

TEST REPORT

**CTK Co., Ltd.**

5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si,
Gyeonggi-do, Republic of Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:

CTK-2026-01028

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1. Applicant

- Name : Hanwha Vision Co., Ltd
- Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 13488 KOREA
- Date of Receipt : Feb. 23, 2026

2. Manufacturer

- Name : HANWHA VISION VIETNAM COMPANY LIMITED
- Address : Lot O-2, Que Vo Industrial Zone extended area, Nam Son ward,
Bac Ninh province, Vietnam

3. Use of Report :

Quality control

4. Test sample / Model :

NETWORK THERMAL CAMERA / TNO-C4080T

5. Date(s) of test :

Mar. 05, 2026

6. Test Standard (Method) used :

NEMA 250-2020

Enclosures for Electrical Equipment (1000 Volts Maximum)

Temperature: (25 ± 10) °C, Humidity: (50 ± 25) % R.H.

7. Testing Environment :

Pressure: (96 ± 10) kPa

8. Test Results :

Refer to the test results

9. Location of Test :☒ Permanent Testing Lab ☐ On Site Testing

(5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea)

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

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

Remark. This report is not related to ISO/IEC 17025, KOLAS accreditation and relevant regulation.

Apr. 17, 2026

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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.	+82-31-339-9970
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	

※ CTK Co., Ltd. is an independent third-party testing laboratory and is not affiliated with the manufacturer (Hanwha Vision Co., Ltd.) or any of its parent or subsidiary companies.

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2. Sample description and equipment information

2.1 Sample description

Sample Name	Model Name	S/N	Date of Manufacture	Quantity	Comment
NETWORK THERMAL CAMERA	TNO-C4080T	ZWXJ70GL20000AV	Feb, 2026	1 EA	-

2.2 Model description

Basic Model	TNO-C4080T
Series model	TNO-C4082T
Model differences	TNO-C4082T : Differences between the basic model and software

2.3 Manufacturer information

Test item description : NETWORK THERMAL CAMERA	
Trade Mark	 Hanwha Vision
Manufacturer	Lot O-2, Que Vo Industrial Zone extended area, Nam Son ward, Bac Ninh province, Vietnam
Model/Type reference	TNO-C4080T
Ratings	Electrical TNO-C4080T DC 12 V $\equiv$ 8.1W / PoE (48 V $\equiv$) 7.8 W, DC 12 V $\equiv$ 0.68A / PoE (48 V $\equiv$) 0.16 A
	TNO-C4082T DC 12 V $\equiv$ 8.1W / PoE (48 V $\equiv$) 7.8 W, DC 12 V $\equiv$ 0.68A / PoE (48 V $\equiv$) 0.16 A
Dimension: Ø 140.5 mm by 441.17 mm , Ø 101.5 mm by 318.71 mm, Ø 6 *3 mm by 56.52 mm, Ø 4 *3 mm by 37.68 mm, Ø 15.85 *2 mm by 99.53 mm 16.5 mm	

List of Attachments (including a total number of pages in each attachment): Attachment 1: 11-12 pages (Construction Diagram including installation method) Attachment 2: 13-16 pages (Parts List) Attachment 3: 17-21 pages (photographs)
Summary of testing:

