TEST REPORT

Model/Spec.:

N1730544 / Bullet RVS 5x IP zoomlens camera

Report No.: 19-03-2025

Test Laboratory **:** Dacom Werkendam BV
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IEC 60068 Environmental Testing Report

Trade mark	:	Dacom Werkendam BV
Product name	:	Bullet RVS 5x IP zoomlens camera
Model	:	N1730544 (-1)
Specimen quantity	:	3pcs
Serial/Specimen No.	:	N/A
Processed date	:	Mrt,04 until 19,2025

Test criteria	:	IEC 60068-2-1: 2007, LOW TEMPERATURE TEST IEC 60068-2-2: 2007, HIGH TEMPERATURE TEST IEC 60068-2-14: 2009, CHANGE TEMPERATURE TEST IEC 60068-2-30: 2005, DAMP HEAT CYCLIC TEST

Tested by: Arie Heijblom/ Technical Director ----------

Approved by: John Heijblom/ General Director ----------

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1. TEST SUMMARY

1.2 Test overview

Test	Equipment type	Temp (°C)	Humidity (%)	Time (hr)	Description	Test date	Conclusion
Test Ab	Non-Working	-10	-	16	The camera is exposed to low temperatures without being active to test cold impact.	03-03-2025	Pass
Test Ad	Working	-10	-	8	The camera is cooled and switched on to test functionality at low temperatures.	03-03-2025	Pass
Test Ae	Continuous Operating	-10	-	16	The camera remains switched on to simulate prolonged cold exposure.	03-03-2025	Pass
Test Bb	Non-Working	60	30	8	The camera is exposed to high temperatures without being switched on.	06-03-2025	Pass
Test Bd	Working	55	30	8	The camera is heated and switched on to test performance.	10-03-2025	Pass
Test Be	Continuous Operating	55	30	8	The camera remains switched on during heat exposure to evaluate overheating.	10-03-2025	Pass
Test Nb	Continuous Operating	-10 ↔ 55	-	5 cyclys	Rapid temperature changes between -10°C and +55°C to test temperature stress.	13-03-2025	Pass
Test Db	Continuous Operating	25 ↔ 55	95	24	Alternating temperature and humidity cycles to test condensation formation.	18-03-2025	Pass

1.3 Test procedure

- Preparation: Control climate cabinet, functional test camera, installation in the cabinet.

- Conditioning: Temperature change max 1°C per minute, stabilisation 2 hours.

- Implementation: according to IEC 60068-2-1:2007, IEC 60068-2-2:2007, IEC 60068-2-14:2009 and IEC 60068-2-30:2005

1.4 Deviations from IEC standards

- IEC 60068-2-1 (cold test): during limits TK 120 No humidity control below 10°C.
- IEC 60068-2-14 (temp shock): Transition speed 1°C/min instead of required 5-10 °C/min.

2. TEST EQUIPMENT USED

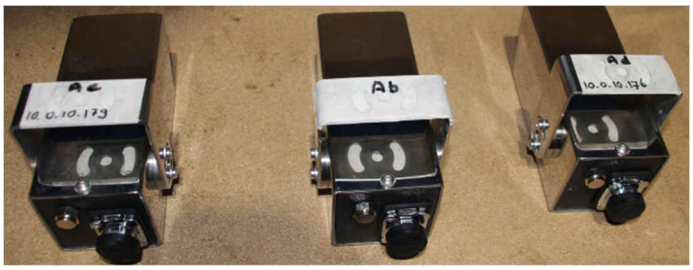
No.	Equipment	Equipment ID	Type	Manufacturer	Last Calib.
1	Climatic Test Cabinet	01.0509	TK 120	Nüve	11-2024

3. AMBIENT CONDITION

Temperature: (19~21)℃
Relative Humidity: (28~40)%

4. INITIAL CHECK

Before the test, the specimen exhibited no external physical damage.



