

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

UR28

ARCHITECTURAL AREA/SITE

FEATURES

- 28" size in post top, pole and wall mount
- High performance optics up to 35,000 delivered lumens
- Elegant form factor
- Diffusion lens for low glare comfort
- SiteSync™ wireless control options
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated



3000K and warmer CCTs only

See Certification Specifications

CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Low copper aluminum alloy die-casting is designed as one-piece with internal cooling fins.
- Solid, cast aluminum wall creates a thermal barrier between the optical and electrical compartments.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- Housing is designed with integral LED heat sink utilized for thermal transfer and for securing the location of each LED module..
- All external fasteners are stainless steel.
- One-piece low copper aluminum alloy die-cast lens frame is secured to housing with 6 screws.

OPTICS

- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.

LENS

- Standard lens (CLR) IK08
- Clear Polycarbonate Lens (CP) IK10

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL

- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 105°C, wet rating.

CONTROLS

7PR

Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Ouro™



RELATED PRODUCTS

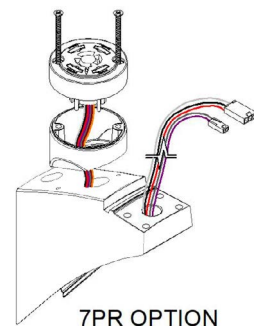
[Ouro Small Post Top](#)

[Ouro Large Post Top](#)

[Ouro Small Arm Mount](#)

Standard customer operation modes:

- Traditional on/off photoelectric control.
- 5-pin wireless photoelectric control for added dimming feature.
- 7-pin wireless photoelectric control for for dimming and additional I/O connections for customer use.



7PR OPTION

(Specifications continued on page 3)

KEY DATA	
Lumen Range	19,112 - 36,598
Wattage Range	155 - 315
Efficacy Range (LPW)	105 -138
Reported Life (Hours)	L70>60,000
Weight	50 lbs - 22.6 Kg
EPA	0.524

¹Clear Polycarbonate Lens (CP) IK10, Standard lens (CLR) IK08, Consult factory for details

UR28

ARCHITECTURAL AREA/SITE

ORDERING GUIDE

Example: UR28-96L-155-3K8-3-L-UNV-ASQ-BLT-7PR-BC-SWTAB

CATALOG #

HOUSING

Model	LED Engine	CCT/CRI	Distribution	Rotation	Voltage
UR28	Ouro				
	No Lens or Clear Lens	AM ¹¹ Amber, 595nm	No Lens or Clear Lens	(Blank) Blank for no rotation	UNV 120-277V
	96L-155 20,000 lm	27K8 ¹ 2700K, 80 CRI	FR Type I/Front Row	L ¹ Optic rotation left	347 347V
	96L-170 22,500 lm	3K7 3000K, 70 CRI	2 Type II	R ¹ Optic rotation right	480 480V
	96L-185 24,000 lm	3K8 3000K, 80 CRI	3 Type III		DALI 120-277V
	96L-220 27,000 lm	3K9 3000,90 CRI	4 Type IV		¹ Consult factory
	96L-255 30,000 lm	3K9 3000,90 CRI	4W Type IV Wide		
	96L-315 35,000 lm	35K8 3500K, 80 CRI	5QM Type V Square Medium		
	HDL - High Diffusion Lens	4K7 4000K, 70 CRI	5QN Type V Square Narrow		
	114L-160 18,000 lm	4K8 4000K, 80 CRI	5R Type V Rectangular		
	114L-180 20,000 lm	4K8 4000K, 80 CRI	5W Type V Wide (Round)		
	114L-265 25,000 lm	5K7 5000K, 70 CRI	HDL - High Diffusion Lens		
		Consult factory for other CCTs and CRIs	3 Type III/Asymmetric		
			5W Type V/Symmetric		

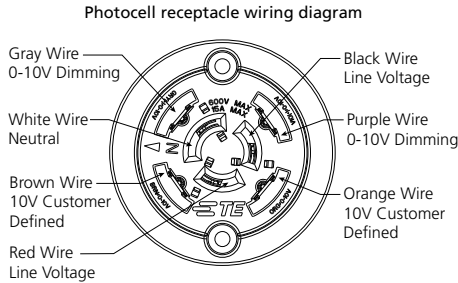
Mounting	Fixture Finish	Control Options	Options	Control Accessories
ASQ Arm Square pole	BLS Black Gloss Smooth	7PR-TL 7 pin PCR with twist lock photocontrol	BC ⁶ Back-light Control	SW7PR ^{2,3} SiteSync™ with 7 pin PCR
A34 Arm mt 3.3-4.2" OD pole	BLT Black Matte Textured	7PR-SC 7 pin PCR with shorting cap	SF Single Fuse	SWUSB SiteSync™ Software on USB
A46 Arm mt 4.5-6.0" OD pole	DBS Dark Bronze Gloss Smooth	7PR 7 pin PCR, wireless control enabled	DF Double Fuse	SWTAB ¹⁰ SiteSync™ Windows™ Tablet
MAF Horizontal Slip Fitter 2 3/8" OD arm	DBT Dark Bronze Matte Textured	AD-01 ² AstroDIM: 50% output at midnight	TB Terminal Block	SWBRG SiteSync™ Wireless Bridge Node
SVSF Square Vertical Slipfitter for 2"Tenon (2-3/8"OD)	GTT Graphite Matte Textured	AD-02 ² AstroDIM: 50% output midnight to 4 AM	CLR ^{5,6,13} Clear Lens	WIR-RME-L wiSCAPE™ External Fixture Module
VSF Round Vertical Slipfitter for 2"Tenon (2-3/8"OD)	LGS Light Grey Gloss Smooth	AD-03 ² AstroDIM: 50% output 10PM	TPL Tamper proof latch	SCH-R Occ. Sensor for Round Pole (up to 30' MH)
WB Wall Bracket	LGT Light Grey Matte Textured	AD-04 ² AstroDIM: 50% output 10PM to 4AM	CP ¹² Clear Polycarbonate Lens	SCH-S Occ. Sensor for Square Pole (up to 30' MH)
	PSS Platinum Silver Gloss Smooth	NXWE NX Wireless Enabled		SCH-S Occ. Sensor for Square Pole (up to 30' MH)
	VGT Verde Green Matte Textured	SWP ^{2,3,4} SiteSync Pre commission		NXOFM-1R1D-UNV NX 7-pin Module
	WHS White Gloss Smooth	SWPM-40F ^{2,3,4,5} SiteSync with Sensor 9' to 40' MH		
	WHT White Matte Textured	WSP-40F-1 ^{2,5} Dimming Occ. Sensor for up to 40' MH, 120/277/347V		
	Color Option	WSP-40F-2 ^{2,5} Dimming Occ. Sensor for up to 40' MH, 208/240V		
	CC ⁷ Custom Color	WSP-40F-3 ^{2,5} Dimming Occ. Sensor for up to 40' MH, 480V		
		NXSPW14F ^{2,5} NX Wireless, PIR Sensor, 14'		
		NXSPW30F ^{2,5} NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 30'		
		NXSP14F ^{2,5} NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14'		
		NXSP30F ^{2,5} NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 30'		

