2026-01-28 14:55:00 | 7.4               | 3.2               | 4.2         |
| 2026-01-28 14:56:00 | 7.2               | 2.6               | 4.6         |
| 2026-01-28 14:57:00 | 6.6               | 3.1               | 3.5         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 14:58:00 | 6.4               | 3.6               | 2.8         |
| 2026-01-28 14:59:00 | 6.4               | 4.2               | 2.2         |
| 2026-01-28 15:00:00 | 6.4               | 4.7               | 1.7         |
| 2026-01-28 15:01:00 | 6.5               | 5.0               | 1.5         |
| 2026-01-28 15:02:00 | 6.6               | 5.3               | 1.3         |
| 2026-01-28 15:03:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-28 15:04:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-28 15:05:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-28 15:06:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-28 15:07:00 | 7.0               | 6.5               | 0.5         |
| 2026-01-28 15:08:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-28 15:09:00 | 6.9               | 5.0               | 1.9         |
| 2026-01-28 15:10:00 | 6.5               | 4.1               | 2.4         |
| 2026-01-28 15:11:00 | 6.2               | 3.7               | 2.5         |
| 2026-01-28 15:12:00 | 5.9               | 3.4               | 2.5         |
| 2026-01-28 15:13:00 | 5.8               | 3.7               | 2.1         |
| 2026-01-28 15:14:00 | 5.8               | 3.9               | 1.9         |
| 2026-01-28 15:15:00 | 5.8               | 4.1               | 1.7         |
| 2026-01-28 15:16:00 | 5.9               | 4.3               | 1.6         |
| 2026-01-28 15:17:00 | 5.9               | 4.6               | 1.3         |
| 2026-01-28 15:18:00 | 6.0               | 4.8               | 1.2         |
| 2026-01-28 15:19:00 | 6.1               | 4.9               | 1.2         |
| 2026-01-28 15:20:00 | 6.2               | 5.1               | 1.1         |
| 2026-01-28 15:21:00 | 6.2               | 5.3               | 0.9         |
| 2026-01-28 15:22:00 | 6.3               | 5.5               | 0.8         |
| 2026-01-28 15:23:00 | 6.4               | 5.6               | 0.8         |
| 2026-01-28 15:24:00 | 6.5               | 5.7               | 0.8         |
| 2026-01-28 15:25:00 | 6.6               | 5.8               | 0.8         |
| 2026-01-28 15:26:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-28 15:27:00 | 6.8               | 6.0               | 0.8         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 15:28:00 | 6.8               | 6.1               | 0.7         |
| 2026-01-28 15:29:00 | 6.9               | 6.2               | 0.7         |
| 2026-01-28 15:30:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-28 15:31:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-28 15:32:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 15:33:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 15:34:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 15:35:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 15:36:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-28 15:37:00 | 7.6               | 5.2               | 2.4         |
| 2026-01-28 15:38:00 | 7.6               | 4.0               | 3.6         |
| 2026-01-28 15:39:00 | 7.5               | 3.8               | 3.7         |
| 2026-01-28 15:40:00 | 7.2               | 2.7               | 4.5         |
| 2026-01-28 15:41:00 | 7.1               | 3.0               | 4.1         |
| 2026-01-28 15:42:00 | 6.9               | 3.3               | 3.6         |
| 2026-01-28 15:43:00 | 6.9               | 3.7               | 3.2         |
| 2026-01-28 15:44:00 | 6.9               | 4.0               | 2.9         |
| 2026-01-28 15:45:00 | 6.9               | 4.3               | 2.6         |
| 2026-01-28 15:46:00 | 7.0               | 4.5               | 2.5         |
| 2026-01-28 15:47:00 | 7.0               | 4.8               | 2.2         |
| 2026-01-28 15:48:00 | 7.1               | 5.0               | 2.1         |
| 2026-01-28 15:49:00 | 7.1               | 5.3               | 1.8         |
| 2026-01-28 15:50:00 | 7.2               | 5.4               | 1.8         |
| 2026-01-28 15:51:00 | 7.2               | 5.6               | 1.6         |
| 2026-01-28 15:52:00 | 7.3               | 5.7               | 1.6         |
| 2026-01-28 15:53:00 | 7.4               | 5.8               | 1.6         |
| 2026-01-28 15:54:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-28 15:55:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-28 15:56:00 | 7.6               | 6.2               | 1.4         |
| 2026-01-28 15:57:00 | 7.6               | 6.3               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 15:58:00 | 7.7               | 6.4               | 1.3         |
| 2026-01-28 15:59:00 | 7.8               | 6.4               | 1.4         |
| 2026-01-28 16:00:00 | 7.8               | 6.5               | 1.3         |
| 2026-01-28 16:01:00 | 7.9               | 6.2               | 1.7         |
| 2026-01-28 16:02:00 | 7.4               | 5.1               | 2.3         |
| 2026-01-28 16:03:00 | 7.2               | 4.3               | 2.9         |
| 2026-01-28 16:04:00 | 6.8               | 3.7               | 3.1         |
| 2026-01-28 16:05:00 | 6.4               | 3.2               | 3.2         |
| 2026-01-28 16:06:00 | 6.3               | 3.5               | 2.8         |
| 2026-01-28 16:07:00 | 6.2               | 3.7               | 2.5         |
| 2026-01-28 16:08:00 | 6.2               | 4.0               | 2.2         |
| 2026-01-28 16:09:00 | 6.2               | 4.2               | 2.0         |
| 2026-01-28 16:10:00 | 6.2               | 4.5               | 1.7         |
| 2026-01-28 16:11:00 | 6.3               | 4.7               | 1.6         |
| 2026-01-28 16:12:00 | 6.4               | 4.9               | 1.5         |
| 2026-01-28 16:13:00 | 6.4               | 5.1               | 1.3         |
| 2026-01-28 16:14:00 | 6.5               | 5.3               | 1.2         |
| 2026-01-28 16:15:00 | 6.6               | 5.4               | 1.2         |
| 2026-01-28 16:16:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-28 16:17:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-28 16:18:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-28 16:19:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-28 16:20:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-28 16:21:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-28 16:22:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-28 16:23:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-28 16:24:00 | 7.3               | 5.0               | 2.3         |
| 2026-01-28 16:25:00 | 7.4               | 3.5               | 3.9         |
| 2026-01-28 16:26:00 | 7.3               | 3.6               | 3.7         |
| 2026-01-28 16:27:00 | 7.1               | 2.4               | 4.7         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 16:28:00 | 6.9               | 2.7               | 4.2         |
| 2026-01-28 16:29:00 | 6.8               | 3.2               | 3.6         |
| 2026-01-28 16:30:00 | 6.7               | 3.6               | 3.1         |
| 2026-01-28 16:31:00 | 6.7               | 3.9               | 2.8         |
| 2026-01-28 16:32:00 | 6.8               | 4.2               | 2.6         |
| 2026-01-28 16:33:00 | 6.8               | 4.5               | 2.3         |
| 2026-01-28 16:34:00 | 6.8               | 4.7               | 2.1         |
| 2026-01-28 16:35:00 | 6.9               | 4.9               | 2.0         |
| 2026-01-28 16:36:00 | 7.0               | 5.2               | 1.8         |
| 2026-01-28 16:37:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-28 16:38:00 | 7.1               | 5.5               | 1.6         |
| 2026-01-28 16:39:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-28 16:40:00 | 7.2               | 5.7               | 1.5         |
| 2026-01-28 16:41:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-28 16:42:00 | 7.3               | 5.9               | 1.4         |
| 2026-01-28 16:43:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-28 16:44:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-28 16:45:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-28 16:46:00 | 7.6               | 6.2               | 1.4         |
| 2026-01-28 16:47:00 | 7.7               | 6.3               | 1.4         |
| 2026-01-28 16:48:00 | 7.7               | 6.4               | 1.3         |
| 2026-01-28 16:49:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-28 16:50:00 | 7.8               | 5.6               | 2.2         |
| 2026-01-28 16:51:00 | 7.8               | 4.1               | 3.7         |
| 2026-01-28 16:52:00 | 7.8               | 3.7               | 4.1         |
| 2026-01-28 16:53:00 | 7.5               | 2.3               | 5.2         |
| 2026-01-28 16:54:00 | 7.3               | 2.4               | 4.9         |
| 2026-01-28 16:55:00 | 7.1               | 3.0               | 4.1         |
| 2026-01-28 16:56:00 | 7.0               | 3.3               | 3.7         |
| 2026-01-28 16:57:00 | 7.0               | 3.7               | 3.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 16:58:00 | 7.0               | 4.0               | 3.0         |
| 2026-01-28 16:59:00 | 7.0               | 4.4               | 2.6         |
| 2026-01-28 17:00:00 | 7.1               | 4.6               | 2.5         |
| 2026-01-28 17:01:00 | 7.1               | 4.9               | 2.2         |
| 2026-01-28 17:02:00 | 7.2               | 5.1               | 2.1         |
| 2026-01-28 17:03:00 | 7.2               | 5.3               | 1.9         |
| 2026-01-28 17:04:00 | 7.2               | 5.4               | 1.8         |
| 2026-01-28 17:05:00 | 7.3               | 5.5               | 1.8         |
| 2026-01-28 17:06:00 | 7.3               | 5.6               | 1.7         |
| 2026-01-28 17:07:00 | 7.4               | 5.7               | 1.7         |
| 2026-01-28 17:08:00 | 7.4               | 5.8               | 1.6         |
| 2026-01-28 17:09:00 | 7.5               | 5.9               | 1.6         |
| 2026-01-28 17:10:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-28 17:11:00 | 7.6               | 6.1               | 1.5         |
| 2026-01-28 17:12:00 | 7.7               | 6.2               | 1.5         |
| 2026-01-28 17:13:00 | 7.7               | 6.3               | 1.4         |
| 2026-01-28 17:14:00 | 7.8               | 6.3               | 1.5         |
| 2026-01-28 17:15:00 | 7.8               | 6.4               | 1.4         |
| 2026-01-28 17:16:00 | 7.9               | 6.5               | 1.4         |
| 2026-01-28 17:17:00 | 7.8               | 6.1               | 1.7         |
| 2026-01-28 17:18:00 | 7.4               | 5.2               | 2.2         |
| 2026-01-28 17:19:00 | 7.2               | 4.3               | 2.9         |
| 2026-01-28 17:20:00 | 6.7               | 3.7               | 3.0         |
| 2026-01-28 17:21:00 | 6.2               | 3.4               | 2.8         |
| 2026-01-28 17:22:00 | 6.1               | 3.7               | 2.4         |
| 2026-01-28 17:23:00 | 6.0               | 3.9               | 2.1         |
| 2026-01-28 17:24:00 | 6.0               | 4.1               | 1.9         |
| 2026-01-28 17:25:00 | 6.0               | 4.4               | 1.6         |
| 2026-01-28 17:26:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-28 17:27:00 | 6.1               | 4.8               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 17:28:00 | 6.2               | 5.0               | 1.2         |
| 2026-01-28 17:29:00 | 6.2               | 5.1               | 1.1         |
| 2026-01-28 17:30:00 | 6.3               | 5.2               | 1.1         |
| 2026-01-28 17:31:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-28 17:32:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-28 17:33:00 | 6.5               | 5.5               | 1.0         |
| 2026-01-28 17:34:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-28 17:35:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-28 17:36:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-28 17:37:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-28 17:38:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-28 17:39:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-28 17:40:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-28 17:41:00 | 7.0               | 6.2               | 0.8         |
| 2026-01-28 17:42:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-28 17:43:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-28 17:44:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 17:45:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 17:46:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 17:47:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 17:48:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 17:49:00 | 7.5               | 5.3               | 2.2         |
| 2026-01-28 17:50:00 | 7.5               | 3.6               | 3.9         |
| 2026-01-28 17:51:00 | 7.3               | 3.7               | 3.6         |
| 2026-01-28 17:52:00 | 7.1               | 2.2               | 4.9         |
| 2026-01-28 17:53:00 | 6.9               | 2.6               | 4.3         |
| 2026-01-28 17:54:00 | 6.7               | 3.1               | 3.6         |
| 2026-01-28 17:55:00 | 6.7               | 3.4               | 3.3         |
| 2026-01-28 17:56:00 | 6.7               | 3.8               | 2.9         |
| 2026-01-28 17:57:00 | 6.7               | 4.1               | 2.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 17:58:00 | 6.7               | 4.4               | 2.3         |
| 2026-01-28 17:59:00 | 6.7               | 4.6               | 2.1         |
| 2026-01-28 18:00:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-28 18:01:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-28 18:02:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-28 18:03:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-28 18:04:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-28 18:05:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-28 18:06:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-28 18:07:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-28 18:08:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-28 18:09:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-28 18:10:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-28 18:11:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-28 18:12:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-28 18:13:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-28 18:14:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-28 18:15:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-28 18:16:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-28 18:17:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-28 18:18:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-28 18:19:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-28 18:20:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-28 18:21:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-28 18:22:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-28 18:23:00 | 7.3               | 5.0               | 2.3         |
| 2026-01-28 18:24:00 | 7.0               | 4.1               | 2.9         |
| 2026-01-28 18:25:00 | 6.5               | 3.1               | 3.4         |
| 2026-01-28 18:26:00 | 6.1               | 3.3               | 2.8         |
| 2026-01-28 18:27:00 | 6.0               | 3.6               | 2.4         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 18:28:00 | 5.9               | 3.8               | 2.1         |
| 2026-01-28 18:29:00 | 5.8               | 4.0               | 1.8         |
| 2026-01-28 18:30:00 | 5.8               | 4.2               | 1.6         |
| 2026-01-28 18:31:00 | 5.9               | 4.5               | 1.4         |
| 2026-01-28 18:32:00 | 5.9               | 4.6               | 1.3         |
| 2026-01-28 18:33:00 | 6.0               | 4.8               | 1.2         |
| 2026-01-28 18:34:00 | 6.0               | 4.9               | 1.1         |
| 2026-01-28 18:35:00 | 6.1               | 5.0               | 1.1         |
| 2026-01-28 18:36:00 | 6.2               | 5.1               | 1.1         |
| 2026-01-28 18:37:00 | 6.2               | 5.2               | 1.0         |
| 2026-01-28 18:38:00 | 6.3               | 5.3               | 1.0         |
| 2026-01-28 18:39:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-28 18:40:00 | 6.4               | 5.5               | 0.9         |
| 2026-01-28 18:41:00 | 6.5               | 5.5               | 1.0         |
| 2026-01-28 18:42:00 | 6.5               | 5.6               | 0.9         |
| 2026-01-28 18:43:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-28 18:44:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-28 18:45:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-28 18:46:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-28 18:47:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-28 18:48:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-28 18:49:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-28 18:50:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-28 18:51:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-28 18:52:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-28 18:53:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-28 18:54:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-28 18:55:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-28 18:56:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-28 18:57:00 | 7.1               | 5.9               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 18:58:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-28 18:59:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-28 19:00:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-28 19:01:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-28 19:02:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 19:03:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 19:04:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 19:05:00 | 7.3               | 6.8               | 0.5         |
| 2026-01-28 19:06:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 19:07:00 | 7.3               | 5.4               | 1.9         |
| 2026-01-28 19:08:00 | 6.9               | 4.6               | 2.3         |
| 2026-01-28 19:09:00 | 6.4               | 4.2               | 2.2         |
| 2026-01-28 19:10:00 | 6.1               | 3.9               | 2.2         |
| 2026-01-28 19:11:00 | 6.0               | 4.1               | 1.9         |
| 2026-01-28 19:12:00 | 6.0               | 4.2               | 1.8         |
| 2026-01-28 19:13:00 | 5.9               | 4.4               | 1.5         |
| 2026-01-28 19:14:00 | 5.9               | 4.6               | 1.3         |
| 2026-01-28 19:15:00 | 5.9               | 4.8               | 1.1         |
| 2026-01-28 19:16:00 | 5.9               | 4.9               | 1.0         |
| 2026-01-28 19:17:00 | 6.0               | 5.0               | 1.0         |
| 2026-01-28 19:18:00 | 6.0               | 5.2               | 0.8         |
| 2026-01-28 19:19:00 | 6.1               | 5.3               | 0.8         |
| 2026-01-28 19:20:00 | 6.2               | 5.3               | 0.9         |
| 2026-01-28 19:21:00 | 6.2               | 5.4               | 0.8         |
| 2026-01-28 19:22:00 | 6.3               | 5.5               | 0.8         |
| 2026-01-28 19:23:00 | 6.4               | 5.6               | 0.8         |
| 2026-01-28 19:24:00 | 6.4               | 5.6               | 0.8         |
| 2026-01-28 19:25:00 | 6.5               | 5.7               | 0.8         |
| 2026-01-28 19:26:00 | 6.5               | 5.8               | 0.7         |
| 2026-01-28 19:27:00 | 6.6               | 5.8               | 0.8         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 19:28:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-28 19:29:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-28 19:30:00 | 6.7               | 6.0               | 0.7         |
| 2026-01-28 19:31:00 | 6.8               | 6.1               | 0.7         |
| 2026-01-28 19:32:00 | 6.9               | 6.1               | 0.8         |
| 2026-01-28 19:33:00 | 6.9               | 6.2               | 0.7         |
| 2026-01-28 19:34:00 | 6.9               | 6.2               | 0.7         |
| 2026-01-28 19:35:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-28 19:36:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-28 19:37:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-28 19:38:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-28 19:39:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-28 19:40:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-28 19:41:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 19:42:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 19:43:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-28 19:44:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-28 19:45:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 19:46:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 19:47:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 19:48:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 19:49:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 19:50:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-28 19:51:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-28 19:52:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-28 19:53:00 | 7.5               | 5.9               | 1.6         |
| 2026-01-28 19:54:00 | 7.5               | 3.9               | 3.6         |
| 2026-01-28 19:55:00 | 7.3               | 3.6               | 3.7         |
| 2026-01-28 19:56:00 | 7.0               | 2.3               | 4.7         |
| 2026-01-28 19:57:00 | 6.8               | 2.4               | 4.4         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 19:58:00 | 6.6               | 2.9               | 3.7         |
| 2026-01-28 19:59:00 | 6.6               | 3.3               | 3.3         |
| 2026-01-28 20:00:00 | 6.6               | 3.6               | 3.0         |
| 2026-01-28 20:01:00 | 6.5               | 3.9               | 2.6         |
| 2026-01-28 20:02:00 | 6.5               | 4.2               | 2.3         |
| 2026-01-28 20:03:00 | 6.5               | 4.4               | 2.1         |
| 2026-01-28 20:04:00 | 6.5               | 4.6               | 1.9         |
| 2026-01-28 20:05:00 | 6.5               | 4.8               | 1.7         |
| 2026-01-28 20:06:00 | 6.6               | 5.0               | 1.6         |
| 2026-01-28 20:07:00 | 6.6               | 5.0               | 1.6         |
| 2026-01-28 20:08:00 | 6.6               | 5.1               | 1.5         |
| 2026-01-28 20:09:00 | 6.7               | 5.2               | 1.5         |
| 2026-01-28 20:10:00 | 6.7               | 5.2               | 1.5         |
| 2026-01-28 20:11:00 | 6.7               | 5.3               | 1.4         |
| 2026-01-28 20:12:00 | 6.8               | 5.4               | 1.4         |
| 2026-01-28 20:13:00 | 6.8               | 5.4               | 1.4         |
| 2026-01-28 20:14:00 | 6.9               | 5.5               | 1.4         |