5. LOW TEMPERATURE TEST Ab

5.1. Test Requirement

Test refers to IEC 60068-2-1:2007 **During limits of TK-120 test chamber the minimum temperature is -10℃**
Specimen status: Unpackaged, non-Working
Temperature: (-10±0,5)℃
Rate of temperature change: 0,46℃/min
Test duration: 16h

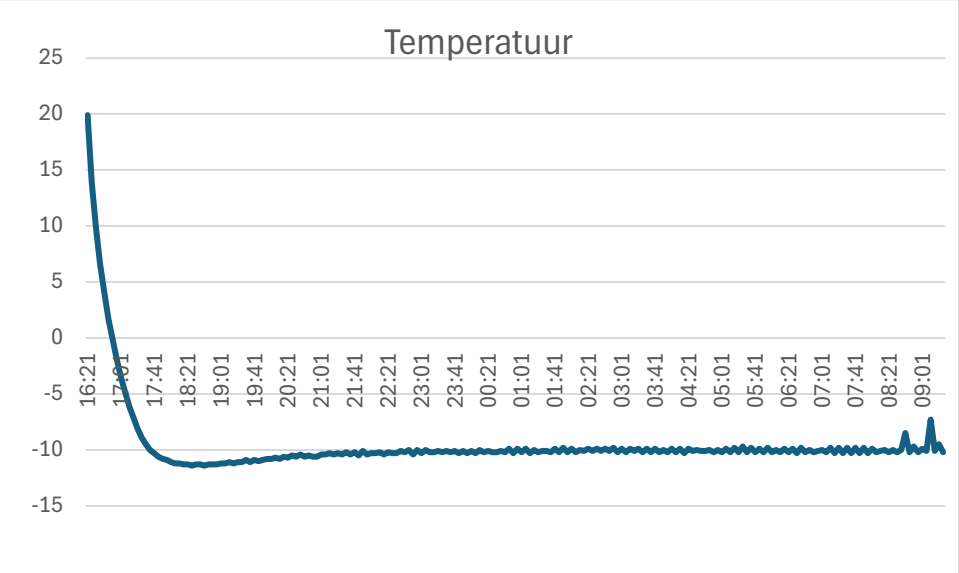
5.2. Test Results

After the test, the specimen exhibited no external physical damage.

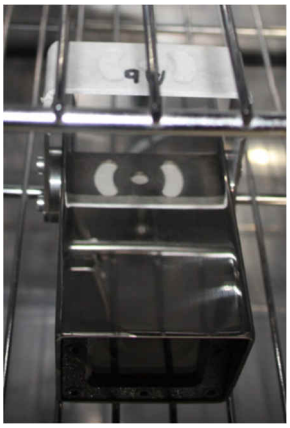
5.3. Test Conclusion

Pass

5.4 Low temperature test profile



5.5 Photos



Test Photo

Functional Photo after test

6. LOW TEMPERATURE TEST Ad

6.1. Test Requirement

Test refers to IEC 60068-2-1:2007 **During limits of TK-120 test chamber the minimum temperature is -10℃**
Specimen status: Unpackaged, Working
Temperature: (-10±0,5)℃
Rate of temperature change: 0,46℃/min
Test duration: 8h

