

with MicroGlow™  
**twelve™**



Covered by the following U.S. Patents: 5,733,028; 5,914,487; 5,967,652; 6,043,873; 6,064,061; 6,088,091; 6,238,077; 6,266,136; 6,334,700.

**features**

Suspended direct/indirect ideal for low ceiling applications.

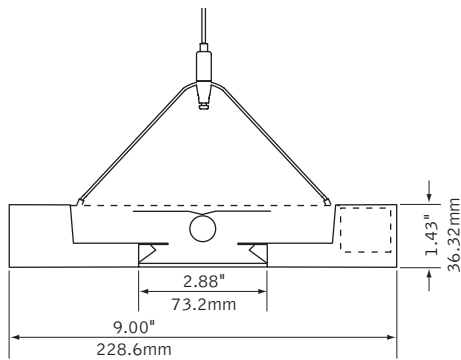
Twelve™ offers variable distribution optics which include 70% uplight/30% downlight or 82% uplight/18% downlight.

MicroGlow™ produces 92% light transmission while controlling high angle brightness.

The CU Filter precisely controls lamp brightness above the fixture to allow for 12" suspension lengths.

Excellent choice for lower ceiling applications and areas where ceiling uniformity is important.

**dimensional data**

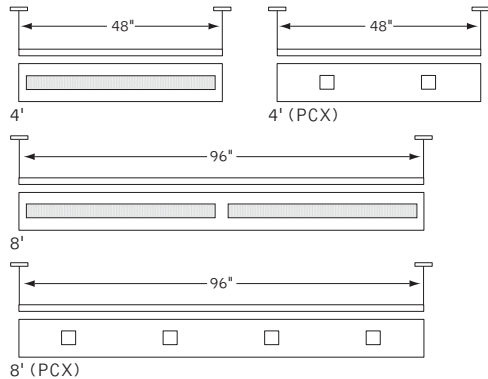


**lampping options**



T5/T5HO LAMPS

**fixture information**



**shielding options**



single lens



3" squares



daylight /  
occupancy sensor

**sensor options**

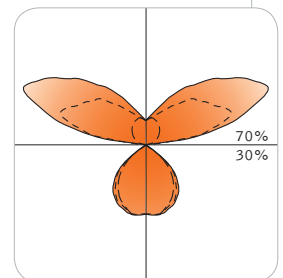
**companion luminaire**



wall mount

**performance**

1-Lamp T5HO  
 86% Efficiency  
 1259 cd @ 115°



Visit [focalpointlights.com](http://focalpointlights.com) for complete photometric data.

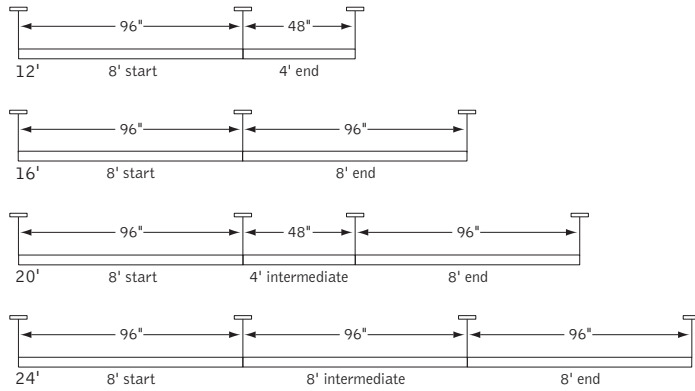


july 2008

fixture:

project:

### suspension information



Consult factory for additional row length information.

### specifications

#### construction

One-piece 20 Ga. steel housing.  
 14 Ga. steel end caps mechanically attach flush to housing with concealed fasteners.  
 For row installation, internal brackets form hairline joint.  
 Standard lengths are available in 4' and 8'.  
 All luminaires are provided with Y-cable suspension mounted on 48" or 96" centers.

4' unit weight: 22 lbs.  
 8' unit weight: 40 lbs.

