



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: TULL-96L700-740-G1-R2M-UNV-DMG-OD-TLL-GY3

Prefix	LED module	Color Temperature	Generation	Distribution	Voltage	Dimming controls ⁴
TULL						
TULL TunnelView large	96L350 96L530 96L700 96L1050 128L350 128L530 128L700 128L975 160L350 160L530 160L700 160L925	730 70CRI 3000K 740 70CRI 4000K 827 ¹¹ 80CRI 2700K	G1 Generation 1	Asymmetrical: R2M Type II Medium TW2 ¹² Type II Wall Mount DK Type II Short R3M Type III Medium R3W Type III Wide 4 Type IV Symmetrical: 5 Type V (SYMM) SN Narrow Counter beam: CBL ⁸ Ceiling	UNV 120-277V HVU 347-480V 120 ² 120V 208 ² 208V 240 ² 240V 277 ² 277V 347 ² 347V 480 ² 480V	ZD4i ¹ Zhaga-D4i certified luminaire D4id ¹ D4i Driver (DALI) DMG ⁵ 0-10V Driver Legacy ¹⁶ : DALI ¹ Digitally Addressable Lighting Interface SRD ¹ Sensor Ready Driver standard configuration

Mounting Bracket	Other Options	Finish
Od ⁸ Fix 0° N5d Fix -5° N10d Fix -10° N15d Fix -15° P5d Fix +5° P10d Fix +10° P15d Fix +15° SLF ¹⁴ Slip Fitter SV Swivel	API Factory Installed NEMA label, ANSI C136.15 compliant F1 ² Single Fuse Holder F2 ^{2,14} Double Fuse Holder JB1 Junction Box, 1" NPT entries JB2 Junction Box, 3/4" NPT entries NER Nyx Hemera Ready OMS ¹⁵ Outdoor Multi Sensor RCM7 ³ Remote install Tool less orientable receptacle with 7 pins SP2 20kV / 10kA Surge Protector (optional) TLRD7 ^{3,13} Receptacle for Twist-lock photocell or shorting cap, 7 pin TLRSR ⁶ SR receptacle TLL Tool Less Entry Latches TS1 Trade Size for 1" NPT (1-1/8" hole) TS2 Trade Size for 3/4" NPT (1-3/8" hole) VPA Vandal Proof Access BAC ¹⁷ Meets the requirements of the Buy American Act of 1933 (BAA) BABA ¹⁸ Meets the requirements of the Build America, Buy America Act (BABA)	BK Black BR Bronze GY3 Gray

Accessories¹⁹ (ordered separately, field installed)

BXK	Bird spike
PH8 ¹¹⁰	Twist-lock Photoelectric Cell, UNV (120-277VAC)
PH8/347 ¹⁰	Twist-lock Photoelectric Cell, (347VAC)
PH8/480 ¹⁰	Twist-lock Photoelectric Cell, (480VAC)
PHXL ¹¹⁰	Twist-lock Photoelectric Cell, extended life, UNV (120-277VAC)
PH9 ¹⁰	Shorting cap

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

- 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 one mandatory option.
- Please note this integrated feature comes standard in this product.
- Only available with ZD4i or SRD Driver Options.
- Only available with DMG Driver Options.
- Only recommended for Ceiling Mount applications.
- Not available with ZD4i or SRD Driver Options.
- TLRD7 or RCM7 must be selected for this option.
- Extended lead-time may apply. Consult factory.
- Optimised for Wall mounting at 10° tilt down from vertical (80° tilt-up from horizontal as indicated in the IES file). Can be used at other angles.
- Available with SLF & SV mounting bracket only.
- Not available with JB1 or JB2 options.
- TLRSR option and ZD4i option must be selected with OMS.
- Legacy codes for backward compatibility on existing QPL. Please use new coding where possible.
- 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.
- Build America, Buy America Act (BABA). BABA establishes the minimum domestic content requirements that federal agencies must apply. This product is manufactured in the US and has a domestic content of 55% or more. This BABA designation does not address the "Buy America" domestic content requirements, which may be stricter, imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by federal agencies.
- Consult Signify to confirm whether specific accessories are BAA-compliant.



