TEST REPORT

CTK Co., Ltd.
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Yongin-si, Gyeonggi-do, Republic of Korea
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REPORT No.:
CTK-K-2026-00583

1.	**Applicant**	
	◦ Name :	Hanwha Vision Co., Ltd.
	◦ Address :	6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488 Republic of Korea
	◦ Date of Receipt :	Sep. 02, 2025
2.	**Manufacturer**	
	◦ Name :	Hanwha Vision Co., Ltd.
3.	**Use of Report :**	For submission to customer
4.	**Test sample / Model :**	NETWORK CAMERA / XND-A9085RV
5.	**Date(s) of test :**	Sep. 15, 2025 ~ Sep. 16, 2025
6.	**Test Standard (Method) used :**	IEC 60529:1989 +A1:1999+A2:2013
7.	**Testing Environment :**	Temperature: (25 ± 10) ℃, Humidity: (50 ± 25) % R.H. Pressure: (96 ± 10) kPa
8.	**Test Results :**	Refer to the test results
9.	**Location of Test :**	☒ Permanent Testing Lab ☐ On Site Testing (113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, 449-100, Republic of Korea)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

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This test report is related to the accreditation of KOLAS and KS Q ISO/IEC 17025 by Korea Laboratory Accreditation Scheme.

Approval	Tested by	Technical Manager
	Name: HongBeom Jeon (Signature)	Name: HoHyun Lee (Signature)

The above testing certificate is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

Jul. 08, 2026

Accredited by KOLAS, Republic of KOREA **CTK Co., Ltd.**

Verify the authenticity of this document using Blockchain Click the QR code or visit www.blockchain-verified.com

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1. Testing laboratory

1.1 Testing laboratory information

Lab. Name	CTK Co., Ltd.
Representative	Young Joseph Seungwon
Address	5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Tel.	1551-9871
Fax.	+82-31-624-9501
E-Mail	all.youngin@element.com
Website	www.elementkorea.kr

1.2 Testing laboratory accreditation status

Country	Classification	Accreditation Number	Logo
International	KOLAS	TESTING NO. KT119	

2. Sample description and equipment information

2.1 Sample description

Sample Name	Model Name	Quantity	Comment
NETWORK CAMERA	XND-A9085RV	1 EA	-

2.2 Model description

Basic Model .....:	XND-A9085RV
Series model .....:	XND-A8085RV, XND-A6085RV
Model differences .....:	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in SW.

2.3 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
Dust Chamber	NONE	JFM	S5-IP02	Feb. 14, 2026
Water flow meter with Drip box	M-15	LZT	200971	Feb. 17. 2026
Drip box	Drip Box, IPX1/ IPX2	Kingpo	ZH13388-1	-
Steel measuring meter	5.5 m	KOMELON	225851	Jan. 16, 2026