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Tests performed (name of test and test clause): Clause 5.7(Hose Down Test)	Testing location: CTK Co., Ltd. 5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Copy of marking plate: The artwork above may be only a draft. 제품명칭: NETWORK THERMAL CAMERA 모델명: TNO-C4080T 정격전압: DC 12V --- 8.1W / PoE (48V ---) 7.8W M/C: TNO-C4080T/KDO Fac. ID: D DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX 인증번호: R-R-HWVS-TNOC4080T 상호: 한화비전(주) 제조사/제조국가:한화비전(주)/한국 제품명칭: NETWORK THERMAL CAMERA 모델명: TNO-C4082T 정격전압: DC 12V --- 8.1W / PoE (48V ---) 7.8W M/C: TNO-C4082T/KDO Fac. ID: D DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX 인증번호: R-R-HWVS-TNOC4080T 상호: 한화비전(주) 제조사/제조국가:한화비전(주)/한국 IP66/IP67  NETWORK THERMAL CAMERA, TNO-C4080T DC 12V --- 0.68A / PoE (48V ---) 0.16A M/C: TNO-C4080T/KEX Fac.ID:D DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) HANWHA VISION CO.,LTD. MADE IN KOREA IP66/IP67  NETWORK THERMAL CAMERA, TNO-C4082T DC 12V --- 0.68A / PoE (48V ---) 0.16A M/C: TNO-C4082T/KEX Fac.ID:D DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) HANWHA VISION CO.,LTD. MADE IN KOREA 	

2.4 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Next Cal. Date
25.4mm Nozzle	S3-IP18	CTK	S3-IP18	-
Area flow meter	Z-6504	FLOWTECH	0064	Jan.19,2027
Steel measuring meter	5.5 m	KOMELON	225851	Jan.13,2028
Stop Watch	NONE	Casio	612Q01R-1	Jan.15,2027
Digital Vernier Calipers	100 mm	MITUTOYO	A17179462	-

※ All test equipment used for this testing was calibrated in accordance with the manufacturer's requirements, and the calibration ranges cover the measurement values recorded in this report.



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2.5 Pre-test Sample images

2.5.1 Test sample



Top



Bottom



Front



Rear



Left side



Right side



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2.6 Testing equipment images

2.6.1 Test equipment



25.4mm Nozzle



Area flow meter



Steel measuring meter



Stop Watch



Digital Vernier Calipers

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3. Test Information

3.1 Test item particulars and Possible test case verdicts

Test item particulars	NETWORK THERMAL CAMERA
Classification of installation and use	Outdoor (Watertight/Corrosion Resistant)
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement	F (Fail)
- test case does not evaluate to the test object:	N/E

3.2 General remarks and factory information

General remarks:
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator. Clause numbers between brackets refer to clauses in NEMA 250-2020
Name and address of factory (ies): 1. HANWHA VISION VIETNAM COMPANY LIMITED Lot O-2, Que Vo Industrial Zone extended area, Nam Son ward, Bac Ninh province, Vietnam 2. D-TECH CO., LTD. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex)



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3.3 Type 4X Test information

Type 4X

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow, splashing water, and hose directed water); that provides an increased level of protection against corrosion; and that will be undamaged by the external formation of ice on the enclosure.

Table 2-1
Comparison of Specific Applications of Enclosures for Indoor Nonhazardous (Unclassified) Locations

Provides a Degree of Protection against the Following Conditions	Type of Enclosure									
	1	2	4	4X	5	6	6P	12	12K	13
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (dripping and light splashing)	...	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (circulating dust, lint, fibers, and flyings **)	...	...	X	X	...	X	X	X	X	X
Ingress of solid foreign objects (settling airborne dust, lint, fibers, and flyings **)	...	...	X	X	X	X	X	X	X	X
Ingress of water (hosedown and splashing water)	...	...	X	X	...	X	X	...	...	...
Oil and coolant seepage	...	...	...	...	...	...	...	X	X	X
Oil or coolant spraying and splashing	...	...	...	...	...	...	...	...	...	X
Corrosive agents	...	...	...	X	...	...	X	...	...	...
Ingress of water (occasional temporary submersion)	...	...	...	...	...	X	X	...	...	...
Ingress of water (occasional prolonged submersion)	...	...	...	...	...	...	X	...	...	...

** These fibers and flyings are not considered Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or flyings see the *National Electrical Code*®, Article 500.5(D).

