



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: \_\_\_\_\_  
 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 <sup>15</sup> Slip Fitter SV Swivel	API Factory Installed NEMA label, ANSI C136.15 compliant F1 <sup>2</sup> Single Fuse Holder F2 <sup>2,15</sup> Double Fuse Holder JB1 Junction Box, 1" NPT entries JB2 Junction Box, 3/4" NPT entries NER Nyx Hemera Ready RCM7 <sup>3</sup> Remote install Tool less orientable receptacle with 7 pins SP2 20kV / 10kA Surge Protector (optional) TLRD7 <sup>3,13,14</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 BAC <sup>16</sup> Meets the requirements of the Buy American Act of 1933 (BAA)	BK Black BR Bronze GY3 Gray				

### Accessories<sup>17</sup> (ordered separately, field installed)



- 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

Notes: Mounting hardware included, uses dedicated mounting holes - do NOT remove lens).

1. Not available with HVU, 347V and 480V.
2. Specific voltage (120, 208, 240, 277, 347 or 480) must be specified with fusing options (F1 or F2).
3. Use of photoelectric cell or shorting cap is required to ensure proper illumination.
4. Select either DALI or DMG or SRD or SRD1 mandatory option.
5. Please note this integrated feature comes standard in this product.
6. Only available with SRD or SRD1 Driver Options.
7. Only available with DMG Driver Options
8. Only recommended for Ceiling Mount applications
9. Not available with SRD Driver Options.
10. TLRD7 or RCM7 must be selected for this option.
11. Extended lead-time may apply. Consult factory.
12. Recommended for Wall Mounting.
13. Available with SLF & SV mounting bracket only.
14. Not available with NER option.
15. Not available with JB1 or JB2 options.
16. Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA compliant product with no recourse for an RMA or refund. This

BAC designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies.  
 17. Consult Signify to confirm whether specific accessories are BAA-compliant.



# 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>1</sup>	Wattage Label <sup>2</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

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>3</sup>	32	1200	123	120

1. Typical values, rounded.
2. As per ANSI C136.15-2015. Consult factory for other labeling needs.
3. Rated for +40°C / +104°F.

# TULS TunnelView

## Tunnel/Underpass luminaire

### 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	2076	105	2032	103	1991	101	1977	100	1964	100	1932	98	2121	108	2093	106	2046	104
TULS-16L530-827	2998	104	2936	102	2875	99	2856	99	2837	98	2788	96	3064	106	3021	105	2954	102
TULS-16L700-827	3817	100	3737	98	3661	96	3638	96	3613	95	3552	93	3902	103	3847	101	3763	99
TULS-16L1050-827	5326	94	5216	92	5109	91	5077	90	5040	89	4956	88	5444	97	5369	95	5251	93
TULS-16L1200-827	5835	92	5716	90	5597	88	5562	87	5524	87	5430	85	5965	94	5883	92	5753	90
TULS-32L350-827	3942	116	3861	113	3781	111	3757	110	3731	109	3669	108	4030	118	3975	117	3886	114
TULS-32L530-827	5876	112	5755	109	5637	107	5601	106	5562	106	5469	104	6006	114	5923	113	5794	110
TULS-32L700-827	7642	106	7485	104	7331	102	7283	101	7234	101	7112	99	7811	109	7703	107	7534	105
TULS-32L1050-827	10550	96	10333	94	10122	93	10055	92	9986	91	9819	90	10785	99	10635	97	10401	95
TULS-32L1200-827	11620	94	11381	92	11148	90	11075	90	10999	89	10813	88	11878	96	11714	95	11457	93

### 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	2516	128	2464	125	2414	123	2397	122	2381	121	2341	119	2572	131	2537	129	2480	126
TULS-16L530-730	3633	126	3558	123	3484	121	3462	120	3439	119	3380	117	3714	128	3662	127	3581	124
TULS-16L700-730	4626	122	4530	119	4438	117	4409	116	4379	115	4306	113	4729	124	4664	123	4561	120
TULS-16L1050-730	6455	114	6323	112	6193	110	6153	109	6110	108	6008	107	6599	117	6508	115	6365	113
TULS-16L1200-730	7073	111	6928	109	6785	107	6742	106	6695	105	6582	103	7229	113	7130	112	6973	109
TULS-32L350-730	4778	140	4680	137	4584	134	4554	134	4523	133	4447	130	4885	143	4817	141	4710	138
TULS-32L530-730	7122	135	6976	133	6833	130	6788	129	6742	128	6628	126	7280	138	7179	136	7022	134
TULS-32L700-730	9263	129	9072	126	8886	124	8828	123	8768	122	8621	120	9468	132	9338	130	9132	127
TULS-32L1050-730	12788	117	12525	114	12269	112	12188	111	12105	111	11901	109	13072	119	12891	118	12608	115
TULS-32L1200-730	14086	114	13794	112	13512	110	13425	109	13332	108	13108	106	14398	117	14199	115	13887	113