2.4 Pre-test sample images

2.4.1 Test sample



Top



Bottom



Front



Rear



Left side



Right side

2.5 Testing equipment images

2.5.1 Test equipment



Dust Chamber



Water flow meter with Drip box



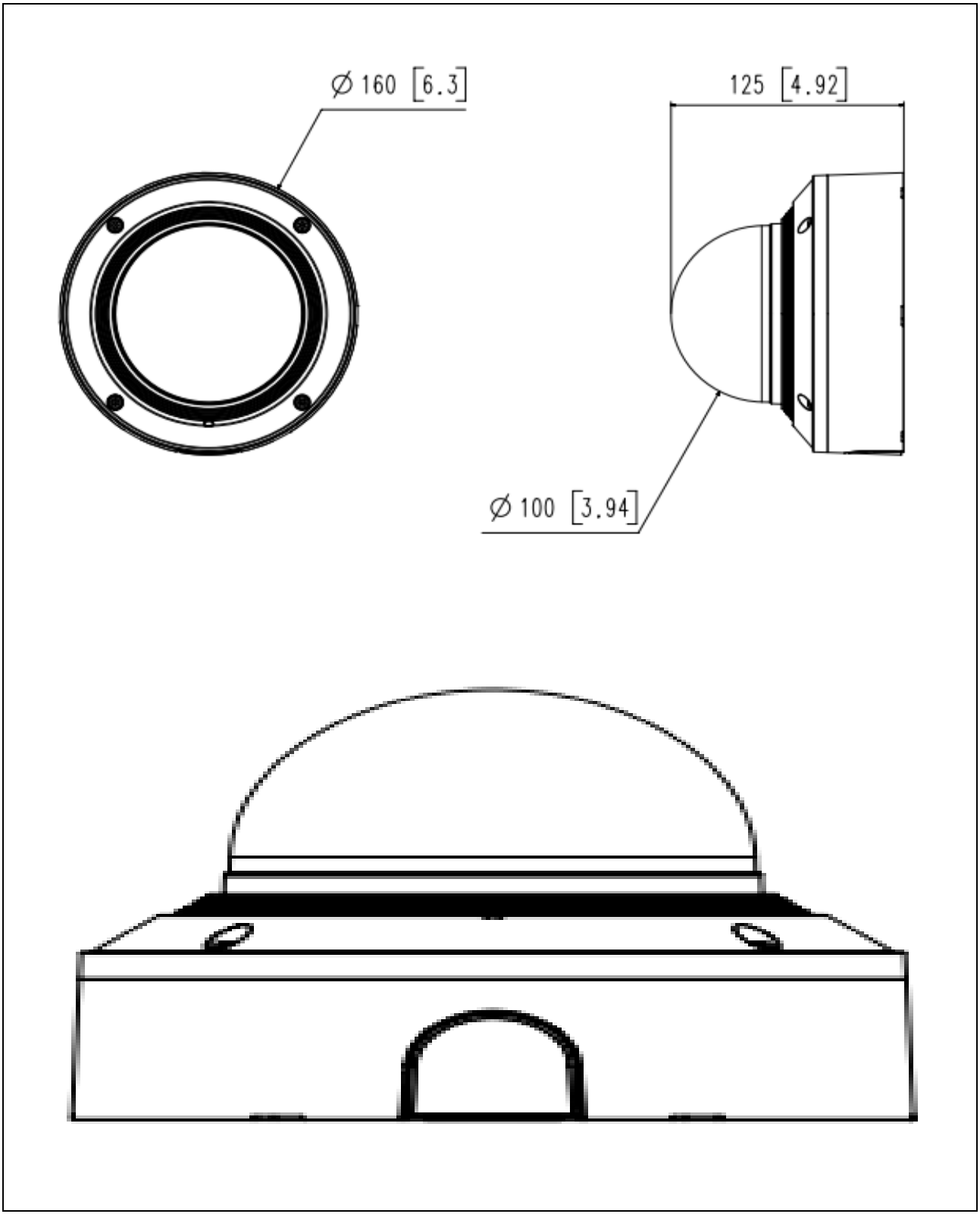
Drip box



Steel measuring meter

2.6 Sample appearance

Enclosure dimensions [unit : mm]



