ETC

SolaFrame 3000

High End Systems

Type(s)

Project

Date

Notes

OVERVIEW

Fixture Overview

High End Systems' SolaFrame 3000 combines unprecedented light output from its 1000 watt Ultra-Brite White LED engine with a limitless palette of effects and color possibilities. Engineered for the largest lighting applications, SolaFrame 3000 is the first automated LED luminaire to rival and exceed the output of the most powerful arc lamp fixtures, while simultaneously offering the advantages of LED technology such as long engine life.

Applications

- Arenas and stadiums
- Concert halls and performing arts centers
- Film and television broadcast studios
- Large scale events
- Megachurches and houses of worship

Product Features

- White LED Engine
- 1000 W Ultra-Brite engine producing 37,000 field lumens or High Fidelity Engine with incredibly accurate color rendering
- CMY/CTO-Linear color mixing system
- Six + open position replaceable Color Wheel
- Framing system for total control of beam shaping
- Iris, Light Frost, Prism and 7°–55° Zoom
- Seven position plus open interchangeable Gobo Wheel
- Seven position plus open Rotating Gobo Wheel
- Continuously Variable Animation Wheel
- TM30 Filter Boosts Ultra-Brite Engine to 85+ CRI
- Patented Lens Defogger

ORDERING INFORMATION

SolaFrame 3000

Model	Description
2581A1200-B	SolaFrame 3000 fixture, Ultra-Brite, black, with Molded Rubber Insert
2581A1201-B	SolaFrame 3000 fixture, High Fidelity, black, with Molded Rubber Insert

Color Options: Fixtures ship standard in black. White available by request.
Included Accessories: Fixture includes two (2) 180 mm Single-hole Omega brackets, one (1) fixture power cord, bare ends to powerCON® TRUE1® TOP input, and a safety cable.

Accessories

Model	Description
2560B7004	Fixture Power Cord upgrade, 5-20 Edison to powerCON TRUE1, 20 A
2560B7005	Fixture Power Cord upgrade, Stage Pin to powerCON TRUE1, 20 A
2560B7006	Fixture Power Cord upgrade, L6-20 to powerCON TRUE1, 20 A
2560B7007	Fixture Power Cord upgrade, L5-20 to powerCON TRUE1, 20 A
67040007	MegaClaw™
55040014	Cheeseborough 2" Alloy 1/2 Coupler Truss Clamp
67040010	Mini-Claw™

ETC

PRODUCT SPECIFICATIONS

Source

Engine	Ultra-Bright White Engine	High Fidelity White Engine
LED Details	1000 W	1000 W
Max Field Lumens	37,000 lumens	25,000 lumens
LPW	37 lumens per Watt	25 lumens per Watt
LED Life	50,000 hours	50,000 hours
Native CCT	7000 K	6000 K
Transferable Light Engine	Yes	Yes

Color

Color Mixing	Cyan, magenta, yellow, CTO-linear
Color Temperature	Variable down to 2800 K
Color Wheel	Six (6) interchangeable dichroic chips plus open includes TM-30 Filter standard

Optical

Beam Angle Range	7°–55°
Gate Size	30 mm
Aperture Size	120 mm
Pattern Projection	Rotating and indexable wheel with seven (7) patterns plus open Fixed wheel with seven (7) patterns plus open
Framing	Four-plane, full-curtain framing system with 90° module rotation
Animation	Rotating animation wheel
Prism	Three-facet rotating and indexable prism Additional accessories available
Frost	Light frost Additional accessories availalble
Iris	16-blade iris
Flicker Control/Hz Range	100 Hz, 2.4 kHz, or 16 kHz

Control

Input Method	DMX (5-pin) or Ethernet
Protocols	DMX via RS-485 Art-Net or sACN via Ethernet
Ethernet Pass-Thru	Passive Ethernet in and thru with and without power
Data Conversion	Patented data conversion system for: DMX to Ethernet protocols Ethernet protocols to DMX
Modes (Footprint)	Standard (49), Enhanced (51), Enhanced Dual Frost (51)
RDM Functions	Yes
UI Type	Full color graphical UI with 6 button navigational control
Local Control	Yes
Dimming Performance	16-bit, DMX controlled