1 Not available with 5QM, 5QN, and 5W distributions.
 2 Not available with other sensor or wireless control options.
 3 Specify group and zone at time of order. See www.hubbellighting.com/sitesync for more details. Order at least one SiteSync interface accessory SWUSB or SWTAB. Each option contains SiteSync™ License, GUI, and Bridge Node.
 4 Not available with 347V and 480V.
 5 96L only.
 6 Not available with HDL option.
 7 Consult factory for custom color, marine and corrosive finish

options.
 8 Turtle Friendly.
 9 Please see Delivered Lumens chart on Page 5 for lumen
 10 Microsoft, Encarta, MSN, and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
 11 Not available with 96L-255 and the 96L-315 configuration of the LED Engine
 12 IK10 rated. Consult factory for details
 13 IK08 rated. Consult factory for details

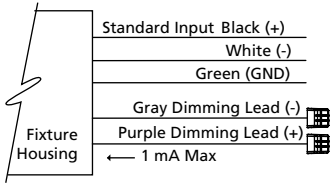
SPECIFICATIONS (CONTINUED)

CONTROLS (CONTINUED)



DIMMING:

- Dimming range from 100% to 10% through the use of the standard 0-10V interface on the programmable driver.
- Modular wiring harness in the service area provides user access to the dimming circuitry.
- Dimming circuitry compatible with 0-10V, user-defined control devices.
- Optional factory programmed dimming profile.



WIRELESS CONTROLS

- **WISCAPE™**
Hubbell Control Solution's wiSCAPE™ wireless control modules allow an individual fixture to be managed, monitored and measured. The modules communicate securely over a robust certified meshed radio signal. The wiSCAPE modules provide on/off/dim control, external device input, alerts and metering.

WIR-RME-L

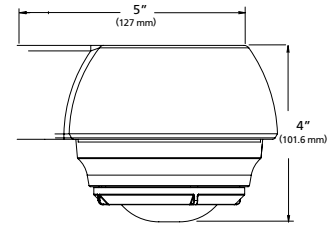
- wiSCAPE External Module, 120-480V, 1000ft range (LOS), Internal Photocell, 1 Digital Input, Compatible with the A-25-7H option

SITESYNC™1

- SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit www.hubbellighting.com/products/sitesync for more details.

NX DISTRIBUTED INTELLIGENCE™

- Hubbell Control Solutions' NX Distributed Intelligence™ lighting control platform utilizes a Distributed Network Architecture (DNA) that connects intelligent devices including luminaires, controllers, panels, occupancy sensors, photocells, wall switches and dimmers, creating a system with an unmatched level of reliability, scalability and simplicity



POLE MOUNTED

ROUND POLE-MOUNTED OCCUPANCY

Sensor up to 30'. Select voltage and finish color.

SCH-R

- Round Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.
- Ordering Example: SCH-R4/277²/BL³

SQUARE POLE-MOUNTED OCCUPANCY

Sensor up to 30'. Select voltage and finish color.

SCH-S

- Square Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.
- Ordering Example: SCH-S/277²/BL³

ASTRODIM

- AstroDIM provides multi-stage night-time power reduction based on an internal timer referenced to the power on/off time. There is no need for an external control infrastructure. The unit automatically performs a dimming profile based on the predefined scheduled reference to the midpoint, which is calculated based on the power on/off times.

(Specifications continued on page 4)

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

SPECIFICATIONS (CONTINUED)

MOUNTING

High temperature fuse holders factory installed inside the fixture housing.

Fuse is included.

SUPPORT ARM:

- Die-cast, low copper aluminum alloy, with splice access cover.
- Die-cast pole adapter and an internal reinforcing plate are provided with a wire strain relief.
- The arm adapter is square or circular cut for specified pole size and shape.
- For field wire connections, a terminal block is mounted in the arm cavity and accessible behind the splice access cover. The block accepts #14 to #8 wire sizes and is factory prewired to the electrical module's quick-disconnect plug inside the electrical compartment.

OPTIONAL SLIP-FITTER:

- Internally accessible slip-fitter attaches to a 1-1/4" to 2-3/8" tenon and allows hands-free wiring and maintenance.

OPTIONAL WALL MOUNT:

- Optional, cast aluminum mounting plate attaches to a wall over a junction box and the speed mount is bolted to the cover plate. To complete the wiring, the luminaire assembly slides over the mounting plate.

