



ELECTRICAL MATERIAL APPROVED LIST (EMAL)

OUTDOOR LUMINAIRES



Content



Introduction



Road Lighting
Luminaires



Lighting Columns
(HDG Steel)



Loop-in loop-out
terminal block for road
lighting luminaires



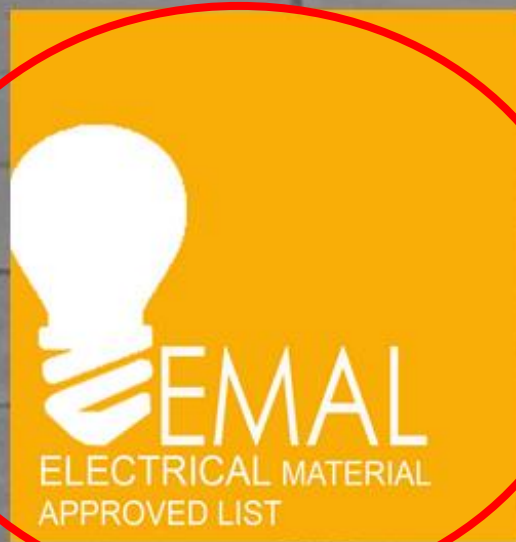
Road / Amenities
Lighting Luminaires
(LED)



<https://jmal.jkr.gov.my/>

JMaL JKR Material List

 ADMIN LOGIN





Electrical Material Approved List EMAL

6	EE01170	LIGHTNING PROTECTION SYSTEM	KABEL DAN AKSESORI PENDAWAIAN	
7	EE01171	SOCKET OUTLETS	KABEL DAN AKSESORI PENDAWAIAN	
8	EE02160	FLUORESCENT LUMINAIRES	KELENGKAPAN ELEKTRIK	
9	EE02170	EMERGENCY LIGHT & LUMINOUS SIGN	KELENGKAPAN ELEKTRIK	
10	EE02180	FANS	KELENGKAPAN ELEKTRIK	
11	EE02200	OUTDOOR LUMINAIRES	KELENGKAPAN ELEKTRIK	
12	EE02210	INDOOR LUMINAIRES (LED)	KELENGKAPAN ELEKTRIK	
13	EE02212	TRAFFIC LIGHT SYSTEM	KELENGKAPAN ELEKTRIK	
14	EE03100	L.V. SWITCHBOARD/CONSUMER UNIT	SUIS GEAR DAN PAPAN SUIS	
15	EE03110	SURGE PROTECTIVE DEVICE (SPD)	SUIS GEAR DAN PAPAN SUIS	
16	EE03120	PROTECTION RELAYS	SUIS GEAR DAN PAPAN SUIS	
17	EE03130	POWER FACTOR CORRECTION	SUIS GEAR DAN PAPAN SUIS	
18	EE03140	CIRCUIT BREAKER (ACB, MCCB & MCB)	SUIS GEAR DAN PAPAN SUIS	
19	EE03150	RESIDUAL CURRENT DEVICE (RCD)	SUIS GEAR DAN PAPAN SUIS	
20	EE03160	FUSE SWITCHGEARS	SUIS GEAR DAN PAPAN SUIS	
21	EE03170	ISOLATORS	SUIS GEAR DAN PAPAN SUIS	
22	EE03180	CONTACTORS	SUIS GEAR DAN PAPAN SUIS	
23	EE03190	11KV METAL-ENCLOSED SWITCHGEAR	SUIS GEAR DAN PAPAN SUIS	
24	EE04100	GENERATORS SETS	PERALATAN MESIN ELEKTRIK	
25	EE04110	TRANSFORMER	PERALATAN MESIN ELEKTRIK	
26	ET01100	STRUCTURED CABLING SYSTEM C/W ACCESSORIES	KABEL DAN AKSESORI PENDAWAIAN ICT	



SENARAI BAHAN/BARANGAN YANG DILULUSKAN

Displaying 1-13 of 13 results.

No	Kod Barang	Nama Barang	Status Barang	
1	EE021201	IGNITOR FOR HPSV LAMP	MANDATORI	
2	EE021901	HPSV LAMP	TAMBAHAN	
3	EE022001	ROAD LIGHTING LUMINAIRES	MANDATORI	
4	EE0220010	LIGHTING COLUMNS (FIBERGLASS REINFORCED COLUMNS)	TAMBAHAN	
5	EE0220011	ROAD LIGHTING LUMINAIRES (INDUCTION)	TAMBAHAN	
6	EE0220012	AMENITIES LIGHTING LUMINAIRES (LED)	TAMBAHAN	
7	EE022002	BALLAST FOR DISCHARGE LAMP (HPSV LAMP)	MANDATORI	
8	EE022003	LIGHTING COLUMNS (HOT DIP GALVANIZED STEEL)	TAMBAHAN	
9	EE022004	LIGHTING COLUMNS (PRE-STRESSED SPUN CONCRETE COLUMN)	TAMBAHAN	
10	EE022005	LOOP-IN LOOP-OUT TERMINAL BLOCK FOR ROAD LIGHTING LUMINAIRES	TAMBAHAN	
11	EE022006	FIBERGLASS SERVICE DOOR (FOR LIGHTING COLUMN)	TAMBAHAN	
12	EE022007	CAPACITORS FOR ROAD LIGHTING LUMINAIRES	MANDATORI	
13	EE022009	ROAD LIGHTING LUMINAIRES (LED)	MANDATORI	



SPESIFIKASI CAW KEJURUTERAAN ELEKTRIK

L-S20 : Specification for Road Lighting Installation

- 1.0 General
- 2.0 Road Lighting Luminaires
- 3.0 Photometric Data
- 4.0 Sample of Luminaires
- 5.0 Schedule & Technical Information of Luminaires
- 6.0 Projects Based on the Turnkey, D&B or BOT Approach
- 7.0 Outdoor Weatherproof Feeder Pillars
- 8.0 Columns and Brackets
- 9.0 Cables & Ducts
- 10.0 Shop Drawings
- 11.0 Construction Requirements
- 12.0 Testing & Test Certificates
- 13.0 Service & Maintenance
- 14.0 As Installed Drawings, Manual & Tools