Electrical

Voltage Range	100–240 VAC, 50–60 Hz
Input Method	powerCON TRUE1
Wattage (Standard/+Defogger)	1,487 W / 1,531 W
Current (Max)	15.3 A @ 100 V

Thermal

Ambient Operating Temp	-10–45°C (14–113°F)
Fan Mode	Four modes: Standard, Studio, Continuous, and Studio Continuous
Stationary Noise	Standard - 42 dBA Studio - 38 dBA Continuous - 44 dBA Studio Continuous - 41 dBA
Lens Defogging	Patented Lens Defogger included

Physical

Pan and Tilt Range	540° pan, 250° tilt
Max Pan/Tilt Speed	360° in 2.80 s / 180° in 1.67 s
Materials	Steel and aluminum frame with molded plastic covers
Color Options	Black, white by request
Mounting Options	Any orientation
IP Rating	IP-20
Weight	48 kg (106 lb)
Included Accessories	powerCON TRUE1 TOP to bare end fixture tail Two (2) 180 mm Single-hole Omega brackets Safety cable

Warranty

Fixture Warranty	Two (2) year for complete fixture Five (5) year for light engine
Warranty Details	highend.com/warranty

Regulatory & Compliance

Regulatory Standards	Conforms to UL STD.1573 Certified to CSA STD. C22.2 No: 155 CE EAC

Safety

Safety	Minimum distance to illuminated surface = 2.0 m (6.5 ft) Minimum distance from fixture head to combustible materials = 0.1 m (0.33 ft)

Note: All LED sources experience some lessening of light output and some color shift over time. LED output will vary with thermal conditions. Thermal conditions can be affected by ambient temperatures and orientation.
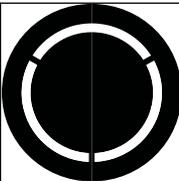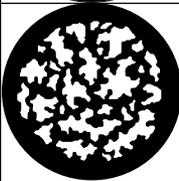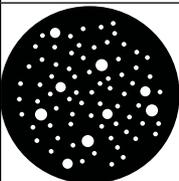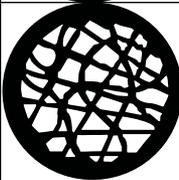
OPTICAL INFORMATION

Fixed Gobo Details

Outside Diameter	33 mm (1.29 in)
Image Diameter	25 mm (0.98 in)
Materials	0.5 mm aluminum

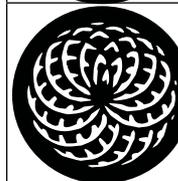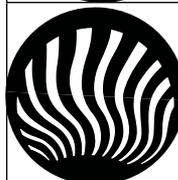|	
	1 - Tunnel
	2 - Triangles
	3 - Organic
	4 - Shower
	5 - Abstract
	6 - Cobble
	7 - Endgrain

Rotating Gobo Details

Outside Diameter	30 mm (1.18 in)
Image Diameter	25 mm (0.98 in)
Materials	0.5 mm aluminum 1.1 mm glass Borofloat®
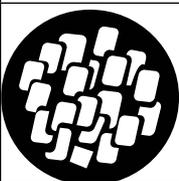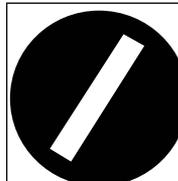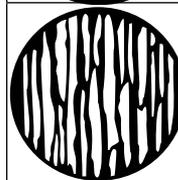
	1 - Bar
	2 - Stripe Strips
	3 - Crescents
	4 - GeoSwirl
	5 - Seashell (Magnetically Indexed Adaptor)
	6 - Pinwheel Dots
	7 - Ice

Color Wheel Details

Shape	Interchangeable wedge
Materials	1.1 mm glass Borofloat
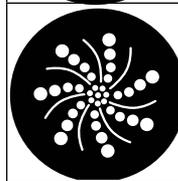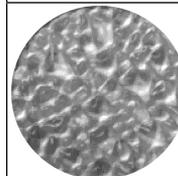
	1 - Red
	2 - Blue
	3 - Green
	4 - TM-30
	5 - Orange
	6- Dark Blue

