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DELTA Test Report



TEST Reg. no. 19

IP65 Tightness test of P-5 Wash Light

Performed for SGM A/S

DANAK-19/14212

Project no.: T208225-2

Page 1 of 20

Including 2 annexes

12 June 2014

DELTA

Venlighedsvej 4

2970 Hørsholm

Denmark

Tel. +45 72 19 40 00

Fax +45 72 19 40 01

www.delta.dk

VAT No. 12275110

Title IP65 Tightness test of P-5 Wash Light

Test object 1 pc. P-5 Wash Light

Report no. DANAK-19/14212

Project no. T208225-2

Test period 14 - 20 May 2014

Client SGM A/S
Søren Frigsvej 51-53
8230 Åbyhøj
Denmark

Tel.: +45 52 10 21 51

Contact person Mr. Boile Sørensen
E-mail: bbs@sgmlight.com

Manufacturer SGM A/S

Specifications IEC 60529:2001 Edition 2.1 “Degrees of protection provided by enclosures (IP Code)”

Results See Chapter 1, Summary

Test personnel Charlotte Jervelund and Jens Schoustrup-Thomsen

Date 12 June 2014

Responsible



Susanne Otto, B.Sc.E.E., B.Com (Org.)
DELTA



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1. Summary

1.1 Introduction

Tightness tests have been performed on a P-5 Wash Light in order to evaluate the degree of protection against dust and water provided by the enclosure of the tested object.

The P-5 Wash Light was tested to ingress of dust according to IEC 60529 Edition 2.1, IP6X. Thus, the test was performed as for 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.

Further, the P-5 Wash Light was tested to ingress of water according to IEC 60529 Edition 2.1, IPX5. The P-5 Wash Light was tested by spraying the enclosure from all practicable horizontal directions with a stream of water and with a 6.3 mm nozzle. The distance was between 2.5 and 3.0 m and the test object was exposed for 60 s at each of the front and the back and 30 s at each side. The total duration was 3 min.

The test object was unpowered during both the water and dust exposure.

The test results relate to the tested object only.

1.2 Conclusion

Neither dust nor water was observed inside the P-5 Wash Light during the visual inspection performed after the IP6X and IPX5 exposures. Thus, the degree of protection against dust and water corresponds to IP65 (as described in IEC 60529:2001 Edition 2.1) for the P-5 Wash Light.



2. Test object

As received from the client 14 May 2014.

Name of test object	P-5 Wash Light
Model / type	-
Serial no.	27A051410002
Manufacturer	SGM A/S
Supply voltage	None
Comments	None

2.1 Visual inspection

Immediate visual inspections were carried out by DELTA after the tests to check for ingress of dust and water.



3. Tests and results

3.1 Tightness test, dust

Test specification

IEC 60529:2001. Edition 2.1, IP6X

Severity

IP6X (dust-tight):

Category	:	1 (air pressure reduction)
Test means	:	Temperature stabilised surroundings
Test powder	:	Talcum
Air pressure	:	2 kPa (20 mbar) below normal air pressure
Duration	:	8 hours.

After the exposure, the test object is wiped off on all external surfaces. It is then carefully opened and visually inspected for ingress of dust.

The test object was unpowered during the exposure.

Acceptance conditions for first characteristic number 6

The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.

Results

The test was performed as specified, with 8 hours of exposure.

No dust was observed inside the P-5 Wash Light during the visual inspection performed after the IP6X exposure. Thus, the degree of protection against dust corresponds to IP6X (as described in IEC 60529 Edition 2.1, IP6X) for the P-5 Wash Light.

See Photos 1 to 10 in Annex 1.



3.2 Tightness test, water spray

Test specification

IEC 60529:2001. Edition 2.1, IPX5

Severity

Water flow	:	12.5 l/min
Nozzle diameter	:	6.3 mm
Distance	:	2.5 – 3.0 m
Duration	:	1 min./m ² , 3 min. in total

After the exposure, the test object is wiped off on all external surfaces. It is then carefully opened and visually inspected for ingress of water.

The test object was unpowered during the exposure.

Acceptance conditions for second characteristic number 5

In general, if any water has entered, it shall not be sufficient to interfere with the correct operation of the equipment or impair safety.

Test result

The test was performed as specified.

No water was observed inside the P-5 Wash Light during the visual inspection performed after the IPX5 exposure. Thus, the degree of protection against water corresponds to IPX5 (as described in IEC 60529 Edition 2.1, IPX5) for the P-5 Wash Light.

