



OVERVIEW

Fixture Overview

Offering a classic retro look with its radial diffusers, TurboRay brings a distinctive appearance to any lighting rig. Used as a punchy narrow-angle washlight or as a powerful hard edge beam that produces beautiful aerial and other effects, the fixture is truly versatile.

TurboRay's soft edges, homogenized color and smooth intensity fall off make for a spectacular wash. In the air or projected on a surface, the animated gobo wheel and other features produce spectacular textures unseen in any other fixture. With a punchy zoom, pixel LED control, and both split and saturated colors, TurboRay provides limitless looks to bring excitement to the stage.

Applications

- Live concerts
- Tradeshows
- Festivals
- Industrial shows
- Award shows
- Studios

Product Features

- Additive LED RGBW color mixing system for extremely powerful saturated colors and tunable white control
- Patent pending optical system
- Quadrant control over the fixtures four LED system
- Beautiful radial diffusers with a retro scenic look
- Powerful narrow beam for dramatic aerals
- Smooth and even wash with a punchy three to one zoom range
- Custom animated gobo wheel for dramatic aerial beam texturing
- Color wheel for deeper saturates and beautiful split colors
- Patent pending HazeFree lens coating technology

ORDERING INFORMATION

TurboRay

Model	Description
2591A1000-F	TurboRay fixture, black, with styrofoam packaging
2591A1000-B	TurboRay fixture, black, with molded rubber insert
2591K1001	Roadcase for TurboRay, (fits up to two (2) TurboRay fixtures)

Color options: Fixtures ship standard in black. White available by request.

Note: Fixture includes two (2) Omega Brackets and one (1) fixture power cord, bare ends to powerCON® TRUE1 Input.

Accessories

Model	Description
2560B7004	Fixture power cord upgrade, L5-20 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™



PRODUCT SPECIFICATIONS

Source

Engine Options	Four, Osram Ostar Stage RGBW COBs
LED Details	Four 60 W Engines
Max Lumens on the Wall	6,000 Lumens
LPW	12 Lumens per Watt
LED Life	50,000 hours

Color

Color Mixing	Red, Green, Blue, and White
Color Temperature	Variable from 2800–8000 K
Color Wheel	Three (3) dichroic colors repeated in quadrants with split color

Optical

Beam angle range	3° Narrow Beam 10°–24° degree wash with radial diffusion
Pattern Projection and Animation	Custom gobo wheel with two animation patterns entering the beam in quadrants
Frost	16 segment primary radial diffuser 4 segment secondary diffuser
Flicker control/Hz range	1.1 kHz, 2.2 kHz, 4.4 kHz, 17.6kHz

Control

Input method	DMX (5-pin) or Ethernet
Protocols	DMX via RS-485 ArtNet or sACN via Ethernet
Modes (Footprint)	Two (53 and 25)
RDM functions	Yes
UI type	Full color graphical UI with 6 button navigational control
Local control	Yes
Effects Engine	Built in effects engine with multi parameter color and speed control
Pixel Mapping	Four (4) cell pixel mapping control
Dimming performance	16-Bit, DMX Controlled

Electrical

Voltage range	100–240 V 50–60 Hz
Input method	powerCON TRUE1™
Max wattage	500 W
Max current	5 A @ 100 V

Thermal

Ambient operating temp	0°–40° C (32°–104° F)
Fan Mode	Standard, Studio, Continuous, Studio Continuous

Physical

Pan and Tilt Range	540° Pan, 239° Tilt
Max Pan/Tilt Speed	360° in 2.54 s / 180° in 1.78 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	50.1 lb, 22.7 kg
Included accessories	powerCON TRUE1 to bare end fixture tail Two (2) clamp Brackets Safety Cable

Warranty

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

Regulatory & Compliance

Regulatory Standards	Listed to UL 1573 Certified to CSA STD. C22.2 No: 166 EAC
CE compliance declared to the following standards	Safety: EN 60598-1, EN 60598-2-17, EN 62031, EN 62471 EMC: EN 55015, EN 61547, EN 61000-3-2, EN 6100-3-3
Complies to the ROHS directive	Yes

Safety

Safety	Minimum distance to illuminated surface = 2.0 m Minimum distance from fixture head to combustible materials = 0.1 m
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Notes: 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.

