EADS CASA	FUNCTIONAL TEST	PFBFA-33-50-01-00/1	Issue	D	Pages.	10
	SPF, Aircraft System Engineering Department					
Aircraft	A330 MRTT					

Title:

Cabin & Cargo Lights Functional Test

Summary:

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Date:	**Date:**	**Date:**

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REVISIONS RECORD

Issue	Revision Reason	Approved
Date	**Chapters, Sections, Affected Pages**	**Signature**
A	New Issue	Casildo Calderón
10/10/08	All pages	
B	Update procedure	
23/04/09	All page	
C	New distributions on performance	
18/01/10	All page	
D	New distributions on performance	
27/05/10	All page	

1 INTRODUCTION

1.1 Object

The aim of this test is to demonstrate the correct operation and functionality of the following lights in ground conditions:

-Cabin Emergency Lights
-Cargo and Service Lights:
-Lower deck cargo compartment
-Avionics Compartment Lights

1.2 List of acronyms and abbreviations

A/C	Aircraft
CMS	Central Maintenance System
FWS	Flight Warning System
GPU	Ground Power Unit
GTR	Ground Test Requirements
LGCIU	Landing Gear Control and Interface Unit
MCO	Mission Coordinator Operator
MFD	Multi-Function Display
MRTT	Multi Role Transport Tanker
NVIS	Night Visions Imaging System
TBD	To Be Defined

2 APPLICABLE DOCUMENTATION

NT-FA-SGU-07026	Lights Functional Test
AMM	A330 Aircraft Maintenance Manual (AMM)
AWM	A330 Aircraft Wiring Manual (AWM)
24-00-00-861-801	Energize the Aircraft Electrical Circuits from the External Power A
24-41-00-862-801	De-energize the Aircraft Electrical Circuits from the External Power A

3 REQUIRED EQUIPMENT

- External GPU of 115/200 VAC, 3-phase, 400 Hz.

- Digital Multimeter

4 DEFINITIONS

N/A

5 PRELIMINARY INSTRUCTIONS

5.1 Test Preparation

Before performing this test, applicable points of these Grounding and Bounding functional tests must be performed:

- PFAFA-24-00-10-00/1
- PFAFA-24-00-11-00/1
- PFAFA-24-00-12-00/1
- PFAFA-24-00-13-00/1
- PFAFA-24-00-14-00/1
- PFAFA-24-00-15-00/1

On the other hand PFBFA-24-00-01-00/1 and must have been executed.

5.2 Safety Instructions

Prior to performing any test, the following requirements must be met:

- Adequate electrical fire, extinguishing equipment shall be available within the aircraft and shall be within calibration / maintenance.

- No other testing shall be executed simultaneously on the aircraft which might interfere with the correct execution of these tests.

- All Operator Safety hazards shall be identified and appropriate clothing, and or precautions shall be taken.

- Check that all control switches, and selectors of the electrical installation are in the OFF position.

- Fuel tanks shall be checked to ensure that they are empty and inerter, (to ensure that there is no risk of explosion), except for tests in which a pre-determined fuel quantity is required. This information shall be recorded on the Pre-Test Requirements Results Sheet below

5.3 Preliminary Actions

- All the engines and the APU shall be shut down.

- Batteries will be checked for correct connectivity. They shall also be checked to ensure they are fully charged.

- The wiring continuity tests of the system-under-test shall have been concluded successfully.

- The equipment and components of the system-under-test shall have been properly installed, in accordance with the applicable documentation. They shall be verified as fully operative.

6 TEST EXECUTION.

Every test step has a relevant data sheet to be filled (chapter 7: test date sheets).

