

# RSW Series

RSW™ LED Street Luminaire – Small

## Product Description

The Cree® RSW Series, utilizing WaveMax® Technology, will transform the way utilities and municipalities light their residential streets. With the first viable LED streetlight at warm CCT, the RSW Series delivers up to 127 LPW, enhanced visual comfort with reduced glare and high color contrast leading to improved overall illumination using less energy. The RSW Series provides warm, inviting dark sky friendly lighting that makes good economic sense.

**Applications:** Roadway - Local/Collector

## Performance Summary

Utilizes Cree WaveMax® Technology

Assembled in the U.S.A. of U.S. and imported parts

**Efficacy:** Up to 127 LPW

**CRI:** Minimum 70 CRI (3000K, 4000K & 5000K); 80 CRI (2700K, 3000K, 4000K & 5000K)

**CCT:** 2700K, 3000K, 4000K, 5000K

**Limited Warranty\*:** 10 years

\* See <http://lighting.cree.com/warranty> for warranty terms

## Accessories

Field-Installed	
<b>Backlight Control Shield</b> RSW-BLSS - Provides 1 mounting height cutoff	<b>Bird Guard</b> RSW-BRDGRDS

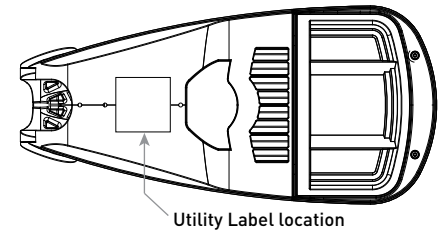
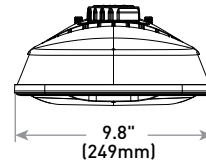
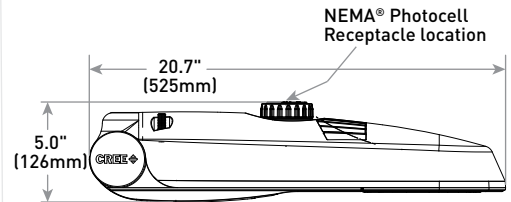
## Ordering Information

Example: RSW-A-HT-2ME-3L-27K8-UL-GY-N

RSWS	A	HT				UL	GY	N	
Product	Version	Mounting	Optic	Lumen Package**	CCT/CRI	Voltage	Color Options	Utility Label/Receptacle	Options
RSWS Small	A	HT Horizontal Tenon	2LG* Type II Long 2ME* Type II Medium 3ME* Type III Medium	3L 3,300 Lumens 5L 5,000 Lumens	27K8 2700K, 80 CRI 30K7 3000K, 70 CRI 30K8 3000K, 80 CRI 40K7 4000K, 70CRI 40K8 4000K, 80 CRI 50K7 5000K, 70CRI 50K8 5000K, 80CRI	UL Universal 120-277V	GY Grey	N Utility Label and NEMA® 7-Pin Photocell Receptacle - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others	Q4/Q3/Q2/Q1 Field Adjustable Output - Must select Q4, Q3, Q2, or Q1 - Offers full range lumen adjustability - Includes wattage label for setting selected - Refer to pages 5 & 6 for power and lumen values  X3/X2/X1 Locked Lumen Output - Must select X3, X2, or X1 - Lumen output is permanently locked to the setting selected - Includes wattage label for setting selected - Refer to pages 5 & 6 for power and lumen values

\* Available with Backlight Shield when ordered with field-installed accessory (see table above)

\*\* Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values



Weight*
8.45 lbs (3.8kg)

\*RSW-BLSS Accessory: add 0.4 lbs. (0.2kg)



Rev. Date: V11 07/11/2017



## Product Specifications

### CREE WAVEMAX® TECHNOLOGY

Featuring up to 90% optical efficiency and precise control, Cree WaveMax® Technology provides unmatched comfort and decreased LED source luminance by smoothly spreading brightness over a broader area. When integrated with luminous surfaces made of a polymer medium engineered with DiamondFacet™ optical elements, extremely high efficacy luminaires are the result – ultimately creating more visually comfortable and appealing environments while exceeding illumination performance.