ROAD LIGHTING LUMINAIRES



COMPLIANCE TO STANDARDS

Standard	Nama Standard
IEC 60598-1 IEC 60598-2-3 (Luminaires)	Luminaires - Part 1: General requirements and tests Luminaires - Part 2-3: Particular requirements - Luminaires for road and street lighting
IEC 60662 (Lamp)	High-pressure sodium vapour lamps - Performance specifications
IEC 60923 (Ballast)	Auxiliaries for lamps - Ballasts for discharge lamps (excluding tubular fluorescent lamps) - Performance requirements
IEC 60927 (Ignitor)	Auxiliaries for lamps - Starting devices (other than glow starters)- Performance requirements
IEC 61048 (Capacitor)	Auxiliaries for lamps - Capacitors for use in tubular fluorescent and other discharge lamp circuits - General and safety requirements
IEC 61049	Capacitors for use in tubular fluorescent and other discharge lamp circuits. Performance requirements
CIE 121-1996	The Photometry and Goniophotometry of Luminaires





No Lesen : PL027901
Licence No :

LESEN PENSIJILAN BARANGAN

Product Certification Licence



SIRIM QAS International Sdn. Bhd. dengan ini menganugerahkan kepada
SIRIM QAS International Sdn. Bhd. hereby grants to

LEXTON INDUSTRY SDN. BHD.
TINGKAT BAWAH, NO. 1, JALAN BRP 9/1D
PERUSAHAAN BUKIT RAHMAN PUTRA
47000 SUNGAI BULOH
SELANGOR, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on

LUMINAIRES FOR ROAD AND STREET LIGHTING

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with

MS IEC 60598-1 : 2006
MS IEC 60598-2-3 : 1997

Mohd Azanuddin bin Salleh
Pengarah Urusan
Managing Director
SIRIM QAS International Sdn. Bhd.

SIRIM QAS International Sdn. Bhd.
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47100 Sunway Alam
Selayang, Daerah Gombak
MALAYSIA
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Faks: 603-89484805
http://www.sirim.org.my
http://www.malaysian-certified.org

Tarikh Mula Pensijilan : 02 March 2007
Certified Since
Bek Sehiangga : 02 March 2009
Valid Until

Tarikh Dijelazkan : 04 March 2019
Issue Date
No Siri : 044750
Serial No

Lesen ini dianugerahkan terutamanya kepada syarikat-syarikat Perlesenan Pensijilan Barangan SIRIM QAS International Sdn. Bhd.
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No Lesen : PL027901
Licence No :

SCHEDULE

LEXTON INDUSTRY SDN. BHD.



Trade Mark : SCHREDER
Model : ONYX 33 NB/150/1886, ONYX 33 NB/150/1399
Rating : 240V, 50HZ, 150W

Trade Mark : SCHREDER
Model : ONYX 33 NB/250/1895, ONYX 33 NB/250/1399 ✓
Rating : 240V, 50HZ, 250W

Trade Mark : SCHREDER
Model : ONYX 33 NB/400/1886, ONYX 33 NB/400/1399 ✓
Rating : 240V, 50HZ, 400W

Trade Mark : SCHREDER
Model : Z2 NB/70/1093
Rating : 240V, 50HZ, 70W

Trade Mark : SCHREDER
Model : Z2 NB/100/1093
Rating : 240V, 50HZ, 100W

Trade Mark : SCHREDER
Model : Z2 NB/150/1093
Rating : 240V, 50HZ, 150W

Trade Mark : SCHREDER
Model : Z2 NB/250/1093
Rating : 240V, 50HZ, 250W

Trade Mark : SCHREDER
Model : Z2 NB/400/1093
Rating : 240V, 50HZ, 400W

Trade Mark : SCHREDER
Model : TECEO 1
Rating : 230V~, 50HZ, 18W-107W
Type : LED STREET LIGHTING

SIRIM QAS International Sdn. Bhd.
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http://www.malaysian-certified.org

Tarikh Mula Pensijilan : 02 March 2007
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Bek Sehiangga : 02 March 2009
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Issue Date
No Siri : 044750
Serial No

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REPORT NO.: 2017EEB0345-M1	PAGE : 5 OF 12
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MS IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1: components			Pass
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object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Ballast for model rating 400W	B	ELT	VSI 40/22-3T-G	240 V, 50 Hz, 400 W, 4.45 A, λ 0.42, tw 130°C, Δ t 80°C.	EN 61347-2-9 EN 61347-1 EN 60923	ENEC
	D	ELT	VSI 40/23-24-2P	230-240 V, 50 Hz, 400 W, 4.45 A, λ 0.45, tw 130°C, Δ t 70°C.	EN 61347-2-9 EN 61347-1 EN 60923	ENEC
	D	REFAS	RB400HS4A-P	240 V, 50 Hz, 400 W, 4.40 A, λ 0.38, tw 130°C, Δ t 65°C.	MS IEC 61347-2-9 MS IEC 61347-1 MS IEC 60923	SIRIM
	D	SOLEX	DLS400	240 V, 50 Hz, 400 W, 4.4 A, λ 0.42, tw 130°C, Δ t 70°C.	MS IEC 61347-2-9 MS IEC 61347-1 MS IEC 60923	SIRIM
	B	ELT	VSI 25/22-3T-G	240 V, 50 Hz, 250 W, 3.0 A, λ 0.38, tw 130°C, Δ t 70°C.	EN 61347-2-9 EN 61347-1 EN 60923	ENEC
Ballast for model rating 250W	D	REFAS	RB250HS4A-P	240 V, 50 Hz, 250 W, 3.0 A, λ 0.38, tw 130°C, Δ t 65°C.	MS IEC 61347-2-9 MS IEC 61347-1 MS IEC 60923	SIRIM
	D	SOLEX	DLS250	240 V, 50 Hz, 250 W, 3.0 A, λ 0.40, tw 130°C, Δ t 70°C.	MS IEC 61347-2-9 MS IEC 61347-1 MS IEC 60923	SIRIM