6.1 Cargo Lights Functional Test

6.1.1 Apply procedure 24-41-00-861-801 of AMM: Energize the Aircraft Electrical Circuits from the External Power A.

6.1.2 Apply procedure 33-34-00-710-801 of AMM: Operational Test of the FWD, AFT and BULK Cargo-Compartment Lighting

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.3 On panel 5005VU, set the switch A1LU to ON and then check that bulk cargo lights go on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.4 On panel 5005VU, set the switch A1LU to OFF then check that bulk cargo lights go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.2 Avionics Compartment Lights Functional Test

6.2.1 Make sure that CBs listed bellow are closed:

FIN	PANEL	LOCATION	DESIGNATION
4LS	722VU	F44	AVNCS OUTLET 115V
12LS	722VU	R39	AVNCS COMP LT
2LS	722VU	R38	AVNCS OUTLET 28V

6.2.2 On coat stowage, set the AVNCS LT switch 1LS to ON.

6.2.3 In the avionics bay, check that the seven dome lights come on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.2.4 With a multimeter, check that the output voltage at terminals of the outlet 14LS on the panel 722VU is 28Vdc.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.2.5 Check that the output voltage at terminals of the outlet 16LS on the right side FR6, in the ceiling is 28Vdc.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.2.6 Check that the output voltage at terminals of the outlet 15LS on the panel 722VU is 115Vac.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.2.7 On avionics bay, set the AVNCS LT switch 5LS to OFF.

6.2.8 Check that the seven dome lights go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3 Cabin Lights Functional Test

6.3.1 Apply procedure 33-21-00-710-801 of AMM: Operational Test of the General Illumination.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.2 On the Middle Panel Control Galley, sure that CBs listed bellow are closed:

FIN	DESIGNATION
C007	G1 WORKDECK LIGHT
006	G1 GALLEY LIGHT
C106	G2 GALLEY LIGHT
C109	CEILING LIGHT

FIN	PANEL	LOCATION	DESIGNATION
316LG	5001VU	C09	LIGHT - CABIN ENTRY FWD

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6.3.3 On the Middle Panel Control Galley, turn the GALLEY LIGTHS rotary switch (S402) from **OFF to BRT** position. Check that the brightness of the galley lights (L401&L402) increases as the switch is turned towards MAX.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.4 Turn the GALLEY LIGTHS rotary switch (S402) from **BRT to DIM** position. Check that the brightness of the galley lights (L401&L402) come on moderately bright.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.5 Set the switch (S402) to **OFF**. Check that the brightness of the galley lights (L401&L402) go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.6 On the Middle Panel Control Galley, turn the GALLEY LIGTHS rotary switch (S001) from **OFF to BRT** position. Check that the brightness of the galley lights (L004&L005) increases as the switch is turned towards MAX.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.7 Turn the GALLEY LIGTHS rotary switch (S001) from **BRT to DIM** position. Check that the brightness of the galley lights (L004&L005) come on moderately bright.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.8 Set the switch (S001) to **OFF**. Check that the brightness of the galley lights (L004&L005) go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.9 On the Middle Panel Control Galley, turn the GALLEY LIGTHS rotary switch (S004) from **OFF to BRT** position. Check that the brightness of the galley lights (L211, L212, L213 and L214) increases as the switch is turned towards MAX.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.10 Turn the GALLEY LIGTHS rotary switch (S004) from **BRT to DIM** position. Check that the brightness of the galley lights (L211, L212, L213 and L214) come on moderately bright.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.11 Set the switch (S004) to **OFF**. Check that the brightness of the galley lights (L211, L212, L213 and L214) go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.12 On the Middle Panel Control Galley, turn the WORKDECK LIGHT rotary switch (S002) from **OFF to BRT** position. Check that the brightness of the galley lights (L006) increases as the switch is turned towards MAX.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.13 Turn the GALLEY LIGTHS rotary switch (S002) from **BRT to DIM** position. Check that the brightness of the galley lights (L006) come on moderately bright.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.14 Set the switch (S002) to **OFF**. Check that the brightness of the galley lights (L006) go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.15 On the AFT Panel Control Galley, sure that CBs listed bellow are closed:

