



Lumec TunnelView tunnel/underpass luminaires feature a sleek design that provides seamless replacement of existing HID luminaires. This fixture is available in three sizes, offers multiple lumen packages, and a complete array of optical distributions, making it an outstanding solution for all types of tunnel and underpass applications. Includes Service Tag, Signify's innovative way to provide assistance throughout the life of the product.

Project: \_\_\_\_\_

Location: \_\_\_\_\_

Cat.No: \_\_\_\_\_

Type: \_\_\_\_\_

Lumens: \_\_\_\_\_ Qty: \_\_\_\_\_

Notes: \_\_\_\_\_

### Ordering guide

example: TULS-16L700-740-G1-R2M-UNV-DMG-OD-TLL-GY3

Prefix	LED module	Color Temperature	Generation	Distribution	Voltage	Dimming controls <sup>4</sup>
<b>TULS</b>						
TULS TunnelView small	16L350 16L530 16L700 16L1050 16L1200 <sup>7</sup> 32L350 32L530 32L700 32L1050 32L1200 <sup>7</sup>	730 70CRI 3000K 740 70CRI 4000K 827 <sup>11</sup> 80CRI 2700K	G1 Generation 1	<b>Asymmetrical:</b> R2M Type II Medium TW2 <sup>12</sup> Type II Wall Mount DK Type II Short R3M Type III Medium R3W Type III Wide 4 Type IV <b>Symmetrical:</b> 5 Type V (SYMM) SN Narrow <b>Counter beam:</b> CBL <sup>8</sup> Ceiling	UNV 120-277V HVV 347-480V 120 <sup>2</sup> 120V 208 <sup>2</sup> 208V 240 <sup>2</sup> 240V 277 <sup>2</sup> 277V 347 <sup>2</sup> 347V 480 <sup>2</sup> 480V	DMG <sup>5</sup> 0-10V DALI <sup>1</sup> Digitally Addressable Lighting Interface SRD <sup>1</sup> Sensor Ready Driver standard configuration SRD1 <sup>1</sup> Sensor Ready Driver alternate configuration
Mounting Bracket	Other Options				Finish	
Od <sup>8</sup> Fix 0° N5d Fix -5° N10d Fix -10° N15d Fix -15° P5d Fix +5° P10d Fix +10° P15d Fix +15° SLF Slip Fitter SV Swivel	API Factory Installed NEMA label, ANSI C136.15 compliant F1 <sup>2</sup> Single Fuse Holder F2 <sup>2</sup> Double Fuse Holder NER Nyx Hemera Ready SP2 20kV / 10kA Surge Protector (optional) TLRD7 <sup>13</sup> Receptacle for Twist-lock photocell or shorting cap, 7 pin TLRSR <sup>6</sup> SR receptacle TLL Tool Less Entry Latches VPA Vandal Proof Access				BK Black BR Bronze GY3 Gray	

**Accessories** (ordered separately, field installed - mounting hardware included, uses dedicated mounting holes - do NOT remove lens)

BXK	Bird spike
PH8 <sup>1,10</sup>	Twist-lock Photoelectric Cell, UNV (120-277VAC)
PH8/347 <sup>10</sup>	Twist-lock Photoelectric Cell, (347VAC)
PH8/480 <sup>10</sup>	Twist-lock Photoelectric Cell, (480VAC)
PHXL <sup>1,10</sup>	Twist-lock Photoelectric Cell, extended life, UNV (120-277VAC)
PH9 <sup>10</sup>	Shorting cap
RCM7 <sup>3</sup>	Remote install Tool less orientable receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock Interact City node or photoelectric cell or a shorting cap, Rated IP54. (wiring to fixture not included)

- Not available with HVU, 347V and 480V.
- Specific voltage (120, 208, 240, 277, 347 or 480) must be specified with fusing options (F1 or F2).
- Use of photoelectric cell or shorting cap is required to ensure proper illumination.
- Select either DALI or DMG or SRD or SRD1 mandatory option.
- Please note this integrated feature comes standard in this product.
- Only available with SRD or SRD1 Driver Options.
- Only available with DMG Driver Options
- Only recommended for Ceiling Mount applications
- Not available with SRD Driver Options.
- TLRD7 or RCM7 must be selected for this option.
- Extended lead-time may apply. Consult factory.
- Recommended for Wall Mounting.
- Available with SLF & SV mounting bracket only.

