

# Toshiba **TLS-RTL**M LED Roadway Luminaire

**Application** – High performance, energy-efficient, solid-state luminaire for roadway lighting applications. Lighting performance equivalent to 70-150 watt HID (high intensity discharge) luminaires with 50%+ energy savings.

**Construction** – Heavy-duty, corrosion-resistant, low-copper, die cast aluminum housing and stainless steel hardware provide strength and durability. Powder-coated finish and IP66 construction provides durable resistance to outdoor environments.

**Mounting** – Five cast leveling steps provide a tenon mounting system adjustable from ±5°. 4-bolt mounting system and 3G vibration rating are standard. Mounting system designed for tenon arms with outside diameters of 1 5/8 – 2 3/8". Tool-less entry to the wiring compartment provides easy installation and maintenance.

**Optics** – Precision-molded, high-impact, optical-grade PMMA (polymethyl methacrylate) lenses provide uniform Type II, Type III, Type IV, and Type V distributions. Keyed lens assemblies ensure consistent photometric performance across a broad range of available levels of lumen output. Proprietary optical design provides zero lumens above the horizontal plane.

**LEDs & PCB (Printed Circuit Board)** – High efficiency 4000K/5700K, 70CRI LEDs are mounted to a metal core PCB. PCB is mounted to a finned, aluminum heat sink using a patented, zero air gap technology, which maximizes heat transfer and provides long LED operating life.

**Terminal Block** – Standard tunnel-type compression terminal block provides secure wire attachment and quick installation. Terminals are sized for #6 to #14 AWG wire.

**LED Rated Life (L85)\*** – 100,000 hours or more when operated in a 25°C (77°F) ambient environment. LED rated life is based on 9,000 hours of LED testing per LM-80-08, and projected values per IESNA TM21-11.

**LED Drivers** – Available at universal 120-277V at 50/60Hz. Feature high power factor (>90%) and low total harmonic distortion (THD, <10%).

**Surge Protection** – 10kV (ANSI/IEEE C64.41.2) is standard.

**Photocontrol Option** – Includes a standard NEMA twist-lock receptacle

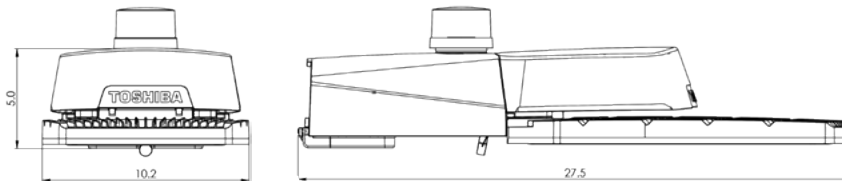
**Listing** – cETLus listed to applicable UL standards. DLC (DesignLights Consortium) qualified, and Lighting Facts™ listed. IP66 rated. Suitable for ambient temperatures from -40°C to 40°C (-40°F to 104°F). RoHS (Restriction of Hazardous Substances) compliant. Salt Fog testing conforms to ASTM Designation B117.

**Warranty** – 5-year limited warranty. Toshiba LED Lighting Systems Division reserves the right to make changes and/or improvements in designs and/or dimensions without notice or obligation. Consult Toshiba for additional terms and conditions. [www.toshiba.com/lighting](http://www.toshiba.com/lighting)

Example: **TLSRTL**M43421SN

Model Designator	LED Quantity	Drive Current	CCT	Distribution	Voltage	Housing Color ***	Photocell	Options
<b>TLSRTL</b> M	4 = 48 6 = 60 7 = 72	3 = 350mA 7 = 700mA	4 = 4000K 6 = 5700K	2 = Type II 3 = Type III 4 = Type IV 5 = Type V	1 = 120-277V	S = Silver B = Black R = Bronze	N = NEMA Twist Lock Receptacle	H = House-Side Shield B = Bubble Leveler D = Dimming (0-10VDC)

TLS-RTL<sup>M</sup>:  
EPA: 0.95sq ft  
Length: 27.5in  
Width: 10.2in  
Height: 5.0in  
Weight: 27lbs



Shown in standard color - Silver. Longer lead times may apply for Black and Bronze.

\*L85 LED rated life is the time period at which lumen output has depreciated to 85% of its initial output.

\*\*\* Longer lead times may apply for Black and Bronze.

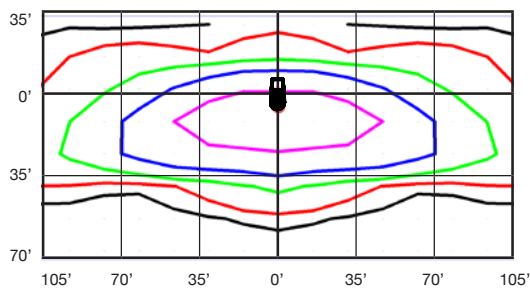
Model	Drive Current (mA)	Input Watts	Input Current (A)			Distribution Type	4000K		5700K	
			120V	240V	277V		Lumens	Efficacy (LPW)	Lumens	Efficacy (LPW)
48 LEDs	350	53	0.44	0.22	0.19	II	5,800	109	5,900	111
						III	5,800	109	5,900	111
						IV	5,700	108	5,900	111
						V	5,600	106	5,800	109
						II	9,900	93	10,100	95
60 LEDs	350	67	0.56	0.28	0.24	III	9,600	91	9,900	93
						IV	9,550	90	9,800	92
						V	9,500	90	9,700	92
						II	7,000	104	7,300	109
						III	7,000	104	7,200	107
72 LEDs	350	81	0.68	0.34	0.29	IV	7,000	104	7,200	107
						V	6,900	103	7,100	106
						II	12,100	91	12,400	93
						III	12,000	90	12,200	92
						IV	12,000	90	12,100	91
72 LEDs	700	155	1.29	0.65	0.56	V	11,700	88	12,000	90
						II	8,400	104	8,900	110
						III	8,500	105	8,700	107
						IV	8,300	102	8,600	106
						V	8,200	101	8,400	104
72 LEDs	700	155	1.29	0.65	0.56	II	14,400	93	14,600	94
						III	14,500	94	14,900	96
						IV	14,500	94	14,800	95
						V	14,100	91	14,500	94