FIN	DESIGNATION
C516	G1 WORK LIGHT
C824	CEILING LIGHT AFT
C823	CEILING LIGHT FWD

FIN	PANEL	LOCATION	DESIGNATION
315LG	5001VU	B05	LIGHT - CABIN ENTRY AFT

6.3.16 On the AFT Panel Control Galley, turn the GALLEY LIGTHS rotary switch from **OFF to BRT** position. Check that the brightness of the galley lights increases as the switch is turned towards MAX.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.17 Turn the GALLEY LIGTHS rotary switch from **BRT to DIM** position. Check that the brightness of the galley lights come on moderately bright.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.18 Set the switch to **OFF**. Check that the brightness of the galley lights go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.19 On the Middle Panel Control Galley, turn the WORKDECK LIGHT rotary switch from **OFF to BRT** position. Check that the brightness of the galley lights increases as the switch is turned towards MAX.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.20 Turn the GALLEY LIGTHS rotary switch from **BRT to DIM** position. Check that the brightness of the galley lights come on moderately bright.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.21 Set the switch to **OFF**. Check that the brightness of the galley lights go off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.22 Apply procedure 33-24-00-710-801 of AMM: Operational Test of the Lavatory Lighting.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.23 Apply procedure 33-26-00-710-801 of AMM: Operational Test of the Lavatory Lighted Signs.

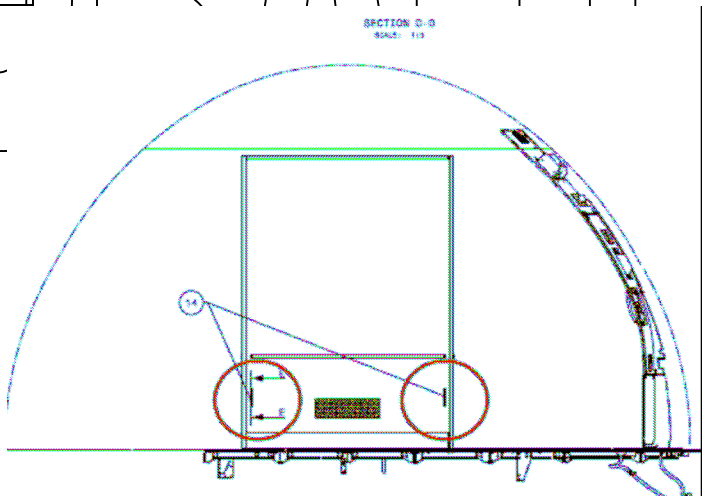
PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.24 Apply procedure 33-25-00-710-801 of AMM: Operational Test of the Passenger Reading Lights and Cabin Attendant Lights.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.25 Apply procedure 33-51-00-710-801 of AMM: Operational Check of the Emergency Light via MCDU. And check that the new emergency lights installed on the airstairs compartment work properly.

PASS ☐ **FAIL** ☐ **COMMENT:**



6.3.26 De-energize the Aircraft Electrical Circuits (Ref. Task 24-41-00-862-801).

7 TEST RESULTS

Test readings have to be logged on the result Tables and any additional observations have to be recorded.

7.1 Cargo and Service Lights Functional Test Results

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)
	Operational Test OK				
6.1.2	PASS		FAIL		
	bulk cargo lights go on				
6.1.3	PASS		FAIL		
	bulk cargo lights go off				
6.1.4	PASS		FAIL		
OVERALL TEST RESULT (TICK BOX)			COMENTS:		
PASS					
FAIL					

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)
	Operational Test OK				
6.1.2	PASS		FAIL		
	bulk cargo lights go on				
6.1.3	PASS		FAIL		
	bulk cargo lights go off				
6.1.4	PASS		FAIL		
OVERALL TEST RESULT (TICK BOX)		COMENTS:			
PASS					
FAIL					