Table 2-2
Comparison of Specific Applications of Enclosures for Indoor & Outdoor Nonhazardous (Unclassified) Locations

Provides a Degree of Protection Against the Following Conditions	Type of Enclosure									
	3	3X	3R	3RX	3S	3SX	4	4X	6	6P
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (dripping and light splashing)	X	X	X	X	X	X	X	X	X	X
Ingress of water (rain, snow, and sleet **)	X	X	X	X	X	X	X	X	X	X
Sleet ***	...	...	...	...	X	X	...	...	...	...
Ingress of solid foreign objects (windblown dust, lint, fibers, and flyings****)	X	X	...	...	X	X	X	X	X	X
Ingress of water (hosedown and splashing water)	...	...	...	...	...	...	X	X	X	X
Corrosive agents	...	X	...	X	...	X	...	X	...	X
Ingress of water (occasional temporary submersion)	...	...	...	...	...	...	...	...	X	X
Ingress of water (occasional prolonged submersion)	...	...	...	...	...	...	...	...	...	X

** External operating mechanisms are not required to be operable when the enclosure is ice covered.

*** External operating mechanisms are operable when the enclosure is ice covered. See subsection 5.6.

**** These fibers and flyings are not considered Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or flyings see the *National Electrical Code*®, Article 500.5(D).

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Table 5-1A
Degrees of Protection Against Access to Hazardous Parts

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP First Characteristic Numeral
		Brief Description	Definition	
4X	5.7	Protected against access to hazardous parts with a wire	An access probe of 1.0 mm shall not penetrate	6

Table 5-1B
Degrees of Protection Against Solid Foreign Objects

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP First Characteristic Numeral
		Brief Description	Definition	
4X	<u>Non-vented</u> 5.7	Windblown dust protected	No ingress of dust	6
	<u>Vented</u> 5.5.1 Dust Blast Method			

Table 5-1C
Degrees of Protection against Water

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP Second Characteristic Numeral
		Brief Description	Definition	
4X	5.7	Protected against hose directed water	Water projected against the enclosure in any direction shall not enter	6 No Ingress Allowed*

Table 5-1D
Additional Protection

Enclosure Type	Test Conditions	Additional Protection		Corresponding IP Second Characteristic Numeral
		Brief Description	Definition	
4X	5.6 5.9 5.10	Special corrosion protection and undamaged by the external formation of ice	Enclosure provides increased corrosion protection and is not damaged by ice that forms on the outside	None

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3.4 NEMA 250-2020 Test list

NEMA 250-2020			
Clause	Requirement + Test	Result – Remark	Verdict
3	CONSTRUCTION		
3.1	General		P
3.2	Units of Measurement		P
3.3	Materials-General	Enclosures are made of metal or polymeric materials	P
3.4	Materials-Polymeric	More than 650 mm ² (1 in ²) in area Polymeric Materials used is declared as Min. V-2 Used to UL certified material. (See the attachment 2)	N/E
3.5	Corrosion Protection	Stainless steel and/or aluminium are declared as the materials used (See the attachment 2)	N/E
3.6	Openings	No openings in Product	P
3.7	Mounting	Mounting means are external to the equipment cavity (See the attachment 1)	N/A
3.8	Conduit Connection	No conduit connection (See the attachment 1)	N/A
3.9	Hubs and Fittings	No Hubs and Fittings	N/A
3.10	Knockouts	No Knockouts	N/A
3.11	External Operating Mechanisms	No External Operating Mechanisms	N/A
3.12	Access to Interior	Needs tool to open unit	P
3.13	Closing Hardware	No closing Hardware	N/A

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NEMA 250-2020

Clause	Requirement + Test	Result – Remark	Verdict
3.14	Gaskets	Gaskets made of a silicone Sponge Rubber (no Elastomeric or Thermoplastic used) (See clause 5.14 and the attachment 2)	N/E
3.15	Observation Windows	No Observation Window	N/A

