

HHD – Heavy Duty Gymnasium Hi-Bay

Re-lighting a multi-purpose Gymnasium or other Hi-bay application which requires an impact resistant fluorescent Hi-bay? The HHD provides an ideal solution.

- The heavy duty steel body and wire guard resist damage from basketball, volleyball, and forklift impacts.
- Instant re-strike for reduced hours of operation.
- Order with the GTS option for instant Hi-Lo Controls
- Multi-lamp configuration allows for multi-level lighting suitable for various uses from assemblies, to multi-media, intramural sports, interscholastic sports and theatrical uses.
- Optional fully integrated center mount occupancy sensor in 1x8 body or extended body for 1x4 configurations.
- Linear light source makes it much less likely to lose sight of balls passing over head compared to point source HID.

P2's Rapid Turn Around Times...

- Your project can't wait 6-8 weeks. We'll deliver, configured to order, fast.

Our Experience

- We've been focused on nothing but supporting energy efficient re-lighting projects since 1992. Hit a dead end? Give our application support team a try.

HHD – Heavy Duty Hi-Bay



Application

- Hi-bay applications requiring impact resistance.
- Can be factory equipped with occupancy sensor or low voltage power pack controls.
- 1x4 Nominal available in 2 or 3 lamp cross sections.
- 2x4 Nominal available in 4 or 6 lamp cross sections.
- EA reflector ideal for Hi-bay applications.
- WA or MM reflector ideal for Lo-bay applications requiring reduced glare.

HHD – 1x8 – 6L – T8 – UL2 – HP – IS – UE – WA – NA – CW8 – GTS

HHD	1x8	6L	T8	UL2	HP	IS	UE	WA	NA	CW8	GTS	
Model	Fixt Size	Lamp Qty	Lamp Type	Voltage	Ballast Factor	Ballast Starting	Ballast Grade	Reflector Material	Wire Guards	Cord Plug	Controls	Other

Fixture Model
HHD

Fixture Size

1x4 = 1x4 Nominal
2x4 = 2x4 Nominal
1x8 = 1x8 Nominal
2x8 = 2x8 Nominal

Lamp Qty

xL = x Indicates quantity of lamps

Lamp Type

T5HO = Linear T5HO Lamps
T8 = Linear T8 Lamps

Voltage (1)

UHx = Universal 347-480
ULx = Universal 120-277

Numeric Footnotes

- (1) Numeral indicates number of ballasts per fixture.
(2) Ballast factors outside ranges shown to be called out numerically.
(3) Numeral indicates number of lamps controlled.

Ballast Factor (2)

MN = Neutral Power (.97 - 1.04)
HP = High Power (1.15 - 1.20)

Ballast Starting

IS = Instant Start
ISD = Instant Start Step Dimming
PS = Programmed Start
PSD = Program Start Step Dimming
PSH = Program Start Hi-Lo

Ballast Grade

ST = Standard Grade
UE = Ultra Efficient T8

Reflector Material

EA = Enhanced Aluminum 93-94%
MM = Micro Matte 91-93%
WA = White Aluminum Reflector 90-91%

Wireguards

WG = 11g Zinc Wireguard
WW = 11g White Wireguard

Cord & Plug

C8 = 8' Cord, No Plug
C8/L715 = 8' Cord & Plug (L7-15P)
PQC15 = 15' Cord/Quick Connect
CW8 = 8' White Cord, No Plug

Controls (3)

LVx = Low Voltage Power Pack Relay
RHx = Rectangular Aisle View Hi-Bay
RLx = Rectangular Aisle View Lo-Bay
SHx = Standard 360 View Hi-Bay
SLx = Standard 360 View Lo-Bay
GTS = Hi-Lo Control Single
Circuit Toggle Switch

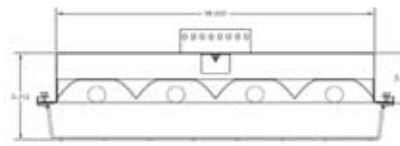
Other

LF = Factory Lamps (Lamp spec elsewhere)

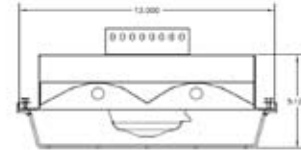
HHD – Heavy Duty Gymnasium Hi-Bay

Fixture Construction

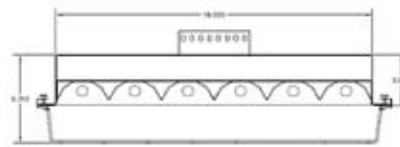
- Heavy duty 20-gauge steel body.
- Standard 11 gauge zinc wire guard
- Environmentally friendly and labor saving bulk project packaging.
- Dedicated 2-point hanging brackets and V-hangers included.
- Made in the USA: Hudson WI, Gainesville FL, Orange County CA.



