# FRAXION®4 **INTERNATIONAL**

## **FIXED**

Versatile, high-performance, and retrofittable downlights, in a precise, 4-inch profile, the most diminutive in the industry.

#### **PROJECT NAME:** TYPE:





#### **ORDERING INFORMATION - DOWNLIGHT FITTING**

SHAPE	TRIM	RATING	FLANGE FINISH	BAFFLE FINISH	LUMEN PACKAGE	CCT	OPTIC	INSTALL TYPE	CEILING THICKNESS	DRIVER	EFFECTS DEVICE
		-			-		_	EX	1 .	-	
F4S Square	MFS Microflange TFS Trimless  FFS Standard Flange MES Microflange	Dry/Damp 2 IP64 Wet* *(Requires	WH White BK Black PR Primer AU Cashmere Gold AG Satin Silver BB Burnt Bronze OO Trimless* "Required for trimless" "(Cotsom Finish* "(Consult Factory)	WH White BK Black PR Primer AU Cashmere Gold AG Satin Silver BB Burnt Bronze CF Custom Finish* * (Consult Factory)	80C23A 80+ CRI, Delivered Lumens - 1642 90C10A 90+ CRI, Delivered Lumens - 721 90C14A 90+ CRI, Delivered Lumens - 984 90C19A 90+ CRI, Delivered Lumens - 1357 97C10A 97+ CRI, Delivered Lumens - 657 97C12A 97+ CRI, Delivered Lumens - 1238 HIGH FLUX STATIC WHITE 80C30B 80+ CRI, Delivered Lumens - 2507 90C26B 90+ CRI, Delivered Lumens - 2701 97C23B 97+ CRI, Delivered Lumens - 1889  WARM DIM 90W11A 90+ CRI, Delivered Lumens - 795 Incandescent Profile	22 2200K* * lonly available with 90+ CRIJ 27 2700K 30 3000K 35 3500K 40 4000K  27 2700K 30 3000K 35 3500K * Not available for 97+ CRIJ 40 4000K  WL 2700K- 1800K  WD 3200K- 1800K	10 10°* * 1019 vavialable with 80C12A, 90C10A and 97C10A. Not available with 2200KJ 15 15° 25 25° 40 40° 60 60° 85 85°* * (Requires -14 WDL effects device)  25 25° 40 40° 60 60° 85 85°* * (Requires -14 WDL effects device)	EX Export	1 7mm-32mm	UNIVERSAL (120-277V) AN3 eldoLED, ECOdrive 1.0% 0-10V, LIN EA1 eldoLED, SOLOdrive 0.1% 0-10V, LIN ED1 eldoLED, SOLOdrive 0.1% 0-10V, LIN ED1 eldoLED, SOLOdrive 0.1% 0-10V, LIN ED1 eldoLED, SOLOdrive 0.1% DALI, LOG LD1 eldoLED, SOLOdrive 0.1% DALI, LOG LD1 eldoLED, SOLOdrive 0.1% DALI, LOG LD1 eldoLED, SOLODRIVE 0.1% DALI, LIN EX1 eldoLED, POWERdrive 0.1% DMX, LOG	STANDARD EFFECTS DEVICE  04 Soft Focus Lens  NL No Lens* *(Standard with 10° optic. Not available for IP64 Wet Location, or Warm Dim)  ALTERNATE EFFECTS DEVICE  02 Honeycomb Louver w/ Diffusion Film* *(Not available for IP64 Wet locations, or Warm Dim)  03 Clear Glass Lens* *(Not available for Warm Dim)  05 Frosted Glass Lens *(Not available for Warm Dim)  165 Frosted Glass Lens *(Not available for Warm Dim)  175 Frosted Glass Lens *(Required and only available for 85° beam spread)  26 Frosted Linear Spread Lens
					TUNABLE WHITE  90T10B 90+ CRI, Delivered Lumens - 672  90T14B 90+ CRI, Delivered Lumens - 917  *ALL DELIVERED LUMEN OUTPUTS REFLECT 3000K PAIRED WITH 40° OPTIC AND SOFT FOCUS LENS.	TW 5000K- 2700K	15 15° 25 25° 40 40° 60 60° 85 85°* * (Requires -14 WDL effects device)			TUNABLE WHITE POWER SUPPLIES (120-277V)  DD1 eldoLED, DUALdrive 0.1% DALI, LOG	

## (WH) (AU)

Powder Coat

(AG) Cashmere Gold Satin Silver Powder Coat Powder Coat

(BB) Burnt Bronze Powder Coat

reserves the right to change or withdraw specifications without prior notice.