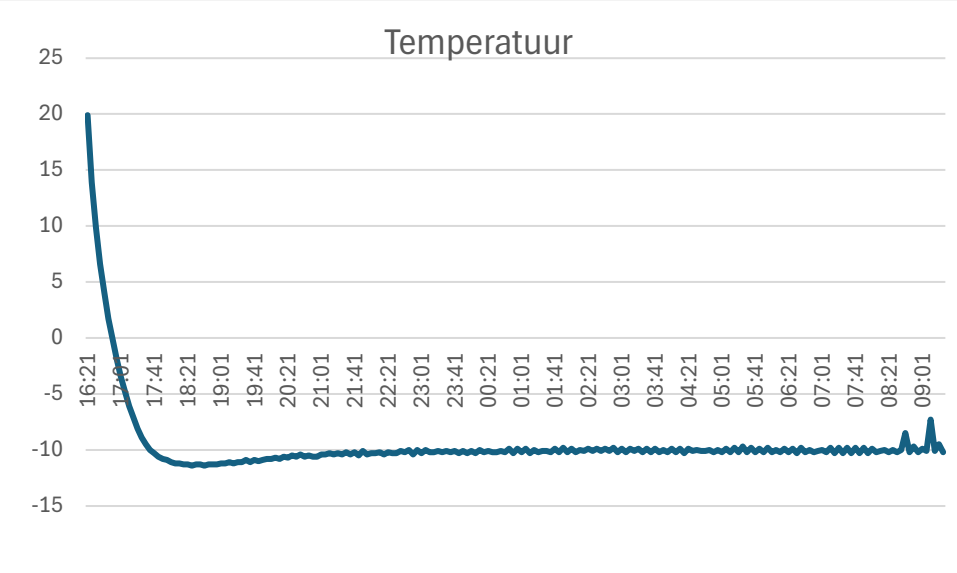
6.2. Test Results

After the test, the specimen exhibited no external physical damage.

6.3. Test Conclusion

Pass

6.4 Low temperature test profile



6.5 Photos


Test Photo

Functional Photo after test

7. LOW TEMPERATURE TEST Ae

7.1. Test Requirement

Test refers to IEC 60068-2-1:2007 **During limits of TK-120 test chamber the minimum temperature is -10℃**
Specimen status: Unpackaged, Continuous Operating
Temperature: (-10±0,5)℃
Rate of temperature change: 0,46℃/min
Test duration: 16h

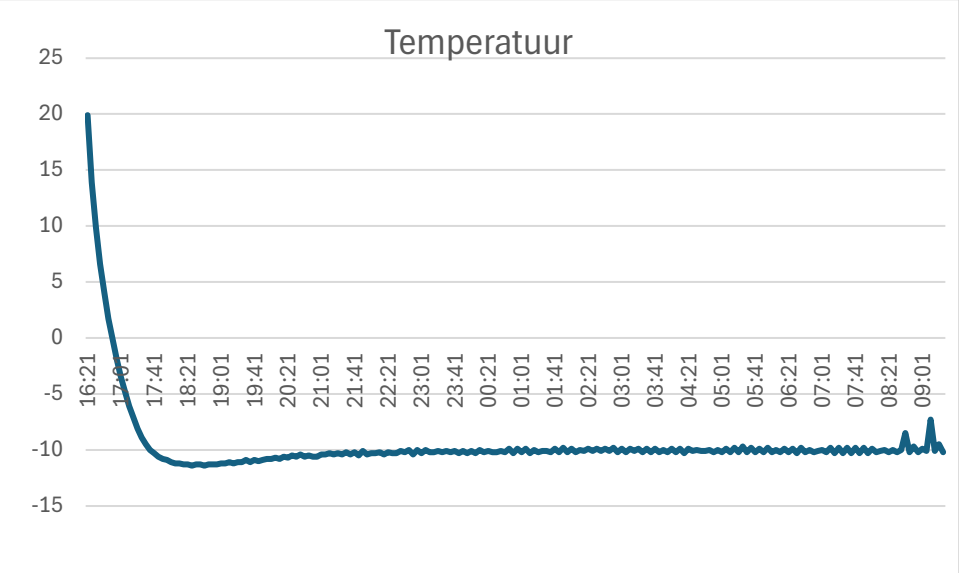
7.2. Test Results

After the test, the specimen exhibited no external physical damage.

