APPLICATION FOR IP CODE
On Behalf of
Nordtronic A/S

Lowprofile down light
1701, 1702, 1703, 1704, 1721, 1722, 1723, 1724, 1731, 1732, 1733, 1734, Quick Install, DIOSPORT® '33'

Prepared For: Nordtronic A/S

Address: Boelsmindevej 5, 9300 Saeby, Denmark

Prepared By: Shenzhen Certification Technology Service Co., Ltd.

Address: 2F, Building B, East Area of Nanchang Second Industrial Zone, Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China

Date of Test: March 21, 2013
Date of Report: March 23, 2013
Report Number: STH130322056
Version Number: REV0

TEST STANDARD
IEC 60529
Degrees of protection provided by enclosures(IP code)

Report reference No……:	STH130322056
Tested by (name + signature)..... .:	Jonson Cai
Supervised by (name +signature).....:	Denny Yang
Approved by (+ signature)……:	Flare Qiu
Date of issue……..…..:	March 23, 2013
Contents……..…..:	8 Pages

Testing laboratory……..:		Shenzhen Certification Technology Service Co., Ltd.
Address……	:	2F, Building B, East Area of Nanchang Second Industrial Zone, Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China
Testing location……	:	As above
Applicant……..	:	Nordtronic A/S
Address……	:	Boelsmindevej 5, 9300 Saeby, Denmark
Standard……..	:	IEC 60529 Edition 2.1, 2001-02
Procedure deviation……	:	N.A.
Non-standard test method….	:	N.A.
Object under test……	:	Lowprofile down light
Model/type reference…….	:	1701, 1702, 1703, 1704, 1721, 1722, 1723, 1724, 1731, 1732, 1733, 1734, Quick Install, DIOSPORT® '33'
Model difference.....	:	The internal structure of the same, only the shape of different sizes.
Trademark……..	:	N.A.
Manufacturer	:	Nordtronic A/S
Address	:	Boelsmindevej 5, 9300 Saeby, Denmark
IP degrees……	:	IP44
Note…….....	:	N.A.

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)

General remarks:

Throughout this report a point is used as the decimal separator.

The test results presented in this report relate only to the object tested.

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Comments:

- The first characteristic numeral 4 indicated protection against solid foreign objects indicated. The protection is satisfactory if the full diameter of the probe specified in table 7 does not pass through any opening. Test means: rigid steel rod $1_{0}^{+0.5}$ mm diameter with edges free from burrs, Test force: 1N±10%.
- The second characteristic numeral 4 indicated protected against water. Protected against splashing water: Water splashed against the enclosure from any direction shall have no harmful effects. The tube is caused to oscillate through an angle of almost 360°, 180° on either side of the vertical, the time for one complete oscillation (2x360°) being about12s. The duration of the test is 10 min. Or the spray ±60º from vertical .The duration of the test not be less than 5 minutes.

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
11	General requirements for tests		P
11.1	Atmospheric conditions for water or dust tests	25.1ºC, 57%R.H.	P
11.2	Test samples		P
11.3	Application of test requirements and interpretation of test results		P
11.4	Combination of test conditions for the first characteristic numeral	IP4X	P
11.5	Empty enclosures		N
12	Test for protection against access to hazardous parts indicated by the fist characteristic numeral		N
12.1	Access probes		N
12.2	Test conditions		N
12.3	Acceptance conditions		N
12.3.1	For low-voltage equipment. (Rated voltage not exceeding 1000V a.c. and 1500V d.c.)		N
12.3.2	For high-voltage equipment (Rated voltage exceeding 1000V a.c. and 1500V d.c.)		N
12.3.3	For equipment with hazardous mechanical parts		N
13	Test for protection against solid foreign objects indicated by the first characteristic numeral		P
13.1	Test means	IP4X	P
	Test means and the main test conditions are given in table 7		P
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4	With a test force of 1N±10%.	P
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4	The full diameter of the probe does not pass through any opening.	P
13.4	Dust test for first characteristic numerals 5 and 6		N
13.5	Special conditions for first characteristic numeral 5		N
13.5.1	Test conditions for first characteristic numeral 5		N
13.5.2	Acceptance conditions for first characteristic numeral 5		N
13.6	Special conditions for first characteristic numeral 6		N
13.6.1	Test conditions for first characteristic numeral 6		N

