

DESCRIPTION

Designed to retain the aesthetics of a commercial wraparound, the FWS ensures an unbreakable, maintenance-free, one-time installation. Ideally suited for high abuse areas that must maintain a clean, well-lighted appearance, the FWS comes as ceiling- or wall-mounted, one- to four-lamp units to provide general ambient illumination. The FWS is specifically designed for use in public access areas where vandalism may occur and for areas that must maintain a clean, well-lighted appearance. Ideal for schools, dormitories, hallways, locker rooms, shower facilities, and restrooms.

SPECIFICATION FEATURES

Fasteners

Captive, stainless steel tamperproof, T20 TORX ®-head screws prevent unauthorized access.

Housing

Die-formed 16 ga. CRS with welded and ground ends and internal weld bands for added strength.

Finish

High gloss, electrostatically applied, white powder coat finish, average minimum reflectance 92%.

Gasket

Concealed, polyurethane end gaskets inhibit the entrance of environmental contaminants.

Lens

Nominal 0.156, UV stabilized, clear K12, impact-resistant, prismatic polycarbonate refractor for high efficiency, low surface brightness and maximum strength.

Lamps

By others.

Lens Retention

Double wall lens channel captivates lens to prevent unauthorized fixture penetration.

Ballast

Electronic Class P, CBM/ETL ballast.

Labels

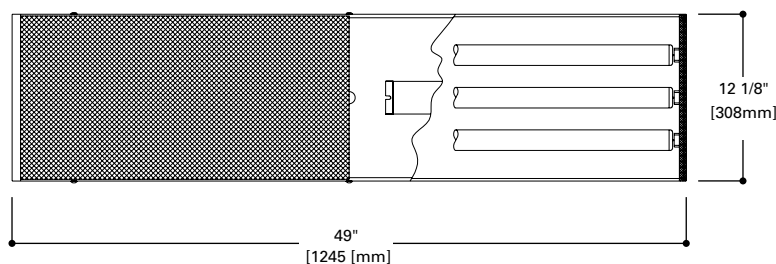
UL/cUL listed for wet locations, under covered ceiling.



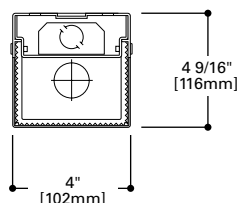
FWS

T5
T8
Fluorescent
Vandal Resistant/Linear

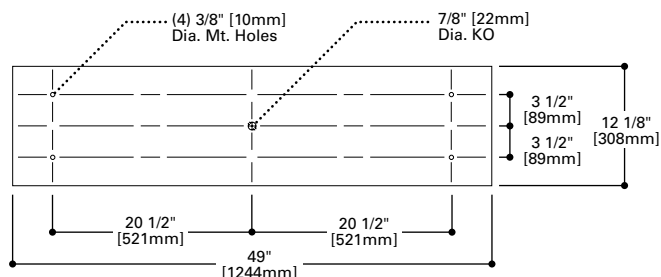
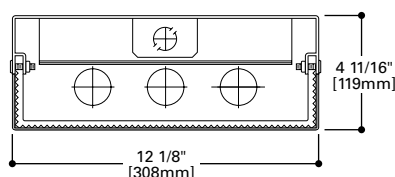
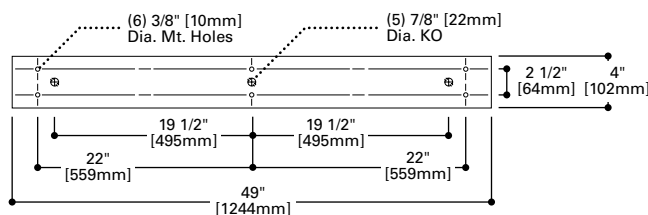
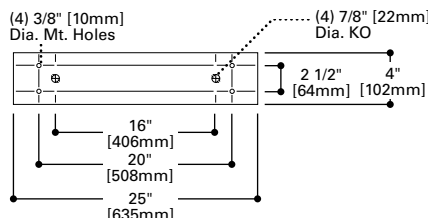
SURFACE MOUNT
Polycarbonate
1 and 3 Lamp



SIDE DIMENSIONS



MOUNTING DIMENSIONS



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ENERGY DATA

For Energy Management related technical data to support the performance of this fixture series, refer to the ordering information for input wattage.