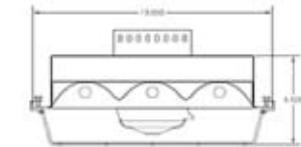
2x4 Nominal with 4 lamp
T8 cross section



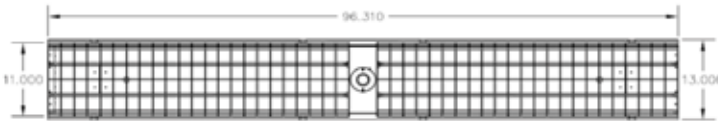
1x4 Nominal with 2 lamp
T5HO cross section



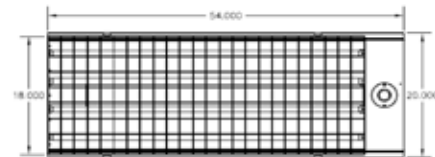
2x4 Nominal with 6 lamp
T8 cross section



1x4 Nominal with 3 lamp
T5HO cross



1x8 nominal plan view



2x4 nominal with extended
body plan view

Note: all cross sections available in T5HO or T8

Existing System

Existing Hi-Bay System	Lamp Qty & Type	Initial Lamp Lumens	Lumen Maintenance	EOL(1) Lumens All Lamps	Total Fixture Lumens	Ballast Factor	Fixture Efficiency	EOL(1) Lumens Per Fixt	S/P (2) Ratio	Net (3) EOL Lumens	Fixt Input Watts
MH250	1 Std MH250	20,500	58%	11,890	11,890	1.00	0.75	8,918	1.49	12,171	295
MH320PS	1 PS MH320	31,700	62%	19,654	19,654	1.00	0.75	14,741	1.49	20,119	368
MH400	1 Std MH400	38,000	58%	22,040	22,040	1.00	0.75	16,530	1.49	22,561	458
HPS400	1 Std HPS400	50,000	70%	35,000	35,000	1.00	0.75	26,250	0.62	18,080	464

Re-Lighting Options

Proposed Hi-Bay System	Lamp Qty & Type	Initial Lamp Lumens	Lumen Maintenance	EOL(1) Lumens All Lamps	Total Fixture Lumens	Ballast Factor	Fixture Efficiency	EOL(1) Lumens Per Fixt	S/P (2) Ratio	Net (3) EOL Lumens	Fixt Input Watts
2L-T8 Plus	2 F32T8/841	2,950	90%	2,655	5,310	1.15	0.90	5,496	1.62	8,007	73
4L-T8 Plus	4 F32T8/841	2,950	90%	2,655	10,620	1.14	0.90	10,896	1.62	15,874	147
6L-T8 Plus	6 F32T8/841	2,950	90%	2,655	15,930	1.18	0.90	16,918	1.62	24,647	218
8L-T8 Plus	8 F32T8/841	2,950	90%	2,655	21,240	1.14	0.90	21,792	1.62	31,749	294
2L-T5HO	2 FP54T5HO	5,000	93%	4,650	9,300	1.00	0.92	8,556	1.62	12,465	117
4L-T5HO	4 FP54T5HO	5,000	93%	4,650	18,600	1.00	0.92	17,112	1.62	24,930	234
6L-T5HO	6 FP54T5HO	5,000	93%	4,650	27,900	1.00	0.92	25,668	1.62	37,395	351
8L-T5HO	8 FP54T5HO	5,000	93%	4,650	37,200	1.00	0.92	34,224	1.62	49,860	468

(1) EOL = End of Life (2) S/P Ratio = Scotopic to Photopic Lumens (3) Net EOL Lumens = EOL Lumens Per Fixture x (S/P).78 [.78 exponent]

General Notes

- Lamp/ballast system values shown are a general reference intended to supply a quick comparison of several common lamp/ballast systems, the associated energy consumption, and net lumen output.
- Values shown are based on normal operating temperatures (25c T8 and 35c T5) and at 277 volts.
- Fixture efficiency percentages are generally representative of each system type, actual values will vary.
- There are many operating variables that affect system output, in addition to rating variances from brand to brand.
- All T8 electronic ballast values shown are based on Ultra Efficient (aka 3rd Generation) T8 ballasts.
- All T5 and T8 lamp values shown are for basic grade lamps. Extended life and higher lumen lamps types are available.
- In addition to those shown there are a wide variety of systems to choose from, each with distinct features and cost points.
- Please consult the lamp/ballast manufacturer's catalogs for the detailed information required to model your system.