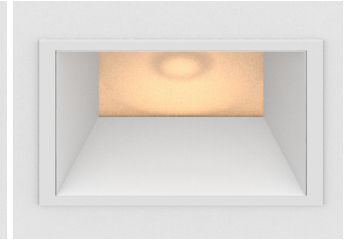
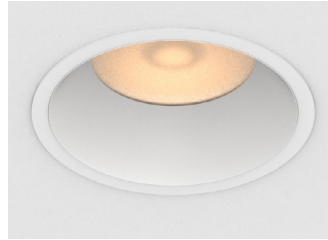


FRAXION® 4 SLIM

ADJUSTABLE

Very versatile, highly configurable, and featuring extremely shallow housings, these 4-inch downlights are the widest aperture we offer, ideal for overall illumination in residential and commercial spaces.

PROJECT NAME:	TYPE:
---------------	-------



ORDERING INFORMATION - DOWNLIGHT / HOUSING



Quick Ship Product. All rough in components ship within 10 days up to quantities of 100.



JA8-2019 INDICATED BY SHADING

SHAPE	TRIM	RATING	FLANGE FINISH	BAFFLE FINISH	LUMEN PACKAGE	CCT	OPTIC	INSTALL TYPE	CEILING THICKNESS	DRIVER	EFFECTS DEVICE
F4R Round	FAS Standard Flange	1 Dry/Damp 2 Wet* * [Requires provided suction cup to service or aim & focus]	WH White	WH White	STATIC WHITE 80C12A 80+ CRI, Delivered Lumens - 872 80C16A 80+ CRI, Delivered Lumens - 1191 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 - 897 97C17A 97+ CRI, Delivered Lumens - 1238	22 2200K* * [Only available with 90+ CRI]	10 10°* * [Only available with 80C12A, 90C10A and 97C10A. Not available with 2200K]	INTEGRAL DRIVER X IC Y NIC C IC, Airtight* * [Chicago Plenum, Airtight & Title 24 compliant housing]	1 0.50" - 1.00" T 0.50" - 1.00"* * [Includes adjustable housing height bracket]	DOMESTIC (120V) TR2 Philips, 2% Leading/Trailing/Triac* * [Not available for 80C12A, 90C10A, and 97C10A unless 10° degree optic is specified] L23 Lutron, Hi-Lume 1% 2-Wire	STANDARD EFFECTS DEVICE 04 Soft Focus Lens NL No Lens* * [Standard and only available with 10° optic. Not available for Wet Location]
	F4S Square		MAS Microflange	BK Black							
TAS Trimless		PR Primer	PR Primer	30 3000K	25 25°	* [Uses 60° optic and optional configuration 14 (WDL) to achieve 85° beam spread]	* [Chicago Plenum, Airtight & Title 24 compliant housing]	* [Required and only available for 85° beam spread]			
FAT Standard Flange Transitional Baffle		AU Cashmere Gold	AU Cashmere Gold	35 3500K	40 40°				* [Uses 60° optic and optional configuration 14 (WDL) to achieve 85° beam spread]	* [Chicago Plenum, Airtight & Title 24 compliant housing]	* [Required and only available for 85° beam spread]
MAT Microflange Transitional Baffle		AG Satin Silver	AG Satin Silver	40 4000K	85 85°*	* [Uses 60° optic and optional configuration 14 (WDL) to achieve 85° beam spread]	* [Chicago Plenum, Airtight & Title 24 compliant housing]	* [Required and only available for 85° beam spread]			
TAT Trimless Transitional Baffle	BB Burnt Bronze	BB Burnt Bronze	WARM DIM 90W11A 90+ CRI, Delivered Lumens - 795 Incandescent Profile 90W13A 90+ CRI, Delivered Lumens - 837 Halogen Profile *SEE PAGE 3 FOR DETAILED WARM DIM PROFILE COMPARISON.	WL 2700K - 1800K WD 3200K - 1800K	* [Uses 60° optic and optional configuration 14 (WDL) to achieve 85° beam spread]				* [Chicago Plenum, Airtight & Title 24 compliant housing]	* [Required and only available for 85° beam spread]	
	CF Custom Finish* * [Consult Factory]	CF Custom Finish* * [Consult Factory]	TUNABLE WHITE 90T10B 90+ CRI, Delivered Lumens - 672 90T14B 90+ CRI, Delivered Lumens - 917 *ALL DELIVERED LUMEN OUTPUTS AND T24 COMPLIANCE REFLECT 3000K PAIRED WITH 40° OPTIC AND SOFT FOCUS LENS. REFERENCE PAGE 3 FOR ADDITIONAL T24 COMPLIANT CONFIGURATIONS.	TW 5000K - 2700K		* [Uses 60° optic and optional configuration 14 (WDL) to achieve 85° beam spread]	* [Chicago Plenum, Airtight & Title 24 compliant housing]	* [Required and only available for 85° beam spread]			