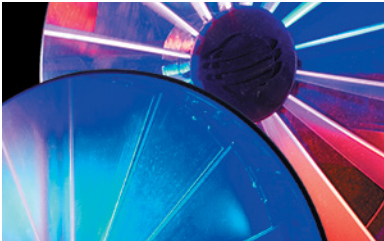


HIGH END SYSTEMS
an ETC Company

TURBORAY

Technical Datasheet
Rev E

ADDITIONAL DETAILS



Radial Diffusers

Taking advantage of the classic radial diffuser look, the TurboRay gives a whole new twist whether open and edge-lit or closed and back lit the bespoke diffusion gives your design a multifacet scenic element for beautiful visuals.



Aerial Animation

Whether the fixture is projecting a narrow beam, or focused out into individual primary rays of light, TurboRay provides endless aerial projection options to make your haze look better than ever before.



Color control

Utilizing four additive RGBW LED engines, TurboRay gives you all of the color control you desire, whether in quadrants, primary rays, or in half colors and deep saturates through the fixed color wheel.



Haze Protected

Throughout our history of making fixtures one thing remains clear, the importance of clean optics. With a passion toward reduced maintenance and increased output High End Systems leads the industry in protecting your output with the inclusion of our patent pending HazeFree lens coatings, an industry first in haze buildup prevention.



Big bold Beam

Thanks to TurboRay's wide aperture and extremely narrow beam, the fixture easily gives lighting designers big bold aerial looks.

Warranty

High End Systems fixtures are engineered to last and to dedicate our commitment to this we offer a two year warranty with an extension on LEDs out to five years. In addition to a being designed and assembled in Austin, Texas, USA. This fixture promises to be a staple of the rig for years to come.



PHOTOMETRIC DATA

TurboRay - All on

	Degree	Candela	Power Usage
Narrow Beam	3.5°	810,000	240 W
Narrow Wash	10°	305,800	240 W
Medium Wash	14°	173,100	240 W
Wide Wash	24°	55,800	240 W

Narrow Beam - 3.5°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Beam diameter	0.6 ft 0.2 m	1.2 ft 0.4 m	2.4 ft 0.8 m	3.6 ft 1.1 m	6.1 ft 1.86 m
Illuminance (fc)	8,100	2,025	507	225	81
Illuminance (lux)	87,154	21,789	5,447	2,421	872

Narrow Wash - 10°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Field diameter	1.7 ft 0.5 m	3.5 ft 1.1 m	7.0 ft 2.1 m	10.5 ft 3.2 m	17.5 ft 5.3 m
Illuminance (fc)	3,058	765	192	85	31
Illuminance (lux)	32,902	8,226	2,056	914	329

Medium Wash - 14°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Field diameter	2.5 ft 0.75 m	4.9 ft 1.5 m	9.8 ft 3.0 m	14.7 ft 4.5 m	24.6 ft 7.5 m
Illuminance (fc)	1,731	433	109	49	18
Illuminance (lux)	18,616	4,654	1,164	517	186

Wide Wash - 24°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Field diameter	4.3 ft 1.3 m	8.5 ft 2.6 m	17 ft 5.2 m	25.5 ft 7.8 m	42.5 ft 13 m
Illuminance (fc)	558	140	35	16	6
Illuminance (lux)	6,004	1,501	375	167	60

TurboRay - 3200k - Dichroic

	Degree	Candela	Power Usage
Narrow Beam	3.5°	499,700	240 W
Narrow Wash	10°	188,700	240 W
Medium Wash	14°	106,800	240 W
Wide Wash	24°	34,500	240 W

Narrow Beam - 3.5°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Beam diameter	0.6 ft 0.2 m	1.2 ft 0.4 m	2.4 ft 0.8 m	3.6 ft 1.1 m	6.1 ft 1.86 m
Illuminance (fc)	4,997	1,250	313	139	50
Illuminance (lux)	53,767	13,442	3,360	1,494	538