Animation Wheel Details

Movement	Bi-directional continuous rotation
Materials	0.6 mm aluminum
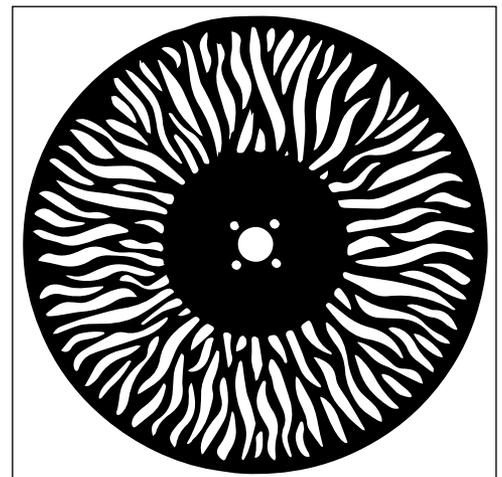
PHOTOMETRIC INFORMATION

SolaFrame 3000 - Ultra Bright

	Degree	Candela	Field Lumens	Power Usage	Lumens Per Watt
Narrow	7	1,485,557	14,940	1000 W	14.9
Medium	30	192,321	33,638	1000 W	33.6
Wide	55	66,226	37,000	1000 W	37
Wide w/ Frost	58	59,470	32,188	1000 W	32.5

Narrow - 7°

Throw Distance	10 ft 3.0 m	15 ft 4.6 m	20 ft 6.1 m	25 ft 7.6 m	188.7 ft 57.5 m
Field Diameter	1.2 ft 0.37 m	1.8 ft 0.56 m	2.4 ft 0.75 m	3.1 ft 0.93 m	23.4 ft 7.13 m
Illuminance (fc)	14,075	6,172	3,473	2,234	39
Illuminance (lux)	151,510	66,442	37,391	24,047	422

Medium - 30°

Throw Distance	10 ft 3.0 m	15 ft 4.6 m	20 ft 6.1 m	25 ft 7.6 m	188.7 ft 57.5 m
Field Diameter	5.4 ft 1.6 m	8.0 ft 2.4 m	10.7 ft 3.3 m	13.4 ft 4.1 m	101 ft 31 m
Illuminance (fc)	6,779	3,198	1,911	1,247	22
Illuminance (lux)	72,975	34,333	20,572	13,427	236

Wide - 55°

Throw Distance	10 ft 3.0 m	15 ft 4.6 m	20 ft 6.1 m	25 ft 7.6 m	188.7 ft 57.5 m
Field Diameter	10.4 ft 3.17 m	15.6 ft 4.76 m	20.8 ft 6.34 m	26 ft 7.93 m	196 ft 60 m
Illuminance (fc)	601	273	157	104	1.8
Illuminance (lux)	6,477	2,974	1,695	1,120	20

SolaFrame 3000 - High Fidelity

	Degree	Candela	Field Lumens	Power Usage	Lumens Per Watt
Narrow	7	1,003,755	10,094	1000 W	10
Medium	30	129,946	22,729	1000 W	22.7
Wide	55	44,747	24,387	1000 W	24.3
Wide w/ Frost	58	40.182	21,749	1000 W	21.7

Narrow - 7°

Throw Distance	10 ft 3.0 m	15 ft 4.6 m	20 ft 6.1 m	25 ft 7.6 m	188.7 ft 57.5 m
Field Diameter	1.2 ft 0.37 m	1.9 ft 0.57 m	2.5 ft 0.76 m	3.1 ft 0.94 m	23.4 ft 7.13 m
Illuminance (fc)	10,126	4,440	2,499	1,607	28
Illuminance (lux)	109,000	47,800	26,900	17,300	304

Medium - 30°

Throw Distance	10 ft 3.0 m	15 ft 4.6 m	20 ft 6.1 m	25 ft 7.6 m	188.7 ft 57.5 m
Field Diameter	5.4 ft 1.6 m	8.0 ft 2.4 m	10.7 ft 3.3 m	13.4 ft 4.1 m	101 ft 31 m
Illuminance (fc)	4,877	2,294	1,374	897	16
Illuminance (lux)	52,500	24,700	14,800	9,660	170