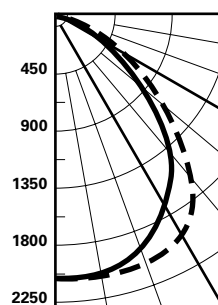
ORDERING INFORMATION

SAMPLE NUMBER: FWS-154T5HO-UNV-EB51

Product Family	Lamp Type	Voltage ¹	Ballast	Options	Accessories (order separately)
FWS					
FWS =High Abuse Surface Luminaire	2' ⁴ 114 =(1) 14W T5 Lamp 117 =(1) 17W T8 Lamp 124 =(1) 24W T5HO Lamp 314 =(3) 14W T5 Lamps 317 =(3) 17W T8 Lamps 324 =(3) 24W T5HO Lamps 140BX =(1) 40W Biaxial Lamp 340BX =(3) 40W Biaxial Lamps 4' 128 =(1) 28W T5 Lamp 132 =(1) 32W T8 Lamp 154 =(1) 54W T5HO Lamp 328 =(3) 28W T5 Lamps 332 =(3) 32W T8 Lamps 354 =(3) 54W T5HO Lamps	120 =120V 277 =277V 347 =347V UNV =120V-277V	Electronic Ballast ² EB81 =(1) Ballast for use with T8 Lamp EB82 =(2) Ballasts for use with T8 Lamp EBX1 =(1) Ballast for use with Biaxial Lamp EBX2 =(2) Ballasts for use with Biaxial Lamp EB51 =(1) Ballast for use with T5 Lamp EB52 =(2) Ballasts for use with T5 Lamp	EL4 =EM Pack, T8, Biax EL5 =EM Pack, T5, T5HO ELR =End Lens Retention FNL =Fluorescent Night Light (5, 7 or 9 W) ³ FNL13 =Fluorescent Night Light (13W) ³ GLR =Fuse and Holder OPL =Opal Diffuser SHN =Stainless Steel Housing, Brushed	VRSD =T20 Center Pin Tamperproof TORX ® - head screwdriver
Notes: ¹ Products also available in non-US voltages and 50Hz for international markets. ² Consult your Cooper Lighting Representative for availability and ordering information. For specific electronic ballast, specify brand and catalog number. ³ Specify voltage. ⁴ 2' unit not available with EM Pack (1 lamp cross-section)					

PHOTOMETRICS

Candlepower Distribution



Test No. 4870
FWS-340-120
 Lamp=(3) F40T12RS/
 WW
 Lumens=3200
 Spacing Criteria
 \perp =1.4 \parallel =1.2
 Efficiency=55.0%

\perp
 \parallel

Candlepower

Deg.	\perp	\parallel
0	2107	2107
5	2111	2107
15	2123	2044
25	2105	1876
35	1928	1567
45	1290	912
55	706	565
65	438	266
75	381	139
85	359	71
90	283	7

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	1641	17.1	31.3
0-40	2765	28.8	52.8
0-60	4137	43.1	79.0
0-90	4933	51.4	94.1
90-180	307	3.2	5.9
0-180	5240	54.6	100.0

Coefficient of Utilization

rc	80%				70%			50%		30%		10%		0%
	70	50	30	10	50	30	10	50	10	50	10	50	10	0
RCR														
0	47	47	47	47	46	46	46	43	43	41	41	39	39	38
1	44	42	40	39	41	39	38	39	36	37	35	35	34	33
2	40	37	35	33	36	34	32	35	31	33	30	32	29	28
3	37	34	31	29	33	30	28	31	27	30	27	29	26	25
4	35	31	27	25	30	27	25	29	24	27	24	26	23	22
5	32	28	24	22	27	24	22	26	21	25	21	24	21	20
6	30	25	22	20	25	22	20	24	19	23	19	22	19	18
7	28	23	20	18	23	20	18	22	17	21	17	20	17	16
8	26	21	18	16	21	18	16	20	15	19	15	19	15	14
9	24	19	16	14	19	16	14	18	14	18	14	17	13	13
10	23	18	15	13	17	14	13	17	12	16	12	16	12	11

rc=Ceiling reflectance, rw=Wall reflectance, RCR=Room cavity ratio

CU Data Based on 20% Effective Floor Cavity Reflectance.