# TULS TunnelView

## Tunnel/Underpass luminaire

### Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L<sub>70</sub> is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L<sub>70</sub> hours limited to 6 times actual LED test hours

Ambient Temperature °C	Drive current	Calculated L70 Hours	L70 per TM-21	Lumen Maintenance % at 100,000 hrs
25°C	up to 1200 mA	>100,000 hours	>36,000 hours	>97%

### LED Wattage Values

Ordering Code	Total LEDs	System Current (mA)	Average System Watts <sup>14</sup>	Wattage Label <sup>15</sup>
TULS-16L350	16	350	20	20
TULS-16L530	16	530	29	30
TULS-16L700	16	700	38	40
TULS-16L1050	16	1050	56	60
TULS-16L1200	16	1200	64	60

14. Typical values, rounded.

15. As per ANSI C136.15-2015. Consult factory for other labeling needs.

Ordering Code	Total LEDs	System Current (mA)	Average System Watts <sup>14</sup>	Wattage Label <sup>15</sup>
TULS-32L350	32	350	34	30
TULS-32L530	32	530	53	50
TULS-32L700	32	700	72	70
TULS-32L1050	32	1050	109	110
TULS-32L1200 <sup>16</sup>	32	1200	123	120

16. Rated for +40°C / +104°F.

### LED Lumen Values – 2700K

Ordering Code	DK		R2M		R3M		R3W		4		5		SN		CBL		TW2	
	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)
TULS-16L350-827	1774	90	1737	88	1702	86	1690	86	1679	85	1651	84	1813	92	1789	91	1750	89
TULS-16L530-827	2562	89	2509	87	2457	85	2441	84	2425	84	2383	82	2619	91	2582	89	2526	87
TULS-16L700-827	3262	86	3194	84	3129	82	3109	82	3088	81	3036	80	3335	88	3288	87	3217	85
TULS-16L1050-827	4552	81	4458	79	4367	77	4339	77	4308	76	4236	75	4653	83	4589	81	4489	80
TULS-16L1200-827	4987	78	4885	77	4784	75	4754	75	4721	74	4641	73	5098	80	5028	79	4919	77
TULS-32L350-827	3369	99	3300	97	3232	95	3211	94	3189	94	3136	92	3444	101	3397	100	3322	97
TULS-32L530-827	5022	95	4919	94	4818	92	4787	91	4754	90	4674	89	5133	98	5062	96	4952	94
TULS-32L700-827	6532	91	6397	89	6266	87	6225	87	6183	86	6079	85	6676	93	6584	92	6441	90
TULS-32L1050-827	9017	82	8832	81	8651	79	8594	79	8535	78	8392	77	9218	84	9090	83	8893	81
TULS-32L1200-827	9932	80	9727	79	9528	77	9466	77	9401	76	9242	75	10152	82	10012	81	9794	79

### LED Lumen Values – 3000K

Ordering Code	DK		R2M		R3M		R3W		4		5		SN		CBL		TW2	
	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)
TULS-16L350-730	2150	109	2106	107	2063	105	2049	104	2035	103	2001	102	2198	112	2168	110	2121	108
TULS-16L530-730	3105	107	3041	105	2978	103	2959	102	2939	102	2889	100	3174	110	3130	108	3062	106
TULS-16L700-730	3954	104	3872	102	3793	100	3768	99	3743	99	3680	97	4042	106	3986	105	3899	103
TULS-16L1050-730	5517	98	5404	96	5293	94	5259	93	5222	93	5135	91	5640	100	5562	99	5441	96
TULS-16L1200-730	6045	95	5921	93	5799	91	5762	90	5722	90	5626	88	6179	97	6094	96	5962	94
TULS-32L350-730	4084	120	4000	117	3918	115	3892	114	3866	113	3801	111	4175	122	4117	121	4027	118
TULS-32L530-730	6087	116	5962	113	5840	111	5802	110	5762	110	5665	108	6222	118	6136	117	6003	114
TULS-32L700-730	7917	110	7754	108	7595	106	7545	105	7494	104	7368	102	8092	113	7981	111	7807	109
TULS-32L1050-730	10930	100	10705	98	10486	96	10417	95	10346	95	10172	93	11173	102	11018	101	10779	99
TULS-32L1200-730	12039	98	11790	96	11549	94	11474	93	11395	92	11203	91	12306	100	12136	98	11872	96