| 2026-01-28 20:15:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-28 20:16:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-28 20:17:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-28 20:18:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-28 20:19:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-28 20:20:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-28 20:21:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-28 20:22:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-28 20:23:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-28 20:24:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-28 20:25:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-28 20:26:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-28 20:27:00 | 7.3               | 6.1               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 20:28:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-28 20:29:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-28 20:30:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-28 20:31:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-28 20:32:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-28 20:33:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-28 20:34:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-28 20:35:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-28 20:36:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-28 20:37:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-28 20:38:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-28 20:39:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-28 20:40:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-28 20:41:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-28 20:42:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-28 20:43:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-28 20:44:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-28 20:45:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-28 20:46:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-28 20:47:00 | 7.7               | 5.4               | 2.3         |
| 2026-01-28 20:48:00 | 7.6               | 3.6               | 4.0         |
| 2026-01-28 20:49:00 | 7.4               | 3.7               | 3.7         |
| 2026-01-28 20:50:00 | 7.1               | 2.1               | 5.0         |
| 2026-01-28 20:51:00 | 6.9               | 2.5               | 4.4         |
| 2026-01-28 20:52:00 | 6.7               | 3.0               | 3.7         |
| 2026-01-28 20:53:00 | 6.6               | 3.3               | 3.3         |
| 2026-01-28 20:54:00 | 6.6               | 3.7               | 2.9         |
| 2026-01-28 20:55:00 | 6.6               | 4.0               | 2.6         |
| 2026-01-28 20:56:00 | 6.6               | 4.2               | 2.4         |
| 2026-01-28 20:57:00 | 6.6               | 4.5               | 2.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 20:58:00 | 6.6               | 4.7               | 1.9         |
| 2026-01-28 20:59:00 | 6.6               | 4.9               | 1.7         |
| 2026-01-28 21:00:00 | 6.6               | 4.9               | 1.7         |
| 2026-01-28 21:01:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-28 21:02:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-28 21:03:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-28 21:04:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-28 21:05:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-28 21:06:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-28 21:07:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-28 21:08:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-28 21:09:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-28 21:10:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-28 21:11:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-28 21:12:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-28 21:13:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-28 21:14:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-28 21:15:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-28 21:16:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-28 21:17:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-28 21:18:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-28 21:19:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-28 21:20:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-28 21:21:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-28 21:22:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-28 21:23:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-28 21:24:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-28 21:25:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-28 21:26:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-28 21:27:00 | 7.4               | 6.2               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 21:28:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-28 21:29:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-28 21:30:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-28 21:31:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-28 21:32:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-28 21:33:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-28 21:34:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-28 21:35:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-28 21:36:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-28 21:37:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-28 21:38:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-28 21:39:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-28 21:40:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-28 21:41:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-28 21:42:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-28 21:43:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-28 21:44:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-28 21:45:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-28 21:46:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-28 21:47:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-28 21:48:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-28 21:49:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-28 21:50:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-28 21:51:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-28 21:52:00 | 7.6               | 5.6               | 2.0         |
| 2026-01-28 21:53:00 | 7.4               | 4.5               | 2.9         |
| 2026-01-28 21:54:00 | 6.8               | 3.8               | 3.0         |
| 2026-01-28 21:55:00 | 6.4               | 3.3               | 3.1         |
| 2026-01-28 21:56:00 | 6.2               | 3.5               | 2.7         |
| 2026-01-28 21:57:00 | 6.1               | 3.8               | 2.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 21:58:00 | 6.0               | 4.0               | 2.0         |
| 2026-01-28 21:59:00 | 6.0               | 4.2               | 1.8         |
| 2026-01-28 22:00:00 | 6.0               | 4.4               | 1.6         |
| 2026-01-28 22:01:00 | 6.0               | 4.5               | 1.5         |
| 2026-01-28 22:02:00 | 6.0               | 4.6               | 1.4         |
| 2026-01-28 22:03:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-28 22:04:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-28 22:05:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-28 22:06:00 | 6.2               | 5.0               | 1.2         |
| 2026-01-28 22:07:00 | 6.3               | 5.0               | 1.3         |
| 2026-01-28 22:08:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-28 22:09:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-28 22:10:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-28 22:11:00 | 6.5               | 5.3               | 1.2         |
| 2026-01-28 22:12:00 | 6.6               | 5.4               | 1.2         |
| 2026-01-28 22:13:00 | 6.6               | 5.4               | 1.2         |
| 2026-01-28 22:14:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-28 22:15:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-28 22:16:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-28 22:17:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-28 22:18:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-28 22:19:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-28 22:20:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-28 22:21:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-28 22:22:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-28 22:23:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-28 22:24:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-28 22:25:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-28 22:26:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-28 22:27:00 | 7.1               | 6.1               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 22:28:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-28 22:29:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-28 22:30:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-28 22:31:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-28 22:32:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-28 22:33:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-28 22:34:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-28 22:35:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-28 22:36:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 22:37:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 22:38:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 22:39:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 22:40:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 22:41:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-28 22:42:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 22:43:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 22:44:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 22:45:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 22:46:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 22:47:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 22:48:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-28 22:49:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-28 22:50:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-28 22:51:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-28 22:52:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-28 22:53:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-28 22:54:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-28 22:55:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-28 22:56:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-28 22:57:00 | 7.4               | 6.5               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 22:58:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 22:59:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-28 23:00:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-28 23:01:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-28 23:02:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-28 23:03:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-28 23:04:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-28 23:05:00 | 7.3               | 5.3               | 2.0         |
| 2026-01-28 23:06:00 | 6.8               | 4.6               | 2.2         |
| 2026-01-28 23:07:00 | 6.3               | 4.1               | 2.2         |
| 2026-01-28 23:08:00 | 6.3               | 4.2               | 2.1         |
| 2026-01-28 23:09:00 | 6.2               | 4.3               | 1.9         |
| 2026-01-28 23:10:00 | 6.2               | 4.5               | 1.7         |
| 2026-01-28 23:11:00 | 6.2               | 4.6               | 1.6         |
| 2026-01-28 23:12:00 | 6.2               | 4.8               | 1.4         |
| 2026-01-28 23:13:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-28 23:14:00 | 6.3               | 5.0               | 1.3         |
| 2026-01-28 23:15:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-28 23:16:00 | 6.3               | 5.2               | 1.1         |
| 2026-01-28 23:17:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-28 23:18:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-28 23:19:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-28 23:20:00 | 6.5               | 5.5               | 1.0         |
| 2026-01-28 23:21:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-28 23:22:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-28 23:23:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-28 23:24:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-28 23:25:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-28 23:26:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-28 23:27:00 | 6.8               | 5.9               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 23:28:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-28 23:29:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-28 23:30:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-28 23:31:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-28 23:32:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-28 23:33:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-28 23:34:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-28 23:35:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-28 23:36:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-28 23:37:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-28 23:38:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-28 23:39:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-28 23:40:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-28 23:41:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-28 23:42:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 23:43:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 23:44:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 23:45:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-28 23:46:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 23:47:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 23:48:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 23:49:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-28 23:50:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 23:51:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 23:52:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-28 23:53:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 23:54:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 23:55:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-28 23:56:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-28 23:57:00 | 7.4               | 6.7               | 0.7         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-28 23:58:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-28 23:59:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 00:00:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 00:01:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 00:02:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 00:03:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 00:04:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 00:05:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 00:06:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 00:07:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 00:08:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 00:09:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 00:10:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 00:11:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 00:12:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 00:13:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 00:14:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 00:15:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 00:16:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 00:17:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 00:18:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 00:19:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 00:20:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 00:21:00 | 7.7               | 6.2               | 1.5         |
| 2026-01-29 00:22:00 | 7.7               | 4.5               | 3.2         |
| 2026-01-29 00:23:00 | 7.5               | 3.7               | 3.8         |
| 2026-01-29 00:24:00 | 7.3               | 2.7               | 4.6         |
| 2026-01-29 00:25:00 | 7.0               | 2.5               | 4.5         |
| 2026-01-29 00:26:00 | 6.9               | 2.9               | 4.0         |
| 2026-01-29 00:27:00 | 6.8               | 3.4               | 3.4         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 00:28:00 | 6.7               | 3.7               | 3.0         |
| 2026-01-29 00:29:00 | 6.6               | 3.9               | 2.7         |
| 2026-01-29 00:30:00 | 6.6               | 4.2               | 2.4         |
| 2026-01-29 00:31:00 | 6.6               | 4.4               | 2.2         |
| 2026-01-29 00:32:00 | 6.6               | 4.6               | 2.0         |
| 2026-01-29 00:33:00 | 6.6               | 4.8               | 1.8         |
| 2026-01-29 00:34:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-29 00:35:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-29 00:36:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-29 00:37:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 00:38:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 00:39:00 | 6.8               | 5.4               | 1.4         |
| 2026-01-29 00:40:00 | 6.8               | 5.5               | 1.3         |
| 2026-01-29 00:41:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-29 00:42:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-29 00:43:00 | 6.9               | 5.7               | 1.2         |
| 2026-01-29 00:44:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-29 00:45:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 00:46:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 00:47:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 00:48:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-29 00:49:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-29 00:50:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 00:51:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 00:52:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 00:53:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 00:54:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 00:55:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 00:56:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 00:57:00 | 7.2               | 6.2               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 00:58:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 00:59:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 01:00:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 01:01:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 01:02:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 01:03:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 01:04:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 01:05:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 01:06:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 01:07:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 01:08:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 01:09:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 01:10:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 01:11:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 01:12:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 01:13:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:14:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:15:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:16:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:17:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:18:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:19:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:20:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:21:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:22:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:23:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 01:24:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 01:25:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 01:26:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 01:27:00 | 7.6               | 6.4               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 01:28:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 01:29:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 01:30:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 01:31:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 01:32:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 01:33:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 01:34:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 01:35:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:36:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:37:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:38:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:39:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:40:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:41:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:42:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:43:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:44:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:45:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:46:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 01:47:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:48:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:49:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:50:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:51:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:52:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-29 01:53:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-29 01:54:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-29 01:55:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-29 01:56:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-29 01:57:00 | 7.8               | 6.7               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 01:58:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-29 01:59:00 | 7.8               | 5.1               | 2.7         |
| 2026-01-29 02:00:00 | 7.7               | 3.9               | 3.8         |
| 2026-01-29 02:01:00 | 7.5               | 3.0               | 4.5         |
| 2026-01-29 02:02:00 | 7.1               | 2.5               | 4.6         |
| 2026-01-29 02:03:00 | 7.0               | 3.0               | 4.0         |
| 2026-01-29 02:04:00 | 6.9               | 3.4               | 3.5         |
| 2026-01-29 02:05:00 | 6.8               | 3.7               | 3.1         |
| 2026-01-29 02:06:00 | 6.8               | 4.0               | 2.8         |
| 2026-01-29 02:07:00 | 6.8               | 4.2               | 2.6         |
| 2026-01-29 02:08:00 | 6.7               | 4.5               | 2.2         |
| 2026-01-29 02:09:00 | 6.7               | 4.6               | 2.1         |
| 2026-01-29 02:10:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 02:11:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-29 02:12:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 02:13:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 02:14:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 02:15:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 02:16:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-29 02:17:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 02:18:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 02:19:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 02:20:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 02:21:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 02:22:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 02:23:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 02:24:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 02:25:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 02:26:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 02:27:00 | 7.1               | 5.8               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 02:28:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 02:29:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 02:30:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 02:31:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 02:32:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 02:33:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 02:34:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 02:35:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 02:36:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 02:37:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 02:38:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 02:39:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 02:40:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 02:41:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 02:42:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 02:43:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 02:44:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 02:45:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 02:46:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 02:47:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 02:48:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 02:49:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 02:50:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 02:51:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 02:52:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 02:53:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 02:54:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 02:55:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-29 02:56:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-29 02:57:00 | 7.4               | 6.2               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 02:58:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 02:59:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 03:00:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 03:01:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 03:02:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 03:03:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 03:04:00 | 7.5               | 6.9               | 0.6         |
