



Specification	EL 1002
Release date	06 June 2013
Version	I

SPECIFICATIONS FOR LED DOWNLIGHTERS

- SCOPE: To promote energy efficiency by phasing-out halogen and CFL Down lighters with an efficient alternative in the form of LED lamp Down Lighter
- Luminaire Terminology : Self Ballasted or with external driver but be accessible for easy lamp replacement
- Technical Requirement : The LED/LED Module should be LM80 certified. Certificate is to be provided by chip manufacturer.
- Luminaire Specifications

	Luminaire type (Covered or open)	BIS Standard Reference
1. LED Chip		
1.1 Lumen per Watt	> =85 L/W at Tsp 25 degrees C	
1.2 C R I	> 65	
1.3 Chromaticity Range	As per ANSI Standard	
1.4 Working Life (L70/B10)	>=50,000 hrs at Tsp 25°C	
2. Electrical		
2.1 Voltage	Nominal 230 V Operating Range 170 to 270V, 50 Hz	
2.2 Driver efficiency	= >80%	
2.3 Power Factor	>0.9	
2.4 T H D	As per IEC 61000-3-2 and IEC61000-3-3 but < 20%	
3. Luminaire Performance		
3.1 CCT	2700 K (2725 ± 145) ; 3000 K (3045 ± 175) ; 3500 K (3465 ± 245) ; 4000 K (3985 ± 275) ; 4500 K (4503 ± 243) ; 5000 K (5028 ± 283) ; 5700 K (5665 ± 355) ; 6500 K (6530 ± 510)	
3.2 Efficacy	=>55 lumens per watt	
3.3 CRI	=> 65	
3.4 Junction Temperature	Less than 90° C @ ambient 25 degrees C. To be calculated by measuring at solder point and adding thermal resistance.	
3.5 Ambient Temperature	0° to +45°C	
3.6 Photometric Test	As per LM 79	
3.7 Capacity to withstand surges	As per IEC Standard 61547	
3.8 Warrantee	2 years	
3.9 Rated Life (L70/B50)	35,000 hours at Tamb of 25 degrees C	

Luminaires to comply to safety requirement as per IS 10322(Part 1) and Doc: ET 24(6305).For performance parameters mentioned above document ET24(6351) to be consulted for guidance and methodology of testing