### 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	2750	140	2693	137	2638	134	2621	133	2602	132	2559	130	2810	143	2773	141	2711	138
TULS-16L530-740	3971	137	3889	135	3808	132	3784	131	3758	130	3695	128	4059	140	4003	138	3915	135
TULS-16L700-740	5057	133	4951	130	4851	128	4818	127	4787	126	4706	124	5169	136	5098	134	4985	131
TULS-16L1050-740	7055	125	6911	123	6769	120	6725	119	6678	118	6567	116	7213	128	7112	126	6957	123
TULS-16L1200-740	7730	121	7572	119	7416	116	7369	116	7317	115	7194	113	7902	124	7793	122	7621	120
TULS-32L350-740	5223	153	5115	150	5010	147	4977	146	4944	145	4860	143	5339	157	5265	154	5148	151
TULS-32L530-740	7784	148	7624	145	7468	142	7420	141	7369	140	7245	138	7957	151	7847	149	7675	146
TULS-32L700-740	10124	141	9916	138	9712	135	9649	134	9584	133	9422	131	10349	144	10206	142	9981	139
TULS-32L1050-740	13977	128	13690	125	13409	123	13322	122	13230	121	13008	119	14288	131	14090	129	13780	126
TULS-32L1200-740	15396	125	15077	122	14769	120	14673	119	14572	118	14327	116	15737	128	15520	126	15178	123

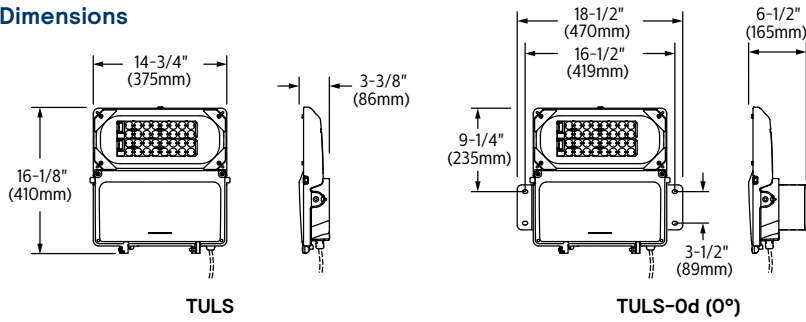
Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at [outdoorlighting.applications@signify.com](mailto:outdoorlighting.applications@signify.com). 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 luminaries.

