

Initial technical specification of CFL

(specs are at 100h, unless specified differently)

Product Name		R40 120V 15W
Lamp No.		ES1441015
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		3U or SPIRAL
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	215±10
	T.H.D.	<120%
	Input Power (W)	15W±1.3W
	PF.	>0.5
	Light Output (Lm)	>900Lm for 3000K
		>890Lm for 4500K
		>880Lm for 6400K
	Efficacy (Lm/w)	>62Lm/w
Color temperature	Warm Light 3000K	
	Cool Light 4500K	
	Day Light 6400K	
Burner Parameter	Burner voltage (V)	90±2
	Burner Current (mA)	100±10
	C.F.	<1.7
	Filament Current (mA)	70±10
	Cathode Current (mA)	100±10
	Burner Power (W)	13.0±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.	<53°C
	Elec. Capacitor Temp.	<45°C
	Coil Temp.	<55°C
	PCB Surface Temp.	<45°C
	Tube foot Temp.(Electro Portion)	<100°C
	Outer Housing (Near Base)	<40°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)	4-3/4(3U), 4-3/4(SP) in Dia.
	Total Length (inch)	6-1/2(3U), 6-1/2(SP) M.O.L.
Lamp Cap		E26/E27/B22

## Initial technical specification of CFL

(specs are at 100h, unless specified differently)

Product Name		R40 120V 20W
Lamp No.		ES1441020
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		3U or SPIRAL
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	300±10
	T.H.D.	<120%
	Input Power (W)	20W±2W
	PF.	>0.5
	Light Output (Lm)	>1200Lm for 3000K
		>1190Lm for 4500K
		>1180Lm for 6400K
	Efficacy (Lm/w)	>62Lm/w
Color temperature	Warm Light 3000K	
	Cool Light 4500K	
	Day Light 6400K	
Burner Parameter	Burner voltage (V)	95±2
	Burner Current (mA)	280±10
	C.F.	<1.7
	Filament Current (mA)	130±10
	Cathode Current (mA)	300±10
	Burner Power (W)	18W±2W
	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)	4-3/4(3U), 4-3/4(SP) in Dia.
	Total Length (inch)	6-1/2(3U), 6-1/2(SP) M.O.L.
Lamp Cap		E26/E27/B22

## Initial technical specification of CFL

(specs are at 100h, unless specified differently)

Product Name		R40 120V 23W
Lamp No.		ES1441023
Lamp Shape		REFLECTOR TYPE
Inner Tube Available		3U or SPIRAL
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	350±10
	T.H.D.	<120%
	Input Power (W)	23W±2W
	PF.	>0.5
	Light Output (Lm)	>1350Lm for 3000K
		>1340Lm for 4500K
		>1330Lm for 6400K
	Efficacy (Lm/w)	>62Lm/w
Color temperature	Warm Light 3000K	
	Cool White 4500K	
	Day Light 6400K	
Burner Parameter	Burner voltage (V)	105±2
	Burner Current (mA)	280±10
	C.F.	<1.7
	Filament Current (mA)	130±10
	Cathode Current (mA)	300±10
	Burner Power (W)	21W±2W
	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)	4-3/4(3U), 4-3/4(SP) in Dia.
	Total Length (inch)	6-1/2(3U), 6-1/2(SP) M.O.L.
Lamp Cap		E26/E27/B22

## Initial technical specification of CFL

(specs are at 100h, unless specified differently)

Product Name		R40 120V 20W
Lamp No.		ES1441020HF
Lamp Shape		High P/F Reflector type
Inner Tube Available		3U or SPIRAL
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	300±10
	T.H.D.	<120%
	Input Power (W)	20W±2W
	PF.	>0.9
	Light Output (Lm)	>1200Lm for 3000K
		>1190Lm for 4500K
		>1180Lm for 6400K
	Efficacy (Lm/w)	>62Lm/w
Color temperature	Warm Light 3000K	
	Cool Light 4500K	
	Day Light 6400K	
Burner Parameter	Burner voltage (V)	95±2
	Burner Current (mA)	280±10
	C.F.	<1.7
	Filament Current (mA)	130±10
	Cathode Current (mA)	300±10
	Burner Power (W)	18W±2W
	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 behavior	Starting time (S)	0.4s -- 0.8s
	Starting Voltage (V)	85V
Dimension	Neck diameter (inch)	4-3/4(3U), 4-3/4(SP) in Dia.
	Total Length (inch)	6-1/2(3U), 6-1/2(SP) M.O.L.
Lamp Cap		E26/E27/B22

## Initial technical specification of CFL

(specs are at 100h, unless specified differently)

Product Name		R40 120V 23W
Lamp No.		ES1441023HF
Lamp Shape		High P/F Reflector type
Inner Tube Available		3U or SPIRAL
Lamp Parameter	Main Voltage (V)	120V+10V/-15V; 60Hz
	Input current (mA)	350±10
	T.H.D.	<120%
	Input Power (W)	23W±2W
	PF.	>0.9
	Light Output (Lm)	>1350Lm for 3000K
		>1340Lm for 4500K
		>1330Lm for 6400K
	Efficacy (Lm/w)	>62Lm/w
Color temperature	Warm Light 3000K	
	Cool White 4500K	
	Day Light 6400K	
Burner Parameter	Burner voltage (V)	105±2
	Burner Current (mA)	280±10
	C.F.	<1.7
	Filament Current (mA)	130±10
	Cathode Current (mA)	300±10
	Burner Power (W)	21W±2W
	Output Frequency (Hz)	25KHz -- 50KHz
Maintenance	0 to 100h Light Drop	<5%
	1000h	>90%
	2000h	>80%
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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)	4-3/4(3U), 4-3/4(SP) in Dia.
	Total Length (inch)	6-1/2(3U), 6-1/2(SP) M.O.L.
Lamp Cap		E26/E27/B22