OPTIONAL FUSING:

- SF for 120, 277, and 347 Line volts
- DF for 208, 240, and 480 Line volts

CAUTION

Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

CERTIFICATIONS AND LISTINGS

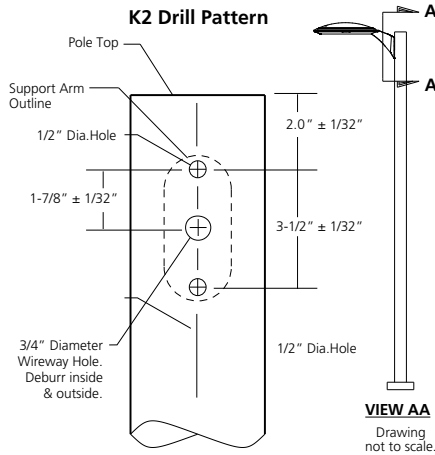
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- IDA approved, 3000K and warmer CCTs only.
- IEC 66262 Mechanical Impact Code IK08, IK10
- ANSI C136.31-2010 Vibration tested and compliant 1.5G and 4G reference page 6
- IP66 certified
- RoHS compliant
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 6/06/2020. [See Buy American Solutions](#)

WARRANTY

- 5 year warranty
- See [HLI Standard Warranty](#) for additional information

PRECOMMISSIONED SITESYNC ORDERING INFORMATION: When ordering a fixture with the SiteSync lighting control option, additional information will be required to complete the order. The SiteSync Commissioning Form or alternate schedule information must be completed. This form includes Project location, Group information, and Operating schedules. For more detailed information please visit www.HubbellLighting.com/products/sitesync or contact Hubbell Lighting tech support at (800) 345-4928

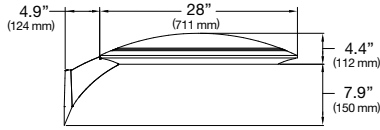
Examples:
PA7R/FT/NU3/12L-020-3K7/42A/BLS/SWP/UNV/LR



UR28

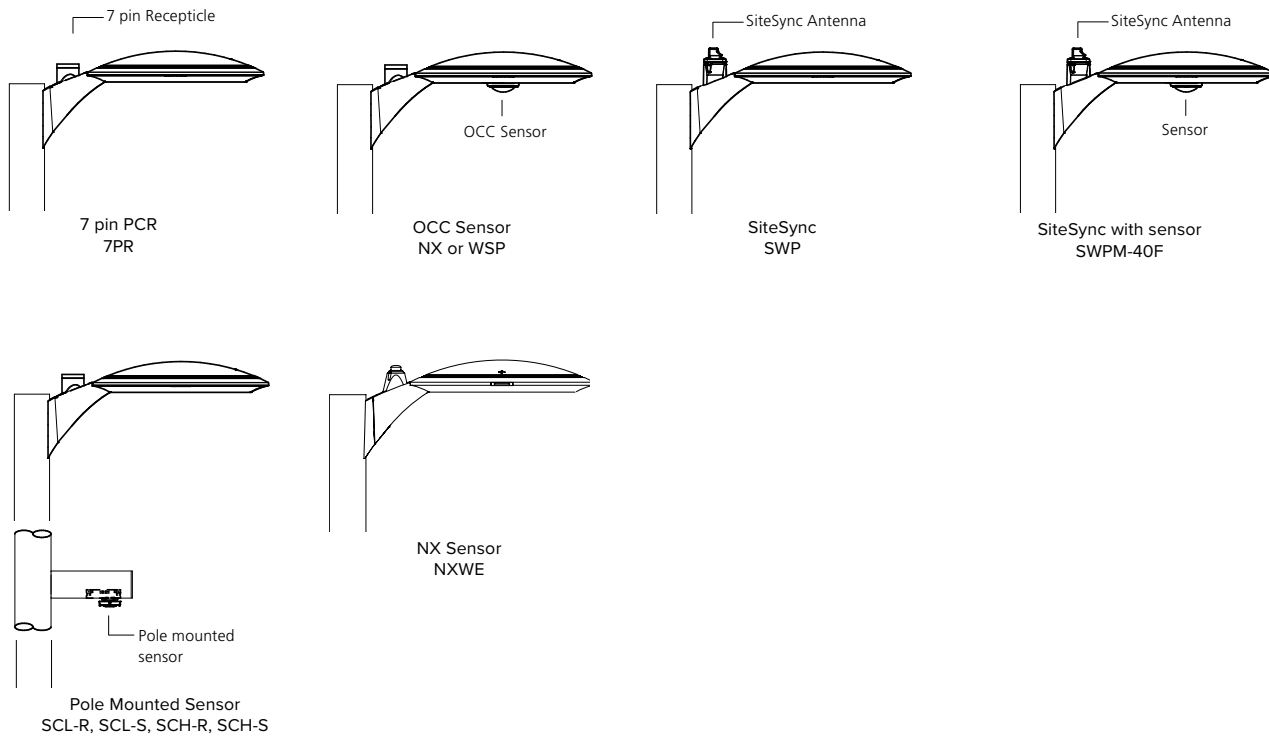
ARCHITECTURAL AREA/SITE

DIMENSIONS



Weight: 50 lbs EPA: .524

SENSOR PLACEMENT



MOUNTING VIBRATION RATINGS

UR 20 Arm		UR28 Arm		UR 20 Post Top		UR 28 Post Top	
Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating	Ordering Code	Rating
ASQ	4G	ASQ	4G	FM33	4G	FM44	1.5G
A34	4G	A34	4G	FM44	1.5G	FM45	1.5G
A46	4G	A46	4G	PT23	4G	PT24	1.5G
MAF	4G	MAF	4G	PT24	4G	PT34	1.5G
				PT34	1.5G	PT25	1.5G
						PT35	1.5G

For the 4 G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Test Level 1 Normal Applications, Vibration Test Level 2 Bridge/Overpass Applications, and Vibration Test Level 3

For the 1.5G test, ANSI C136.31-2010 Vibration is tested to comply with Vibration Level 1 Bridge/Overpass Applications