TULL 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. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ 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 1050mA	>100,000 hours	>36,000 hours	>96%

LED Wattage Values

Ordering Code	Total LEDs	System Current (mA)	Average System Watts ¹	Wattage Label ²
TULL-96L350	96	350	101	100
TULL-96L530	96	530	155	160
TULL-96L700	96	700	212	210
TULL-96L1050 ³	96	1050	322	320
TULL-128L350	128	350	138	140
TULL-128L530	128	530	210	210

1. Typical values, rounded.

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

3. Rated for +40°C / +104°F.

Ordering Code	Total LEDs	System Current (mA)	Average System Watts ¹⁴	Wattage Label ¹⁵
TULL-128L700	128	700	281	280
TULL-128L975 ³	128	975	380	380
TULL-160L350	160	350	170	170
TULL-160L530	160	530	260	260
TULL-160L700	160	700	352	350
TULL-160L925 ³	160	925	459	460

TULL TunnelView

Tunnel/Underpass luminaire

LED Lumen Values – 2700K

Ordering Code	DK		R2M		R3M		R3W		4		5		SN		CBL		TW2	
	Lumen Output	Efficacy (LPW)																
TULL-96L350-827	12533	124	12275	122	12022	119	11945	118	11862	117	11663	115	12810	127	12634	125	12356	122
TULL-96L530-827	18195	117	17819	115	17454	113	17341	112	17222	111	16932	109	18597	120	18341	118	17938	116
TULL-96L700-827	23035	109	22559	106	22098	104	21954	104	21803	103	21437	101	23544	111	23219	110	22710	107
TULL-96L800-827	25885	107	25350	105	24832	102	24670	102	24501	101	24089	99	26458	109	26093	108	25520	105
TULL-96L1050-827	31690	98	31034	96	30400	94	30202	94	29995	93	29490	92	32392	101	31945	99	31244	97
TULL-128L350-827	16726	121	16381	119	16047	116	15942	116	15832	115	15567	113	17097	124	16862	122	16491	120
TULL-128L530-827	24118	115	23621	112	23137	110	22987	109	22829	109	22445	107	24653	117	24313	116	23779	113
TULL-128L700-827	30507	108	29876	106	29265	104	29076	103	28876	103	28390	101	31183	111	30752	109	30076	107
TULL-128L800-827	33824	105	33125	103	32446	101	32236	100	32015	99	31475	98	34572	107	34095	106	33346	103
TULL-128L900-827	36923	101	36160	99	35421	97	35190	97	34949	96	34361	94	37741	104	37220	102	36402	100
TULL-128L975-827	40000	105	39174	103	38371	101	38122	100	37861	100	37224	98	40886	108	40322	106	39436	104
TULL-128L1050-827	41338	96	40484	94	39656	92	39399	92	39127	91	38470	90	42253	98	41671	97	40756	95
TULL-160L350-827	20827	123	20397	120	19980	118	19849	117	19713	116	19381	114	21288	125	20995	124	20532	121
TULL-160L530-827	30030	116	29410	113	28809	111	28621	110	28425	110	27947	108	30696	118	30273	117	29607	114
TULL-160L700-827	37862	108	37081	105	36322	103	36086	103	35838	102	35236	100	38701	110	38167	109	37329	106
TULL-160L925-827	46549	101	45587	99	44654	97	44364	97	44059	96	43318	94	47579	104	46923	102	45892	100

LED Lumen Values – 3000K

Ordering Code	DK		R2M		R3M		R3W		4		5		SN		CBL		TW2	
	Lumen Output	Efficacy (LPW)																
TULL-96L350-730	15191	150	14878	147	14572	144	14478	143	14378	142	14137	140	15527	154	15313	152	14977	148
TULL-96L530-730	22055	142	21598	139	21157	136	21019	136	20875	135	20524	132	22542	145	22231	143	21743	140
TULL-96L700-730	27921	132	27344	129	26785	126	26611	126	26428	125	25983	123	28539	135	28144	133	27527	130
TULL-96L800-730	31376	129	30728	127	30099	124	29903	123	29698	123	29199	120	32071	132	31629	130	30934	128
TULL-96L1050-730	38411	119	37618	117	36849	115	36609	114	36358	113	35746	111	39263	122	38720	120	37871	118
TULL-128L350-730	20275	147	19856	144	19450	141	19324	140	19192	139	18869	137	20724	150	20439	148	19990	145
TULL-128L530-730	29235	139	28631	136	28045	134	27862	133	27672	132	27206	130	29882	142	29470	140	28823	137
TULL-128L700-730	36978	132	36214	129	35473	126	35243	125	35001	124	34412	122	37797	134	37275	133	36456	130
TULL-128L800-730	40998	127	40151	124	39330	122	39073	121	38805	120	38153	118	41906	130	41328	128	40420	125
TULL-128L900-730	44755	123	43831	120	42934	118	42655	117	42362	116	41650	114	45746	126	45115	124	44124	121
TULL-128L975-730	48485	128	47483	125	46511	122	46209	122	45892	121	45120	119	49558	130	48874	129	47802	126
TULL-128L1050-730	50108	117	49072	114	48068	112	47756	111	47427	111	46630	109	51217	119	50510	118	49401	115
TULL-160L350-730	25245	149	24723	146	24218	143	24060	142	23895	141	23492	138	25803	152	25448	150	24888	147
TULL-160L530-730	36401	140	35649	137	34920	135	34692	134	34454	133	33875	131	37207	143	36694	141	35887	138
TULL-160L700-730	45894	131	44947	128	44026	125	43741	124	43440	124	42710	122	46910	133	46263	132	45247	129
TULL-160L925-730	56422	123	55257	120	54127	118	53774	117	53405	116	52507	114	57672	126	56876	124	55627	121

