

Retour:  
A.G. Sieben

# HYPERELEC

DOSSIER DE LIBERATION  
POUR PRODUCTION  
( RELEASE FOR PRODUCTION )

**D 12-120**

AVENUE EUGÈNE FREYSSINET  
B. P. 520 - 19106 BRIVE

ONTVANGEN

Ontv. 4 APR. 1983

A. G. SIEBEN

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POUR PRODUCTION  
( RELEASE FOR PRODUCTION )

D 12-120

Meeteis / Test spec. D 12-120.  
( RfP dossier ).

PHILIPS

F-spec:  $I_{g0}$  at  $-V_{g1} = 15V \rightarrow I_{g0}$  at  $V_d = 15V$   
FII - " drive.  
(or  $V_{mod} = 15V$ .)

362-3 Linearity:

KHR-89/5B 040 OS-H3  $\rightarrow$  RV 6-3-0/407,  
nr 8.  
(dated 82-06-29)

Luminance-spec.  $> 250 \text{ cd/m}^2$ . ( $\bar{x} = 467 \text{ cd/m}^2$   $S = 33$ )

Is this realistic?

Limit should be increased too  
guarantee detection of deviations.

Geo-corr.: What is the reason for the  
systematic deviation of  $30V$  ( $\bar{x}$ )

**LISTE DES DOCUMENTS** (list of documents)

- 1 - Description du type (description of the type)
- 2 - Composants (specific components)
- 3 - Specifications de mesures (test - spec)
- 4 - Données de publication (published data)
- 5 - Résultats de mesures (tests-results)
- 6 - Résultats de production ( production results)
- 7 - Emballage et marquage (packing and marking)
- 8 - Prix de revient (cost price)

**Description of the type**

Description du type

D 12-120

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- The D 12-120 is issued from the D 14-125 family.

- The D 12-120

- . has exactly the same gun that the D 14-125
- . the face plate has 12 cm of diagonal
- . the bulb has a length of 311,5 mm instead of 361,5 mm for the D 14-125

In conclusion, the manufacturing file except, bulb and face plate is the same for the two types.

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SAMPLE SIZE ON Vf =

	5.7 v	6.3 v	7.0 v
Quantity	6	13	5
Hours	8760	8760	8760
	8760	900	8760
	8760	852	8760
	8760	8760	2125
	2416	2416	2125
	2416	2416	
		2416	
		2416	
		2416	
		2416	
		1700	
		1700	
		3200	

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2.2. Survey of the results

2.2.1. at Vf = 5.7 v

- Tested 6 tubes
- Catastrophic rejects none

Analysis tests

- Emission judgment : no rejects
- Gas/insulation - OK
- Luminance and  $\Delta$  luminance - OK

2.2.2. at Vf = 6.3 v

- Tested 13 tubes
- Catastrophic rejects 2  
1 interrupted filament at 900 h  
1 interrupted filament at 852 h

Analysis tests

- Emission judgment no reject only one tube just to the limit (S.N 79 35 035)  
 $\Delta$  émission - 26 %
- Luminance and  $\Delta$  luminance OK
- Gas/insulation OK

*25%  
~~20%~~ actual!*

X 2.2.3. at Vf = 7.0 v

- Tested 5 tubes
- Catastrophic rejects 2 tubes  
interrupted heater at 2125 h

Analysis tests

- Emission judgment  
Decreasing of Ib more important at Vf = 7v than 6.3 and 5.7 v. Difficult to obtain good operation after 2000 h.
- Luminance and  $\Delta$  luminance OK
- Gas/insulation OK for 2 tubes, 3 tubes out of tolerances after 2500 h.

*40%!* →

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#### 2.2.4. Conclusion

The obtained life test results at  $V_f = 5,7$  and  $6,3$  v show good results excepted 2 interrupted filament.

However at  $V_f = 7$  v the decreasing of émission, and the insulation between K/G1 and K.F. are more critical.

Nevertheless, the life is more than 2000 hours.

### 3 - VIBRATION TEST

#### 3.1. Introduction

6 tubes have been tested

f: 0 to 100 Hz

amplitude : constant

(10 g at 100 Hz)

(more severe than RV 6-3-0-407 N° 57)

#### 3.2. Test results

See appendices

#### 3.3. Conclusion

No remark

Vibration tests are good

*Till 100 Hz only!  
IEC → 150 Hz*

### 4 - IMPLOSION

#### 4.1. Introduction

2 tubes have been tested according RV-6-3-0/407 N° 69

#### 4.2. Test results

See appendices

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4.3. Conclusion

Implosion - test - results are good.