4	MARKING		
4.1	Type Designations	“Type 4X” Marking is declared to be on the product before on the market	P
4.2	Supplemental Markings	Supplemental Marking (watertight/corrosion resistant) is declared to be used when it is on the market. The required marking shall be added on the product)	P
4.3	Location of Markings	See the Attachment 3	P
4.4	Enclosure Orientation	No Particular Mounting Orientation	N/A
4.5	Conduit Hubs and Closure Plates	No Conduit Hubs and Closure Plates	N/A
4.6	Equipment Openings	No Openings on Unit	N/A
4.7	Drainage Openings	No Drain Openings	N/A

5	DESIGN TESTS		
5.1	General	See Table 5-1A to 5-1D and 5.1.5 in the General product information	P
5.2	Tests For Protection Against Access to Hazardous Parts	Rated 4X	N/A
5.3	Tests for Protection Against Ingress of Water (Dripping and Light Splashing)	Rated 4X	N/A

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NEMA 250-2020

Clause	Requirement + Test	Result – Remark	Verdict
5.4	Tests for Protection Against Ingress of Water (Rain)	Rated 4X	N/A
5.5	Tests for Protection Against Ingress of Solid Foreign Objects (Setting Airborne Dust, Lint, Fibers, And Flings)	Non-vented (See clause 5.7)	N/A
5.6	External Icing Test	No external cavities to trap water when mounted in the normal position.	N/A
5.7	Tests for Protection Against Ingress of Water (Hosedown)	No entry of water See the test information	P
5.8	Indoor Corrosion Protection (Rust-Resistance Test (24-Hour Salt Spray Test))	See clause 3.5	N/E
5.9	Outdoor Corrosion Protection	See clause 3.5	N/E
5.10	Corrosion Protection-Type 3X, 3RX, 3SX, 4X Or 6P Enclosures	See clause 3.5	N/A
5.11	Test for Protection Against Ingress of Water (Temporary Submersion)	Rated 4X	N/A
5.12	Test for Protection Against Ingress of Water (Prolonged Submersion)	Rated 4X	N/A
5.13	Oil Exclusion Test	Rated 4X	N/A
5.14	GASKET MATERIAL TESTS	The product itself(including gaskets) was conditioned at 70 °C for 168 hrs according to 5.14.3(Alternate Evaluation) before performing relevant required tests.	N/E
5.15	Test for Sharpness of Edges	No sharp edges	P