See Photos 11 to 20 in Annex 1.



Annex 1
Photos





Photo 1. IP6X Test P-5 Wash Light before exposure.



Photo 2. IP6X The P-5 Wash Light after exposure.





Photo 5. IP6X No dust observed inside the P-5 Wash Light.

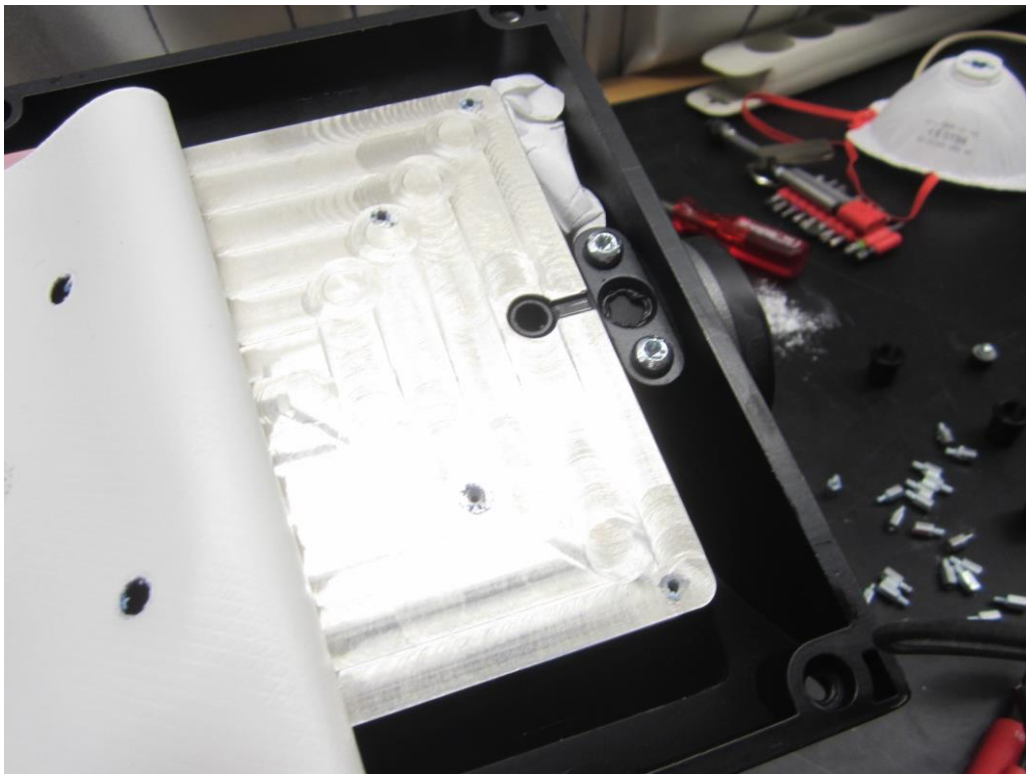


Photo 6. IP6X No dust observed inside the P-5 Wash Light.