- PART NUMBER NOTES
  Fitting ships as e.g., F4RFFS1-WHWH-90C10A2-3E1-AN3
  Driver ships with fitting

Powder Coat

pg. 1

#### **ACCESSORIES**

#### **ROUND ALTERNATE EFFECTS DEVICES**

IP20 Dry / Damp location only.

IP64 Wet location requires alternate baffle.

☐ HCL-F4R Honeycomb Louver w/ Diffusion Film\*

\*(Not available for Warm Dim or IP64 Wet locations)

□ CGL-F4R

Clear Glass Lens\*
\*(Not available for Warm Dim)

☐ FGL-F4R Frosted Glass Lens ☐ SFL-F4R Soft Focus Lens

☐ FSFL-F4R Frosted Soft Focus Lens

□ WDL-F4R Wide Distribution Lens\*

\*(Required and only available for 85° beam spread)

☐ FLSL-F4R Frosted Linear Spread Lens

#### **SQUARE ALTERNATE EFFECTS DEVICES**

IP20 Dry / Damp location only.

IP64 Wet location requires alternate baffle.

☐ HCL-F4R Honeycomb Louver w/ Diffusion Film\*

\*(Not available for Warm Dim or IP64 Wet locations)

□CGL-F4S Clear Glass Lens\*

\*(Not available for Warm Dim)

☐ FGL-F4S Frosted Glass Lens ☐ SFL-F4S Soft Focus Lens

☐ FSFL-F4S Frosted Soft Focus Lens

☐ WDL-F4S Wide Distribution Lens\*

\*(Required and only available for 85° beam spread)

☐ FLSL-F4S Frosted Linear Spread Lens

#### REPLACEMENT BAFFLE ASSEMBLY (INCLUDES EFFECTS DEVICE)

ASSEMBLY		SHAPE	FITTING	RATING		FLANGE FINISH			_		EFFECTS DEVICE
RBA	-				-		ŀ	- 1	-	-	
REPLACEMENT BAFFLE ASSEMBLY	-	F4S Square	FFS Slandard Flange MFS Microflange TFS Trimless  FFS Standard Flange MFS Microflange TFS Trimless FFT Slandard Flange Transitional Baifle MFT Microflange Transitional Baifle TFT Trimless Transitional Baifle	1 IP20 Dry/Damp 2 IP64 Wet* *(Requires provided suction cup to service or aim & focus)		WH White BK Black PR Primer AU Cashmere Gold AG Satin Silver BB Burnt Bronze CF Custom Finish* *(Consult Factory)					Leave blank for standard Soft Focus Lens  HCL Honeycomb Louver w/ Diffusion Film* *[Not available for Warm Dim or IP64 Wet locations]  CGL Clear Class Lens* *[Not available for Warm Dim]  FGL Frosted Glass Lens  FSFL Frosted Soft Focus Lens  WDL Wide Distribution Lens* *[Required and only available for 85° beam spread]  FLSL Frosted Linear Spread Lens

#### LOW FLUX AND WARM DIM REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

15° optic\* \*(Not available for Warm Dim) □ R0-70-15-1

□ **RO-70-25-1** 25° optic

□ **RO-70-40-1** 40° optic ☐ **RO-70-60-1** 60° optic

#### HIGH FLUX AND TUNABLE WHITE REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

□ **RO-70-15-2** 15° optic

□ **RO-70-25-2** 25° optic

☐ **RO-70-40-2** 40° optic

□ **RO-70-60-2** 60° optic

#### REPLACEMENT SUCTION TOOL

One included with every six fixtures designated IP64 Wet location.