LED Lumen Values – 4000K

Ordering Code	DK		R2M		R3M		R3W		4		5		SN		CBL		TW2	
	Lumen Output	Efficacy (LPW)																
TULL-96L350-740	16605	164	16262	161	15927	158	15824	157	15715	156	15452	153	16971	168	16737	166	16370	162
TULL-96L530-740	24106	156	23607	152	23125	149	22974	148	22816	147	22432	145	24639	159	24299	157	23765	153
TULL-96L700-740	30517	144	29888	141	29276	138	29085	137	28886	136	28399	134	31192	147	30762	145	30087	142
TULL-96L800-740	34294	141	33585	139	32899	136	32684	135	32461	134	31914	132	35053	145	34570	143	33811	139
TULL-96L1050-740	41983	130	41116	128	40276	125	40014	124	39739	123	39070	121	42914	133	42321	132	41392	129
TULL-128L350-740	22161	161	21702	157	21259	154	21121	153	20976	152	20624	149	22651	164	22340	162	21849	158
TULL-128L530-740	31954	152	31294	149	30653	146	30454	145	30246	144	29737	142	32661	156	32210	153	31503	150
TULL-128L700-740	40417	144	39582	141	38773	138	38520	137	38256	136	37612	134	41312	147	40742	145	39847	142
TULL-128L800-740	44811	139	43884	136	42987	133	42707	132	42415	131	41701	129	45803	142	45171	140	44179	137
TULL-128L900-740	48917	134	47907	131	46928	129	46622	128	46302	127	45524	125	50000	137	49311	135	48227	132
TULL-128L975-740	52994	139	51899	137	50837	134	50507	133	50160	132	49316	130	54166	143	53420	141	52248	137
TULL-128L1050-740	54768	128	53636	125	52539	122	52197	122	51838	121	50968	119	55980	130	55208	129	53996	126
TULL-160L350-740	27593	163	27022	159	26470	156	26297	155	26117	154	25677	151	28203	166	27814	164	27203	160
TULL-160L530-740	39786	153	38965	150	38168	147	37919	146	37659	145	37026	143	40667	157	40106	155	39225	151
TULL-160L700-740	50163	143	49127	140	48120	137	47809	136	47480	135	46682	133	51273	146	50565	144	49456	141
TULL-160L925-740	61670	134	60395	132	59160	129	58775	128	58371	127	57391	125	63035	137	62166	135	60800	132