PART NUMBER NOTES

- Housing and trim ship as e.g., F4MAS1-WHWH-90C14A2-3X1-AN4
- Remote driver ships with fixture as e.g., PSF4-RMT-90C-14A-1L23

FRAXION4SLIM ADJUSTABLE

ACCESSORIES

ROUND ALTERNATE EFFECTS DEVICES

Dry/Damp location only.
Wet location requires alternate baffle.

- 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

Dry/Damp location only.
Wet location requires alternate baffle.

- 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

ADJUSTABLE HCL ASSEMBLY

Dry / Damp location only.

- OLR-F4RS1-SFL-HCL** Adjustable Honeycomb Louver and Soft Focus Lens*
*(Not available with 60° optic)

REPLACEMENT BAFFLE ASSEMBLY (INCLUDES EFFECTS DEVICE)

ASSEMBLY	SHAPE	TRIM	RATING	FLANGE FINISH	EFFECTS DEVICE
RBA				1	
REPLACEMENT BAFFLE ASSEMBLY	F4R Round	FAS Standard Flange MAS Microflange TAS Trimless	1 Dry / Damp 2 Wet	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 CGL Clear Glass 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
	F4S Square	FAS Standard Flange MAS Microflange TAS Trimless FAT Standard Flange Transitional Baffle MAT Microflange Transitional Baffle TAT Trimless Transitional Baffle			

REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

- RO-70-15-1** 15° optic *
*(Not available for Warm Dim)
- RO-70-25-1** 25° optic
- RO-70-40-1** 40° optic
- RO-70-60-1** 60° optic

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 Wet location.

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

T-GRID ACCESSORY KIT

Supplied with ceiling thickness "T" and recommended for installations in T-Grid and furring channel up to 1.5" tall. Available for ceiling thicknesses from 0.50" - 1.00".

- DHA-TG-KIT**

HANGER BAR EXTENDER KIT

Extends hanger bars from 24.0" to 46.0" maximum.

- FRX-HBE-46** Extender, Hanger Bar

EMERGENCY LIGHTING - REMOTE MOUNT ONLY

During disruption of main power, emergency battery inverter provides temporary 120V or 277V to fixture.

- EMB-S-20/25-120/277-LEDX** 20/25 watt max capacity, 120 or 277 VAC 60Hz, Non-Dimmable
- EMB-S-100-120-LEDX** 100 watt max capacity, 120 VAC 60Hz, Dimmable
- EMB-S-100-277-LEDX** 100 watt max capacity, 277 VAC 60Hz, Dimmable
- EMB-S-250-120/277-LEDX** 250 watt max capacity, 120 or 277 VAC 60Hz, Dimmable

FRACTION4SLIM ADJUSTABLE

PERFORMANCE - 3000K

LUMEN PACKAGE	WATTAGE	10° OPTIC NO SOFT FOCUS LENS		15° OPTIC SOFT FOCUS LENS		25° OPTIC SOFT FOCUS LENS		40° OPTIC SOFT FOCUS LENS		60° OPTIC SOFT FOCUS LENS		85° OPTIC WIDE DISTRIBUTION LENS	
		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
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
97C10A	10	739	51 (14W)	648	78	598	59	657	65	685	68	535	53
97C12A	14	-	-	885	75	816	56	897	62	935	65	730	51
97C17A	21	-	-	1220	70	1126	53	1238	58	1289	60	1007	47
90W11A	14	-	-	-	-	804	57	795	57	828	59	646	46
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	
CCT	CCT SCALE
2200K (Consult factory for JA8 details)	0.800
2700K	0.957
3000K	1.000
3500K	1.019
4000K	1.030

