

PROJECT _____

TYPE _____

MEMO _____

ORDERING CODE BREAKDOWN

MAIN FEATURES

- Designed with a die-cast, 100% recycled aluminum alloy housing for optimal thermal performance and exceptional corrosion resistance
- Delivering up to 155 lumens per watt
- 3,000- to 14,000 lumen packages (22-123W)
- TGIC polyester super durable powder coating with superior gloss, color retention, and weather resistance
- Heavy-duty UL1059 terminal block rated for 600V/85A and capable of terminating #2 to #14 AWG wire
- 0-10V dimming standard; DALI-2 dimming option available
- BAA/BABA Compliance available; *Consult factory to confirm specific fixture code is compliant if this is a requirement*
- **Designed and assembled in U.S.A.!**



EPA: 0.32 sq. ft.
WEIGHT: 8.7 lbs.



FIXTURE	LUMENS	BEAM SPREAD	CRI	CCT	VOLTAGE	CONTROL	SURGE	RECEPTACLE	FINISH	OPTIONS
HLS	3L : 3,000 lm; 22W	2RM : Type II Roadway Medium	7 : 70 CRI	22 : 2200K	STD : 120-277V	10 : 0-10V	1PS : 10kV 5kA, 120-277V	00 : None	SGY : Grey (RAL7038)	FAO : Field Adjustable Output Module
	4L : 4,000 lm; 31W	3RM : Type III Roadway Medium		30 : 3000K	HVL : 277-480V	DA : DALI-2	2PS : *20kV 10kA, 120-277V	30 : 3-pin	SBZ : Bronze (RAL8019)	ZT1 : 0-10V Zhaga Ambient Light Control
	5L : 5,000 lm; 42W	4WS : Type IV Wide Short		40 : 4000K			2PH : *20kV 10kA, 277-480V	70 : 7-pin	SBK : Black (RAL9017)	ZT3 : 0-10V Zhaga IR + Ambient Light Control
	6L : 6,000 lm; 54W	5QM : Type V Square Medium		50 : 5000K				0Z : Z receptacle	SWH : White (RAL9003)	ZT4 : 0-10V Zhaga PIR Occupancy/Motion + IR + Ambient Light Control
	5H : 5,000 lm; 34W	5QS : Type V Square Short						3Z : 3-pin + Z	MGY : *Marine Grey (RAL7038)	ZT5 : 0-10V Zhaga Casambi BLE + ALC
	6H : 6,000 lm; 45W							7Z : 7-pin + Z	MBZ : *Marine Bronze (RAL8019)	6P : 6-ft Pigtail with 3 solid leads
	7H : 7,000 lm; 54W								MBK : *Marine Black (RAL9017)	KM : Knuckle Mount
	8H : 8,000 lm; 63W								MWH : *Marine White (RAL9003)	SC : Shorting Cap
	9H : 9,000 lm; 69W									
	10H : 10,000 lm; 80W									
	11H : 11,000 lm; 88W									
	12H : 12,000 lm; 97W									
	13H : 13,000 lm; 113W									
	14H : 14,000 lm; 123W									

Notes: *Consult factory for lead time and availability.
HSS not compatible with 4WS optics, instead use SS.
80 and 90 CRI, as well as additional color temperatures, available upon request.

Marine grade and other finish color options available. Consult Factory.
FAO is factory-installed. See Spec Sheet for field-installed accessories.

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FINISH

- TGIC polyester super-durable powder coating with superior gloss, color retention and weather resistance
- Standard finishes provided at 3 mil nominal thickness, salt-spray-tested to 3,000 hours as per ASTM B117
- For marine-grade finish, consult factory. Provided at 5 mil nominal thickness, salt-spray-tested to 4,000 hours as per ASTM B117

CONSTRUCTION

- Die-cast, aluminum alloy housing for optimal thermal performance and exceptional corrosion resistance
- 100% recycled aluminum

ELECTRICAL

- 120-277V Standard; 277-480V option available
- PF>0.9, THD<20%
- Parallel surge protection: enhanced 10kV standard, extreme 20kV optional (ANSI C136.2-2015)
- For series surge protection, consult factory
- Rated for operation -40°C to 40°C
- For 50°C option, consult factory