| 2026-01-29 03:05:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 03:06:00 | 7.5               | 5.6               | 1.9         |
| 2026-01-29 03:07:00 | 7.1               | 4.5               | 2.6         |
| 2026-01-29 03:08:00 | 6.7               | 4.1               | 2.6         |
| 2026-01-29 03:09:00 | 6.4               | 3.7               | 2.7         |
| 2026-01-29 03:10:00 | 6.2               | 3.9               | 2.3         |
| 2026-01-29 03:11:00 | 6.1               | 4.1               | 2.0         |
| 2026-01-29 03:12:00 | 6.0               | 4.2               | 1.8         |
| 2026-01-29 03:13:00 | 6.0               | 4.4               | 1.6         |
| 2026-01-29 03:14:00 | 6.0               | 4.6               | 1.4         |
| 2026-01-29 03:15:00 | 6.0               | 4.7               | 1.3         |
| 2026-01-29 03:16:00 | 6.0               | 4.8               | 1.2         |
| 2026-01-29 03:17:00 | 6.0               | 5.0               | 1.0         |
| 2026-01-29 03:18:00 | 6.1               | 5.1               | 1.0         |
| 2026-01-29 03:19:00 | 6.1               | 5.1               | 1.0         |
| 2026-01-29 03:20:00 | 6.2               | 5.2               | 1.0         |
| 2026-01-29 03:21:00 | 6.3               | 5.3               | 1.0         |
| 2026-01-29 03:22:00 | 6.3               | 5.3               | 1.0         |
| 2026-01-29 03:23:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-29 03:24:00 | 6.4               | 5.5               | 0.9         |
| 2026-01-29 03:25:00 | 6.4               | 5.5               | 0.9         |
| 2026-01-29 03:26:00 | 6.5               | 5.6               | 0.9         |
| 2026-01-29 03:27:00 | 6.5               | 5.6               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 03:28:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-29 03:29:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-29 03:30:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-29 03:31:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-29 03:32:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-29 03:33:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 03:34:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 03:35:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-29 03:36:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-29 03:37:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-29 03:38:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-29 03:39:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 03:40:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 03:41:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-29 03:42:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-29 03:43:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 03:44:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 03:45:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-29 03:46:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-29 03:47:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-29 03:48:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-29 03:49:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 03:50:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 03:51:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 03:52:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 03:53:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 03:54:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-29 03:55:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-29 03:56:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 03:57:00 | 7.3               | 6.4               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 03:58:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 03:59:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 04:00:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 04:01:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-29 04:02:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-29 04:03:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-29 04:04:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-29 04:05:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 04:06:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 04:07:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 04:08:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-29 04:09:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-29 04:10:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-29 04:11:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-29 04:12:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-29 04:13:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 04:14:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 04:15:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:16:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:17:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:18:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:19:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:20:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:21:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:22:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:23:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:24:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:25:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 04:26:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 04:27:00 | 7.6               | 6.8               | 0.8         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 04:28:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:29:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:30:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:31:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:32:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:33:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:34:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:35:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:36:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:37:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:38:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 04:39:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 04:40:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 04:41:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 04:42:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-29 04:43:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 04:44:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 04:45:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 04:46:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 04:47:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 04:48:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 04:49:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:50:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:51:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:52:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:53:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:54:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:55:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:56:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:57:00 | 7.7               | 7.0               | 0.7         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 04:58:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 04:59:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 05:00:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 05:01:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 05:02:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 05:03:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 05:04:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 05:05:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 05:06:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 05:07:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 05:08:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 05:09:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 05:10:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 05:11:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 05:12:00 | 7.8               | 5.7               | 2.1         |
| 2026-01-29 05:13:00 | 7.7               | 3.9               | 3.8         |
| 2026-01-29 05:14:00 | 7.5               | 3.1               | 4.4         |
| 2026-01-29 05:15:00 | 7.2               | 2.5               | 4.7         |
| 2026-01-29 05:16:00 | 7.0               | 2.8               | 4.2         |
| 2026-01-29 05:17:00 | 6.9               | 3.1               | 3.8         |
| 2026-01-29 05:18:00 | 6.8               | 3.6               | 3.2         |
| 2026-01-29 05:19:00 | 6.7               | 3.8               | 2.9         |
| 2026-01-29 05:20:00 | 6.7               | 4.1               | 2.6         |
| 2026-01-29 05:21:00 | 6.7               | 4.3               | 2.4         |
| 2026-01-29 05:22:00 | 6.7               | 4.5               | 2.2         |
| 2026-01-29 05:23:00 | 6.7               | 4.7               | 2.0         |
| 2026-01-29 05:24:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 05:25:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-29 05:26:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 05:27:00 | 6.7               | 5.1               | 1.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 05:28:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 05:29:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 05:30:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 05:31:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 05:32:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 05:33:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 05:34:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 05:35:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 05:36:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-29 05:37:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 05:38:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 05:39:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 05:40:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-29 05:41:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 05:42:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 05:43:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 05:44:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 05:45:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-29 05:46:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-29 05:47:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 05:48:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 05:49:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 05:50:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 05:51:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 05:52:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 05:53:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 05:54:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 05:55:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 05:56:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 05:57:00 | 7.3               | 6.2               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 05:58:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 05:59:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 06:00:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 06:01:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 06:02:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 06:03:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 06:04:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 06:05:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 06:06:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 06:07:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 06:08:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 06:09:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 06:10:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 06:11:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:12:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:13:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:14:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:15:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:16:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:17:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:18:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 06:19:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 06:20:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 06:21:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 06:22:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 06:23:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 06:24:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 06:25:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 06:26:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 06:27:00 | 7.5               | 6.3               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 06:28:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 06:29:00 | 7.6               | 6.3               | 1.3         |
| 2026-01-29 06:30:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 06:31:00 | 7.6               | 6.3               | 1.3         |
| 2026-01-29 06:32:00 | 7.6               | 6.3               | 1.3         |
| 2026-01-29 06:33:00 | 7.6               | 6.3               | 1.3         |
| 2026-01-29 06:34:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:35:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:36:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:37:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:38:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:39:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:40:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:41:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:42:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:43:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:44:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:45:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:46:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:47:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:48:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:49:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:50:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:51:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:52:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 06:53:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 06:54:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 06:55:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 06:56:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 06:57:00 | 7.6               | 6.6               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 06:58:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 06:59:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 07:00:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 07:01:00 | 7.6               | 7.0               | 0.6         |
| 2026-01-29 07:02:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 07:03:00 | 7.4               | 5.7               | 1.7         |
| 2026-01-29 07:04:00 | 7.0               | 5.1               | 1.9         |
| 2026-01-29 07:05:00 | 6.6               | 4.2               | 2.4         |
| 2026-01-29 07:06:00 | 6.3               | 4.2               | 2.1         |
| 2026-01-29 07:07:00 | 6.3               | 4.3               | 2.0         |
| 2026-01-29 07:08:00 | 6.3               | 4.4               | 1.9         |
| 2026-01-29 07:09:00 | 6.3               | 4.6               | 1.7         |
| 2026-01-29 07:10:00 | 6.2               | 4.7               | 1.5         |
| 2026-01-29 07:11:00 | 6.3               | 4.8               | 1.5         |
| 2026-01-29 07:12:00 | 6.3               | 5.0               | 1.3         |
| 2026-01-29 07:13:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-29 07:14:00 | 6.3               | 5.2               | 1.1         |
| 2026-01-29 07:15:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-29 07:16:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-29 07:17:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-29 07:18:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-29 07:19:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-29 07:20:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-29 07:21:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-29 07:22:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-29 07:23:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-29 07:24:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-29 07:25:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-29 07:26:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-29 07:27:00 | 6.8               | 5.8               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 07:28:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 07:29:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 07:30:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 07:31:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-29 07:32:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-29 07:33:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-29 07:34:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 07:35:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 07:36:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 07:37:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 07:38:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 07:39:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 07:40:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 07:41:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 07:42:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 07:43:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 07:44:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 07:45:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 07:46:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 07:47:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 07:48:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 07:49:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 07:50:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 07:51:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 07:52:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 07:53:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 07:54:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 07:55:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 07:56:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 07:57:00 | 7.3               | 6.4               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 07:58:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 07:59:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 08:00:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 08:01:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 08:02:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 08:03:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 08:04:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 08:05:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 08:06:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 08:07:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 08:08:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 08:09:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 08:10:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 08:11:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 08:12:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:13:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:14:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:15:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:16:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:17:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:18:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:19:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:20:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:21:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 08:22:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 08:23:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 08:24:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 08:25:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 08:26:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 08:27:00 | 7.6               | 6.7               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 08:28:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 08:29:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 08:30:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 08:31:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 08:32:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 08:33:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:34:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:35:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:36:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:37:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:38:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:39:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:40:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:41:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:42:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:43:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 08:44:00 | 7.7               | 6.8               | 0.9         |
| 2026-01-29 08:45:00 | 7.7               | 6.8               | 0.9         |
| 2026-01-29 08:46:00 | 7.7               | 6.8               | 0.9         |
| 2026-01-29 08:47:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:48:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:49:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:50:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:51:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:52:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:53:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:54:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:55:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:56:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:57:00 | 7.7               | 6.9               | 0.8         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 08:58:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 08:59:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:00:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:01:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:02:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:03:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:04:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:05:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:06:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-29 09:07:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 09:08:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 09:09:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 09:10:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 09:11:00 | 7.7               | 7.0               | 0.7         |