3. Degrees of protection provided by enclosures (IP code)

3.1 Test date and environmental conditions

3.1.1 Test date: Sep. 15, 2025 ~ Sep. 16, 2025

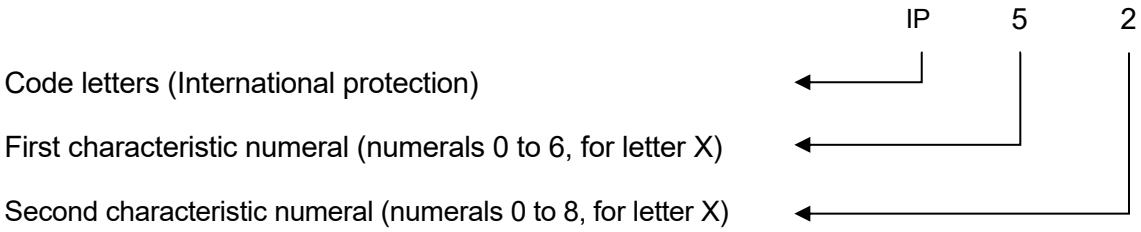
3.1.2 Measured Environmental Conditions

Item	Temperature (℃)	Humidity (% R.H.)	Pressure (kPa)
Measurement	27.6	67.4	89.1

3.2 Test conditions and methods

3.2.1 Test standard: IEC 60529:1989+A1:1999+A2:2013

3.2.2 Arrangement of the IP code



3.2.2.1 Degree of protection against access to hazardous parts indicated by the first characteristic numeral

First characteristic numeral	Degree of protection	Application
5	Protected against access to hazardous parts with a wire. The access probe of 1.0 mmØ, shall not penetrate. Test force: 1 N ± 10 %	☒
NOTE In the case of the first characteristic numerals 3, 4, 5 and 6, protection against access to hazardous parts is satisfied if adequate clearance is kept. The adequate clearance should be specified by the relevant product committee in accordance with 12.3. Due to the simultaneous requirement specified in table 2, the definition “shall not penetrate” is given in table 1.		

3.2.2.2 Degree of protection against solid foreign objects indicated by the first characteristic numeral

First characteristic numeral	Degree of protection	Application
5	Dust Testing Equipment Whether reductions in pressure below the atmospheric pressure are present or not, ingress of dust is not totally preventive, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety. (The talcum powder must pass through a calibrated sieve with a 50 µm wire mesh, spaced at 75 µm intervals in a square pattern. Additionally, the bulk density of the talcum powder should be 2 kg/m³)	—
	Category 1: Enclosures where the normal working cycle of the equipment causes reductions in air pressure within the enclosure below that of the surrounding air, for example, due to thermal cycling effects. Products in volume .....: **2 512** cm³ → **2.512** L Target intake volume (Products in volume 80) : **200.96** L Suction volume (Max product in volume 60) ..: **150.72** LPH → **2.512** LPM Actual Suction volume .....: **2.502** L Suction pressure (Up to 2 kPa) .....: **2** kPa Test time (Up to 8 time) .....: **8** h	☒
	Category 2: Enclosures where no pressure difference relative to the surrounding air is present.	☐

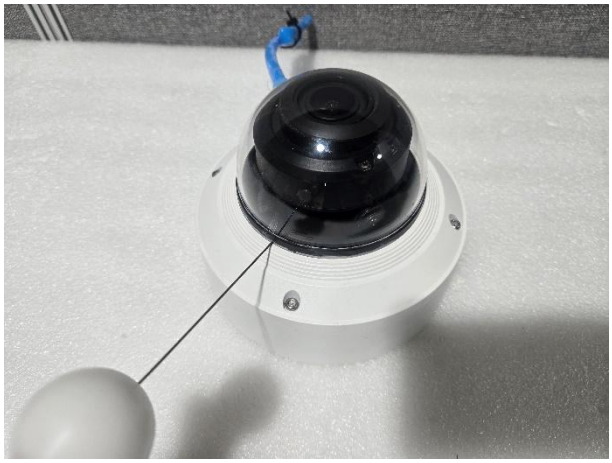
[1)] The full diameter of the object probe shall not pass through an opening of the enclosure.
Due to the simultaneous requirement specified in table 2, the definition “shall not penetrate” is given in table 1.