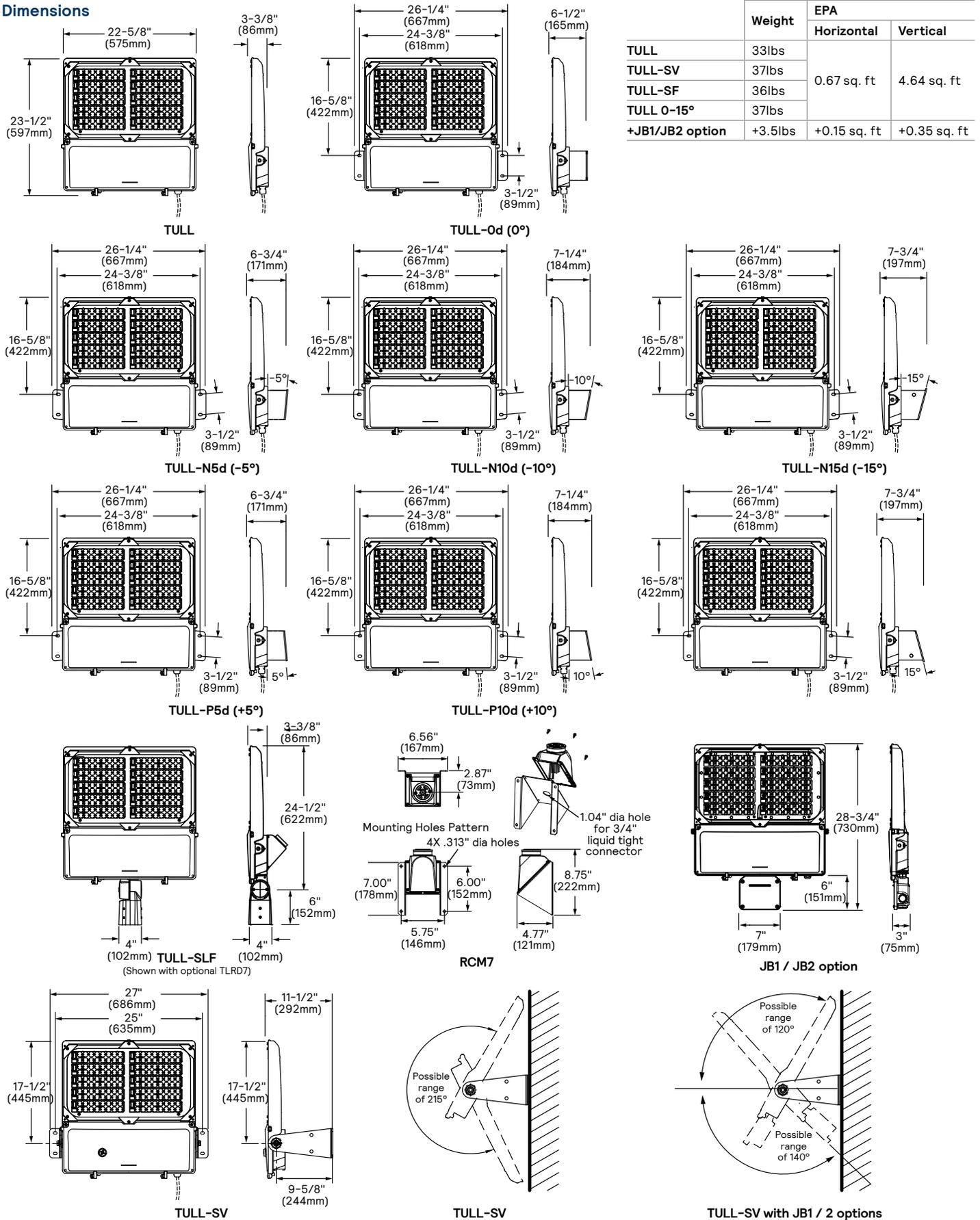
Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at outdoorlighting.applications@signify.com. Consult DLC QPL to confirm your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