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
13.6.2	Acceptance conditions for first characteristic numeral 6		N
14	Test for protection against water indicated by the second characteristic numeral		P
14.1	The test means and the main test conditions are given in table 8	IPX4	P
14.2	Test conditions		P
	Test means and main test conditions are given in table 8		P
	During the tests for IPX1 TO IPX6 the water temperature should not differ by more than 5K from the temperature of the specimen under test		P
	For IPX7 details of the water temperature are given in 14.2.7		N
	Test for second characteristic numeral 8, the test conditions are subject to agreement between manufacturer and user, but they shall be more severe than those prescribed in 14.2.7 and they shall take account of the condition than the enclosure will be continuously immersed in actual use		N
14.2.1	Test for second characteristic numeral 1 with the drip box		N
14.2.2	Test for second characteristic numeral 2 with the drip box		N
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle	Test time: 5min	P
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle		N
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle		N
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15m and 1m		N
	The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied		N
	a) the lowest point of enclosures with a height less than 850mm is located 1000mm below the surface of the water		N
	b) the highest point of enclosures with a height equal to or greater than 850mm is located 150mm below the surface of the water		N
	c) the duration of the test is 30min		N

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	d)the water temperature does not differ from that of the equipment by more 5K		N
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		N
14.3	After testing in accordance with the appropriate requirements of 14.2.1 to 14.2.8 the enclosure shall be inspected for ingress of water	No water touch the dangerous parts	P
	It is the responsibility of the relevant technical committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test		P
	In general, if any water has entered, it shall not:		P
	–be sufficient to interfere with the correct operation of the equipment or impair safety		P
	–deposit on insulation parts where it could lead to tracking along the creepage distances		P
	–reach live parts or windings not designed to operated when wet		P
	–accumulate near the cable end or enter the cable if any		P
	If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment		N
	For enclosure without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts		N
15	Test for protection against access to hazardous parts indicated by the additional letter		N
15.1	Access probes	No additional letter	N
	The access probe are given in table 6		N
15.2	Test conditions		N
	The access probe is pushed against any openings of the enclosure with the force specified in table 6		N
15.3	Acceptance conditions		N
	Test for the additional letter B		N
	Test for the additional letter C and D		N