### LED Lumen Values – 4000K

Ordering Code	DK		R2M		R3M		R3W		4		5		SN		CBL		TW2	
	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)
TULS-16L350-740	2350	119	2302	117	2255	114	2240	114	2224	113	2187	111	2402	122	2370	120	2318	118
TULS-16L530-740	3394	117	3324	115	3255	113	3234	112	3212	111	3158	109	3469	120	3421	118	3347	116
TULS-16L700-740	4322	114	4232	111	4146	109	4118	108	4091	108	4022	106	4418	116	4357	115	4262	112
TULS-16L1050-740	6030	107	5907	105	5785	103	5748	102	5708	101	5613	100	6165	109	6079	108	5947	105
TULS-16L1200-740	6607	104	6472	102	6338	99	6298	99	6254	98	6149	97	6754	106	6661	105	6516	102
TULS-32L350-740	4464	131	4372	128	4282	126	4254	125	4226	124	4154	122	4563	134	4500	132	4402	129
TULS-32L530-740	6653	126	6516	124	6383	121	6342	121	6298	120	6192	118	6801	129	6707	128	6561	125
TULS-32L700-740	8653	120	8475	118	8301	115	8247	115	8191	114	8053	112	8845	123	8723	121	8533	119
TULS-32L1050-740	11946	109	11701	107	11461	105	11386	104	11308	103	11118	102	12212	112	12043	110	11781	108
TULS-32L1200-740	13159	107	12886	104	12623	102	12541	102	12455	101	12245	99	13450	109	13265	107	12976	105

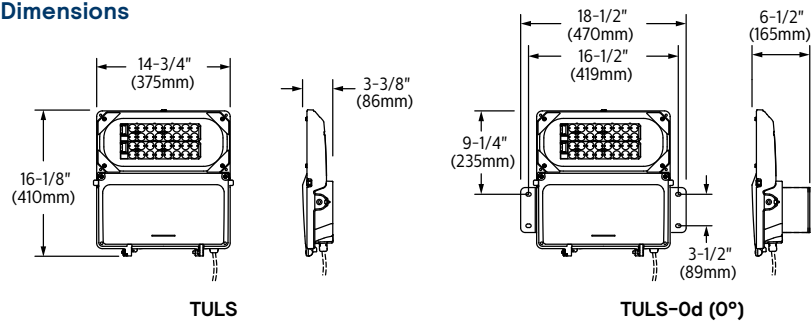
Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout – contact Applications at outdoorlighting.applications@signify.com. Consult DLC QPL to confirm your specific fixture selection is DLC approved.