### CONSTRUCTION & MATERIALS

- Housing constructed of high strength, lightweight bulk molding compound for long weathering and durability
- UV stabilized polymeric door with handle pocket for tool-less entry
- Straight in wiring to terminal block for power input [#6-#14 AWG]
- IP66 rated optic box and driver enclosure inside optic box
- Mounts on 1.25" [32mm] IP, 1.66" [42mm] O.D. or 2" [51mm] IP, 2.375" [60mm] O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° in 2.5° increments to allow for fixture leveling (two axis T-level included)
- Luminaire secures with two mounting bolts
- Comes standard with Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41
- **Weight:** 8.45 lbs. (3.8kg); add 0.4 lbs. (0.2kg) for RSW-BLSS accessory

### ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V, 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- **10V Source Current:** 0.25mA
- **Operating Temperature Range:** -40°C - +50°C (-40°F - + 122°F)

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- Meets CALTrans 611 Vibration testing
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 27K or 30K CCT
- DLC and DLC Premium qualified versions available. Please refer to <https://www.designlights.org/search/> for most current information

Electrical Data*								
Lumen Package	CCT/CRI	System Watts 120-277V	Utility Label Wattage	Efficacy	Total Current (A)			
					120V	208V	240V	277V
3L	27K8	32	30	103	0.27	0.16	0.14	0.13
	30K7	28	30	118	0.23	0.14	0.12	0.11
	30K8	31	30	106	0.25	0.15	0.13	0.12
	40K7	26	30	127	0.21	0.13	0.11	0.10
	40K8	29	30	114	0.24	0.14	0.13	0.11
	50K7	26	30	127	0.21	0.13	0.11	0.10
5L	50K8	28	30	118	0.23	0.14	0.12	0.11
	27K8	53	50	94	0.44	0.26	0.23	0.20
	30K7	45	50	111	0.37	0.22	0.20	0.18
	30K8	51	50	98	0.42	0.25	0.22	0.20
	40K7	41	40	122	0.34	0.20	0.18	0.16
	40K8	47	50	106	0.39	0.23	0.20	0.18
	50K7	41	40	122	0.34	0.20	0.18	0.16
	50K8	45	50	111	0.37	0.22	0.20	0.18

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V +/- 10%

Recommended RSW Series Lumen Maintenance Factors (LMF) <sup>1</sup>					
Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Projected <sup>2</sup> LMF	75K hr Calculated <sup>3</sup> LMF	100K hr Calculated <sup>3</sup> LMF
0°C (32°F)	1.05	1.02	0.99	0.97	0.94
5°C (41°F)	1.04	1.01	0.99	0.96	0.93
10°C (50°F)	1.03	1.00	0.98	0.95	0.92
15°C (59°F)	1.02	0.99	0.97	0.94	0.91
20°C (68°F)	1.01	0.98	0.96	0.93	0.90
25°C (77°F)	1.00	0.98	0.95	0.92	0.90

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing

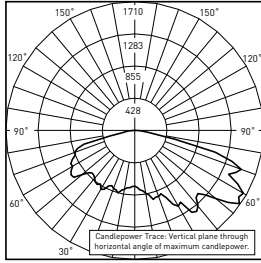
<sup>2</sup> In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration [in hours] for the device under testing (DUT) i.e. the packaged LED chip

<sup>3</sup> In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration [in hours] for the device under testing (DUT) i.e. the packaged LED chip

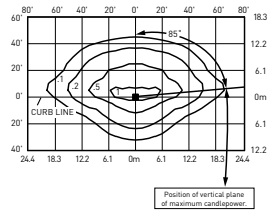
**Photometry**

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/rsw-series>

**2LG**



**UL Verification Services Test Report #:** 11624878.01  
**RSWS-A\*\*-2LG-3L-30K7-UL-GY-N**  
**Initial Delivered Lumens:** 3,294

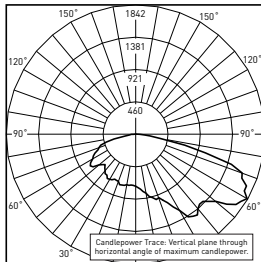


**RSWS-A\*\*-2LG-3L-30K7-UL-GY-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 3,300  
**Initial FC at grade**

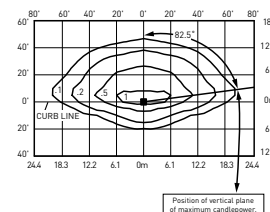
**Type II Long Distribution**

Lumen Package	CRI	2700K/3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
3L	All	3,300	B1 U0 G1
5L	All	5,000	B1 U0 G1

