



JABATAN KERJA RAYA MALAYSIA  
CAWANGAN KEJURUTERAAN ELEKTRIK  
UNIT PENSIJILAN BAHAN & STANDARD

**TECHNICAL INFORMATION**

**ROAD LIGHTING LUMINAIRES**

A. COMPANY INFORMATION						
COMPANY NAME :						
COMPANY ADDRESS :						
TELEPHONE NO :				COMPANY EMAIL ADDRESS :		
FAX NO :						
ISO CERTIFIED COMPANY			REGISTRATION NO:		SCOPE:	
1. ISO 9001	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....
2. ISO 14001	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....
3. ISO 50001	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....
4. ISO .....	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....

B. PRODUCT INFORMATION	
BRAND NAME :	
MODEL : 1. .... 2. .... 3. .... 4. .... 5. .... 6. ....	
CERTIFICATE OF APPROVAL: (SURUHANJAYA TENAGA)	VALID UNTIL (dd/mm/yyyy):
PRODUCT CERTIFICATION : LICENSE (SIRIM/OTHER)	VALID UNTIL (dd/mm/yyyy):
COUNTRY OF MANUFACTURED:	
NAME OF MANUFACTURER:	
FACTORY ADDRESS :	

**TECHNICAL INFORMATION ON ROAD LIGHTING LUMINAIRE**

C. PRODUCT SPECIFICATIONS

No.	Item	Minimum JKR Requirement	Reference Standards/ Specifications	To be filled by supplier/manufacturer		Remarks (for JKR only) Y = Yes or X = No
				Model No : .....	Test Report No. and Page No. / Mill Certificate/ Manufacturers Traceability Data :	
				Price Per Unit: .....		
<b>1. Technical Specification</b>						
<b>1.1</b>	<b>Input Requirements</b>					
<b>A.</b>	Voltage	230V +10%,-6%	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>B.</b>	Frequency	50 Hz	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>C.</b>	Wattage	100W / 150W / 250W / 400W	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>2. Construction / Material</b>						
<b>A.</b>	Gross Weight	kg	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>B.</b>	Dimension (W x H x L)	mm	L-S20	Please Specify:	Please Specify:	
<b>C.</b>	Materials Casing / Body <i>(Please attach Mill Certificate)</i>	Die Cast Alu. Alloy	L-S20	Yes / No: Please Specify: 1. Standard: 2. Manufacturer: 3. Country: 4. Model no.:	Please Specify:	
<b>D.</b>	Access to the interior of luminaire from the top side for the control gear and optical compartment.		L-S20	Yes / No:	Please Specify:	
<b>E.</b>	Material used for the construction of the luminaire shall be recyclable. Glass/Fibre glass reinforced polyester <b>(GRP/FRP)</b> material is <b>not acceptable.</b>		L-S20	Yes / No: Please Specify:	Please Specify:	
<b>F.</b>	Ingress Protection (IP) for <b>Optical Compartment</b>	Min: IP55	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>G.</b>	Ingress Protection (IP) for <b>Main Luminaire Housing &amp; Control Gear Compartment</b>	Min: IP43	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>H.</b>	Used hinges and clips for the TOP cover	It shall be robust and made of stainless steel and simple to operate	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>I.</b>	Jam bolts for clamping/securing/lock spigot to bracket arm	Minimum 2 (two) locking bolts / jam screws shall be provided	L-S20	Yes / No: Please Specify:	Please Specify:	
<b>J.</b>	Minimum depth penetration for : 1. 100W / 150W / 250W 2. 400W	Minimum depth (mm): 1. 100 2. 110	L-S20	Yes / No: Please Specify:	Please Specify:	

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K.	All parts which carry weight of the luminaire and internal accessories shall be provided with suitable locking device to prevent the dislodgment of any parts of the luminaire.		L-S20	Yes / No: Please Specify:	Please Specify:	
<b>3. Optical System</b>						
A.	One piece internal full bowl reflector and shall be replaceable as a unit, independent of the canopy.	The reflector shall be made of at least 99.85% pure aluminium with a minimum thickness of 1 mm.	L-S20	Yes / No: Please Specify: 1. Standard: 2. Manufacturer: 3. Country: 4. Model no.: 5. Thickness:	Please Specify:	
B.	Cover bowl shall be made of glass or acrylic material and shall be clear or prismatic.		L-S20	Yes / No: Please Specify: 1. Standard: 2. Manufacturer: 3. Country: 4. Model No.: 5. Material:	Please Specify:	
C.	For the optical compartment of IP55, the bowl shall be designed, constructed and totally sealed to the reflector to form a single removable optical unit.		L-S20	Yes / No:	Please Specify:	
<b>4. Gasket</b>						
A.	Gasket shall be a one piece, tropicalised weather resistant type & made of suitable soft resilient material that will not cause crazing of the bowl.		L-S20	Yes / No: Please Specify: 1. Standard: 2. Manufacturer: 3. Country: 4. Model no.: 5. Material:	Please Specify:	
<b>5. Lamp</b>						
A.	Lamp shall comply with the requirements of IEC 60662	IEC 60662	L-S20	Yes / No: Please Specify: 1. Manufacturer: 2. Country: 3. Model no.:	Please Specify:	
B.	Average luminous flux of the lamp shall not depreciate more than 10% of initial value after 10,000 switched operating hours.		L-S20	Yes / No: Please Specify:	Please Specify:	