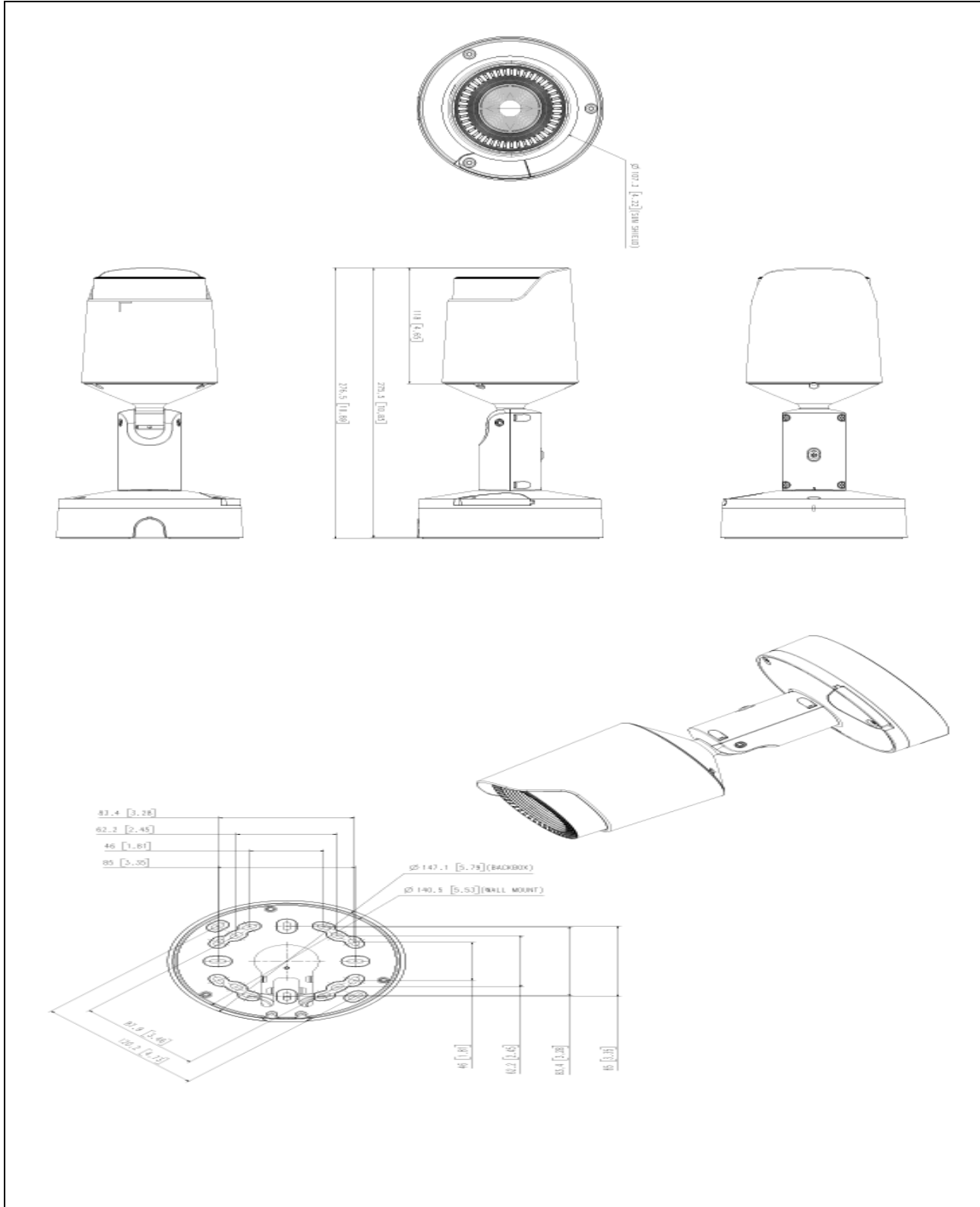
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3.5 Attachment 1 - Construction Diagram and installation method