| 2026-01-29 09:12:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:13:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:14:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:15:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:16:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:17:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:18:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:19:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:20:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:21:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:22:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:23:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:24:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:25:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:26:00 | 7.8               | 7.0               | 0.8         |
| 2026-01-29 09:27:00 | 7.8               | 7.0               | 0.8         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 09:28:00 | 7.8               | 5.2               | 2.6         |
| 2026-01-29 09:29:00 | 7.8               | 3.9               | 3.9         |
| 2026-01-29 09:30:00 | 7.5               | 3.3               | 4.2         |
| 2026-01-29 09:31:00 | 7.3               | 2.4               | 4.9         |
| 2026-01-29 09:32:00 | 7.2               | 2.8               | 4.4         |
| 2026-01-29 09:33:00 | 7.0               | 3.2               | 3.8         |
| 2026-01-29 09:34:00 | 6.9               | 3.6               | 3.3         |
| 2026-01-29 09:35:00 | 6.9               | 3.9               | 3.0         |
| 2026-01-29 09:36:00 | 6.8               | 4.2               | 2.6         |
| 2026-01-29 09:37:00 | 6.8               | 4.4               | 2.4         |
| 2026-01-29 09:38:00 | 6.8               | 4.6               | 2.2         |
| 2026-01-29 09:39:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 09:40:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-29 09:41:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-29 09:42:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-29 09:43:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 09:44:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 09:45:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-29 09:46:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-29 09:47:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 09:48:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 09:49:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 09:50:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 09:51:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 09:52:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 09:53:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 09:54:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 09:55:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-29 09:56:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 09:57:00 | 7.2               | 5.9               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 09:58:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 09:59:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 10:00:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 10:01:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 10:02:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-29 10:03:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-29 10:04:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-29 10:05:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-29 10:06:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-29 10:07:00 | 7.3               | 5.9               | 1.4         |
| 2026-01-29 10:08:00 | 7.4               | 5.9               | 1.5         |
| 2026-01-29 10:09:00 | 7.4               | 5.9               | 1.5         |
| 2026-01-29 10:10:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-29 10:11:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-29 10:12:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-29 10:13:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 10:14:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 10:15:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 10:16:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 10:17:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 10:18:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 10:19:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 10:20:00 | 7.6               | 6.1               | 1.5         |
| 2026-01-29 10:21:00 | 7.6               | 6.1               | 1.5         |
| 2026-01-29 10:22:00 | 7.6               | 6.1               | 1.5         |
| 2026-01-29 10:23:00 | 7.6               | 6.2               | 1.4         |
| 2026-01-29 10:24:00 | 7.6               | 6.2               | 1.4         |
| 2026-01-29 10:25:00 | 7.6               | 6.2               | 1.4         |
| 2026-01-29 10:26:00 | 7.7               | 6.2               | 1.5         |
| 2026-01-29 10:27:00 | 7.7               | 6.3               | 1.4         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 10:28:00 | 7.7               | 6.3               | 1.4         |
| 2026-01-29 10:29:00 | 7.7               | 5.3               | 2.4         |
| 2026-01-29 10:30:00 | 7.6               | 3.7               | 3.9         |
| 2026-01-29 10:31:00 | 7.4               | 3.6               | 3.8         |
| 2026-01-29 10:32:00 | 7.1               | 2.3               | 4.8         |
| 2026-01-29 10:33:00 | 7.0               | 2.7               | 4.3         |
| 2026-01-29 10:34:00 | 6.8               | 3.1               | 3.7         |
| 2026-01-29 10:35:00 | 6.8               | 3.6               | 3.2         |
| 2026-01-29 10:36:00 | 6.7               | 3.8               | 2.9         |
| 2026-01-29 10:37:00 | 6.7               | 4.1               | 2.6         |
| 2026-01-29 10:38:00 | 6.7               | 4.3               | 2.4         |
| 2026-01-29 10:39:00 | 6.7               | 4.6               | 2.1         |
| 2026-01-29 10:40:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 10:41:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-29 10:42:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-29 10:43:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-29 10:44:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 10:45:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 10:46:00 | 6.9               | 5.2               | 1.7         |
| 2026-01-29 10:47:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-29 10:48:00 | 7.0               | 5.3               | 1.7         |
| 2026-01-29 10:49:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-29 10:50:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 10:51:00 | 7.1               | 5.5               | 1.6         |
| 2026-01-29 10:52:00 | 7.1               | 5.5               | 1.6         |
| 2026-01-29 10:53:00 | 7.1               | 5.5               | 1.6         |
| 2026-01-29 10:54:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-29 10:55:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 10:56:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 10:57:00 | 7.2               | 5.9               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 10:58:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 10:59:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 11:00:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 11:01:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 11:02:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-29 11:03:00 | 7.3               | 6.7               | 0.6         |
| 2026-01-29 11:04:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 11:05:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 11:06:00 | 7.3               | 5.5               | 1.8         |
| 2026-01-29 11:07:00 | 6.9               | 4.4               | 2.5         |
| 2026-01-29 11:08:00 | 6.5               | 3.8               | 2.7         |
| 2026-01-29 11:09:00 | 6.3               | 3.4               | 2.9         |
| 2026-01-29 11:10:00 | 6.1               | 3.7               | 2.4         |
| 2026-01-29 11:11:00 | 6.0               | 3.9               | 2.1         |
| 2026-01-29 11:12:00 | 5.9               | 4.1               | 1.8         |
| 2026-01-29 11:13:00 | 5.9               | 4.3               | 1.6         |
| 2026-01-29 11:14:00 | 5.9               | 4.5               | 1.4         |
| 2026-01-29 11:15:00 | 5.9               | 4.7               | 1.2         |
| 2026-01-29 11:16:00 | 5.9               | 4.9               | 1.0         |
| 2026-01-29 11:17:00 | 6.0               | 5.0               | 1.0         |
| 2026-01-29 11:18:00 | 6.0               | 5.1               | 0.9         |
| 2026-01-29 11:19:00 | 6.1               | 5.2               | 0.9         |
| 2026-01-29 11:20:00 | 6.2               | 5.2               | 1.0         |
| 2026-01-29 11:21:00 | 6.2               | 5.3               | 0.9         |
| 2026-01-29 11:22:00 | 6.3               | 4.0               | 2.3         |
| 2026-01-29 11:23:00 | 6.3               | 3.6               | 2.7         |
| 2026-01-29 11:24:00 | 6.2               | 2.4               | 3.8         |
| 2026-01-29 11:25:00 | 6.1               | 2.5               | 3.6         |
| 2026-01-29 11:26:00 | 6.0               | 2.9               | 3.1         |
| 2026-01-29 11:27:00 | 5.9               | 3.3               | 2.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 11:28:00 | 5.9               | 3.6               | 2.3         |
| 2026-01-29 11:29:00 | 5.9               | 3.9               | 2.0         |
| 2026-01-29 11:30:00 | 6.0               | 4.1               | 1.9         |
| 2026-01-29 11:31:00 | 6.0               | 4.3               | 1.7         |
| 2026-01-29 11:32:00 | 6.0               | 4.5               | 1.5         |
| 2026-01-29 11:33:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-29 11:34:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-29 11:35:00 | 6.1               | 4.9               | 1.2         |
| 2026-01-29 11:36:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-29 11:37:00 | 6.3               | 5.0               | 1.3         |
| 2026-01-29 11:38:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-29 11:39:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-29 11:40:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-29 11:41:00 | 6.5               | 5.3               | 1.2         |
| 2026-01-29 11:42:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-29 11:43:00 | 6.6               | 5.4               | 1.2         |
| 2026-01-29 11:44:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-29 11:45:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-29 11:46:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-29 11:47:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-29 11:48:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-29 11:49:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 11:50:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 11:51:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 11:52:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-29 11:53:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 11:54:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 11:55:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 11:56:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 11:57:00 | 7.2               | 6.1               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 11:58:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 11:59:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 12:00:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 12:01:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 12:02:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 12:03:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 12:04:00 | 7.3               | 4.6               | 2.7         |
| 2026-01-29 12:05:00 | 7.3               | 3.6               | 3.7         |
| 2026-01-29 12:06:00 | 7.1               | 2.9               | 4.2         |
| 2026-01-29 12:07:00 | 6.9               | 2.4               | 4.5         |
| 2026-01-29 12:08:00 | 6.7               | 2.9               | 3.8         |
| 2026-01-29 12:09:00 | 6.6               | 3.3               | 3.3         |
| 2026-01-29 12:10:00 | 6.6               | 3.6               | 3.0         |
| 2026-01-29 12:11:00 | 6.5               | 3.9               | 2.6         |
| 2026-01-29 12:12:00 | 6.6               | 4.2               | 2.4         |
| 2026-01-29 12:13:00 | 6.6               | 4.4               | 2.2         |
| 2026-01-29 12:14:00 | 6.6               | 4.7               | 1.9         |
| 2026-01-29 12:15:00 | 6.6               | 4.9               | 1.7         |
| 2026-01-29 12:16:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-29 12:17:00 | 6.7               | 5.2               | 1.5         |
| 2026-01-29 12:18:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 12:19:00 | 6.8               | 5.4               | 1.4         |
| 2026-01-29 12:20:00 | 6.8               | 5.5               | 1.3         |
| 2026-01-29 12:21:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-29 12:22:00 | 6.9               | 5.7               | 1.2         |
| 2026-01-29 12:23:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 12:24:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 12:25:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-29 12:26:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 12:27:00 | 7.2               | 6.1               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 12:28:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 12:29:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 12:30:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 12:31:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 12:32:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 12:33:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 12:34:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 12:35:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-29 12:36:00 | 7.2               | 4.8               | 2.4         |
| 2026-01-29 12:37:00 | 7.0               | 4.2               | 2.8         |
| 2026-01-29 12:38:00 | 6.5               | 3.4               | 3.1         |
| 2026-01-29 12:39:00 | 6.1               | 3.4               | 2.7         |
| 2026-01-29 12:40:00 | 6.1               | 3.7               | 2.4         |
| 2026-01-29 12:41:00 | 6.0               | 3.9               | 2.1         |
| 2026-01-29 12:42:00 | 6.0               | 4.2               | 1.8         |
| 2026-01-29 12:43:00 | 6.1               | 4.4               | 1.7         |
| 2026-01-29 12:44:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-29 12:45:00 | 6.2               | 4.8               | 1.4         |
| 2026-01-29 12:46:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-29 12:47:00 | 6.3               | 5.0               | 1.3         |
| 2026-01-29 12:48:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-29 12:49:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-29 12:50:00 | 6.5               | 5.3               | 1.2         |
| 2026-01-29 12:51:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-29 12:52:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-29 12:53:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-29 12:54:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-29 12:55:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-29 12:56:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 12:57:00 | 6.9               | 5.9               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 12:58:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 12:59:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 13:00:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 13:01:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-29 13:02:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 13:03:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 13:04:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 13:05:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 13:06:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 13:07:00 | 7.3               | 4.6               | 2.7         |
| 2026-01-29 13:08:00 | 7.3               | 3.5               | 3.8         |
| 2026-01-29 13:09:00 | 7.1               | 3.0               | 4.1         |
| 2026-01-29 13:10:00 | 6.9               | 2.3               | 4.6         |
| 2026-01-29 13:11:00 | 6.7               | 2.7               | 4.0         |
| 2026-01-29 13:12:00 | 6.7               | 3.1               | 3.6         |
| 2026-01-29 13:13:00 | 6.6               | 3.6               | 3.0         |
| 2026-01-29 13:14:00 | 6.6               | 3.8               | 2.8         |
| 2026-01-29 13:15:00 | 6.6               | 4.1               | 2.5         |
| 2026-01-29 13:16:00 | 6.6               | 4.4               | 2.2         |
| 2026-01-29 13:17:00 | 6.7               | 4.6               | 2.1         |
| 2026-01-29 13:18:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-29 13:19:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 13:20:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 13:21:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 13:22:00 | 6.9               | 5.5               | 1.4         |
| 2026-01-29 13:23:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 13:24:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-29 13:25:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 13:26:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 13:27:00 | 7.2               | 6.0               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 13:28:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 13:29:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 13:30:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 13:31:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 13:32:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 13:33:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 13:34:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 13:35:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 13:36:00 | 7.3               | 5.0               | 2.3         |
| 2026-01-29 13:37:00 | 7.0               | 4.3               | 2.7         |
| 2026-01-29 13:38:00 | 6.7               | 3.5               | 3.2         |
| 2026-01-29 13:39:00 | 6.3               | 3.5               | 2.8         |
| 2026-01-29 13:40:00 | 6.1               | 3.7               | 2.4         |
| 2026-01-29 13:41:00 | 6.1               | 4.0               | 2.1         |
| 2026-01-29 13:42:00 | 6.1               | 4.2               | 1.9         |
| 2026-01-29 13:43:00 | 6.1               | 4.5               | 1.6         |
| 2026-01-29 13:44:00 | 6.2               | 4.7               | 1.5         |
| 2026-01-29 13:45:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-29 13:46:00 | 6.3               | 5.0               | 1.3         |
| 2026-01-29 13:47:00 | 6.4               | 5.1               | 1.3         |
| 2026-01-29 13:48:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-29 13:49:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-29 13:50:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-29 13:51:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-29 13:52:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-29 13:53:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 13:54:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 13:55:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-29 13:56:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 13:57:00 | 7.0               | 6.1               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 13:58:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 13:59:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 14:00:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 14:01:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 14:02:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 14:03:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-29 14:04:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 14:05:00 | 7.5               | 4.8               | 2.7         |
| 2026-01-29 14:06:00 | 7.4               | 3.5               | 3.9         |
| 2026-01-29 14:07:00 | 7.3               | 3.2               | 4.1         |
| 2026-01-29 14:08:00 | 7.0               | 2.1               | 4.9         |
| 2026-01-29 14:09:00 | 6.8               | 2.5               | 4.3         |
| 2026-01-29 14:10:00 | 6.7               | 3.0               | 3.7         |
| 2026-01-29 14:11:00 | 6.6               | 3.4               | 3.2         |
| 2026-01-29 14:12:00 | 6.6               | 3.7               | 2.9         |
| 2026-01-29 14:13:00 | 6.6               | 4.0               | 2.6         |
| 2026-01-29 14:14:00 | 6.6               | 4.3               | 2.3         |
| 2026-01-29 14:15:00 | 6.7               | 4.5               | 2.2         |
| 2026-01-29 14:16:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 14:17:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-29 14:18:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 14:19:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 14:20:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 14:21:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 14:22:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 14:23:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 14:24:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 14:25:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-29 14:26:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 14:27:00 | 7.3               | 6.0               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 14:28:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 14:29:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 14:30:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 14:31:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 14:32:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 14:33:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 14:34:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 14:35:00 | 7.3               | 5.4               | 1.9         |
| 2026-01-29 14:36:00 | 7.1               | 4.5               | 2.6         |
| 2026-01-29 14:37:00 | 6.7               | 3.9               | 2.8         |
| 2026-01-29 14:38:00 | 6.4               | 3.3               | 3.1         |
| 2026-01-29 14:39:00 | 6.2               | 3.7               | 2.5         |
| 2026-01-29 14:40:00 | 6.1               | 3.9               | 2.2         |
| 2026-01-29 14:41:00 | 6.1               | 4.2               | 1.9         |
| 2026-01-29 14:42:00 | 6.2               | 4.4               | 1.8         |
| 2026-01-29 14:43:00 | 6.2               | 4.6               | 1.6         |
| 2026-01-29 14:44:00 | 6.2               | 4.8               | 1.4         |
| 2026-01-29 14:45:00 | 6.3               | 4.9               | 1.4         |
| 2026-01-29 14:46:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-29 14:47:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-29 14:48:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-29 14:49:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-29 14:50:00 | 6.5               | 5.5               | 1.0         |