UR28

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI				4000K 70CRI				5000K 70CRI						
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
96L	20,000	500mA	155	No lens	FR	20197	2	0	2	130	20705	2	0	2	134	20942	2	0	2	138
					FR-BC	13112	1	0	1	85	13442	1	0	1	87	13595	1	0	1	89
					2	19112	2	0	3	123	19593	2	0	3	126	19817	2	0	3	130
					2-BC	11385	1	0	2	73	11672	1	0	2	75	11805	1	0	2	76
					3	19331	2	0	4	125	19817	2	0	4	128	20044	2	0	4	132
					3-BC	11591	1	0	2	75	11882	1	0	2	77	12018	1	0	2	78
					4	19130	1	0	4	123	19611	1	0	4	127	19835	1	0	4	130
					4-BC	14322	1	0	3	92	14682	1	0	3	95	14850	1	0	3	97
					4W	19637	2	0	4	127	20131	3	0	4	130	20361	3	0	4	134
					4W-BC	12578	1	0	3	81	12894	1	0	3	83	13042	1	0	3	86
					5QM	19910	4	0	2	128	20411	4	0	2	132	20644	4	0	2	136
					5QN	19685	4	0	0	127	20181	4	0	0	130	20411	4	0	0	134
					5R	19933	4	0	4	129	20435	4	0	4	132	20668	4	0	4	136
					5W	20182	5	0	3	130	20689	5	0	3	133	20926	5	0	3	138
		Clear lens	FR	19187	2	0	2	124	19670	2	0	2	127	19895	2	0	2	130		
			FR-BC	12456	0	0	1	80	12769	0	0	1	82	12915	0	0	1	83		
			2	18156	2	0	3	117	18613	2	0	3	120	18826	2	0	3	123		
			2-BC	10816	1	0	2	70	11088	1	0	2	72	11215	1	0	2	72		
			3	18364	2	0	3	118	18826	2	0	3	121	19041	2	0	3	124		
			3-BC	10873	1	0	2	70	11147	1	0	2	72	11274	1	0	2	73		
			4	18173	1	0	4	117	18630	1	0	4	120	18843	1	0	4	123		
			4-BC	13606	1	0	3	88	13948	1	0	2	90	14108	1	0	2	91		
4W	18655		2	0	4	120	19124	2	0	4	123	19342	2	0	4	126				
4W-BC	11949		1	0	3	77	12250	1	0	3	79	12390	1	0	3	80				
5QM	18914		4	0	2	122	19390	4	0	2	125	19612	4	0	2	128				
5QN	18701		4	0	0	121	19172	4	0	0	124	19391	4	0	0	127				
5R	18937		4	0	4	122	19413	4	0	4	125	19635	4	0	4	128				
5W	19173		5	0	3	124	19655	5	0	3	127	19880	5	0	3	130				
114L		430mA	160	HDL lens	3	17717	3	0	3	111	18162	3	0	3	114	18370	3	0	3	116
					5W	18962	4	0	2	119	18345	4	0	2	115	18555	4	0	2	117

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

UR28

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI				4000K 70CRI				5000K 70CRI							
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	
							B	U	G			B	U	G			B	U	G		
96L	22,500	550mA	170	No lens	FR	22638	2	0	2	133	23207	2	0	2	137	23473	2	0	2	138	
					FR-BC	14696	1	0	1	87	15066	1	0	1	89	15238	1	0	1	90	
					2	21421	2	0	3	126	21960	2	0	3	129	22211	3	0	3	131	
					2-BC	12761	1	0	2	75	13082	1	0	2	77	13232	1	0	2	78	
					3	21667	2	0	4	127	22212	3	0	4	131	22466	3	0	4	132	
					3-BC	12991	1	0	2	76	13318	1	0	3	78	13470	1	0	3	79	
					4	21441	2	0	4	126	21981	2	0	4	129	22232	2	0	4	131	
					4-BC	16053	1	0	3	94	16456	1	0	3	97	16645	1	0	3	98	
					4W	22010	3	0	4	129	22564	3	0	4	133	22822	3	0	4	134	
					4W-BC	14098	1	0	3	83	14453	1	0	3	85	14618	1	0	3	86	
					5QM	22316	4	0	2	131	22877	4	0	2	135	23139	4	0	2	136	
					5QN	22064	4	0	0	130	22619	4	0	0	133	22878	5	0	0	135	
					5R	22342	4	0	4	131	22904	4	0	4	135	23166	4	0	4	136	
					5W	22621	5	0	3	133	23190	5	0	3	136	23455	5	0	3	138	
					Clear lens	FR	21073	2	0	2	124	21603	2	0	2	127	21850	2	0	2	129
						FR-BC	13681	1	0	1	80	14025	1	0	1	82	14476	1	0	1	85
						2	19941	2	0	3	117	20443	2	0	3	120	20676	2	0	3	122
						2-BC	11879	1	0	2	70	12178	1	0	2	72	12570	1	0	2	74
						3	20169	2	0	3	119	20677	2	0	3	122	20913	2	0	3	123
						3-BC	11942	1	0	2	70	12242	1	0	2	72	12382	1	0	2	73
						4	19959	1	0	4	117	20461	1	0	4	120	20695	1	0	4	122
						4-BC	14943	1	0	3	88	15319	1	0	3	90	15812	1	0	3	93
						4W	20489	3	0	4	121	21005	3	0	4	124	21245	3	0	4	125
						4W-BC	13393	1	0	3	79	13730	1	0	3	81	13887	1	0	3	82
5QM	20773	4	0	2		122	21296	4	0	2	125	21539	4	0	2	127					
5QN	20539	4	0	0		121	21056	4	0	0	124	21297	4	0	0	125					
5R	20798	4	0	4		122	21321	4	0	4	125	21565	4	0	4	127					
5W	21057	5	0	3		124	21587	5	0	3	127	21834	5	0	3	128					
114L	475mA	180	HDL lens	3	19161	3	0	3	106	19643	3	0	3	109	19867	3	0	3	112		
				5W	19354	4	0	2	108	19841	4	0	2	110	20265	4	0	2	114		