CONTROLS

- 0-10 V dimming standard; DALI-2 option available
- Receptacle options:
 - ANSI C136.41 3-pin
 - ANSI C136.41 7-pin (for DALI-2 or dimming)
 - Zhaga Book 18 (for Dali-2 control)
 - Proprietary Z receptacle
 - ZT1: 0-10V Ambient Light Control (ALC)
 - ZT3: 0-10V IR + ALC
 - ZT4: 0-10V Occupancy + IR + ALC; CA Title 24 compliant
 - ZT5: Casambi Bluetooth Low Energy + ALC

OPTICS + PERFORMANCE

- Up to 155 lumens per watt
- 3,000-14,000 lumen packages (22-123 W)
- 5 customized distributions available
 - Type II Roadway Medium
 - Type III Roadway Medium
 - Type IV Wide Short
 - Type V Square Short
 - Type V Square Medium
- Multiple shielding options available

MOUNTING

- Integral die cast mounting pipe stop
- Slip fitter with $\pm 5^\circ$ tilt adjustment in $2\frac{1}{2}^\circ$ steps
- Adjustable for $1\frac{1}{2}''$ to $2\frac{1}{2}''$ O.D. tenon; Recommended with $2\frac{3}{8}''$ O.D. with >6" length tenon
- Wildlife shield and leveling bubble standard

LISTINGS

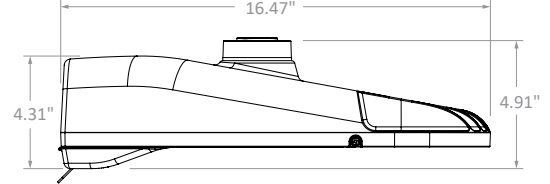
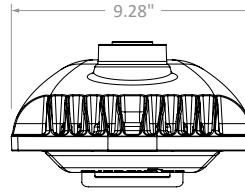
- IDA Dark Sky listed $\leq 3000K$
- IP66 rated optical chamber
- 3G Vibration rated (ANSI C136.31)
- UL listed for wet locations (E487976)
- DLC + DLC Premium listings (Family code: QQQVNT)
- Zhaga D4i listed
- NEMA and distribution labeling standard
- *BAA/BABA Compliance available; Consult factory to confirm specific fixture code is compliant if this is a requirement
- **Designed and assembled in U.S.A.**

WARRANTY

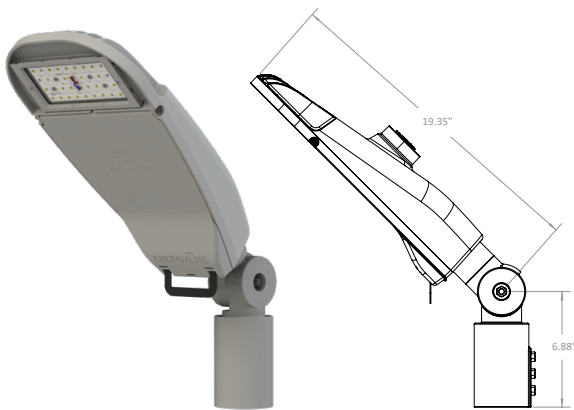
- 5-year warranty

- Slip fitter with $\pm 5^\circ$ tilt adjustment in $2\frac{1}{2}^\circ$ steps
- Adjustable for $1\frac{1}{2}''$ to $2\frac{1}{2}''$ O.D. tenon; Recommended with $2\frac{3}{8}''$ O.D. with >6" length tenon

EPA: 0.32 sq. ft.
WEIGHT: 8.7 lbs.



KNUCKLE MOUNT DETAILS



LUMEN AMBIENT TEMPERATURE (LAT) MULTIPLIERS

Ambient Temperature		Lumen Multiplier
Celsius	Fahrenheit	
0°C	32°F	1.02
10°C	50°F	1.01
25°C	77°F	1.00
40°C	104°F	0.99
50°C	122°F	0.97

TM-21 LUMEN MAINTENANCE PROJECTION

- Calculated by utilizing the LED manufacturer's LM80 test data in conjunction with third party verified in-situ LED drive current and LED temperature data. Use data below to determine light loss factors.