| 2026-01-29 14:51:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-29 14:52:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-29 14:53:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-29 14:54:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 14:55:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-29 14:56:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-29 14:57:00 | 7.0               | 6.1               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 14:58:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-29 14:59:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-29 15:00:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-29 15:01:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 15:02:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-29 15:03:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-29 15:04:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-29 15:05:00 | 7.4               | 5.8               | 1.6         |
| 2026-01-29 15:06:00 | 7.4               | 4.3               | 3.1         |
| 2026-01-29 15:07:00 | 7.4               | 3.7               | 3.7         |
| 2026-01-29 15:08:00 | 7.2               | 2.7               | 4.5         |
| 2026-01-29 15:09:00 | 7.0               | 2.5               | 4.5         |
| 2026-01-29 15:10:00 | 6.8               | 3.0               | 3.8         |
| 2026-01-29 15:11:00 | 6.7               | 3.4               | 3.3         |
| 2026-01-29 15:12:00 | 6.7               | 3.7               | 3.0         |
| 2026-01-29 15:13:00 | 6.7               | 4.1               | 2.6         |
| 2026-01-29 15:14:00 | 6.7               | 4.3               | 2.4         |
| 2026-01-29 15:15:00 | 6.7               | 4.6               | 2.1         |
| 2026-01-29 15:16:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 15:17:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 15:18:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 15:19:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 15:20:00 | 6.9               | 5.5               | 1.4         |
| 2026-01-29 15:21:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-29 15:22:00 | 6.8               | 5.6               | 1.2         |
| 2026-01-29 15:23:00 | 6.8               | 5.6               | 1.2         |
| 2026-01-29 15:24:00 | 6.9               | 5.7               | 1.2         |
| 2026-01-29 15:25:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 15:26:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 15:27:00 | 7.1               | 6.2               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 15:28:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-29 15:29:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-29 15:30:00 | 7.2               | 6.6               | 0.6         |
| 2026-01-29 15:31:00 | 7.2               | 6.7               | 0.5         |
| 2026-01-29 15:32:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 15:33:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 15:34:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 15:35:00 | 6.3               | 4.2               | 2.1         |
| 2026-01-29 15:36:00 | 6.0               | 3.7               | 2.3         |
| 2026-01-29 15:37:00 | 5.9               | 3.8               | 2.1         |
| 2026-01-29 15:38:00 | 5.8               | 4.0               | 1.8         |
| 2026-01-29 15:39:00 | 5.7               | 4.2               | 1.5         |
| 2026-01-29 15:40:00 | 5.7               | 4.4               | 1.3         |
| 2026-01-29 15:41:00 | 5.7               | 4.6               | 1.1         |
| 2026-01-29 15:42:00 | 5.8               | 4.8               | 1.0         |
| 2026-01-29 15:43:00 | 5.9               | 4.9               | 1.0         |
| 2026-01-29 15:44:00 | 5.9               | 5.1               | 0.8         |
| 2026-01-29 15:45:00 | 6.0               | 5.2               | 0.8         |
| 2026-01-29 15:46:00 | 6.1               | 5.3               | 0.8         |
| 2026-01-29 15:47:00 | 6.2               | 5.4               | 0.8         |
| 2026-01-29 15:48:00 | 6.2               | 5.5               | 0.7         |
| 2026-01-29 15:49:00 | 6.3               | 5.6               | 0.7         |
| 2026-01-29 15:50:00 | 6.4               | 5.7               | 0.7         |
| 2026-01-29 15:51:00 | 6.4               | 5.8               | 0.6         |
| 2026-01-29 15:52:00 | 6.5               | 5.8               | 0.7         |
| 2026-01-29 15:53:00 | 6.6               | 6.0               | 0.6         |
| 2026-01-29 15:54:00 | 6.7               | 6.0               | 0.7         |
| 2026-01-29 15:55:00 | 6.7               | 6.1               | 0.6         |
| 2026-01-29 15:56:00 | 6.8               | 6.2               | 0.6         |
| 2026-01-29 15:57:00 | 6.8               | 6.3               | 0.5         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 15:58:00 | 6.9               | 6.3               | 0.6         |
| 2026-01-29 15:59:00 | 7.0               | 6.4               | 0.6         |
| 2026-01-29 16:00:00 | 7.0               | 6.4               | 0.6         |
| 2026-01-29 16:01:00 | 7.1               | 6.5               | 0.6         |
| 2026-01-29 16:02:00 | 7.2               | 6.6               | 0.6         |
| 2026-01-29 16:03:00 | 7.2               | 6.6               | 0.6         |
| 2026-01-29 16:04:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-29 16:05:00 | 7.3               | 5.6               | 1.7         |
| 2026-01-29 16:06:00 | 7.3               | 3.8               | 3.5         |
| 2026-01-29 16:07:00 | 7.3               | 3.6               | 3.7         |
| 2026-01-29 16:08:00 | 7.0               | 2.4               | 4.6         |
| 2026-01-29 16:09:00 | 6.8               | 2.6               | 4.2         |
| 2026-01-29 16:10:00 | 6.7               | 3.1               | 3.6         |
| 2026-01-29 16:11:00 | 6.6               | 3.5               | 3.1         |
| 2026-01-29 16:12:00 | 6.6               | 3.8               | 2.8         |
| 2026-01-29 16:13:00 | 6.6               | 4.1               | 2.5         |
| 2026-01-29 16:14:00 | 6.6               | 4.4               | 2.2         |
| 2026-01-29 16:15:00 | 6.6               | 4.6               | 2.0         |
| 2026-01-29 16:16:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-29 16:17:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 16:18:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 16:19:00 | 6.8               | 5.4               | 1.4         |
| 2026-01-29 16:20:00 | 6.9               | 5.5               | 1.4         |
| 2026-01-29 16:21:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-29 16:22:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-29 16:23:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 16:24:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 16:25:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-29 16:26:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 16:27:00 | 7.2               | 6.1               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 16:28:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 16:29:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 16:30:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 16:31:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 16:32:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 16:33:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 16:34:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 16:35:00 | 7.6               | 6.0               | 1.6         |
| 2026-01-29 16:36:00 | 7.6               | 4.3               | 3.3         |
| 2026-01-29 16:37:00 | 7.5               | 3.4               | 4.1         |
| 2026-01-29 16:38:00 | 7.4               | 3.0               | 4.4         |
| 2026-01-29 16:39:00 | 7.1               | 2.3               | 4.8         |
| 2026-01-29 16:40:00 | 6.9               | 2.8               | 4.1         |
| 2026-01-29 16:41:00 | 6.8               | 3.2               | 3.6         |
| 2026-01-29 16:42:00 | 6.8               | 3.6               | 3.2         |
| 2026-01-29 16:43:00 | 6.7               | 3.9               | 2.8         |
| 2026-01-29 16:44:00 | 6.7               | 4.2               | 2.5         |
| 2026-01-29 16:45:00 | 6.7               | 4.4               | 2.3         |
| 2026-01-29 16:46:00 | 6.7               | 4.7               | 2.0         |
| 2026-01-29 16:47:00 | 6.8               | 4.9               | 1.9         |
| 2026-01-29 16:48:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 16:49:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 16:50:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-29 16:51:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 16:52:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 16:53:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 16:54:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-29 16:55:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 16:56:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-29 16:57:00 | 7.2               | 5.8               | 1.4         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 16:58:00 | 7.3               | 5.9               | 1.4         |
| 2026-01-29 16:59:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 17:00:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 17:01:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 17:02:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 17:03:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 17:04:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 17:05:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 17:06:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 17:07:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 17:08:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 17:09:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-29 17:10:00 | 7.4               | 5.4               | 2.0         |
| 2026-01-29 17:11:00 | 7.2               | 4.5               | 2.7         |
| 2026-01-29 17:12:00 | 6.8               | 3.8               | 3.0         |
| 2026-01-29 17:13:00 | 6.2               | 3.3               | 2.9         |
| 2026-01-29 17:14:00 | 6.0               | 3.7               | 2.3         |
| 2026-01-29 17:15:00 | 6.0               | 3.9               | 2.1         |
| 2026-01-29 17:16:00 | 6.0               | 4.1               | 1.9         |
| 2026-01-29 17:17:00 | 6.0               | 4.3               | 1.7         |
| 2026-01-29 17:18:00 | 6.0               | 4.5               | 1.5         |
| 2026-01-29 17:19:00 | 6.0               | 4.7               | 1.3         |
| 2026-01-29 17:20:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-29 17:21:00 | 6.1               | 4.9               | 1.2         |
| 2026-01-29 17:22:00 | 6.2               | 5.0               | 1.2         |
| 2026-01-29 17:23:00 | 6.2               | 5.1               | 1.1         |
| 2026-01-29 17:24:00 | 6.3               | 5.2               | 1.1         |
| 2026-01-29 17:25:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-29 17:26:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-29 17:27:00 | 6.5               | 5.5               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 17:28:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-29 17:29:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-29 17:30:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-29 17:31:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-29 17:32:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 17:33:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-29 17:34:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-29 17:35:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-29 17:36:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 17:37:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-29 17:38:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 17:39:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 17:40:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 17:41:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 17:42:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 17:43:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 17:44:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 17:45:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 17:46:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 17:47:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 17:48:00 | 7.4               | 5.8               | 1.6         |
| 2026-01-29 17:49:00 | 7.4               | 3.9               | 3.5         |
| 2026-01-29 17:50:00 | 7.3               | 3.6               | 3.7         |
| 2026-01-29 17:51:00 | 7.1               | 2.2               | 4.9         |
| 2026-01-29 17:52:00 | 6.9               | 2.3               | 4.6         |
| 2026-01-29 17:53:00 | 6.7               | 2.8               | 3.9         |
| 2026-01-29 17:54:00 | 6.6               | 3.2               | 3.4         |
| 2026-01-29 17:55:00 | 6.6               | 3.6               | 3.0         |
| 2026-01-29 17:56:00 | 6.6               | 3.9               | 2.7         |
| 2026-01-29 17:57:00 | 6.6               | 4.2               | 2.4         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 17:58:00 | 6.6               | 4.4               | 2.2         |
| 2026-01-29 17:59:00 | 6.6               | 4.6               | 2.0         |
| 2026-01-29 18:00:00 | 6.6               | 4.8               | 1.8         |
| 2026-01-29 18:01:00 | 6.6               | 5.0               | 1.6         |
| 2026-01-29 18:02:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 18:03:00 | 6.7               | 5.2               | 1.5         |
| 2026-01-29 18:04:00 | 6.7               | 5.2               | 1.5         |
| 2026-01-29 18:05:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 18:06:00 | 6.8               | 5.4               | 1.4         |
| 2026-01-29 18:07:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 18:08:00 | 6.9               | 5.5               | 1.4         |
| 2026-01-29 18:09:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 18:10:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-29 18:11:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-29 18:12:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 18:13:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 18:14:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 18:15:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-29 18:16:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 18:17:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 18:18:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 18:19:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 18:20:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 18:21:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 18:22:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 18:23:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 18:24:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-29 18:25:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 18:26:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-29 18:27:00 | 7.5               | 6.3               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 18:28:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 18:29:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 18:30:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-29 18:31:00 | 7.5               | 5.5               | 2.0         |
| 2026-01-29 18:32:00 | 7.3               | 4.5               | 2.8         |
| 2026-01-29 18:33:00 | 6.8               | 3.9               | 2.9         |
| 2026-01-29 18:34:00 | 6.4               | 3.3               | 3.1         |
| 2026-01-29 18:35:00 | 6.2               | 3.7               | 2.5         |
| 2026-01-29 18:36:00 | 6.0               | 3.8               | 2.2         |
| 2026-01-29 18:37:00 | 6.0               | 4.1               | 1.9         |
| 2026-01-29 18:38:00 | 6.0               | 4.3               | 1.7         |
| 2026-01-29 18:39:00 | 6.0               | 4.5               | 1.5         |
| 2026-01-29 18:40:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-29 18:41:00 | 6.1               | 4.7               | 1.4         |
| 2026-01-29 18:42:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-29 18:43:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-29 18:44:00 | 6.3               | 4.9               | 1.4         |
| 2026-01-29 18:45:00 | 6.4               | 5.0               | 1.4         |
| 2026-01-29 18:46:00 | 6.4               | 5.1               | 1.3         |
| 2026-01-29 18:47:00 | 6.5               | 5.1               | 1.4         |
| 2026-01-29 18:48:00 | 6.5               | 5.2               | 1.3         |
| 2026-01-29 18:49:00 | 6.6               | 5.2               | 1.4         |
| 2026-01-29 18:50:00 | 6.7               | 5.3               | 1.4         |
| 2026-01-29 18:51:00 | 6.7               | 5.4               | 1.3         |
| 2026-01-29 18:52:00 | 6.7               | 5.4               | 1.3         |
| 2026-01-29 18:53:00 | 6.8               | 5.5               | 1.3         |
| 2026-01-29 18:54:00 | 6.8               | 5.6               | 1.2         |
| 2026-01-29 18:55:00 | 6.9               | 5.7               | 1.2         |
| 2026-01-29 18:56:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-29 18:57:00 | 7.0               | 5.8               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 18:58:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-29 18:59:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 19:00:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 19:01:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 19:02:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 19:03:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 19:04:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 19:05:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 19:06:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 19:07:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 19:08:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 19:09:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 19:10:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 19:11:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-29 19:12:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 19:13:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 19:14:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-29 19:15:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 19:16:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 19:17:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 19:18:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 19:19:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 19:20:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 19:21:00 | 7.5               | 5.9               | 1.6         |
| 2026-01-29 19:22:00 | 7.3               | 4.1               | 3.2         |
| 2026-01-29 19:23:00 | 7.0               | 2.5               | 4.5         |
| 2026-01-29 19:24:00 | 6.6               | 2.2               | 4.4         |
| 2026-01-29 19:25:00 | 6.4               | 3.0               | 3.4         |
| 2026-01-29 19:26:00 | 6.3               | 3.4               | 2.9         |
| 2026-01-29 19:27:00 | 6.4               | 3.8               | 2.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 19:28:00 | 6.3               | 4.1               | 2.2         |
| 2026-01-29 19:29:00 | 6.3               | 4.5               | 1.8         |
| 2026-01-29 19:30:00 | 6.3               | 4.9               | 1.4         |
| 2026-01-29 19:31:00 | 6.3               | 5.2               | 1.1         |
| 2026-01-29 19:32:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-29 19:33:00 | 6.4               | 5.6               | 0.8         |
| 2026-01-29 19:34:00 | 6.5               | 5.7               | 0.8         |
| 2026-01-29 19:35:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-29 19:36:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-29 19:37:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-29 19:38:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-29 19:39:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-29 19:40:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-29 19:41:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-29 19:42:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-29 19:43:00 | 6.9               | 6.1               | 0.8         |
| 2026-01-29 19:44:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-29 19:45:00 | 7.0               | 6.2               | 0.8         |
| 2026-01-29 19:46:00 | 7.0               | 6.2               | 0.8         |
| 2026-01-29 19:47:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-29 19:48:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-29 19:49:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-29 19:50:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-29 19:51:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-29 19:52:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-29 19:53:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-29 19:54:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-29 19:55:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-29 19:56:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-29 19:57:00 | 7.3               | 6.6               | 0.7         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 19:58:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-29 19:59:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-29 20:00:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-29 20:01:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 20:02:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 20:03:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 20:04:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 20:05:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 20:06:00 | 7.5               | 6.9               | 0.6         |
| 2026-01-29 20:07:00 | 7.5               | 6.0               | 1.5         |
| 2026-01-29 20:08:00 | 7.3               | 4.8               | 2.5         |
| 2026-01-29 20:09:00 | 6.8               | 4.3               | 2.5         |
| 2026-01-29 20:10:00 | 6.4               | 3.5               | 2.9         |
| 2026-01-29 20:11:00 | 6.2               | 3.7               | 2.5         |
| 2026-01-29 20:12:00 | 6.1               | 3.9               | 2.2         |
| 2026-01-29 20:13:00 | 6.0               | 4.1               | 1.9         |
| 2026-01-29 20:14:00 | 6.0               | 4.3               | 1.7         |
| 2026-01-29 20:15:00 | 6.0               | 4.5               | 1.5         |
| 2026-01-29 20:16:00 | 6.0               | 4.7               | 1.3         |
| 2026-01-29 20:17:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-29 20:18:00 | 6.1               | 5.0               | 1.1         |
| 2026-01-29 20:19:00 | 6.2               | 5.1               | 1.1         |
| 2026-01-29 20:20:00 | 6.2               | 5.2               | 1.0         |
| 2026-01-29 20:21:00 | 6.2               | 5.3               | 0.9         |
| 2026-01-29 20:22:00 | 6.3               | 5.4               | 0.9         |
| 2026-01-29 20:23:00 | 6.4               | 5.5               | 0.9         |
| 2026-01-29 20:24:00 | 6.4               | 5.6               | 0.8         |
| 2026-01-29 20:25:00 | 6.5               | 5.6               | 0.9         |
| 2026-01-29 20:26:00 | 6.5               | 5.7               | 0.8         |
| 2026-01-29 20:27:00 | 6.6               | 5.8               | 0.8         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 20:28:00 | 6.6               | 5.8               | 0.8         |
| 2026-01-29 20:29:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-29 20:30:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-29 20:31:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-29 20:32:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-29 20:33:00 | 6.9               | 6.1               | 0.8         |
| 2026-01-29 20:34:00 | 6.9               | 6.2               | 0.7         |
| 2026-01-29 20:35:00 | 7.0               | 6.2               | 0.8         |