7.3. Test Conclusion

Pass

7.4 Low temperature test profile



7.5 Photos

Test Photo

Functional Photo after test

8. HIGH TEMPERATURE TEST Bb

8.1. Test Requirement

Test refers to IEC 60068-2-2:2007
Specimen status: Unpackaged, non-Working
Temperature: (60± 1)℃
Humidity: 30%
Rate of temperature change: 0,85℃/min
Test duration: 8h

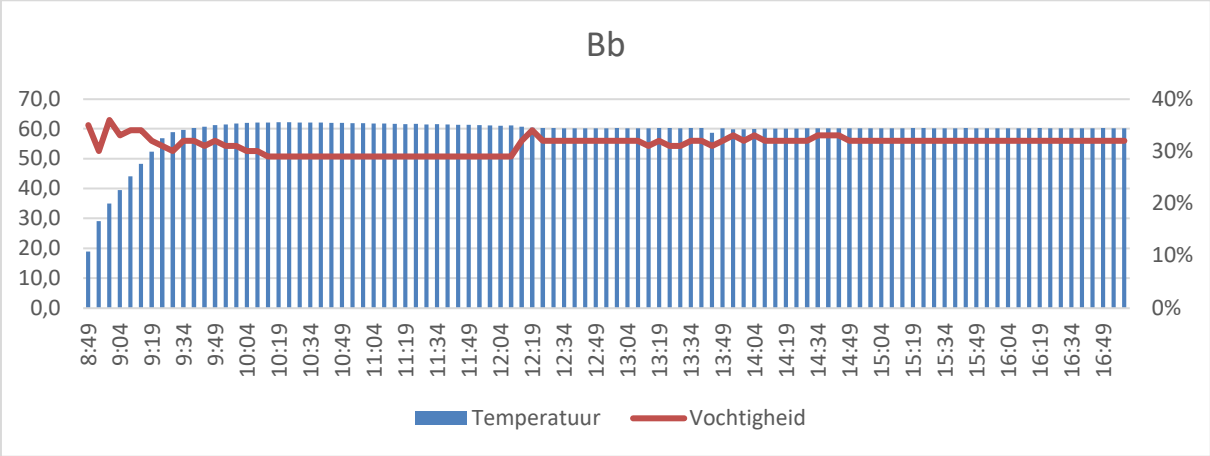
8.2. Test Results

After the test, the specimen exhibited no external physical damage.

8.3. Test Conclusion

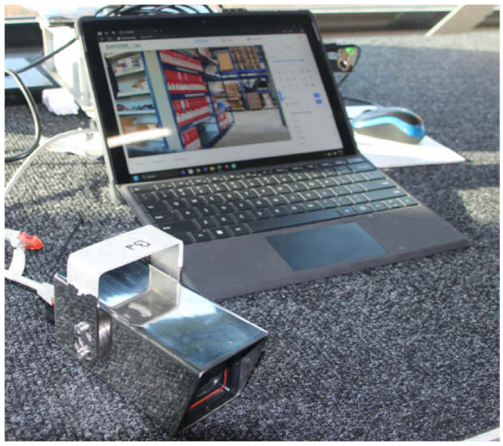
Pass

8.4 High temperature test profile



8.5 Photos

Test Photo



Functional Photo

9. HIGH TEMPERATURE TEST Bd

9.1. Test Requirement

Test refers to IEC 60068-2-2:2007
Specimen status: Unpackaged, Working
Temperature: (55±1.9)℃
Humidity: 30%
Rate of temperature change: 0.79℃/min
Test duration: 8h