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				Model No : .....	Test Report No. and Page No. / Mill Certificate/ Manufacturers Traceability Data :	
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C.	Average mortality rate for the 100/150/250/400 watt HPSV lamp shall not be greater than 10% at 12,000 switched operating hours.		L-S20	Yes / No: Please Specify:	Please Specify:	
<b>6. Lamp Holder</b>						
A.	Shall be made of non-metallic, heat resistant material and be rigidly fixed onto the optical compartment.		L-S20	Yes / No: Please Specify: 1. Material: 2. Manufacturer: 3. Country: 4. Model no.:	Please Specify:	
B.	Shall be an E40 type for the 100/150/250/400 watt HPSV lamp.		L-S20	Yes / No: Please Specify:	Please Specify:	
C.	E40 lamp holder shall be rated for 4.5kV pulse.		L-S20	Yes / No: Standard:	Please Specify:	
<b>7. Photometry</b>						
A.	General: 1. Photometric data shall be submitted for the submitted for the particular distribution recommended (e.g. adjustment of the light distribution to suit different road width). These data shall be supplied in computer CD together with software in the CIE format 2. Isolux Diagram: Photometric Data for each luminaire type (i.e 150W/250W/400W) issued by SIRIM / International Approved Test Labs shall be submitted.			Please Specify:	Please Specify:	
B.	Standard position			Please Specify:	Please Specify:	
C.	Relevant standard of conformity			Please Specify:	Please Specify:	
D.	Isolux Diagram			Photometric data enclosed (Yes / No):	Please Specify:	
E.	Utilization Factor Curves			Photometric data enclosed (Yes / No):	Please Specify:	
F.	Polar Curves of the following C-Planes : 0°/180°; 90°/270°; maximum intensity plane.			Photometric data enclosed (Yes / No):	Please Specify:	
G.	Downward Light Output Ratio (DLOR)			Photometric data enclosed (Yes / No):	Please Specify:	
H.	Downward and Upward Flux Fractions			Photometric data enclosed (Yes / No):	Please Specify:	
I.	Direction of maximum intensity measured from the downward vertical (Cd/1000 lumen)			Please Specify:	Please Specify:	
J.	Maximum Intensity at 88° from the downward vertical (Cd/1000 lumen)			Please Specify:	Please Specify:	

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<b>8. Electric Control Gear</b>						
A.	Electrical control gear shall be mounted on a suitable module unit.	MS IEC 61347-1	L-S20	Yes / No: Please Specify: 1. Material: 2. Manufacturer: 3. Country: 4. Model no.:	Please Specify:	
B.	Electrical control gear shall be easily removable and replaceable.		L-S20	Yes / No:	Please Specify:	
C.	Electrical connection and disconnection of the electrical control gear unit from the luminaire shall be through a plug and socket type.		L-S20	Yes / No: Please Specify: 1. Material: 2. Manufacturer: 3. Country: 4. Model no.:	Please Specify:	
<b>9. Ballast</b>						
A.	Voltage	230V -6%, +10%	L-S20	1. Please Specify: 2. Manufacturer: 3. Country: 4. Model no.:	Please Specify:	
B.	Frequency	50 Hz	L-S20	Please Specify:	Please Specify:	
C.	Wattage:  1. 150 Watts 2. 250 Watts 3. 400 Watts	Ballast loss not exceed:  1. 18 Watts 2. 27 Watts 3. 39 Watts	L-S20	Please Specify:	Please Specify:	
D.	Ballast shall be solidly filled with polyester compound and enclosed in a sheet steel or die cast aluminium container or vacuum impregnated with polyester resin of not less than thermal class 'H' (180 °C in accordance with IEC 60085)		L-S20	Please Specify:	Please Specify:	
E.	Ballast shall be reactor type and comply with MS IEC 61347-1, MS IEC 61347-2-9 & MS IEC 60923.		L-S20	Please Specify:	Please Specify:	
F.	Ballast maximum operating winding temperature (tw).	tw < 130°C	L-S20	Yes / No: Please Specify:	Please Specify:	
G.	Ballast maximum winding temperature rise (Δt),	Δt < 70°C	L-S20	Yes / No: Please Specify:	Please Specify:	
H.	All terminals shall be of screw connector type.		L-S20	Yes / No:	Please Specify:	