Performance Package	50,000 hrs	60,000 hrs	100,000 hrs
3L to 5L 5H to 11H	99.67%	99.49%	98.77%
6L, 12H	98.95%	98.62%	97.30%
13H to 14H	96.41%	95.66%	92.72%

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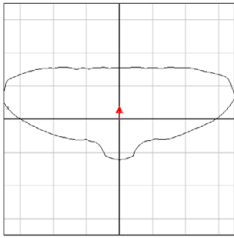
SINGLE OPTIC ROADWAY LED LUMINAIRE

Performance Package	Wattage Label	Drive Current	Color Temp. (CCT)	Input Power (Watts)	TYPE II ROADWAY MED AT 70 CRI			TYPE III ROADWAY MED AT 70 CRI			TYPE IV WIDE SHORT AT 70 CRI			TYPE V SQUARE SHORT AT 70 CRI			TYPE V SQUARE MED AT 70 CRI		
					Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating
3L	20	504mA	5000K	22.4	3,342	150	1 0 1	3,276	147	1 0 1	3,116	139	1 0 1	3,307	148	2 0 1	3,061	137	3 0 2
			4000K		3,277	147	1 0 1	3,212	144	1 0 1	3,055	137	1 0 1	3,242	145	2 0 1	3,001	134	3 0 2
			3000K		3,179	142	1 0 1	3,116	139	1 0 1	2,963	133	1 0 1	3,145	141	2 0 1	2,911	130	3 0 2
			2200K		2,294	103	1 0 1	2,248	101	1 0 0	2,138	96	1 0 1	2,270	102	2 0 1	2,100	94	3 0 2
4L	30	693mA	5000K	31.2	4,450	142	1 0 1	4,362	140	1 0 1	4,148	133	1 0 1	4,403	141	2 0 1	4,075	130	3 0 2
			4000K		4,362	140	1 0 1	4,276	137	1 0 1	4,066	130	1 0 1	4,316	138	2 0 1	3,995	128	3 0 2
			3000K		4,232	135	1 0 1	4,148	133	1 0 1	3,944	126	1 0 1	4,187	134	2 0 1	3,875	124	3 0 2
			2200K		3,054	98	1 0 1	2,993	96	1 0 1	2,847	91	1 0 1	3,021	97	2 0 1	2,796	90	3 0 2
5L	40	945mA	5000K	42.4	5,673	134	1 0 1	5,561	131	1 0 1	5,289	125	1 0 1	5,613	132	2 0 1	5,195	123	3 0 2
			4000K		5,562	131	1 0 1	5,452	129	1 0 1	5,185	122	1 0 1	5,503	130	2 0 1	5,093	120	3 0 2
			3000K		5,395	127	1 0 1	5,288	125	1 0 1	5,029	119	1 0 1	5,338	126	2 0 1	4,940	117	3 0 2
			2200K		3,893	92	1 0 1	3,816	90	1 0 1	3,629	86	1 0 1	3,852	91	2 0 1	3,565	84	3 0 2
6L	50	1185mA	5000K	54.1	6,769	125	1 0 1	6,635	123	1 0 1	6,310	117	1 0 1	6,697	124	3 0 1	6,199	115	3 0 2
			4000K		6,636	123	1 0 1	6,505	120	1 0 1	6,186	114	1 0 1	6,566	121	3 0 1	6,077	112	3 0 2
			3000K		6,437	119	1 0 1	6,310	117	1 0 1	6,001	111	1 0 1	6,369	118	3 0 1	5,895	109	3 0 2
			2200K		4,645	86	1 0 1	4,554	84	1 0 1	4,330	80	1 0 1	4,596	85	3 0 1	4,254	79	3 0 2
5H	30	389mA	5000K	34.4	5,405	157	1 0 1	5,298	154	1 0 1	5,038	146	1 0 1	5,348	155	2 0 1	4,949	144	3 0 2
			4000K		5,299	154	1 0 1	5,194	151	1 0 1	4,939	144	1 0 1	5,243	152	2 0 1	4,852	141	3 0 2
			3000K		5,140	149	1 0 1	5,038	146	1 0 1	4,791	139	1 0 1	5,086	148	2 0 1	4,707	137	3 0 2
			2200K		3,709	108	1 0 1	3,636	106	1 0 1	3,458	100	1 0 1	3,670	107	2 0 1	3,397	99	3 0 2
6H	40	504mA	5000K	44.6	6,744	151	1 0 1	6,611	148	1 0 1	6,287	141	1 0 2	6,673	150	3 0 1	6,176	138	3 0 2
			4000K		6,612	148	1 0 1	6,481	145	1 0 1	6,163	138	1 0 2	6,542	147	3 0 1	6,055	136	3 0 2
			3000K		6,414	144	1 0 1	6,287	141	1 0 1	5,979	134	1 0 2	6,346	142	3 0 1	5,873	132	3 0 2
			2200K		4,628	104	1 0 1	4,537	102	1 0 1	4,314	97	1 0 1	4,579	103	3 0 1	4,238	95	3 0 2
7H	50	609mA	5000K	54.3	7,989	147	2 0 1	7,831	144	1 0 2	7,447	137	1 0 2	7,904	146	3 0 1	7,315	135	3 0 3