REPORT NO.: 2017EEB0345-M1	PAGE : 6 OF 12
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MS IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict

object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Ballast for model rating 150W	B	ELT	VSI 15/3TG-SC	240 V, 50 Hz, 150 W, 1.8 A, λ 0.38, tw 130°C, Δ t 70°C.	EN 61347-2-9 EN 61347-1 EN 60923	ENEC
	D	REFAS	RB150HS4A-P	240 V, 50 Hz, 150 W, 1.8 A, λ 0.40, tw 130°C, Δ t 60°C.	MS IEC 61347-2-9 MS IEC 61347-1 MS IEC 60923	SIRIM
	D	SOLEX	DLS150	240 V, 50 Hz, 150 W, 1.8 A, λ 0.41, tw 130°C, Δ t 65°C.	MS IEC 61347-2-9 MS IEC 61347-1 MS IEC 60923	SIRIM
Lampholder	B	HUAT	304 E40	750 V, 16 A, 5 kV, E40.	EN 60238	CQC
Capacitor for model rating 400W	B	EASTERN	ELR254500	45.0 μ F $\pm$ 10%, 250 V, 50/60 Hz, -25/85°C, Type A.	MS IEC 61048 MS IEC 61049	SIRIM
Capacitor for model rating 250W	B	EASTERN	ELR253000	30.0 μ F $\pm$ 10%, 250 V, 50/60 Hz, -25/85°C, Type A.	MS IEC 61048 MS IEC 61049	SIRIM
Capacitor for model rating 150W	B	EASTERN	ELR252000	20.0 μ F $\pm$ 10%, 250 V, 50/60 Hz, -25/85°C, Type A.	MS IEC 61048 MS IEC 61049	SIRIM
Connector (3 ways)	B	HEAVY POWER	PA12	500 V, 41 A, 6mm ² .	EN 60998-1 EN 60998-2-1	VDE





ROAD LIGHTING LUMINAIRES

MAKLUMAT BAHAN/BARANGAN YANG DILULUSKAN

Keterangan Barangan	ROAD LIGHTING LUMINAIRES
Kod Barangan	EE022001.ME286.A97
Nama Syarikat	MUARLITE INDUSTRIES SDN BHD
Status Syarikat	PENGILANG
Alamat	KM 3, JALAN TEMENGGUNG AHMAD, MUAR 84000 MUAR JOHOR
No Telefon	06-9812555
No Fax	06-9812444
Email	MUARLITE@YAHOO.COM
Website	-
Jenama	MUARLITE
No Laporan	PENSIJILAN SIRIM : PM002804 LAPORAN UJIAN SIRIM : 2014EEB0787, 2014EEB0785,2016EEB0344, 2016EEB0344-S1, 2017EEB3051, 2018EB0299,2016EEB0040, 2016EEB0040-S1 & 2013EE0102 LAPORAN UJIAN LightLab : LL14723R & LL12059
Tarikh Tamat	15-02-2023
Rujukan	MS IEC 60598-1: 2006, MS IEC 60598-2-3:1997, MS IEC 61347-1:2003, MS IEC 61347-2-1:2003, MS IEC 61347-2-9:2003, MS IEC 60923:2008, IEC 60927:1996 + A1:1999, CIE 121-1996
Catatan	i) BALLAST : SEPERTI JADUAL ii) IGNITOR : SEPERTI JADUAL iii) CAPACITOR : EASTERN (ELR252000)
Negara	MALAYSIA

Lesen Pensijilan SIRIM
adalah wajib bagi
kategori ini

Standard yang
berkaitan

Semak jenama
dan model
BALLAST,
IGNITOR dan
CAPACITOR
setiap model

Bil	KADARAN WATT	MODEL	BALLAST	IGNITOR	KADARAN VOLTAN & FREKUENSI	Gambar
1	150W	MIL 15 150W	MUARLITE MLSL(B)150W	MUARLITE MIG14	240V AC, 50Hz	
2	150W	MAL 16 150W	REFAS RB150HS4A-PF	REFAS FCD-G400	240V AC, 50Hz	



ROAD LIGHTING LUMINAIRES

MAKLUMAT BAHAN/BARANGAN YANG DILULUSKAN

Keterangan Barangan	ROAD LIGHTING LUMINAIRES
Kod Barangan	EE022001.ME453.A99
Nama Syarikat	Gruppe Lighting Solution Sdn. Bhd.
Status Syarikat	PENGILANG
Alamat	No. 9, Jalan Anggerik Mokara 31/60, Kota Kemuning, Seksyen 31, 40460 Shah Alam SELANGOR
No Telefon	03-55254133
No Fax	03-55254122
Email	info@gruppelighting.com
Website	www.gruppelighting.com
Jenama	GRUPPE
No Laporan	PENSIJILAN SIRIM : PC002108; LAPORAN UJIAN SIRIM : 2016EEB0023, 2016EEB0034, 2016EEB0034-S1, 2016EEB0035, 2016EEB0035-S1, 2016EE0081, 2016EEB0082, 2016EEB0082-S1;
Tarikh Tamat	15-06-2021
Rujukan	MS IEC 60598-1: 2012 , MS IEC 60598-2-3:2006, CIE 121-1996
Catatan	i) BALLAST : REFAS : a) RB150HS4A-P (ARRO 1 (150W)); b) RB250HS4A-P (ARRO 1 (250W), ARRO 2 (250W)); c) RB400HS4A-P (ARRO 2 (400W)); ii) CAPACITOR : ELECTRICAL COMPONENTS : a) ELCO825NELC00200 (ARRO 1 (150W)); b) ELCO825NELC00300 (ARRO 1 (250W), ARRO 2 (250W)); c) ELCO825NELC00450 (ARRO 2 (400W)); iii) IGNITOR : REFAS (FCD-G400);
Negara	MALAYSIA

Lesen Pensiijilan SIRIM
adalah wajib bagi
kategori ini

Standard yang
berkaitan

Semak jenama
dan model
BALLAST,
IGNITOR dan
CAPACITOR
setiap model

Bil	Model	KADARAN WATT	KADARAN VOLTAN & FREKUENSI	Gambar
1	ARRO 1	150W	220-240V AC, 50Hz	
2	ARRO 1	250W	220-240V AC, 50Hz	
3	ARRO 2	250W	220-240V AC, 50Hz	
4	ARRO 2	400W	220-240V AC, 50Hz	