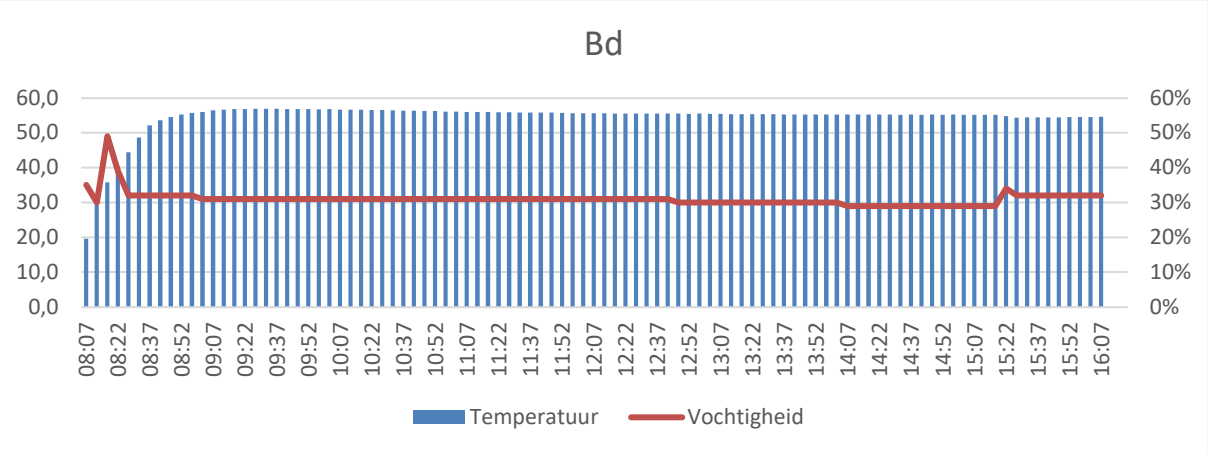
9.2. Test Results

The camera is heated and switched on to test performance. After the test, the camera exhibited no external physical damage.

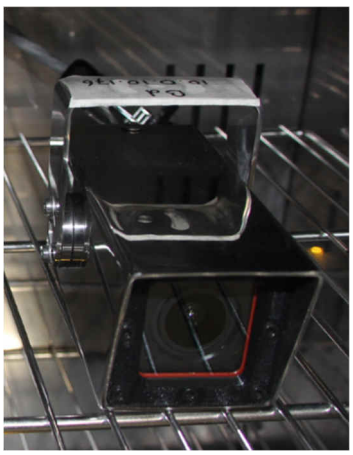
9.3. Test Conclusion

Pass

9.4 High temperature test profile



9.5 Photos



Test Photo

Functional Photo

10. HIGH TEMPERATURE TEST Be

10.1. Test Requirement

Test refers to IEC 60068-2-2:2007
Specimen status: Unpackaged, Continuous Operating
Temperature: (55±1.9)℃
Humidity: 30%
Rate of temperature change: .0,79 ℃/min
Test duration: 8h

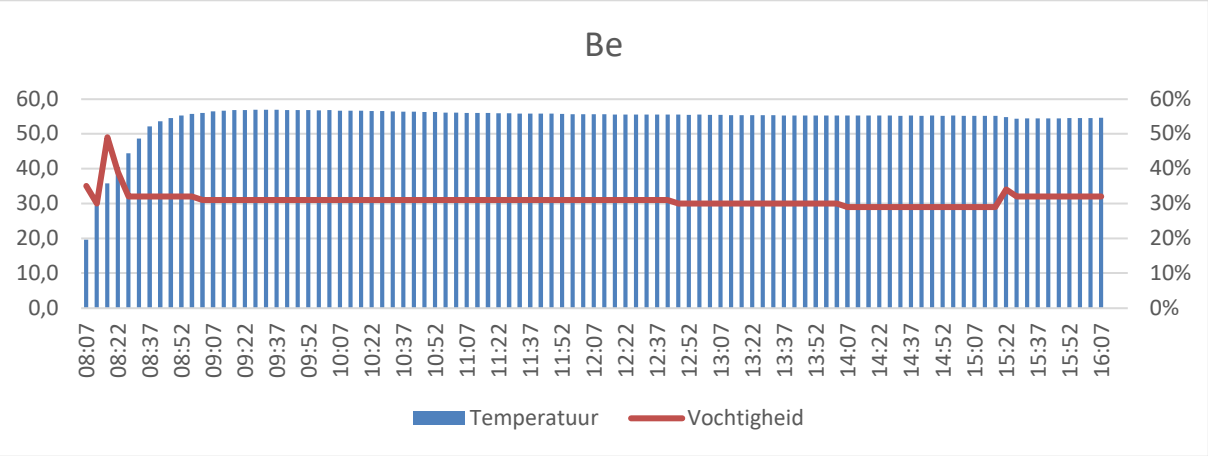
10.2. Test Results

After the test, the specimen exhibited no external physical damage.