			4000K		7,832	144	2 0 1	7,677	141	1 0 2	7,301	135	1 0 2	7,749	143	3 0 1	7,172	132	3 0 3
			3000K		7,597	140	2 0 1	7,447	137	1 0 1	7,082	130	1 0 2	7,517	139	3 0 1	6,957	128	3 0 3
			2200K		5,482	101	1 0 1	5,374	99	1 0 1	5,111	94	1 0 1	5,424	100	3 0 1	5,020	93	3 0 3
8H	60	714mA	5000K	63.5	9,138	144	2 0 2	8,957	141	1 0 2	8,518	134	1 0 2	9,041	142	3 0 1	8,367	132	3 0 3
			4000K		8,958	141	2 0 2	8,781	138	1 0 2	8,351	132	1 0 2	8,864	140	3 0 1	8,203	129	3 0 3
			3000K		8,690	137	2 0 2	8,518	134	1 0 2	8,100	128	1 0 2	8,598	135	3 0 1	7,957	125	3 0 3
			2200K		6,271	99	1 0 1	6,147	97	1 0 1	5,846	92	1 0 2	6,204	98	3 0 1	5,742	90	3 0 3
9H	70	777mA	5000K	69.0	9,765	142	2 0 2	9,572	139	1 0 2	9,103	132	2 0 2	9,662	140	3 0 1	8,942	130	3 0 3
			4000K		9,574	139	2 0 2	9,384	136	1 0 2	8,924	129	2 0 2	9,472	137	3 0 1	8,767	127	3 0 3
			3000K		9,286	135	2 0 2	9,102	132	1 0 2	8,656	125	1 0 2	9,188	133	3 0 1	8,504	123	3 0 3
			2200K		6,701	97	2 0 1	6,569	95	1 0 1	6,247	91	1 0 2	6,631	96	3 0 1	6,137	89	3 0 3
10H	80	903mA	5000K	80.2	10,992	137	2 0 2	10,774	134	2 0 2	10,246	128	2 0 2	10,876	136	3 0 1	10,065	126	4 0 3
			4000K		10,776	134	2 0 2	10,563	132	2 0 2	10,045	125	2 0 2	10,662	133	3 0 1	9,868	123	4 0 3
			3000K		10,453	130	2 0 2	10,246	128	2 0 2	9,744	121	2 0 2	10,342	129	3 0 1	9,572	119	4 0 3
			2200K		7,543	94	2 0 1	7,394	92	1 0 1	7,032	88	1 0 2	7,464	93	3 0 1	6,908	86	4 0 3
11H	90	987mA	5000K	87.9	11,752	134	2 0 2	11,519	131	2 0 2	10,954	125	2 0 2	11,627	132	3 0 2	10,761	122	4 0 3
			4000K		11,521	131	2 0 2	11,293	129	2 0 2	10,740	122	2 0 2	11,399	130	3 0 2	10,550	120	4 0 3
			3000K		11,175	127	2 0 2	10,954	125	2 0 2	10,417	119	2 0 2	11,057	126	3 0 2	10,233	116	4 0 3
			2200K		8,065	92	2 0 1	7,905	90	1 0 2	7,518	86	1 0 2	7,979	91	3 0 2	7,385	84	4 0 3
12H	100	1092mA	5000K	97.4	12,662	130	2 0 2	12,411	127	2 0 2	11,803	121	2 0 2	12,528	129	3 0 2	11,595	119	4 0 3
			4000K		12,414	127	2 0 2	12,168	125	2 0 2	11,572	119	2 0 2	12,282	126	3 0 2	11,367	117	4 0 3
			3000K		12,041	124	2 0 2	11,803	121	2 0 2	11,225	115	2 0 2	11,914	122	3 0 2	11,026	113	4 0 3
			2200K		8,690	89	2 0 2	8,518	87	1 0 2	8,100	83	1 0 2	8,598	88	3 0 2	7,957	82	4 0 3
13H	110	1260mA	5000K	113.1	13,927	123	2 0 2	13,652	121	2 0 2	12,983	115	2 0 2	13,780	122	3 0 2	12,753	113	4 0 3
			4000K		13,654	121	2 0 2	13,384	118	2 0 2	12,728	113	2 0 2	13,510	119	3 0 2	12,503	111	4 0 3
			3000K		13,245	117	2 0 2	12,982	115	2 0 2	12,346	109	2 0 2	13,105	116	3 0 2	12,128	107	4 0 3
			2200K		9,558	85	2 0 2	9,369	83	1 0 2	8,910	79	2 0 2	9,457	84	3 0 2	8,752	77	4 0 3
14H	120	1365mA	5000K	123.2	14,627	119	3 0 2	14,337	116	2 0 2	13,635	111	2 0 2	14,472	117	3 0 2	13,394	109	4 0 3
			4000K		14,340	116	3 0 2	14,056	114	2 0 2	13,367	109	2 0 2	14,188	115	3 0 2	13,131	107	4 0 3
			3000K		13,910	113	2 0 2	13,634	111	2 0 2	12,966	105	2 0 2	13,762	112	3 0 2	12,737	103	4 0 3
			2200K		10,038	81	2 0 2	9,839	80	1 0 2	9,357	76	2 0 2	9,932	81	3 0 2	9,192	75	4 0 3