#### optic

Reflector fabricated of low iridescent, semi specular premium grade aluminum.  
 .118" thick conical prismatic lens.  
 24 Ga. steel Ceiling Uniformity Filter (CU Filter) finished in high reflectance white powder coat.  
 .125" thick MicroGlow™ miniature prism acrylic lens.  
 M1 optic includes .020" thick linear spread lens for maximum downlight.  
 M2 optic includes .020" thick white acrylic diffuser for less downlight.

#### electrical

Luminaires are pre-wired with factory installed branch circuit wiring and over-molded quick connects.  
 Factory installed power cord at feed location is included.  
 Electronic ballasts are thermally protected and have a Class "P" rating.  
 Optional dimming ballasts available.  
 UL and cUL listed.

#### sensors

Lutron Daylight sensor is a directional sensor that operates with a Lutron EcoSystem ballast. The sensor has an integrated IR receiver for EcoSystem programming. One sensor controls multiple fixtures or groups of fixtures differently. Sensor should be mounted 1 to 2 times the effective window height (from 3' AFF, or bottom of window to top of window).

Lutron IR sensor controls individual or grouped EcoSystem ballasts or BMFs. Sensor provides a flashing LED response to indicate signal reception and received IR signals from up to 8' away when mounted on a 10' ceiling. Order Lutron IR remote accessory (LOR).

Wattstopper Daylight sensor is a closed loop system that measures total light level from daylight and electric light. A 0-10V dimming ballast is required, one sensor controls multiple fixtures. Sensor should be mounted 6-12' from window. Wattstopper daylight setup remote required for programming; one included per order. Order additional setup remote accessory (WYSR) or occupant controller remote accessory (WOR) for increased control.

Wattstopper Occupancy sensor is a passive infrared sensor designed for cubicles and small offices. It has built-in daylight sensing that will hold lights off when adequate ambient light exists. One sensor controls multiple fixtures.

#### finish

Polyester powder coat applied over a 5-stage pre-treatment.  
 Canopy finished in Matte Satin White.

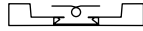
### ordering

	FTWS
<b>fixture series</b>	
twelve	FTWS
<b>shielding</b>	
MicroGlow	M1
70% Uplight, 30% Downlight	
MicroGlow	M2
82% Uplight, 18% Downlight	
3" Square Lens with MicroGlow	PCX
<b>lampping</b>	
1 Lamp T5	1T5
1 Lamp T5HO	1T5HO
2 Lamp T5	2T5
2 Lamp T5HO	2T5HO
<b>circuit</b>	
Single Circuit	1C
Dual Circuit	2C
(Multiple lamp luminaires only)	
<b>voltage</b>	
120 Volt	120
277 Volt	277
347 Volt	347
<b>ballast</b>	
Electronic Program Start <10% THD	S
Electronic Dimming Ballast*	D
<b>mounting</b>	
12" Cable Suspension	J12
(5" canopy at feed locations and 2" canopy non-feed locations)	
(specify "C" in place of "J" for 5" dia. canopies both at power feed and non-feed locations)	
(suspension may be adjusted up to 24". Consult factory for lengths longer than 24")	
Stem Mount	S_
(specify stem length in inches Standard stem lengths 6, 12, 18, 24, 36, 48". Stem painted white unless otherwise specified)	
<b>factory options</b>	
Emergency Circuit*	EC
Emergency Battery Pack*	EM
HLR/GLR Fuse	FU
Include 3000K Lamp	L830
Include 3500K Lamp	L835
Include 4100K Lamp	L841
(factory installed lamps recommended)	
Lutron™ Daylight Sensor* (EcoSystem ballast required)	LY1
Lutron™ IR Receiver* (EcoSystem ballast required)	LIR
Lutron™ Sensor Feed* (EcoSystem ballast required)	SF
WattStopper™ Daylight Sensor* (0-10V dimming ballast required)	WY1
WattStopper™ Occupancy Sensor*	WO1
<b>finish</b>	
Matte Satin White	WH
Titanium Silver	TS
(lower painted to match housing)	
<b>fixture run length</b>	
4'	4'
8'	8'
12' (8'+4')	12'
16' (8'+8')	16'
20' (8'+4'+8')	20'
24' (8'+8'+8')	24'
(individual units may not be field modified for continuous row mount)	
<b>remotes</b>	
(specify quantity)	
WattStopper™ Daylight Setup Remote* (required for daylight programming, one included per order)	WYSR
WattStopper™ Occupant Controller*	WOR

\* for more information see Reference section.