UR28

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI				4000K 70CRI				5000K 70CRI							
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	
							B	U	G			B	U	G			B	U	G		
96L	24,000	600mA	185	No lens	FR	24011	2	0	2	130	24615	2	0	2	133	24897	2	0	2	134	
					FR-BC	15588	1	0	1	84	15980	1	0	1	86	16163	1	0	1	87	
					2	22721	3	0	3	123	23293	3	0	3	126	23559	3	0	3	127	
					2-BC	13535	1	0	2	73	13876	1	0	2	75	14034	1	0	2	75	
					3	22981	2	0	4	124	23559	3	0	4	127	23829	3	0	4	128	
					3-BC	13780	1	0	3	74	14126	1	0	3	76	14288	1	0	3	77	
					4	22742	2	0	4	123	23314	2	0	4	126	23581	2	0	4	127	
					4-BC	16793	1	0	4	90	17215	1	0	4	93	17412	1	0	4	94	
					4W	23346	3	0	4	126	23933	3	0	4	129	24206	3	0	4	130	
					4W-BC	14953	1	0	3	80	15329	1	0	3	82	15504	1	0	3	83	
					5QM	23669	4	0	2	128	24265	4	0	2	131	24542	4	0	2	132	
					5QN	23403	5	0	0	127	23992	5	0	0	130	24266	5	0	0	131	
					5R	23697	4	0	4	128	24294	4	0	4	131	24571	4	0	4	132	
					5W	23993	5	0	3	130	24596	5	0	3	133	24878	5	0	3	134	
					Clear lens	FR	22364	2	0	2	121	23189	2	0	2	125	23454	2	0	2	125
						FR-BC	14685	1	0	1	79	15054	1	0	1	81	15226	1	0	1	81
						2	21163	2	0	3	114	21943	2	0	3	119	22194	3	0	3	119
						2-BC	12751	1	0	2	68	13072	1	0	2	70	13221	1	0	2	71
						3	21405	3	0	3	116	22194	3	0	3	120	22448	3	0	3	120
						3-BC	12673	1	0	2	69	13141	1	0	2	71	13291	1	0	2	72
						4	21182	1	0	4	114	21963	2	0	4	119	22214	2	0	4	119
						4-BC	16040	1	0	3	86	16443	1	0	3	88	16631	1	0	3	89
						4W	21993	3	0	4	119	22546	3	0	4	122	22804	3	0	4	122
						4W-BC	14087	1	0	3	75	14441	1	0	3	77	14606	1	0	3	78
5QM	22046	4	0	2		119	22859	4	0	2	124	23120	4	0	2	124					
5QN	21798	4	0	0		118	22601	4	0	0	122	22860	5	0	0	122					
5R	22072	4	0	4	119	22886	4	0	4	124	23148	4	0	4	124						
5W	22347	5	0	3	121	23171	5	0	3	125	23436	5	0	3	125						

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

UR28

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI				4000K 70CRI				5000K 70CRI							
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	
							B	U	G			B	U	G			B	U	G		
96L	27,000	700mA	220	No lens	FR	27961	2	0	2	127	28664	2	0	2	130	28992	2	0	2	132	
					FR-BC	18152	1	0	1	83	18609	1	0	1	85	18821	1	0	1	86	
					2	26459	3	0	4	120	27124	3	0	4	123	27434	3	0	4	125	
					2-BC	15762	1	0	2	72	16158	1	0	2	74	16343	1	0	2	74	
					3	26762	3	0	4	122	27435	3	0	4	125	27748	3	0	4	126	
					3-BC	16046	1	0	3	73	16450	1	0	3	75	16638	1	0	3	76	
					4	26483	2	0	4	120	27723	2	0	5	126	27460	2	0	5	125	
					4-BC	19827	1	0	4	90	20326	1	0	4	93	20558	1	0	4	93	
					4W	27186	3	0	4	124	27870	3	0	4	127	28188	3	0	4	128	
					4W-BC	17413	1	0	4	79	17851	1	0	4	81	18055	1	0	4	82	
					5QM	27563	5	0	2	125	26637	4	0	2	121	28579	5	0	2	130	
					5QN	27253	5	0	0	124	26941	5	0	0	122	28257	5	0	0	129	
					5R	27596	5	0	5	125	26606	4	0	4	121	28613	5	0	5	130	
					5W	27940	5	0	4	127	26278	5	0	3	119	28970	5	0	4	132	
					Clear lens	FR	26399	2	0	2	120	27063	2	0	2	123	27372	2	0	2	125
						FR-BC	17138	1	0	1	78	17569	1	0	1	80	17770	1	0	1	81
						2	24980	3	0	3	114	25608	3	0	3	116	25901	3	0	3	118
						2-BC	14881	1	0	2	68	15255	1	0	2	69	15430	1	0	2	70
						3	25266	3	0	4	115	25902	3	0	4	118	26198	3	0	4	120
						3-BC	14790	1	0	3	67	15162	1	0	3	69	15335	1	0	3	70
						4	25003	2	0	4	114	25632	2	0	4	117	25925	2	0	4	118
						4-BC	18719	1	0	4	85	19190	1	0	4	87	19410	1	0	4	88
						4W	25667	3	0	4	117	26313	3	0	4	120	26613	3	0	4	122
						4W-BC	16440	1	0	4	75	16853	1	0	4	77	17046	1	0	4	77
5QM	26023	4	0	2		118	26678	5	0	2	121	26982	5	0	2	123					
5QN	25730	5	0	0		117	26377	5	0	0	120	26678	5	0	0	122					
5R	26054	4	0	4	118	26709	4	0	4	121	27014	4	0	4	123						
5W	26378	5	0	3	120	27042	5	0	4	123	27351	5	0	4	125						