3.2.2.3 Degree of protection against water indicated by the second characteristic numeral

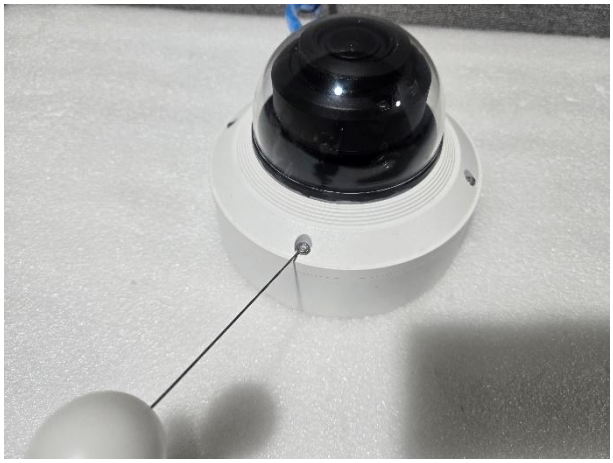
Second characteristic numeral	Degrees of protection	Application
2	When outskirts of the product have been tilted by 15° Water that drops verticality has to be harmless. Drip box Fig.3, Enclosure in 4 fixed positions of 15° tilt Water flow rate: 3 mm/min Duration of test: 2.5 min for each position of tilt	☒