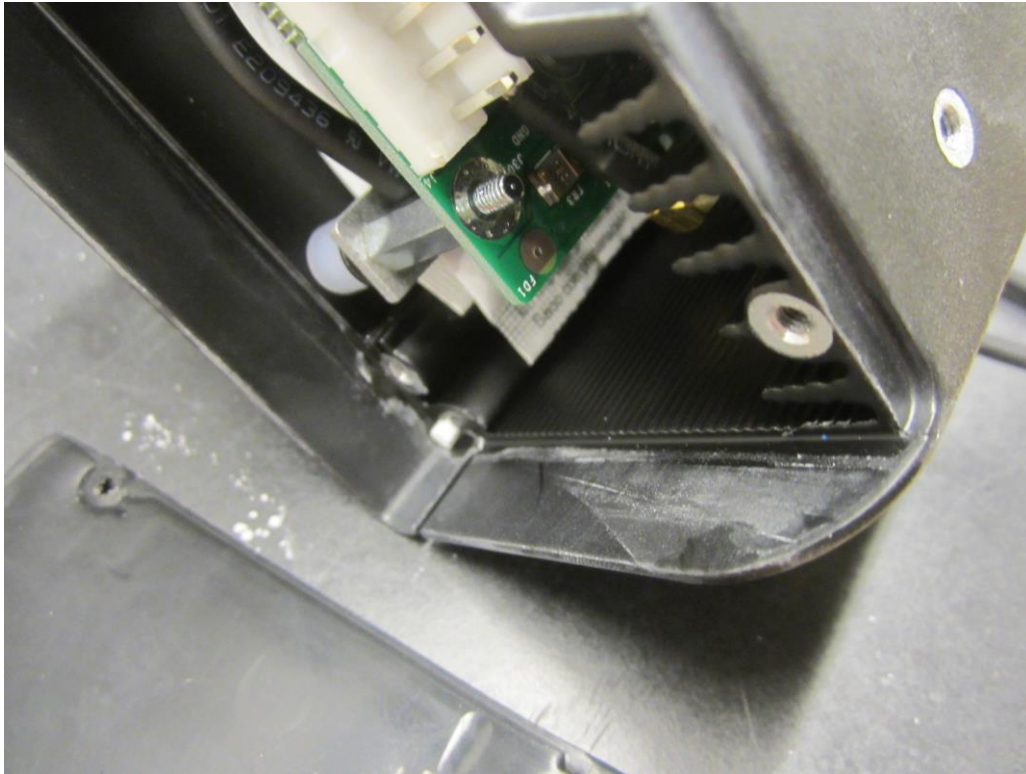


Photo 7. IP6X No dust observed inside the P-5 Wash Light.

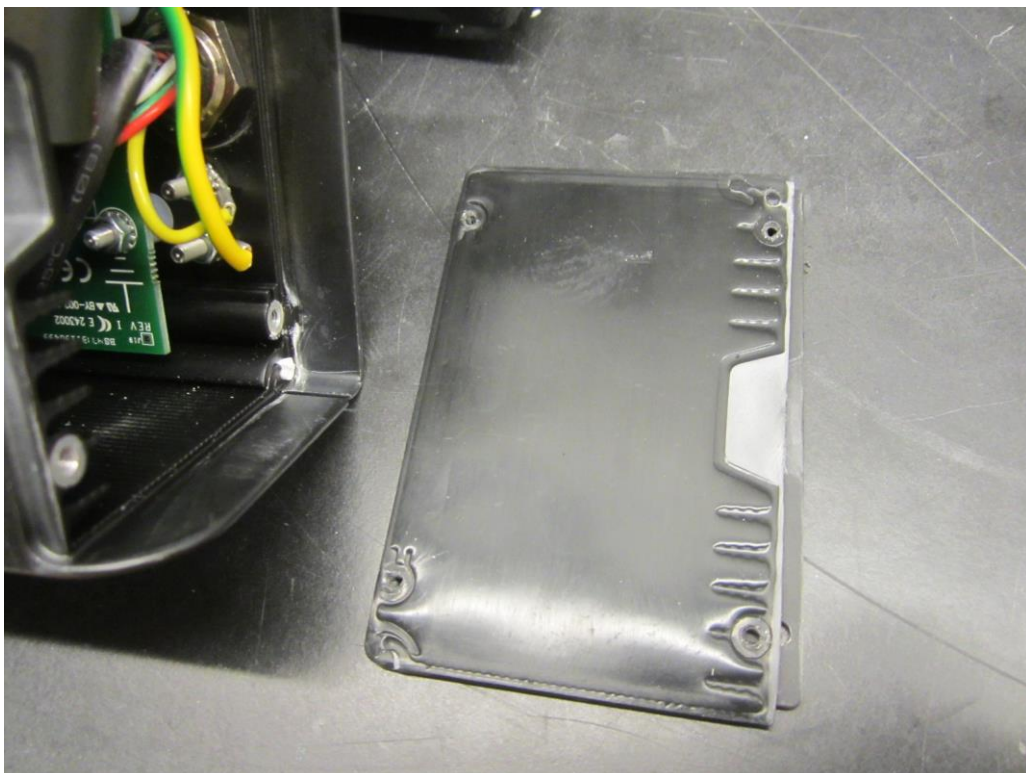


Photo 8. IP6X No dust observed inside the P-5 Wash Light.





Photo 9. IP6X No dust observed inside the P-5 Wash Light.



Photo 10. IP6X No dust observed inside the P-5 Wash Light.





Photo 11. IPX5 Before exposure.



Photo 12. IPX5 During exposure.



Photo 13. IPX5 During exposure.



Photo 14. IPX5 During exposure.





Photo 15. IPX5 During exposure.