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

UR28

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI				4000K 70CRI				5000K 70CRI							
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	
							B	U	G			B	U	G			B	U	G		
96L	30,000	800mA	255	No lens	FR	30691	2	0	2	120	31464	2	0	2	123	31823	2	0	2	126	
					FR-BC	19925	1	0	1	79	20426	1	0	1	81	20659	1	0	1	82	
					2	29042	3	0	4	114	29773	3	0	4	117	30113	3	0	4	119	
					2-BC	17301	1	0	2	68	17736	1	0	2	70	17939	1	0	2	71	
					3	29375	3	0	4	115	30114	3	0	4	118	30458	3	0	4	120	
					3-BC	16835	1	0	3	66	17258	1	0	3	68	17456	1	0	3	68	
					4	29069	2	0	5	114	29801	2	0	5	117	30141	2	0	5	119	
					4-BC	21764	1	0	4	86	22311	1	0	4	88	22566	1	0	4	89	
					4W	29841	3	0	5	117	30591	3	0	5	120	30941	3	0	5	122	
					4W-BC	19113	1	0	4	76	19594	1	0	4	77	19818	1	0	4	78	
					5QM	30255	5	0	2	119	31016	5	0	2	122	31370	5	0	2	124	
					5QN	29914	5	0	1	117	30666	5	0	1	120	31017	5	0	1	123	
					5R	30290	5	0	5	119	31052	5	0	5	122	31407	5	0	5	124	
					5W	30668	5	0	4	120	31440	5	0	4	123	31799	5	0	4	126	
					Clear lens	FR	29335	2	0	2	115	30073	2	0	2	118	30417	2	0	2	120
						FR-BC	19044	1	0	1	75	19523	1	0	1	77	19746	1	0	1	78
						2	27759	3	0	4	109	28457	3	0	4	112	28782	3	0	4	114
						2-BC	16536	1	0	2	65	16952	1	0	2	67	17146	1	0	2	68
						3	28077	3	0	4	110	28783	3	0	4	113	29112	3	0	4	115
						3-BC	16623	1	0	3	65	17042	1	0	3	67	17236	1	0	3	68
						4	27784	2	0	5	109	28483	2	0	5	112	28809	2	0	5	114
						4-BC	20802	1	0	4	82	21325	1	0	4	84	21569	1	0	4	85
						4W	28522	3	0	4	112	29239	3	0	5	115	29574	3	0	5	117
						4W-BC	18269	1	0	4	72	18728	1	0	4	74	18942	1	0	4	75
5QM	28917	5	0	2		113	29645	5	0	2	116	29984	5	0	2	118					
5QN	28592	5	0	0		112	29311	5	0	1	115	29646	5	0	1	117					
5R	28952	5	0	5		114	29680	5	0	5	116	30019	5	0	5	119					
5W	29313	5	0	4		115	30050	5	0	4	118	30393	5	0	4	120					
114L	690mA	265	HDL lens	3	26922	3	0	3	102	27600	3	0	3	104	27915	3	0	3	105		
				5W	27193	4	0	3	103	28096	5	0	3	106	28418	5	0	3	107		

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

UR28

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS (CONTINUED)

LEDs #	Lumens Package	Drive Current	Nominal Watts	Lens Options	Distribution	3000K 70CRI				4000K 70CRI				5000K 70CRI							
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	
							B	U	G			B	U	G			B	U	G		
96L	35,000	1000mA	315	No lens	FR	35296	2	0	2	112	36184	2	0	2	115	36598	2	0	2	117	
					FR-BC	22914	1	0	2	73	23490	1	0	2	75	23759	1	0	2	76	
					2	33400	3	0	4	106	34240	3	0	4	109	34631	3	0	4	110	
					2-BC	19897	1	0	2	63	20397	1	0	2	65	20631	1	0	2	66	
					3	33782	3	0	5	107	34632	3	0	5	110	35028	3	0	5	112	
					3-BC	20256	1	0	4	64	20765	1	0	4	66	21003	1	0	4	67	
					4	33431	2	0	5	106	34272	2	0	5	109	34663	2	0	5	110	
					4-BC	25029	1	0	4	80	25659	1	0	4	82	25952	1	0	4	83	
					4W	34318	3	0	5	109	35181	3	0	5	112	35583	3	0	5	113	
					4W-BC	21981	1	0	4	70	22534	1	0	4	72	22792	1	0	4	73	
					5QM	34794	5	0	3	110	35669	5	0	3	113	36077	5	0	3	115	
					5QN	34402	5	0	1	109	35267	5	0	1	112	35671	5	0	1	114	
					5R	34835	5	0	5	111	35712	5	0	5	113	36120	5	0	5	115	
					5W	35269	5	0	4	112	36157	5	0	4	115	36570	5	0	4	116	
					Clear lens	FR	34958	2	0	2	111	35837	2	0	2	114	36247	2	0	2	115
						FR-BC	22694	1	0	2	72	23265	1	0	2	74	23531	1	0	2	75
						2	33079	3	0	4	105	33911	3	0	4	108	34299	3	0	4	109
						2-BC	19706	1	0	2	63	20202	1	0	2	64	20433	1	0	2	65
						3	33458	3	0	4	106	34300	3	0	4	109	34692	3	0	4	110
						3-BC	19810	1	0	3	63	20308	1	0	3	64	20540	1	0	3	65
						4	33110	2	0	5	105	33943	2	0	5	108	34331	2	0	5	109
						4-BC	24789	1	0	4	79	25412	1	0	4	81	25703	1	0	4	82
						4W	33989	3	0	5	108	34844	3	0	5	111	35242	3	0	5	112
						4W-BC	21770	1	0	4	69	22318	1	0	4	71	22573	1	0	4	72
5QM	34460	5	0	3		109	35327	5	0	3	112	35731	5	0	3	114					
5QN	34072	5	0	1		108	34929	5	0	1	111	35328	5	0	1	112					
5R	34501	5	0	5	110	35369	5	0	5	112	35773	5	0	5	114						
5W	34931	5	0	4	111	35810	5	0	4	114	36219	5	0	4	115						

