Ordering Information

Part Number	Type	Correlated Color Temperature	Integrated Driver
QPL10-ASV-30RSVN (S100)	I	3000K (Warm)	No
QPL15-ASV-30RSVN (S150)			
QPL25-ASV-30RSVN (S250)			
QPL10-ASV-43RSVN (S100)		4300K, Moonlight (Neutral)	
QPL15-ASV-43RSVN (S150)			
QPL25-ASV-43RSVN (S250)			
QPL10-ASV-65RSVN (S100)		6500K, Daylight (Cool)	
QPL15-ASV-65RSVN (S150)			
QPL25-ASV-65RSVN (S250)			
QPL10-ASV-30RSVA (S100)		3000K (Warm)	Yes
QPL15-ASV-30RSVA (S150)			
QPL25-ASV-30RSVA (S250)			
QPL10-ASV-43RSVA (S100)		4300K, Moonlight (Neutral)	
QPL15-ASV-43RSVA (S150)			
QPL25-ASV-43RSVA (S250)			
QPL10-ASV-65RSVA (S100)		6500K, Daylight (Cool)	
QPL15-ASV-65RSVA (S150)			
QPL25-ASV-65RSVA (S250)			
QPL10-AS2-30RSVN (S100)	II	3000K (Warm)	No
QPL15-AS2-30RSVN (S150)			
QPL25-AS2-30RSVN (S250)			
QPL10-AS2-43RSVN (S100)		4300K, Moonlight (Neutral)	
QPL15-AS2-43RSVN (S150)			
QPL25-AS2-43RSVN (S250)			
QPL10-AS2-65RSVN (S100)		6500K, Daylight (Cool)	
QPL15-AS2-65RSVN (S150)			
QPL25-AS2-65RSVN (S250)			
QPL10-AS2-30RSVA (S100)		3000K (Warm)	Yes
QPL15-AS2-30RSVA (S150)			
QPL25-AS2-30RSVA (S250)			
QPL10-AS2-43RSVA (S100)		4300K, Moonlight (Neutral)	
QPL15-AS2-43RSVA (S150)			
QPL25-AS2-43RSVA (S250)			
QPL10-AS2-65RSVA (S100)		6500K, Daylight (Cool)	
QPL15-AS2-65RSVA (S150)			
QPL25-AS2-65RSVA (S250)			

Note: Q-RAY™ S400 models (HPS400W replacement) are available upon request.
While every effort has been made to ensure that the information contained herein is correct at the time of publication, specifications may change without prior notice.

Q-RAY™

Not all LED bulbs are created equal

LED Street Light

Product Description

Q-RAY™ LED Street Lantern replaces the conventional High Pressure Sodium (HPS) vapour Lantern for street lighting. It replaces the 100W, 150W, 250W and 400W HPS Lanterns, giving up to 60% energy-saving performance. Combined with its elegant, slim and futuristic design, this is one lantern which definitely deserves a second glance.

Fixture is made of aluminium with integrated & weatherproof Fixture is made of rugged metal, with integrated & weatherproof electronics built-in. Solid mounting & interlocking system is used to replace existing lantern without any re-engineering work required. This rugged, futuristic piece of art comes with a 5-year limited warranty on its housing.

Design Concept

Q-RAY™ Street light design consists of 3 main color temperatures to suit different safety requirements. The Warm White model ensures good visibility even during foggy condition. This model satisfies the need to have good visibility for high speed driving, during heavy rainfall and other outdoor conditions. The Cool White model ensures higher light output with lower power consumption and simulates a daylight-like environment. The Neutral White model at the other hand balances both needs, it is a reproduction of a moon litted environment. All these products have built-in Color Temperature Maintenance Technology.

Up to **60%** Energy Saving
Long lasting, No mercury, No UV.
Environmental Friendly

Q-RAY™ Quality Assurance

Q-RAY™ products have stringent test requirements. Only Lighting Class LEDs are designed into lighting products. The fixture body is coated with high weather resistive powder-coated-weather-guard on silver powdered surface.

Light Emitting Diodes

Q-RAY™ Street Lights' stringent testing means that only High Power Lighting Class LEDs, which are suitable for General Lighting applications, are used. This is fundamental in maintaining our philosophy of producing quality products.

Body Material & Constructions

Q-RAY™ Street Light body is constructed using rugged alloy material which demonstrates an ability to sink heat faster and more efficiently. It is rated as IP66. In addition to that, Q-RAY™ 's advanced thermal management system design ensures proper heat dissipation. Hence, Q-RAY™ products are able to achieve a long lifetime.

Optical Properties

Measured on the road surface, conventional lighting technology has a higher center to corner brightness ratio. Q-RAY™ Street Light has a specially designed optical system that solves this problem and provides more even light distribution on the road surface.

Application Requirements

Q-RAY™ Street Light is a direct replacement of the current street light which means that converting to Q-RAY™ Street Light is a simple task which is no different from installing a new HPS vapour lantern.