3.5.1 Construction Diagram





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3.6 Parts List

3.6.1 Parts List (1)

부품위치	부품번호	품명	수량	공급여부	비고
1	FC39-008184A	BODY-DECO-FRONT_TNO-C4040T	1	SA	TNO-C4040T/4040T/4060T
	FC39-008184A	BODY-DECO-FRONT_TNO-C4080T	1	SA	TNO-C4080T
2	FC28-004211A	SHIELD-SUN-TNO-C3060T;PC	1	SA	
3	FC29-018856A	CASE-BODY-FRONT_TNO-C4040T;ADC12	1	SA	
4	FC18-007932A	O-RING-D1 72.69,D2 2.62,TNO-C3060T	1	SA	
5	AM07-018163A	ASSY-MODULE-NUC_TNO-C4040T	1	SA	TNO-C4040T
	AM07-018164A	ASSY-MODULE-NUC_TNO-C4040T	1	SA	TNO-C4050T
	AM07-018165A	ASSY-MODULE-NUC_TNO-C4040T	1	SA	TNO-C4060T
	AM07-018166A	ASSY-MODULE-NUC_TNO-C4040T	1	SA	TNO-C4080T
6	FC29-016661A	HOLDER-CABLE-MAIN_TNO-C3022TRA	1	SA	
7	HP07-002041A	GASKET-MAIN-BODY-TNO-C3060T	1	SA	
8	FC28-003866A	PAD-THERMAL-PET_32X10XT1.0;7W	2	SA	
9	FC15-008257A	COVER-BUSHING-MD-XNO-C9083R;PC,MOLD	1	SA	
10	FC29-018218A	CASE-BODY-REAR-TNO-3060T;ADC	1	SA	
11	HP13-001248B	TUBE,ETC-CABLE_95MM_TNO-C30*;RB,1,1	1	SA	
12	FC29-014039A	CASE-TOP BRACKET_XNO-C9083R;ADC12,WHITE	1	SA	
13	FC29-014048C	CASE-BTM-BRKT-SETSCREW_PNO-A9311R;ADC12,	1	SA	
14	FC29-014053A	STOPPER,PIN-XNO-9083R;SUS	2	SA	
15	FC28-003367E	LOCKER-FRONT-BRKT_C3012TRA;D13,ADC12	1	SA	
16	FC29-014038C	PUSHER-BRACKET_TNO-C30X;ADC12,WHITE	1	SA	
17	FC28-003369B	LOCKER-REAR_TNO-C30X;ADC12,ANODIZING	1	SA	
18	FC38-001279A	SPRING,COM-BRACKET_XNO-C9083R;SWPB	1	SA	
19	HP07-001639A	GASKET-DOOR_XNO-C9083R;SILICON	1	SA	
20	PM01-001099A	INDICATOR-PIPE_TNO-C4040T	1	SA	
21	FC15-012910A	COVER-INTERFACE_TNO-C4040T;PC	1	SA	
22	FC29-014047C	CASE-TOP-BBOX_TNO-C4040T;ADC12,WHITE	1	SA	
23	FC15-008240A	COVER-BUSHING_XNO-C9083R;ADC12	1	SA	
24	FC28-004148A	PAD-THERMAL-14X10XT2.7W/M-K	1	SA	
25	FC28-003323A	PAD-THERMAL-42X20X2T;K=7W/M-K	1	SA	
26	HP07-001694A	GASKET-XNZ-L6320 PCB;12X5,5,5	1	SA	
27	FC29-019008A	CAP-SW-RB_TNO-C4040T;RUBBER	1	SA	
28	AM06-012132A	ASSY,PCB-TNO-C4040T,NETWORK	1	SA	
29	FC29-018998A	CAP-RUBBER-TEMPERING_C4040T;RB	1	SA	
30	FC15-012601A	COVER-MAIN-PCB_TNO-C4040T;MD	1	SA	
31	RM01-005941A	WIRE,METALIC-SAFETY;SUS304 Ø1.0	1	SA	
32	HP07-001638A	GASKET-BACKBOX_XNO-C9083R;SILICON	1	SA	
33	FC09-006670A	BRACKET-WIRE-SNO-8081R;SUS304,1,2	1	SA	
34	MC06-001203A	BUSHING-CABLE-FLEXIBLE;SILICON,TUBE T0,5	1	SA	
35	MC06-001201A	BUSHING-DUMMY_16MM;RB	1	SA	
36	FC29-014049A	CASE-BOTTOM BACKBOX_XNO-C9083R;ADC12,WHI	1	SA	
37	FC15-012771A	COVER-CABLE-XNO-A9084R;PC	1	SA	
38	FC09-012507A	BRACKET-WALL MOUNT_XNO-C9083R;ADC12,WHIT	1	SA	
39	FC28-003368A	DOOR-BUTTON_XNO-C9083R;ADC12	1	SA	

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3.6.2 Parts List (2)