| 2026-01-29 20:36:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-29 20:37:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-29 20:38:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-29 20:39:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-29 20:40:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-29 20:41:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-29 20:42:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-29 20:43:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-29 20:44:00 | 7.2               | 6.6               | 0.6         |
| 2026-01-29 20:45:00 | 7.2               | 6.6               | 0.6         |
| 2026-01-29 20:46:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-29 20:47:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-29 20:48:00 | 7.3               | 6.7               | 0.6         |
| 2026-01-29 20:49:00 | 7.3               | 6.7               | 0.6         |
| 2026-01-29 20:50:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-29 20:51:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 20:52:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 20:53:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 20:54:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 20:55:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 20:56:00 | 7.5               | 6.9               | 0.6         |
| 2026-01-29 20:57:00 | 7.5               | 6.9               | 0.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 20:58:00 | 7.5               | 6.9               | 0.6         |
| 2026-01-29 20:59:00 | 7.6               | 6.0               | 1.6         |
| 2026-01-29 21:00:00 | 7.5               | 4.0               | 3.5         |
| 2026-01-29 21:01:00 | 7.3               | 3.7               | 3.6         |
| 2026-01-29 21:02:00 | 7.1               | 2.2               | 4.9         |
| 2026-01-29 21:03:00 | 6.8               | 2.4               | 4.4         |
| 2026-01-29 21:04:00 | 6.6               | 3.0               | 3.6         |
| 2026-01-29 21:05:00 | 6.6               | 3.3               | 3.3         |
| 2026-01-29 21:06:00 | 6.5               | 3.6               | 2.9         |
| 2026-01-29 21:07:00 | 6.5               | 3.9               | 2.6         |
| 2026-01-29 21:08:00 | 6.5               | 4.2               | 2.3         |
| 2026-01-29 21:09:00 | 6.5               | 4.5               | 2.0         |
| 2026-01-29 21:10:00 | 6.5               | 4.7               | 1.8         |
| 2026-01-29 21:11:00 | 6.6               | 4.9               | 1.7         |
| 2026-01-29 21:12:00 | 6.6               | 5.0               | 1.6         |
| 2026-01-29 21:13:00 | 6.6               | 5.0               | 1.6         |
| 2026-01-29 21:14:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 21:15:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 21:16:00 | 6.7               | 5.2               | 1.5         |
| 2026-01-29 21:17:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 21:18:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 21:19:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 21:20:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 21:21:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 21:22:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 21:23:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-29 21:24:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-29 21:25:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 21:26:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-29 21:27:00 | 7.1               | 5.8               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 21:28:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-29 21:29:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 21:30:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-29 21:31:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-29 21:32:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-29 21:33:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-29 21:34:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 21:35:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-29 21:36:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 21:37:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 21:38:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 21:39:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-29 21:40:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 21:41:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 21:42:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 21:43:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 21:44:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 21:45:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-29 21:46:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 21:47:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 21:48:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-29 21:49:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 21:50:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 21:51:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 21:52:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 21:53:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-29 21:54:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 21:55:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 21:56:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-29 21:57:00 | 7.6               | 5.6               | 2.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 21:58:00 | 7.3               | 4.5               | 2.8         |
| 2026-01-29 21:59:00 | 6.8               | 4.0               | 2.8         |
| 2026-01-29 22:00:00 | 6.5               | 3.5               | 3.0         |
| 2026-01-29 22:01:00 | 6.3               | 3.7               | 2.6         |
| 2026-01-29 22:02:00 | 6.2               | 3.9               | 2.3         |
| 2026-01-29 22:03:00 | 6.1               | 4.1               | 2.0         |
| 2026-01-29 22:04:00 | 6.1               | 4.3               | 1.8         |
| 2026-01-29 22:05:00 | 6.0               | 4.5               | 1.5         |
| 2026-01-29 22:06:00 | 6.0               | 4.6               | 1.4         |
| 2026-01-29 22:07:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-29 22:08:00 | 6.1               | 4.9               | 1.2         |
| 2026-01-29 22:09:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-29 22:10:00 | 6.2               | 5.0               | 1.2         |
| 2026-01-29 22:11:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-29 22:12:00 | 6.4               | 5.1               | 1.3         |
| 2026-01-29 22:13:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-29 22:14:00 | 6.5               | 5.3               | 1.2         |
| 2026-01-29 22:15:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-29 22:16:00 | 6.6               | 5.4               | 1.2         |
| 2026-01-29 22:17:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-29 22:18:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-29 22:19:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-29 22:20:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-29 22:21:00 | 6.8               | 5.7               | 1.1         |
| 2026-01-29 22:22:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 22:23:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-29 22:24:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-29 22:25:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-29 22:26:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-29 22:27:00 | 7.1               | 6.0               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 22:28:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 22:29:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-29 22:30:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-29 22:31:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 22:32:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-29 22:33:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 22:34:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 22:35:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 22:36:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 22:37:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 22:38:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 22:39:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 22:40:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-29 22:41:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 22:42:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 22:43:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 22:44:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-29 22:45:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 22:46:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 22:47:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 22:48:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-29 22:49:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 22:50:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-29 22:51:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-29 22:52:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 22:53:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-29 22:54:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 22:55:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-29 22:56:00 | 7.6               | 6.1               | 1.5         |
| 2026-01-29 22:57:00 | 7.6               | 4.1               | 3.5         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 22:58:00 | 7.5               | 3.7               | 3.8         |
| 2026-01-29 22:59:00 | 7.2               | 2.4               | 4.8         |
| 2026-01-29 23:00:00 | 7.0               | 2.6               | 4.4         |
| 2026-01-29 23:01:00 | 6.8               | 3.1               | 3.7         |
| 2026-01-29 23:02:00 | 6.7               | 3.5               | 3.2         |
| 2026-01-29 23:03:00 | 6.7               | 3.7               | 3.0         |
| 2026-01-29 23:04:00 | 6.6               | 4.0               | 2.6         |
| 2026-01-29 23:05:00 | 6.6               | 4.2               | 2.4         |
| 2026-01-29 23:06:00 | 6.6               | 4.5               | 2.1         |
| 2026-01-29 23:07:00 | 6.6               | 4.7               | 1.9         |
| 2026-01-29 23:08:00 | 6.6               | 4.8               | 1.8         |
| 2026-01-29 23:09:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-29 23:10:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-29 23:11:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-29 23:12:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-29 23:13:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-29 23:14:00 | 6.8               | 5.3               | 1.5         |
| 2026-01-29 23:15:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-29 23:16:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-29 23:17:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-29 23:18:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 23:19:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 23:20:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-29 23:21:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-29 23:22:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-29 23:23:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-29 23:24:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-29 23:25:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-29 23:26:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-29 23:27:00 | 7.2               | 6.0               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 23:28:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-29 23:29:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-29 23:30:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-29 23:31:00 | 7.3               | 6.7               | 0.6         |
| 2026-01-29 23:32:00 | 7.3               | 6.8               | 0.5         |
| 2026-01-29 23:33:00 | 7.3               | 6.8               | 0.5         |
| 2026-01-29 23:34:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 23:35:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 23:36:00 | 7.4               | 6.8               | 0.6         |
| 2026-01-29 23:37:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 23:38:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 23:39:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 23:40:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-29 23:41:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-29 23:42:00 | 7.2               | 4.8               | 2.4         |
| 2026-01-29 23:43:00 | 6.8               | 4.3               | 2.5         |
| 2026-01-29 23:44:00 | 6.5               | 3.5               | 3.0         |
| 2026-01-29 23:45:00 | 6.3               | 3.7               | 2.6         |
| 2026-01-29 23:46:00 | 6.1               | 3.8               | 2.3         |
| 2026-01-29 23:47:00 | 6.1               | 4.1               | 2.0         |
| 2026-01-29 23:48:00 | 6.0               | 4.2               | 1.8         |
| 2026-01-29 23:49:00 | 6.0               | 4.4               | 1.6         |
| 2026-01-29 23:50:00 | 6.0               | 4.6               | 1.4         |
| 2026-01-29 23:51:00 | 6.0               | 4.8               | 1.2         |
| 2026-01-29 23:52:00 | 6.1               | 4.9               | 1.2         |
| 2026-01-29 23:53:00 | 6.1               | 5.1               | 1.0         |
| 2026-01-29 23:54:00 | 6.2               | 5.2               | 1.0         |
| 2026-01-29 23:55:00 | 6.3               | 5.3               | 1.0         |
| 2026-01-29 23:56:00 | 6.3               | 5.4               | 0.9         |
| 2026-01-29 23:57:00 | 6.4               | 5.4               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-29 23:58:00 | 6.4               | 5.5               | 0.9         |
| 2026-01-29 23:59:00 | 6.5               | 5.6               | 0.9         |
| 2026-01-30 00:00:00 | 6.5               | 5.7               | 0.8         |
| 2026-01-30 00:01:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-30 00:02:00 | 6.6               | 5.8               | 0.8         |
| 2026-01-30 00:03:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-30 00:04:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-30 00:05:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-30 00:06:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-30 00:07:00 | 6.9               | 6.1               | 0.8         |
| 2026-01-30 00:08:00 | 6.9               | 6.1               | 0.8         |
| 2026-01-30 00:09:00 | 7.0               | 6.2               | 0.8         |
| 2026-01-30 00:10:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-30 00:11:00 | 7.0               | 6.3               | 0.7         |
| 2026-01-30 00:12:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-30 00:13:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-30 00:14:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-30 00:15:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-30 00:16:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-30 00:17:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-30 00:18:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-30 00:19:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-30 00:20:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-30 00:21:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-30 00:22:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-30 00:23:00 | 7.3               | 6.7               | 0.6         |
| 2026-01-30 00:24:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-30 00:25:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-30 00:26:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-30 00:27:00 | 7.4               | 6.7               | 0.7         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 00:28:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-30 00:29:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-30 00:30:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-30 00:31:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-30 00:32:00 | 7.5               | 6.9               | 0.6         |
| 2026-01-30 00:33:00 | 7.5               | 6.9               | 0.6         |
| 2026-01-30 00:34:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-30 00:35:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-30 00:36:00 | 7.6               | 6.0               | 1.6         |
| 2026-01-30 00:37:00 | 7.6               | 4.4               | 3.2         |
| 2026-01-30 00:38:00 | 7.4               | 3.8               | 3.6         |
| 2026-01-30 00:39:00 | 7.3               | 2.4               | 4.9         |
| 2026-01-30 00:40:00 | 7.0               | 2.5               | 4.5         |
| 2026-01-30 00:41:00 | 6.9               | 3.0               | 3.9         |
| 2026-01-30 00:42:00 | 6.8               | 3.4               | 3.4         |
| 2026-01-30 00:43:00 | 6.7               | 3.7               | 3.0         |
| 2026-01-30 00:44:00 | 6.7               | 4.0               | 2.7         |
| 2026-01-30 00:45:00 | 6.6               | 4.2               | 2.4         |
| 2026-01-30 00:46:00 | 6.6               | 4.5               | 2.1         |
| 2026-01-30 00:47:00 | 6.6               | 4.6               | 2.0         |
| 2026-01-30 00:48:00 | 6.6               | 4.9               | 1.7         |
| 2026-01-30 00:49:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 00:50:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-30 00:51:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-30 00:52:00 | 6.7               | 5.1               | 1.6         |
| 2026-01-30 00:53:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-30 00:54:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-30 00:55:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-30 00:56:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-30 00:57:00 | 7.0               | 5.4               | 1.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 00:58:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 00:59:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 01:00:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-30 01:01:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-30 01:02:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 01:03:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 01:04:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 01:05:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 01:06:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 01:07:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 01:08:00 | 7.3               | 5.9               | 1.4         |
| 2026-01-30 01:09:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-30 01:10:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-30 01:11:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-30 01:12:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-30 01:13:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-30 01:14:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-30 01:15:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-30 01:16:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 01:17:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 01:18:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 01:19:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 01:20:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 01:21:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 01:22:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 01:23:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 01:24:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 01:25:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 01:26:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 01:27:00 | 7.6               | 6.6               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 01:28:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 01:29:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 01:30:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 01:31:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 01:32:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 01:33:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 01:34:00 | 7.7               | 6.2               | 1.5         |
| 2026-01-30 01:35:00 | 7.7               | 4.6               | 3.1         |
| 2026-01-30 01:36:00 | 7.6               | 3.7               | 3.9         |
| 2026-01-30 01:37:00 | 7.4               | 3.0               | 4.4         |
| 2026-01-30 01:38:00 | 7.1               | 2.5               | 4.6         |
| 2026-01-30 01:39:00 | 7.0               | 2.9               | 4.1         |
| 2026-01-30 01:40:00 | 6.8               | 3.3               | 3.5         |
| 2026-01-30 01:41:00 | 6.8               | 3.7               | 3.1         |
| 2026-01-30 01:42:00 | 6.7               | 3.9               | 2.8         |
| 2026-01-30 01:43:00 | 6.7               | 4.2               | 2.5         |
| 2026-01-30 01:44:00 | 6.7               | 4.4               | 2.3         |
| 2026-01-30 01:45:00 | 6.7               | 4.6               | 2.1         |
| 2026-01-30 01:46:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-30 01:47:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 01:48:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-30 01:49:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-30 01:50:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 01:51:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 01:52:00 | 6.9               | 5.2               | 1.7         |
| 2026-01-30 01:53:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-30 01:54:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-30 01:55:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-30 01:56:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 01:57:00 | 7.1               | 5.6               | 1.5         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 01:58:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-30 01:59:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-30 02:00:00 | 7.2               | 5.7               | 1.5         |
| 2026-01-30 02:01:00 | 7.2               | 5.7               | 1.5         |
| 2026-01-30 02:02:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 02:03:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 02:04:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-30 02:05:00 | 7.3               | 5.8               | 1.5         |
| 2026-01-30 02:06:00 | 7.3               | 5.9               | 1.4         |
| 2026-01-30 02:07:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-30 02:08:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-30 02:09:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-30 02:10:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-30 02:11:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-30 02:12:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-30 02:13:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 02:14:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 02:15:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 02:16:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 02:17:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 02:18:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 02:19:00 | 7.6               | 6.3               | 1.3         |
| 2026-01-30 02:20:00 | 7.6               | 6.3               | 1.3         |
| 2026-01-30 02:21:00 | 7.6               | 6.3               | 1.3         |
| 2026-01-30 02:22:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-30 02:23:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-30 02:24:00 | 7.7               | 6.4               | 1.3         |
| 2026-01-30 02:25:00 | 7.7               | 6.4               | 1.3         |
| 2026-01-30 02:26:00 | 7.7               | 6.4               | 1.3         |
| 2026-01-30 02:27:00 | 7.7               | 6.5               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 02:28:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 02:29:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 02:30:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 02:31:00 | 7.8               | 6.6               | 1.2         |
| 2026-01-30 02:32:00 | 7.8               | 6.3               | 1.5         |
| 2026-01-30 02:33:00 | 7.5               | 5.1               | 2.4         |