Electrical System & Efficiency

Modular design accomodates different lighting requirements. The most commonly asked for versions include the 100W, 150W, and 250W HPS replacement, Q-RAY™ Street Light addresses these models. All these models come with either Warm White Light @ 3000K CCT or Cool Daylight @ 6500K CCT or Neutral Moonlight @ 4300K. Besides the modular design, it is equipped with High Power Factor Technology which provides better energy saving than most LED street lights available in the market. For any LED products to give optimal energy-savings, it is essential that all power devices within the LED-based products are efficient. With higher power factor and 90% driver efficiency, Q-RAY™ Street Light gives optimum power savings. This is explained in the following scenarios:

Parameter	Scenario 1 Most LED street lights	Scenario 2 Q-RAY™ Street Light
Power factor	0.7	0.9
Driver efficiency	80%	90%
Optics efficiency	80%	90%
LED Power	50W	50W
Total Power consumption	50/(0.7*0.8*0.8) = 111.6VA	50/(0.9*0.9*0.9) = 68.6VA

Benefits of Q-RAY™ LED Street Light

- Significant energy cost savings
- Low power consumption to minimize carbon emission for environmental protection.
- No Mercury content.
- No UV.
- Durable & long lasting, up to 50,000 operating hours or more.
- Easy installation, drop-in replacement.
- Robust design.
- Accept a wider voltage range compared to HID.
- No high charge up voltage.
- Operational with 90 to 260VAC without impacting brightness.
- Consistent Brightness maintained for lantern lifetime.
- No cool-off period required.
- Full brightness in miliseconds.
- Excellent Color Rendering Index (CRI) at > 80 (Warm White models only).

S150 Type I

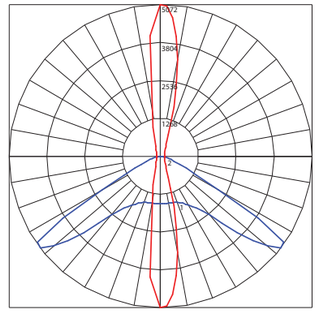
Lum. Classification System (LCS)

	Lumens	%Lamp	%Lum
FL (0-30)	513.7	15.9	16.0
FM (30-60)	939.5	29.1	29.3
FH (60-80)	224.3	6.9	7.0
FVH (80-90)	15.3	0.5	0.5
BL (0-30)	483.2	14.9	15.0
BM (30-60)	816.5	25.3	25.4
BH (60-80)	202.2	6.3	6.3
BVH (80-90)	16.4	0.5	0.5
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	3211.1	99.4	100.0

Flux Distribution

	Lumens	Percent Of Lamp
Downward Street Side	1692.9	52.4
Downward House Side	1518.3	47.0
Downward Total	3211.2	99.3
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	3211.2	99.3

Maximum Candelapower: 5074 cd



Typical Power Consumption: 78W

S150 Type II

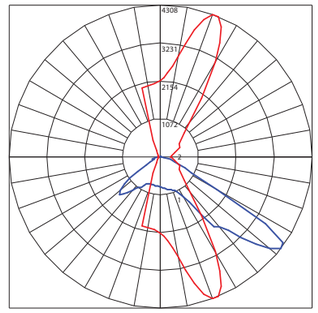
Lum. Classification System (LCS)

	Lumens	%Lamp	%Lum
FL (0-30)	478.7	12.3	12.3
FM (30-60)	1842.3	47.5	47.5
FH (60-80)	318.8	8.2	8.2
FVH (80-90)	7.7	0.2	0.2
BL (0-30)	330.6	8.5	8.5
BM (30-60)	727.8	18.8	18.8
BH (60-80)	151.6	3.9	3.9
BVH (80-90)	19.2	0.5	0.5
UL (90-100)	0.1	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	3876.8	99.9	100.0

Flux Distribution

	Lumens	Percent Of Lamp
Downward Street Side	2647.4	68.3
Downward House Side	1229.1	31.7
Downward Total	3876.5	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	3876.5	100.0

Maximum Candelapower: 4308 cd



Typical Power Consumption: 77W

Note: CCT selection may be crucial in different applications and not solely on brightness level only

Cautions: Although lumens to lumens and lux to lux level comparison with respective HPS may not meet up in numbers, general visibility of Q-RAY™ LED Street Light is on par if not better than HPS. This is because of higher CRI & it's calibrated to Scotopic/Mesopic vision instead of Photopic (conventional lighting technologies).

Correlated Color Temperature (CCT)

Q-RAY™ Street Light obtained CCT scheme which follows ANSI C78.377-2008 standards to define its range. The Warm White Model a nominal CCT of 3000K with the data illustrated above while the Cool White models offer a CCT of 6500K, resembles a clear blue sky. The 4300K resembles moonlight.

General Specifications

Input Requirements

Voltage	90 VAC to 260 VAC, No impact to light output
Frequency	46-63Hz
Output Parameters	
Power Factor	0.9
Harmonic Distortion	0.2
Typical Power Consumption (@120VAC)	S100 @ 71W, S150 @ 80W, S250 @ 150W, S400 @ 230W

Optical Performance (single Pole)

Warm White @ 6m	S100 (35.6lx)
Warm White @ 8m	S150 (24.8lx), S250 (47.5lx)
Warm White @ 10m	S150 (15.8lx), S250 (30.4lx) S400 (45.9lx)
Warm White @ 12m	S250 (21.1lx) S400 (31.8lx)
Color Correlated Temperature	According to ANSI C78.377-08 standards, 3000K for Warm, 6500K for Cool & 4300K for Neutral

** Note: Base on single pole design, maximum point illumination performance base on Photopic measurement through simulation software. All typical data shown is subjected to tolerance of 10%. Simulated on Type 1 models.*

Operating Parameters

Ambient Temperature	-20° to 45°C
Working Humidity	20% to 80% RH
Mechanical Parameters	
Gross Weight #	7.4kg to 13.4kg depending on model
Dimension	L711 x W330 x T89 mm (S250); L503 x W330 x T89 mm (S100 , S150)
Ingress Protection	IP66

 # This is an estimated weight for pole requirements.