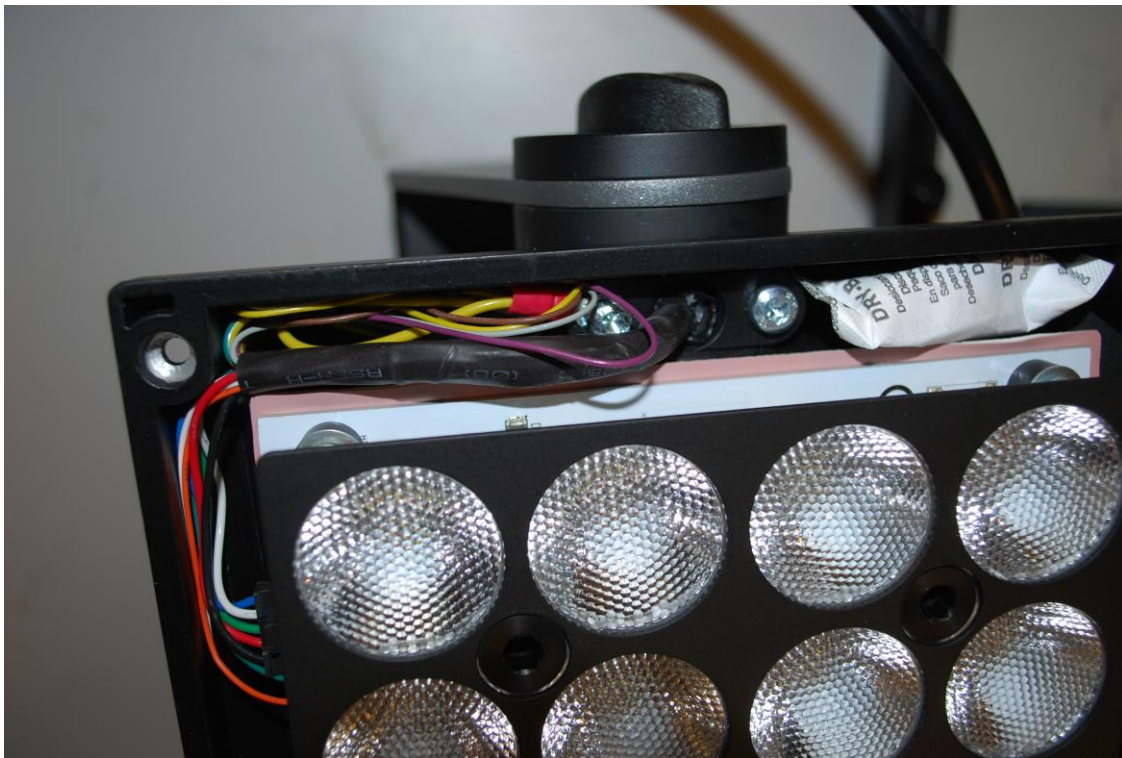


Photo 16. IPX5 No water observed inside the P-5 Wash Light.





Photo 17. IPX5 No water observed inside the P-5 Wash Light.