| 2026-01-30 02:34:00 | 7.2               | 4.3               | 2.9         |
| 2026-01-30 02:35:00 | 6.6               | 3.5               | 3.1         |
| 2026-01-30 02:36:00 | 6.4               | 3.5               | 2.9         |
| 2026-01-30 02:37:00 | 6.2               | 3.7               | 2.5         |
| 2026-01-30 02:38:00 | 6.1               | 4.0               | 2.1         |
| 2026-01-30 02:39:00 | 6.1               | 4.2               | 1.9         |
| 2026-01-30 02:40:00 | 6.0               | 4.3               | 1.7         |
| 2026-01-30 02:41:00 | 6.0               | 4.4               | 1.6         |
| 2026-01-30 02:42:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-30 02:43:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-30 02:44:00 | 6.2               | 4.7               | 1.5         |
| 2026-01-30 02:45:00 | 6.3               | 4.8               | 1.5         |
| 2026-01-30 02:46:00 | 6.3               | 4.9               | 1.4         |
| 2026-01-30 02:47:00 | 6.4               | 4.9               | 1.5         |
| 2026-01-30 02:48:00 | 6.4               | 5.0               | 1.4         |
| 2026-01-30 02:49:00 | 6.5               | 5.1               | 1.4         |
| 2026-01-30 02:50:00 | 6.6               | 5.2               | 1.4         |
| 2026-01-30 02:51:00 | 6.6               | 5.3               | 1.3         |
| 2026-01-30 02:52:00 | 6.7               | 5.4               | 1.3         |
| 2026-01-30 02:53:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-30 02:54:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-30 02:55:00 | 6.8               | 5.6               | 1.2         |
| 2026-01-30 02:56:00 | 6.8               | 5.6               | 1.2         |
| 2026-01-30 02:57:00 | 6.9               | 5.7               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 02:58:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-30 02:59:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-30 03:00:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-30 03:01:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-30 03:02:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 03:03:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 03:04:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 03:05:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-30 03:06:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-30 03:07:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-30 03:08:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 03:09:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 03:10:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 03:11:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 03:12:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 03:13:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 03:14:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 03:15:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-30 03:16:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-30 03:17:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-30 03:18:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-30 03:19:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 03:20:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 03:21:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 03:22:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 03:23:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-30 03:24:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-30 03:25:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 03:26:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-30 03:27:00 | 7.4               | 6.8               | 0.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 03:28:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-30 03:29:00 | 7.5               | 6.1               | 1.4         |
| 2026-01-30 03:30:00 | 7.1               | 5.4               | 1.7         |
| 2026-01-30 03:31:00 | 6.7               | 4.7               | 2.0         |
| 2026-01-30 03:32:00 | 6.3               | 3.9               | 2.4         |
| 2026-01-30 03:33:00 | 6.2               | 4.1               | 2.1         |
| 2026-01-30 03:34:00 | 6.1               | 4.2               | 1.9         |
| 2026-01-30 03:35:00 | 6.0               | 4.3               | 1.7         |
| 2026-01-30 03:36:00 | 6.0               | 4.5               | 1.5         |
| 2026-01-30 03:37:00 | 6.0               | 4.7               | 1.3         |
| 2026-01-30 03:38:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-30 03:39:00 | 6.1               | 4.9               | 1.2         |
| 2026-01-30 03:40:00 | 6.1               | 5.0               | 1.1         |
| 2026-01-30 03:41:00 | 6.2               | 5.1               | 1.1         |
| 2026-01-30 03:42:00 | 6.3               | 5.2               | 1.1         |
| 2026-01-30 03:43:00 | 6.3               | 5.3               | 1.0         |
| 2026-01-30 03:44:00 | 6.3               | 5.4               | 0.9         |
| 2026-01-30 03:45:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-30 03:46:00 | 6.5               | 5.5               | 1.0         |
| 2026-01-30 03:47:00 | 6.5               | 5.6               | 0.9         |
| 2026-01-30 03:48:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-30 03:49:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-30 03:50:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-30 03:51:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-30 03:52:00 | 6.7               | 5.9               | 0.8         |
| 2026-01-30 03:53:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-30 03:54:00 | 6.8               | 6.0               | 0.8         |
| 2026-01-30 03:55:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-30 03:56:00 | 6.9               | 6.1               | 0.8         |
| 2026-01-30 03:57:00 | 7.0               | 6.1               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 03:58:00 | 7.0               | 6.2               | 0.8         |
| 2026-01-30 03:59:00 | 7.0               | 6.2               | 0.8         |
| 2026-01-30 04:00:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-30 04:01:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-30 04:02:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-30 04:03:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-30 04:04:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-30 04:05:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-30 04:06:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-30 04:07:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-30 04:08:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-30 04:09:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-30 04:10:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-30 04:11:00 | 7.3               | 6.6               | 0.7         |
| 2026-01-30 04:12:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 04:13:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 04:14:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 04:15:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-30 04:16:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-30 04:17:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-30 04:18:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-30 04:19:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-30 04:20:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-30 04:21:00 | 7.5               | 6.8               | 0.7         |
| 2026-01-30 04:22:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 04:23:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 04:24:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-30 04:25:00 | 7.6               | 6.9               | 0.7         |
| 2026-01-30 04:26:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-30 04:27:00 | 7.6               | 4.8               | 2.8         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 04:28:00 | 7.5               | 3.6               | 3.9         |
| 2026-01-30 04:29:00 | 7.3               | 3.2               | 4.1         |
| 2026-01-30 04:30:00 | 7.0               | 2.3               | 4.7         |
| 2026-01-30 04:31:00 | 6.8               | 2.7               | 4.1         |
| 2026-01-30 04:32:00 | 6.7               | 3.2               | 3.5         |
| 2026-01-30 04:33:00 | 6.7               | 3.6               | 3.1         |
| 2026-01-30 04:34:00 | 6.6               | 3.8               | 2.8         |
| 2026-01-30 04:35:00 | 6.6               | 4.1               | 2.5         |
| 2026-01-30 04:36:00 | 6.6               | 4.3               | 2.3         |
| 2026-01-30 04:37:00 | 6.6               | 4.5               | 2.1         |
| 2026-01-30 04:38:00 | 6.6               | 4.7               | 1.9         |
| 2026-01-30 04:39:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 04:40:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 04:41:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 04:42:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-30 04:43:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 04:44:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-30 04:45:00 | 6.9               | 5.2               | 1.7         |
| 2026-01-30 04:46:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-30 04:47:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-30 04:48:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-30 04:49:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 04:50:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 04:51:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-30 04:52:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 04:53:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 04:54:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 04:55:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 04:56:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 04:57:00 | 7.2               | 5.9               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 04:58:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-30 04:59:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-30 05:00:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-30 05:01:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-30 05:02:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 05:03:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 05:04:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-30 05:05:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 05:06:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 05:07:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 05:08:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 05:09:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 05:10:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 05:11:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 05:12:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 05:13:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 05:14:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 05:15:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 05:16:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 05:17:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 05:18:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 05:19:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 05:20:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 05:21:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 05:22:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 05:23:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 05:24:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 05:25:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 05:26:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 05:27:00 | 7.7               | 6.6               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 05:28:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 05:29:00 | 7.7               | 5.8               | 1.9         |
| 2026-01-30 05:30:00 | 7.7               | 4.1               | 3.6         |
| 2026-01-30 05:31:00 | 7.6               | 3.8               | 3.8         |
| 2026-01-30 05:32:00 | 7.4               | 2.3               | 5.1         |
| 2026-01-30 05:33:00 | 7.1               | 2.6               | 4.5         |
| 2026-01-30 05:34:00 | 7.0               | 3.0               | 4.0         |
| 2026-01-30 05:35:00 | 6.8               | 3.4               | 3.4         |
| 2026-01-30 05:36:00 | 6.8               | 3.8               | 3.0         |
| 2026-01-30 05:37:00 | 6.7               | 4.0               | 2.7         |
| 2026-01-30 05:38:00 | 6.7               | 4.3               | 2.4         |
| 2026-01-30 05:39:00 | 6.7               | 4.5               | 2.2         |
| 2026-01-30 05:40:00 | 6.7               | 4.7               | 2.0         |
| 2026-01-30 05:41:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-30 05:42:00 | 6.8               | 4.9               | 1.9         |
| 2026-01-30 05:43:00 | 6.8               | 4.9               | 1.9         |
| 2026-01-30 05:44:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-30 05:45:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 05:46:00 | 6.9               | 5.1               | 1.8         |
| 2026-01-30 05:47:00 | 6.9               | 5.1               | 1.8         |
| 2026-01-30 05:48:00 | 7.0               | 5.2               | 1.8         |
| 2026-01-30 05:49:00 | 7.0               | 5.2               | 1.8         |
| 2026-01-30 05:50:00 | 7.0               | 5.3               | 1.7         |
| 2026-01-30 05:51:00 | 7.1               | 5.4               | 1.7         |
| 2026-01-30 05:52:00 | 7.1               | 5.5               | 1.6         |
| 2026-01-30 05:53:00 | 7.1               | 5.6               | 1.5         |
| 2026-01-30 05:54:00 | 7.2               | 5.6               | 1.6         |
| 2026-01-30 05:55:00 | 7.2               | 5.7               | 1.5         |
| 2026-01-30 05:56:00 | 7.2               | 5.8               | 1.4         |
| 2026-01-30 05:57:00 | 7.2               | 5.8               | 1.4         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 05:58:00 | 7.3               | 5.9               | 1.4         |
| 2026-01-30 05:59:00 | 7.3               | 5.9               | 1.4         |
| 2026-01-30 06:00:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-30 06:01:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-30 06:02:00 | 7.3               | 6.0               | 1.3         |
| 2026-01-30 06:03:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-30 06:04:00 | 7.4               | 6.0               | 1.4         |
| 2026-01-30 06:05:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-30 06:06:00 | 7.4               | 6.1               | 1.3         |
| 2026-01-30 06:07:00 | 7.4               | 6.2               | 1.2         |
| 2026-01-30 06:08:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 06:09:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 06:10:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 06:11:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 06:12:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 06:13:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 06:14:00 | 7.5               | 6.3               | 1.2         |
| 2026-01-30 06:15:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-30 06:16:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-30 06:17:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-30 06:18:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 06:19:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-30 06:20:00 | 7.6               | 6.4               | 1.2         |
| 2026-01-30 06:21:00 | 7.7               | 6.4               | 1.3         |
| 2026-01-30 06:22:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 06:23:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 06:24:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 06:25:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 06:26:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 06:27:00 | 7.7               | 6.6               | 1.1         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 06:28:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 06:29:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-30 06:30:00 | 7.8               | 6.6               | 1.2         |
| 2026-01-30 06:31:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-30 06:32:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-30 06:33:00 | 7.8               | 6.6               | 1.2         |
| 2026-01-30 06:34:00 | 7.7               | 5.4               | 2.3         |
| 2026-01-30 06:35:00 | 7.3               | 4.4               | 2.9         |
| 2026-01-30 06:36:00 | 6.8               | 3.8               | 3.0         |
| 2026-01-30 06:37:00 | 6.5               | 3.5               | 3.0         |
| 2026-01-30 06:38:00 | 6.3               | 3.7               | 2.6         |
| 2026-01-30 06:39:00 | 6.2               | 3.9               | 2.3         |
| 2026-01-30 06:40:00 | 6.1               | 4.1               | 2.0         |
| 2026-01-30 06:41:00 | 6.1               | 4.3               | 1.8         |
| 2026-01-30 06:42:00 | 6.1               | 4.4               | 1.7         |
| 2026-01-30 06:43:00 | 6.1               | 4.5               | 1.6         |
| 2026-01-30 06:44:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-30 06:45:00 | 6.2               | 4.8               | 1.4         |
| 2026-01-30 06:46:00 | 6.2               | 4.8               | 1.4         |
| 2026-01-30 06:47:00 | 6.3               | 4.9               | 1.4         |
| 2026-01-30 06:48:00 | 6.4               | 5.0               | 1.4         |
| 2026-01-30 06:49:00 | 6.4               | 5.1               | 1.3         |
| 2026-01-30 06:50:00 | 6.5               | 5.1               | 1.4         |
| 2026-01-30 06:51:00 | 6.5               | 5.2               | 1.3         |
| 2026-01-30 06:52:00 | 6.6               | 5.2               | 1.4         |
| 2026-01-30 06:53:00 | 6.6               | 5.3               | 1.3         |
| 2026-01-30 06:54:00 | 6.7               | 5.4               | 1.3         |
| 2026-01-30 06:55:00 | 6.7               | 5.5               | 1.2         |
| 2026-01-30 06:56:00 | 6.8               | 5.5               | 1.3         |
| 2026-01-30 06:57:00 | 6.8               | 5.6               | 1.2         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 06:58:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-30 06:59:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-30 07:00:00 | 6.9               | 5.7               | 1.2         |
| 2026-01-30 07:01:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-30 07:02:00 | 7.0               | 5.8               | 1.2         |
| 2026-01-30 07:03:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-30 07:04:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-30 07:05:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 07:06:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 07:07:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 07:08:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 07:09:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-30 07:10:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-30 07:11:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-30 07:12:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 07:13:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 07:14:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 07:15:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 07:16:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 07:17:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 07:18:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-30 07:19:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 07:20:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-30 07:21:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-30 07:22:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 07:23:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 07:24:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 07:25:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-30 07:26:00 | 7.3               | 6.7               | 0.6         |
| 2026-01-30 07:27:00 | 7.4               | 6.8               | 0.6         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 07:28:00 | 7.4               | 6.9               | 0.5         |
| 2026-01-30 07:29:00 | 7.5               | 6.2               | 1.3         |
| 2026-01-30 07:30:00 | 7.2               | 5.1               | 2.1         |
| 2026-01-30 07:31:00 | 6.8               | 4.3               | 2.5         |
| 2026-01-30 07:32:00 | 6.3               | 3.6               | 2.7         |
| 2026-01-30 07:33:00 | 6.1               | 3.7               | 2.4         |
| 2026-01-30 07:34:00 | 6.0               | 3.9               | 2.1         |
| 2026-01-30 07:35:00 | 5.9               | 4.1               | 1.8         |
| 2026-01-30 07:36:00 | 5.8               | 4.2               | 1.6         |
| 2026-01-30 07:37:00 | 5.9               | 4.4               | 1.5         |
| 2026-01-30 07:38:00 | 5.9               | 4.6               | 1.3         |
| 2026-01-30 07:39:00 | 5.9               | 4.7               | 1.2         |
| 2026-01-30 07:40:00 | 5.9               | 4.9               | 1.0         |
| 2026-01-30 07:41:00 | 6.0               | 5.0               | 1.0         |
| 2026-01-30 07:42:00 | 6.1               | 5.1               | 1.0         |
| 2026-01-30 07:43:00 | 6.1               | 5.2               | 0.9         |
| 2026-01-30 07:44:00 | 6.2               | 5.2               | 1.0         |
| 2026-01-30 07:45:00 | 6.3               | 5.3               | 1.0         |
| 2026-01-30 07:46:00 | 6.3               | 5.4               | 0.9         |
| 2026-01-30 07:47:00 | 6.4               | 5.5               | 0.9         |
| 2026-01-30 07:48:00 | 6.5               | 5.5               | 1.0         |
| 2026-01-30 07:49:00 | 6.5               | 5.6               | 0.9         |
| 2026-01-30 07:50:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-30 07:51:00 | 6.6               | 5.7               | 0.9         |
| 2026-01-30 07:52:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-30 07:53:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-30 07:54:00 | 6.7               | 5.8               | 0.9         |
| 2026-01-30 07:55:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-30 07:56:00 | 6.8               | 5.9               | 0.9         |
| 2026-01-30 07:57:00 | 6.9               | 6.0               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 07:58:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-30 07:59:00 | 6.9               | 6.0               | 0.9         |
| 2026-01-30 08:00:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-30 08:01:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-30 08:02:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-30 08:03:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-30 08:04:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-30 08:05:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-30 08:06:00 | 7.1               | 6.3               | 0.8         |
| 2026-01-30 08:07:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 08:08:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 08:09:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 08:10:00 | 7.2               | 6.4               | 0.8         |
| 2026-01-30 08:11:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 08:12:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 08:13:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-30 08:14:00 | 7.3               | 6.5               | 0.8         |
| 2026-01-30 08:15:00 | 7.4               | 6.5               | 0.9         |
| 2026-01-30 08:16:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 08:17:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 08:18:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 08:19:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 08:20:00 | 7.4               | 6.6               | 0.8         |