Appendix
Photo documentation

Photo 1

Modle:1721

View: sample characteristics

[ ] front

[ ] rear

[ ] right side

[ ] left side

[√] top

[ ] bottom

[ ] internal

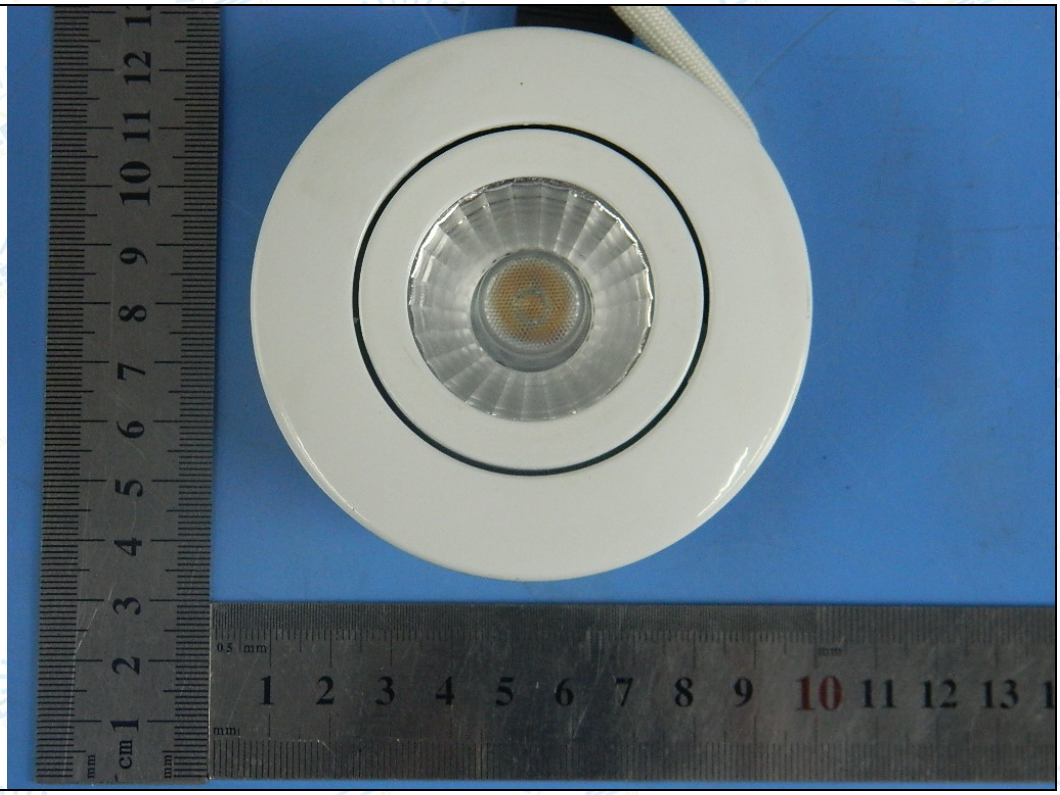

Photo 2

Modle:1721

View: sample characteristics

[ ] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[√] bottom

[ ] internal

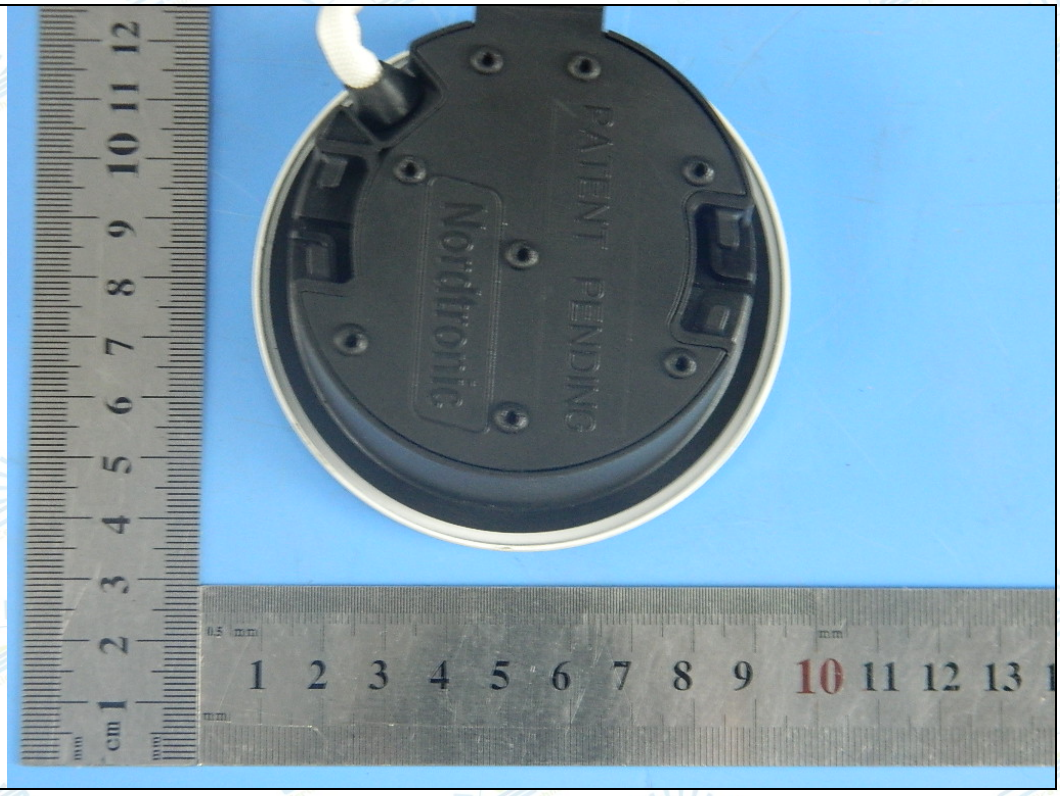

Photo documentation

Photo 3

Modle:1721

View: during IP4X testing

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[ ] left side

[√] top

[ ] bottom

[ ] internal

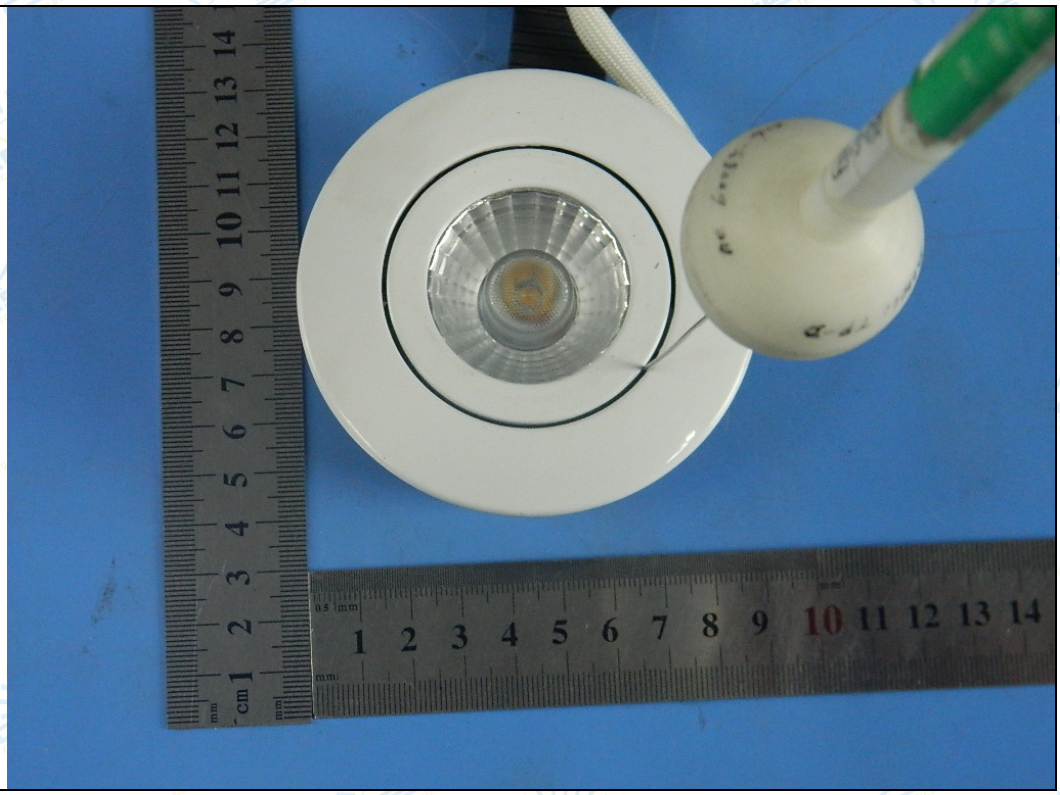