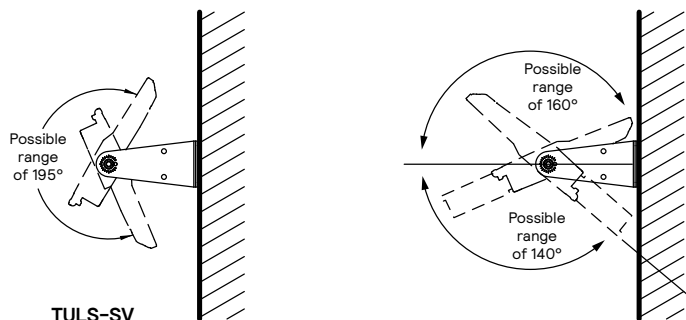
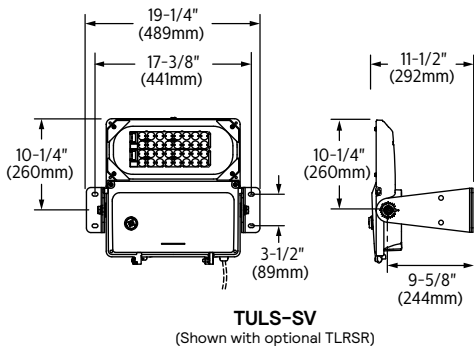
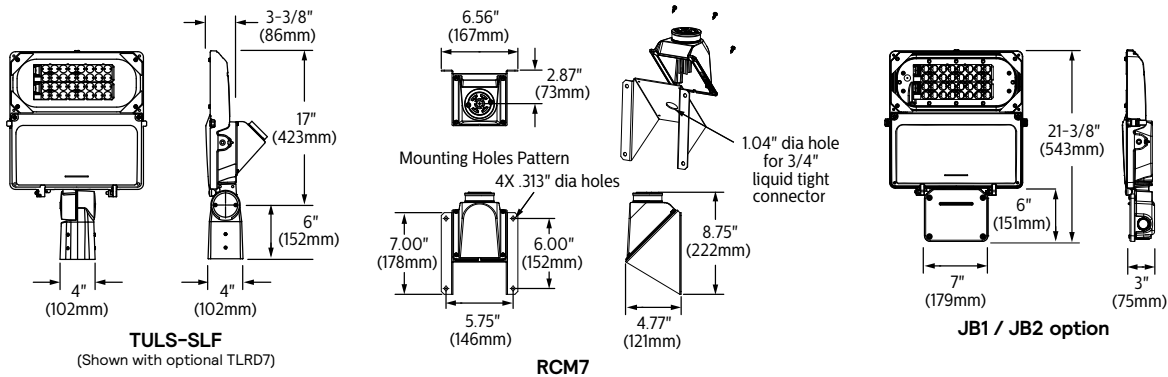
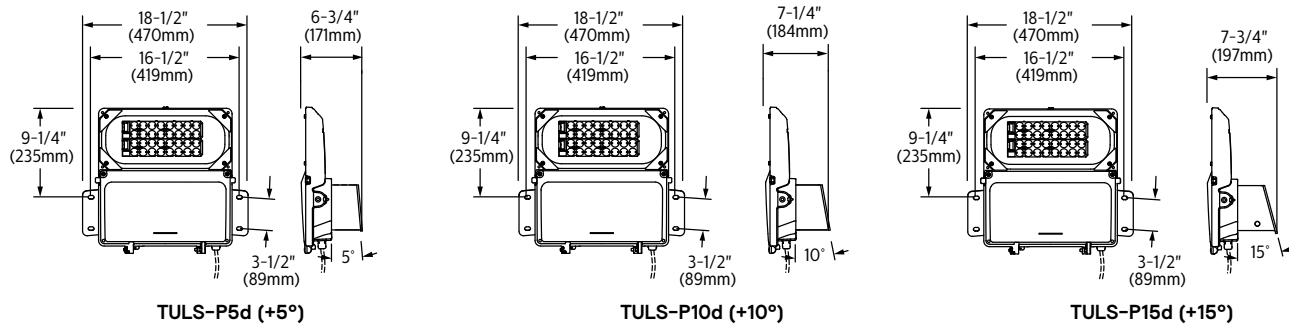
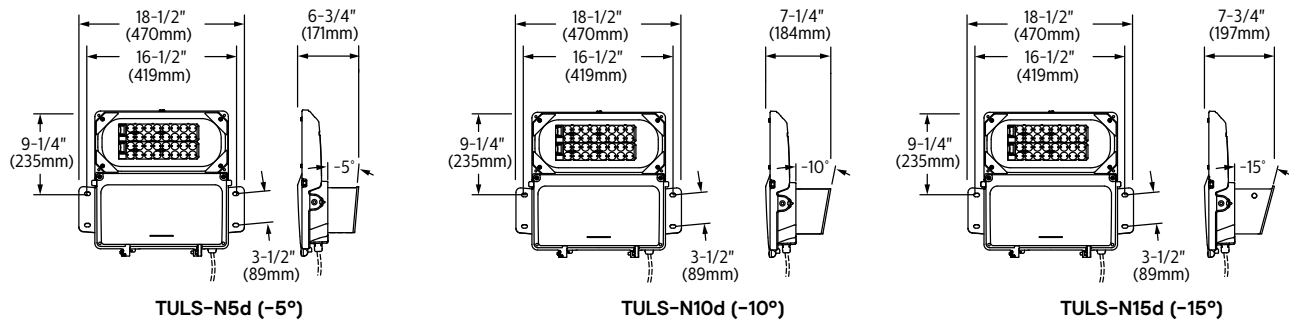
# TULS TunnelView