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
 \*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



**CESTL Test Report #:** 11675461.06  
**RSWS-A\*\*-2LG-3L-30K7-UL-GY-N w/RSW-BLSS**  
**Initial Delivered Lumens:** 3,080



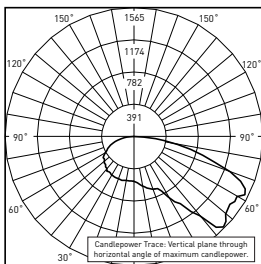
**RSWS-A\*\*-2LG-3L-30K7-UL-GY-N w/RSW-BLSS**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 3,050  
**Initial FC at grade**

**Type II Long w/BLS Distribution**

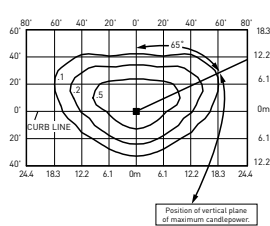
Lumen Package	CRI	2700K/3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
3L	All	3,050	B1 U0 G1
5L	All	4,630	B1 U0 G1

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
 \*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

**2ME**



**UL Verification Services Test Report #:** 11644102.09  
**RSWS-A\*\*-2ME-3L-30K7-UL-GY-N**  
**Initial Delivered Lumens:** 3,251

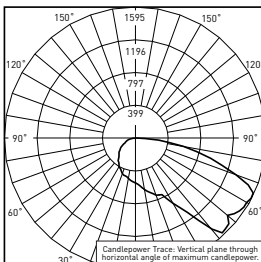


**RSWS-A\*\*-2ME-3L-30K7-UL-GY-N**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 3,300  
**Initial FC at grade**

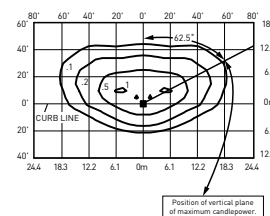
**Type II Medium Distribution**

Lumen Package	CRI	2700K/3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
3L	All	3,300	B1 U0 G1
5L	All	5,000	B1 U0 G2

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
 \*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



**CESTL Test Report #:** 11675461.02  
**RSWS-A\*\*-2ME-3L-30K7-UL-GY-N w/RSW-BLSS**  
**Initial Delivered Lumens:** 2,975



**RSWS-A\*\*-2ME-3L-30K7-UL-GY-N w/RSW-BLSS**  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 3,050  
**Initial FC at grade**

**Type II Medium w/BLS Distribution**

Lumen Package	CRI	2700K/3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
3L	All	3,050	B1 U0 G1
5L	All	4,630	B1 U0 G2

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
 \*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

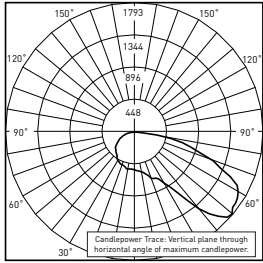


RSW™ LED Street Luminaire – Small

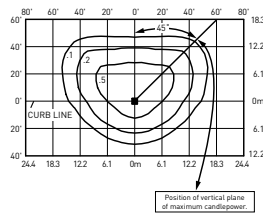
**Photometry**

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/rsw-series>

**3ME**



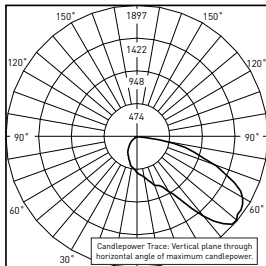
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11644102.08  
RSWS-A-\*\*-3ME-3L-30K7-UL-GY-N  
**Initial Delivered Lumens:** 3,399



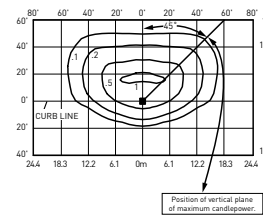
RSWS-A-\*\*-3ME-3L-30K7-UL-GY-N  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 3,300  
Initial FC at grade

Type III Medium Distribution			
Lumen Package	CRI	2700K/3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
3L	All	3,300	B1 U0 G1
5L	All	5,000	B1 U0 G1

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



**CESTL Test Report #:** 11675461.01  
RSWS-A-\*\*-3ME-3L-30K7-UL-GY-N  
w/RSW-BLSS  
**Initial Delivered Lumens:** 3,113