LIGHT LOSS FACTOR MULTIPLIER	
CGI	CGI SCALE
CGL	1.05
SFL	1.00
FGL	0.90
FSFL	0.87
FLSL	0.83
WDL	0.78

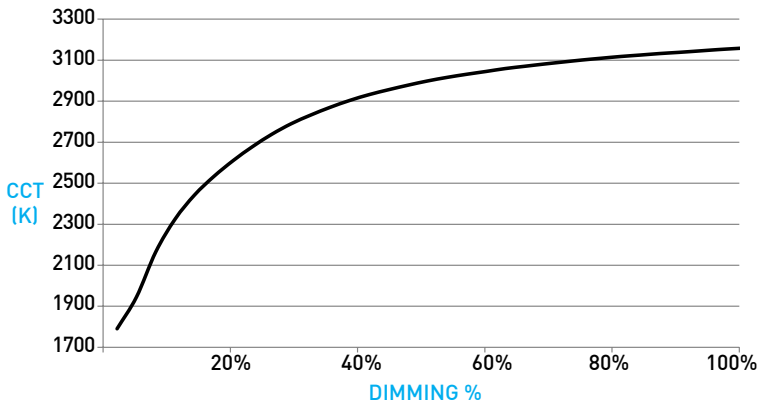


JA8-2019 INDICATED BY SHADING

WARM DIM PERFORMANCE

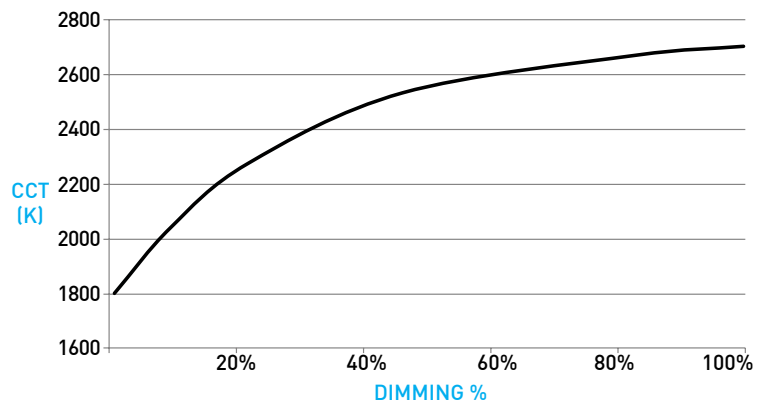
WARM DIM TO MIRROR HALOGEN DIMMING PROFILE

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



FRAXION4SLIM ADJUSTABLE

DOWNLIGHT / HOUSING

A ADJUSTABILITY

Aiming mechanism is integral to the housing, providing hot-aim tilt up to 40° and 365° rotation. Sliding pivot point optimizes center beam, ensuring unclipped beam of 15° at 40° tilt and 25° at 30° tilt. 1° tilt increments with 5° indicators, tilt guide included (see **A1** for section view).

B LED

Integral LED module design enables field service / replacement through housing aperture.

C OPTIC

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

D1 STANDARD FLANGE PROFILE

Installed after ceiling is complete. Requires 4.625" diameter cutout. Provides 0.86" total contractor (goof) allowance with 0.50" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

D2 MICROFLANGE PROFILE

Installed after ceiling is complete. Requires 4.625" diameter cutout. Provides 0.42" total contractor (goof) allowance with 0.28" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

D3 TRIMLESS PROFILE

Installs totally flush with the ceiling with no visible trim. Appliqué includes screws for mounting and has 0.06" plaster stop. Not recommended for stucco applications.

E EFFECTS DEVICES

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

E1 ADJUSTABLE HCL ASSEMBLY

Honeycomb Louver and Soft Focus Lens attach directly to optic with clip-on lens retainer and adjusts with fixture. Only compatible with no lens baffle. Dry/Damp locations only.

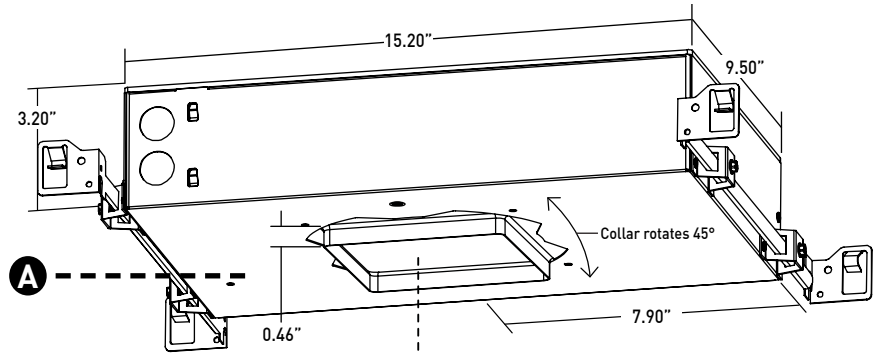
F1 ROUND BAFFLE

Die-cast removable baffle provides easy access to tilting mechanism and features 72° glare cutoff. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