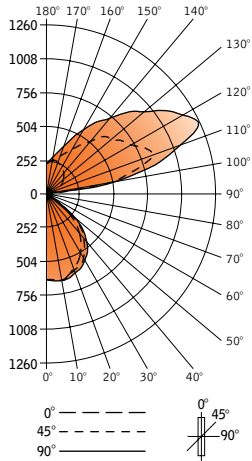
Focal Point LLC | 41.41 S. Pulaski Rd, Chicago, IL 60632 | F: 773.247.9494 | T: 773.247.8484 | info@focalpointlights.com | www.focalpointlights.com. Focal Point LLC reserves the right to change specifications for product improvement without notification.

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Filename: FTWSM11T5H.IES  
Catalog #: FTWS-M1-1T5H0-1C-120-S-JXX-WH-4'  
Efficiency: 86%  
Test #: 13256.0

### CANDLEPOWER DISTRIBUTION



Vertical Angle	Horizontal Angle				Zonal Lumens
	0°	22.5°	45°	67.5°	
0°	642	642	642	642	642
5°	647	647	647	648	647
15°	621	625	634	643	644
25°	556	560	585	601	603
35°	441	465	496	515	524
45°	284	303	340	363	369
55°	105	111	124	128	128
65°	37	43	45	48	48
75°	10	14	17	18	18
85°	0	1	2	5	5
90°	0	0	4	7	7
95°	16	159	132	112	109
105°	55	381	689	847	863
115°	103	375	806	1159	1259
125°	143	353	688	975	1097
135°	184	303	614	793	880
145°	216	286	445	601	663
155°	243	270	346	426	464
165°	253	260	279	307	324
175°	248	248	248	248	24
180°	233	233	233	233	233

Spacing 1.2  
Criterion: 1.2

### LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt
0°-30°	510	10.2	11.8
0°-90°	1248	24.9	28.9
90°-130°	2096	41.9	48.5
90°-180°	3074	61.5	71.1
<b>Total Luminaire</b>	<b>4322</b>	<b>86.4</b>	<b>100.0</b>

### LUMINANCE DATA (CD/M²)

Vertical Angle	0°	45°	90°
45°	2097	2511	2725
55°	956	1129	1165
65°	457	556	593
75°	202	343	363
85°	0	120	300

### CO-EFFICIENTS OF UTILIZATION

Floor	80				70				20					
Ceiling	50				10				50					
Wall	70	50	30	10	70	50	10	50	10	50	10	50		
RCR 0	88	88	88	88	79	79	79	62	62	46	46	32	32	25
1	81	78	75	72	73	70	65	55	52	42	40	29	28	23
2	75	69	64	60	67	62	55	49	44	38	35	27	25	20
3	69	61	56	51	61	55	47	44	38	34	30	25	22	18
4	63	55	48	44	56	50	40	40	33	31	27	22	20	16
5	58	49	43	38	52	44	35	36	29	28	23	20	18	15
6	54	44	38	33	48	40	31	33	26	25	21	19	16	13
7	50	40	34	29	45	36	27	29	23	23	18	17	14	12
8	46	36	30	26	41	33	24	27	20	21	16	15	13	10
9	43	33	27	23	38	30	21	24	18	19	14	14	11	09
10	40	30	24	20	36	27	19	22	16	17	13	13	10	08

Numbers indicate percentage values of

Go to [www.focalpointlights.com](http://www.focalpointlights.com) for additional photometric data.