| 2026-01-30 08:21:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-30 08:22:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-30 08:23:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-30 08:24:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-30 08:25:00 | 7.5               | 6.7               | 0.8         |
| 2026-01-30 08:26:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-30 08:27:00 | 7.6               | 6.7               | 0.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 08:28:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 08:29:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 08:30:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 08:31:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 08:32:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 08:33:00 | 7.6               | 6.8               | 0.8         |
| 2026-01-30 08:34:00 | 7.7               | 6.8               | 0.9         |
| 2026-01-30 08:35:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-30 08:36:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-30 08:37:00 | 7.7               | 6.9               | 0.8         |
| 2026-01-30 08:38:00 | 7.7               | 5.9               | 1.8         |
| 2026-01-30 08:39:00 | 7.7               | 4.0               | 3.7         |
| 2026-01-30 08:40:00 | 7.5               | 4.0               | 3.5         |
| 2026-01-30 08:41:00 | 7.2               | 2.5               | 4.7         |
| 2026-01-30 08:42:00 | 7.0               | 2.9               | 4.1         |
| 2026-01-30 08:43:00 | 6.9               | 3.2               | 3.7         |
| 2026-01-30 08:44:00 | 6.8               | 3.6               | 3.2         |
| 2026-01-30 08:45:00 | 6.7               | 3.9               | 2.8         |
| 2026-01-30 08:46:00 | 6.7               | 4.2               | 2.5         |
| 2026-01-30 08:47:00 | 6.7               | 4.4               | 2.3         |
| 2026-01-30 08:48:00 | 6.7               | 4.6               | 2.1         |
| 2026-01-30 08:49:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-30 08:50:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 08:51:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 08:52:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-30 08:53:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 08:54:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 08:55:00 | 6.9               | 5.2               | 1.7         |
| 2026-01-30 08:56:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-30 08:57:00 | 6.9               | 5.4               | 1.5         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 08:58:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 08:59:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-30 09:00:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 09:01:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 09:02:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-30 09:03:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-30 09:04:00 | 7.1               | 5.9               | 1.2         |
| 2026-01-30 09:05:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-30 09:06:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 09:07:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 09:08:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-30 09:09:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-30 09:10:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 09:11:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 09:12:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 09:13:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 09:14:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 09:15:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 09:16:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 09:17:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 09:18:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 09:19:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 09:20:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 09:21:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 09:22:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 09:23:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 09:24:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 09:25:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 09:26:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 09:27:00 | 7.5               | 6.5               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 09:28:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 09:29:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 09:30:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 09:31:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 09:32:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 09:33:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 09:34:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 09:35:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 09:36:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 09:37:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 09:38:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-30 09:39:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-30 09:40:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-30 09:41:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-30 09:42:00 | 7.7               | 6.7               | 1.0         |
| 2026-01-30 09:43:00 | 7.8               | 6.7               | 1.1         |
| 2026-01-30 09:44:00 | 7.8               | 6.6               | 1.2         |
| 2026-01-30 09:45:00 | 7.8               | 6.6               | 1.2         |
| 2026-01-30 09:46:00 | 7.8               | 6.1               | 1.7         |
| 2026-01-30 09:47:00 | 7.8               | 4.5               | 3.3         |
| 2026-01-30 09:48:00 | 7.6               | 3.9               | 3.7         |
| 2026-01-30 09:49:00 | 7.4               | 2.6               | 4.8         |
| 2026-01-30 09:50:00 | 7.1               | 2.6               | 4.5         |
| 2026-01-30 09:51:00 | 7.0               | 3.1               | 3.9         |
| 2026-01-30 09:52:00 | 6.9               | 3.5               | 3.4         |
| 2026-01-30 09:53:00 | 6.8               | 3.7               | 3.1         |
| 2026-01-30 09:54:00 | 6.8               | 4.0               | 2.8         |
| 2026-01-30 09:55:00 | 6.8               | 4.2               | 2.6         |
| 2026-01-30 09:56:00 | 6.7               | 4.5               | 2.2         |
| 2026-01-30 09:57:00 | 6.7               | 4.7               | 2.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 09:58:00 | 6.8               | 4.9               | 1.9         |
| 2026-01-30 09:59:00 | 6.8               | 4.9               | 1.9         |
| 2026-01-30 10:00:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-30 10:01:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 10:02:00 | 6.9               | 5.2               | 1.7         |
| 2026-01-30 10:03:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-30 10:04:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-30 10:05:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 10:06:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-30 10:07:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-30 10:08:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 10:09:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-30 10:10:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-30 10:11:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-30 10:12:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 10:13:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-30 10:14:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-30 10:15:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 10:16:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 10:17:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 10:18:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 10:19:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 10:20:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 10:21:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 10:22:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 10:23:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 10:24:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 10:25:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 10:26:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 10:27:00 | 7.5               | 6.5               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 10:28:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 10:29:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 10:30:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 10:31:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 10:32:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 10:33:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 10:34:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 10:35:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 10:36:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 10:37:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 10:38:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 10:39:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 10:40:00 | 7.7               | 6.6               | 1.1         |
| 2026-01-30 10:41:00 | 7.7               | 6.5               | 1.2         |
| 2026-01-30 10:42:00 | 7.7               | 5.9               | 1.8         |
| 2026-01-30 10:43:00 | 7.4               | 4.9               | 2.5         |
| 2026-01-30 10:44:00 | 7.0               | 4.3               | 2.7         |
| 2026-01-30 10:45:00 | 6.5               | 3.4               | 3.1         |
| 2026-01-30 10:46:00 | 6.3               | 3.6               | 2.7         |
| 2026-01-30 10:47:00 | 6.2               | 3.8               | 2.4         |
| 2026-01-30 10:48:00 | 6.1               | 4.0               | 2.1         |
| 2026-01-30 10:49:00 | 6.0               | 4.2               | 1.8         |
| 2026-01-30 10:50:00 | 6.0               | 4.4               | 1.6         |
| 2026-01-30 10:51:00 | 6.1               | 4.6               | 1.5         |
| 2026-01-30 10:52:00 | 6.1               | 4.7               | 1.4         |
| 2026-01-30 10:53:00 | 6.1               | 4.8               | 1.3         |
| 2026-01-30 10:54:00 | 6.2               | 4.9               | 1.3         |
| 2026-01-30 10:55:00 | 6.3               | 4.9               | 1.4         |
| 2026-01-30 10:56:00 | 6.4               | 5.0               | 1.4         |
| 2026-01-30 10:57:00 | 6.4               | 5.1               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 10:58:00 | 6.5               | 5.2               | 1.3         |
| 2026-01-30 10:59:00 | 6.5               | 5.2               | 1.3         |
| 2026-01-30 11:00:00 | 6.6               | 5.3               | 1.3         |
| 2026-01-30 11:01:00 | 6.6               | 5.3               | 1.3         |
| 2026-01-30 11:02:00 | 6.7               | 5.4               | 1.3         |
| 2026-01-30 11:03:00 | 6.7               | 5.4               | 1.3         |
| 2026-01-30 11:04:00 | 6.8               | 5.5               | 1.3         |
| 2026-01-30 11:05:00 | 6.8               | 5.5               | 1.3         |
| 2026-01-30 11:06:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-30 11:07:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-30 11:08:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-30 11:09:00 | 7.0               | 5.7               | 1.3         |
| 2026-01-30 11:10:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-30 11:11:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-30 11:12:00 | 6.9               | 5.4               | 1.5         |
| 2026-01-30 11:13:00 | 6.9               | 5.6               | 1.3         |
| 2026-01-30 11:14:00 | 6.9               | 5.7               | 1.2         |
| 2026-01-30 11:15:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-30 11:16:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-30 11:17:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-30 11:18:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-30 11:19:00 | 7.1               | 6.4               | 0.7         |
| 2026-01-30 11:20:00 | 7.2               | 6.5               | 0.7         |
| 2026-01-30 11:21:00 | 7.2               | 6.7               | 0.5         |
| 2026-01-30 11:22:00 | 7.3               | 6.8               | 0.5         |
| 2026-01-30 11:23:00 | 7.3               | 6.8               | 0.5         |
| 2026-01-30 11:24:00 | 7.3               | 6.8               | 0.5         |
| 2026-01-30 11:25:00 | 7.4               | 6.9               | 0.5         |
| 2026-01-30 11:26:00 | 7.4               | 6.7               | 0.7         |
| 2026-01-30 11:27:00 | 7.4               | 6.1               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 11:28:00 | 7.3               | 4.6               | 2.7         |
| 2026-01-30 11:29:00 | 7.0               | 3.1               | 3.9         |
| 2026-01-30 11:30:00 | 6.7               | 2.8               | 3.9         |
| 2026-01-30 11:31:00 | 6.6               | 2.6               | 4.0         |
| 2026-01-30 11:32:00 | 6.5               | 3.0               | 3.5         |
| 2026-01-30 11:33:00 | 6.3               | 3.7               | 2.6         |
| 2026-01-30 11:34:00 | 6.3               | 4.1               | 2.2         |
| 2026-01-30 11:35:00 | 6.3               | 4.6               | 1.7         |
| 2026-01-30 11:36:00 | 6.3               | 5.0               | 1.3         |
| 2026-01-30 11:37:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-30 11:38:00 | 6.4               | 5.4               | 1.0         |
| 2026-01-30 11:39:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-30 11:40:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-30 11:41:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-30 11:42:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-30 11:43:00 | 6.7               | 5.6               | 1.1         |
| 2026-01-30 11:44:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-30 11:45:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-30 11:46:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-30 11:47:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-30 11:48:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-30 11:49:00 | 7.0               | 5.9               | 1.1         |
| 2026-01-30 11:50:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-30 11:51:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-30 11:52:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 11:53:00 | 7.1               | 6.0               | 1.1         |
| 2026-01-30 11:54:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-30 11:55:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-30 11:56:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-30 11:57:00 | 7.2               | 6.2               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 11:58:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 11:59:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 12:00:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 12:01:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 12:02:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 12:03:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 12:04:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 12:05:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 12:06:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 12:07:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 12:08:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 12:09:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 12:10:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 12:11:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 12:12:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 12:13:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-30 12:14:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-30 12:15:00 | 7.5               | 6.6               | 0.9         |
| 2026-01-30 12:16:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 12:17:00 | 7.6               | 6.6               | 1.0         |
| 2026-01-30 12:18:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-30 12:19:00 | 7.6               | 6.7               | 0.9         |
| 2026-01-30 12:20:00 | 7.7               | 6.3               | 1.4         |
| 2026-01-30 12:21:00 | 7.5               | 5.2               | 2.3         |
| 2026-01-30 12:22:00 | 7.3               | 4.4               | 2.9         |
| 2026-01-30 12:23:00 | 6.7               | 3.8               | 2.9         |
| 2026-01-30 12:24:00 | 6.4               | 3.7               | 2.7         |
| 2026-01-30 12:25:00 | 6.2               | 3.8               | 2.4         |
| 2026-01-30 12:26:00 | 6.2               | 4.1               | 2.1         |
| 2026-01-30 12:27:00 | 6.2               | 4.3               | 1.9         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 12:28:00 | 6.2               | 4.5               | 1.7         |
| 2026-01-30 12:29:00 | 6.2               | 4.6               | 1.6         |
| 2026-01-30 12:30:00 | 6.2               | 4.8               | 1.4         |
| 2026-01-30 12:31:00 | 6.3               | 4.9               | 1.4         |
| 2026-01-30 12:32:00 | 6.3               | 5.1               | 1.2         |
| 2026-01-30 12:33:00 | 6.4               | 5.2               | 1.2         |
| 2026-01-30 12:34:00 | 6.4               | 5.3               | 1.1         |
| 2026-01-30 12:35:00 | 6.5               | 5.4               | 1.1         |
| 2026-01-30 12:36:00 | 6.5               | 5.5               | 1.0         |
| 2026-01-30 12:37:00 | 6.6               | 5.5               | 1.1         |
| 2026-01-30 12:38:00 | 6.6               | 5.6               | 1.0         |
| 2026-01-30 12:39:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-30 12:40:00 | 6.7               | 5.7               | 1.0         |
| 2026-01-30 12:41:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-30 12:42:00 | 6.8               | 5.8               | 1.0         |
| 2026-01-30 12:43:00 | 6.9               | 5.8               | 1.1         |
| 2026-01-30 12:44:00 | 6.9               | 5.9               | 1.0         |
| 2026-01-30 12:45:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-30 12:46:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-30 12:47:00 | 7.0               | 6.0               | 1.0         |
| 2026-01-30 12:48:00 | 7.0               | 6.1               | 0.9         |
| 2026-01-30 12:49:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-30 12:50:00 | 7.1               | 6.1               | 1.0         |
| 2026-01-30 12:51:00 | 7.1               | 6.2               | 0.9         |
| 2026-01-30 12:52:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-30 12:53:00 | 7.2               | 6.2               | 1.0         |
| 2026-01-30 12:54:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 12:55:00 | 7.2               | 6.3               | 0.9         |
| 2026-01-30 12:56:00 | 7.3               | 6.3               | 1.0         |
| 2026-01-30 12:57:00 | 7.3               | 6.3               | 1.0         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 12:58:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 12:59:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 13:00:00 | 7.3               | 6.4               | 0.9         |
| 2026-01-30 13:01:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 13:02:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 13:03:00 | 7.5               | 5.8               | 1.7         |
| 2026-01-30 13:04:00 | 7.5               | 4.1               | 3.4         |
| 2026-01-30 13:05:00 | 7.5               | 3.8               | 3.7         |
| 2026-01-30 13:06:00 | 7.2               | 2.4               | 4.8         |
| 2026-01-30 13:07:00 | 7.1               | 2.5               | 4.6         |
| 2026-01-30 13:08:00 | 6.9               | 3.0               | 3.9         |
| 2026-01-30 13:09:00 | 6.7               | 3.3               | 3.4         |
| 2026-01-30 13:10:00 | 6.7               | 3.6               | 3.1         |
| 2026-01-30 13:11:00 | 6.7               | 3.9               | 2.8         |
| 2026-01-30 13:12:00 | 6.6               | 4.2               | 2.4         |
| 2026-01-30 13:13:00 | 6.6               | 4.4               | 2.2         |
| 2026-01-30 13:14:00 | 6.6               | 4.6               | 2.0         |
| 2026-01-30 13:15:00 | 6.6               | 4.8               | 1.8         |
| 2026-01-30 13:16:00 | 6.7               | 4.8               | 1.9         |
| 2026-01-30 13:17:00 | 6.7               | 4.9               | 1.8         |
| 2026-01-30 13:18:00 | 6.7               | 5.0               | 1.7         |
| 2026-01-30 13:19:00 | 6.8               | 5.0               | 1.8         |
| 2026-01-30 13:20:00 | 6.8               | 5.1               | 1.7         |
| 2026-01-30 13:21:00 | 6.8               | 5.2               | 1.6         |
| 2026-01-30 13:22:00 | 6.9               | 5.2               | 1.7         |
| 2026-01-30 13:23:00 | 6.9               | 5.3               | 1.6         |
| 2026-01-30 13:24:00 | 7.0               | 5.4               | 1.6         |
| 2026-01-30 13:25:00 | 7.0               | 5.5               | 1.5         |
| 2026-01-30 13:26:00 | 7.0               | 5.6               | 1.4         |
| 2026-01-30 13:27:00 | 7.0               | 5.7               | 1.3         |

| 时间                  | 所有点最大值<br>(timax) | 所有点最小值<br>(timin) | timax-timin |
|---------------------|-------------------|-------------------|-------------|
| 2026-01-30 13:28:00 | 7.1               | 5.7               | 1.4         |
| 2026-01-30 13:29:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-30 13:30:00 | 7.1               | 5.8               | 1.3         |
| 2026-01-30 13:31:00 | 7.2               | 5.9               | 1.3         |
| 2026-01-30 13:32:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 13:33:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 13:34:00 | 7.2               | 6.0               | 1.2         |
| 2026-01-30 13:35:00 | 7.2               | 6.1               | 1.1         |
| 2026-01-30 13:36:00 | 7.3               | 6.1               | 1.2         |
| 2026-01-30 13:37:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 13:38:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 13:39:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 13:40:00 | 7.3               | 6.2               | 1.1         |
| 2026-01-30 13:41:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 13:42:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 13:43:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 13:44:00 | 7.4               | 6.3               | 1.1         |
| 2026-01-30 13:45:00 | 7.4               | 6.4               | 1.0         |
| 2026-01-30 13:46:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 13:47:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 13:48:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 13:49:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 13:50:00 | 7.5               | 6.4               | 1.1         |
| 2026-01-30 13:51:00 | 7.5               | 6.5               | 1.0         |
| 2026-01-30 13:52:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 13:53:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 13:54:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 13:55:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 13:56:00 | 7.6               | 6.5               | 1.1         |
| 2026-01-30 13:57:00 | 7.6               | 6.6               | 1.0         |

| 时间                  | 所有点最大值<br>(t <sub>imax</sub> ) | 所有点最小值<br>(t <sub>imin</sub> ) | t <sub>imax</sub> -t <sub>imin</sub> |
|---------------------|--------------------------------|--------------------------------|--------------------------------------|
| 2026-01-30 13:58:00 | 7.7                            | 6.6                            | 1.1                                  |
| 2026-01-30 13:59:00 | 7.7                            | 6.6                            | 1.1                                  |
| 2026-01-30 14:00:00 | 7.7                            | 6.6                            | 1.1                                  |