**Note:** Some data may be scaled based on tests of similar but not identical luminaires.

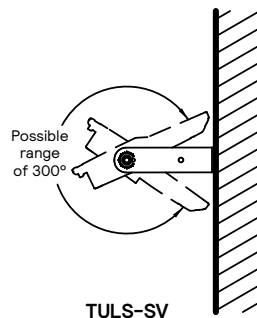
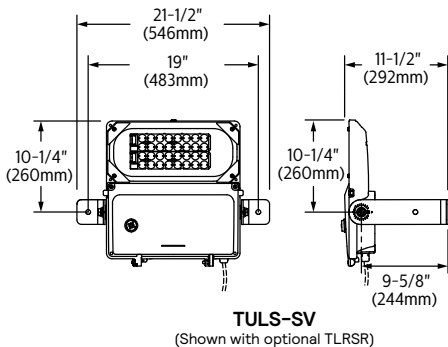
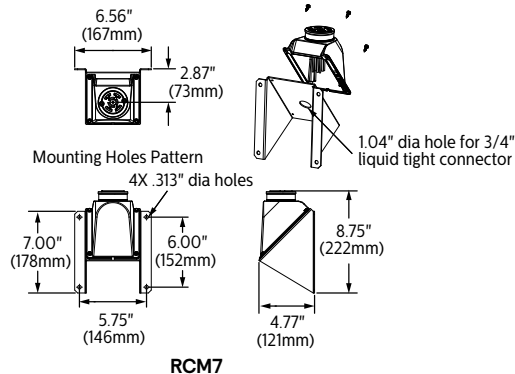
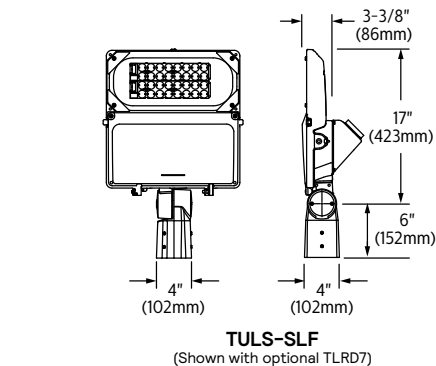
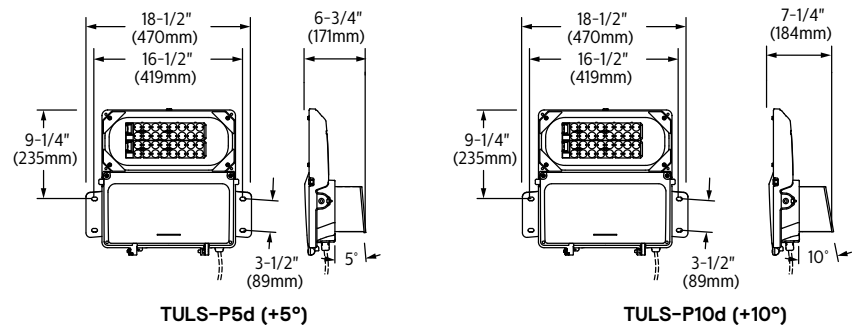
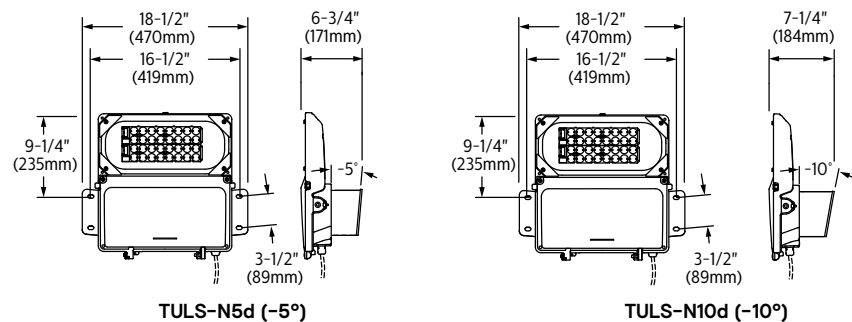
# TULS TunnelView

## Tunnel/Underpass luminaire

### Dimensions



	Weight	EPA	
		Horizontal	Vertical
TULS	16lbs	0.46 sq. ft	2.17 sq. ft
TULS-SV	20lbs		
TULS-SF	19lbs		
TULS 0-15°	20lbs		

