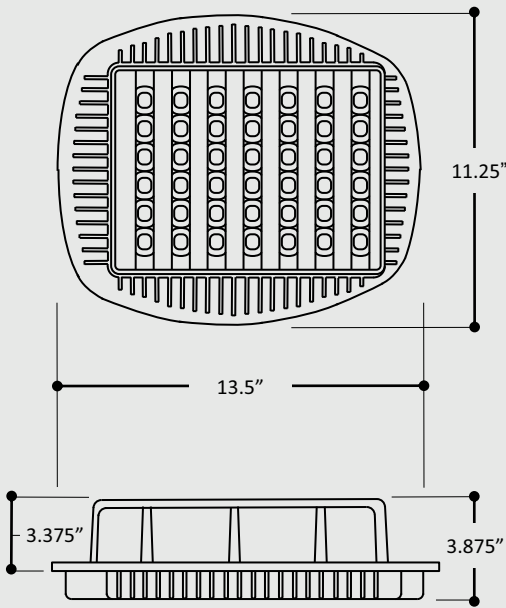


DuraStreet® Series 42 LED Light Engine



Notes: Actual dimensions may differ slightly from those shown above depending on the size and shape requirements of the existing housing.

Product weight = 13 pounds.

APPLICATIONS

- Solid-state light engine for use as a long-life, high-efficiency replacement module in existing 100-150/175 watt HID (high intensity discharge) roadway luminaires.
- Light engines available for roadway housings made by all major manufacturers.
- Suitable for use in outdoor temperatures of -40°F (-40°C) to 140°F (60°C).
- Suitable for use with input voltages of 100-277VAC (50-60 Hz).

SPECIFICATIONS

- **LEDs:** 42 Cree XLamp® X-PE white-phosphor LEDs.
- **Correlated Color Temperature (CCT):** Neutral (4500K) is standard. Others colors available by request.
- **Color Rendering Index (CRI):** ≥ 80.
- **Total System Efficacy:** Up to 67 lumens/watt (350mA drive current), and 58 lumens/watt (525mA).
- **Light Distribution:** IESNA roadway Type II/III or Type V.
- **Proprietary Optical Design:** Developed in partnership with Fraen Corporation, optics provide low BUG (backlight, uplight and glare) ratings and high FTE (Fitted Target Efficiency).
- **Low EPA (Effective Protected Area):** Low-profile inhibits lighting standard (pole) vibration.
- **Rugged Construction:** High-impact acrylic lens and heavy-duty die cast aluminum heatsink.
- **Installation:** Quick, trouble-free installation in existing luminaire door frame.
- **Environmental Impact:** Environmentally-friendly, mercury-free technology. Disposal of existing fixture is not required.
- **Safety Features:** A 24" safety cable (which can be attached to the luminaire housing) is standard, and optional *LensLocks™* and *LatchLocks™* provide additional security for demanding applications.
- **Over-Temperature Protection:** Automatically reduces power to 50% when predefined internal temperature limits are exceeded, as may occur with unintentional daytime operation.
- **Warranty:** Five years on LED arrays and power supplies, and ten years on chassis components.
- **Manufactured in the USA**

INDEPENDENT PERFORMANCE TESTS

- **Photometric & Electrical Performance (LM79):** Verified by Independent Testing Laboratories, Inc. (ITL), in accordance with LM79 (IES-79-08).
- **LED Lumen Maintenance (LM80):** Verified by Cree to provide at least 70% of initial lumens for at least 50,000 hours (L_{70}) in accordance with LM80 (IES-80-08).
- **LED Junction Temperature:** Verified by the Advanced Manufacturing Institute (AMI) at 60°C in outdoor temperatures of 77°F (25°C), and when operated at 350mA, providing 140,000 hours (L_{70}) based on Cree's specifications.
- **Door Frame Load:** Cobra head door frames verified by AMI to withstand at least seven times the weight of a DuraStreet light engine.
- **Pole Vibration:** Verified by Quanta Laboratories to meet ANSI 3G vibration standards for bridge and overpass applications.



PART 15, CLASS B

ORDERING INFORMATION

D	AE115	2/3	UNV	350	CXPE	42	4500
Product Series D = DuraStreet	Existing Housing AE115 = American Electric 115 AE125 = American Electric 125 AE315 = American Electric 315 AE325 = American Electric 325 AE327 = American Electric 327 AE413 = American Electric 413 COVD/F/Y = Cooper OVD/OVF/OVY COVG/H = Cooper OVG/OVH COVX = Cooper OVX COVZ = Cooper OVZ GEM250 = G.E. M-250A2/R2 GEM400 = G.E. M-400 GEM400A = G.E. M-400A GEM400A2 = G.E. M-400A2 GEM400R2 = G.E. M-400R2	Distribution 2/3 = Type II/III 5 = Type V	Input Voltage UNV = Universal (100-277 VAC)	LED Drive Current 350 = 350mA 525 = 525mA	LED Supplier CXPE = Cree X-PE	LED Quantity 42 = 42 LEDs	Color Temperature 4500 = 4500K (Neutral) Other color temperatures available by request.*

* Please consult EcoFit Lighting regarding availability of other configurations and options.