Scaling factors 27K8 = 0.859, 35K8 = 0.906 of 5K7 lumen packages

UR28

ARCHITECTURAL AREA/SITE

PHOTOMETRY

UR28-96L-315-4K7-FR

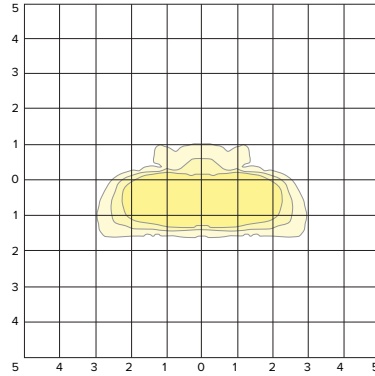
LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	36184
Watts	315
Efficacy	114.9
IES Type	I
BUG Rating	B2-U0-G2
Mounting Height	30 ft
Grid Scale	30 ft

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	32749	90.5%
Downward House Side	3436	9.5%
Downward Total	36184	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	36184	100%

ISOFOOT CANDLE PLOT



UR28-96L-315-4K7-2

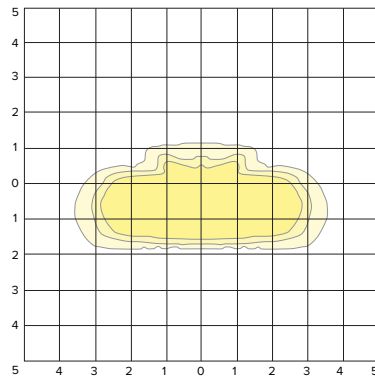
LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	34239
Watts	315
Efficacy	108.7
IES Type	II
BUG Rating	B3-U0-G4
Mounting Height	30 ft
Grid Scale	30 ft

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	29085	84.9%
Downward House Side	5154	15.1%
Downward Total	34239	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	34239	100%

ISOFOOT CANDLE PLOT



UR28-96L-315-4K7-3

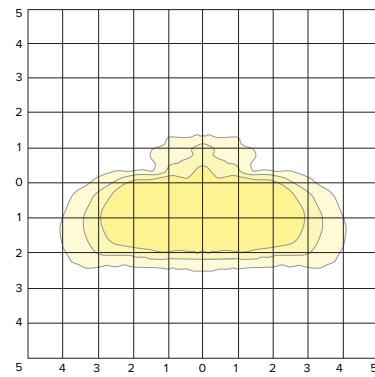
LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	34632
Watts	313.97
Efficacy	110.3
IES Type	III
BUG Rating	B3-U0-G5
Mounting Height	30 ft
Grid Scale	30 ft

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	30450	87.9%
Downward House Side	4182	12.1%
Downward Total	34632	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	34632	100%

ISOFOOT CANDLE PLOT



UR28

ARCHITECTURAL AREA/SITE

PHOTOMETRY

UR28-96L-315-4K7-4

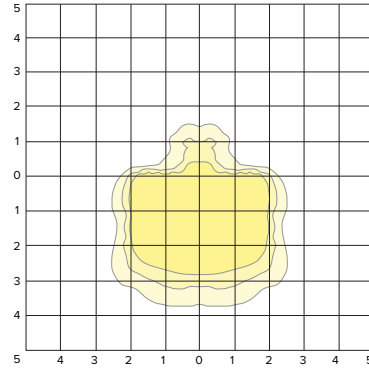
LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	34272
Watts	315
Efficacy	108.8
IES Type	IV
BUG Rating	B2-U0-G5
Mounting Height	30 ft
Grid Scale	30 ft

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	31437	91.7%
Downward House Side	2835	8.3%
Downward Total	34272	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	34272	100%

ISOFOOT CANDLE PLOT



UR28-96L-315-4K7-4W

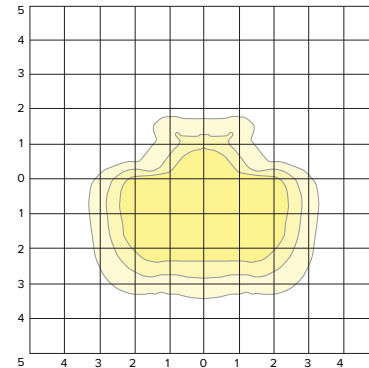
LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	35181
Watts	315
Efficacy	111.7
IES Type	IV
BUG Rating	B3-U0-G5
Mounting Height	30 ft
Grid Scale	30 ft

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	29338	83.4%
Downward House Side	5843	16.6%
Downward Total	35181	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	35181	100%

ISOFOOT CANDLE PLOT



UR28-96L-315-4K7-5QM

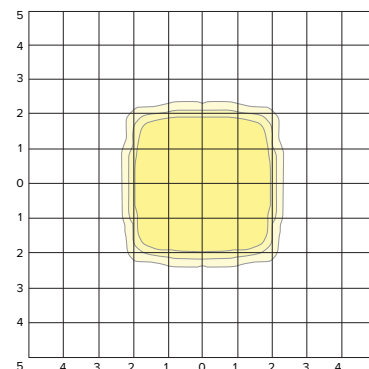
LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	35669
Watts	315
Efficacy	113.2
IES Type	VS
BUG Rating	B5-U0-G3
Mounting Height	30 ft
Grid Scale	30 ft

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	17835	50.0%
Downward House Side	17835	50.0%
Downward Total	35669	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	35669	100%

ISOFOOT CANDLE PLOT



UR28

ARCHITECTURAL AREA/SITE

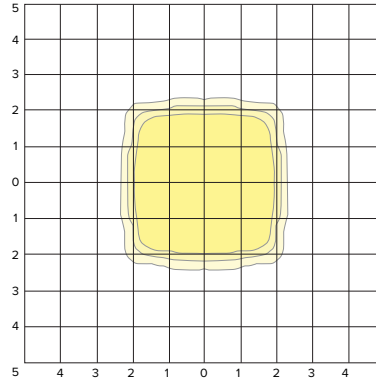
PHOTOMETRY

UR28-96L-315-4K7-5QN

LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	35267
Watts	315
Efficacy	112.0
IES Type	VS
BUG Rating	B5-U0-G1
Mounting Height	30 ft
Grid Scale	30 ft