3.3 Test Setup and During-test sample images

3.3.1 Evidence of test setting (1)



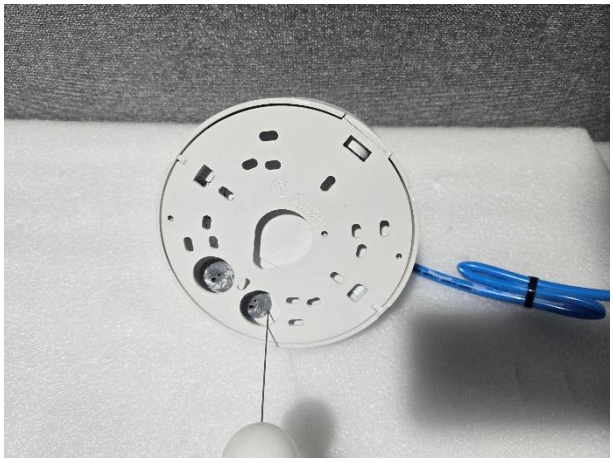
Probe test



Probe test



Probe test



Probe test



Dust test



Water test

3.4 Test result

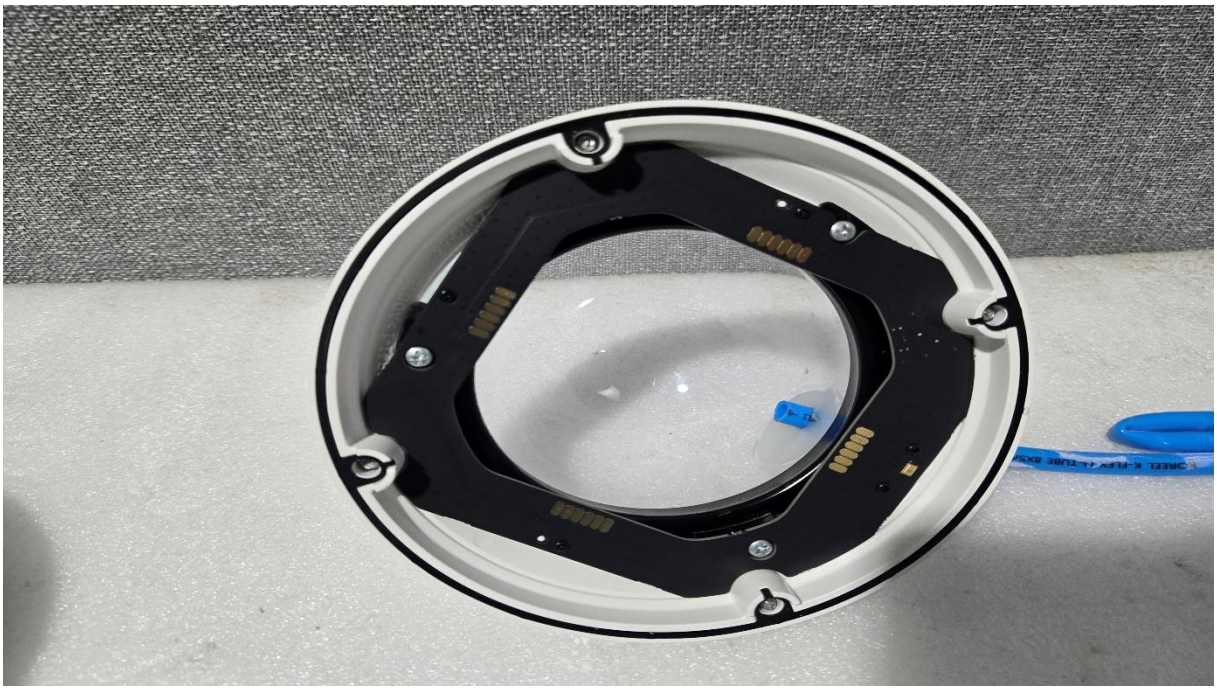
3.4.1 Test result table

IP code	Evaluation Criteria	Test Results	Remark
IP 5X	No ingress of Probe	Normal	-
	No ingress of dust	Normal	
IP X2	No ingress of water	Normal	

※ Refer to the sample photos after the completion of testing in section 3.5.

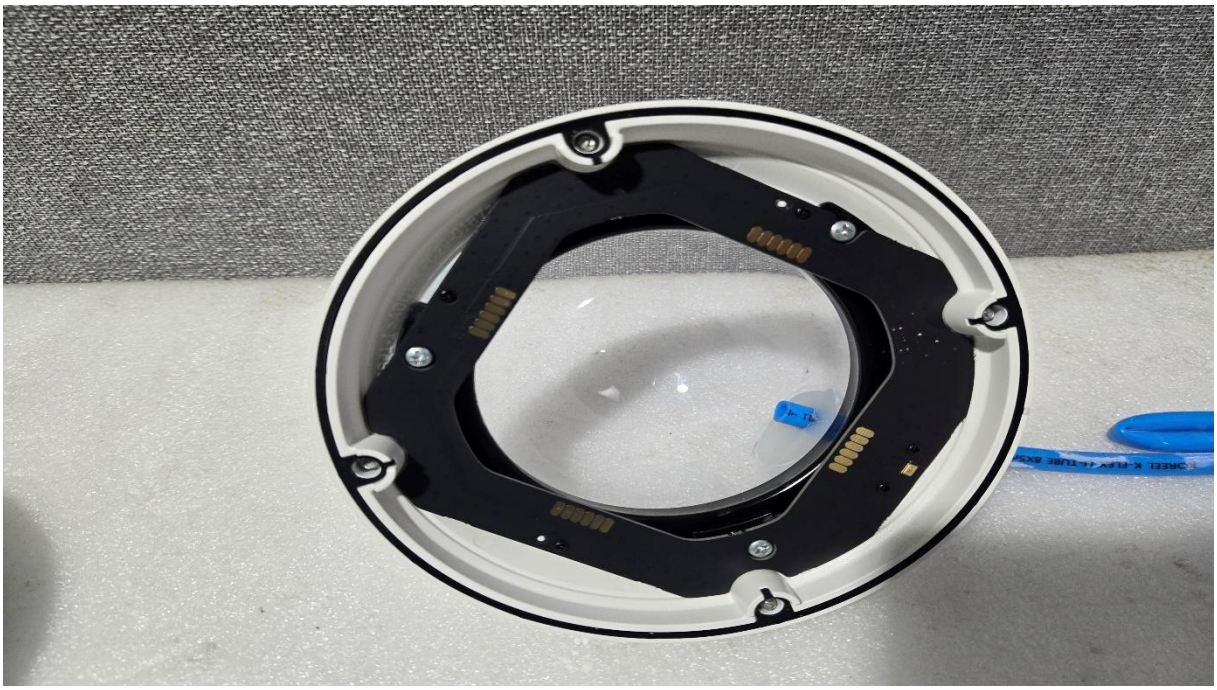
3.5 Post-test sample images

3.5.1 Sample internal images after test [The first characteristic numeral test]





3.5.2 Sample internal images after test [The second characteristic numeral test]





- End -