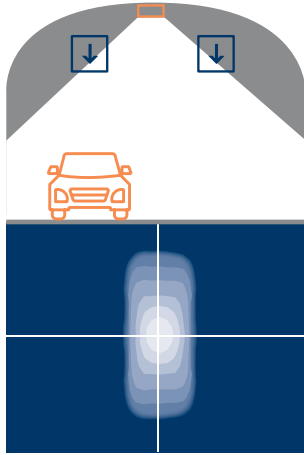


# TULS TunnelView

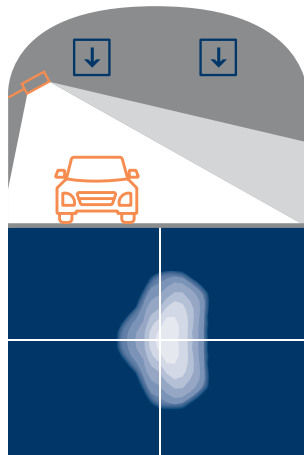
## Tunnel/Underpass luminaire

### Tunnel Distributions

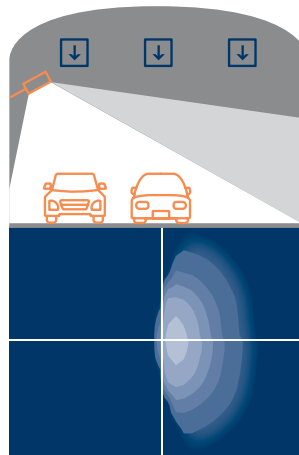
**SN**  
Narrow



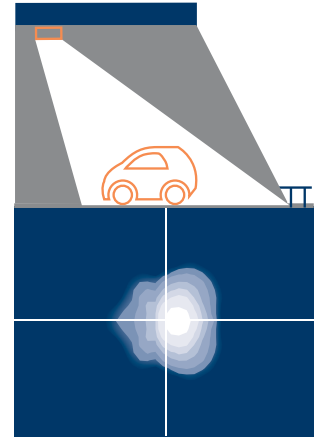
**DK**  
Type II Short



**TW2**  
Type II Wall Mount

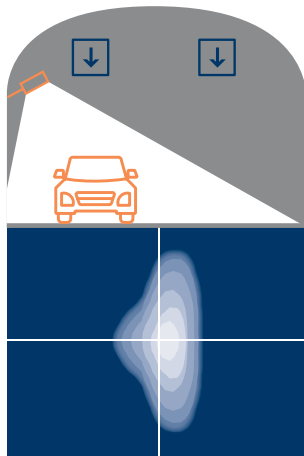


**CBL**  
Ceiling Counter Beam

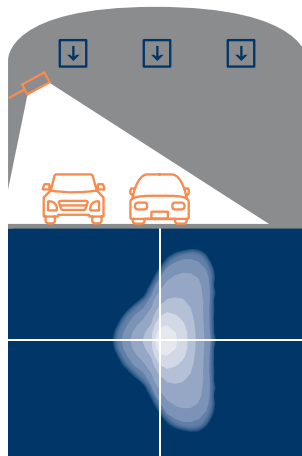


### Underpass Distributions

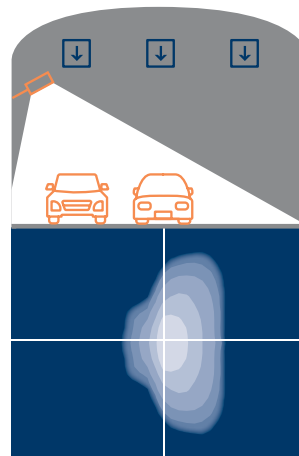
**R2M**  
Type II Medium



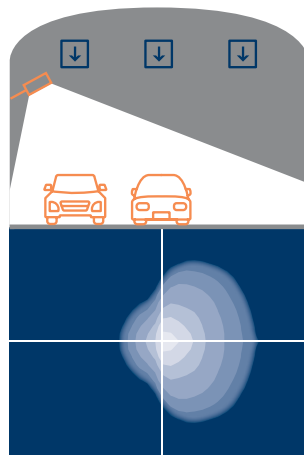
**R3M**  
Type III Medium



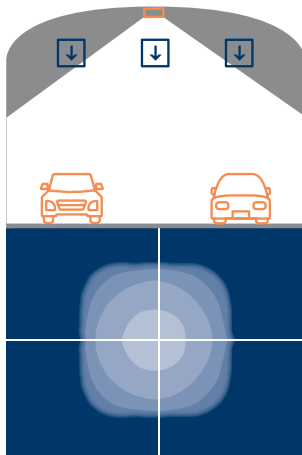
**R3W**  
Type III Wide



**4**  
Type IV



**5**  
Type V



# TULS TunnelView

## Tunnel/Underpass luminaire

### Specifications

#### Housing

Made of a low copper die cast Aluminum alloy (A360). Door is complete with hinges and is secured with flanged hex head screws with slotted drive providing access to electronic components and to a terminal block. Door is removable and is secured to prevent accidental dropping or disengagement. Compatible with 1/4" flat blade screwdriver. Complete with ANSI label as per C136.15-2015 to identify wattage and source (included in box). Housing (including electrical compartment) rated IP66 per ANSI C136.37.

#### Light Engine

Composed of 5 main components: Heat Sink, Lens, LED Module, Optical System, Driver. Electrical components are RoHS compliant. LEDs tested by ISO 17025 2005 accredited lab in accordance with IESNA LM 80 guidelines in compliance with EPA ENERGY STAR, extrapolations in accordance with IESNA TM 21. Metal core board ensures greater heat transfer and longer lifespan.

**Lens:** Made of soda-lime clear tempered glass flat lens, mechanically assembled and sealed onto the lower part of the heat sink IK09.

**LED Module:** Composed of high performance white LEDs. Color temperature as per ANSI/NEMA bin 2700 Kelvin nominal (2725 ±145K) CRI 80 min, 3000 Kelvin nominal (3045K +/-175K) or 4000 Kelvin nominal (3985K +/- 275K), CRI 70 Min. 75 Typical. Other CCT/CRI also available, consult factory.

**Optical System:** Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance.

**Heat Sink:** Built in the housing, designed to ensure high efficacy and superior cooling by natural convection air flow pattern always close to LEDs and driver optimizing their efficiency and life. Product does not use any cooling device with moving parts (only passive cooling). Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +50°C / +122°F unless otherwise specified, refer to LED Wattages Values Table.

