

Initial technical specification of CFL

(specs are at 100h, unless specified differently)

Product Name		R20 120V 7W
Lamp No.		ES1411007
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		Mini 3U or Mini Spiral
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	105+10
	T.H.D.	<120%
	Input Power (W)	7W±0.7
	PF.	>0.5
	Light Output (Lm)	>400Lm for 3000K
		>390Lm for 4500K
		>380Lm for 6400K
	Efficacy (Lm/w)	>54Lm/w
Color temperature	Warm Light 3000K	
	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)		6,000 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 UL 1993 & 935, FCC Approved	
Mechanical Strength	Torsion test (Nm)	>3
Starting behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	85V
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 120V 9W
Lamp No.		ES1411009
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		Mini 3U or Mini Spiral
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	130+10
	T.H.D.	<120%
	Input Power (W)	9W+1W
	PF.	>0.5
	Light Output (Lm)	>520Lm for 3000K
		>510Lm for 4500K
		>500Lm for 6400K
	Efficacy (Lm/w)	>54Lm/w
Color temperature	Warm Light 3000K	
	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)		6,000 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 UL 1993 & 935, FCC Approved
Mechanical Strength	Torsion test (Nm)	>3
Starting behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	85V
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 120V 11W	
Lamp No.		ES1411011	
Lamp Shape		REFLECTOR TYPE	
Inner Tube Available		Mini 3U or Mini Spiral	
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz	
	Input current (mA)	165±10	
	T.H.D.	<120%	
	Input Power (W)	11W±1W	
	PF.	>0.5	
	Light Output (Lm)		>630Lm for 3000K
			>620Lm for 4500K
			>610Lm for 6400K
	Efficacy (Lm/w)	>54Lm/w	
	Color temperature		Warm Light 3000K
		Cool White 4500K	
		Day Light 6400K	
Burner Parameter	Burner voltage (V)	78±2	
	Burner Current (mA)	100±10	
	C.F.	<1.7	
	Filament Current (mA)	70±10	
	Cathode Current (mA)	100±10	
	Burner Power (W)	11.7W±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)		6,000 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 UL 1993 & 935, FCC Approved		
Mechanical Strength	Torsion test (Nm)	>3	
Starting behavior	Starting time (S)	0.4s -- 0.8s	
	Starting Voltage (V)	85V	
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 120V 13W
Lamp No.		ES1411013
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		Mini 3U or Mini Spiral
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	200+10
	T.H.D.	<120%
	Input Power (W)	13W+3W
	PF.	>0.5
	Light Output (Lm)	>750Lm for 3000K
		>740Lm for 4500K
		>730Lm for 6400K
Efficacy (Lm/w)	>54Lm/w	
Color temperature	Warm Light 3000K	
	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)		6,000 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 UL 1993 & 935, FCC Approved	
Mechanical Strength	Torsion test (Nm)	>3
Starting behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	85V
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