RSWS-A-\*\*-3ME-3L-30K7-UL-GY-N  
w/RSW-BLSS  
**Mounting Height:** 25' (7.6m) A.F.G.  
**Initial Delivered Lumens:** 3,050  
Initial FC at grade

Type III Medium w/BLS Distribution			
Lumen Package	CRI	2700K/3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
3L	All	3,050	B1 U1 G1
5L	All	4,630	B1 U1 G2

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

**Luminaire EPA**

Horizontal Tenon Mount – Weight: 8.45 lbs. (3.8kg); RSW-BLSS Accessory: add 0.4 lbs. (0.2kg)					
Luminaire	Single	2 @ 90°	2 @ 180°	3 @ 90°	4 @ 90°
<b>Tenon Configuration</b> If used with Cree tenons, please add tenon EPA with luminaire EPA					
	PD-1H4; PT-1H	PD-2H4(90); PT-2H(90)	PD-2H4(180); PT-2H(180)	PD-3H4(90); PT-3H(90)	PD-4H4(90); PT-4H(90)
Standard Luminaire	0.61	0.89	1.22	1.50	1.78
Luminaire w/RSW-BLSS Accessory	0.61	1.25	1.22	1.85	2.49

**Tenon EPA**

Part Number	EPA
PD Series Tenons	0.09
PT Series Tenons	0.10
WM-2L	0.13
XA-TMDA8	0.19

Tenons and Brackets* (must specify color)	
<p><b>Square Internal Mount Horizontal Tenons (Aluminum)</b> - Mounts to 4" (102mm) square aluminum or steel poles PD-1H4 – Single PD-3H4(90) – 90° Triple PD-2H4(90) – 90° Twin PD-4H4(90) – 90° Quad PD-2H4(180) – 180° Twin</p> <p><b>Wall Mount Brackets</b> - Mounts to wall or roof WM-2L – Extended Horizontal</p>	<p><b>Round External Mount Horizontal Tenons (Aluminum)</b> - Mounts to 2.375"-3" (60-76mm) O.D. round aluminum or steel poles or tenons PT-1H – Single PT-3H(90) – 90° Triple PT-2H(90) – 90° Twin PT-4H(90) – 90° Quad PT-2H(180) – 180° Twin</p> <p><b>Direct Arm Pole Adaptor Bracket</b> - Mounts to 3-6" (76-152mm) round or square aluminum or steel poles XA-TMDA8</p>

\* Refer to the [Bracket and Tenons spec sheet](#) for more details

**Field Adjustable Output (Q4/Q3/Q2/Q1) Option Description:**

The Field Adjustable Output option enables the street and area luminaire within the RSW Series on this page to be tuned to the exact needs of a particular application through multiple levels of adjustment. When ordered with the Q option, the luminaire will be shipped from the factory at the selected lumen output, will be fully adjustable between the outputs, and will include a wattage label that indicates the wattage of the luminaire at the selected lumen output.

**Locked Lumen Output (X3/X2/X1) Option Description:**

The Locked Lumen Output option on this page permanently locks the lumen output on the RSW Series street and area luminaire to the setting selected. When ordered with the X option, the luminaire will be shipped from the factory at the lumen output setting selected, and will include a wattage label that indicates the wattage of the setting selected. When this option is selected, the luminaire output is not able to be adjusted in the field.