C1	EP02-005560A	CABLE-XNO-A(9/8)084R;1:1,MCX,BL,50P-50P,	1	SA	
C2	EP02-004965A	HARNESS-XNO-9083R;WIRE,10P,425MM	1	SA	
S1	Z6001049601A	SCREW-MACHINE;6001-000128,BH,+,M3,L6,NI	6	SA	
S2	Z6001055201A	SCREW-MACHINE;6001-001708,BH,+,M2,L5,ZP	5	SA	
S3	FC18-001418C	SCREW-SPECIAL : BH,TR10,M3,L4.5+3.5,SUS,	7	SA	
S4	FC18-006234A	SCREW-SEMS-TORX20_M5XL15;0.8,15,FLAT,M5,	1	SA	
S5	FC18-006121B	SCREW-SPECIAL : PH,TR20,M4,L14+6,SUS,FP,	2	SA	
S6	Z6003019801A	SCREW-TAPTITE:PL,+,M2,L4,WHT,B-TYPE	1	SA	
S7	Z6001055201A	SCREW-MACHINE;6001-001708,BH,+,M2,L5,ZP	3	SA	
S8	Z9642306007	MACHINE SCREW(M3xL6,Zn-B,넵비[머리])	5	SA	
S9	FC18-006121B	SCREW-SPECIAL : PH,TR20,M4,L14+6,SUS,FP,	3	SA	
S10	Z9642306007	MACHINE SCREW(M3xL6,Zn-B,넵비[머리])	2	SA	
S11	FC18-006121B	SCREW-SPECIAL : PH,TR20,M4,L14+6,SUS,FP,	1	SA	
S12	FC18-007085A	SCREW-SET : T20,M7,L6,SUS,KCP(SERRATION)	2	SA	



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3.6.3 Parts List (3)



Product iQ®

Grade Designation HN-1068(f1)

File Number: E115797

Yellow Card™



Component - Plastics

[Guide Information](#)

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E115797

LOTTE CHEMICAL CORPORATION

56 Gosan-ro, Uiwang-si, Gyeonggi-do 16073 Republic of Korea

HN-1068(f1)

Polycarbonate (PC) "INFINO", furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI (PLC)	HAI (PLC)	GWIT (°C)	GWFI (°C)	RTI Elec (°C)	RTI Imp (°C)	RTI Str (°C)
ALL	1.5	V-0	3	3	825	960	130	130	130
	3.0	V-0	--	--	825	960	130	130	130

Comparative Tracking Index 3 IEC Comparative Tracking Index - IEC CTI Material Group: --
(CTI) (PLC): (V): -

Inclined Plane Tracking (IPT) - High-Voltage Arc Tracking Rate - Dielectric Strength (DS) 31.8
(kV): - (HVTR) (PLC): - (kV/mm):

Volume Resistivity (VR) (10^x 17 Surface Resistivity (SR) (10^x - High Volt, Low Current Arc 0
ohm cm): ohms/square): - Resis (D495):

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 1998-08-24

Last Revised: 2026-02-26

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FLAMMABILITY PROPERTIES

VALUE

TEST METHOD

Flammability

ANSI/UL 94

1.5 mm, Color: ALL

V-0

3.0 mm, Color: ALL

V-0

ISO/IEC FLAMMABILITY PROPERTIES

VALUE

TEST METHOD

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3.6.4 Parts List (4)

Flammability		IEC 60695-11-10
1.5 mm, Color: ALL	V-0	
3.0 mm, Color: ALL	V-0	
Glow Wire Ignition Temperature (GWIT)		IEC 60695-2-13
1.5 mm	825 °C	
3.0 mm	825 °C	
Glow Wire Flammability Index (GWFI)		IEC 60695-2-12
1.5 mm	960 °C	
3.0 mm	960 °C	
ELECTRICAL PROPERTIES	VALUE	TEST METHOD
Hot-wire Ignition (HWI) (1.5 mm)	PLC 3	UL 746A
High Amp Arc Ignition (HAI) (1.5 mm)	PLC 3	UL 746A
Comparative Tracking Index (CTI)	PLC 3	UL 746A
Dielectric Strength	32 kV/mm	ASTM D149
Volume Resistivity	1.0E+17 ohms-cm	ASTM D257/IEC 60093
High Voltage, Low Current Arc Resistance	PLC 0	
THERMAL PROPERTIES	VALUE	TEST METHOD
Relative Thermal Index - Electrical Strength		UL 746B
1.5 mm	130 °C	
3.0 mm	130 °C	
Relative Thermal Index - Mechanical Impact		UL 746B
1.5 mm	130 °C	
3.0 mm	130 °C	
Relative Thermal Index - Mechanical Strength		UL 746B
1.5 mm	130 °C	