☐ F4-TOOL-SUCTION Allows for removal of baffle with IP64 Wet location

### PERFORMANCE - 3000K - SOFT FOCUS LENS

LUMEN	WATTAGE	10° C NO SOFT FO		15° 0 SOFT FOO		25° 0 SOFT FOC		40° 0 SOFT FOC		60° 0 SOFT FOO		85° OPTIC WIDE DISTRIBUTION LENS	
PACKAGE	WATTAGE	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW
80C12A	10	946	66 (14W)	860	85	793	78	872	86	908	90	710	70
80C16A	14	-	-	1174	81	1083	77	1191	82	1241	86	969	67
80C23A	21	-	-	1620	76	1494	70	1642	77	1711	80	1337	62
80C30B	30	-	-	2472	82	2280	76	2507	84	2612	87	2041	68
222424	40	204	57.74.010			151						F0.	
90C10A	10	801	56 (14W)	711	70	656	65	721	71	751	74	587	58
90C14A	14	-	-	971	67	895	62	984	68	1025	71	801	55
90C19A	21	-	-	1338	62	1235	58	1357	63	1414	66	1105	52
90C26B	30	-	-	2043	68	1884	63	2071	69	2158	72	1686	56
								1					
97C10A	10	739	51 (14W)	648	64	598	59	657	65	685	68	535	53
97C12A	14	-	-	885	61	816	56	897	62	935	65	730	51
97C17A	21	-	-	1220	57	1126	53	1238	58	1289	60	1007	47
97C23B	30	-	-	1863	62	1719	57	1889	63	1969	66	1538	51
90W11A	14	_	_	_		804	57	795	57	828	59	646	46
	14												
90W13A	14	-	-	-	-	846	60	837	59	872	62	680	48
90T10B	14	-	-	697	49	661	47	672	48	670	47	523	37
90T14B	22	-	-	924	42	917	41	917	41	904	41	706	32

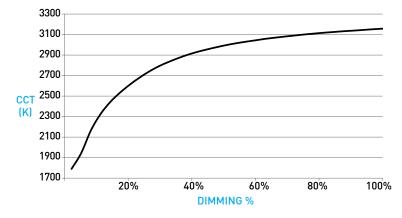
OUTPUT MULTIPLIER							
ССТ	CCT SCALE						
2200K	0.800						
2700K	0.957						
3000K	1.000						
3500K	1.019						
4000K	1.030						

LIGHT LOSS FACTOR MULTIPLIER						
NO LENS	1.05					
CGL	1.05					
SFL	1.00					
FGL	0.90					
FSFL	0.87					
FLSL	0.83					
WDL	0.78					

#### **WARM DIM PERFORMANCE**

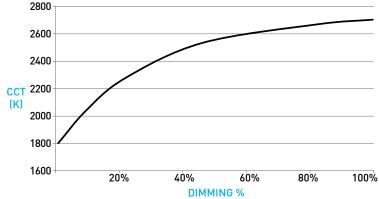
#### WARM DIM TO MIRROR HALOGEN DIMMING PROFILE

90W13A 3200K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	3200	3150	3100	3000	2700	2200	1800
Light Output (Lm)	837	670	586	418	167	84	17
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	59	59	59	59	59	59	59



#### WARM DIM TO MIRROR INCANDESCENT DIMMING PROFILE

90W11A 2700K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	2700	2650	2620	2520	2180	1950	1800
Light Output (Lm)	795	636	556	397	159	79	16
Power (W)	14	11	10	7	3	1.5	0.5
Efficacy (LPW)	57	57	57	57	57	57	57



reserves the right to change or withdraw specifications without prior notice.

pg. 3

#### **DOWNLIGHT FITTING**

#### A BAFFLE

#### ROUND / SQUARE

Die-cast removable baffle features 72° cutoff. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

#### TRANSITIONAL BAFFLE

Die-cast removable baffle transitions from square aperture at ceiling plane to round aperture at light source and features 72° cutoff. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

#### RETENTION

Integrated metal arm clamps located within fixture body allow discreet flange design, while accommodating varying ceiling thicknesses from 7mm to 32mm. Snap-on spacer clips (3X) supplied for ceiling thickness below 13mm only.