**Q & X Option Power & Lumen Data – 3L**

Q Option Setting	X Option Setting	CCT/CRI	System Watts	Label Wattage	Lumen Values		Optics Qualified on DLC QPL	
			120-277V		2LG, 2ME & 3ME	w/BLS	Standard	Premium
Q4 (Full Power)	N/A (Full Power)	27K8	32	30	3,300	3,050	2LG, 2ME, 3ME	
		30K7	28	30				2LG, 2ME, 3ME
		30K8	31	30			2LG, 2ME, 3ME	
		40K7	26	30				2LG, 2ME, 3ME
		40K8	29	30				2LG, 2ME, 3ME
		50K7	26	30				2LG, 2ME, 3ME
		50K8	28	30				2LG, 2ME, 3ME
Q3	X3	27K8	26	30	2,756	2,547	2LG, 2ME, 3ME	
		30K7	23	20				2LG, 2ME, 3ME
		30K8	25	30			2LG, 2ME, 3ME	
		40K7	21	20				2LG, 2ME, 3ME
		40K8	23	20				2LG, 2ME, 3ME
		50K7	21	20				2LG, 2ME, 3ME
		50K8	23	20				2LG, 2ME, 3ME
Q2	X2	27K8	20	20	2,169	2,004	2LG, 2ME, 3ME	
		30K7	17	20				2LG, 2ME, 3ME
		30K8	19	20			2LG, 2ME, 3ME	
		40K7	16	20				2LG, 2ME, 3ME
		40K8	18	20				2LG, 2ME, 3ME
		50K7	16	20				2LG, 2ME, 3ME
		50K8	17	20				2LG, 2ME, 3ME
Q1	X1	27K8	15	20	1,633	1,509	2LG (120V), 2ME (120V), 3ME (120V)	
		30K7	13	10				2LG (120V), 2ME (120V), 3ME (120V)
		30K8	15	20			2LG (120V), 2ME (120V), 3ME (120V)	
		40K7	12	10				2LG (120V), 2ME (120V), 3ME (120V)
		40K8	14	10				2LG (120V), 2ME (120V), 3ME (120V)
		50K7	12	10				2LG (120V), 2ME (120V), 3ME (120V)
		50K8	13	10				2LG (120V), 2ME (120V), 3ME (120V)



**Field Adjustable Output (Q4/Q3/Q2/Q1) Option Description:**

The Field Adjustable Output option enables the street and area luminaire within the RSW Series on this page to be tuned to the exact needs of a particular application through multiple levels of adjustment. When ordered with the Q option, the luminaire will be shipped from the factory at the selected lumen output, will be fully adjustable between the outputs, and will include a wattage label that indicates the wattage of the luminaire at the selected lumen output.

**Locked Lumen Output (X3/X2/X1) Option Description:**

The Locked Lumen Output option on this page permanently locks the lumen output on the RSW Series street and area luminaire to the setting selected. When ordered with the X option, the luminaire will be shipped from the factory at the lumen output setting selected, and will include a wattage label that indicates the wattage of the setting selected. When this option is selected, the luminaire output is not able to be adjusted in the field.

**Q & X Option Power & Lumen Data – 5L**

Q Option Setting	X Option Setting	CCT/CRI	System Watts		Lumen Values		Optics Qualified on DLC QPL	
			120-277V	Label Wattage	2LG, 2ME & 3ME	w/BLS	Standard	Premium
Q4 (Full Power)	N/A (Full Power)	27K8	53	50	5,000	4,630	2LG, 2ME, 3ME	
		30K7	45	50				2LG, 2ME, 3ME
		30K8	51	50			2LG, 2ME, 3ME	
		40K7	41	40				2LG, 2ME, 3ME
		40K8	47	50			2LG, 2ME, 3ME	
		50K7	41	40				2LG, 2ME, 3ME
		50K8	45	50			2LG, 2ME, 3ME	
Q3	X3	27K8	49	50	4,654	4,310	2LG, 2ME, 3ME	
		30K7	41	40				2LG, 2ME, 3ME
		30K8	46	50			2LG, 2ME, 3ME	
		40K7	38	40				2LG, 2ME, 3ME
		40K8	43	40			2LG, 2ME, 3ME	
		50K7	38	40				2LG, 2ME, 3ME
		50K8	41	40			2LG, 2ME, 3ME	
Q2	X2	27K8	42	40	4,105	3,801	2LG, 2ME, 3ME	
		30K7	36	40				2LG, 2ME, 3ME
		30K8	40	40			2LG, 2ME, 3ME	
		40K7	33	30				2LG, 2ME, 3ME
		40K8	38	40			2LG, 2ME, 3ME	
		50K7	33	30				2LG, 2ME, 3ME
		50K8	36	40			2LG, 2ME, 3ME	
Q1	X1	27K8	36	40	3,617	3,350	2LG, 2ME, 3ME	
		30K7	30	30				2LG, 2ME, 3ME
		30K8	34	30			2LG, 2ME, 3ME	
		40K7	28	30				2LG, 2ME, 3ME
		40K8	32	30			2LG, 2ME, 3ME	
		50K7	28	30				2LG, 2ME, 3ME
		50K8	30	30			2LG, 2ME, 3ME	

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