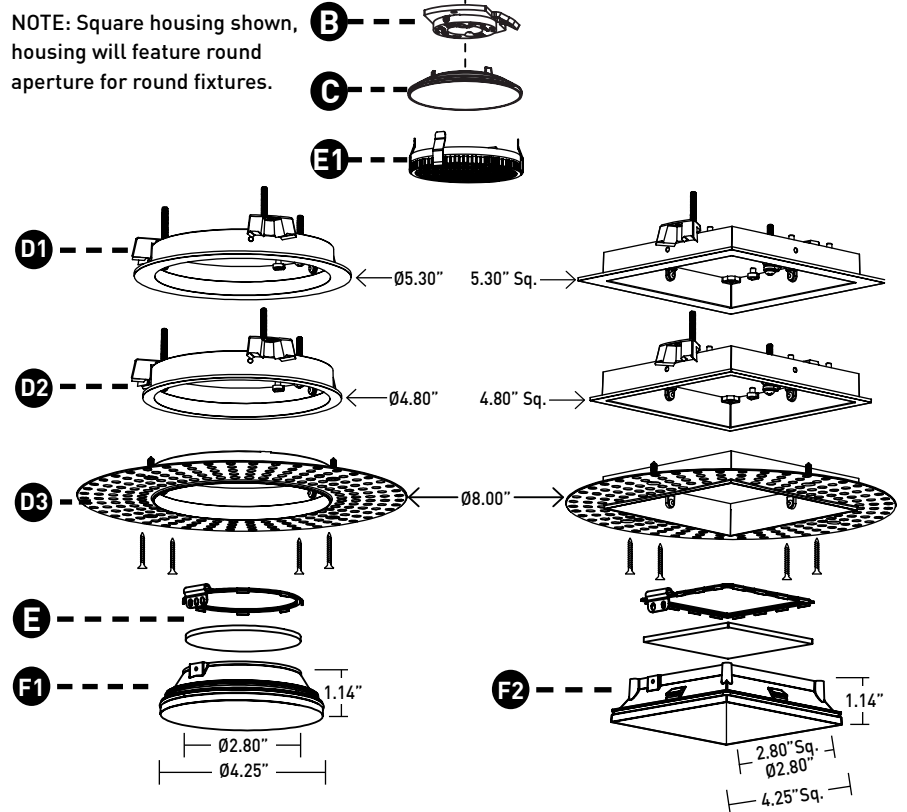
F2 SQUARE / TRANSITIONAL BAFFLE

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

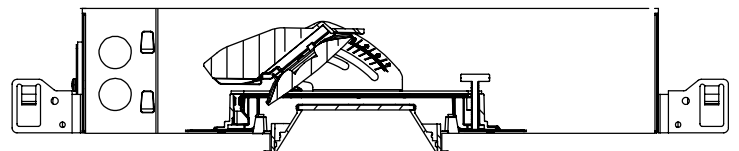
DIMENSIONS / DRAWINGS



NOTE: Square housing shown, housing will feature round aperture for round fixtures.