#### STANDARD FLANGE PROFILE

Provides 22mm total contractor (goof) allowance with 13mm flange. Thickness measures 1.5mm. P64 Wet location features integral silicone gasket.

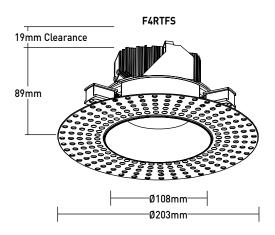
#### MICROFLANGE PROFILE

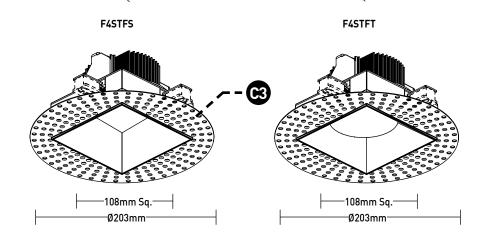
Provides industry standard 11mm total contractor (goof) allowance with 7mm flange. Thickness measures 1.5mm. IP64 Wet location features integral silicone gasket.

#### TRIMLESS PROFILE

Installs totally flush with the ceiling with no visible trim. Features integrated appliqué for plaster floating directly to the baffle. Not recommended for stucco applications.

### **DIMENSIONS / DRAWINGS** F4RFFS F4RMFS 19mm Clearance 85mm 1.5mm Ø108mm Ø108mm Ø122mm Ø134mm F4SFFS F4SMFS 19mm Clearance 85mm 1.5mm <sub>-108mm</sub> Sq. 108mm Sq. 134mm Sq. .122mm Sq. **F4SFFT** F4SMFT 19mm Clearance 85mm 1.5mm 108mm Sq. .108mm Sq.





134mm Sq.

122mm Sq.

#### **DOWNLIGHT FITTING**

#### **3**

Proprietary optic integrates Reflection, Refraction and TIR offering 10°, 15°, 25°, 40° & 60° beams.

#### **EFFECTS DEVICES**

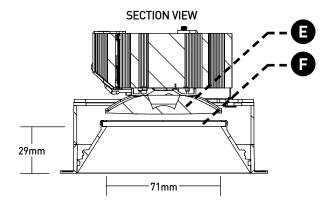
Soft focus lens included and sealed in IP64 Wet location option. Fixture is limited to 1 lens. Suction tool provided for removal of IP64 Wet location baffles.

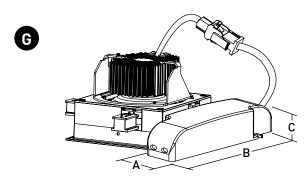
#### **CLEARANCE / POWER SUPPLY**

#### FITTING WITH NON-IC TETHERED POWER SUPPLY

- Requires 113mm diameter cutout.
- Tethered power supply protected wiring and quickconnect plug between fitting and power supply.
- Minimum 19mm clearance from top of fitting.
- Minimum setback from combustible and noncombustible materials of 168mm radius from fitting centerline; minimum 76mm from surfaces of power supply if not situated within above noted radius from fitting centerline.
- Minimum additional 76mm setback from insulation material with max R-Value 30 from any surface of downlight fitting assembly.
- Minimum additional 152mm setback from polycell spray foam insulation with max R-Value 60 from any surface of downlight fitting assembly.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.
- Do not install in environments where ambient temperatures exceed 40°C (104°F).

#### **DIMENSIONS / DRAWINGS**





PO	POWER SUPPLY DIMENSIONS						
Model	A	В	С				
AN3							
LN1							
EA1	41mm	210mm	34mm				
LA1	41111111	ZIUMM	34mm				
ED1							
LD1							
EX1	76mm	152mm	30mm				
DD1	76mm	130mm	30mm				

reserves the right to change or withdraw specifications without prior notice.

#### **TECHNICAL**

#### CONSTRUCTION

Downlight Fitting: Aluminum and steel. Extruded aluminum heat-sink.

Painted finishes are granulated powder coat.

Housing: 22 Gauge galvanized steel.