LIGHTING COLUMNS (HOT DIP GALVANISED STEEL)



COMPLIANCE TO STANDARDS

STANDARD YANG BERKAITAN

BS EN 40-5

Lighting columns. Requirements for steel lighting columns





LIGHTING COLUMNS (HOT DIP GALVANISED STEEL)

MAKLUMAT BAHAN/BARANGAN YANG DILULUSKAN

Keterangan Barangan	LIGHTING COLUMNS (HOT DIP GALVANIZED STEEL)
Kod Barangan	EE022003.ME562.A546
Nama Syarikat	LANES LIGHTING SDN BHD
Status Syarikat	PENGILANG
Alamat	NO. 7, JALAN PP 11/4, ALAM PERDANA INDUSTRIAL PARK 47130 PUCHONG SELANGOR
No Telefon	0380681839
No Fax	0380682839
Email	laneslsb@gmail.com
Website	-
Jenama	LEXpole
No Laporan	PENSIJILAN SIRIM : PC004926; LAPORAN UJIAN SIRIM : 2019MA1777;
Tarikh Tamat	15-06-2022
Rujukan	BS EN 40-5:2002
Catatan	SERVICE DOOR HENDAKLAH DARI JENIS FIBREGLASS MENGGUNAKAN DOUBLE SLOT HINGE.
Negara	MALAYSIA

Standard yang berkaitan

Semak CATATAN bagi jenis service door

Bil	MODEL	JENIS	KETINGGIAN	Gambar
1	VLP 8 MF	FLANGE MOUNTED TYPE WITH OCTAGONAL CROSS SECTION	8 M	
2	VLP 10 MF	FLANGE MOUNTED TYPE WITH OCTAGONAL CROSS SECTION	10 M	
3	VLP 12 MF	FLANGE MOUNTED TYPE WITH OCTAGONAL CROSS SECTION	12 M	



LIGHTING COLUMNS (HOT DIP GALVANISED STEEL)

MAKLUMAT BAHAN/BARANGAN YANG DILULUSKAN

Keterangan Barangan	LIGHTING COLUMNS (HOT DIP GALVANIZED STEEL)
Kod Barangan	EE022003.ME296.A271
Nama Syarikat	LYSAGHT GALVANIZED STEEL BHD.
Status Syarikat	PENGILANG
Alamat	PLOT NO.66, MEDAN TASEK, TASEK INDUSTRIAL ESTATE 31400 IPOH PERAK
No Telefon	0378804728
No Fax	0378804766
Email	lysaght_sales@lysaghtmarketing.com.my
Website	-
Jenama	LYCORPOLE
No Laporan	SIJIL SIRIM : PL006401 LAPORAN UJIAN SIRIM : 2017MA0476
Tarikh Tamat	15-02-2023
Rujukan	BS EN 40-5:2002
Catatan	SERVICE DOOR HENDAKLAH DARI JENIS FIBREGLASS MENGGUNAKAN DOUBLE SLOT HINGE.
Negara	MALAYSIA

Standard yang
berkaitan

Semak CATATAN
bagi jenis *service
door*

Bil	KETINGGIAN	MODEL	Gambar
1	6 HINGGA 12 METER	PLANTED AND FLANGED MOUNTED	



LIGHTING COLUMNS (HOT DIP GALVANISED STEEL)

SERVICE DOOR





LIGHTING COLUMNS (HOT DIP GALVANISED STEEL)

PLANTED TYPE POLE





LIGHTING COLUMNS (HOT DIP GALVANISED STEEL) FLANGED TYPE POLE



CONCRETE
BASE/
FOUNDATION



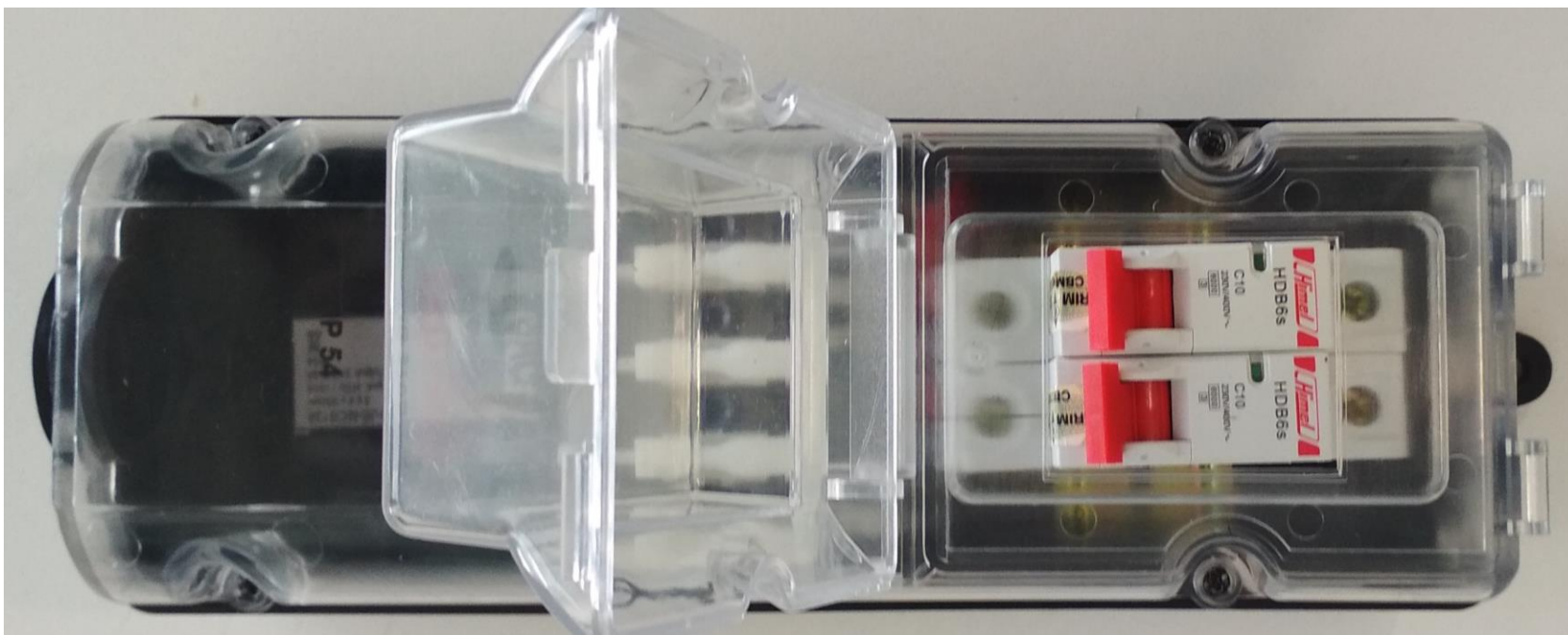


LOOP-IN LOOP-OUT TERMINAL BLOCK FOR ROAD LIGHTING LUMINAIRES



COMPLIANCE TO STANDARDS

Standard	Nama Standard
IEC 60998-1	Connecting devices for low-voltage circuits for household and similar purposes - Part 1: General requirements
IEC 60998-2-1	Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units