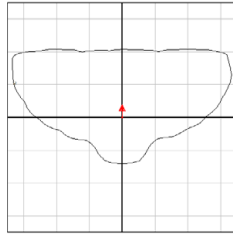


PHOTOMETRIC DISTRIBUTION

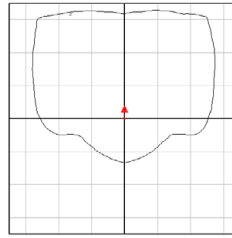
TYPE II ROADWAY MEDIUM (2RM)



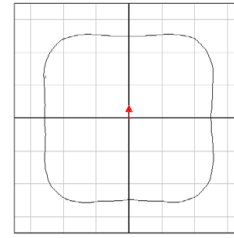
TYPE III ROADWAY MEDIUM (3RM)



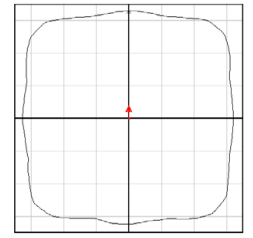
TYPE IV WIDE SHORT (4WS)



TYPE V SQUARE SHORT (5QS)



TYPE V SQUARE MEDIUM (5QM)



SHIELD ACCESSORY DETAILS

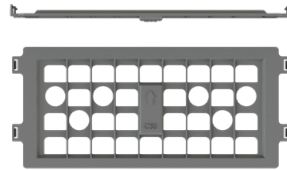
HOUSE SIDE SHIELD (HSS)

- Flat-black, injection molded plastic resin
- Tool-less, clip-on discrete shield
- Blocks light behind the fixture



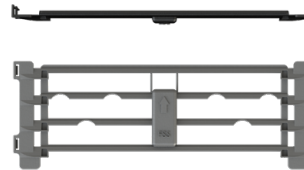
CUL-DE-SAC SHIELD (CSS)

- Flat-black, injection molded plastic resin
- Tool-less, clip-on discrete shield
- Blocks light to left and right of the fixture



FRONT SIDE SHIELD (FSS)

- Flat-black, injection molded plastic resin
- Tool-less, clip-on discrete shield
- Blocks light in front of the fixture.



SCOOP SHIELD (SS)

- Flat-black, injection-molded plastic resin
- Tool-less, clip-on discrete shield
- Blocks light behind the fixture (4WS only)



CONTROLS

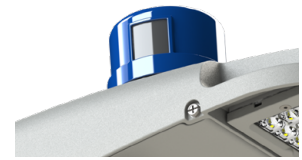
0-10 V ZHAGA OPTIONS

- ZT1: Ambient Light Control
- ZT3: IR + Ambient Light Control
- ZT4: Occupancy + IR + Ambient Light Control
- ZT5: Casambi Bluetooth Low Energy + Ambient Light Control



PHOTOCELL OPTIONS

- PCL01: 120-277 V Photocell (640J, IP65); Blue
- PCL02: 120-277 V Photocell (1280J, IP66); Blue
- PCL03: 277-480 V Photocell (1280J, IP66); Yellow



FIELD ADJUSTABLE OUTPUT MODULE (FAO)



FAO Setting	Output
A	100%
B	90%
C	85%
D	80%
E	75%
F	65%
G	60%
H	55%
J	50%