5 - CLIMATIC TEST

5.1. Introduction

2 tubes have been tested according CEI 68.2.1  
+ 85° C 16 h CEI 68.2.2  
+100° C 16 h  
- 40° C 72 h  
- 55° C 2 h

5.2. Test results

See appendices

5.3. Conclusion

Climatic test results are good.

6 - CONTAINER DROP TEST

6.1. Introduction

4 tubes have been tested according the RV 6-3-0/407 N°58  
specs.

6.2. Test results

See appendices

6.3. Conclusion

Container drop test are good.

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7 - GENERAL CONCLUSIONS

There is no objection to release the D 12-120 for production.

  
R. MENET

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**Specific components**

Composants spécifiques

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QUANTITY	UNIT	LEVEL	DESCRIPTION	STANDARD/QDS	CODE	POS. NR.	SPECIFIC FOR PROD	LABEL	REFERENCE TO ALTERATION
100.00	-PC	01	ENSEMBLE CANON GUN ASSY		3322 143 24401				
100.00	-PC	01	ENSEMBLE AMPOULE SEDIMENTEE COATED BULB ASSY		3311 113 39401				
.11000	DM3	01	RESINE SILICONE SOLUTION 10 SILICONE RESIN SOLUTION 10		1322 506 66801				
100.00	-PC	01	ETIQ. PAP. B-2000 ROUL 22X16 LABEL PAP.SELFADH WHITE 2000 22X16	NLT-A 2201	2822 062 13101				
500.00	-PC	01	CUVETTE CONICAL BUSHING		3322 065 39402				
.10000	DM3	01	RESINE EPOXY 6 EPOXY RESIN 6	LV-CODE	1322 501 39901				
10.000	--G	01	DURCISSEUR 3 HARDENER 3	NLN-CODE	1322 502 14301				
100.00	-PC	01	ETIQUETTE LABEL		3322 027 06801			*	
.16300	-KG	01	SUSPENSION DE GRAPHITE 568J GRAPHITE SUSPENSION 568J		1311 501 74401				
25.000	-PC	01	COL NECK		3311 113 06601				
100.00	-PC	01	BANDE DE PROTECTION PROTECTION STRIP		3322 027 06601			*	
100.00	-PC	01	SUPPORT DE TUBE TYPE 55566 TUBE SOCKET TYPE 55566		9390 017 30001				

QUANTITY	UNIT	DESCRIPTION	CODE	PROD	TYPE	CODE	PROD	TYPE	ALTERATION DATE
100.00	-PC	TUBE OSCILLOSCOPE CATHODE-RAY OSCIL. TUBE				9300 904 70000			80-02-26 80-10-07
CLASS.						9300 876 90000			D 12-120 ../..
UB		NAME DEBUT				CONT. SHEET ---			SHEET 120-001
						FIRST DATE			PRINT DATE

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100.00	-PC	01	AMPOULE AVEC GRATICULE BULB WITH GRATICULE		3311 113 39601	01			
.07500	-KG	01	POUDRE FLUORESCENTE U 392		1322 512 33401	02			
.52500	DM3	01	FLUORESCENT POWDER U 392		1322 503 78701	02			
.02000	-KG	01	SILICATE DE POTASSIUM POTASSIUM SILICATE		1322 500 35501	02			
.20000	DM3	01	NITRATE DE BARYUM BARIUM NITRATE		1322 503 56501	03			
.80000	DM3	01	RESINE DE POLYMETHACRYLATE 002 ACRYLATE RESIN 002		1322 504 66601	03			
.05000	DM3	01	TOLUENE TECHNIQUE 99.8% TOLUENE 99.8% TECHNICAL		1322 510 32701	03			
.15000	-KG	01	ALCOOL POLYVINYL (DENKA POVAL) POLYVINYL ALCOHOL		1322 511 91501	04			
100.00	-PC	01	SUSPENSION DE GRAPHITE 061 DANS EAU GRAPHITE SUSPENSION IN WATER 061		3322 081 09201	05		*	
20.000	-PC	01	CAVALIER D'ALUMINIUM SLUG (AL. LAYER) FILAMENT POUR ALUMINURE ALUMINIZING COIL		3322 064 38411	05			