LOOP-IN LOOP-OUT TERMINAL BLOCK FOR ROAD LIGHTING LUMINAIRES

Keterangan Barangan	LOOP-IN LOOP-OUT TERMINAL BLOCK FOR ROAD LIGHTING LUMINAIRES
Kod Barangan	EE022005.ME280.A281
Nama Syarikat	SOUTH ASIA GROWTH SDN.BHD
Status Syarikat	PENGILANG
Alamat	LOT 66, KAWASAN PERINDUSTRIAN SEMAMBU 25350 KUANTAN PAHANG
No Telefon	095665451
No Fax	095665452
Email	sales@sag.com.my
Website	-
Jenama	SAG
No Laporan	LAPORAN UJIAN SIRIM: 2019EA1399-M1 & 2019EA1399
Tarikh Tamat	15-10-2021
Rujukan	IEC 60998-2-1 : 2002 & IEC 60998-1 : 2002
Catatan	MCB: HIMEL HDB6s (10A)
Negara	MALAYSIA

Standard yang berkaitan

Semak jenama dan model MCB

Bil	MODEL	KADARAN VOLTAN	JENIS PERLINDUNGAN	KADARAN ARUS MAKSIMUM	SAIZ KABEL MASUKAN	Gambar
1	SAG-JB-MCB138	240V / 415V	MCB 10A	101A	4 X 25mm ²	



LOOP-IN LOOP-OUT TERMINAL BLOCK FOR ROAD LIGHTING LUMINAIRES

MAKLUMAT BAHAN/BARANGAN YANG DILULUSKAN

Keterangan Barangan	LOOP-IN LOOP-OUT TERMINAL BLOCK FOR ROAD LIGHTING LUMINAIRES
Kod Barangan	EE022005.ME308.A276
Nama Syarikat	ARMANIS RESOURCES SDN.BHD.
Status Syarikat	PEMBEKAL
Alamat	NO. 17A, TINGKAT 1, JALAN 6/11, TAMAN KOMERSIAL PANDAN INDAH 55100 KUALA LUMPUR WILAYAH PERSEKUTUAN KUALA LUMPUR
No Telefon	0392876061
No Fax	03-92006650
Email	joa_ish@hotmail.com
Website	-
Jenama	ARMANIS
No Laporan	LAPORAN UJIAN SIRIM : 2011EL1356
Tarikh Tamat	15-02-2023
Rujukan	IEC 60998-1:2002, IEC 60998-2-1:2002
Catatan	-
Negara	POLAND

Standard yang berkaitan

Bil	MODEL	KADARAN ARUS (A)	KADARAN VOLTAN (V)	JENIS PERLINDUNGAN	SAIZ KABEL MASUKAN	Gambar
1	ROSA	125	240/415V,50Hz	FUSE 16A	4 X 16mm ² ~ 35mm ²	



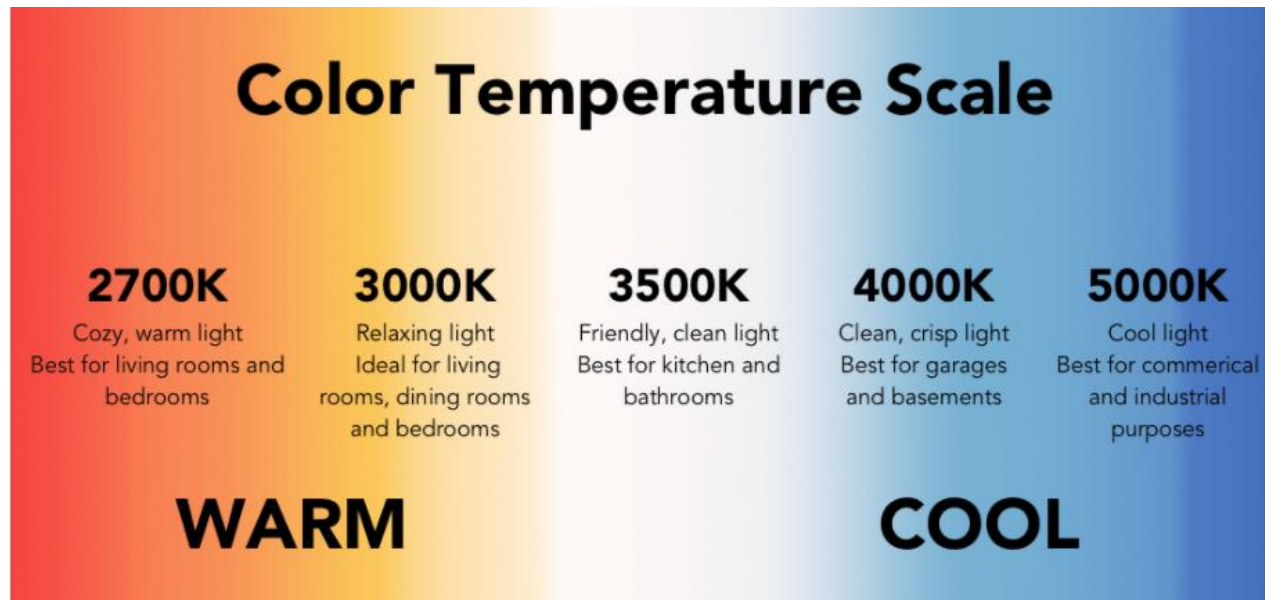
ROAD LIGHTING LUMINAIRES (LED)