Wide - 55°

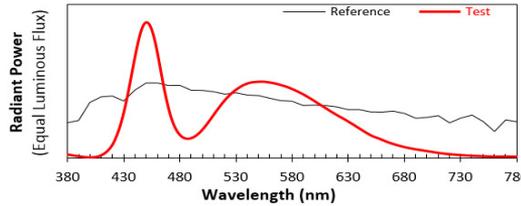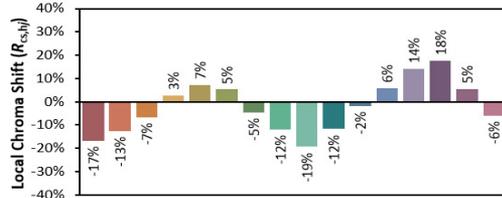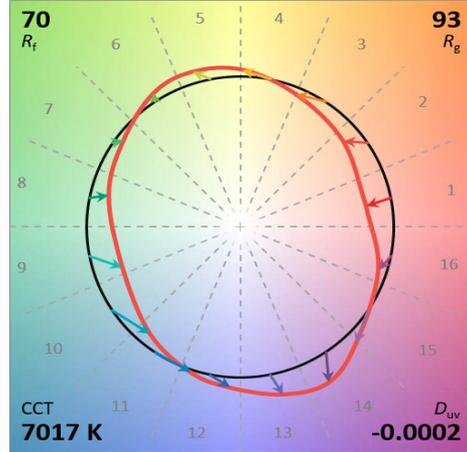| Throw Distance	10 ft 3.0 m	15 ft 4.6 m	20 ft 6.1 m	25 ft 7.6 m	188.7 ft 57.5 m
Field Diameter	10.4 ft 3.17 m	15.6 ft 4.76 m	20.8 ft 6.34 m	26 ft 7.93 m	196 ft 60 m
Illuminance (fc)	432	198	113	74	1.3
Illuminance (lux)	4,660	2,140	1,220	806	20

To determine center beam illumination in footcandles at any throw distance, divide candela by the throw distance squared.

Metric conversions: For meters, multiply feet by 0.3048.
For lux, multiply footcandles by 10.76.

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SolaFrame 3000

High End Systems

COLOR METRIC INFORMATION

Ultra-Brite Engine

IES TM-30-15 Color Rendition Report

70 R_f 93 R_g

Local Chroma Shift ($R_{cs,hj}$): -17%, -13%, -7%, 3%, 7%, 5%, -5%, -12%, -19%, -12%, -2%, 6%, 14%, 18%, 5%, -6%

CCT 7017 K D_{uv} -0.0002

Reference — Test

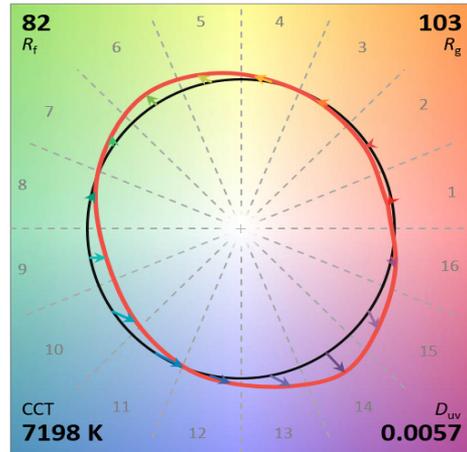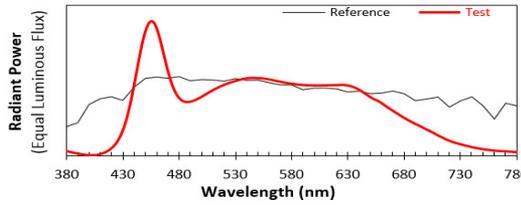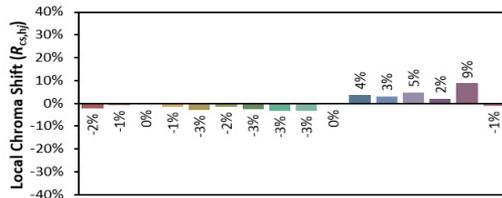Radiant Power (Equal Luminous Flux) vs Wavelength (nm)

Colors are for visual orientation purposes only. Please contact ETC for full TM-30-15 report.