SECTION VIEW

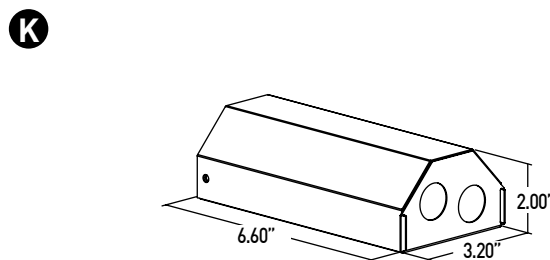
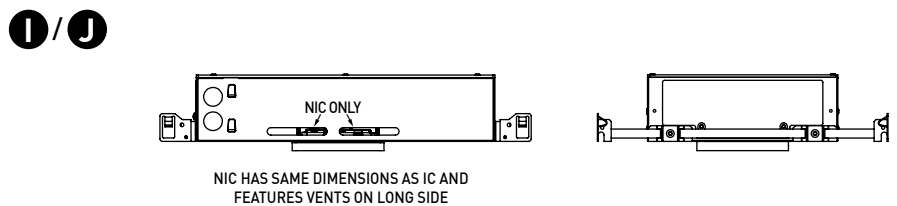
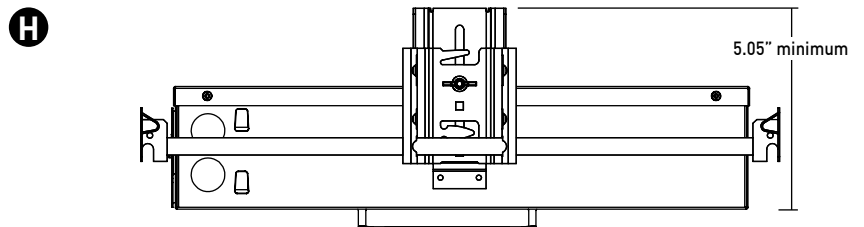
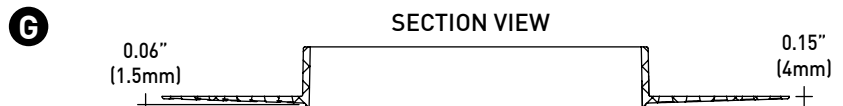


FRAXION4SLIM ADJUSTABLE

DOWNLIGHT / HOUSING

- G TRIMLESS APPLIQUÉ DETAIL**
Integrated appliqué for plaster floating directly to baffle.
- H ADJUSTABLE HANGER BAR HEIGHT ACCESSORY**
Provided with ceiling thickness "T" and recommended for installations in T-Grid and with furring channel. Hanger bars are installed to adjustable bracket. Allows housing to be raised and lowered; ceiling thickness remains 0.5" to 1.0" max.
- I IC HOUSING**
 - For IC ceilings.
 - Chicago Plenum, Airtight and Title 24 (JA8) listed.
 - Accommodates max 1711 delivered lumens.
 - No setback from polycell spray foam insulation having max R-Value of 60 on all sides and top of housing.
- J NIC HOUSING**
 - Minimum 0.50" setback from combustible and non-combustible materials on all sides and top of housing.
 - Minimum 3.00" setback from insulation material having max R-Value 30 on all sides and top of housing.
 - Minimum 6.00" setback from polycell spray foam insulation having max R-Value 60.
- K REMOTE POWER SUPPLY**
Provided with install Types "V", "W" and "D". Remote power supply provides additional driver options. Consult installation guide for maximum allowable secondary run lengths between PSF4-RMT and fixture. Must be installed in an accessible location.

DIMENSIONS / DRAWINGS



HOUSING NOTES

- Do not install in environments where ambient temperatures exceed 40°C (104°F).
- Power supply compartment and all splice connections may be serviced from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.
- Hanger bars fitted to short side of housing, and long side of Low Flux housings; extend from 14.0" to 24.0", but may be field cut to accommodate narrow stud spacing. Can be extended up to 46" maximum with FRX-HBE-46 kit.
- Hanger bars and brackets add 4.00" to the overall dimension, but are exclusive of the setback requirements.
- Housings for round trims feature a round aperture housing collar, and for square trims, a square housing collar, accommodating ceiling thicknesses between 0.50" and 1.00".

FRAXION4SLIM ADJUSTABLE

TECHNICAL

CONSTRUCTION

Downlight: Painted finishes are granulated powder coat.

Housing: Aluminum and 22 Gauge galvanized steel. Extruded aluminum housing panel to act as heat-sink.

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

Power Supply	ELV		ECO		0-10V						DALI		
	TR2	L23	LH1	AN4	LN2	EA2	LA2	DG1	DL1	ED1	LD1	DD1	
Minimum °C	-20 °C	0 °C	0 °C	-20 °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	40 °C	40 °C	40 °C	40 °C	
Dimming %	2.0%	1.0%	1.0%	1.0%	1.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	

Note: For TR2, L23, LH1, LP1, AN4, EA2 and LA2 drivers consult chart on page 7 to confirm appropriate dimming curve for compatibility with selected control.

LISTING

cTUVus listed to UL1598 standard for Dry / Damp and Wet locations.

Chicago Plenum, Airtight and Title 24 JAB-2019 Listed.

U.S. Patent: 10,317,066

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.