Addendum 1 : LED Luminaires

- Correlated Colour Temperature (CCT) : **2500K to 3500K**

Sesuai untuk pengguna jalan raya bagi semua keadaan cuaca



- Rujuk JPEDIA: Garis Panduan Penggunaan Lampu Jalan Jenis Cekap Tenaga untuk Pemasangan Baharu dan Sedia Ada Projek Kerajaan (Ogos 2018)



Addendum 1 : LED Luminaires

- Lumen output / system efficacy : **minimum 90 lm/W** (nilai ini telah dipinda kepada **100lm/W**. Ketetapan ini mula berkuatkuasa pada 15 Ogos 2021)
- The usable lifetime of LED (lumen maintenance) : **L80 @ 36,000 hours**
- Surge Protective Device (SPD) : $I_{\max} = 15\text{kA}$
- Luminaire Cover (Secondary Optics) : **UV resistant material** suitable for outdoor used or **clear tempered glass** (for covers that is designed as light diffuser/disperser)

WHY?

To protect the optical lens from accumulation of dust and for easy cleaning of the luminaire

- Total Harmonic Distortion (THD) : **< 20%**
- Warranty : The manufacturer / distributor shall provide a **5 years warranty** certificate for the complete luminaire system



Keperluan lain bagi pendaftaran ROAD LIGHTING LUMINAIRES (LED)

- Pengilang Tempatan (Malaysia) (Refer surat Ruj: (20)PKR(L)2/1/90)
- Pendaftaran sehingga 300W sahaja
- SPD perlu diuji bersama luminaires dan direkodkan di dalam senarai komponen dalam laporan ujian
- Wattage driver mestilah lebih besar (atau sama) daripada wattage luminaires (Cth : luminaire = 200W ; driver = 200W atau lebih)
- Keperluan **WAJIB/MANDATORI** bagi pendaftaran **ROAD** Lighting Luminaires (LED)
 - a) CCT : **2500K to 3500K**
 - b) Lesen Pensijilan SIRIM
 - c) Simulasi fotometri : Mencapai kelas pencahayaan ME2 (rujuk keratan rentas A3)
 - d) Dilengkapi *luminaire cover (Secondary Optics)*



COMPLIANCE TO STANDARDS

Standard	Nama Standard
IEC 60598-1, IEC 60598-2-3	Luminaires - Part 1: General requirements and tests Luminaires - Part 2-3: Particular requirements - Luminaires for road and street lighting
IEC 62722-1	Luminaire performance - Part 1: General requirements
IES LM-79	Approved Method: Electrical and Photometric Measurements on Solid State Lighting Products
IES LM-80	Approved Method: Measuring Lumen Maintenance of LED Light Sources
IEC 61347-2-13	Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules
IEC 61000-3-2	Electromagnetic Compatibility (EMC) – Part 3-2: Limits – Limits for Harmonic Current Emissions (Equipment Input Current ≤ 16 A per phase)
IEC 61547	Equipment for General Lighting Purposes – EMC Immunity Requirements
CISPR15/EN 55015	Limits and Methods of Measurement of Radio Disturbance Characteristics of Electrical Lighting and Similar Equipment
IEC 61643-11	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods



Keterangan Barangan	ROAD LIGHTING LUMINAIRE (LED)
Kod Barangan	EE022009.ME589.A550
Nama Syarikat	ALTERNATIF BINA SDN. BHD.
Status Syarikat	PENGILANG
Alamat	NO. 107-1, JALAN ANGGUN CITY 3, PUSAT KOMERSIAL ANGGUN CITY, 48000 RAWANG SELANGOR
No Telefon	0123496355
No Fax	
Email	absb2326a@gmail.com
Website	ablighs.com.my
Jenama	AB LIGHTS
No Laporan	i) SIJIL SIRIM : PC005042; ii) LAPORAN UJIAN SIRIM : 2019EB0540-S2, 2019EB0361, 2019EB0367-A1, 2019EB0366-A1, 2019EB0366, 2019EB0365-A1, 2019EB0365, 2019EB0364-A1, 2019EB0364, 2019EB0358-A1, 2019EB0358; iii) LAPORAN UJIAN TUV RHEINLAND : 50104342 001, 50093165 001, 50137567 001; iv) LAPORAN UJIAN EMTEK : ES170721015E-1, ES170721016E-1, ES160823005S-2; v) LAPORAN UJIAN LUMILEDS : S1c1b
Tarikh Tamat	15-06-2022
Rujukan	MS IEC 60598-1:2012, IEC 60598-2-3:2006, IEC 62722-2-1:2014, IEC 62722-1:2014, IES LM 79-08, IES LM 80-08, IEC 62471:2006, IEC 61347-2-13:2014 AMD1: 2016, IEC 61347-1:2015, EN 55015:2013+A1:2015, EN 61547:2009, EN 61000-3-2:2014, EN 61000-3-3:2013, IEC 61643-11:2011
Catatan	i) LED PACKAGE : LUMILEDS LUXEON 3030 2D ii) LED DRIVER : INVENTRONICS (RUJUK JADUAL) iii) SPD : SHENZHEN ZPWY TECHNOLOGY CO : ZP-LSP20-S (20 kA)
Negara	MALAYSIA

Lesen Pensijilan SIRIM
adalah wajib bagi
kategori ini

Semak jenama
dan model LED,
SPD dan DRIVER

Bil	MODEL	RATED VOLTAGE & FREQUENCY	RATED WATTAGE (W)	TOTAL LUMINOUS FLUX @ CCT	EFFICACY (lm/W)	DRIVER	Gambar
1	AB-SL520-120	220-240VAC, 50/60HZ	120	12,882 lm @ 3169K	109.5	EUK-150S350DV	
2	AB-SL520-150	220-240VAC, 50/60HZ	150	16,089 lm @ 3167K	108.1	EUK-150S350DV	
3	AB-SL520-180	220-240VAC, 50/60Hz	180	18,870 lm @ 3217K	105.7	EUK-200S560DV	
4	AB-SL520-200	220-240VAC, 50/60Hz	200	21,132 lm @ 3208K	107.5	EUK-200S560DV	
5	AB-SL520-240	220-240VAC, 50/60Hz	240	24,149 lm @ 3156K	99.2	EUK-240S670DV	