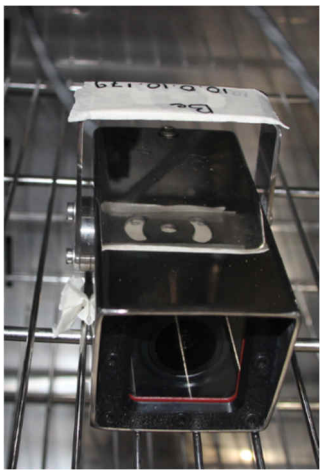
10.3. Test Conclusion

Pass

10.4 High temperature test profile



9.5 Photos



Test Photo

Functional Photo

11. CHANGE OF TEMPERATURE TEST Nb

11.1. Test Requirement

Test refers to IEC 60068-2-14:2009
Specimen status: Unpackaged, Continuous Operating
Low temperature extreme: (-10±2.6)℃
High temperature extreme: (55±1.8)℃
Rate of temperature change: 0,37 – 0.58℃/min
Dwell time: 3h for each temperature extremes
Number of cycles: 5

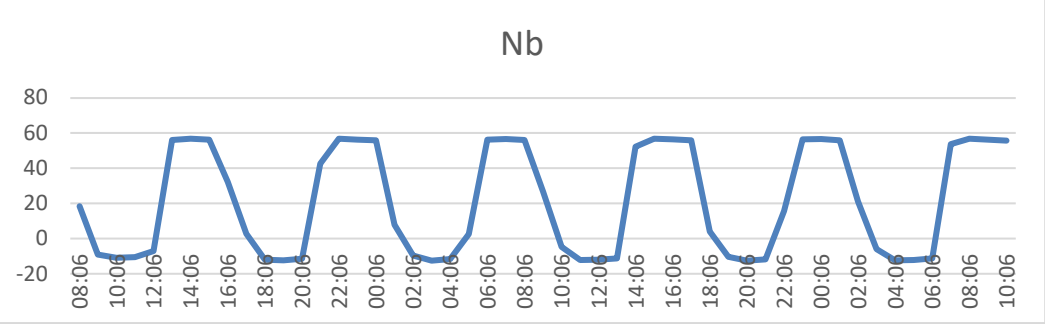
11.2. Test Results

After the test, the specimen exhibited no external physical damage.