Additional Color Metrics

SolaFrame 3000 Ultra-Brite Engine	
CRI R_a (R_9)	70 (-14.5)
TLCI	47

Ultra-Brite Engine with TM-30 Filter

IES TM-30-15 Color Rendition Report
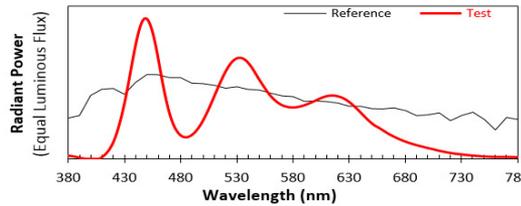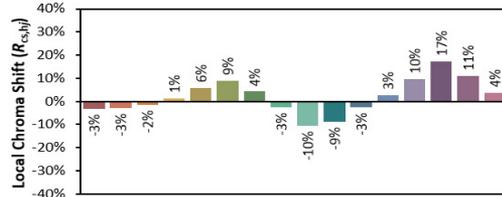
82 R_f 103 R_g

Local Chroma Shift ($R_{cs,hj}$): -3%, -3%, -2%, 1%, 6%, 9%, 4%, -3%, -10%, -9%, -3%, 3%, 10%, 17%, 11%, 4%

CCT 7198 K D_{uv} 0.0057

Reference — Test

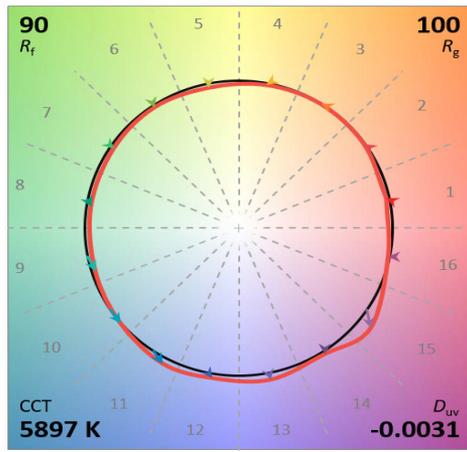Radiant Power (Equal Luminous Flux) vs Wavelength (nm)

Colors are for visual orientation purposes only. Please contact ETC for full TM-30-15 report.

Additional Color Metrics

SolaFrame 3000 Ultra-Brite Engine with TM-30 Filter	
CRI R_a (R_9)	85 (70.2)
TLCI	84

High Fidelity Engine

IES TM-30-15 Color Rendition Report

90 R_f 100 R_g

Local Chroma Shift ($R_{cs,hj}$): -2%, -1%, 0%, -1%, -3%, -2%, -3%, -3%, 0%, 4%, 3%, 5%, 2%, 9%, -1%

CCT 5897 K D_{uv} -0.0031

Reference — Test

Radiant Power (Equal Luminous Flux) vs Wavelength (nm)

Colors are for visual orientation purposes only. Please contact ETC for full TM-30-15 report.