CHANGE LOG

- 01/12/2021: ADDED 2200K, 2700K-1800K WARM DIM AND 10 DEGREE OPTIC OFFERINGS.
- 07/01/2020: ADDED WARM DIM TO T24 LISTING.
- 04/03/2020: ADDED ADJUSTABLE HCL ASSEMBLY.
- 03/09/2020: ADDED TRIMLESS TO FLANGE FINISH OPTIONS.

FRAXION4SLIM ADJUSTABLE

DIMMING COMPATIBILITY

PHILIPS DRIVER COMPATIBILITY

Power supply TR2 Manufacturer	Family/Model #
Lutron Electronics	DV-600P
Lutron Electronics	DVELV-303P
Lutron Electronics	NTELV-600
Lutron Electronics	MAELV-600
Lutron Electronics	SELV-300P
Lutron Electronics	DVLV-600P
Lutron Electronics	NFTU-5A
Lutron Electronics	CTCL-153P
Lutron Electronics	GL-600H
Lutron Electronics	S-600P
Lutron Electronics	PHPM
Power supply AN4 Manufacturer	Family/Model #
Lutron Electronics	DVTV plus PP-DV
Lutron Electronics	DVSCTV plus PP-DV
Lutron Electronics	DVSTV
Lutron Electronics	DVSCSTV
Lutron Electronics	QSGRJ-XP plus GRX-TVI
Lutron Electronics	QSGRJ-XE plus GRX-TVI
Lutron Electronics	NFTV plus PP-DV
Lutron Electronics	NTSTV
Lutron Electronics	RMJ-5T
Lutron Electronics	RMJS-8T
Lutron Electronics	FCJS-010
Leviton	IlumaTch IP7 series
Philips	Sunrise - SR1200ZTUNV

LUTRON DRIVER COMPATIBILITY

Power supply L23 Lutron Product Family	Part No.
Maestro WirelessR 600 W dimmer	MRF2-6ND-120-
Maestro WirelessR 1000 W dimmer	MRF2-10ND-120-
Caséta® Wireless Pro 1000 W dimmer	PD-10NXD-
GRAFIK T™ CL® dimmer	GT-250M-GTJ-250M-
HomeWorks® QS adaptive dimmer	HQRD-6NA-
HomeWorks® QS 600 W dimmer	HQRD-6ND-
HomeWorks® QS 1000 W dimmer	HQRD-10ND-
RadioRA® 2 adaptive dimmer	RRD-6NA-
RadioRA® 2 1000 W dimmer	RRD-10ND
myRoom™ DIN power module	MQSE-4A1-D
HomeWorks® QS DIN power module	LQSE-4A1-D
HomeWorks® QS wallbox power module	HQRJ-WPM-6D-120
HomeWorks® wallbox power module	HWI-WPM-6D-120
GRAFIK Eye® QS control unit	QSGR-, QSGRJ-
GRAFIK Eye® 3000 control unit	GRX-3100-GRX-3500-
RPM-4U module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4U-120 LP-RPM-4U-120
RPM-4A module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4A-120, LP-RPM-4A-120
GP dimming panels	Various
Ariadni CL 250W dimmer	AYCL-253P-
Diva CL 250W dimmer	DVCL-253P-DCSCCL-253P-
Nova T CL 250W dimmer	NTCL-250-
Power supply LH1 / LP1 Lutron Product Family	Part No.
PowPak Dimming Modules	RMJ-ECO32-DV-B
PowPak Dimming Modules	FCJ/FCJS-ECO
Energi Savr Nodes	QSN-1ECO-S
GRAFIK Eye QS control unit	QSN-2ECO-S
Homeworks QS control unit	QSGRJ- _E (wireless)
GRAFIK Eye QS control unit	QSGR- _E
Homeworks QS control unit	QSGR- _E
Quantum Hub	QP2-__ 2C
Quantum Hub	QP2-__ 4C
Quantum Hub	QP2-__ 6C
Quantum Hub	QP2-__ 8C
Homeworks QS power module	LQSE-2ECO-D
myRoom Plus power module	LQSE-2ECO-D

eldoLED DRIVER COMPATIBILITY

Power supply EA2 / LA2 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	Div@® - DDTV
Lutron Electronics	Nova@® - NFTV
Merten	5729
Pass & Seymour	CD4FB-W
The Watt Stopper	DCLV1
Sensor Switch	nI0 EZ
Synergy	ISD BC
Power supply EA2 / LA2 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
ABB	SD/S 2.16.1