The smart solution. The right fit.™

DuraStreet® Series 42 LED Light Engine

PHOTOMETRICS

TYPE II/III

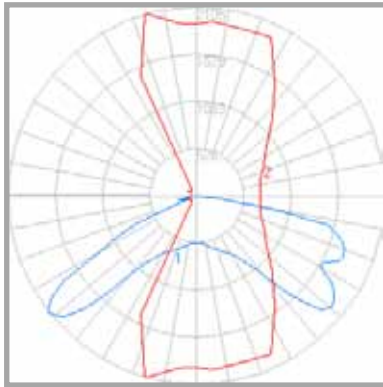


CHART AT LEFT:

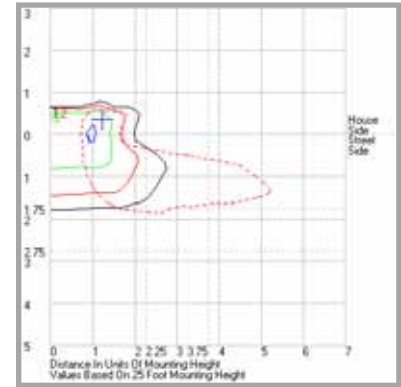
Candlepower Distribution Curves

Plot 1: Vertical Plane Through Horizontal Angles

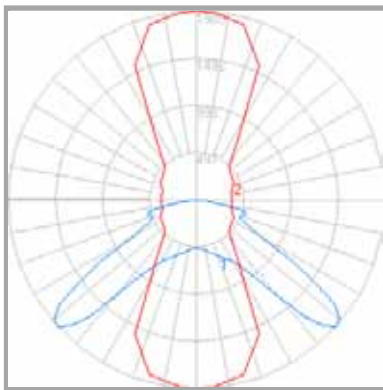
Plot 2: Horizontal Cone Through Vertical Angle

CHART AT RIGHT:

Isofootcandle Plots (initial footcandles at grade)



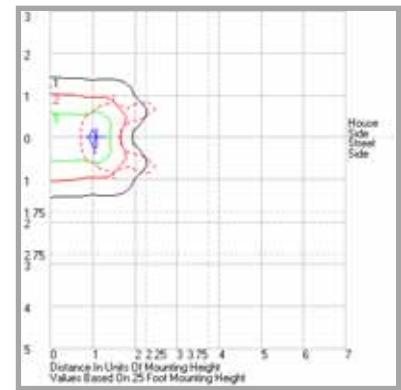
TYPE V



Data Sources:

Type II/III: Independent Testing Laboratories Report 63596. 42 Cree X-PE LEDs driven at 350mA, producing 3,292 lumens.

Type V: Independent Testing Laboratories Report 63833. 42 Cree X-PE LEDs driven at 350mA, producing 3,137 lumens.



See www.EcoFitLighting.com for ITL reports, .ies files, and photometric data for other models.

LED & ELECTRICAL PERFORMANCE¹

LED Quantity	IES Type	BUG ² Rating	Energy Star FTE ³	LED Drive Current (mA)	Input Power (W)	Photopic ⁶		Scotopic ⁶		Input Current (A)		
						Total Delivered Lumens ⁴	Total System Efficacy (Lm/W) ⁵	Total Delivered Lumens	Total System Efficacy (Lm/W)	@120V	@240V	@277V
42	II/III	B1-U1-G1	44	350	49	3,292	67	5,267	107	0.41	0.20	0.18
42	II/III	B1-U1-G1	38	525	73	4,200	58	6,720	92	0.61	0.30	0.26
42	V	B1-U1-G1	49	350	49	3,137	64	5,019	102	0.41	0.20	0.18
42	V	B2-U1-G1	45	525	73	4,172	57	6,675	91	0.61	0.30	0.26

¹ Standard CRI is ≥ 80 . Universal input voltage (120-277) drivers, operating on 50-60 Hz are standard.

All models feature THD < 20% and power factor > 90%.

² BUG is an acronym for *backlight, uplight, and glare*.

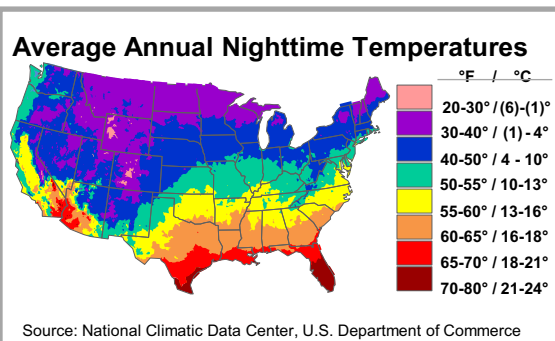
³ FTE is an acronym for *fitted target efficiency*.

⁴ Based on actual output of test luminaire (see ITL test reports 63596, 63597, 63606 & 63833).

⁵ Total system efficacy equals total delivered lumens divided by input power.

⁶ Based on a scotopic/photopic adjustment factor of 1.6 @ 4100K. Source: Berman, S.M., (1995), *The Reengineering of Lighting Photometry*, Lawrence Berkeley National Laboratory. Photopic lumens are the standard basis for most IES guidelines. However, Dr. Sam Berman and his colleagues have suggested that scotopic lumens are a more reliable measure of night vision.

LED JUNCTION TEMPERATURE (T_J) & PROJECTED L₇₀ LIFE



Average Outdoor Temperature (°F/°C)	LED Junction Temperature (T _J) @ 350mA (°C) ¹	Projected L ₇₀ Life ² (Hours) @ 350mA	LED Junction Temperature (T _J) @ 525mA (°C) ¹	Projected L ₇₀ Life ² (Hours) @ 525mA
32 / 0	36	>150,000	56	>100,000
41 / 5	41	>150,000	61	>100,000
50 / 10	46	>150,000	65	>100,000
59 / 15	51	>150,000	70	>100,000
68 / 20	55	>150,000	74	> 90,000
77 / 25	60	>140,000	79	> 80,000
86 / 30	64	>120,000	83	> 80,000

¹ See www.EcoFitLighting.com for independent test results showing T_J at various outdoor temperatures.

² L₇₀ life projections provided by Cree are based on LED junction temperature levels after reaching thermal equilibrium.

Specifications subject to change without notice.

Patent(s) pending.

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Revision 1.7 (1/10)

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