7.2 Avionics Compartment Lights Functional Test Results

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)
6.2.3	The seven dome lights come on				
	PASS		FAIL		
6.2.4	The output voltage at terminals of the outlet 14LS on the panel 722VU is 28Vdc				
	PASS		FAIL		
6.2.5	The output voltage at terminals of the outlet 16LS on the right side FR6, in the ceiling is 28Vdc				
	PASS		FAIL		
6.2.6	The output voltage at terminals of the outlet 15LS on the panel 722VU is 115Vac				
	PASS		FAIL		
6.2.8	The seven dome lights go off				
	PASS		FAIL		
6.2.9	Functional Test of the Electrical Outlets and the Avionics Compartment Lighting OK				
	PASS		FAIL		
OVERALL TEST RESULT (TICK BOX)					COMENTS:
PASS					
FAIL					

7.3 Cabin Lights Functional Test

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)
6.3.1	Operational Test of the General Illumination OK				
	PASS		FAIL		
6.3.3	Check that the brightness of the galley lights increases as the switch is turned towards MAX.				
	PASS		FAIL		
6.3.4	Check that the brightness of the galley lights (L401&L402) come on moderately bright				
	PASS		FAIL		
6.3.5	Check that the brightness of the galley lights (L401&L402) go off.				
	PASS		FAIL		
6.3.6	Check that the brightness of the galley lights (L004&L005) increases as the switch is turned towards MAX.				
	PASS		FAIL		
6.3.7	Check that the brightness of the galley lights (L004&L005) come on moderately bright				
	PASS		FAIL		
6.3.8	Check that the brightness of the galley lights (L004&L005) go off.				
	PASS		FAIL		

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)
6.3.9	Check that the brightness of the galley lights (L211, L212, L213 and L214) increases as the switch is turned towards MAX.				
	PASS		**FAIL**		
6.3.10	Check that the brightness of the galley lights (L211, L212, L213 and L214) come on moderately bright.				
	PASS		**FAIL**		
6.3.11	Check that the brightness of the galley lights (L211, L212, L213 and L214) go off.				
	PASS		**FAIL**		
6.3.12	Check that the brightness of the galley lights (L006) increases as the switch is turned towards MAX				
	PASS		**FAIL**		
6.3.13	Check that the brightness of the galley lights (L006) come on moderately bright.				
	PASS		**FAIL**		
6.3.14	Check that the brightness of the galley lights (L006) go off.				
	PASS		**FAIL**		
6.3.16	Check that the brightness of the galley lights increases as the switch is turned towards MAX.				
	PASS		**FAIL**		
6.3.17	Check that the brightness of the galley lights come on moderately bright.				
	PASS		**FAIL**		
6.3.18	Check that the brightness of the galley lights come on moderately bright.				
	PASS		**FAIL**		
6.3.19	Check that the brightness of the galley lights increases as the switch is turned towards MAX.				
	PASS		**FAIL**		
6.3.20	Check that the brightness of the galley lights come on moderately bright.				
	PASS		**FAIL**		
6.3.21	Check that the brightness of the galley lights go off.				
	PASS		**FAIL**		
6.3.22	Operational Test of the Lavatory Lighting OK				
	PASS		**FAIL**		
6.3.23	Operational Test of the Lavatory Lighted Signs OK				
	PASS		**FAIL**		
6.3.24	Operational Test of the Passenger Reading Lights and Cabin Attendant Lights OK				
	PASS		**FAIL**		
6.3.25	Emergency Lights test OK				
	PASS		**FAIL**		

OVERALL TEST RESULT (TICK BOX)		COMENTS:
PASS		
FAIL		

IMPORTANT NOTE: **Any comments or remarks arisen during test execution shall be written down here and send to Engineering Department. Non-conformities shall be processed according to CASA-1023**

NOTE: **In Case of NCS, write down its number on Table 7.1**

N.C.S Number	Date

Table 7.1

NOTE: After this functional test execution, stamp the correspondent operation on the Production Order.

NOTE: Every result sheet must be stamped and attached to Production Order.

STAMP:	
DATE:	