Narrow Wash - 10°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Field diameter	1.7 ft 0.5 m	3.5 ft 1.1 m	7.0 ft 2.1 m	10.5 ft 3.2 m	17.5 ft 5.3 m
Illuminance (fc)	1,887	472	118	53	19
Illuminance (lux)	20,298	5,074	1,269	564	203

Medium Wash - 14°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Field diameter	2.5 ft 0.75 m	4.9 ft 1.5 m	9.8 ft 3.0 m	14.7 ft 4.5 m	24.6 ft 7.5 m
Illuminance (fc)	1,068	267	67	30	11
Illuminance (lux)	11,485	2,871	718	319	115

Wide Wash - 24°

Throw distance	10 ft 3.0 m	20 ft 6.1 m	40 ft 12.2 m	60 ft 18.3 m	100 ft 30.5 m
Field diameter	4.3 ft 1.3 m	8.5 ft 2.6 m	17 ft 5.2 m	25.5 ft 7.8 m	42.5 ft 13 m
Illuminance (fc)	345	87	22	10	4
Illuminance (lux)	3,704	926	231	103	37

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.

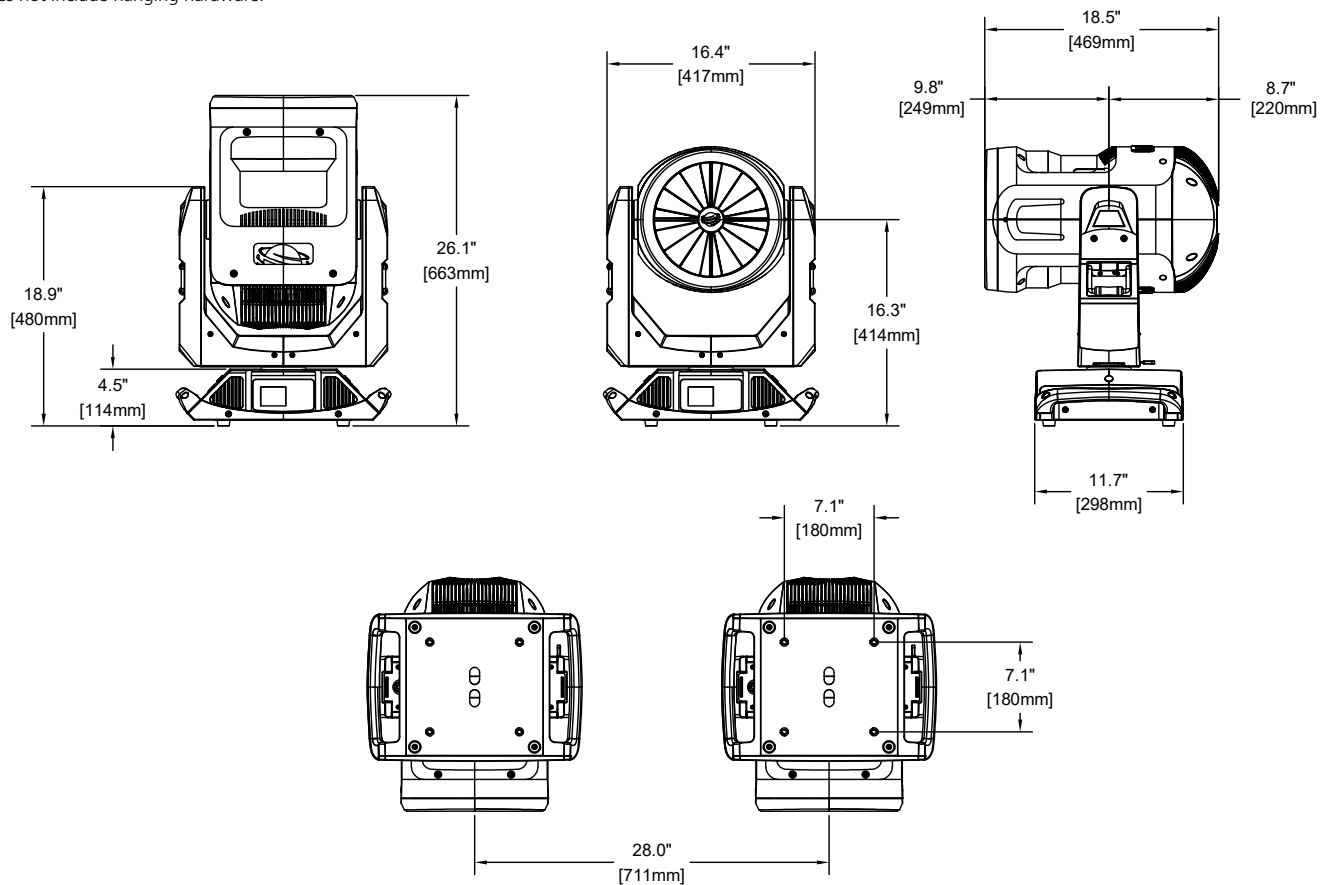


PHYSICAL INFORMATION

TurboRay Dimensions Table