11.3. Test Conclusion

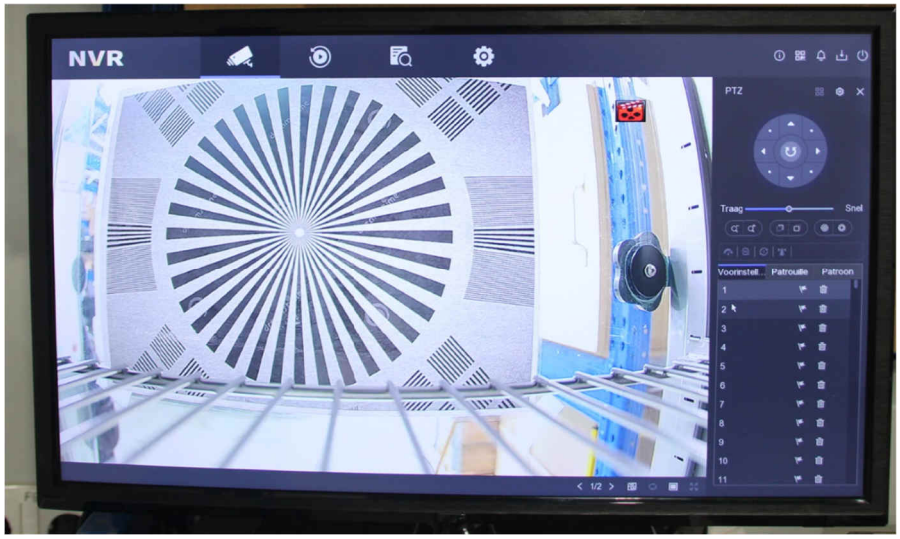
Pass

11.4 Change of temperature test profile



11.5 Photos

Test Photo



Functional Photo

12. DAMP HEAT CYCLIC TEST Db

12.1. Test Requirement

Test refers to IEC 60068-2-30:2005 **During limits of TK-120 test chamber humidity drops to max 86% during the last 15 minutes during temperature rise and fall**

Specimen status: Unpackaged, Continuous Operating

Test parameter

Phase	Time (hours)	Temp (°C)	Humidity (%)	Description
Heating Phase	0 – 3	25 → 55	95	Temperature increases from 25°C to 55°C until humidity 95%.
Stabilization Phase	3 – 9	55	95	Constant temperature at 55°C and 95% relative humidity.
Cooling Phase	9 – 12	55 → 25	95	Temperature decreases from 55°C to 25°C, humidity stays 95%
Repetition Phase	12 – 24	Cycle repeats		This process is repeated for the total test duration.

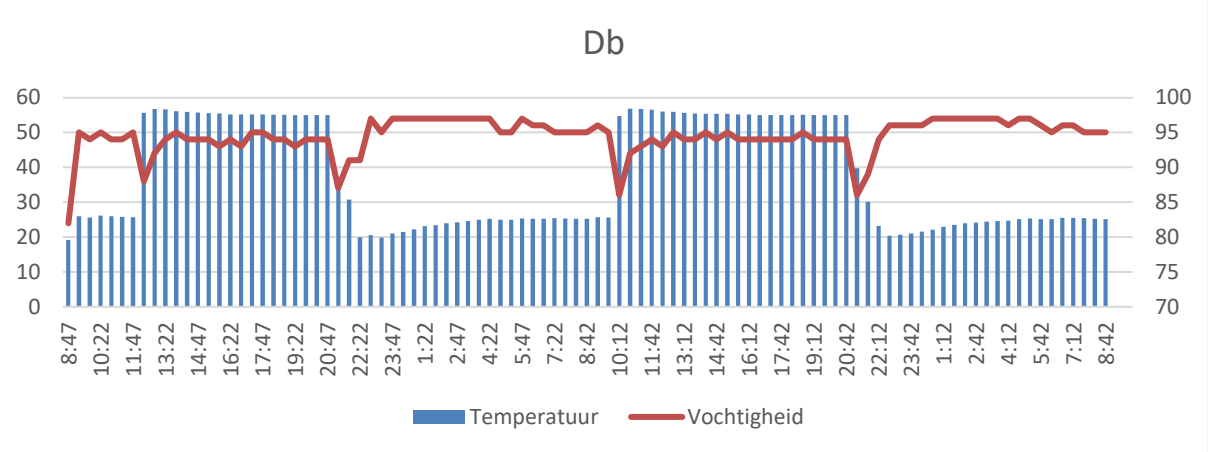
12.2. Test Results

After the test, the specimen exhibited no external physical damage.

12.3. Test Conclusion

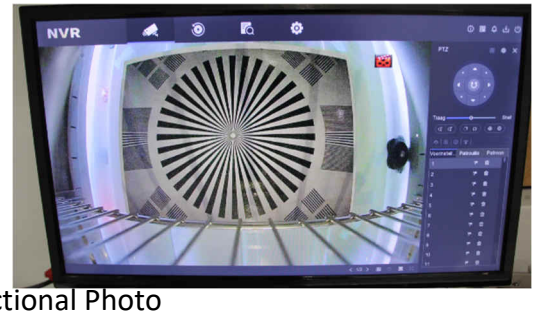
Pass

12.4 Damp heat cyclic test profile



12.5 Photos

Test Photo



Functional Photo