Luminaire Cover/
Secondary Optics



LUMINAIRE





REPORT NO : 2019EB0540-S3

PAGE : 25 OF 53

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MS IEC 60598-2-3

Clause	Requirement + Test	Result - Remark	Verdict
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ANNEX 1: components

Pass

object/part no.	code	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity
LED control gear for model 240W.	B	INVENTRONICS	EUK-240S670D V	Input: 100-240 VAC, 50/60 Hz, 2.9 A max, Output: 240 W max, 18-52 VDC, 6700 mA max, U _{ac} : 70 V, Pin max: 280 W, $\lambda \geq 0.90C$, IP67, tc 90°C, ta 50°C.	IEC 61347-2-13 IEC 61347-1	TUV Rheinland
LED control gear for model 200W, 180W.	B	INVENTRONICS	EUK-200S560D V	Input: 100-240 VAC, 50/60 Hz, 2.25 A max, Output: 200 W max, 18-52 VDC, 5600 mA max, U _{ac} : 60 V, Pin max: 240 W, $\lambda \geq 0.90C$, IP67, tc 90°C, ta 55°C.	IEC 61347-2-13 IEC 61347-1	TUV Rheinland
LED control gear for model 150W, 120W.	B	INVENTRONICS	EUK-150S350D V	Input: 100-240 VAC, 50/60 Hz, 1.65 A max, Output: 150 W max, 22-61 VDC, 3500 mA max, U _{ac} : 80 V, Pin max: 170 W, $\lambda \geq 0.90C$, IP67, tc 85°C, ta 50°C.	IEC 61347-2-13 IEC 61347-1	TUV Rheinland
LED package	B	LUMILEDS	LUXEON 3030 2D Square LES	L130-3080003000X2C 3.0 x 2.6 x 0.66 mm.	IESNA LM-80	LUMILEDS



REPORT NO : 2019EB0540-S3

PAGE : 26 OF 53

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MS IEC 60598-2-3

Clause	Requirement + Test	Result - Remark	Verdict
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object/part no.	code	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity
Integral LED module	C	Alternatif Bina Sdn Bhd	XQ-3030-9C32B-V2	246 x 185 x 1.5 mm.	MS IEC 62031 MS IEC 60598-2-3 MS IEC 60598-1	Tested as part of luminaires (See Annex 5)
Surge Protective Device (SPD)	B	Shenzhen Zpwy Technology Co., Ltd.	ZP-LSP20-S	U _c : 100-277 VAC, fn. 50/60 Hz, Rated load current: 5 A, MCOV/U _c : 320 VAC, In: 10kA, Imax: 20kA, Uoc: 20kV, Up: 1.5kV, IP67, ta: -40...85°C.	IEC 61643-11	TUV Rheinland
Connector	B	Ningbo Jinwei Electrical Technology Co., Ltd.	JN002	400 V, 16 A.	EN 61984	VDE
	B	Openwise Industrial Ltd.	500	450 V, 32 A, T110, 4.0 mm ² .	EN 60998-2-1 EN 60998-1	VDE

The codes above have the following meaning:

- A - The component is replaceable with another one, also certified, with equivalent characteristics
- B - The component is replaceable if authorised by the test house
- C - Integrated component tested together with the appliance
- D - Alternative component





NEMA socket provides an **electrical** and **mechanical connection** between the **control cell** and the **luminaire**. **NEMA socket** in light fixtures may have **5** or **7 terminals**. 3 terminals used for **power connection**, the remaining 2 or 4 terminals are used to carry **dimming signal** and other signals.

Road Lighting Luminaire with NEMA socket ready



LED jenis COB



Road Lighting Luminaire – LED jenis COB (chip on board)



AMENITIES LIGHTING LUMINAIRES (LED)



MAKLUMAT BAHAN/BARANGAN YANG DILULUSKAN

Keterangan Barangan	AMENITIES LIGHTING LUMINAIRES (LED)
Kod Barangan	EE0220012.ME28.A27
Nama Syarikat	YLI INDUSTRY SDN. BHD.
Status Syarikat	PENGILANG
Alamat	PT 14504, PERSIARAN BATU GAJAH PERDANA 6, TAMAN BATU GAJAH PERDANA, 31550 PUSING PERAK
No Telefon	053665227
No Fax	053653227
Email	info@yli-ind.com.my
Website	www.yli-ind.com.my
Jenama	YLI
No Laporan	i)PENSIJILAN SIRIM: PC004311 ii)LAPORAN UJIAN SIRIM: 2018EB0448 & 2018EB0478 iii)LAPORAN UJIAN TUV : 7191179141-EEC18/07-CMF, 7191179141-EEC18/02, 7191179141-EEC18/08-CMF, 211-1417414-000, 7191179141-EEC18/09-CMF & 085- 150400701-000 iv) LAPORAN UJIAN SEOUL SEMICONDUCTOR TESTING LABORATORY : I-150529-26-K-03
Tarikh Tamat	15-10-2021
Rujukan	IEC 60598-2-3:2002/AMD1:2011, IEC 60598-1:2014, IEC 62722-1:2014, IEC 62722-2- 1:2014, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 62493:2015, EN 55015:2013+A1:2015, EN 61547:2009, IES LM-79-08, IESNA LM-80-2008, IEC 61347-2- 13:2014 & IEC 61643-11:2011 (First Edition)
Catatan	i) LED MODULE: OSRAM PL-SKY-G2 730L150X80T40S W/P ii) LED DRIVER: OSRAM 100/220-240/1A4 1DIMA P7 iii) SPD: HAIDE HD-LED20 (20kA) iv) TIDAK TERMASUK ROAD LIGHTING, STREET LIGHTING DAN MUNICIPAL LIGHTING.
Negara	MALAYSIA

Lesen Pensijilan SIRIM
adalah **TIDAK** wajib
bagi kategori ini

Semak jenama
dan model LED,
SPD dan DRIVER

Bil	MODEL	RATED VOLTAGE & FREQUENCY	RATED WATTAGE (W)	TOTAL LUMINOUS FLUX @ CCT	EFFICACY (lm/W)e	Gambar
1	OS SL- 2/O	220-240V, 50/60 Hz	72W	9357.9lm @ 3115K	123.8	



Keterangan Barangan AMENITIES LIGHTING LUMINAIRES (LED)

Kod Barangan EE0220012.ME577.A538

Nama Syarikat QLUX GROUP SDN. BHD.