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

TULL TunnelView

Tunnel/Underpass luminaire

Dimensions

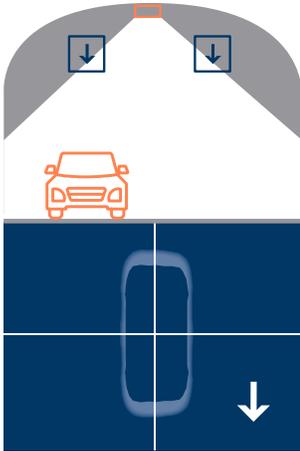


TULL TunnelView

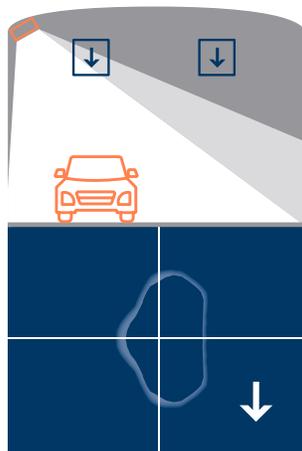
Tunnel/Underpass luminaire

Tunnel Distributions

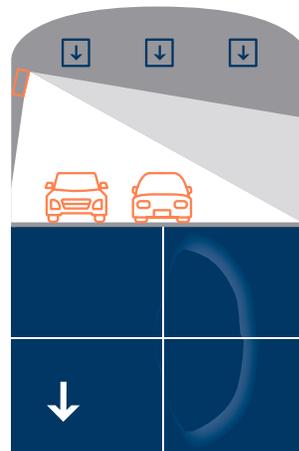
SN
Narrow



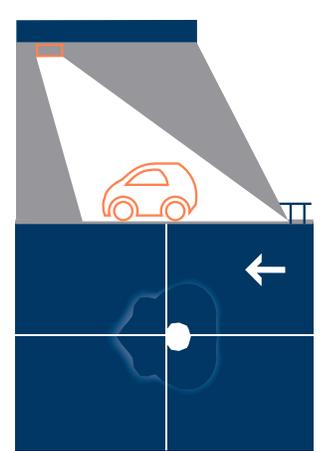
DK
Type II Short



TW2
Type II Wall Mount



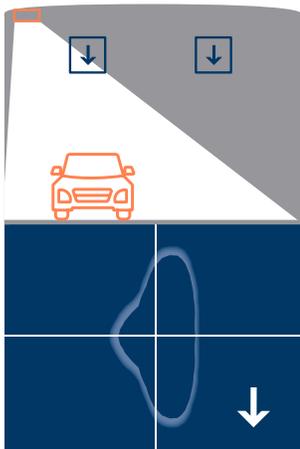
CBL
Ceiling Counter Beam



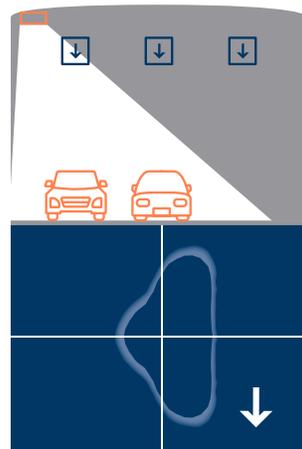
Arrows indicate traffic direction

Underpass Distributions

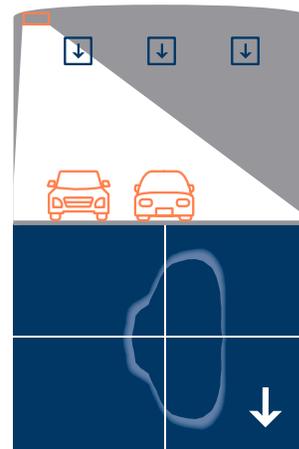
R2M
Type II Medium



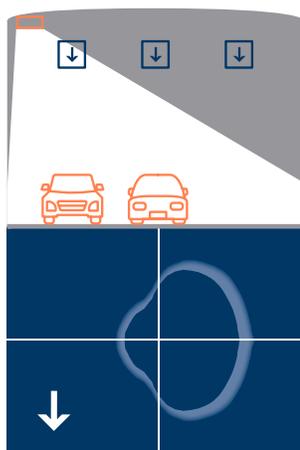
R3M
Type III Medium



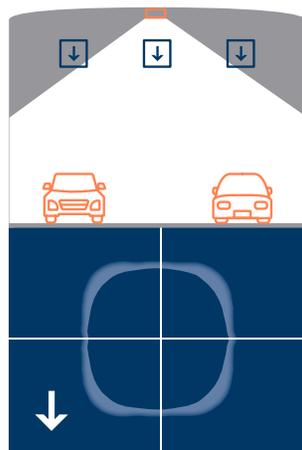
R3W
Type III Wide



4
Type IV



5
Type V



Arrows indicate traffic direction

TULL 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

ZD4i: Zhaga-D4i certified fixture. Provides easy integration with ZD4i smart sensors and communication nodes, enabling plug-and-play IOT upgrades (replaces legacy D4i code).

D4id: DALI D4i certified driver. Provides extended DALI-2 functionality with power and data, especially for intra-luminaire DALI systems (drivers-nodes-sensors). Backwards compatible with older DALI standards (replaces legacy DALI code).

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.

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: 4-pin Zhaga Book 18 compliant receptacle designed for sensor and other control system applications. Mounted on underside of the luminaire, 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).

OMS: ZD4i certified Outdoor Multi Sensor. Contains multiple sensors to support different smart city applications. Offers standalone and connected functions, see sensor spec sheet for details. Shipped in luminaire box.

TLL: Tool Free access 316 stainless steel latches.

TS1: 1-3/8" unthreaded mounting hole to accept a 1" NPT liquid tight cord grips connector IP66 rated minimum.

TS2: 1-1/8" unthreaded mounting hole to accept a 3/4" NPT liquid tight cord grips connector IP66 rated minimum.

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. Other sizes available, see options. 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

TULL TunnelView

Tunnel/Underpass luminaire

Specifications (continued)

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.

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 5000 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 TULL luminaires with fixed and swivel mounting options meet the ANSI C136.31-2018 American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. Slip Fitter option meet the Normal 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, .27, .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

Limited Warranty

10-year limited warranty.

See signify.com/warranties for details and restrictions.