## 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		
+JB1/JB2 option	+3.5lbs	+0.15 sq. ft	+0.35 sq. ft

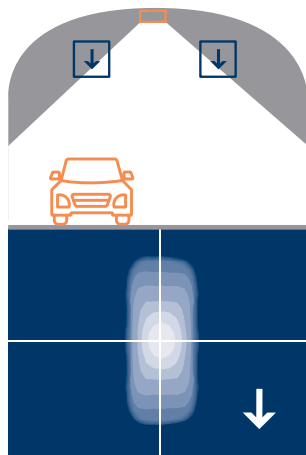


# TULS TunnelView

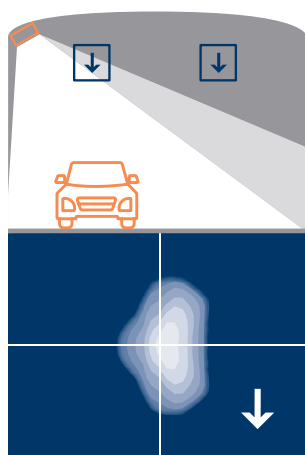
## Tunnel/Underpass luminaire

### Tunnel Distributions

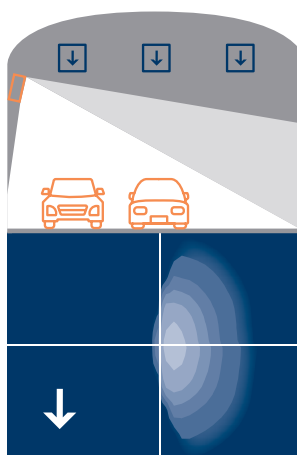
**SN**  
Narrow



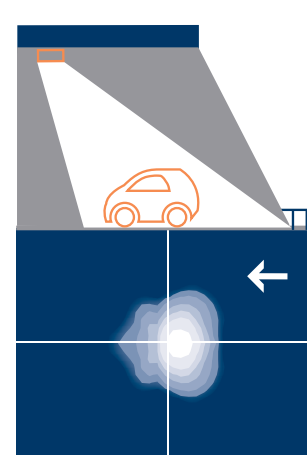
**DK**  
Type II Short



**TW2**  
Type II Wall Mount



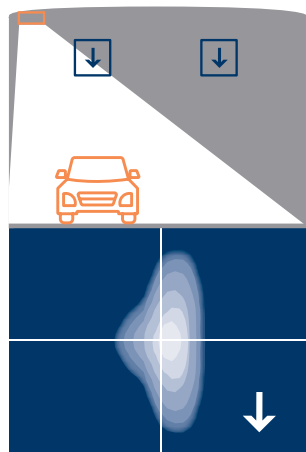
**CBL**  
Ceiling Counter Beam



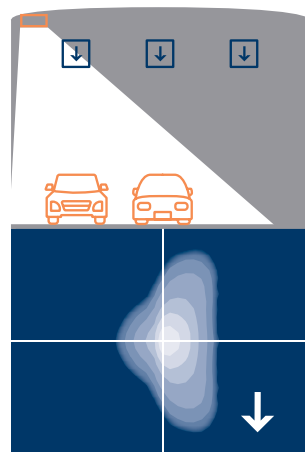
Arrows indicate traffic direction

### Underpass Distributions

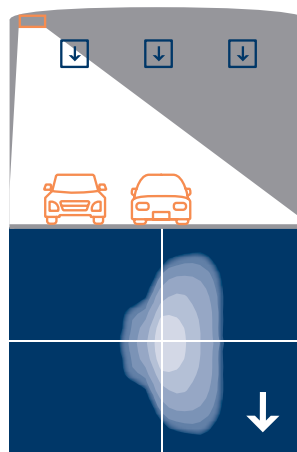
**R2M**  
Type II Medium



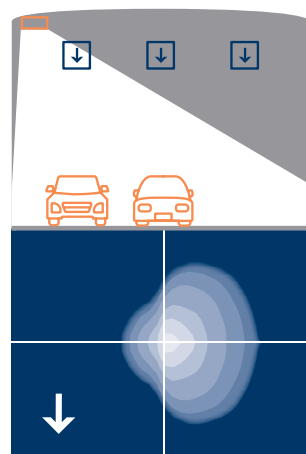
**R3M**  
Type III Medium



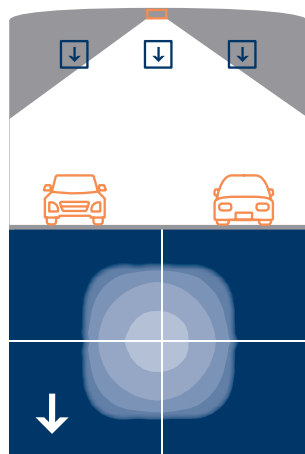
**R3W**  
Type III Wide



**4**  
Type IV



**5**  
Type V



Arrows indicate traffic direction

# 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

**JB1:** Junction Box option, with 3 conduct entries, 1" NPT, suitable for through wire and continuous row mounting, complete with 2 aluminum hole plugs

**JB2:** Junction Box option, with 3 conduct entries, 3/4" NPT, suitable for through wire and continuous row mounting, complete with 2 aluminum hole plugs

**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.

**RCM7\*:** 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)

\* 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, System Reliability Tool, 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 (A360) 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. AWG 16-3 wires exiting 4" through the Slip Fitter. 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.

# TULS TunnelView

## Tunnel/Underpass luminaire

### Specifications (continued)

#### Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with  $\pm 1$  mils/24 microns of tolerance over anodized pre-finish. 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.

#### Vibration Resistance

The TULS 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.