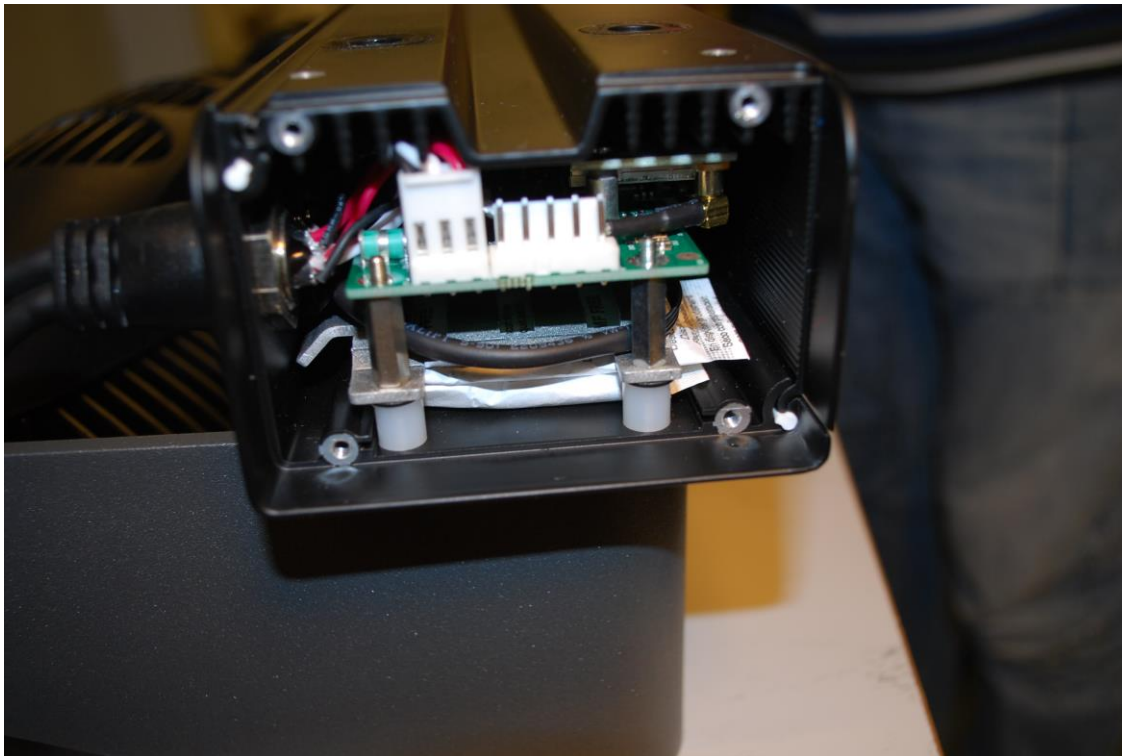


Photo 18. IPX5 No water observed inside the P-5 Wash Light.



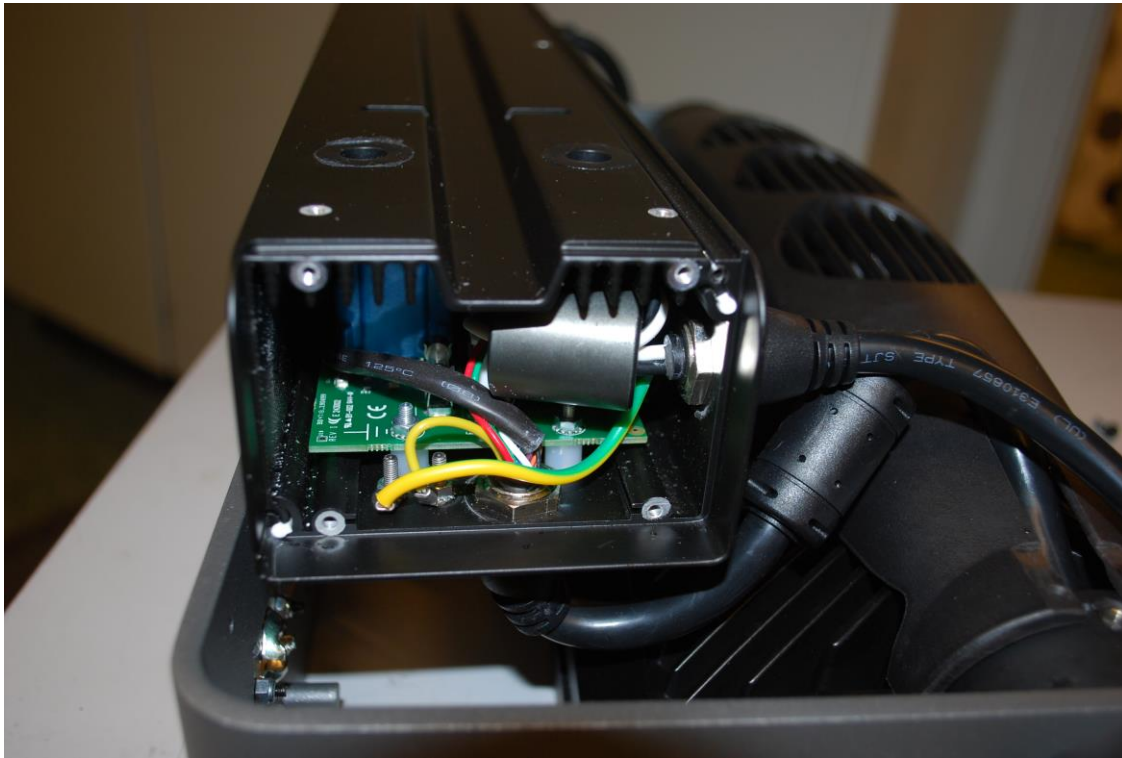


Photo 19. IPX5 No water observed inside the P-5 Wash Light.



Photo 20. IPX5 No water observed inside the P-5 Wash Light.



Annex 2
List of instruments



List of instruments

NO.	DESCRIPTION	MANUFACTURER
EVFGT-34	Water test facility	DELTA
EVFGT-49	IP dust chamber	WEISS TECHNIK

