

Initial technical specification of CFL

(specs are at 100h, unless specified differently)

Product Name		R20 220V 7W
Lamp No.		ES1412007
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		Mini 3U or Mini Spiral
Lamp Parameter	Main Voltage (V)	220V+10V/-15V; 50Hz
	Input current (mA)	60±5
	T.H.D.	<120%
	Input Power (W)	7W±0.7
	PF.	>0.5
	Light Output (Lm)	>400Lm for 2700K
		>390Lm for 4500K
		>380Lm for 6400K
	Efficacy (Lm/w)	>54Lm/w
Color temperature	Warm Light 2700K	
	Cool White 4500K	
	Day Light 6400K	
Burner Parameter	Burner voltage (V)	52±2
	Burner Current (mA)	120±10
	C.F.	<1.7
	Filament Current (mA)	40±10
	Cathode Current (mA)	125±10
	Burner Power (W)	6.3±0.5W
	Output Frequency (Hz)	25KHz -- 50KHz
Maintenance	0 to 100h Light Drop	<5%
	1000h	>90%
	2000h	>80%
	3000h	>75%
ON/OFF testing (on: 25s/off:35s)		10000 Swithes
Average Life Hour (After 40% loss of lumens)		10,000 hrs.
Thermo testing (Environment Temp.: 25°C Humidity: 65% Lamp Cap- Up Burning)	Power Transistor Surface Temp.	<60°C
	Elec. Capacitor Temp.	<45°C
	Coil Temp.	<80°C
	PCB Surface Temp.	<40°C
	Tube foot Temp.(Electro Portion)	<90°C
	Outer Housing (Near Base)	<35°C
Safety requirement	According to IEC 968	CE(EMC/LVD) approved
Starting behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	160V
Dimension	Neck diameter (inch)	2-1/2(M 3U), 2-1/2(M SP) in Dia.
	Total Length (inch)	5 (M 3U), 5 (M SP) M.O.L.
Lamp Cap		E26/E27/B22

Initial technical specification of CFL

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Product Name		R20 220V 9W
Lamp No.		ES1412009
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		Mini 3U or Mini Spiral
Lamp Parameter	Main Voltage (V)	220V+10V/-15V; 50Hz
	Input current (mA)	75+5
	T.H.D.	<120%
	Input Power (W)	9W+1W
	PF.	>0.5
	Light Output (Lm)	>520Lm for 2700K
		>510Lm for 4500K
		>500Lm for 6400K
	Efficacy (Lm/w)	>54Lm/w
	Color temperature	Warm Light 2700K
Cool White 4500K		
Day Light 6400K		
Burner Parameter	Burner voltage (V)	68+2
	Burner Current (mA)	100+10
	C.F.	<1.7
	Filament Current (mA)	75+10
	Cathode Current (mA)	130+10
	Burner Power (W)	8+1W
	Output Frequency (Hz)	25KHz -- 50KHz
Maintenance	0 to 100h Light Drop	<5%
	1000h	>90%
	2000h	>80%
	3000h	>75%
ON/OFF testing (on: 25s/off:35s)		10000 Swithes
Average Life Hour (After 40% loss of lumens)		10,000 hrs.
Thermo testing (Environment Temp.: 25°C Humidity: 65% Lamp Cap- Up Burning)	Power Transistor Surface Temp.	<60°C
	Elec. Capacitor Temp.	<45°C
	Coil Temp.	<80°C
	PCB Surface Temp.	<45°C
	Tube foot Temp.(Electro Portion)	<90°C
	Outer Housing (Near Base)	<35°C
Safety requirement	According to IEC 968	CE(EMC/LVD) approved
Mechanical Strength	Torsion test (Nm)	>3
Starting behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	160V
Dimension	Neck diameter (inch)	2-1/2(M 3U), 2-1/2(M SP) in Dia.
	Total Length (inch)	5 (M 3U), 5 (M SP) M.O.L.
Lamp Cap		E26/E27/B22