Additional Color Metrics

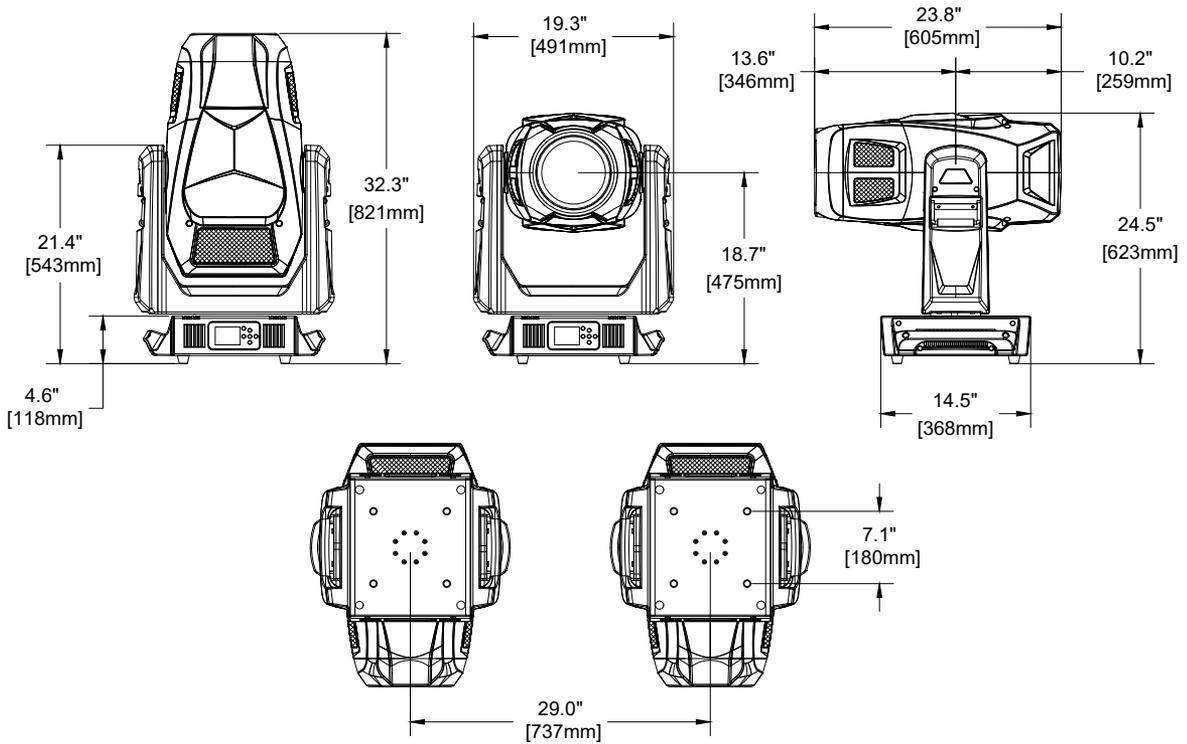| SolaFrame 3000 High Fidelity Engine	
CRI R_a (R_9)	96 (94)
TLCI	94

PHYSICAL INFORMATION

SolaFrame 3000 Dimensions

Model	Height		Width		Depth		Weight	
	in	mm	in	mm	in	mm	lb	kg
SolaFrame 3000*	32.3	821	19.3	491	14.5	368	106	48
SolaFrame 3000 in Molded Case Insert	28.5	715	27.2	690	22.7	575	147	66.5

*Does not include mounting hardware
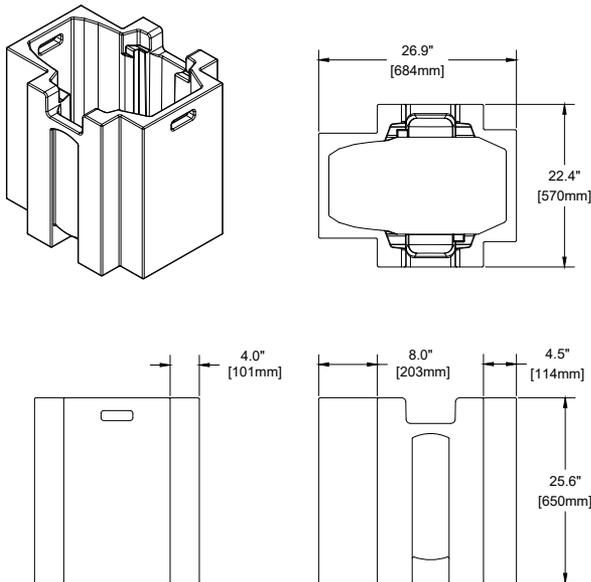

SolaFrame 3000 Power Table

VAC	Amps	Hz	Watts	VA	PF
100	15.3	50	1531	1532	0.99
120	12.2	60	1457	1458	0.99
200	6.9	50	1360	1372	0.99
208	6.6	60	1354	1363	0.99
220	6.2	50	1351	1364	0.99
230	5.9	50	1346	1364	0.98
240	5.7	60	1347	1347	0.98

ADDITIONAL ORDERING INFORMATION

Additional Accessories

Model	Description
2581A2015	Optional Four Facet Linear Prism Accessory (not installed)
2581A2029	Optional 8 Facet Effects Prism Accessory (not installed)
PSR1082	Molded case insert
2581A2027	Optional Heavy Frost Accessory (not installed)
2599A2001	Omega bracket, 180 mm Three-hole
H7150008	Omega bracket, 180 mm Single-hole (included)
H7300105	Galvanized safety cable with spring snap

Molded Case Insert Dimensions

Optional Roadcase Dimension