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3.6.5 Parts List (4)

3.0 mm	130 °C	
Ball Pressure Temperature (3.0 mm)	130 °C	IEC 60695-10-2

PHYSICAL PROPERTIES	VALUE	TEST METHOD
UV Exposure & Water Immersion	f1	UL 746C

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4. Hose Down Test (Clause 5.7)

4.1 Test date and environmental conditions

4.1.1 Test date: Mar. 05, 2026

4.1.2 Measured Environmental Conditions

Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	20.6	30.6	90.1

4.2 Test Conditions and methods

4.2.1 Description of Test

The enclosure and its external mechanisms were subjected to a stream of water from a hose that has a 25.4 mm (1 in) inside diameter nozzle and delivers at least 240 L (65 gal) per minute. The nozzle was held from 3.0 to 3.5 m (10 to 12 feet) from the enclosure, and the spray of water was directed at all points of potential water entry such as seams, joints, external operating mechanisms, and such. The nozzle was moved along each test point one time at a uniform rate of 6 mm/sec (1/4 in/sec).

4.2.2 Sample Dimension

Ø 140.5 mm by 441.17 mm, Ø 101.5 mm by 318.71 mm,
Ø 6 *3 mm by 56.52 mm, Ø 4 *3 mm by 37.68 mm Ø 15.85 *2 mm by 99.53 mm,
16.5 mm, Test Duration = 161 secs

4.2.3 Acceptance conditions

The enclosure shall be considered to have met the requirements if at the conclusion of the test no water has entered the enclosure



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4.3 Test Setup and During test Sample images

4.3.1 Evidence of test setting



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4.4 Test result

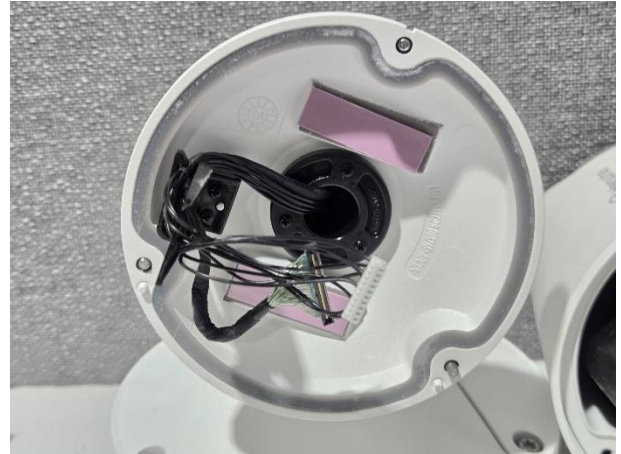
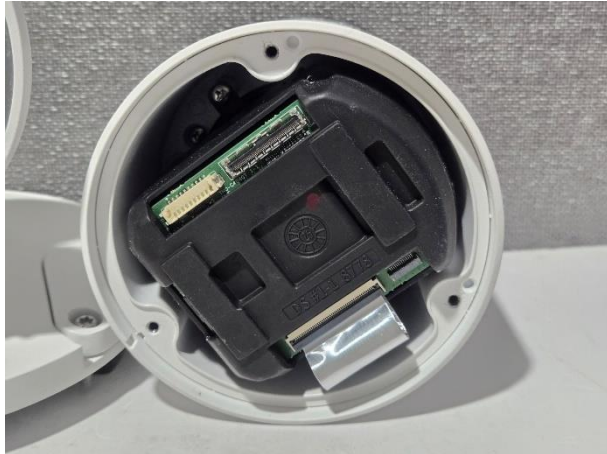
4.4.1 Test result table

Sample No (Model)	Water Flow	Presence of water inside	Result
TNO-C4060T	240 LPM	No	Pass

※ Refer to the product photos after the completion of testing in section 4.5.

4.5 Post-test Sample images

4.5.1 Test sample image



- End -