QUANTITY	UNIT	DESCRIPTION	CODE	PROD	TYPE	CODE	PROD	TYPE	ALTERATION DATE
100.00	-PC	ENS. AMPOULE SEDIMENTEE							80-12-16
CLASS.		COATED BULB ASSY				3311 113 39401		ENS. AMPOULE SEDIMENTEE	
UB		NAME DEBUT				CONT. SHEET		SHEET 120-001	PRINT DATE
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100.00	-PC	01	PIED FOOT		3322 122 93805	01			
100.00	-PC	01	ENSEMBLE CATHODE ANNEAU CATHODE ASSY		3322 153 02005	02			
100.00	-PC	01	ENSEMBLE GRILLE 1 GRID 1 ASSY		3322 142 82022	03			
100.00	-PC	01	ANNEAU EXTERIEUR OUTER RING		3322 080 39211	04			
100.00	-PC	01	PLAQUE DE CENTRAGE CENTRING PLATE		3322 066 12803	05			
100.00	-PC	01	ENSEMBLE GRILLE 3 GRID 3 ASSY		3311 105 73001	06		*	
200.00	-PC	01	PLAQUE DE CENTRAGE CENTRING PLATE		3322 063 67801	07			
200.00	-PC	01	PLAQUE DE DEVIATION Y Y-DEFLECTION PLATE		3322 080 24802	08			
100.00	-PC	01	PLAQUE DE CENTRAGE CENTRING PLATE		3322 080 15021	09			
100.00	-PC	01	ENSEMBLE PLAQUE DE DEVIATION X X-DEFLECTION PLATE ASSY		3322 142 19401	10			
100.00	-PC	01	ENSEMBLE PLAQUE DE DEVIATION X X-DEFLECTION PLATE ASSY		3322 142 40201	11			
100.00	-PC	01	PLAQUE DE CORRECTION CORRECTION PLATE		3322 080 29421	12			
200.00	-PC	01	GETTER		3311 002 41101	13			
200.00	-PC	01	ENSEMBLE PLAQUE ECRAN SHIELDING PLATE ASSY		3322 130 97021	14			
100.00	-PC	01	ENSEMBLE GRILLE DE CHAMP		3311 105 71001	15			

QUANTITY	UNIT	DESCRIPTION	CODE	PROD	TYPE	CODE	PROD	TYPE	ALTERATION DATE
100.00	-PC	ENSEMBLE CANON GUN ASSY				3322 143 24401		ENSEMBLE CANON	79-04-10
CLASS.									79-06-19
									79-10-16
									80-08-26
									81-09-29
UB		NAME DEBUT	SUPERSEDES			CONT. SHEET 002		SHEET 120-001	FORM A 4
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QUANTITY	UNIT	LEVEL	DESCRIPTION	STANDARD/QDS	CODE	POS. NR.	SPECIFIC FOR PROD	LABEL	REFERENCE TO ALTERATION
100.00	-PC	01	PLAQUE ECRAN SHIELDING PLATE		3311 123 73402	16		M	
200.00	-PC	01	PLAQUE ECRAN SHIELDING PLATE		3322 080 25201	17			
100.00	-PC	01	PLAQUE DE REMPLISSAGE FILLING PLATE		3322 080 25401	18			
100.00	-PC	01	ANNEAU DE G5		3311 123 54201	19			
400.00	-PC	01	RESSORT DE CENTRAGE CENTRING SPRING	URN-N 286	3322 063 72001	20			
400.00	-PC	01	TIGE ISOLANTE (MULTIFORM) INSULATING ROD (MULTIFORM)		3322 026 05601	21			
100.00	-PC	01	QUEUSOT TUBE		3322 051 05401	22			
400.00	-PC	01	ETRIER POUR G2 BRACKET FOR G2		3322 064 56602	23			
600.00	-PC	01	ETRIER POUR PLAQUE ECRAN + GETTER BRACKET FOR SHIELDING PLATE + GETTER		3322 063 79601	24			
100.00	-PC	01	ETRIER POUR G3 BRACKET FOR G3		3322 080 24411	25			
100.00	-PC	01	ETRIER POUR G5 BRACKET FOR G5		3322 080 24211	26			
100.00	-PC	01	ETRIER POUR PLAQUE DE CORRECTION BRACKET FOR CORRECT PLATE		3322 080 92611	27			
100.00	-PC	01	ENSEMBLE ETRIER SOUDE WELDING BRACKET ASSY		3322 142 16201	28			
100.00	-PC	01	BANDE POUR PLAQUE DE CENTRAGE STRIP FOR CENTRING PLATE		3322 999 81542	29			
100.00	-PC	01	BANDE POUR G1 STRIP FOR G1		3322 069 73201	30			

QUANTITY	UNIT	DESCRIPTION	CODE	PROD	TYPE	CODE	CONT. SHEET	FIRST DATE	PROD	TYPE	ALTERATION DATE
100.00	-PC	ENSEMBLE CANON GUN ASSY				3322 143 24401	003			ENSEMBLE CANON	79-11-20 80-04-29
		NAME DEBUT								SHEET 120-002	
										PRINT DATE 79-06-19	

