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Report No. 5483/1280323/S073
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AC - SUPPLIED ELECTRONIC BALLASTS FOR TUBULAR FLUORESCENT LAMPS

1. SUBJECT

The testing of AC-supplied electronic ballasts for type 55 W fluorescent lamps for compliance with the requirements of SABS 1628:1995 "Electronic Ballasts for Tubular Fluorescent Lamps".

2. DESCRIPTION OF SAMPLE

The sample consisted of one AC-supplied electronic ballast for one 55 W fluorescent lamp.

The ballast was marked as follows:

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ELECTROLUMA
MANUFACTURED BY ELECTROWEB
ELECTRONIC BALLAST WITH PREHEAT START
FREQUENCY AT + - 36 kHz WITH 20% INPUT
DEVIATION
PL(W) 1 x 55 W Un(V) 230/240 fn (Hz) 50-60
Pf 0.98C In(A) 0.14/0.18 T(C) -5 50
ACTIVE POWER FACTOR CORRECTED ..

A wiring diagram indicating the external connections to the ballast was given on the label.

3. SELECTION OF SAMPLE

The sample was selected by the test sponsor.

4. METHOD OF TEST

- 4.1 The sample was tested in accordance with specification SABS 1628-1995.
- 4.2 The tests were done with the ballast operating from a regulated 230 V AC power supply.
- 4.3 Test bench SABS 9967 was used for the measurements.
- 4.4 The uncertainty of measurement is estimated to be $\pm 2,5\%$ for a confidence level of 95%.
- 4.5 The ambient temperature was between 20 to 27°C.

5. RESULTS OF TEST

- 5.1 The results given in Table 1 are the results obtained when tested in accordance with the requirements of SABS IEC 929:1990. ("Performance requirements").
- 5.2 The results given in Table 2 are the results obtained when tested in accordance with the requirements of SABS IEC 928:1990 ("General and safety requirements").
- 5.3 The results given in Table 3 are the results obtained when tested in accordance with the requirements of SABS IEC 929-1990 Clause 12 'Supply Harmonics'.

**TABLE 1 - RESULTS
PERFORMANCE REQUIREMENTS**

Property	Results	Requirement
Lumen factor (light output)	96%	Not claimed
Total circuit power	38,61 W	55 W
Circuit power factor	0,98	Claimed 0,98
Supply Current	0,17A	Claimed 0,14A-0,18A
Maximum Current in any lead to a cathode	0,14A	0,78A max
Crest factor	1,5	1,7 max
Supply (harmonics)	Complied	Clause 12
Magnetic screening	Complied	Clause 13
Operational test for abnormal conditions	Complied	Clause 16

**TABLE 2 - RESULTS
GENERAL AND SAFETY REQUIREMENTS**

Property	Results	Requirement
Marking	Complied	Clause 7
Terminals	Complied	Clause 8
Protection against accidental contact with live parts	Complied	Clause 10
Moisture resistance and insulation	Complied	Clause 13
Electric Strength	Complied	2000 V for 1 min
Insulation resistance	Complied	> 20m Ω
Resistance to heat and fire	Complied	Clause 18
Fault conditions	Complied	Clause 16

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This report relates only to the specific sample(s) tested as identified herein. It does not imply SABS approval of the quality and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested. (Refer also to the complete conditions printed on the back of official test reports.)

Hierdie verslag het slegs betrekking op die spesifieke monster(s) wat getoets is, soos hierin geïdentifiseer. Dit impliseer nie dat die kwaliteit en/of prestasie van die betrokke artikel(s) deur die SABS goedgekeur is nie en die toetsresultate is nie van toepassing op 'n soortgelyke artikel wat nie getoets is nie. (Sien ook die volledige voorwaardes op die rugkant van amptelike toetsverslae.)

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TABLE 3 - HARMONICS

Harmonic Order	Harmonic Current measured, %	Maximum permissible harmonic current, %
3	7,192	30 λ
5	5,561	10
7	0,706	7
9	0,880	5
11	0,832	3
13	0,349	3
15	0,348	3
17	0,449	3
19	0,373	3

6. CONCLUSION

The sample complied with the requirements of specification SABS 1628:1995.



T Krishna
TECHNOLOGIST



C Linford
LABORATORY HEAD
LIGHTING TECHNOLOGY

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