ISOFOOT CANDLE PLOT



ZONAL LUMEN SUMMARY

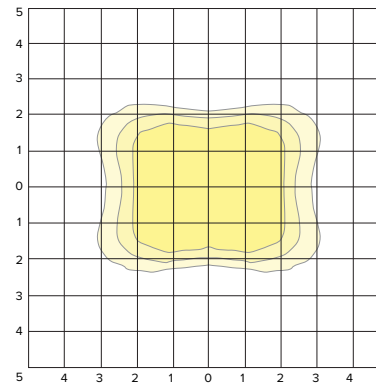
Zone	Lumens	% Luminaire
Downward Street Side	17634	50.0%
Downward House Side	17634	50.0%
Downward Total	35267	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	35267	100%

UR28-96L-315-4K7-5R

LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	35712
Watts	315
Efficacy	113.4
IES Type	III
BUG Rating	B5-U0-G5
Mounting Height	30 ft
Grid Scale	30 ft

ISOFOOT CANDLE PLOT



ZONAL LUMEN SUMMARY

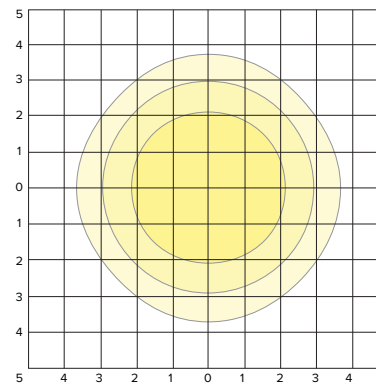
Zone	Lumens	% Luminaire
Downward Street Side	17856	50.0%
Downward House Side	17856	50.0%
Downward Total	35712	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	35712	100%

UR28-96L-315-4K7-5W

LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	36157
Watts	315
Efficacy	114.8
IES Type	VS
BUG Rating	B5-U0-G4
Mounting Height	30 ft
Grid Scale	30 ft

ISOFOOT CANDLE PLOT



ZONAL LUMEN SUMMARY

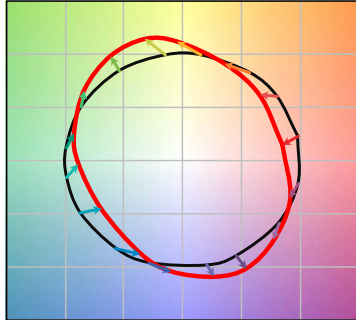
Zone	Lumens	% Luminaire
Downward Street Side	18079	50.0%
Downward House Side	18079	50.0%
Downward Total	36157	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	36157	100%

UR28

ARCHITECTURAL AREA/SITE

TM-30 DATA

COLOR VECTOR GRAPHIC

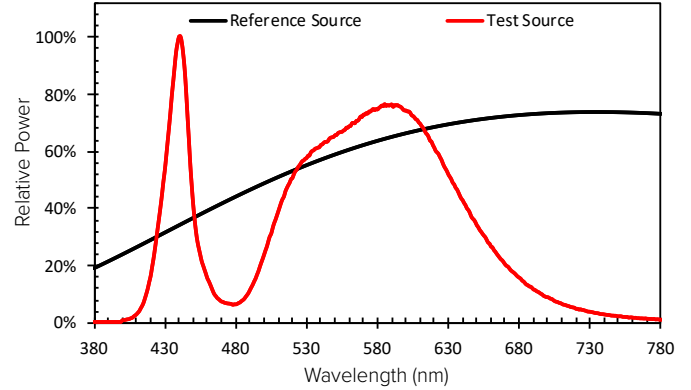


— Reference Illuminant — Test Source

TEST SOURCE

R _f	68
R _a	99
CCT(K)	3947
D _{uv}	0.0004
x	0.3831
y	0.3793
CIE R _a	72

SPECTRAL POWER DISTRIBUTION COMPARISON



ELECTRICAL DATA

Drive Current	LED Count	System Watts	Line Voltage		Amps AC						Min. Power Factor	Max THD (%)	Dimming				
													Dimming Range	Source current out of 0-10V		Absolute voltage range on 0-10V (+)	
			VAC	Hz	120	208	240	277	347	480				Min	Max	Min	Max
500 mA	96	155	120-480	50/60	1.29	0.75	0.65	0.56	0.45	0.32	>0.9	20	10% to 100%	0mA	1mA	0V	10V
430mA	114	160			1.33	0.77	0.67	0.58	0.46	0.33							
550 mA	96	170			1.42	0.82	0.71	0.61	0.49	0.35							
475mA	114	180			1.50	0.87	0.75	0.65	0.52	0.38							
600 mA	96	185			1.54	0.89	0.77	0.67	0.53	0.39							
700 mA	96	220			1.83	1.06	0.92	0.79	0.63	0.46							
800 mA	96	255			2.13	1.23	1.06	0.92	0.73	0.53							
690mA	114	265			2.21	1.27	1.10	0.96	0.76	0.55							
1000 mA	96	315			2.63	1.51	1.31	1.14	0.91	0.66							

TM-21 Lifetime Calculation - Projected Lumen Maintenance (25°C / 77°C)

Ambient Temp.	0	25,000	36,000	50,000	100,000	Reported L70
25°C / 77°F	100%	97%	95%	93%	87%	60khrs

CRI Lumen Multiplier

CCT	Amber	70 CRI	80 CRI	90 CRI
Amber	0.1727s	—	—	—
2700K	—	—	0.859	—
3000K	—	1	0.9119	0.7033
3500K	—	—	0.906	—
4000K	—	1	0.8941	0.734
5000K	—	1	0.879	0.7712