Remote Power Supply: 22 Gauge galvanized steel.

Appliqué: Zinc Alloy

#### STATIC WHITE LED



2-step MacAdam ellipse LED module available in 80+, 90+ and 97+ CRI configurations in color temperatures of 2200K, 2700K, 3000K, 3500K and 4000K. Average rated lamp life: 50,000 hours. LED and driver assemblies are field-replaceable.

#### WARM DIM LED



3-step MacAdam ellipse warm dim LED module available in 90+ CRI configuration. 3200K or 2700K at full brightness, warming to 1800K at full dim. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

#### TUNABLE WHITE LED 🜕



5-step MacAdam ellipse tunable white LED module available in 90+ CRI configuration. Features tuning range of 2700K to 5000K. Average rated lamp life: 50,000 hours. LED and driver assemblies are field-replaceable.

#### POWER SUPPLY PERFORMANCE AND DIMMING INFORMATION

		0-1	10V			DMX		
Power Supply	AN3	LN1	EA1	LA1	ED1	LD1	DD1	EX1
Minimum °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
Maximum °C	40°C	40°C	40 °C	40 °C	40 °C	40°C	40 °C	40 °C
Dimming %	1.0%	1.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Note: For EA1 and LA1 drivers consult chart on page 7 to confirm appropriate dimming curve for compatibility with selected control.

CE listed for IP20 Dry / Damp and IP64 Wet locations.

U.S. Patent: 10,344,958

#### WARRANTY

Manufacturer's 1-year warranty guarantees product(s) listed to be free from defects in material and workmanship under normal use and service. 5-year warranty on LED and power supply to operate with 70% of the original flux and remain within a range of 3 duv. 10-year Lutron Advantage limited warranty available on Lutron equipped systems. Warranty period begins from the date of shipment by Seller and conditional upon the use of manufacturer-supplied power supply. Consult website for full warranty terms and conditions.

- 1. 03/15/2021: UPDATED HIGH FLUX STATIC WHITE PHOTOMETRICS.
- 2. 03/15/2021: REMOVED HIGH FLUX 97+ CRI 3500K OFFERING.
- 3. 01/12/2021: ADDED 2200K, 2700K-1800K WARM DIM AND 10 DEGREE OPTIC OFFERINGS.
- 4.04/03/2020: ADDED ADJUSTABLE HCL ASSEMBLY AND EX1 DRIVER.
- 5.03/10/2020: ADDED TRIMLESS TO FLANGE FINISH OPTIONS.

#### **DIMMING COMPATIBILITY**

#### eldoLED DRIVER COMPATIBILITY

Power supply EA1 / LA1 Dimmer / Switch Control Manufacturer	Family/Model #
Busch-Jaeger	2112U-101
Jung	240-10
Leviton Lighting Controls	IP710-DLX
Lightolier Controls	ZP600FAM120
Lutron Electronics	Nova T® - NTFTV
Lutron Electronics	Diva® - DVTV
Lutron Electronics	Nova® - NFTV
Merten	5729
Pass & Seymour	CD4FB-W
The Watt Stopper	DCLV1
Sensor Switch	nIO EZ
Synergy	ISD BC
Power supply EA1 / LA1 Lighting Control System Manufacturer	Family/Model #
Lutron Electronics	GrafixEye® GRX-TVI w GRX3503
Lutron Electronics	Energy Savr Node™ - QSN-4T16-S
Lutron Electronics	TVM2 Module
Crestron®	GLX-DIMFLV8
Crestron®	GLXP-DIMFLV8
Crestron®	GLPAC-DIMFLV4-*
Crestron®	GLPAC-DIMFLV8-*
Crestron®	GLPP-DIMFLVEX-PM
Crestron®	GLPP-1DIMFLV2EX-PM
Crestron®	GLPP-1DIMFLV3EX-PM
Crestron®	DIN-A08
Crestron®	DIN-4DIMFLV4
Crestron®	CLS-EXP-DIMFLV
Crestron®	CLCI-1DIMFLV2EX



reserves the right to change or withdraw specifications without prior notice.

pg. 7