Initial technical specification of CFL

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Product Name		R20 220V 11W
Lamp No.		ES1412011
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		Mini 3U or Mini Spiral
Lamp Parameter	Main Voltage (V)	220V+10V/-15V; 50Hz
	Input current (mA)	95 \pm 5
	T.H.D.	<120%
	Input Power (W)	11W \pm 1W
	PF.	>0.5
	Light Output (Lm)	>630Lm for 2700K
		>620Lm for 4500K
		>610Lm for 6400K
	Efficacy (Lm/w)	>54Lm/w
	Color temperature	Warm Light 2700K
Cool White 4500K		
Day Light 6400K		
Burner Parameter	Burner voltage (V)	78 \pm 2
	Burner Current (mA)	100 \pm 10
	C.F.	<1.7
	Filament Current (mA)	70 \pm 10
	Cathode Current (mA)	100 \pm 10
	Burner Power (W)	11.7W \pm 1.3W
	Output Frequency (Hz)	25KHz -- 50KHz
Maintenance	0 to 100h Light Drop	<5%
	1000h	>90%
	2000h	>80%
	3000h	>75%
ON/OFF testing (on: 25s/off:35s)		10000 Swithes
Average Life Hour (After 40% loss of lumens)		10,000 hrs.
Thermo testing (Environment Temp.: 25°C Humidity: 65% Lamp Cap- Up Burning)	Power Transistor Surface Temp.	<60°C
	Elec. Capacitor Temp.	<45°C
	Coil Temp.	<80°C
	PCB Surface Temp.	<45°C
	Tube foot Temp.(Electro Portion)	<90°C
	Outer Housing (Near Base)	<35°C
Safety requirement	According to IEC 968	CE(EMC/LVD) approved
Mechanical Strength	Torsion test (Nm)	>3
Starting behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	160V
Dimension	Neck diameter (inch)	2-1/2(M 3U), 2-1/2(M SP) in Dia.
	Total Length (inch)	5 (M 3U), 5 (M SP) M.O.L.
Lamp Cap		E26/E27/B22

Initial technical specification of CFL

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Product Name		R20 220V 13W
Lamp No.		ES1412013
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		Mini 3U or Mini Spiral
Lamp Parameter	Main Voltage (V)	220V+10V/-15V; 50Hz
	Input current (mA)	110±5
	T.H.D.	<120%
	Input Power (W)	13W±3W
	PF.	>0.5
	Light Output (Lm)	>750Lm for 2700K
		>740Lm for 4500K
		>730Lm for 6400K
Efficacy (Lm/w)	>54Lm/w	
Color temperature	Warm Light 2700K	
	Cool Light 4500K	
	Day Light 6400K	
Burner Parameter	Burner voltage (V)	85±2
	Burner Current (mA)	100±10
	C.F.	<1.7
	Filament Current (mA)	70±10
	Cathode Current (mA)	100±10
	Burner Power (W)	11.0W±1.3W
	Output Frequency (Hz)	25KHz -- 50KHz
Maintenance	0 to 100h Light Drop	<5%
	1000h	>90%
	2000h	>80%
	3000h	>75%
ON/OFF testing (on: 25s/off:35s)		10000 Swithes
Average Life Hour (After 40% loss of lumens)		10,000 hrs.
Thermo testing (Environment Temp.: 25°C Humidity: 65% Lamp Cap- Up Burning)	Power Transistor Surface Temp.	<60°C
	Elec. Capacitor Temp.	<45°C
	Coil Temp.	<80°C
	PCB Surface Temp.	<45°C
	Tube foot Temp.(Electro Portion)	<90°C
	Outer Housing (Near Base)	<35°C
Safety requirement	According to IEC 968	CE(EMC/LVD) approved
Mechanical Strength	Torsion test (Nm)	>3
Starting behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	160V
Dimension	Neck diameter (inch)	2-1/2(M 3U), 2-1/2(M SP) in Dia.
	Total Length (inch)	5 (M 3U), 5 (M SP) M.O.L.
Lamp Cap		E26/E27/B22