Model	Height		Width		Depth		Weight	
	in	mm	in	mm	in	mm	lb	kg
TurboRay*	25.9	658	16.4	417.5	11.7	298.4	50.1	22.7
TurboRay in styrofoam insert (shipping)	33	838	17	432	23	585	64	29.1
TurboRay in molded insert (shipping)	22	559	23	585	26	661	83	37.7
Two (2) TurboRay in dual road case (Shipping)	38	965.2	48	1219.2	24	609.6	233	105.7

*Does not include hanging hardware.



TurboRay Power Table

VAC	Amps	Hz	Watts	VA	PF
100	4.3	50	428	430	0.99
120	3.5	60	416	418	0.99
200	2.1	50	400	413	0.97
208	2.0	60	401	411	0.97
220	1.9	50	412	432	0.96
240	1.8	60	403	418	0.96

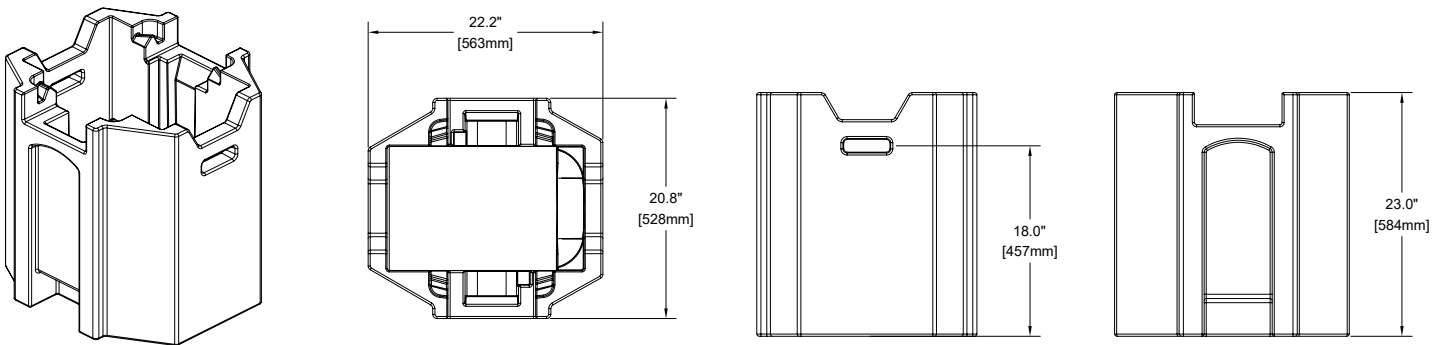


ADDITIONAL ORDERING INFORMATION

Additional Accessories

Model	Description
H7500001	Extra Omega Bracket
H7300105	Galvanized safety cable w/ spring snap
H7000017	Additional Fixture Power Cord, bare ends to powerCON TRUE1

Molded Case Insert Dimensions



Road Case Dimensions