Photo 4

Modle:1721

View: during water proof testing (IPX4)

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[ ] left side

[ ] top

[√] bottom

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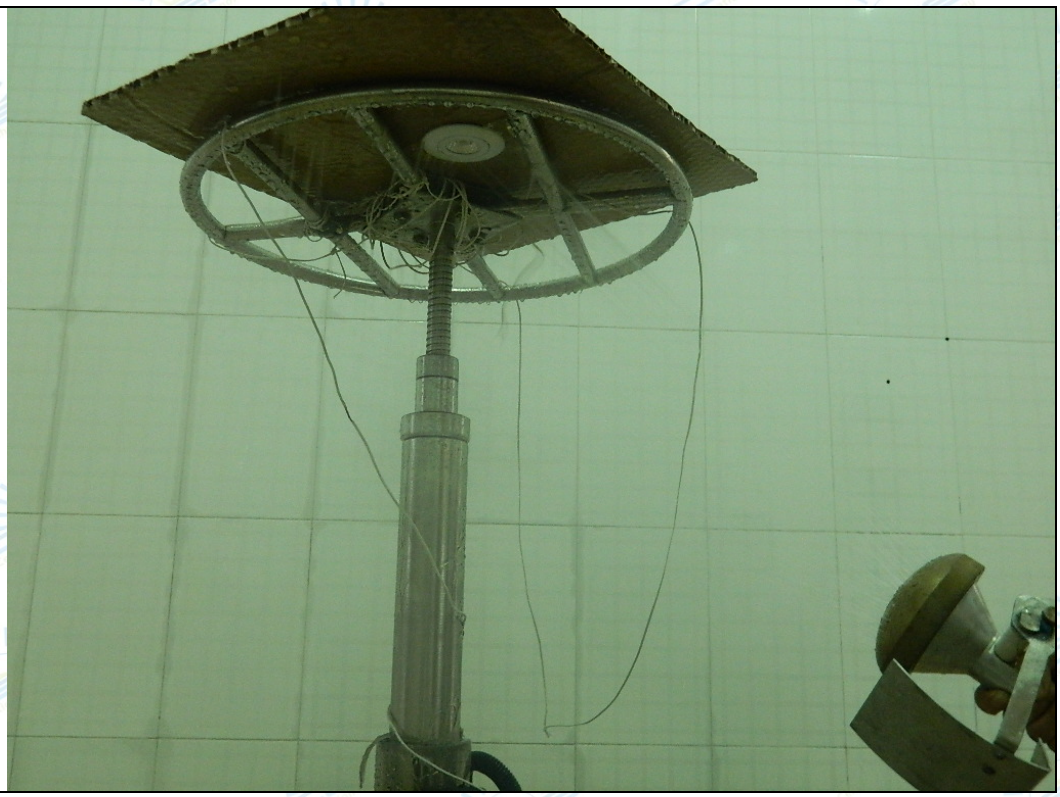

Photo documentation

Photo 5

Modle:1721

View: after water proof testing

[√] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

[ ] internal

Photo 6

Modle:1721

View: after water proof testing

[ ] front

[ ] rear

[ ] right side

[ ] left side

[ ] top

[ ] bottom

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