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I.	Cable Connector			Please Specify: 1. Material: 2. Standard: 3. Manufacturer: 4. Country: 5. Model no.:		
<b>10. Ignitor</b>						
A.	Ignitor shall comply with and be tested to MS IEC 61347-1, MS IEC 61347-2-1 and MS IEC 60927.		L-S20	Yes / No: Please Specify:	Please Specify:	
B.	Ignitor shall be solid state, fully electronic, timed, superimposed multiple-pulse type.		L-S20	Yes / No: Please Specify: 1. Manufacturer: 2. Country: 3. Model no.:	Please Specify:	
C.	Ignitor shall be fully encapsulated and totally sealed against the ingress of moisture.		L-S20	Yes / No:	Please Specify:	
D.	Casing temperature (tc)	tc > 90°C	L-S20	Yes / No: Please Specify:	Please Specify:	
E.	Case of the unit shall carry a label showing the connections and listing the operating voltage and the precautions to take during its removal.		L-S20	Yes / No:	Please Specify:	
F.	Ignitor shall be mounted with nut and lock washer.		L-S20	Yes / No:	Please Specify:	
<b>11. Capacitor</b>						
A.	Minimum voltage rating of 250 Volt		L-S20	Yes / No: Please Specify:	Please Specify:	
B.	Comply with MS IEC 61347-1, MS IEC 61048 and MS IEC 61049.		L-S20	Yes / No: Please Specify: 1. Standard: 2. Manufacturer: 3. Country: 4. Model no.:	Please Specify:	
C.	Casing temperature rating not less than 85 °C and power factor not less than 0.85 lagging		L-S20	Yes / No: Please Specify:	Please Specify:	
D.	Capacitors shall be housed in extruded aluminium or thermoplastic cannisters		L-S20	Yes / No: Please Specify:	Please Specify:	

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E.	Capacitors shall not be fused but incorporate a safety discharge resistor.		L-S20	Yes / No: Please Specify:	Please Specify:	
<b>12. Internal Wiring, Terminal Block and Earthing Terminal</b>						
<b>12.1 Internal Wiring</b>						
A.	Control gear looping cables shall be non-hygroscopic heat resistant copper-core flexible cable, with a temperature rating of not less than 105 °C and marked on the insulation and securely clipped.		L-S20	Yes / No: Please Specify:	Please Specify:	
B.	Minimum size of the cable shall not be less than 1 sq. mm.		L-S20	Yes / No: Please Specify: 1. Standard: 2. Cable size (sq mm.): 3. Manufacturer: 4. Country: 5. Model no.:	Please Specify:	
<b>12.2 Terminal Block</b>						
A.	Readily accessible barriered terminal block with the 'live' and 'neutral' connections clearly and indelibly marked for the connection of incoming supply cables shall be provided as close as possible to the point of entry of the supply cables.		L-S20	Yes / No:	Please Specify:	
B.	The terminal block shall be made of non-inflammable material.		L-S20	Yes / No: Please Specify:	Please Specify:	
C.	A means of clamping the electrical supply cables shall be provided in the luminaire. The cable clamp arrangement shall not damage the insulation of the cables.		L-S20	Yes / No:	Please Specify:	
<b>12.3 Earthing Terminal</b>						
A.	Separate terminal for the connection of an earth continuity conductor, clearly and indelibly marked shall be provided.		L-S20	Yes / No:	Please Specify:	
B.	All exposed metal parts and other parts accessible when the luminaire is opened for maintenance shall be permanently and reliably connected to this earthing terminal.		L-S20	Yes / No:	Please Specify:	

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<b>13.</b>	<b>Associated Electrical Components Standard</b>					
<b>A.</b>	<b>Lamp</b>					
	MS IEC 60662		L-S20			
	<b>Lamp holder</b>		L-S20			
	MS IEC 60598-1		L-S20			
<b>B.</b>	<b>Ballast</b>					
	MS IEC 61347-1		L-S20			
	MS IEC 61347-2-9		L-S20			
	MS IEC 60923		L-S20			
<b>C.</b>	<b>Ignitor</b>					
	MS IEC 61347-1		L-S20			
	MS IEC 61347-2-1		L-S20			
	MS IEC 60927		L-S20			
<b>D.</b>	<b>Capacitor</b>					
	MS IEC 61347-1		L-S20			
	MS IEC 61048		L-S20			
	MS IEC 61049		L-S20			



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				Price Per Unit: .....		

Adalah saya .....dengan ini mengesahkan segala keterangan yang diberikan / dikemukakan bagi produk di atas adalah benar. Jika saya didapati membuat pengakuan **PALSU**, tindakan seterusnya boleh diambil oleh pihak JKR ke atas diri dan syarikat yang diwakili oleh saya.

Tandatangan: .....

Nama : .....

Jawatan : .....

Tarikh : .....



Cop Syarikat

**UNTUK KEGUNAAN PEJABAT**

Ulasan :