### Type II

#### Footcandles

- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

(Example: 72 LEDs, 700mA, 4000K)



LCS Zone	Lumens	% of Luminaire
Forward Low (FL) 0-30°	2323.1	16.1
Forward Medium (FM) 30-60°	5646.1	39.1
Forward High (FH) 60-80°	2835.2	19.7
Forward Very High (FVH) 80-90°	51.0	0.4
Back Low (BL) 0-30°	803.3	5.6
Back Medium (BM) 30-60°	1435.8	10.0
Back High (BH) 60-80°	1295.8	9.0
Back Very High (BVH) 80-90°	33.1	0.2
Uplight Low (UL) 90-100°	0.0	0.0
Uplight High (UH) 100-180°	0.0	0.0
<b>Total</b>	<b>14423.4</b>	<b>100.0</b>

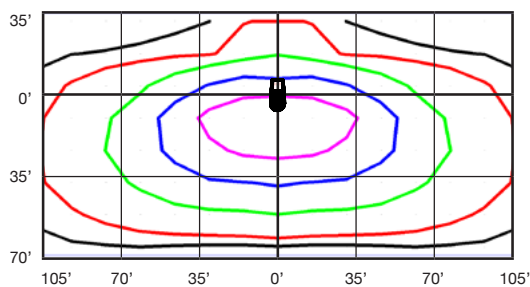
BUG Rating: B3-U0-G3

### Type III

#### Footcandles

- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

(Example: 72 LEDs, 700mA, 4000K)



LCS Zone	Lumens	% of Luminaire
Forward Low (FL) 0-30°	2044.2	14.0
Forward Medium (FM) 30-60°	6044.8	41.5
Forward High (FH) 60-80°	3070.5	21.1
Forward Very High (FVH) 80-90°	70.5	0.5
Back Low (BL) 0-30°	786.3	5.4
Back Medium (BM) 30-60°	1393.5	9.6
Back High (BH) 60-80°	1105.3	7.6
Back Very High (BVH) 80-90°	45.2	0.3
Uplight Low (UL) 90-100°	0.0	0.0
Uplight High (UH) 100-180°	0.0	0.0
<b>Total</b>	<b>14560.3</b>	<b>100.0</b>

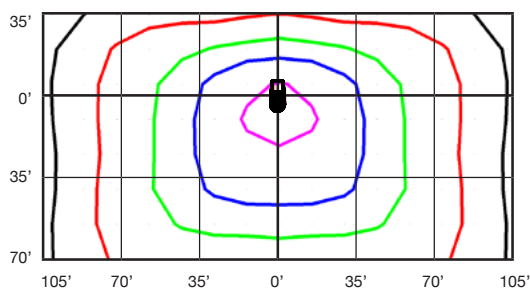
BUG Rating: B3-U0-G3

### Type IV

#### Footcandles

- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

(Example: 72 LEDs, 700mA, 4000K)



LCS Zone	Lumens	% of Luminaire
Forward Low (FL) 0-30°	1420.8	9.9
Forward Medium (FM) 30-60°	5202.7	36.1
Forward High (FH) 60-80°	3478.9	24.1
Forward Very High (FVH) 80-90°	118.0	0.8
Back Low (BL) 0-30°	1019.4	7.1
Back Medium (BM) 30-60°	1792.8	12.4
Back High (BH) 60-80°	1306.0	9.1
Back Very High (BVH) 80-90°	76.3	0.5
Uplight Low (UL) 90-100°	0.0	0.0
Uplight High (UH) 100-180°	0.0	0.0
<b>Total</b>	<b>14414.9</b>	<b>100.0</b>

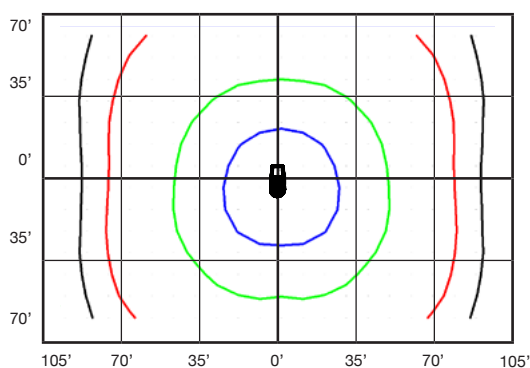
BUG Rating: B3-U0-G3

### Type V

#### Footcandles

- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

(Example: 72 LEDs, 700mA, 4000K)



LCS Zone	Lumens	% of Luminaire
Forward Low (FL) 0-30°	839.3	5.9
Forward Medium (FM) 30-60°	3647.5	25.8
Forward High (FH) 60-80°	2884.3	20.4
Forward Very High (FVH) 80-90°	42.1	0.3
Back Low (BL) 0-30°	755.7	5.4
Back Medium (BM) 30-60°	3103.8	22.0
Back High (BH) 60-80°	2794.7	19.8
Back Very High (BVH) 80-90°	43.6	0.3
Uplight Low (UL) 90-100°	0.0	0.0
Uplight High (UH) 100-180°	0.0	0.0
<b>Total</b>	<b>14111.0</b>	<b>100.0</b>

BUG Rating: B4-U0-G2

#### Notes:

1. Isofootcandle plots depict initial foot-candles at grade.
2. Gridlines represent units of mounting height of 35 feet.