**Driver:** High power factor of 90% min. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 or 347 to 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

**Controls:** Fixture is compatible with most controls system and can integrate proprietary and third parties control modules directly within the electrical compartment.

#### Integrated Features

**DMG:** Dimmable driver 0-10V.

**SP1:** Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.

Please note that these integrated features always come with Tunnel/Underpass luminaire.

#### Driver and Luminaire Options

**DALI:** Pre-set driver compatible with the DALI control system.

**SRD:** Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) connected to the NEMA twist lock receptacle and bottom TLRSR receptacle, if these options included/chosen. This configuration is compatible with Interact City controllers.

**SRD1:** Sensor Ready Driver including SR communication (used for dimming and other functionalities) but with 24V auxiliary supply and a logical signal input (LSI) not connected to the NEMA twist lock if this option included/chosen. If TLRSR receptacle option included, standard SR communication, 24V auxiliary supply and LSI are connected to the TLRSR receptacle.

**SP2:** 20kV/10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

**TLRD7\*:** Tool Less orientable receptacle with 7 pins enabling dimming, can be used with a twist lock Interact City or photoelectric cell or a shorting cap. This add-on module is rated IP54.

**TLRSR:** SR Sensor connector, installed in fixture door. Shipped with protective cover.

**API:** Factory Installed NEMA label, ANSI C136.15-2015 compliant. Consult factory for other labeling needs.

**F1:** Fusing, single (120, 277 or 347VAC) installed in electrical compartment

**F2:** Fusing, double (208, 240 or 480VAC) installed in electrical compartment

**NER:** Fixture is set-up in factory to receive Nyx Hemera TLAC modules. (Modules can be factory installed as well. Consult factory for details)

**TLL:** Tool Free access 316 stainless steel latches.

**VPA:** Vandal Proof hardware to prevent access to internal components, 316 stainless steel, complete with Ceramic primer seal to reduce seizing of the parts, also offers a high resistance to corrosion.

*\* Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

#### Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, Philips System Reliability Tool, Philips Advance data and LED manufacturer LM-80/TM-21 data, expected to reach 100,000 + hours with L70 lumen maintenance @ 25°C.

Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including: LED life, driver life, PCB substrate, solder joints, on/off cycles, burning hours and corrosion.

#### Wiring

The connection of the luminaire is done using a terminal block connector 600V, 85A for use with #2-14 AWG. wires from the primary circuit, located inside the housing electrical compartment. Due to the inrush current that occurs with electronic drivers, recommend using a 10Amp time delay fuse to avoid unwanted fuse blowing (false tripping) that can occur with normal or fast acting fuses. Housing is completed with a 7/8" (22mm) diameter unthreaded mounting hole to accept a 1/2 NPT liquid tight cord grips connector IP66 rated minimum. Wiring, connector, sealing washer and locknut supplied by others.

#### Mounting Options

All Brackets are 316 Stainless Steel unless otherwise specified.

Fixed brackets (refer to Dimension section for tilt orientation)

SV: Swivel Mount

SLF: Slip Fitter made of low copper Aluminum alloy (A356) for high resistance to corrosion, adjustable knuckle has 5 degree aiming increments with integral interlocking teeth and bolt to secure aiming in place, integral cast-in aiming marks. Fits on a 2-3/8" thru 3.0" O.D. by minimum 3-3/4" long tenon. Integral splice compartment for field wiring with cULus Wet Location rated access cover with seal around entire perimeter.

#### Hardware

All exposed screws shall be 316 stainless steel, complete with Ceramic primer seal to reduce seizing of the parts, also offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

#### Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. The surface treatment achieves a minimum of 3000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard. LED products manufacturing standard. The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

# TULS TunnelView

## Tunnel/Underpass luminaire

### Specifications (continued)

#### Vibration Resistance

The TunnelView luminaires meet the ANSI C136.31-2018 American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications.

#### Certifications and Compliance

cULus Listed for Canada and USA. Luminaire meets DOE and MSSLC Model Specification for LED Roadway Luminaires. Most versions are DesignLights Consortium® qualified, consult DLC QPL to confirm your specific fixture selection is approved. Luminaire complies with or exceeds the following ANSI C136 standards: .2, .3, .10, .14, .15, .22, .25, .31, .37, .41.

#### Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Signify Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away. For more details visit: [philips.com/servicetag](https://philips.com/servicetag)

#### Limited Warranty

10-year limited warranty.

See [signify.com/warranties](https://signify.com/warranties) for details and restrictions.

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.