Status Syarikat PEMBEKAL

Alamat 18-2 BLOCK B, PERSIARAN RAHANG JAYA, PUSAT PERNIAGAAN RAHANG JAYA,
70100 SEREMBAN NEGERI SEMBILAN

No Telefon 067613339

No Fax -

Email sales@qluxgroup.com

Website www.qluxgroup.com

Jenama QLUX+

No Laporan PENSIJILAN SIRIM : PC004581; LAPORAN UJIAN SIRIM: 2019EB0346, 2019EB0346-S1,
2018EEB0113-M1, 2018EEB0113-M2, 2018EEB0113-M3; 2019EB0273, 2019EB0273-A1,
2017EEB0408, 2017EEB0408-M1, 2017EEB0408-S1, 2017EEB0407, 2017EEB0407-M1,
2018EEB0124, 2018EEB0124-M1; LAPORAN UJIAN NICHIA :SQETMOJ75401;
LAPORAN UJIAN SIRIM : 2018RE0455; LAPORAN UJIAN QAV: QAV-1218-0018-1 , QAV-
1218-0019-1, QAV-1118-0120, QAV-1118-0120-1, QAV-1218-0113, QAV-1218-0113-1; SIJIL
DEKRA: 3183404.01AOC

Tarikh Tamat 15-10-2021

Rujukan IEC 60598-2-3:2006, IEC 60598-1:2012, IEC 62722-2-1: 2014, IEC 62722-1: 2014, CISPR
15:2013+A1:2015, IES LM-79-08, LM-80, IEC 62031:2011, IEC 61547:2009, IEC 61000-3-
2:2014, IEC 61000-3-3:2013, IEC 61347-2-13:2014+AMD1:2016, IEC 61347-1:2015, IEC
62384:2006+AMD1:2009, IEC 62471:2011

Catatan i) LED PACKAGE : NICHIA NVSL 219C ii) LED DRIVER : QLUX+ (MODEL SEPERTI
LAMPIRAN) iii) SPD : SET SD10C277AH (25kA)

Negara MALAYSIA

Semak jenama
dan model LED,
SPD dan DRIVER

Bil	MODEL	RATED VOLTAGE & FREQUENCY	RATED WATTAGE (W)	TOTAL LUMINOUS FLUX @ CCT	EFFICACY (lm/W)	DRIVER	Gambar
1	QS60DC0820- QR-250W	220-240VAC, 50/60Hz	250	29529 lm @ 3013K	122.4	C090C- 250-0800	
2	QS60DC0820- QR-120W	220-240VAC, 50/60Hz	120	14503 lm @ 3007K	114.4	C090C- 120-0800	
3	QS60DC0820- QR-85W	220-240VAC, 50/60Hz	85	9412.91 lm @ 2996K	114.2	C090C-90- 0800	



AMENITIES LIGHTING LUMINAIRES (LED)



LAPORAN PEMERIKSAAN SAMPEL

Barangan : ROAD LIGHTING (LED)
No. Pendaftaran : VB048
Syarikat : ALTERNATIF BINA SDN BHD
Jenama : AB LIGHTS
Model : AB-SL520-240
Tarikh : 19/08/2020

Catatan pemeriksaan adalah seperti gambar-gambar yang dilampirkan.



Gambar 1
Road Lighting (LED)

- Pandangan Atas
(Hadapan)



Gambar 2
Road Lighting (LED)

- Pandangan Atas
(Belakang)



Gambar 3
Road Lighting (LED)
- Model Sticker



Gambar 4
Road Lighting (LED)
- Skrü Pengunci
Catatan:
- L-S 20
Minimum :
2 Bilangan
Material : Stainless Steel



Gambar 5
Road Lighting (LED)
- Pandangan Dalam



Gambar 6

Road Lighting (LED)

- LED Driver
Jenama :
INVENTRONICS
Model :
EUK-240S670DV
Rated Power : 240W
IP : IP67



Gambar 7

Road Lighting (LED)

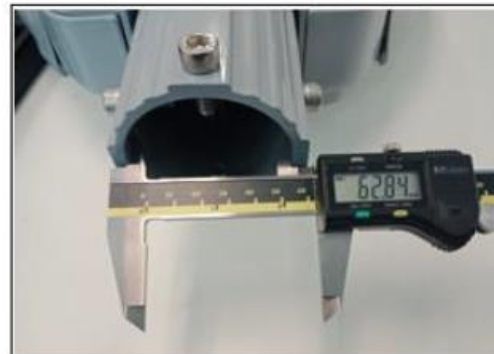
- Surge Protective Device (SPD)
Model : ZP-LSP20-S
Imax : 20kA
In : 10kA
Up : 1.5 kV
IP67



Gambar 8

Road Lighting (LED)

- Earthing Terminal



Gambar 9

Road Lighting (LED)

- Ukuran Diameter
Pemegang: 62.84mm

Catatan:
- L-S 20
Minimum : 40mm



Gambar 10

Road Lighting (LED)

- Ukuran Kedalaman
Pemegang: 134.94 mm

Catatan:
- L-S 20
Minimum : 100mm

Disediakan Oleh:

Disemak Oleh:

Nama : Akmal Afiq Bin Nazmudi
Jawatan : Penolong Jurutera Elektrik
Tarikh :

Nama : Ir. Ana Salmi Binti Ahmad Salman
Jawatan : Jurutera Elektrik Kanan (J48)
Tarikh :



TERIMA KASIH

Unit Pensijilan Bahan dan Standard

Caw. Kejuruteraan Elektrik

Ibu Pejabat JKR Malaysia

Tel: 03-2618 9910

Email: basrullah@jkr.gov.my

Layari <https://jmal.jkr.gov.my/emalv3>

Untuk bahan/barangan berdaftar CKE JKR