Correctional Service Canada
Technical Services Branch
Electronics Systems

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ELECTRONICS ENGINEERING STANDARDS

FIXED/ZOOM LENS CLOSED CIRCUIT TELEVISION

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1.0 SCOPE

This standard defines the requirements of Correctional Service Canada (CSC) for Closed Circuit Television (CCTV) camera lens at federal correctional institutions.

2.0 GENERAL

Automatic iris, fixed and zoom lenses are used in indoor and outdoor security surveillance and assessment CCTV systems. In outdoor applications, the camera and lens are normally mounted in weatherproof, environmental enclosures. In indoor applications, the camera and lens are normally mounted in dustproof, secure enclosures.

3.0 ENVIRONMENTAL REQUIREMENTS

The lens shall operate in the following environmental conditions:

3.1 Temperature: -10° C to 50° C; and

3.2 Humidity: up to 95% non-condensing.

4.0 POWER REQUIREMENTS

Control voltage for a zoom lens shall be in following range:

4.1 Voltage: ±6 VDC to ±12 VDC.

5.0 MECHANICAL REQUIREMENTS

The weight and dimensions for the lens shall be application specific.

6.0 DESIGN REQUIREMENTS

The lens shall have:

6.1 an auto iris;

6.2 a neutral density spot filter; and

6.3 be designed and built to provide ten years of reliable, trouble-free operation;

7.0 TECHNICAL REQUIREMENTS

The lens shall meet the following requirements:

7.1	Format:	compatible with camera;
7.2	Mount:	standard C-mount or CS-mount;
7.3	Focal Length:	fixed, zoom lenses may be used to achieve nonstandard focal lengths;
7.4	Response Time:	<10 sec;
7.5	Sensitivity:	0.5 Vp-p to 1.0 Vp-p video signal level;
7.6	Voltage:	±6 to ±12 VDC (zoom lens);
7.7	Current:	<100 ma;
7.8	Impedance:	high;
7.9	Scene Illumination:	0.05 fc at f/1.4
7.10	Aperture Ratio:	1:1.4;
7.11	Zoom Time:	5 ±1.5 sec; and
7.12	Focus Time:	5 ±1.5 sec

8.0 INTERFERENCE

Performance of the lens shall not be affected by the presence and use of standard electronic equipment used at the institution. Distance limits of standard electronic equipment are as follows:

8.1 CB transceivers at 1 metre or more;

8.2 VHF and UHF transceivers at 1 metre or more;

8.3 Other radio frequency transmitting, receiving equipment/systems at 5 metres or more; and

8.4 Person computer and/or work stations at 5 metres or more.